

**ECONOMIC DEVELOPMENT GRANT PROPOSAL
FOR THE GOBBLE SITE
ENVIRONMENTAL ASSESSMENT
Lawrence County, Tennessee (Ethridge)**

Prepared by:
TENNESSEE VALLEY AUTHORITY
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1.0 PROPOSED ACTION AND NEED

An integral part of Tennessee Valley Authority's (TVA) mission is to promote economic development in the TVA service area. TVA provides financial assistance to help bring to market new/improved sites and facilities in the TVA service area and position communities to compete successfully for new jobs and capital investment. TVA proposes to provide an economic development grant through InvestPrep funds to the Economic Development Corporation of Lawrence County to assist with the purchase of the Gobble Site for future industrial use (Proposed Action or Project). The site of TVA's Proposed Action (herein referred to as the Project Area) comprises approximately 151 acres, located north of Lawrenceburg, Tennessee (TN), to the east of US Route 43/State Route 6/Andrew Jackson Highway (US-43) North at Hagan Road in Lawrence County, TN (Figure 1; Attachment 1, Figures 1-A and 1-B).

The primary purpose of the Proposed Action would be to enable the Economic Development Corporation of Lawrence County to purchase the Project Area for use as an industrial site prior to expiration of the option on the property in June 2023. Proposed funding would lead to an increased probability of achieving TVA's core mission of job creation and capital investment. Target industries for the Project Area include food processing and electric vehicle related companies.

TVA funds would be used for purchase of the Project Area only and would not be used for improvements or development of the Project Area. Pursuant to the National Environmental Policy Act (NEPA) and its implementing regulations 40 CFR 1500–1508 and TVA's implementing regulations 18 CFR 1318, this Environmental Assessment (EA) evaluates the environmental impacts that would potentially result from TVA's Proposed Action. TVA's decision is whether to provide the requested funding to the Economic Development Corporation of Lawrence County.

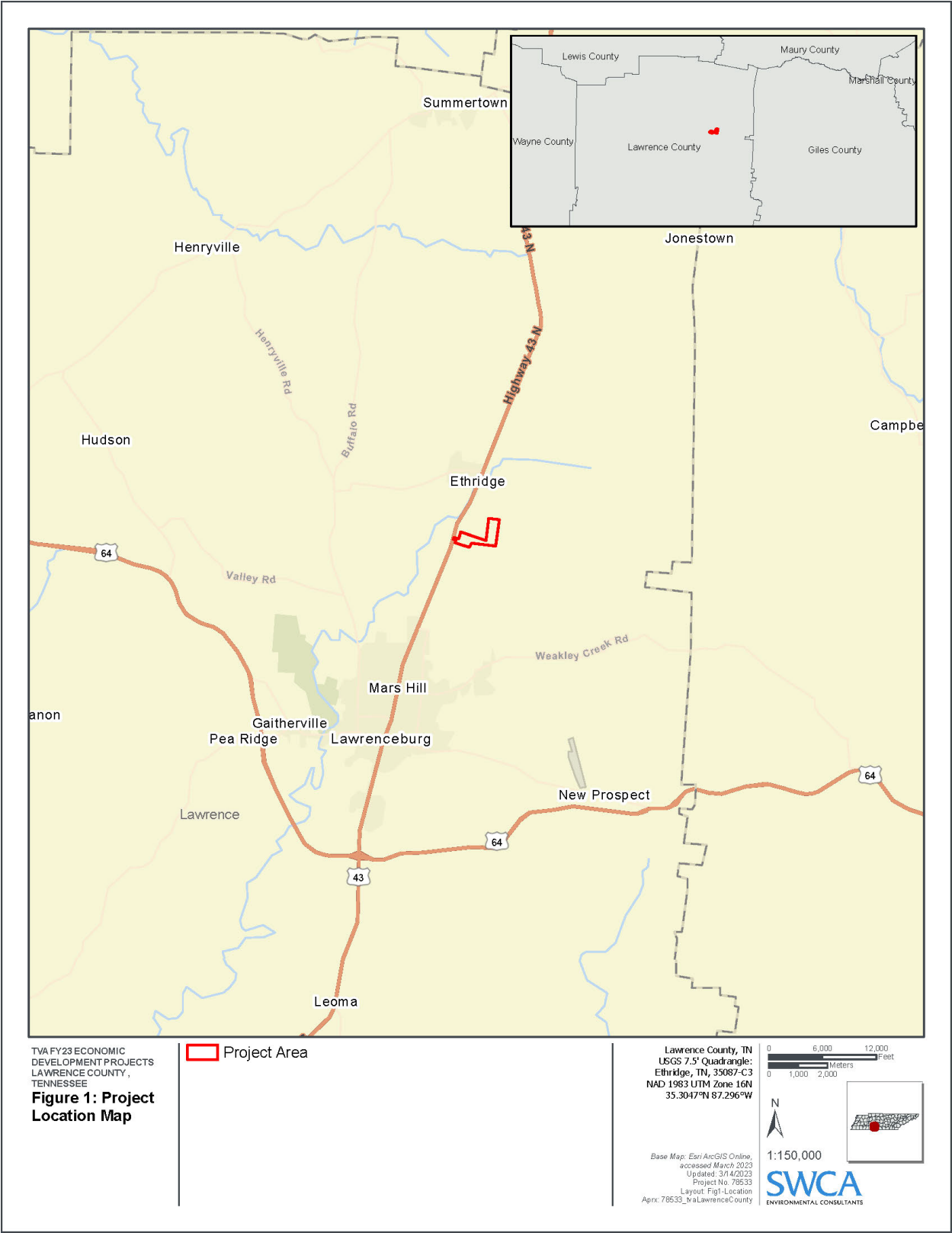


Figure 1. Project location map.

2.0 OTHER ENVIRONMENTAL REVIEWS AND DOCUMENTATION

The Lawrence County Chamber of Commerce has had other studies performed within the Project Area. In January 2022, Terracon Consultants, Inc. (Terracon), conducted Phase I cultural resource surveys over the entire Project Area (Terracon 2022a). The purpose of the surveys was to identify and evaluate cultural resources that could be eligible for inclusion in the National Register of Historic Places (NRHP).

In August 2021, Terracon performed a Phase I environmental site assessment of the Project Area. The assessment consisted of a general property reconnaissance, a review of available aerial photographs, ownership chronological search and examination, and review of regulatory databases (Terracon 2021a).

In July 2021, Terracon conducted a preliminary water resources assessment of the Project Area (Terracon 2021b). The purpose of the survey was to identify potentially jurisdictional wetlands and waterbodies in the Project Area. Terracon also conducted a threatened and endangered (T&E) species habitat assessment of the Project Area in July 2021 (Terracon 2021c). The purpose of the assessment was to characterize the existing site conditions and observe the Project Area for listed T&E species and their habitats.

In June 2021, Terracon conducted preliminary geotechnical engineering services for the Project Area. The review evaluated subsurface soil conditions, groundwater conditions, seismic classification, and excavation considerations at the site to evaluate for site development and construction planning purposes (Terracon 2022b).

The Phase I cultural resource surveys, Phase I environmental site assessment, preliminary geotechnical report, preliminary water resources assessment, and T&E species habitat assessment were used in the preparation of this EA.

3.0 ALTERNATIVES

Based on internal scoping, TVA has determined that there are two reasonable alternatives to assess under NEPA: the No Action Alternative and the Action Alternative.

3.1 The No Action Alternative

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. TVA would not be furthering its mission of promoting economic development by assisting the local community to compete successfully for new jobs and capital investment. If the Economic Development Corporation of Lawrence County was to obtain alternate funding and proceed with its current plans to purchase the Project Area, the overall environmental consequences would be similar to those anticipated from implementing the Action Alternative. If the Project is postponed, any environmental effects would be delayed for the duration of the postponement. If the Project were cancelled, no direct environmental effects are anticipated, as environmental conditions on the site would remain essentially unchanged from the current conditions for the foreseeable future.

3.2 The Action Alternative

Under the Action Alternative, TVA would provide InvestPrep funds to the Economic Development Corporation of Lawrence County to assist with purchase of the 151-acre Project

Area. No tree clearing, ground disturbance, or future development plans are known at this time so no direct impacts to natural areas are expected under the Action Alternative.

The Action Alternative does not include assessment of activities that may be directly or indirectly associated with adjacent lots already developed or under construction, or the eventual build-out, occupation, and future use of the Project Area. The future use of the site has not been fully defined. Given this uncertainty, an analysis of the potential impacts for development of the adjacent lots or future use of the site is beyond the scope of this EA.

4.0 AFFECTED ENVIRONMENT AND ANTICIPATED IMPACTS

4.1 Site Description

The 151-acre Project Area is located in Lawrence County, TN, north of Lawrenceburg, TN, and east of US-43 North at Hagan Road. The Project Area is primarily (95 percent) under agricultural use with a small area of fragmented forest (see Attachment 1, Figure 1-A).

The Project Area consists of gently sloping topography ranging from 960 to 980 feet above mean sea level (AMSL), and the nearest named stream, Crossfield Branch, is located approximately 220 feet northeast of the Project Area. Existing utilities are adjacent to the Project Area along US-43 North, and include a 12-inch waterline, a 6-inch waterline, force main and gravity sewer lines, 2-inch and 4-inch natural gas lines, and overhead electrical lines.

No permanent structures are present within the Project Area, and there currently is no zoning for the site (i.e., unzoned). Commercial and industrial operations are located adjacent to the site and along US-43 North, and residences and agricultural land are located off Hagan Road to the south of the Project Area.

4.2 Impacts Evaluated

TVA has evaluated the Proposed Action for potential impacts to natural, cultural, and socioeconomic resources. Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative are described below and include land use, public recreational opportunities, soils and prime farmlands, groundwater, surface water, aquatic ecology, terrestrial zoology, botany, cultural resources, natural and managed areas, and air quality and climate change. Potential impacts to the human environment, including visual effects, noise, socioeconomic and environmental justice, and transportation issues are also described below.

According to Lawrence County, TN, Flood Insurance Rate Map (FIRM) Panel number 47099C0170C, effective January 2, 2009, and a 2021 hydrologic report, the Proposed Action would be located outside identified and unmapped 100-year floodplains (Attachment 1, Figure 1-C) which would be consistent with Executive Order 11988. Therefore, the Project would have no impact on floodplains and their natural and beneficial values and potential impacts to floodplains are not described in further detail in this EA.

4.2.1 Land Use and Recreation

The Project Area is located in an undeveloped area between Lawrenceburg and Ethridge. There are no permanent structures present; however, there are three buildings bordering the western

boundary of the Project Area. The current land use in the Project Area is agricultural (Tennessee Comptroller of the Treasury 2023). The Project Area is not zoned (unzoned).

There are no developed parks or outdoor recreation areas in the immediate vicinity of the Project Area. The closest park is the Ethridge Roadside Park located approximately 1.2 miles to the north, on the western side of US-43 South. Aside from the three buildings to the west of the Project Area boundary, there is only one private residence along the southern boundary. The actual boundary consists of a vegetative barrier which may aid in visual screening (Google Maps 2023).

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would have no direct impacts to land use or recreation areas.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to land use or recreation areas would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to land use or recreation areas, as the site would remain essentially unchanged from the current conditions.

4.2.2 Soils and Prime Farmland

Soil types and descriptions were obtained from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey for the Project Area (USDA NRCS 2023). The Project Area is within the East and Central Farming and Forest Region and encompasses 22 distinct soil map units (Table 4-1) (USDA NRCS 2023). Of those, one soil map unit is listed as a hydric soil or includes hydric components (Table 4-1) (USDA NRCS 2023). See Figure 1-D in Attachment 1 for the location of each USDA NRCS soil map unit within the Project Area.

Table 4-1. NRCS-mapped Soils Within the Project Area, TVA FY2023, Lawrence County, TN

Map Unit Symbol	Map Unit Name	Hydric Criteria	Drainage Class	Farmland Classification	Acreage Within Project Area ¹	Percentage of Project Area ¹
De	Dickson silt loam, 2 to 5 percent slopes	No	Moderately well drained	All areas are prime farmland	25.46	16.76
Mk	Mountview silt loam, eroded gently sloping phase	No	Well drained	All areas are prime farmland	20.92	13.77
Da	Decatur silt loam, eroded gently sloping phase	No	Well drained	All areas are prime farmland	14.73	9.70
Df	Dickson silt loam, eroded gently sloping phase	No	Moderately well drained	All areas are prime farmland	13.59	8.95

Map Unit Symbol	Map Unit Name	Hydric Criteria	Drainage Class	Farmland Classification	Acreage Within Project Area ¹	Percentage of Project Area ¹
Pk	Pembroke silt loam, eroded gently sloping	No	Well drained	All areas are prime farmland	11.09	7.30
Mm	Mountview silt loam, gently sloping shallow phase	No	Well drained	All areas are prime farmland	10.20	6.71
Lf	Lobelville silt loam, local alluvium phase	No	Moderately well drained	All areas are prime farmland	8.06	5.31
Ea	Emory silt loam	No	Well drained	All areas are prime farmland	7.75	5.10
Mp	Mountview silt loam, eroded, sloping shallow phase	No	Well drained	Not prime farmland	6.92	4.56
Mo	Mountview silt loam, sloping shallow phase	No	Well drained	Not prime farmland	6.62	4.36
Ch	Cookeville silt loam, eroded sloping phase	No	Well drained	Not prime farmland	6.01	3.96
Gc	Guthrie silt loam	Yes	Poorly drained	Not prime farmland	5.86	3.86
Mr	Mountview silty clay loam, severely eroded sloping shallow phase	No	Well drained	Not prime farmland	4.18	2.75
Cf	Cookeville silt loam, eroded gently sloping phase	No	Well drained	All areas are prime farmland	3.83	2.52
La	Lawrence silt loam	No	Somewhat poorly drained	Prime farmland if drained	1.98	1.30
Ca	Captina silt loam, gently sloping phase	No	Moderately well drained	All areas are prime farmland	1.92	1.26
Ck	Cookeville silty clay loam, severely eroded sloping phase	No	Well drained	Not prime farmland	1.52	1.00
Dc	Decatur silty clay loam, severely eroded gently sloping phase	No	Well drained	All areas are prime farmland	1.13	0.75
Cb	Captina silt loam, eroded gently sloping phase	No	Moderately well drained	All areas are prime farmland	0.11	0.07
Mh	Mountview silt loam, 2 to 5 percent slopes	No	Well drained	All areas are prime farmland	0.03	0.02
Mn	Mountview silt loam, eroded, gently sloping shallow phase	No	Well drained	All areas are prime farmland	<0.01	<0.01
Le	Lobelville silt loam	No	Moderately well drained	All areas are prime farmland	<0.01	<0.01

Map Unit Symbol	Map Unit Name	Hydric Criteria	Drainage Class	Farmland Classification	Acreage Within Project Area ¹	Percentage of Project Area ¹
Total²					151.91	100.00
Source: USDA NRCS 2023						
¹ Acreages and percentages are rounded to 0.01.						
² Total values may differ slightly from total expected values due to rounding.						

