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ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR COMMERCE PARK INTERSTATE SITE

ENVIRONMENTAL ASSESSMENT

Dyer County, Tennessee (Dyersburg)

Prepared by:

TENNESSEE VALLEY AUTHORITY
Knoxville, Tennessee

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For Information, contact:
Brooke Davis
NEPA Compliance
Tennessee Valley Authority
400 West Summit Hill Drive, WT 11B
Knoxville, Tennessee 37902-1499
Email: badavis13@tva.gov

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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 and capital investment. TVA proposes to provide an economic development grant through InvestPrep funds to the City of Dyersburg (the City) to assist with the development of the Commerce Park Interstate Site, as a result of their February 26, 2021 application. The area of TVA's proposed action (herein referred to as the Project Area) comprises approximately 25.9 acres of the total 67 acres of the Commerce Park Interstate Site located between Fort Hudson Road and U.S. Highway 51, approximately 5 miles northeast of the City of Dyersburg, Tennessee (see **Figure 1** below and Attachment 1, Figure 1-A). TVA funds would be used for the clearing of approximately 0.1 acre of trees, the grading of a 200,000 square foot (ft^2) dirt building pad (and associated parking and truck dock areas), construction of a gravel access road, construction of two detention basins, installation of temporary marketing signage, installation of erosion and sediment controls, and the stabilization of disturbed areas after grading activities are completed, within the Commerce Park Interstate Site (Attachment 1, Figure 1-B) in Dyer County, Tennessee.

The proposed grant to the City would assist with grading improvements to put the Commerce Park Interstate Site in a more marketable position and allow prospects to better envision the development potential. Proposed improvements will lead to an increased probability of achieving TVA's core mission of job creation and capital investment. This Environmental Assessment (EA) assesses the environmental impacts that would potentially result from TVA's Proposed Action. TVA's decision is whether to provide the requested funding to the City.

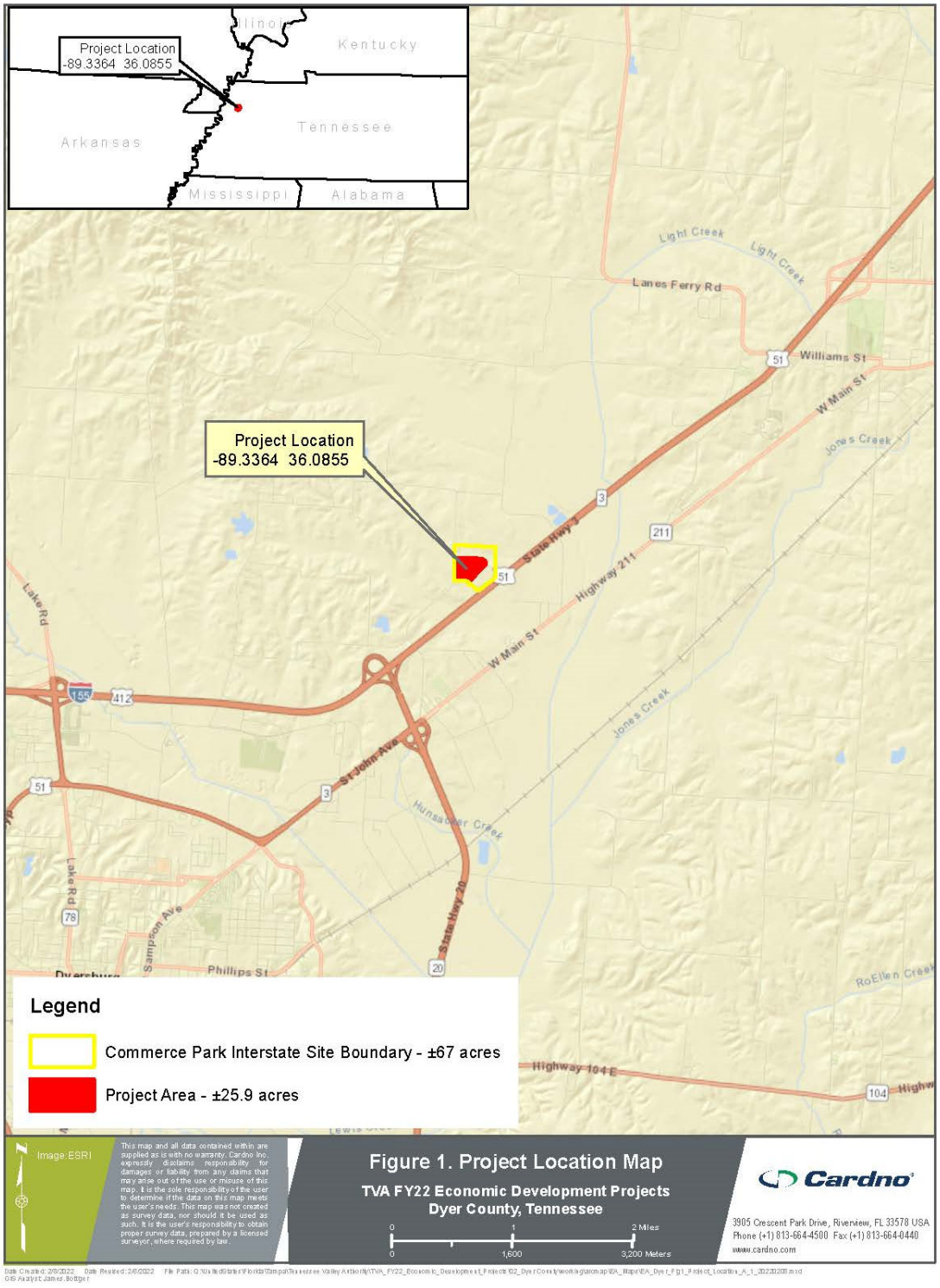

Figure 1. Project Location Map

2.0 OTHER ENVIRONMENTAL REVIEWS AND DOCUMENTATION

A Phase I Environmental Site Assessment of the Commerce Park Interstate Site 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 Data Exploration and Assessment, Inc. in August 2018 (Delta Exploration 2018). 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 Commerce Park Interstate Site. A geotechnical investigation of the Commerce Park Interstate Site was performed by Construction Materials Laboratory, Inc. in August 2018 (Construction Materials 2018). The primary purpose of the geotechnical investigation was to explore the general site and subsurface conditions within the Commerce Park Interstate Site. Tioga Environmental Consultants conducted an on-site wetland delineation and hydrologic determination, and then obtained an approved jurisdictional determination (AJD), both in January 2021 (Tioga 2021). The primary purpose of the wetland delineation determination and hydrologic determination was to identify wetlands and waterbodies jurisdictional to the United States Army Corps of Engineers (USACE) and the Tennessee Department of Environment and Conservation (TDEC). A Phase I Archaeological Survey and report was conducted and prepared in August 2018 by Midsouth Cultural Resource Consultants (Midsouth 2018). The primary purpose of the archaeological survey was to identify and record archaeological resources that may have been present on-site and potentially impacted by any proposed construction in the Commerce Park Interstate Site.

The Phase I Environmental Site Assessment, Geotechnical Investigation Report, Wetland Delineation, and Phase I Archaeological Survey were used in the preparation of this EA.

3.0 ALTERNATIVES

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

3.1 The No Action Alternative

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

3.2 The Action Alternative

Under the Action Alterative, TVA would provide InvestPrep funds to the City for site improvements to the Commerce Park Interstate Site. These improvements would include the clearing of approximately 0.1 acre of trees, the grading of a 200,000 ft^2 dirt building pad (and associated

parking and truck dock areas), construction of an approximate 0.25-acre gravel access road, construction of two detention basins totaling 1.99 acres, installation of temporary marketing signage, installation of erosion and sediment controls, and the stabilization of disturbed areas after grading activities are completed, within the Commerce Park Interstate Site (Attachment 1, Figure 1-B).

Site activities required for the Action Alternative would occur over approximately 5 months and would require a small workforce that would likely be drawn from a local contractor. Cleared trees, stumps, vegetation, and debris would be cut and hauled off-site. TVA's preferred alternative is the Action Alternative.

The City would obtain all required permits and authorizations, and in compliance with those permits take appropriate feasible measures, such as implementing best management practices (BMPs) and best construction practices, to minimize or reduce the potential environmental effects of the Action Alternative to insignificant levels. These practices would include, but are not limited to installation of sediment and erosion controls (silt fences, sediment traps, etc.), management of fugitive dust, daytime work hours, and other appropriate measures.

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

4.0 AFFECTED ENVIRONMENT AND ANTICIPATED IMPACTS

4.1 Site Description

The 25.9-acre Project Area is located within the 67-acre Commerce Park Interstate Site in Dyer County, Tennessee between Fort Hudson Road and U.S. Highway 51, approximately 5 miles northeast of the City of Dyersburg, Tennessee. Access is provided from Fort Hudson Road along the western boundary of the Project Area (Attachment 1, Figure 1-A).

The Project Area is situated within a mixed agricultural and industrial area of Dyersburg, Tennessee and is zoned M-1: Industrial Park (Tennessee 2021a). Industrial neighbors include Develey Mustard and NSK Steering Systems. The Project Area is comprised of agricultural or wooded/forested land. The site is bordered by agricultural/residential properties on the north, east and west and by Interstate 155 (I-155) and undeveloped land on the south. No permanent structures are present within the Project Area.

Land use identified in the Tennessee Real Estate Assessment Database includes Public Use (31) and Heavy Industrial (22) as assessed using land use data derived from the Computer Assisted Appraisal System (CAAS) property assessment data maintained by the State of Tennessee's Comptroller of the Treasury (Tennessee 2021b). The CAAS data supporting documentation indicates Public Use (31) refers to parcels owned by either the federal, state, county, or city government and Heavy Industrial (22) describes parcels with heavy industrial land use within the Commerce Park Interstate Site and the Project Area (Tennessee 2021b). As of 2018, the Project

Area was dominated by crops, with a small area of forested habitat located in the northeastern portion of the Project Area.

The Project Area is relatively flat with elevations varying between approximately 320 feet to 330 feet above mean sea level (Attachment 1, Figure 1-C). The current land use within the Commerce Park Interstate Site is zoned for light industrial use, but as of 2018, the site was being used for agriculture.

4.2 Impacts Evaluated

The Phase I Environmental Site Assessment did not identify any current or historical chemical, petroleum, or hazardous substance operations or storage areas or locations within the Project Area that would indicate the presence of solid or hazardous wastes (Delta Exploration 2018). Further, no demolition or construction waste activities are associated with the Action Alternative. Therefore, the Proposed Action is not expected to result in significant impacts from the creation or disposal of solid and hazardous wastes.

The Federal Emergency Management Agency (FEMA) flood insurance rate map for Dyer County, Tennessee (Attachment 1, Figure 1-D), (panel number 47045C0204E, effective 10/16/2008) and the United States Geological Survey (USGS) 1:24,000 topographic map for Dyersburg, Tennessee indicate the Project Area would be located outside identified 100-year floodplains. Additionally, according to the Memphis District USACE's January 26, 2021 AJD memo, no perennial streams were identified on the Commerce Park Interstate Site. Therefore, the Proposed Action would be consistent with EO 11988 and have no impact on floodplains and their natural and beneficial values.

An on-site wetland delineation and hydrologic determination was conducted by Tioga Environmental Consultants and an AJD was obtained in January 2021 (Tioga 2021). Surveys were performed according to USACE standards (Environmental Laboratory 1987). The USACE wetland standards require documentation of hydrophytic vegetation (Reed 1997), hydric soil, and wetland hydrology. Broader definitions of wetlands, such as the one used by the U.S. Fish and Wildlife Service (USFWS) (Cowardin et al. 1979), and as defined under 18 CFR) 1318.40, were also considered in this review. One 0.12-acre non-jurisdictional wetland was delineated on-site. The wetland has been cleared, grubbed, and removed by a local entity, and no longer retains the characteristics of a wetland. Therefore, there are no wetlands present within the Project Area.

During the aforementioned site survey, one ephemeral/wet weather conveyance (WWC) was observed within the Project Area. Ephemeral WWC features only convey water in response to precipitation and do not provide conditions for aquatic life. A review of the TVA Regional Natural Heritage Database in January 2022 indicated that one federal aquatic species [Pallid sturgeon (*Scaphirhynchus albus*)] and one state-listed aquatic species [blue sucker (*Cycleptus elongaus*)] are known to occur within the Forked Deer River (0801020404) ten-digit hydrologic unit code (HUC) watershed and/or Dyer County, Tennessee. The environmental survey conducted by Tioga Environmental Consultants indicated no intermittent or perennial streams are located within the Commerce Park Interstate Site. No habitat for big river Pallid sturgeon and blue sucker occur within the Project Area. Therefore, there would be no effect of the Proposed Action on aquatic ecology or Federally- or state-listed threatened and endangered aquatic species.

