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# PRODUCT DEVELOPMENT GRANT PROPOSAL FOR PROPOSED I-65 COMMERCE PARK EXPANSION

# **ENVIRONMENTAL ASSESSMENT**

Marshall County, Tennessee

Prepared by:

TENNESSEE VALLEY AUTHORITY Knoxville, Tennessee

November 2019

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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 Product Development funds to the Lewisburg Industrial Development Board, Tennessee, to facilitate expansion of the I-65 Commerce Park. TVA funds would be used for due diligence studies, installation of a kiosk sign, installation of a new access road, installation of a new utility line within the new access road right-of-way, and resurfacing of an existing paved road (Veterans Drive). The I-65 Commerce Park is located north of Highway 373 (Mooresville Highway) near Lewisburg, Marshall County, Tennessee (see Figure 1 below and Attachment 1, Figure 1-A). The area of TVA's Proposed Action (herein referred to as the Direct Impact Area) is comprised of the approximately 2.0-acre area covering the area of the proposed new access road, new utility line, and new kiosk sign, and the 1.9-acre area encompassing the existing paved road (Veterans Drive) that would be resurfaced. The area of potential indirect impact for TVA's Proposed Action (herein referred to as the Indirect Impact Area) is comprised of an approximately 27-acre parcel of land that would be the location of the potential expansion of the I-65 Commerce Park. The area of potential cumulative impact for TVA's Proposed Action (herein referred to as the Cumulative Impact Area) is comprised of an approximately 131-acre parcel of land that is available nearby for future industrial development. Figure 2 below depicts the Direct Impact Area, Indirect Impact Area, and Cumulative Impact Area.

TVA's Proposed Action would facilitate the marketability of a potential 27-acre expansion of the I-65 Commerce Park. The land for this potential future expansion (Indirect Impact Area) would be acquired by the Lewisburg Industrial Development Board using non-TVA funds. This EA assesses the environmental impact on the 3.9 acres that would be directly affected by TVA's Proposed Action (Direct Impact Area), the adjoining 27 acres indirectly affected by TVA's Proposed Action (Indirect Impact Area), and the potential cumulative effects should the nearby 131-acre area (Cumulative Impact Area) experience future industrial development. TVA's decision is whether or not to provide the requested funding to the Lewisburg Industrial Development Board.

# 2.0 OTHER ENVIRONMENTAL REVIEWS AND DOCUMENTATION

A Phase I Environmental Site Assessment of 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 St. John Engineering, LLC in June 2014 (St. John Engineering, LLC 2014a). The primary purpose of the Phase I Environmental Site Assessment was to identify the presence of recognized environmental concerns or other environmental liabilities within the project area. A Geotechnical Study of the project area was performed under the Select Tennessee Site Certification Program by St. John Engineering, LLC in June 2014 (St. John Engineering, LLC 2014b). The primary purpose of the Geotechnical Study was to explore the general site and subsurface conditions within the project area. The Phase I Environmental Site Assessment and Geotechnical Study were used in the preparation of this Environmental Assessment.



Figure 1: Project Location



Date Created: 3/27/2019 Date GIS Avalyst James Bottlger

Figure 2: Project Areas of Impact

# 3.0 ALTERNATIVES

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

## The No Action Alternative

Under the No Action Alternative, TVA would not provide TVA Product Development funds to the Lewisburg Industrial Development Board. TVA would not be furthering its mission of promoting economic development by assisting the local community to compete successfully for new jobs through the Proposed Action. The Lewisburg Industrial Development Board may seek alternate funding (if available) to complete the due diligence studies, install a kiosk sign, install a new access road, install a new utility line within the new access road right-of-way, and resurface Veterans Drive. Success in obtaining alternate funding would result in similar impacts and benefits as the Action Alternative.

If the Lewisburg Industrial Development Board 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.

## The Action Alternative

Under the Action Alternative, TVA would provide TVA Product Development funds to the Lewisburg Industrial Development Board to complete due diligence studies, install a kiosk sign, install a new access road, install a new utility line within the new access road right-of-way, and resurface Veterans Drive (Attachment 1, Figure 1-A). The Action Alternative would require disturbance of approximately 2.0 acres during installation of the kiosk sign, new access road, and new utility line within the new access road right-of-way. The installation of these project components would result in clearing of approximately 0.55 acres of early successional, deciduous forest. Site activities required for the Action Alternative would occur over a short period of time 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 Lewisburg Industrial Development Board or its contractors would implement appropriate measures, such as best management practices (BMPs) and best construction practices, to minimize or reduce negative potential environmental impacts of the Action Alternative to insignificant levels. These practices include, but are not limited to, installation of sediment and erosion controls (silt fences, sediment traps, etc.); management of fugitive dust; and a restriction allowing work during day time work hours only.

The Action Alternative does not include assessment of activities associated with the eventual build-out, occupation, and future use of the I-65 Commerce Park expansion since the type of industrial activities that may result from future buildout is unknown at this time. TVA assumed site preparation activities would disturb parts of the 27-acre expansion area (Indirect Impact Area) and these indirect effects are assessed 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 Direct Impact Area is located north of Highway 373 (Mooresville Highway) near Lewisburg, Marshall County, Tennessee, and is comprised of an approximately 2.0-acre property and 1.9acre existing paved road (Veterans Drive). The current land use within the Direct Impact Area consists of maintained grass, early successional deciduous forest, a small area of open pasture, and paved roadway (Attachment 1, Figure 1-A). The majority of the Direct Impact Area is situated within the existing I-65 Commerce Park. Approximately 25 feet of the eastern end of the 2.0-acre property extends beyond the existing I-65 Commerce Park into a parcel of open pasture. The 2.0-acre property is currently undeveloped with no permanent structures present. The 1.9-acre paved road (Veterans Drive) provides access to the existing I-65 Commerce Park.

The existing I-65 Commerce Park extends to the north, south, and west of the Direct Impact Area and is comprised of approximately 220 acres and is currently home to four existing industries. The Direct Impact Area is located within an approximately 2.0-acre strip of land between two existing buildings and would connect the future the I-65 Commerce Park Expansion (not a part of the Proposed Action, but considered for indirect impacts) to Veterans Drive. To the east of the Direct Impact Area is the Indirect Impact Area, an approximately 27acre parcel of open pasture that is the potential future location of the I-65 Commerce Park Expansion.

The majority of the Direct Impact Area is currently zoned for industrial use. The small area of open pasture within the Direct Impact Area is currently zoned for agricultural use.

The Direct Impact Area generally consists of flat to gently rolling topography, with the highest elevation surfaces located to the north (northern extent of Veterans Drive that would be resurfaced) and the lower elevation surfaces located to the south (southern extent of Veterans Drive that would be resurfaced) (Attachment 1, Figure 1-B). Surface water features are located within the Direct Impact Area as depicted on Attachment 1, Figure 1-C. East Fork Globe Creek is the nearest named stream, and is crossed by the 1.9-acre area encompassing the portion of Veterans Drive that would be resurfaced.

### 4.2 Impacts Evaluated

TVA has determined that the Proposed Action, subsequent to TVA's selection of the Action Alternative, would have no impact on natural and managed areas, public recreation opportunities, Nationwide Rivers Inventory streams, or Wild and Scenic Rivers, as discussed below. Therefore, potential impacts to these resources are not described in further detail in this Environmental Assessment. The Proposed Action would not result in impacts from the creation of solid and hazardous wastes, and such impacts are not described in further detail in this Environmental Assessment.

A review of data from the TVA Natural Heritage Database indicated that there are no natural or managed 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 Direct Impact Area. The nearest managed area, the University of Tennessee Dairy Research and Education Center, is located approximately 4.0 miles southeast of the Direct Impact Area, which is of sufficient distance to have no impacts associated with the Action Alternative.

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

No evidence of hazardous materials were observed in the Direct Impact Area during the June 2014 Phase 1 Environmental Site Assessment and 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 or in the vicinity of the Direct Impact 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, water resources and water quality, biological resources (vegetation, wetlands, floodplains, wildlife, aquatic ecology, threatened and endangered species), land use and prime farmland, and archaeological and historical resources. Implementation of the Action Alternative could create potential impacts to the human environmental, including the following impacts: visual, noise, socioeconomics and environmental justice, transportation, and safety. Potential impacts to resources and impacts to the human environment 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 Part 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 Marshall County, Tennessee meets the ambient air quality standards and is designated in attainment with respect to the criteria pollutants (USEPA 2018).

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.

Greenhouse gases (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 primary 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. GHGs are non-toxic and non-hazardous at normal ambient

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

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

concentrations, and there are no applicable ambient air quality standards or emission limits for GHGs under the CAA.

Trees, like other green plants, are carbon sinks that use photosynthesis to convert  $CO_2$  into sugar, cellulose, and other carbon-containing carbohydrates that they use for food and growth. The process by which carbon sinks remove  $CO_2$  from the atmosphere is known as carbon sequestration. Although forests do release some  $CO_2$  from natural processes such as decay and respiration, a healthy forest typically stores carbon at a greater rate than it releases carbon.

Air quality impacts associated with installation of a kiosk sign, new access road, new utility line, and resurfacing of Veterans Drive under the Action Alternative would include emissions from fossil fuel-fired vehicles and equipment; fugitive dust from ground disturbances; and emissions associated with 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 in the installation of the Proposed Action components would comply with the USEPA mobile source regulations in Title 40 CFR Part 85 for on-road engines and Title 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 Lewisburg Industrial Development Board and its contractors would comply with Tennessee Department of Environment and Conservation (TDEC) Air Pollution Control Rule 1200-3-8, which requires BMPs to prevent PM from becoming airborne. Such BMPs include, but are not limited to, grading of roads; clearing of land; and the use of water or chemicals for control of dust in construction operations on dirt roads and stock piles as needed.

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. If burning is necessary during installation of Proposed Action components, it is expected to be minimal due to the small area (less than one acre) of forest to be removed. The Lewisburg Industrial Development Board and its contractors would obtain local burn permits and would comply with TDEC Air Pollution Control Rule 1200-3-2, which prohibits open burning, but allows for certain exceptions where certification requirements are met.

Due to the temporary duration of equipment operations, ground disturbances, and burning activities, emissions associated with the Proposed Action would be minimal, temporary, and localized. Further, emissions are not expected to be large enough to impact regional air quality or result in any violation of applicable ambient air quality standards.

The removal of trees for the Action Alternative would result in a minimal loss of carbon sequestration in the area since the forested habitat to be cleared consists of less than one acre.

Air quality impacts associated with future expansion of the I-65 Commerce Park would be expected to occur over a temporary duration within the Indirect Impact Area and could include emissions from fossil fuel-fired vehicles and equipment; fugitive dust from ground disturbances; and emissions associated with burning of wood debris. Due to the expected temporary duration, emissions would be minimal, temporary, and localized, and would not be expected to be large enough to impact regional air quality or result in any violation of applicable ambient air quality standards.

Under the No Action Alternative, if the Lewisburg Industrial Development Board 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 for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board 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. Consequently, there would be no impact to air quality and climate change from the No Action Alternative.

# 4.2.2 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 Direct Impact Area. Following review of available data, field surveys were conducted to identify and delineate water resources present within the Direct Impact Area and Indirect Impact Area. Waterbodies within the Direct Impact 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 surveys, waterbodies were evaluated to determine the waterbody type as defined in the following categories:

- 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 United States Army Corps of Engineers (USACE) 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;

- Wet Weather Conveyance / 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 manmade or altered, and may be indicated on the USGS Quadrangles.

Waterbodies were examined to determine if they were classified as WOTUS and thus regulated by the USACE under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act (RHA). Waterbodies were also investigated to determine if they were waters of the State of Tennessee (WOST), regulated by TDEC under the Tennessee Water Quality Control Act of 1977. A Tennessee Qualified Hydrologic Professional (TN-QHP) conducted a hydrologic determination of each linear watercourse in accordance with the Tennessee Department of Environment and Conservation Division of Water Pollution Control Guidance for Making Hydrologic Determinations (TDEC 2011).

Water resources identified within the Direct Impact Area comprised 101 linear feet of perennial stream and 80 linear feet of wet weather conveyances or ephemeral streams. (Attachment 1, Figure 1-C). One additional wet weather conveyance or ephemeral stream was identified along the northern boundary of the access road area, but outside of the Direct Impact Area. The perennial stream, a relatively permanent water (RPW), eventually flows into the Tennessee River, a TNW, and is classified as a WOTUS and WOST. The wet weather conveyance or ephemeral stream is considered a non-RPW, but has a direct connection to a RPW and would be potentially a WOTUS. The ephemeral waterbody was also classified as a wet weather conveyance and would not be a WOST.

