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**ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR THE BARTON
RIVERFRONT INDUSTRIAL PARK (TITUS SITE)
ENVIRONMENTAL ASSESSMENT**

Colbert County, Alabama

EAXX-455-00-000-1756313381

Prepared by:
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FINDING OF NO SIGNIFICANT IMPACT

ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR THE BARTON RIVERFRONT INDUSTRIAL PARK (TITUS SITE) ENVIRONMENTAL ASSESSMENT

INTRODUCTION

An integral part of Tennessee Valley Authority's (TVA) mission is to promote economic development within the TVA service area. TVA provides financial assistance to help bring to market new or improved sites and facilities within 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 Shoals Economic Development Authority (SEDA), to assist with the development of a portion of the Barton Riverfront Industrial Park – Titus Site (Titus Site) in Colbert County, Alabama. TVA funds would be matched with non-TVA funds and used to assist with property purchase, tree clearing, and rough grading. Following the site improvements, the disturbed areas would be stabilized. The area of TVA's Proposed Action (herein referred to as the Project Area) encompasses 97.1 acres of mostly wooded land with some grassy areas in the northwest and southeast portions, in Cherokee, Alabama.

PURPOSE AND NEED FOR ACTION

The proposed grant to the SEDA would assist with site improvements to allow prospects to better envision the development potential of the site. The proposed improvements would lead to an increased probability of achieving TVA's core mission of job creation and capital investment. The purpose of the Project is to promote economic development within the TVA service area, more specifically in Colbert County, Alabama.

ALTERNATIVES

TVA evaluated potential impacts of the Proposed Action (i.e., the Action Alternative) as well as the alternative of not implementing the action (i.e., the No Action Alternative). Under the No Action Alternative, TVA would not provide InvestPrep funds to SEDA. 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 through the Proposed Action. SEDA may seek alternate funding (if available) to combine with their existing funds to develop the site. Success in obtaining alternate funding would result in similar impacts and benefits as the Action Alternative. In the event the Project was postponed, any effects would be delayed for the duration of the postponement. If SEDA were not able to secure the funding for the Proposed Action, the site would likely remain unchanged, no environmental impacts would be anticipated, and the economic benefits associated with the Action Alternative would not be accomplished.

Under the Action Alternative, TVA would provide InvestPrep funds to SEDA, to be matched with non-TVA funds to facilitate the development of a portion of the Titus Site. TVA funds for the 97.1-acre Project Area would be used for the purchase of approximately 69 acres to expand the Titus Site. Clearing and stump removal of 66.6 acres of trees and rough grading of approximately 44 acres is also proposed. Felled trees and stumps would be cut and burned on site. Following the site improvements, the disturbed areas would be stabilized with seed and mulch. Activities required for the Action Alternative would occur over approximately nine months and would require a small workforce that would most likely be assigned through a local contractor.

TVA's preferred alternative is the Proposed Action Alternative. This alternative would meet the purpose of the Project and would further TVA's mission to promote economic development in the TVA service area.

SUMMARY OF ENVIRONMENTAL IMPACTS

The potential impacts of the Action Alternative are described in detail in the Environmental Assessment (EA). Implementation of the Action Alternative would have no impact on solid and hazardous materials, land use, floodplains, managed or natural areas, recreation, surface water, or aquatic zoology resources.

Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative include air quality and climate change, groundwater, soils, prime farmland, wetlands, terrestrial zoology including threatened and endangered species, and botany including threatened and endangered species. Implementation of the Action Alternative could also create potential impacts to the human environment, including cultural resources, visual effects, noise, socioeconomics, and transportation issues.

Construction-related activities, including the burning of trees and stumps, would result in minor and short-term impacts on air quality and climate change. With the use of best management practices (BMPs), impacts would be minimal, temporary, and localized; and would not be anticipated to result in any violation of applicable ambient air quality standards, impact regional air quality, or affect nearby persons.

Near-surface grading activities would not intersect with the water supply aquifer in the area, and effects to groundwater would not be significant.

Soils would be disturbed by the Proposed Action, including tree clearing, tree and stump burning, and site grading. Stabilization of disturbed soils following grading to sufficiently reduce sedimentation would occur by the implementation of erosion control measures in accordance with a Project-specific construction general permit/stormwater pollution prevention plan. BMPs would be used during site development to avoid runoff of sediment downgradient of the Project Area. These factors would effectively avoid or minimize impacts on soils from soil erosion.

Of the five soil map units in the Project Area, two are considered prime farmland and account for approximately 64.8 acres of the Project Area. Under the Action Alternative, 64.8 acres of prime farmland in the Project Area could be disturbed by the Proposed Action. The completion of Form AD-1006 documentation was required and completed by TVA in coordination with the Natural Resources Conservation Service. The impacts to prime farmland would be considered minor on a county level, and based on available data, the Action Alternative would convert only 0.085 percent of the prime farmland in Colbert County, Alabama.

The Action Alternative could affect one wetland, described as predominantly herbaceous and sapling/shrub, by tree clearing and rough grading. Coordination with the U.S. Army Corps of Engineers (USACE) regarding wetland RT-WA has not yet occurred, and its jurisdictional status is undetermined at this time. Direct and unavoidable impacts to a regulated wetland, if required, would be coordinated with the USACE. Applicable permitting and any associated compensatory mitigation would ensure impacts would not be significant.

The Proposed Action would not be likely to affect populations of wildlife species common to the area, as the amount of habitat to be removed is relatively small, of lower quality, and similar herbaceous habitats and forested fragments exist in the surrounding landscape. The Proposed Action would not significantly impact any federally listed threatened or endangered species. In accordance with Section 7 of the Endangered Species Act, the Proposed Action would not jeopardize the continued existence of eastern hellbender due to a lack of suitable habitat in the Project Area. Impacts to bald eagle and osprey would be expected to be minor as a result of the Proposed Action with implementation of BMPs. The Proposed Action would have no effect on red-cockaded woodpecker due to a lack of suitable habitat in the Project Area. The Proposed Action would not jeopardize the continued existence of the whooping crane due to lack of available migration or overwintering habitat in the Project Area. Vegetation removal and grading could impact foraging habitat for the proposed threatened monarch butterfly. However, no milkweeds were observed within the Project Area; and therefore, breeding habitat for this species would not be impacted. The Proposed Action would not jeopardize the continued existence of the monarch butterfly.

No caves or other hibernacula for gray bat, Indiana bat, northern long-eared bat, or tricolored bat have been documented within the Project Area, and none were observed during field surveys. Approximately 2.9 acres of suitable summer roosting habitat for northern long-eared bat, Indiana bat, and tricolored bat are proposed for removal as part of the Proposed Action. Tree removal would not occur between May 15 and July 31 to avoid impacts to bats during pup season. Conservation measures detailed in the TVA Bat Strategy Project Screening Form would be implemented as part of the Proposed Action. Given the implementation of these conservation measures, proposed actions would not significantly impact gray bat, northern long-eared bat or Indiana bat and the Proposed Action would not jeopardize the continued existence of the tricolored bat.

Approximately 66.6 acres of trees would be cleared in the Project Area. No habitat for uncommon or rare plant communities is present within the Project Area or would be affected

by the Proposed Action. No plants protected under the Endangered Species Act (ESA), or habitat suitable for federally listed plant species, or state-listed plants are present in the Project Area.

A desktop review of the Area of Potential Effects revealed that no known cultural resources are located within the Project Area or within direct line of sight of the Project Area. As the result of a subsequent Phase I investigation, one new archaeological site was documented within the Area of Potential Effect. Site 1Ct739 is a precontact lithic scatter with an unknown cultural-temporal affiliation. The site lacks integrity and has limited research potential and is recommended as not eligible for listing on the National Register of Historic Places (NRHP). No additional work is recommended for site 1Ct739.

As such, TVA finds that the proposed undertaking, as currently planned, would have no effect on historic properties. On February 25, 2026, TVA consulted with the Alabama Historical Commission (AHC) / State Historic Preservation Office (SHPO) and all federally recognized Tribes with an interest in the Project Area regarding TVA's NRHP eligibility determinations and findings of effect. The AHC-SHPO concurred with TVA's finding of no effect to historic properties, on March 27, 2026. TVA received no objections from the consulted Tribes on the proposed undertaking.

Construction activities would have a minor visual impact over the temporary construction period due to the presence of construction vehicles and equipment, as well as a minor permanent impacts due to cutting of trees, removal of stumps, burning of woody debris, and rough grading. Drivers along surrounding roads and some homeowners may be able to view construction activity in the Project Area, although the activity would not be inconsistent with an industrial park and its development or with existing industrial and commercial facilities in the vicinity. Most homeowners would maintain at least some visual screening due to trees and intervening roads located outside the Project Area. While motorists may notice a change in the viewshed, this change would be minor given the brief period that drivers would be in the area. Implementation of the Action Alternative would result in a minor, insignificant decrease in visual quality for residents in the viewshed.

Construction noise would be localized, intermittent, and temporary, and no receptor would be exposed to significant noise levels for an extended period. Further, construction activities would be expected to be conducted during daylight hours, when ambient noise levels are often higher, and most individuals are less sensitive to noise. It is anticipated that sound levels would not exceed 85 decibels at the Project Area boundary per Occupational Safety and Health Administration standards. Thus, noise-related impacts resulting from the implementation of the Action Alternative are anticipated to be temporary and minor.

Minor beneficial socioeconomic impacts during the construction of the Proposed Action would occur. No long-term impacts on community services are anticipated and there would be no impacts on low-income communities in the area.

Additional traffic would be generated during construction activities. Because of the anticipated limited volume of workers on the site required for tree clearing activities and rough grading, as well as the relatively short 9-month timeframe of the proposed work, direct or indirect impacts to local traffic and roadways are anticipated to be temporary and minor.

MITIGATION MEASURES

As the grantee of funding for the Proposed Action, TVA would require adherence to the routine environmental protection measures listed in Section 2.3.1 of the EA. The measures include BMPs, and permit conditions in the associated stormwater permit issued by the Tennessee Department of Environment and Conservation.

Measures, such as compensatory mitigation, may be required in coordination with the USACE and associated permitting based on unavoidable impacts to the identified wetland if the wetland is determined to be regulated.

SEDA would avoid tree clearing between May 15-July 31 to reduce impacts to Indiana bat. Other conservation measures required for this Project are identified on the TVA Bat Strategy Project Review Form, and would be implemented as part of the Proposed Action.

CONCLUSION AND FINDINGS

Based on the findings listed above and the analyses in the EA, we conclude that the Proposed Action of TVA funding to assist with the development of a portion of the Titus Site would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



Dawn Booker, Senior Manager
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April 14, 2026

Date Signed

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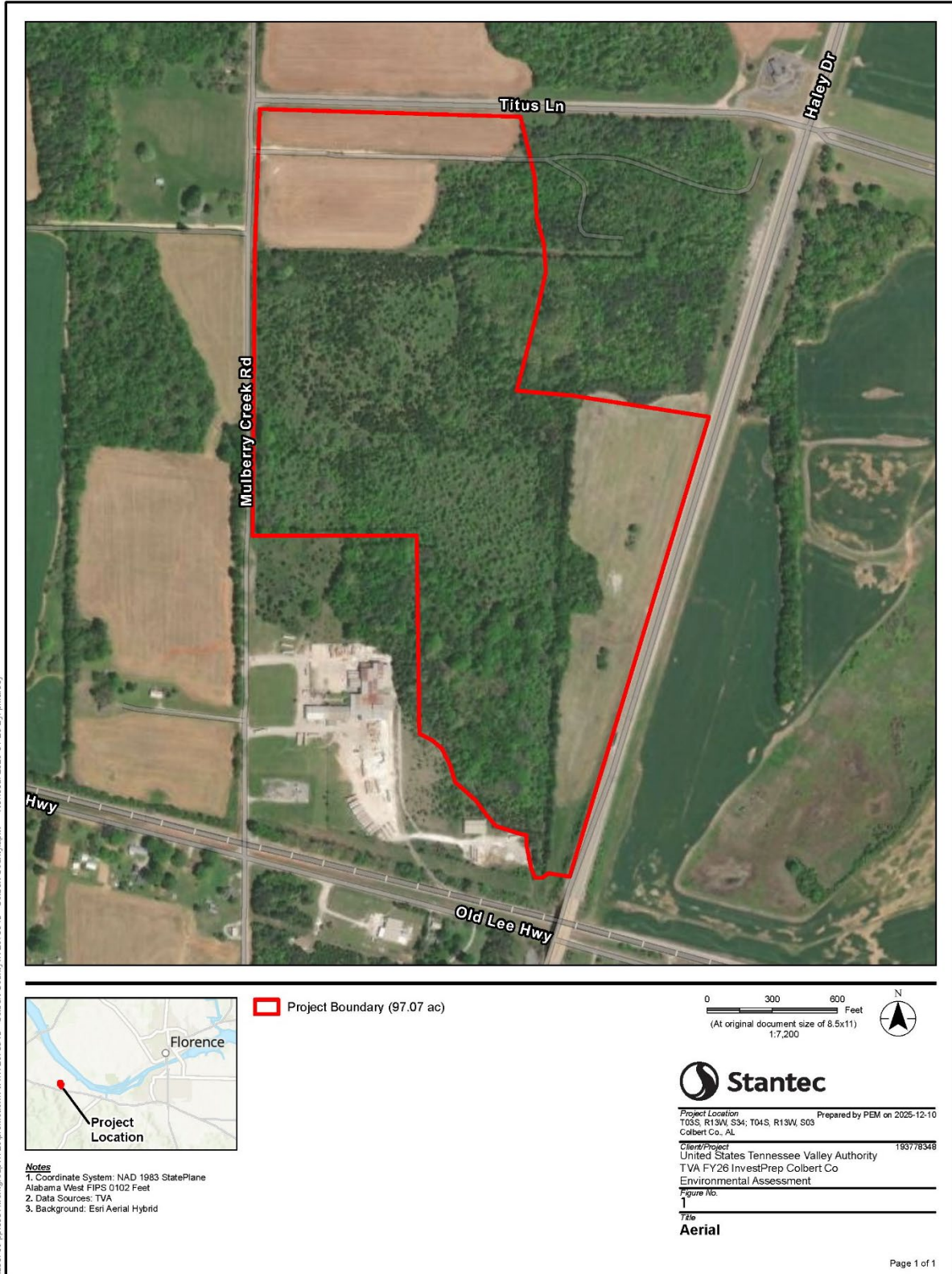
CHAPTER 1 PURPOSE AND NEED FOR ACTION

An integral part of the Tennessee Valley Authority's (TVA) mission is to promote economic development within the TVA service area. TVA proposes to provide an economic development grant through InvestPrep funds to the Shoals Economic Development Authority (SEDA), to assist with the development of a portion of the Barton Riverfront Industrial Park–Titus Site (Titus Site) in Colbert County, Alabama (Figure 1) as described in more detail below.

The List of Preparers for this Environmental Assessment (EA) is presented in Appendix A and the List of Symbols, Acronyms, and Abbreviations is located in Appendix B.

1.1 BACKGROUND

Approximately 62 acres of the existing Titus Site are owned by the SEDA, which plans to purchase an additional approximate 69 acres for formal site expansion. The SEDA indicated that it historically had limited ability to effectively market the Titus Site given its partial ownership, limited site visibility, and overgrowth of trees and brush. The Proposed Action would improve the Titus Site and put it into a more marketable position. The Titus Site was previously used for agricultural purposes, but farming activities were discontinued.



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Figure 1-1. Project Aerial – Titus Site

1.2 PURPOSE AND NEED

TVA provides financial assistance to help bring to market new/improved sites and facilities within the TVA service area and position communities to compete successfully for new jobs and capital investment. The area of TVA's Proposed Action (herein referred to as the Project Area) encompasses 97.1 acres of mostly wooded land with some grassy areas in the northwest and southeast portions, in Cherokee, Alabama. TVA funds would be matched with non-TVA funds and used to assist with property purchase, tree clearing, and rough grading. Following the site improvements, the disturbed areas would be stabilized. These activities, herein referred to as the Proposed Action and/or Action Alternative, are further described in Section 2.1.2 below.

The proposed grant to the SEDA would assist with the above-mentioned site improvements to allow prospects to better envision the development potential of the site. The proposed improvements would lead to an increased probability of achieving TVA's core mission of job creation and capital investment. Developed industrial or commercial sites currently in the immediate vicinity of the Project Area include Recycling Management Resources to the south and AE Shoals Manufacturing and Technology Center to the east. Target industries include wood product manufacturers, automotive suppliers, advanced manufacturing, aerospace and defense, and other heavy industrial operations. Pursuant to the National Environmental Policy Act (NEPA) and TVA's implementing regulations 18 CFR 1318, this EA evaluates the environmental impacts that would potentially result from TVA's Proposed Action.

1.3 DECISION TO BE MADE

TVA's decision is whether to provide the requested funding to the SEDA.

1.4 RELATED ENVIRONMENTAL REVIEWS

In preparation for site development, other studies have been performed by the SEDA or others at the Titus Site including the 97.1-acre Project Area. The various studies were performed at different times and sometimes included areas beyond the Project Area.

- A Phase I Environmental Site Assessment prepared by S&ME (2013) in August 2013 for the SEDA covering portions of the northern and eastern Project Area.
- A Phase I Environmental Site Assessment prepared by Terracon Consultants, Inc. (2025a) in May 2025 for the SEDA covering the Project Area.
- A Preliminary Geotechnical Report developed by S&ME (2016) prepared in June 2016 for the SEDA.
- A Geotechnical Engineering Report prepared by Terracon (2025b) in June 2025 for the SEDA.
- A Waters of the U.S. Delineation Report prepared in June 2025 by Terracon (2025c) for the SEDA.

- A Threatened and Endangered Species Habitat Assessment prepared by Terracon (2025d) in June 2025 for the SEDA.
- A Cultural Resources Desktop Assessment prepared by Terracon (2025e) in June 2025 for the SEDA.

1.5 NECESSARY PERMITS, LICENSES, AND CONSULTATIONS

The following permits, licenses, or consultations would be required for completion of the Project:

- Concurrence for Section 106 of the National Historic Preservation Act (NHPA) was obtained from the AHC-SHPO on March 27, 2026(AHC 2026).
- National Pollutant and Discharge Elimination System (NPDES) General Permit for Discharges Associated with Construction Activities (ALR100000).
- Section 7 of the Endangered Species Act (ESA), addressed in TVA's programmatic consultation with the United States (U.S.) Fish and Wildlife Service (USFWS).
- Farmland Protection Policy Act (FPPA) coordination with the Natural Resources Conservation Service (NRCS) in regard to prime farmland.

CHAPTER 2 ALTERNATIVES

This chapter describes and compares the alternatives to be considered.

2.1 DESCRIPTION OF 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.

2.1.1 Alternative A – The No Action Alternative

Under the No Action Alternative, TVA would not provide InvestPrep funds to the SEDA. 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 through the Proposed Action. Under the No Action Alternative, no direct environmental effects would be anticipated, as environmental conditions on the site would remain essentially unchanged from the current conditions for the foreseeable future.

2.1.2 Alternative B – Proposed Action Alternative

Under the Action Alternative, TVA would provide InvestPrep funds to the SEDA for site improvements to the Project Area. The Action Alternative would include property purchase, tree clearing, rough grading, and stabilization after grading. The Project Area is 97.1 acres, 69 acres of which is proposed for purchase and the remaining 28.1 acres is already owned by SEDA. Details of the Proposed Action include:

- Purchase of approximately 69 acres to expand the Titus Site.
- Cutting of approximately 66.6 acres of trees, removal of stumps, and burning of the woody debris.
- Rough grading of approximately 44 acres with a finished elevation of 496.4 mean sea level (existing topography of the Project Area is depicted in Appendix C, Figure 1-A); no offsite borrow would be required.
- Following grading, the disturbed area would be stabilized with seed and mulch.

TVA funding for these improvements would be matched with non-TVA funds. Activities required for the Action Alternative would occur over approximately nine months and would require a small workforce that would most likely be assigned through a local contractor. Work activities would not be anticipated at night, but work could occur on weekends. For ease of discussion in this EA, the Proposed Action is collectively described as construction.

The SEDA, or its contractors, would obtain all required permits and authorizations, and, in compliance with those permits, take appropriate feasible measures, such as implementing best management practices (BMPs) and best construction practices, to minimize or reduce the

potential environmental effects of the Proposed Action to insignificant levels. These practices would include the installation of erosion prevention and sediment control measures (silt fences, sediment traps, etc.), management of fugitive dust, and daytime work hours.