Natural areas include ecologically significant sites; federal, state, or local park lands; national or state forests; wilderness areas; scenic areas; wildlife management areas; greenways; trails; United States National Park Service (USNPS) Nationwide Rivers Inventory (NRI) segments; and Wild and Scenic Rivers (WSRs). Managed areas include lands held in public ownership that are managed by an entity (e.g., TVA, United States Department of Agriculture (USDA), United States Forest Service (USFS), State of Tennessee) to protect and maintain certain ecological and/or recreational features. A review of data from the TVA Regional Natural Heritage Database, USNPS NRI database (USNPS 2021), WSR database (WSR 2021), and the U.S. Environmental Protection Agency (USEPA) NEPA Assist Tool (USEPA 2020) indicated there are no natural or managed areas within three miles of the Project Area. Although a search of the TVA Natural Heritage Database indicated that there is a 150-acre agricultural easement located approximately 1.6 miles southeast from the Project Area, the Proposed Action is not expected to result in impacts to this easement.

There are no parks or outdoor recreation areas in the immediate vicinity of the proposed Project. Shell City Park is located approximately four miles to the southwest of the Project Area. Given the substantial distance between the Project and the park, the Proposed Action is not expected to have any impact on use of this recreational area.

There would be no impact to land use and prime farmland as the Project Area is located within a property zoned as light industrial and the Proposed Action would not result in a change to the zoned land use.

TVA has determined that the Proposed Action, subsequent to TVA's selection of the Action Alternative, would have no impact on solid and hazardous wastes, floodplains, wetlands, aquatic ecology, managed and natural areas, recreation, prime farmland, or land use as discussed above. Therefore, potential impacts to these resources are not described in further detail in this EA.

Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative include air quality and climate change, groundwater, soil erosion and surface water, terrestrial zoology, botany, and archaeology and historic structures and sites. Implementation of the Action Alternative could create potential impacts to the human environment, including visual effects, noise, socioeconomics and environmental justice, and transportation issues. 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

Federal and state regulations protect ambient air quality. With authority granted by the Clean Air Act (CAA) 42 U.S.C. 7401 et seq. as amended in 1977 and 1990, the USEPA established National Ambient Air Quality Standards (NAAQS) to protect human health and public welfare. The USEPA codified NAAQS in 40 CFR 50 for the following "criteria pollutants:" nitrogen dioxide (NO_2), carbon monoxide (CO), ozone, sulfur dioxide (SO_2), lead, particulate matter (PM) with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), and PM with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$). The NAAQS reflect the relationship between pollutant concentrations and health and welfare effects. Primary standards protect human health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards are designed to protect public welfare, including visibility, animals, crops, vegetation,

and buildings. These standards reflect the latest scientific knowledge and have an adequate margin of safety intended to address uncertainties and provide a reasonable degree of protection. With the exception of PM, the air quality data in Dyer County, Tennessee is not available; According to the 2020 data, $PM_{2.5}$ averages (6.2 µg/m^3) and $PM_{2.5}$ 24-hour (15 µg/m^3) amounts meet the ambient air quality standards and is in attainment with respect to the criteria pollutants (USEPA 2021a).

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

GHGs are gases that trap heat in the atmosphere, are non-toxic and non-hazardous at normal ambient concentrations. At this time, there are no applicable ambient air quality standards or emission limits for GHGs under the CAA. GHGs occur in the atmosphere both naturally and resulting from human activities, such as the burning of fossil fuels. GHG emissions due to human activity are the main cause of increased atmospheric concentration of GHGs since the industrial age and are the primary contributor to climate change. The principal GHGs are carbon dioxide (CO_2), methane, and nitrous oxide.

Air quality impacts associated with activities under the Action Alternative include emissions from fossil fuel-fired equipment and fugitive dust from ground disturbances. Fossil fuel-fired equipment are a source of combustion emissions, including nitrogen oxides (NO_X), CO, VOCs, SO_2, PM_{10}, $PM_{2.5}$, GHGs, and small amounts of HAPs. Gasoline and diesel engines used as a result of the Action Alternative are expected to comply with the USEPA mobile source regulations in 40 CFR Part 85 for on-road engines and 40 CFR Part 89 for non-road engines. These regulations are designed to minimize emissions and require a maximum sulfur content in diesel fuel of 15 parts per million (ppm).

Fugitive dust is a source of respirable airborne PM, including PM_{10} and $PM_{2.5}$, which could result from ground disturbances such as land clearing, grading, excavation, and travel on unpaved roads. The amount of dust generated is a function of the activity, silt and moisture content of the soil, wind speed, frequency of precipitation, vehicle traffic, vehicle types, and roadway characteristics. The City, or its contractors, would be expected to comply with TDEC Air Pollution Control Rule 1200-3-8, which requires reasonable actions to prevent PM from becoming airborne. Such reasonable actions include grading of roads, clearing of land, and the use of water or chemicals for control of dust in construction operations on dirt roads and stockpiles, as needed.

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

Concerning climate change, 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. Carbon sequestration is the process by which carbon sinks remove CO_2 from the atmosphere. 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. The clearing of approximately 0.1 acre of land containing trees for the Action Alternative would result in a minor loss of carbon sequestration capacity in the area that is predominantly agricultural land.

Under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar emissions associated from equipment and ground disturbances would occur, resulting in similar air quality and climate change impacts as those described above for the Action Alternative. If the City were not able to secure the funding for the actions described in this EA, emissions associated from equipment and ground disturbances would not occur and there would be no impacts to air quality and climate change from the No Action Alternative.

4.2.2 Groundwater

The Project Area is located within the East Gulf Coastal Plain Section of the Coastal Plain Province (USNPS 2017 and USGS 2021a). The East Gulf Coastal Plain Section extends from eastern Louisiana and includes parts of Mississippi, Alabama, western Tennessee, western Georgia and the Florida panhandle. The East Gulf Coastal Plain Section in the vicinity of the Commerce Park Interstate Site is characterized by unconsolidated to semi-consolidated sediments, silts and clay (USGS 1995).

In western Tennessee, the principal aquifer system in the East Gulf Coastal Plain Section is the Mississippi embayment aquifer system and consist of sediments that include sand, silt, lignite and clay that are primarily Late Cretaceous through late Eocene (USGS 1995). The Mississippi embayment aquifer system is comprised of several named aquifers. The local aquifer systems underlying the Commerce Park Interstate Site include: (in descending order) the upper Claiborne aquifer, middle Claiborne aquifer, lower Claiborne-upper Wilcox aquifer, Middle Wilcox aquifer, lower Wilcox aquifer and the McNairy-Nacatoch aquifer (USGS 1995). The upper Claiborne aquifer consists of interbedded silt, fine sand and sporadic lignite. The middle Claiborne aquifer consists of thick sand sequences with few or no clay layers. The lower Claiborne-upper Wilcox aquifer consists of thick beds of coarse to fine sand interbedded with thin layers of silt, clay and lignite. The middle Wilcox aquifer is made up of thin, interbedded silt, fine sand and clay layers. The lower Wilcox aquifer consists primarily of fluvial deposited sands. The bottom most aquifer that comprises the Mississippi embayment aquifer system is the McNairy-Nacatoch aquifer which consists of a single thick sand bed or two or more sand beds separated by thinner marl or clay layers (USGS 1995).

The water quality in the Mississippi embayment aquifer system is considered soft to moderately hard with a calcium bicarbonate type near outcrop areas of the aquifer and transitions to a sodium bicarbonate type as it flows deeper into the aquifers. The dissolved solids concentrations for the Mississippi embayment aquifer system are typically less than 250 milligrams per liter (mg/L) in the vicinity of the Commerce Park Interstate Site. The principle aquifers used for water supply in the Mississippi embayment aquifer system are the middle Claiborne, lower Wilcox and the McNairy-Nacatoch aquifers. The middle Claiborne and lower Wilcox receive recharge via precipitation in aquifer outcrops and downward leakage from the above overlying aquifers. The

McNairy-Nacatoch receives recharge primarily from precipitation infiltration in aquifer outcrop areas and a small portion of recharge is upward from the underlying aquifers (USGS 1995).

Implementation of the Action Alternative would result in ground disturbance during construction activities. Tree clearing would result in minor ground disturbance at shallow depths. Site grading and compaction for development of the building pad, construction of an access road, and two detention basins would result in greater ground disturbance at moderate depths (estimated at less than 20 feet, based on site topography and the conceptual grading plan). Ground disturbances are not anticipated to be at depths that would intersect public groundwater supplies (approximately 200 to 1,500 feet beneath the land surface (USGS 1995) or result in significant impacts to groundwater resources. The geotechnical borings conducted on-site in the 2018 report (Construction Materials 2018) indicate the overburden at the Commerce Park Interstate Site consists mostly of clayey silts and a single boring consisting of tan sand, confirming that the upper Claiborne aquifer sand extents are laterally limited in this formation allowing the aquifer to provide only small supplies of groundwater (USGS, 1995). Shallow aquifers could sustain minor impacts from changes in overland water flow and recharge caused by clearing, grading and construction of temporary sediment basins within the Project Area. Water infiltration, which is normally enhanced by vegetation, would be reduced until vegetation is re-established. In addition, near-surface soil compaction caused by heavy construction vehicles could reduce the ability of soil to absorb water. These minor impacts would be temporary and would not significantly affect groundwater resources. The Phase I Environmental Site Assessment indicates that the Project Area is undeveloped and there was no discovery of adverse environmental conditions on the Project Area (Delta Exploration 2018). Historical land use of the Project Area was primarily undeveloped agricultural land, residential and wooded areas since approximately 1985. As such, it is unlikely that construction activities would encounter hazardous substances that could affect groundwater during the aforementioned site improvements. Furthermore, it is expected that the City, or its contractors, would conduct operations involving chemical or fuel storage or resupply and equipment and vehicle servicing with care to avoid leakage, spillage, and subsequent ground water contamination. Implementation of the Action Alternative would have insignificant effects upon groundwater.

Under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar ground disturbance would occur, resulting in similar impacts to groundwater resources as those described above for the Action Alternative. If the City were not able to secure the funding for the actions described in this EA, ground disturbance associated with tree clearing, site grading and compaction for development of the building pad, construction of an access road, and two detention basins would not occur and there would be no impacts to groundwater resources.

4.2.3 Soil Erosion and Surface Water

The Project Area is in Dyer County, Tennessee in the Mississippi Alluvial Plain ecoregion. The Project Area drains to streams within the Lewis Creek watershed (HUC-12 080102040402). There is one un-named stream that runs east to west across the northern portion of the Commerce Park Interstate Site and flows southeast, off-site to Light Creek. This un-named stream, is one of four other WWCs, are outside of the proposed Project Area. One WWC is located within the Project Area (Attachment 1, Figure 1-E and Figure 1-F).

Precipitation in the vicinity of the Project Area averages about 51 inches per year. The average annual air temperature ranges from an annual low temperature of 49 degrees Fahrenheit to an annual high temperature of 70 degrees Fahrenheit (US Climate Data 2021). Stream flow varies with rainfall and averages approximately 0.77 cubic feet per second, per square mile of drainage area (USEPA 2021b).

The federal Clean Water Act (CWA) requires all states to identify all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards and to establish priorities for the development of limits based on the severity of the pollution and the sensitivity of the established uses of those waters. States are required to submit reports to the USEPA. The term “303(d) list” refers to the list of impaired and threatened streams and water bodies identified by the state. The un-named stream is a tributary of Light Creek, which is located to the east of the Commerce Park Interstate Site. Neither the un-named stream nor Light Creek is listed on Tennessee’s 303(d) list (TDEC 2021a). The un-named stream and Light Creek are classified for fish and aquatic life, recreation, irrigation, and livestock watering and wildlife (TDEC 2013).

Implementation of the Action Alternative would result in construction activities that have the potential to temporarily affect surface water via stormwater runoff. Soil erosion and sedimentation can clog small streams and threaten aquatic life. It is expected that the City, or its contractors, would comply with all appropriate federal, state and local permit requirements. Appropriate BMPs would be followed, and all proposed project activities would be conducted in a manner to ensure that waste materials are contained, and the introduction of pollution materials to the receiving waters would be minimized. In addition, the City, or its contractors, would be required to obtain coverage under the 2016 National Pollutant and Discharge Elimination System (NPDES) General Permit for Discharges Associated with Construction Activities (TNR100000) since the site grading activities would be greater than one acre. This permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify specific BMPs to address construction-related activities that would be adopted to minimize stormwater impacts. Part of these BMPs would be the construction of a stormwater detention basin to control sediment discharges from the Project Area. BMPs, as described in the Tennessee Erosion and Sediment Control Handbook (TDEC 2012a), would be used during site development to avoid contamination of surface water in the Project Area.