All features identified are located within the Upper Duck Watershed (8-digit Hydrologic Unit Code [HUC] 06040002) and within the Globe Creek Subwatershed (12-digit HUC 060400020601). The nearest named receiving water (East Fork Globe Creek) is included on the Final 2018 List of Impaired and Threatened Waters in Tennessee, required by Section 303(d) of the Clean Water Act (TDEC 2018). This waterbody is listed as impaired for Nitrate/Nitrite, Total Phosphorus, Chloride, and *Escherichia coli*.

Implementation of the Action Alternative would result in ground disturbance during construction activities that could result in potential temporary and minor impacts to water resources due to sediment laden runoff during construction activities. During construction activities, applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) would be employed and activities would be accomplished in compliance with applicable storm water permitting requirements. Therefore, impacts to water resources resulting from sediment laden runoff during construction activities are anticipated to be temporary and minor.

Implementation of the Action Alternative would remove the riparian canopy along approximately 101 linear feet of perennial stream (SMA01) and 80 linear feet of wet weather conveyance or ephemeral stream (WWCMA01) during construction of the access road and utility line. Removal of riparian canopy would reduce shading of the waterbody channels resulting in increased water temperatures, and would potentially reduce species habitat and increase susceptibility to bank erosion and surface runoff. Waterbodies SMA01 and WWCMA01 would also be impacted by

new permanent culverts or similar structures required for the access road and utility line crossings. Although removal of riparian canopy and installation of new permanent culverts or similar structures would result in long-term reduced species habitat in the immediate areas of the crossings, these waterbodies receive runoff from surrounding industrial and agricultural areas and were observed to be lacking aquatic species and biological organisms, and in turn drain into East Fork Globe Creek, which is on the USEPA 303(d) list due to impaired water quality. Runoff from commercial, industrial, and agricultural areas may contain increased levels of sediment and contaminants that may result in reduced water quality in the receiving waterbodies. Waterbodies are not located within the area where the kiosk sign would be installed. The Action Alternative includes the resurfacing of Veterans Drive. There is an existing bridge where Veterans Drive crosses East Fork Globe Creek, and resurfacing activities would not be expected to impact the waterbody.

Because impacts to SMA01 and WWCMA01 cannot be avoided, consultation and permitting with the USACE Nashville District and TDEC would be required prior to initiation of construction. Impacts to WOTUS would require a Section 404 permit and a Section 401 Clean Water Act certification. Impacts to WOST would require an Aquatic Resource Alteration Permit (ARAP) from the TDEC, which would also serve as the Section 401 Water Quality Certification. During construction activities, applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) would be employed to minimize impacts, and activities would be accomplished in compliance with applicable storm water permitting requirements. Although the Action Alternative would result in temporary and permanent impacts to waterbodies as a result of removal of riparian canopy and installation of new permanent culverts or similar structures, impacts are anticipated to be minor and not result in adverse impacts to local surface water quality or groundwater supplies or quality.

Future expansion of the I-65 Commerce Park could potentially impact water resources within the Indirect Impact Area. Water resources identified within the Indirect Impact Area include one perennial stream, one wet weather conveyance or ephemeral stream, and one pond that is an impoundment of the perennial stream. If future development of the Indirect Impact Area cannot avoid impact to these water resources, consultation and permitting with the USACE Nashville District and TDEC would be required prior to initiation of construction. Impacts to WOTUS would require a Section 404 permit and a Section 401 Clean Water Act certification. Impacts to WOST would require an ARAP from the TDEC, which would also serve as the Section 401 Water Quality Certification. Although future expansion of the I-65 Commerce Park could potentially result in impacts to water resources, impacts would be expected to be conducted and mitigated in accordance with Section 404 and Section 401 permits and would not result in adverse impacts to local surface water quality or groundwater supplies or quality.

Under the No Action Alternative, if the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment, access road and utility 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 for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board were not able to secure the funding for the actions described in this Environmental Assessment, the access road and utility line construction disturbances would not occur and existing site conditions would likely be maintained resulting in no impact to water resources and water quality.

# 4.2.3 Biological Resources

# Vegetation

Aerial photographs, site photographs, and topographic maps, were reviewed to preliminarily identify the vegetative communities present within the Direct Impact Area and Indirect Impact Area. Following review of available data, field surveys were conducted on December 17 and 18, 2018 and February 13, 2019 to verify these vegetative communities. The Direct Impact Area consists of the paved Veterans Drive and three vegetation communities: open pasture land (0.04 acres), maintained grass (1.42 acres), and early successional, deciduous forest (0.55 acres).

Vegetation within the open pasture areas consists primarily of grasses that are maintained either by cattle grazing or are mowed/tilled, possibly for hay production.

Vegetation within the maintained grass area consists of grasses maintained by mowing. This area is present within a vacant lot between two industrial complexes and would be used for installation of the access road and marketing signage.

The deciduous forest present is comprised of early successional tree species. The understory is sparse and much of it is covered by leaf litter. Catbrier (*Smilax* spp.), Chinese privet (*Ligustrum sinense*) and poison ivy (*Toxicodendron radicans*) are prevalent in the mid-story. The dominant canopy species include American sycamore (*Plantanus occidnetalis*), black cherry (*Prunus serotina*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*).

Implementation of the Action Alternative would remove trees within the deciduous forest area for the construction of the kiosk sign, access road, and utility line and would remove grasses within the maintained grass area and open pasture area for the construction of the access road and utility line. The Action Alternative would remove less than one acre of forested habitat. 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 Direct Impact Area. Implementation of the Action Alternative would have a negligible impact on vegetation in the region.

Impacts to vegetation associated with future expansion of the I-65 Commerce Park could occur within the Indirect Impact Area and would involve removal of grasses within the open pasture area and minimal to no tree clearing depending on the design of the future expansion. It is expected that future expansion of the I-65 Commerce Park within the Indirect Impact Area would have a negligible impact on vegetation in the region.

Under the No Action Alternative, if the Lewisburg Industrial Development Board 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 for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board 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.

# <u>Wetlands</u>

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 Natural Resource Conservation Service (NRCS) Soils and Soil Survey Geographic (SSURGO)/State Soil Geographic (STATSGO) databases were reviewed to determine if wetlands were potentially present within the Direct Impact Area. Attachment 1, Figure 1-E depicts NWI data for the Direct Impact Area. Following review of available data, field surveys were conducted to identify and delineate wetlands within the Direct Impact Area and Indirect Impact Area. The wetland identification/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). No wetlands were identified within the Direct Impact Area during the field surveys. Therefore, implementation of the Action Alternative would not impact wetlands.

Future expansion of the I-65 Commerce Park would potentially impact palustrine emergent (PEM) wetland within the Indirect Impact Area. A single PEM wetland is located within the southern portion of the Indirect Impact Area. If future development of the Indirect Impact Area cannot avoid impact to the wetland, consultation and permitting with the USACE Nashville District and TDEC would be required prior to initiation of construction. Impacts would require a Section 404 permit and a Section 401 Clean Water Act certification. Although future expansion of the I-65 Commerce Park would potentially result in impacts to wetland resources, impacts would be expected to be conducted and mitigated in accordance with Section 404 and Section 401 permits.

Under the No Action Alternative, if the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment, similar indirect impacts to wetlands could occur during future expansion of the I-65 Commerce Park. If the Lewisburg Industrial Development Board 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.

### **Floodplains**

A floodplain is the relatively level land area along a stream or river that is subject to periodic flooding. The area subject to a one-percent chance of flooding in any given year is normally called the 100-year floodplain. The area subject to a 0.2-percent chance of flooding in any given year is normally called the 500-year floodplain. It is necessary to evaluate development in the floodplain to ensure that the project is consistent with the requirements of Executive Order (EO) 11988, Floodplain Management.

As a federal agency, TVA adheres to the requirements of EO 11988, Floodplain Management. The objective of EO 11988 is "...to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative" (EO 11988, Floodplain Management). The EO is not intended to prohibit floodplain development in all cases, but rather to create a consistent government policy against such development under most circumstances (U.S. Water Resources Council, 1978). The EO requires that agencies avoid the 100-year floodplain unless there is no practicable alternative. Consistent with EO 11988, the proposed kiosk sign would be located outside the floodplain of the unnamed tributary of East Fork Globe Creek. Although there are no identified floodplains within the Direct Impact Area, a portion of the existing road (Veterans Drive) that would be resurfaced crosses East Fork Globe Creek (Attachment 1, Figure 1-D), and therefore its floodplain. A portion of the proposed access road and utility line extension would cross the floodplain of an unnamed tributary of East Fork Globe Creek. Consistent with EO 11988, utility lines and access roads are considered to be repetitive actions in the 100-year floodplain that should result in minor impacts (TVA 1981). To minimize adverse impacts, any road construction within the floodplain of East Fork Globe Creek or the unnamed tributary of East Fork Globe Creek would be done in such a manner that upstream flood elevations would not be increased by more than 1.0 foot, and comply with Lewisburg Industrial Development Board or Marshall County, Tennessee, floodplain regulations.

Compliance with Executive Order 11988 (Floodplain Management) would be ensured by either avoiding development in the floodplain of the tributaries of East Fork Globe Creek, or evaluating alternatives to the proposed development that would either identify a better alternative or support and document a determination of no practicable alternative to the proposed floodplain siting. To minimize adverse impacts, the following conditions would be implemented during design of the project.

- 1. The access road and utility line owner should review prior to construction any future driveways, facilities, parking lots and/or roadways connecting to the access road to ensure that the owner is not supporting flood-damageable development within the 100-year floodplain.
- 2. It is the responsibility of the access road and utility line owner to contact the local floodplain official(s) to ensure any development connecting to these facilities would comply with local floodplain ordinances.

By adhering to conditions 1 and 2 above, the Proposed Action would result in no significant impact on floodplains and their natural and beneficial values.

Future expansion of the I-65 Commerce Park would cause no impacts to minor impacts to floodplains within the Indirect Impact Area, depending upon whether future activities connecting to the proposed utility line and access road would be located within the floodplain. Construction of the utility line and access road is designed to attract industry, and thus development, to the industrial park. Marshall County participates in the National Flood Insurance Program, and any development must be consistent with their floodplain ordinance. Compliance with the Marshall County floodplain ordinance would ensure that impacts to the floodplain and to proposed facilities or activities within the floodplain due to future development would be minimized. With implementation of conditions 1 and 2, future expansion of the I-65 Commerce Park is not anticipated to result in significant impacts to floodplains and their natural and beneficial values.

Under the No Action Alternative, if the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment, no significant impact on floodplains and their natural and beneficial values would result with adherence to conditions 1 and 2 above. If the Lewisburg Industrial Development Board 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 on floodplains and their natural and beneficial values.

#### <u>Wildlife</u>

Aerial photographs, site photographs, and topographic maps were reviewed to determine the habitat types potentially present within the Direct Impact Area. Following review of available data, a field survey was conducted to verify habitat types present within the Direct Impact Area which consist of open pasture land (0.04 acres), maintained grass (1.42 acres), and early successional, deciduous forest (0.55 acres).

Common inhabitants of pasture and maintained grass areas include brown-headed cowbird, song sparrow, common grackle, eastern bluebird, mourning dove, eastern meadowlark, and field sparrow (Cornell Lab of Ornithology 2019). Bobcat, coyote, eastern cottontail, hispid cotton rat, 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 Direct Impact Area included mourning dove, black vulture, and various sparrows.

Common bird species found in deciduous forests include blue jay, Carolina wren, northern cardinal, brown thrasher, and eastern phoebe (Cornell Lab of Ornithology 2019). Deciduous forests in this region may also provide foraging and roosting habitat for several species of bat, particularly in areas where the forest understory is partially open. Common bat species found in forested habitats of this region include big brown bat, eastern red bat, evening bat, silver-haired bat, and tricolored bat. Dense forests offer limited foraging and roosting opportunities for bats due to decreased accessibility to flight paths. Eastern chipmunk, gray fox, and woodland vole are other mammals likely to occur within this habitat (Kays and Wilson 2002). Black kingsnake, black rat snake, and northern ring-necked snake are common reptiles of deciduous forests in this region (Conant and Collins 1998, Dorcas and Gibbons 2005, Scott and Redmond 2008). Species or signs of their presence observed within the deciduous forest area during the field survey of the Direct Impact Area included deer, raccoon, opossum, gray squirrel, blue jay, and northern cardinal.

Review of the TVA Regional Natural Heritage database in January 2018 indicated that no caves have been documented within three miles of the Direct Impact Area and no caves were identified during a bat habitat assessment field survey conducted on December 19, 2018 (Jackson Group 2019). In addition, no aggregations of migratory birds or wading bird colonies have been documented within three miles of the Project Site and none were observed during the field survey. The USFWS IPaC report (USFWS 2018a) identified the wood thrush (*Hylocichla mustelina*) as potentially occurring within the Direct Impact Area. The wood thrush is listed on the USFWS Migratory Birds of Conservation Concern list and is known to occur in mainly deciduous forests. This species was not observed during the field survey, but could potentially occur within the deciduous forest area of the Direct Impact Area.

