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**INVESTPREP GRANT PROPOSAL FOR PROPOSED
HIGHWAY 223 SITE
FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT
Madison County, Tennessee**

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1.0 PROPOSED ACTION/PURPOSE AND NEED FOR ACTION

An integral part of Tennessee Valley Authority's (TVA) mission is to promote economic development within the TVA service area. TVA provides financial assistance to help bring to market new/improved sites and facilities within the TVA service area and position communities to compete successfully for new jobs. TVA proposes to provide an economic development grant through TVA InvestPrep funds to the City of Jackson, Tennessee to improve marketability of a future industrial park. TVA funds would be used for removing select trees and a fence, designing a new park entrance, and constructing industrial park signage, herein referred to as TVA-funded activities. The area of TVA's Proposed Action is located at the intersection of Highway 223 and Lower Brownsville Road in Jackson, Tennessee (see **Figure 1** below and Attachment 1, Figure 1-A) and is comprised of approximately 62.77 acres, herein referred to as the Project Area. The Project Area is a portion of the Highway 223 East Site, a larger 120.4-acre property proposed for development by the City of Jackson as a future industrial park (see **Figure 2** below).

TVA's Proposed Action would facilitate the marketability of the Highway 223 East Site by providing funding for the removal of trees (approximately 15 acres) within the Project Area including the northwest corner, along a wet weather conveyance, and along a fence line. Industrial park signage would be constructed in the northwest corner of the Project Area near the intersection of Highway 223 and Lower Brownsville Rd. This EA assesses the environmental impacts of TVA's Proposed Action in the 62.77 acre Project Area and the potential cumulative effects of development of the entire 120.4-acre Highway 223 East Site as well as four adjacent properties totaling 233.66 acres of which the City has public options.

2.0 DECISION TO BE MADE

The decision before TVA is whether to provide funding to the City of Jackson, Tennessee to improve marketability of a future industrial park on approximately 62.77 acres. Providing such funding would be consistent with TVA's economic development mission as funding would facilitate the development of the industrial property.

3.0 SITE DESCRIPTION

The Project Area is located on approximately 62.77 acres in Madison County, Tennessee, approximately three miles west of the City of Jackson along Interstate 40 (I-40), east of Highway 233. The current land use within the Project Area consists of agricultural farmland, mixed-deciduous forest, and open land with scattered trees/shrubs along fence lines and water conveyances. The entire Project Area is currently zoned for industrial use.

The surrounding area consists of a mixture of developed, industrial, and agricultural lands with few scattered residences. The Tennessee Department of Transportation Region IV Operations complex and a large agricultural field with a single residence are directly to the north of the Project Area. The Owens Corning Fiberglass manufacturing plant is located to the northeast and a large agricultural field is located to the northwest of the Project Area. Large agricultural fields with scattered residence are located directly south, east, and west of the Project Area. A number of industrial facilities are located east of the Project Area along the north and south sides of Lower Brownsville Road and a single industrial facility is located south of the Project Area along the west side of Fiberglass Road.

The Project Area generally consists of flat to gently rolling topography, with the highest elevation surfaces located to the southeast and the lower elevation surfaces located to the northwest (Attachment 1, Figure 1-B). Surface water features are located within the Project Area as depicted on Attachment 1, Figure 1-C. An unnamed tributary to South Fork Forked Deer River is the nearest named stream, and is located approximately 1,200 feet to the west of the Project Area.

4.0 OTHER ENVIRONMENTAL REVIEWS AND DOCUMENTATION

A Phase I Environmental Site Assessment of the entire Highway 223 East Site, which includes the Project Area, was performed consistent with ASTM E 1527-13 (Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process) by Barge Waggoner Summer and Cannon, Inc. (BWSC) [now Barge Design Solutions, Inc.] in March 2016 (BWSC 2016a). The primary purpose of the Phase I Environmental Site Assessment was to identify the presence of recognized environmental concerns or other environmental liabilities within the Project Area.

An ecology survey including the Tennessee Department of Conservation (TDEC) Hydrologic Determination, of the entire Highway 223 East Site, which includes the Project Area, was performed by BWSC in March 2016 (BWSC 2016b). The purpose of the ecology survey was to determine if potentially jurisdictional wetlands, streams, and threatened/endangered species habitat were located within the study areas.

A preliminary cultural resources review of the entire Highway 223 East Site, which includes the Project Area was also performed by BWSC in March 2016 (BWSC 2016b) to identify potential archaeological resources within the study areas.

A Geotechnical Site Characterization, of the entire Highway 223 East Site, which includes the Project Area, was performed by Collier Engineering Company in February, 2016 (Collier Engineering 2016). The primary purpose of the Geophysical Site Characterization was to explore the general site and subsurface conditions within the Project Area. The Phase I Environmental Site Assessment, and information from the ecology survey, preliminary cultural resources review, and geophysical site characterization were used in the preparation of this Environmental Assessment.

Figure 1: Project Location

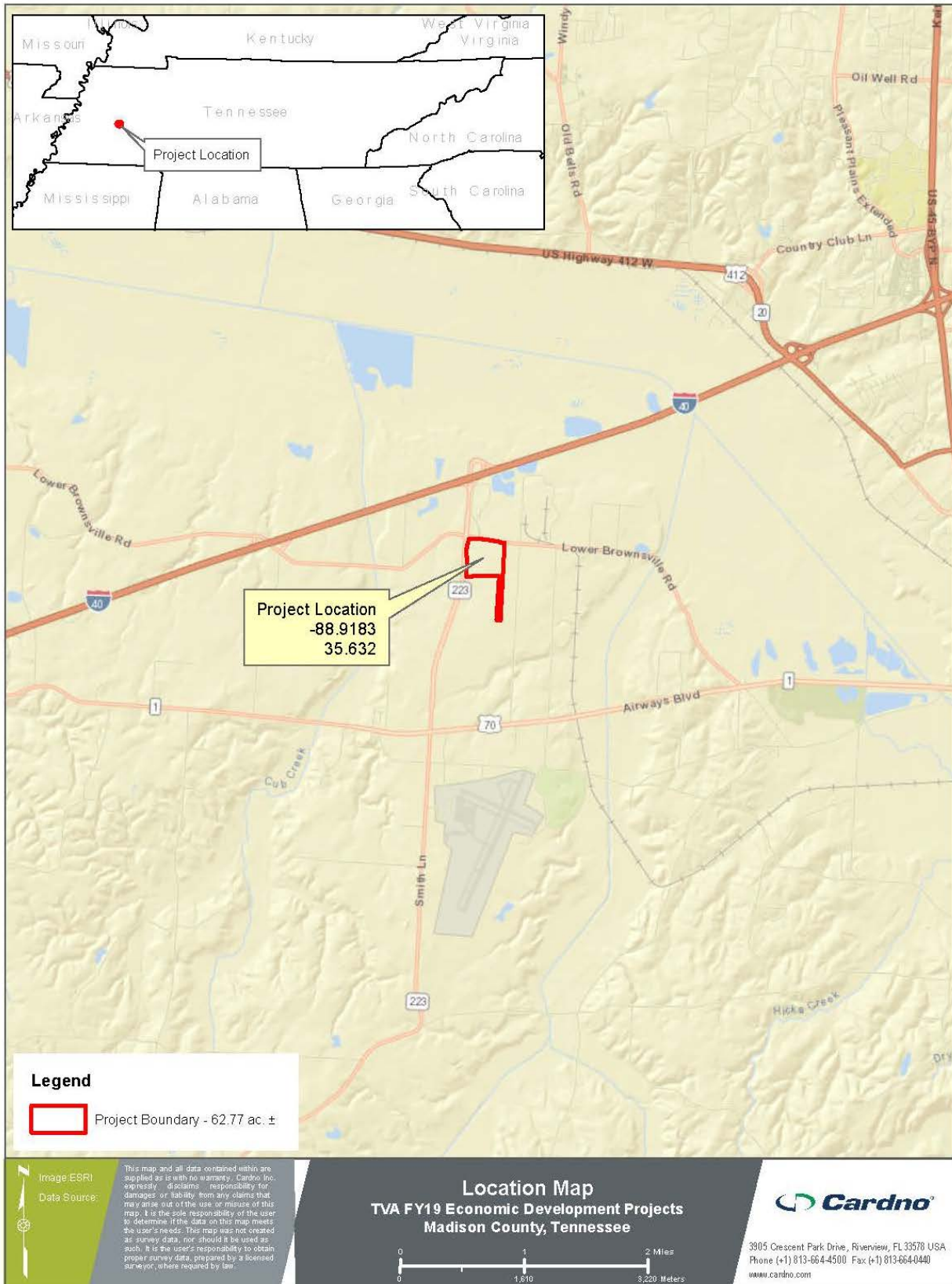


Figure 2: City of Jackson Owned Property



5.0 ALTERNATIVES

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

5.1 The No Action Alternative

Under the No Action Alternative, TVA would not provide TVA InvestPrep funds to the City of Jackson. TVA would not be furthering its mission of promoting economic development by assisting the local community to compete successfully for new jobs through the Proposed Action. The City of Jackson may seek alternate funding (if available) for the removal of trees and a fence, design of a new park entrance, and construction of industrial park signage for the Project Area. Success in obtaining alternate funding would result in similar impacts and benefits as the Action Alternative.

If the City of Jackson were not able to secure the funding for the actions described above, the land use at the site would likely remain unchanged, no direct environmental impacts would be anticipated, and the economic benefits associated with the Action Alternative would not be realized.

5.2 The Action Alternative

Under the Action Alternative, TVA would provide TVA InvestPrep funds to City of Jackson to remove select trees and a fence, design a new park entrance, and construct industrial park signage within the Project Area (Attachment 1, Figure 1-A). The Action Alternative would require disturbance of approximately 15 acres during the removal of mixed-deciduous forest; scattered trees/shrubs along fence lines and water conveyances; and the existing fence; as well as installation of the industrial park signage. Site activities required for the Action Alternative would occur over a short period of time and would involve operation of an excavator, bulldozer, dump truck, or similar vehicles and heavy machinery. Cleared trees and vegetation would be burned onsite or hauled away for disposal at an approved landfill. TVA's preferred alternative is the Action Alternative.

It is expected that the City of Jackson or its contractors would implement appropriate measures, such as best management practices (BMPs) and best construction practices, to avoid, minimize and/or reduce negative potential environmental impacts of the Action Alternative, in accord with state and federal regulations. These practices include, but are not limited to, installation of sediment and erosion controls (silt fences, sediment traps, etc.); management of fugitive dust; and a restriction allowing work during day time work hours only.

The Action Alternative does not include assessment of activities that may be directly or indirectly associated with the eventual build-out, occupation, and future use of the entire 120.4-acre industrial park or surrounding properties. It would be speculative to do so since little is known at this stage of any such future use. However, TVA assumed future disturbance of the entire 120.4-acre industrial park plus adjacent properties over which the City of Jackson has public options to purchase as a conservative approach for purposes of assessing cumulative impacts. Cumulative Impacts are discussed in Section 7 of this Environmental Assessment.

6.0 AFFECTED ENVIRONMENT AND ANTICIPATED IMPACTS

6.1 Impacts Evaluated

TVA has reviewed the Proposed Action and documented potential environmental impacts in the attached categorical exclusion checklist (Checklist) (Attachment 2). The Checklist identifies the resources present in the Project Area and documents TVA's determination that the proposal would not significantly affect these resources. As documented in the Checklist and assessed in this EA, TVA has determined that the Proposed Action would not significantly affect floodplains, wetlands, land use and prime farmland, natural and managed areas, public recreation opportunities, Nationwide Rivers Inventory streams, or Wild and Scenic Rivers. The Proposed Action would not result in significant impacts from the creation of solid and hazardous wastes, nor would it create significant impacts due to visual effects, noise, socioeconomics and environmental justice considerations, transportation issues, and safety impacts, as discussed below. Therefore, potential impacts to these resources are not described in further detail in this Environmental Assessment.

As documented in the Checklist, resources that could potentially be impacted (negatively or positively) directly, indirectly or cumulatively by implementing the Action Alternative include air quality and climate change, biological resources (vegetation, water resources and water quality, wildlife, aquatic ecology, threatened and endangered species, and floodplains), and archaeological and historical resources. Potential impacts to these resources resulting from implementation of the Action Alternative are discussed in detail below.