According to the AJD obtained in January 2021 (Tioga 2021), the five WWCs that are located within the Commerce Park Interstate Site (four north of the Project Area and one within the Project Area) do not meet the Navigable Waters Protection Rule and, therefore, are not considered jurisdictional waters of the United States (WOTUS). The current AJD is valid for five years, unless new information warrants revision of the determination before the expiration date or the District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis. It should be noted that in December 2021, the U.S. EPA and USACE published a revision to the proposed rule to revise the definition of WOTUS. The public comment period for this proposed rule change closed on February 7, 2022. Based on the USACE onsite evaluations of the WWCs and the determination that they are ephemeral, non-relatively permanent waters (non-RPWs), it is unlikely that the proposed rule change will result in a change to the AJD. Four of the WWCs are not located within the Project Area and therefore would not be affected by the Action Alternative. One WWC

located at the southernmost portion of the site, near the proposed tree clearing area, would be affected by the Action Alternative. This WWC is an erosional feature on an upland slope within an agricultural field that temporarily channels overland flow before releasing the flow back overland. The WWC lacks an ordinary high-water mark and is partially vegetated with upland grasses. It does not provide any suitable habitat for listed species.

Impervious surfaces prevent rain from percolating through the soil and result in additional runoff of water and pollutants into storm drains, ditches, and streams. The Action Alternative would increase impervious flows in the Project Area. Under the NPDES required permit, all flows would need to be properly treated with either implementation of the proper BMPs or engineering a discharge drainage system that could handle any increased flows prior to discharge into the outfall(s).

It is expected that portable toilets would be provided for the construction workforce as needed. These toilets would be pumped out regularly, and the sewage would be transported by tanker truck to a publicly-owned wastewater treatment plant that accepts pump out. Equipment washing and dust control discharges would be handled in accordance with BMPs described in the SWPPP for water-only cleaning. Proper implementation of BMPs and other controls for the Action Alternative would be expected to result in only minor temporary impacts to surface waters.

Soil types and descriptions are from the Web Soil Survey (NRCS 2021) (Attachment 1, Figure 1-G). Soil types mapped within the Project Area include Falaya silt loam, Granada silt loams (2-5%, 2-5%, severely eroded, and 5-8%), and Loring silt loams (2-5%, and 5-8% severely eroded).

According to the preliminary subsurface geotechnical investigation that was conducted for the Commerce Park Interstate Site the site generally consists of a stable clay soil profile composed of stiff lean clays, silty clays and silts that extend to 30-35 feet, before quickly transitioning to very dense sand (Construction Materials, 2018). According to the report, the site could be used for a number of industrial projects which could have medium to large column and wall loads, as well as light to heavy floor loads and heavy and light duty pavement areas. In order to prevent erosion and maintenance problems and maintain proper slope stability, the geotechnical investigation report also recommends 3(H):1(V) or flatter slopes.

Under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts to surface water resources as those described above for the Action Alternative. If the City were not able to secure the funding for the actions described in this EA, disturbance associated with the proposed actions would not occur and there would be no impacts from soil erosion or to surface water resources.

4.2.4 Terrestrial Zoology

4.2.4.1 Wildlife

Landscape features within the Commerce Park Interstate Site boundary are early successional habitats, specifically agricultural fields. Some brushy habitats exist along some edges of the property boundary as well as along ephemeral streams. A small clump of trees, approximately 0.1 acre, remains in the middle of a field.

Common inhabitants of early successional habitats include brown-headed cowbird (*Molothrus ater*), brown thrasher (*Toxostoma rufum*), common yellowthroat (*Geothlypis trichas*), dickcissel (*Spiza americana*), eastern bluebird (*Sialia sialis*), eastern kingbird (*Tyrannus tyrannus*), eastern meadowlark (*Sturnella magna*), field sparrow (*Spizella pusilla*), and grasshopper sparrow (*Ammondramus savannarum*) (National Geographic 2002). Bobcat (*Lynx rufus*), coyote (*Canis latrans*), eastern cottontail (*Sylvilagus floridanus*), hispid cotton rat (*Signondon hispidus*), red fox (*Vulpes vulpes*), and white-tailed deer (*Odocoileus virginianus*) are mammals typical of fields and cultivated land (Whitaker 1996). Reptiles including common garter snake (*Thamnophis sirtalis*), northern copperhead (*Agkistrodon contortrix mokasen-*, and southern black racer (*Coluber constrictor priapus-*are also known to occur in this habitat type. Ephemeral streams lined with thickets and dense brush may also provide habitat for American toads (*Anaxyrus americanus-*, spring peepers (*Pseudacris crucifer-*, and upland chorus frogs (*P. feriarum-* (Powell et. al 2016). The small clump of trees is extremely dense and would provide limited habitat for common species that may use edge habitats such as northern cardinal (*Cardinalis cardinalis-*, northern mockingbird (*Mimus polyglottos-*, or Carolina wren (*T. ludovicianus-* (National Geographic 2002).

Review of the TVA Regional Natural Heritage database in September 2021 indicated that no caves have been documented within three miles of the Project Area. No other unique or important terrestrial habitats were identified within the Project Area. One historical record of a wading bird colony exists within three miles of the Project Area. A housing development currently occupies the area that once housed this wading bird colony.

Review of the USFWS's Information for Planning and Consultation (IPaC) website in September 2021 resulted in one migratory bird species of conservation concern identified as having the potential to occur in the Project Area [American kestrel (*Falco sparverius-*]. Suitable foraging habitat exists in the Project Area for this species.

Under the Action Alternative, TVA would provide funding to assist with the grading of a 200,000 ft^2 dirt building pad (and associated parking and truck dock areas), a gravel access road, and temporary marketing signage. Approximately 25.9 acres of land would be impacted including one tree clump that is roughly 0.1 acre in size. Wildlife currently using these habitats would be displaced by habitat removal. Some immobile individuals may be lost as a result of clearing and grading, particularly if these activities take place during breeding/nesting seasons or during winter when some species may be wintering underground in dens. Construction-associated disturbances and habitat removal would disperse mobile wildlife into surrounding areas in an attempt to find new food and shelter sources and to re-establish territories. However, the actions are not likely to affect populations of species common to the area, as similar herbaceous habitats/agricultural fields exist in the surrounding landscape.

One migratory bird of conservation concern identified by the USFWS could be impacted by the proposed action. American kestrel may forage throughout the herbaceous portion of the Project Area throughout the year, however, suitable nesting habitat is not present within the Project Area for American kestrel. Should individuals occur on site, they are expected to flush if disturbed, therefore, no direct mortality is anticipated. Due to the lack of breeding habitat for American kestrel, the relative abundance of similarly suitable foraging habitat nearby, and the size of the Project Area, it is not expected that populations of this species of migratory bird would be impacted.

Under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts to terrestrial animals as those described above for the Action Alternative. If the City were not able to secure the funding for the actions described in this EA, trees, soil, and vegetation would remain in their current state, and terrestrial animals and their habitats would not be affected.

4.2.4.2 Threatened and Endangered Species

A review of terrestrial animal species in the TVA Regional Heritage Database in September 2021 indicated three state-listed species (great egret, little blue heron, and osprey) but no federally listed species documented within three miles of the Commerce Park Interstate Site. One federally protected species (least interior tern [*Sterna antillarum athalassos*]) is known from Dyer County. In addition, the USFWS has determined that the federally listed Indiana bat (*Myotis sodalis)* and northern long-eared bat (*Myotis septentrionalis)* have the potential to occur throughout the state of Tennessee. Thus, habitat suitability and potential impacts to these species also will be addressed (**Table 4-1**).

Table 4-1. Federally Listed Terrestrial Animal Species Reported from Dyer County, TN and Other Species of Conservation Concern Documented within Three Miles of the Commerce Park Interstate Site[1]

Common Name	Scientific Name	Status[2]	
		Federal Status[2]	TN State (Rank[3])
BIRDS			
Great egret	*Ardea alba*	–	– (S2B, S3N)
Interior least tern[4]	*Sternum antillarum athalassos*	DL	E (S2S3B)
Little blue heron	*Egretta caerulea*	–	D (S2B, S3N)
Osprey	*Pandion haliaetus*	–	– (S3)
MAMMALS			
Indiana bat[5]	*Myotis sodalist*	E	E (S1)
Northern long-eared bat[5]	*Myotis septentrionalis*	T	T (S1S2)

[1] Source: TVA Regional Natural Heritage Database, extracted September 23, 2021; USFWS Information for Planning and Consultation (IPaC) resource list (https://ecos.fws.gov.ipac), accessed September 23, 2021.

[2] Status Codes: D = Deemed in Need of Management; DL = Delisted; E = Endangered; T = Threatened

[3] State Ranks: S#B = Rank of Breeding Population; S#N = Rank of Non-breeding Population; S1 = Critically Imperiled; S2 = Imperiled; S3 = Vulnerable

[4] Federally protected species known from Dyer County, TN, but not within three miles of the Project footprint

[5] Federally listed species whose known range includes Dyer County, but has not yet been documented in this County

Great egrets often nest in heronries comprised of a mix of species. Great egret nests are located in trees around wetlands, reservoirs, and along rivers (Palmer-Ball Jr 1996). Little blue heron inhabits bodies of calm shallow water such as marshes, ponds, lagoons, and streams. They build nests in trees and shrubs about four meters above the ground or water, primarily in freshwater habitat, often with other colonial wading birds (NatureServe 2022). The closest record of these species is a historical record approximately 2.1 miles away from the Commerce Park Interstate Site. A large wading bird colony with several hundred nests comprised of great egrets, little blue herons, and black-crowned night herons used to exist in an area that is now covered in housing

developments. Suitable habitat for these species does not exist in the Commerce Park Interstate Site.

Ospreys occupy riparian habitats alongside bodies of water such as rivers, lakes and reservoirs. They build nests of sticks on a variety of man-made structures (e.g., transmission line structures, lighting towers) near water (NatureServe 2022). One nest is thought to occur on a transmission tower approximately 2.75 miles away from the Commerce Park Interstate Site. Suitable habitat for this species does not occur in the Project Area.

The interior least tern nests and forages on open shorelines, riverine sandbars and mudflats throughout the Mississippi and Missouri river drainages. Suitable nesting habitat is sparsely vegetated with sand or gravel substrate and located near an adequate food supply. Fidelity exhibited by terns across years to a particular site is strongly influenced by the dynamic nature of river hydrology, which may change island size and vegetative cover annually. Least terns also have been documented using inland sites created by humans such as dredge spoil and stilling impoundments associated with coal plants, where site characteristics mimic (to some degree) natural habitat (USFWS 2013). Nine records of interior least tern are known from Dyer County, all along the Mississippi River. The closest of these records is approximately 16.2 miles away. Suitable habitat for this species does not exist within the Commerce Park Interstate Site.

Indiana bats hibernate in caves in winter and use areas around them for swarming (mating) in the fall and staging in the spring, prior to migration back to summer habitat. During the summer, Indiana bats roost under the exfoliating bark of dead snags and living trees in mature forests with an open understory and a nearby source of water (Pruitt and TeWinkel 2007, Kurta et al. 2002). Although less common, Indiana bats have also been documented roosting in buildings (Butchkoski and Hassinger 2002). Indiana bats are known to change roost trees frequently throughout the season, while still maintaining site fidelity, returning to the same summer roosting areas in subsequent years (Pruitt and TeWinkel 2007). There are no known records of Indiana bats within 10 miles of the Commerce Park Interstate Site.

The northern long-eared bat predominantly overwinters in large hibernacula such as caves, abandoned mines, and cave-like structures. During the fall and spring they utilize entrances of caves and the surrounding forested areas for swarming and staging. In the summer, northern long-eared bats roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees (typically greater than 3 inches in diameter). Roost selection by northern long-eared bat is similar to that of Indiana bat, however northern long-eared bats are thought to be more opportunistic in roost site selection. This species also roosts in abandoned buildings and under bridges. Northern long-eared bats emerge at dusk to forage below the canopy of mature forests on hillsides and roads, and occasionally over forest clearings and along riparian areas (USFWS 2014). There are no known records of northern long-eared bats within 5 miles of the Interstate Park Commerce Site

No known caves or suitable winter roosting structures for either Indiana bat or northern long-eared bat exist in the Commerce Park Interstate Site. Based on the 2020/2021 Range-Wide Indiana Bat Survey Guidelines (USFWS 2020), TVA has determined that the small clump of trees (0.1 acre) found in the Project Area is not suitable for summer roosting Indiana bats or northern long-eared bats. Vegetation around the trunks of the trees is extremely dense and the trees do not

offer suitable, accessible, exfoliating bark, cracks, or crevices to support these species. Foraging habitat and sources of drinking water occur over ephemeral streams within the Commerce Park Interstate Site boundary. However, only one very small ephemeral stream occurs in the Project Area.

Under the Action Alternative, TVA would provide funding to assist with the grading of a 200,000 ft^2 dirt building pad (and associated parking and truck dock areas), a gravel access road, and temporary marketing signage. Approximately 25.9 acres of land would be impacted including one tree clump that is roughly 0.1 acre in size.

Six species were evaluated based on documented or assumed presence near the Commerce Park Interstate Site. No suitable habitat exists in the Project Area for great egret, little blue heron, osprey, and interior least tern. None of these species would be impacted by the proposed actions.