Implementation of the Action Alternative would remove 0.55 acres of trees within the deciduous forest area for the construction of the access road, utility line, and kiosk sign and would remove grasses within the open pasture and maintained grass areas for construction of the access road and utility line. Wildlife currently using these habitats would be displaced by habitat removal. Direct impacts to some immobile individuals during the time of construction may occur,

particularly if clearing activities take place during breeding/nesting seasons. Mobile individuals are expected to disperse into similar habitats in the surrounding landscape. Due to the relatively small amount of proposed habitat removal and the abundance of similarly suitable habitat in the surrounding landscape, Proposed Action construction is not expected to affect populations of species common to the area, including Migratory Birds of Conservation Concern.

Impacts to wildlife associated with future expansion of the I-65 Commerce Park could occur within the Indirect Impact Area and would be expected to be similar to those described above for the Proposed Action. It is expected that future expansion of the I-65 Commerce Park within the Indirect Impact Area would have a minor impact on wildlife and would not affect populations of species common to the area.

Under the No Action Alternative, if the Lewisburg Industrial Development Board 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 for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board 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.

#### Aquatic Ecology

As described above, water resources identified within the Direct Impact Area consist of one perennial stream channel and one wet weather conveyance or ephemeral stream (Attachment 1, Figure 1-C). These areas comprise 101 linear feet of perennial stream, and 80 linear feet of wet weather conveyance or ephemeral stream.

Aquatic species common to small, perennial streams within the region of the Direct Impact Area include several species of minnow (stonerollers, dace, shiners, chubs), suckers (hogsucker, buffalo, redhorse), sunfishes (bass, sunfish, and crappie), and darters (Etnier and Starnes 1993). No aquatic species were observed within the Direct Impact Area during the field survey. The lack of aquatic life could have been a factor of the time of year of the survey as well as the overall quality of the water resources due to adjacent land uses (industrial and agricultural). The waterbodies present within the Direct Impact Area receive runoff from the existing I-65 Commerce Park and surrounding agricultural areas. These waterbodies in turn drain into East Fork Globe Creek, which is on the USEPA 303(d) list due to impaired water quality. Runoff from commercial, industrial, and agricultural areas may contain increased levels of sediment and contaminants that may result in reduced water quality in the receiving waterbodies. Reduced water quality could influence the type and diversity of species present in the receiving waterbodies.

Under the Action Alternative, approximately 101 linear feet of trees would be cleared along perennial steam SMA01. The clearing of vegetation and construction of the access road and utility line crossing may potentially increase the amount of sediment discharged into this waterbody resulting in reduced water quality. In addition, work within the waterway may temporarily disturb non-mobile aquatic species (if present at the time of construction). During construction of the access road and utility line, applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) would be employed and activities would be accomplished in compliance with applicable storm water permitting requirements. Mitigation

measures to reduce permanent impacts to aquatic species may include construction of a culvert or similar structure that would allow the passage of aquatic species. Therefore, with implementation of applicable BMPs and mitigation measures, impacts to aquatic species from the Action Alternative are anticipated to be temporary and minor.

The Action Alternative includes the resurfacing of Veterans Drive. There is an existing bridge where Veterans Drive crosses East Fork Globe Creek, and resurfacing activities would not be expected to impact the aquatic species. In addition, during resurfacing activities, applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) would be employed and activities would be accomplished in compliance with applicable storm water permitting requirements.

Future expansion of the I-65 Commerce Park could potentially impact one perennial stream, one wet weather conveyance or ephemeral stream, and one pond that is an impoundment of the perennial stream. Impacts to aquatic species associated with future expansion of the I-65 Commerce Park would be expected to occur within the Indirect Impact Area and would be similar to those described above for the Proposed Action. It is expected that similar mitigation measures as those described above for the Proposed Action would be implemented during future expansion within the Indirect Impact Area. Therefore, with implementation of applicable BMPs and mitigation measures, impacts to aquatic species are anticipated to be temporary and minor.

Under the No Action Alternative, if the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment, disturbances associated with the access road and utility line crossings would occur, resulting in similar impact to aquatic species as described above for the Action Alternative. In addition, indirect impacts, similar to those described above for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board were not able to secure the funding for the actions described in this Environmental Assessment, disturbances associated with the access road and utility line crossings would not occur and existing site conditions would likely be maintained resulting in no impact to aquatic species.

### 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. Protection is also afforded under the ESA to "critical habitat", which the USFWS defines as specific areas both within and outside the geographic area occupied by a species on which are found those physical and biological features essential to its conservation. 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 State of Tennessee 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.

**Plant Species** – A December 2018 review of the TVA Natural Heritage Database indicated that five state-listed or sensitive plant species have been previously documented within a five-mile radius of the Direct Impact Area (**Table 4-1**).

# Table 4-1: TVA Natural Heritage Database Plant Species of Conservation ConcernKnown within Five Miles and Federally Listed Plant Species Previously Reportedfrom Marshall County, Tennessee

Common Name	Scientific Name	Federal Status	State Status (Rank)	
Tennessee Milk-vetch	Astragalus tennesseensis	None	SPCO (S3)	
Leafy Prairie-clover	Dalea foliosa	END	END (S2S3)	
Duck River Bladderpod	Paysonia densipila	None	SPCO (S3)	
Limestone Fame-flower	Phemeranthus calcaricus	None	SPCO (S3)	
Sunnybell	Schoenolirion croceum	None	THR (S3)	
Status codes: THR = Threatened, END = Endangered; SPCO =Special Concern; PS = Potential Listing. Rank Codes: S1 = Extremely rare and critically imperiled in the state with 5 or fewer occurrences, or very few remaining individuals, or because of some special condition where the species is particularly vulnerable to extirpation; S2 = Very rare and imperiled within the state, 6 to 20 occurrences; and S3 = Rare or uncommon with 21 to 100 occurrences; S#S# = Denotes a range of ranks because the exact rarity of the element is uncertain (e.g., S1S2)				

The Direct Impact Area is not likely to support these or other state-listed plants because of the lack of suitable habitat and the on-going maintenance of the maintained grass and pasture. One federally listed plant is known to occur in Marshall County, but the habitat requirement for this species does not occur within the Direct Impact Area. No designated critical habitat for plant species occurs within or adjacent to the Direct Impact Area.

Prior to completing field surveys, an official species list for the survey area was generated by the USFWS Information for Planning and Consultation (IPaC) Environmental Conservation Online System on December 10, 2018 (USFWS 2018a). The only potential plant species identified by the IPaC was the Leafy Prairie-clover. The habitat required for this species does not occur within the Direct Impact Area.

A project review was also conducted by the TDEC, Division of Natural Areas, Natural Heritage Program. TDEC determined that based on the lack of habitat within the Direct Impact Area, they do not anticipate "any impacts to rare, threatened, or endangered plant species from this project; provided that best management practices to address erosion and sediment are implemented and maintained during construction activities." (TDEC, 2019)

Based on the lack of suitable habitat within the Direct Impact Area, implementation of the Action Alternative is not anticipated to impact federally or state-listed plant species.

The USFWS IPaC consultation, TDEC, Division of Natural Areas, Natural Heritage Program consultation, and TVA Natural Heritage Database review included both the Direct Impact Area and the Indirect Impact Area. Field surveys did not identify suitable habitat for federally or state-listed plant species within the Indirect Impact Area. Similar to the Proposed Action, future expansion of the I-65 Commerce Park is not anticipated to impact federally or state-listed plant species.

Similarly, the No Action Alternative would result in no impact to federally or state-listed plant species regardless of whether or not the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment.

**Wildlife and Aquatic Species** – A December 2018 review of the TVA Natural Heritage Database indicated that eight federally-listed and 13 federally and state-listed animals have recorded occurrences within three miles of the Direct Impact Area. The review also indicated that an additional three federally and state-listed animals have been recorded in Marshall County, Tennessee but not within the three-mile radius or within the Upper Duck Watershed HUC (**Table 4-2**). The USFWS has determined that the federally threatened northern longeared bat and the federally endangered Indiana bat and gray bat have the potential to occur throughout the state of Tennessee; therefore, these species are also included in **Table 4-2**.

		Element	Status <sup>3</sup>		
Common Name	Scientific Name	Rank <sup>2</sup>	Federal	State (Rank)⁴	
Fishes					
Coopercreek Darter	Etheostoma aquali	E	END	T (S2S3)	
Golden Darter	Etheostoma denoncourti	AC, BC, E, H	None	D (S2)	
Redband Darter	Etheostoma luteovinctum	E, H	None	D (S4)	
Slenderhead Darter	Percina phoxocephala	Е, Н	None	D (S3)	
Mussels					
Birdwing Pearlymussel	Lemoix rimosus	E	END	END (S1)	
Cumberland Monkeyface	Quadrula intermedia	H, E	END	END (S1)	
Cumberlandian Combshell	Epioblasma brevidens	E	END	END (S1)	
Fanshell	Cyprogenia stegaria	E	END	END (S1)	
Fluted Kidneyshell	Ptychobranchisubtentum	E	END	None (S2)	
Orange-foot Pimpleback	Plethobasis cooperianus	Н	END	END (1)	
Oyster Mussel	Epioblasma capsaeformis	E	END	END (S1)	
Pale Lilliput	Toxolasma cylindrellus	E	END	END (S1)	
Pink Mucket (pearlymussel)	Lampsilis abrupta	E	END	END (S2)	
Purple Lilliput	Toxolasma lividus	H,X	None	None (S1S2)	
Pyramid Pigtoe	Pleurobema rubrum	E	None	None (S1S2)	
Rayed Bean	Villosa fabalis	Н	END	None (S1)	
Slabside Pearlymussel	Pleuronaia dolabelloides	E, H	END	None (S2)	
Smooth Rabbitsfoot	Quadrula cylindrica cylindrica	E	THR	None (S3)	
Snuffbox	Epioblasma triquetra	E	END	None (S3)	
Spectaclecase	Cumberlandia monodonta	A	END	R (S2S3)	

# Table 4-2: Records of Federally and State-Listed Animal Species from Marshall County, Tennessee and/or within the HUC of the Direct Impact Area<sup>1</sup>

# Table 4-2: Records of Federally and State-Listed Animal Species from Marshall County, Tennessee and/or within the HUC of the Direct Impact Area<sup>1</sup>

		Element	Status <sup>3</sup>			
Common Name	Scientific Name	Rank <sup>2</sup>	Federal	State (Rank) <sup>₄</sup>		
Tan Riffleshell	Epioblasma florentina walkeri	Н	END	END (S1)		
Tennessee Clubshell	Pleurobema oviforme	Н	None	None (S2S3)		
Tuberculed Blossom Pearlymussel*	Epioblasma torulosa torulosa	x	END	END (SX)		
Snails						
Helmut Rocksnail	Lithasia duttoniana	Н	None	None (S2)		
Ornate Rocksnail*	Lithasia geniculate	Н	None	None (S2)		
Amphibians						
Hellbender*	Hellbender*Cryptobranchus alleganiensisHPSEND (S3)					
Mammals						
Gray Bat⁵	Myotis grisescens	None	END	END (S2)		
Indiana bat <sup>5</sup>	Myotis sodalis	None	END	END (S1)		
Northern long-eared bat5Myotis septentrionalisNoneTHRTHR(S1				THR(S1S2)		
<sup>1</sup> Source: TVA Regional Natural Heritage Database, extracted December 2018; USFWS Ecological Conservation OnlineSystem ( <u>http://ecos.fws.gov/ecos/home.action</u> ) and Tennessee Bat Working Group species occurrence maps ( <u>http://www.tnbwg.org/</u> ), accessed 10/12/2018.						
<sup>2</sup> Element Rank: E = Extant; H = Historical (Element occurrence is greater than 25 years old); A = Excellent viability; AC = Excellent, good, or fair estimated viability; BC = Good or fair estimated viability; E = Extirpated.						
<sup>3</sup> Status Codes: END = Listed Endangered; THR = Threatened; TRKD = Tracked by State Natural Heritage program; D = Deemed In Need of Management; R = Rare						
<sup>4</sup> State Rank: S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable; SH = Historic SX = Presumed Extirpated						
* Federally listed species known from Marshall County, TN but not within three miles of the Direct Impact Area.						
<sup>o</sup> Federally listed species thought to occur statewide though no records are known from Marshall County, Tennessee.						

An official species list was generated by the USFWS IPaC Environmental Conservation Online System on January 3, 2018 (USFWS, 2018a). The USFWS identified three mammals (all bats) as potentially occurring within the Direct Impact Area (**Table 4-3**).

# Table 4-3: USFWS IPaC List of Federally Listed Terrestrial and Aquatic SpeciesPotentially within the Direct Impact Area

Common Name	Scientific Name	Federal Status			
Mammals					
Gray Bat	Myotis grisescens	Endangered			
Indiana Bat	Myotis sodalis	Endangered			
Northern long-eared bat	Myotis septentrionalis	Threatened			

A project review was also conducted by the TDEC, Division of Natural Areas, Natural Heritage Program and did not identify any rare species within the project area.

