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# **INVESTPREP GRANT PROPOSAL FOR PROPOSED ALLEN SPRINGS SITE**

## **ENVIRONMENTAL ASSESSMENT**

**Allen County, Kentucky**

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## **1.0 PROPOSED ACTION AND NEED**

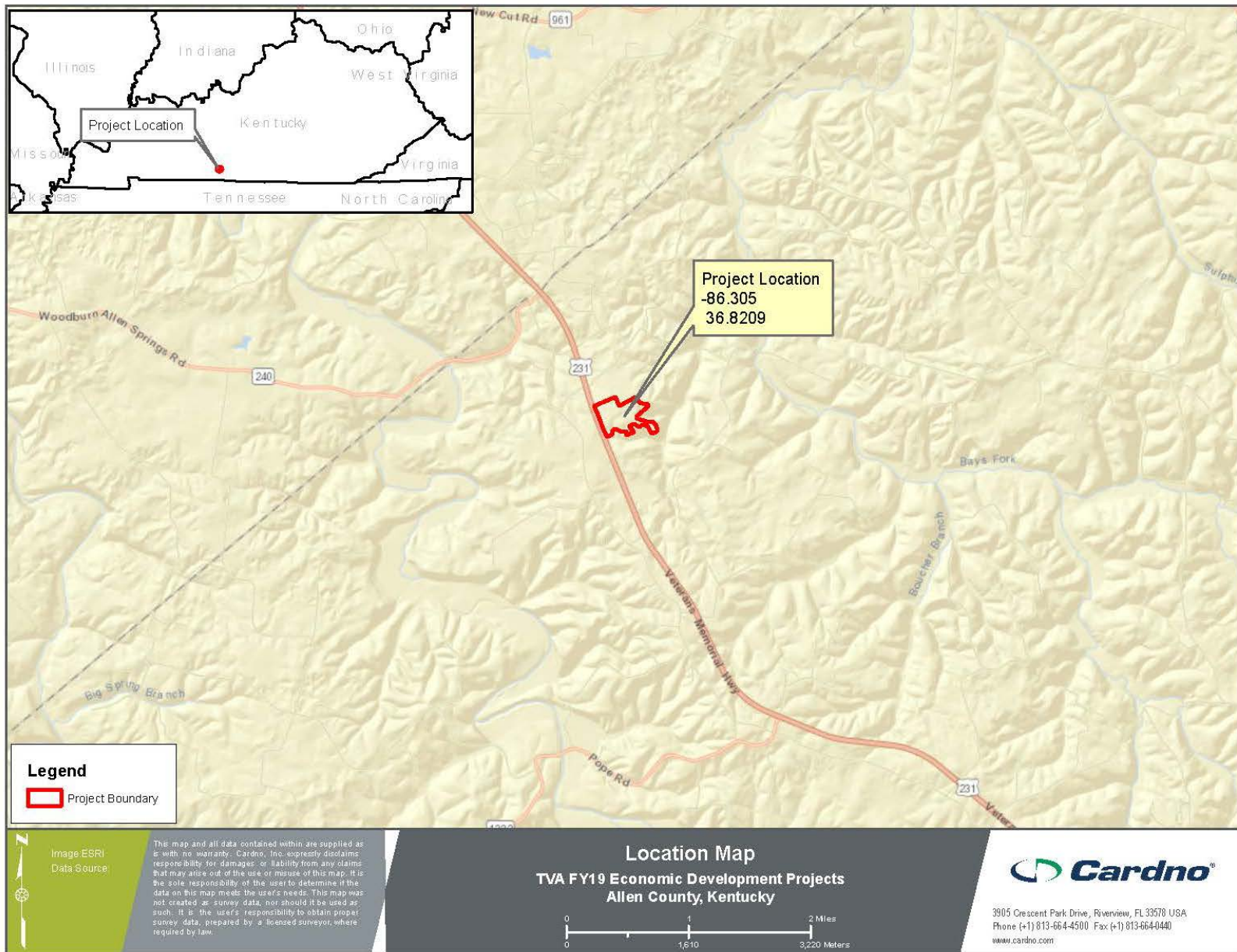
An integral part of Tennessee Valley Authority's (TVA) mission is to promote economic development within the TVA service area. TVA provides financial assistance to help bring to market new/improved sites and facilities within the TVA service area and position communities to compete successfully for new jobs. TVA proposes to provide an economic development grant through TVA InvestPrep funds to the Allen County-Scottsville Industrial Development Authority to assist with completing due diligence studies and an electrical resistivity investigation, remediating a sinkhole, creating a grading plan, grading the site, constructing a building pad, designing and constructing of entrance signage, and constructing an access road, herein referred to as TVA-funded activities. The site of the Proposed Action is located at the intersection of Highway 231 and Johnson Road in Allen County, Kentucky near Scottsville, Kentucky (see Figure 1 below and Attachment 1, Figure 1-A) and is comprised of an approximately 60-acre portion, herein referred to as the Project Area, of the larger Allen Springs Site, a 136-acre property.

The primary purpose of the Proposed Action is to enable the Allen County-Scottsville Industrial Development Authority to improve the marketability of the Allen Springs Site by assisting with the activities stated above. The Allen County-Scottsville Industrial Development Authority will use non-TVA funding for approximately 30 percent of the total cost of the Proposed Action. TVA is proposing to fund approximately 70 percent of the cost of the Proposed Action. TVA's decision is whether or not to provide the requested funding to the Allen County-Scottsville Industrial Development Authority.

## **2.0 OTHER ENVIRONMENTAL REVIEWS AND DOCUMENTATION**

A Phase I Environmental Site Assessment of the 136-acre Allen Springs Site, which includes the Project Area, was performed consistent with the procedures included in ASTM E 1527-13 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process) by American Engineers, Inc. (AEI) in December 2011 (AEI 2011). The primary purpose of the Phase I Environmental Site Assessments was to identify the presence of recognized environmental concerns or other environmental liabilities within the Project Area. A Geophysical Study of the 136-acre Allen Springs Site was performed by AEI in July 2018 (AEI, 2018). The primary purpose of the Geophysical Study was to explore the general site and subsurface conditions within the Project Area. The Phase I Environmental Site Assessment and Geophysical Study were used in the preparation of this Environmental Assessment.

Figure



### **3.0 ALTERNATIVES**

Internal scoping by TVA has determined there are two feasible alternatives available to TVA, the No Action Alternative and the Action Alternative, which are described below.

#### **3.1 No Action Alternative**

Under the No Action Alternative, TVA would not provide TVA InvestPrep funds to the Allen County-Scottsville Industrial Development Authority to improve the marketability of the Allen Springs Site. TVA would not satisfy its mission of promoting economic development within the TVA service area at this specific site and would not position this specific community to compete successfully for new jobs. The Allen County-Scottsville Industrial Development Authority could presumably seek alternate funding (if available) to complete the site/environmental due diligence, installation of signage, development of a grading plan, sinkhole remediation, roadway construction, and construction of a building pad for the Project Area, which would result in similar impacts and benefits of the Action Alternative.

If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described above, the land use at the site would likely remain unchanged, no direct environmental impacts would be anticipated, and the economic benefits associated with the Action Alternative would not be realized.

#### **3.2 Action Alternative**

Under the Action Alternative, TVA would provide TVA InvestPrep funds to the Allen County-Scottsville Industrial Development Authority to support the improvement of the marketability of the Project Area for future use as an industrial park by completing the TVA-funded activities listed in Section 1. These activities would include completion of site/environmental due diligence, and the installation of a sign, development of a grading plan, sinkhole remediation, roadway construction, grading, and construction of a compacted dirt building pad for the Project Area (see Attachment 1, Figure 1-G). The Action Alternative would require disturbance of approximately 60 acres during installation or implementation of proposed TVA-funded activities. These activities would result in clearing of approximately 2.74 acres of forestland containing mixed-deciduous trees. Site activities required for the Action Alternative would occur over an approximately 18 month period and would involve operation of an excavator, bulldozer, motor grader, road roller, dump truck, or similar vehicles and heavy machinery. TVA's preferred alternative is the Action Alternative.

The Allen County-Scottsville Industrial Development Authority or its contractors are expected to implement best management practices (BMPs) and best construction practices, to minimize or reduce negative potential environmental impacts of the Action Alternative. These practices would include, but would not be limited to, the installation of sediment and erosion controls (silt fences, sediment traps, etc.); the management of fugitive dust; and the restriction of only allowing work during day time work hours.

The Action Alternative would not include activities directly associated with the eventual build-out, occupation, and future use of the industrial park. While it is unlikely that future industrial development would disturb (grading, vegetation removal, etc.) the entire 136-acre Allen Springs site, TVA assumed future disturbance of the entire Project Area as a conservative approach for

purposes of assessing cumulative impacts in this Environmental Assessment. Cumulative Impacts are discussed in Section 5 of this Environmental Assessment.

## **4.0 AFFECTED ENVIRONMENT AND ANTICIPATED IMPACTS**

### **4.1 Site Description**

The Project Area is located on approximately 60 acres in Allen County, Kentucky, east of US-231, approximately one mile south of the community of Allen Springs near Scottsville, Kentucky. The current land uses within the Project Area consist of agricultural open pasture with a few scattered trees within an open grass (non-pasture) area, and small areas of forest on the north and south perimeters. The majority of the site is currently being used as agricultural pasture.

Structures observed on historic aerial imagery of the Project Area have been removed and at the time of field surveys there were no other structures existing within the Project Area. The Halton Company is currently building a facility on 20 acres within the Allen Springs Site adjacent to the Project Area. The facility will be located at the corner of Highway 231 and Johnson Road and construction is scheduled to be complete in 2019. Adjacent land parcels to the Project Area are currently utilized for agriculture with some residential properties mixed within the agricultural setting. There is no zoning designation for the Project Area as there are no zoning requirements outside of city limits in Allen County, Kentucky, but the Project Area is within an established industrial park.

The topography of the Project Area is gentle rolling hills with steeper slopes of mixed hardwood trees on the southern and southeastern boundary (Attachment 1, Figure 1-B). Intermittent and ephemeral drainage features exist on the perimeter of the site which transport water off the property (Attachment 1, Figure 1-C). A small isolated wetland feature exists at the bottom of a sinkhole on the north side of the site. Potential roost trees for Indiana bat and northern long-eared bat are located within 2.74 acres of suitable roost habitat on the Project Area.

### **4.2 Impacts Evaluated**

TVA has determined that the Proposed Action, would have no impact on floodplains, natural and managed areas, land use and prime farmland, public recreation opportunities, solid and hazardous wastes, Nationwide Rivers Inventory streams, or Wild and Scenic Rivers. Therefore, potential impacts to these resources are not described in further detail in this Environmental Assessment.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, 21003C0125C, the Project Area is located in Zone X, defined as areas outside the 500-year floodplain (FEMA 2007) (Attachment 1, Figure 1-D). Since the Project Area is not located within the FEMA 100-year floodplain, the Proposed Action would not affect floodplains in the area and therefore is in compliance with Executive Order (EO) 11988.

A review of data from the TVA Natural Heritage Database and the Office of Kentucky Nature Reserves Natural Heritage Program Database indicated that there are no Natural Areas (defined as places dominated by native vegetation that have various levels of potential for harboring high quality natural resources and unique features) within the Project Area.

There are no developed public recreation areas or managed areas in the vicinity of the Project Area.



No evidence of hazardous materials were observed in the Project Area during the December 2011 Phase 1 Environmental Site Assessments. No demolition or waste disposal activities are associated with the Action Alternative.

No United States National Park Service, Nationwide Rivers Inventory river segments (USNPS 2019) or Wild and Scenic River segments (WSR 2019) are located within the Project Area.

Resources that could potentially be impacted (negatively or positively) directly, indirectly or cumulatively by implementing the Action Alternative include air quality and climate change, biological resources (vegetation, wetlands, water resources and water quality, wildlife, aquatic ecology, threatened and endangered species), archaeological and historical resources, visual resources, noise, socioeconomics and environmental justice communities, transportation resources, and safety. Potential impacts to these resources resulting from implementation of the Action Alternative are discussed in detail below.

#### **4.2.1 Air Quality and Climate Change**

Ambient air quality is protected by federal and state regulations. With authority granted by the Clean Air Act (CAA) 42 U.S.C. 7401 et seq. as amended in 1977 and 1990, the United States Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) to protect human health (primary standards) and public welfare (secondary standards)<sup>1</sup>. The USEPA codified NAAQS in 40 CFR 50 for the following “criteria pollutants<sup>2</sup>”: nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), lead (Pb), particulate matter (PM) with an aerodynamic diameter equal to or less than 10 microns (PM<sub>10</sub>), and PM with an aerodynamic diameter equal to or less than 2.5 microns (PM<sub>2.5</sub>). These NAAQS reflect the relationship between pollutant concentrations and health and welfare effects. The air quality in Allen County, Kentucky meets the ambient air quality standards and is designated in attainment with respect to the criteria pollutants (USEPA 2018).

Other pollutants, such as hazardous air pollutants (HAPs) and greenhouse gases (GHGs) are also a consideration in air quality impacts analyses.

Hazardous air pollutants (HAPs) are those that are listed under Section 112(b) of the CAA because they present a threat of adverse human health effects or adverse environmental effects. The CAA requires the USEPA to regulate HAPs from listed categories of industrial facilities.

GHGs are gases that trap heat in the atmosphere. They are non-toxic and non-hazardous at normal ambient concentrations, and there are no applicable ambient air quality standards or emission limits for GHGs under the CAA. GHGs occur in the atmosphere both naturally and as a result of 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 primary GHGs are carbon dioxide (CO<sub>2</sub>), methane, and nitrous oxide.

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<sup>1</sup> Additional air pollutants such as VOCs and HAPs are regulated through other components of the CAA.

<sup>2</sup> The current NAAQS are listed on USEPA’s website at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.

Air quality impacts associated with the proposed TVA-funded activities under the Action Alternative would include emissions from fossil fuel-fired equipment; fugitive dust from ground disturbances; and emissions associated from the burning of wood debris.

Fossil fuel-fired equipment are a source of combustion emissions, including nitrogen oxides (NO<sub>x</sub>), CO, volatile organic compounds (VOCs), SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, GHGs, and small amounts of HAPs. Gasoline and diesel engines used as a result of the Proposed Action would comply 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).

Fugitive dust is a source of respirable airborne PM, including PM<sub>10</sub> and PM<sub>2.5</sub>, 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 Allen County-Scottsville Industrial Development Authority and its contractors are expected to comply with 401 Kentucky Administrative Regulations (KAR) 63:010, which requires reasonable precautions to prevent PM from becoming airborne. Such reasonable precautions include, but are not limited to, the use of water or chemicals for control of dust in construction operations, the grading of roads, or the clearing of land; the application and maintenance of asphalt, oil, water, or suitable chemicals on roads, materials stockpiles, and other surfaces which can create airborne dusts; and the covering of open bodies trucks transporting materials likely to become airborne.