No suitable summer or winter roosting habitat, or foraging habitat exists in the Project Area for Indiana bat or northern long-eared bat. A number of activities associated with the proposed project were addressed in TVA's programmatic consultation with the U.S. Fish and Wildlife Service on routine actions and federally listed bats in accordance with ESA Section 7(a)(2) 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 need to be reviewed/implemented as part of the proposed project. With the implementation of identified conservation measures, no significant impacts to Indiana bat, and northern long-eared bat are anticipated as a result of the proposed project.

Under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts as those described above for the Action Alternative. If the City were not able to secure the funding for the actions described in this EA, trees, soil, and vegetation would remain in their current state, and terrestrial animals and their habitats would not be affected.

4.2.5 Botany

4.2.5.1 ***Vegetation***

As stated, the Project Area is located in the Mississippi Alluvial Plain Ecoregion. This riverine ecoregion is mostly a flat, broad floodplain with river terraces and levees providing the main elements of relief. Regionally, the soils tend to be poorly drained, although locally some sandy soils are well-drained. Bottomland deciduous forest vegetation covered the region before clearance for cultivation. Most of the region is in cropland, with some areas of deciduous forest. Soybeans, cotton, corn, sorghum, and vegetables are the main crops. The natural vegetation consists of Southern floodplain forest (oak, tupelo, bald cypress). The two main distinctions in the Tennessee portion of the ecoregion are between areas of loamy, silty, and sandy soils with better drainage, and areas of more clayey soils of poor drainage that may contain wooded swamp-land and oxbow lakes (USGS 2021b).

Based on existing studies and a desktop review of past and current site conditions, the Commerce Park Interstate Site appears to have been undeveloped agricultural land, residential, and wooded

areas since at least 1985. The site is bordered by agricultural/residential properties on the north, east and west and by I-155 and undeveloped land on the south. (Delta Exploration 2018).

The Commerce Park Interstate Site is zoned for light industrial use, however, at the time of the geotechnical investigation that was conducted on the 67-acre parcel in 2018, the site was planted with soybeans with a wooded/forested area located in the northern portion of the site (Construction Materials 2018). In addition, the Phase I Archaeological Survey also reports the site in agricultural use at the time of that survey and that there were exposed surface areas between row crops (Midsouth 2018). The majority of the Project Area is also currently under agricultural land use based on our review of aerial photography.

The Phase I Archaeological Survey also described the wooded/forested area within the Commerce Park Interstate Site as dense secondary growth and photo documentation shows that the forested vegetation within the Project Area is comprised of small to medium diameter trees. In addition, a small (0.1-acre) clump of immature trees occurs on the southern portion of the Project Area and would be cleared under the Action Alternative. The trees (approximately ±five trees) would be cut and hauled off-site. Stumps would be removed and hauled off as well. The immature clump of trees, combined with a substantial number of planted and non-native plants in the herbaceous layer indicates the site has been heavily disturbed in the past and does not support high quality plant communities with significant conservation value.

Implementation of the Action Alternative would not result in negative impacts to native vegetation or forest on any appreciable scale. Adoption of this alternative would result in disturbance of the entire Project Area. All vegetation would be removed and the area would be graded. Impacts to vegetation may be permanent, but the vegetation found within the Project Area is comprised of non-native weeds and early successional plants that have little conservation value.

Under the No Action Alternative, the Project Area would remain in its current condition and no work would occur unless alternative funding was secured by the City. The Project Area would continue to be dominated by non-native and early successional species indicative of disturbed habitats. Any changes to vegetation on-site would be the result of other natural or anthropogenic factors. If alternative funding was secured by the City, impacts to vegetation would be similar to those described for the Action Alternative.

4.2.5.2 Threatened and Endangered Plant Species

A December 2021 query of the TVA Regional Natural Heritage Database indicates that no state-listed or federally listed plant species have been previously reported from within a five-mile vicinity of the proposed Project Area. No federally threatened plant species have been reported within Dyer County, however, four state-listed species have been observed within Dyer County, including water purslane (*Didiplis diandra*), northern prickly-ash (*Zanthoxylum americanum*), tissue sedge (*Carex hyalina*), and red iris (*Iris fulva*). **Table 4-2** shows the State listing and ranking of the species occurring within Dyer County.

Table 4-2. Plant Species of Conservation Concern Previously reported within Dyer County, TN[1]

Common Name	Scientific Name	Federal Status[2]	TN State Status[2]	State Rank[3]	Habitat[4]
PLANTS					
Water purslane	*Didiplis diandra*	–	T	S1	Swamps
Northern prickly-ash	*Zanthoxylum americanum*	–	S	S2	Cedar thickets
Tissue sedge	*Carex hyalina*	–	S	S1	Bottomland woods on clayey and silty soils, riverbanks
Red iris	*Iris fulva*	–	T	S2	Forested and emergent wetlands

[1] Source: TVA and Tennessee Natural Heritage Database, queried December 2021

[2] Status Codes: T = Threatened; S = Special Concern

[3] State Ranks: S1 = Extremely rare and Critically Imperiled; S2 = Very rare and Imperiled

[4] Habitat: TDEC 2021b

Based on previous reports and studies detailing on-site conditions, the entirety of the Project Area has been highly disturbed by agricultural activity and is populated primarily with non-native species. No designated critical habitat for plants occurs in the proposed Project Area. Previous agricultural activities within the Project Area have resulted in significant disturbance that makes the parcel unsuitable for threatened or endangered plant species.

Similar to the Action Alternative, under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, there would be no direct or indirect impacts to state- and federally-listed threatened and endangered plant species. If the City were not able to secure the funding for the actions described in this EA, the proposed disturbances would not occur and existing site conditions would likely be unchanged, also resulting in no impacts to state and federally listed threatened and endangered plant species.

4.2.6 Archaeology and Historic Structures

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's background research identified two extant structures of greater than 50 years age within a half mile of the project footprint. These would be the house at 2049 Fort Hudson Road (1964) and a barn located to the east of the Project Area, just across Highway 3 (ca. 1952 or earlier). Both structures have either intervening heavy vegetation, landforms or modern built environment which impedes their line of sight to the Project Area. Furthermore, existing modern industrial/residential buildings or asphalt roadways within the viewshed of both structures compromise the integrity of historical setting and feeling.

Archaeological site files at the Tennessee Division of Archaeology (TDOA) were reviewed on August 7, 2018. No previously recorded archaeological sites are present within the Commerce Park Interstate Site. No previously recorded archaeological sites are present within a one-mile radius of the Commerce Park Interstate Site. The Project Area has a previous Phase I archaeological survey that was conducted on August 15-17, 2018 and consisted of a complete pedestrian survey and subsurface testing of the entire project footprint. No cultural material was recovered and no intact subsurface deposits attributable to prehistoric or historic activity were encountered.

TVA consulted with the Tennessee SHPO in a letter dated January 6, 2022 regarding TVA's findings and recommendations. In a letter dated January 7, 2022, the Tennessee SHPO concurred with TVA's determination that the proposed undertaking would result in no effects to historic properties included in, or eligible for inclusion in the National Register of Historic Places (NRHP) (Attachment 3). Pursuant to 36 C.F.R. Part 800.3(f)(2), TVA has consulted with the following federally recognized Indian tribes regarding historic properties within the proposed Project's Area of Potential Effects (APE) and a 0.5-mile viewshed, that may be of religious and cultural significance and are eligible for the NRHP: Absentee Shawnee Tribe of Indians of Oklahoma, Cherokee Nation, The Chickasaw Nation, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, The Osage Nation, The Quapaw Nation, Shawnee Tribe, United Keetoowah Band of Cherokee Indians in Oklahoma. TVA received two responses from the federally recognized Indian tribes regarding the Action Alternative. Both tribes concurred that the Action Alternative would have no adverse effect.

Similar to the Action Alternative, under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, there would be no impacts to cultural resources. If the City were not able to secure the funding for the actions described in this EA, the proposed disturbances would not occur and existing site conditions would likely be unchanged, also resulting in no impacts to cultural resources.

4.2.7 Visual

The Project Area is 25.9 acres consisting mainly of open agricultural land with small patches of wooded/forested areas. The Project Area is bordered by agricultural lands to the north, east, south, and west. The visual landscape consists of rural, flat areas with primarily agricultural land and open fields, some scattered riparian corridors, as well as some industrial development adjacent to the Project Area.

The Project Area would be directly adjacent to Fort Hudson Road and approximately 0.25-mile north of Route 51. There are no trees or visual screening between both roadways and the Project Area. Riparian corridors serve as parcel boundaries and provide some visual screening between the property boundaries in the Project Area. Residences occur sporadically within the proximity of the Project Area. Two small residential areas are located approximately 0.5-mile south and southeast of the Project Area, respectively. Residential areas along Fort Hood Road approximately 0.5-mile north have a direct line of sight to the Project Area. Similar to other residences in the area, there are some sporadic trees or forested riparian corridors on or near these properties that may provide some visual screening between the residences and the Project Area.

Additionally, the Project Area is approximately 15 miles west of the Great River Road Scenic Roadway. This National Scenic Byway is the oldest in the United States (TDOT 2021). Due to the distance to the National Scenic Byway, no potential impacts are anticipated.

Construction vehicles and equipment visible during construction activities would have a minor visual impact over the temporary construction period as well as a minor permanent impact due to minor tree removal and rough grading. Drivers along both Fort Hudson Road and Route 51 would have direct views of the Project Area. However, there are other industrial areas along the roadway within 0.5-mile, and any changes to the views would be similar to other areas along the road. The land along Fort Hudson Road and Route 51 is dominated by agricultural/pasture land, industrial areas, and some forested riparian corridors. While users of Fort Hudson Road and Route 51 may notice a change in the viewshed, this change would be minor given the brief period that drivers would be in the area. The views from the residences south and southeast of the Project Area, as well as those residences along Route 51 would experience a minor to moderate change. Current views from those areas would change from open pasture/agricultural land with sporadic tree cover to developed industrial land. However, the distance of these residences from the Project Area and the scattered forested riparian corridors would provide some visual screening. Implementation of the Action Alternative would result in a minor impact to visual quality for residents in the viewshed.

Under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, the proposed actions would occur, resulting in similar direct and indirect visual quality impacts as described above for the Action Alternative. If the City were not able to secure the funding for the actions described in this EA, the proposed actions would not occur and existing site conditions would likely be maintained resulting in no visual quality impacts.

4.2.8 Noise

Existing ambient noise levels, or background noise levels, are the current sounds from natural and artificial sources at receptors. The magnitude and frequency of background noise at any given location may vary considerably over the course of a day or night and throughout the year. The variations are caused in part by weather conditions, seasonal vegetative cover, and human activity. Existing sources of noise in the vicinity of the Project Area are primarily associated with traffic along the surrounding roads and the surrounding businesses and residences.

Noise impacts associated with construction activities under the Action Alternative would be from construction equipment. Construction activities would involve operation of an excavator, bulldozer, dump truck, or similar vehicles and heavy machinery over the temporary duration of construction. Construction equipment noise levels are temporary and rarely steady; they fluctuate depending on the number and type of vehicles and equipment in use at any given time. In addition, construction-related sound levels experienced by a noise sensitive receptor in the vicinity of construction activity would be a function of distance, other noise sources, and the presence and extent of vegetation, structures, and intervening topography between the noise source and receptor.

Primary sensitive noise receptors in the area include the businesses directly adjacent to the Project Area (the closest is about 460 feet from the Project) and the residences about 0.4 mile

southeast of the Project Area, across Highway 51. The noise would be localized and temporary, and no receptor would be exposed to significant noise levels for an extended period of time. Further, construction activities would be expected to be conducted during daylight hours only, when ambient noise levels are often higher, and most individuals are less sensitive to noise. Thus, noise-related impacts resulting from implementation of the Action Alternative are anticipated to be temporary and minor.

Similar to the Action Alternative, under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, there would be no impacts to noise receptors. If the City were not able to secure the funding for the actions described in this EA, the proposed disturbances would not occur and existing site conditions would likely be unchanged, also resulting in no impacts to noise receptors.

4.2.9 Socioeconomics and Environmental Justice

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

This analysis focuses on the state, county, and locality within which the Action Alternative would occur. Publicly available statistics generated by the United States Census Bureau and the United States Bureau of Labor Statistics were used to characterize socioeconomic conditions in the host state (Tennessee), county (Dyer), and locality (Dyersburg, Tennessee) (**Table 4-3**). Details of the Action Alternative were then used to evaluate likely effects on existing socioeconomic resources. The demographics and income of the host county and locality were considered, relative to the demographics and wealth levels at the state level, to identify the potential for a disproportionate and adverse impact on minority and low-income populations, which is commonly referred to as an evaluation of Environmental Justice.