The water resources identified within the Direct Impact Area do not provide the required habitat(s) for the federally and/or state protected aquatic species identified by the USFWS, TDEC Division of Natural Areas, Natural Heritage Program, or TVA Regional Natural Heritage Database queries. Therefore, implementation of the Action Alternative is not anticipated to impact federally or state-listed aquatic species (e.g., fish, mussels, snails, and amphibians).

The water resources identified within the Indirect Impact Area do not provide the required habitat(s) for the federally and/or state protected aquatic species identified by the USFWS, TDEC Division of Natural Areas, Natural Heritage Program, or TVA Regional Natural Heritage Database queries. Therefore, Future expansion of the I-65 Commerce Park is not anticipated to impact federally or state-listed aquatic species (e.g., fish, mussels, snails, and amphibians).

Implementation of the Action Alternative would remove trees within the Direct Impact Area for installation of the access road and utility line for a total of 0.55 acre of tree removal. No potential roost trees for Indiana bat and northern long-eared bat were identified within the Direct Impact Area during a bat habitat assessment field survey conducted on December 19, 2018 (Jackson Group 2019). These federally listed species as well as gray bats have also been documented using bridges. A bridge on Veterans Drive is proposed for resurfacing. Survey of this bridge on April 11, 2019 did not identify any bats or evidence of bats using this bridge. Therefore, removal of potentially suitable summer roosting habitat for bats would not occur as a part of the Action Alternative.

No caves or other winter roosting habitat was identified in the Direct Impact 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 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. These activities and associated conservation measures are identified on Page 5 of the TVA Bat Strategy Project Screening Form (Attachment 2) and would be implemented as part of the Proposed Action. With the implementation of the identified Conservation Measures, no significant impacts to Indiana bat, northern long-eared bat, and gray bat are anticipated.

Suitable summer roosting habitat for Indiana and northern long-eared bat was identified within the Indirect Impact Area during a bat habitat assessment field survey conducted on December 19, 2018 (Jackson Group 2019). Future expansion of the I-65 Commerce Park would potentially remove potential roost trees for Indiana bat and northern long-eared bat within the Indirect Impact Area. If future development of the Indirect Impact Area cannot avoid removal of potential roost trees, consultation with the USFWS would be required prior to initiation of construction. Although future expansion of the I-65 Commerce Park would potentially remove suitable summer roosting habitat for Indiana and northern long-eared bat, impacts would be expected to be conducted in consultation with the USFWS.

Under the No Action Alternative, if the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment, indirect impacts, similar to those described above for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board 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

# 4.2.4 Land Use and Prime Farmland

Aerial photographs, site photographs, topographic maps, the USFWS NWI, the NRCS SSURGO/STATSGO databases were reviewed to preliminarily identify the land use types and prime farmland present within the Direct Impact Area. Following review of available data, field surveys were conducted to confirm land use within the Direct Impact Area and the Indirect Impact Area. The Direct Impact Area consists of three broad land use types: developed/industrial land, open land, and forest. Developed/industrial land within the Direct Impact Area consists of the paved roadway (Veterans Drive). Open land within the Direct Impact Area consist of open pasture land and areas of maintained grass. Forest land within the Direct Impact Area consists of early successional, deciduous forest.

Implementation of the Action Alternative would result in 1.45 acres of open land and 0.55 acres of forested land being converted to developed/industrial land use. Review of aerial imagery shows that all of these land use types are common and well represented throughout the region. The implementation of the Action Alternative is anticipated to have a negligible impact on the land use of the region.

Prime farmland is land that is the most suitable for economically producing sustained high yields of food, feed, fiber, forage, and oilseed crops. Prime farmlands have the best combination of soil type, growing season, and moisture supply and are available for agricultural use. The Farmland Protection Policy Act (7 United States Code [U.S.C.] 4201 et seq.) requires Federal agencies to take into account the adverse effects of their actions on prime or unique farmlands. The purpose of the Act is "to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses." Approximately 38,700 acres, or nearly 16 percent of the total acreage in Marshall County meets the soil requirements for prime farmland. Approximately 25,000 acres of this prime farmland is used for crops. NRCS 2005.

According to the NRCS, approximately 0.40 acres of the Direct Impact Area is considered prime farmland and would be affected by installation of the access road and utility line (Attachment 1, Figure 1-F). However, this area of prime farmland is located within the existing I-65 Commerce Park and was previously converted when the industrial park was originally constructed. An additional 0.40 acres of the existing Veterans Drive that would be resurfaced is considered prime farmland; however, this area of prime farmland was previously converted when the road was originally constructed.

Because areas of prime farmland located within the Direct Impact Area have been previously converted to non-prime farmland during previous development, the Proposed Action would not result in conversion of prime farmland. Therefore, there would be no impact to prime farmland associated with implementation of the Action Alternative.

Future expansion of the I-65 Commerce Park would cause no impacts to minor impacts to prime farmland within the Indirect Impact Area, depending upon whether future activities connecting to the proposed utility line and access road would be located within areas of prime farmland. Approximately 12 acres of the Indirect Impact Area is considered prime farmland, which amounts to less than 0.01 percent decrease in prime farmland within Marshall County. Since the conversion would affect such a small proportion, there would be minor impacts to prime farmland associated with future expansion of the I-65 Commerce Park.

Under the No Action Alternative, if the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment, similar impacts to land use and prime farmland resources would occur as described above for the Action Alternative. In addition, indirect impacts, similar to those described above for future expansion of the I-65 Commerce Park, could occur during future expansion of the I-65 Commerce Park. If the Lewisburg Industrial Development Board were not able to secure the funding for the actions described in this Environmental Assessment, existing site conditions would likely be maintained resulting in no impact to land use and prime farmland.

## 4.2.5 Archaeological and Historical Resources

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

TVA determined the Area of Potential Effect (APE) for the Proposed Action to include the Direct Impact Area and Indirect Impact Area which include multiple parcels and an unobstructed halfmile viewshed of the property. No previously recorded archaeological sites were identified within the Direct Impact Area of the APE. No historic properties were located within the Direct Impact Area, and the Hill house (ML-447), a previously recorded and recommended National Register of Historic Places (NRHP) eligible historic property, is located within the viewshed developed for the Direct Impact Area of the APE. Although ML-447 is within the viewshed of the APE, the existing I-65 Commerce Park lies between much of the Direct Impact Area and ML-447. The viewshed from ML-447 is severely limited by buildings located within the existing I-65 Commerce Park.

A Phase I cultural resources investigation was performed that included both an assessment of standing structures as well as archaeological survey of the APE (Simpson et al., 2019). No archaeological sites were identified within the Direct Impact Area of the APE during the archaeological survey.

The architectural survey documented and assessed eight architectural resources, including one previously recorded property (ML-447) and seven newly recorded properties (HP-1, HP-2, HP-3, HP-4, HP-5, HP-6 and HP-7 Hill Cemetery). In addition, the survey confirmed the razing of one previously recorded structure (ML-448). **Table 4-4** below provides the cultural resources documented and assessed during the Phase 1 survey.

Cultural Resource Number	Description	Eligibility Recommendation
HP-1	1966 brick, linear ranch house with a gabled roof and associated outbuildings	Ineligible
HP-2	1951 one-story rectangular Vernacular house with addition	Ineligible
HP-3	1966 brick, linear ranch house with two-bay walk-out garage addition	Ineligible
HP-4	1959 one-story rectangular side-gabled Minimal Traditional Style House	Ineligible
HP-5	1969 brick veneered, two-story New Traditional Classic Style house with associated barn and outbuildings.	Ineligible
HP-6	1967 brick veneered, linear ranch house with gabled roof, and associated garage.	Ineligible
HP-7 Hill Cemetery	Regional Family cemetery, with interments from 1837 to 2018	Ineligible
ML-447	Hill House; circa 1850 Gothic Revival I-House with associated cemetery (Boyett-Hill) and outbuildings	Eligible

Table 4-4: Cultural Resources Identified during the Phase I Survey

TVA agrees that ML-447 is eligible for the NRHP. Due to the limited portion of the APE that would be visible, the low visual profile of the Proposed Action, and the existing visual intrusion of the extant buildings within the existing I-65 Commerce Park, implementation of the Action Alternative would have No Effect on ML-477. TVA recommends that the remaining seven assessed architectural resources be considered not eligible for the NRHP.

Based on the finding of the Phase I cultural resources investigation and archaeological survey, TVA determined that no archaeological sites or historic properties would be directly affected by implementation of the Action Alternative.

In addition to the Direct Impact Area, the Phase I cultural resources investigation was performed over the Indirect Impact Area of the APE (Simpson et al., 2019a). The survey resulted in the identification of two new archaeological sites (40ML237 and 40ML238) that lie completely within the Indirect Impact Area and one new archaeological site (40ML239) that lies partially within and partially outside of the Indirect Impact Area. Sites 40ML237 and 40ML238 were not recommended as eligible to the NHRP, and no additional work was recommended. Site 40ML239 possess extensive deposits, spatial clustering, diagnostic artifacts, and has the potential to contain buried subplow deposits in the way of truncated features. The site produced Late Archaic projectile points, an important period of expansion and occupation within the broader Duck River watershed and Central Basin of Tennessee. As such, this site was believed to have the potential to be eligible for the NRHP and additional Phase II evaluation was recommended if the site could not be avoided during future expansion of the I-65 Commerce Park.

A Phase II evaluation of site 40ML239 was completed within the portion of the site contained in the Indirect Impact Area of the APE (Simpson et al. 2019b). The Phase II evaluation recovered intact deposits dating to the Late Archaic. These deposits were focused within an approximately 0.5 acre area along the eastern edge of the Indirect Impact APE. Based upon the recovery of intact deposits within the Indirect APE and the probability that similar deposits exist within the untested portions of the site that lie outside of the Indirect APE, 40ML239 was recommended as eligible for listing within the NRHP.

TVA consulted with the Tennessee SHPO in June 2019 regarding TVA's findings and recommendations. In a letter dated July 3<sup>rd</sup>, 2019 the Tennessee SHPO concurred with TVA's findings that site 40ML239 is eligible for listing in NRHP, and that the majority of the site that lies within the Indirect APE had been either disturbed or exhausted of all archaeological research potential by the Phase II evaluation, with the exception of the remainder of the core 0.5 acre portion of the site that was not fully investigated during the Phase II evaluation, wherein all intact deposits were observed (Attachment 3). The SHPO requested that all planned ground-disturbing activities within this 0.5 acre area be monitored during the construction phase of the I-65 Commerce Park expansion. As it was unclear when, or if, this expansion would take place, the remaining 0.5 acre area was stripped and monitored for additional intact archaeological deposits, and all research potential for 40ML239 was exhausted within the portion of the site contained within the indirect APE. A report of this monitoring effort was completed in August 30, 2019 and submitted to Tennessee SHPO (Simpson and Loughlin 2019). In a letter dated September 19, 2019 the Tennessee SHPO found the monitoring effort acceptable.

Pursuant to 36 CFR Part 800.3(f) (2), TVA also consulted with federally recognized Indian tribes regarding properties that may have religious and cultural significance to their tribe and eligible for the NRHP. TVA received responses from the Cherokee Nation, Chickasaw Nation, and Jena Band of Choctaw Indians. Consultations with federally recognized Indian tribes were completed in October 2019. The Nations requested re-contact if there are changes to the scope of activities within the APE and that activities be immediately halted and re-contacted if items of cultural significance are discovered during the course of the project.

Under the No Action Alternative, if the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment, similar indirect impacts to archaeological resources could occur during future expansion of the I-65 Commerce Park. If the Lewisburg Industrial Development Board 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 archaeological and historic resources.

# 4.2.6 Visual Resources

The visual landscape surrounding the Direct Impact Area consists of flat to gently rolling open land, intermittent forested land, and various developments and industry. The existing I-65 Commerce Park extends to the north, south, and west of the Direct Impact Area and is comprised of approximately 220 acres and is currently home to four existing industries. The Direct Impact Area is located within an approximately 2.0-acre strip of land between two existing buildings and along the approximately 1.9-acre paved road (Veterans Drive). To the east of the Direct Impact Area is a parcel open pasture that is the potential future location of the I-65

Commerce Park Expansion. Mooresville Highway is located to the south of the Direct Impact Area with several residential homes along the highway. Veterans Drive begins at Mooresville Highway and runs through the existing I-65 Commerce Park, terminating in a cul-de-sac on the northern end of the industrial park. A band of trees along East Fork Globe Creek creates a visual screen between the residences, highway, and project components including the access road, utility line, and kiosk sign areas within the Direct Impact Area. There are also trees along the northern, eastern, and western edges of the existing I-65 Commerce Park that create a visual screen between surrounding farms and residences and the Direct Impact Area.