6.2 Air Quality and Climate Change

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

The air quality in Madison County, Tennessee meets the ambient air quality standards and is designated in attainment with respect to the criteria pollutants (USEPA 2019). Other pollutants, such as hazardous air pollutants (HAPs) and greenhouse gases (GHGs) are also a consideration in air quality impacts analyses. HAPs, also known as toxic air pollutants or air toxics, are those that are listed under Section 112(b) of the Clean Air Act (CAA), 42 U.S.C. 7401 et seq. as amended in 1977 and 1990, because they present a threat of adverse human health

effects or adverse environmental effects. Although there are no applicable ambient air quality standards for HAPs, their emissions are limited through permit thresholds and technology standards as required by the CAA.

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

Fugitive dust is a source of respirable airborne PM, including PM₁₀ and PM_{2.5}, which could result from ground disturbances such as 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 of Jackson and its contractors would comply with TDEC Air Pollution Control Rule 1200-3-8, which requires reasonable precautions to prevent PM from becoming airborne. Such reasonable precautions include, but are not be limited to, grading of roads; clearing of land; and the use of water or chemicals for control of dust in construction operations on dirt roads and stock piles as needed.

Ground-level open burning emissions are affected by many variables, including wind, ambient temperature, composition and moisture content of the debris burned, and compactness of the pile. In general, the relatively low temperatures associated with open burning increase emissions of NO_x, CO, VOCs, PM₁₀, PM_{2.5}, GHGs, and HAPs. The City of Jackson and its contractors would be subject to local burn permits and the requirements in TDEC Air Pollution Control Rule 1200-3-2, which provides open burning prohibitions, exceptions, and certification requirements.

With regard to climate change, trees, like other green plants, are carbon sinks that use photosynthesis to convert CO₂ into sugar, cellulose, and other carbon-containing carbohydrates that they use for food and growth. The process by which carbon sinks remove CO₂ from the atmosphere is known as carbon sequestration. Although forests do release some CO₂ from natural processes such as decay and respiration, a healthy forest typically stores carbon at a greater rate than it releases carbon. The removal of trees from approximately 15 acres of land containing trees for the Action Alternative would result in only a very minor loss of carbon sequestration capacity in the area since mixed-deciduous forest habitat is common and well represented throughout the region and in the immediate vicinity of the Project Area.

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

6.3 Biological Resources

6.3.1 Vegetation

Aerial photographs, site photographs, and topographic maps, were reviewed to preliminarily identify the vegetative communities present within the Project Area. In addition, a field survey was conducted on February 17 and 18, 2016 to identify these vegetative communities (BWSC 2016b). The Project Area consists of three vegetation communities: open land with scattered trees/shrubs (6.59 acres), mixed-deciduous forest (8.45 acres), and agriculture (47.73 acres).

Implementation of the Action Alternative would remove tree species within the mixed-deciduous forest and scattered trees/shrubs along the fence line. The Action Alternative would require the removal of up to 15 acres of trees including trees within the mixed-deciduous forest habitat and scattered trees in the open land habitat. Review of aerial imagery shows that the mixed-deciduous forest habitat is common and well represented throughout the region and in the immediate vicinity of the Project Area. Thus, implementation of the Action Alternative would have a negligible impact on vegetation of the region.

Under the No Action Alternative, if the City of Jackson were able to secure the funding for the actions described in this Environmental Assessment, similar tree clearing and vegetation removal would occur, resulting in negligible impacts on vegetation in the region as described above for the Action Alternative. If the City of Jackson were not able to secure the funding for the actions described in this Environmental Assessment, tree clearing would not occur and it is anticipated that the existing site conditions would be maintained, resulting in no impacts to vegetation.

6.3.2 Water Resources and Water Quality

Aerial photographs, site photographs, topographic maps, the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), the United States Geological Service (USGS) National Hydrological Dataset (NHD), and the Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO)/ State Soil Geographic (STATSGO) databases were reviewed to determine the water resources potentially present within the Project Area. In addition, a field survey was conducted to delineate water and wetland resources present within the Project Area (BWSC 2016b). No wetlands were identified within the Project Area during field surveys. Waterbodies within the Project Area were identified by the presence of an Ordinary High Water Mark (OHWM). The top of bank or the centerline of the channels or edge of ponds was geographically located by using global positioning systems (GPS) capable of sub-meter accuracy. Information was collected on each waterbody including flow type (e.g., perennial, intermittent, or ephemeral), substrate type (mud/silt, sand, gravel, large rock, boulder, and/or bedrock), and channel width and depth.

Waterbodies were examined to determine if they were waters of the United States (WOTUS) regulated by the United States Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA). Waterbodies were also investigated to determine if they were waters of the State of Tennessee (WOST) regulated by Tennessee Department of Environment and Conservation (TDEC) under the Tennessee Water Quality Control Act of 1977. A Tennessee Qualified Hydrologic Professional (TN-QHP) conducted a hydrologic determination of each linear watercourse in general

accordance with the Tennessee Department of Environment and Conservation Division of Water Pollution Control Guidance for Making Hydrologic Determinations (TDEC 2011).

Water resources identified within the Project Area consists of one intermittent stream (STR-1) and two wet weather conveyances (WWC-1 and WWC-2), (Attachment 1, Figure 1-C). These streams comprise 642 linear feet of intermittent stream and 2,485 linear feet of wet weather conveyance. STR-1 is classified as a relatively permanent water by the USACE and is considered to be a WOTUS and WOST. WWC-1 and WWC-2 could be classified as ephemeral streams, and considered to be non-relatively permanent waters by the USACE, since they have a direct connection to relatively permanent waters. Both of these wet weather conveyances are potentially WOTUS; however, as wet weather conveyances they are not considered WOST.

All features identified within the Project Area are located within the South Fork Forked Deer Watershed (8-digit Hydrologic Unit Code [HUC] 08010205) and within the South Fork Forked Deer River – Cub Creek Subwatershed (12-digit HUC 080102050305). The nearest named 303(d) water on the Final 2018 List of Impaired and Threatened Waters in Tennessee is Johnson Creek (Waterbody ID TN08010205012_1100) located 0.4 miles to the south of the Project Area. Johnson Creek is listed as impaired for the designated use of Fish and Aquatic Life caused by sedimentation/siltation and physical substrate habitat alterations.

Implementation of the Action Alternative would result in ground disturbance during tree clearing that could result in potential temporary and minor impacts to water resources due to sediment laden runoff. During tree clearing, applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) would be employed and activities would be accomplished in compliance with applicable storm water permitting requirements. Therefore, impacts to water resources resulting from sediment laden runoff during tree clearing are anticipated to be temporary and minor. Further, because there are no wetlands present in the Project Area, there would be no impacts to wetlands, making this action consistent with EO 11990.

Implementation of the Action Alternative would remove riparian canopy along portions of STR-1, WWC-1, and WWC-2 in the Project Area. Removal of riparian canopy would reduce shading of the waterbody channels resulting in increased water temperatures, and would potentially reduce species habitat and increase susceptibility to bank erosion and surface runoff. However, the surrounding areas consist of agricultural land use with little to no riparian buffer, so the removal of these areas is likely to have only a minimal effect on water quality.

Impacts beneath the OHWM of the water resources identified within the Project Area would require USACE permitting, but such impacts are not anticipated. Should impacts beneath the OHWM of jurisdictional waters be necessary, consultation and permitting with the USACE Nashville District and TDEC would be required. Impacts to a WOTUS would require a CWA Section 404 permit and a CWA Section 401 authorization. Impacts to a WOST would require an Aquatic Resource Alteration Permit (ARAP) from the TDEC, which would also serve as the Section 401 Water Quality Certification. In addition, the City of Jackson, or its contractors, would be required to obtain coverage under the 2016 General National Pollutant and Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction Activity (TNR100000). Coverage would require and development of a site-specific Stormwater Pollution Prevention Plan.

Under the No Action Alternative, if the City of Jackson were able to secure the funding for the proposed TVA-funded actions described in this Environmental Assessment, similar impacts would occur on water resources and water quality as described above for the Action Alternative. If the City of Jackson were not able to secure the funding for the actions described in this Environmental Assessment, the proposed disturbances would not occur and existing site conditions would likely be maintained resulting in no impact to water resources and water quality.

6.3.3 Terrestrial Wildlife

Aerial photographs, site photographs, and topographic maps were reviewed to determine the habitat types potentially present within the Project Area. In addition, a field survey was conducted to verify habitat types present within the Project Area (BWSC 2016b). Main habitat types present within the Project Area consist of open land with scattered trees/shrubs (6.59 acres), mixed-deciduous forest (8.45 acres), and agriculture (47.73 acres).

Common inhabitants of open land with scattered trees/shrubs include brown-headed cowbird, song sparrow, common grackle, eastern bluebird, mourning dove, eastern meadowlark, and field sparrow (Cornell Lab of Ornithology 2019). Bobcat, coyote, eastern cottontail, hispid cotton rat, and red fox are mammals typical of fields and cultivated land (Kays and Wilson 2002). Reptiles including northern copperhead and southern black racer are also known to occur in this habitat type (Dorcas and Gibbons 2005).

Forest fragments and fence rows in this region provide habitat for common bird species including blue jay, Carolina wren, northern cardinal, brown thrasher, and eastern phoebe (Cornell Lab of Ornithology 2019). This area also provides foraging and roosting habitat for several species of bat, particularly in areas where the forest understory is partially open. Common bat species likely found within this habitat include big brown bat, eastern red bat, evening bat, and silver-haired bat. Eastern chipmunk, gray fox, and woodland vole are other mammals likely to occur within this habitat (Kays and Wilson 2002). Black kingsnake, black rat snake, and northern ring-necked snake are common reptiles of deciduous forests in this region (Conant and Collins 1998, Dorcas and Gibbons 2005, Scott and Redmond 2008).

Agricultural crops on adjacent lands provide habitat for migratory birds prior to and during migration periods (Hagey et al 2010). It also provides habitat for mammals, such as mice, raccoon, and coyote.

Review of the TVA Regional Natural Heritage database on March 26, 2019 indicated that no caves have been documented within three miles of the Project Area and no caves were identified during the field survey on February 17 and 18, 2016 (BWSC 2016b). In addition, no aggregations of migratory birds or wading bird colonies have been documented within three miles of the Project Area and none were observed during the field survey.

Eighteen species of Migratory Birds of Conservation Concern were identified on the Information for Planning and Consultation (IPaC) Trust Resources Report: American kestrel, bald eagle, chick-will's widow, dickcissel, fox sparrow, Kentucky warbler, Le Conte's sparrow, least bittern, loggerhead shrike, prairie warbler, prothonotary warbler, red-headed woodpecker, rusty blackbird, sedge wren, short-eared owl, Swainson's warbler, wood thrush, and worn eating warbler. The report indicates that these birds have the potential to occur in the area during breeding, wintering, or year-round where suitable habitat is present. Suitable habitat is present

in the Project Area for American kestrel, dickcissel, fox sparrow, loggerhead shrike, prairie warbler, sedge wren, and short-eared owl.

Under the Action Alternative, approximately 8.45 acres of mixed-deciduous forest habitat and 6.59 acres of scattered trees/shrubs would be cleared. Wildlife (primarily common species) currently using this forested habitat would be displaced by habitat removal. Direct impacts to some individuals that may be immobile during the time of construction may occur, particularly if clearing activities take place during breeding/nesting seasons. The landscape on which the Project Area occurs is already highly fragmented and impacted by human activity (e.g., maintained cattle pastures, agriculture crop lands, and roads). However, similar habitat exists in abundance in the surrounding landscape and tree clearing would remove only a small area of trees from an already highly fragmented area. Based on the relatively small amount of habitat removal associated with the Proposed Action, ongoing agricultural activities and substantial development in vicinity of the Project Area, and the substantial habitat fragmentation surrounding the Project Area, the actions are not likely to impact populations of species common to the area or migratory bird populations.

Under the No Action Alternative, if the City of Jackson were able to secure the funding for the actions described in this Environmental Assessment, tree clearing disturbances and habitat removal would occur, resulting in similar impact to wildlife species as described above for the Action Alternative. If the City of Jackson were not able to secure the funding for the actions described in this Environmental Assessment, tree clearing disturbances and habitat removal would not occur and existing site conditions would likely be maintained resulting in no impact to wildlife species.

6.3.4 Aquatic Ecology

Aerial photographs, site photographs, topographic maps, the USFWS NWI, the USGS NHD, and the NRCS SSURGO/STATSGO databases were reviewed to determine the water resources and associated aquatic habitat potentially present within the Project Area. A field survey was conducted to confirm the resources present within the Project Area (BWSC 2016b).