Table 4-3. Population, Demographics, Income, and Employment in the Host State, County and Locality

	Tennessee	Dyer County	Dyersburg, TN
Population [1]			
April 2010 Population	6,346,276	38,330	17,136
July 2019 Population	6,829,174	37,159	16,314
Population, Percent Change	7.6%	-3.1%	-4.8%
Population per Square Mile	153.9	74.8	988.1
White Alone, not Hispanic or Latino	73.5%	79.5%	67.0%
Black or African American Alone	17.1%	14.5%	22.9%
American Indian and Alaska Native Alone	0.5%	0.4%	0.8%
Asian Alone	2.0%	0.7%	1.6%
Native Hawaiian and Other Pacific Islander Alone	0.1%	*	0.1%
Two or More Races	2.0%	1.8%	4.5%

	Tennessee	Dyer County	Dyersburg, TN
Hispanic or Latino (of any race)	5.7%	3.6%	4.1%
Income [1]			
Median Household Income	$53,320	$44,185	$38,614
Per Capita Income	$29,859	$27,710	$28,661
Percent with Income Below the Poverty Level	13.9%	17.3%	25.1%
Employment (Not Seasonally Adjusted): October 2021[2]			
Labor Force	3,313,097	15,241	(Not Available)
Employed	3,173,280	14,674	(Not Available)
Unemployed	139,817	567	(Not Available)
Unemployment Rate (%)	4.2%	3.7%	(Not Available)
1 – Source: United States Census Bureau (2020) 2 – Source: United States Bureau of Labor Statistics (2021) * – Value greater than zero but less than half unit of measure shown			

The results of the evaluation of Environmental Justice consist of the following:

- Relative to the average Tennessee resident, the residents of Dyer County live at a lower population density and lower population growth. Relative to the average Tennessee resident, the residents of Dyersburg, Tennessee live at much greater population density, but lower population growth.
- Relative to the average Tennessee resident, the residents of Dyer County are less likely to self-identify as a minority race or ethnicity. Relative to the average Tennessee resident, the residents of Dyersburg, Tennessee are more likely to self-identify as a minority race or ethnicity.
- Median household income and per capita income are both greater in Tennessee than in Dyer County and in Dyersburg, Tennessee. Similarly, residents of Dyer County and of Dyersburg, Tennessee are more likely to live below the poverty level than residents of Tennessee as a whole.
- The unemployment rate in Dyer County is lower than the statewide unemployment rate in Tennessee.

During project review, two small subdivisions near the Commerce Park Interstate Site were identified (approximately 0.3-mile to the north and 0.4-mile to the east, respectively). Using EPA's EJScreen Tool identified the following demographic characteristics for this area. Relative to the state, these neighborhoods in aggregate have a lower percentile population of color, have lower rates of linguistic isolation, have a higher level of population with less than high school education, and have a higher level of low-income population.

As described in Section 1.0 (Proposed Action and Need), the Action Alternative would include tree clearing, grading and stabilization of a 200,000 ft^2 dirt building pad with an on-site borrow area, construction of a gravel access road, construction of two detention basins and posting of

temporary marketing signage. This effort would require a small workforce, likely drawn from existing contractors working on similar projects in the region. Implementation of the Action Alternative is not anticipated to materially impact the local economy or workforce. In addition, no negative socioeconomic impacts are expected from the project, therefore no disproportionate negative impacts are anticipated to minority or economically disadvantaged populations as a result of the Action Alternative. Positive indirect impacts may be noted through the increase in employment as a result of the Action Alternative.

There is minimal potential that the Action Alternative would result in a disproportionate and adverse impact on minority and low-income populations. This conclusion is based on two observations. First, the Action Alternative would have a minor positive effect on the local economy. Second, as described throughout this document, environmental effects associated with the Action Alternative would be minor and would generally be constrained to the 25.9-acre Project Area.

Under the No Action Alternative, if the City were able to secure the funding for the proposed TVA-funded actions described in this Environmental Assessment from outside sources, similar activities would occur which would result in socioeconomic impacts similar to those described in the preceding paragraph. If the City were not able to secure the funding for the action, the economic activity and socioeconomic changes would not occur.

4.2.10 Transportation

The Project Area would be accessed during construction activities from Fort Hudson Road. The site entrances would be located on the western side of the Project Area, and would require installation of a new entrance and an improved entrance from Fort Hudson Road.

Fort Hudson Road is a local road that provides access to industrial developments south of the Project Area, undeveloped property, and four rural properties to the north of the Project Area. Fort Hudson Road is paved along its length, is sufficiently wide for a single lane of traffic in each direction. Based on preliminary review of Google Streetview images (recorded April 2012) as supplemented by review of Google Earth imagery obtained on March 9, 2017, the road is in good condition with wide grassy verges. The site entrance location and configuration should consider safe sight distances and other safety concerns for the traffic that would enter Fort Hudson Road from the property. Necessary precautions would be taken during mobilization and de-mobilization such as reduced speed in areas of poor visibility or poor road condition, with other precautions such as a flagman or traffic control to be considered if required. Fort Hudson Road terminates to the south at St. John Ave (Tennessee State Highway 211 [TN 211]), which provides access to U.S. Numbered Highway 412 (US 412) and I-155 to the west.

TN 211 provides access to multiple commercial and residential properties to the east and west. Based on a review of Google Streetview images (recorded November 2019) the road is in good condition, has wide vegetated verges, is sufficiently wide for two lanes of traffic in each direction, and provides a center turning lane for access to Fort Hudson Road. TN 211 is defined as a minor arterial by the Functional Classification System for Dyer County (Tennessee Department of Transportation [TDOT] 2020). TN 211 intersects with US 412 to the west of Fort Hudson Road with dedicated turning lands currently used for merging onto US 412. Normal care would be taken by workers entering US 412 with regards to traffic safety.

There are no traffic count stations located Fort Hudson Road. It is anticipated that existing traffic volumes for these local roads would be minor as they provide access to a limited number of other sites. Because of the anticipated limited volume of workers on the site required for tree clearing activities, grading, and the short timeframe of the proposed work, direct or indirect impacts to local traffic are anticipated to be temporary and minor.

Based on a review of TDOT historical traffic data (TDOT 2020) the nearest traffic count stations are located on TN 211, US 412, and the entrance and exit ramps of I-155. The 2020 annual average daily traffic count (AADT) for the relevant stations are presented in **Table 4-4** below.

Table 4-4. Tennessee Department of Transportation Traffic Count Data for the Project Area[1]

Route Description	Location ID	Distance from Project Area (miles)	Year	AADT
TN 211 (2-way count)	23000144	1.72	2020	7,903
US 411 (2-way count)	23000187	1.96	2020	11,314
I-155 N	23000015R	2.37	2020	2,216
I-155 S	23000017R	2.67	2020	3,375

[1] Source: Tennessee Department of Transportation [Annual Average Daily Traffic (AADT) (tn.gov)], extracted 12/10/2021

In the context of the existing AADT road volumes of these highways, the anticipated traffic generated by the proposed activities would be minor. It is anticipated that implementation of the Action Alternative would generate minor traffic associated with construction activities and have a temporary and negligible impact on overall traffic volumes and level of service of either TN 211, US 412, or I-155.

Under the No Action Alternative, if the City were able to secure the funding for the actions described in this EA from other sources, or if the City were to proceed without any supplemental funding, construction of project components would occur, also resulting in temporary and negligible impact on overall traffic volumes and level of service. If the City were not able to secure the funding for the actions described in this EA there would be no impact to overall traffic volumes and level of service.

5.0 PERMITS, LICENSES, AND APPROVALS

The Action Alternative would result in greater than one acre of earth disturbing activities; therefore, it would be necessary to obtain coverage under the 2016 (or current version) NPDES General Permit for Discharges Associated with Construction Activity (TNR100000). Coverage would require submittal of a Notice of Intent (NOI) and development of a site-specific SWPPP. The City, or its contractors, would be responsible for obtaining local, state, or federal permits, licenses, and approvals necessary for the project.

6.0 BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

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

Operations involving chemical or fuel storage or resupply and vehicle servicing are expected to 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 are expected to be installed to protect nearby stream channels from direct surface runoff. Servicing of equipment and vehicles is expected to be done with care to avoid leakage, spillage, and subsequent surface or groundwater contamination. Oil waste, filters, and other litter are expected to be collected and disposed of properly.

Specific conservation measures would be implemented as a part of the Action Alternative to reduce effects to Indiana bat and northern long eared bat. These measures are identified in the TVA Bat Strategy Project Screening Form (Attachment 2).

7.0 LIST OF PREPARERS

Table 7-1 summarizes the expertise and contribution made to the EA by the Project Team.

Table 7-1. Environmental Assessment Project Team

Name/Education	Experience	Project Role
TVA		
Brooke Davis B.S. Forestry/ Wildlife Biology and B.S. Environmental Science	22 years in Project Management, Managing and Performing NEPA Analyses; ESA Compliance; CWA Evaluations; NHPA Compliance	Economic Development Grant Project NEPA Compliance Manager
Adam Dattilo M.S., Forestry; B.S., Natural Resource Conservation Management	21 years in ecological restoration and plant ecology, 16 years in botany	Botany, Threatened and Endangered Species QA/QC
Kerry Nichols *Ph.D. Anthropology, M.A. Anthropology, B.A. Political Science*	21 years of experience as a field archaeologist and SHPO project reviewer	Cultural resources, NHPA Section 106 compliance
Craig Phillips *M.S., and B.S., Wildlife and Fisheries Science*	15 years Sampling and Hydrologic Determinations for Streams and Wet-Weather Conveyances; 10 years in Environmental Reviews	Aquatic Ecology
Carrie Williamson, P.E., CFM *B.S. and M.S., Civil Engineering*	9 years in Floodplain and Flood Risk; 11 years in Compliance Monitoring; 3 years in River Forecasting	Floodplains QA/QC

Name/Education	Experience	Project Role
Elizabeth Burton Hamrick *M.S., Wildlife and Fisheries Science, University of Tennessee* *B.A., Biology, B.A., Anthropology, Grinnell College*	22 years in biological field studies, 9 years in biological compliance, NEPA compliance, and ESA consultation for T&E terrestrial animals.	Terrestrial zoology, threatened and endangered species
Cardno		
Douglas Mooneyhan *M.S., Biology, Tennessee Technological University* *B.S., Wildlife and Fisheries Science, University of Tennessee*	31 years in managing and performing environmental studies, Project Manager for a variety of different project types including NEPA, construction monitoring, natural resources, water resources, and fisheries biology.	EA Program Manager QA/QC
Amanda Koonjebeharry, PMP *B.S, Zoology and Botany, University of the West Indies*	20 years in environmental resource surveys and permitting, including EIS and EA preparation, compliance monitoring, state and federal wetland and waterbody permitting and mitigation, protected species surveys and coordination, and wetland delineations.	EA Project Manager QA/QC Purpose and Need, Air Quality and Climate Change, Other Environmental Documentation, Alternatives, Site Description, Permits, Licenses and Approvals, Best Management Practices and Mitigation Measures
Jaclyn Martin *M.S., Environmental Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden* *M.S., Environmental Sciences, University of Natural Resources and Life Sciences, Vienna, Austria* *B.S., Biology, Winthrop University, South Carolina*	8 years in environmental consulting in the preparation and review of NEPA compliance reports, environmental assessments, and permitting for a variety of telecommunication, alternative energy, and FERC-regulated projects.	Air Quality and Climate Change, Visual
Duane Simpson *M.A., Anthropology, University of Arkansas* *B.A., Anthropology, Ohio University*	27 years in archaeological consulting including management of projects across the southeast and midatlantic regions. Principal Investigator for over 15 years.	Archaeology
Rachel Kennedy *M.H.P., Historic Preservation, University of Kentucky* B.A., Political Science and History, University of Kentucky	21 years of experience working in non-profit, governmental, and private sectors with all aspects of preservation planning, from interpretation of the Secretary of the Interior's Standards for the Treatment of Historic Properties to cultural landscape examinations to identifying, evaluating, and listing properties to the NRHP. Meets the Secretary of the Interior's Professional Qualifications Standards for History and Architectural History, per 36 Code of Federal Regulations (CFR), Part 61.	Historic Structures and Sites