Dickson silt loam, 2 to 5 percent slopes (De) and Mountview silt loam, eroded gently sloping phase (Mk) are the dominant soil map units in the Project Area and account for approximately 30.53% of the area. These soils are not classified as hydric soils and have a drainage class of moderately well drained and well drained, respectively (USDA NRCS 2023). Guthrie silt loam (Gc) is the only hydric soil within the Project Area and accounts for approximately 3.86% of the area, which mainly occurs near the eastern and southeastern boundary of the Project Area (USDA NRCS 2023).

Prime farmland is defined by the USDA NRCS as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Of the 22 soil map units in the Project Area, 15 are considered prime farmland and account for approximately 78.22% of the Project Area (USDA NRCS 2023). One additional soil map unit, Lawrence silt loam (La), accounts for approximately 1.30% of the Project Area and is classified as prime farmland if drained (USDA NRCS 2023).

As of 2011, there are no state or local policies that are specifically directed toward the protection of prime farmland for the future and in almost all cases when either state or local governments are faced with a conversion of land from farmland to developed land, development is the chosen option (Tennessee Advisory Commission of Intergovernmental Relations 2011). Furthermore, as discussed in Section 4.1, the Project Area is not zoned (i.e., it is unzoned) and is located in a rural area between Lawrenceburg and Ethridge. Within Lawrence County, approximately 40.65% of the county is classified as prime farmland soils; therefore, the Project Area only accounts for 0.03% of the prime farmland within Lawrence County.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not directly impact soils or prime farmlands.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was to obtain alternate funding and proceed with purchase of the property, no impacts to soils or prime farmlands would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to soils or prime farmland as the site would remain essentially unchanged from the current conditions.

4.2.3 Groundwater

The Project Area is located within the Interior Low Plateaus (U.S. National Parks Service 2017). The Interior Low Plateaus extends into portions of six states in the Midwest and Southeast regions of the United States: Illinois, Indiana, Ohio, Kentucky, Tennessee, and Alabama (U.S. Geological Service [USGS] 1995). The Interior Low Plateaus consists of unconsolidated sand and gravel deposits of Quaternary age that compose the surficial aquifer system and consolidated limestone, dolomite, and sandstone of Paleozoic age (USGS 1995). Within the Interior Lowland Plateau, the Project Area is not within a principal aquifer system. (USGS 1995). Areas that are not defined by a principal aquifer system are areas underlain by low-permeability deposits and rocks, unsaturated materials, or aquifers that supply little water because they are of local extent, poorly permeable, or both. Rocks and deposits with minimal permeability, which are not considered to be aquifers, consist of intrusive igneous rocks, metamorphic rocks, shale, siltstone, evaporite deposits, silt, and clay (USGS 2021a).

Existing topography ranges from approximately ± 960 (292.6 meters) feet above AMSL to ± 980 feet (298.7 meters) AMSL. Terracon conducted a geotechnical investigation in July 2021. Twenty borings were drilled in the Project Area ranging from 11 to 21.5 feet below the current grade on the Project Area. No groundwater was observed in the borings while drilling, or for the short duration the borings remained open (Terracon 2022b).

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not impact groundwater resources.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to groundwater resources would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to groundwater resources, as the site would remain essentially unchanged from the current conditions.

4.2.4 Soil Erosion and Surface Water

The Project Area is located in the Western Highland Rim ecoregion. The Project Area drains to streams within the Wilson Lake-Shoal Creek Watershed (Hydrologic Unit Code [HUC]-10, 0603000505). The surface water streams in the vicinity of the Project Area are Crossfield Branch, Little Shoal Creek, and tributaries that originate from Crossfield Branch (Attachment 1, Figure 1-E). Crossfield Branch is a perennial stream that is 220 feet from the northeast boundary of the Project Area and Little Shoal Creek is approximately 0.4 mile to the northwest of the Project Area. Precipitation in the vicinity of the Project Area averages about 59 inches per year. The average annual air temperature ranges from a monthly average of 26 degrees Fahrenheit to 89 degrees Fahrenheit (BestPlaces 2022).

Field surveys conducted in July 2021 identified three wet weather conveyances (WWC) within the Project Area totaling approximately 3,926 feet (Terracon 2021b). The three WWCs did not appear as features on the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), or the National Hydrography Dataset (NHD) (USGS 2021b, USFWS 2022). Alterations to

WWCs are permitted in accordance with Tennessee State Code Section 69-3-108(q) without notice or application to the State.

The federal Clean Water Act (CWA) requires states to identify waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards and to establish priorities for the development of limits based on the severity of the pollution and the sensitivity of the established uses of those waters. States are required to submit reports to the U.S. Environmental Protection Agency (USEPA). The term “303(d) list” refers to the list of impaired and threatened streams and waterbodies identified by the state. The 2021 field study did not identify any waterbodies that are on Tennessee 303(d) listed waters (Tennessee Department of Environment and Conservation [TDEC] 2022). However, Shoal Creek, which is located approximately 1.15 miles southeast of the Project Area, is listed as impaired due to alteration in stream-side or littoral vegetative covers (TDEC 2022). The primary designations for Shoal Creek are domestic water supply, fish and aquatic life, recreation, irrigation and livestock watering and wildlife (TDEC 2019).

Soil types and descriptions were obtained from the USDA NRCS Web Soil Survey (USDA NRCS 2023) (Attachment 1, Figure 1-D). Soil types found within the Project Area are provided in Table 4-1 in Section 4.2. Additionally, background information indicates that the Project Area is in karst terrain and is underlain by carbonate limestone that is highly susceptible to dissolution along joints, irregular weathering, sinkhole development, and bedding planes in the rock mass. The weathering of the bedrock and subsequent collapse or erosion of the overburden into these openings results in what is referred to as karst topography. Any construction in karst topography is accompanied by some degree of risk for future internal soil erosion and ground subsidence that could affect the stability of the rock supported structure (Terracon 2022b). Review of available topographic and geologic mapping and site reconnaissance did not note any depressions or sinkholes at the site or in close proximity to the site; however, a few closed depressions are mapped in the USGS geological mapping within a 3-mile radius of the site. Furthermore, deep soil slots in bedrock and cutters, and highly irregular bedrock surface similar to what was encountered in the July 2021 borings is common in karst topography (Terracon 2022b).

Twenty borings were taken in the Project Area ranging from 11 feet to 21.5 feet below current grade. Topsoil depths within the Project Area range from 7 inches to 12 inches. Underlying the topsoil cover, fill/possible fill consisting of lean to fat clay with various quantities of organics, mineral nodules, chert, and silt was identified. The borings drilled on site did not disclose any obvious signs of impending overburden collapse or soil softening at depth or any deep soil slots in bedrock due to karst activity (Terracon 2022b).

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in soil erosion impacts or impacts to surface water resources.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no soil erosion impacts or impacts to surface water resources would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and

there would also be no soil erosion impacts or impacts to surface water resources, as the site would remain essentially unchanged from the current conditions.

4.2.5 Wetlands

Wetlands are areas inundated by surface or groundwater often enough and long enough to support vegetation or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, mud flats, and natural ponds.

Activities in wetlands are regulated by state and federal agencies to ensure no more than minimal impacts to the aquatic environment and no net loss of wetland resources. Under CWA Section 404, activities resulting in the discharge of dredge or fill material in jurisdictional waters of the U.S. (including wetlands) must be authorized by the U.S. Army Corps of Engineers (USACE) through a Nationwide, Regional, or Individual Permit. CWA Section 401 mandates state water quality certification for projects requiring USACE approval and permitting. In Tennessee, an aquatic resource alteration permit (ARAP) authorized by TDEC provides water quality certification under CWA Section 401. An ARAP is required for any alteration to the physical, chemical, or biological properties of any waters of the state, including wetlands, pursuant to the Tennessee Water Quality Control Act (§69-3-108, 0400-40-07) and in alignment with Tennessee's anti-degradation policy (§69-3-108, 0400-40-04). Compliance with USACE and TDEC permitting is required for regulated activities within jurisdictional waters and wetlands. Lastly, EO 11990 requires federal agencies such as TVA to minimize wetland destruction, loss, or degradation, and preserve and enhance natural and beneficial wetland values, while carrying out agency responsibilities.

In July 2021, a field survey was performed in accordance with USACE standards, *Corps of Engineers Wetlands Delineation Manual* (Manual) (USACE 1987), and the subsequent *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region* (Version 2.0) (Regional Supplement) (USACE 2012) to detect wetlands in the Project Area (Terracon 2021b). Broader definitions of wetlands, such as the one used by the USFWS, and as defined under 18 CFR Part 1318.40, were also considered in this review.

Two wetlands (WTLD1 and WTLD2) were identified within the Project Area, totaling 0.25 acre (Attachment A, Figure 1-F). WTLD1 is a palustrine forested wetland (PFO) located along the eastern boundary of the Project Area. PFO wetlands are comprised of woody vegetation that is at least 20 feet tall. Standing water was observed in WTLD1 and the wetland plant species observed included silver maple (*Acer saccharinum*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), and trumpet creeper (*Campsis radicans*). WTDL2 is a palustrine emergent wetland (PEM) located in the eastern portion of the Project Area and is adjacent to WTDL1. The only vegetation found rooted in WTLD2 was trumpet creeper.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to wetland resources.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was to obtain alternate funding and proceed with purchase of the property, no impacts to wetland resources would occur. If the Economic

Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to wetland resources as environmental conditions on the site would remain essentially unchanged from the current conditions.

4.2.6 Aquatic Ecology

4.2.6.1 Aquatic Resources

As described above in Section 4.2.4, there are no surface waters within the Project Area, though Little Shoal Creek and Crossfield Branch are located to the north of the Project Area. According to the USGS National Map Viewer (2023), one perennial stream stems from Crossfield Branch and flows into a pond that is outside the northern boundary of the Project Area. Aerial imagery and the NWI map (Attachment 1, Figure 1-E) show ponds to the northeast and south of the Project Area along with unmapped drainages within the agricultural field. Both Little Shoal Creek and Crossfield Branch are classified as perennial streams. Little Shoal Creek is approximately 0.40 mile from the Project Area, while Crossfield Branch is approximately 220 feet from the northeastern boundary of the Project Area. The NWI Map and Wetlands and Waterbodies Map (Attachment 1, Figures 1-E and 1-F) each show wet weather conveyances within the Project Site but no permanent water features.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to aquatic resources.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was to obtain alternate funding and proceed with purchase of the property, no impacts to aquatic resources would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would be no impacts to aquatic resources as environmental conditions on the site would remain essentially unchanged.

4.2.6.2 Threatened and Endangered Aquatic Species

The Endangered Species Act of 1973 (ESA) provides broad protection for species of fish, wildlife, and plants listed as threatened or endangered in the United States. The ESA outlines procedures for federal agencies and projects utilizing federal funding to follow when taking actions that may jeopardize federally listed species or designated critical habitat. The policy directs federal agencies to conserve endangered and threatened species and to help steward the purpose of the ESA. Additionally, the State of Tennessee provides protection for species considered threatened, endangered, or deemed in need of management in the state in addition to those federally listed under the ESA.

A query of the TVA Regional Natural Heritage database (TVA 2023) for records of listed aquatic animal species indicated 13 species within the Little Shoal Creek HUC boundary of (060300050501), which are shown in Table 4-2. Additionally, a review of the USFWS's Information for Planning and Consultation (IPaC) website identified two federally listed mussels, slabside pearlymussel (*Pleuroaia dolabelloides*) and rabbitsfoot (*Quadrula cylindrica cylindrica*), and an additional fish species, boulder darter (*Etheostoma wapiti*), as having potential to occur in the Project Area. Table 4-2 provides the rank, federal and state status, and

habitat preference for each species. The IPaC did not list any critical habitats within the Project Area (USFWS 2023).

Table 4-2. Records of Federal and State-listed Aquatic Animal Species Within the Little Shoal Creek 12-digit HUC (060300050501) Watershed

Common Name	Scientific Name	Element Rank ¹	Federal Status ²	State Status ² (Rank ³)
Mussels				
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	B?	LT	S3
Slabside pearlymussel	<i>Pleuroaia dolabelloides</i>	–	LE	S2
Crustaceans				
Alabama crayfish	<i>Orconectes alabamensis</i>	E	–	D(S2)
Southern cavefish	<i>Typhlichthys subterraneus</i>	E	–	S3
Tennessee bottlebrush crayfish	<i>Barbicambarus simmonsii</i>	E	–	T(S2?)
Fish				
Blotched chub	<i>Erimystax insignis</i>	E	–	S4
Blotchside logperch	<i>Percina burtoni</i>	H?	–	D(S2)
Boulder darter	<i>Etheostoma wapiti</i>	E	LE	S1
Highland shiner	<i>Notropis micropteryx</i>	A	–	S5
Lollipop darter	<i>Etheostoma neopterum</i>	AC	–	D(S1S2)
Slackwater darter	<i>Etheostoma boschungii</i>	AC	LT	T(S1)
Spotfin chub	<i>Erimonax monachus</i>	E	T, X	T/S2
Streamline chub	<i>Erimystax dissimilis</i>	E	–	S3
Sources: TVA Regional Natural Heritage database (2023), and NatureServe (2023).				
¹ Heritage Element Occurrence Rank: A= Excellent est. viability; AC – Excellent, good, or fair estimated viability; B? – Possibly good, estimated viability; E = extant record ≤25 years old; H = historical record ≥ 25 years old; H? = possibly historical				
² Status Codes: LE = Listed Endangered; LT = Listed Threatened; D = Deemed In Need of Management; X = Extirpated				
³ State Rank Codes: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure; S5 = Secure				

Brief habitat descriptions of protected species potentially occurring in the Project Area are provided below. Habitat requirements are as described in NatureServe (2023) and USFWS (2023). No suitable habitat for any federally or state-listed species is present within the Project Area.