As discussed in Section 6.3.2, above, aquatic habitat within the Project Area consists of one intermittent and two wet weather conveyance features (Attachment 1, Figure 1-C). These areas comprised 642 linear feet of intermittent stream and 2,485 linear feet of wet weather conveyance.

Intermittent streams can offer habitat for plant, animal, and microbial life including bacteria, fungi, algae, higher plants, invertebrates, fish, amphibians, birds and mammals. Organic matter entering these streams is retained in wet periods in channels or debris dams which decompose and supply food sources for animals such as caddis flies, snails, and crustaceans (University of Montana 2003).

The wet weather conveyances identified within the Project Area do not provide suitable habitat for aquatic species due to insufficient water to support fish or aquatic organisms with an aquatic lifecycle phase of at least two months.

Under the Action Alternative, it is assumed that all identified streams in the Project Area would be impacted by tree clearing activities. Clearing trees along these streams would reduce the amount of organic matter entering the streams, with an associated reduction in habitat for invertebrates and food sources for larger aquatic species. Removal of trees would also reduce

shade for aquatic species present in the waterways when wetted. However, since the streams in the Project Area flow for only part of the year and do not provide high quality aquatic habitat, these impacts would be minimal.

Under the No Action Alternative, if the City of Jackson were able to secure the funding for the actions described in this Environmental Assessment, disturbances associated with the proposed TVA-funded activities would result in similar impacts to aquatic species as described above for the Action Alternative. If the City of Jackson were not able to secure the funding for the actions described in this Environmental Assessment, disturbances associated with the proposed TVA-funded activities would not occur and existing site conditions would likely be maintained resulting in no impact to aquatic species.

6.3.5 Threatened and Endangered Species

A review of the TVA Natural Heritage database on March 26, 2019, resulted in one state- and federally listed species (whorled sunflower) within three miles of the Project Area. In addition, the USFWS determined that the federally listed northern long-eared bat and Indiana bat have the potential to occur in Madison County, Tennessee, though no records of these species are included in the TVA Natural Heritage database for this county (**Table 6-1**).

Table 6-1: Records of Federal and State-Listed Plant and Animal Species from Madison County, Tennessee and/or within 3-miles of the Project Area¹

Common Name	Scientific Name	Status ²	
		Federal	State (Rank ³)
Plants			
Whorled Sunflower ⁴	<i>Helianthus verticillatus</i>	END	END (S1)
Mammals			
Indiana bat ⁵	<i>Myotis sodalis</i>	END	END (S1)
Northern long-eared bat ⁵	<i>Myotis septentrionalis</i>	THR	THR(S1S2)
¹ Source: TVA Natural Heritage Database, extracted March 2019; USFWS Ecological Conservation Online System (http://ecos.fws.gov/ecos/home.action). ² Status Codes: END = Listed Endangered; THR = Threatened ³ State Rank: S1 = Critically Imperiled; S2 = Imperiled. ⁴ Federally listed species known from Madison County, TN but not within three miles of the Project Site. ⁵ Federally listed species thought to occur statewide though no records of these species are included in the TVA Natural Heritage database for this county.			

Habitat characteristics for the whorled sunflower include remnant wet prairie areas and calcareous barrens, in moist, prairie-like openings in woodlands; edge of creeks and fields. No suitable habitat was identified within the Project Area during the field survey. As such, this species would not be impacted by the Action Alternative.

Habitat characteristics for the Indiana bat and northern long-eared bat are similar. Summer roosting habitat includes trees with one or more of the following characteristics: exfoliating bark; cracks, crevices; dead portions; and/ or cavities. Indiana bats use tree greater than 5 inches diameter at breast height with the above characteristics while northern long-eared bats can use

trees as small as 3 inches in diameter if they possess those characteristics. Northern long-eared bats may also utilize manmade structures such as barns and houses for summer roosting. Winter habitat for both species may consist of caves and abandoned underground mines. No suitable winter or summer roosting habitat for Indiana bat or northern long-eared bat was identified in the areas proposed for tree removal during field reviews by BWSC on Feb 17-18, 2016, and by TVA Terrestrial Zoology on May 29, 2019. The small amount of forested habitat within the Project Area may provide foraging habitat for Indiana bat and northern long-eared bat alongside and over forest fragments. However forest fragments observed were often dense with kudzu and other vines making navigation through the forest itself difficult for bats. Aquatic resources within the Project Area may also provide suitable foraging habitat for Indiana bat and northern long-eared bat.

A number of activities associated with the Proposed Action were addressed in TVA's programmatic consultation with the USFWS on routine actions and federally listed bats in accordance with ESA Section 7(a)(2) and completed in April 2018. For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. These activities and associated conservation measures are identified in the TVA Bat Strategy Project Screening Form (Attachment 3) and would be implemented as part of the Proposed Action. With the implementation of the identified Conservation Measures, no significant impacts to Indiana bat and northern long-eared bat are anticipated.

Under the No Action Alternative, if the City of Jackson were able to secure funding for the actions described in this Environmental Assessment, disturbances associated with the proposed TVA-funded activities would result in similar impacts to threatened and endangered species as described above for the Action Alternative. It would be the responsibility of the City of Jackson to consult with USFWS regarding potential impacts to federally listed threatened and endangered species under the Endangered Species Act. If the City of Jackson were not able to secure the funding for the actions described in this Environmental Assessment, it is anticipated that existing site conditions would be maintained, resulting in no impact to federally or state-listed species.

6.3.6 Floodplains

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

As a federal agency, TVA adheres to the requirements of EO 11988, Floodplain Management. The objective of EO 11988 is "...to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative" (EO 11988, Floodplain Management). The EO is not intended to prohibit floodplain development in all cases, but rather to create a consistent government policy against such development under most circumstances (U.S. Water Resources Council, 1978). The EO requires that agencies avoid the 100-year floodplain unless there is no practicable alternative.

A portion of an unnamed tributary to Cub Creek, and therefore its floodplain, is located within the project boundary, although there are no identified floodplains within the project boundary.

TVA funds would be used for removing select trees and a fence, designing a new park entrance, and constructing industrial park signage.

Tree removal could occur within the 100-year floodplain of the unnamed tributary of Cub Creek. Tree removal would be considered to be a repetitive action in the 100-year floodplain that would have a minor beneficial impact on floodplains by increasing space to store flood waters. Removing the fence would have no impact on the unnamed tributary because it is located over 1,000 feet from the stream. Existing access would be used, which would have no impact on floodplains. The signage may be located within the floodplain of the unnamed tributary. Signage would be considered a repetitive action in the floodplain that should result in minor impacts. The signage should be located in the northwest corner of the Project Area at the corner of Highway 223 and Lower Brownsville Road, outside of Tennessee Department of Transportation (TDOT) right-of-way and east of STR-1. To minimize adverse impacts, the signage should be located outside of stream buffers designated in the Tennessee NPDES Construction Stormwater General Permit (TN100000) at an average distance of 30 feet from the top of the streambank. The 30-foot criterion for the width of the buffer zone can be established on an average width basis for the Project Area, as long as the minimum width of the buffer zone is more than 15 feet away from the top of the streambank at any measured location.

By locating the industrial park signage outside of designated stream buffers and in compliance with Tennessee NPDES regulations, the proposed funding for removing trees, removing a fence, and installing signage would have no significant impact of floodplains and their natural and beneficial values.

6.4 Archaeological and Historical Resources

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

The cultural resources study area for the project consists of the entire 62.77-acre area property and an unobstructed half-mile viewshed surrounding the property. Background research at the Tennessee Historical Commission (THC) and Tennessee Division of Archaeology (TDOA) identified eight archaeological sites, three cemeteries, and one historic structure within proximity of the study area, but not within the study area. None of these resources are listed in the National Register of Historic Places (NRHP).

TVA contracted with Cardno, Inc. to conduct a Phase I cultural resources investigation that included both an assessment of standing structures as well as archaeological survey of the study area (Simpson et al., 2019). One isolated find was identified within the study area, Isolated Find 1, which consists of one plain historic ironstone sherd that dates to the mid-nineteenth through twentieth century (**Table 6-2**). The isolated find was not recommended for listing in the NRHP. The cultural resources investigation resulted in the identification of 11 previously undocumented structures (HS-1 through HS-11) of over 50 years in age (**Table 6-2**). None of these eleven architectural resources were recommended for listing in the NRHP.

Table 6-2: Cultural Resources Identified During Survey of Project Area

Cultural Resources Number	Description	Eligibility Recommendation
HS-1	432 Anglin Lane: 1951 one-story, brick veneered, Linear Ranch style house	Ineligible
HS-2	402 Anglin Lane: 1956 one-story, concrete block Minimal Traditional style house	Ineligible
HS-3	496 Anglin Lane: 1931 brick veneered, one-story Transitional Ranch style house with Tudor Revival elements	Ineligible
HS-4	514 Anglin Lane: 1961 two-story, brick veneered Split Level style house	Ineligible
HS-5	602 Anglin Lane: 1969 brick veneered, one-story Ranch style house	Ineligible
HS-6	618 Anglin Lane: 1969 one-story, brick veneered Transitional Ranch style house	Ineligible
HS-7	630 Anglin Lane: 1920 one-story, wood frame Bungalow style house	Ineligible
HS-8	1181 Lower Brownsville Road: 1900 wood frame, one-story Queen Anne Cottage	Ineligible
HS-9	1190 Lower Brownsville Road: 1931 brick veneered, one-story Ranch style house	Ineligible
HS-10	1194 Lower Brownsville Road: 1949 one-story, wood frame Minimal Traditional style house	Ineligible
HS-11	1198 Lower Brownsville Road: 1921 one-story, wood frame Craftsman Bungalow style house	Ineligible
Historic Isolate Find	Historic Isolate: Mid-19 th century to present	Ineligible

Based on these findings, TVA determined that no historic properties would be affected by the Proposed Action. TVA consulted with the Tennessee SHPO in a letter dated March 12, 2019 regarding TVA's findings of no effect. In a letter dated March 19, 2019 the Tennessee SHPO concurred with TVA's finding of no effect (Attachment 4). Pursuant to 36 CFR Part 800.3(f) (2), TVA also consulted with federally recognized Indian tribes regarding properties that may have religious and cultural significance to their tribe and eligible for the NRHP. TVA received no responses from the federally recognized Indian tribes regarding the Proposed Action.

Under the No Action Alternative, if the City of Jackson were able to secure the funding for the actions described in this Environmental Assessment, similarly no impacts to archaeological resources would occur. If the City of Jackson were not able to secure the funding for the actions described in this Environmental Assessment, it is anticipated that the existing site conditions would be maintained, also resulting in no impacts to archaeological and historic resources.

7.0 CUMULATIVE AND REASONABLY FORESEEABLE IMPACTS

The Project Area is a portion of the Highway 223 East Site, a larger 120.4-acre property proposed for development as a future industrial park. The City of Jackson also has a public option on four additional properties on 233.66 acres (see **Figure 1-G**). The entire Highway 223 East Site and adjacent properties, amounting to a total of 354.06 acres could be developed by

the City of Jackson in the future, herein referred to as the Cumulative Impact Area. The available lands appear to consist of open land, maintained grass, and mixed deciduous forest with potential for wetlands and waterbodies. While it is unlikely that future development would disturb (grading, vegetation removal, etc.) the entire 354.06 acres available on these parcels, TVA assumed future disturbance of all properties as a conservative approach for purposes of assessing cumulative impacts.

A review of available information from the TDOT, Jackson Chamber, and Jackson Downtown Development Authority was also conducted to identify other developments that could potentially contribute to cumulative impacts in combination with those from the Action Alternative. This review revealed no additional projects that are planned, under construction, or have been recently completed in the immediate vicinity of the Project Site (TDOT 2019 and City of Jackson 2019).

Resources that could be cumulatively impacted by the Proposed Action and future development of adjacent sites are: air quality and climate change, water resources and water quality, floodplains, biological resources (vegetation, terrestrial wildlife, aquatic ecology, threatened and endangered species), and archaeological and historic resources.

TVA has determined that the Proposed Action would not significantly affect wetlands, land use and prime farmland, natural and managed areas, public recreation opportunities, Nationwide Rivers Inventory streams, or Wild and Scenic Rivers. The Proposed Action would not result in the creation of solid and hazardous wastes, nor would it create significant impacts to the human environment, including visual, noise, socioeconomics and environmental justice, transportation, and safety impacts. Therefore, potential impacts to these resources are not considered in this cumulative impacts assessment.