2.1.3 Alternatives Considered but Eliminated from Further Discussion

No other alternatives were considered for the Project.

2.2 COMPARISON OF ALTERNATIVES

A summary of the environmental impacts associated with the two alternatives is provided in Table 2-1. The environmental impacts are discussed in more detail in Chapter 3.

Table 2-1. Summary and Comparison of Alternatives by Resource Area

Resource Area	Impacts From No Action Alternative	Impacts From Proposed Action Alternative
Solid and Hazardous Materials	No Impacts Identified	No Impacts Identified
Land Use	No Impacts Identified	No Impacts Identified
Floodplains	No Impacts Identified	No Impacts Identified
Managed and Natural Areas	No Impacts Identified	No Impacts Identified
Recreation	No Impacts Identified	No Impacts Identified
Surface Water	No Impacts Identified	No Impacts Identified
Aquatic Zoology	No Impacts Identified	No Impacts Identified
Air Quality	No Impacts Identified	Minor
Groundwater	No Impacts Identified	Minor
Soils	No Impacts Identified	Minor
Prime Farmland	No Impacts Identified	Minor
Wetlands	No Impacts Identified	Minor
Terrestrial Zoology (Including Threatened and Endangered Species)	No Impacts Identified	Impacts Identified, Less Than Significant
Botany (Including Threatened And Endangered Species)	No Impacts Identified	Minor
Cultural Resources	No Impacts Identified	No Impacts Identified
Visual Resources	No Impacts Identified	Minor
Noise	No Impacts Identified	Minor
Socioeconomics	No Impacts Identified	Minor
Transportation	No Impacts Identified	Minor

2.3 IDENTIFICATION OF STANDARD PRACTICES AND MITIGATION MEASURES

2.3.1 Standard Practices and Routine Measures

To minimize or reduce the environmental effects of site activities associated with the Action Alternative, SEDA, or its contractors, would ensure all grading activities conducted would be in compliance with stormwater permitting requirements and use applicable BMPs to minimize and control erosion and fugitive dust during these actions.

Operations involving chemical or fuel storage or resupply and vehicle servicing would be handled outside of riparian areas and in such a manner as to prevent these items from reaching a watercourse. Servicing of equipment and vehicles is expected to be done with care to avoid leakage, spillage, and subsequent surface or groundwater contamination. Oil waste, filters, and other litter would be collected and disposed of properly.

Coordination with the NRCS was completed regarding potential impacts on prime farmland.

Measures, such as compensatory mitigation, may be required in coordination with the USACE and associated permitting based on unavoidable impacts to the identified wetland if the wetland is determined to be regulated.

2.3.2 Non-routine Mitigation Measures

Non-routine measures to mitigate adverse effects to insignificant levels would be limited to avoidance of clearing of trees during the bat pup season, as described in more detail below.

2.4 THE PREFERRED ALTERNATIVE

TVA's preferred alternative is the Action Alternative.

CHAPTER 3 **AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

This chapter describes the baseline environmental conditions (affected environment) of environmental resources in the Project Area and the anticipated environmental consequences (or impacts) that would occur from implementation of the alternatives described in Chapter 2. Within this chapter, the environmental impacts analyzed may be beneficial or adverse. Impact severity is dependent upon the relative magnitude and intensity and resource sensitivity. In this document, four descriptors are used to characterize the level of impacts as follows:

- No Impact – resource not present or affected by Project alternatives under consideration.
- Minor (or Small) – environmental effects are not detectable or are so minor that they would neither destabilize nor noticeably alter any important attribute of the resource.
- Moderate – environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.
- Large – environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

3.1 SCOPE OF THE ENVIRONMENTAL REVIEW

Our review of the Proposed Action’s affected environment and potential environmental consequences resulted in the identification of multiple resource areas or topics with no or no significant impacts including solid and hazardous materials, land use, floodplains, managed and natural areas, recreation, surface water, and aquatic zoology resources as described further below.

- Solid and Hazardous Materials - The Proposed Action does not involve demolition or removal of above-ground structures. Further, the Phase I Environmental Site Assessment prepared by Terracon (2025a) did not identify any hazardous materials, underground storage tanks, or evidence of recognized environmental conditions. As such, solid and hazardous materials were excluded from further evaluation.
- Land Use - The Proposed Action would change the Project Area from a mostly wooded area with open grassy fields to a developed lot designed to attract industrial development. The Titus Site is not currently zoned, but 62 acres are owned by the SEDA as part of the Barton Riverfront Industrial Park for the purpose of attracting industrial development. Wilmington Paper LLC owns approximately 69 acres that would be purchased and incorporated into the Titus Site as part of the Proposed Action to expand the area available for development. Existing industrial development occurs in the vicinity of the Project Area including Recycling Management Resources abutting to the south and AE Shoals Manufacturing and Technology located approximately 0.3 mile to the

east. Given the ownership, status as an industrial park, and existing industrial and commercial facilities located abutting and nearby the Project Area, the Proposed Action would not cause a change in land use.

- Floodplains - Based on aerial photography of Colbert County, Alabama; the site-specific Waters of the U.S. Delineation prepared in June 2025 by Terracon (2025c); the Federal Emergency Management Agency (FEMA) National Flood Hazard Panels 01033C0275D and 01033C0100D, both effective February 17, 2010 (Appendix C, Figure 1-B); and the FEMA Map Service Center for Colbert County, Alabama for effective, pending, and preliminary products; the Project would not be located within either FEMA-identified or unmapped 1 percent annual chance (100-year) floodplains, which would be consistent with Executive Order 11988. Therefore, there would be no direct or indirect impacts to floodplains and their natural and beneficial values.
- Managed and Natural Areas - Managed areas include lands held in public ownership that are managed by an entity (e.g., TVA, U.S. Department of Agriculture, U.S. Forest Service, State of Alabama) 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; recreational areas; greenways; trails; Nationwide Rivers Inventory 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.

A review of the TVA Regional Natural Heritage Database (NHD) identified two managed and natural areas within 3 miles of the Project Area (Table 3-1).

Table 3-1. Managed/Natural Areas that Occur Within, Adjacent To, or Within Three Miles of the Proposed Project Area

Natural Area	Acres	County (State)	Miles from Project Area
Freedom Hills Wildlife Management Area	39,489.6	Multiple (AL)	1.0
Seven Mile Island State Wildlife Management Area	6,035.3	Multiple (AL)	2.4

None of the managed or natural areas directly overlap with the Project Area, and given the scope of the Project and the distances of the natural areas relative to the Project Area (i.e., at least 1.0 mile away), no impacts to managed or natural areas are anticipated.

- Recreation - Recreation areas include land held in private or public ownership that are managed by an individual or entity (e.g., TVA, U.S. Department of Agriculture, U.S. Forest

Service, State of Alabama) to protect and maintain certain ecological and/or recreational features. Recreation areas include federal, state, or local park lands, national or state forests, scenic areas, wildlife management areas, greenways, trails, Nationwide Rivers Inventory streams, and wild and scenic rivers. Recreation activities include, but are not limited to, nature walking/hiking, camping, bird watching, fishing, hunting, cycling, picnicking, swimming, playgrounds, outdoor sporting events or any other leisurely pastime conducted on public or privately owned or managed land.

TVA staff conducted a desktop-level review of all recreation areas within a 3-mile radius of the Project Area utilizing mapping databases such as ArcGIS, Google Earth, and TVA's EGIS. Table 3-2 describes three developed recreation areas identified to be within a 3-mile radius. None of those areas overlap with the Project Area and none were identified to be less than one mile away from the Project Area.

Table 3-2. Recreation Areas Near the Project Area

Recreation Area	County (State)	Distance/Direction from Project Area
Mulberry Creek Camp	Colbert (AL)	1.9 miles north
R. E. Blankenship Park	Colbert (AL)	3.0 miles west
Cane Creek Boat Ramp	Colbert (AL)	2.1 miles northeast

Given that none of the recreation areas directly overlap with the Project Area, the scope of the Project, and the distances of the natural areas relative to the Project Area (i.e., at least 1.9 miles away), no impacts to recreation areas are anticipated.

- **Surface Water** - A map of waters based on the U.S. Geological Survey (USGS) National Hydrography Dataset and U.S. Fish and Wildlife Service (USFWS) National Wetland and Water Inventory (NWI) is provided in Appendix C, Figure 1-C. As noted above, Terracon (2025c) performed a Waters of the U.S. Delineation of the Titus Site including the Project Area, also extending outside the Project Area to the northeast and south. Terracon identified a man-made, 100-foot-long, ephemeral drainage feature (RT-S1) in the northern portion of the Project Area. RT-S1 was completely dry at the time of data collection, terminated at both ends, and did not connect to other aquatic features. Given the results of the Terracon (2025c) delineation, no surface waters would be impacted by the Project.
- **Aquatic Zoology** - Because the Proposed Action would not affect a perennial flowing surface waterbody or a pond, and no fish, crayfish, bivalves or mussels, or aquatic insects were observed (Terracon 2025c), there would be no effects on aquatic zoology resources.

TVA's review of potential impacts resulted in the identification of multiple resources requiring a more detailed assessment. Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative include air quality and climate change, groundwater, soils, prime farmland, wetlands, terrestrial zoology including threatened and

endangered species, and botany including threatened and endangered species. Implementation of the Action Alternative could create potential impacts to the human environment, including cultural resources, visual effects, noise, socioeconomics, and transportation. Potential impacts to resources and impacts to the human environment resulting from implementation of the Action Alternative are discussed in detail below.

3.2 REASONABLY FORESEEABLE FUTURE ACTIONS

There are no known reasonably foreseeable future actions expected to occur for the Project Area or its immediate vicinity. The Action Alternative does not include the 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 defined. Given this uncertainty, an analysis of the potential impacts for the development of the adjacent lots or the eventual build-out, occupation, and future use is beyond the scope of this EA.

3.3 AIR QUALITY AND CLIMATE CHANGE

This section describes air quality in the Project Area and compared the alternatives considered as they relate to air quality and climate change.

3.3.1 Affected Environment–Air Quality and Climate Change

Federal and state regulations protect ambient air quality. With authority granted by the Clean Air Act (CAA) 42 US Code (USC) 7401 et seq., as amended in 1977 and 1990, the U.S. Environmental Protection Agency (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 Colbert County, Alabama, is designated as being in attainment with respect to the criteria pollutants (USEPA 2026).

Other pollutants, such as hazardous air pollutants (HAPs) and greenhouse gases (GHGs) are also a consideration in air quality impact analyses. Section 112(b) of the CAA lists HAPs, also known as toxic air pollutants or air toxins, 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, 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.

3.3.2 Environmental Consequences—Air Quality and Climate Change

This section assesses the environmental consequences and impacts upon air quality and climate change resulting from the two alternatives considered.

3.3.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, emissions associated with equipment and ground disturbances would not occur, and there would be no impacts to air quality and climate change.

3.3.2.2 Alternative B—Proposed Action

Air quality impacts associated with activities under the Action Alternative include emissions from fossil fuel-fired equipment and fugitive dust from ground disturbances associated with tree felling, burning of woody debris, and rough grading. Fossil fuel-fired equipment is a source of combustion emissions, including nitrogen oxides (NO_x), CO, volatile organic compounds (VOCs), SO₂, PM₁₀, PM_{2.5}, GHGs, and small amounts of HAPs. Gasoline and diesel engines used as a result of the Action Alternative would be expected to be in compliance with the USEPA mobile source regulations in 40 CFR Part 85 for on-road engines and 40 CFR Part 89 for non-road engines. These regulations are designed to minimize emissions and require a maximum sulfur content in diesel fuel of 15 parts per million (ppm). Trees and stumps would be cleared as part of the Proposed Action under the Action Alternative, and burning of trees and stumps is also anticipated on site. Burning of woody debris produces smoke containing CO, CO₂, PM, NO₂, and VOCs (ORCAA 2024). Smoke inhalation can cause irritation, breathing issues, and respiratory diseases.

Fugitive dust is a source of respirable airborne PM, including PM₁₀ and PM_{2.5}, which could result from ground disturbances such as land clearing, grading, excavation, and travel on unpaved roads. The amount of dust generated is a function of the activity, silt and moisture content of the soil, wind speed, frequency of precipitation, vehicle traffic, vehicle types, and roadway characteristics. The SEDA, or its contractors, would be expected to comply with Alabama Department of Environmental Management (ADEM) Admin. Code r. 335-3-4-.02, which requires reasonable precautions to prevent PM from becoming airborne (ADEM 2025). Such reasonable precautions include grading of roads and the use of water or chemicals for control of dust in construction operations on dirt roads and stockpiles, as needed.

With the use of BMPs and other required measures described above to reduce emissions associated with the Action Alternative, air quality impacts would be minor, temporary, and

localized; and would not be anticipated to result in any violation of applicable ambient air quality standards, impact regional air quality, or affect nearby persons.

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. Trees would be cleared by construction equipment as part of the Proposed Action, and since the Project Area is mostly trees, it contributes as a carbon sink. However, on a national or global scale, the Proposed Action of clearing 66.6 acres of trees, including the emissions caused by use of the construction equipment, would have a minor contribution to climate change.

3.4 GROUNDWATER

This section describes groundwater resources in the Project Area and compares the alternatives considered as they relate to groundwater.

3.4.1 Affected Environment—Groundwater

The Project Area is located within the Highland Rim Section of the Interior Low Plateaus Province (USGS 2023). The Low Plateaus Province extends south to Alabama and north to Kentucky, southern Indiana, and southern Illinois. The Highland Rim Section in Alabama of Interior Low Plateaus Province is characterized by Mississippian age limestone underlying weathered regolith and residuum (USGS 1995; Thomas 1972).

In northwest Alabama, the principal aquifer system in the Highland Rim Section is the Mississippian aged Tuscumbia Limestone and the underlying Fort Payne Chert formation. The Tuscumbia Limestone consists of light-gray limestone that is partly oolitic near the top of the formation and commonly found in thin to thick bedded fine to coarse-grained bioclastic limestone (Thomas 1972). The underlying Fort Payne Chert consists of thin to thick bedded, fine to coarse-grained, very light to light-olive gray bioclastic limestone with light to dark-gray chert lenses and beds (Thomas 1972).

The water quality composition in the Tuscumbia Limestone and Fort Payne Chert is considered to be calcium bicarbonate type near the top of the formations and transitions to a calcium sulfate type near the bottom of the Fort Payne Chert formation. The specific conductance concentrations for the Tuscumbia Limestone range from 53 microsiemens per centimeter (µS/cm) to 642 µS/cm (USGS 1999). The specific conductance concentrations of the underlying Fort Payne Chert formation range from 31 µS/cm to 1,500 µS/cm (USGS 1999). The principal aquifer used for water supply near the Project Area is the Tuscumbia Limestone. The Tuscumbia Limestone recharges via precipitation percolating into the overlying regolith down into the limestone (USGS 1999).

Two preliminary geotechnical investigations were conducted on site (S&ME 2016 and Terracon 2025b). The 2016 geotechnical report consisted of 10 hand auger borings that were completed from 6 feet to 13.5 feet below land surface (bls), where auger refusal was encountered. The 2016 investigation discovered that the subsurface consisted primarily of residuum (clay made from weathered rock materials) from just bls to auger refusal. The residuum varied from sandy clay and clay near land surface to clays with chert starting at a depth of 4 feet bls. The 2016 report indicates that grading of the Project Area may expose highly plastic soils that would require undercutting and replacement prior to any construction in this area (S&ME 2016).

The 2025 geotechnical report (Terracon 2025b) indicated similar results and consisted of 15 test pits from 3 feet to 7 feet bls. The 2025 investigation also included a field resistivity electrical survey at two locations. The report indicates that the subsurface across the Project Area consists of clays containing sand, silt and chert, underlain by clayey gravels that comprise shallow weathered limestone. The 2025 report indicated that undercutting may be necessary, however the report stated less undercutting would be necessary if grading occurred in summer months. The test pits did encounter the weathered limestone and gravelly clay underlying the clays as described in the 2016 report as part of the 2025 investigation (Terracon 2025b). The 2025 report stated that the encountered weathered limestone may be difficult to remove if encountered during grading operations and rock excavation equipment or blasting may be required (Terracon 2025b).

3.4.2 Environmental Consequences–Groundwater

This section assesses the environmental consequences and impacts upon groundwater resulting from the two alternatives considered.

3.4.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, ground disturbance associated with tree clearing, burning, and rough grading would not occur, and there would be no impacts to groundwater resources.

3.4.2.2 Alternative B–Proposed Action

Implementation of the Action Alternative would result in ground disturbance during construction activities. Tree clearing, as well as removal of stumps and burning of woody debris would result in minor ground disturbance at shallow depths. Rough grading and compaction of approximately 44 acres may result in greater ground disturbance at moderate depths. Ground disturbances are not anticipated to result in significant impacts to groundwater resources as the underlying Tusculumbia Limestone is approximately 150 to 200 feet thick near the Project Area and contains a residuum overburden that may extend to a depth of 50 feet bls in parts of the Project Area (Thomas 1972).

Shallow aquifers could sustain minor impacts from changes in overland water flow and recharge caused by clearing, grading, and construction of temporary sediment basins within the Project Area. Water infiltration, which is normally enhanced by vegetation, would be reduced until vegetation is re-established. In addition, near-surface soil compaction caused by heavy

construction vehicles could reduce the ability of soil to absorb water. These minor impacts would be temporary and would not significantly affect groundwater resources. Phase I environmental site assessments completed by S&ME (2013) and Terracon (2025a) indicate that the Project Area consists of agricultural and undeveloped land. There was no discovery of adverse environmental conditions in the Project Area. As such, it is not anticipated that construction activities would encounter hazardous substances during the aforementioned site improvements (S&ME 2013 and Terracon 2025a) and there would be no resulting impacts on groundwater.

3.5 SOILS

This section describes soils in the Project Area and compares the alternatives considered as they relate to soils.

3.5.1 Affected Environment–Soils

The Project Area is in Colbert County, Alabama within the Highlands Rim Section of the Interior Low Plateaus Province (USGS 2023). Soil types and descriptions were obtained from the NRCS Web Soil Survey (NRCS 2026) (see Appendix C, Figure 1- D). Soil types found within the Project Area include: Capshaw silt loam (2 to 6 percent slopes, Consociation), Chisca loam (6 to 15 percent slopes, Consociation), Decatur silt loam (2 to 6 percent slopes, Consociation), Emory silt loam (0 to 2 percent slopes, ponded, Consociation), and Urban Land. Additional information about the geologic and subsurface setting of the Project Area is provided above in Section 3.2.

3.5.2 Environmental Consequences–Soils

This section assesses the environmental consequences and impacts upon soils resulting from the two alternatives considered.

3.5.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on soils or from soil erosion.

3.5.2.2 Alternative B–Proposed Action

Under the Action Alternative, soils in the Project Area would be disturbed by tree clearing over 66.6 acres, rough grading and compaction of 44 acres, and site stabilization. The Proposed Action includes the stabilization of disturbed soils following grading as described in Section 2.1.2. Further, BMPs would be required as part of the NPDES General Permit (ALR100000). This permit requires the development and implementation of a Construction BMP Plan (CBMPP). The CBMPP would identify specific BMPs to address construction-related activities that would be adopted to minimize erosion-related impacts. BMPs, as described in the ADEM NPDES General Permit Part IIIA – Stormwater Pollution Prevention Requirements. Erosion controls and sediment controls would be used during site development to avoid contamination of surface water downgradient of the Project Area. These factors would effectively avoid or minimize impacts on soils and from soil erosion.

3.6 PRIME FARMLAND

This section describes prime farmland in the Project Area and compares the alternatives considered as they relate to prime farmland.

3.6.1 Affected Environment–Prime Farmland

Prime farmland is defined by the U.S. Department of Agriculture 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 five soil map units in the Project Area, two (DaB – Decatur silt loam, 2 to 6 percent slopes, and CaB – Capshaw silt loam, 2 to 6 percent slopes) are considered prime farmland (see Appendix C, Figure 1-D for soil unit descriptions and locations) and account for approximately 64.8 acres of the 97.1-acre Project Area.

The FPPA discourages federal activities that would convert farmland to nonagricultural purposes (7 CFR Part 658). The Proposed Action would result in land disturbance within the Project Area and could result in the conversion of 64.8 acres of Prime Farmland.