Rabbitsfoot habitat includes streams and small to medium-sized rivers with moderate to swift currents. Substrates consist of sand, gravel, and cobble. They are typically found lying on their sides on top of the substrate. No suitable habitat for this species occurs within the Project Area.

The slabside pearlymussel primarily occupies shoal habitat in large creeks to large rivers. Areas with sand, fine gravel, and cobble substrates and moderately strong current appear to be the most suitable for the species. The slabside pearlymussel is not tolerant of lentic habitats or impounded conditions. No suitable habitat for this species occurs within the Project Area.

The Alabama crayfish typically inhabits sandy bottomed pools in slow areas of creeks and small rivers. No suitable habitat for this species occurs within the Project Area.

Southern cavefish are found primarily in cool, clear waters of cave streams, underground lakes, wells, and outlets of springs; substrates consist of mixed gravel, sand, clay, and mud. No suitable habitat for this species occurs within the Project Area.

The Tennessee bottlebrush crayfish occurs in high-gradient creeks with strong currents over cherty gravel, limestone, and shale. No suitable habitat for this species occurs within the Project Area.

Blotched chub inhabit rocky riffles, runs, or pools of usually clear, moderate to high gradient, cool and warm, medium to large streams and small rivers with clean gravel, rubble, or bedrock bottoms, usually in water less than 1 meter deep. No suitable habitat for this species occurs within the Project Area.

Blotchside logperch habitat includes gravel runs and riffles of clear, small to medium rivers or primarily large creeks and small to medium rivers with moderate gradient and usually clear water; substrates vary but usually consist of gravel and boulders, cobble, or rubble lacking major siltation. No suitable habitat for this species occurs within the Project Area.

The boulder darter inhabits fast rocky riffles of small to medium rivers. Adults have been found only in areas of boulder/rubble substrate. No suitable habitat for this species occurs within the Project Area.

The highland shiner inhabits clear, swift, large creeks and small rivers with bottoms of clean gravel or rubble; usually in or around riffles, in rocky runs and flowing pools. May move into deeper pools and eddies in winter. No suitable habitat for this species occurs within the Project Area.

Lollipop darter habitat includes rocky and sandy pools of headwaters and creeks; small to medium, gravelly, cool, spring-fed streams; low gradient areas under overhanging banks, especially where there are dense mats of exposed tree roots or sand and chert covered with leaf litter and detritus. No suitable habitat for this species occurs within the Project Area.

The slackwater darter typically inhabits gravel-bottomed pools in slow areas of creeks and small rivers that generally are not more than 12 meters wide and 2 meters deep. In its listing in the Federal Register on September 9, 1977 (42 FR 175, 45526-45530), critical habitat was designated for this species within its geographic range that includes four tributaries to the Tennessee River, including Little Shoal Creek. No suitable habitat for this species occurs within the Project Area.

Spotfin chub habitat includes cool and warm, typically clear, large creeks or medium-sized rivers of moderate gradient, in upland and montane areas, generally in or near moderate and swift currents over gravel to bedrock, rarely over sand or silt. No suitable habitat for this species occurs within the Project Area.

The streamline chub occurs in large, medium-gradient, moderately clear streams and rivers with clean gravel bottoms; often in shoal areas with moderate flow; over gravel and rubble in riffles, runs, and flowing pools of clear, small to large rivers. No suitable habitat for this species occurs within the Project Area.

Though designated critical habitat (DCH) for the slackwater darter exists approximately one mile from the proposed Project Area, there would be no adverse modifications made to DCH for this species as a result of the proposed actions.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to T&E aquatic species.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to T&E aquatic species would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to T&E aquatic species, as the site would remain essentially unchanged from the current conditions.

4.2.7 Botany

4.2.7.1 Vegetation

A field survey was conducted in July 2021 and focused on documenting plant communities within the Project Area. According to National Land Cover Dataset (NLCD) (USGS 2019), the Project Area primarily consists of cultivated crop lands with a small stand of trees that occupies approximately 0.57 acre occurring on the eastern edge of the Project Area. The property boundary is also tree-lined, though intermittently. Existing studies and a desktop review of the current and past site conditions indicate that the Project Area has been utilized as agricultural land for the past 38 years.

Common trees noted during the July 2021 field survey included sweet gum, red maple, and silver maple. The cropland consists of soybeans (*Glycine max*). The site has been heavily disturbed and does not support high quality plant communities with significant conservation value, other than agriculture (Terracon 2021c).

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to vegetation.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to vegetation would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to vegetation, as the site would remain essentially unchanged from the current conditions.

4.2.7.2 Threatened and Endangered Plant Species

A February 2023 query of the TVA Regional Natural Heritage database (TVA 2023) indicated that two state listed plant species; Eggert's sunflower (*Helianthus eggertii*) and American ginseng (*Panax quinquefolius*) are within five miles of the proposed Project Area. The IPaC database identified two federally listed plant species within 5 miles of the Project Area; however,

the IPaC database did not indicate species with potential to occur within the Project Area itself. Query results are provided below in Table 4-3.

Table 4-3. Plant Species of Conservation Concern Known from Within 5.0 Miles of the Project Area and Federally Listed Plants in Lawrence County, TN

Common Name	Scientific Name	Element Rank ¹	Federal Status ²	State Status (Rank) ³
Plants				
American ginseng	<i>Panax quinquefolius</i>	H?	–	CE(S3S4)
Eggert's sunflower	<i>Helianthus eggertii</i>	H	D	SPCO/(S3)
Price's potato-bean	<i>Apios priceana</i>	–	THR	END(S3)
Tennessee yellow-eyed grass	<i>Xyris tennesseensis</i>	–	END	END(S2)
Sources: TVA Regional Natural Heritage database (2023), USFWS IPaC (2023)				
¹ Heritage Element Occurrence Rank: H =historical record ≥ 25 years old; H? =possibly historical				
² Status Codes: END = Listed Endangered; THR = Listed Threatened; D = Deemed in Need of Management; SPCO = Special Concern; CE= Special Concern/Commercially Exploited				
³ State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure; S#S# = Denotes a range of ranks because the exact rarity of the element is uncertain (e.g., S1S2)				

Brief habitat descriptions of protected plant species potentially occurring in the Project Area are provided below. Habitat requirements are as described in NatureServe (2023) and USFWS (2023).

American ginseng (*Panax quinquefolius*) is not listed on a federal level but is considered to be a species of special concern. Preferred habitat includes rich, cool, moist areas under a closed canopy, and can often be found on slopes or in ravines (NatureServe 2023). The Project Area contains only a small amount of closed canopy within the small wetland area. This species could inhabit the edge of the wetland areas though none were observed during the field survey.

Eggert's sunflower is deemed as needing management on a federal level and is a species of concern on a state level. Preferred habitat includes rocky, open oak-hickory woodlands and barrens, especially upland woodlands on low-moisture, well drained soils (NatureServe 2023). Due to the land use, land cover, and clay/loamy soils, potential for the Eggert's sunflower occurring within the Project Area is very low, and none were observed during the field survey.

Price's potato-bean (*Apios priceana*) is a federally threatened plant species that thrives in open, wooded areas, often in forest gaps or along forest edges. The species prefers mesic areas and is often found in open, low areas near a stream or along the banks of streams and rivers. The species often grows in well-drained loams or old alluvium over limestone on rocky, sloping terrains (NatureServe 2023). The Project Area does not contain suitable habitat and the Price's potato-bean was not observed within the Project Area.

The Tennessee yellow-eyed grass (*Xyris tennesseensis*) is a federally and state listed endangered species. It can be found in open or thin canopy woods in gravelly seep-slopes or gravelly bars and banks of small streams, springs, and ditches. This species is restricted to basic or circumneutral soils, as opposed to the typical acidic soils that *Xyris* typically prefers

(NatureServe 2023). No individuals were identified within the Project Area; however, potential suitable habitat may be present.

According to the IPaC, no designated critical habitat for any of these plant species occurs in the Project Area (USFWS 2023).

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to T&E plant species.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to T&E plant species would occur since no rare plant species were found in the proposed Project Area. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to T&E plant species, as the site would remain essentially unchanged from the current conditions.

4.2.8 Terrestrial Zoology

4.2.8.1 Terrestrial Wildlife

Field surveys of the Project Area were conducted in July 2021 and aerial imagery shows that the 151-acre parcel is largely agricultural with a narrow strip of mixed hardwood trees and shrubs bordering most of the Project Area.

Fields covered in herbaceous growth provide habitat for common birds such as field sparrow (*Spizella pusilla*), indigo bunting (*Passerina cyanea*), white-eyed vireo (*Vireo griseus*) and yellow-breasted chat (*Icteria virens*) (National Geographic 2002). Mammals such as bobcat (*Lynx rufus*), coyote (*Canis latrans*), eastern mole (*Scalopus aquaticus*), golden mouse (*Ochrotomys nuttalli*), groundhog (*Marmota monax*), and white-tailed deer (*Odocoileus virginianus*) also may utilize similar habitat in this region (Whitaker 1996). Reptiles that may use these habitats in this region include black racer (*Coluber constrictor*), corn snake (*Pantherophis guttatus*), eastern kingsnake (*Lampropeltis getula*), gray ratsnake (*Pantherophis spiloides*), and red milk snake (*Lampropeltis Triangulum sypila*) (Dorcas and Gibbons 2005). Amphibians that may use this area are American toad (*Anaxyrus americanus*) and Fowler's toad (*Anaxyrus fowleri*) (Powell et al. 2016).

The small wetland that biologists noted along the eastern edge of the Project Area may provide suitable habitat for a multitude of amphibian and reptilian species. Amphibians likely to use this area include American bullfrog (*Lithobates catesbeianus*), Cope's gray tree frog (*Hyla chrysoscelis*), newt (*Pleurodelinae*), northern cricket frog (*Acris crepitans*), southern leopard frog (*Lithobates sphenoccephalus*), and upland chorus frog (*Pseudacris feriarum*). Reptiles utilizing wet areas and the surrounding habitat may include garter snakes (*Thamnophis* spp.), northern watersnakes (*Nerodia sipedon*), rat snakes (*Colubrinae* spp.) and ring-necked snakes (*Diadophis punctatus*) (Powell et al. 2016, Gibbons and Dorcas 2005).

Review of the TVA Regional Natural Heritage database (TVA 2023) indicated that no caves have been documented within 3 miles of the Project Area and no caves were identified during

the field surveys in July 2021. No additional unique or important terrestrial habitats were identified within the Project Area.

Review of the USFWS IPaC tool in October 2022 identified two migratory bird species of conservation concern (red-headed woodpecker [*Melanerpes erythrocephalus*] and chimney swift [*Chaetura pelagica*]) that could occur within the Project Area. Chimney swifts, a summer resident in Tennessee, are typically associated with urban areas where chimneys are available to use as nest sites. Breeding habitat is not present within the Project Area. Red-headed woodpeckers use a variety of tree habitats but show preference for forested areas exhibiting more openness and a high number of tree snags available (Reller 1972). While it is not optimal habitat, red-headed woodpeckers may use the tree-lined edges of the Project Area for loafing, foraging, or nesting. Additionally, no records of heronries or aggregations of other migratory birds have been documented within 3 miles of the Project Area.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to terrestrial wildlife.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to terrestrial wildlife would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to terrestrial wildlife, as the site would remain essentially unchanged from the current conditions.

4.2.8.2 Threatened and Endangered Species

A review of the TVA Regional Natural Heritage database (TVA 2023) resulted in records of one state protected species (osprey [*Pandion haliaetus*]), one federally listed species (gray bat [*Myotis grisescens*]), and one species proposed as federally endangered (tricolored bat [*Perimyotis subflavus*]) within 3 miles of Project Area. Review of the USFWS IPaC database identified two additional federally listed species (Indiana bat [*Myotis sodalis*] and northern long-eared bat [*Myotis septentrionalis*]) and one candidate for federal listing (monarch butterfly [*Danaus plexippus*]) that could occur within the Project Area. Table 4-4 provides a list of federal and state-listed species, and other species of concern within 3 miles of the Project Area in Lawrence County, TN.

Table 4-4. Federal and State-Listed Terrestrial Species in Lawrence County, TN, and Other Species of Concern Documented within 3.0 Miles of the Project Area

Common Name	Scientific Name	Federal Status ¹	State Status (Rank) ²
BIRDS			
Osprey	<i>Pandion haliaetus</i>	–	– (S3)
INVERTEBRATES			
Monarch butterfly ^{3,4}	<i>Danaus plexippus</i>	C	– (S4)
MAMMALS			
Northern long-eared bat ⁴	<i>Myotis septentrionalis</i>	E	T (S1S2)
Gray bat ⁵	<i>Myotis grisescens</i>	E	LE (S2)
Indiana bat ³	<i>Myotis sodalis</i>	E	LE (S1)
Tricolored bat ⁵	<i>Perimyotis subflavus</i>	PE	T (S2S3)
Source: TVA Regional Natural Heritage database, (2023) and USFWS Information for Planning and Consultation (IPaC) resource list (https://ecos.fws.gov/ipac/), (2023).			
¹ Status Codes: C = Candidate species; E = Endangered; PE = Proposed Endangered; T = Threatened.			
² State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure			
³ Species that has not been documented within 3 miles of the Project footprint or within Lawrence County, Tennessee; USFWS has determined this species could occur within the Project Area.			
⁴ Historically this species has not been tracked by state or federal heritage programs.			
⁵ Species known from Lawrence County, Tennessee, but not from within 3 miles of the Project footprint.			

Ospreys are medium-sized raptors that build nests in trees or structures (e.g., light posts) over or near water, foraging almost exclusively on fish from nearby waterbodies (NatureServe 2022, Poole 1989). Breeding season typically begins in March and lasts through July. Ospreys typically nest near large bodies of water where they forage exclusively for fish. An osprey nest record is known approximately 1.1 miles from the Project Area. Osprey habitat is not present within the Project Area.