7.1 Air Quality and Climate Change

The Proposed Action would result in temporary and minor direct impacts on air quality and climate change as described in Section 6.2. Future activities that produce air pollutants, including site preparation and siting of commercial and industrial tenants during future expansion and development of the Cumulative Impact Area would be subject to various applicable air quality regulations including Prevention of Significant Deterioration permits under the CAA. Future clearing, demolition activities, and construction of individual sites would generate some air pollution in the form of emissions from fossil fuel-fired equipment, fugitive dust from ground disturbances, and emissions associated with burning of wood debris. However, BMPs and adherence to local regulations would minimize these effects, as described in Section 6.2.

Considering that individual sites associated with future industrial expansion within the Cumulative Impact Area would be developed in stages as new tenants are established, and that there would be temporary time periods for construction, adverse impacts to local air quality would be temporary and localized. These impacts are anticipated to be minor and would not be expected to impact regional air quality or result in any violation of applicable ambient air quality standards.

With regard to climate change, the conversion of greenfield sites to developed land for future expansion within the Cumulative Impact Area would result in some loss of carbon sequestration in the area, particularly in the event that large trees are removed. However, considering that the

areas proposed for development are primarily cleared farmland, these effects are anticipated to be minor.

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

7.2 Biological Resources

7.2.1 Vegetation

The Proposed Action would result in minor direct impacts on vegetation as described in Section 6.3. Future expansion within the Cumulative Impact Area would potentially convert vegetated areas containing pasture, maintained grass, and deciduous forest, to an industrial setting. While this would result in the loss of some vegetation, the vegetation types affected are common in the area, resulting in minor impacts on vegetation in the region. Cumulative impacts to vegetation resulting from the Action Alternative and future expansion within the Cumulative Impact Area are anticipated to be minor.

7.2.2 Water Resources and Water Quality

The Proposed Action would result in minor direct and potential indirect impacts on water resources as described in Section 6.3. Future expansion within the Cumulative Impact Area would have the potential for impacts to water resources. Site preparation associated with future expansion within the Cumulative Impact Area, including filling and leveling, could cause minor changes in drainage patterns. Likewise, the placement of buildings and associated hard surfaces on the site would likely increase the amount of impermeable surface and possibly lead to faster runoff of onsite precipitation. Activities that could impact surface water and groundwater resources are subject to state and federal regulations including consultation and permitting with the USACE Nashville District and TDEC under Section 404 and 401 of the Clean Water Act, and state Aquatic Resource Alteration Permits, as well as the 2016 General NPDES Permit for Storm Water Discharges Associated with Construction Activity (TNR100000) which would require the development of a site-specific Stormwater Pollution Prevention Plan.

In the event that waterbodies are impacted, state and federal regulations would impose special conditions to avoid or minimize impacts to water resources. It is expected that applicable BMPs such as installation of sediment and erosion controls (silt fences, sediment traps, etc.) would be employed and activities would be accomplished in compliance with General Permit TNR100000 requirements. Therefore, cumulative impacts on water resources associated with the Action Alternative and future expansion within the Cumulative Impact Area are anticipated to be temporary and minor.

7.2.3 Terrestrial Wildlife

The Proposed Action would result in minor direct impacts to wildlife as described in Section 6.3. Future expansion within the Cumulative Impact Area would potentially remove trees within deciduous forest areas and grasses within maintained grass and open pasture areas for

development of individual sites. Mobile wildlife in these habitats would be displaced by habitat removal and noise, and immobile wildlife may be injured or destroyed by heavy machinery and construction, particularly if clearing activities take place during breeding/nesting seasons. However, considering that the landscape is highly fragmented and already impacted by human activity (e.g., maintained cattle pastures, industrial development, and roads), and in consideration of the abundance of similar habitat in the surrounding landscape, cumulative impacts to wildlife associated with the Action Alternative and future expansion within the Cumulative Impact Area are anticipated to be minor.

7.2.4 Aquatic Ecology

The Proposed Action would result in temporary and minor direct impacts to aquatic habitat as described in Section 6.3. Future expansion within the Cumulative Impact Area would potentially involve temporary or permanent stream crossings during land development. It is expected that these actions would include BMPs (such as sediment and erosion controls) and compliance with applicable storm water permitting requirements, which would minimize impacts to aquatic species. Cumulative impacts to aquatic species associated with the Action Alternative and future expansion within the Cumulative Impact Area are anticipated to be temporary and minor.

7.2.5 Threatened and Endangered Species

The Proposed Action would not directly or indirectly impact federally or state-listed plant and aquatic species. Removal of a small amount of forested foraging habitat would potentially result in minor, indirect impacts to federally and state-listed bat species as described in Section 6.3. However, with the implementation of the identified Conservation Measures described in Section 6.3, no significant impacts to federally and state-listed bat species are anticipated as a result of the Proposed Action. Future expansion within the Cumulative Impact Area could impact federally and state-listed bat species, but would be conducted in accordance with the requirements of the ESA and other applicable law in coordination with the USFWS. Therefore, no significant cumulative affects to federally and state-listed bat species are anticipated as a result of the Action Alternative and future expansion within the Cumulative Impact Area.

7.2.1 Floodplains

The Proposed Action could potentially result in direct impacts to the unnamed tributary to Cub Creek (STR-1). Direct impacts could result should development beyond the signage occur in the northwest corner of the Project Area. No identified 100-year floodplains are within the Cumulative Impact Area; however, future development could result in direct or indirect impacts to floodplains if additional streams are identified within the Cumulative Impact Area during future developments. Adverse impacts would be minimized through adherence to the Madison County floodplain ordinance within the Cumulative Impact Area are not anticipated to result in significant cumulative impacts on floodplains and their natural and beneficial values.

8.0 PERMITS, LICENSES, AND APPROVALS

The Proposed Action would result in greater than one acre of earth disturbing activities; therefore, it would be necessary to obtain coverage under the 2016 General National Pollutant and Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction Activity (TNR100000). Coverage would require submittal of a Notice of Intent (NOI) and development of a site-specific Stormwater Pollution Prevention Plan. Impacts to WOTUS would require a Section 404 permit and a Section 401 Clean Water Act certification.

Impacts to WOST would require an ARAP from the TDEC, which would also serve as the Section 401 Water Quality Certification. At this time, impacts to WOTUS or WOST are not proposed as part of the Action Alternative. The Proposed Action would result in onsite burning of cleared trees and vegetation or offsite disposal of cleared trees and vegetation at an approved landfill. Onsite burning activities would be subject to local burn permits and the requirements in TDEC Air Pollution Control Rule 1200-3-2, which provides open burning prohibitions, exceptions, and certification requirements. Offsite disposal of cleared trees and vegetation would be allowable only at approved landfills and would be subject to the specific requirements of the selected landfill. The City of Jackson or its contractors would be responsible for obtaining local, state, or federal permits, licenses, and approvals necessary for the project.

9.0 BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

To minimize or reduce the environmental effects of site activities associated with the Proposed Action, the City of Jackson or its contractors are expected to ensure all clearing and grading activities conducted are in compliance with storm water permitting requirements and utilize applicable BMPs to minimize and control erosion and fugitive dust during these actions. The City of Jackson is also expected to locate the industrial park signage a distance of at least ten feet from the streambank of the unnamed tributary to Cub Creek (STR-1). Onsite burning activities are to be conducted in compliance with local burn permits and the requirements in TDEC Air Pollution Control Rule 1200-3-2, and offsite disposal of cleared trees and vegetation is to occur only at approved landfills and in accordance with the requirements of the selected landfill.

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 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 ground water contamination. Oil waste, filters, and other litter are expected to be collected and disposed of properly.

Specific avoidance and conservation measures would be implemented as a part of the Proposed Action to reduce effects to Indiana bat and northern long-eared bat. These measures are identified in the TVA Bat Strategy Project Screening Form (Attachment 3).

10.0 CONCLUSION AND FINDINGS

Based on the findings in this Environmental Assessment, we conclude that the proposed action to provide funding to the City of Jackson for the development of the industrial park would not be a major federal action significantly affecting the environment. Accordingly, an environmental impact statement is not required.



Lana Bean
NEPA Manager
NEPA and Valley Projects
Tennessee Valley Authority

July 8, 2019

Date Signed

11.0 LIST OF PREPARERS

Table 11-1 summarizes the expertise and contribution made to the Environmental Assessment by the Project Team.

Table 11-1: Environmental Assessment Project Team

Name/Education	Experience	Project Role
TVA		
Bill Adams <i>M.S., Public Policy and Administration</i> <i>B.A., Political Science</i> <i>Graduate of Economic Development Institute (EDI)</i> <i>Certified Economic and Community Developer (CEcD)</i>	25 years in economic development, including federal grants management, industrial recruitment, property positioning for industrial development, and federal-level project reviews, including NEPA.	Economic Development
Liz Hamrick <i>M.S., Wildlife and Fisheries Science, University of Tennessee</i> <i>B.A. Biology, B.A. Anthropology, Grinnell College</i>	19 years in biological field studies, 8 years in biological compliance, NEPA compliance, and ESA consultation for T&E terrestrial animals.	Implementation of ESA Section 7 Programmatic Consultation for federally listed bats and routine actions
Ruth Horton <i>B. A History</i>	24 year experience in environmental compliance and policy, and NEPA compliance	Environmental Program Manager
Kerry Nichols <i>Phd Anthropology U. Of Missouri</i> <i>M.A. Anthropology U. Of Colorado</i> <i>B.A. Political Science U. Of Northern Colorado</i>	15 years in cultural resource management.	Cultural resources, NHPA Section 106 compliance
Ashley A. Pilakowski <i>B.S., Environmental Management</i>	8 years in environmental planning and policy and NEPA compliance.	NEPA Compliance
Elizabeth Smith <i>B.A. Environmental Studies and Geography</i>	10 years in NEPA compliance, federal environmental regulations and permitting, project management, land reclamation, and water quality monitoring.	NEPA Compliance
Carrie Williamson, P.E., CFM <i>B.S. and M.S., Civil Engineering</i>	6 years in floodplains and flood risk	Floodplains
Cardno		
Rachel Bell, PMP <i>B.S., Environmental Science</i>	13 years in natural resources planning and NEPA compliance, including project management and biological and environmental studies and analysis.	Proposed Action and Need, Alternatives, Site Description

Table 11-1: Environmental Assessment Project Team

Name/Education	Experience	Project Role
<p>Jeanette Brena, P.E. <i>MS, Environmental Engineering, Washington State University</i> <i>BS, Civil and Environmental Engineering, Seattle University</i></p>	<p>20 years in project management, environmental engineering, regulatory permitting and compliance, and determination of air quality, climate change, and noise impacts.</p>	<p>Air Quality and Climate Change, Noise</p>
<p>Allen Jacks, CE <i>M.S., Coastal Zone Studies, University of West Florida</i> <i>B.S., Biology, Georgia College and State University</i></p>	<p>15 years in natural resources planning and NEPA compliance, including project management and biological and environmental studies and analysis.</p>	<p>EA Project Manager</p>
<p>Jason Sean Lancaster, CEP, CE, PWS, TN-QHP <i>MPH, Epidemiology, University of South Florida</i> <i>B.S., Environmental Science and Policy; University of South Florida</i></p>	<p>20 years in natural resources planning and NEPA compliance, including project management and biological and environmental studies and analysis.</p>	<p>Cumulative Impacts</p>
<p>Tammy Miller <i>MS, Natural Resources, University of Wisconsin-Steven's Point</i> <i>BS, Terrestrial Ecology-Wildlife Management, University of Vermont</i></p>	<p>17 years in biological resources investigations including NEPA compliance, waterway permitting and mitigation, threatened and endangered species surveys and coordination, wetland and stream delineations, and water quality investigation.</p>	<p>Biological Resources</p>
<p>Duane Simpson <i>MA, Anthropology, University of Arkansas</i> <i>BA, Anthropology, Ohio University</i></p>	<p>25 years in archaeological consulting including management of projects across the southeast and midatlantic regions. Principal Investigator for over 15 years.</p>	<p>Archaeological and Historical Resources</p>
<p>Alison Uno <i>MS, Sustainable Environmental Management, University of Plymouth, UK</i> <i>BS, Marine Biology, University of Liverpool, UK</i></p>	<p>12 years in NEPA compliance and biological and environmental analyses. Conducted many cumulative impacts assessments for various EA and EIS projects including land development and coastal restoration.</p>	<p>QA/QC</p>

