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ECONOMIC DEVELOPMENT GRANT PROPOSAL FOR THE W.C. GARDINER INDUSTRIAL PARK

ENVIRONMENTAL ASSESSMENT

Yalobusha County, Mississippi (Water Valley)

EAXX-455-00-000-1737714500

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1.0 PROPOSED ACTION AND NEED

An integral part of the Tennessee Valley Authority's (TVA) mission is to promote economic development within the TVA service area. TVA provides financial assistance to help bring to market new or improved sites and facilities within the TVA service area and positions communities to compete successfully for new jobs and capital investment. TVA proposes to provide an economic development grant through InvestPrep funds to the City of Water Valley to assist with the development of a portion of the W.C. Gardiner Industrial Park (WCGIP) in Yalobusha County, Mississippi. The area of TVA's Proposed Action (herein referred to as the Project Area) encompasses 42.3 acres of disjunct forested areas and open grassy land located adjacent to Highway 7, in Water Valley, Mississippi (Figure 1 below and Attachment 1, Figure 1-A). TVA funds would be matched with non-TVA funds and used for tree clearing, removal or burning of felled trees, grading for a dirt building pad and a sediment basin, new park entrance with signage, new access road and roundabout, and grading for the removal of a farm pond. Following the site improvements, the disturbed areas would be stabilized. These activities, herein referred to as the Proposed Action, are further detailed in Section 3.2 below.

The proposed grant to the City of Water Valley would assist with the above-mentioned site improvements to allow prospects to better envision the development potential of the site. The proposed improvements would lead to an increased probability of achieving TVA's core mission of job creation and capital investment. Multiple developed, industrial, or commercial sites exist within 1 mile north and east of the Project Area, including Valley Tool, Inc., Moorhead Off-Road Engineering, Sayle Propane, Solero Technologies, and Yalobusha General Hospital and Nursing Home. There is also a cleared area with an approximate 200-foot by 200-foot concrete foundation located directly north of the Project Area. Target industries include manufacturers, transportation, logistics, information technology, and healthcare. Pursuant to the National Environmental Policy Act (NEPA) and TVA's implementing regulations 18 Code of Federal Regulations (CFR) 1318, this Environmental Assessment (EA) evaluates the environmental impacts that would potentially result from TVA's Proposed Action. TVA's decision is whether to provide the requested funding to the City of Water Valley.

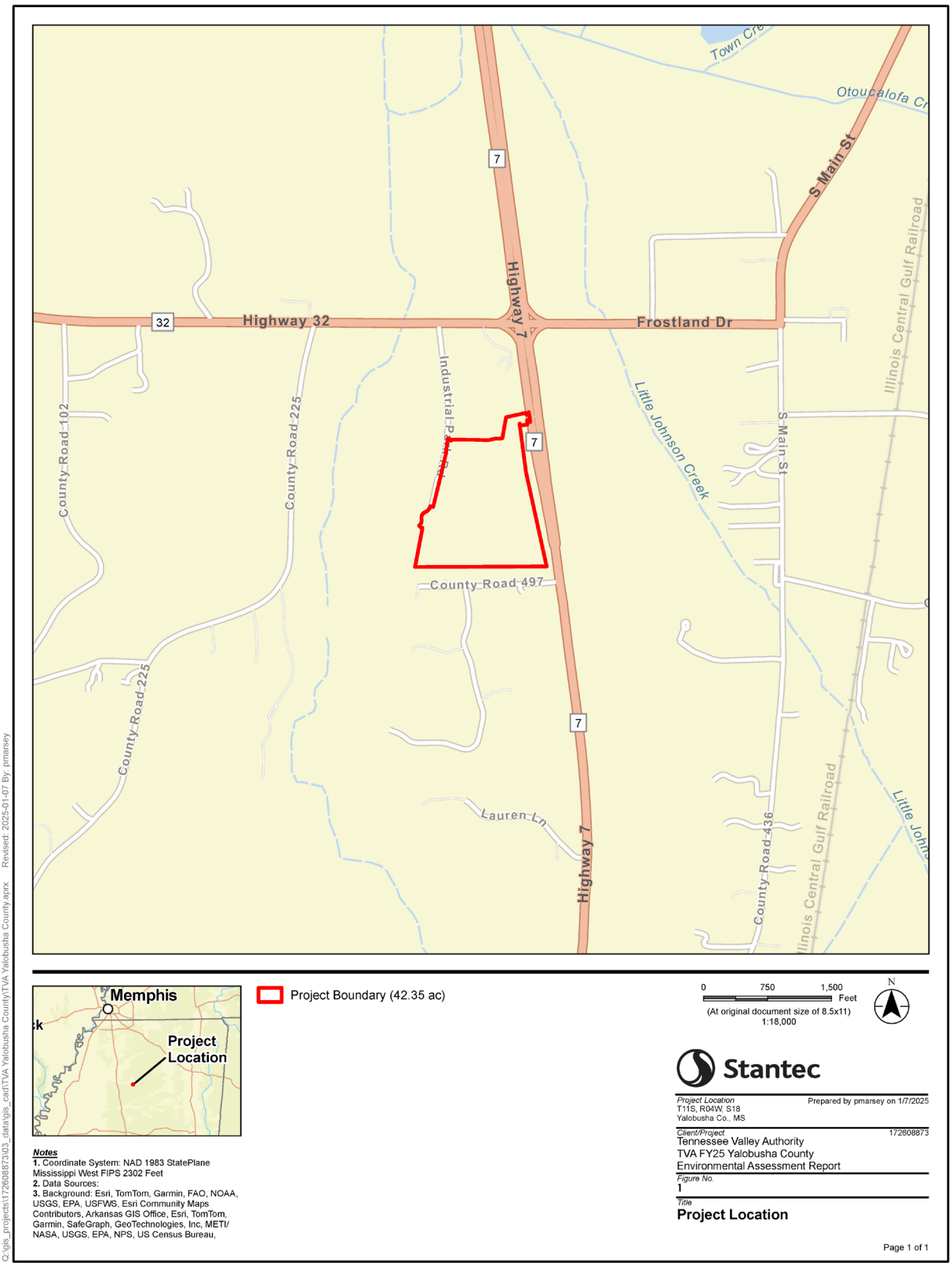

Figure 1. Project Location Map

2.0 OTHER ENVIRONMENTAL REVIEWS AND DOCUMENTATION

In preparation for site development, other studies have been performed by the City of Water Valley at the WCGIP, including the 42.3-acre Project Area. The various studies were performed at different times.

- A Phase I Environmental Site Assessment (Phase I ESA) of the Project Area was performed by Epes Environmental and Consulting, PLLC (E2C) in September 2019 (E2C 2019) on approximately 127 acres of the WCGIP, including the Project Area. The purpose of the Phase I ESA was to identify the presence of recognized environmental conditions (REC), including controlled and historical RECs, or other environmental liabilities within the Project Area.
- An evaluation and field survey for federally threatened or endangered species was performed on 114 acres of the WCGIP, including the Project Area, by Herring Environmental, LLC (HE) in February 2023 (HE 2023a).
- HE also performed a preliminary wetland and waters delineation of 114 acres of the WCGIP, including the Project Area, in February 2023 (HE 2023b). The purpose of the study was to determine whether jurisdictional wetlands or waters existed on the site as regulated by the U.S. Army Corps of Engineers (USACE). The USACE issued a determination regarding the jurisdiction status of the single channel feature located within the Project Area in March 2024 (USACE 2024). The USACE issued an additional determination regarding the jurisdiction status of the single pond located within the Project Area in March 2025 (USACE 2025).
- The University of Alabama Office of Archaeological Research (UA-OAR) performed a cultural resources assessment of the WCGIP, including the Project Area, in March 2023 (UA-OAR 2023).
- The City of Water Valley, Mississippi, prepared an Environmental Review Record for submittal to the Mississippi Development Authority–Community Services Division in September 2024 (City of Water Valley 2024). The submittal was developed in support of obtaining a Community Development Block Grant through the U.S. Department of Housing and Urban Development–Office of Community Planning and Development and the Appalachian Regional Commission to make infrastructure improvements at the Project Area. The document is an environmental review Categorical Exclusion that includes data and information for multiple environmental and human resource areas, including but not limited to those discussed above.
- TVA staff biologists performed field surveys for terrestrial zoology (September 2024) and botany (October 2024) in the Project Area. These surveys also included assessments for the presence of federally or state-listed species and their habitats.

3.0 ALTERNATIVES

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

3.1 The No Action Alternative

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

3.2 The Action Alternative

Under the Action Alternative, TVA would provide InvestPrep funds to the City of Water Valley for site improvements to the Project Area. These improvements with TVA funds would be matched with non-TVA funds and used for clearing 13.7 acres of trees located in the northern and central part of the Project Area. Felled trees would be cut and sold or burned on site. Stumps would be removed and burned on site. The Project Area would be graded to create a 300,000-square-foot (SF) dirt building pad and a sediment basin. Approximately 94,000 cubic yards of cut and fill would be needed, but no borrow from off-site sources would be required. A new park entrance with a box culvert, signage, a 0.38-mile-long paved connector road between Highway 7 and Industrial Park Road, and a roundabout for tractor trailers would also be constructed. The Action Alternative also includes grading related to the draining and removal of a farm pond. Following the site improvements, the disturbed areas would be stabilized with seed and mulch. Activities required for the Action Alternative would occur over approximately 15 months and would require a small workforce that would most likely be assigned from a local contractor. Work activities would not be anticipated at night, but work on weekends is possible. For ease of discussion in this EA, the Proposed Actions are collectively described as grading and/or construction.

The City of Water Valley, or its contractors, would obtain all required permits and authorizations, and in compliance with those permits, take appropriate feasible measures, such as implementing best management practices (BMPs) and best construction practices, to minimize or reduce the potential environmental effects of the Proposed Action to insignificant levels. These practices would include the installation of sediment and erosion controls (silt fences, sediment traps, etc.), management of fugitive dust, and daytime work hours.

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

4.0 AFFECTED ENVIRONMENT AND ANTICIPATED IMPACTS

4.1 Site Description

The 42.3-acre Project Area encompasses the WCGIP in Yalobusha County, Mississippi, with disjunct forested areas and open grassy/pastureland located west of Highway 7 and east of Industrial Park Road, 0.2 mile south of Highway 32, in the City of Water Valley, Mississippi (Attachment 1, Figure 1-A).

The Project Area is situated within a broader area of mixed agriculture (e.g., hay fields), scattered forest, industrial/commercial, light residential, and is zoned as Industrial. Site access is from Industrial Park Road, located immediately west of the Project Area. The land use surrounding the Project Area includes pasture, scattered forest, and an electrical substation to the west, industrial and commercial areas to the north, pasture, scattered forest, and a golf course to the east, and forest and light residential to the south. Permanent utilities located adjacent to the Project Area include a 10-inch water line, an 8-inch sewer line, overhead electric lines including TVA 161-kilovolt (kV) transmission lines, distribution lines, and a substation, and a 4-inch natural gas line.

The Project Area ranges from approximately 305 to 398 feet above mean sea level (msl) (Attachment 1, Figure 1-B). In the past, the Project Area has been used mostly for hay production, but now consists of undeveloped pasture with some forest patches.

4.2 Impacts Evaluated

As stated previously, a Phase I ESA was conducted in the Project Area. The results of the Phase I ESA indicated no evidence of RECs, controlled RECs, or historical RECs (E2C 2019). Based on the Phase I ESA, there is no evidence that the historical use of pesticides/herbicides at the Project Area was conducted outside of standard practices. Therefore, the possible long-term use of agricultural-grade pesticides or herbicides that may persist in the soils at the subject property does not represent a REC. No demolition or construction waste activities would be associated with the Action Alternative.

Based on aerial photography, topographic maps, and the 2010 Yalobusha County, Mississippi, FEMA flood insurance rate maps (FIRMs), the proposed Project would be located outside 100-year floodplains (see Attachment 1, Figure 1-C) and at least ten feet higher than the 100-year flood elevation of an unnamed tributary of Otoucalofa Creek, which is the closest perennial stream. Yalobusha County's flood insurance study is being updated; however, no new FIRMs are proposed. Therefore, the project would not directly or indirectly impact floodplains or flood elevations and would be consistent with Executive Order (EO) 11988, Floodplain Management.