The monarch butterfly is a highly migratory species, with eastern United States populations overwintering in Mexico. Monarch populations typically return to the eastern United States in April (Davis and Howard 2005). Summer breeding habitat requires milkweed plant species, on which adults exclusively lay eggs for larvae to develop and feed on. Adults will drink nectar from other blooming wildflowers when milkweeds are not in bloom (NatureServe 2022). The Project Area is largely agricultural and is typically either plowed or planted with crops. Though some flowering plants may occur in the field, significant breeding or foraging habitat is not present. Though this species has not been historically tracked by state or federal heritage programs, the USFWS IPaC tool determined that this species could occur within the Project Area.

Gray bats roost in caves year-round and migrate between summer and winter roosts during spring and fall (USFWS 1982, Tuttle 1976a). Bats disperse over bodies of water at dusk where they forage for insects emerging from the surface of the water (Tuttle 1976b). Several gray bat records are known within Lawrence County, TN. The nearest known record is from a summer mist-net capture site where five individuals were captured approximately 7.1 miles from the Project Area. No caves are known within 3 miles of the Project Area. The one PFO wetland

identified on the Project Site provides consistent, suitable foraging habitat, while other identified water features, i.e., the wet weather conveyances described in section 4.2.4, may provide ephemeral foraging habitat after significant rain events.

Tricolored bats hibernate in caves or man-made structures such as culverts or bridges (Fujita and Kunz 1984, Newman 2021). During the summer, tricolored bats roost in clumps of tree foliage, often in oak and hickory trees (Veilleux et al. 2003, O'Keefe et al. 2009, Schaefer 2017, Thames 2020). Foraging studies of tricolored bats are lacking, but it is believed they typically forage near their roost trees in forested areas and riparian corridors. One record of a tricolored bat is known within Lawrence County, TN, approximately 14.2 miles away from the Project Area where it was observed during winter hibernacula surveys in 2016. July 2021 field surveys indicated potential suitable summer roosting habitat in the trees along the eastern and northern boundary of the property (Terracon 2021c). No caves are known within 3 miles of the Project Area. The one PFO wetland identified on the Project Site provides consistent, suitable foraging habitat, while other identified water features, i.e., the wet weather conveyances described in section 4.2.4, may provide ephemeral foraging habitat after significant rain events.

Indiana bats hibernate in caves in winter and use areas around them for swarming (mating) in the fall and staging in the spring, prior to migration back to summer habitat. During the summer, Indiana bats roost under the exfoliating bark of dead snags and living trees in mature forests with an open understory and a nearby source of water (USFWS 2007, Kurta et al. 2002). Indiana bats are known to change roost trees frequently throughout the season, while still maintaining site fidelity, returning to the same summer roosting areas in subsequent years (USFWS 2007). Foraging occurs along riparian areas and along the tops of trees, forested edges, and tree lines. There are no records of Indiana bats within 3 miles of the Project Area or within Lawrence County, TN. However, review of the USFWS IPaC database determined that this species could occur within the Project Area. The white oaks present along the tree lines provide suitable summer roosting habitat for Indiana bats. No caves are known within 3 miles of the Project Area. The presence of trees along the property boundary and the occurrence of a small wetland with year-round surface waters may provide limited but suitable foraging habitat. Other identified water features, i.e., the wet weather conveyances described in section 4.2.4, may provide ephemeral foraging habitat after significant rain events.

The northern long-eared bat (NLEB) predominantly overwinters in large hibernacula such as caves, abandoned mines, and cave-like structures. During the fall and spring, they utilize entrances of caves and the surrounding forested areas for swarming and staging. In the summer, northern long-eared bats roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees (typically greater than 3 inches in diameter). Roost selection by NLEB is similar to that of Indiana bat; however, NLEBs are thought to be more opportunistic in roost site selection. This species also roosts in abandoned buildings and under bridges. NLEBs emerge at dusk to forage below the canopy of mature forests on hillsides and roads, and occasionally over forest clearings and along riparian areas (USFWS 2014). There are no records of NLEBs within 3 miles of the Project Area or within Lawrence County, TN. However, review of the USFWS IPaC database determined that this species could occur within the Project Area. The white oaks present along the tree lines may provide limited but suitable summer roosting habitat for NLEB. No caves are known within 3 miles of the Project Area. The presence of trees along the property boundary and the occurrence of a small wetland with year-round surface waters may provide suitable foraging habitat. Other identified water features, i.e., the

wet weather conveyances described in section 4.2.4, may provide ephemeral foraging habitat after significant rain events.

The Bald and Golden Eagle Protection Act provides protection for bald eagles. Bald eagles are associated with larger mature trees capable of supporting its massive nests and are usually found near larger waterways where the eagles forage (USFWS n.d.). This species requires large trees capable of supporting their nests situated close to these food sources. The Project Area contains various tree species along the boundary; however, a large body of water is not present to support foraging.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to terrestrial T&E species.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to terrestrial T&E species would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to terrestrial T&E species, as the site would remain essentially unchanged from the current conditions.

4.2.9 *Managed and Natural Areas*

Managed areas include lands held in public ownership that are managed by an entity (e.g., TVA, USDA, U.S. Forest Service, State of Tennessee) to protect and maintain certain ecological and/or recreational features. Natural areas include ecologically significant sites; federal, state, or local park lands; national or state forests; wilderness areas; scenic areas; wildlife management areas (WMAs); recreational areas; greenways; trails; Nationwide Rivers Inventory (NRI) streams; and wild and scenic rivers. Ecologically significant sites are either tracts of privately-owned land that are recognized by resource biologists as having significant environmental resources or identified tracts on TVA lands that are ecologically significant but not specifically managed by TVA's Natural Areas program. NRI streams are free-flowing segments of rivers recognized by the U.S. National Park Service as possessing remarkable natural or cultural values. A review of data from the TVA Regional Natural Heritage database (TVA 2023) indicated that there are no natural or managed areas within or immediately adjacent (<0.10-mile) to the Project Area. Two natural or managed areas are located within 3.0 miles of the Project Area and are summarized in Table 4-5 (see Attachment 1, Figure 1-G).

Table 4-5. Natural Areas Within 3.0 Miles of the Project Area

Managed/Natural Area	Acres	Approximate Distance from Project Area (miles)	County, State	Description
Wetlands Reserve Program (WRP)	22.12	1.8	Lawrence, TN	WRP is a USDA NRCS program that provides assistance to eligible landowners to restore, enhance, and protect wetlands (USDA NRCS 2009).
DCH Slackwater Darter Lawrence	91,642.36	1.0	Multiple Counties, TN	Designated critical habitat (DCH) for the slackwater darter which was federally listed as threatened in 1977. See Section 4.2.6.2.
Source: TVA Regional Natural Heritage database, (2023)				

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to managed and natural areas.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to managed and natural areas would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to managed and natural areas, as the site would remain essentially unchanged from the current conditions.

4.2.10 Cultural Resources

Cultural resources, including archaeological and architectural resources, are protected under various federal laws, including: the Archaeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, and the National Historic Preservation Act (NHPA). Section 106 of the NHPA requires federal agencies to consult with the respective State Historic Preservation Officer (SHPO) when proposed federal actions could affect these resources.

The proposed property to be purchased is located along US-43 North in Ethridge, Tennessee, north of its intersection with Hagan Road. Lawrence County is located within south-central Tennessee which is characterized by historic agricultural lands with ranges of mountains extending southwest. The region is characterized by gently rolling topography containing rural agricultural land contrasted by ranges of mountains stretching southwest. The Project Area is located within the USGS Ethridge Quadrangle (2023). The property consists of 151 acres of vacant historic agricultural land and abuts US-43 North to the west and Hagan Road to the south and shares its remaining borders with adjacent undeveloped properties.

4.2.11 Archaeological Resources

A Phase I archaeological survey was conducted by Terracon in December 2021 and covered the Project Area and a 0.25-mile radius around the Project Area (Terracon 2022a). As a result

of the archaeological investigation, one isolated find (40LR50) was recorded and is unlikely to yield significant information about the prehistory of Lawrence County and is being recommended as ineligible for inclusion in the NRHP.

TVA consulted with the Tennessee SHPO in a letter dated April 4, 2023, regarding TVA's findings and recommendations. In an email dated April 4, 2023, the Tennessee SHPO concurred with TVA's findings and recommendations (Attachment 2). Pursuant to 36 CFR Part 800.3(f) (2), TVA also consulted with federally recognized Indian tribes regarding properties that may have religious and cultural significance to their tribe and eligible for the NRHP. To date, TVA has not received responses from the federally recognized Indian tribes regarding the Action Alternative.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to archaeological resources.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to archaeological resources would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to archaeological resources, as the site would remain essentially unchanged from the current conditions.

4.2.12 Architectural Resources

Pursuant to Section 106 of the NHPA and implementing regulations 36 CFR 800, a historic architectural survey was completed by SWCA Environmental Consultants (SWCA) to identify NRHP listed, eligible, or potentially eligible historic structures and sites within the Project Area. In preparation for the survey, a search of the site survey files and other resources available at the Tennessee Historical Commission (THC) was completed. Background research conducted via the Tennessee Historic Property Viewer, historic cartographic resources, and modern aerial photographs revealed thirteen properties that are 50-years of age or older within the Area of Potential Effect (APE) for the Project. The APE included the immediate 151-acre direct Project Area and an unobstructed 0.5-mile viewshed surrounding the Project Area. None of these were previously identified resources documented with the THC. SWCA identified thirteen previously undocumented historic architectural resources within the viewshed of the proposed Project Area within the 0.5-mile buffer (Table 4-6). All survey targets were documented and evaluated for eligibility for listing in the NRHP. No properties were recommended as eligible for listing in the NRHP.

Table 4-6. Cultural Resources Identified during the Phase I Cultural Historic Survey

Cultural Resource Number	Description	Eligibility Recommendation
LR-IP-001	7 Hagan Road, Ethridge, TN 38456	Not Eligible
LR-IP-002	Highway 43, Ethridge, TN 38456	Not Eligible
LR-IP-004	241 County Farm Road, Ethridge, TN 38456	Not Eligible
LR-IP-006	3427 Highway 43, Ethridge, TN 38456	Not Eligible
LR-IP-007	3426 Highway 43, Ethridge, TN 38456	Not Eligible
LR-IP-011	91 Pleasant Valley Road, Ethridge, TN 38456	Not Eligible
LR-IP-012	44 Snell Road, Ethridge, TN 38456	Not Eligible
LR-IP-013	198 Good Hope Road, Lawrenceburg, TN 38464	Not Eligible
LR-IP-014	186 Good Hope Road, Lawrenceburg, TN 38464	Not Eligible
LR-IP-015	162 Good Hope Road, Lawrenceburg, TN 38464	Not Eligible
LR-IP-016	108 Hagan Road, Ethridge, TN 38456	Not Eligible
LR-IP-018	38 Hagan Road, Ethridge, TN 38456	Not Eligible
LR-IP-020	167 Good Hope Road, Lawrenceburg, TN 38464	Not Eligible

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to historic architectural resources.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with purchase of the property, no impacts to historic architectural resources would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to historic architectural resources, as the site would remain essentially unchanged from the current conditions.

4.2.13 Air Quality and Climate Change

Federal and state regulations protect ambient air quality. With authority granted by the Clean Air Act (CAA) 42 U.S.C. 7401 et seq. as amended in 1977 and 1990, the USEPA established National Ambient Air Quality Standards (NAAQS) to protect human health and public welfare. The USEPA codified NAAQS in 40 CFR 50 for the following “criteria pollutants”: nitrogen dioxide (NO₂), carbon monoxide (CO), ozone, sulfur dioxide (SO₂), lead, particulate matter (PM) with an aerodynamic diameter equal to or less than 10 microns (PM₁₀), and PM with an aerodynamic diameter equal to or less than 2.5 microns (PM_{2.5}). The NAAQS reflect the relationship between pollutant concentrations and health and welfare effects. Primary standards protect human health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards are designed to protect public welfare, including visibility, animals, crops, vegetation, and buildings. These standards reflect the latest scientific knowledge and

have an adequate margin of safety intended to address uncertainties and provide a reasonable degree of protection. The air quality in Lawrence County, TN meets the ambient air quality standards and is in attainment with respect to the criteria pollutants (USEPA 2023).

Other pollutants, such as hazardous air pollutants (HAPs) and greenhouse gases (GHGs) are also a consideration in air quality impacts analyses. Section 112(b) of the CAA lists HAPs, also known as toxic air pollutants or air toxics, because they present a threat of adverse human health effects or adverse environmental effects. Although there are no applicable ambient air quality standards for HAPs, their emissions are limited through permit thresholds and technology standards as required by the CAA.

GHGs are gases that trap heat in the atmosphere. They are non-toxic and non-hazardous at normal ambient concentrations. At this time, there are no applicable ambient air quality standards or emission limits for GHGs under the CAA. GHGs occur in the atmosphere both naturally and resulting from human activities, such as the burning of fossil fuels. GHG emissions due to human activity are the main cause of increased atmospheric concentration of GHGs since the industrial age and are the primary contributor to climate change. The principal GHGs are carbon dioxide (CO₂), methane, and nitrous oxide.

Fugitive dust is a source of respirable airborne PM, including PM₁₀ and PM_{2.5}, which could result from ground disturbances such as travel on unpaved roads, tilling and upturning of soils, and general farming maintenance procedures in areas where loose dirt is present in which dust can easily become airborne. In addition, weather can affect air quality. Winds strong enough, such as those seen at the leading edge of a storm or from a pressure front, can dislodge loose dirt and soils, making them airborne, reducing visibility and creating health risks to those outside. Rain, on the other hand, will often act as a suppressor to airborne dust. Water interacts with aerosols in the atmosphere through coagulation, oftentimes removing harmful particulate matter. Soils and dirt that become saturated become more compact and tightly held, limiting the ability for further ground disturbance to affect the air while it maintains saturation. The amount of dust generated is a function of all the aforementioned activities, including silt and moisture content of the soil, wind speed, frequency of precipitation, vehicle traffic, vehicle types, and roadway characteristics.