12.0 AGENCIES AND OTHERS CONSULTED

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

- Tennessee Department of Environment and Conservation, Division of Natural Areas
- Tennessee Historical Commission
- Tennessee Division of Archaeology
- United States Fish and Wildlife Service
- Absentee Shawnee Tribe of Indians of Oklahoma, Cherokee Nation, The Chickasaw Nation, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, Shawnee Tribe, United Keetoowah Band of Cherokee Indians in Oklahoma

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ATTACHMENT 1
PROJECT FIGURES

Figure 1-A

Aerial



Legend


 Project Boundary - 62.77 ac. ±

Image: 2016

Data Source:




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Aerial Map

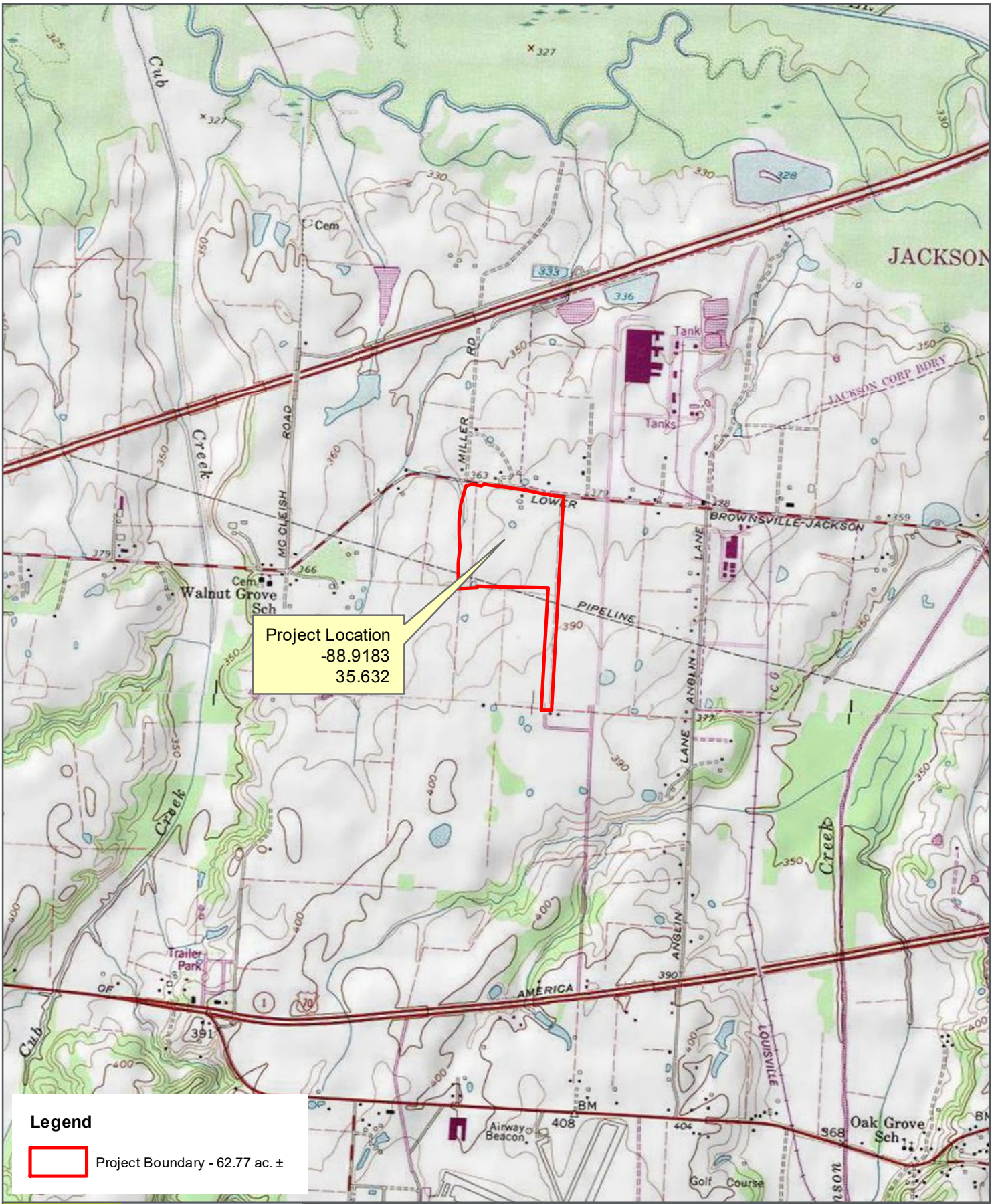
TVA FY19 Economic Development Projects

Madison County, Tennessee




3905 Crescent Park Drive, Riverview, FL 33578 USA
 Phone (+1) 813-664-4500 Fax (+1) 813-664-0440
 www.cardno.com

Figure 1-B
USGS Quadrangle



Project Location
 -88.9183
 35.632

Legend


 Project Boundary - 62.77 ac. ±

Image:ESRI
 Data Source:

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USGS Quad Map
 TVA FY19 Economic Development Projects
 Madison County, Tennessee

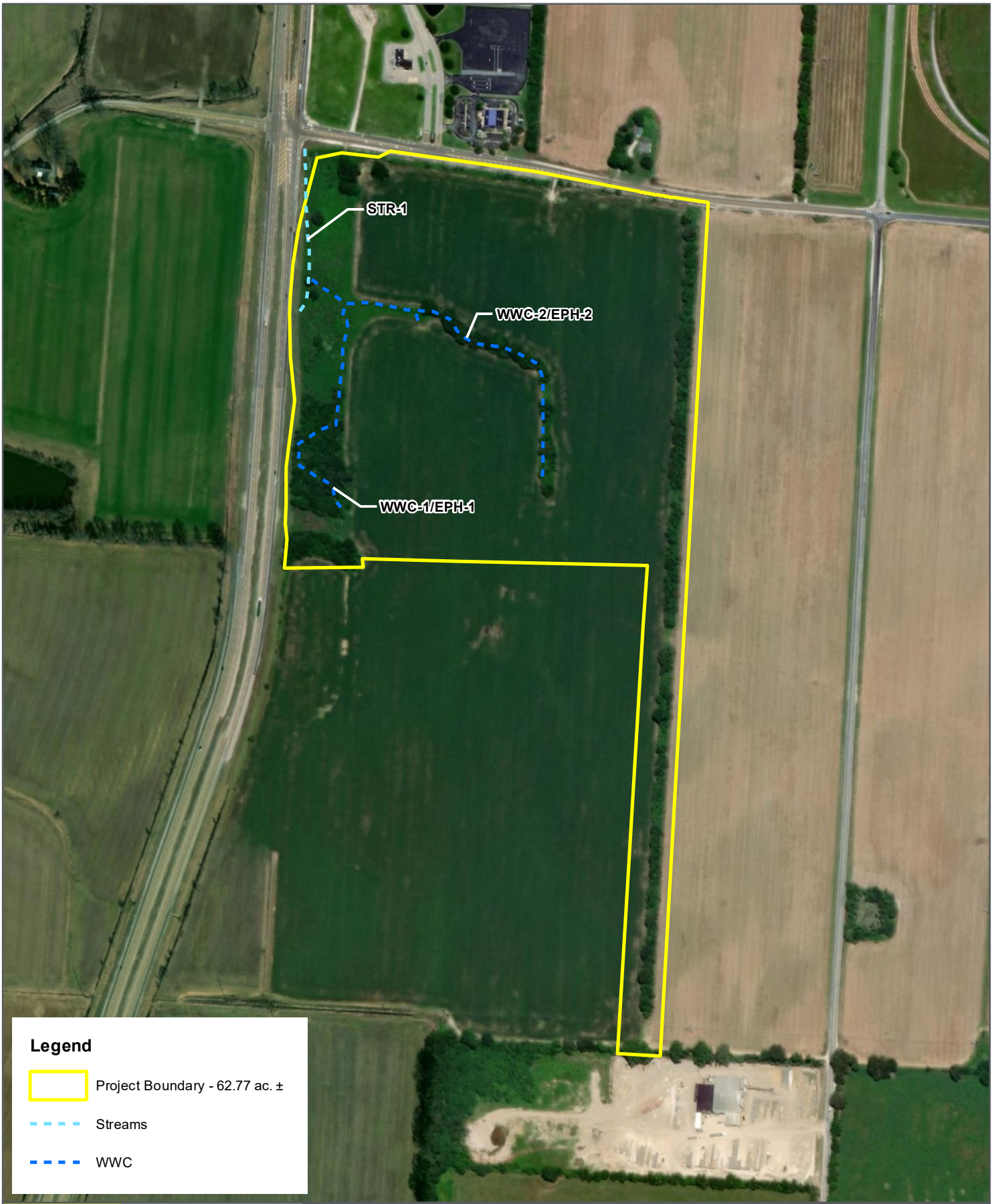
0 2,000 4,000 Feet
 0 610 1,220 Meters

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Figure 1-C

Jurisdictional Waters of the United States and the State of Tennessee



Legend

- Project Boundary - 62.77 ac. ±
- Streams
- WWC

Image: 2016
Data Source:

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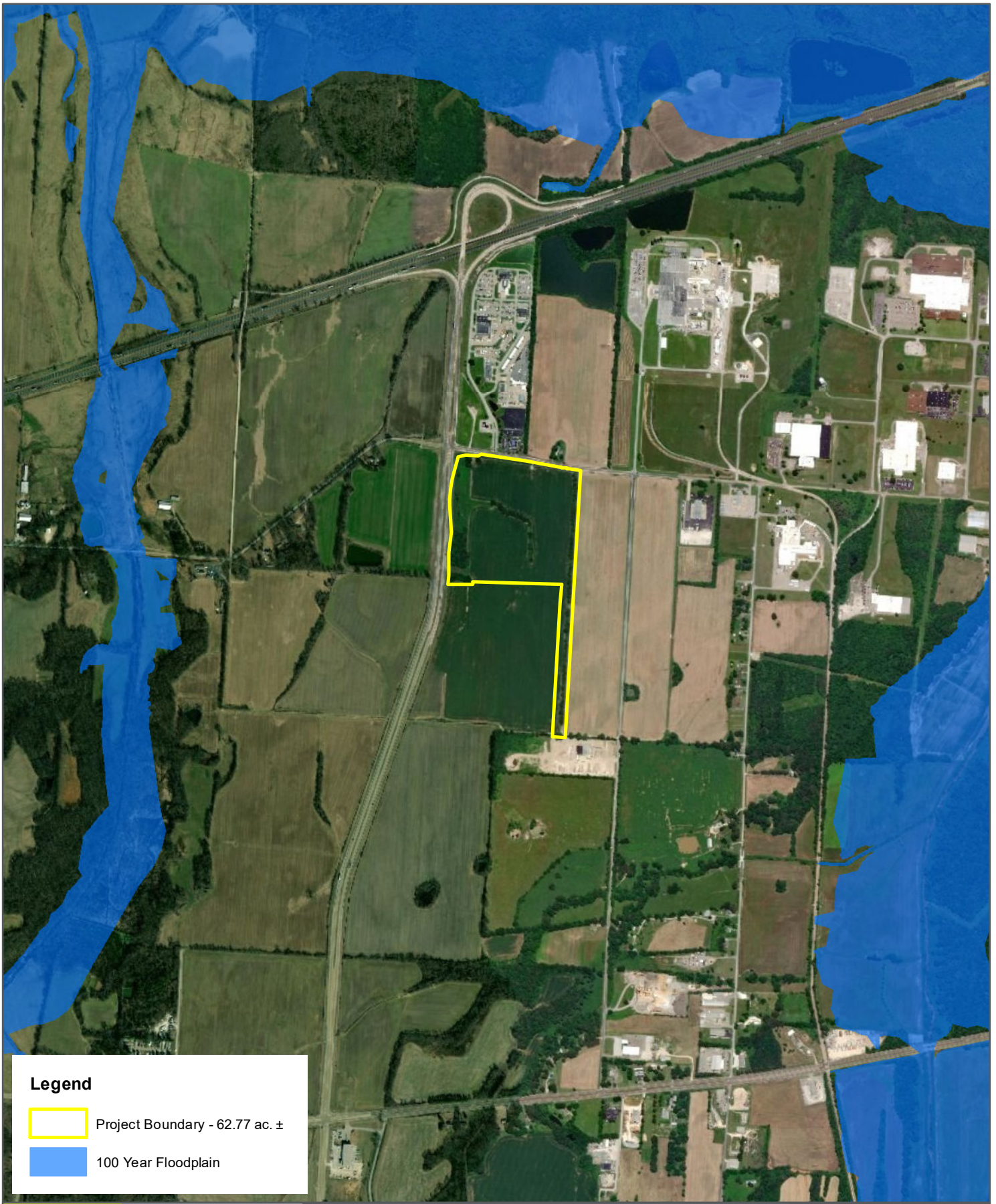
Onsite Features Map
TVA FY19 Economic Development Projects
Madison County, Tennessee