A preliminary map of water and wetland features based on the United States Geological Survey (USGS) National Hydrography Dataset (NHD) and the United States Fish and Wildlife Service (USFWS) National Wetland and Water Inventory (NWI) is provided in Attachment 1, Figure 1-D. As noted above, HE performed a preliminary wetlands and waters delineation of 114 acres of the WCGIP, including the Project Area, in February 2023 (HE 2023b). One non-jurisdictional channel (OWUS-3) and one non-jurisdictional pond (Pond 2) were located within the Project Area (Attachment 1, Figure 1-E). OWUS-3 is an unnamed tributary to Johnson Creek located in the eastern portion of the Project Area, adjacent to Highway 7, that exhibits flow conditions only as a result of a precipitation event. The non-jurisdictional Pond 2, approximately 0.7 acre in size and without a hydrologic connection to jurisdictional waters or wetlands, was located in the central portion

of the Project Area. Pond 2 was potentially constructed for sediment control and/or to provide water for livestock. The USACE issued a determination in March 2024 regarding the jurisdiction status of OWUS-3, which they identified as R6 Ephemeral 1, and stated that there were no jurisdictional waters or wetlands within the portion of the Project Area containing OWUS-3 (USACE 2024). The USACE issued a determination in March 2025 regarding the jurisdiction status of Pond 2 and stated that there were no jurisdictional waters or wetlands within the portion of the Project Area containing Pond 2 (USACE 2025). Therefore, the Proposed Action under the Action Alternative would not be anticipated to result in impacts to jurisdictional surface waters or wetlands and would be consistent with EO 11990. Because the Proposed Action would not affect a perennial flowing surface waterbody, and R6 Ephemeral 1 would flow only as a result of precipitation, there would be no effects on aquatic zoology resources found in stream habitats. There could be limited effects to aquatic zoology resources from the draining and removal of Pond 2.

The Proposed Action would change the Project Area from a mostly open hay field with some trees to a developed lot designed to attract industrial development. The WCGIP is located within an industrial park, currently zoned as Industrial, and is located within an area near industrial, commercial, and residential development, particularly to the north and northeast. Given these conditions, the Proposed Action would not cause a change in land use.

The Proposed Action under the Action Alternative would result in the clearing of some forested land and the development of a paved entrance, roundabout and access road, sediment basin, and a dirt building pad designed for industrial use. The Proposed Action would result in the conversion of six acres of prime farmland, designated as such if protected from flooding or not frequently flooded during the growing season (Attachment 1; Figure 1-F). However, the Project Area is located within designated industrial zoning and is considered exempt from the Farmland Protection Policy Act. Given the existing zoning type, the Proposed Action under the Action Alternative would not have negative impacts on prime farmland.

As noted above, the UA-OAR performed a cultural resources survey of the WCGIP, including the Project Area, in March 2023 (UA-OAR 2023).

Managed areas include lands held in public ownership that are managed by an entity (e.g., TVA, United States Department of Agriculture, United States Forest Service, State of Mississippi) to protect and maintain certain ecological and/or recreational features. Natural areas include ecologically significant sites, federal, state, or local park lands, national or state forests, wilderness areas, scenic areas, wildlife management areas, recreational areas, greenways, trails, Nationwide Rivers Inventory streams, and wild and scenic rivers. Ecologically significant sites are either tracts of privately owned land that are recognized by biologists as having significant environmental resources or identified tracts on TVA lands that are ecologically significant but not specifically managed by TVA's Natural Areas program.

A review of TVA's Natural Heritage Database identified three managed/natural areas within three miles of the proposed Project Area (Table 4-1). None of these areas directly overlap with the proposed Project Area, and no direct impacts from work within this area would be expected.

Table 4-1. Managed or Natural Areas Located within 3 Miles of the Project Area

Natural Area	Acres	County	Miles from Project Area
Fly Mountain State Natural Area	28.2	Yalobusha, Mississippi	3.0
Wildcat Brake Management Area (Dean Hill Wildlife Management Area)	2,341.2	Yalobusha, Mississippi	1.9
Enid Reservoir Reservation	45,156.6	Multiple in Mississippi	0.1

Based on a review of Google Earth aerial imagery and data, five parks or outdoor recreation areas are located three miles from the Project Area, Crawford's Sports Complex (baseball fields) and Water Valley High School (ball fields) are located to the north, Water Valley City Park and Water Valley Railroad Park to the northeast, and Yalobusha Country Club (golf course) to the east. Given the distances between the outdoor recreation areas and the Project Area, and the fact that the Project Area is zoned as Industrial and is located near a commercial area, implementation of the Action Alternative would not result in significant impacts on recreational opportunities near the Project Area.

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

Resources that could potentially be impacted (negatively or positively) by implementing the Action Alternative include air quality and climate change, groundwater, soils, surface water, and aquatic zoology (Pond 2 only for both resources), terrestrial zoology, and botany. Implementation of the Action Alternative could create potential impacts to the human environment, including archaeological resources, historic structures and sites, visual effects, noise, socioeconomics, and transportation issues. Potential impacts to resources and impacts to the human environment resulting from the implementation of the Action Alternative are discussed in detail below.

4.2.1 Air Quality and Climate Change

Federal and state regulations protect ambient air quality. With authority granted by the Clean Air Act (CAA) 42 United States Code (USC) 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 (NO_2), carbon monoxide (CO), ozone, sulfur dioxide (SO_2), lead, particulate matter (PM) with an aerodynamic diameter equal to or less than 10 microns (PM_{10}), and PM with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$). The NAAQS reflects the relationship between pollutant concentrations and health and welfare effects. Primary standards protect human health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards are designed to protect public welfare, including visibility, animals, crops, vegetation, and buildings. These standards reflect the latest scientific knowledge and have an adequate margin of safety intended to address uncertainties and provide a reasonable degree of protection. The air quality in Yalobusha County, Mississippi, is designated as being in attainment with respect to the criteria pollutants (USEPA 2025).

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

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

Air quality impacts associated with activities under the Action Alternative include emissions from fossil fuel-fired equipment and fugitive dust from ground disturbances. Fossil fuel-fired equipment is a source of combustion emissions, including nitrogen oxides (NO_X), CO, volatile organic compounds (VOCs), SO_2, PM_{10}, $PM_{2.5}$, GHGs, and small amounts of HAPs. Gasoline and diesel engines used as a result of the Action Alternative are expected to comply with the USEPA mobile source regulations in 40 CFR Part 85 for on-road engines and 40 CFR Part 89 for non-road engines. These regulations are designed to minimize emissions and require a maximum sulfur content in diesel fuel of 15 parts per million (ppm). Trees would also be cleared as part of the Proposed Action under the Action Alternative, and the burning of trees and stumps is also anticipated onsite. Burning of woody debris produces smoke containing CO, CO_2, PM, NO_2, and VOCs (ORCAA 2024). Smoke inhalation can cause irritation, breathing issues, and respiratory diseases.

Fugitive dust is a source of respirable airborne PM, including PM_{10} and $PM_{2.5}$, which could result from ground disturbances such as land clearing, grading, excavation, and travel on unpaved roads. The amount of dust generated is a function of the activity, silt and moisture content of the soil, wind speed, frequency of precipitation, vehicle traffic, vehicle types, and roadway characteristics. The City of Water Valley, or its contractors, would be expected to comply with the Mississippi Commission on Environmental Quality, 11 Mississippi Administrative Code, Part 2, Chapter 1 (Mississippi Commission on Environmental Quality [MCEQ] 2018), which requires reasonable precautions to prevent PM from becoming airborne. Such reasonable precautions include grading of roads, clearing of land, and the use of water or chemicals for control of dust in construction operations on dirt roads and stockpiles, as needed.

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

Concerning climate change, trees, like other green plants, are carbon sinks that use photosynthesis to convert CO_2 into sugar, cellulose, and other carbon-containing carbohydrates that they use for food and growth. Carbon sequestration is the process by which carbon sinks remove CO_2 from the atmosphere. Although forests do release some CO_2 from natural processes such as decay and respiration, a healthy forest typically stores carbon at a greater rate than it releases carbon. Trees would be cleared as part of the Proposed Action, and since the Project Area is more than half

pastureland, it contributes as a carbon sink. However, on a national or global scale, the Proposed Action of clearing 13.7 acres of trees would have little contribution to climate change.

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

4.2.2 Groundwater

The Project Area is located within the East Gulf Plain Section of the Coastal Plain Province (USGS 2023). The East Gulf Coastal Plain Section extends from Eastern Louisiana and includes parts of Mississippi, Alabama, western Tennessee, western Georgia, and the Florida panhandle. The East Gulf Coastal Plain Section in the vicinity of the project site is characterized by poorly unconsolidated to consolidated clastic sedimentary rocks consisting of sands, clay, limestone, chalk, and marl. (USGS 1995a, USGS 2025a).

In northern Mississippi, the principal aquifers in the Coastal Plain Province consist of sedimentary rocks, sand, and clay that are primarily Eocene, Paleocene, and Upper Cretaceous in age (USGS 2025a). The local aquifer systems underlying the project site include: (in descending order) the Pearl River aquifer, the Black Warrior River confining unit, intersected by the McNairy Sand Member of the McNairy-Nacatoch aquifer, and the Black Warrior River aquifer (USGS 1996). The Pearl River aquifer (Winona-Tallahatta aquifer) is comprised of unconsolidated to poorly consolidated gravel, sand, sandstone, and minor limestone beds (USGS 1996). The Black Warrior River confining unit consists of chalk, shale, and clay. The McNairy Sand Member of the McNairy-Nacatoch aquifer consists of sandy limestone, clay, and glauconitic sand (USGS 2025a). The Black Warrior River aquifer consists of glauconitic quartz sand that is loosely consolidated and fine to medium-grained (USGS 1996). The Pearl River aquifer water quality ranges from 100 milligrams per liter (mg/L) to 400 mg/L for dissolved solids (USGS 1986). Water quality in the McNairy Sand member ranges from 500 mg/L to 2,000 mg/L for dissolved solids concentrations, and the Black Warrior River aquifer contains dissolved solid concentrations of 200 mg/L to 1,000 mg/L (USGS 1995b, USGS 1995c).

Recharge in the Pearl River, McNairy Sand Member and the Black Warrior River aquifers occurs primarily along areas where the aquifer outcrops and groundwater flow is generally from topographic highs and westward in the Pearl River and McNairy Sand member; while flow in the Black Warrior River aquifer migrates down gradient into the confined portions of the aquifer and discharges into rivers that have deeply eroded and exposed the aquifer. (USGS 1995b, USGS 1995c).

Implementation of the Action Alternative would result in ground disturbance during construction activities. Tree clearing and tree and stump burning would result in minor ground disturbance at shallow depths. Site grading and compaction for development of a 300,000-SF dirt building pad, a sediment basin, a new park entrance with box culvert, a 0.38-mile-long paved connector road between Highway 7 and Industrial Park Road, a roundabout for tractor trailers and grading required to remove a farm pond would result in greater ground disturbance at moderate depths. Ground disturbances would not be anticipated at depths that would impact public groundwater

supplies due to the extensive nature of the regional aquifers with thicknesses in the vicinity of 500 feet deep (USGS 1996) or result in significant impacts to groundwater resources.

Shallow aquifers could sustain minor impacts from changes in overland water flow and recharge caused by clearing, grading, and construction of temporary sediment basins and detention basins within the Project Area. Water infiltration, which is normally enhanced by vegetation, would be reduced until vegetation is re-established. In addition, near-surface soil compaction caused by heavy construction vehicles could reduce the ability of soil to absorb water. These minor impacts would be temporary and would not significantly affect groundwater resources.

A Phase 1 ESA was completed onsite by E2C in September 2019, and their findings were provided in the associated report (E2C 2019). The Phase 1 ESA indicated that the Project Area consisted of undeveloped pasture and woodland areas. The report states that the Phase I assessment of the subject property “has not revealed the likely presence of ‘recognized environmental conditions’” and there is no evidence of groundwater contamination (E2C 2019).

Under the No Action Alternative, if the City of Water Valley were able to secure the funding from other sources for the proposed TVA-funded actions described in this EA, similar ground disturbance would occur, resulting in similar impacts to groundwater resources as those described above for the Action Alternative. If the City of Water Valley were not able to secure the funding for the actions described in this EA, ground disturbance would not occur, and there would be no impacts to groundwater resources.

4.2.3 Soils

The Project Area is located in Yalobusha County, Mississippi, within the East Gulf Plain Section of the Coastal Plain Province (USGS 2023). Soil types and descriptions were obtained from the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2024) (see Attachment 1, Figure 1-F). Soil types found within the Project Area include: Oaklimeter silt loam (0 to 2 percent slopes, occasionally flooded, north), Providence silt loam (5 to 8 percent slopes, eroded), Providence silt loam (8 to 15 percent slopes, severely eroded), Smithdale-Providence complex (12 to 25 percent slopes, eroded), and Smithdale-Providence association (8 to 35 percent slopes). The Project Area also included prime farmland (if protected by flooding or not frequently flooded during the growing season), farmland of statewide importance, and not prime farmland.

Under the Action Alternative, soils in the Project Area would be disturbed by tree clearing, tree and stump burning, widespread grading of a 300,000-SF dirt building pad, construction of a 0.38 -mile paved connector road between Highway 7 and Industrial Park Road, a roundabout for tractor trailers, a new park entrance with a box culvert, construction of a sediment basin, grading required to remove a farm pond and site stabilization. The Proposed Action includes the stabilization of disturbed soils following grading as described in Section 3.2. Further, BMPs would be required as part of the National Pollutant and Discharge Elimination System (NPDES) General Permit for Discharges Associated with Construction Activities (MSR10). This permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP would identify specific BMPs to address construction-related activities that would be adopted to minimize erosion-related impacts. BMPs, as described in the Mississippi Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas Volume 1 Erosion and Sediment Control Handbook (MDEQ 2011), would be used during site development to avoid contamination of surface water in the Project Area. These factors would effectively avoid or minimize impacts on soils and from soil erosion.