As required by the FPPA, NRCS Form AD-1006, “Farmland Conversion Impact Rating”, Parts VI and VII was completed and coordinated with NRCS (Appendix D). The impact rating serves as a reporting mechanism to track loss of prime farmland by projects funded by federal dollars. For Project sites where the total points equal or exceed 160, federal agencies must evaluate alternative sites or, as appropriate, consider options that would reduce adverse impacts (e.g., choosing alternative sites, modifying actions, or mitigation). The final impact rating assigned to the prime farmland in the Project Area is 137.

3.6.2 Environmental Consequences–Prime Farmland

3.6.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on prime farmland.

3.6.2.2 Alternative B–Proposed Action

Under the Action Alternative, 64.8 acres of prime farmland in the Project Area would be disturbed by the Proposed Action. TVA completed the NRCS coordination described above and submitted the final AD-1006 form to NRCS on February 20, 2026, with a score of 137. This score does not exceed the threshold of 160 points which requires federal agencies to evaluate alternate sites. The impacts to prime farmland would be considered minor on a county level, as based on available data, and the Action Alternative would convert only 0.085 percent of the prime farmland in Colbert County, Alabama (Appendix D).

3.7 WETLANDS

This section describes wetlands in the Project Area and compares the alternatives considered as they relate to wetlands.

3.7.1 Affected Environment–Wetlands

A preliminary map of wetland features based on the USGS National Hydrography Dataset and USFWS NWI is provided in Appendix C, Figure 1-C. As noted above, Terracon (2025c) performed a delineation of the Titus Site including the Project Area along with areas outside the Project Area to the northeast and south. Terracon identified one 0.04-acre wetland (RT-WA), described as predominantly herbaceous and sapling/shrub, in the western portion of the Project Area (Appendix C, Figure 1-E). RT-WA was located in a man-made closed depression with no surface water present and no inflow or outflow pipes or channels.

3.7.2 Environmental Consequences–Wetlands

This section assesses the environmental consequences and impacts upon wetlands resulting from the two alternatives considered.

3.7.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on wetlands.

3.7.2.2 Alternative B–Proposed Action

Under the Action Alternative, wetland RT-WA could be impacted by tree clearing and rough grading. If RT-WA would be disturbed, given its small size (0.04 acre) and primarily herbaceous and sapling/shrub composition, impacts would be minor but potentially permanent. The SEDA would coordinate with the U.S. Army Corps of Engineers (USACE) to determine jurisdictional status of any wetlands that cannot be avoided. Unavoidable impacts to jurisdictional wetlands would not occur unless authorized by the USACE through the Clean Water Act Section 404 permitting process. If required, mitigation measures would be incorporated into the final design of the Project.

3.8 TERRESTRIAL ZOOLOGY

This section describes terrestrial zoology in the Project Area and compares the alternatives considered as they relate to terrestrial zoology.

3.8.1 Affected Environment–Terrestrial Zoology

The 97.1-acre Project Area is composed primarily of a former agriculture field with eastern red cedar-hardwood forest habitat. Features surrounding the Project Area consist of cropland, industrial facilities, and similar forested habitat. A field survey of the Project Area was conducted on September 30, 2025, by TVA terrestrial zoologists.

Early-successional, herbaceous habitat (i.e., pasture) composes a portion of the Project Area. Common avian inhabitants of early-successional habitat include American crow, American robin, brown-headed cowbird, common grackle, eastern bluebird, northern cardinal, and red-tailed hawk, among others (National Geographic 2002). Mammalian species likely present in this habitat include eastern cottontail, nine-banded armadillo, red fox, and striped skunk

(Whitaker 1996). Early-successional areas also provide habitat for additional common species, such as white-tailed deer which were observed during the field survey of the Project Area. Common amphibian and reptile species to this habitat include Fowler’s toad, upland chorus frog, and North American racer, among others (Powell et al. 2016).

Approximately 66.6 acres of the Project Area is forested habitat. The forested habitat is primarily cluttered and composed of eastern red cedar, pine species, Osage orange, and scattered hardwoods. A small section in the northeast corner contains large hardwoods (oak and hickory) with an open understory. Birds typical of these habitats include downy woodpecker, red-bellied woodpecker, red-shouldered hawk, white-eyed vireo, wild turkey, and wood thrush (National Geographic 2002). Common amphibian and reptile inhabitants include rough greensnake, timber rattlesnake, and green tree frog, among others (Powell et al. 2016). Many of the above-mentioned mammalian species will utilize deciduous forest habitat in addition to herbaceous habitat. Some additional species potentially present include eastern chipmunk, Virginia opossum and numerous bat species, such as the eastern red bat (Whitaker 1996).

3.8.2 Environmental Consequences–Terrestrial Zoology

This section assesses the environmental consequences and impacts upon terrestrial animals and their habitats resulting from the two alternatives considered.

3.8.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on terrestrial wildlife.

3.8.2.2 Alternative B–Proposed Action

Under the Action Alternative, tree clearing, burning of woody debris, and rough grading would impact wildlife and habitat at the Titus Site.

The Proposed Action would result in the displacement of wildlife (primarily common, habituated species) currently using the area. Direct effects to some individuals may occur if those individuals are immobile during the time of habitat removal. This could be the case if activities took place during breeding/nesting/hibernation seasons. Habitat removal likely would disperse mobile wildlife into surrounding areas in an attempt to find new food sources, shelter, and to reestablish territories. However, actions associated with the Action Alternative are expected to be minor for populations of species common to the area, as the amount of habitat to be removed is relatively small and similar herbaceous habitats and forested fragments exist in the surrounding landscape.

Review of the USFWS’ Information for Planning and Consultation (IPaC) tool determined the following eight Migratory Birds of Conservation Concern (MBCC) have the potential to occur within the Project footprint: bald eagle, chimney swift, eastern whip-poor-will, field sparrow,

Kentucky warbler, prairie warbler, prothonotary warbler and wood thrush. See Appendix E for relevant MBCC habitat descriptions. See Section 3.9 for a full bald eagle impact analysis.

Suitable nesting habitat for eastern whip-poor-will, prairie warbler, and wood thrush is available in the forested sections of the Project Area, while suitable nesting habitat for field sparrow exists in the early-successional habitat. The Action Alternative may result in destroyed nests, eggs, or juveniles of these species if the Proposed Action occurs within the Project Area while nests are active. However, given the abundance of similar or superior habitat surrounding the Project Area, impacts to populations of these MBCC resulting from the Action Alternative would be minor.

The Proposed Action would not result in significant impacts to any common terrestrial species or their habitats.

3.9 TERRESTRIAL ZOOLOGY—THREATENED AND ENDANGERED SPECIES

This section describes threatened and endangered terrestrial animal species in the Project Area and compares the alternatives considered as they relate to threatened and endangered terrestrial species.

3.9.1 Affected Environment—Terrestrial Zoology: Threatened and Endangered Species

A review of the TVA NHD on September 4, 2025, resulted in three caves and one species of state conservation concern (osprey) within three miles of the Project Area. One federally protected species (bald eagle), two species proposed for federal listing (eastern hellbender and tricolored bat), and four federally listed species (gray bat, Indiana bat, northern long-eared bat and red-cockaded woodpecker) have been recorded from Colbert County, Alabama. Additionally, the USFWS IPaC tool indicated that one additional federally listed species (whooping crane) and one species proposed for federal listing (monarch butterfly) could potentially occur in the Project Area. Habitat suitability and potential impacts to these species are addressed below (Table 3-3).

Table 3-3. Federally Listed Terrestrial Animal Species Reported from Colbert County, Alabama and Other Species of Conservation Concern Documented within Three Miles¹

Common Name	Scientific Name	Status ²	
		Federal	State (Rank ³)
Amphibians			
Eastern hellbender ⁴	<i>Cryptobranchus alleganiensis alleganiensis</i>	PE	SP(S2)
Birds			
Bald eagle ⁴	<i>Haliaeetus leucocephalus</i>	DL	SP(S4B)
Osprey	<i>Pandion haliaetus</i>	-	SP(S4)
Red-cockaded woodpecker ⁴	<i>Picoides borealis</i>	T	SP(S2)

Common Name	Scientific Name	Status ²	
		Federal	State (Rank ³)
Whooping crane ⁵	<i>Grus americana</i>	EXPN	SP(S1N)
Invertebrates			
Monarch butterfly ⁶	<i>Danaus plexippus</i>	PT	-(S5)
Mammals			
Gray bat ⁴	<i>Myotis grisescens</i>	E	SP(S2)
Indiana bat ⁴	<i>Myotis sodalis</i>	E	SP(S2)
Northern long-eared bat ⁴	<i>Myotis septentrionalis</i>	E	SP(S2)
Tricolored bat ⁴	<i>Perimyotis subflavus</i>	PE	SP(S3)

¹Source: TVA NHD and USFWS Ecological Conservation Online System

(<http://ecos.fws.gov/ecos/home.action>) extracted September 4, 2025, and March 2, 2026.

²Status Codes: DL = Delisted but Being Monitored; E = Endangered; EXPN = Experimental Population, Non-essential; PE = Proposed Endangered; PT = Proposed Threatened; SP = State Protected.

³State Ranks: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; S4 = Apparently Secure; N = Non-breeding.

⁴Federally listed or protected species that has not been documented within three miles of the Project Area, but has been documented in Colbert County, Alabama.

⁵Federally listed or protected species that has not been documented within three miles of the Project Area or within Colbert County, Alabama; USFWS has determined this species has the potential to occur within the Project Area.

⁶Species proposed for listing under the ESA. Historically this species has not been tracked by state or federal heritage programs.

Eastern hellbenders prefer cool, rocky streams with high dissolved oxygen. They utilize large rocks and cavities for cover and nesting (Smith 1907). The closest eastern hellbender record occurs approximately 9.9 miles from the Project Area. Suitable habitat for eastern hellbender was not identified within the Project Area during field surveys.

Bald eagle is federally protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d). This species is associated with large mature trees capable of supporting its nests, which can weigh several hundred pounds and are typically built near larger waterways where it forages primarily for fish (USFWS 2007a). The closest known bald eagle record occurs 13.6 miles from the Project Area. No bald eagle nests were observed within the Project Area during field surveys. No suitable foraging or breeding habitat for bald eagle exists within the Project Area.

Ospreys are medium-sized raptors that are typically associated with water, where they forage exclusively for fish. Ospreys build nests in trees or man-made structures (e.g., transmission structures) near or over water (Bierregaard et al. 2020). One osprey nest record is known within three miles of the Project Area, occurring approximately 2.6 miles away. No osprey nests were observed during field reviews of the Project Area. No suitable foraging or nesting habitat for osprey is present within the Project Area.

Red-cockaded woodpecker (RCW) is a non-migratory bird species native to the southeastern U.S. RCWs rely on mature, open pine woodlands often maintained by fire. A variety of pine species may be used but longleaf pines are preferred for nesting and roosting cavities. Pine trees must be mature and living to be suitable for nesting (Ligon et al. 1986). One RCW record was historically documented approximately 19.4 miles from the Project Area. Some pine trees were identified during the field survey of the property, but the habitat lacked suitable understory. Trees were also young and not of adequate maturity to serve as habitat for RCW. Suitable habitat for RCW was not identified within the Project Area.

Whooping cranes migrate through Alabama twice per year in small flocks of three to five birds. During this migration they stop to feed and rest in wetland complexes, marshes, ponds, lakes, rivers, and agricultural fields. The whooping crane is listed as endangered in the southwest (USFWS Region 2). Outside of this region, the whooping crane is categorized as a non-essential experimental population. For the purposes of consultation, non-essential experimental populations are treated as threatened species on National Wildlife Refuge and National Park land (requiring consultation under 7(a)(2) of the ESA) and as a proposed species on private land (no section 7(a)(2) requirements, but federal agencies must not jeopardize their continued existence (section 7(a)(4))) (USFWS 2023). No whooping crane records are known from Colbert County and the Project Area does not provide suitable whooping crane habitat.

Monarch butterfly is a highly migratory species with eastern U.S. populations overwintering in Mexico. Monarch butterfly populations typically return to the eastern U.S. in April (Davis and Howard 2005). Summer breeding habitat requires milkweed species, on which adults exclusively lay eggs and where larvae develop and feed. Adults will drink nectar from other blooming wildflowers when milkweeds are not in bloom (NatureServe 2023). 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. The field within the Project Area has been used for agriculture in the past and the plants present are not typically used for monarch butterfly foraging and no milkweeds were observed within the Project Area during field surveys. Some flowering plants may occur in the field, but significant breeding or foraging habitat is not present within the Project Area. Monarch butterflies were not observed during the field survey of the Project Area in September 2025.

Gray bats roost in caves year-round and migrate between summer and winter roosts during spring and fall. Gray bats have also been documented roosting in man-made structures, such as under bridges and in abandoned buildings. Summer caves are typically located close to rivers or lakes. Bats disperse over bodies of water at dusk, where they forage for insects emerging from the surface of the water (Brady et al. 1982, Tuttle 1976a,b). The closest known gray bat record occurs approximately 6.3 miles from the Project Area. The closest known cave record occurs approximately one mile from the Project Area. No caves are known within the Project Area or were observed during field surveys in September 2025. Aquatic foraging habitat is not present within the Project Area.

Indiana bats hibernate in caves in winter and use areas around those caves in fall and spring (for swarming and staging), prior to migration back to summer habitat. During summer, Indiana bats roost under the exfoliating bark of dead and living trees in mature forests with an open understory, often near sources of water. Indiana bats are known to change roost trees frequently throughout the season, yet still maintain site fidelity, returning to the same summer roosting areas in subsequent years. This species forages over forest canopies, along forest edges and tree lines, and occasionally over bodies of water (USFWS 2007b; USFWS 2024). The closest Indiana bat record was documented from a roost tree approximately 14.7 miles from the Project Area. Foraging habitat for this species exists around forested habitat and may be ephemerally present over one small wetland within the Project Area. Suitable summer roosting habitat is present within a portion of the forested acreage within the Project Area.

Northern long-eared bats predominantly overwinter in large hibernacula such as caves, abandoned mines, and cave-like structures. During fall and spring, they utilize entrances of caves and surrounding forested areas for swarming and staging. In summer, northern long-eared bats roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees. This species also roosts in abandoned buildings and under bridges. Northern long-eared bats 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 2024). The closest known northern long-eared bat record is a pre-white-nose-syndrome record documented approximately 9.4 miles from the Project Area in 2004. Three cave records have been documented within three miles of the Project Area, with the closest occurring one mile away. Per the USFWS' IPaC report, the Project Area no longer falls within an area where northern long-eared bat is reasonably certain to occur.

Tricolored bats have been proposed for federal listing and are generally solitary or found in small groups. They are associated with forested landscapes where they forage near trees and along waterways, especially riparian areas. Maternity and other summer roosts are typically in clumps of dead or live tree foliage or cavities. Caves, mines, culverts, and rock crevices may be used as night roosts and winter hibernacula (McCoshum et al. 2023). The nearest known tricolored bat record was documented from a hibernaculum approximately six miles from the Project Area. The USFWS' IPaC tool has determined that tricolored bat may be present in the Project Area.

Following the 2024 Range-Wide Indiana Bat Survey Guidelines (USFWS 2024), TVA surveyed the Project Area for the presence of potentially suitable habitat for federally listed bats in September 2025. Approximately 66.6 acres of trees would be removed as part of Project Activities. An estimated 2.9 acres of suitable roosting habitat for Indiana bat and tricolored bat was identified in the tree removal area during field surveys. Suitable foraging habitat was identified within the Project Area for gray bat, Indiana bat and tricolored bat in and around forests, forested edges, and ephemerally over one wetland.

As noted above, review of the TVA NHD on September 4, 2025, resulted in three known caves within 3 miles of the Project Area, the closest occurs approximately one mile away. No

additional caves were observed during the September 2025 field survey. No other unique or important terrestrial habitat exists within the Project Area. Due to the distance between the Project Area and documented caves, known caves would not be impacted by the Proposed Action.

3.9.2 Environmental Consequences—Terrestrial Zoology: Threatened and Endangered Species

This section assesses the environmental consequences and impacts upon threatened and endangered animal species and their habitats resulting from the two alternatives considered.

3.9.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on threatened and endangered terrestrial wildlife species or their habitats.

3.9.2.2 Alternative B—Proposed Action

Under the Action Alternative, due to the lack of suitable habitat and the distance from the Project Area to known occurrence records, the Proposed Action would not jeopardize the continued existence of eastern hellbender.

Given the distance of known nesting records from the Project Area, and with the implementation of BMPs, impacts to bald eagle and osprey would be minor as a result of the Proposed Action. The Proposed Action would be in compliance with National Bald Eagle Management Guidelines.

Due to the lack of suitable habitat and distance from known populations, the Proposed Action would have no effect on RCW.

Due to the lack of available migration and overwintering habitat within the Project Area, the Proposed Action would not jeopardize the continued existence of whooping crane.

Vegetation removal and grading across the Project Area could impact monarch butterfly foraging habitat. However, no milkweeds were observed within the Project Area during field review in September 2025, as such, breeding habitat for this species would not be impacted. The Proposed Action would not jeopardize the continued existence of monarch butterfly.

No caves or other hibernacula for gray bat, Indiana bat or tricolored bat have been documented within the Project Area, and none were observed during field surveys. All caves exist approximately one mile or farther from the Project Area. Caves and karst habitat would not be affected by the Action Alternative. Approximately 2.9 acres of suitable summer roosting habitat for Indiana bat and tricolored bat are proposed for removal under the Proposed Action. Additional suitable habitat for tricolored bat exists throughout the forested acreage of the Project Area. Per USFWS' IPaC report, Indiana bat and tricolored bat may be present within the Project Area. If clearing occurs during the non-winter season (March 15–May 14; August 1–

November 15) direct effects to bats could occur if individuals are roosting in trees within the Project Area. However, individuals roosting during this time would be expected to be mobile and able to flush to nearby suitable habitat if disturbed. Direct adverse effects to non-volant pups could occur if tree removal were to occur during pup season (May 15–July 31) (USFWS 2024). To avoid direct adverse impacts to listed and proposed listed bats, TVA recommends removing trees within the Project Area during the winter clearing window (November 16–March 14) when these bat species are not present on the landscape. If funding is approved, the SEDA would commit to remove 2.9 acres of trees identified as suitable for Indiana bat outside of pup season.

Activities associated with this Project were addressed in TVA's programmatic consultation with the U.S. Fish and Wildlife Service on routine actions and federally listed bats in accordance with ESA Section 7(a)(2), originally completed April 2018, and updated in 2023. TVA's programmatic consultation was updated again to include the tricolored bat in November 2024. During the recent update, USFWS issued a Conference Opinion for the proposed endangered tricolored bat. For activities with the potential to affect bats, TVA committed to implement specific conservation measures. These activities and associated conservation measures are detailed in the TVA Bat Strategy Project Screening Form (Appendix F) and must be reviewed and implemented as part of the Proposed Action. Given the implementation of these conservation measures, proposed actions would not significantly impact gray bat or Indiana bat. In addition, proposed actions would not jeopardize the continued existence of the tricolored bat. The Proposed Activities would have no effect on northern long-eared bat.

The Proposed Action would not result in significant impacts to any threatened or endangered species.

3.10 BOTANY

This section describes plant species in the Project Area and compares the alternatives considered as they relate to botany.

3.10.1 Affected Environment–Botany

The proposed Project would occur in the Eastern Highland Rim Level IV ecoregion (Griffith et al. 2001). This region is composed predominantly of Mississippian-age limestone, chert, shale, and dolomite. Over time, the solution of limestone has created springs, sinkholes, and caves throughout the region. The natural vegetation is a mix between the oak-hickory forests found to the west and the mesophytic forests of the Appalachian ecoregions to the east. Many of the original bottomland hardwood forests of the region have been inundated by impoundments. In the flatter eastern areas and along both sides of the Tennessee River, the land has deep, well-drained reddish soils that are heavily used for farming.

A field survey was conducted by TVA biologists in October 2025 to document plant communities, infestations of invasive plants, and to search for possible threatened and endangered plant species in the Project Area. Vegetation types observed during field surveys can be classified as a combination of deciduous forest, mixed evergreen deciduous forest,

evergreen forest, and herbaceous vegetation using the National Vegetation Classification System (Grossman et al. 1998). No forested areas in the Project Area had structural characteristics indicative of old growth forest stands (Leverett 1996). The plant communities observed on site are common and well represented throughout the region. Vegetation in the proposed Project Area is characterized by two main types: forest (68 percent) and herbaceous (32 percent).