Concerning climate change, trees, like other green plants, are carbon sinks that use photosynthesis to convert CO₂ into sugar, cellulose, and other carbon-containing carbohydrates that they use for food and growth. Carbon sequestration is the process by which carbon sinks remove CO₂ from the atmosphere. Although forests do release some CO₂ from natural processes such as decay and respiration, a healthy forest typically stores carbon at a greater rate than it releases carbon. Only a small section of the Project Area is composed of tree growth. Methane is emitted as a result of animal waste from livestock and through agricultural practices. It is a very potent greenhouse gas, being far better at absorbing long-wave radiation than carbon-dioxide, which contributes to the acceleration of man-made climate change. Livestock appears to be minimal within the vicinity of the Project Area, so methane emission as a byproduct of animal activity is negligible; however, since agricultural land use is prominent, and animal waste is often used as a fertilizer, some methane secretion is still possible as a result of agricultural activity, albeit minor.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in air quality and climate change impacts.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with its current plans, air quality and climate change impacts would not occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no air quality and climate change impacts, as the site would remain essentially unchanged from the current conditions.

4.2.14 Solid and Hazardous Wastes

A Phase I environmental site assessment of the Project Area was performed in June 2021 (Terracon 2021a). The results of the Phase I Environmental Site Assessment indicate that there are no Recognized Environmental Conditions (RECs) in connection with the Project Area. Field reconnaissance surveys found two areas with demolition debris consisting of concrete rubble and soil, and some tractor parts in the wooded area on the eastern Project Area boundary.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in the creation or disposal of solid and hazardous waste.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with its current plans, there would be no creation or disposal of solid and hazardous waste. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no creation or disposal of solid and hazardous waste, as the site would remain essentially unchanged from the current conditions.

4.2.15 Visual

The Project Area is situated within the Level IV Western Highland Rim Ecoregion of Tennessee (USEPA 2022). The visual characteristics of this landscape within the Western Highland Rim can be described as by dissected, rolling terrain of open hills. Streams are characterized by coarse gravel and sand with areas of bedrock, moderate gradients, and relatively clear water. Vegetation in the area consists of oak-hickory forests with agricultural occurring in the flatter areas consisting mostly of hay, pasture, corn, and tobacco (USEPA 2022).

The Project Area consists primarily of agricultural fields (approximately 95% of the area) with trees bordering the Project Area. Lands bordering the Project Area consist primarily of agricultural fields, with clusters of fragmented forest connected by thin bands of trees. The Project Area has a gentle slope downward from the middle of the Project Area towards the northern and eastern borders. Development surrounding the Project Area includes commercial development to the west of the Project Area running along US-43 (Andrew Jackson Highway). Rural development in the area consists of scattered residences to the west of the Project Area along US-43 and residences to the south of the Project Area along Hagan Road.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts to visual resources.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with its current plans, no impacts to visual resources would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts to visual resources, as the site would remain essentially unchanged from the current conditions.

4.2.16 Noise

Existing ambient noise levels, or background noise levels, are the current sounds from natural and artificial sources at receptors. The magnitude and frequency of background noise at any given location may vary considerably over the course of a day or night and throughout the year. The variations are caused in part by weather conditions, seasonal vegetative cover, and human activity. Existing sources of noise in the vicinity of the Project Area are minimal and primarily associated with traffic along the surrounding roads and the use of farming vehicles. These activities involve operations of tractors, cultivators, or similar vehicles and heavy machinery over the temporary and seasonal duration of crop growth. Farming equipment noise levels are temporary and rarely steady; they fluctuate depending on the number and type of vehicles and equipment in use at any given time. In addition, farming-related sound levels experienced by a noise sensitive receptor in the vicinity of construction activity would be a function of distance, other noise sources, and the presence and extent of vegetation, structures, and intervening topography between the noise source and receptor.

Primary sensitive noise receptors in the area include homes spaced intermittently and isolated from one another around the Project vicinity.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in noise-related impacts.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with its current plans, no noise-related impacts would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no noise-related impacts, as the site would remain essentially unchanged from the current conditions.

4.2.17 Socioeconomics and Environmental Justice

4.2.17.1 Socioeconomics

Socioeconomic indicators include population level and demographics, employment, housing, tourism, and demand for public services. The existing conditions in the county can be characterized using information compiled from the U.S. Census Bureau (USCB) American Community Survey and other publicly available information.

Table 4-7 characterizes the population, labor force, and income levels for Lawrence County. Table 4-7 also reports housing and public service statistics for the county. Similar information is provided at the state level for comparison purposes.

Table 4-7. Population, Labor Force, Housing, and Public Services

	Tennessee	Lawrence County
Population (Five-Year Estimates Ending in Designated Year)^{a,b}		
Total Population (2011)	6,297,991	41,593
Total Population (2021)	6,859,497	43,967
Population Change (2011 to 2021)	8.9%	5.7%
Persons per Square Mile (2021)	166.4	71.2
Labor Force (2017–2021 Five-Year Estimates)^c		
Civilian Labor Force	3,380,708	19,324
Employed	3,201,140	17,805
Unemployed	179,568	1,519
Average Annual Unemployment Rate	5.3%	7.9%
Income (2017–2021 Five-Year Estimates)^c		
Per Capita Income	\$32,908	\$24,426
Median Household Income	\$58,516	\$45,721
Percent of Persons Below Poverty Level	14.3%	16.3%
Housing (2017–2021 Five-Year Estimates)^{d,e}		
Total Housing Units	3,011,124	18,609
Total Occupied Housing Units	2,664,791	16,483
Total Vacant Units	346,333	2,126
Homeowner Vacancy Rate	1.2%	1.2%
Rental Vacancy Rate	6.7%	2.5%
Number of Hotels/Motels ^f	NR	7
Number of RV Parks/Campgrounds ^{f,g}	NR	8
Public Services and Facilities		
Police Departments ^h	NR	3
Fire Departments ^f	NR	9
Hospitals ⁱ	NR	4
Public Schools ⁱ	NR	12
NR = Not Reported ^a USCB 2011 ^b USCB 2021a ^c USCB 2021b ^d USCB 2021c ^e USCB 2021d ^f Google Maps 2023 ^g Allstays 2023 ^h USACOPS 2023 ⁱ USEPA 2020		

With a population density less than half the state average, Lawrence County is reasonably characterized as rural. As is often the case in rural areas, the county has a lower per capita income and higher rates of poverty and unemployment than the state average. Employment is centered in three sectors: 1) education, health care, and social assistance; 2) manufacturing; and 3) retail trade (USCB 2021b). The rental vacancy rate is below the state average which is consistent with an expanding population.

There are eight RV parks/campgrounds in the county, and no tourist attractions have been identified within 1 mile of the Project Area.

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area. Assuming that the Economic Development Corporation of Lawrence County is not a non-profit organization, implementation of the Action Alternative could increase tax revenue paid to the State of TN and Lawrence County, but it is anticipated that any increase would be negligible. Based on the preceding analysis, the overall impact of the Action Alternative on socioeconomic conditions in Lawrence County, TN would be negligible.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with its current plans, the overall impact on socioeconomic conditions in Lawrence County, TN would be negligible. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would be no impact on the socioeconomic conditions in Lawrence County, TN.

4.2.18 Environmental Justice

The purpose of an environmental justice analysis is to determine if the Action Alternative is likely to have disproportionate and adverse human health or environmental effects on minority and low-income populations. Environmental justice analyses are typically implemented in three steps. First, census data are used to identify environmental justice communities. Second, information characterizing the Project's impact on environmental resources is used to determine if the Project is likely to affect environmental justice communities disproportionately and adversely. Finally, if disproportionate and adverse impacts to minority or low-income communities are anticipated, plans to mitigate those impacts are developed.

4.2.18.1 Identifying Environmental Justice Communities

This analysis is performed at the census block group level; this is the smallest geographic unit for which the necessary demographic data are reported.

The environmental justice analysis area includes all block groups within one mile of the Project Area. This distance was selected because potential impacts to humans arising from Project-related changes in parameters such as air quality, groundwater quality, noise, and aesthetics are likely to be most acute near a project and then dissipate rapidly.

Table 4-8 summarizes race/ethnicity and poverty data for the three block groups in the environmental justice analysis area. Information for Tennessee and Lawrence County are provided as a basis of comparison. Block groups were identified as communities of potential environmental justice concern if either of the following is true.

1. The percentage of the block group's population self-identifying as something other than "white-alone not Hispanic" (referred to as "minority") exceeds 50 percent *OR* if the percentage of the block group's population self-identifying as something other than "white-alone not Hispanic" is 10% greater than the same measure in the corresponding county.
2. The percentage of the block group living below the poverty level is greater than the same measure in the corresponding county.

All block groups in the environmental justice analysis area are characterized as communities of potential environmental justice concern. This is because all block groups in the analysis area have poverty rates greater than the poverty rate in Lawrence County. In addition, the proportion of residents in block group 3 of census tract 9605.01 that self-identify as minority is nearly three times the rate in Lawrence County.

Furthermore, the USEPA's EJScreen reports that block group 1 of census tract 9603 and block group 3 of census tract 9605.01 fall in the 41st and 57th state percentile of "Less Than HS Education", respectively. This indicates that the proportion of persons with a high school education in these block groups is neither unusually high or low. In contrast, block group 2 of census tract 9603 falls in the 85th state percentile of "Less Than HS Education," indicating that the proportion of persons with a high school education is unusually low.

Table 4-8. Race/Ethnicity and Poverty

	Tennessee	Lawrence County	Census Tract 9603, Block Group 1	Census Tract 9603, Block Group 2	Census Tract 9605.01, Block Group 3
Race/Ethnicity (2017-2021 Five-Year Estimates)^a					
Total Population	6,859,497	43,967	1,947	2,747	1,023
White Alone Not Hispanic	72.9%	92.6%	95.9%	99.7%	79.6%
Black or African American	16.3%	1.6%	0.0%	0.0%	7.6%
American Indian and Alaska Native	0.2%	0.0%	0.6%	0.3%	0.0%
Asian	1.8%	0.4%	0.0%	0.0%	0.0%
Native Hawaiian and Other Pacific Islander	0.1%	0.1%	0.0%	0.0%	4.8%
Some other race	0.3%	0.3%	0.0%	0.0%	0.0%
Two or more races	2.7%	2.4%	3.2%	0.0%	8.0%
Hispanic or Latino	5.8%	2.5%	0.4%	0.0%	0.0%
Total Racial Minority	27.1%	7.4%	4.1%	0.3%	20.4%

	Tennessee	Lawrence County	Census Tract 9603, Block Group 1	Census Tract 9603, Block Group 2	Census Tract 9605.01, Block Group 3
Low-Income (2017-2021 Five-Year Estimates)^b					
Percent of Households Below Poverty Level	14.1%	18.1%	26.1%	23.4%	43.6%
^a USCB 2020e ^b USCB 2020f Low-income or minority populations exceeding the established thresholds are indicated with orange shading					

4.2.18.2 Evaluating the Potential for Disproportionate and Adverse Impacts

The Bureau of Land Management (2022) reports that determining whether the effect of a project on an environmental justice population is likely to be disproportionate is a matter of professional judgement. Specifically, they write that determining whether the effect of an impact would “appreciably exceed . . . those on the general population is a matter of judgment, taking all relevant information into account.” It is suggested that the analysis ask whether members of the environmental justice community are more sensitive to project-related impacts than the general public because of income status, historical exclusion based on race or ethnicity, an inability to respond to the action, or increased exposure potential.

When conducting this environmental justice assessment, the full range of potential changes that could affect humans was considered (e.g., changes in air quality, changes in water quality, degradation of cultural resources, and socioeconomic alterations). In each instance, the analysis asked whether minority and low-income populations would have different ways, relative to the general population, of being adversely affected by the Project. Three specific questions were posed, and both direct and indirect Action Alternative impacts were considered when answering these questions.

1. Are residents of environmental justice communities likely to be disproportionality and adversely affected because they are more sensitive to a given level of exposure due to pre-existing medical conditions and/or reduced access to health care and/or because they are exposed to higher baseline concentrations of health stressors, such as PM_{2.5}?
2. Are residents of environmental justice communities likely to be disproportionately and adversely affected due to lifestyle approaches such as subsistence fishing and/or because they have different cultural, community, or religious practices?
3. Are residents of environmental justice communities likely to be disproportionality and adversely affected because their economic status or language barriers prevent them from taking mitigating actions that general members of the public might readily adopt, such as closing doors and windows to limit dust exposure?

In addition to reviewing the resource-specific analysis reported in the remainder of this EA, USCB data were used to identify potential language barriers in the area. Block group 2 of census tract 9603 is identified as a limited English proficiency community because approximately 9.3% of the block group’s population age 5 and older speak an Indo-European

language and speak English “not well” or “not at all” (USCB 2021g)¹. There is a relatively large population of Amish in the area surrounding Lawrenceburg and Ethridge who speak Pennsylvania Dutch (Lawrenceburg Tourism 2023). It is likely that the presence of the Amish community result in the block group being designated as a limited English proficiency community.

Provided potential environmental justice communities and limited English proficiency communities are not excluded from meaningfully participating in Action Alternative related decision-making processes, the Action Alternative would not result in environmental justice-related issues. The provision of an economic development grant to the Economic Development Corporation of Lawrence County to assist with the purchase of the Project Area for future industrial use is generally not expected to materially affect environmental or socioeconomic resources. Further, implementation of the Action Alternative would not result in adverse impacts to environmental resources. Therefore, no disproportionate impacts to low-income or minority communities or limited English proficiency communities in the area are anticipated as a result of the Action Alternative.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with its current plans, environmental justice-related issues would not occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur, and environmental justice-related issues would not occur.

4.2.19 Transportation

The Project Area can be accessed from either Hagan Road or US-43. Hagan Road is located to the south of the Project Area and US-43 is located to the west.

Hagan Road is a local, residential road that provides access to a half dozen residences and is bordered by agricultural fields. Hagan Road is approximately 1.4 miles in length and intersects with US-43 to the west and Good Hope Road North to the east. Based on preliminary review of Google Streetview images (recorded May 2019, as supplemented by review of Google Earth imagery obtained on October 7, 2022), Hagan Road appears to be a tar-and-chip, single lane residential road. Hagan Road is not listed on the Functional Classification System for Lawrence County (Tennessee Department of Transportation [TDOT] 2018).