3905 Crescent Park Drive, Riverview, FL 33578 USA
Phone (+1) 813-664-4500 Fax (+1) 813-664-0440
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Figure 1-D

FEMA Floodplain



Legend

-  Project Boundary - 62.77 ac. ±
-  100 Year Floodplain

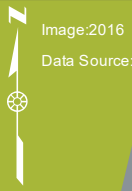


Image:2016
Data Source:

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FEMA 100 Year Floodplain Map
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Figure 1-E

USFWS NWI



Legend

 Project Boundary - 62.77 ac. ±


 NWI Wetlands

Image: 2016

Data Source:



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NWI Wetlands Map
 TVA FY19 Economic Development Projects
 Madison County, Tennessee

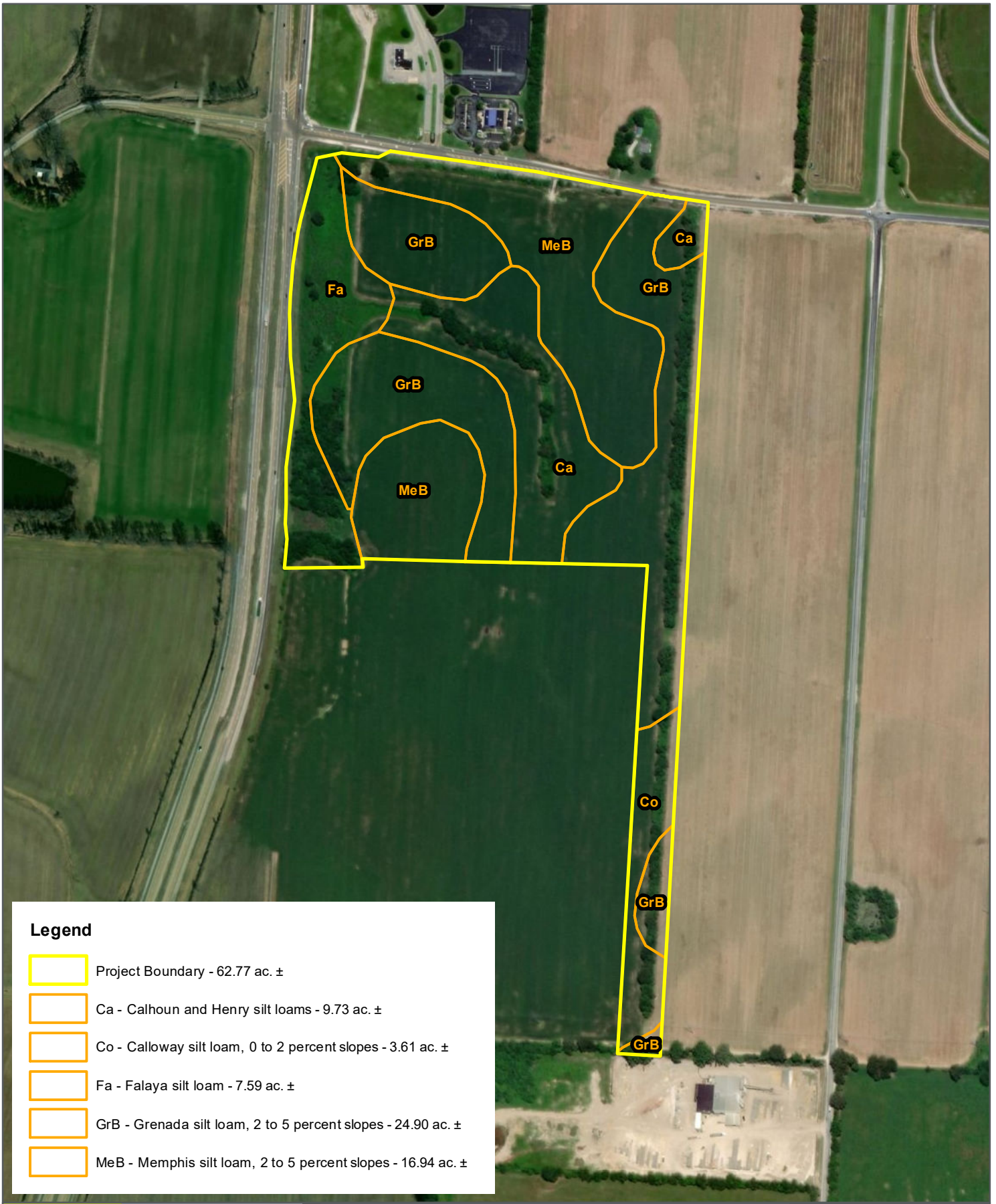
0 600 1,200 Feet
 0 183 366 Meters



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Figure 1-F

NRCS Soils



Legend








-  Project Boundary - 62.77 ac. ±
-  Ca - Calhoun and Henry silt loams - 9.73 ac. ±
-  Co - Calloway silt loam, 0 to 2 percent slopes - 3.61 ac. ±
-  Fa - Falaya silt loam - 7.59 ac. ±
-  GrB - Grenada silt loam, 2 to 5 percent slopes - 24.90 ac. ±
-  MeB - Memphis silt loam, 2 to 5 percent slopes - 16.94 ac. ±

Image:2016
Data Source:



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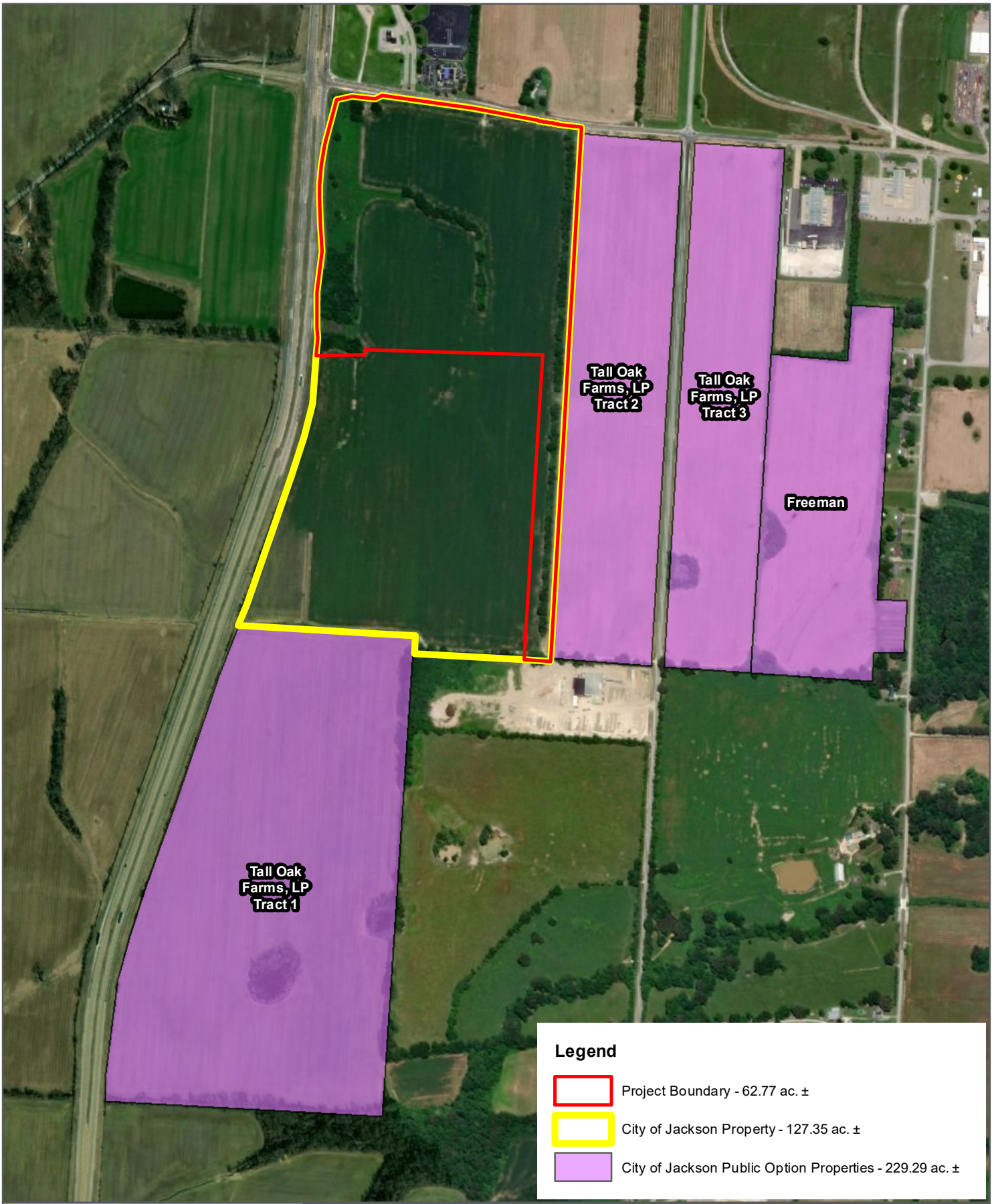
Soils Map
TVA FY19 Economic Development Projects
Madison County, Tennessee




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Figure 1-G

Cumulative Impact Areas



Legend

- Project Boundary - 62.77 ac. ±
- City of Jackson Property - 127.35 ac. ±
- City of Jackson Public Option Properties - 229.29 ac. ±

Image:2016
Data Source:

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Cumulative Impact Map
TVA FY19 Economic Development Projects
Madison County, Tennessee

0 800 1,600 Feet
0 244 488 Meters

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ATTACHMENT 2
CATEGORICAL EXCLUSION CHECKLIST

Categorical Exclusion Checklist for Proposed TVA Actions

Categorical Exclusion Number Claimed	Organization ID Number	Tracking Number <i>(NEPA Administration Use Only)</i> 40775
Form Preparer Elizabeth Smith	Project Initiator/Manager Bess R Hubbard	Business Unit ED - Economic Development
Project Title InvestPrep Grant to Madison County for Highway 223 Site		Hydrologic Unit Code
Description of Proposed Action <i>(Include Anticipated Dates of Implementation)</i> For Proposed Action See Attachments and References		<input type="checkbox"/> Continued on Page 3 <i>(if more than one line)</i>
Initiating TVA Facility or Office		TVA Business Units Involved in Project ED - Economic Development
Location <i>(City, County, State)</i> For Project Location see Attachments and References		

Parts 1 through 4 verify that there are no extraordinary circumstances associated with this action:

Part 1. Project Characteristics

Is there evidence that the proposed action...	No	Yes	Commitment	Information Source for Insignificance
1. Is major in scope?	X			Smith, Elizabeth 04/05/2019
2. Is part of a larger project proposal involving other TVA actions or other federal agencies?	X			Smith, Elizabeth 04/05/2019
* 3. Involves non-routine mitigation to avoid adverse impacts ?	X		No	Smith, Elizabeth 04/05/2019
4. Is opposed by another federal, state, or local government agency?	X			Smith, Elizabeth 04/05/2019
* 5. Has environmental effects which are controversial?	X			Smith, Elizabeth 04/05/2019
* 6. Is one of many actions that will affect the same resources?	X			Smith, Elizabeth 04/05/2019
7. Involves more than minor amount of land?	X			Smith, Elizabeth 04/05/2019

*If "yes" is marked for any of the above boxes, consult with NEPA Administration on the suitability of this project for a categorical exclusion.