Deciduous forest, which is characterized by trees with overlapping crowns where deciduous species account for more than 75 percent of the canopy cover, occurs on approximately 44 percent of the vegetated Project Area. Common overstory species include Small's hackberry (*Celtis smallii*), water oak (*Quercus nigra*), Shumard oak (*Quercus shumardii*), pecan (*Carya illinoensis*), loblolly pine (*Pinus taeda*), honey locust (*Gleditsia triacanthos*), Mexican plum (*Prunus mexicana*), white ash (*Fraxinus americana*), shagbark hickory (*Carya ovata*), and chinquapin oak (*Quercus muehlenbergii*). The diameter at breast height (DBH) of the overstory species ranged from 3 to 20 inches. The midstory was dominated by Chinese privet (*Ligustrum sinense*), winged elm (*Ulmus alata*), Callery pear (*Pyrus calleryana*), American elm (*Ulmus americana*), boxelder maple (*Acer negundo*), Osage orange (*Maclura pomifera*), mimosa (*Albizia julibrissin*), eastern redcedar (*Juniperus virginiana*), common apple (*Malus domestica*), American persimmon (*Diospyros virginiana*), Amur honeysuckle (*Lonicera maackii*), sweetgum (*Liquidambar styraciflua*), and southern sugar maple (*Acer floridanum*). The herbaceous layer in these areas included Chinese bushclover (*Lespedeza cuneata*), Japanese stiltgrass (*Microstegium vimineum*), eastern poison ivy (*Toxicodendron radicans* var. *radicans*), saw greenbrier (*Smilax bona-nox*), coralberry (*Symphoricarpos orbiculatus*), Virginia creeper (*Parthenocissus quinquefolia*), frostweed (*Verbesina virginica*), beefsteak plant (*Perilla frutescens*), big blue lilyturf (*Liriope muscari*), jumpseed (*Persicaria virginiana*), southern dewberry (*Rubus trivialis*), Cherokee sedge (*Care cherokeensis*), snailseed (*Nephroia Carolina*), frost aster (*Symphyotrichum pilosum*), giant ragweed (*Ambrosi trifida*), late goldenrod (*Solidago altissima*), beaked panicgrass (*Coleataenia anceps*), field thistle (*Cirsium discolor*), multiflora rose (*Rosa multiflora*), sawtooth blackberry (*Rubus argutus*), muscadine (*Vitis rotundifolia*), ebony spleenwort (*Asplenium platyneuron*), trumpet vine (*Campsis radicans*), white snakeroot (*Ageratina altissima*), and longleaf spikegrass (*Chasmanthium sessiliflorum*).

Mixed evergreen deciduous forest, which is characterized by both evergreen and deciduous species contributing between 25 to 75 percent of the canopy cover, occurs on approximately 15 percent of the vegetated Project Area. Common overstory species include loblolly pine (*Pinus taeda*), honey locust (*Gleditsia triacanthos*), mimosa (*Albizia julibrissin*), sweetgum (*Liquidambar styraciflua*), and white oak (*Quercus alba*). The DBH of the overstory species ranged from 5 to 10 inches. The midstory was dominated by Small's hackberry (*Celtis smallii*), Chinese privet (*Ligustrum sinense*), eastern redcedar (*Juniperus virginiana*), and American persimmon (*Diospyros virginiana*). The herbaceous layer in these areas was sparse and dominated by Virginia creeper (*Parthenocissus quinquefolia*) and common greenbrier (*Smilax rotundifolia*).

Evergreen forest, which is characterized by trees with overlapping crowns where evergreen species account for more than 75 percent of the canopy cover, occurs on approximately 9 percent of the vegetated Project Area. The overstory was dominated by loblolly pine (*Pinus taeda*) with interspersed white oak (*Quercus alba*), water oak (*Quercus nigra*), and post oak (*Quercus stellata*). The DBH of the overstory species ranged from 5 to 10 inches. The midstory was dominated by Chinese privet (*Ligustrum sinense*), eastern redcedar (*Juniperus virginiana*), and winged elm (*Ulmus alata*). The herbaceous layer in these areas was sparse and dominated by Virginia creeper (*Parthenocissus quinquefolia*) and common greenbrier (*Smilax rotundifolia*).

Herbaceous vegetation, which is characterized by greater than 75 percent cover of forbs and grasses and less than 25 percent cover of other types of vegetation, occurs on approximately 32 percent of the vegetated area. The majority of this community type consisted of an agricultural field and a dry fallow field comprised of corn (*Zea mays*) and invaded by sicklepod (*Senna obtusifolia*). The remaining portion of this community type consisted of forest edges and a cleared powerline right-of-way comprised of late purple aster (*Symphotrichum patens*), gray goldenrod (*Solidago nemoralis*), winged sumac (*Rhus copallinum*), American pokeweed (*Phytolacca americana*), giant ragweed (*Ambrosia trifida*), Chinese bushclover (*Lespedeza cuneata*), Brazilian verbena (*Verbena brasiliensis*), Johnson grass (*Sorghum halepense*), frost grape (*Vitis vulpina*), and late boneset (*Eupatorium serotinum*).

Executive Order (EO) 13112 directs TVA and other federal agencies to prevent the introduction of invasive species (both plants and animals), control their populations, restore invaded ecosystems and take other related actions. EO 13751 amends EO 13112 and directs actions by federal agencies to continue coordinated federal prevention and control efforts related to invasive species. This order incorporates considerations of human and environmental health, climate change, technological innovation, and other emerging priorities into federal efforts to address invasive species. Some invasive plants have been introduced accidentally, but most were introduced as ornamentals or for livestock forage. Because these robust plants arrived without their natural predators (insects and diseases) their populations spread quickly across the landscape displacing native species and degrading ecological communities and ecosystem processes (Miller 2010). Large portions of the site were extensively altered in the past, resulting in the introduction and spread of invasive non-native plants.

During the October 2025 field survey many non-native invasive plant species were observed throughout the study area including corn (*Zea mays*), sicklepod (*Senna obtusifolia*), Chinese bushclover (*Lespedeza cuneata*), Brazilian verbena (*Verbena brasiliensis*), Johnson grass (*Sorghum halepense*), Chinese privet (*Ligustrum sinense*), Callery pear (*Pyrus calleryana*), Japanese stiltgrass (*Microstegium vimineum*), Amur honeysuckle (*Lonicera maackii*), multiflora rose (*Rosa multiflora*), Osage orange (*Maclura pomifera*), mimosa (*Albizia julibrissin*), big blue lilyturf (*Liriope muscari*), and beefsteak plant (*Perilla frutescens*). All these species occur widely across the landscape and have the potential to adversely impact the native plant communities because of their potential to spread rapidly and displace native vegetation.

3.10.2 Environmental Consequences–Botany

This section assesses the environmental consequences and impacts upon plants resulting from the two alternatives considered.

3.10.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on plant species and their habitats.

3.10.2.2 Alternative B–Proposed Action

Adoption of the Proposed Action would not significantly affect the terrestrial ecology of the region. The majority of herbaceous vegetation at the site has been heavily disturbed by previous land use, dominated by non-native invasive plant species, and possesses little conservation value. The forested areas have a large component of non-native invasive plant species and removal of these common forested communities would not impact the terrestrial plant ecology of the region. The majority of the Project Area currently has a substantial component of non-native invasive terrestrial plants and adoption of the Proposed Action would not significantly affect the extent or abundance of these species at the county, regional, or state level.

3.11 BOTANY–THREATENED AND ENDANGERED SPECIES

This section describes threatened and endangered plant species in the Project Area and compares the alternatives considered as they relate to listed plant species.

3.11.1 Affected Environment–Botany: Threatened and Endangered Species

A review of the TVA NHD indicates that four state-listed and no federally listed plant species have been previously reported within 5 miles of the Project Area (Table 3-4). Five federally listed plant species have been previously reported from Colbert County, Alabama (Table 3-4). No state or federally listed plant species were observed in the Project Area during the October 2025 field survey, and no designated critical habitat for plants occurs in the Project Area.

Table 3-4. Species of Conservation Concern Known from within 5 Miles of the Project Area and Federally Listed Species in Colbert County, Alabama¹

Common Name	Scientific Name	Federal Status ²	AL State Rank ³
Leafy prairie-clover	<i>Dalea foliosa</i> ⁴	LE	S1
Dutchman's breeches	<i>Dicentra cucullaria</i>	-	S2
False rue-anemone	<i>Enemion biternatum</i>	-	S2
Alabama gladeceess	<i>Leavenworthia alabamica</i>	-	S2
Fleshy-fruit gladeceess	<i>Leavenworthia crassa</i> ⁴	LE	S2
Lyrate bladderpod	<i>Lesquerella lyrata</i> ⁴	LT	S1
White fringeless orchid	<i>Platanthera integrilabia</i> ⁴	LT	S2
Prairie-dock	<i>Silphium pinnatifidum</i>	-	S2
Tennessee yellow-eyed grass	<i>Xyris tennesseensis</i> ⁴	LE	S1

¹Source: TVA NHD and USFWS Ecological Conservation Online System (<https://ecos.fws.gov/ecp/>) extracted on November 21, 2025.

²Status: LE = Listed Endangered; LT = Listed Threatened

³State Ranks: S1 - Extremely rare and critically imperiled in the state with five or fewer occurrences, or very few remaining individuals, or because of some special condition where the species is particularly vulnerable to extirpation; S2 - Very rare and imperiled within the state, 6 to 20 occurrences.

⁴Federally listed species occurring within Colbert County, but not necessarily within five miles of the Project Area.

3.11.2 Environmental Consequences—Botany: Threatened and Endangered Species

This section assesses the environmental consequences and impacts upon threatened and endangered plants resulting from the two alternatives considered.

3.11.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on threatened and endangered plant species and their habitats.

3.11.2.2 Alternative B—Proposed Action

Adoption of the Proposed Action would not affect federally listed plant species, designated critical habitat for plants, or state-listed plant species because they do not occur in the Project Area. Previous activities at the Project Area have disturbed the parcel so that it is unsuitable for supporting threatened or endangered plant species.

3.12 CULTURAL RESOURCES

This section describes cultural resources in the Project Area and compares the alternatives considered as they relate to cultural resources.

3.12.1 Affected Environment—Cultural Resources

Cultural resources include precontact and historic archaeological sites, districts, buildings, structures, and objects, as well as locations of important historic events that lack material

evidence of those events. Historic architectural structures are also cultural resources and include standing structures (e.g., houses, barns, dams, power plants) that are usually at least 50 years of age and are considered eligible for listing on the National Register of Historic Places (NRHP). Cultural resources are considered historic properties if included in, or considered eligible for inclusion in, the NRHP maintained by the National Park Service. The eligibility of a resource for inclusion in the NRHP is based on the Secretary of the Interior's criteria for evaluation (36 CFR § 60.4), which state that significant cultural resources possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

- A. are associated with important historical events; or
- B. are associated with the lives of significant historic persons; or
- C. embody distinctive characteristics of a type, period, or method of construction or represent the work of a master, or have high artistic value; or
- D. have yielded or may yield information (data) important in history or prehistory.

Because of their importance to the Nation's heritage, historic properties are protected by multiple laws. Federal agencies, including TVA, have a statutory obligation to facilitate the preservation of historic properties, stemming primarily from NHPA (16 U.S.C. §§ 470 et seq.). Other relevant laws include the Archaeological and Historic Preservation Act (16 U.S.C. §§ 469-469c), Archaeological Resources Protection Act (16 U.S.C. §§ 470aa-470mm) and the Native American Graves Protection and Repatriation Act (25 U.S.C. §§ 3001- 3013).

Section 106 of the NHPA requires federal agencies to consider the potential effects of their actions on historic properties and to allow the Advisory Council on Historic Preservation an opportunity to comment on the action. Section 106 involves four steps: 1) initiate the process; 2) identify historic properties; 3) assess adverse effects; and 4) resolve adverse effects. This process is conducted in consultation with the SHPO of the state in which the action would occur, all federally recognized Tribes with interest in the Project location, and with other interested consulting parties. Section 110 of the NHPA sets out the broad historic preservation responsibilities of federal agencies and is intended to ensure that historic preservation is fully integrated into their ongoing programs. Federal agencies are responsible for identifying and protecting historic properties and avoiding unnecessary damage to them. Section 110 also charges each federal agency with the affirmative responsibility for considering projects and programs that further the purposes of the NHPA, and it declares that the costs of preservation activities are eligible Project costs in all undertakings conducted or assisted by a federal agency.

Given that the proposed Project does not involve the construction of permanent above-ground structures, the potential to impact historic architectural resources is low. Furthermore, background research indicates that there are no potential historic above-ground structures within the direct line of sight of the property, and that the property is partially surrounded by a dense vegetative buffer. As such, TVA has determined, through consultation with the Alabama SHPO and all federally recognized Tribes with an interest in Colbert County, Alabama, that the cultural resources area of potential effects (APE) is to be considered the Project footprint (approximately 97.1 acres), where physical effects would occur. Note that the survey area of

approximately 69 acres is smaller than the APE of 97.1 acres assessed above due to consideration of a previous archaeology study completed within portions of the Project Area. There are also no known American Civil War sites or Native American Removal Routes in the APE or within a half-mile radius of the Project Area.

TVA Secretary of the Interior Qualified cultural resource specialists conducted a desktop review of the proposed Project. A Cultural Resources Desktop Assessment was prepared by Terracon (2025e) in June 2025 for the SEDA. Terracon examined records for approximately 533 acres in and outside the Project Area and performed a limited field reconnaissance. Terracon concluded that there was low potential for discovery of NRHP-eligible cultural resources at the Titus Site.

Stantec (2026) then performed a Phase I cultural resources survey of the APE in November 2025 and January 2026. Stantec's background review indicated that there were no previously identified historic above-ground structures present in the APE and there are two previous cultural resources surveys that intersect the APE. The northern and eastern portions of the Project Area were previously surveyed. No archaeological sites were identified in previous surveys (Stantec 2026). TVA staff determined that the previous surveys were not up to modern standards, resulting in the Stantec (2026) survey.

The Stantec field survey consisted of systematic shovel testing at 30-meter (m) intervals with site bounding shovel tests at 10 m intervals. A total of 465 potential shovel test locations were investigated within the APE of which 451 were negative for cultural materials, eight were positive cultural materials, and six could not be excavated. No pedestrian surface survey was conducted due to minimal surface visibility throughout the APE.

As a result of the Phase I investigation, one new archaeological site and two isolated finds (IFs) were documented within the APE (Stantec 2026). Site 1Ct739 is a precontact lithic scatter with an unknown cultural-temporal affiliation. The site contains a light-density of non-diagnostic lithic debitage recovered from a shallow disturbed Ap horizon. The site lacks integrity and has limited research potential and is recommended as not eligible for listing on the NRHP. No additional work is recommended for site 1Ct739. IF 1 consists of a single piece of chert debitage. IF 2 consists of a single modified chert cobble. IFs are not eligible for listing in the NRHP and no further work is recommended.

3.12.2 Environmental Consequences—Cultural Resources

This section assesses the environmental consequences and impacts upon cultural resources resulting from the two alternatives considered.

3.12.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, the proposed disturbances would not occur, and existing site conditions would likely be unchanged, resulting in no impacts to cultural resources.

3.12.2.2 Alternative B–Proposed Action

Under the Proposed Action, TVA would issue the InvestPrep funding to the SEDA for the activities described in Section 2.1.2. The undertaking would involve ground-disturbing activities in the APE.

Both the desktop review of the APE and the Stantec (2026) survey revealed that no known cultural resources are located within the Project Area or within direct line of sight of the Project Area. As the result of the Phase I investigation (Stantec 2026), one new archaeological site was documented within the APE. Site 1Ct739 is a precontact lithic scatter with an unknown cultural-temporal affiliation. The site lacks integrity and has limited research potential and is not recommended as eligible for listing on the NRHP. No additional work is recommended for site 1Ct739. As such, TVA finds that the proposed undertaking, as currently planned, would have no effect on historic properties.

On February 25, 2026, TVA consulted with the AHC-SHPO and all federally recognized Tribes with an interest in the Project Area regarding TVA’s NRHP eligibility determinations and findings of effect (Appendix D). The AHC-SHPO concurred with TVA’s finding of no effect to historic properties, on March 27, 2026 (Appendix D). TVA received no objections from the consulted Tribes on the proposed undertaking.

3.13 VISUAL RESOURCES

This section describes visual resources in the Project Area and compares the alternatives considered as they relate to visual resources.

3.13.1 Affected Environment–Visual Resources

The Project Area consists of mostly wooded land with some grassy areas in the northwest and southeast portions. The Project Area is adjacent to Haley Drive to the east, Old Lee Highway is adjacent to the south, Titus Lane is adjacent to the north, and Mulberry Lane (Mulberry Creek Road) is adjacent to the west. The visual landscape setting adjacent to the Project Area consists of agricultural land to east, industrial to the south, forested and agricultural land to the north and west, and industrial businesses (Recycling Management Resources and AE Shoals Manufacturing and Technology Center) to the south and east respectively. Two homes are located approximately 0.2 mile to the southwest of the Project Area, but the homes would be screened by trees on the west side of Mulberry Lane that are outside the Project Area. A home is located less than 0.1 mile to the west of the northwest corner of the Project Area without screening. Multiple homes are located approximately 0.1 mile from the southeast corner of the Project Area, but they are located across Haley Drive and/or Old Lee Highway.

3.13.2 Environmental Consequences–Visual Resources

This section assesses the environmental consequences and impacts upon visual resources resulting from the two alternatives considered.

3.13.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, the proposed work would not occur, and existing site conditions would likely be maintained, resulting in no visual quality impacts.

3.13.2.2 Alternative B—Proposed Action

Under the Action Alternative, construction vehicles and equipment visible during construction activities would have a minor visual impact over the temporary construction period, as well as a minor permanent impact due to cutting of trees, removal of stumps, burning of woody debris, and rough grading. Drivers along Old Lee Highway, Haley Drive, Titus Lane, and Mulberry Lane and some homeowners may be able to view construction activity in the Project Area, although the activity would not be inconsistent with an industrial park and its development or with existing industrial and commercial facilities in the vicinity. Most homeowners would maintain at least some visual screening due to trees and intervening roads located outside the Project Area. While motorists may notice a change in the viewshed, this change would be minor given the brief period that drivers would be in the area. Implementation of the Action Alternative would result in a minor, insignificant decrease in visual quality for residents in the viewshed.

3.14 NOISE

This section describes the noise environment in the Project Area and compares the alternatives considered as they relate to noise.

3.14.1 Affected Environment—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, and potential noise receptors such as homes, are primarily associated with traffic along the surrounding roads and the surrounding businesses and residences, as described above in Section 3.11.

3.14.2 Environmental Consequences—Noise

This section assesses the environmental consequences and impacts upon the noise environment resulting from the two alternatives considered.

3.14.2.1 Alternative A—The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, the proposed disturbances would not occur, and existing site conditions would likely be unchanged, resulting in no impacts to noise receptors.

3.14.2.2 Alternative B—Proposed Action

Under the Action Alternative, noise impacts associated with construction activities would be primarily from the use of heavy equipment. Construction activities would likely involve the

operation of an excavator, bulldozer, dump truck, or similar vehicles, and heavy machinery over the temporary duration of construction. Heavy equipment noise levels would fluctuate depending on the number and type of vehicles and equipment in use at any given time. The Action Alternative would be implemented over nine months, during which construction-related noise may be generated. In addition, construction-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. It is anticipated that sound levels would not exceed 85 decibels in the Project Area per Occupational Safety and Health Administration standards.

As noted in Section 3.11, potentially sensitive noise receptors near the Project Area include two homes located approximately 0.2 mile to the southwest of the Project Area, but the homes would be partially screened by trees on the west side of Mulberry Lane that are outside the Project Area. A home is located less than 0.1 mile to the west of the northwest corner of the Project Area without vegetative screening. Multiple homes are located approximately 0.1 mile from the southeast corner of the Project Area, but they are located across Haley Drive and/or Old Lee Highway. The construction noise would be localized, intermittent, and temporary, and no receptor would be exposed to significant noise levels for an extended period of time. Further, construction activities would be anticipated to be conducted during daylight hours, when ambient noise levels are often higher, and most individuals are less sensitive to noise. Since the homes are all located adjacent to existing public roads, they would already be subject to ambient noise from routine traffic not associated with construction. Construction noise is possible on weekends. Industrial and commercial facilities adjacent to busy roads and highways are accustomed to noise. Overall, noise-related impacts resulting from the implementation of the Action Alternative would be anticipated to be temporary and minor.