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

4.2.4 Surface Water

Otoucalofa Creek is the closest perennial stream to the Project Area. The Project Area is located within the 8-digit hydrologic unit code (HUC) watershed 08030203 (USGS 2025b). As noted in Section 4.2, two features, a non-jurisdictional, ephemeral channel and a pond (Figure 1-E), are located in the Project Area (HE 2023b). OWUS-3 is a non-jurisdictional unnamed tributary to Johnson Creek located in the eastern portion of the Project Area adjacent to Highway 7 that exhibits flow conditions only as a result of a precipitation event (i.e., an ephemeral feature). Pond 2, approximately 0.7 acre in size, is a non-jurisdictional open-water pond without a hydrologic connection to jurisdictional waters or wetlands located in the central portion of the Project Area. Pond 2 was potentially constructed for sediment control and/or to provide water for livestock. Precipitation for Yalobusha County, Mississippi, averages 57.7 inches annually (USClimateData.com 2025).

Under the Action Alternative, the non-jurisdictional OWUS-3 would be subjected to tree clearing and grading, and Pond 2 would be graded, drained, and removed as discussed in Section 4.2.3. Actions within OWUS-3 would not result in impacts to surface water resources since it is an ephemeral, non-jurisdictional feature. Impacts to Pond 2 would not be significant given its non-jurisdictional status. As noted in Section 4.2, the USACE determined that Pond 2 is non-jurisdictional, and the City of Water Valley would not need to complete any required Clean Water Act (CWA) Sections 401 and 404 permitting prior to implementing the Proposed Action. Completion of permitting, if required, would reduce impacts on Pond 2 to less than significant. BMPs would be required as part of the NPDES General Permit for Discharges Associated with Construction Activities (MSR10), including a SWPPP. The BMPs used during site development would act to avoid runoff and potential contamination of surface water adjacent to the Project Area. Given these factors, impacts on surface water would not be significant, and the Proposed Action would be consistent with the CWA Sections 401 and 404.

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

4.2.5 Aquatic Zoology

As noted in Section 4.2 and Section 4.2.4, no perennial stream habitat occurs within the Project Area, and no wetlands were identified. Pond 2 is located within the Project Area. Generalist fish species such as mosquitofish (*Gambusia affinis*), sunfish (*Lepomis* spp.), and amphibians could potentially occur in the pond.

The Action Alternative would involve draining and removing Pond 2. Although impacts to individual fish and aquatic life would be possible, given the species likely to occur, population-level impacts would not be significant. The species potentially present are widely distributed and abundant in adjacent and regional ponds.

Under the No Action Alternative, if the City of Water Valley were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, resulting in similar impacts on aquatic fauna as those described above for the Action Alternative. If the City of Water Valley were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on aquatic fauna.

4.2.5.1 Threatened and Endangered Species (Aquatic Species)

TVA biologists queried the Natural Heritage Database for rare, threatened, and endangered aquatic species on September 5, 2024. Two aquatic species, the Yoknapatawpha darter (*Etheostoma faulkneri*) and rayed creekshell mussel (*Strophitus radiatus*), state-listed as critically imperiled and imperiled, respectively, are found within the Project Area's HUC. Neither species is federally listed. Both species require flowing water streams (Conservation Fisheries.org 2025; NatureServe.org 2025). The Action Alternative would have no effect on these two species as no suitable habitat for them exists within the Project Area.

Under the No Action Alternative, if the City of Water Valley were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, also resulting in no impacts to rare, threatened, and endangered aquatic fauna. If the City of Water Valley were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on rare, threatened, and endangered aquatic fauna.

4.2.6 Terrestrial Zoology

4.2.6.1 Wildlife

The Project Area consists of approximately 42.3 acres, primarily composed of a maintained lawn with some herbaceous vegetation along the edge habitat and within a powerline right-of-way. Secondary-growth forested fragments are distributed throughout the property, some containing mixed hardwood forests, and others comprised primarily of pine. A small pond is located within one of the forested fragments. Features surrounding the Project Area consist of pasture, cropland, and a small, developed area. A field survey of the Project Area was conducted on September 30, 2024, by TVA terrestrial zoologists.

Early successional, herbaceous habitat (i.e., maintained lawns and herbaceous edge) comprises the majority of the Project Area. Common avian inhabitants of early-successional habitat include American robin, northern cardinal, brown-headed cowbird, common grackle, eastern bluebird, red-tailed hawk, American crow, and field sparrow, among others (National Geographic 2002). Mammalian species likely present in this habitat include eastern cottontail, hispid cotton rat, red fox, striped skunk, and white-tailed deer (Whitaker 1996). Early-successional areas also provide habitat for additional common species, such as nine-banded armadillo and eastern raccoon, which were observed during the field survey of the property. Common amphibian and reptile species in this habitat include Fowler's toad, upland chorus frog, and North American racer

(Powell et al. 2016). Where this habitat is bordered by forested areas, a more diverse array of common wildlife species can be found using edge habitat.

Approximately 21.7 acres of the Project Area are forested. The large, forested parcel in the north central region of the Project Area contains primarily regenerating pine with a thick understory and some interspersed hardwood species. Common amphibian and reptile species in this habitat include eastern copperhead, corn snake, and green tree frog (Powell et al. 2016). Common avian species that utilize this habitat include pine warblers, summer tanagers, and chipping sparrows (National Geographic 2002). Mammalian species that are known to utilize this habitat include coyote, gray fox, and eastern raccoon (Whitaker 1996).

The other forested areas are considered secondary-growth deciduous forest. Birds typical of this habitat include blue-gray gnatcatcher, common yellowthroat, downy woodpecker, red-bellied woodpecker, red-eyed vireo, red-tailed hawk, wild turkey, wood thrush, and yellow-rumped warbler (National Geographic 2002). Common amphibian and reptile inhabitants in deciduous forests include spotted salamander, little brown skink, and gray rat snake (Powell et al. 2016). Many previously mentioned listed mammalian species will utilize deciduous habitat in addition to herbaceous habitat and regenerating pine. Some additional species include woodland vole, southern flying squirrel, and numerous bat species, such as the eastern red bat (Whitaker 1996).

Red imported fire ant colonies were observed across the Project Area. This species is an exotic, invasive species that was accidentally introduced into the United States and has infested up to 367 million acres. They feed on crops such as sorghum and corn, and their large nests interfere with agricultural operations (USDA APHIS 2024).

A review of the TVA Regional Natural Heritage Database on September 6, 2024, resulted in zero known caves within three miles of the Project Area. This same review did not find any records of heronries or other aggregations of migratory birds within three miles of the Project Area. A review of the USFWS Information for Planning and Consultation (IPaC) tool on September 6, 2024, identified zero migratory bird species of conservation concern as potentially occurring in the Project Area.

Under the Action Alternative, proposed activities would result in the displacement of wildlife (primarily common, habituated species) currently using the area. Direct effects to some individuals may occur if those individuals are immobile during the time of habitat removal. This could be the case if activities took place during breeding/nesting/hibernation seasons. Habitat removal likely would disperse mobile wildlife into surrounding areas, potentially in search of new food sources, shelter, or to reestablish territories. However, the actions would not be likely to affect populations of species common to the area, as the amount of habitat to be removed is relatively small, of lower quality, and similar herbaceous habitats and forested fragments exist in the surrounding landscape.

Imported fire ants have an impact on agriculture and natural resources by damaging crops, agricultural equipment, and impacting wildlife. The United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) works to prevent the human-caused spread of this pest by enforcing Federal Quarantine and works with state cooperators to regulate high-risk commodities, such as nursery stock, hay, and soil-moving equipment. Yalobusha County, Mississippi, is currently under APHIS quarantine. As such, any soil, baled hay or straw, plants and sod with roots and soil attached, soil-moving equipment, or other "Regulated Articles" as defined by USDA should comply with APHIS Quarantine Regulations (USDA APHIS 2019).

A review of the TVA Natural Heritage Database did not result in records of known wading bird colonies or caves within 3 miles of the Project Area. No caves were observed during the field survey of the Project Area. Based on the distance to documented caves, the Proposed Action is unlikely to affect unique or important karst habitat. A review of the USFWS' IPaC tool in September 2024 identified zero migratory bird species of conservation concern that have the potential to occur within the Project Area. Due to the relatively small size of the proposed tree removal area and the availability of similarly suitable habitat in adjacent areas, the Proposed Action would not be expected to impact populations of migratory birds.

Under the No Action Alternative, if the City of Water Valley were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, also resulting in no significant impacts on wildlife and their habitats. If the City of Water Valley were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on wildlife and their habitats.

4.2.6.2 Threatened and Endangered Species (Wildlife)

A review of terrestrial animal species in the TVA Regional Heritage Database on September 6, 2024, resulted in one species of state conservation concern (southeastern bat) within three miles of the Project Area. The USFWS' IPaC tool determined that three species proposed for federal listing (Alligator snapping turtle, tricolored bat, and monarch butterfly) have the potential to occur in the Project Area (Table 4-2). Habitat suitability and potential impacts to these species are addressed below.

Table 4-2. Federally Listed Terrestrial Animal Species Reported from Yalobusha County, Mississippi, and Other Species of Conservation Concern Documented Within 3 Miles of the WCGIP[1]

Common Name	Scientific Name	Status	
		Federal	State (Rank)
Invertebrates			
Monarch butterfly[2]	*Danaus plexippus*	PT	-(SNR)
Mammals			
Southeastern bat	*Myotis austroriparius*	-	-(S3S4)
Tricolored bat[3]	*Perimyotis subflavus*	PE	-(S3S4)
Reptiles			
Alligator snapping turtle[3]	*Macrochelys temminckii*	PT	-(S3)

[1] Source: TVA Regional Natural Heritage Database and USFWS Ecological Conservation Online System (http://ecos.fws.gov/ecos/home.action) extracted September 6, 2024.

[2] Species proposed for listing under the Endangered Species Act. Historically this species has not been tracked by state or federal heritage programs.

[3] Federally listed or protected species that has not been documented within 3 miles of the Project Area or within Yalobusha County, Mississippi; USFWS has determined this species has the potential to occur within the Project Area.

KEY:
PE = Proposed Endangered
PT = Proposed Threatened.
S3 = Vulnerable
S4 = Apparently Secure
SNR = Not ranked in Mississippi.

Monarch butterfly is a highly migratory species, with eastern United States (U.S.) populations overwintering in Mexico. Monarch populations typically return to the eastern U.S. in April (Davis and Howard 2005). Summer breeding habitat requires milkweed species, on which adults exclusively lay eggs and where larvae develop and feed. Adults will drink nectar from other blooming wildflowers when milkweeds are not in bloom (NatureServe 2023). Though this species has not been historically tracked by state or federal heritage programs, the USFWS IPaC tool determined that this species could occur within the Project Area. Though some flowering plants may occur in the field, significant breeding or foraging habitat is not present within the Project Area. Monarch butterflies were not observed during the field survey of the Project Area in September 2024.

Southeastern bats are a species typically associated with water, where they forage low at the water's surface. They are known to roost in hollow trees, buildings, and caves. Maternity colonies that utilize caves can contain thousands of individuals. In the fall, individuals leave maternity colonies to roost in smaller numbers in different caves or outdoor sites (Harvey et al. 2011). There are no known caves within three miles of the Project Area. No buildings or large hollow trees suitable for roosting bats would be removed as part of this project. Aquatic foraging habitat is present over the pond on the property, which would be removed by the Proposed Action. The nearest record of this species is from a culvert, approximately 1.5 miles away.

Tricolored bats have been proposed for federal listing and are generally solitary or found in small groups. This species has not been recorded within Yalobusha County, but USFWS has determined they may occur within the Project Area. They are associated with forested landscapes where they forage near trees and along waterways, especially riparian areas. Maternity and other summer roosts are typically in clumps of dead or live tree foliage or tree cavities. Caves, mines, culverts, and rock crevices may be used as night roosts and winter hibernacula (McCoshum et al. 2023). There are no known caves within three miles of the Project Area. No other winter roosting habitat was observed near the project footprint by TVA terrestrial zoologists during a site visit in September 2024. The wooded areas where tree removal is proposed were assessed for potential summer roosting and foraging habitat for tricolored bat following the 2024 Range Wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2024). Suitable summer roosting areas were comprised of mixed-deciduous hardwood patches dominated by a mixture of white oak, red oak, water oak, sweet gum, and red maple. Within the proposed Project Area, approximately 3.64 acres of habitat are considered suitable summer roosting habitat for tricolored bat. Aquatic foraging habitat is present over the above-mentioned pond on the property.