Construction vehicles and equipment visible during construction of the access road, utility line, kiosk sign, and resurfacing of Veterans Drive (an excavator, bulldozer, motor grader, road roller, dump truck, or similar vehicles and heavy machinery) would have a minor impact over the temporary construction period. Due to the existing tree line barrier between the residences along Mooresville Highway and trees to the north, east and west and the Direct Impact Area, it is expected that construction activity associated with installation of project components would have limited visibility to the residences or to motorists along the roads. Resurfacing, a routine road maintenance activity, would be visible to the residences and to motorist along Mooresville Highway during the short period of construction. Visual quality impacts resulting from implementation of the Action Alternative would therefore be temporary and minor.

Visual quality impacts resulting from future expansion of the I-65 Commerce Park could occur within the Indirect Impact Area and would likely involve construction vehicles and equipment visible over a temporary period during future potential construction. Permanent visual changes in the landscape could also occur due to future industrial development as areas are converted from a predominantly agricultural setting with scattered forested areas to industrial areas, and the level of impact would depend on the design of the future expansion. Overall, it is expected that future expansion of the I-65 Commerce Park within the Indirect Impact Area would result in minor temporary and permanent visual quality impacts.

Under the No Action Alternative, if the Lewisburg Industrial Development Board 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 visual quality impacts as described above for the Action Alternative. In addition, indirect impacts, similar to those described above for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board 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.

# 4.2.7 Noise

Noise impacts would occur temporarily in the vicinity of the Direct Impact Area during construction of the access road, utility line, kiosk sign, and resurfacing of Veterans Drive. Existing sources of noise in the area are primarily associated with traffic along Mooresville Highway and surrounding industrial and agricultural activities. Construction activities would involve operation of an excavator, bulldozer, motor grader, road roller, dump truck, or similar vehicles and heavy machinery over the temporary duration of construction. Primary sensitive noise receptors in the area include residents of homes along Mooresville Highway (located within approximately 300 feet of the Direct Impact Area), residents of homes in areas to the north, east, and west of the Direct Impact Area (located within approximately 1,200 feet of the

Direct Impact Area), and industrial business located within the exiting I-65 Commerce Park (adjacent to the Direct Impact Area). Project activities would generate increased noise from operation of equipment and road resurfacing. However, the anticipated noise levels resulting from operation of equipment would not differ significantly from equipment that is in regular use in the surrounding area from industrial and agricultural activities. In addition, construction activities would be conducted during daylight hours only. Thus, noise quality impacts resulting from implementation of the Action Alternative are anticipated to be minor and temporary.

Noise quality impacts resulting from future expansion of the I-65 Commerce Park could occur temporarily in the vicinity of the Indirect Impact Area during future construction. Future construction activities would be expected to generate increased noise from operation of equipment and construction of potential industrial buildings. However, the anticipated noise levels resulting from future operation of equipment and construction of potential industrial buildings would not differ significantly from equipment that is in regular use in the surrounding area from industrial and agricultural activities. In addition, it is expected that construction activities would be conducted during daylight hours only. Thus, noise quality impacts resulting from future expansion of the I-65 Commerce Park are anticipated to be minor and temporary.

Under the No Action Alternative, if the Lewisburg Industrial Development Board 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 above for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board 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.

# 4.2.8 Socioeconomic Conditions and Environmental Justice

According to estimates from the United States Census Bureau (2019), the population of Lewisburg is 11,857 and the population of Marshall County, Tennessee is 32,931 (see **Table 4-5**). More than 95 percent of the residents of Lewisburg are one of three races/ethnicities: white and not Hispanic or Latino (71.1 percent), black or African American (17.7 percent), and people of Hispanic or Latino ethnicity (8.2 percent). The racial and ethnic composition of Lewisburg is similar to the State of Tennessee. Marshall County as a whole has a higher proportion of white and not Hispanic or Latino (85.6 percent) than Lewisburg and Tennessee, and fewer black or African Americans (6.8%) and Hispanic or Latinos (5.1%) than Lewisburg. Other races and ethnicities comprise smaller proportions of the populations in Lewisburg and Marshall County than Tennessee overall. Overall, Lewisburg has somewhat higher levels of minority populations than the State of Tennessee as a whole.

	Tennessee	Marshall County	Lewisburg
Population <sup>2</sup>	6,715,984	32,931	11,857
White Alone, not Hispanic or Latino	73.9%	85.6%	71.1%
Black or African American Alone	17.1%	6.8%	17.7%
American Indian and Alaska Native Alone	0.5%	0.4%	0.1%
Asian Alone	1.9%	0.7%	0.9%
Native Hawaiian and Other Pacific Islander Alone	0.1%	0.1%	0.0%
Two or More Races	1.9%	2.0%	0.9%
Hispanic or Latino (of any race)	5.5%	5.1%	8.2%
1 - Source: United States Census Bureau (2019) 2 - As of July 2017.	·	·	

# Table 4-5: Project Region Race and Ethnicity 1

**Table 4-6** provides summary information on population, income, and employment in the region of the Direct Impact Area. The population in Lewisburg, Marshall County, and Tennessee all increased by similar amounts from 2010 to 2017, with Lewisburg having a slightly higher increase. Within Lewisburg, the median household income was \$37,466 and the per capita income was \$19,328. These levels are lower than that of Marshall County where the median household income is \$46,837 and the per capita income is \$23,920. These income measures for both Lewisburg and Marshall County are lower than for Tennessee as a whole. The percentage of people whose income is less than the poverty line is 20.8 percent in Lewisburg and 11.7 percent Marshall County. The statewide level of 15.0 percent is between those of Lewisburg and Marshall County.

	Tennessee	Marshall County	Lewisburg
Population <sup>1</sup>			
2010 Population <sup>2</sup>	6,346,105	30,617	11,100
2017 Population <sup>2</sup>	6,715,984	32,931	11,857
Percentage Change	+5.8%	+5.8%	+6.8%
People / Square Mile	153.9	81.5	831.3
Income <sup>1</sup>			
Median Household Income	\$48,708	\$46,837	\$37,466
Per Capita Income	\$27,277	\$23,920	\$19,328
Percent of People Whose Income is Less Than the Poverty Level	15.0%	11.7%	20.8%

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

	Tennessee	Marshall County	Lewisburg
Employment (2017) <sup>3</sup>			
Labor Force	3,198,773	15,535	N/A
Employed	2,592,600	8,248	N/A
Unemployed	3,080,213	517	N/A
Unemployment Rate (%)	3.7%	3.3%	N/A
1 – Source: United States Census Bureau (2019) 2 – 2010 Population as of April. 2017 Population as of July.			

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

3 - Employment data sources:

Tennessee and Marshall County data from United States Bureau of Labor Statistics (2019).

N/A: Bureau of Labor Statistics employment data are not available for Lewisburg.

The unemployment rate for Marshall County was estimated to be 3.3% percent by the Bureau of Labor Statistics (2017b). This is slightly less than the statewide level of 3.7% percent (Bureau of Labor Statistics (2017a). Comparable data are not available for Lewisburg.

Proposed Action Alternative activities would require a small workforce and would be temporary in nature. Thus, implementation of the Action Alternative is not anticipated to negatively impact the local economy or workforce or result in displacement or inconvenience to minority populations. Lewisburg consists of greater proportions of disadvantaged populations (those with incomes below the poverty line or minorities) than the surrounding county or the state of Tennessee. However, as no negative socioeconomic impacts are expected from the Proposed Action, no disproportionate negative impacts are anticipated to minority or economically disadvantaged populations as a result of the Action Alternative. The Proposed Action would be expected to result in beneficial economic impacts to the local economy and workforce by improving the marketability of a future expansion of the adjoining I-65 Commerce Park. Future expansion of the I-65 Commerce Park would provide jobs and generate revenue within the local economy.

Future expansion of the I-65 Commerce Park within the Indirect Impact Area would not be expected to result in negative socioeconomic impacts or disproportionate negative impacts to minority or economically disadvantaged populations. Future expansion of the I-65 Commerce Park would be expected to result in beneficial economic impacts to the local economy and workforce by providing jobs and generating revenue within the local economy.

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

## 4.2.9 Transportation

Veterans Drive is a short dead end local road providing access from Mooresville Highway (SR-373) to the I-65 Commerce Park. The Action Alternative would require installation of a new access road from Veterans Drive to the proposed future I-65 Commerce Park Expansion area.

Based on the December and January field surveys, Veterans Drive is currently in good condition. Veterans Drive is paved and unmarked along the majority of its length and is sufficiently wide for a single lane of traffic in each direction. There is a bridge crossing of East Fork Globe Creek approximately 350 feet north of the intersection with Mooresville Highway with the bridge width in the direction of traffic being approximately 38 feet.

The proposed new access road would be on the east side of Veterans Drive, approximately 1,150 feet north of the intersection of Mooresville Highway. The proposed road lies centrally in a straight section of Veterans Drive located on a slight incline. Presumably, the new access road configuration would consider safe sight distances and other safety concerns for the traffic that would enter Veterans Drive from the new road.

There are no traffic count stations located on Veterans Drive. It is anticipated that existing traffic volumes for this local road would be low as it provides access to a limited number of other sites. Proposed Action Alternative activities would require a small workforce and would occur over a temporary duration. A small increase in traffic could occur during construction of the project components and traffic delays could occur during resurfacing of Veterans Drive due to obstructions of equipment and activities. However, due to the low level of existing traffic, increased traffic and delays would likely be minor and manageable over the short duration of construction.

Veterans Drive has a T-intersection with SR-373 (Mooresville Highway) with a stop sign currently used for traffic entering the highway from Veterans Drive. Veterans Drive widens into a right and left turning lane for traffic entering the highway with no merging lane currently for traffic turning right onto the highway. Mooresville Highway is a state highway with two lanes in each direction with a median lane for turning traffic. Based on the December and January field surveys, the highway is in good condition with the speed limit near the intersection with Veterans Drive being 55 miles per hour.

Based on a review of Tennessee Department of Transportation (TDOT) historical traffic data (2019) there are two nearby traffic count stations on Mooresville Highway one east and one west of the Direct Impact Area:

- Station 000071 on Route SR-373 located just east of the I-65 overpass, is 0.8 miles west of the intersection with Veterans Drive. The 2017 annual average daily traffic count (AADT) for this station is 5,340, which has increased from 2016 and 2015 counts at 4,010 and 3,880 respectively.
- Station 000105 on Route SR-373 located on the west outskirts of Lewisburg, is 2.2 miles east of the intersection with Veterans Drive. The 2017 AADT for this station is 6,568, which has increased from 2016 and 2015 counts at 4,668 and 4,993 respectively.

In the context of the existing AADT volumes of these highways, it is anticipated that a small increase in traffic generated by implementation of the Action Alternative would have a negligible

impact on overall traffic volumes and level of service for both Veterans Drive and Mooresville Highway (SR-373). In accordance with Section 2.2.5 of the TDOT Traffic Design Manual (2018), if the proposed development generates less than 50 new peak hour trips and 250 new daily trips, the impacts may be considered insignificant and a waiver may be granted. It is anticipated that the increase in traffic generated by implementation of the Action Alternative would result in less than 50 new peak hour trips and 250 new daily trips.

Increased traffic on Mooresville Highway (SR-373) could occur as a result of future expansion of the I-65 Commerce Park within the Indirect Impact Area. 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 expansion of the I-65 Commerce Park would result in greater than 50 new peak hour trips and 250 new daily trips, consultation with the TDOT would be required during the design of the future I-65 Commerce Park expansion.

Under the No Action Alternative, if the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment, construction of project components would occur, resulting in negligible impact on overall traffic volumes and level of service as described above for the Action Alternative. In addition, indirect impacts, similar to those described above for future expansion of the I-65 Commerce Park, could occur. If the Lewisburg Industrial Development Board 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.

# 4.2.10 Safety

Hazards associated with construction activities include working near underground utilities and above ground electrical connections, use of heavy machinery, general construction site risks, and working around surface water features.

It is assumed that hazards associated with construction activities would be addressed using standard safety precautions. It is expected that prior to ground disturbance at the Direct Impact Area, underground utilities would be identified and necessary precautions would be taken to avoid damage or disturbance. Similarly, above ground electrical connections near areas of tree clearing for the access road would be avoided.

Other safety precautions could include the safe use of heavy machinery associated with clearing activities and safe felling of large trees. On-site burning would be conducted in accordance with a local burn permit, to be obtained by Lewisburg Industrial Development Board or its contractors.

It is assumed that natural hazards would also be acknowledged, safe practices would be administered, and all state and federal safety regulations would be complied with during construction.

With implementation of the safety precautions described herein, implementation of the Action Alternative is not anticipated to have safety related impacts or hazards.

It is assumed that similar safety precautions as those described above for the Action Alternative would be implemented during future expansion of the I-65 Commerce Park within the Indirect

Impact Area. Therefore, it is not anticipated that future expansion of the I-65 Commerce Park would have safety related impacts or hazards.