3.15 SOCIOECONOMICS

This section describes socioeconomics in the Project Area and compares the alternatives considered as they relate to socioeconomics.

3.15.1 Affected Environment–Socioeconomics

This section evaluates the potential impact of the Action Alternative on socioeconomic resources. It also considers the range of communities impacted to determine whether the Action Alternative is likely to have impacts on minority and low-income populations.

While socioeconomic analysis typically focuses on state, county, or block group level data, the scale of the analysis is dependent on the specific type of impacts that are likely to occur. For this analysis, publicly available statistics generated by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics were used to characterize socioeconomic conditions in the host state (Alabama) and county (Colbert) (Table 3-5). Details of the Action Alternative were then used to evaluate likely effects on existing socioeconomic resources. The demographics and income of the host county were considered relative to the demographics and income levels at the state level, to identify the potential for impacts on minority and low-income populations.

Table 3-5. Population, Demographics, Income, and Employment in the Host State and County

	Alabama	Colbert County
July 2024 Population	5,157,699	58,785
April 2020 Population	5,025,369	57,232
Population, Percent Change	2.6%	2.7%
Population per Square Mile	99.2	96.5
White Alone, not Hispanic or Latino	68.7%	80.1%
Black or African American Alone	26.5%	15.8%
American Indian and Alaska Native Alone	0.8%	0.7%
Asian Alone	1.7%	0.9%
Native Hawaiian and Other Pacific Islander Alone	0.1%	0.1%
Two or More Races	2.1%	2.4%
Hispanic or Latino	6.0%	4.0%
Median Household Income	\$62,027	\$56,736
Per Capita Income	\$34,835	\$32,685
Percent with Income Below the Poverty Level	15.2%	15.4%
Labor Force	2,376,289	26,428
Employed	2,306,744	25,586
Unemployed	69,545	8,425
Unemployment Rate (%)	2.9	3.2

Source: U.S. Census Bureau (2026)

Source: U.S. Bureau of Labor Statistics (2026)

Please note that data for cities in Colbert County, Alabama was not available and therefore excluded from the assessment.

The evaluation determined the following:

- Relative to the average Alabama resident, the residents of Colbert County live at a lower population density, but at a higher population growth.
- Relative to the average Alabama resident, the residents of Colbert County are less likely to self-identify as a minority race or ethnicity.
- Per capita income and median household income are both lower in Colbert County than in Alabama. Residents of Colbert County are more likely to live below the poverty level than residents of Alabama as a whole.
- The unemployment rate in Colbert County is higher than the unemployment rate in Alabama.

There are two residential subdivisions within 0.5 mile of the Project Area; however, there are approximately 64 residential homes within a 0.5-mile radius. The Public Environmental Data

Partners (PEDP) identified the following demographic characteristics for this area. Relative to the state, these census block groups in aggregate have 12 percent people of color, 47 percent low-income population, 0 percent linguistic isolation, and 16 percent of the population with less than a high school education (PDEP 2026).

As described in Section 2.1.2 above, the Action Alternative would include property purchase, tree clearing, and rough grading. Erosion prevention, sediment control, and stabilization measures would be implemented after grading is complete.

This effort is expected to take place over a 9-month period and would require a small workforce, likely drawn from a local contractor.

3.15.2 Environmental Consequences–Socioeconomics

This section assesses the environmental consequences and impacts upon socioeconomics resulting from the two alternatives considered.

3.15.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, and positive economic activity and socioeconomic changes would not be realized.

3.15.2.2 Alternative B–Proposed Action

Implementation of the Action Alternative is not anticipated to materially impact the local economy nor the local workforce. In addition, no negative socioeconomic impacts would be anticipated from the Proposed Action; therefore, no negative impacts would be anticipated to minority or low-income populations as a result of the Action Alternative. Minor positive indirect impacts may be noted through the increase in employment as a result of the Action Alternative.

There is minimal potential that the Action Alternative would result in negative impacts on minority and low-income populations. This conclusion is based on two observations. First, the Action Alternative would have a minor positive effect on the local economy. Second, as described throughout this document, environmental effects associated with the Action Alternative would be minor, temporary, and would generally be constrained to the 97.1-acre Project Area.

3.16 TRANSPORTATION

This section describes transportation resources in the Project Area and compares the alternatives considered as they relate to transportation.

3.16.1 Affected Environment–Transportation

The Project Area can be accessed during construction activities from the west via a gravel entrance on Mulberry Lane. Mulberry Lane intersects Titus Lane to the north of the Project Area, crosses Old Lee Highway and terminates at Highway 72 to the south. Titus Lane intersects Haley Drive to the northeast of the Project Area, and Haley Drive terminates to the south at Highway 72.

Mulberry Lane is a local road which provides access to commercial properties and rural properties to the north and south on the west side of the Project Area. Mulberry Lane is a paved, two-lane road that is sufficiently wide for a single lane of traffic in each direction. Based on preliminary review of Google Street View images (recorded December 2024) and incidental observations by Stantec field teams, the road is in good condition with narrow shoulders and grassy swales on each side of the road. Mulberry Lane is defined as a minor collector by the Functional Classification System for Colbert County (Alabama Department of Transportation [ALDOT] 2021). The site entrance location and configuration should consider safe sight distances and other safety concerns for the traffic that would enter Mulberry Lane from the Project Area. Necessary precautions would be taken during mobilization and demobilization, such as reduced speed in areas of poor visibility or poor road conditions, with other precautions such as a flagman or traffic control to be considered if required.

Titus Lane is a local road which provides access to commercial and rural properties to the north and northeast of the Project Area. Titus Lane is a paved, two-lane road that is sufficiently wide for a single lane of traffic in each direction. Based on preliminary review of Google Street View images (recorded December 2024) and incidental observations by Stantec field teams, the road is in good condition with narrow graveled shoulders and grassy swales on each side of the road. Titus Lane is defined as a local road by the Functional Classification System for Colbert County (ALDOT 2021). Normal care would be taken by workers entering Titus Lane regarding traffic safety.

Haley Drive is a local road which provides access to multiple rural and residential properties to the east of the Project Area. Haley Drive is a paved, four-lane road. Based on preliminary review of Google Street View images (recorded December 2024) and incidental observations by Stantec field teams, the road is in good condition with wide graveled shoulders and grassy swales on each side of the road. Haley Drive is defined as a major collector by the Functional Classification System for Colbert County (ALDOT 2021). Normal care would be taken by workers entering Haley Drive regarding traffic safety.

Highway 72 is a four-lane paved highway south of the Project Area with dedicated merging lanes at Haley Drive and an intersection at Mulberry Lane. Based on preliminary review of Google Street View images (recorded March 2025) and incidental observations by Stantec field teams, the road is in good condition with paved shoulders and a grassy median. Highway 72 is listed as part of the National Highway System and a principal arterial on the Functional Classification System for Colbert County (ALDOT 2021). Normal care would be taken by workers entering or crossing Highway 72 regarding traffic safety.

Based on a review of ALDOT historical traffic data (ALDOT 2026), there are no traffic count stations on Mulberry Lane, Titus Lane, or Haley Drive. The nearest traffic count station is located on Highway 72 southeast of the Project Area. The 2024 annual average daily traffic count (AADT) for the relevant station is presented in Table 3-6 below.

Table 3-6. Alabama Department of Transportation Traffic Count Data for the Project Area

Route Description	Location ID	Distance from Project Area (Miles)	Year	AADT
Highway 72	Colbert 805 CCS# 13	7.8	2024	12,655

Source: ALDOT 2026 ([TDM Public](#)), extracted 02/02/2026.

3.16.2 Environmental Consequences–Transportation

This section assesses the environmental consequences and impacts upon transportation resources resulting from the two alternatives considered.

3.16.2.1 Alternative A–The No Action Alternative

Under the No Action Alternative, TVA would not provide funding to the SEDA, and there would be no impact on overall traffic volumes and level of service.

3.16.2.2 Alternative B–Proposed Action

Under the Action Alternative and in the context of the existing AADT road volumes, the anticipated traffic generated by the Proposed Action would be minor. It is anticipated that existing traffic volumes for Mulberry Lane would be minor, as it provides access to limited other sites, and any increase in traffic volumes for Titus Lane, Haley Drive, or Highway 72 would be minor. Because of the anticipated limited volume of workers on the site required for tree clearing activities and rough grading, as well as the relatively short 9-month timeframe of the proposed work, direct or indirect impacts to local traffic and roadways are anticipated to be temporary and minor.

3.17 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

Unavoidable adverse impacts are the effects of the Proposed Action on natural and human resources that would remain after mitigation measures or BMPs have been applied. Mitigation measures and BMPs are typically implemented to minimize and avoid potential impacts associated with proposed actions, which may still have the potential to cause unavoidable adverse effects on several environmental resources. Activities associated with the use of construction equipment may result in varying amounts of dust, air emissions, and noise that may potentially impact both onsite workers and nearby offsite residences and parks. Emissions from onsite construction activities and equipment would be minimized through implementation of BMPs including proper maintenance of construction equipment and vehicles. During construction, BMPs to minimize runoff would be implemented but there could still be some uncontrolled runoff that could affect nearby outfalls and water bodies. During construction, there would be an increase in traffic on public roads due to use by the construction workforce and construction-related equipment and materials being transported to the proposed site. This additional construction-related traffic would also increase noise and fugitive dust in areas proximate to these roads. Emissions from construction equipment are minimized through implementation of BMPs including proper maintenance of construction equipment and vehicles.

There would be no unavoidable adverse impacts associated with the Proposed Action.

3.18 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires a discussion of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity. This EA focuses on the analyses of environmental impacts associated with the Proposed Action. For the purposes of this section, activities associated with construction are considered short-term uses of the environment and the long-term impacts to site productivity are those from future development and activities beyond the life of the Project. The Proposed Action would have no impact on solid and hazardous materials, land use, floodplains, managed or natural areas, recreation, surface water, and aquatic zoology resources. The Proposed Action could have a negative effect on air quality and climate change, groundwater, soils, prime farmland, wetlands, terrestrial zoology including threatened and endangered species, botany including threatened and endangered species, cultural resources, visual effects, noise, and transportation issues based on short-term use as described above. These impacts are anticipated to be temporary and minor. The Proposed Action could have minor, beneficial impacts on socioeconomics.

Under the Proposed Action, TVA would provide InvestPrep funds to the SEDA for site improvements to the Project Area. This short-term investment could lead to industrial development resulting in long-term gains in economic prosperity in Colbert County, Alabama. If this goal is realized, implementation of the Proposed Action would help to fulfill one of TVA's missions, which is to promote economic development within the TVA service area.

3.19 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

A resource commitment is considered irreversible when impacts from its use would limit future use options and the change cannot be reversed, reclaimed, or repaired. Irreversible commitments generally occur to nonrenewable resources such as minerals or cultural resources and to those resources that are renewable only over long timespans, such as soil productivity. A resource commitment is considered irretrievable when the use or consumption of the resource is neither renewable nor recoverable for use by future generations until reclamation is successfully applied. Irretrievable commitments generally apply to the loss of production, harvest, or other natural resources and are not necessarily irreversible. Resources required for the proposed actions, including labor, materials, and fossil fuels would be irretrievably lost. Nonrenewable fossil fuels would be irretrievably lost by gasoline and diesel-powered equipment during construction. Although the Proposed Action would require irretrievable use of some resources, it is unlikely that their limited use would adversely affect the overall future availability of these resources.

Under the Proposed Action, TVA would provide InvestPrep funds to the SEDA for site improvements to the Project Area. The InvestPrep funds would be matched by non-TVA funds.

3.20 NEPA COMPLIANCE CERTIFICATION

Consistent with 18 CFR 1318.106(e) and 1318.401(g), the Tennessee Valley Authority certifies that this document represents TVA's good-faith effort to fulfill the requirements of NEPA within

the Congressional timeline established at NEPA Section 107(g) and according to page limits established at NEPA Section 107(e). In this document, TVA prioritizes documentation of the most important considerations based on its expert judgement. Any considerations addressed briefly or unaddressed are, in TVA's judgement, comparatively less substantive. In TVA's expert opinion, the factors mandated by NEPA have been thoroughly considered, and the analysis contained in this document is adequate to inform and reasonably explain TVA's final decision regarding the proposed federal action.



Dawn Booker, Senior Manager
NEPA Compliance
Environment and Stewardship
Tennessee Valley Authority

April 14, 2026

Date Signed

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Appendix A—List of Preparers

NEPA PROJECT MANAGEMENT**Brittany Kunkle**

Education: B.S., Environmental and Soil Science

Project Role: Economic Development Grant Project NEPA Compliance Manager

Experience: 7 years in Project Management, managing and performing NEPA analyses.

OTHER CONTRIBUTORS**Julia Prins (TVA)**

Education: M.S. Environmental Science; B.S. Environmental Science

Project Role: Threatened and Endangered Plants, Plant Ecology, Invasive Plant Species

Experience: 3 years in floristic surveys, threatened and endangered plant species, and invasive plant species. 1 year in ESA and NEPA compliance.

Zach Buecker (TVA)

Education: B.S., Biology

Project Role: Surface Water

Experience: 16 years in water/wetland assessment and compliance.

Derek Reaux (TVA)

Education: Ph.D., Anthropology; M.A., Anthropology; B.A., Anthropology

Project Role: Cultural Resources, NHPA, Section 106 compliance

Experience: 13 years of experience in archaeological research, cultural resource management, and Section 106 compliance.

Matt Reed (TVA)

Education: M.S., Wildlife and Fisheries Science; QHP

Project Role: Aquatic Ecology, Aquatic T&E Species

Experience: 15 years working with threatened and endangered aquatic species in the southeastern U.S.; 8 years in ESA, NEPA, and CWA compliance and stream assessments.

Guy Thomas Zimmerman, P.E. (TN) (TVA)

Education: M.S. Environmental Engineering, Water Resources; B.S. Civil Engineering

Project Role: Floodplains and Flood Risk

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Carrie Williamson, P.E. (TN), CFM (TVA)

Education: M.S., Civil Engineering; B.S., Civil Engineering

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 Project Role: Recreation
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 Project Role: Managed and Natural Areas
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Education: M.S., Biology; B.S., Wildlife and Fisheries Science
 Project Role: Terrestrial Zoology, T&E Species
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Education: M.S., Environmental Studies; B.S., Biology
 Project Role: Wetlands
 Experience: 7 years in wetland delineation, wetland impact analysis, and NEPA and CWA compliance

Douglas Mooneyhan (Stantec)

Education: M.S., Biology; B.S., Wildlife and Fisheries Science
 Project Role: EA Program and Project Manager, Purpose and Need for Action, Alternatives, QA/QC
 Experience: 36 years in managing and performing environmental studies, Project Manager for a variety of different project types including NEPA, construction monitoring, natural resources, water resources, and fisheries biology.

Jaclyn Martin (Stantec)

Education: M.S., Environmental Sciences; B.S., Biology
 Project Role: Air Quality and Climate Change, Visual, QA/QC
 Experience: 11 years in environmental consulting in the preparation and review of NEPA compliance reports, environmental assessments, and permitting for a variety of

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Duane Simpson (Stantec)

Education: M.A., Anthropology; B.A., Anthropology

Project Role: Archaeology

Experience: 29 years in archaeological consulting, including management of projects across the Southeast and Mid-Atlantic regions. Principal Investigator for over 16 years.

Josh Yates, P.G. (Stantec)

Education: M.S., Geology; B.S., Natural Resources Management and Engineering

Project Role: Groundwater

Experience: 18 years of hydrogeologic assessments and water resources permitting experience. This experience includes water supply planning, hydrogeologic investigations, groundwater modeling, water use permitting, well construction oversight, EIS and EA preparation, minimum flow and level impact analysis, monitoring well network design, aquifer performance tests, and GIS analysis.

Lavinia DiSanto (Stantec)

Education: B.A., Biological Science

Project Role: QA/QC

Experience: 26 years in environmental consulting, specializing in NEPA assessments.

Shane Kelley, TN-QHP (Stantec)

Education: B.S., Natural Resources & Environmental Science

Project Role: Aquatics, Wetlands

Experience: Biologist with 12 years of experience in multiple areas of the environmental field with a particular focus on USACE Section 404 permitting, Section 7 protected species consultation, and various ecological and biological field surveys. He is a Qualified Hydrologic Professional.

Brenton Jenkins, P.E. (Stantec)

Education: B.S., Environmental Engineering

Project Role: Transportation

Experience: 11 years in environmental consulting for various private and public sector clients, including engineering design, permitting, and assessments, primarily in the oil and gas sector.

Kathleen Pangan (Stantec)

Education: M.S., Biology; B.S., Biology: Ecology, Behavior and Evolution

Project Role: Surface Water, Aquatics, Wetlands

Experience: Biologist with more than 17 years of experience in ecology, technical analysis, and scientific fieldwork.

Afton Tankersley (Stantec)

Education: M.S., Environmental Science; B.S., Biology

Project Role: Air Quality and Climate Change, Noise, Visual Resources

Experience: Biologist with experience preparing multiple NEPA documents, including EISs for the Federal Energy Regulatory Commission and the Nuclear Regulatory Commission.

Appendix B—Symbols, Acronyms, and Abbreviations

Symbols, Acronyms, and Abbreviations

AADT	Annual Average Daily Traffic Count
ADEM	Alabama Department of Environmental Management
AHC	Alabama Historical Commission
ALDOT	Alabama Department of Transportation
APE	Area of Potential Effects
BMP	Best Management Practices
CAA	Clean Air Act
CBMPP	Construction BMP Plan
DBH	Diameter at Breast Height
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutants
IPaC	Information for Planning and Consultation
MBCC	Migratory Birds of Conservation Concern
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHD	Natural Heritage Database
NHPA	National Historic Preservation Act
NPDES	National Pollutant and Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

Symbols, Acronyms, and Abbreviations

NWI	National Wetland and Water Inventory
PM	Particulate Matter
RCW	Red-cockaded woodpecker
SEDA	Shoals Economic Development Authority
SHPO	State Historic Preservation Office
TVA	Tennessee Valley Authority
USACE	United States Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
U.S.	United States
VOC	Volatile Organic Compound

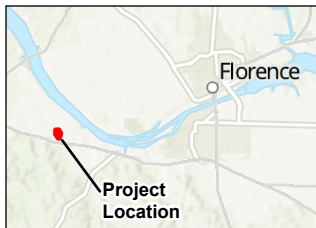
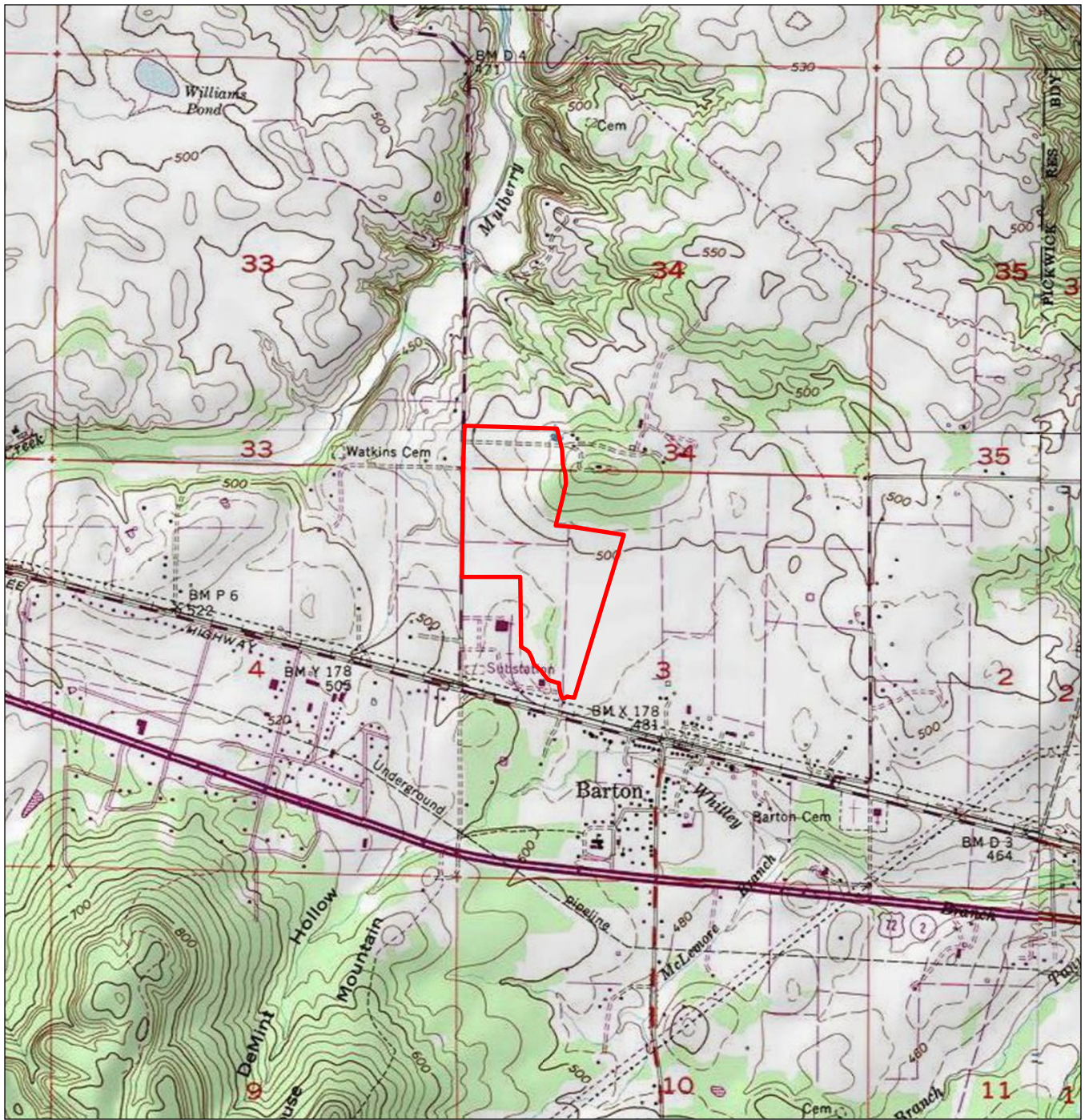
Appendix C–Project Figures