Name/Education	Experience	Project Role
Josh Yates, P.G. *M.S., Geology, University of South Florida* *B.S. Natural Resources Management and Engineering, University of Connecticut*	16 years of hydrogeologic assessments and water resources permitting experience. This experience includes water supply planning, hydrogeologic investigations, groundwater modeling, water use permitting, well construction oversight, EIS and EA preparation, minimum flow and level (MFL) impact analysis, monitoring well network design, aquifer performance tests, and GIS analysis.	Groundwater
Trey Fitzpatrick *M.S., Environmental Management, Samford University* *B.S., Biology, Samford University*	7 years of experience working on natural gas projects primarily in the southeastern United States. Support for projects regulated by the Federal Energy Regulatory Commission, as well as smaller pipeline projects in the southeast, NEPA permitting, FERC licensing and compliance, wetland delineation and mitigation, wildlife and vegetation surveys, and environmental permitting.	Terrestrial Zoology
Sam Waltman *B.S., Marine Biology, Texas A&M University*	13 years in natural resource surveys and permitting, including EIS and EA preparation, field sampling, GIS analysis, USACE jurisdictional delineations, T&E species surveys, hydrogeomorphic assessments, NRDA, Phase 1 ESAs, and environmental compliance monitoring.	Prime Farmland, Managed and Natural Areas, Recreation
Kimberly Sechrist *M.S., Environmental Science, Towson University* *B.S., Biology, McDaniel College (originally Western Maryland College)*	Over 12 years of professional experience in the environmental consulting field. During this time, she has participated in a wide range of projects and tasks including on data validation, chemistry lab coordination and sample tracking, restoration, wetland delineation, endangered species studies and environmental sampling. She has authored numerous Land Use, Recreation, Visual, Socioeconomic, and Environmental Justice resource sections on a variety of third party EAs/EISs.	EA Project Manager QA/QC Purpose and Need, Air Quality and Climate Change, Other Environmental Documentation, Alternatives, Site Description, Permits, Licenses and Approvals, Best Management Practices and Mitigation Measures, Noise
Yosef Shirazi, Ph.D. *Ph.D., Marine Policy, University of Delaware* *M.S., Marine Science, University of North Carolina at Wilmington* *B.S., Biology, University of Maryland* *B.S., Environmental Science and Policy, University of Maryland*	11 years of experience in the fields of ecology and economics. He has performed extensive work implementing and interpreting surveys and survey results, valuing ecosystem services, and evaluating the socioeconomic impacts of infrastructure projects. His areas of technical knowledge include welfare economics, biophysical relationships in coastal environments, and regional economics modeling.	Socioeconomics and Environmental Justice
Brenton Jenkins, P.E. *B.S. Environmental Engineering, Louisiana State University*	9 years in environmental consulting for various private and public sector clients, including project management, engineering design, permitting, and assessments, primarily in the oil and gas sector.	Transportation

8.0 AGENCIES AND OTHERS CONSULTED

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

- Tennessee Historical Commission
- Absentee Shawnee Tribe of Indians of Oklahoma
- Cherokee Nation
- The Chickasaw Nation
- Eastern Shawnee Tribe of Oklahoma
- Jena Band of Choctaw Indians
- The Osage Nation
- The Quapaw Nation
- Shawnee Tribe
- United Keetoowah Band of Cherokee Indians in Oklahoma

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ATTACHMENT 1

PROJECT FIGURES

Figure 1-A

Aerial

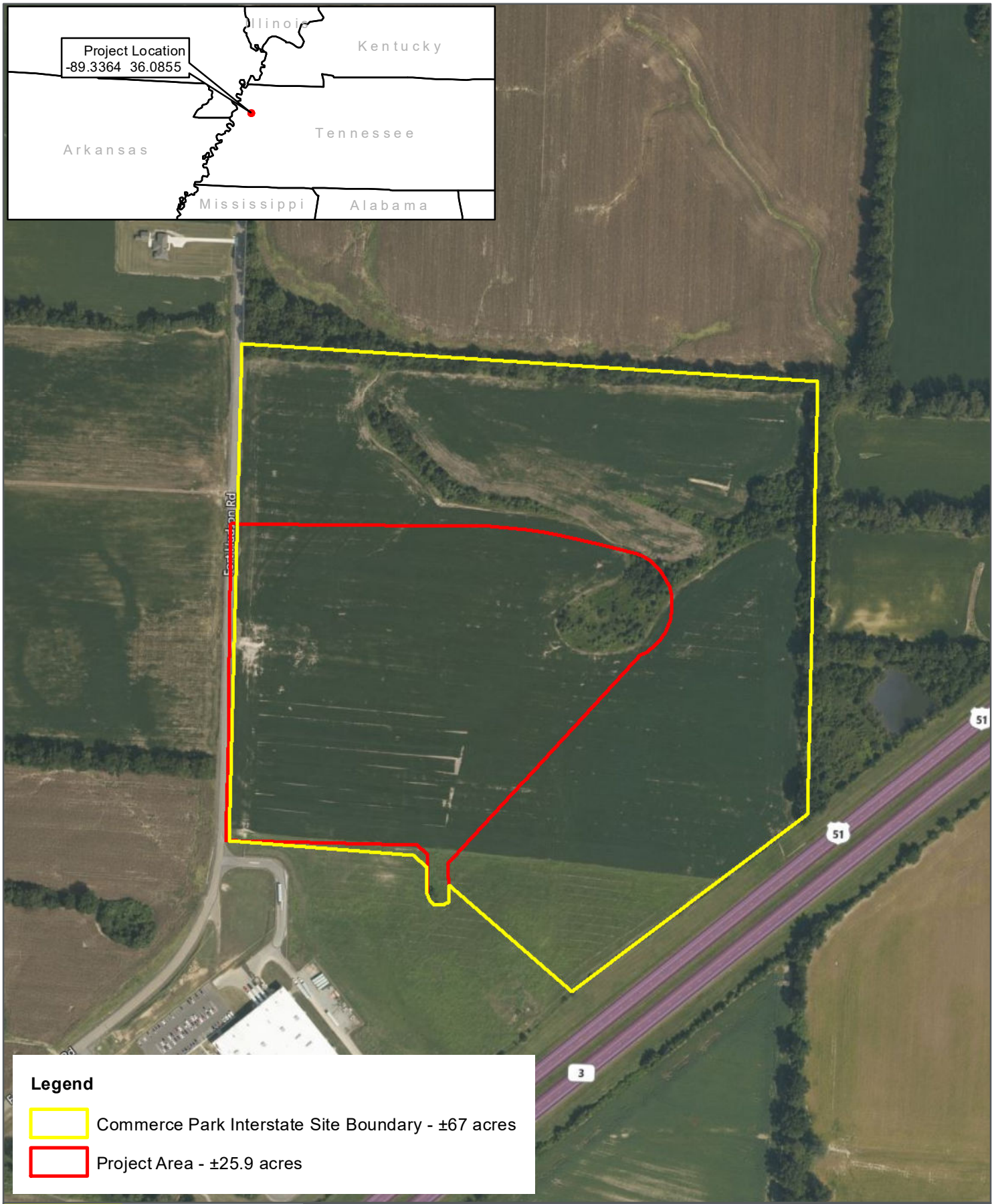

Image:Bing

Figure 1-A: Aerial Map

TVA FY22 Economic Development Projects
Dyer County, Tennessee

0 400 800 Feet
0 120 240 Meters

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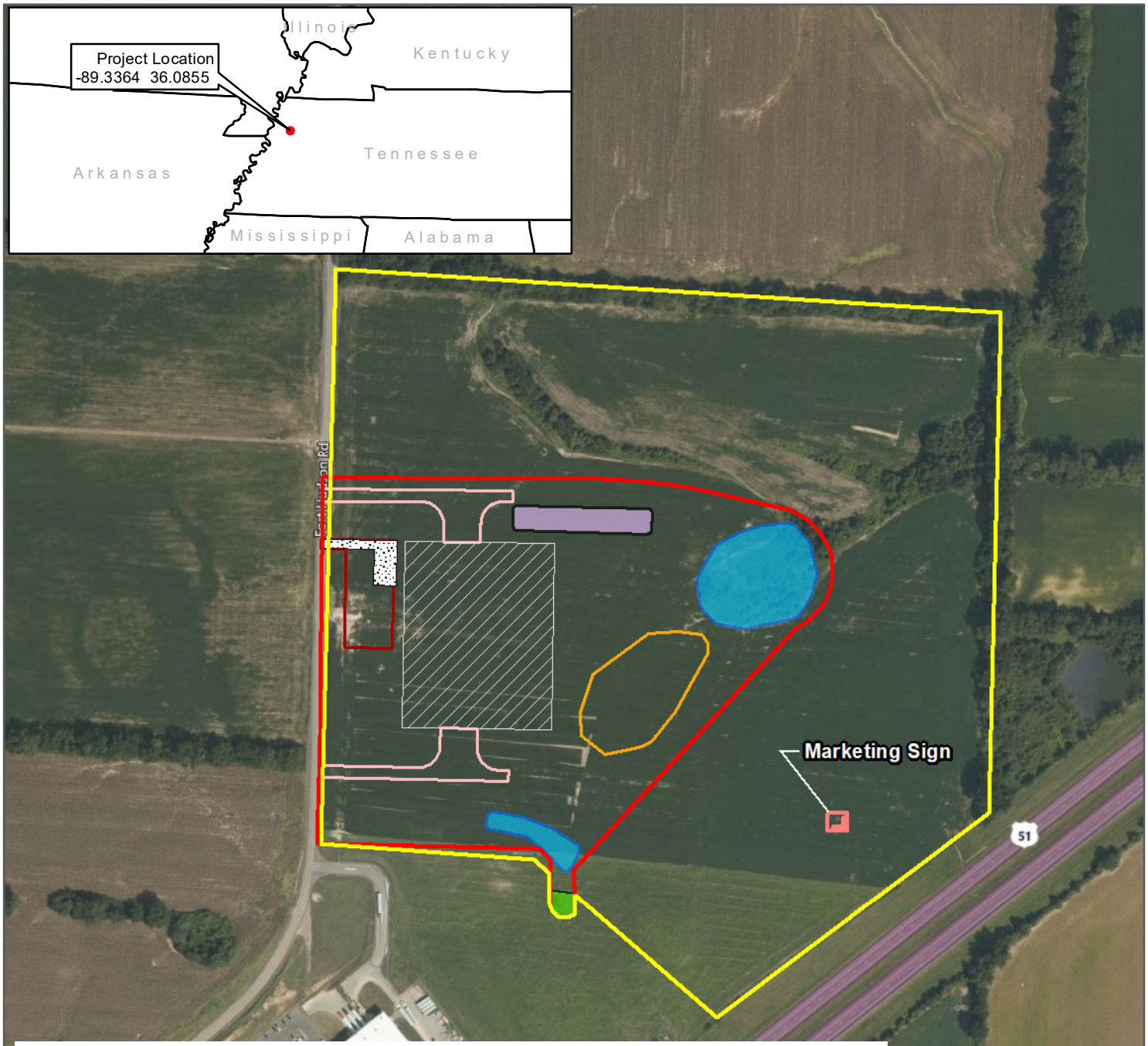
GIS Analyst: James.Bottiger

Figure 1-B

Proposed Activities

Conceptual



Legend

- Commerce Park Interstate Site Boundary - ±67 acres
- Project Area - ±25.9 acres
- Gravel Access Road - 0.25 ac. ±
- Proposed Building Footprint - 4.61 ac. ±
- Proposed Loading Dock Driveway - 1.31 ac. ±
- Future Parking - 0.90 ac. ±
- Proposed Detention Basin - 1.99 ac. ±
- Topsoil Staging Area - 0.57 ac. ±
- Potential Borrow Area - 1.69 ac. ±
- Tree Clearing Area - 0.10 ac. ±

Image:Bing

Figure 1B: Proposed Activities Map (Conceptual)