Similarly, the No Action Alternative would result in no safety-related impacts or hazards regardless of whether or not the Lewisburg Industrial Development Board were able to secure the funding for the actions described in this Environmental Assessment.

# 5.0 CUMULATIVE AND REASONABLY FORESEEABLE IMPACTS

Expansion of the I-65 Commerce Park is proposed for future development. The existing I-65 Commerce Park includes buildings and utility/road infrastructure for many industries including automotive suppliers, metalworking, plastics and chemicals, and food/beverage production. Aside from the Direct Impact Area and Indirect Impact Area, an additional approximately 131 acres of land to the northwest of the existing I-65 Commerce Park (Cumulative Impact Area – see **Figure 2**) is available for potential future development (Lewisburg Industrial Development Board n.d., Lewisburg Industrial Development Board 2019). The available 131-acre property appears to consist of open land, maintained grass, and deciduous forest with potential for wetlands and waterbodies.

The impacts resulting from TVA's Proposed Action within the Direct Impact Area and potential indirect impacts related to preparing the future I-65 Commerce Park expansion area (Indirect Impact Area) are discussed in Section 4.0. This section discusses the cumulative impacts of future activities on the remaining property available for development (Cumulative Impact Area) in combination with the direct and indirect impacts from the Action Alternative. While it is unlikely that future development would disturb (grading, vegetation removal, etc.) the entire 131-acre available parcel of land, TVA assumed future disturbance of the entire property as a conservative approach for purposes of assessing cumulative impacts.

A review of available information from the TDOT, Marshall County Chamber of Commerce, City of Lewisville, and Middle Tennessee Industrial Development Association 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 additional projects that are planned, under construction, or have been recently completed in the immediate vicinity of the Project Site (TDOT 2019, Marshall County Chamber of Commerce 2019, City of Lewisville 2019, and Middle Tennessee Industrial Development Association 2019).

Resources that could be cumulatively impacted by the Proposed Action and the future I-65 Commerce Park expansion are: air quality and climate change, water resources and water quality, biological resources (vegetation, wetlands, floodplains, wildlife, aquatic ecology, threatened and endangered species), land use and prime farmland, archaeological and historic resources, visual resources, noise, socioeconomic conditions and environmental justice, transportation, and safety. TVA has determined that the Proposed Action would have no impact on natural and managed areas, public recreation opportunities, solid and hazardous wastes, Nationwide Rivers Inventory streams, or Wild and Scenic Rivers, as discussed in Section 4.2. Therefore, these resources are not considered in this cumulative impacts assessment.

# 5.1 Air Quality and Climate Change

The Proposed Action would result in temporary and minor direct and potential indirect impacts on air quality and climate change as described in Section 4. Future activities that produce air

pollutants, including site preparation and the siting of industrial tenants during future I-65 Commerce Park expansion within the Cumulative Impact Area, would be subject to various applicable air quality regulations including Prevention of Significant Deterioration permits under the CAA. Future clearing, demolition activities, and construction of individual sites would generate some air pollution in the form of emissions from fossil fuel-fired equipment, fugitive dust from ground disturbances, and emissions associated with burning of wood debris. However, BMPs and adherence to local regulations would minimize these effects, as described in Section 4.2.1.

Considering that individual sites associated with future I-65 Commerce Park expansion within the Cumulative Impact Area would be developed in stages as new tenants are established, and that there would be temporary time periods for construction, adverse impacts to local air quality would be temporary and localized. These impacts are anticipated to be minor 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, the conversion of greenfield sites to developed land for future I-65 Commerce Park expansion within the Cumulative Impact Area would result in some loss of carbon sequestration in the area, particularly in the event that large trees are removed. However, considering that the areas proposed for development are relatively small, and much of it in cleared farmland, these effects are anticipated to be minor.

Temporary and minor cumulative impacts to air quality and climate change would occur if construction activities associated with the Proposed Action and future I-65 Commerce Park expansion within the Cumulative Impact Area were to occur during the same time period. However, with regulatory measures in place, reasonably foreseeable long-term and cumulative impacts to local air quality and climate change resulting from the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area are anticipated to be temporary and minor. If there were no overlap of construction activities, cumulative impacts would not occur.

### 5.2 Water Resources

The Proposed Action would result in minor direct and potential indirect impacts on water resources as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area would have the potential for impacts to water resources. Site preparation associated future I-65 Commerce Park expansion within the Cumulative Impact Area, including filling and leveling, could cause minor changes in drainage patterns. Likewise, the placement of buildings and associated hard surfaces on the site would likely increase the amount of impermeable surface and possibly lead to faster runoff of onsite precipitation. Activities that could impact surface water and groundwater resources are subject to state and federal regulations including consultation and permitting with the USACE Nashville District and TDEC under Section 404 and 401 of the Clean Water Act, and state Aquatic Resource Alteration Permits. In the event that waterbodies are impacted, state and federal regulations would impose special conditions to avoid or minimize impacts to water resources. In addition, it is expected that applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) would be employed and activities would be accomplished in compliance with applicable storm water permitting requirements. Therefore, cumulative impacts
on water resources associated with the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area are anticipated to be temporary and minor.

# 5.3 Biological Resources

# 5.3.1 Vegetation

The Proposed Action would result in minor direct and potential indirect impacts on vegetation as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area would potentially convert vegetated areas containing pasture, maintained grass, and deciduous forest, to an industrial setting. While this would result in the loss of some vegetation, the vegetation types affected are common in the area, resulting in minor impacts on vegetation in the region. Cumulative impacts to vegetation resulting from the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area are anticipated to be minor.

# 5.3.2 Wetlands

The Proposed Action would result in minor potential indirect impacts on wetlands resources as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area would have the potential for impacts to wetland resources. If impacts to wetland resources associated with future development cannot be avoided, consultation and permitting with the USACE Nashville District and TDEC would be required prior to initiation of construction. Impacts would require a Section 404 permit and a Section 401 Clean Water Act certification. While potential indirect impacts associated with the Action Alternative and future development within the Cumulative Impact Area would potentially result in cumulative impacts to wetland resources, impacts would be expected to be conducted and mitigated in accordance with Section 404 and Section 401 permits and are anticipated to be minor.

# 5.3.3 Floodplains

The Proposed Action would not result in significant direct and potential indirect impacts on floodplains and their natural and beneficial values as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area would cause no impacts to minor impacts to floodplains, depending upon whether future development would be located within the floodplain. The Proposed Action is designed to attract industry, and thus development, to the industrial park. Marshall County participates in the National Flood Insurance Program, and any development must be consistent with their floodplain ordinance. Compliance with the Marshall County floodplain ordinance would ensure that impacts to the floodplain and to proposed facilities or activities within the floodplain due to the Proposed Action and future development within the Cumulative Impact Area would be minimized. With implementation of the floodplain mitigation measures described in Chapter 4, the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area are not anticipated to result in significant cumulative impacts on floodplains and their natural and beneficial values.

# 5.3.4 Wildlife

The Proposed Action would result in minor direct and potential indirect impacts to wildlife as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area would potentially remove trees within deciduous forest areas and grasses within maintained grass and open pasture areas for development of individual sites. 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, considering that the landscape is highly fragmented and already impacted by human activity (e.g., maintained cattle pastures, industrial development, and roads), and in consideration of the abundance of similar habitat in the surrounding landscape, cumulative impacts to wildlife associated with the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area are anticipated to be minor.

# 5.3.5 Aquatic Ecology

The Proposed Action would result in temporary and minor direct and potential indirect impacts to wildlife as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area would potentially involve temporary or permanent stream crossings during land development. It is expected that these actions would include BMPs (such as sediment and erosion controls) and compliance with applicable storm water permitting requirements, which would minimize impacts to aquatic species. Cumulative impacts to aquatic species associated with the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area are anticipated to be temporary and minor.

# 5.3.6 Threatened and Endangered Species

The Proposed Action would not directly or indirectly impact federally or state-listed plant and aquatic species. The Proposed Action would potentially result in direct and indirect 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, no significant impacts to federally and state-listed bat species are anticipated as a result of the Proposed Action. Future I-65 Commerce Park expansion within the Cumulative Impact Area 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.

Although the Proposed Action and future expansion of the I-65 Commerce Park within the Cumulative Impact Area 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. Therefore, no significant cumulative impacts to federally and state-listed bat species are anticipated as a result of the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area.

# 5.4 Land Use and Prime Farmland

The Proposed Action would result in negligible direct and indirect impacts to land use of the region and potential minor indirect impacts to prime farmland as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area would potentially remove trees and convert open land and forested land to developed or industrial land uses. Review of aerial imagery shows that open land forests are common and well represented throughout the region, resulting in negligible to minor impacts to land use of the region, depending on the amount of forested land affected. Conversion of prime farmland would decrease the amount of prime farmland within Marshall County. However, since conversion would be expected to affect only a small proportion of the available prime farmland in Marshall County, impacts to prime

farmland would be anticipated to be minor. Cumulative impacts to land use and prime farmland resulting from the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area are anticipated to be minor.

# 5.5 Archaeological and Historic Resources

The Proposed Action would result in potential indirect impacts to archaeological and historic resources as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area could impact archaeological and historic resources. If future development would potentially impact archaeological and historic resources, it is assumed that consultation with SHPO would be conducted, and avoidance or mitigation measures would be developed to reduce impacts to such resources as required per Section 106 of the NHPA.

Although the Proposed Action and future expansion of the I-65 Commerce Park within the Cumulative Impact Area could impact archaeological and historic resources, impacts would be expected to be conducted in consultation with SHPO and avoidance or mitigation measures would be developed to reduce impacts to such resources as required per Section 106 of the NHPA. Therefore, no significant cumulative impacts to archaeological and historic resources are anticipated as a result of the Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area.

# 5.6 Visual Resources

The Proposed Action would result in temporary and minor direct and potential indirect visual quality impacts as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area could result in visual quality impacts during operation of construction vehicles and equipment over a temporary period during future construction. Future development could also result in permanent visual changes in the landscape as areas are converted from a predominantly agricultural setting with scattered forested areas to industrial areas, however, the development of the Cumulative Impact Area for industrial uses would be consistent with the visual character of the areas. Overall, it is expected that I-65 Commerce Park expansion within the Cumulative Impact Area would result in minor temporary and permanent visual quality impacts.

The Action Alternative would not result in permanent visual quality impacts and would not contribute to permanent cumulative visual quality impacts. The Action Alternative and future I-65 Commerce Park expansion within the Cumulative Impact Area are anticipated to result in temporary and minor cumulative visual quality impacts.

# 5.7 Noise

The Proposed Action would result in temporary and minor direct and potential indirect noise quality impacts as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area could generate increased noise from operation of equipment and construction of potential industrial buildings. However, the anticipated noise levels resulting from future operation of equipment and construction of potential buildings would not differ significantly from equipment that is in regular use in the surrounding area from industrial and agricultural activities. In addition, it is expected that construction activities would be conducted during daylight hours only. Thus, noise quality impacts resulting from future expansion of the I-65 Commerce Park 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 I-65 Commerce Park expansion within the Cumulative Impact Area were to occur during the same time period. If there were no overlap of construction activities, cumulative impacts would not occur.

# 5.8 Socioeconomic Conditions and Environmental Justice

Socioeconomic conditions would continue to be impacted by general population increases and development growth in the area. The Proposed Action is not anticipated to negatively impact the local economy or workforce or result in displacement or inconvenience to minority populations, and would be expected to result in indirect beneficial economic impacts to the local economy and workforce by improving the marketability of a future expansion of the adjoining I-65 Commerce Park (Indirect Impact Area) as described in Section 4. Future I-65 Commerce Park expansion within the Cumulative Impact Area would provide jobs, generate revenue within the local economy, and would likely have long-term beneficial impacts to the local economy, resulting in beneficial impacts to socioeconomic conditions.

The Action Alternative and future I-65 Commerce Park expansion are not anticipated to result in adverse cumulative impacts to socioeconomic conditions in the area, and would be expected to result in beneficial economic impacts to the local economy and workforce by supporting future I-65 Commerce Park expansion. Future development would provide jobs and generate revenue within the local economy. The Lewisburg Industrial Development Board consists of greater proportions of disadvantaged populations (minority or low income) than the surrounding county or the state levels. However, since no negative socioeconomic impacts are expected from the Proposed Action and future I-65 Commerce Park expansion, no disproportionate negative cumulative impacts would occur to disadvantaged populations.

# 5.9 Transportation

The Proposed Action would result in temporary direct impacts to traffic and potential temporary and permanent indirect impacts to traffic as described in Section 4. It is anticipated that increases in traffic generated by the Proposed Action would result in less than 50 new peak hour trips and 250 new daily trips, and thus, would be considered an insignificant increase in accordance with Section 2.2.5 of the TDOT Traffic Design Manual (2018). Future I-65 Commerce Park expansion within the Cumulative Impact Area could result in temporary increases in traffic during construction periods and 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 I-65 Commerce Park expansion would result in greater than 50 new peak hour trips and 250 new daily trips, consultation with the TDOT would be required during the design of the future I-65 Commerce Park expansion.