US-43 is a four-lane highway and is classified as both a Principal Arterial Roadway and a National Highway by the Functional Classification System for Lawrence County (TDOT 2018). US-43 runs south of the Project Area through Lawrenceburg, TN, and further south into Alabama and north of the Project Area into Columbia, TN. Based on preliminary review of Google Streetview images (recorded September 2022, as supplemented by review of Google Earth imagery obtained on June 20, 2022), the road is in good condition with paved shoulders

¹ The identification process defines limited English proficiency persons (LEPPs) as individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English. Block groups with more than 5 percent LEPPs and/or more than 1,000 LEPPs are characterized as LEP communities.

and a median turning lane between oncoming traffic. This highway can accommodate commercial and construction vehicles. In the vicinity of the Project Area, several small businesses and residences connect to US-43.

There is one traffic count station located on US-43 approximately 0.9 mile north of the Project Area and another approximately 1.5 miles south of the Project Area on US-43 North (TDOT 2021). There are no traffic count data available for Hagan Road. The 2021 annual average daily traffic counts (AADT) for the relevant stations are presented in Table 4-9.

Table 4-9. Tennessee Department of Transportation Traffic Count Data for the Project Area

Route Description	Location ID	Distance from Project Area (Miles)	Year	AADT	PA	BC
HWY 43 N (Ethridge)	50000015	0.9	2021	13,904	12,553 (90%)	1,351 (10%)
N Locust Ave (N of Lawrenceburg)	50000099	1.5	2021	13,704	12,513 (91%)	1,191 (9%)
Where: AADT = Annual Average Daily Traffic Count; PA = Passenger Vehicles; BC = Business/Commercial Vehicles Source: TDOT (Annual Average Daily Traffic (AADT) (tn.gov)), extracted 2/8/2023.						

The Action Alternative involves the use of InvestPrep funds to assist with purchase of the Project Area; therefore, implementation of the Action Alternative would not result in impacts on traffic volumes and level of service.

Under the No Action Alternative, TVA would not provide InvestPrep funds to the Economic Development Corporation of Lawrence County. Similar to the Proposed Action, if the Economic Development Corporation of Lawrence County was able to obtain alternate funding and proceed with its current plans, no impacts on traffic volumes and level of service would occur. If the Economic Development Corporation of Lawrence County was unable to secure other funding or the Project was cancelled, the Proposed Action would not occur and there would also be no impacts on traffic volumes and level of service, as the site would remain essentially unchanged from the current conditions.

5.0 PERMITS, LICENSES, AND APPROVALS

Implementation of the Action Alternative as the Proposed Action is not anticipated to require permits, licenses and approvals.

The future use of the site has not been fully defined; therefore, an analysis of the potential impacts to the environmental resources described in this EA resulting from future development is beyond the scope of this EA. The Economic Development Corporation of Lawrence County, or its contractors, would be responsible for obtaining local, state, or federal permits, licenses, and approvals necessary for future development of the Project Area.

6.0 BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

Implementation of the Action Alternative as the Proposed Action is not anticipated to require implementation of BMPs and mitigation measures.

The future use of the site has not been fully defined; therefore, an analysis of the potential impacts to the environmental resources described in this EA resulting from future development is beyond the scope of this EA.

7.0 LIST OF PREPARERS

Table 8-1 summarizes the expertise and contributions made to the EA by the Project Team.

Table 8-1. Environmental Assessment Project Team

Name/Education	Experience	Project Role
TVA		
Brittany Kunkle <i>B.S., Environmental and Soil Science</i>	4 years of professional experience in NEPA and environmental compliance	NEPA Project Manager
Susan Housley	16 years in river and reservoir monitoring, 1 year in NEPA compliance	NEPA Compliance
Lori Whitehorse	19 years in environmental regulatory compliance and 7 years in NEPA and permitting	Environmental Program Manager
Britta Lees <i>M.S., Botany</i> <i>B.S., Biology</i>	25 years in wetland assessment, field biology, NEPA contributions, and water permitting	Surface Water, Soil Erosion
Fallon Parker Hutcheon <i>M.S., Environmental Studies</i> <i>B.S., Biology</i>	4 years in wetland delineation, wetland impact analysis, and NEPA and CWA compliance	Wetlands
Carrie Williamson, P.E., CFM <i>B.S. and M.S., Civil Engineering</i>	10 years in Floodplains and Flood Risk; 11 years in Compliance Monitoring; 3 years in River Forecasting	Floodplains
Adam Dattilo <i>M.S., Forestry</i> <i>B.S., Natural Resource Conservation Management</i>	21 years in ecological restoration and plant ecology, 16 years in botany	Botany
David Nestor <i>M.S., Botany</i> <i>B.S., Aquaculture Fisheries, & Wildlife Biology</i>	19 years of experience in ESA & NEPA Compliance, 25 years in botany	
Derek Reaux <i>B.A., Anthropology, University of Kentucky</i> <i>M.A./Ph.D., Anthropology, University of Nevada</i>	11 years of experience in cultural resource management and archaeological research.	Cultural resources, NHPA, Section 106 compliance
Matt Reed, QHP <i>M.S., Wildlife and Fisheries Science</i>	13 years working with threatened and endangered aquatic species in the Southeastern United States; 7 years in ESA, NEPA, and CWA compliance and stream assessments	Aquatic Ecology
Chloe Sweda	5 years in natural resource management	Managed and Natural Areas

Name/Education	Experience	Project Role
Sara Bayles <i>M.S., Sport and Recreation Management</i>	4 years of experience in recreation, 1 year experience in NEPA compliance	Recreation
Megan Wallrichs <i>M.S., Natural Resources, Delaware State University</i> <i>B.S., Biology, University of North Carolina at Greensboro</i>	13 years working with threatened and endangered terrestrial species in the Southeastern United States; 2 years of ESA and NEPA compliance	Terrestrial Zoology
Elizabeth Burton Hamrick <i>M.S., Wildlife and Fisheries Science, University of Tennessee</i> <i>B.A., Biology, B.A., Anthropology, Grinnell College</i>	22 years in biological field studies, 9 years in biological compliance, NEPA compliance, and ESA consultation for T&E terrestrial animals	Terrestrial Zoology
SWCA		
Rachel Bell, PMP <i>B.S., Environmental Science, Auburn University</i>	17 years in natural resources planning and NEPA compliance, including project management, preparation of EAs and Environmental Impact Statements (EISs), state and federal permitting, and biological and environmental studies and analysis.	EA Program Manager QA/QC
Patricia Riley, AICP-CEP, PWS <i>M.S., Ecology, Rutgers University</i> <i>B.S., Biology and Environmental Science, East Stroudsburg University</i>	36 years in environmental resource surveys and permitting, including EIS and EA preparation, mitigation monitoring, state and federal wetland and waterbody permitting and mitigation, protected species surveys and coordination, and wetland delineations.	EA Project Manager QA/QC Purpose and Need, Other Environmental Documentation, Alternatives, Site Description, Aquatic Ecology, Botany, Archaeology and Historic Structures and Sites, Recreation, Permits, Licenses and Approvals, Best Management Practices and Mitigation Measures
Fiona Cook <i>B.S., Marine Biology, Texas A&M University at Galveston</i>	10 years of experience in the environmental consulting field. This experience includes wetland and waterbody delineations, wetland and waterbody assessments, wetland monitoring, threatened and endangered species surveys, vegetation surveys, as well as permitting.	Land Use and Recreation, Soils and Prime Farmland
Hillary Skowronski <i>M.S., Environmental Biology, University of West Florida</i> <i>B.S., Marine Biology, Waynesburg University</i>	9 years of experience in the natural sciences, including environmental surveys, reporting, and compliance for various public and private sector clients as well as extensive watershed, and aquatic habitat research. She has performed considerable work designing, implementing, and coordinating surveys and survey results, preparing EAs and reports, and providing project management and coordination.	Land Use, Prime Farmland and Recreation, Groundwater, Surface Water and Soil Erosion, Aquatic Ecology, Botany

Name/Education	Experience	Project Role
Sean Peacock <i>B.S., Environmental Science, Georgia College & State University</i>	7 years of experience in the environmental consulting field. Primary responsibilities include preliminary site assessments, listed species surveys and permitting, biological monitoring, aquatic resource assessments, construction monitoring, wetland delineations and assessments, environmental permitting, and data management.	Groundwater, Surface Water and Soil Erosion, Aquatic Ecology, Botany, Terrestrial Zoology
Dana Overcash <i>M.E.M., Environmental Management, Duke University</i> <i>B.S., Biology, Villanova University</i>	11 years of experience in environmental consulting including environmental surveys, reporting, and construction compliance.	Managed and Natural Areas, Solid and Hazardous Wastes
Derek Duquette <i>M.A., Public History, Temple University</i> <i>B.A., History, West Chester University of Pennsylvania</i>	5 years of experience in cultural resources consultation including reconnaissance- and intensive-level historic architectural surveys, environmental consulting, historic preservation planning documentation, reporting, and Section 106 compliance.	Cultural Resources, Architectural Historian
Brad Sohm <i>B.S. Chemical Engineering w/ Environmental Engineering Option</i>	19 years in air quality and environmental planning, including preparation of EAs and EISs, state and federal air quality permitting, and noise studies and analysis.	Air Quality and Climate Change, Noise
Garet Openshaw <i>MLA, Landscape Architecture and Environmental Planning, Utah State University</i> <i>BLA, Landscape Architecture and Environmental Planning, Utah State University</i>	6 years of experience in landscape architecture and environmental planning including visual resources. Expertise includes the inventory of visual resources, technical writing and authorship and analysis of impacts to visual resources associated with large scale solar, wind, mine, transmission and other developments.	Visual
Tony Theis <i>M.S., Statistics, University of Minnesota</i> <i>B.S., Wildlife Ecology, University of Wisconsin-Madison</i>	5 years in ecology, technical writing, and economics. He has experience conducting surveys and analyzing demographic data, experimental design, and statistical consulting. He has authored numerous socioeconomic, environmental justice, land use, recreational, and visual sections for a variety of EAs/EISs and Resource Reports.	Socioeconomics and Environmental Justice
Allison McKenzie <i>M.S., Forestry, Mississippi State University</i> <i>B.A., Biological Sciences and Wildlife Conservation, University of Delaware</i>	11 years of experience in the natural sciences, including environmental assessments, permitting, and compliance for various public and private sector clients as well as extensive fisheries, watershed, and forestry research. She has performed considerable work implementing and interpreting surveys and survey results, preparing EAs and reports, and providing project management and coordination.	Transportation

8.0 AGENCIES AND OTHERS CONSULTED

The following federal and state agencies and federally recognized Indian Tribes were consulted:

- Tennessee Historical Commission
- Tribes: Absentee Shawnee Tribe of Indians of Oklahoma, Cherokee Nation, The Chickasaw Nation, Coushatta Tribe of Louisiana, Eastern Band of Cherokee Indians, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Kialegee Tribal Town, The Muscogee (Creek) Nation, Shawnee Tribe, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians in Oklahoma

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ATTACHMENT 1
Project Figures

Figure 1-A
Aerial Map



TVA FY23 ECONOMIC
DEVELOPMENT PROJECTS
LAWRENCE COUNTY,
TENNESSEE

**Figure 1-A: Aerial
Map**

 Project Area

Lawrence County, TN
USGS 7.5' Quadrangle:
Ethridge, TN, 35087-C3
NAD 1983 UTM Zone 16N
35.3047°N 87.296°W

0 370 740 Feet
0 90 180 Meters

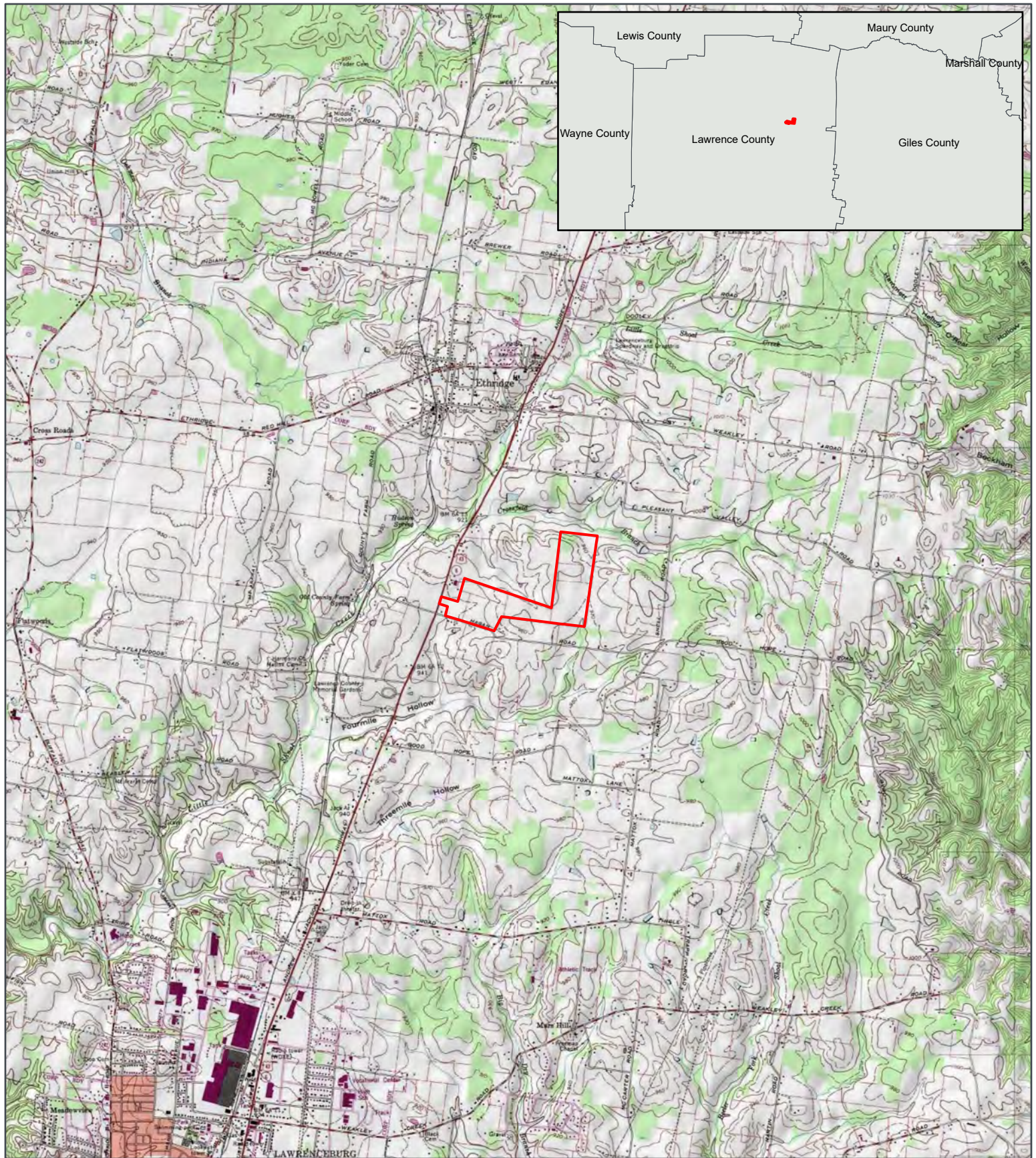


Base Map: Esri ArcGIS Online,
accessed March 2023
Updated: 3/14/2023
Project No. 78533
Layout: Fig1-A Aerial
Aprx: 78533_tvaLawrenceCounty

1:9,000

SWCA
ENVIRONMENTAL CONSULTANTS

Figure 1-B
USGS Quadrangle Map

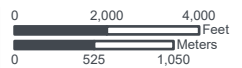


TVA FY23 ECONOMIC
DEVELOPMENT PROJECTS
LAWRENCE COUNTY,
TENNESSEE

**Figure 1-B: USGS
Quadrangle Map**

 Project Area

Lawrence County, TN
USGS 7.5' Quadrangle:
Ethridge, TN, 35087-C3
NAD 1983 UTM Zone 16N
35.3047°N 87.296°W

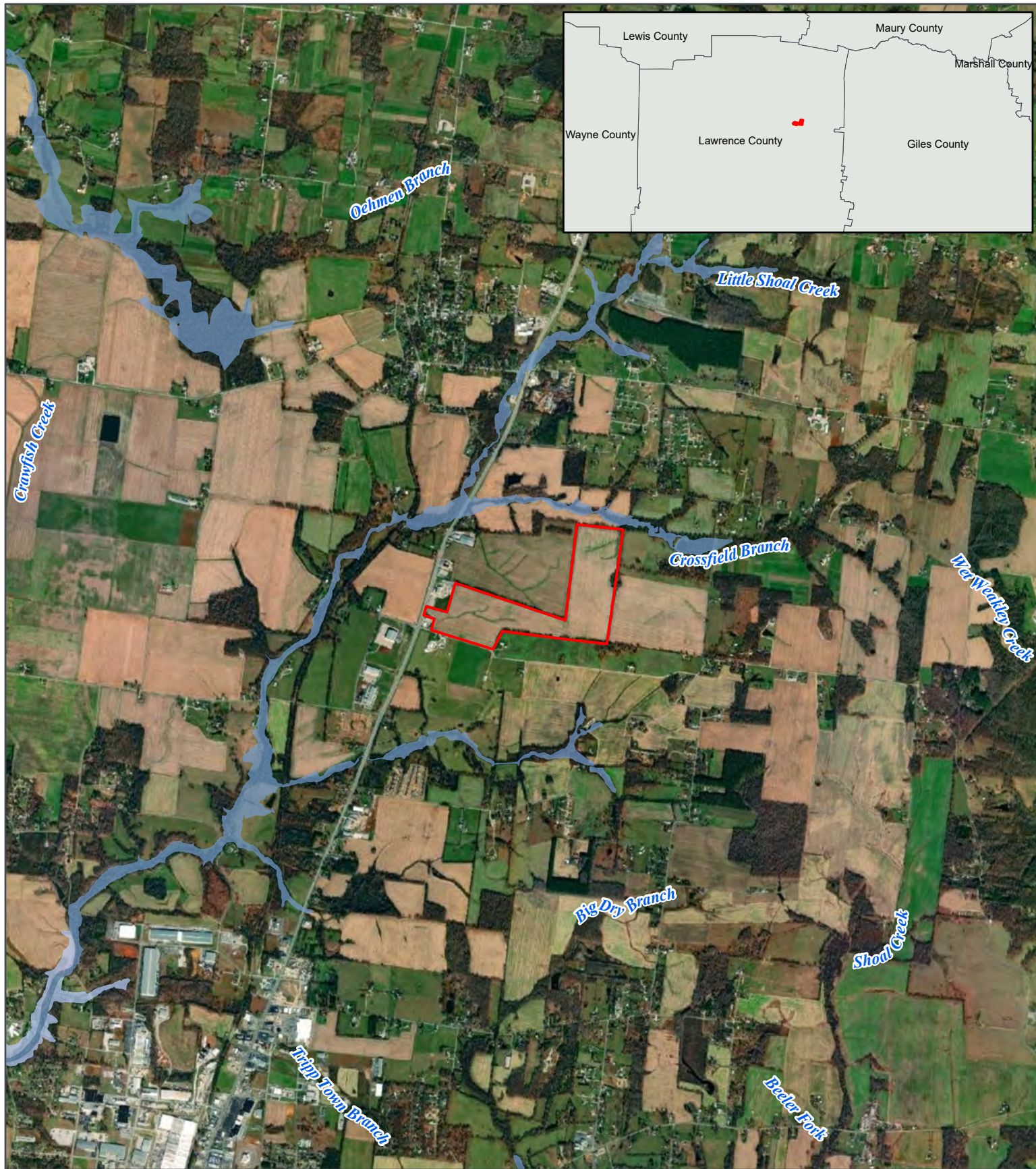


Base Map: Esri ArcGIS Online,
accessed March 2023
Updated: 3/14/2023
Project No. 78533
Layout: Fig1-B Topo
Aprx: 78533_tvaLawrenceCounty

1:50,000

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Figure 1-C
FEMA Floodplain Map



TVA FY23 ECONOMIC
DEVELOPMENT PROJECTS
LAWRENCE COUNTY,
TENNESSEE

**Figure 1-C:
FEMA
Floodplain Map**

- Project Area
- 100-Year Floodplain
- Floodway

Lawrence County, TN
USGS 7.5' Quadrangle:
Ethridge, TN, 35087-C3
NAD 1983 UTM Zone 16N
35.3047°N 87.296°W

Base Map: Esri ArcGIS Online,
accessed March 2023
Updated: 3/14/2023
Project No. 78533
Layout: Fig1-E Floodplain
Aprx: 78533_tvaLawrenceCounty

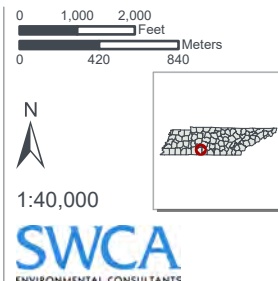
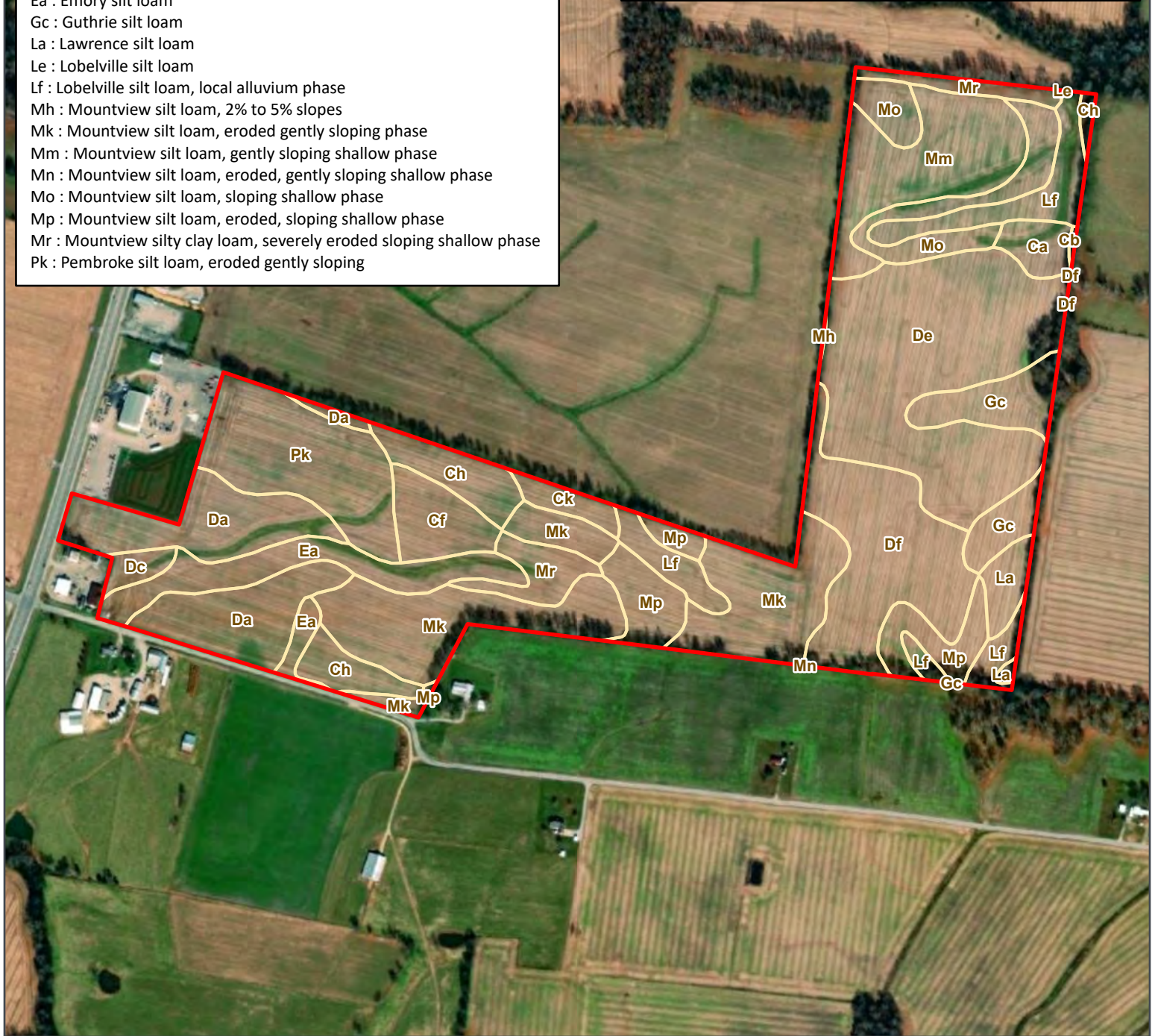
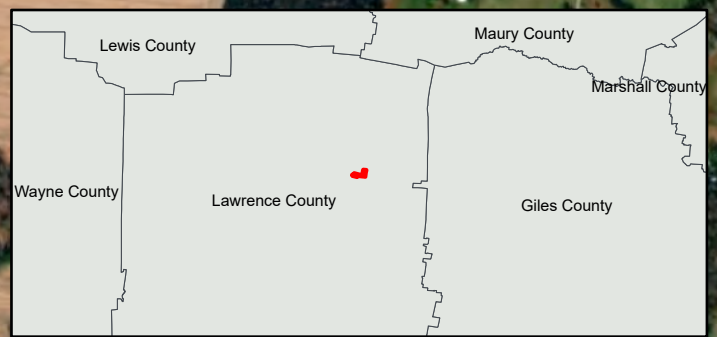


Figure 1-D
NRCS Soils Map

Soil Unit Key

Ca : Captina silt loam, gently sloping phase
 Cb : Captina silt loam, eroded gently sloping phase
 Cf : Cookeville silt loam, eroded gently sloping phase
 Ch : Cookeville silt loam, eroded sloping phase
 Ck : Cookeville silty clay loam, severely eroded sloping phase
 Da : Decatur silt loam, eroded gently sloping phase
 Dc : Decatur silty clay loam, severely eroded gently sloping phase
 De : Dickson silt loam, 2% to 5% slopes
 Df : Dickson silt loam, eroded gently sloping phase
 Ea : Emory silt loam
 Gc : Guthrie silt loam
 La : Lawrence silt loam
 Le : Lobelville silt loam
 Lf : Lobelville silt loam, local alluvium phase
 Mh : Mountview silt loam, 2% to 5% slopes
 Mk : Mountview silt loam, eroded gently sloping phase
 Mm : Mountview silt loam, gently sloping shallow phase
 Mn : Mountview silt loam, eroded, gently sloping shallow phase
 Mo : Mountview silt loam, sloping shallow phase
 Mp : Mountview silt loam, eroded, sloping shallow phase
 Mr : Mountview silty clay loam, severely eroded sloping shallow phase
 Pk : Pembroke silt loam, eroded gently sloping



TVA FY23 ECONOMIC
 DEVELOPMENT PROJECTS
 LAWRENCE COUNTY,
 TENNESSEE

**Figure 1-D: NRCS
 Soils Map**

Project Area
 Soil Unit Boundary

Lawrence County, TN
 USGS 7.5' Quadrangle:
 Ethridge, TN, 35087-C3
 NAD 1983 UTM Zone 16N
 35.3047°N 87.296°W

0 350 700
 Meters
 0 80 160
 Feet

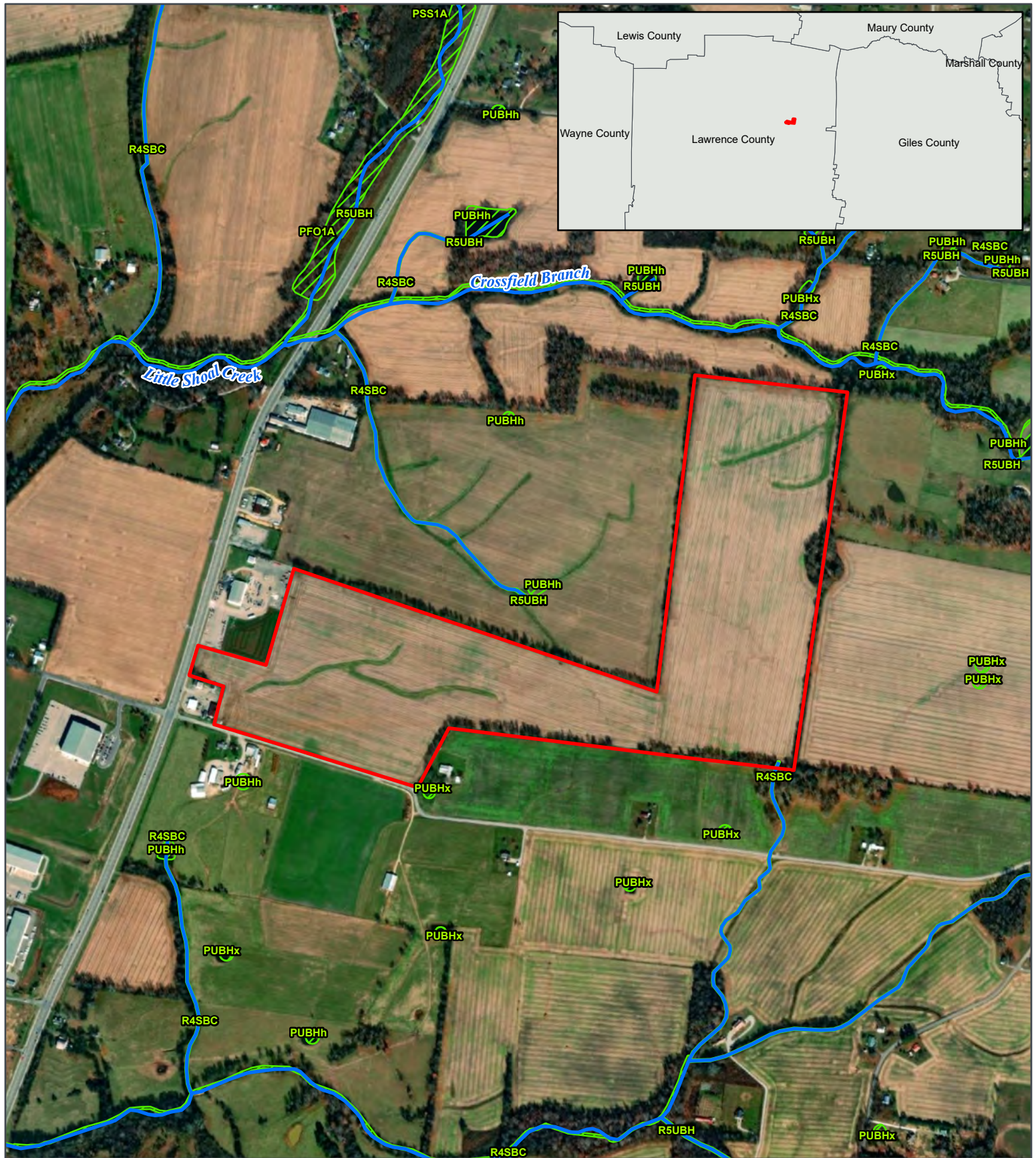


Base Map: Esri ArcGIS Online,
 accessed March 2023
 Updated: 3/14/2023
 Project No. 78533
 Layout: Fig1-C Soils
 Aprx: 78533_tvaLawrenceCounty

1:8,494

SWCA
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Figure 1-E
USFWS NWI and Water Resources Inventory Map



TVA FY23 ECONOMIC
DEVELOPMENT PROJECTS
LAWRENCE COUNTY,
TENNESSEE

**Figure 1-E:
USFWS NWI and
Water Inventory
Map (NHD)**

- Project Area
- NHD Flowline
- NWI Wetlands

Lawrence County, TN
USGS 7.5' Quadrangle:
Ethridge, TN, 35087-C3
NAD 1983 UTM Zone 16N
35.3047°N 87.296°W

Base Map: Esri ArcGIS Online,
accessed March 2023
Updated: 3/14/2023
Project No. 78533
Layout: Fig1-D NWI_NHD
Aprx: 78533_tvaLawrenceCounty

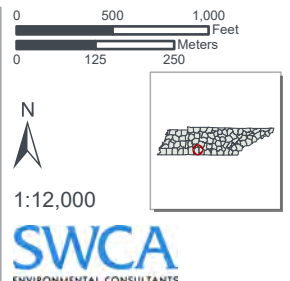


Figure 1-F
Wetlands and Waterbodies Map



TVA FY23 ECONOMIC
DEVELOPMENT PROJECTS
LAWRENCE COUNTY,
TENNESSEE

**Figure 1-F:
Wetlands and
Waterbodies Map**

- Project Area
- Wetland
- Wet Weather Conveyance

Lawrence County, TN
USGS 7.5' Quadrangle:
Ethridge, TN, 35087-C3
NAD 1983 UTM Zone 16N
35.3047°N 87.296°W

0 370 740
0 90 180
Feet
Meters

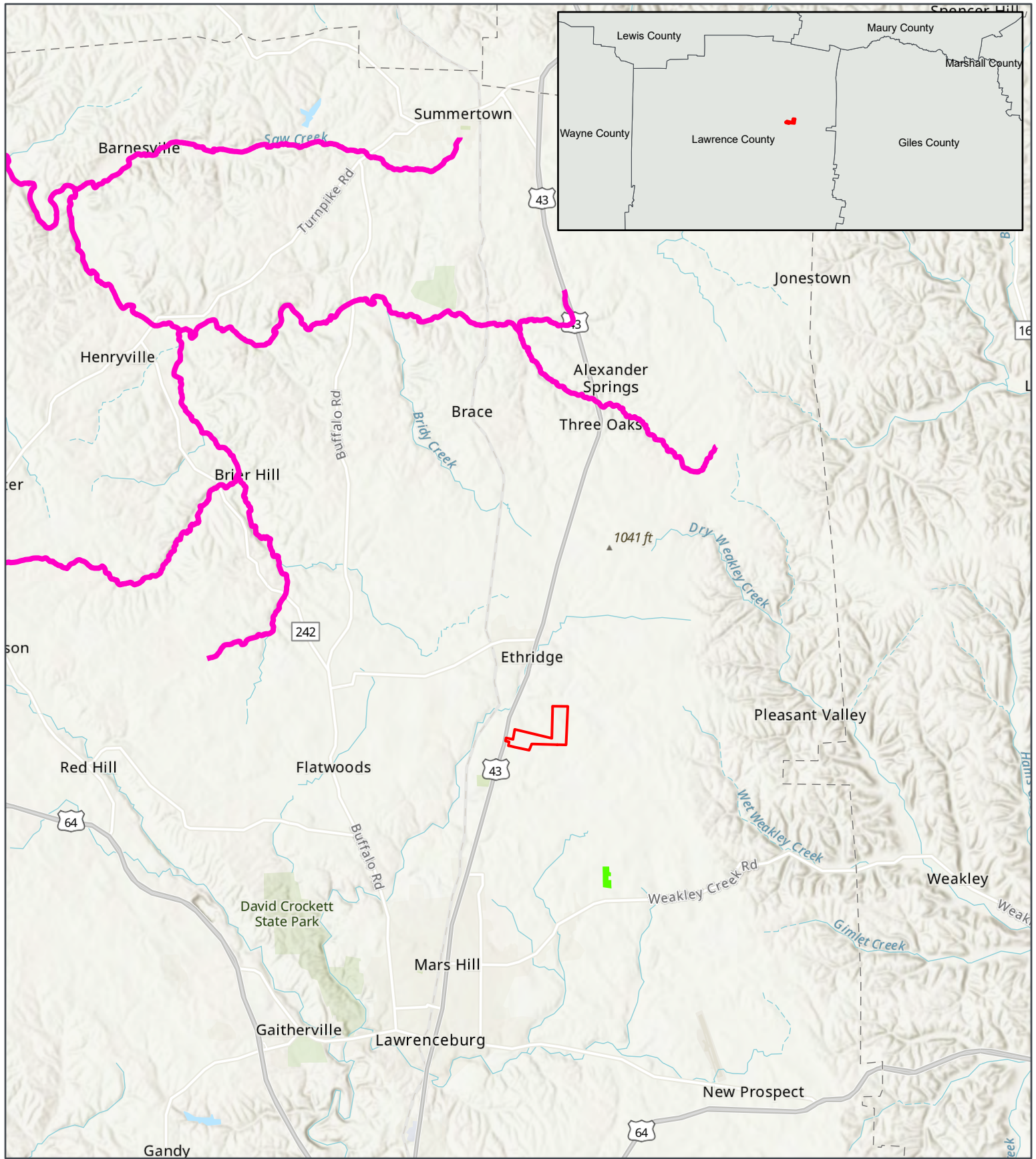


Base Map: Esri ArcGIS Online,
accessed March 2023
Updated: 3/14/2023
Project No. 78533
Layout: Fig1-F WDR
Aprx: 78533_tvaLawrenceCounty

1:9,000

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Figure 1-G
Natural Areas Map



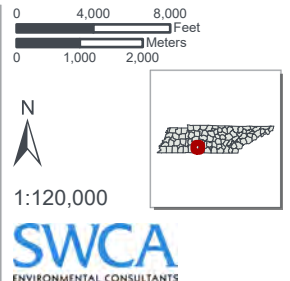
TVA FY23 ECONOMIC
DEVELOPMENT PROJECTS
LAWRENCE COUNTY,
TENNESSEE

**Figure 1-G:
Natural Areas Map**

- projectArea
- Slackwater Darter - *Etheostoma boschungii*
- Wetlands Reserve Program (WRP)

Lawrence County, TN
USGS 7.5' Quadrangle:
Ethridge, TN, 35087-C3
USA Contiguous Albers Equal
Area Conic USGS version
35.3362°N 87.2974°W

Base Map: Esri ArcGIS Online,
accessed March 2023
Updated: 3/16/2023
Project No. 78533
Layout: Fig1-G Natural
Aprx: 78533_tvaLawrenceCounty



ATTACHMENT 2
Agency Correspondence

Reaux, Derek

From: TN Help <tnhelp@service-now.com>
Sent: Tuesday, April 4, 2023 1:31 PM
To: Beliles, Emily
Cc: Reaux, Derek; Harle, Michaelyn S
Subject: Gobble Site Economic Development; CRMS ID 25131402948 - Project # SHPO0002867

This is an **EXTERNAL EMAIL** from outside TVA. **THINK BEFORE** you **CLICK** links or **OPEN** attachments. If suspicious, please click the **"Report Phishing"** button located on the Outlook Toolbar at the top of your screen.



TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON PIKE
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

04-04-2023 12:28:10 CDT

Dr. Micahelyn Harle
TVA
MHarle@tva.gov

RE: Tennessee Valley Authority (TVA), Gobble Site Economic Development; CRMS ID 25131402948, Project#: SHPO0002867, Ethridge, Lawrence County, TN

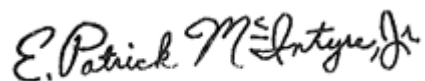
Dear Dr. Harle:

In response to your request, we have reviewed the cultural resources survey report and accompanying documentation submitted by you regarding the above-referenced undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Considering the information provided, we concur with your agency that no historic properties eligible for listing in the National Register of Historic Places will be affected by this undertaking. If project plans are changed or archaeological remains are discovered during project construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. Please provide your Project # when submitting any

additional information regarding this undertaking. Questions or comments may be directed to Jennifer Barnett, who drafted this response, at Jennifer.Barnett@tn.gov, +16156874780.

Sincerely,

A handwritten signature in black ink that reads "E. Patrick McIntyre, Jr." in a cursive script.

E. Patrick McIntyre, Jr.
Executive Director and#
State Historic Preservation Officer#

Ref:MSG7876145_lb2JneqrpMSDBLFfLqTL



400 West Summit Hill Drive, Knoxville, Tennessee 37902

April 4, 2023

Mr. E. Patrick McIntyre, Jr.
Executive Director
and State Historic Preservation Officer
Tennessee Historical Commission
2941 Lebanon Pike
Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TENNESSEE VALLEY AUTHORITY (TVA), ECONOMIC DEVELOPMENT, GOBBLE SITE, ETHRIDGE, LAWRENCE COUNTY, TENNESSEE (35.301922, -87.29666), (TVA TRACKING NUMBER – CRMS ID 25131402948)

TVA is providing financial assistance for the purchasing of the 151-acre Gobble Site in Ethridge, Lawrence County, Tennessee. TVA has determined that this project is an undertaking (as defined at 36 CFR § 800.16(y)) that has the potential to cause effects on historic properties. TVA recommends that the area of potential effects (APE) be considered as the total area within which current project actions would take place (151 acres), where physical effects could occur, as well as areas within a half-mile radius of the project within which the project would be visible where visual effects on historic structures could occur.

TVA contracted SWCA Environmental Consultants (SWCA) to carry out a historic architectural survey of the project APE, which was conducted between January 12 and 13, 2023. Please find attached a copy of the draft report titled, *Historic Architecture Survey of the Gobble Site for the TVA Economic Development Program in Lawrence County, Tennessee*. Additionally, prior to TVA's involvement, Terracon Consultants, Inc. (Terracon) conducted an archaeological survey of the project area in 2021. Please find their report titled, *Phase I Cultural Resources Survey of Approximately 162 Acres at the Proposed Lawrenceburg Industrial Park, Lawrence County, Tennessee*, attached.

Terracon's background research did not identify any previously recorded resources within a half-mile radius of the project area. The archaeological survey consisted of systematic shovel testing at 30-meter intervals across the entire APE. Of the 579 shovel tests excavated in the project area, only one was positive for cultural material. This shovel test contained a single possible Late Archaic period projectile point (Site 40LR50). Close interval shovel testing around the positive shovel test did not identify any additional material. As such, this point represents an isolated find that is not eligible for listing in the National Register of Historic Places (NRHP). No additional archaeological work is recommended.

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SWCA's historic architecture background review did not identify any previously recorded resources within the APE. The historic architecture survey identified 13 new architectural resources within the APE. SWCA recommends that all 13 historic properties within the APE are ineligible for the NRHP due to a lack of architectural integrity, architectural significance, and/or historic significance. SWCA recommends a finding of No Historic Properties Present and no further work is recommended.

TVA agrees with the findings and recommendations of the SWCA and Terracon survey reports. TVA finds the proposed undertaking would have no effect on historic properties.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding historic properties within the proposed project's APE that may be of religious and cultural significance and are eligible for the NRHP.

Pursuant to 36 CFR Part 800.4(d)(1) we are notifying you of TVA's finding of no historic properties affected; providing the documentation specified in § 800.11(d); and inviting you to review the finding. Also, we are seeking your agreement with TVA's finding that the undertaking as currently planned will have no effects on historic properties.

Please contact Derek Reaux by email, djreaux@tva.gov with your comments.

Sincerely,



Michaelyn Harle
Supervisor,
Cultural Project Reviews

DJR:ERB
Enclosures
cc (Enclosures):

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