Appendix D—Agency Correspondence

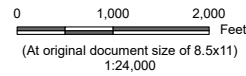
Appendix E—Migratory Birds of Conservation Concern

**Appendix F—Project Review Form
TVA Bat Strategy**

Appendix C–Project Figures



 Project Boundary (97.07 ac)



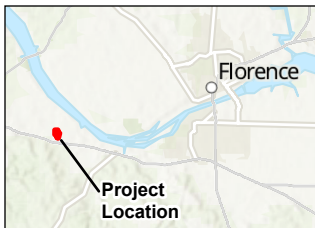
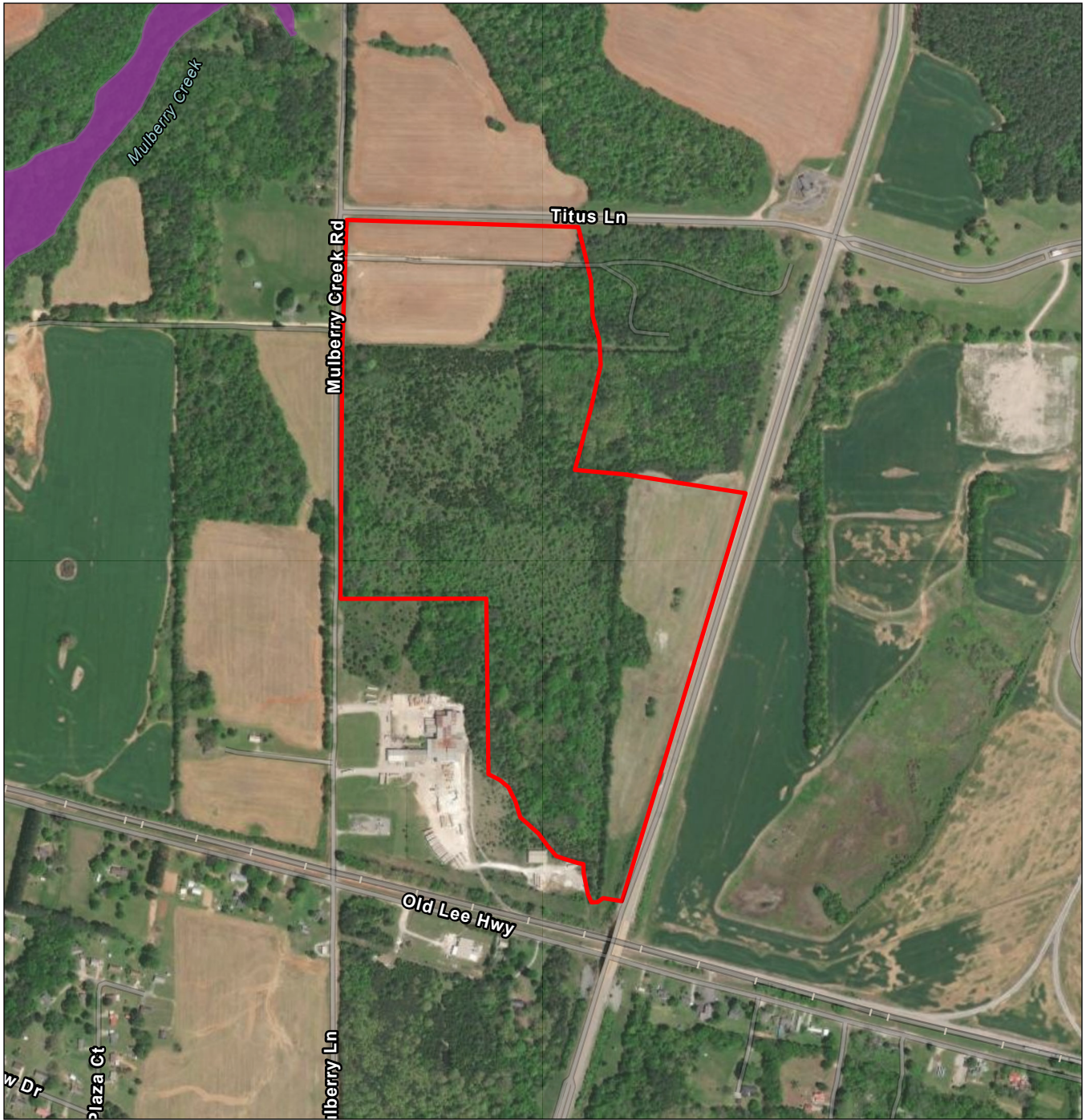
Project Location: T03S, R13W, S34; T04S, R13W, S03
Colbert Co., AL
Prepared by PEM on 2025-12-10

Client/Project: United States Tennessee Valley Authority
TVA FY26 InvestPrep Colbert Co
Environmental Assessment
193778348

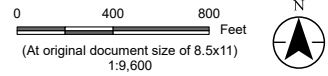
Figure No. 1A

Title USGS Topographic

- Notes**
1. Coordinate System: NAD 1983 StatePlane Alabama West FIPS 0102 Feet
 2. Data Sources: TVA
 3. Background: Esri Aerial Hybrid



Project Boundary (97.07 ac)
 1% Annual Chance Flood Hazard
 FIRM Panel 01033C0100D, eff. 2/17/2010

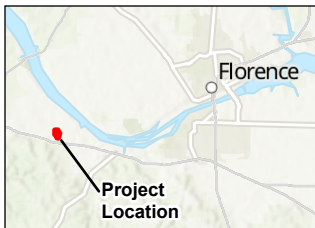


Project Location: T03S, R13W, S34; T04S, R13W, S03 Prepared by PEM on 2025-12-10
 Colbert Co., AL

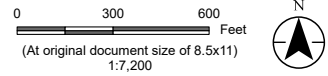
Client/Project: United States Tennessee Valley Authority 193778348
 TVA FY26 InvestPrep Colbert Co
 Environmental Assessment

Figure No. 1B

FEMA Floodplain



- Project Boundary (97.07 ac)
- NHDFlowline
- NWI Wetlands**
- Freshwater Forested/Shrub Wetland
- Riverine

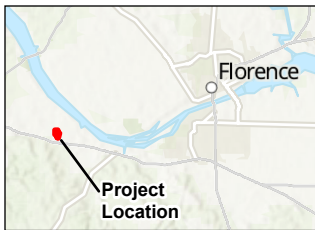


Project Location: T03S, R13W, S34; T04S, R13W, S03
Colbert Co., AL Prepared by PEM on 2025-12-10

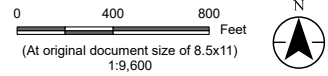
Client/Project: United States Tennessee Valley Authority 193778348
TVA FY26 InvestPrep Colbert Co
Environmental Assessment

Figure No. **1C**

Title: **National Wetlands Inventory/
National Hydrography Dataset**



- Project Boundary (97.07 ac)
- CaB - Capshaw silt loam, 2 to 6 percent slopes, Consociation (14.54 ac)
- ChD - Chisca loam, 6 to 15 percent slopes, Consociation (3.43 ac)
- DaB - Decatur silt loam, 2 to 6 percent slopes, Consociation (50.29 ac)
- EmA - Emory silt loam, 0 to 2 percent slopes, ponded, Consociation (28.12 ac)
- Ub - Urban Land, Consociation (0.69 ac)
- All areas are prime farmland (64.83 ac)
- Prime farmland if drained (28.12 ac)
- Not prime farmland (4.12 ac)



Project Location: T03S, R13W, S34; T04S, R13W, S03
 Prepared by PEM on 2025-12-10
 Colbert Co., AL

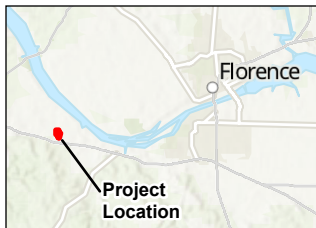
Client/Project: United States Tennessee Valley Authority
 TVA FY26 InvestPrep Colbert Co
 Environmental Assessment
 193778348

Figure No. 1D

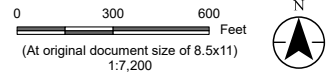
Title: NRCS Soils

Notes
 1. Coordinate System: NAD 1983 StatePlane
 Alabama West FIPS 0102 Feet
 2. Data Sources: TVA, USDA
 3. Background: Esri Aerial Hybrid

\\us0706-ppl\ss01\workgroup\1726\promotion\TVA\172678348 - Colbert County\172678348 - Colbert County.aprx Revised: 2026-02-04 By: pmarsey



- Project Boundary (97.07 ac)
- Ephemeral Drainage Feature
- Delineated Wetlands



Project Location: T03S, R13W, S34; T04S, R13W, S03
Colbert Co., AL Prepared by PEM on 2025-12-10

Client/Project: United States Tennessee Valley Authority 193778348
TVA FY26 InvestPrep Colbert Co
Environmental Assessment

Figure No. 1E

Delineated Features Survey by Terracon (2025c)

Disclaimer: This document has been prepared based on information provided by others as cited in the Notes section. Stantec has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result. Stantec assumes no responsibility for data supplied in electronic format, and the recipient accepts full responsibility for verifying the accuracy and completeness of the data.

Appendix D—Agency Correspondence

DiSanto, Lavinia

From: Martin, Jaclyn
Sent: Friday, February 20, 2026 10:08 AM
To: Davis, Eddie - FPAC-NRCS, AL
Cc: Davis, Christopher - FPAC-NRCS, AL; CalderonDones, Carlos - FPAC-NRCS, AL; Mooneyhan, Douglas; Kunkle, Brittany Renee
Subject: RE: Colbert County FPPA Request - FY26 TVA InvestPrep Project Site
Attachments: AD1006_Economic Development_TVA_AL.pdf

Eddie,

I have filled out the remaining parts of the form (see attached). Do you have any further comments, and is there anything else we need to do?

Regards,

Jaclyn

From: Davis, Eddie - FPAC-NRCS, AL <eddie.davis@usda.gov>
Sent: Wednesday, February 18, 2026 12:01 PM
To: Martin, Jaclyn <jaclyn.martin@stantec.com>
Cc: Davis, Christopher - FPAC-NRCS, AL <christopher.davis@usda.gov>; CalderonDones, Carlos - FPAC-NRCS, AL <Carlos.CalderonDones@usda.gov>; Mooneyhan, Douglas <douglas.mooneyhan@stantec.com>; Kunkle, Brittany Renee <brkunkle@tva.gov>
Subject: Re: Colbert County FPPA Request - FY26 TVA InvestPrep Project Site

Some people who received this message don't often get email from eddie.davis@usda.gov. [Learn why this is important](#)

Jaclyn,

Attached is a copy of the AD1006 form for the Economic Development Grant Proposal project involving TVA. Please review at your convenience and let us know if you have any questions or comments.

Thanks,

Eddie E. Davis Jr.

Resource Soil Scientist

North Area Office



U.S. DEPARTMENT OF AGRICULTURE

Natural Resources Conservation Service

1300 Meridian Street N. Suite 23F, Huntsville, Alabama 35801

o: (256) 947-5191 | c: (256) 300-5342

From: Martin, Jaclyn <jaclyn.martin@stantec.com>
Sent: Friday, February 13, 2026 8:26 AM
To: Davis, Eddie - FPAC-NRCS, AL <eddie.davis@usda.gov>
Cc: Davis, Christopher - FPAC-NRCS, AL <christopher.davis@usda.gov>; CalderonDones, Carlos - FPAC-NRCS, AL <Carlos.CalderonDones@usda.gov>; Mooneyhan, Douglas <douglas.mooneyhan@stantec.com>; Kunkle, Brittany Renee <brkunkle@tva.gov>
Subject: RE: Colbert County FPPA Request - FY26 TVA InvestPrep Project Site

Eddie,

I have attached the AD-1006 form.

-Jaclyn

From: Davis, Eddie - FPAC-NRCS, AL <eddie.davis@usda.gov>
Sent: Tuesday, February 10, 2026 12:31 PM
To: Martin, Jaclyn <jaclyn.martin@stantec.com>
Cc: Davis, Christopher - FPAC-NRCS, AL <christopher.davis@usda.gov>; CalderonDones, Carlos - FPAC-NRCS, AL <Carlos.CalderonDones@usda.gov>
Subject: RE: Colbert County FPPA Request - FY26 TVA InvestPrep Project Site

You don't often get email from eddie.davis@usda.gov. [Learn why this is important](#)

Mrs. Martin,

My name is Eddie Davis Jr., the Area Resource Soil Scientist in the Huntsville area. When evaluating your FPPA request for TVA, I did not see an attached AD1006 with parts 1 and 3 completed. Please see the attached form and associated instructions if need be. Reply to me at your earliest convenience and I will be glad to assist with the completion.

Thanks,

Eddie E. Davis Jr.
Resource Soil Scientist
North Area Office

 U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service
1300 Meridian Street N. Suite 23F, Huntsville, Alabama 35801

o: (256) 947-5191 | c: (256) 300-5342

From: Davis, Christopher - FPAC-NRCS, AL <christopher.davis@usda.gov>
Sent: Thursday, January 15, 2026 12:06 PM
To: Davis, Eddie - FPAC-NRCS, AL <eddie.davis@usda.gov>; CalderonDones, Carlos - FPAC-NRCS, AL

<Carlos.CalderonDones@usda.gov>

Cc: Yancey, DAndre - FPAC-NRCS, AL <dandre.yancey@usda.gov>

Subject: Colbert County FPPA Request - FY26 TVA InvestPrep Project Site

Afternoon guys,

Please complete assessment for attached FPPA request - reach out to Jaclyn if you need additional information.

Thanks,

Christopher Davis
State Soil Scientist
Alabama State Office

 Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

3381 Skyway Drive, Auburn, AL, 36830
p: 334.887.4559 | c: 334.832.8226

From: Martin, Jaclyn <jaclyn.martin@stantec.com>
Sent: Thursday, January 15, 2026 11:21 AM
To: Davis, Christopher - FPAC-NRCS, AL <christopher.davis@usda.gov>
Cc: Mooneyhan, Douglas <douglas.mooneyhan@stantec.com>
Subject: [External Email]FY26 TVA InvestPrep Project Site

You don't often get email from jaclyn.martin@stantec.com. [Learn why this is important](#)

[External Email]

If this message comes from an **unexpected sender** or references a **vague/unexpected topic**;
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Hello Chris, I hope you are doing well.

Stantec is assisting TVA this year in evaluation of some new FY26 TVA InvestPrep project sites. The InvestPrep projects involve use of federal funds and the purpose of the TVA InvestPrep Program is to promote economic development within the TVA region.

One site in Colbert County, Alabama may warrant coordination with NRCS regarding applicability of the FPPA due to its rural designation. We are attaching a soils map showing the extent of prime farmland and a map showing urban / rural areas as defined by the U.S. Census Bureau. The site is unzoned. I am also attaching shapefiles and a kmz file of the Project Area if that helps.

A few notes about the Colbert County site:

- Name: Barton Riverfront Industrial Park
- Address: Titus Drive and Haley Drive, Cherokee, AL
 - Lat/Long: 34.746770, -87.896249
 - Total Site Acreage: 130 acres
 - InvestPrep Project Area: 97.1 acres
 - Tree Clearing Acreage: 66.6 acres
 - Current Zoning: Unzoned
 - Ownership: Public (Shoals Economic Development Authority (SEDA) and Wilmington Paper LLC)

Project Scope: Utilize TVA InvestPrep funding matched with non-TVA funding to assist with the purchase of approximately 69 acres, clearing and grubbing of approximately 66 acres, and rough grading and seeding of approximately 44 acres on the Titus Site in the Barton Riverfront Industrial Park. Although the site contains prime farmland, is not zoned, and is designated as rural, it is part of the Barton Riverfront Industrial Park - Titus Site.

Please let us know your thoughts about potential applicability of the FPPA to this site. We appreciate your time and assistance in navigating the FPPA program.
Please let me know if you have any additional questions.

Jaclyn Martin
Environmental Project Manager
Pronouns: she/her/hers
Charlotte, North Carolina

Mobile: (704) 577-4711
jaclyn.martin@stantec.com
Stantec



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Attention: Ce courriel provient de l'extérieur de Stantec. Veuillez prendre des précautions supplémentaires.
Atención: Este correo electrónico proviene de fuera de Stantec. Por favor, tome precauciones adicionales.



400 West Summit Hill Drive, Knoxville, Tennessee 37902

February 25, 2026

Ms. Lee Anne Wofford
Deputy State Historic Preservation Officer
Alabama Historical Commission
468 South Perry Street
Montgomery, Alabama 36130-0900

Dear Ms. Wofford:

TENNESSEE VALLEY AUTHORITY (TVA), ECONOMIC DEVELOPMENT, BARTON RIVERFRONT INDUSTRIAL PARK, CHEROKEE, COLBERT COUNTY, ALABAMA (34.746770, -87.896249), (TVA TRACKING NUMBER – CRMS143130591746)

TVA is providing financial assistance for the purchase of approximately 69 acres, the clearing and grubbing of approximately 66 acres, and the rough grading and seeding of approximately 44 acres on the 97.1-acre Titus Site in the Barton Riverfront Industrial Park (Figure 1). This project is located on private property along Titus Drive and Haley Drive in Cherokee, Colbert County, Alabama.

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. Given that the proposed project does not involve the construction of above-ground structures, visual impacts to historic architectural resources are unlikely. Therefore, TVA recommends that the Area of Potential Effects (APE) be considered the project footprint (97.1 acres) where physical effects could occur.

Prior to TVA's involvement, the Shoals Economic Development Authority contracted Terracon Consultants to conduct an extensive cultural resource background review of the project area and surrounding parcels. This review included the excavation of six shovel test probes across the project area. All shovel tests were negative and contained deflated soil. A review of the Alabama state site file revealed that portions of the northern and eastern parts of the project area have been previously surveyed. No cultural resources or Native American Removal Routes were identified during those surveys; however, both surveys do not currently meet TVA's or the Alabama Historical Commission standards. As such, TVA contracted Stantec Inc., to conduct a Phase I archaeological survey of the entire APE.

Stantec's survey resulted in the identification of one new archaeological, 1CT739, and two isolated finds. Site 1CT739 represents a small lithic scatter of indeterminate age and the two isolated finds include a single piece of debitage and a modified chert cobble. Stantec recommended site 1CT39 and the two isolated finds as not eligible for listing in the National Register of Historic Places. They also recommended no further work for the APE. TVA agrees with Stantec's findings. Please find attached the Phase I archaeology report titled, *Phase I Cultural Resources Survey for the Barton Riverfront Industrial Park, Colbert County, Alabama*.