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GIS Analyst: James.Bottiger

Figure 1-C

USGS Quadrangle

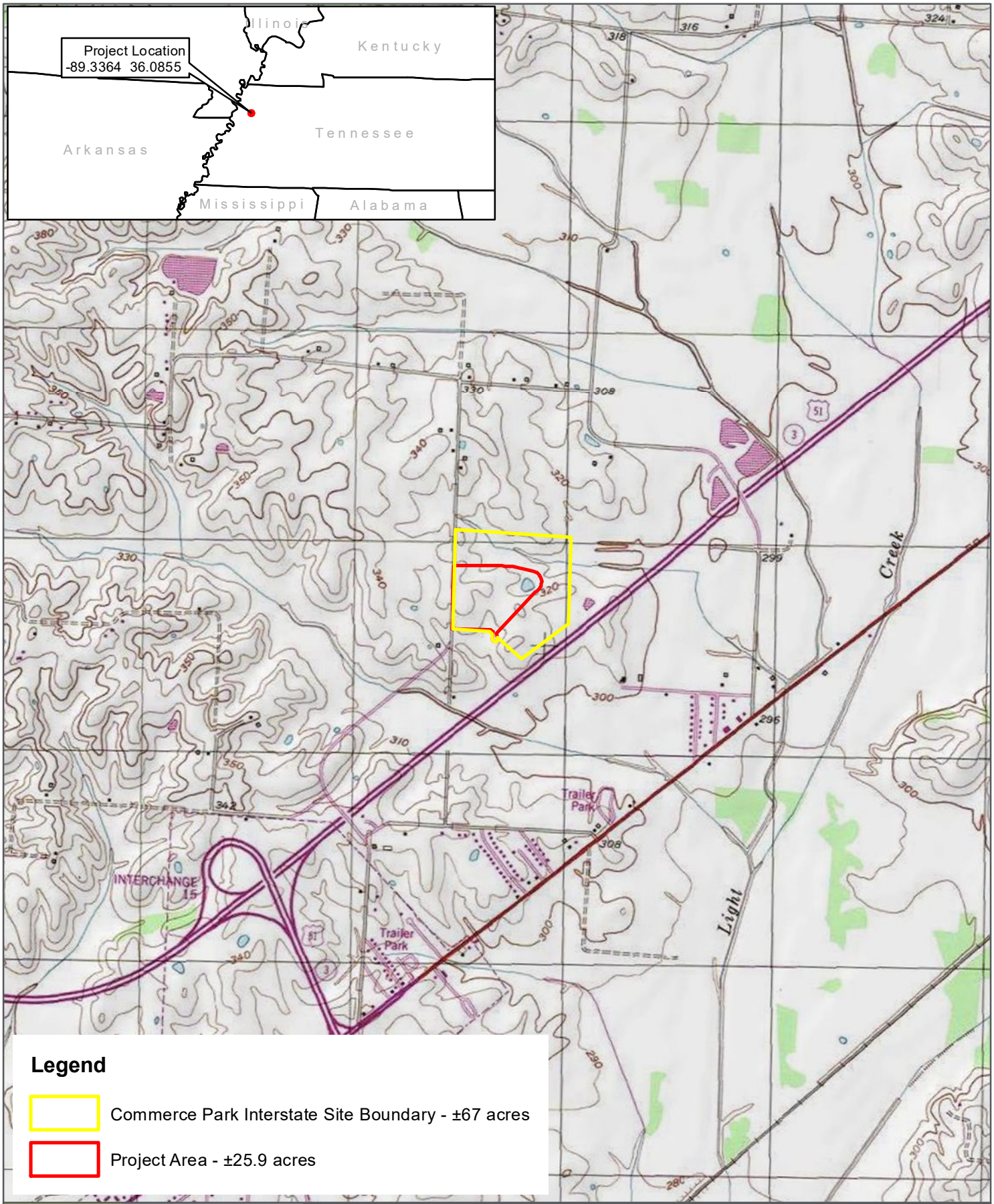

Image:ESRI

Figure 1-C: USGS Quadrangle Map

TVA FY22 Economic Development Projects
Dyer County, Tennessee

0 2,000 4,000 Feet

0 600 1,200 Meters

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GIS Analyst: James.Bottiger

Figure 1-D

FEMA Floodplain

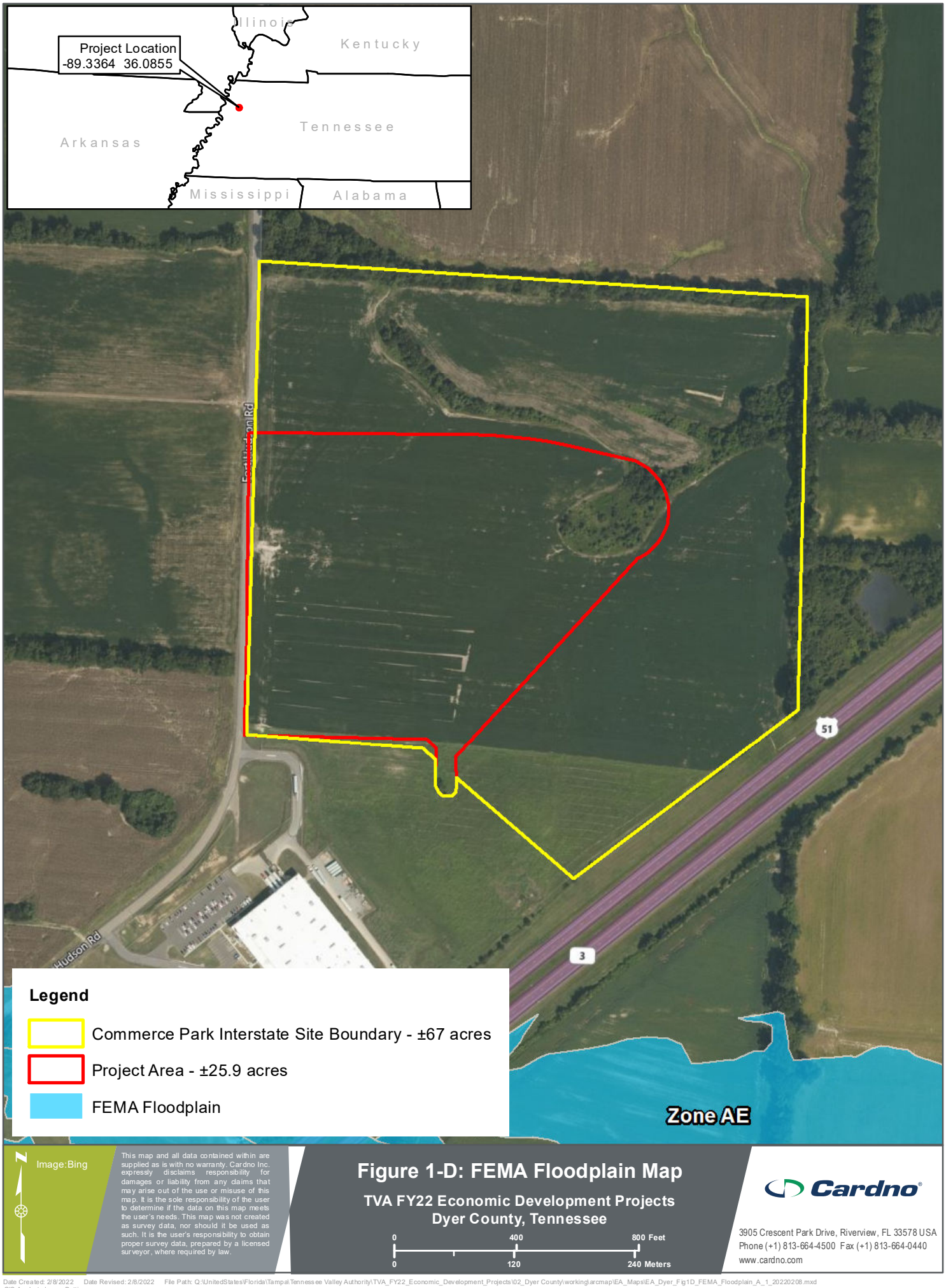

Figure 1-D: FEMA Floodplain Map

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GIS Analyst: James.Bottiger

Figure 1-E

USFWS NWI and Water Resources Inventory Map

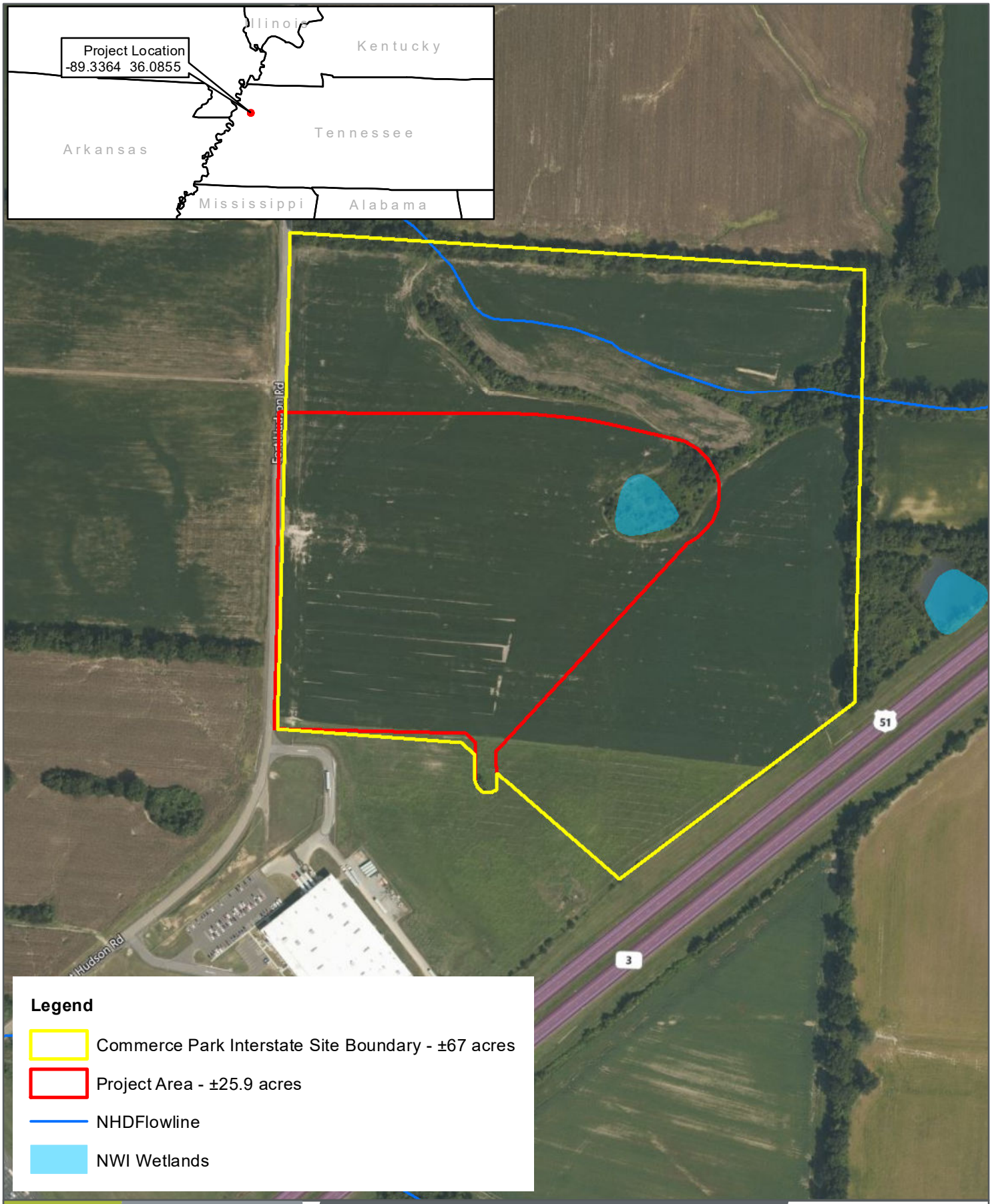

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Figure 1-E: USFWS NWI and Water Inventory Map

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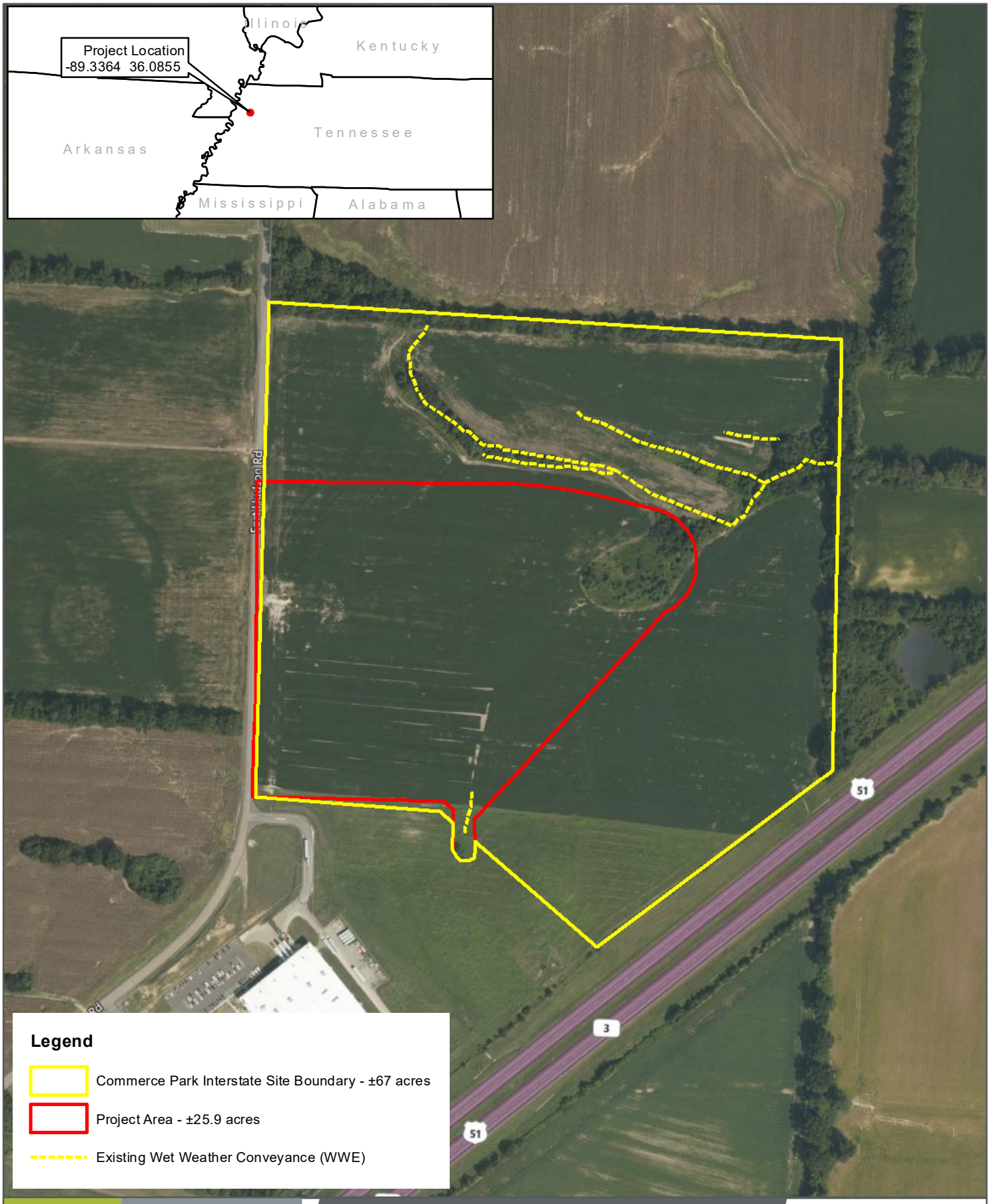
GIS Analyst: James.Bottiger