Ground-level open burning emissions are affected by many variables, including wind, ambient temperature, composition and moisture content of the debris burned, and compactness of the pile. In general, the relatively low temperatures associated with open burning increase emissions of NO<sub>x</sub>, CO, VOCs, PM<sub>10</sub>, PM<sub>2.5</sub>, GHGs, and HAPs. The Allen County-Scottsville Industrial Development Authority and its contractors are expected to obtain local burn permits and would comply with Title 401 KAR 63:005, which provides open burning prohibitions, limitations and restrictions.

With the use of BMPs and other required measures to reduce emissions associated with the Proposed Action, air quality impacts would be minimal, temporary, and localized; and would not be expected to impact regional air quality or result in any violation of applicable ambient air quality standards.

With regard to climate change, trees, like other green plants, are carbon sinks that use photosynthesis to convert CO<sub>2</sub> into sugar, cellulose, and other carbon-containing carbohydrates that they use for food and growth. The process by which carbon sinks remove CO<sub>2</sub> from the atmosphere is known as carbon sequestration. Although forests do release some CO<sub>2</sub> from natural processes such as decay and respiration, a healthy forest typically stores carbon at a greater rate than it releases carbon. The removal of approximately 2.74 acres of land containing trees for the Action Alternative would result in a minor loss of carbon sequestration capacity in the area.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, similar emissions associated from equipment, ground disturbances, and burning would occur, resulting in similar air quality and climate change impacts as those described above for the

Action Alternative. In addition, indirect impacts similar to those described above could occur. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, emissions associated from equipment, ground disturbances, and burning would not occur, and no trees would be removed. Consequently, there would be no impact to air quality and climate change from the No Action Alternative.

## 4.2.2 Biological Resources

### 4.2.2.1 Vegetation

Aerial photographs, site photographs, and topographic maps, were reviewed to preliminarily identify the vegetative communities present within the Project Area. Following review of available data, a field survey was conducted on December 19, 2018 to verify these vegetative communities. The Project Area consists of four vegetation communities: open pasture (49.96 acres), wetland (0.01 acre), mixed-deciduous forest (2.74 acres), and open grass (7.44 acres). Individual trees scattered throughout the property and along the boundary would be cleared for site grading, construction of site building pad, or new roadway construction.

Vegetation within the open pasture areas consisted primarily of grasses that have been maintained either by cattle grazing, mowing, tilling, presumably for hay production. Open grass areas contain other grasses that are maintained aside from cattle pasture, typically residential lawns and yards from the residential setting previously located within the Project Area.

Vegetation within the wetland community consisted of a monoculture of common spike rush (*Eleocharis palustris*). The area immediately surrounding the wetland contains broom sedge (*Andropogon virginicus*). The wetland area appears to be isolated and located within the bottom of the sinkhole and is maintained by regular mowing.

The forested areas consist of a mix of successional to mature hardwood forest, forested fence rows, and scattered mature trees. The site is bounded by forest to the north, south, and southeast (see Attachment 1, Figure 1-A). Tree species observed included sugar maple (*Acer saccharum*), honey locust (*Gleditsia triacanthos*), bur oak (*Quercus macrocarpa*), southern red oak (*Quercus falcata*), black cherry (*Prunus serotina*), common hackberry (*Celtis occidentalis*), tulip poplar (*Liriodendron tulipifera*), black walnut (*Juglans nigra*), and red cedar (*Juniperus virginiana*). Understory is sparse with some saw greenbrier (*Smilax bona-nox*).

The residential structures formerly located in the open grass area have been removed. Vegetation within the open grass area consisted of maintained grasses with a few scattered trees, such as honey locust and common hackberry.

Implementation of the Action Alternative would require the removal of the scattered mature trees within the open grass area as well as trees along the boundary of the property. The Action Alternative would require the removal of 2.74 acres of forest. Review of aerial imagery shows that the deciduous forest habitat is common and well represented throughout the region and in the immediate vicinity of the Project Area. Implementation of the Action Alternative would have a negligible impact on vegetation of the region.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, similar minor tree clearing and vegetation removal would occur, resulting in negligible impact on

vegetation in the region as described above for the Action Alternative. In addition, indirect impacts, similar to those described above could occur. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, tree clearing would not occur and it is anticipated that the existing site conditions would be maintained, resulting in no impacts to vegetation.

#### 4.2.2.2 Wetlands

Aerial photographs, site photographs, topographic maps, the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), the United States Geological Survey (USGS) National Hydrography Dataset (NHD), and the NRCS Soils and Soil Survey Geographic (SSURGO)/State Soil Geographic (STATSGO) databases were reviewed to determine if wetlands were potentially present within the Project Area. Attachment 1, Figure 1-E depicts NWI data for the Project Area. Following review of available data, a field survey was conducted to delineate wetlands within the Project Area. The wetland delineation was performed using the routine on-site determination methods described in the Corps of Engineers Wetlands Delineation Manual (United States Army Corps of Engineers [USACE], Environmental Laboratory 1987) and is consistent with the methods, guidelines, and indicators present in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Regional Supplement USACE 2012). One emergent wetland was delineated during the December 19, 2018 field survey. Attachment 1, Figure 1-C depicts the delineated wetland for the Project Area.

The wetland is located within a previously identified sinkhole area. This sinkhole area is in a depression with no connection to waters of the U.S. Vegetation within the wetland was dominated by common spike rush (*Eleocharis palustris*), and the area immediately surrounding the wetland was dominated by broom sedge (*Andropogon virginicus*). Due to the lack of connection, this wetland should be considered to be an isolated feature, pending formal determination by the USACE.

The Action Alternative includes sinkhole remediation, site grading, construction of a compacted dirt building pad, and new roadway. The sinkhole remediation plan will impact 0.1 acre of non-jurisdictional wetland through the placement of fill material gathered during grading of the site to the desired contours. There is no practical or feasible alternative to the placing of fill within the 0.1 acre of non-jurisdictional wetland as the sinkhole remediation is part of the Proposed Action. All practical measures to avoid wetland areas have been considered. Therefore the Proposed Action would be in compliance with EO 11990.

Regarding wetland impacts related to the sinkhole mitigation, Executive Order 11990 (Protection of Wetlands) requires avoidance, to the greatest extent practicable, of both long and short-term impacts associated with the destruction, modification, or other disturbance of wetland habitats. Section 404 of the Clean Water Act (CWA) of 1972 regulates discharges of dredged and fill materials into waters of the U.S. and is administered by the United States Army Corps of Engineers (USACE). The USACE makes the final determination as to the jurisdictional status of a wetland within a project area. Section 401 of the CWA regulates water quality and, in Kentucky, is administered by Kentucky Division of Water (KDOW). KDOW relies on the USACE decision regarding wetland determinations and delineations including whether or not a wetland is isolated or non-isolated. KDOW does not regulate or issue permits for isolated wetland impacts. Any dredge or fill activities that would occur within a wetland must comply with the

above mentioned regulations. Coordination with USACE to obtain an approved jurisdictional determination and to confirm the non-jurisdictional status of the wetland for the Project is expected to be required. Compensatory mitigation for the impact of placement of fill material into an isolated non-jurisdictional wetland is not required by the USACE.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, similar direct and indirect impacts to wetlands could occur during future expansion of the Allen Springs Site Commerce Park. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, it is anticipated that the existing site conditions would be maintained, resulting in no impacts to wetlands.

#### **4.2.2.3 Water Resources and Water Quality**

Aerial photographs, site photographs, topographic maps, the USFWS NWI, the USGS NHD, and the NRCS SSURGO/STATSGO databases were reviewed to determine the water resources potentially present within the Project Area. Following review of available data, a field survey was conducted to delineate water resources present within the Project Area.

Waterbodies within the Project Area were identified by the presence of an Ordinary High Water Mark (OHWM). The top of bank or the centerline of the channels or edge of ponds was geographically located by using global positioning systems (GPS) capable of sub-meter accuracy. Information was collected on each waterbody including flow type (e.g., perennial, intermittent, or ephemeral), substrate type (mud/silt, sand, gravel, large rock, boulder, and/or bedrock), and channel width and depth. During the field survey, the following categories of waterbodies were evaluated for the Project:

- Traditional Navigable Water (TNW) – All those waters that are subject to the ebb and flow of the tide, and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. For the purposes of this Project, TNWs are those identified in List of Navigable Waters of the United States (WOTUS) within the Nashville District;
- Perennial Stream – A waterbody expected to have continuous year-round flow, with a well-defined OHWM, and sometimes (but not always) indicated on the USGS Quadrangle as a solid blue line;
- Intermittent Stream – A waterbody expected to have seasonal flow with seasonal flow defined as continuous flow for a consecutive period of at least three months, with a defined OHWM, and sometimes (but not always) indicated on the USGS Quadrangle as a dashed blue line;
- Ephemeral Stream – A watercourse expected to only have flow of short duration after a rainfall event, often with an ill-defined OHWM and channel, usually not indicated on the USGS Quadrangles; and
- Pond – A basin or area of non-flowing water where water is expected to pool on at least a seasonal basis defined as pooling for a consecutive period of at least three months, with a well-defined OHWM, hydrophyte vegetation may be present, in some cases man-made or altered, and may be indicated on the USGS Quadrangles.

Waterbodies were examined to determine if they were WOTUS regulated by the USACE under Section 404 of the CWA or Section 10 of the Rivers and Harbors Act (RHA). All features identified are located within the Barren Watershed (8-digit Hydrologic Unit Code [HUC] 0511002), and Streams 2 through 5 are within the Lower Bays Fork Subwatershed (12-digit HUC051100020404).

Water resources identified within the Project Area consisted of one intermittent stream and four ephemeral streams (Attachment 1, Figure 1-C). These areas comprise 312 linear feet of intermittent stream and 499 linear feet of ephemeral streams. The intermittent stream and three of the four ephemeral streams, flow offsite into an unnamed tributary of Bays Fork, which eventually flow into Barren River. As such Stream 2, Stream 3, Stream 4, and Stream 5 should be considered WOTUS. Stream 1 flows offsite and loses bed and bank definition and has no surface water connection to WOTUS. Due to the lack of connection, Stream 1 should be considered an isolated feature.

Impacts to WOTUS on the Project Area include grading and clearing the vegetative buffers of Streams 2, 3, 4, and 5. Grading and clearing the vegetative buffers of Stream 1 would also occur; however Stream 1 should be considered an isolated feature and would not be considered a WOTUS. The USACE is the regulatory authority that must make the final determination as to the jurisdictional status of the Project water resources. Impacts to WOTUS would require adherence to Section 404 Nationwide Permit (NWP) 39 conditions. Compensatory mitigation would be required for impacts greater than 300 linear feet. If the Proposed Action does not meet the conditions of a NWP, an Individual Permit would be required. Submittal of an "Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification" to the KDOW for compliance under Section 401 of the CWA would be required for impacts to Stream 5, as it is classified as an intermittent stream and impacts exceed 300 linear feet.

Stormwater runoff (discharge) from Kentucky construction sites is regulated under section 402 of the CWA. Section 402 addressees the National Pollutant Discharge Elimination System (NPDES) permitting program. In conjunction with the NPDES, Kentucky enforces a state general permit Kentucky Pollutant Discharge Elimination System (KPDES). Project Area owners or operators whose construction projects involve land disturbing activities that meet the size standards for either large (greater than 5 acres) or small (greater than 1 acres but less than 5 acres) construction activities are required to seek coverage under the Kentucky Construction General Permit (KCGP). Allen County-Scottsville Industrial Development Authority is expected to submit a Notice of Intent (NOI) to utilize the KCGP prior to the start of construction. This permit requires the development and implementation of a BMP Plan.

During construction of the access road, site grading, pad construction, and entrance signage, applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) are expected to be employed and activities would be accomplished in compliance with applicable storm water permitting requirements. Direct and indirect impacts to local surface water quality including vegetation disturbance, sedimentation, and increased turbidity from the Action Alternative are anticipated to be temporary and minor. Removing the adjacent lands from pasture use and animal waste associated with cattle, will have a beneficial impact on water quality by reducing bacteria and nutrient loads into the streams.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment,

access road and gas line construction disturbances would occur, resulting in similar impact on water resources and water quality as described above for the Action Alternative. In addition, indirect impacts, similar to those described above could occur. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the-funded actions described in this Environmental Assessment, the activities would not occur and existing site conditions would likely be maintained resulting in no impact to water resources and water quality.

#### **4.2.2.4 Wildlife**

Aerial photographs, site photographs, and topographic maps were reviewed to determine the habitat types potentially present within the Project Area. Following review of available data, a field survey was conducted to verify habitat types present within the Project Area. Main habitat types present within the Project Area consist of open pasture (49.96 acres), wetland (0.01 acre), mixed-deciduous forest (2.74 acres), and open grass (7.44 acres).

Common inhabitants of pasture include brown-headed cowbird, song sparrow, common grackle, mourning dove, eastern meadowlark, wild turkey, and field sparrow (Cornell Lab of Ornithology 2019). Bobcat, coyote, eastern cottontail, and red fox are mammals typical of fields and cultivated land (Kays and Wilson 2002). Reptiles including northern copperhead and southern black racer are also known to occur in this habitat type (Dorcas and Gibbons 2005). Species observed within the pasture areas during the field survey of the Project Area included mourning dove and northern harrier.

Common bird species found in mixed-deciduous forest include blue jay, northern cardinal, brown thrasher, and gray catbird (Cornell Lab of Ornithology 2019). This habitat type also provides foraging and roosting habitat for several species of bat, particularly in areas where the forest understory is partially open. Common bat species likely found within this habitat include big brown bat, eastern red bat, silver-haired bat, and tricolored bat. Eastern chipmunk, gray fox, and woodland vole are other mammals likely to occur within this habitat type (Kays and Wilson 2002). Black kingsnake, black rat snake, and ring-necked snake are common reptiles of deciduous forests in this region (Conant and Collins 1998, Dorcas and Gibbons 2005). Species or their sign observed within the deciduous forest area during the field survey of the Project Area included white-tailed deer, common raccoon, Virginia opossum, eastern gray squirrel, blue jay, and northern cardinal.

No caves were identified during the bat habitat assessment field survey on December 19, 2018 (Jackson Group 2019). No cave records are known within three miles of the Project Area. The sinkhole that occurs in the action area is not associated with a cave. In addition, no aggregations of migratory birds or wading bird colonies have been documented within three miles of the Project Area and none were observed during the field survey. A search of the USFWS' Information for Planning and Consultation (IPaC) system resulted in no identified migratory birds of conservation concern that are expected to occur at this location.