Temporary and permanent increases in traffic associated with the Proposed Action and future I-65 Commerce Park expansion within the Cumulative Impact Area could result in cumulative impacts. It is expected that future development would be conducted in consultation with TDOT if anticipated traffic increases would be significant. Therefore, potential traffic-related cumulative impacts are anticipated to be minor.

# 5.10 Safety

With implementation of the safety precautions described in Section 4, the Proposed Action is not anticipated to have safety related impacts or hazards. Similarly, it is assumed that safety precautions would be implemented during future I-65 Commerce Park expansion within the Cumulative Impact Area, and future expansion is not anticipated to have safety related impacts or hazards. Therefore, the Action Alternative and future I-65 Commerce Park expansion are not anticipated to result in cumulative safety related impacts or hazards.

# 6.0 PERMITS, LICENSES, AND APPROVALS

As noted in Section 4 above, TVA is consulting with the USFWS, TWRA, and Tennessee SHPO regarding potential impacts associated with the Action Alternative. The Proposed Action would result in greater than one acre of earth disturbing activities; therefore, it would be necessary to obtain coverage under the 2016 General National Pollutant and Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction Activity (TNR100000). Coverage would require submittal of a Notice of Intent (NOI) and development of a site-specific Stormwater Pollution Prevention Plan. Impacts to WOTUS would require a Section 404 permit and a Section 401 Clean Water Act certification. Impacts to WOST would require an ARAP from the TDEC, which would also serve as the Section 401 Water Quality Certification. The Lewisburg Industrial Development Board 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 Lewisburg Industrial Development Board or its contractors would ensure all clearing and grading activities conducted are in compliance with storm water permitting requirements and would 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.

The access road and utility line owner should review - prior to construction - any future driveways, facilities, parking lots and/or roadways connecting to the access road to ensure that the owner is not supporting flood-damageable development within the 100-year floodplain. The access road and utility line owner would contact the local floodplain official(s) to ensure any development within the floodplain connecting to the access road would comply with local floodplain ordinances.

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).

# 8.0 LIST OF PREPARERS

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

Name/Education	Experience	Project Role
TVA		
Bill Adams M.S., Public Policy and Administration B.A., Political Science	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 M.S., Wildlife and Fisheries Science, University of Tennessee; B.A. Biology, B.A. Anthropology, Grinnell College	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 B. A History	24 year experience in environmental compliance and policy, and NEPA compliance	Environmental Program Manager
Kerry Nichols Ph.D. Anthropology, University of Missouri-Columbia, M.A. Anthropology, University of Colorado-Denver, B.A. Political Science, University of Northern Colorado	20 years of experience as a field archaeologist and SHPO project reviewer.	Cultural resources, NHPA Section 106 compliance
Ashley A. Pilakowski B.S., Environmental Management	8 years in environmental planning and policy and NEPA compliance.	NEPA Compliance
Carrie Williamson, P.E., CFM B.S. and M.S., Civil Engineering	6 years in floodplains and flood risk	Floodplains
Cardno		
Rachel Bell, PMP B.S., Environmental Science	13 years in natural resources planning and NEPA compliance, including project management and biological and environmental studies and analysis.	EA Project Manager
Jeanette Brena MS, Environmental Engineering, Washington State University BS, Civil and Environmental Engineering, Seattle University	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
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

# Table 8-1: Environmental Assessment Project Team

Name/Education	Experience	Project Role
Tammy Miller MS, Natural Resources, University of Wisconsin-Steven's Point BS, Terrestrial Ecology-Wildlife Management, University of Vermont	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
Kim Sechrist MS, Environmental Science, Towson University BS, Biology McDaniel College (Western Maryland College)	11 years in environmental consulting including NEPA compliance and biological and environmental studies and analysis. Author of numerous Land Use, Recreation, Visual, Socioeconomic, and Environmental Justice resource assessment sections.	Land Use and Prime Farmland, Visual Resources, Noise
Heath Byrd MS, Agricultural and Natural Resource Economics, Emphasis on Environmental & Natural Resources Economics, Colorado State University BS, Environmental Economics & Management, University of Georgia	19 years in assessing the economic value of ecosystem services and appropriate compensation related to environmental damage. He has extensive experience developing socioeconomics analyses as part of EAs and EISs.	Socioeconomic Conditions and Environmental Justice
Duane Simpson MA, Anthropology, University of Arkansas BA, Anthropology, Ohio University	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 MS, Sustainable Environmental Management, University of Plymouth, UK BS, Marine Biology, University of Liverpool, UK	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

Table 8-1: Env	ironmental A	Assessment	Project T	eam
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# 9.0 AGENCIES AND OTHERS CONSULTED

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

- Tennessee Department of Environment and Conservation, Division of Natural Areas
- Tennessee Historical Commission
- Tennessee Division of Archaeology
- Tennessee Wildlife Resources Agency
- United States Fish and Wildlife Service
- Cherokee Nation
- Chickasaw Nation
- Jena Band of Choctaw Indians

## **10.0 REFERENCES**

- City of Lewisburg. No date. I-65 Commerce Park. Available online: <u>https://tvasites.com/TVAED/docs/I-65%20Commerce%20Park%20Profile.pdf</u>. Accessed January 24, 2019.
- City of Lewisburg. 2019. I-65 Commerce Park Property Details. Available online: <u>https://tvasites.com/insite-local.aspx?details=4823&Local=lewis</u>. Accessed January 25, 2019.
- Conant, R., and J. T. Collins. 1998. A Field Guide to Reptiles and Amphibians: Eastern and Central North America. 3rd ed. Houghton Mifflin. Boston, Massachusetts.
- Cornell Lab of Ornithology. 2019. eBird Website. All About Birds. Explore a Region. Available online: <u>https://ebird.org/explore</u>. Accessed January 21, 2019.
- Dorcas, L. and W. Gibbons. 2005. Snakes of the Southeast. The University of Georgia Press, Athens.
- Etnier, David A., and W.C. Starnes. 1993. The Fishes of Tennessee. Knoxville: University of Tennessee Press. 708 pp.
- Executive Order 11988, Floodplain Management, FR Vol. 42, No. 101—Wednesday, May 25, 1977. pp. 26951-26957.
- Jackson Group. 2019. Bat Habitat Assessment Report. Coble East Site, Marshall County, Tennessee. January 2019. Unpublished report.
- Kays, R, and D E. Wilson. 2002. Mammals of North America. Princeton University Press, Princeton, New Jersey.
- Marshall County Chamber of Commerce. 2019. Available online: <u>http://www.marshallchamber.org/</u>. Accessed January 24, 2019.
- Middle Tennessee Industrial Development Association. 2019. Available online: <u>https://www.mtida.org/</u>. Accessed January 24, 2019.
- NatureServe. 2018. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: January 21, 2019).
- Scott, A. F. and W. H. Redmond. 2008 (latest update 19 November 2018). Atlas of Reptiles in Tennessee. The Center of Excellence for Field Biology, Austin Peay State University, Clarksville, Tennessee. Available online: <u>http://www.apsubiology.org/tnreptileatlas/</u>. Accessed January 20, 2019.
- Simpson, D. and M. Loughlin. 2019 Phase II archaeological monitoring of site 40ML239, I-65 Commerce Park Expansion Project, Marshall County, TN. Cardno. August 2019. Unpublished report.

- Simpson, D., K. Hinder, K. Grob, and M. Loughlin. 2019a Phase I Cultural Resources Investigation for the I-65 Commerce Park Expansion Project Marshall County, TN. Cardno. March 2019. Unpublished report.
- Simpson, D., L. Leith, K. Grob, and M. Loughlin. 2019b Phase II Archaeological Evaluation for site 40ML239, I-65 Commerce Park Expansion Project Marshall County, TN. Cardno. June 2019. Unpublished report.
- St. John Engineering, LLC. 2014a. *Phase I Environmental Site Assessment for Allen Property in Lewisburg, Tennessee*. June 2014. Unpublished report.
- St. John Engineering, LLC. 2014b. *Geotechnical Engineering Services Report for the City of Lewisburg, Tennessee*. June 12, 2014. Unpublished report.
- Tennessee Department of Environment and Conservation (TDEC). 2011. Guidance for Making Hydrologic Determinations. Version 1.4. May 2011.
- TDEC. 2019. Rare Species Database Review Letter dated February 1, 2019.
- TDEC. 2018. Final 2018 List of Impaired and Threatened Waters. Available online: <u>https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-guality-reports---publications.html. July 2018</u>.
- Tennessee Department of Transportation (TDOT). 2019. Projects in Region 3. Available online: <u>https://www.tn.gov/tdot/projects/region-3.html</u>. Accessed January 24, 2019.
- Tennessee Valley Authority (TVA). 1981. Class Review of Repetitive Actions in the 100-Year Floodplain, FR Vol. 46, No. 76—Tuesday, April 21, 1981. pp. 22845-22846.
- Tennessee Valley Authority (TVA). 2017. Programmatic Biological Assessment for Evaluation of the Impacts of Tennessee Valley Authority's Routine Actions on Federally Listed Bats. Project Number 2017-21. Knoxville, TN.
- United States Department of Agricultural (USDA), Natural Resource Conservation Service (NRCS). 2005. Soil Survey of Marshall County, Tennessee. September 2005. Available online: <u>https://www.nrcs.usda.gov/Internet/FSE\_MANUSCRIPTS/tennessee/TN117/0/TNMarshall6\_06.pdf</u>. Accessed January 23, 2019.
- United States Environmental Protection Agency (USEPA). 2018. Green Book; Tennessee Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Available at: <u>https://www3.epa.gov/airquality/greenbook/anayo\_tn.html</u>. Accessed January 17, 2019.
- United States Fish and Wildlife Service (USFWS). 2018a. Information for Planning and Construction Resource List. Available online: <u>https://ecos.fws.gov/ipac/location/UGCCCYWV55CZ7L27QXPEGHMYUM/resources</u>. Accessed December 10, 2018.
- United States National Park Service (USNPS) 2019. Nationwide Rivers Inventory. Available online: <u>https://www.nps.gov/subjects/rivers/nationwide-rivers-inventory.htm</u>. Accessed January 4, 2019.

- United States Water Resources Council. 1978. Guidelines for Implementing Executive Order 11988, Floodplain Management. FR Vol. 43, No. 29—Friday, February 10, 1978. pp. 6030-6054.
- Wild & Scenic Rivers (WSR). 2019. National Wild and Scenic Rivers System. Available online: <u>https://www.rivers.gov/</u>. Accessed January 4, 2019.

# **ATTACHMENT 1**

# **PROJECT FIGURES**

Figure 1-A

Aerial



Figure 1-B

USGS Quadrangle



Date Created: 2/8/2019 Date Revised: 2/8/2019 File Path: Q:UnitedStates/FloridalTampalTennessee Valley Authority/TVA FY19 Economic Development Projects/Marshall\_County/working/arcmap/Marshall\_Quad\_Map\_A\_1\_2019020 GIS Analyst: James.Bottiger Figure 1-C

Jurisdictional Waters of the United States and the State of Tennessee



Date Created: 10/17/2019 Date Revised: 10/17/2019 File Path: Q:Ur GIS Analyst: James.Bottiger

Figure 1-D

FEMA Floodplain



Figure 1-E

# **USFWS NWI**

#### Legend



Access Road Impact Area - 0.39 ac. ±

Access Road Impact Area - 1.61 ac. ±

#### **NWI Wetlands**

Freshwater Forested/Shrub Wetland - 0.02 ac.  $\pm$ 

Riverine - 0.04 ac. ±

Veteran Drive Road Surface Area - 1.89 ac. ±

Utility Line

Sign Location

Image:2017 Data Source:

pressly disclaims responsibility for images or liability from any daims that ay arise out of the use or misuse of this ay. It is the sole responsibility of the user determine if the data on this map meets e user's needs. This map was not created is survey data, nor should it be used as ch. It is the user's responsibility to obtain NWI Wetlands Map TVA FY19 Economic Development Projects Marshall County, Tennessee

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Date Created: 10/17/2019 Date Revised: 10/17/2019 File Path: Q:UnitedStates/Florida\TampalTennessee Valley Authority\TVA FY 19 Economic Development Projects/Marshall\_County/working/arcmap/Marshall\_NWI\_Weflands\_Map\_A\_1\_20190220.mxd GIS Analyst: James. Bottger Figure 1-F

# **NRCS Soils**



Date Created: 10/17/2019 Date Revised: 10/17/2019 File Path: Q:\Ur GIS Analyst: James.Bottiger

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# **ATTACHMENT 2**

# TVA BAT STRATEGY PROJECT SCREENING FORM

From:	Hamrick, Elizabeth Burton
То:	robbie_sykes@fws.gov; ross_shaw@fws.gov
Subject:	RE: Notification in accordance with TVA Programmatic Consultation for Routine Actions and Federally listed bats
Date:	Wednesday, May 01, 2019 4:16:00 PM
Attachments:	Completed MarshallCo EcoDev TVA-Bat-Strategy 03.21.2019.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 pages 5. The form also is serving as the primary means of notification to the USFWS and others as needed.