Figure 1-F

Wetlands and Waterbodies Map



Legend

- Commerce Park Interstate Site Boundary - ±67 acres
- Project Area - ±25.9 acres
- Existing Wet Weather Conveyance (WWE)

Image:Bing

Figure 1-F: Wetlands and Waterbodies Map

TVA FY22 Economic Development Projects
Dyer County, Tennessee

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0 120 240 Meters

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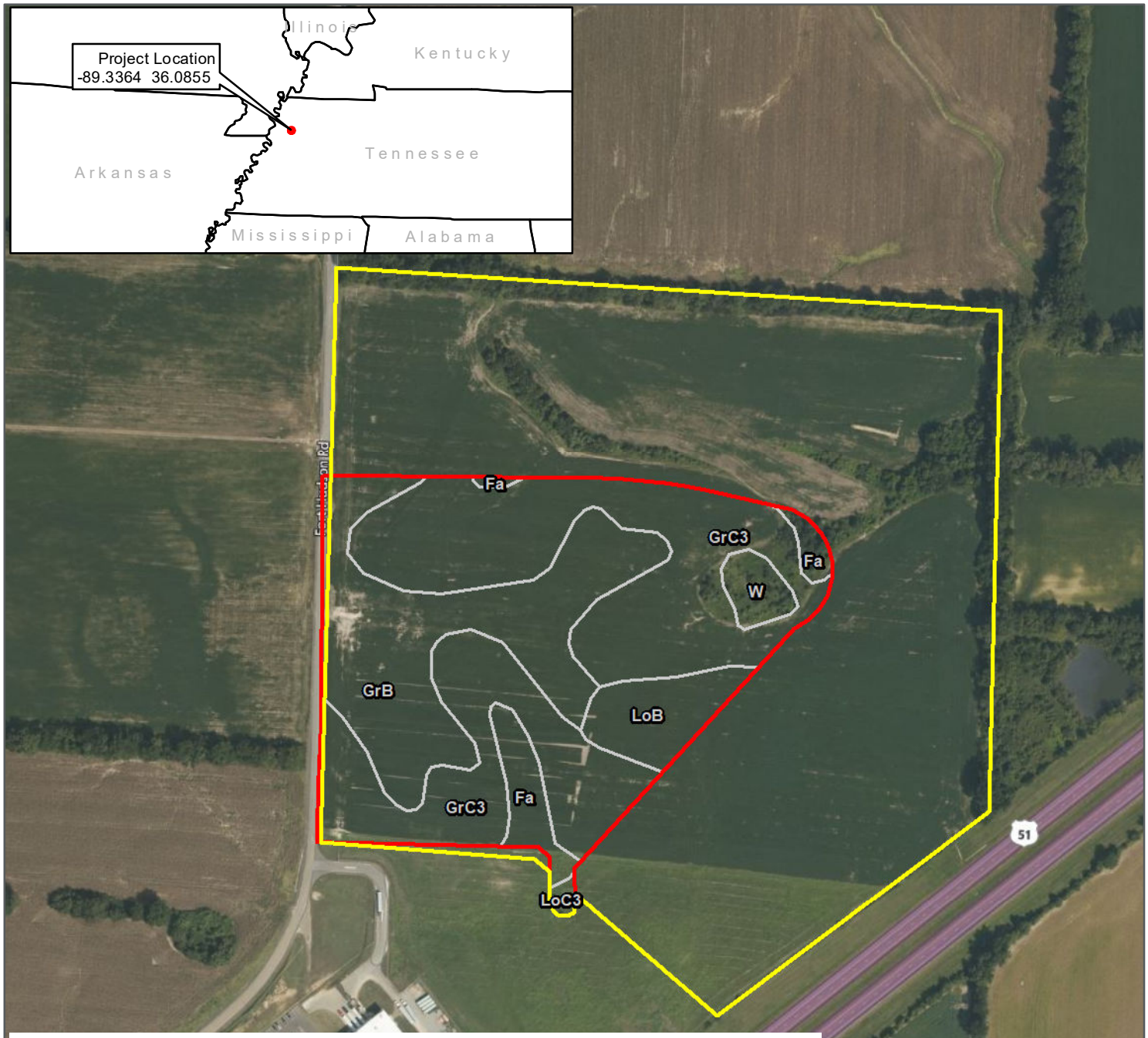
GIS Analyst: James.Bottiger

Figure 1-G

NRCS Soils Map



Legend

- Commerce Park Interstate Site Boundary - ±67 acres
- Project Area - ±25.9 acres
- Fa - Falaya silt loam - 1.41 ac. ±
- GrB - Grenada silt loam, 2 to 5 percent slopes - 7.62 ac. ±
- GrC3 - Grenada silt loam, 5 to 8 percent slopes, severely eroded - 14.33 ac. ±
- LoB - Loring silt loam, 2 to 5 percent slopes - 1.73 ac. ±
- LoC3 - Loring silt loam, 5 to 8 percent slopes, severely eroded - 0.14 ac. ±
- W - Water - 0.67 ac. ±

Image:Bing

Data Source:

Figure 1-G: NRCS Soils

TVA FY22 Economic Development Projects
Dyer County, Tennessee

0 400 800 Feet

0 120 240 Meters

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GIS Analyst: James.Bottiger

ATTACHMENT 2

TVA Bat Strategy Project Screening Form

Project Review Form - TVA Bat Strategy *(06/2019)*

*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.*[1]

Project Name: Dyer County InvestPrep "Commerce Park Interstate Site" **Date:** Nov 17, 2021

Contact(s): Brooke Davis **CEC#:** **Project ID:** 39482

Project Location (City, County, State): Dyersburg, Dyer County, Tennessee

Project Description:

Utilize TVA InvestPrep funding to assist with the grading of a 200,000 SF dirt building pad (and associated parking and truck dock areas), a gravel marketing road, and temporary marketing signage. Approximately 0.1 acres of trees would be removed.

SECTION 1: PROJECT INFORMATION - ACTION AND ACTIVITIES

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

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

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

TABLE 1. Activities with no effect to bats. Conservation measures & completion of bat strategy project review form NOT required.

☐ 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	☐ 13. Engineering or environmental planning or studies	☐ 44. Conductor and overhead ground wire installation and replacement
☐ 7. Easement on TVA property	☐ 14. Harbor limits delineation	☐ 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? ◉ **YES (Go to Step 4)** ○ **NO (Go to Step 13)**

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

a) Will project involve continuous noise (i.e., ≥ 24 hrs) that is greater than 75 decibels measured on the A scale (e.g., loud machinery)?
- (•) **NO** (NV2 does not apply)
- ( ) **YES** (NV2 applies, subject to records review)

b) Will project involve entry into/survey of cave?
- (•) **NO** (HP1/HP2 do not apply)
- ( ) **YES** (HP1/HP2 applies, subject to review of bat records)

c) If conducting **prescribed burning** (**activity 23)**, estimated acreage**:** [ ] and timeframe(s) below; [■] **N/A**

STATE	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)

e) If **tree removal (activity 33 or 34)**, estimated amount: [0.1] (•)**ac** ( )**trees** ( )**N/A**

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 (Natural Resources Organization only), **STOP HERE**. Click File/ Save As, name form as "ProjectLead_BatForm_CEC-or-ProjectIDNo_Date", and submit with project information. Otherwise continue to Step 5. ****

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

STEP 5) Review of bat/cave records conducted by Heritage/OSAR reviewer?

(•) **YES** ( ) **NO** (Go to Step 13)

Info below completed by:				
☐ **Heritage Reviewer**	(name)		Date	
☐ **OSAR Reviewer**	(name)		Date	
■ **Terrestrial Zoologist**	(name)	Elizabeth Hamrick	Date	Jan 20, 2022

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

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

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

Virginia big-eared bat records: ☒ None ☐ Within 6 miles* ☐ Within the County

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

Bat Habitat Inspection Sheet completed? (•) **NO** ( ) **YES**

Amount of SUITABLE habitat to be removed/burned (may differ from STEP 4e): [0] (•)**ac** ( )**trees)*** ( )**N/A**

STEP 6) Provide any additional notes resulting from Heritage Reviewer records review in Notes box below then . . . . . Go to Step 13

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

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

STEP 7) Project will involve:

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

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

STEP 9) Presence/absence survey results, on _____ ○ **NEGATIVE** ○ **POSITIVE** ◉ **N/A**

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

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

TVA Action	Total 20-year	Winter	Volant Season	Non-Volant Season
9 Promote Economic Development				

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 ANY remaining Conservation Measures in **RED**?

- ○ **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
		NV1 - Noise will be short-term, transient, and not significantly different from urban interface or natural events (i.e., thunderstorms) that bats are frequently exposed to when present on the landscape.
		SSPC2 - Operations involving chemical/fuel storage or resupply and vehicle servicing will be handled outside of riparian zones (streamside management zones) in a manner to prevent these items from reaching a watercourse. Earthen berms or other effective means are installed to protect stream channel from direct surface runoff. Servicing will be done with care to avoid leakage, spillage, and subsequent stream, wetland, or ground water contamination. Oil waste, filters, other litter will be collected and disposed of properly. Equipment servicing and chemical/fuel storage will be limited to locations greater than 300-ft from sinkholes, fissures, or areas draining into known sinkholes, fissures, or other karst features.
		SSPC5 (**26a, Solar, Economic Development only**) - Section 26a permits and contracts associated with solar projects, economic development projects or land use projects include standards and conditions that include standard BMPs for sediment and contaminants as well as measures to avoid or minimize impacts to sensitive species or other resources consistent with applicable laws and Executive Orders.
		L1 - Direct temporary lighting away from suitable habitat during the active season.
		L2 - Evaluate the use of outdoor lighting during the active season and seek to minimize light pollution when installing new or replacing existing permanent lights by angling lights downward or via other light minimization measures (e.g., dimming, directed lighting, motion-sensitive lighting).

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

Hide All Unchecked Conservation Measures

- (•) HIDE
- ( ) UNHIDE

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

- (•) HIDE
- ( ) UNHIDE

Project Review Form - TVA Bat Strategy *(06/2019)*

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

Based on photos the clump of trees proposed for removal is a dense thicket of younger trees... maybe willow. Very few ingress and egress points and vegetation inside is likely too thick to navigate to any quality roosting areas.

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 batstrategy@tva.gov
Submission of this form indicates that Project Lead/Applicant:

[ ] (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) Brooke Davis has been informed of any relevant conservation measures and/or provided a copy of this form.

☐ For projects that require use of Take and/or contribution to TVA's Bat Conservation Fund, Terrestrial Zoologist acknowledges that Project Lead/Contact has been informed that project will result in use of Incidental Take [ ] ○ ac ○ trees 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

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

January 7, 2022

Mr. James W. Osborne Jr.
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, TN 37902

RE: TVA / Tennessee Valley Authority, Investprep, 200,000 Square Foot Industrial Building Pad, Commerce Park Interstate Site (36.0848, -89.3363), CID 81920, Dyersburg, Dyer County, TN

Dear Mr. Osborne:

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

After considering the documentation submitted, we concur with your agency that there are no National Register of Historic Places listed or eligible properties affected by this undertaking. We have made this determination because either: no National Register listed or eligible Historic Properties exist within the undertaking's area of potential effects, the specific location, size, scope and/or nature of the undertaking and its area of potential effects precluded affects to Historic Properties, the undertaking will not alter any characteristics of an identified eligible or listed Historic Property that qualify the property for listing in the National Register, or it will not alter an eligible Historic Property's location, setting or use. We have no objections to your proceeding with your undertaking.

If your agency proposes any modifications in current project plans or discovers any archaeological remains during the ground disturbance or construction phase, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. You may direct questions or comments to ((615) 687-4780, Jennifer.Barnett@tn.gov). This office appreciates your cooperation.

Sincerely,

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

EPM/jmb