Under the Action Alternative, 2.74 acres of forest habitat, 49.96 acres of open pasture, 0.01 acre of wetland, and 7.44 acres of open grass would be cleared for the construction of the access road and site grading. Wildlife (primarily common species) currently using this forested habitat would be displaced by tree removal and grading activities and would likely relocate to other nearby forested areas. Direct impacts to immobile individuals may occur, particularly if clearing activities take place during breeding/nesting seasons. However, construction activities on the

Project Area are not likely to impact populations of species common to the area, as similarly forested habitat exists in abundance in the surrounding landscape.

The landscape on which the Project Area occurs is already highly fragmented and impacted by human activity (e.g., maintained cattle pastures, agriculture crop lands, and roads). However, since similar habitat exists in abundance in the surrounding landscape and tree clearing would remove only a small area of trees from an already highly fragmented area, impacts from the Proposed Action are not expected to affect populations of species common to the area.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, tree clearing disturbances and habitat removal would occur, resulting in similar impact to wildlife species as described above for the Action Alternative. In addition, indirect impacts, similar to those described above could occur. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, tree clearing disturbances and habitat removal would not occur and existing site conditions would likely be maintained resulting in no impact to wildlife species.

#### **4.2.2.5 Aquatic Ecology**

Aerial photographs, site photographs, topographic maps, the USFWS NWI, the USGS NHD, and the NRCS SSURGO/STATSGO databases were reviewed on desktop to determine the water resources and associated aquatic habitat potentially present within the Project Area. Following review of available data, a field survey was conducted to confirm the resources present within the Project Area.

Aquatic habitat within the Project Area consists of one intermittent and four ephemeral streams (Attachment 1, Figure 1-C) based on physical stream characteristics such as water flow, vegetation, stream bed and bank morphology, and wildlife utilization. These water resources within the Project Area included 312 linear feet of intermittent stream and 499 linear feet of ephemeral headwater streams. Three of the four ephemeral streams identified within the Project Area function as drainages and have flow for only part of the year, with limited associated aquatic habitat. Streams 4 and 5 are more natural channels and although they have ephemeral and intermittent flow, may provide some marginal habitat for some aquatic species.

Headwater systems including ephemeral and intermittent streams offer a large array of habitats for plant, animal, and microbial life. Species utilizing headwater streams include bacteria, fungi, algae, higher plants, invertebrates, fish, amphibians, birds and mammals. Large amounts of organic matter enter these streams which is retained in wet periods in a channels or debris dams which decompose and supply food sources for animals such as caddis flies, snails, and crustaceans (Meyer et al. 2003). Other habitats include vegetation in the stream bed and along the stream banks, exposed roots, and gravel bars.

Under the Action Alternative, in the absence of a formal site grading plan, this Environmental Assessment assumed that all of the identified streams would be impacted by grading and clearing activities. Clearing trees along these streams would reduce the amount of organic matter entering the streams, with an associated reduction in habitat for invertebrates and food sources for larger aquatic species. Removal of trees would also reduce shade for aquatic species present in the waterways when wetted. However, since the streams on site flow for



only part of the year and do not provide high quality aquatic habitat, these impacts would be minor.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, disturbances within the Project Area would occur, resulting in similar impact to aquatic species as described above for the Action Alternative. In addition, indirect impacts, similar to those described could occur. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, disturbances associated with Project Area would not occur and existing site conditions would likely be maintained resulting in no impact to aquatic species.

#### **4.2.2.6 Threatened and Endangered Species**

The Endangered Species Act (ESA) provides broad protection for species of fish, wildlife, and plants that are listed as threatened or endangered in the United States or elsewhere. The ESA outlines procedures for federal agencies to follow when taking actions that may jeopardize federally listed species or their designated critical habitat. The policy directs federal agencies to conserve endangered and threatened species and use their authorities in furtherance of the ESA's purposes. The Commonwealth of Kentucky provides protection for species considered threatened, endangered, or deemed in need of management within the state in addition to those federally listed under the ESA.

Cardno, Inc. (Cardno) completed a HUC-wide review of the TVA Natural Heritage database in addition to requesting a search of the Kentucky Natural Heritage Program Database. The database identified five federally and state-listed, seven state-listed, and five state-tracked species (TVA 2019) within the Lower Bays Fork Subwatershed (HUC-12 051100020404). These species are summarized in **Table 4-1** below.

**Table 4-1: Records of Federal and State-Listed Plant and Animal Species from Allen County, Kentucky and/or within the HUC-12 Watershed of the Project Area<sup>1</sup>**

Common Name	Scientific Name	Element Rank <sup>2</sup>	Status <sup>3</sup>	
			Federal	State (Rank) <sup>4</sup>
Plants				
American Water-pennywort	Hydrocotyle americana	X	NL	E (S1)
Fishes				
Longhead Darter	Percina macrocephala	H?	NL	E (S1)
Mountain Brook Lamprey	Ichthyomyzon greeleyi	H?	NL	T (S2)
Southern Cavefish	Typhlichthys aubterraneus	H	NL	TRKD (S2S3)
Stargazing Minnow	Phenacobius uranops	H?	NL	TRKD (S2S3)
Mussels				
Clubshell	Pleurobema clava	X	E	E (S1)
Kentucky Creekshell	Villosa lienosa	X	NL	TRKD (NR)
Little Spectaclecase	Villosa lienosa	H	NL	TRKD (S3S4)
Pyramid Pigtoe	Pleurobema rubrum	D	NL	E (S1)
Snuffbox mussel <sup>5</sup>	Epioblasma triquetra	None	E	E
Mollusks				
Bottlebrush Crayfish	Barbicambarus cornutus	D	NL	TRKD (S2)
Mammoth Cave Crayfish	Orconectes pellucidus	D	NL	TRKD (S3)
Mammals				
Gray Bat <sup>5</sup>	Myotis grisescens	A, AC	T	E (S2)
Indiana bat <sup>5</sup>	Myotis sodalis	H	E	E (S1)
Northern long-eared bat <sup>56</sup>	Myotis septentrionalis	None	T	T (S1S2)
Birds				
Bald Eagle	Haliaeetus leucocephalus	BC	DM	T (S2B, S2S3N)

<sup>1</sup>Source: Kentucky Natural Heritage Program Database, letter dated January 21, 2019; USFWS IPaC Online System (<http://ecos.fws.gov/ecos/home.action>); and TVA Natural Heritage database, extracted January 7, 2019.

<sup>2</sup>Element Rank: H? = Possible Historical; H = Historical (Element occurrence is greater than 25 years old); E = Extirpated; D = Poor Viability; BC = Good or Fair Viability A = Excellent Viability C = Fair Viability; X = Extirpated

<sup>3</sup>Status Codes: E = Listed Endangered; T = Threatened; DM = Delisted Taxon; TRKD = Tracked by State Natural Heritage program

<sup>4</sup>State Rank: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; NR = Not Ranked

<sup>5</sup> Federally listed species known from Allen County, KY but not within three miles of the Project Area.

<sup>6</sup> Federally listed species thought to occur statewide though no records are known from Allen County, KY.

In addition, an official species list was generated by the USFWS IPaC Online System on December 10, 2018 (USFWS, 2018a). The USFWS identified three mammals (all bats) and one mussel as potentially occurring within the Project Area (**Table 4-2**).

**Table 4-2: USFWS IPaC List of Federally Listed Terrestrial and Aquatic Species Potentially within the Project Area**

Common Name	Scientific Name	Federal Status
<b>Mammals</b>		
Gray Bat	<i>Myotis grisescens</i>	Endangered
Indiana Bat	<i>Myotis sodalis</i>	Endangered
Northern long-eared bat	<i>Myotis septentrionalis</i>	Endangered
<b>Mussels</b>		
Snuffbox Mussel	<i>Epioblasma triquetra</i>	Endangered

A request was sent to the Office of Kentucky Nature Preserves to check the Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants and animals or exemplary natural communities monitored by the Office of Kentucky Nature Preserves occur within the general Project area. No occurrences of monitored species or natural communities were identified within the Project Area.

The water resources delineated within the Project Area do not provide the required habitat(s) for the federal and/or state protected aquatic species identified by the USFWS or TVA Regional Natural Heritage Database queries. Therefore, implementation of the Action Alternative would not impact federal or state-listed aquatic species (e.g., fish, mussels/clams, amphibians, and snails).

Bald eagles generally nest in mature or old-growth trees, snags (dead trees), cliffs, and rock promontories nest near coastlines, rivers, and large lakes where there is an adequate food supply. Preferred bald eagle nest habitat is not present within the Project Area. The nearest record of a bald eagle nest is 12.5 miles away. The proposed TVA-funded activities are in compliance with the National Bald Eagle Management Guidelines; therefore no impacts to this species are anticipated.

The USFWS has determined that the federally threatened northern long-eared bat and the federally endangered Indiana bat and gray bat have the potential to occur throughout the state of Tennessee. Forested habitat represent potential suitable roosting for Indiana bat and northern long-eared bat; and suitable for foraging habitat for all three bat species. Adjacent area streams, wetlands, pasture, and open grass lands serve as multiple sources of potential foraging habitat for all three bat species.

Implementation of the Action Alternative would remove 2.74 acres of forest within the Project Area, including the ten potential roost trees for Indiana bat and northern long-eared bat identified by the Jackson Group (Attachment 1, Figure 1-H [Jackson Group, 2019]).

No caves or other winter roosting habitat was identified in the Project Area or would be impacted by the Proposed Action. Winter roosting habitat for federally listed bats would not be impacted under the Action Alternative. Trees proposed for removal do offer foraging habitat for Indiana bat and northern long-eared bats that forage above, within, and alongside forested fragments. Aquatic resources to be impacted also provide suitable foraging habitat for Indiana bat, northern long-eared bat, as well as gray bat.

A number of activities associated with the Proposed Action, including vegetation removal and grubbing and grading, were addressed in TVA's programmatic consultation with the USFWS on routine actions and federally listed bats in accordance with ESA Section 7(a)(2) and completed in April, 2018. For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. Therefore, direct and indirect impacts to federally-listed bat species are expected to be minor. These activities and associated conservation measures are identified in the TVA Bat Strategy Project Screening Form (Attachment 2).

The Allen County-Scottsville Industrial Development Authority is expected to communicate completion of tree removal to appropriate TVA staff. Removal of suitable summer roosting habitat within potential habitat for Indiana bat or northern long-eared bat is expected to be tracked, documented, and included in annual ESA consultation reporting. Removal of suitable habitat is currently planned to occur between October 15 and March 31. If timing of removal changes, and removal of suitable summer roosting habitat occurs when bats may be present on the landscape, a funding contribution towards future conservation and recovery efforts for federally listed bats is expected to be carried out.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, indirect impacts, similar to those described above could occur. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, it is anticipated that the existing site conditions would be maintained, resulting in no impact to federally or state-listed wildlife and aquatic species

#### **4.2.3 Archaeological and Historical Resources**

Historic and cultural resources, including archaeological resources, are protected under federal laws, including: the Archaeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, and the National Historic Preservation Act (NHPA). Section 106 of the NHPA requires federal agencies to consult with the respective State Historic Preservation Officer (SHPO) when proposed federal actions could affect these resources. TVA contracted with Cardno to conduct a Phase I Archaeological Investigation and a Cultural Historic Survey that included both an assessment of standing structures as well as archaeological survey of the Project Area (Hinder et al., 2019; Simpson et al., 2019).

The Area of Potential Effect (APE) for cultural resources consists of the entire 60-acre Project Area and an unobstructed half-mile viewshed surrounding the property. For the Cultural Historic Survey, background research at the Kentucky Heritage Council (KHC) and Kentucky Office of State Archaeology (OSA) was conducted to identify previously recorded cultural resources within the general area surrounding the APE. Research identified within 1.2 miles of the Project Area sixteen archaeological sites, three cemeteries, and fourteen historic structures, one of which is listed in the NRHP. No previously recorded archeological resources or historic structures eligible for listing in the NRHP were identified within the APE.

The Phase I archaeological field survey resulted in the identification of five Isolate Prehistoric Finds (Isolate Find 1, 4, 5, 7, and 8), three Isolate Historic Finds (Isolate Find 2, 3 and 6), and one small multicomponent prehistoric and historic scatter (Isolate Find 9) (**Table 4-3**). All of the Isolate Finds lack or have marginal depositional integrity and are not likely to yield additional information important to the prehistory or history of Allen County, Kentucky. Based upon the lack of integrity and research potential, none of these finds is recommended as eligible to the

NHRP, and no additional work is recommended. Isolate Find 9 also possesses marginal depositional integrity and is not likely to yield additional information important to the prehistory or history of Allen County, Kentucky. While more intense than the other isolates identified at the site, the historic materials lack integrity and appear to represent secondary trash disposal related to the Wix Farm complex that has since been demolished. Based upon the lack of integrity and research potential, Isolate Find 9 is recommended as ineligible to the NHRP, and no additional work is recommended.

**Table 4-3. Archaeological Resources Identified during the Survey.**

Cultural Resource Number	Description	Eligibility Recommendation
Isolate Find 1	Unidentified Prehistoric Isolate	Ineligible
Isolate Find 2	Historic- Post 1910	Ineligible
Isolate Find 3	Historic Isolate	Ineligible
Isolate Find 4	Unidentified Prehistoric Isolate	Ineligible
Isolate Find 5	Unidentified Prehistoric Isolate	Ineligible
Isolate Find 6	Historic Isolate- Post 1910	Ineligible
Isolate Find 7	Unidentified Prehistoric Isolate	Ineligible
Isolate Find 8	Unidentified Prehistoric Isolate	Ineligible
Isolate Find 9	Unidentified Prehistoric Isolate/ Historic 20 <sup>th</sup> Century	Ineligible

The architectural survey documented and assessed nine architectural resources (**Table 4-4**) within the APE. Property types ranged from single residences to farmsteads and individual barns. None of the resources were recommended as eligible for listing in the NRHP.

**Table 4-4. Architectural Resources Identified during the Survey.**

KHC Structure Number	Property Type	Status	NRHP Eligibility Status	Criteria
AL336	House	Good	Not eligible	N/A
AL337	House	Good	Not eligible	N/A
AL338	Farmstead	Good	Not eligible	N/A
AL339	Farmstead	Good	Not eligible	N/A
AL340	House	Good	Not eligible	N/A
AL341	House	Good	Not eligible	N/A
AL342	House	Poor	Not eligible	N/A
AL343	Barn	Poor	Not eligible	N/A
AL344	Barn	Good	Not eligible	N/A

TVA determined that no archaeological or historic properties would be affected by the Proposed Action. TVA consulted with the Kentucky SHPO in a letter dated February 26, 2019 regarding

TVA's findings of no effect. In an email dated March 29, 2019, Kentucky SHPO concurred with TVA's finding of no effect. A formal letter of concurrence is pending. (Attachment 2).