**Project**: Product Development Grant Proposal, Marshall County, TN – The Proposed Action is comprised of TVA providing an economic development grant through TVA Product Development funds to the City of Lewisburg, Tennessee, to assist with funding of site/environmental due diligence, installation of a kiosk sign, installation of a new access road, installation of a new gas line within the new access road right-of-way, and resurfacing of an existing paved road. A bridge occurs in the action area though no direct impacts to the bridge would occur. Bridge surveys by TVA resulted in no evidence of bat use. Approximately 0.55 acres of trees to be removed. Surveys by Jackson Group determined no suitable roosting habitat for Indiana bat and NLEB occurs in TVA's action area. Aquatic foraging habitat may be impacted by vegetation removal along a perennial stream and wet weather conveyance. The nearest cave is 1 mile away. It has no documented bat use. Best management practices would be use for burning of vegetation piles.

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

#### Project Review Form - TVA Bat Strategy (03/2019)

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:	Product Development Grant Proposal, Marshall County, EA			Date:	03/21/2	019	
Contact(s):	Ashley Pilakowski/Cate Fitzpa	atrick	CEC#:	Proj	ect ID:	409298	
Project Location	(City, County, State):	Lewisburg,	Marshall County, Tennessee		-		_

#### **Project Description:**

The Proposed Action is comprised of TVA providing an economic development grant through TVA Product Development funds to the City of Lewisburg, Tennessee, to assist with funding forof site/environmental due diligence, installation of a kiosk sign, installation of a new access road, installation of a new gas line within the new access road right-of-way, and resurfacing of an existing paved road.

#### **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:

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

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

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

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

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

#### Project Review Form - TVA Bat Strategy (03/2019)

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

- a) Will project project involve continuous noise (i.e., ≥ 24 hrs) that is greater than 75 decibels measured on the A scale (e.g., loud machinery)?
- NO (NV2 does not apply)
- YES (NV2 applies, subject to records review)
- **b)** Will project involve entry into/survey of cave, bridge, other structure (potential bat roost)?
- NO (HP1/HP2 do not apply)
   YES (HP1/HP2 applies, subject to review of bat records)

**N/A** 

and timeframe(s) below;

 $\bigcirc N/A$ 

c) If conducting prescribed burning (activity 23), estimated acreage:

STATE	SWARMING WINTER		NON-WINTER	PUP
GA, KY, TN	🔲 Oct 15 - Nov 14	Nov 15 - Mar 31	Apr 1 - May 31, Aug 1- Oct 14	🔲 Jun 1 - Jul 31
VA	Sep 16 - Nov 15	🔲 Nov 16 - Apr 14	Apr 15 - May 31, Aug 1 – Sept 15	🔲 Jun 1 - Jul 31
AL	Oct 15 - Nov 14	Nov 15 - Mar 15	Mar 16 - May 31, Aug 1 - Oct 14	🔲 Jun 1 - Jul 31
NC	🗌 Oct 15 - Nov 14	🔲 Nov 15 - Apr 15	Apr 16 - May 31, Aug 1 - Oct 14	🔲 Jun 1 - Jul 31
MS	🗌 Oct 1 - Nov 14	🗌 Nov 15 - Apr 14	Apr 15 - May 31, Aug 1 – Sept 30	🔲 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)

●ac ∩trees

#### e) If tree removal (activity 33 or 34), estimated amount: 0.55

STATE	SWARMING	WINTER	NON-WINTER	PUP
GA, KY, TN	Oct 15 - Nov 14	Nov 15 - Mar 31	Apr 1 - May 31, Aug 1- Oct 14	📃 Jun 1 - Jul 31
VA	Sep 16 - Nov 15	🗌 Nov 16 - Apr 14	Apr 15 - May 31, Aug 1 – Sept 15	📃 Jun 1 - Jul 31
AL	Oct 15 - Nov 14	Nov 15 - Mar 15	Mar 16 - May 31, Aug 1 - Oct 14	📃 Jun 1 - Jul 31
NC	Oct 15 - Nov 14	🗌 Nov 15 - Apr 15	Apr 16 - May 31, Aug 1 - Oct 14	📃 Jun 1 - Jul 31
MS	Oct 1 - Nov 14	Nov 15 - Apr 14	Apr 15 - May 31, Aug 1 – Sept 30	📃 Jun 1 - Jul 31

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

For **PROJECT LEADS** whose projects will be reviewed by a Heritage Reviewer, **STOP HERE**. Click File/Save As, name form as "ProjectLead\_BatForm\_CEC-or-ProjectIDNo\_Date", and submit with project information.

#### 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?

Info below completed by:  Heritage Reviewer (name)	Date 01/07/2019						
OSAR Reviewer (name)	Date						
Terrestrial Zoologist (name) Elizabeth Hamrick	Date May 1, 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/re	oost 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: $\Box$ None within 3 mi $\bigotimes$ Within 3 miles but > 0.5 mi $\Box$ Within 0.5 mi but > 0.25 mi	* 🗌 Within 0.25 mi but > 200 feet*						
U Within 200 feet*							
Bat Habitat Inspection Sheet completed? <ul> <li>NO</li> <li>YES</li> </ul>							
Amount of SUITABLE habitat to be removed/burned (may differ from STEP 4e): 0 (@ac Otrees)* ON/A							

#### **Project Review Form - TVA Bat Strategy** (03/2019)

#### STEP 6) Provide any additional notes resulting from Heritage Reviewer records review in Notes box below then .....

Notes from Bat Records Review (e.g., historic record; bats not on landscape during action; DOT bridge survey with negative results):

TVA performed bridge survey on April 11, 2019. No evidence of bat use.

#### 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 🔿 TBE	)
STEP 9) Presence/absence survey results, on	O NEGATIVE O 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 O WINTER O VOLANT SEASON O 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				
STEP 12) Amount contributed to TVA's Bat Conservation Fund upon activity completion: \$				OR ( N/A

# TERRESTRIAL ZOOLOGISTS, after completing SECTION 2, review Table 4, modify as needed, and then complete section for Terrestrial Zoologists at end of form.

#### **SECTION 3: REQUIRED CONSERVATION MEASURES**

STEP 13) Review Conservation Measures in Table 4 and ensure those selected are relevant to the project. If not, manually override and uncheck irrelevant measures, and explain why in ADDITIONAL NOTES below Table 4.

Did review of Table 4 result in <u>ANY</u> remaining Conservation Measures in <u>**RED**</u>?

- **NO** (Go to Step 14)
- YES (STOP HERE; Submit for Terrestrial Zoology Review. Click File/Save As, name form as "ProjectLead\_BatForm\_CEC-or-ProjectIDNo\_Date", and submit with project information).

## 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
	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.
	23	<b>SHF2</b> - Site-specific conditions (e.g., acres burned, transport wind speed, mixing heights) will be considered to ensure smoke is limited and adequately dispersed away from caves so that smoke does not enter cave or cave-like structures.
	23	SHF4 - 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.
	22, 23, 32, 33, 34, 35, 36	<b>SHF7</b> - Burning will only occur if site specific conditions (e.g. acres burned, transport wind speed, mixing heights) can be modified to ensure that smoke is adequately dispersed away from caves or cave-like structures. This applies to prescribed burns and burn piles of woody vegetation.

69, 77, 89, 91	<ul> <li>AR1 - Projects that involve structural modification or demolition of buildings, bridges, and potentially suitable box culverts, will require assessment to determine if structure has characteristics that make it a potentially suitable unconventional bat roost. If so a survey to determine if bats may be present will be conducted. Structural assessment will include: <ul> <li>Visual check that includes an exhaustive internal/external inspection of building to look for evidence of bats (e.g., bat droppings, roost entrance/exit holes); this can be done at any time of year, preferably when bats are active.</li> <li>Where accessible and health and safety considerations allow, a survey of roof space for evidence of bats (e.g., droppings, scratch marks, staining, sightings), noting relevant characteristics of internal features that provide potential access points via eaves, gaps between timbers or around mortise joints, gaps around top and gable end walls, gaps within roof walling or around tops of chimney breasts, and clean ridge beams.</li> <li>Features with high-medium likelihood of harboring bats but cannot be checked visually include soffits, cavity walls, space between roof covering and roof lining.</li> <li>Applies to box culverts for bat day roosts have the following characteristics: <ul> <li>Location in relatively warm areas</li> <li>Between 5-10 feet (1.5-3 meters) tall and 300 ft (100 m) or more long</li> <li>Openings protected from high winds</li> <li>Not susceptible to flooding</li> <li>Inner areas relatively dark with roughened walls or ceilings</li> <li>Crevices, imperfections, or swallow nests</li> </ul> </li> <li>Bridge survey protocols will be adapted from the Programmatic Biological Opinion for the Federal Highway Administration (Appendix D of USFWS 2016c, which includes a Bridge Structure Assessment Guidance and a Bridge Structure Assessment Form).</li> </ul> </li> <li>Bat surveys usually are NOT needed in the following circumstances: <ul> <li>Domestic garages /sheds with no enclosed roof spa</li></ul></li></ul>
16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 52, 53, 54, 55, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 70, 71, 73, 76, 77, 78, 80, 81, 82, 83, 86, 87, 88, 89, 90	<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.
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</b> ( <b>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.

<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).

## Project Review Form - TVA Bat Strategy (03/2019)

- HIDE
- UNHIDE

#### Hide Table 4 Columns 1 and 2 to Facilitate Clean Copy and Paste

- ⊖ HIDE
- UNHIDE

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

Bridge Surveys were performed on April 11. No evidence of bat use was observed. Jackson Group performed bat habitat surveys for vegetation. No suitable bat roosts were found in TVA's action area.

# STEP 14) Save completed form (Click File/Save As, name form as "ProjectLead\_BatForm\_CEC-or-ProjectIDNo\_Date") in project environmental documentation (e.g. CEC, Appendix to EA) AND send a copy of form to <u>batstrategy@tva.gov</u>. 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.

#### For Use by Terrestrial Zoologist Only

🛛 Terrestrial Zoologist acknowledges that Project Lead/Contact (name)	Bess Hubbard	has been informed of
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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 and that use of Take will require \$ \_\_\_\_\_\_\_\_ contribution to TVA's Conservation Fund upon completion of activity (amount entered should be \$0 if cleared in winter).

For Terrestrial Zoology Use Only. Finalize and Print to Noneditable PDF.

# **ATTACHMENT 3**

# AGENCY CORRESPONDENCE

3-A

**Tennessee Historical Commission** 

3-B

Federally Recognized Indian Tribes
Tennessee Department of Environment and Conservation, Division of Natural Areas, Natural Heritage Program

3-C



## STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Natural Areas 2nd Floor, William R. Snodgrass Tennessee Tower 312 Rosa Parks Blvd. Nashville, Tennessee 37243 Phone 615/532-0431

2/1/2019

Tammy Miller Cardon 3901 Industrial Blvd. Indianapolis, IN 46254

RE: Select Tennessee Site Certification Program- Rare, Threatened, or Endangered Species Review

Dear Ms. Miller,

I am writing in response to your request for a rare species review of the ~50 acres tract of land for use as a proposed industrial site, located in Marshall County, Tennessee. The site in question is anticipated to be developed for an Industrial Park and the information is being requested as a required element of the Tennessee Economic Developments Tennessee Select Sites program. Reviews performed by the Tennessee Division of Natural Areas focus on potential impacts to rare species. The procedure for obtaining a rare, threatened, or endangered species evaluation is outlined in the criteria and definitions of the Department of Economic and Community Development Select Tennessee Certified Sites Program posted online at http://www.selecttennessee.com/pdf/SelectTNSitesCriteria.pdf.

The Division of Natural Areas - Natural Heritage Program has reviewed the location of the parcel on Mooresville Hwy (86.8619540°W, 35.4534960°N) with respect to rare species. We have consulted with our rare species database and based the habitat within the project area, we do not anticipate any impacts to rare, threatened, or endangered species under our jurisdiction from this project; provided that best management practices to address erosion and sediment are implemented and maintained during construction activities. We defer the Tennessee Wildlife Resources Agency (TWRA, Rob.Todd@tn.gov) for comments related to state listed animal species. Should the site require tree removal please contact U.S. Fish and Wildlife Service Field Office, Cookeville, Tennessee (931-525-4970) for comments regarding federally listed species. If you have any further questions for me, please do not hesitate to telephone or e-mail at 615-532-4799 or stephanie.ann.williams@tn.gov.

## Sincerely,

Stephanie Williams

Stephanie Williams Natural Heritage Data Manager