Part 2. Natural and Cultural Features Affected

Would the proposed action...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Potentially affect endangered, threatened, or special status species?		X	No	No	For comments see attachments
2.Potentially affect historic structures, historic sites, Native American religious or cultural properties, or archaeological sites?	X		No	No	For comments see attachments
3.Potentially take prime or unique farmland out of production?	X		No	No	For comments see attachments
4.Potentially affect Wild and Scenic Rivers or their tributaries?	X		No	No	Smith, Elizabeth 04/05/2019
5.Potentially affect a stream on the Nationwide Rivers Inventory?	X		No	No	Smith, Elizabeth 04/05/2019
6.Potentially affect wetlands?	X		No	No	For comments see attachments
7.Potentially affect water flow, stream banks or stream channels?		X	Yes	Yes	For comments see attachments
8.Potentially affect the 100-year floodplain?		X	No	No	For comments see attachments
9.Potentially affect ecologically critical areas, federal, state, or local park lands, national or state forests, wilderness areas, scenic areas, wildlife management areas, recreational areas, greenways, or trails?	X		No	No	Smith, Elizabeth 04/05/2019
10.Contribute to the spread of exotic or invasive species?	X		No	No	Smith, Elizabeth 04/05/2019
11.Potentially affect migratory bird populations?	X		No	No	For comments see attachments
12.Involve water withdrawal of a magnitude that may affect aquatic life or involve interbasin transfer of water?	X		No	No	Smith, Elizabeth 04/05/2019
13.Potentially affect surface water?		X	No	No	For comments see attachments
14.Potentially affect drinking water supply?	X		No	No	Smith, Elizabeth 04/05/2019
15.Potentially affect groundwater?	X		No	No	Smith, Elizabeth 04/05/2019
16.Potentially affect unique or important terrestrial habitat?	X		No	No	Smith, Elizabeth 04/05/2019
17.Potentially affect unique or important aquatic habitat?		X	No	No	For comments see attachments

Part 3. Potential Pollutant Generation

Would the proposed action potentially (including accidental or unplanned)...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Release air pollutants?		X	No	No	For comments see attachments
2.Generate water pollutants?	X		No	No	For comments see attachments
3.Generate wastewater streams?	X		No	No	Smith, Elizabeth 04/05/2019
4.Cause soil erosion?		X	No	No	For comments see attachments
5.Discharge dredged or fill materials?	X		No	No	Smith, Elizabeth 04/05/2019
6.Generate large amounts of solid waste or waste not ordinarily generated?	X		No	No	Smith, Elizabeth 04/05/2019
7.Generate or release hazardous waste (RCRA)?	X		No	No	Smith, Elizabeth 04/05/2019
8.Generate or release universal or special waste, or used oil?		X	No	No	For comments see attachments
9.Generate or release toxic substances (CERCLA, TSCA)?	X		No	No	Smith, Elizabeth 04/05/2019
10.Involve materials such as PCBs, solvents, asbestos, sandblasting material, mercury, lead, or paints?	X		No	No	Smith, Elizabeth 04/05/2019
11.Involve disturbance of pre-existing contamination?	X		No	No	For comments see attachments
12.Generate noise levels with off-site impacts?	X		No	No	For comments see attachments
13.Generate odor with off-site impacts?	X		No	No	Smith, Elizabeth 04/05/2019
14.Produce light which causes disturbance?	X		No	No	Smith, Elizabeth 04/05/2019
15.Release of radioactive materials?	X		No	No	Smith, Elizabeth 04/05/2019
16.Involve underground or above-ground storage tanks or bulk storage?	X		No	No	Smith, Elizabeth 04/05/2019
17.Involve materials that require special handling?	X		No	No	Smith, Elizabeth 04/05/2019

Part 4. Social and Economic Effects

Would the proposed action...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Potentially cause public health effects?	X			No	Smith, Elizabeth 04/05/2019
2.Increase the potential for accidents affecting the public?	X			No	For comments see attachments
3.Cause the displacement or relocation of businesses, residences, cemeteries, or farms?	X			No	Smith, Elizabeth 04/05/2019
4.Contrast with existing land use, or potentially affect resources described as unique or significant in a federal, state, or local plan?	X			No	Smith, Elizabeth 04/05/2019
5.Disproportionately affect minority or low-income populations?	X			No	Smith, Elizabeth 04/05/2019
6.Involve genetically engineered organisms or materials?	X			No	Smith, Elizabeth 04/05/2019
7.Produce visual contrast or visual discord?		X		No	For comments see attachments
8.Potentially interfere with recreational or educational uses?	X			No	Smith, Elizabeth 04/05/2019
9.Potentially interfere with river or other navigation?	X		No	No	Smith, Elizabeth 04/05/2019
10.Potentially generate highway or railroad traffic problems?	X			No	For comments see attachments

Part 5. Other Environmental Compliance/Reporting Issues

Would the proposed action...	No	Yes	Commitment	Information Source for Insignificance
1.Release or otherwise use substances on the Toxic Release Inventory list?	X		No	Smith, Elizabeth 04/05/2019
2.Involve a structure taller than 200 feet above ground level?	X		No	Smith, Elizabeth 04/05/2019
3.Involve site-specific chemical traffic control?	X		No	Smith, Elizabeth 04/05/2019
4.Require a site-specific emergency notification process?	X		No	Smith, Elizabeth 04/05/2019
5.Cause a modification to an existing environmental permit or to existing equipment with an environmental permit or involve the installation of new equipment/systems that will require a permit?	X		No	Smith, Elizabeth 04/05/2019
6.Potentially impact operation of the river system or require special water elevations or flow conditions??	X		No	Smith, Elizabeth 04/05/2019
7.Involve construction or lease of a new building or demolition or renovation of existing building (i.e. major changes to lighting, HVAC, and/or structural elements of building of 1000 sq. ft. or more)?	X		No	Smith, Elizabeth 04/05/2019

Parts 1 through 4: If "yes" is checked, describe in the discussion section following this form why the effect is insignificant. Attach any conditions or commitments which will ensure insignificant impacts. Use of non-routine commitments to avoid significance is an indication that consultation with NEPA Administration is needed.

An EA or EIS Will be prepared.

Based upon my review of environmental impacts, the discussion attached, and/or consultations with NEPA Administration, I have determined that the above action does not have a significant impact on the quality of the human environment and that no extraordinary circumstances exist. Therefore, this proposal qualifies for a categorical exclusion under Section 5.2. _____ of TVA NEPA Procedures.

Project Initiator/Manager Bess R Hubbard		Date 07/01/2019
TVA Organization ED	E-mail sbrickma@tva.gov	Telephone

Environmental Concurrence Reviewer

Ruth M Horton 06/21/2019

Signature

Preparer Closure

Elizabeth Smith 07/02/19

Signature

Other Environmental Concurrence Signatures (as required by your organization)

Signature

Signature

Signature

Signature

Other Review Signatures (as required by your organization)

Elizabeth Smith 07/02/2019

Signature

Signature

Signature

Signature

Signature

Signature

Attachments/References

Description of Proposed Action Continued from Page 1

Madison County, TN has requested \$250,000 TVA InvestPrep™ funds for the purpose of removing approximately 15 acres of trees and a fence, designing a new park entrance, and constructing industrial park signage at the Highway 223 Site. The project will assist with the removal of trees in several locations on the site, including the northwest corner, along a wet weather conveyance, and along a fence line. The fence itself will also be removed. Industrial park signage will be constructed in the northwest corner of the site near where the trees will be cleared. Existing access points will be used, including a gravel entry off of Lower Brownsville Road and a gravel/dirt road off of Fiberglass Road. The project site is current farmland/undeveloped, zoned industrial. See attached Project Summary for more detail.

Project Location Continued from Page 1

Madison County, TN, The Highway 223 Site, located in Madison County, Tennessee, is comprised of 337 acres at the corner of Highway 223 and Lower Brownsville Road (see attached location map). Site Center Point: Lat 35.631749° / Long -88.918328°

CEC General Comment Listing

- | | | | |
|----|---|------------|--------------|
| 1. | Area of Potential Effect (APE) aerial map attached for reference. | | |
| | By: Elizabeth Smith | 04/05/2019 | |
| | Files: APE on Aerial Map_Madison County, TN.pdf | 04/05/2019 | 902.79 Bytes |
| 2. | See Attached Project Summary. | | |
| | By: Ruth M Horton | 06/19/2019 | |
| | Files: Project Summary_Madison County, TN.pdf | 06/19/2019 | 128.45 Bytes |

CEC Comment Listing

Part 2 Comments

- | | | | |
|-----|---|------------|----------------|
| 1. | The whorled sunflower occurs within 3 miles of the Project Area; however no suitable habitat was identified within the Project Area. Also, USFWS determined federally listed northern long-eared bat and Indiana bat have the potential to occur in Madison County, TN; with the implementation of the identified Conservation Measures in the EA, no significant impacts to Indiana bat and northern long-eared bat are anticipated. | | |
| | By: Elizabeth Smith | 06/20/2019 | |
| 2. | TVA determined that no historic properties would be affected by the Proposed Action | | |
| | By: Elizabeth Smith | 06/20/2019 | |
| 3. | The project area is currently zoned industrial. | | |
| | By: Elizabeth Smith | 04/05/2019 | |
| 8. | See attached FEMA Floodplain Map stating no FEMA 100 year floodplain on site. | | |
| | By: Elizabeth Smith | 04/05/2019 | |
| | Files: Aerial & FEMA Floodplain Map_Madison County, TN.pdf | 04/05/2019 | 1,309.59 Bytes |
| 8. | Tree removal could occur within the 100-year floodplain of the unnamed tributary of Cub Creek. Tree removal would be considered to be a repetitive action in the 100-year floodplain that would have a minor beneficial impact on floodplains by increasing space to store flood waters. Removing the fence would have no impact on the unnamed tributary because it is located over 1,000 feet from the stream. Existing access would be used, which would have no impact on floodplains. The signage may be located within the floodplain of the unnamed tributary. Consistent with EO 11988, signage would be considered a repetitive action in the floodplain that should result in minor impacts. Should the signage be located within the floodplain of the unnamed tributary, compliance with the water quality buffer described in the Part 2, Question 7 Commitment of this CEC would also serve to minimize adverse impacts to floodplains. | | |
| | By: Carrie C Williamson | 06/07/2019 | |
| 11. | No aggregations of migratory birds or wading bird colonies have been documented within three miles of the Project Area and none were observed during the field survey. Migratory birds are discussed further in the EA. | | |

- By: Ruth M Horton 06/19/2019
13. Impacts to surface water associated with removal of trees are addressed in the EA.
- By: Ruth M Horton 06/21/2019
17. Aquatic Habitat within the Project Area consists of one intermittent and two wet weather conveyance features. The wet weather conveyances identified within the Project Area do not provide suitable habitat for aquatic species. Impacts to aquatic habitat from proposed tree clearing would be minimal. Impacts to aquatic habitat are further addressed in the EA.
- By: Ruth M Horton 06/19/2019
6. No wetlands were identified within the Project Area during field surveys; therefore, there would be no impacts to wetlands.
- By: Elizabeth Smith 06/20/2019
7. One stream and two wet weather conveyances; see attached preliminary jurisdictional map
- By: Elizabeth Smith 04/05/2019
- Files: Hydrologic Determination_Madison County, TN 04/05/2019 266.79 Bytes
(03.11.16).pdf

Part 3 Comments

1. The equipment required to support the grading and construction of this project would be both gasoline and diesel powered, and emit the air pollutants normally associated with mobile fossil fuel powered equipment. All diesel equipment would use low sulfur fuel and are expected to be equipped with all required pollution controls. The increase in emissions from the equipment would be temporary and within the normal daily variation of mobile emissions from a construction site.
- Possible emissions associated with burning of wood debris from tree clearing. Should ground-level open burning occur, BMPs and adherence to local regulations are required (TDEC Air Pollution Control Rule 1200-3-2). The TDEC regulation provides open burning prohibitions, exceptions, and certification requirements.
- By: Elizabeth Smith 06/21/2019
2. Small amounts of runoff may be expected during construction. It is expected this will be controlled using BMPs installed per state standards. If site disturbance would exceed 1 acre the contractor would be required by state regulations to obtain a General NPDES Permit for Discharge of Stormwater Associated with Construction Activity (TNR10000) which would incorporate the appropriate BMPs.
- By: Elizabeth Smith 04/05/2019
4. Small amounts of runoff may be expected during construction. It is expected this will be controlled using BMPs installed per state standards. If site disturbance would exceed 1 acre the contractor would be required by state regulations to obtain a General NPDES Permit for Discharge of Stormwater Associated with Construction Activity (TNR10000) which would incorporate the appropriate BMPs.
- By: Elizabeth Smith 04/05/2019
8. The trucks and grading equipment used for the project have the potential for leaks or spills of oil and could generate used oil if servicing onsite is required. BMP's such as spill absorbent pads, containment equipment and other similar materials should be available onsite during work activities. Any used oil generated by the machinery are expected to be contained, handled, and managed in accordance with applicable used oil regulations and removed from the site upon completion. Spills and leaks would be promptly cleaned up and any oily debris disposed of in a landfill approved to accept such materials.
- By: Elizabeth Smith 04/05/2019
11. A Phase 1 Environmental Site Assessment (ESA) prepared for Highway 223 East Site (March 2016) found no Recognized Environmental Conditions on this property. A copy of the ESA is attached.
- By: Elizabeth Smith 07/01/2019
- Files: Phase I ESA_Madison County, TN (March 2016).pdf 04/05/2019 401.95 Bytes
12. The location of the project as shown in figures attached to the General Comment are near the site boundary, and thus noise from the trucks and other equipment used to support the project may be audible in the adjacent offsite areas. Work activities are planned to occur during day shift and will be temporary. Thus impacts are expected to be minor and temporary. All work activities are planned to occur during day shift to minimize nighttime impacts when noise carries further.
- By: Elizabeth Smith 07/01/2019