Pursuant to 36 CFR §800.3(f) (2), TVA also consulted with federally recognized Indian tribes regarding properties that may have religious and cultural significance to the tribes and be eligible for the NRHP. TVA received no responses from the federally recognized Indian tribes regarding the proposed undertaking.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, no direct or indirect impacts to cultural resources would occur. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, it is anticipated that the existing site conditions would be maintained, also resulting in no impacts to archaeological and historic resources.

#### **4.2.4 Visual Resources**

The visual landscape surrounding the Project Area consists primarily of flat to gently rolling open land and forested land. These areas are interspersed with residences and stand-alone commercial developments.

The Project Area is primarily bordered by forested and agricultural land to the north, east and south. There is a continuous stand of trees on the southern and eastern perimeter of the Project Area, which creates a visual screen.

Only approximately 1,000 feet of the northernmost edge of the parcel and approximately 1,500 feet of the western edge of the parcel lack visual screening. The nearest residences in the unscreened northern direction are separated by two paved local roads and approximately 3,000 feet from the closest edge of the Project Area.

US Route 231, a divided four-lane highway, runs along the western edge of the Project Area. Approximately 1,000 feet further west of US Route 231 is Bowling Green Road, a local road. These roads run approximately north-south adjacent to the Project Area. Occasional residential and commercial buildings are located off these roads.

Visual impacts could occur from the presence of vehicles and heavy equipment during construction of the access road and building pad, as well as activities related to signage posting, sinkhole remediation, tree clearing and site grading. However, due to existing tree lines to the south and east, activity associated with Project components would not be visible, or would only be minimally visible, from these directions. Project related activity may be partially visible from the residences approximately 3,000 feet to the north. Project activities may also be visible to businesses and residences to the west of the Project Area, although only across a 4-lane highway. However, since this view from the west is interrupted by a highway, the additional level of visual impact caused by Project-related activities is expected to be minimal. Project activities would also be visible to motorists from the highway. However this represents a transient visual impact as the approximately 1,500 feet of shared length between the Project Area and the highway is traversed in less than 16 seconds at the posted 65 mile per hour speed limit.

For the reasons detailed above, changes in visual quality resulting from implementation of the Action Alternative would be minor.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, construction of project components would occur, resulting in similar direct and indirect impacts as described above for the Action Alternative. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, construction of project components would not occur and existing site conditions would likely be maintained resulting in no visual quality impacts.

#### **4.2.5 Noise**

Sound is mechanical energy transmitted by pressure waves in media such as air or water (FTA, 2006). When the sound level becomes excessive, annoying, or unwanted, it is referred to as “noise.” Noise may be continuous (constant noise at a steady level), steady (constant noise with a fluctuating level), impulsive (having a high peak of short duration), stationary (occurring from a fixed source), intermittent (at intervals of high and low levels), or transient (occurring at different levels).

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 Project area are primarily associated with traffic along Highway 231 and surrounding residential and agricultural activities.

Noise impacts associated with remediation of the sinkhole area and installation of signage, roads, and building pad under the Action Alternative would be primarily from construction equipment. Construction equipment noise levels are temporary and rarely steady; they fluctuate depending on the number and type of vehicles and equipment in use at any given time. In addition, 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.

Residences within approximately 3,000 feet of the Project Area may be affected by the noise. However, the noise would be localized and temporary, and no receptor would be exposed to significant noise levels for an extended period of time. The anticipated noise levels resulting from construction equipment would not differ substantially from equipment that is in regular use in the surrounding area from agricultural activities, such as mowers. Further, construction activities would be conducted during daylight hours only, when ambient noise levels are often higher and most individuals are less sensitive to noise. Thus, noise-related impacts resulting from implementation of the Action Alternative are anticipated to be temporary and minor.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, construction of project components would occur, resulting in similar temporary and minor noise-related impact as described above for the Action Alternative. In addition, indirect impacts, similar to those described could occur. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, construction of project components would not occur and existing site conditions would likely be maintained resulting in no noise-related impacts.

#### 4.2.6 Socioeconomic Conditions and Environmental Justice

According to estimates from the United States Census Bureau (2019), the population of Bowling Green<sup>3</sup> is 67,067 and the population of Allen County, Kentucky is 20,933 (see **Table 4-5**). Approximately 71 percent of the residents of Bowling Green are white while approximately 14 percent are black or African American. In addition, Asian and Hispanic/Latino (of any race) residents represent 4.9 and 6.9 percent of the Bowling Green population, respectively. More than 95 percent of the residents of Allen County are white. Hispanic or Latino residents comprise 2.0 percent of the population, while Black or African American residents comprise 1.2 percent of the population.

Overall, Bowling Green has somewhat higher levels of minority populations than Allen County and Kentucky. Allen County has lower levels of minority populations than Kentucky as a whole.

**Table 4-5: Project Region Race and Ethnicity <sup>1</sup>**

	Kentucky	Allen County	Bowling Green
Population	4,454,189	20,933	67,067
White Alone, not Hispanic or Latino	84.6%	95.2%	71.3%
Black or African American Alone	8.4%	1.2%	13.7%
American Indian and Alaska Native Alone	0.3%	0.3%	0.1%
Asian Alone	1.6%	0.3%	4.9%
Native Hawaiian and Other Pacific Islander Alone	0.1%	Z	0.4%
Two or More Races	1.9%	1.4%	3.3%
Hispanic or Latino (of any race)	3.7%	2.0%	6.9%
1 - Source: United States Census Bureau (2019)			
Z - Value greater than zero but less than half unit of measure shown			

**Table 4-6** provides summary information on population, income, and employment in the region of the Project Area. The population of Bowling Green, Allen County, and Kentucky all increased from 2010 to 2017, with Bowling Green having the greatest percent change.

Within Bowling Green, the median household income is approximately \$40,000 and the per capita income is approximately \$21,000. These levels are similar to those in Allen County where the median household income is approximately \$41,000 and the per capita income is

<sup>3</sup> The Project Area is located approximately 8 miles from Scottsville, Kentucky and approximately 13 miles from Bowling Green, Kentucky. While the town of Scottsville could serve as suitable indicator of socioeconomic factors for the Project Area, its population of less than 5,000 individuals precludes certain data availability from United States Census Bureau tools. In addition, data that are available are associated with large margins of error. Therefore, this analysis evaluates relevant socioeconomic indicators of Kentucky, Allen County, and the city of Bowling Green. Of note, Bowling Green is located in Warren County the border of which is approximately 2 miles from the Project Area.



approximately \$22,000. These income measures for both Bowling Green and Allen County are lower than Kentucky as a whole. The percentage of residents whose income is less than the poverty level is 26.4 percent in Bowling Green and 21.8 percent Allen County. These levels exceed the statewide average of 17.2 percent.

**Table 4-6: Population, Income, and Employment in the Project Region**

	Kentucky	Allen County	Bowling Green
<b>Population <sup>1</sup></b>			
2010 Population <sup>2</sup>	4,339,367	19,956	58,067
2017 Population <sup>2</sup>	4,454,189	20,933	67,067
Percentage Change	2.6%	4.8%	+13.8%
People / Square Mile	109.9	58.0	1,536.9
<b>Income <sup>1</sup></b>			
Median Household Income	46,535	\$40,598	\$39,901
Per Capita Income	25,888	\$21,652	\$21,427
Percent of People Whose Income is Less Than the Poverty Level	17.2%	21.8%	26.4%
<b>Employment (2017) <sup>3</sup></b>			
Labor Force	2,052,374	8,954	82,383
Employed	1,952,068	8,589	78,875
Unemployed	100,306	365	3,509
Unemployment Rate	4.9%	4.1%	4.3%
1 – Source: United States Census Bureau (2019) 2 – 2010 Population as of April. 2017 Population as of July. 3 – Employment data from United States Bureau of Labor Statistics (2018).			

The unemployment rate for Allen County was estimated as 4.1 percent by the Bureau of Labor Statistics. This is similar to the unemployment rate of 4.3 percent in Bowling Green. Both Allen County and Bowling Green have unemployment rates that are slightly lower than the statewide average of 4.9 percent.

The local community consists of greater proportions of minority and low income populations than surrounding county and statewide level. Proposed Action activities would require a small workforce and would last for approximately 18 months. The workforce would likely arise from existing contractors working on similar projects in the region. Thus, implementation of the Action Alternative is not anticipated to materially impact the local economy or workforce. The region of the Project Area consists of greater proportions of residents with incomes below the federal poverty level, as compared to the state. In addition, the region of the Project Area consists of higher rates of minority populations than the county or state, based on available data from Bowling Green. However, as no negative socioeconomic impacts are expected from the

project, no disproportionate negative impacts are anticipated to minority or economically disadvantaged populations as a result of the Action Alternative. Positive Indirect impacts may be noted through the increase in jobs as a result of the Action Alternative.

The No Action Alternative would be expected to result in no negative impact to socioeconomic conditions and environmental justice in the region regardless of whether or not the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, construction of project would not occur and potential direct and indirect beneficial economic impacts to the local economy and workforce would not be realized.

#### **4.2.7 Transportation**

The primary site entrance is on the west side of the Project Area, near mile marker 7.3 of Veterans Memorial Highway (US Highway 231). Veterans Memorial Highway is a dual carriageway highway defined as a rural principal arterial road as defined by Kentucky Department of Transport (KDOT) mapping. This section of the highway is orientated north-west connecting Scottsville, Kentucky to the south and Bowling Green, Kentucky to the north.

Based on preliminary review of Google streetview images (recorded July 2018) and field surveys in December 2018, the highway is in good condition, marked, with a paved external verge. The speed limit for the highway in the area is 65 miles per hour. The site entrance is located near the crest of a very slight incline of the highway to the south, with vegetation in either the median or highway fringe, with unimpeded visibility from the site entrance in both directions of the highway.

The site entrance is located on an existing highway crossover providing access to both directions of the highway for the site, and for a local road opposite the site entrance on the west side of the highway. The local road services a small rural area with one existing commercial business, expected to produce minor traffic volumes. There are no turning lanes in either direction for traffic entering or leaving the site, however there is a paved verge for turning northbound traffic from the highway.

The site entrance configuration should consider safe sight distances and other safety concerns for traffic entering Veterans Memorial Highway from the property. It is expected that normal care would be taken by workers entering and leaving Veterans Memorial Highway with regards to traffic safety.

Based on a review of KDOT historical traffic data (2016), there is a traffic count station roughly 0.1 miles north of the site entrance on Veterans Memorial Highway; Station 002809 on Route 002 (US 231). The 2016 annual average daily traffic count (AADT) for this station is 8,868.

The nearest road intersections with Veterans Memorial Highway to the site entrance are:

- Approximately 1.3 miles north of the site entrance is the intersection with Woodburn Allen Springs Road (KY 240) a west oriented minor collector road with 2017 AADT of 645;
- Approximately 1.8 miles south of the site entrance is the intersection with Halfway Halifax Road (KY 1332) a north-east oriented minor collector road with 2015 AADT of 324.

In the context of existing AADT highway volumes, the anticipated traffic generated by development of the Project Area would be manageable. It is anticipated that implementation of the Action Alternative would have a negligible impact on overall traffic volumes and level of service for Veterans Memorial Highway (US 231). In accordance with KDOT Traffic Impact Study Requirements, if the proposed development generates less than 100 vehicles per hour during its peak hour of operation the impacts may be considered insignificant, otherwise a traffic study will likely need to be prepared in later design stages. Traffic generated by development of the Proposed Action is anticipated to generate far less than 100 vehicles per hour, resulting in insignificant impacts.

Under the No Action Alternative, if the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment, construction of project components would occur, resulting in negligible direct and indirect impact on overall traffic volumes and level of service as described above for the Action Alternative. If the Allen County-Scottsville Industrial Development Authority were not able to secure the funding for the actions described in this Environmental Assessment, construction of project components would not occur and existing site conditions would likely be maintained resulting in no traffic-related impacts.

#### **4.2.8 Safety**

Hazards associated with construction activities at the Project Area include:

- Working near underground utilities and existing above ground electrical connections which are within the site;
- Use of heavy machinery, equipment and moving vehicles;
- General construction site risks related to sinkhole remediation, signage installation, road construction, tree clearing, and site grading; and
- Working near an existing sinkhole which may pose safety concerns relating to ground stability and around surface water features.

It is expected that hazards associated with site preparation and construction activities would be suitably addressed using standard safety precautions. Prior to ground disturbance at the Project Area, it is expected that the location of underground utilities would be identified and necessary precautions would be taken to avoid damage or disturbance of underground utilities. Similarly, it is expected that above ground electrical connections would be avoided where they are near areas of tree clearing or access roads.

Other safety precautions expected to be implemented include the safe use of heavy machinery associated with clearing activities and safe felling of large trees. Particular care would be taken with regards to burning of woody debris on site and applicable fire safety precautions would be undertaken to manage fires at all times. On-site burning would be conducted in accordance with a local burn permit, to be obtained by the Allen County-Scottsville Industrial Development Authority or its contractors.