Alligator snapping turtles are large freshwater turtles that are confined to river systems that flow into the Gulf of America, formerly known as the Gulf of Mexico and renamed by EO 14172. This species is typically associated with deep water of large rivers where they feed on fish and other small invertebrates and vertebrates that they can scavenge. These turtles can also be found in small streams, floodplain swamps, and oxbow lakes associated with large rivers. This species has not been recorded within Yalobusha County, but USFWS has determined they may occur within the Project Area. Only females and juveniles spend time inland as they move from nest to water. Females are more generalists when it comes to nest site selection; however, they appear to prefer some canopy cover. Nest sites are typically found between 8 and 72 feet from water, but have also been found more than 500 feet away. Nesting occurs from May to July, and hatchlings emerge about 100-150 days later, depending on temperature (USFWS 2021). Nesting habitat for Alligator snapping turtle does not exist in the Project Area.

Under the Action Alternative, TVA would utilize InvestPrep funding matched with non-TVA funding to assist with tree clearing, grubbing, rough grading of a 300,000-SF building pad, a truck roundabout, a new park entrance and signage, and a paved connector road at the WCGIP. The Proposed Action's potential impacts on individual listed species are discussed below.

Monarch butterfly foraging habitat may exist along field edges that have not been mowed. Grading would impact monarch butterfly foraging habitat should it occur in the Project Area. However, these impacts would be expected to be minor due to the small quantity of habitat potentially present. Significant impacts to the monarch butterfly would not be anticipated as a result of this project. The Proposed Action would not jeopardize the continued existence of this species.

No caves or other hibernacula for southeastern bat or tricolored bat exist in the project footprint or would be impacted by the Proposed Action. Approximately 3.64 acres of suitable summer roosting habitat for tricolored bat are proposed for removal as part of proposed activities. Tree removal is currently scheduled to take place during the months of April and May. Yalobusha County, Mississippi, occurs within the range of hibernating tricolored bats. For this population, May 15–July 31 is considered pup season when newly born bat pups cannot yet fly (USFWS 2024). Direct effects could occur to individuals if they are present within the Project Area at the time tree removal occurs. Individuals roosting within the Project Area outside of pup season are expected to be mobile and able to flush to nearby suitable habitat if disturbed. As such, TVA recommends removing suitable habitat outside of pup season to avoid direct impacts to tricolored bat.

The Proposed Action would not jeopardize the continued existence of tricolored bats, and effects would be minor. The Proposed Action would have no effect on southeastern bat.

Suitable nesting habitat for the Alligator snapping turtle is not available within the Project Area, and the Proposed Action would not jeopardize the continued existence of the Alligator snapping turtle and there would be no effects.

Under the No Action Alternative, if the City of Water Valley were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, also resulting in no significant impacts to threatened and endangered wildlife and their habitats. If the City of Water Valley were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on threatened and endangered wildlife and their habitats.

4.2.7 Botany

4.2.7.1 Vegetation

The Project Area occurs in the Northern Hilly Gulf Coastal Plain Level IV ecoregion (Griffith et al. 1998), which is characterized as mostly tree-covered. These irregular plains have a mosaic of cropland, pasture, woodland, and forest land cover with large hills extending down from Kentucky and Tennessee into Mississippi. Land cover is a mixture of cropland, mixed forest, pasture, and some pine plantations, and land use is rural residential, urban, and industrial.

Field surveys were conducted in October 2024 by TVA botanists to document plant communities, infestations of invasive plants, and to search for possible threatened and endangered plant species. Using the National Vegetation Classification System (Grossman et al. 1998), vegetation types observed during field surveys can be classified as primarily mixed evergreen and herbaceous vegetation. No forested areas in the Project Area had structural characteristics

indicative of old-growth forest stands (Leverett 1996). The plant communities observed on site are common and well represented throughout the region. Vegetation in the Project Area is characterized by two main types: herbaceous (68 percent) and forested (32 percent).

Mixed evergreen-deciduous forest, defined as stands in which both evergreen and deciduous species contribute between 25 and 75 percent of total canopy cover, occurs on about 32 percent of the Project Area. In general, these forest types are comprised of loblolly and white pine, sweetgum, white oak, southern red oak, white mulberry, post oak, and willow oak.

Herbaceous vegetation is characterized by having greater than 75 percent cover of forbs and grasses and less than 25 percent cover of other types of vegetation and occurs on about 68 percent of the proposed Project Area. Most of this habitat type occurs along roadsides or as cropland, hayfields, recent clear-cuts, and heavily manipulated pastures. Most of these sites are dominated by plants indicative of early-successional habitats, including many non-native species. Early-successional areas with naturalized vegetation contain herbaceous species like American pokeweed, annual ragweed, blue mistflower, broomsedge, bristle thistle, bushy golden top, common elephant's-foot, giant goldenrod, giant ragweed, late boneset, little bluestem, and meadow-grass.

EO 13112 directed TVA and other federal agencies to prevent the introduction of invasive species (both plants and animals), control their populations, restore invaded ecosystems, and take other related actions. EO 13751 amends EO 13112 and directs actions by federal agencies to continue coordinated federal prevention and control efforts related to invasive species. This EO incorporates considerations of human and environmental health, climate change, technological innovation, and other emerging priorities into federal efforts to address invasive species and strengthens coordinated, cost-efficient federal action. Some invasive plants have been introduced accidentally, but most were brought here as ornamentals or for livestock forage. Because these robust plants arrived without their natural predators (insects and diseases), their populations spread quickly across the landscape, displacing native species and degrading ecological communities or ecosystem processes (Miller 2010). No federally identified noxious weeds were observed, but many non-native invasive plant species were observed throughout the proposed Project Area. Invasive species present across significant portions of the landscape include Amur honeysuckle, Callery pear, Chinese privet, Japanese honeysuckle, Japanese stiltgrass, Johnson grass, sericea lespedeza, tall fescue, and wild garlic. During field surveys, invasive plants were prevalent in sections of herbaceous vegetation types.

Adoption of the Action Alternative would not significantly affect the terrestrial ecology of the region. Converting forest land as part of the Proposed Action would be long-term in duration, but insignificant. Adoption of this alternative would require clearing of approximately 13.7 acres, most of which is mixed evergreen-deciduous forest. Virtually all forests in the proposed Project Area have been previously cleared, and the plant communities found there are common and well represented throughout the region. Cumulatively, project-related effects to forest resources would be negligible when compared to the total amount of forest land occurring in the region. Also, project-related work would temporarily affect herbaceous plant communities, but these areas would likely recover to their pre-project condition in less than one year.

Nearly the entire Project Area currently has a substantial component of invasive terrestrial plants, and adoption of the Action Alternative would not significantly affect the extent or abundance of these species at the county, regional, or state level. The use of standard operating procedure of

vegetating with noninvasive species would serve to minimize the potential introduction and spread of invasive species in the proposed Project Area.

Under the No Action Alternative, if the City of Water Valley were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, also resulting in no significant impacts on vegetation. If the City of Water Valley were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on vegetation.

4.2.7.2 Threatened and Endangered Species

A review of the TVA Natural Heritage Database indicates that no state and no federally listed plant species have been previously reported within a 5-mile vicinity of the proposed Project Area. No federally listed plant species have been previously reported from Yalobusha County, Mississippi. No state or federally listed plants were observed in the proposed Project Area during the field survey performed by TVA botanists. No designated critical habitat for plants occurs in the proposed Project Area.

Adoption of the Action Alternative would not impact federal- or state-listed plant species. Adoption of the Action Alternative would have no effect on federal plant species because no federally listed plant species occur in the Project Area. Also, no populations of state-listed species were observed during field surveys of the Project Area. Therefore, no direct, indirect, or reasonably foreseeable impacts on endangered and threatened plant species and their critical habitats would be anticipated as a result of implementing the Action Alternative.

Under the No Action Alternative, if the City of Water Valley were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar site activities would occur, also resulting in no significant impacts on threatened and endangered wildlife and their habitats because no federally listed plants or designated critical habitat occurs in the Project Area. If the City of Water Valley were not able to secure the funding for the actions described in this EA, disturbance associated with the Proposed Action would not occur, and there would be no impacts on threatened and endangered wildlife and their habitats.

4.2.8 Cultural Resources

As noted above, the UA-OAR performed a cultural resources survey of the WCGIP, including the Project Area, in March 2023 (UA-OAR 2023). The area was examined by a pedestrian survey, and 167 shovel tests were performed. No cultural resources material was encountered, and UA-OAR stated that there were no archaeological sites or historic standing structures. The UA-OAR concluded that the proposed economic development at the site would not affect any historic resources.

Given that there are no known historic structures within the project footprint and that the proposed Project does not involve the construction of above-ground resources, no historic architectural resources would be impacted by the project, directly or visually. Therefore, a Phase I historic structures survey was not required, and impacts to historic structures and sites are not anticipated.

The Mississippi Department of Archives and History (MDAH) confirmed receipt of the UA-OAR cultural resources assessment for a review in accordance with Section 106 of the National Historic Preservation Act (NHPA) in August 2024 (MDAH 2024a). TVA invited MDAH to review the assessment and TVA's findings that no historic properties would be affected by the proposed Project in September 2024 (TVA 2024). MDAH provided a concurrence letter in October 2024 stating that

no cultural resources eligible for listing in the National Register of Historic Places (NRHP) would be affected (MDAH 2024b; Attachment 2). TVA also consulted with all federally recognized Tribes that have an interest in Yalobusha County in September 2024. The consulting Tribes reviewed the project and UA-OAR assessment and provided no objections to the proposed undertaking.

4.2.9 Visual Resources

The Project Area is 42.3 acres, consisting mainly of agricultural land with some forested areas. The Project Area is bordered by developed areas and commercial facilities to the north, Industrial Park Road to the west, light residential, trees, and McCormick Road to the south, and Highway 7 to the east. Regarding the somewhat broader vicinity near the Project Area, there are commercial developments to the north and northeast, more of the undeveloped industrial park (outside the Project Area) to the west, an electrical substation in the southwest, light residential area and forested areas to the south, forest and a golf course to the southeast, and mostly forested areas with some pasture to the east. The visual landscape setting adjacent to the Project Area consists of a rural, mostly open area with some forested areas surrounding the perimeter and dense tree lines acting as a visual border to the east and south of the Project Area.

The residential homes to the south have some screening from a row of trees with varying home locations of 15 to 90 feet from the Project Area, and these trees would not be subject to clearing as part of the Proposed Action. The commercial developments directly north of the Project Area vary between 320 and 960 feet away, and these trees may be cleared as part of the Proposed Action, but no visual impacts would be anticipated since these areas are already cleared and have commercial purposes. Motorists along Highway 7 to the east and the golf course to the southeast of the Project Area would have substantial visual screening from intervening extensive, forested areas.

Adoption of the Action Alternative would result in construction vehicles and equipment being visible during construction activities and would have a minor visual impact over the temporary construction period, as well as a minor permanent impact due to rough grading. Drivers along Industrial Park Road would view construction activity, although the activity would not be inconsistent with an industrial park and its development. Drivers along Highway 7 may have very limited views of the Project Area; however, there would be substantial screening by trees and there are other industrial/commercial areas along the roadway immediately adjacent to the Project Area to the north, and any changes to the views would be similar to other areas along the road. While motorists using the roads may notice a change in the viewshed, this change would be minor given the brief period that drivers would be in the area. Implementation of the Action Alternative would result in a minor decrease in visual quality for residents in the viewshed.

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

4.2.10 Noise

Existing ambient noise levels, or background noise levels, are the current sounds from natural and artificial sources at receptors. The magnitude and frequency of background noise at any given location may vary considerably over the course of a day or night and throughout the year. The

variations are caused in part by weather conditions, seasonal vegetative cover, and human activity. Existing sources of noise in the vicinity of the Project Area are primarily associated with traffic along the surrounding roads and the surrounding businesses and residences.

Noise impacts associated with construction activities under the Action Alternative would be primarily from the heavy equipment used. Construction activities would likely involve the operation of an excavator, bulldozer, dump truck, or similar vehicles, and heavy machinery over the temporary duration of construction. Heavy equipment noise levels would fluctuate depending on the number and type of vehicles and equipment in use at any given time. The Action Alternative would be implemented over 15 months, during which construction-related noise may be generated. In addition, construction-related sound levels experienced by a noise-sensitive receptor in the vicinity of construction activity would be a function of distance, other noise sources, and the presence and extent of vegetation, structures, and intervening topography between the noise source and receptor. It is anticipated that sound levels would not exceed 85 decibels at the Project Area boundary per Occupational Safety and Health Administration standards.

Primary sensitive noise receptors in the area include three single-family homes to the south, businesses directly north (Seven Oaks Funeral Home, Moorhead Off-Road Engineering, and Valley Tool), businesses to the northeast (Sayle Propane, Shell Gas Station) and a business to the southeast (Yalobusha Country Club) of the Project Area.

Adoption of the Action Alternative would result in localized and temporary noise, and no receptor would be exposed to significant noise levels for an extended period of time. Further, construction activities would be anticipated to be conducted during daylight hours when ambient noise levels would be often higher, and most individuals are less sensitive to noise. Industrial and commercial facilities adjacent to busy roads and highways are accustomed to noise. The three single-family homes, located between 15 and 90 feet south of the Project Area, could be subjected to construction noise, but the work would be anticipated to be during daylight hours and temporary. The Yalobusha Country Club, located 965 feet southeast of the Project Area, would be screened from noise by a large, dense forested area, thereby reducing potential noise impacts. Overall, noise-related impacts resulting from the implementation of the Action Alternative would be anticipated to be temporary and minor.