Part 4 Comments

2. Impacts from construction traffic would be temporary and minor.
- By: Elizabeth Smith 04/05/2019
7. Visual impacts under TVAs action will be minor due to the removal of trees; however the row of trees sits off the road and is only partially visible.
- By: Elizabeth Smith 06/20/2019
10. The proposed action would not create significant impacts to transportation on existing roadways.
- By: Elizabeth Smith 06/20/2019

CEC Permit Listing

Part 2 Permits

7. National Pollutant Discharge Elimination System Permit (402 Clean Water Act)
- By: Elizabeth Smith 06/18/2019

CEC Commitment Listing

Part 2 Commitments

7. User Defined: To minimize adverse impacts, the signage should be located outside of stream buffers designated in the Tennessee NPDES Construction Stormwater General Permit (TN100000) at an average distance of 30 feet from the top of the streambank. The 30-foot criterion for the width of the buffer zone can be established on an average width basis for the Project Area, as long as the minimum width of the buffer zone is more than 15 feet away from the top of the streambank at any measured location.

By locating the industrial park signage outside of designated stream buffers and in compliance with Tennessee NPDES regulations, the proposed funding for removing trees, removing a fence, and installing signage would have no significant impact of floodplains and their natural and beneficial values.

By: Elizabeth Smith

07/01/2019

ATTACHMENT 3

TVA BAT STRATEGY PROJECT SCREENING FORM

From: [Hamrick, Elizabeth Burton](#)
To: robbie_sykes@fws.gov; ross_shaw@fws.gov
Subject: Notification in accordance with TVA Programmatic Consultation for Routine Actions and Federally listed bats
Date: Tuesday, June 04, 2019 10:00:00 AM
Attachments: [Completed_MadisonCo_EcoDev_TVA-Bat-Strategy_6.4.19.pdf](#)

Good afternoon,

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

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

***Project:** Madison County InvestPrep Hwy 223 Site, Madison County, TN – TVA's Proposed Action is to enhance the marketability and facilitate the development of the industrial property. This includes the removal of a long fence row of trees, removal of a fence, design a new park entrance, and construction of industrial park signage in the northwest corner of the site. No known caves occur within 3 miles. No extant Indiana bat records within 10 miles and no NLEB records within 5 miles. No suitable roost trees would be removed. Best Management Practices would be used around wetlands and streams.*

Thank you.

Liz Hamrick

Terrestrial Zoologist
Biological Compliance

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

865-632-4011 (w)
ecburton@tva.gov

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

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

Project Name: Madison County InvestPrep Highway 223 Site **Date:** Apr 10, 2019
Contact(s): Elizabeth Smith/Ashley Pilakowski **CEC#:** 40775 **Project ID:** 409298
Project Location (City, County, State): Jackson, Madison County, Tennessee

Project Description:

TVA's Proposed Action is to enhance the marketability and facilitate the development of the industrial property. This includes the removal of trees in several locations on the site, removal of a fence, design a new park entrance, and construction of industrial park signage in the northwest corner of the site.

SECTION 1: PROJECT INFORMATION - ACTION AND ACTIVITIES

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

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

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

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

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

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

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

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

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

YES (Go to Step 4)

NO (Go to Step 13)

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

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

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

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

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

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

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

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

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

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

Info below completed by: <input type="checkbox"/> Heritage Reviewer (name)	<input type="text"/>	Date	Mar 16, 2016
<input type="checkbox"/> OSAR Reviewer (name)	<input type="text"/>	Date	
<input checked="" type="checkbox"/> Terrestrial Zoologist (name)	Elizabeth Hamrick	Date	May 1, 2019

- Gray bat records: None Within 3 miles* Within a cave* Within the County
- Indiana bat records: None Within 10 miles* Within a cave* Capture/roost tree* Within the County
- Northern long-eared bat records: None Within 5 miles* Within a cave* Capture/roost tree* Within the County
- Virginia big-eared bat records: None Within 10 miles* Within the County
- Caves: None within 3 mi Within 3 miles but > 0.5 mi Within 0.5 mi but > 0.25 mi* Within 0.25 mi but > 200 feet* Within 200 feet*

- Bat Habitat Inspection Sheet completed?** **NO** **YES**

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

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

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

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

Field review performed by TVA on May 29. No suitable roosting habitat identified in areas proposed for tree clearing.

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

SECTION 3: REQUIRED CONSERVATION MEASURES

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

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

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

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

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

Manual Override

Name: Elizabeth Hamrick

Check if applies to Project	Activities Subject to Conservation Measure	Conservation Measure Description
<input checked="" type="checkbox"/>	15, 16, 17, 18, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 45, 47, 48, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 90, 91, 92, 93, 94, 95, 96	NV1 - Noise will be short-term, transient, and not significantly different from urban interface or natural events (i.e., thunderstorms) that bats are frequently exposed to when present on the landscape.
<input checked="" type="checkbox"/>	16, 17, 18, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 48, 50, 51, 52, 53, 54, 55, 58, 59, 60, 61, 62, 63, 64, 65, 67, 70, 71, 73, 76, 77, 78, 80, 81, 82, 83, 86, 87, 88, 89, 90	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.
<input checked="" type="checkbox"/>	17, 18, 21, 22, 24, 25, 26, 30, 31, 33, 34, 35, 36, 40, 46, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 66, 67, 68, 69, 70, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 87, 88, 91, 93, 95, 96	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.
<input checked="" type="checkbox"/>	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	L1 - Direct temporary lighting away from suitable habitat during the active season.
<input checked="" type="checkbox"/>	16, 26, 36, 37, 38, 39, 48, 50, 52, 59, 60, 62, 66, 67, 69, 72, 75, 77, 78, 79, 86	L2 - Evaluate the use of outdoor lighting during the active season and seek to minimize light pollution when installing new or replacing existing permanent lights by angling lights downward or via other light minimization measures (e.g., dimming, directed lighting, motion-sensitive lighting).

¹Bats addressed in consultation (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

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

STEP 14) Save completed form in project environmental documentation (e.g., CEC, Appendix to EA) AND send a copy of form to batstrategy@tva.gov. 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.

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

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

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

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

ATTACHMENT 4
AGENCY CORRESPONDENCE



TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
JACKSON ENVIRONMENTAL FIELD OFFICE
1625 HOLLYWOOD DRIVE
JACKSON, TENNESSEE 38305-4316
PHONE (731) 512-1300 STATEWIDE 1-888-891-8332 FAX (731) 661-6283

July 8, 2016

Mike Williams, QHP
Senior Biologist/Mitigation Specialist
Barge Waggoner Sumner & Cannon, Inc.
211 Commerce Street, Suite 600
Nashville, TN 37201

Re: Hydro-determination concurrence for all stream and wet weather conveyance determinations performed at Potential Industrial Tracts, Jack Lawrence Site, Watson Rd. Site and West Site of Hwy. 223 site, Madison County, TN

Dear Mike:

Thank you for meeting with me on July 1 to view several locations at the *Watson Road* site and the *West Site of Hwy. 223* site where wet weather conveyance determinations had been made by Barge Waggoner Sumner & Cannon. Specifically, we looked at WWC 1, 3 and 4 at the Watson Road site and WWC 2, 3 and 5 at the West Side of Hwy. 223 site. These 6 features were selected based upon the photographic documentation or data sheets that were provided in the hydro-determination submittal for these two sites. No hydro-determination sites were visited at the Jack Lawrence site based upon photographic documentation and the data sheets that were provided in the hydro-determination submittal.

After review of your report and visiting the more questionable sites in the field, I concur with all of the hydro-determinations in all three of the potential industrial tracts. Your report has been uploaded into the Division hydro-determination database and accepted as complete.

Thank you again. If you have any questions let me know.

Sincerely,



Amy Fritz, ES5
Division of Water Resources
Jackson Environmental Field Office



DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT CORPS OF ENGINEERS
167 NORTH MAIN STREET B-202
MEMPHIS, TENNESSEE 38103-1894

June 14, 2016

Mr. Rhett Baggett
Barge Waggoner Sumner & Cannon, Inc.
211 Commerce Street, Suite 600
Nashville, Tennessee 37201

Dear Mr. Baggett:

This is in response to your recent correspondence dated May 29, 2016, in which you requested concurrence with your delineation of three properties (West of Hwy 233 Site, Jack Lawrence Property, and Watson Road Site) located in Madison County, Tennessee, as shown on the enclosed maps. Based on the information submitted to our office, we concur with your delineation. Attached is the preliminary jurisdictional determination (PJD) verifying the presence of stream channels totaling approximately 9,497 linear feet in length and wetlands totaling approximately 34.4 acres which may be considered waters and/or other waters of the United States. If you wish to provide additional information, an approved jurisdictional determination may be requested.

The PJD is included for concurrence. If you agree with this PJD, please sign the form and return it to the address listed above. If the PJD is not returned with 30 days of the date of this letter we will assume your concurrence. A PJD cannot be appealed. If you object to this PJD please see Section I.E. of the attached Notification of the Administrative Appeal Options and Process and Request for Appeal form, on how to proceed or call us for assistance at the number below.

The Memphis District, Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, we invite you to complete a Customer Service Survey found on our web site at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey. Your comments, positive or negative, will not affect any current or future dealing with the Corps of Engineers.

If you have questions, please contact Mitch Elcan at (901) 544-0737 and refer to File No. MVM-2016-171.

Sincerely,

A handwritten signature in blue ink that reads "Tim H. Flinn".

Tim H. Flinn, P.E.
Chief, Eastern Section
Regulatory Branch

Enclosures

4-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

March 19, 2019

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

RE: TVA / Tennessee Valley Authority, Highway 223 Industrial Site Improvements, Madison County, TN

Dear Mr. Jones:

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

Considering the information provided, we concur that no historic properties eligible for listing in the National Register of Historic Places will be affected by this undertaking. If project plans are changed or archaeological remains are discovered during project construction, please contact this office to determine what further action, if any, will be necessary to comply with Section 106 of the National Historic Preservation Act. Questions or comments may be directed to Jennifer Barnett (615) 687-4780.

Your cooperation is appreciated.

Sincerely,

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

EPM/jmb

4-B

Federally Recognized Indian Tribes

May 23, 2019

Ms. Marianne Shuler, Senior Specialist,
Archaeologist and Tribal Liaison
Cultural Compliance
Tennessee Valley Authority
400 West Summit Hill Drive
460 WT 7D-K
Knoxville, TN 37902

Dear Ms. Shuler:

Thank you for the letter about the proposed TVA InvestPrep financial assistance for tree and fence removal, design of a new park entrance and construction of signage at the existing Highway 223 Industrial Park Site in Madison County, Tennessee. We accept the invitation to consult under Section 106 of the National Historic Preservation Act.

The Chickasaw Nation supports the proposed undertaking and is not presently aware of any specific historic properties, including those of traditional religious and cultural significance, in the project area. In the event the agency becomes aware of the need to enforce other statutes we request to be notified under ARPA, AIRFA, NEPA, NAGPRA, NHPA and Professional Standards.

Your efforts to preserve and protect significant historic properties are appreciated. If you have any questions, please contact Ms. Karen Brunso, tribal historic preservation officer, at (580) 272-1106, karen.brunso@chickasaw.net.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa John", with a long horizontal flourish extending to the right.

Lisa John, Secretary
Department of Culture and Humanities

cc: mshuler@tva.gov