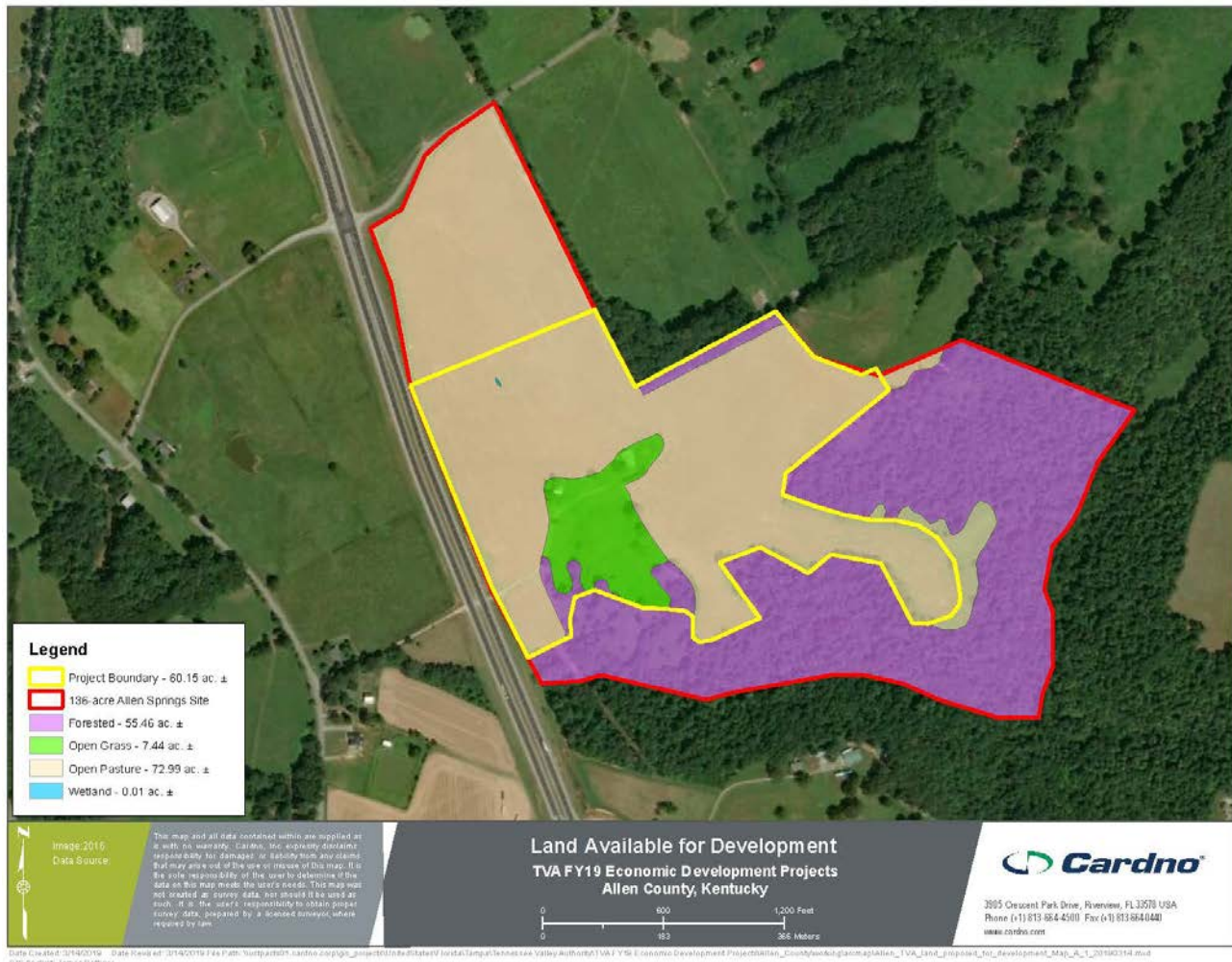
Natural hazards would also be acknowledged, most notably through stability related to the sinkhole on site. In addition safe practices around the existing wetlands and surface water features would be implemented in accordance with standard construction permits. Risks posed by existing livestock or wildlife would be considered in work practices where relevant.

The No Action Alternative would result in no safety-related impacts or hazards regardless of whether or not the Allen County-Scottsville Industrial Development Authority were able to secure the funding for the actions described in this Environmental Assessment.

## **5.0 CUMULATIVE AND REASONABLY FORESEEABLE IMPACTS**

The entire Allen Springs Site contains approximately 136 acres of land available for development with existing connections for electric power, gas, water, and sewage (TVASites.com 2019). The Project Area is located within this larger area as shown in Figure 2. The additional areas proposed for development beyond the 60-acre Project Area include steeper slopes of mixed hardwoods on the southern and southeastern boundary. From desktop analysis, the entire 136-acre Allen Springs Site appears to contain approximately 55 acres of forest land, approximately 73 acres of open pasture, approximately 8 acres of open grass, and 0.1 acres of wetlands. In addition, perennial, intermittent, and ephemeral streams appear to be present throughout the 136-acre Allen Springs Site. While it is unlikely that future industrial development would disturb (grading, vegetation removal, etc.) the entire 136 acres of available land, TVA assumed future disturbance of the entire 136-acre parcel as a conservative approach for the purposes of assessing cumulative impacts.

A review of available information from the KDOT, Allen County Chamber of Commerce, Allen County-Scottsville Industrial Development Authority, and the City of Scottsville, was also conducted to identify other developments that could potentially contribute to cumulative impacts in combination with those from the Action Alternative. This review revealed no other additional planned, under construction, or recently completed projects in the immediate vicinity of the Project Area (KDOT 2019, Allen County Chamber of Commerce 2019, Allen County-Scottsville Industrial Development Authority 2019, City of Scottsville 2019).



**Figure 2: Recently Completed, Current, and Planned Projects**

Resources that could be cumulatively impacted by the Proposed Action and the future Allen Springs Site are: air quality and climate change, biological resources, visual resources, noise, socioeconomic conditions and environmental justice, and transportation. Based on preliminary review and analysis provided in this EA, TVA has determined that the Proposed Action would have no impact on floodplains, natural and managed areas, land use and prime farmland, archaeological and historic resources, public recreation opportunities solid and hazardous wastes, Nationwide Rivers Inventory streams, Wild and Scenic Rivers, or Safety as discussed in Section 4. Therefore, these resources are not considered in this cumulative impacts assessment.

## 5.1 Air Quality and Climate Change

Future activities at the entire 136-acre site would produce air pollutants during site preparation and development of new roads and buildings through the use of fossil fuel-fired equipment, fugitive dust from ground disturbances, and emissions associated with burning of wood debris. The use of BMPs and adherence to federal, state, and local regulations would minimize air emissions.

Individual sites would likely be developed in stages as new tenants are established, with associated short time periods for construction, resulting in minor, temporary, and localized adverse impacts to local air quality. Air emissions from development of future sites within the Allen Springs Site are not expected to impact regional air quality or result in any violation of applicable ambient air quality standards.

With regard to climate change, the conversion of 55 acres of forest to developed land would result in loss of carbon sequestration in the area through the removal of large trees.

## **5.2 Biological Resources**

### **5.2.1 Vegetation**

The future development of 136-acres of land at the Allen Springs Site would convert vegetated areas containing open pasture, wetland, deciduous forest, and open grass to an industrial or commercial setting. While this would result in the loss of some vegetation, the vegetation types affected are common in the area, resulting in minor cumulative impacts on vegetation in the region.

### **5.2.2 Wetlands**

Based on a desktop analysis, there are no additional wetlands within the Allen Springs Site other than the 0.1 acre isolated wetland located in the Project Area. Site preparation associated with the Proposed Action would result in permanent loss of this wetland through the placement of fill material. Because there are no additional wetlands within the Allen Springs Site, future development of the Allen Springs Site would not result in impacts to wetland resources. Therefore, it is not anticipated that implementation of the Action Alternative and future development of the Allen Springs Site would result in cumulative impacts on wetlands.

### **5.2.3 Water Resources and Water Quality**

Based on desktop review, water resources located within the entire Allen Springs Site include perennial, intermittent, and ephemeral streams in addition to the intermittent and ephemeral water resources identified during field surveys within the Project Area. Site preparation associated with the Proposed Action and future development, including filling and leveling, could cause minor changes in drainage patterns. Likewise, the placement of buildings and associated hard surfaces on the Allen Springs Site would likely increase the amount of impermeable surface and possibly lead to faster runoff of onsite precipitation. Impacts to perennial and intermittent streams would require compliance under Section 401 of the CWA administered by KDOW; impacts to WOTUS would require adherence to Section 404 of the CWA administered by the USACE; and stormwater runoff would require adherence to Section 402 of the CWA. Applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) would likely be employed during future development, and activities would be accomplished in compliance with applicable storm water permitting requirements. Therefore, cumulative impacts on water resources associated with implementation of the Action Alternative and future development of the Allen Springs Site are anticipated to be temporary and minor.

### **5.2.4 Wildlife**

The Action Alternative and future development of other areas within the Allen Springs Site would likely remove tree species within deciduous forest areas and grasses within open pasture

areas for development of individual sites and access roads. Mobile wildlife in these habitats would be displaced by habitat removal and noise, and immobile wildlife may be injured or destroyed by heavy machinery and construction, particularly if clearing activities take place during breeding/nesting seasons. However, the development of the entire Allen Springs Site is not likely to impact populations of species common to the area, as similar habitats exist in abundance in the surrounding landscape. Considering that the landscape is highly fragmented and already impacted by human activity (e.g., maintained cattle pastures, agriculture crop lands, and roads), and in consideration of the abundance of similar habitat in the surrounding landscape, cumulative impacts to wildlife associated with implementation of the Action Alternative and future development of the Allen Springs Site are anticipated to be minor.

### **5.2.5 Aquatic Ecology**

Based on desktop review, water resources located within the entire Allen Springs Site include perennial, intermittent, and ephemeral streams in addition to the intermittent and ephemeral water resources identified during field surveys within the Project Area. The Action Alternative and future development of other areas within the Allen Springs Site would potentially impact streams through clearing, grading, and filling activities, which could affect some common aquatic species including invertebrates that may be present. Construction within or adjacent to waterbodies would require permitting under federal and/or state regulations which would incorporate review of effects to aquatic species. Development would likely include BMPs (such as sediment and erosion controls) and compliance with applicable storm water permitting requirements, which would minimize impacts to aquatic species. Mitigation for impacts to aquatic species may be required in the event that aquatic species would be affected by future development activities. Overall, cumulative impacts to aquatic species associated with implementation of the Action Alternative and future development of the Allen Springs Site are anticipated to be minor.

### **5.2.6 Threatened and Endangered Species**

The Proposed Action would not impact federally or state-listed plant and aquatic species. The Proposed Action would result in impacts to federally and state-listed bat species in the form of habitat removal as described in Section 4. However, with the implementation of the identified Conservation Measures described in Section 4 and identified in TVA Bat Strategy Project Screening Form (Attachment 2), impacts to federally and state-listed bat species resulting from implementation of the Proposed Action are anticipated to be minor. Future development of the Allen Springs Site could impact federally and state-listed bat species. If future development cannot avoid impacts to these species, it is assumed that future actions would be conducted in consultation with the USFWS. Development of areas/actions not covered under this EA would be subject to all state and federal laws and likely would require conservation measures to be developed in consultation with the USFWS to minimize impacts to federally and state-listed bat species. Although the Proposed Action and future development of the Allen Springs Site would potentially impact federally and state-listed bat species, impacts would be expected to be conducted in consultation with the USFWS and the Action Alternative would involve implementation of the identified Conservation Measures described in Section 4 and identified in TVA Bat Strategy Project Screening Form (Attachment 2). Therefore, no significant cumulative impacts to federally and state-listed bat species are anticipated as a result of the Action Alternative and future development of the Allen Springs Site.

### **5.3 Visual Resources**

The Action Alternative and future development of other areas within the Allen Springs Site would cause temporary localized visual impacts due to the presence of construction equipment during construction periods. Long-term visual changes could result as areas are converted from predominantly agricultural and forested lands to a commercial/industrial area. However, the continuous stand of trees on the southern and eastern perimeter of the Allen Springs Site creates a visual screen and some construction activities would not be visible, or would only be minimally visible from these directions. Residences to the unscreened north of the site are at some distance, at approximately 3,000 feet away, and so construction activities and development of the site may be partially visible. Construction activities may also be visible to businesses and residences to the west of the Allen Springs Site, although only across a 4-lane highway, and to motorists along the highway for brief periods while passing. In addition, development of the Allen Springs Site for industrial/commercial uses would be consistent with the visual character of the area. Overall, minor cumulative impacts to visual resources are expected to occur as a result of implementation of the Action Alternative and future development of the entire Allen Springs Site.

### **5.4 Noise**

Noise would be emitted from equipment and activities during implementation of the Proposed Action and during future development of the 136-acre Allen Springs Site, particularly through operation of heavy machinery such as bulldozers and excavators. It is expected that construction activities would be conducted during daylight hours only, and would likely occur at different times in different areas, for short periods of time, as individual sites within the entire area are developed. Construction noise would not differ significantly from equipment that is in regular use in the surrounding area from agricultural activities, and would likely be localized and temporary, with no receptor exposed to significant noise levels for extended periods of time. Thus, noise quality impacts expected to occur as a result of implementation of the Action Alternative and future development of the Allen Springs Site are anticipated to be minor and temporary. Temporary and minor noise-related cumulative impacts would occur if construction activities associated with the Proposed Action and future development of the Allen Springs Site were to occur during the same time period. If there were no overlap of construction activities, cumulative impacts would not occur.

### **5.5 Socioeconomic Conditions and Environmental Justice**

Socioeconomic conditions would continue to be impacted by general population increases and development growth in the area. The Action Alternative is not anticipated to impact the local economy or workforce. Future development of the entire 136-acre Allen Springs Site may create additional jobs with associated beneficial impacts to the local economy, resulting in beneficial impacts to socioeconomic conditions. However, since the Action Alternative is not anticipated to impact socioeconomic conditions in the area, implementation of the Action Alternative and future development of the Allen Springs Site is not anticipated to result in cumulative impacts to socioeconomic conditions in the area.

The local community consists of greater proportions of minority and low income populations than surrounding county and statewide levels. However, since no negative socioeconomic



impacts are expected, no disproportionate negative cumulative impacts would occur to minority or economically disadvantaged populations.

## **5.6 Transportation**

Short term increases in construction traffic would occur during construction periods for the Action Alternative and future development of the Allen Springs Site. The Project Area and areas available for future development are close to Veterans Memorial Highway (US 231). It is anticipated that construction traffic associated with development of the entire Allen Springs Site would consist of a small fleet over short time periods, as individual sites are developed, and would likely have manageable impacts on overall traffic volumes for US 231. Temporary and minor cumulative traffic impacts would occur if construction activities associated with the Proposed Action and future development of the Allen Springs Site were to occur during the same time period. If there were no overlap of construction activities, temporary cumulative impacts resulting from construction traffic would not occur.

Future development of the Allen Springs Site could result in permanent increases in traffic due to new industrial development. The degree of increased traffic would depend on the type and number of industrial facilities potentially constructed during future expansion. If the potential increase in traffic generated by future development of the Allen Springs Site would be significant, consultation with the KDOT would be required during the design of the Allen Springs Site. Because the Proposed Action would facilitate future development of the Allen Springs Site, permanent increases in traffic associated with future development of the Allen Springs Site could result in cumulative impacts. It is expected that future development would be conducted in consultation with KDOT if anticipated traffic increases would be significant. Therefore, potential permanent traffic-related cumulative impacts are anticipated to be minor.

## **6.0 PERMITS, LICENSES, AND APPROVALS**

The Proposed Action would result in greater than one acre of earth disturbing activities, therefore it would be necessary to obtain coverage under the KPDES General Permit for Storm Water Discharges Associated with Construction Activity. Coverage would require submittal of a NOI and development of a site-specific Stormwater Pollution Prevention Plan. Impacts to WOTUS would require a Section 404 and 401 Clean Water Act authorization. Impacts to Waters of the Commonwealth of Kentucky would require approval from KDOW which would also serve as the Section 401 Water Quality Certification. The Allen County-Scottsville Industrial Development Authority or its contractors would be responsible for obtaining local, state, or federal permits necessary for the project.