If the City of Water Valley were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, there would be impacts to noise receptors similar to those described above for the Action Alternative. If the City of Water Valley were not able to secure the funding for the actions described in this EA, the proposed disturbances would not occur and existing site conditions would likely be unchanged, resulting in no impacts to noise receptors.

4.2.11 Socioeconomics

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

This analysis focuses on the state, county, and locality within which the Action Alternative would occur. Publicly available statistics generated by the United States Census Bureau and the United States Bureau of Labor Statistics were used to characterize socioeconomic conditions in the host state (Mississippi), county (Yalobusha), and locality (City of Water Valley, Mississippi) (Table 4-3). Details of the Action Alternative were then used to evaluate likely effects on existing

socioeconomic resources. The demographics and income of the host county and locality were considered, relative to the demographics and wealth levels at the state level, to identify the potential for impacts on minority and low-income populations.

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

	Mississippi	Yalobusha County	City of Water Valley, Mississippi
Population [1]			
July 2023 Population	2,951,438	12,439	3,380
April 2021 Population	2,967,023	12,586	3,343
Population, Percent Change	-1%	-1%	1%
Population per Square Mile [2]	62.6	26.6	482.2
Demographics [1]			
White Alone, not Hispanic or Latino	1,636,190	7,173	1,515
Black or African American Alone	1,088,106	4,556	1,745
American Indian and Alaska Native Alone	10,332	55	0
Asian Alone	28,472	18	0
Native Hawaiian and Other Pacific Islanders Alone	1,175	0	0
Some Other Race Alone	9,507	0	0
Two or More Races	71,530	435	51
Hispanic or Latino (of any race)	106,126	202	69
Income [1]			
Median Household Income ($)	$54,915	$49,171	$47,167
Per Capita Income ($)	$30,529	$19,469	$23,936
Percent with Income Below the Poverty Level	19.24%	22.69%	23.33%
Employment (Not Seasonally Adjusted): July 2023 [3]			
Labor Force	1,243,011	4,783	N/A
Employed	1,206,527	4,626	N/A
Unemployed	36,484	157	N/A
Unemployment Rate (%)	2.9	3.0	N/A

[1] Source: United States Census Bureau (2025)
[2] Source: United States Census Reporter (2025)
[3] Source: United States Bureau of Labor Statistics (2025)

Key: N/A = Not available

The evaluation of low-income and minority populations in Yalobusha County determined the following:

- Relative to the average Mississippi resident, the residents of Yalobusha County live at a lower population density and the same (negative) population growth. Relative to the average Mississippi resident, the residents of the City of Water Valley, Mississippi, live at a higher population density but have slightly positive population growth.
- Relative to the average Mississippi resident (45 percent), the residents of Yalobusha County (42 percent) are less likely to self-identify as a minority race or ethnicity. Relative to the average Mississippi resident, the residents of City of Water Valley, Mississippi, are more likely (55 percent) to self-identify as a minority race or ethnicity.

- Per capita income and median household income are both lower in Yalobusha County than in Mississippi. Per capita income and median household income are both lower in the City of Water Valley, Mississippi, than in Mississippi as a whole. Residents of Yalobusha County are more likely to live below the poverty level than residents of Mississippi as a whole. Residents of the City of Water Valley, Mississippi, are more likely to live below the poverty level than residents of Mississippi as a whole.
- The unemployment rate in Yalobusha County is higher than the unemployment rate in Mississippi.

There are no residential subdivisions within 0.5 mile of the Project Area; however, there are approximately 10 residential homes within a 0.5-mile radius. The U.S. Census Bureau identified the following demographic characteristics for this area. Relative to the state, these neighborhoods in aggregate have a lower percentile population of color, a lower level of low-income population, a lower rate of linguistic isolation, and a lower level of population with less than a high school education.

As described in Section 1.0 (Proposed Action and Need), the Action Alternative would include tree clearing, tree and stump burning, widespread grading of a 300,000-SF dirt building pad, construction of an access road and entrance/signage, roundabout, construction of a sediment basin, draining and removal of a pond, and site stabilization. Erosion prevention, sediment control, and stabilization measures would be implemented after grading is complete.

This effort is expected to take place over a 15-month period and would require a small workforce, likely drawn from a local contractor. Implementation of the Action Alternative is not anticipated to materially impact the local economy or the local workforce. In addition, no negative socioeconomic impacts would be anticipated from the Proposed Action; therefore, no negative impacts would be anticipated to minority or low-income populations as a result of the Action Alternative. Minor positive indirect impacts may be noted through the increase in employment as a result of the Action Alternative.

There is minimal potential that the Action Alternative would result in negative impacts on minority and low-income populations. This conclusion is based on two observations. First, the Action Alternative would have a minor positive effect on the local economy. Second, as described throughout this document, environmental effects associated with the Action Alternative would be minor, temporary, and would generally be constrained to the 42.3-acre Project Area.

Under the No Action Alternative, if the City of Water Valley was able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, similar activities would occur, resulting in socioeconomic impacts similar to those described in the preceding paragraphs. If the City of Water Valley was not able to secure the funding for the actions described in this EA, economic activity and socioeconomic changes would not occur.

4.2.12 Transportation

The Project Area would be accessed during construction activities from Industrial Park Road or, later, possibly from Highway 7 during construction. The site entrances would be located on the west and east sides of the Project Area. Industrial Park Road runs along the western portion of the Project Area and connects to Highway 32 to the north. Highway 7 runs approximately north to south and also provides access to Highway 32 to the north.

Industrial Park Road is a local road extending approximately 0.6 mile, running along the western boundary of the Project Area, and ending at an electrical substation. Industrial Park Road provides access to four commercial properties and rural land. Based on the preliminary review of Google Street View images (recorded August 2024), the road is in good condition with wide turning access and wide vegetated verges at the entrance from Highway 32. The site entrance location and configuration should consider safe sight distances and other safety concerns for the traffic that would enter Highway 32 from the property. Necessary precautions would be taken during mobilization and demobilization, such as reduced speed in areas of poor visibility or poor road condition, with other precautions such as a flagman or traffic control to be considered if required.

Highway 7 is a state highway that provides access to multiple agricultural and rural properties to the north and south of the Project Area. Highway 7 is a four-lane paved highway at the proposed Project entrance. Based on a preliminary review of Google Street View images (recorded August 2024), the road is in good condition with a vegetated median, dedicated turning lane, and wide vegetated verges at the project entrance. Highway 7 is listed as an Other Freeways and Expressways on the Functional Classification System by the Mississippi Department of Transportation (MDOT) (MDOT 2025a). The site entrance location and configuration should consider safe sight distances and other safety concerns for the traffic that would enter Highway 7 from the property. Necessary precautions would be taken during mobilization and demobilization, such as reduced speed in areas of poor visibility or poor road condition, with other precautions such as a flagman or traffic control to be considered if required.

Highway 32 is a two-lane paved highway with dedicated merging lanes at Highway 7 and a four-way stop at the Highway 7 crossing. Based on a preliminary review of Google Street View images (recorded August 2024), the road is in good condition with narrow vegetated shoulders. Highway 32 is listed as a minor arterial on the Functional Classification System by MDAH (MDAHOT 2025). Normal care would be taken by workers entering or crossing Highway 32 regarding traffic safety.

There are no traffic count stations located on Industrial Park Road. Based on the available data, it is anticipated that current traffic volumes for Industrial Park Road would be minimal, given the limited properties with access from Industrial Park Road. Because of the anticipated limited volume of workers on the site required for tree clearing activities, grading, and the timeframe of the proposed work, direct or indirect impacts to local traffic would be anticipated to be temporary and minor.

Based on a review of MDOT historical traffic data (MDOT 2025), the nearest traffic count stations are located on Highway 7 and Highway 32. The 2023 annual average daily traffic count (AADT) for the relevant stations is presented in Table 4-4 below.

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

Route Description	Location ID	Distance from Project Area (Miles)	Year	Annual Average Daily Traffic Count (AADT)
Highway 7 (north of project)	811105	0.5	2023	5,800
Highway 7 (south of project)	810128	4.2	2023	4,000
Highway 32 (west of project)	810360	3.2	2023	2,100
Highway 32 (east of project)	810365	0.5	2023	4,200

[1] Source: MDOT 2025a, 2025b.

Under the Action Alternative, the anticipated traffic generated by the Proposed Action would be minor compared to the existing AADT road volumes. It is anticipated that existing traffic volumes for these roads would be minor as they provide access to multiple other sites. Because of the anticipated limited volume of workers on the site required for tree clearing activities, grading, and the short timeframe of the proposed work, direct or indirect impacts to local traffic would be anticipated to be temporary and minor.

Under the No Action Alternative, if the City of Water Valley were able to secure the funding for the proposed TVA-funded actions described in this EA from outside sources, the grading and construction activities would also result in temporary and negligible impact on overall traffic volumes and level of service. In the event the project is postponed, any effects would be delayed for the duration of the postponement. If the City of Water Valley were not able to secure the funding for the actions described in this EA, there would be no impact to overall traffic volumes and level of service.

5.0 PERMITS, LICENSES, AND APPROVALS

The Action Alternative would result in greater than one acre of earth-disturbing activities; therefore, it would be necessary for the City of Water Valley, or its contractors, to obtain local, state, or federal permits, licenses, and approvals necessary for the project for coverage under the applicable NPDES General Permit for Discharges Associated with Construction Activity (MSR10). Coverage would require the submittal of a Notice of Intent (NOI) and the development of a site-specific SWPPP.

6.0 BEST MANAGEMENT PRACTICES AND MITIGATION MEASURES

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

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

7.0 LIST OF PREPARERS

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

Table 7-1. Environmental Assessment Project Team

Name/Education	Experience	Project Role
TVA		
Brittany Kunkle *B.S. Environmental and Soil Science*	6 years in Project Management, Managing and Performing NEPA Analyses	Economic Development Grant Project NEPA Compliance Manager
David Mitchell *M.S. Soil and Water Science* *B.S. Horticulture*	18 years in ecological restoration and plant ecology, 6 years of environmental program management	Threatened and Endangered Plants, Plant Ecology, Invasive Plant Species
Zach Buecker *B.S. Biology*	15 years in water/wetland assessment and compliance	Surface Water
Derek Reaux *Ph.D. Anthropology, University of Nevada, Reno* *M.A. Anthropology, University of Nevada, Reno* *B.A. Anthropology, University of Kentucky*	12 years of experience in archaeological research, cultural resource management, and Section 106 compliance	Cultural resources, NHPA Section 106 compliance
Matt Reed *M.S. Wildlife and Fisheries Science; QHP*	14 years working with threatened and endangered aquatic species in the southeastern United States; 8 years in ESA, NEPA, and CWA compliance and stream assessments	Aquatic Ecology, Aquatic T&E Species
Carrie Williamson, P.E. (TN), CFM *B.S. and M.S. Civil Engineering*	12 years in Floodplains and Flood Risk; 11 years in Compliance Monitoring; 3 years in River Forecasting	Floodplains QA/QC
Emily Doub *M.S. Biology, University of Georgia,* *B.S. Wildlife and Fisheries Science, University of Tennessee*	2 years in biological compliance, NEPA compliance, and ESA consultation for T&E. 7 years in biological field studies.	Terrestrial Zoology, Threatened and Endangered Species
Sara McLaughlin-Johnson *B.S. Wildlife and Fisheries Science*	12 years in biological compliance, NEPA compliance, and ESA consultation for T&E. 18 years in biological field studies.	Terrestrial Zoology, Threatened and Endangered Species
Fallon Parker Hutcheon *M.S. Environmental Studies* *B.S. Biology*	6 years in wetland delineation, wetland impact analysis, and NEPA/CWA compliance	Wetlands
Stantec		
Douglas Mooneyhan *M.S. Biology, Tennessee Technological University* *B.S. Wildlife and Fisheries Science, University of Tennessee*	35 years in managing and performing environmental studies, Project Manager for a variety of different project types, including NEPA, construction monitoring, natural resources, water resources, and fisheries biology	EA Program Manager QA/QC

Name/Education	Experience	Project Role
Jaclyn Martin *M.S. Environmental Sciences, Swedish University of Agricultural Sciences, Uppsala, Sweden* *M.S. Environmental Sciences, University of Natural Resources and Life Sciences, Vienna, Austria* *B.S. Biology, Winthrop University, South Carolina*	9 years in environmental consulting in the preparation and review of NEPA compliance reports, environmental assessments, and permitting for a variety of telecommunication, alternative energy, and FERC-regulated projects.	QA/QC
Duane Simpson *M.A. Anthropology, University of Arkansas* *B.A. Anthropology, Ohio University*	28 years in archaeological consulting, including management of projects across the Southeast and Mid-Atlantic regions. Principal Investigator for over 16 years.	Archaeology
Rachel Kennedy *M.H.P. Historic Preservation, University of Kentucky* *B.A. Political Science and History, University of Kentucky*	22 years of experience working in non-profit, governmental, and private sectors with all aspects of preservation planning, from interpretation of the Secretary of the Interior's Standards for the Treatment of Historic Properties to cultural landscape examinations to identifying, evaluating, and listing properties to the National Register of Historic Places. Meets the Secretary of the Interior's Professional Qualifications Standards for History and Architectural History, per 36 Code of Federal Regulations (CFR), Part 61.	Historic Structures and Sites
Josh Yates, P.G. *M.S. Geology, University of South Florida* *B.S. Natural Resources Management and Engineering, University of Connecticut*	17 years of hydrogeologic assessments and water resources permitting experience. This experience includes water supply planning, hydrogeologic investigations, groundwater modeling, water use permitting, well construction oversight, EIS and EA preparation, minimum flow and level (MFL) impact analysis, monitoring well network design, aquifer performance tests, and GIS analysis.	Groundwater
Ellen Mullins *M.S. Forestry, Mississippi State University, Starkville, Mississippi, 2015* *B.S. Forestry, University of Kentucky, Lexington, Kentucky, 2011*	Ms. Ellen Mullins is a project manager with 15 years of experience in environmental consulting and government. Ellen currently provides support and leadership for environmental planning and the NEPA permitting process. She prepares application packages and manages agency coordination efforts related to Threatened and Endangered Species, Clean Water Act (CWA) Section 404/401, and Section 106 Cultural Resources. She serves as a technical expert for natural resource projects for documents that are used in regulatory submissions.	Deputy Project Manager, QA/QC, Prime Farmland, Air Quality and Climate Change, Noise

Name/Education	Experience	Project Role
Chris Knabel, TN-QHP *B.S. Natural Resources and Environmental Science, University of Kentucky*	Mr. Knabel is a biologist with 7 years of experience conducting wetland delineations, hydrologic determinations, threatened and endangered species surveys, and various other ecological and biological field surveys. He has personally conducted numerous Hydrologic Determinations throughout Tennessee and conducted thousands of acres of wetland delineations throughout Tennessee and Kentucky. Additionally, he has extensive knowledge of USACE Section 404 permitting and Section 7 protected species consultation.	Aquatics, Wetlands
Shane Kelley, TN-QHP *B.S. Natural Resources & Environmental Science, University of Kentucky*	Mr. Kelley is a biologist with 11 years of experience in multiple areas of the environmental field with a particular focus on USACE Section 404 permitting, Section 7 protected species consultation, and various ecological and biological field surveys. He is a Qualified Hydrologic Professional and has personally conducted numerous Hydrological Determinations throughout Tennessee and North Carolina and completed thousands of acres of wetland delineations throughout Kentucky, Tennessee, and Mississippi. Mr. Kelley has conducted various endangered plant species surveys throughout Kentucky, Tennessee, and North Carolina, including Short's goldenrod (*Solidago shortii*), Virginia spiraea (*Spiraea virginiana*), and small whorled pogonia (*Isotria medeoloidies*). Additionally, he is a federally permitted bat biologist for all listed bat species throughout the TVA service area.	Aquatics, Wetlands
Iris Eschen *Heald Business College, San Francisco, CA*	As Document Production Manager, Ms. Eschen has more than 36 years of experience coordinating the production of large, complex documents for engineering and environmental consulting firms in California. She has overseen the technical editing, quality assurance, quality check, and production, submission, and distribution of countless reports and written products, including environmental impact statements/reports (EISs/EIRs), license applications, pre-application documents (PADs), wetland delineations, initial studies, mitigated negative declarations (MNDs), biological opinions (BOs), environmental assessments (EAs), and habitat conservation plans (HCPs).	Editor, Document Production
Brenton Jenkins, P.E. *B.S. Environmental Engineering, Louisiana State University*	10 years in environmental consulting for various private and public sector clients, including engineering design, permitting, and assessments, primarily in the oil and gas sector.	Transportation
Emily Smith *M.S. Lipscomb University* *B.S. University of Tennessee at Chattanooga*	She has worked extensively on NEPA documents, including Categorical Exclusions, EAs, and Comprehensive Impact Analyses.	Socioeconomics, Recreation

Name/Education	Experience	Project Role
Kathleen Pangan M.S. *Biology, University of California–San Diego* *B.S. Biology: Ecology, Behavior, and Evolution, University of California–San Diego*	A biologist with more than 16 years of experience in ecology, technical analysis, and scientific fieldwork.	Surface Water, Aquatics, Wetlands
Afton Tankersley *M.S. Environmental Science, Columbus State University* *B.S. Biology, Bethel College*	A biologist with experience preparing multiple NEPA documents, including EISs for the FERC and the Nuclear Regulatory Commission.	Air Quality and Climate Change, Noise, Visual Resources

8.0 AGENCIES AND OTHERS CONSULTED

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

- The U.S. Army Corps of Engineers–Vicksburg, District
- Mississippi Department of Archives and History / State Historic Preservation Office
- Absentee Shawnee Tribe of Indians of Oklahoma, Alabama-Coushatta Tribe of Texas, Chickasaw Nation, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Eastern Shawnee Tribe of Oklahoma, Jena Band of Choctaw Indians, and the Mississippi Band of Choctaw Indians

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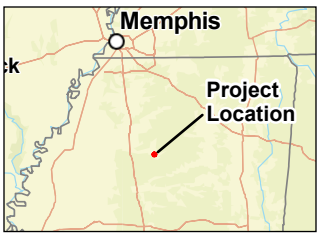
Attachment 1

Project Figures



Project Boundary (42.35 ac)

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2. Data Sources:
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Esri Community Maps Contributors, Arkansas GIS Office, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA,

Stantec

Project Location
T11S, R04W, S18
Yalobusha Co., MS

Prepared by pmarsey on 12/19/2024

Client/Project 172608873
Tennessee Valley Authority
TVA FY25 Yalobusha County
Environmental Assessment Report

Figure No.
1A

Title
Project Aerial

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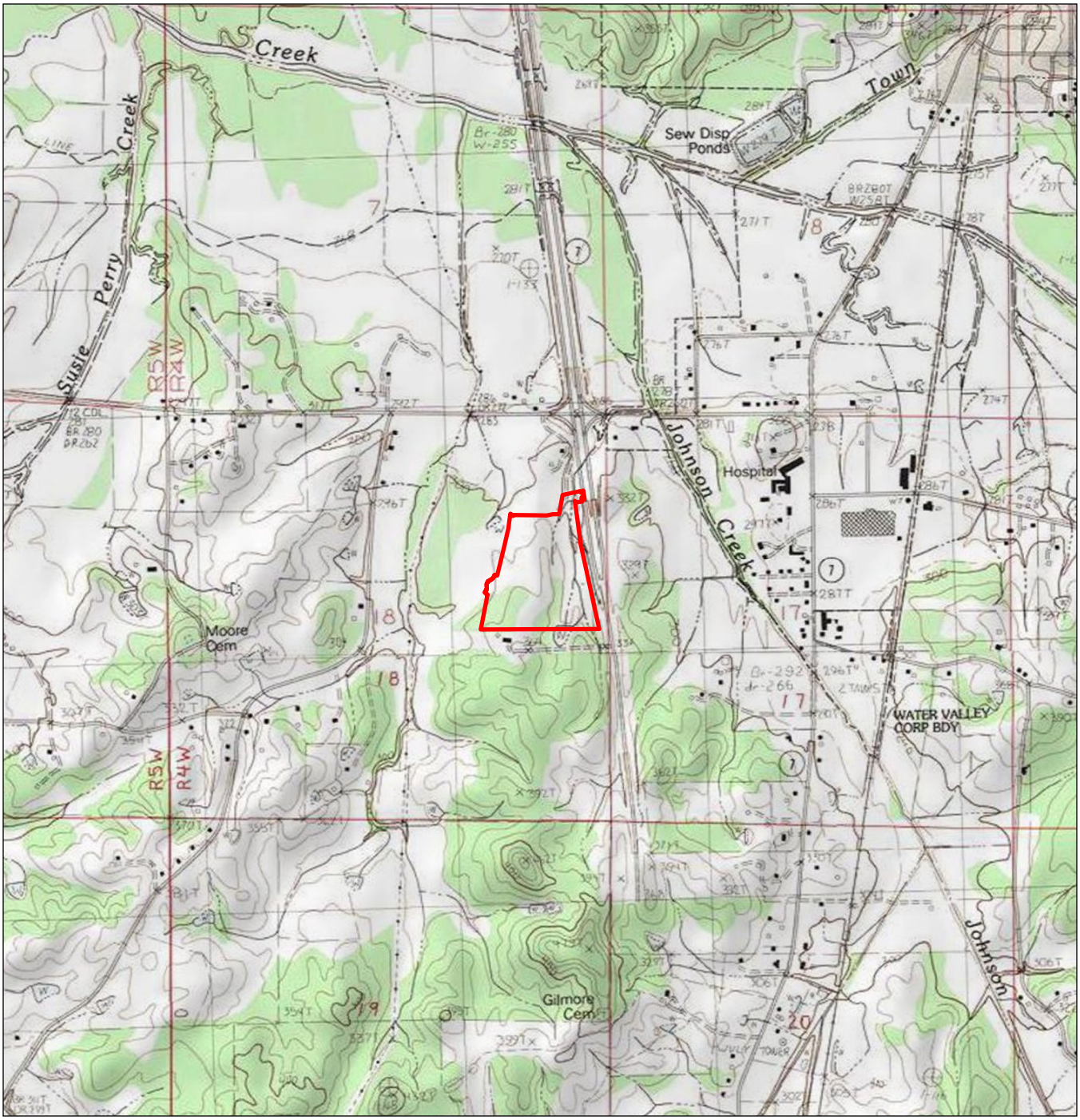

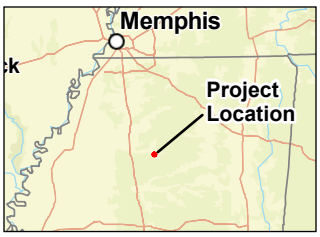

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(At original document size of 8.5x11)
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Stantec

Project Location
T11S, R04W, S18
Yalobusha Co., MS

Prepared by pmarsey on 12/19/2024

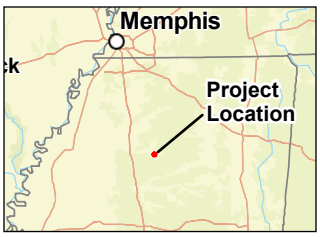
Client/Project
Tennessee Valley Authority
TVA FY25 Yalobusha County
Environmental Assessment Report

172608873

Figure No.
1B

Title
USGS Quadrangle

Notes
1. Coordinate System: NAD 1983 StatePlane Mississippi West FIPS 2302 Feet
2. Data Sources:
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Copyright:© 2013 National Geographic Society, i-cubed



Project Boundary (42.35 ac)
FEMA Floodplain (0.00 ac)

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1:6,000

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Notes
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2. Data Sources: FEMA
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Maxar

Stantec

Project Location
T11S, R04W, S18
Yalobusha Co., MS

Prepared by pmarsey on 12/19/2024

Client/Project
Tennessee Valley Authority
TVA FY25 Yalobusha County
Environmental Assessment Report

172608873

Figure No.
1C

Title
FEMA Floodplain

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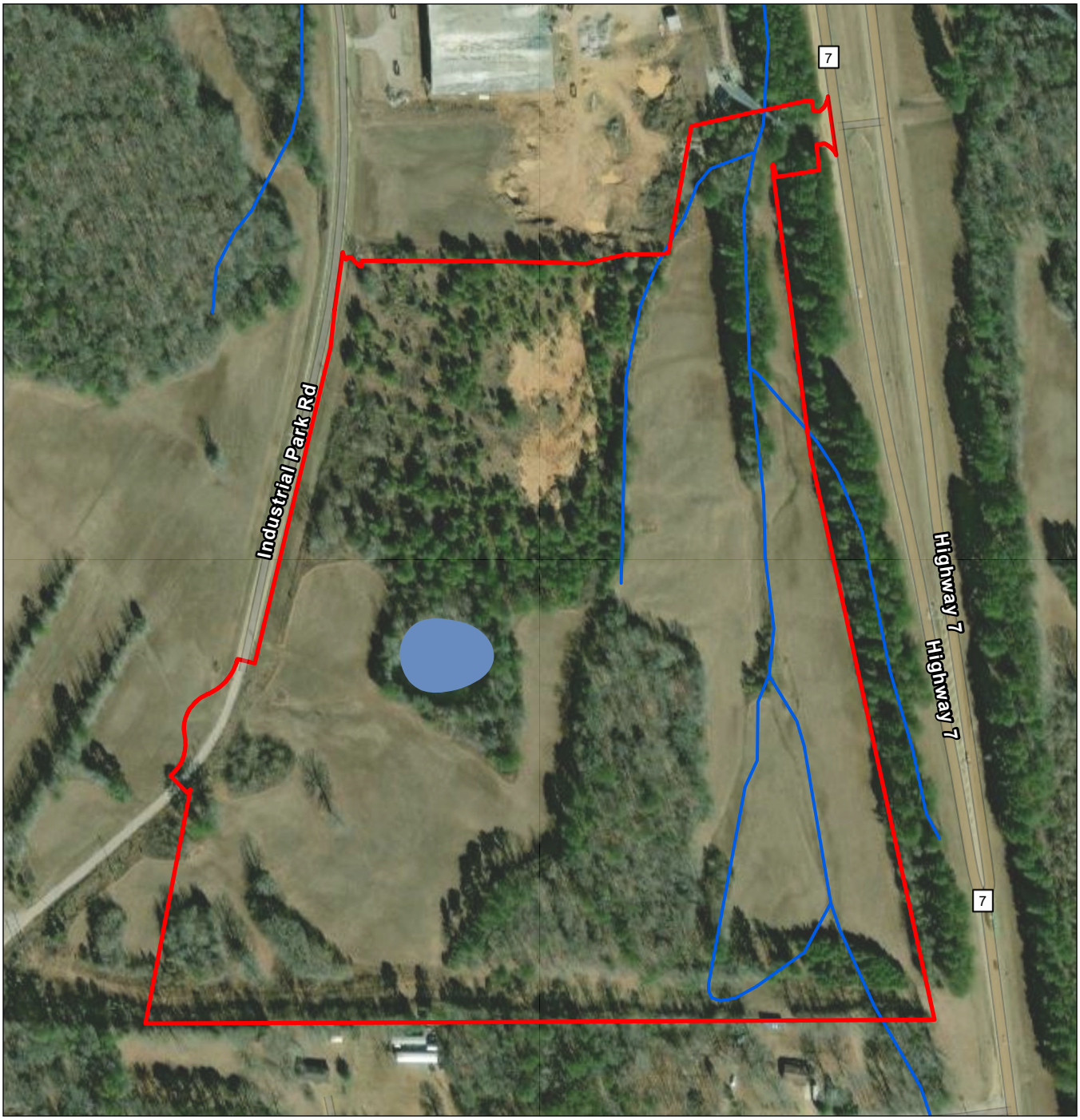

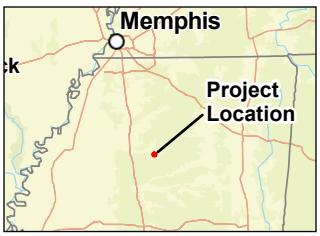

Project Boundary (42.35 ac)

NHD Flowline

NWI Wetlands

Freshwater Pond

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(At original document size of 8.5x11)
1:3,600

N

Notes

1. Coordinate System: NAD 1983 StatePlane Mississippi West FIPS 2302 Feet
2. Data Sources: USGS, USFWS
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Esri Community Maps Contributors, Arkansas GIS Office, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA,

Stantec

Project Location
T11S, R04W, S18
Yalobusha Co., MS

Prepared by pmarsey on 12/19/2024

Client/Project 172608873
Tennessee Valley Authority
TVA FY25 Yalobusha County
Environmental Assessment Report

Figure No.
1D

Title
USFWS NWI Wetland and Water Inventory

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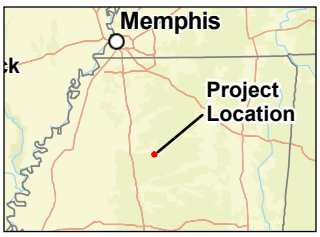

Project Boundary (42.35 ac)
Stream
Pond

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(At original document size of 8.5x11)
1:3,600

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Notes
1. Coordinate System: NAD 1983 StatePlane Mississippi West FIPS 2302 Feet
2. Data Sources: Herring Environmental, LLC
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Esri Community Maps Contributors, Arkansas GIS Office, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA,

Stantec

Project Location
T11S, R04W, S18
Yalobusha Co., MS

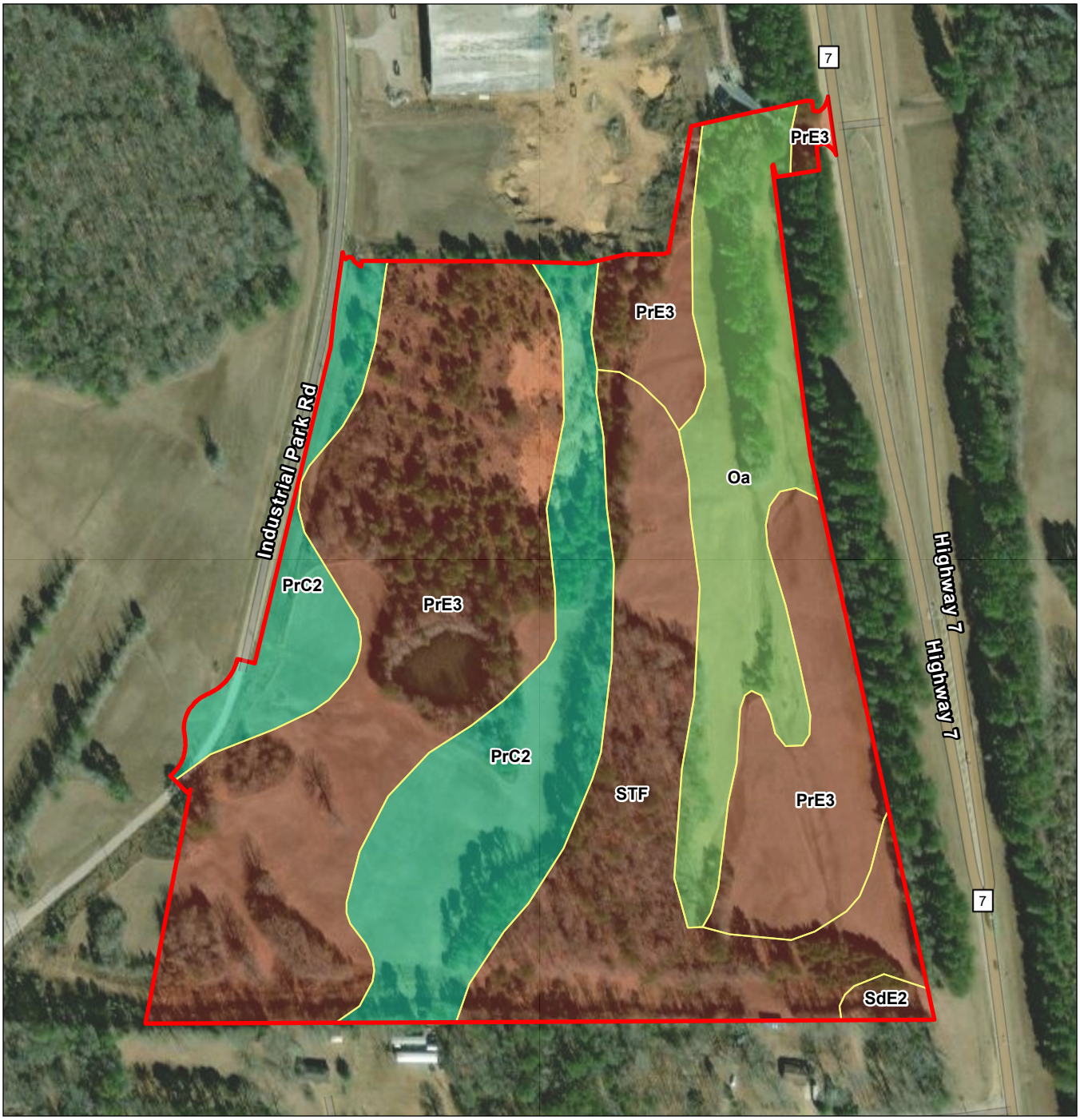
Prepared by pmarsey on 1/7/2025

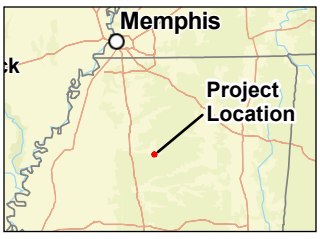
Client/Project 172608873
Tennessee Valley Authority
TVA FY25 Yalobusha County
Environmental Assessment Report

Figure No.
1E

Title
Wetland and Waterbody Delineation

Q:\gis_projects\172608873\03_data\gis_cad\TVA Yalobusha County\TVA Yalobusha County.aprx Revised: 2025-01-07 By: pmarsey





Notes
1. Coordinate System: NAD 1983 StatePlane Mississippi West FIPS 2302 Feet
2. Data Sources: USDA-NRCS
3. Background: Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS, Esri Community Maps Contributors, Arkansas GIS Office, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA,

- Project Boundary (42.35 ac)
- Oa - Oaklimeter silt loam, 0 to 2 percent slopes, occasionally flooded, north (5.96 ac)
- PrC2 - Providence silt loam, 5 to 8 percent slopes, eroded (8.89 ac)
- PrE3 - Providence silt loam, 8 to 15 percent slopes, severely eroded (19.09 ac)
- SdE2 - Smithdale-Providence complex, 12 to 25 percent slopes, eroded (0.29 ac)
- STF - Smithdale-Providence association, 8 to 35 percent slopes (8.12 ac)
- Prime farmland if protected from flooding or not frequently flooded during the growing season (5.96 ac)
- Farmland of statewide importance (8.89 ac)
- Not prime farmland (27.50 ac)

0 150 300 Feet
(At original document size of 8.5x11)
1:3,600

N

Stantec

Project Location
T11S, R04W, S18
Yalobusha Co., MS

Prepared by pmarsey on 12/19/2024

Client/Project
Tennessee Valley Authority
TVA FY25 Yalobusha County
Environmental Assessment Report

172608873

Figure No.
1F

Title
NRCS Soils

Q:\gis_projects\172608873\03_data\gis_cad\TVA Yalobusha County\TVA Yalobusha County.aprx Revised: 2024-12-19 By: pmarsey

Attachment 2

Agency Correspondence

MDAH
MISSISSIPPI DEPARTMENT OF
ARCHIVES & HISTORY

P.O. Box 571
Jackson, MS 39205-0571
601-576-6850
mdah.ms.gov

October 29, 2024

Mr. Derek Reaux
Tennessee Valley Authority
400 West Summit Hill Drive
Knoxville, Tennessee 37902

RE: Revised Cultural Resources Assessment for a Proposed Economic Development Project, (TVA) MDAH Project Log #09-159-24 (08-123-24) (06-032-24), Report #24-0219, Yalobusha County

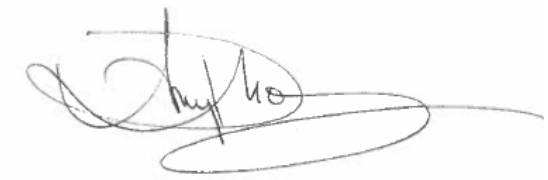
Dear Mr. Reaux:

We have reviewed the August 2024, revised cultural resources survey, by Joel H. Watkins, with The University of Alabama, received on August 16, 2024, for the above referenced undertaking, pursuant to our responsibilities under Section 106 of the National Historic Preservation Act and 36 CFR Part 800. After reviewing the information provided, we concur that no cultural resources listed in or eligible for listing in the National Register of Historic Places will be affected. Therefore, we have no reservations with the undertaking.

There remains the possibility that unrecorded cultural resources may be encountered during the project. Should this occur, we would appreciate your contacting this office immediately in order that we may offer appropriate comments under 36 CFR 800.13.

Please provide Mr. Watkins with a copy of this letter. If you need further information, please contact us at (601) 576-6940.

Sincerely,



Amy D. Morgan
Review and Compliance Officer

FOR: Katie Blount
State Historic Preservation Officer

TENNESSEE VALLEY AUTHORITY

400 West Summit Hill Drive, Knoxville, Tennessee 37902

September 26, 2024

Mr. Barry White
Director
Mississippi Department of Archives and History
Historic Preservation Division
Post Office Box 571
Jackson, Mississippi 39205-0521

Dear Mr. White:

TENNESSEE VALLEY AUTHORITY (TVA), ECONOMIC DEVELOPMENT, W.C. GARDINER INDUSTRIAL PARK, YALOBUSHA COUNTY, MISSISSIPPI, (TVA TRACKING NUMBER – CRMS 99333543269)

TVA, through its Economic Development InvestPrep program, is proposing to provide financial assistance Yalobusha County, Mississippi for the rough grading of a 300,000 square foot dirt building pad, installation of a truck roundabout and new park entrance and temporary signage, paving of a connector road, and the removal of 13.7 acres of trees and vegetation. This project is located in the W.C. Gardiner Industrial Park along Industrial Park Road in Water Valley, Mississippi. The purpose of this project is to place the parcel in a more marketable position for acquisition and future economic development.

TVA has determined that this project is an undertaking (as defined at 36 CFR § 800.16(y)) that has the potential to cause effects on historic properties. Given that the proposed project does not involve the construction of permanent, above ground structures, TVA recommends that the area of potential effects (APE) be considered as the total area within which current project actions would take place (42.3 acres), where physical effects could occur (Figure 1).

The APE has undergone multiple Phase I archaeological surveys. The property was originally surveyed in 1990 (Johnson). No resources were identified during that survey. In 2023 (Watkins), prior to TVA's involvement, Yalobusha County contracted the Office of Archaeological Research to conduct an additional due diligence Phase I archaeological survey of the APE. Watkins (2023) systematically shovel tested the APE and did not locate any resources. Please find attached the report titled, *A Cultural Resources Assessment for a Proposed Economic Development Project in Yalobusha County, Mississippi*.

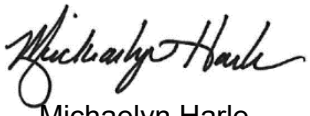
TVA agrees with the methodologies and recommendations of the Watkins (2023) survey report. TVA finds the proposed undertaking would have no effect on historic properties.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding historic properties within the proposed project's APE that may be of religious and cultural significance and are eligible for the National Register of Historic Places.

Pursuant to 36 CFR Part 800.4(d)(1) we are notifying you of TVA's finding of no historic properties affected; providing the documentation specified in § 800.11(d); and inviting you to review the finding. Also, we are seeking your agreement with TVA's finding that the undertaking as currently planned will have no effects on historic properties.

Please contact Derek Reaux by email, djreaux@tva.gov with your comments.

Sincerely,



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

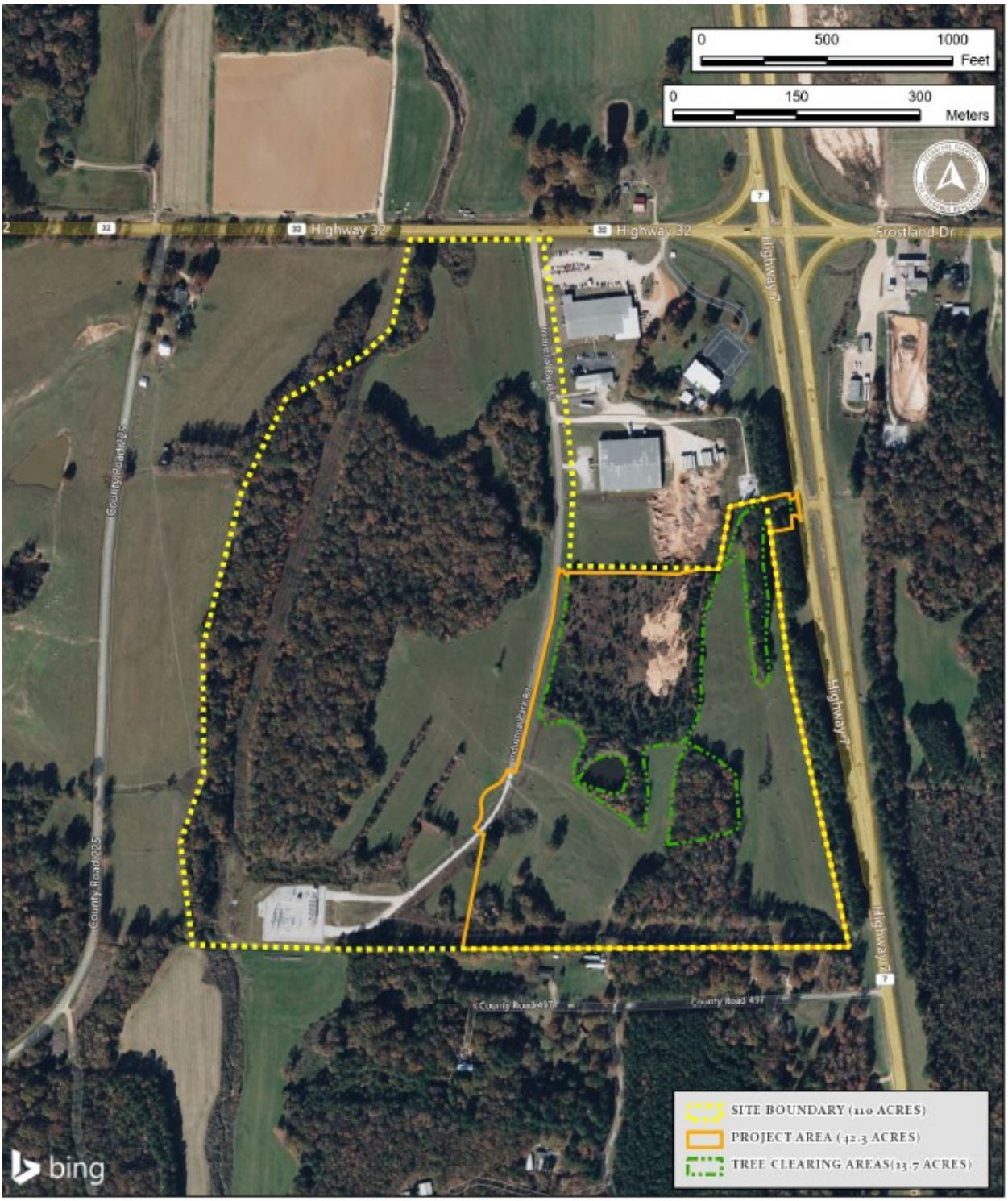
Reference Cited

Johnson, Jay K.

1990 *Cultural Resources Survey of a Proposed Industrial Park, Water Valley, Yalobusha County.* Center for Archaeological Research, University of Mississippi. Prepared for U.S. Army Corpsof Engineers, Vicksburg District. MDAH 96-189.

Watkins, Joel H.

2023 *A Cultural Resources Assessment for a Proposed Economic Development Project in Yalobusha County, Mississippi*. Office of Archaeological Research, University of Alabama. Prepared for Yalobusha County Economic Development Board, Water Valley, Mississippi.



Exported: 8/14/2024

PROJECT AREA MAP

WC GARDINER INDUSTRIAL PARK

WATER VALLEY, MISSISSIPPI (YALOBUSHA CO.)

TVA Economic Development

Figure 1. Proposed project area (orange).

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, VICKSBURG DISTRICT
4155 EAST CLAY STREET
VICKSBURG, MISSISSIPPI 39183

CEMVK-RD 19 March 2025

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Pre-2015 Regulatory Regime Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322 (2023) ,[1] **MVK-2024-68**

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.[2] AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.[3] For the purposes of this AJD, we have relied on section 10 of the Rivers and Harbors Act of 1899 (RHA),[4] the Clean Water Act (CWA) implementing regulations published by the Department of the Army in 1986 and amended in 1993 (references 2.a. and 2.b. respectively), the 2008 *Rapanos-Carabell* guidance (reference 2.c.), and other applicable guidance, relevant case law and longstanding practice, (collectively the pre-2015 regulatory regime), and the *Sackett* decision (reference 2.d.) in evaluating jurisdiction.

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. The features addressed in this AJD were evaluated consistent with the definition of "waters of the United States" found in the pre-2015 regulatory regime and consistent with the Supreme Court's decision in *Sackett*. This AJD did not rely on the 2023 "Revised Definition of 'Waters of the United States,'" as amended on 8 September 2023 (Amended 2023 Rule) because, as of the date of this decision, the Amended 2023 Rule is not applicable **Mississippi** due to litigation.

1. SUMMARY OF CONCLUSIONS.

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[1] While the Supreme Court's decision in *Sackett* had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.
[2] 33 CFR 331.2.
[3] Regulatory Guidance Letter 05-02.
[4] USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).

i. MVK-2024-68 Ephemeral, 771.70' Linear Feet, Non-RPW, Non-jurisdictional
ii. MVK-2024-68 Pond, 0.81 Acres, Non-RPW, Non-jurisdictional

2. REFERENCES.

a. Final Rule for Regulatory Programs of the Corps of Engineers, 51 FR 41206 (November 13, 1986).

b. Clean Water Act Regulatory Programs, 58 FR 45008 (August 25, 1993).

c. U.S. EPA & U.S. Army Corps of Engineers, Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States* (December 2, 2008)

d. *Sackett v. EPA*, 598 U.S. _, 143 S. Ct. 1322 (2023)

3. REVIEW AREA.

- **The review is comprised of 42.05 acres located in Yalobusha County, Mississippi. The area is made up of forested areas along with agricultural fields. It contains only one stream and one pond present on the review area.**

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), INTERSTATE WATER, OR THE TERRITORIAL SEAS TO WHICH THE AQUATIC RESOURCE IS CONNECTED.

- **The nearest TNW is upper limits of section 10 waters of the Little Tallahatchie River.**

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, INTERSTATE WATER, OR THE TERRITORIAL SEAS

- **The ephemeral flows northeast off property through an unnamed tributary for 0.35 miles until reaching Johnson Creek. From there water flows north for 0.74 miles until reaching Otoucalofa Creek. Otoucalofa Creek then flows northwest for 4.4 miles until reaching Yocona River. Yocona River**

then flows through Enid Lake for roughly 13 miles then continues approximately 16 miles until reaching section 10 waters of the Little Tallahatchie River. The pond is strictly surrounded by uplands and only flows when it tops over the dams around it. Its flow path would be overland sheet flow.

6. SECTION 10 JURISDICTIONAL WATERS[5]: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.[6] **N/A**

7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the pre-2015 regulatory regime and consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the pre-2015 regulatory regime. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.

   a. TNWs (a)(1): **N/A**

   b. Interstate Waters (a)(2): **N/A**

   c. Other Waters (a)(3): **N/A**

   d. Impoundments (a)(4): **N/A**

   e. Tributaries (a)(5): **N/A**

[5] 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.

[6] This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

f. The territorial seas (a)(6): **N/A**

g. Adjacent wetlands (a)(7): **N/A**

8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

a. Describe aquatic resources and other features within the review area identified as "generally non-jurisdictional" in the preamble to the 1986 regulations (referred to as "preamble waters").[7] Include size of the aquatic resource or feature within the review area and describe how it was determined to be non-jurisdictional under the CWA as a preamble water.

- **Pond (0.81') meets the standards to be considered a preamble water and wholly drains in uplands via overland sheet flow and is therefore non-jurisdictional.**

b. Describe aquatic resources and features within the review area identified as "generally not jurisdictional" in the *Rapanos* guidance. Include size of the aquatic resource or feature within the review area and describe how it was determined to be non-jurisdictional under the CWA based on the criteria listed in the guidance. **N/A**

c. Describe aquatic resources and features identified within the review area as waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA. Include the size of the waste treatment system within the review area and describe how it was determined to be a waste treatment system. **N/A**

d. Describe aquatic resources and features within the review area determined to be prior converted cropland in accordance with the 1993 regulations (reference 2.b.). Include the size of the aquatic resource or feature within the review area and describe how it was determined to be prior converted cropland. **N/A**

e. Describe aquatic resources (i.e. lakes and ponds) within the review area, which do not have a nexus to interstate or foreign commerce, and prior to the January 2001 Supreme Court decision in "*SWANCC*," would have been jurisdictional based solely on the "Migratory Bird Rule." Include the size of the aquatic resource or feature, and how it was determined to be an "isolated water" in accordance with *SWANCC*. **N/A**

[7] 51 FR 41217, November 13, 1986.

f. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the pre-2015 regulatory regime consistent with the Supreme Court's decision in *Sackett* (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).

- **Ephemeral (771.70') is a Non-RPW/Non-jurisdictional tributary and does not meet the relatively permanent standard and has no CSC to a WOTUS.**

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

a. Office determination based on consultant delineation Accessed on 3-17-25

b. GIS Accessed on 3-17-25

c. Aerial Photos Accessed on 3-17-25

d. NHD Accessed on 3-17-25

e. NWI Accessed on 3-17-25

f. LiDAR Accessed on 3-17-25

g. Google Earth Pro Accessed on 3-17-25

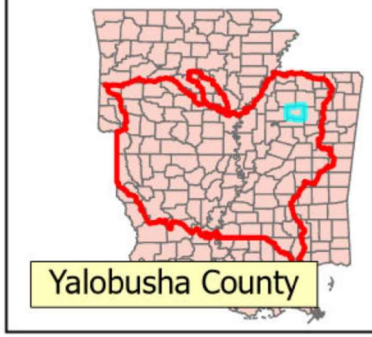
h. Digital Globe Accessed on 3-17-25

10. OTHER SUPPORTING INFORMATION.

- **A PJD (MVK-2023-225) was completed in 2023 on 114-acre property. An AJD (MVK-2024-68) was completed on March 1, 2024, for the path of the proposed access road. The current AJD request is for the boundary of the proposed industrial development.**

11. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement

additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.

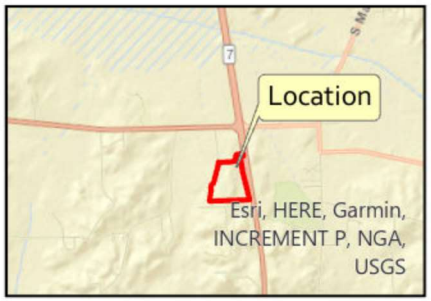


19 MARCH 2025
REVISED MVK-2024-68

W.C Gardiner Industrial Park

Approved Jurisdictional Determination

Hayleigh Rogers



US Army Corps of Engineers®

REGULATORY DIVISION
MISSISSIPPI BRANCH

0 260 520
Feet

Legend

- Ephemeral Stream Non-RPW
- BOUNDARY
- Pond

No Permit Required
Non-jurisdictional