Ms. Lee Anne Wofford
Page 2
February 25, 2026

Based on the results of the surveys of the APE, 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,

A handwritten signature in black ink, appearing to read "Michaelyn Harle". The signature is fluid and cursive, with the first name being the most prominent.

Michaelyn Harle
Manager, Cultural Projects, Economic Development, and Environment
Deputy Federal Preservation Officer
Cultural Resources, External Strategy & Regulatory Oversight

DJR:JMB



Figure 1. Project area on modern aerial imagery.



ALABAMA HISTORICAL COMMISSION

468 South Perry Street
Montgomery, Alabama 36130-0900

Lisa D. Jones
Executive Director
State Historic Preservation Officer

Tel: 334-242-3184
Fax: 334-242-1083

March 27, 2026

Dr. Michaelyn Harle
TVA
400 West Summit Hill Drive
Knoxville, TN 37902

Re: AHC 26-0385
Tennessee Valley Authority, Bartmon Riverfront Industrial Park Project
Colbert County

Dear Dr. Harle:

Upon review of the additional information forwarded by your office, we concur with your agency's determination of no effect to historic properties.

Consultation with the State Historic Preservation Office does not constitute consultation with Tribal Historic Preservation Offices, other Native American tribes, local governments, or the public. If archaeological materials are encountered during construction, the procedures codified at 36 CFR 800.13(b) will apply. Archaeological materials consist of any items, fifty years old or older, which were made or used by man. These items include but are not limited to, stone projectile points (arrowheads), ceramic sherds, bricks, worked wood, bone and stone, metal, and glass objects. The federal agency or the applicant receiving federal assistance should contact our office immediately. If human remains are encountered, the provisions of the Alabama Burial Act (*Code of Alabama* 1975, §13A-7-23.1, as amended; Alabama Historical Commission Administrative Code Chapter 460-X-10 Burials) should be followed. This stipulation shall be placed on the construction plans to ensure contractors are aware of it.

We appreciate your commitment to helping us preserve Alabama's historic archaeological and architectural resources. Should you have any questions, please contact Amanda McBride at 334.230.2692 or Amanda.McBride@ahc.alabama.gov. Have the AHC tracking number referenced above available and include it with any future correspondence.

Sincerely,

A handwritten signature in blue ink that reads "Lee Anne Hewett".

Lee Anne Hewett
Deputy State Historic Preservation Officer

LAH/nj

Appendix E—Migratory Birds of Conservation Concern

Appendix E - Migratory Birds of Conservation Concern

Chimney swifts (*Chaetura pelagica*) can be found in TVA's PSA during breeding season (March through August). This species is associated with human settlements and primarily uses chimneys as nesting habitat; when chimneys are unavailable, swifts may utilize tree cavities or other human-made structures, such as barns, silos, and vents constructed out of porous materials such as brick, stone, or mortar (Cornell 2025a). They forage over a variety of habitats, including open terrain, forests, and residential areas (Steeves et al. 2020). Suitable foraging habitat for chimney swift is available within the Project Area, while suitable nesting habitat is not available within the Project Area for chimney swift.

Eastern whip-poor-will (*Antrostomus vociferus*) breeds in forested areas with little to no understory. They place their nests directly on leaf litter (Cornell 2025b). Suitable nesting habitat for this species exists within the Project Area.

Field sparrow (*Spizella pusilla*) often occupy field edges and abandoned pastures with low perches. In spring, female field sparrows build nests on clumps of vegetation, at the base of shrubs, and sometimes off the ground in taller vegetation (Cornell 2025c). Suitable nesting habitat is present in the Project Area.

Kentucky warbler (*Geothlypis formosa*) breeds in Alabama between mid-April and late August. During this period, Kentucky warbler uses lowland hardwood forest, often near streams, with a dense understory. Large tracts of forest habitat are required for nesting (over 1,200 acres), though gaps such as treefall gaps, trails, and small roads are important for creating a patchwork of shaded and well-lit areas. This species mostly forages along forest floors, though they will also feed on insects in the understory and lower parts of trees. Kentucky warbler place their nests at the base of plants in lowland hardwood forests in areas of dense understory (McDonald 2020). Suitable habitat for Kentucky warbler is not present in the Project Area.

Prairie warbler (*Setophaga discolor*) migrates to the southeastern U.S. to breeding from May through July in shrubby habitats with open canopies, ranging from pine forests, scrub oak barrens, regenerating forests, and borders of forest and prairie. This species places their nests in tangled parts of trees and shrubs. This species forages for insects, spiders, and snails in shrubby habitats (Cornell 2025d). The Project Area is suitable for nesting and foraging prairie warblers.

Prothonotary warbler (*Protonotaria citrea*) breeds and forages throughout most of the southeastern U.S. in bottomland forests, wooded swamps, and forests near lakes and streams between April and July. Nests are placed in tree cavities or nest boxes in wooded areas near bodies of water. Although tree cavities exist in the project area, none are located near water (Petit 2020). Breeding habitat does not exist in the Project Area.

Wood thrush (*Hylocichla mustelina*) breeds throughout much of the southeastern U.S. This species can be found in mature deciduous and mixed forests, in fragmented forests and suburban parks. Ideal habitat includes trees over 50 feet tall, a moderate understory of saplings and shrubs, and an open forest floor with moist soil and decaying leaf litter with water nearby. They tend to nest in the lower forked branches of saplings or shrubs (Evans et al. 2020). Breeding habitat for wood thrush exist in the Project Area.

**Appendix F—Project Review Form
TVA Bat Strategy**

Project Review Form - TVA Bat Strategy (04/2025)

This form should **only** be completed if project includes activities in Tables 2 or 3 (STEP 2 below). This form is not required if project activities are limited to Table 1 (STEP 2) or otherwise determined to have no effect on federally listed bats. If so, include the following statement in your environmental compliance document (e.g., add as a comment in the project CEC): "Project activities limited to Bat Strategy Table 1 or otherwise determined to have no effect on federally listed bats. Bat Strategy Project Review Form NOT required." This form is to assist in determining required conservation measures per TVA's ESA Section 7 programmatic consultation for routine actions and federally listed bats.¹

Project Name: Economic Development Grant Proposal for the Barton Riverfront Industrial Park **Date:** 9/2/25
Contact(s): Brittany Kunkle **CEC#:** **Project ID:** 47038
Project Location (City, County, State): Colbert County, AL

Project Description:

Utilize TVA InvestPrep funding matched with non-TVA funding to assist with the purchase of approximately 69 acres, clearing and grubbing of approximately 66 acres, and rough grading and seeding of approximately 44 acres on the Titus Site in the Barton Riverfront Industrial Park.

SECTION 1: PROJECT INFORMATION - ACTION AND ACTIVITIES

STEP 1) Select TVA Action. If none are applicable, contact environmental support staff, Environmental Project Lead, or Terrestrial Zoologist to discuss whether form (i.e., application of Bat Programmatic Consultation) is appropriate for project:

- | | |
|--|---|
| <p>1 Manage Biological Resources for Biodiversity and Public Use on TVA Reservoir Lands</p> <p>2 Protect Cultural Resources on TVA-Retained Land</p> <p>3 Manage Land Use and Disposal of TVA-Retained Land</p> <p>4 Manage Permitting under Section 26a of the TVA Act</p> <p>5 Operate, Maintain, Retire, Expand, Construct Power Plants</p> | <p>6 Maintain Existing Electric Transmission Assets</p> <p>7 Convey Property associated with Electric Transmission</p> <p>8 Expand or Construct New Electric Transmission Assets</p> <p>■ 9 Promote Economic Development</p> <p>10 Promote Mid-Scale Solar Generation</p> |
|--|---|

STEP 2) Select all activities from Tables 1, 2, and 3 below that are included in the proposed project.

TABLE 1. Activities with no effect to bats. Conservation measures & completion of bat strategy project review form NOT required.		
<input checked="" type="checkbox"/> 1. Loans and/or grant awards	<input type="checkbox"/> 8. Sale of TVA property	<input type="checkbox"/> 19. Site-specific enhancements in streams and reservoirs for aquatic animals
<input type="checkbox"/> 2. Purchase of property	<input type="checkbox"/> 9. Lease of TVA property	<input type="checkbox"/> 20. Nesting platforms
<input type="checkbox"/> 3. Purchase of equipment for industrial facilities	<input type="checkbox"/> 10. Deed modification associated with TVA rights or TVA property	<input type="checkbox"/> 41. Minor water-based structures (this does not include boat docks, boat slips or piers)
<input type="checkbox"/> 4. Environmental education	<input type="checkbox"/> 11. Abandonment of TVA retained rights	<input type="checkbox"/> 42. Internal renovation or internal expansion of an existing facility
<input type="checkbox"/> 5. Transfer of ROW easement and/or ROW equipment	<input type="checkbox"/> 12. Sufferance agreement	<input type="checkbox"/> 43. Replacement or removal of TL poles
<input type="checkbox"/> 6. Property and/or equipment transfer	<input type="checkbox"/> 13. Engineering or environmental planning or studies	<input type="checkbox"/> 44. Conductor and overhead ground wire installation and replacement
<input type="checkbox"/> 7. Easement on TVA property	<input type="checkbox"/> 14. Harbor limits delineation	<input type="checkbox"/> 49. Non-navigable houseboats

TABLE 2. Activities not likely to adversely affect bats with implementation of conservation measures. Conservation measures and completion of bat strategy project review form REQUIRED; review of bat records in proximity to project NOT required.

<input checked="" type="checkbox"/> 18. Erosion control, minor	<input type="checkbox"/> 57. Water intake - non-industrial	<input type="checkbox"/> 79. Swimming pools/associated equipment
<input type="checkbox"/> 24. Tree planting	<input type="checkbox"/> 58. Wastewater outfalls	<input type="checkbox"/> 81. Water intakes – industrial
<input type="checkbox"/> 30. Dredging and excavation; recessed harbor areas	<input type="checkbox"/> 59. Marine fueling facilities	<input type="checkbox"/> 84. On-site/off-site public utility relocation or construction or extension
<input type="checkbox"/> 39. Berm development	<input type="checkbox"/> 60. Commercial water-use facilities (e.g., marinas)	<input type="checkbox"/> 85. Playground equipment - land-based
<input type="checkbox"/> 40. Closed loop heat exchangers (heat pumps)	<input type="checkbox"/> 61. Septic fields	<input type="checkbox"/> 87. Aboveground storage tanks
<input type="checkbox"/> 45. Stream monitoring equipment - placement and use	<input type="checkbox"/> 66. Private, residential docks, piers, boathouses	<input type="checkbox"/> 88. Underground storage tanks
<input type="checkbox"/> 46. Floating boat slips within approved harbor limits	<input type="checkbox"/> 67. Siting of temporary office trailers	<input type="checkbox"/> 90. Pond closure
<input checked="" type="checkbox"/> 48. Laydown areas	<input type="checkbox"/> 68. Financing for speculative building construction	<input type="checkbox"/> 93. Standard License
<input type="checkbox"/> 50. Minor land based structures	<input type="checkbox"/> 72. Ferry landings/service operations	<input type="checkbox"/> 94. Special Use License
<input type="checkbox"/> 51. Signage installation	<input type="checkbox"/> 74. Recreational vehicle campsites	<input type="checkbox"/> 95. Recreation License
<input type="checkbox"/> 53. Mooring buoys or posts	<input type="checkbox"/> 75. Utility lines/light poles	<input type="checkbox"/> 96. Land Use Permit
<input type="checkbox"/> 56. Culverts	<input type="checkbox"/> 76. Concrete sidewalks	

Table 3: Activities that may adversely affect federally listed bats. Conservation measures AND completion of bat strategy project review form REQUIRED; review of bat records in proximity of project REQUIRED by OSAR/Heritage eMap reviewer or Terrestrial Zoologist.

<input type="checkbox"/> 15. Windshield and ground surveys for archaeological resources	<input checked="" type="checkbox"/> 34. Mechanical vegetation removal, includes trees or tree branches > 3 inches in diameter	<input type="checkbox"/> 69. Renovation of existing structures
<input type="checkbox"/> 16. Drilling	<input checked="" type="checkbox"/> 35. Stabilization (major erosion control)	<input type="checkbox"/> 70. Lock maintenance/ construction
<input checked="" type="checkbox"/> 17. Mechanical vegetation removal, does not include trees or branches > 3" in diameter (in Table 3 due to potential for woody burn piles)	<input checked="" type="checkbox"/> 36. Grading	<input type="checkbox"/> 71. Concrete dam modification
<input type="checkbox"/> 21. Herbicide use	<input type="checkbox"/> 37. Installation of soil improvements	<input type="checkbox"/> 73. Boat launching ramps
<input checked="" type="checkbox"/> 22. Grubbing	<input type="checkbox"/> 38. Drain installations for ponds	<input type="checkbox"/> 77. Construction or expansion of land-based buildings
<input type="checkbox"/> 23. Prescribed burns	<input type="checkbox"/> 47. Conduit installation	<input type="checkbox"/> 78. Wastewater treatment plants
<input type="checkbox"/> 25. Maintenance, improvement or construction of pedestrian or vehicular access corridors	<input type="checkbox"/> 52. Floating buildings	<input type="checkbox"/> 80. Barge fleeting areas
<input type="checkbox"/> 26. Maintenance/construction of access control measures	<input type="checkbox"/> 54. Maintenance of water control structures (dewatering units, spillways, levees)	<input type="checkbox"/> 82. Construction of dam/weirs/ levees
<input type="checkbox"/> 27. Restoration of sites following human use and abuse	<input type="checkbox"/> 55. Solar panels	<input type="checkbox"/> 83. Submarine pipeline, directional boring operations
<input type="checkbox"/> 28. Removal of debris (e.g., dump sites, hazardous material, unauthorized structures)	<input type="checkbox"/> 62. Blasting	<input type="checkbox"/> 86. Landfill construction
<input type="checkbox"/> 29. Acquisition and use of fill/borrow material	<input type="checkbox"/> 63. Foundation installation for transmission support	<input type="checkbox"/> 89. Structure demolition
<input type="checkbox"/> 31. Stream/wetland crossings	<input type="checkbox"/> 64. Installation of steel structure, overhead bus, equipment, etc.	<input type="checkbox"/> 91. Bridge replacement
<input type="checkbox"/> 32. Clean-up following storm damage	<input type="checkbox"/> 65. Pole and/or tower installation and/or extension	<input type="checkbox"/> 92. Return of archaeological remains to former burial sites
<input type="checkbox"/> 33. Removal of hazardous trees/tree branches		

STEP 3) Project includes one or more activities in Table 3?

YES (Go to Step 4)

NO (Go to Step 12)

STEP 4) Answer questions a through e below (applies to projects with activities from Table 3 ONLY)

- a) Will project involve continuous noise (i.e., ≥ 24 hrs) that is greater than 75 decibels measured on the A scale (e.g., loud machinery)? **NO** (NV2 does not apply) **YES** (NV2 applies, subject to records review)
- b) Will project involve entry into/survey of cave? **NO** (HP1/HP2 do not apply) **YES** (HP1/HP2 applies, subject to review of bat records)
- c) If conducting **prescribed burning (activity 23)**, estimated acreage: and timeframe(s) below; **N/A**

STATE	Winter Hibernation	Winter Torpor	Spring Staging, Fall Swarming	Pup Season	Summer Gap	Year
VA, TN, NC	Nov 16 - Mar 31	N/A	Apr 1 - May 14, Aug 16 - Nov 15	May 15 - Jul 31	Aug 1 - Aug 15	
KY	Nov 16 - Mar 31	N/A	Apr 1 - May 14, Aug 16 - Nov 15	May 15 - Jul 31	Aug 1 - Aug 15	
AL, GA MS (Hibernation Range)*	Nov 16 - Mar 14	N/A	Mar 15 - Apr 30, Sept 1 - Nov 15	May 15 - Jul 31	Aug 1 - Aug 30	
MS (Year-round Range)*	N/A	Dec 15 - Feb 15	N/A	May 1 - Jul 15	Feb 16 - Apr 30, Jul 16 - Dec 14	

*MS (Year-round Range) = Attala, Wintson, Noxubee, Leake, Neshoba, Kemper, Rankin, Scott, and Newton Counties, Mississippi
 *MS (Hibernation Range) = All MS counties in the TVA Region excluding those listed above in the Year-round Range

- d) Will the project involve vegetation piling/burning? **NO** (SSPC4/ SHF7/SHF8 do not apply) **YES** (SSPC4/SHF7/SHF8 applies, subject to review of bat records)

- e) If **tree removal (activity 33 or 34)**, estimated amount: **ac** **trees** **N/A**

STATE	Winter Hibernation	Winter Torpor	Spring Staging, Fall Swarming	Pup Season	Summer Gap	Year
VA, TN, NC	Nov 16 - Mar 31	N/A	Apr 1 - May 14, Aug 16 - Nov 15	May 15 - Jul 31	Aug 1 - Aug 15	
KY	Nov 16 - Mar 31	N/A	Apr 1 - May 14, Aug 16 - Nov 15	May 15 - Jul 31	Aug 1 - Aug 15	
AL, GA MS (Hibernation Range)*	Nov 16 - Mar 14	N/A	<input checked="" type="checkbox"/> Mar 15 - Apr 30, Sept 1 - Nov 15	May 15 - Jul 31	<input checked="" type="checkbox"/> Aug 1 - Aug 30	2026
MS (Year-round Range)*	N/A	Dec 15 - Feb 15	N/A	May 1 - Jul 15	Feb 16 - Apr 30, Jul 16 - Dec 14	

*MS (Year-round Range) = Attala, Wintson, Noxubee, Leake, Neshoba, Kemper, Rankin, Scott, and Newton Counties, Mississippi
 *MS (Hibernation Range) = All MS counties in the TVA Region excluding those listed above in the Year-round Range

- If warranted, does project have flexibility for bat surveys (May 15-Aug 15): **MAYBE** **YES** **NO**

*** For **PROJECT LEADS** whose projects will be reviewed by a Heritage Reviewer (Natural Resources Organization only), **STOP HERE**. Click File/ Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date", and submit with project information. Otherwise continue to Step 5. ***

SECTION 2: REVIEW OF BAT RECORDS (applies to projects with activities from Table 3 ONLY)

- STEP 5) Review of bat/cave records conducted by Heritage Reviewer?** **YES** **NO** (Go to Step 12)

Info below completed by: **Heritage Reviewer** (name) Date
 Terrestrial Zoologist (name) Date

Species	None	Within a Distance Of:	Cave/Winter Roost	Capture	Summer Roost / Roost Tree	Within the County
Gray Bat		3 mi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Indiana Bat		10 mi			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Northern Long-Eared Bat		5 mi		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Tricolored Bat		3 mi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Virginia Big-Eared Bat	<input checked="" type="checkbox"/>	6 mi				

Amount of **SUITABLE** habitat to be removed/burned (may differ from STEP 4e): (**ac** **trees**)* **N/A**

Table 4. TVA's ESA Section 7 Programmatic Bat Consultation Required Conservation Measures

The Conservation Measures in Table 4 are automatically selected based on your choices in Tables 2 and 3 but can be manually overridden, if necessary. To Manually override, press the button and enter your name.

Check if Applies to Project	Activities Subject To Conservation Measure	Conservation Measure Description
<input checked="" type="checkbox"/>	15, 16, 17, 18, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 45, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96	NV1 - Noise will be short-term, transient, and not significantly different from urban interface or natural events (i.e., thunderstorms) that bats are frequently exposed to when present on the landscape.
<input type="checkbox"/>	16, 25, 26, 37, 47, 52, 62, 63, 64, 65, 70, 71, 73, 78, 80, 82, 83, 86, 91	NV2 - Drilling, blasting, or any other activity that involves continuous noise (i.e., longer than 24 hours) disturbances greater than 75 decibels measured on the A scale (e.g., loud machinery) within a 0.5 mile radius of documented winter and/or summer roosts (caves, trees, unconventional roosts) will be conducted when bats are absent from roost sites.
<input type="checkbox"/>	16, 26, 62	NV3 - Drilling or blasting within a 0.5 mile radius of documented cave (or unconventional) roosts will be conducted in a manner that will not compromise the structural integrity or alter the karst hydrology of the roost site.
<input type="checkbox"/>	16, 26, 62	NV4 - Drilling or blasting within 0.5 miles of a documented roost site (cave, tree, unconventional roost) that needs to occur when bats are present will first involve development of project-specific avoidance or minimization measures in coordination with the USFWS.
<input type="checkbox"/>	15, 26, 92	HP1 - Site-specific cases in which potential impact of human presence is heightened (e.g., conducting environmental or cultural surveys within a roost) will be closely coordinated with staff bat biologists to avoid/minimize impacts below any potential adverse effect. Any take from these activities would be covered by TVA's Section 10 permit.
<input type="checkbox"/>	15, 26, 92	HP2 - Entry into roosts known to be occupied by federally listed bats will be communicated to the USFWS when impacts to bats may occur if not otherwise communicated (i.e., via annual monitoring reports per TVA's Section 10 permit). Any take from these activities would be covered by TVA's section 10 permit.
<input type="checkbox"/>	23	SHF1 - Fire breaks will be used to define and limit burn scope.
<input type="checkbox"/>	17, 23, 34	SHF2 - Site-specific conditions (e.g., acres burned, transport wind speed, mixing heights) will be considered to ensure smoke is limited and adequately dispersed away from caves so that smoke does not enter cave or cave-like structures.
<input type="checkbox"/>	23	SHF3 - Acreage will be divided into smaller units to keep amount of smoke at any one time or location to a minimum and reduce risk for smoke to enter caves.
<input type="checkbox"/>	17, 23, 34	SHF4 - If burns need to be conducted when there is some potential for bats to present on the landscape and more likely to enter torpor due to colder temperatures, burns will only be conducted if the air temperature is 55° or greater, and preferably 60° or greater.
<input type="checkbox"/>	23	SHF5 - Fire breaks will be plowed immediately prior to burning, will be plowed as shallow as possible, and will be kept to minimum to minimize sediment.
<input type="checkbox"/>	23	SHF6 - Tractor-constructed fire lines will be established greater than 200 feet from cave entrances . Existing logging roads and skid trails will be used where feasible to minimize ground disturbance and generation of loose sediment.
<input type="checkbox"/>	17, 22, 23, 32, 33, 34, 35, 36	SHF7 - Burning will only occur if site specific conditions (e.g. acres burned, transport wind speed, mixing heights) can be modified to ensure that smoke is adequately dispersed away from caves or cave-like structures. This applies to prescribed burns and burn piles of woody vegetation.
<input type="checkbox"/>	17, 22, 23, 32, 33, 34, 35, 36	SHF8 - Brush piles will be burned a minimum of 0.25 mile from documented, known, or obvious caves or cave entrances and otherwise in the center of newly established ROW when proximity to caves on private land is unknown.

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<input type="checkbox"/>	17, 23, 34	SHF9 - A 0.25 mile buffer of undisturbed forest will be maintained around documented or known gray bat maternity and hibernation colony sites, documented or known Virginia big-eared bat maternity, bachelor, or winter colony sites, Indiana bat hibernation sites, northern long-eared bat hibernation sites, and tricolored bat hibernation sites. Prohibited activities within this buffer include cutting of overstory vegetation, construction of roads, trails or wildlife openings, and prescribed burning. Exceptions may be made for maintenance of existing roads and existing ROW, or where it is determined that the activity is compatible with species conservation and recovery (e.g., removal of invasive species).
<input checked="" type="checkbox"/>	33, 34	TR1* - Removal of potentially suitable summer roosting habitat during time of potential occupancy has been quantified and minimized programmatically. TVA will track and document alignment of activities that include tree removal (i.e., hazard trees, mechanical vegetation removal) with the programmatic quantitative cumulative estimate of seasonal removal of potential summer roost trees for Indiana bat and northern long-eared bat. Project will therefore communicate completion of tree removal to appropriate TVA staff.
<input type="checkbox"/>	33, 34	TR2 - Removal of suitable summer roosting habitat within 0.5 mile of Priority 1/Priority 2 Indiana bat hibernacula, 0.25 mile of Priority 3/Priority 4 Indiana bat hibernacula, 0.25 miles of any northern long-eared bat hibernacula, or 0.25 miles of any tricolored bat hibernacula will be prohibited, regardless of season, with very few exceptions (e.g., vegetation maintenance of TL ROW immediately adjacent to a known cave).
<input type="checkbox"/>	33, 34	TR3* - Removal of suitable summer roosting habitat within documented habitat (i.e., within 10 miles, 5 miles, and 3 miles of documented Indiana bat, northern long-eared bat, and tricolored bat hibernacula, respectively; within 5 miles, 1.5 miles, and 1.5 miles of documented post-white-nose syndrome Indiana bat, northern long-eared bat, and tricolored bat capture sites, respectively; and within 2.5 miles, 0.25, and 0.25 miles of documented Indiana bat northern long-eared bat, and tricolored bat post-white-nose syndrome summer roost trees, respectively) will be tracked, documented, and included in annual reporting.
<input checked="" type="checkbox"/>	33, 34	TR4* - Removal of suitable summer roosting habitat within potential habitat for Indiana bat, northern long-eared bat, and tricolored bat will be tracked, documented, and included in annual reporting. Project will therefore communicate completion of tree removal to appropriate TVA staff.
<input type="checkbox"/>	33, 34	TR5* - In areas where northern long-eared bat and tricolored bat remain active year-round, continuing to roost in trees, tree removal within documented habitat (1.5 miles of northern long-eared bat and tricolored bat post-white nose syndrome captures sites, and 0.25 miles of northern long-eared bat and tricolored bat post-white-nose syndrome roosts) will be tracked, documented, and included in annual reporting.
<input type="checkbox"/>	33, 34	TR6 - Removal of any trees within 0.25 miles of a documented Indiana bat maternity roost tree, or post-white nose syndrome northern long-eared bat or tricolored bat maternity summer roost tree or the roost tree itself during pup season, will first require a site-specific review and assessment. If pups are present in trees to be removed (determined either by mist netting and assessment of pregnant, lactating, or post lactating adult females, or by visual assessment of trees following evening emergence counts for Indiana bats and northern long-eared bats), TVA will coordinate with the USFWS to determine how to avoid direct and minimize indirect impacts to pups to the extent possible. This may include establishment of artificial roosts before loss of roost tree(s).
<input type="checkbox"/>	33, 34	TR7 - In areas where northern long-eared bat and tricolored bat remain active year-round, continuing to roost in trees, tree removal within 0.25 miles of documented post-white-nose syndrome northern long-eared bat or tricolored bat roosts during winter torpor TVA will coordinate with the USFWS to determine how to avoid direct and minimize indirect impacts to pups to the extent possible.
<input type="checkbox"/>	33, 34	TR8 (Existing Transmission ROW only) - Tree removal within 100 feet of existing transmission ROWs will be limited to hazard trees. On or adjacent to TLs, a hazard tree is a tree that is tall enough to fall within an unsafe distance of TLs under maximum sag and blowout conditions and/or are also dead, diseased, dying, and/or leaning. Hazard tree removal includes removal of trees that 1) currently are tall enough to threaten the integrity of operation and maintenance of a TL or 2) have the ability in the future to threaten the integrity of operation and maintenance of a TL.
<input type="checkbox"/>	33, 34	TR9 (TVA Reservoir Land only) - Requests for removal of hazard trees on or adjacent to TVA reservoir land will be inspected by staff knowledgeable in identifying hazard trees per International Society of Arboriculture and TVA's checklist for hazard trees. Approval will be limited to trees with a defined target.
<input type="checkbox"/>	33, 34	TR10 - If removal of suitable summer roosting habitat occurs when bats are present on the landscape, a funding contribution (based on amount of habitat removed) towards future conservation and recovery efforts for federally listed bats would be carried out. Project can consider seasonal bat presence/absence surveys (mist netting or emergence counts) that allow for positive detections without resulting in increased constraints in cost and project schedule. This will enable TVA to contribute to increased knowledge of bat presence on the landscape while carrying out TVA's broad mission and responsibilities.

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<input type="checkbox"/>	<p>69, 77, 89, 91</p>	<p>AR1 - Projects that involve structural modification or demolition of buildings, bridges, and potentially suitable box culverts, will require assessment to determine if structure has characteristics that make it a potentially suitable unconventional bat roost. If so a survey to determine if bats may be present will be conducted following the USFWS Survey Guidelines. Structural assessment will include:</p> <ul style="list-style-type: none"> ○ Visual check that includes an exhaustive internal/external inspection of building to look for evidence of bats (e.g., bat droppings, roost entrance/exit holes); this can be done at any time of year, preferably when bats are active. ○ Where accessible and health and safety considerations allow, a survey of roof space for evidence of bats (e.g., droppings, scratch marks, staining, sightings), noting relevant characteristics of internal features that provide potential access points and roosting opportunities. Suitable characteristic may include: gaps between tiles and roof lining, access points via eaves, gaps between timbers or around mortise joints, gaps around top and gable end walls, gaps within roof walling or around tops of chimney breasts, and clean ridge beams. ○ Features with high-medium likelihood of harboring bats but cannot be checked visually include soffits, cavity walls, space between roof covering and roof lining. ○ Applies to culverts that are at least 23 feet in length with one or more of the following characteristics that make the culvert potentially suitable: <ul style="list-style-type: none"> ● Minimum culvert entrance height/diameter 3 feet ● Openings protected from high winds ● Not susceptible to enough flooding that the remaining unflooded space would be less than 3 feet. ● Inner areas relatively dark with roughened walls or ceilings (this may include corrugated metal culverts with rusting walls) ● Crevices, weep holes, imperfections, or swallow nests ○ Bridge survey protocols will be adapted from the latest USFSW Survey Guidelines. ○ Bat surveys usually are NOT needed in the following circumstances: <ul style="list-style-type: none"> ● Domestic garages /sheds with no enclosed roof space (with no ceiling) ● Modern flat-roofed buildings ● Metal framed and roofed buildings ● Buildings where roof space is regularly used (e.g., attic space converted to living space, living space open to rafters) or where all roof space is lit from skylights or windows. Large/tall roof spaces may be dark enough at apex to provide roost space
<input type="checkbox"/>	<p>69, 77, 89, 91</p>	<p>AR2 - Additional bat P/A surveys (e.g., emergence counts) conducted if warranted (i.e., when AR1 indicates that bats may be present).</p>
<input type="checkbox"/>	<p>91</p>	<p>AR3 - Bridge survey protocols will be implemented, either by permittee (e.g., state DOT biologists) or qualified personnel. If a bridge is determined to be in use as an unconventional roost per the latest USFWS Guidelines, subsequent protocols will be implemented.</p>
<input type="checkbox"/>	<p>69, 89</p>	<p>AR4 - Removal of buildings with suitable roost characteristics within six miles of known or presumed occupied roosts for Virginia big-eared bat would occur between Nov 16 and Mar 31. Buildings may be removed other times of the year once a bat biologist evaluates a buildings' potential to serve as roosting habitat and determines that this species is not present and/or is not using structure(s).</p>

Project Review Form - TVA Bat Strategy (04/2025)

<p align="center">□</p>	<p>16, 17, 18, 21, 22, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 56, 61, 62, 63, 64, 65, 67, 69, 84, 89</p>	<p>SSPC1 (Transmission only) - Transmission actions and activities will continue to Implement A Guide for Environmental Protection and Best Management Practices for Tennessee Valley Authority Construction and Maintenance Activities. This focuses on control of sediment and pollutants, including herbicides. Following are key measures:</p> <ul style="list-style-type: none"> ○ BMPs minimize erosion and prevent/control water pollution in accordance with state-specific construction storm water permits. BMPs are designed to keep soil in place and aid in reducing risk of other pollutants reaching surface waters, wetlands and ground water. BMPs will undertake the following principles: <ul style="list-style-type: none"> ● Plan clearing, grading, and construction to minimize area and duration of soil exposure. ● Maintain existing vegetation wherever and whenever possible. ● Minimize disturbance of natural contours and drains. ● As much as practicable, operate on dry soils when they are least susceptible to structural damage and erosion. ● Limit vehicular and equipment traffic in disturbed areas. Keep equipment paths dispersed or designate single traffic flow paths with appropriate road BMPs to manage runoff. ● Divert runoff away from disturbed areas. ● Provide for dispersal of surface flow that carries sediment into undisturbed surface zones with high infiltration capacity and ground cover conditions. ● Prepare drainage ways and outlets to handle concentrated/increased runoff. ● Minimize length and steepness of slopes. Interrupt long slopes frequently. ● Keep runoff velocities low and/or check flows. ● Trap sediment on-site. ● Inspect/maintain control measures regularly & after significant rain. ● Re-vegetate and mulch disturbed areas as soon as practical. ○ Specific guidelines regarding sensitive resources and buffer zones: <ul style="list-style-type: none"> ● Extra precaution (wider buffers) within SMZs is taken to protect stream banks and water quality for streams, springs, sinkholes, and surrounding habitat. ● BMPs are implemented to protect and enhance wetlands. Select use of equipment and seasonal clearing is conducted when needed for rare plants; construction activities are restricted in areas with identified rare plants. ● Standard requirements exist to avoid adverse impacts to caves, protected animals, unique/ important habitat (e.g., cave buffers, restricted herbicide use, seasonal clearing of suitable habitat).
<p align="center">■</p>	<p>16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 52, 53, 54, 55, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 70, 71, 73, 76, 77, 78, 80, 81, 82, 83, 86, 87, 88, 89, 90</p>	<p>SSPC2 - Operations involving chemical/fuel storage or resupply and vehicle servicing will be handled outside of riparian zones (streamside management zones) in a manner to prevent these items from reaching a watercourse. Earthen berms or other effective means are installed to protect stream channel from direct surface runoff. Servicing will be done with care to avoid leakage, spillage, and subsequent stream, wetland, or ground water contamination. Oil waste, filters, other litter will be collected and disposed of properly. Equipment servicing and chemical/fuel storage will be limited to locations greater than 300-ft from sinkholes, fissures, or areas draining into known sinkholes, fissures, or other karst features.</p>

Project Review Form - TVA Bat Strategy (04/2025)

<p align="center">□</p>	<p>16, 17, 18, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 73, 76, 77, 80, 81, 82, 83, 84, 86, 87, 88, 89, 90, 91</p>	<p>SSPC3 (Power Plants only) - Power Plant actions and activities will continue to implement standard environmental practices. These include:</p> <ul style="list-style-type: none"> ○ Best Management Practices (BMPs) in accordance with regulations: <ul style="list-style-type: none"> ● Ensure proper disposal of waste, ex: used rags, used oil, empty containers, general trash, dependent on plant policy ● Maintain every site with well-equipped spill response kits, included in some heavy equipment ● Conduct Quarterly Internal Environmental Field Assessments at each sight ● Every project must have an approved work package that contains an environmental checklist that is approved by sight Environmental Health & Safety consultant. ● When refueling, vehicle is positioned as close to pump as possible to prevent drips, and overfilling of tank. Hose and nozzle are held in a vertical position to prevent spillage ○ Construction Site Protection Methods <ul style="list-style-type: none"> ● Sediment basin for runoff - used to trap sediments and temporarily detain runoff on larger construction sites ● Storm drain protection device ● Check dam to help slow down silt flow ● Silt fencing to reduce sediment movement ○ Storm Water Pollution Prevention (SWPP) Pollution Control Strategies <ul style="list-style-type: none"> ● Minimize storm water contact with disturbed soils at construction site ● Protect disturbed soil areas from erosion ● Minimize sediment in storm water before discharge ● Prevent storm water contact with other pollutants ● Construction sites also may be required to have a storm water permit, depending on size of land disturbance (>1ac) ○ Every site has a Spill Prevention and Control Countermeasures (SPCC) Plan and requires training. Several hundred pieces of equipment often managed at the same time on power generation properties. Goal is to <ul style="list-style-type: none"> ● Minimize fuel and chemical use ● Ensure proper disposal of waste, ex: used rags, used oil, empty containers, general trash, dependent on plant policy ● Maintain every site with well-equipped spill response kits, included in some heavy equipment ● Conduct Quarterly Internal Environmental Field Assessments at each sight ● Every project must have an approved work package that contains an environmental checklist that is approved by sight Environmental Health & Safety consultant. ● When refueling, vehicle is positioned as close to pump as possible to prevent drips, and overfilling of tank. Hose and nozzle are held in a vertical position to prevent spillage ○ Construction Site Protection Methods <ul style="list-style-type: none"> ● Sediment basin for runoff - used to trap sediments and temporarily detain runoff on larger construction sites ● Storm drain protection device ● Check dam to help slow down silt flow ● Silt fencing to reduce sediment movement ○ Storm Water Pollution Prevention (SWPP) Pollution Control Strategies <ul style="list-style-type: none"> ● Minimize storm water contact with disturbed soils at construction site ● Protect disturbed soil areas from erosion ● Minimize sediment in storm water before discharge ● Prevent storm water contact with other pollutants ● Construction sites also may be required to have a storm water permit, depending on size of land disturbance (>1ac) ○ Every site has a Spill Prevention and Control Countermeasures (SPCC) Plan and requires training. Several hundred pieces of equipment often managed at the same time on power generation properties. Goal is to minimize fuel and chemical use
<p align="center">□</p>	<p>17, 22, 32, 33, 34, 35, 36</p>	<p>SSPC4 (Transmission only) - Woody vegetation burn piles associated with transmission construction will be placed in the center of newly established ROWs to minimize wash into any nearby undocumented caves that might be on adjacent private property and thus outside the scope of field survey for confirmation. Brush piles will be burned a minimum of 0.25 miles from documented caves and otherwise in the center of newly established ROW when proximity to caves on private land is unknown.</p>

Project Review Form - TVA Bat Strategy (04/2025)

■	17, 18, 21, 22, 24, 25, 26, 30, 31, 33, 34, 35, 36, 40, 46, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 66, 67, 68, 69, 70, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 87, 88, 91, 93, 95, 96	SSPC5 (26a, Solar, Economic Development only) - Section 26a permits and contracts associated with solar projects, economic development projects or land use projects include standards and conditions that include standard BMPs for sediment and contaminants as well as measures to avoid or minimize impacts to sensitive species or other resources consistent with applicable laws and Executive Orders.
□	21, 54	SSPC6 - Herbicide use will be avoided within 200 ft of portals associated with caves, cave collapse areas, mines and sinkholes are capable of supporting cave-associated species. Herbicides are not applied to surface water or wetlands unless specifically labeled for aquatic use. Filter and buffer strips will conform at least to federal and state regulations and label requirements.
□	17, 21, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 54, 55	SSPC7 - Clearing of vegetation within a 200-ft radius of documented caves will be limited to hand or small machinery clearing only (e.g., chainsaws, bush-hog, mowers). This will protect potential recharge areas of cave streams and other karst features that are connected hydrologically to caves.
■	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	L1 - Direct temporary lighting away from suitable habitat during the active season.
■	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	L2 - Evaluate the use of outdoor lighting during the active season and seek to minimize light pollution when installing new or replacing existing permanent lights by angling lights downward or via other light minimization measures (e.g., dimming, directed lighting, motion-sensitive lighting).

¹Bats addressed in consultation (04/2018) and updates (05/2023 and 10/2024), which includes gray bat (listed in 1976), Indiana bat (listed in 1967), northern long-eared bat (listed in 2015), tricolored bat (anticipated listing in the future), and Virginia big-eared bat (listed in 1979).

NOTES (additional info from field review, explanation of no impact or removal of conservation measures).

STEP 13) Save completed form (Click File/Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date") in project environmental documentation (e.g. CEC, Appendix to EA) AND send a copy of form to batstrategy@tva.gov
Submission of this form indicates that Project Lead/Applicant:

Brittany Kunkle

(name) is (or will be made) aware of the requirements below.

- Implementation of conservation measures identified in Table 4 is required to comply with TVA's Endangered Species Act programmatic bat consultation.
- TVA may conduct post-project monitoring to determine if conservation measures were effective in minimizing or avoiding impacts to federally listed bats.

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- For projects that require use of Take and/or contribution to TVA's Bat Conservation Fund, Terrestrial Zoologist acknowledges that Project Lead/Contact has been informed that project will result in use of Incidental Take ac trees and that use of Take will require \$ 1450 contribution to TVA's Conservation Fund upon completion of activity (amount entered should be \$0 if cleared in winter).

Terrestrial Zoologist acknowledges that Project Lead/Contact (name) **Brittany Kunkle** has been informed of any relevant conservation measures and/or provided a copy of this form.

Terrestrial Zoologist Acknowledgment. Finalize and Print to Non-Editable PDF