## **7.0 BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES**

To minimize or reduce the environmental effects of site activities associated with the Proposed Action, the Allen County-Scottsville Industrial Development Authority or its contractors are expected to ensure all clearing and grading activities conducted are in compliance with stormwater permitting requirements and would be expected to utilize 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. Earthen berms or other effective means would be installed to protect stream

channels from direct surface runoff. Servicing of equipment and vehicles would be done with care to avoid leakage, spillage, and subsequent surface or ground water contamination. Oil waste, filters, and other litter would be collected and disposed of properly.

Specific avoidance and conservation measures would be implemented as a part of the Proposed Action to reduce effects to Indiana bat, northern long-eared bat, and gray bat. These measures are identified on Page 5 of the TVA Bat Strategy Project Screening Form (Attachment 2). These measures include tracking, documenting and reporting to the USFWS the removal of suitable summer roosting habitat under the Action Alternative. In addition, if removal needs to occur when bats may be present on the landscape (April 1 to November 14), a funding contribution towards bat conservation and recovery efforts would be required.

## 8.0 LIST OF PREPARERS

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

**Table 8-1: Environmental Assessment Project Team**

Name/Education	Experience	Project Role
<b>TVA</b>		
Bill Adams <i>M.S., Public Policy and Administration</i> <i>B.A., Political Science</i>	25 years in economic development, including federal grants management, industrial recruitment, property positioning for industrial development (product development), and federal-level project reviews, including NEPA	Economic Development
Liz Hamrick <i>M.S., Wildlife and Fisheries Science, University of Tennessee Valley Authority</i> <i>B.A. Biology, B.A. Anthropology, Grinnell College</i>	19 years in biological field studies, 8 years in biological compliance, NEPA compliance, and ESA consultation for T&E terrestrial animals.	Implementation of ESA Section 7 Programmatic Consultation for federally listed bats and routine actions
Ruth Horton <i>B. A History</i>	24 year experience in environmental compliance and policy, and NEPA compliance	Environmental Program Manager
Kerry Nichols <i>Phd Anthropology U. Of Missouri</i> <i>M.A. Anthropology U. Of Colorado</i> <i>B.A. Political Science U. Of Northern Colorado</i>	15 years in cultural resource management.	Cultural resources, NHPA Section 106 compliance
Ashley A. Pilakowski <i>B.S., Environmental Management</i>	8 years in environmental planning and policy and NEPA compliance.	NEPA Compliance
Chevales Williams <i>B.S. in Environmental Chemical Engineering</i>	14 years in water quality monitoring and regulatory compliance, 13 years in NEPA planning and environmental services.	Surface Water

**Table 8-1: Environmental Assessment Project Team**

<b>Name/Education</b>	<b>Experience</b>	<b>Project Role</b>
<b>Cardno</b>		
Allen Jacks, CE <i>M.S., Coastal Zone Studies, University of West Florida</i> <i>B.S., Biology, Georgia College and State University</i>	15 years in natural resources planning and NEPA compliance, including project management and biological and environmental studies and analysis.	EA Project Manager; Land Use and Prime Farmland
Jeanette Brena, P.E. <i>MS, Environmental Engineering, Washington State University</i> <i>BS, Civil and Environmental Engineering, Seattle University</i>	20 years in project management, environmental engineering, regulatory permitting and compliance, and determination of air quality, climate change, and noise impacts.	Air Quality and Climate Change, Noise
Martin Griffin, P.E. <i>B.E., Civil Engineering</i>	8 years in civil engineering including stormwater analysis and design, hydrology and hydraulic modelling, water quality modelling, geomorphic assessments, planning and transportation projects, and engineering policy formulation	Transportation and Safety
Tammy Miller <i>MS, Natural Resources, University of Wisconsin-Stevens Point</i> <i>BS, Terrestrial Ecology-Wildlife Management, University of Vermont</i>	17 years in biological resources investigations including NEPA compliance, waterway permitting and mitigation, threatened and endangered species surveys and coordination, wetland and stream delineations, and water quality investigation.	Biological Resources
Yosef Shirazi <i>M.S., Marine Science, University of North Carolina-Wilmington</i> <i>B.S., Environmental Science and Policy, University of Maryland</i>	11 years in assessing ecosystem services, conducting cost benefit analyses, and conducting economic impact analyses.	Visual Resources and Socioeconomic Conditions and Environmental Justice
Duane Simpson <i>MA, Anthropology, University of Arkansas</i> <i>BA, Anthropology, Ohio University</i>	25 years in archaeological consulting including management of projects across the southeast and midatlantic regions. Principal Investigator for over 15 years.	Archaeological and Historical Resources
Alison Uno <i>MS, Sustainable Environmental Management, University of Plymouth, UK</i> <i>BS, Marine Biology, University of Liverpool, UK</i>	12 years in NEPA compliance and biological and environmental analyses. Conducted many cumulative impacts assessments for various EA and EIS projects including land development and coastal restoration.	Cumulative Impacts

## 9.0 AGENCIES AND OTHERS CONSULTED

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

- Kentucky Nature Reserves

- Kentucky Heritage Council
- Kentucky Office of State Archaeology
- United States Fish and Wildlife Service
- Absentee Shawnee Tribe of Indians of Oklahoma
- Cherokee Nation
- Eastern Band of Cherokee Indians
- Eastern Shawnee Tribe of Oklahoma
- Shawnee Tribe
- United Keetoowah Band of Cherokee Indians in Oklahoma.

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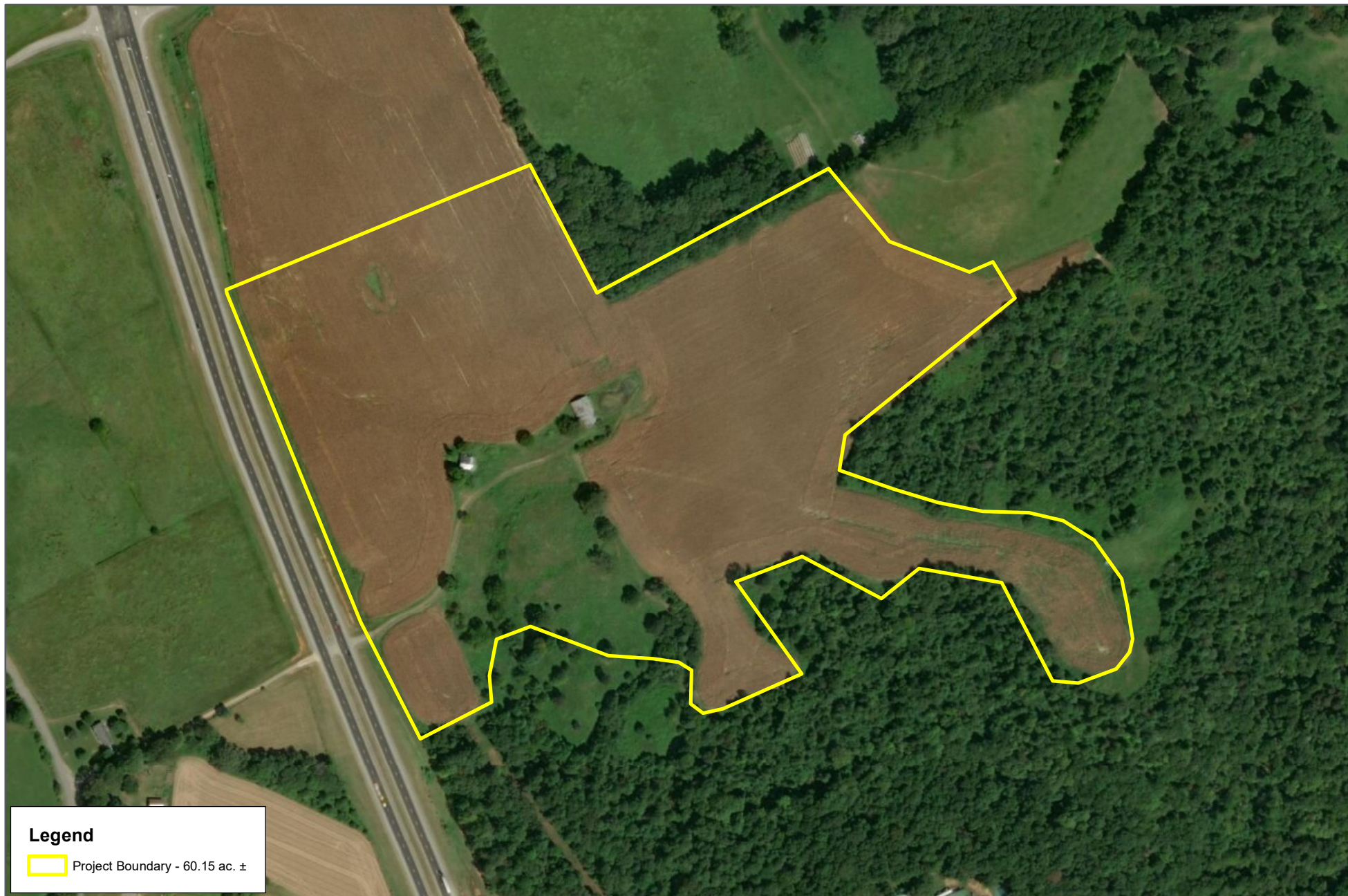
**ATTACHMENT 1**

**PROJECT FIGURES**

**Figure 1-A**

**Aerial**





## Legend

 Project Boundary - 60.15 ac. ±



Image:2016  
Data Source:

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## Aerial Map

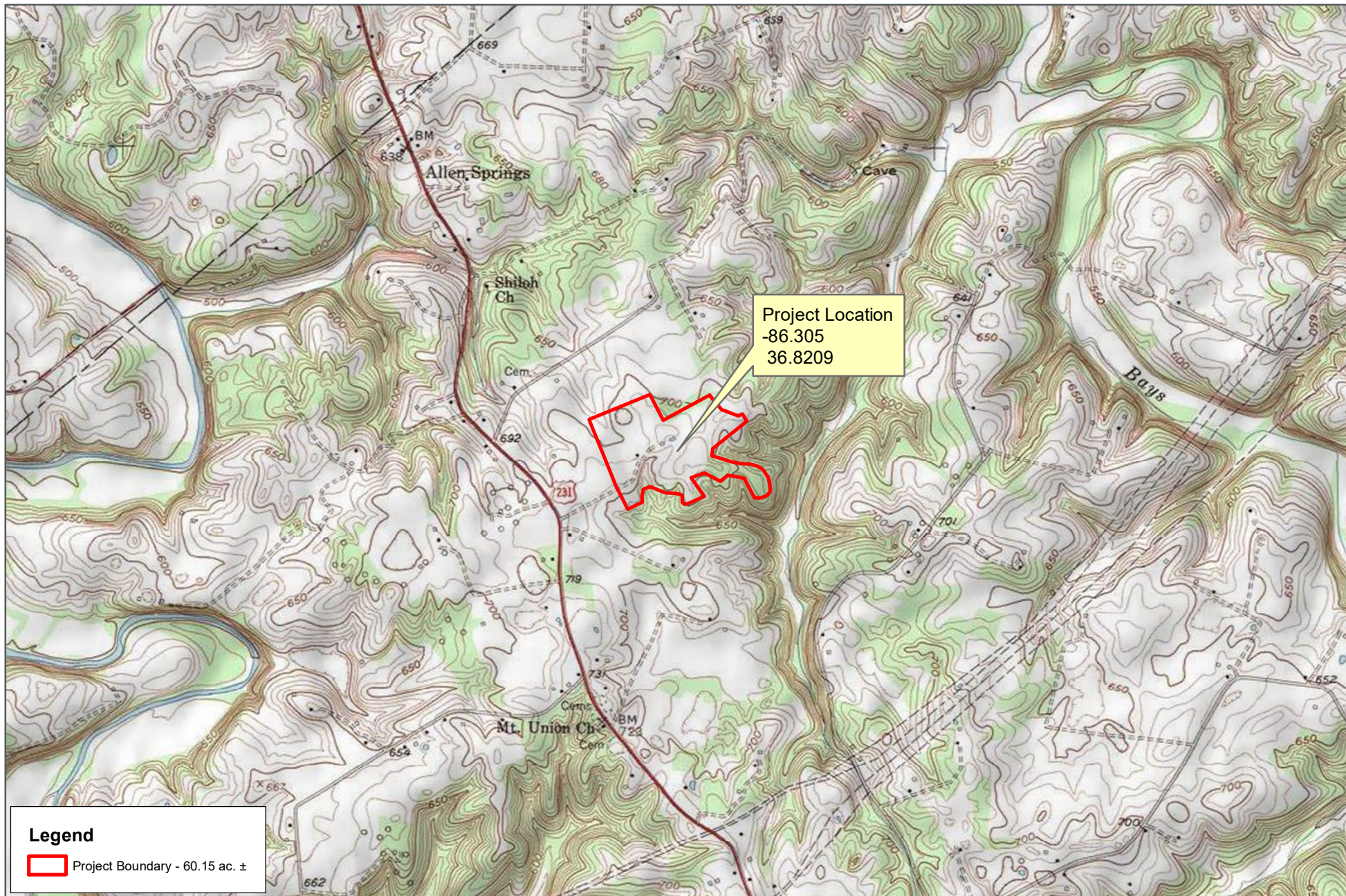
TVA FY19 Economic Development Projects  
Allen County, Kentucky



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**Figure 1-B**  
**USGS Quadrangle**





**Image:** ESRI  
**Data Source:**

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### USGS Quadrangle Map

TVA FY19 Economic Development Projects  
Allen County, Kentucky

0  
0

2,000  
610

4,000 Feet  
1,220 Meters

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**Figure 1-C**

**Jurisdictional Waters of the United States and  
the Commonwealth of Kentucky**



Image: 2016  
Data Source:

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## Delineated Features Map

TVA FY19 Economic Development Projects  
Allen County, Kentucky

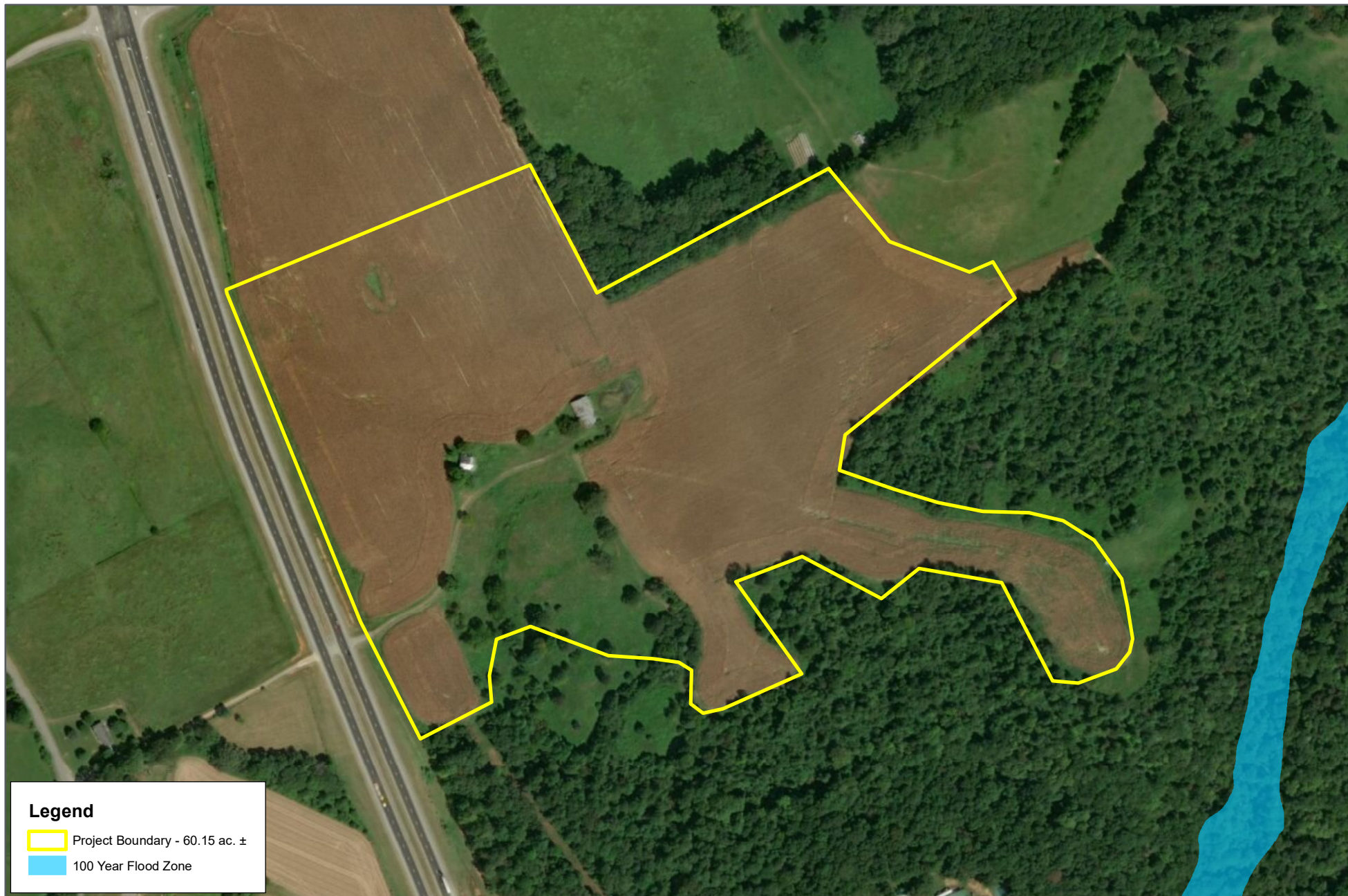


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**Figure 1-D**

**FEMA Floodplain**





### Legend



-  Project Boundary - 60.15 ac. ±
-  100 Year Flood Zone



Image: 2016  
Data Source:

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## FEMA 100 Year Floodplain Map

### TVA FY19 Economic Development Projects

### Allen County, Kentucky

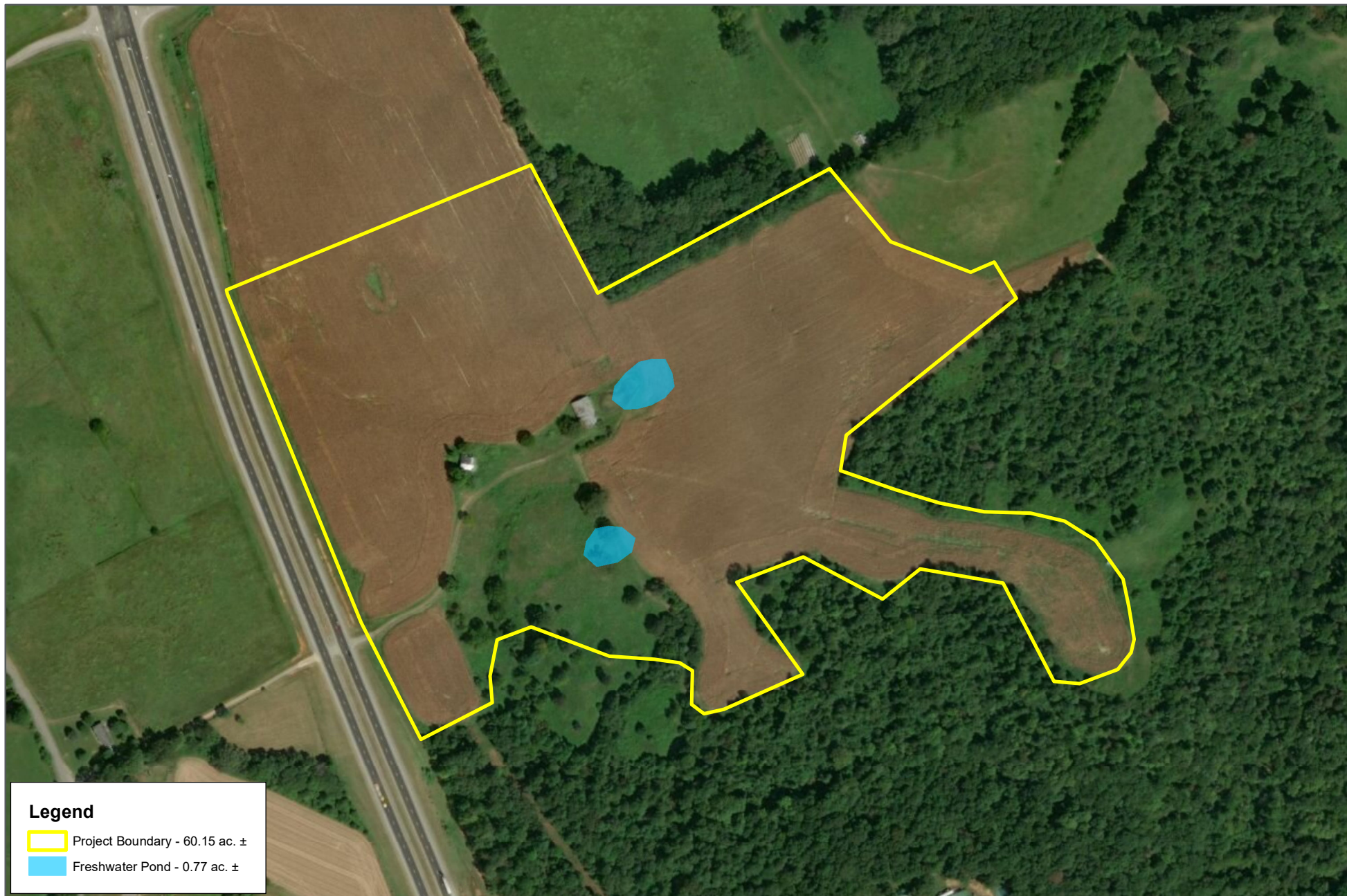


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**Figure 1-E**

**USFWS NWI**





### Legend



-  Project Boundary - 60.15 ac. ±
-  Freshwater Pond - 0.77 ac. ±



Image: 2016  
Data Source:

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### NWI Wetlands Map

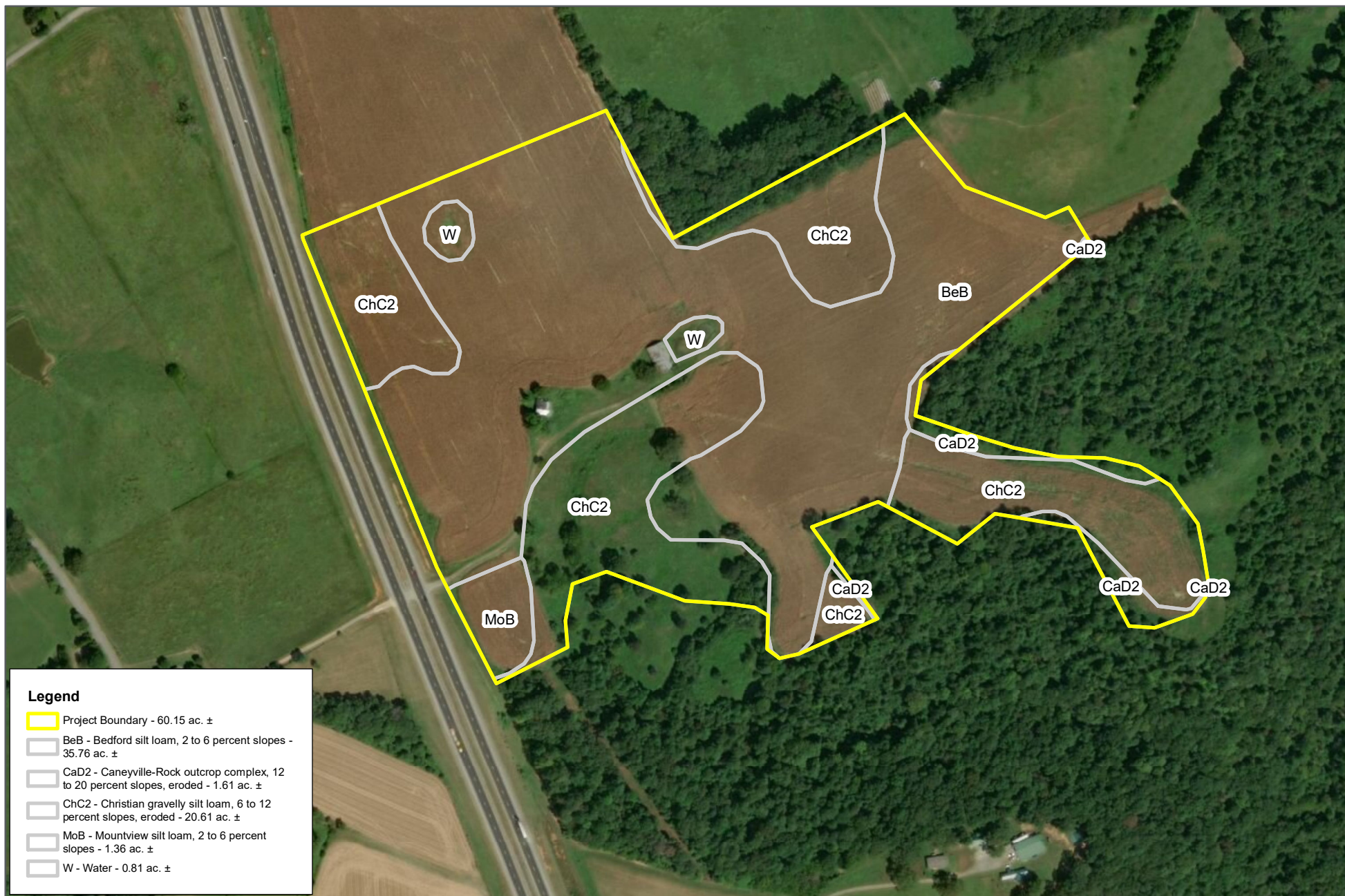
TVA FY19 Economic Development Projects  
Allen County, Kentucky



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**Figure 1-F**  
**NRCS Soils**






**Image:** 2016  
**Data Source:**


### NRCS Soils Map

TVA FY19 Economic Development Projects  
Allen County, Kentucky



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**Figure 1-G**  
**Proposed Site Plan**





### Legend

- Project Boundary - 60.15 ac. ±
- Primary Area to Obtain Fill Material
- Sinkhole Remediation Area
- Road



Image: 2016  
Data Source:

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## Proposed Site Plan Map

TVA FY19 Economic Development Projects  
Allen County, Kentucky



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## **ATTACHMENT 2**

### **TVA Bat Strategy Project Screening Form**

**From:** [Hamrick, Elizabeth Burton](#)  
**To:** [kentuckyes@fws.gov](mailto:kentuckyes@fws.gov)  
**Subject:** RE: Notification in accordance with TVA Programmatic Consultation for Routine Actions and Federally listed bats  
**Date:** Thursday, May 02, 2019 4:16:00 PM  
**Attachments:** [Completed AllenCo EcoDev TVA-Bat-Strategy 4.10.2019.pdf](#)

---

Good afternoon,

TVA's programmatic ESA consultation on routine actions and bats was completed in April 2018. For projects with NLAA or LAA determinations, TVA is providing project-specific notification to relevant Ecological Service Field Offices. This notification also will be stored in the project administrative record. For projects that utilize Take issued through the Biological Opinion, that Take will be tracked and reported in TVA's annual report to the USFWS by March of the following year.

The attached form is serving at TVA's mechanism to determine if project-specific activities are within the scope of TVA's bat programmatic consultation and if there is project-specific potential for impact to covered bat species, necessitating conservation measures, which are identified for the project on page 5. The form also is serving as the primary means of notification to the USFWS and others as needed.

***Project:** InvestPrep Grant Proposal for Proposed Allen Springs Site, Allen County, Kentucky – TVA proposes to provide an economic development grant through TVA InvestPrep funds to the Allen County-Scottsville Industrial Development Authority to assist with completing due diligence studies and, an electrical resistivity investigation, remediating a sinkhole, creating a grading plan, grading the site, constructing a building pad, designing and constructing entrance signage, and constructing an access road. Ten trees offering potentially suitable summer roosting bat habitat for Indiana bat and Northern long-eared bat was identified by Jackson Group. The project proposes to remove these trees between October 15 and March 31. Field review determined that the sinkhole proposed for remediation does not provide potential roosting habitat for bats. Streams and wetlands could be impacted by proposed actions.*

Thank you.

**Liz Hamrick**

Terrestrial Zoologist  
Biological Compliance

400 W Summit Hill Dr. WT 11C-K  
Knoxville, TN 37902

865-632-4011 (w)  
[ecburton@tva.gov](mailto:ecburton@tva.gov)

**Project Review Form - TVA Bat Strategy (12/2018)**

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.<sup>1</sup>

**Project Name:** INVESTPREP GRANT PROPOSAL FOR PROPOSED ALLEN SPRINGS SITE **Date:** 04/10/2019  
**Contact(s):** Ashley Pilakowski **CEC#:** **Project ID:** 34177  
**Project Location (City, County, State):** Scottsville, Allen County, Kentucky  
**Project Description:**

TVA proposes to provide an economic development grant through TVA InvestPrep funds to the Allen County-Scottsville Industrial Development Authority to assist with completing due diligence studies and, an electrical resistivity investigation, remediating a sinkhole, creating a grading plan, grading the site, constructing a building pad, designing and constructing entrance signage, and cons

**SECTION 1: PROJECT INFORMATION - ACTION AND ACTIVITIES**

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

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

**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 checked="" 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	<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 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 checked="" 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 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 type="checkbox"/> 22. Grubbing	<input type="checkbox"/> 38. Drain installations for ponds	<input type="checkbox"/> 77. Construction or expansion of land-based buildings
<input checked="" type="checkbox"/> 23. Prescribed burns	<input type="checkbox"/> 47. Conduit installation	<input type="checkbox"/> 78. Wastewater treatment plants
<input checked="" 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 13)**

**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.,  $\geq 24$  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, bridge, other structure (potential bat roost)? ☒ **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	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 31	<input type="checkbox"/> Apr 1 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
VA	<input type="checkbox"/> Sep 16 - Nov 15	<input type="checkbox"/> Nov 16 - Apr 14	<input type="checkbox"/> Apr 15 - May 31, Aug 1 - Sept 15	<input type="checkbox"/> Jun 1 - Jul 31
AL	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 15	<input type="checkbox"/> Mar 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
NC	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 15	<input type="checkbox"/> Apr 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
MS	<input type="checkbox"/> Oct 1 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 14	<input type="checkbox"/> Apr 15 - May 31, Aug 1 - Sept 30	<input type="checkbox"/> Jun 1 - Jul 31

- 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	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	<input checked="" type="checkbox"/> Oct 15 - Nov 14	<input checked="" type="checkbox"/> Nov 15 - Mar 31	<input type="checkbox"/> Apr 1 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
VA	<input type="checkbox"/> Sep 16 - Nov 15	<input type="checkbox"/> Nov 16 - Apr 14	<input type="checkbox"/> Apr 15 - May 31, Aug 1 - Sept 15	<input type="checkbox"/> Jun 1 - Jul 31
AL	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Mar 15	<input type="checkbox"/> Mar 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
NC	<input type="checkbox"/> Oct 15 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 15	<input type="checkbox"/> Apr 16 - May 31, Aug 1 - Oct 14	<input type="checkbox"/> Jun 1 - Jul 31
MS	<input type="checkbox"/> Oct 1 - Nov 14	<input type="checkbox"/> Nov 15 - Apr 14	<input type="checkbox"/> Apr 15 - May 31, Aug 1 - Sept 30	<input type="checkbox"/> Jun 1 - Jul 31

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

**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/OSAR reviewer?**

- ☒ **YES** ☐ **NO** (If NO and includes Table 3 activities, submit project / relevant information [e.g., maps] for review by Terrestrial Zoologist.)

Info below completed by:	<input type="checkbox"/> <b>Heritage Reviewer</b> (name)	<input type="text"/>	Date	<input type="text"/>
	<input type="checkbox"/> <b>OSAR Reviewer</b> (name)	<input type="text"/>	Date	<input type="text"/>
	<input checked="" type="checkbox"/> <b>Terrestrial Zoologist</b> (name)	Elizabeth Hamrick	Date	May 2, 2019

Gray bat records: ☐ None ☐ Within 3 miles\* ☒ Within a cave\* ☒ Within the County

Indiana bat records: ☐ None ☐ Within 10 miles\* ☐ Within a cave\* ☐ Capture/roost tree\* ☒ Within the County

Northern long-eared bat records: ☒ None ☐ Within 5 miles\* ☐ Within a cave\* ☐ Capture/roost tree\* ☐ Within the County

Virginia big-eared bat records: ☒ None ☐ Within 10 miles\* ☐ Within the County

Caves: ☒ None within 3 mi ☐ Within 3 miles but > 0.5 mi ☐ Within 0.5 mi but > 0.25 mi\* ☐ Within 0.25 mi but > 200 feet\* ☐ Within 200 feet\*

Bat Habitat Inspection Sheet completed? ☒ **NO** ☐ **YES**

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

**STEP 6) If reviewed by Heritage/OSAR reviewer, does records review trigger need for additional review by Terrestrial Zoologist (noted by \* in Step 5)?**

- ☐ NO (Go to Step 13)   
 ☒ YES (Submit for Terrestrial Zoology review)   
 ☐ YES, however, based on Heritage Data review guidelines (or discussion with Terrestrial Zoology), project does not need to be submitted to Terrestrial Zoology for review. (Go to Step 13)

**Notes (additional information from field review or explanation of no impact):**

Most recent maps of Indiana bat and NLEB records in Kentucky from USFWS webpage do not indicate any known habitat for either species in Allen County. Records in TVA database are historical.

**STEPS 7-12 To be Completed by Terrestrial Zoologist (if warranted):**

**STEP 7) Project will involve:**

- ☐ Removal of suitable trees within 0.5 mile of P1-P2 Indiana bat hibernacula or 0.25 mile of P3-P4 Indiana bat hibernacula or any NLEB hibernacula.
- ☐ Removal of suitable trees within 10 miles of documented Indiana bat (or within 5 miles of NLEB) hibernacula.
- ☒ Removal of suitable trees > 10 miles from documented Indiana bat (> 5 miles from NLEB) hibernacula.
- ☐ Removal of trees within 150 feet of a documented Indiana bat or northern long-eared bat maternity roost tree.
- ☐ Removal of suitable trees within 2.5 miles of Indiana bat roost trees or within 5 miles of Indiana bat capture sites.
- ☒ Removal of suitable trees > 2.5 miles from Indiana bat roost trees or > 5 miles from Indiana bat capture sites.
- ☐ Removal of documented Indiana bat or NLEB roost tree, if still suitable.
- ☐ N/A

**STEP 8) Presence/absence surveys were/will be conducted:** ☐ YES ☒ NO ☐ TBD

**STEP 9) Presence/absence survey results, on**  ☐ NEGATIVE ☐ POSITIVE ☒ N/A

**STEP 10) Project** ☒ WILL ☐ WILL NOT **require use of Incidental Take in the amount of**  ☐ acres or ☒ trees **proposed to be used during the** ☒ WINTER ☐ VOLANT SEASON ☐ NON-VOLANT SEASON ☐ N/A

**STEP 11) Available Incidental Take (prior to accounting for this project) as of**

TVA Action	Total 20-year	Winter	Volant Season	Non-Volant Season
9 Promote Economic Development	7,522	6,763.63	749.62	0

**STEP 12) Amount contributed to TVA's Bat Conservation Fund upon activity completion: \$**  **OR** ☐ N/A

**SECTION 3: REQUIRED CONSERVATION MEASURES**

**STEP 13a) If answer to STEP 3 is NO,** (Project Lead or OSAR/Heritage Reviewer) is to review Conservation Measures in Table 4 and ensure these selected Conservation Measures are relevant to project. If not manually override and uncheck. **Go to Step 14**

**STEP 13b) If answer to STEP 3 is YES, and answer to STEP 6 is NO,** OSAR/Heritage Reviewer is to review Conservation Measures in Table 4 that and ensure these selected Conservation Measures are relevant to project. If not manually override and uncheck. **Go to Step 14**

**STEP 13c) If answer to STEP 3 is YES, and answer to STEP 6 is YES,** Terrestrial Zoologist is to review Conservation Measures in Table 4 and ensure these selected Conservation Measures are relevant to project. If not manually override and uncheck. **Go to Step 15**

**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.

Manual Override

**Name:** Elizabeth Hamrick

Check if applies to Project	Activities Subject to Conservation Measure	Conservation Measure Description
<input 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	<b>NV1</b> - 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"/>	23	<b>SHF4</b> - If burns need to be conducted during April and May, 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"/>	33, 34	<b>TR4*</b> - Removal of suitable summer roosting habitat within potential habitat for Indiana bat or northern long-eared 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"/>	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, 58, 59, 60, 61, 62, 63, 64, 65, 67, 70, 71, 73, 76, 77, 78, 80, 81, 82, 83, 86, 87, 88, 89, 90	<b>SSPC2</b> - 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.
<input type="checkbox"/>	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	<b>SSPC5 (26a, Solar, Economic Development only)</b> - 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.
<input type="checkbox"/>	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	<b>L1</b> - Direct temporary lighting away from suitable habitat during the active season.
<input type="checkbox"/>	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	<b>L2</b> - 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).

<sup>1</sup>Bats addressed in consultation (02/2018), which includes gray bat (listed in 1976), Indiana bat (listed in 1967), northern long-eared bat (listed in 2015), and Virginia big-eared bat (listed in 1979).

- ☒ HIDE
- ☐ UNHIDE

**STEP 14)** Save completed form in project environmental documentation (e.g., CEC, Appendix to EA) AND send a copy of form to [batstrategy@tva.gov](mailto:batstrategy@tva.gov). Submission of this form indicates that Project Lead/Applicant:

Bess Hubbard

(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.

**STEP 15) For Use by Terrestrial Zoologist if Project and Form are Submitted for Review**

☒ Terrestrial Zoologist acknowledges that Project Lead/Contact (name) Bess Hubbard has been informed on May 2, 2019 (date) of any relevant conservation measures and/or provided a copy of this form.

☒ 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 10 ☐ ac ☒ trees and that use of Take will require 0 contribution to TVA's Conservation Fund upon completion of activity (amount entered should be \$0 if cleared in winter).

Finalize and Print to Noneditable PDF. Changes to form cannot be made after this button is selected.

**ATTACHMENT 3**  
**AGENCY CORRESPONDENCE**

**3-A**

**Kentucky Heritage Council**





MATTHEW G. BEVIN  
GOVERNOR

**TOURISM, ARTS AND HERITAGE CABINET  
KENTUCKY HERITAGE COUNCIL  
THE STATE HISTORIC PRESERVATION OFFICE**

REGINA STIVERS  
DEPUTY SECRETARY

DON PARKINSON  
SECRETARY

410 HIGH STREET  
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PHONE (502) 564-7005  
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[www.heritage.ky.gov](http://www.heritage.ky.gov)

CRAIG A. POTTS  
EXECUTIVE DIRECTOR  
& STATE HISTORIC  
PRESERVATION OFFICER

March 29, 2019

Mr. Clinton E. Jones  
Manager, Cultural Compliance  
Tennessee Valley Authority  
400 West Summit Hill Drive  
Knoxville, TN 37902

RE: Tennessee Valley Authority Cultural Resource Investigations, Allen Springs Project, Allen County, Kentucky

Dear Mr. Jones:

Thank you for your letter concerning the above-mentioned project, dated February 26, 2019. We understand that the Tennessee Valley Authority proposes to undertake several activities to improve the marketability of the Allen Springs project site, including entrance signage, grading, sinkhole remediation, roadway construction, and building pad construction.

In our previous correspondence concerning this project, dated March 21, 2019, we indicated that the cultural resources assessments of the undertaking's project area identified no archaeological sites or above ground resources eligible for the National Register of Historic Places. We requested three bound and edited copies of the archaeological report, one bound copy of the cultural historical report, and separate copies the aboveground site forms (not to be bound into the cultural historical report).

We understand from your letter that TVA determined that the proposed undertaking would result in **No Effect to Historic Properties**. We concur with this determination. *Please submit the requested archaeological and cultural historical reports and site forms.*

If the project design or boundaries change, this office should be consulted to determine the nature and extent of additional documentation that may be needed. In the event of the unanticipated discovery of an archaeological site or object of antiquity, the discovery should be reported to the Kentucky Heritage Council and to the Kentucky Office of State Archaeology in the Anthropology Department at the University of Kentucky in accordance with KRS 164.730. In the event that human remains are encountered during project activities, all work should be immediately stopped in the area and the area cordoned off, and in accordance with KRS 72.020 the county coroner and local law enforcement must be contacted immediately. Upon confirmation that the human remains are not of forensic interest, the unanticipated discovery must be reported to the Kentucky Heritage Council.

Should you have any questions concerning archaeological resources, feel free to contact Chris Gunn of my staff at (502) 892-3615 or [chris.gunn@ky.gov](mailto:chris.gunn@ky.gov). Questions concerning above-ground resources can be directed to Jennifer Ryall at (502) 892-3619 or [jennifer.ryall@ky.gov](mailto:jennifer.ryall@ky.gov).

Sincerely,

Craig A. Potts,  
Executive Director and  
State Historic Preservation Officer

CP: cmg KHC # 53943

**3-B**

**Kentucky Nature Preserves**



MATTHEW G. BEVIN  
GOVERNOR

CHARLES G. SNAVELY  
SECRETARY

**ENERGY AND ENVIRONMENT CABINET  
OFFICE OF KENTUCKY NATURE PRESERVES**

300 SOWER BOULEVARD  
FRANKFORT, KENTUCKY 40601  
(502) 573-2886

ZEB WEESE  
EXECUTIVE DIRECTOR

January 21, 2019

Tamara Miller  
Cardno  
3901 Industrial Boulevard  
Indianapolis, IN 46254

Project: TVA Allen Springs Economic Development Project;  
E217103505\_AllenCo  
Project ID: 19-0052  
Project Type: TVA Sensitive Area Review  
Site Acreage: 60.15  
Site Lat/Lon: 36.820875 / -86.305156  
County: Allen  
USGS Quad: ALLEN SPRINGS  
Watershed HUC12: Lower Bays Fork; Lower Trammel Creek  
Physiographic Region: Eastern Pennyroyal

Dear Tamara Miller,

This letter is in response to your data request for the project referenced above. We have reviewed our Natural Heritage Program Database to determine if any of the endangered, threatened, or special concern plants and animals or exemplary natural communities monitored by the Office of Kentucky Nature Preserves occur within your general project area. Your project area does not pose any concern at this time.

I would like to take this opportunity to remind you of the terms of the data request license, which you agreed upon in order to submit your request. The license agreement states "Data and data products received from the Office of Kentucky Nature Preserves, including any portion thereof, may not be reproduced in any form or by any means without the express written authorization of the Office of Kentucky Nature Preserves." The exact location of plants, animals, and natural communities, if released by the Office of Kentucky Nature Preserves, may not be released in any document or correspondence. These products are provided on a temporary basis for the express project (described above) of the requester, and may not be redistributed, resold or copied without the written permission of the Office of Kentucky Nature Preserves Biological Assessment Branch (300 Sower Blvd - 4th Floor, Frankfort, KY, 40601. Phone: (502) 782-7828).

Please note that the quantity and quality of data collected by the Kentucky Natural Heritage Program are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Kentucky have never been thoroughly surveyed and new plants and animals are still being discovered. For these reasons, the Kentucky Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Kentucky. Heritage reports summarize the existing information known to the Kentucky Natural Heritage



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Project ID: 19-0052  
January 21, 2019  
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Program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. We would greatly appreciate receiving any pertinent information obtained as a result of on-site surveys.

If you have any questions, or if I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Evelyn Pickett  
Geoprocessing Specialist



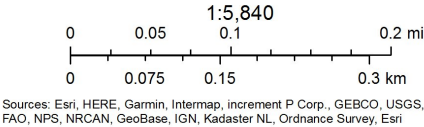
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# TVA Allen Springs Economic Development Project



January 21, 2019

- Project Boundary
- Buffered Project Boundary



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri