

**Document Type:** EA-Administrative Record  
**Index Field:** Final Environmental  
Assessment  
**Project Name:** Raccoon Creek Waterfowl  
Pond – Unit 4  
**Project Number:** 2017-13

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**RACCOON CREEK WATERFOWL POND – UNIT 4  
FINAL ENVIRONMENTAL ASSESSMENT**  
Jackson County, Alabama

**Prepared by:**  
TENNESSEE VALLEY AUTHORITY  
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October 2017

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## **CHAPTER 1 – PURPOSE AND NEED FOR ACTION**

### **Purpose and Need**

The Tennessee Valley Authority (TVA) proposes to permit and partially fund the construction of an additional water impoundment within the Raccoon Creek Wildlife Management Area (WMA). The current proposed project is a continuation of the long-term partnership between TVA and the Alabama Department of Conservation and Natural Resources (ADCNR) to manage wildlife habitat and recreation on these public lands. The proposed project would establish new habitat for wintering waterfowl and wetland species, increase associated recreational opportunities in the area, and enable ADCNR to more easily manage new areas for those species. The proposal also supports and is consistent with TVA's mission of environmental stewardship and the objectives for wildlife habitat and recreation management in the TVA Natural Resources Plan (2011).

### **Background**

The management of TVA public lands the Jackson County, Alabama consists of four Wildlife Management Areas (WMA): Mud Creek, North Sauty, Raccoon Creek, and Crow Creek. In total, there are approximately 22,284 acres managed as the Jackson County Wildlife Management Area by ADCNR. These areas were created by various types of agreements between ADCNR and TVA dating back to 1949. In 2002, a 30-year term easement was developed for the TVA lands which ADCNR manages in the State of Alabama. This term easement was intended to simply property administration, enable ADCNR to maintain qualification for State and Federal funds, ensure continued tenure sufficient to accommodate long term resource management objectives, and place the management areas on a single renewal cycle.

Over the years, various improvements have been made to these areas through partnerships between ADCNR, TVA, and Ducks Unlimited to support the goals of the agreements. A prerequisite to any agreement with TVA is for ADCNR to develop a management plan for each area. TVA reviewed ADCNR's plans and agreed they met the overall intent of the agreement.

The Raccoon Creek WMA has a total land acreage of 8,507 acres. Approximately 1,386 acres are contracted to local farmers for the production of agricultural crops. There are 1,121 acres in woodlands and wetlands. Within the boundary of this area is the 385-acre Raccoon dewatering project, which is drained each spring and planted with grain crops to attract ducks and geese. The Raccoon Creek WMA area consists of 3 "impoundments," which are large scale, man-made impoundments which can be flooded and dewatered independent of river operations. The units also contain associated levees and drainage ditches which are used to manipulate the water levels in the units.

Generally, impoundments are dry during the growing season when they are sowed with agricultural crops. After the crops are harvested, the fields are flooded and allowed to remain inundated over the winter months. This manipulation allows for improved shallow-water feeding waterfowl habitat while still allowing the fields to be utilized for agricultural purposes. Additionally, the flooding of the fields creates wetland habitats during the times of inundation.

Currently, the fields underlying the proposed impoundment are managed under an agricultural license. These fields are generally sown in the spring and harvested in the fall. Through manipulation of the reservoir, these fields are generally flood prone during the winter months and are often inundated from approximately December through May.

### **Proposed Action**

TVA proposes to authorize and provide partial funding for the construction of a fourth impoundment within the Raccoon Creek WMA. The unit would be filled in the fall and allowed to retain water over the winter months (generally November through March), providing foraging habitat and hunting opportunities over approximately 37.2 acres for water fowl. A mobile gas or diesel pump would be installed at the river's edge and would be utilized to fill the impoundment with an above ground hose. In the spring, the unit would be drained and managed for year-round vegetation cover. The day-to-day operation of the fourth impoundment would be incorporated into the existing Raccoon Creek WMA and would be the responsibility of ADCNR.

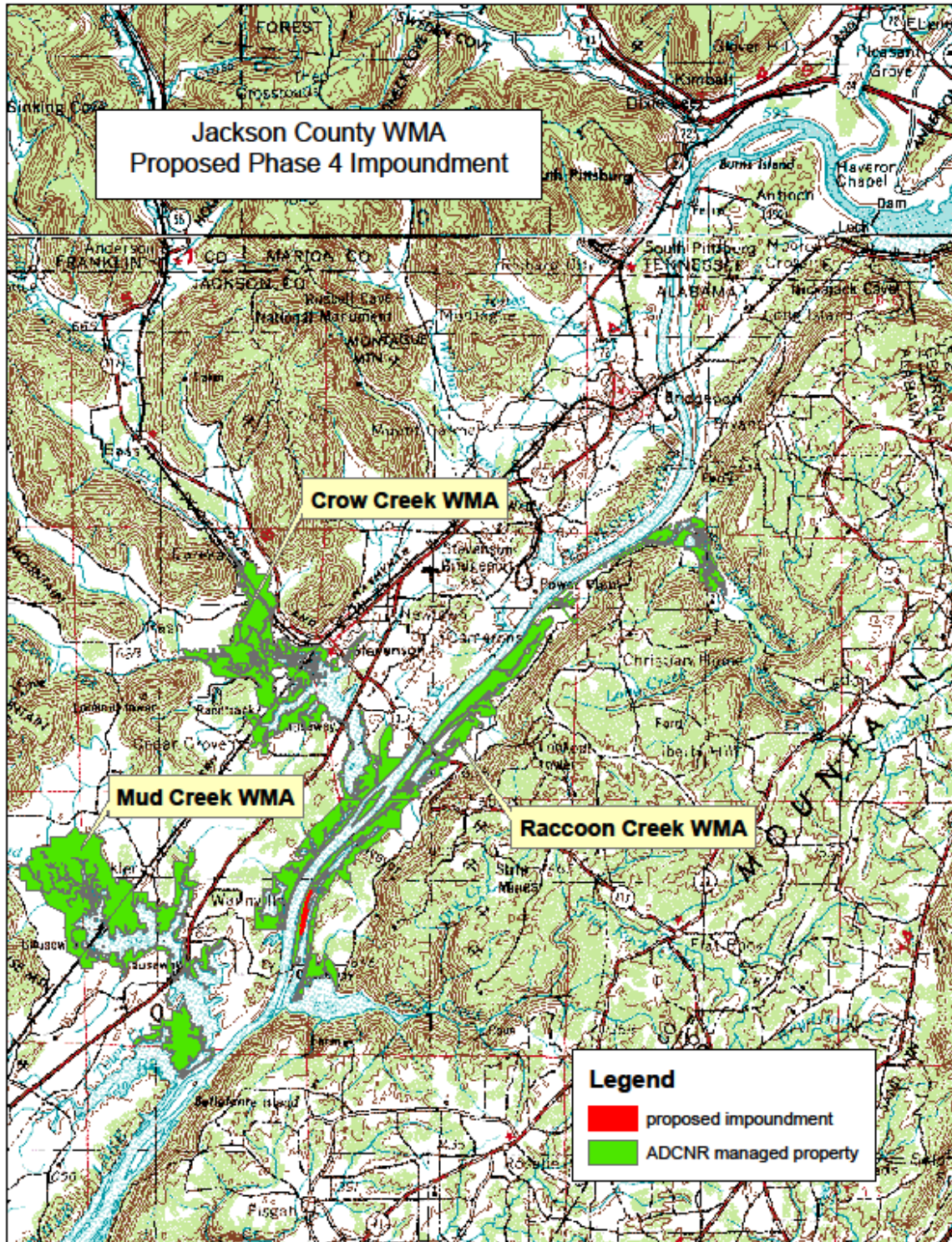
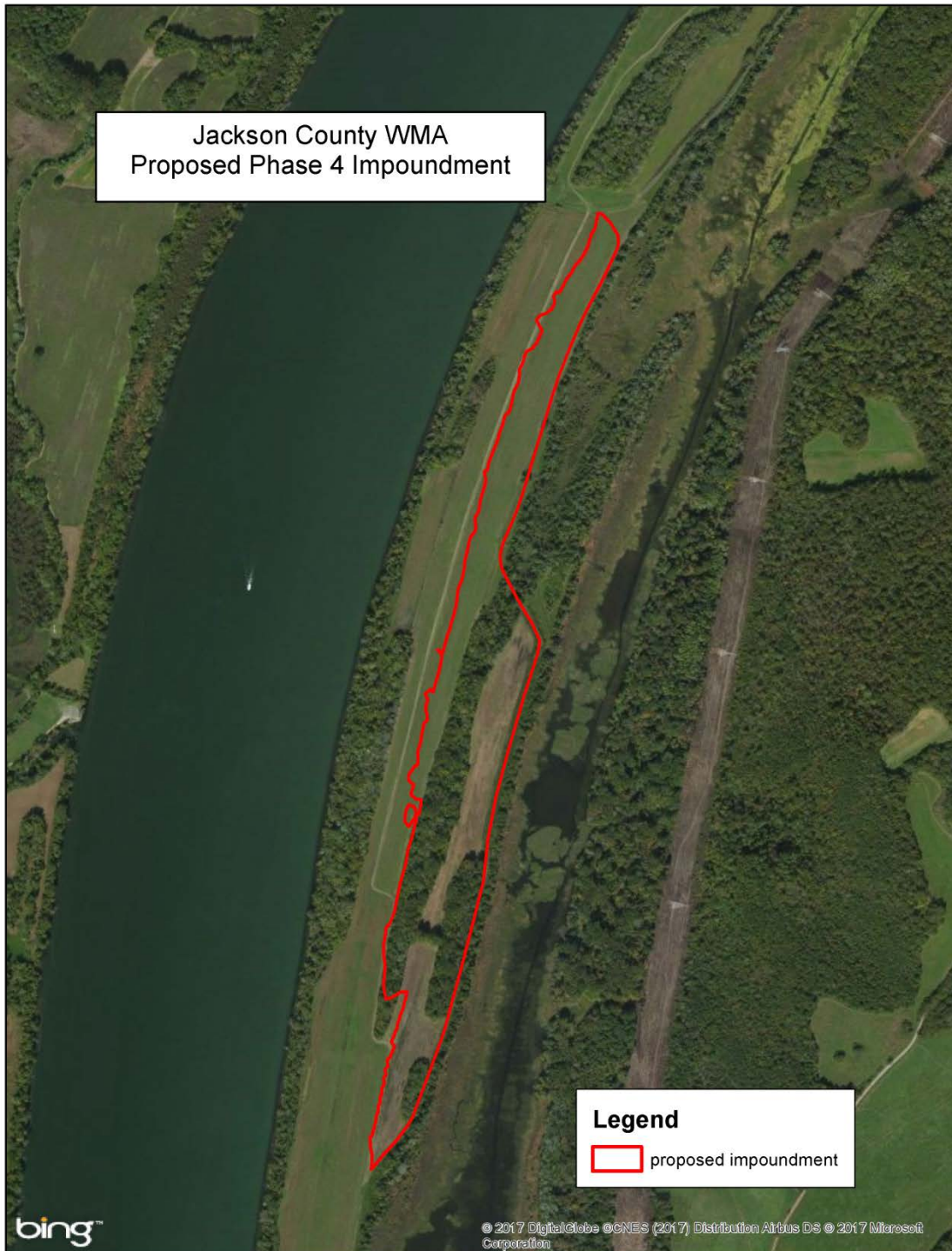


Figure 1-1. Area/Location Map





**Figure 1-2. Proposed Impoundment Boundary**

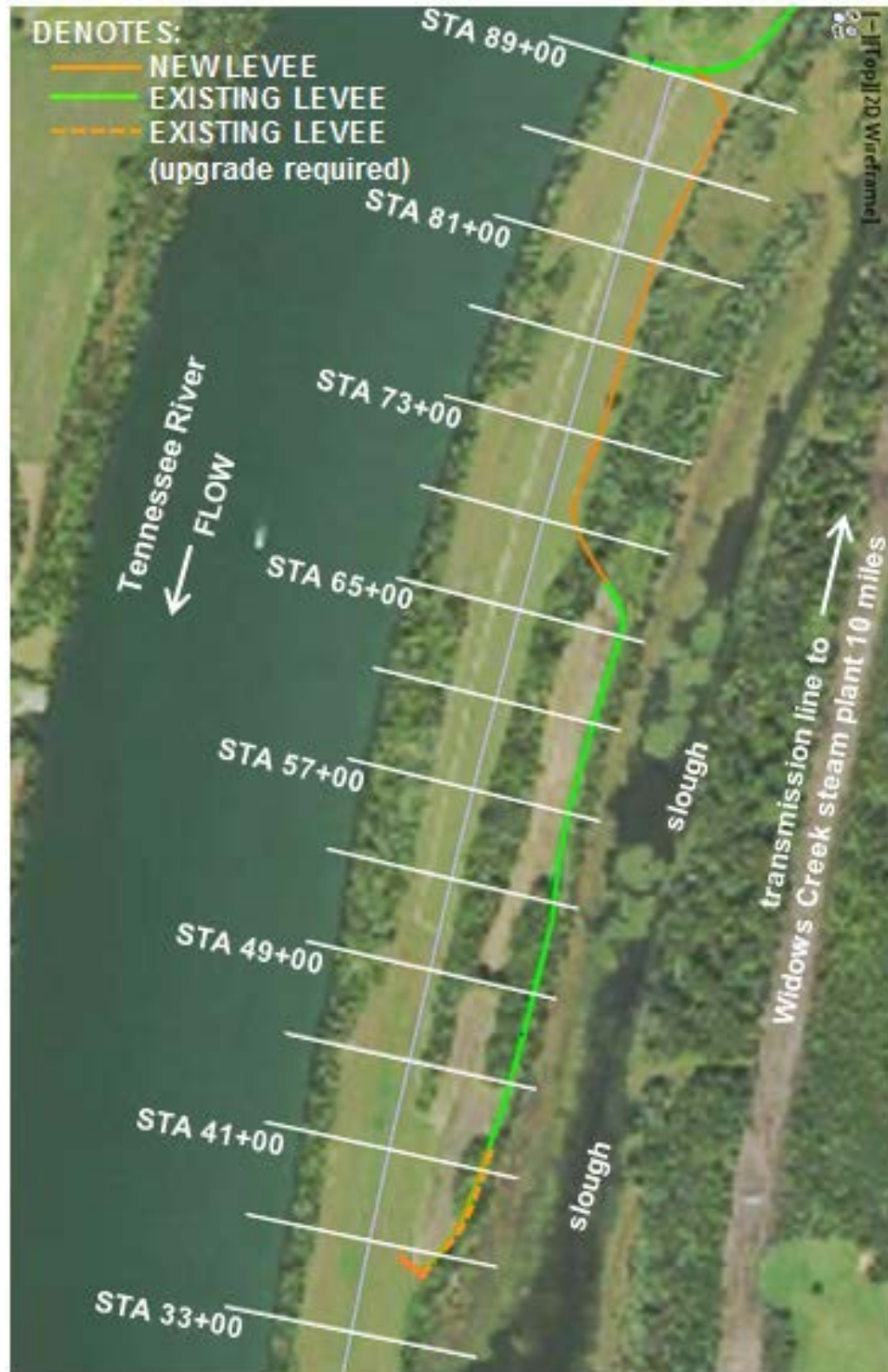


Figure 1-3. Proposed Levee Construction

## **Public and Agency Involvement**

The proposal has been developed in partnership with the Alabama Department of Conservation and Natural Resources, who currently manages the WMA.

TVA would comply with Executive Order (EO) 11990 (Protection of Wetlands) and TVA's National Environmental Policy Act procedures including the requirement for a public notice for actions affecting wetlands. A no practicable alternative analysis was conducted which indicated that an alternative, non-wetland site was not available for non-wetland dependent activities. Additionally, a public notice is to be published for the review.

## **Other Environmental Reviews and Documentation**

TVA's 2011 Natural Resource Plan EIS established policies and goals for environmental stewardship within the Tennessee Valley. The proposed project is consistent with TVA's mission of environmental stewardship by striving to meet the objectives of wildlife habitat enhancement and recreation management.

TVA completed an EA for a 30-year term easement for Wildlife Management Areas in the State of Alabama in 2002. This review looked at consolidating the existing agreements into one grant of easement covering 24,534 acres and license covering 19,038 acres, to be managed by ADCNR. The proposed project is consistent with the stated goal of enabling TVA to sustain desired optimum benefits of the area's natural resources through continued cooperative efforts with ADCNR.

## **Permits, Licenses, and Approvals**

In addition to the necessary approvals from TVA, the following permits would be required for implementation of the proposed action:

- U.S. Army Corps of Engineers permit pursuant to Section 404 of the Clean Water Act for the discharge of fill material into wetlands and waters of the United States;
- Section 401 Water Quality Certification from the Alabama Department of Environmental Management (ADEM) pursuant to Section 401(a)(1) of the Clean Water Act for proposed discharge of fill material in wetlands and waters of the United States;
- Coverage under the Alabama General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Stormwater Associated with Construction Activities;



## CHAPTER 2 – DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

### **Description of Alternatives**

This EA evaluates two alternatives: Alternative A – the No Action Alternative, and Alternative B – Proposed Action Alternative. These alternatives are described in more detail below.

#### ***Alternative A – The No Action Alternative***

Under the No Action Alternative, TVA would not permit nor partially fund the construction of a fourth impoundment within the Raccoon Creek WMA by ADCNR. A fourth impoundment would not be built and the location where it would have been placed would continue to be managed for commercial agricultural purposes.

#### ***Alternative B – Proposed Action Alternative***

Under the Proposed Action Alternative, TVA would permit and partially fund the construction of the new impoundment within the Raccoon Creek WMA. To construct this new impoundment, an existing levee would be modified and extended. Approximately 2,200 feet of new levee would be constructed to create a total length of 5,400 feet and additional fill would be added to the existing levee to increase its cross section size. The reworked levee would have a top width of 4 feet, a toe width of 25 feet, and an average height of approximately 3.3 feet. Side slopes would be approximately 30%, or 3 foot high for every 10 feet in horizontal length. The total disturbed area for the new levee construction would be approximately 3.4 acres. An estimated 4,500 cubic yards of fill material would be needed to construct the new levee. Fill material would be trucked to the site from an off-site, commercial source.

The new levee would create a 37-acre impoundment. The average water depth of the unit when filled would be approximately 1.75 feet deep, with a maximum depth of 3.3 feet. ADCNR proposes to utilize a portable gas or diesel powered pump to fill the unit. The pump would be placed near the river bank on the northern end of the unit and a fence would be installed around the pump to discourage vandalism. A temporary hose would be used to transfer the water from the pump to the impoundment. A water control structure, which would allow water to flow only out of the pond, would dewater the pond. The structure would be appropriately sized to dewater the pond while not causing erosion of the slough.

The proposed project would be built by the ADCNR. Operation of the fourth impoundment would be incorporated in the overarching management plan for the Raccoon Creek WMA, which details the use and operation of the WMA. Under the proposal, the unit would be filled with water during the fall (approximately November), which would provide foraging habitat for various waterfowl species. During the spring (approximately March), the unit would be drained. The current agricultural practices of no-till farming would be ceased and the field would be managed for year round vegetative cover.

### **Alternatives Considered but Eliminated from Further Discussion**

Additional alternatives to the construction of a fourth impoundment at Raccoon Creek were considered and ultimately dismissed from further consideration. The alternative of constructing a new dewatering pond at one of the other wildlife management areas within Jackson County was considered and dismissed. Reasons for dismissal of this alternative include the high cost and difficulty of construction at that location. The WMAs in Jackson County did not have available agricultural lands which were not already a part of other impoundments. To construct a impoundment in the other WMAs would have required significant tree clearing and earthmoving to prepare the land for the a impoundment.

### **Identification of Mitigation Measures**

TVA would implement the routine environmental protection measures listed in this EA. In addition to those routine measures, the following non-routine measures would be implemented to reduce the potential for adverse environmental effects.

- **Historic and Archaeological Resources:** The following mitigation measures were developed in consultation with the Alabama State Historic Preservation Office to avoid and minimize impacts to identified cultural resources.
  - In order to decrease the potential for erosion which could expose identified archaeological sites, the area within the impoundment would be taken out of no till agriculture. Native vegetation would be planted and managed allowing for year round vegetation cover. The vegetative cover, along with the levee and peninsula crest, would help to dampen waves, current, and wind fetch and therefore is unlikely to cause increased erosion affecting the archaeological sites.
  - To protect identified archaeological sites, the water control structure (WCS) for draining the pool would be appropriately sized to produce a uniform, insignificant rate of fall. The design capacity of the WCS would be intentionally limited to avoid discharging excessive energy into the slough that may produce surface scouring and expose cultural resources.
  - In order to ensure that the sites historic properties would not be inadvertently adversely affected during the construction of the levee, the sites would be flagged and no heavy equipment or laydown areas would be allowed within these areas. The portable pump used to fill the dewatering pond and access to the river would be placed outside the boundaries of site 1JA1197 and 1JA145.
  - To protect identified archaeological sites, construction must be conducted when the land is firm and dry, and construction activities would stay within the eastern edge of the site along the tree line.
- **Threatened and Endangered Species:** The following mitigation measures were developed to ensure that there would be no effect to threatened and endangered aquatic species by the operation of the portable pump used to fill the impoundment.

- To prevent aquatic species from being harmed and inadvertently pulled into the intake of the portable pump, a floating intake and mesh screen shall be installed on a temporary pump while to fill the impoundment.

### **Preferred Alternative**

TVA's preferred alternative is Alternative B, the Proposed Action Alternative, which would authorize and partially fund construction of the new impoundment. Alternative A, the No Action Alternative is discussed and analyzed as an alternative to this preferred alternative in order to provide a baseline for comparison with respect to the potential effects of implementing the proposed action. Environmental impacts associated with Alternative B would be minor and slightly greater than impacts associated with Alternative A. However, Alternative B is the preferred alternative because it best suits TVA and ADCNR's purpose and need.

## CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### **Affected Resources**

This chapter describes the affected environment (existing conditions of environmental resources in the project area) and the anticipated environmental consequences that would occur from adoption of each of the alternatives described in Chapter 2.

TVA has reviewed the proposed project and documented potential environmental impacts related to the project in the attached Checklist (Attachment A). The Checklist identifies the resources present in the project area and documents TVA's determination that certain resources would not be impacted by the proposal or that impacts would be negligible or temporary. TVA determined that detailed analysis was unnecessary for these resources (air quality; aquatic ecology; solid and hazardous waste; navigation; noise; transportation; visual resources; surface water; and socioeconomics and environmental justice), and they are not discussed further.

### **Wildlife**

**Affected Environment** – The proposed project is on an existing Wildlife Management Area (WMA) adjacent to Guntersville Reservoir. The action area within the WMA is sowed with agricultural crops that floods during winter months to create habitat for a limited amount of dabbling ducks (mallards, wood ducks, American widgeons) and some diving ducks (canvasbacks, ring-necked ducks, and greater and lesser scaup). Sportsmen use the WMA during winter months to hunt ducks. During summer months the impoundment is dry and managed for agricultural crop production. A permanent wetland complex lies alongside the action area, most of which is separated from the action area by a thin tree line. Some of the tree line would be removed during the proposed actions.

A variety of common wildlife species currently utilize the proposed action area. Birds that use the area include blue-gray gnatcatcher, Canada goose, common yellowthroat, northern cardinal, red-winged blackbird, sandhill crane, and white-eyed vireo (National Geographic 2002). Mammals observed or likely found in the action area include armadillo, big brown bat, bobcat, common raccoon, coyote, eastern mole, eastern red bat, and least shrew (Harvey et al. 2011; Whittaker 1996). Common amphibians and reptiles observed or likely found in the adjacent wetland and along the tree line are American bullfrog, copperhead, cricket frog, green frog, green treefrog, garter snake, ringneck snake, rough green snake, upland chorus frog, and water moccasin (Gibbons and Dorcas 2005; Powell et al. 1996).

Migratory birds use the proposed action area in the existing impoundment and the adjacent tree line. According to the US Fish and Wildlife (<https://ecos.fws.gov/ipac/>; April 2017) birds of conservation concern found in this region include bald eagle (*Haliaeetus leucocephalus*), black-billed cuckoo (*Coccyzus erythrophthalmus*), blue-winged warbler (*Vermivora pinus*), chuck-will's-widow (*Caprimulgus carolinensis*), dickcissel (*Spiza americana*), fox sparrow (*Passerella iliaca*), Kentucky warbler (*Oporornis formosus*), loggerhead shrike (*Lanius ludovicianus*), Louisiana waterthrush (*Parus motacilla*), prairie warbler (*Dendroica discolor*), prothonotary warbler (*Protonotaria citrea*), red-headed woodpecker (*Melanerpes erythrocephalus*), rusty blackbird (*Euphagus carolinus*), short-



eared owl (*Asio flammeus*), willow flycatcher (*Empidonax traillii*), wood thrush (*Hylocichla mustelina*), worm eating warbler (*Helminthos vermivorum*). Of these migratory birds of conservation concern Louisiana waterthrush, prairie warbler, prothonotary warbler, short-eared owl, and willow flycatcher may utilize the proposed action area.

Review of the TVA Regional Natural Heritage database in April of 2017 indicates that one cave is reported within three miles of the project area. This cave is approximately 2.4 miles from the action area and would not be impacted by the proposed actions. No other unique or important terrestrial habitats exist within three miles of the action area.

No heronries or other aggregations of migratory birds have been reported within three miles of the project area and none was observed during field reviews in April 2017.

Environmental Consequences – Under Alternative A, the proposed dewatering unit would not be constructed. Vegetation and soil in the area would continue to be managed for commercial agricultural purposes. Under this alternative, common mammals and resident and migratory birds would continue to opportunistically use the area for shelter or foraging. Terrestrial animals would not be directly, indirectly, or cumulatively affected if the proposed dewatering unit is not constructed.

Under Alternative B, TVA would permit and partially fund the construction of a new levee and modify an existing levee to create a fourth impoundment. The unit would be filled with water in the fall which would be retained until spring. The duration and type of waterfowl hunting opportunities would increase during these winter months. In spring, the water would be drained. A vegetative cover would be managed year-round in the action area.

This alternative would result in the disturbance and displacement of wildlife in the project footprint due to the permanent removal of a thin tree line and modification of a portion of wetland. Displaced wildlife may move into similar habitats in adjacent areas. Species requiring forested habitat would be permanently displaced. Species that use wetlands, or moist areas would likely return to use the action area following initial construction actions. Direct effects of vegetation removal and earth moving may occur to some individuals that may be immobile during the time of construction (i.e. juvenile animals or eggs). This could be the case if these activities took place during breeding/nesting seasons.

Migratory birds of conservation concern that may use the project area include Louisiana waterthrush, prairie warbler, prothonotary warbler, short-eared owl, and willow flycatcher. Each of these species, except short-eared owl, may use the action area during their breeding season, thus individuals do have the potential to be directly impacted if vegetation removal occurs at the time of nesting. Additional suitable habitat for these species is available in the immediate surrounding area such that removal of suitable habitat is not expected to have a measurable effect on these species.

Habitat would be improved for some species, particularly dabbling ducks, with the completion and operation of the new impoundment. Proposed actions are intended to increase use by species such as American black ducks, mallards, wood ducks, American widgeon, northern pintail, and northern shoveler. This increased presence would attract recreational hunters. Because these species are considered healthy, populations of dabbling ducks are not expected to be impacted by increased hunting opportunities.

Cumulative effects of the project on common wildlife species and migratory birds are expected to be negligible. Mobile, common wildlife species that use wetland habitats may disperse from the action area during the construction of the impoundment, but are expected to return following completion of the project.

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

**Affected Environment** – A review of the TVA Regional Natural Heritage Database in April 2017 revealed one federally protected species (bald eagle) and three state-listed species (green salamander, eastern milk snake, and osprey) within three miles of the project footprint. Three federally listed species (gray bat, Indiana bat, and northern long-eared bat) have been documented in Jackson County, Alabama. (Table 1 Terrestrial Threatened and Endangered Species).

**Table 3-1. Federally listed terrestrial animal species reported from Jackson County, Alabama and other species of conservation concern documented within three miles of Raccoon Creek Impoundment EA<sup>1</sup>**

Common Name	Scientific Name	Status <sup>2</sup>	
		Federal	State(Rank <sup>3</sup> )
Amphibians			
Green salamander	<i>Aneides aeneus</i>	--	SP(S3)
Birds			
Bald eagle	<i>Haliaeetus leucocephalus</i>	DM	SP(S4B)
Osprey	<i>Pandion haliaetus</i>	--	SP(S4)
Mammals			
Gray bat <sup>4</sup>	<i>Myotis grisescens</i>	LE	SP(S2)
Northern long-eared bat <sup>4</sup>	<i>Myotis septentrionalis</i>	LT	SP(S2)
Indiana bat <sup>4</sup>	<i>Myotis sodalis</i>	LE	SP(S2)
Reptiles			
Eastern milk snake	<i>Lampropeltis triangulum triangulum</i>	--	TRKD(S2)

<sup>1</sup> Source: TVA Regional Natural Heritage Database, extracted 04/12/2017 and USFWS Information for Planning and Conservation (<https://ecos.fws.gov/ipac/>), accessed 04/12/2017.

<sup>2</sup> Status Codes: DM = Delisted, recovered, and still being monitored; LE = Listed Endangered; LT = Listed Threatened; SP = State Protected; TRKD = Tracked.

<sup>3</sup> State Ranks: S2 = Imperiled; S3 = Vulnerable; Apparently Secure; S#B = Rank of Breeding population.

<sup>4</sup> Federally listed species that have been recorded in Jackson County, Alabama, but not within three miles of the project area.

Green salamanders are found at higher elevations (greater than 1340 meters) in moist, shaded areas in rock faces, cliffs, beneath loose bark, in cracks of trees, and damp areas under logs (Petranka 1998). The nearest records of this species were of three specimens on a rock ledge approximately 2.4 miles downstream of the project area. Suitable habitat for green salamander does not exist in the project action.

Eastern milk snakes are typically found in forests where they are found hiding under loose bark of downed, dead trees, especially pines. They are more frequently encountered in open habitats in meadows, abandoned agricultural fields, and woodland edges (Gibbons and Dorcas 2005.) Suitable habitat for eastern milk snake does not occur in the project action area. Osprey are found along large bodies of water such as rivers, lakes, and reservoirs. They build large nests of sticks near these bodies of water in trees or on structures such as utility poles, transmission towers, channel markers, sheds, docks, or nesting platforms (NatureServe 2017; National Geographic 2002). The closest osprey nest is on a transmission tower approximately 1000 feet from the action area. The nest was active with two adults tending to the nest during field reviews in April 2017. Suitable habitat for osprey does not exist in the action area itself.

Bald eagles are protected under the Bald and Golden Eagle Protection Act (USFWS 2013). This species is associated with large, mature trees capable of supporting its massive nests. These are usually found near larger waterways where eagles forage (Turcotte and Watts 1999). Records document the occurrence of five bald eagle nests within three miles of the project area. The closest of these recorded nests is approximately 0.55 miles from the project area. Suitable nesting habitat does not exist for bald eagles in the project footprint. Although one juvenile bald eagle was observed flying over the project area, no bald eagle nests were observed within the project footprint during field reviews in April 2017. No suitable bald eagle nesting trees occur within the action area.

Gray bats roost in caves year-round and migrate between summer and winter roosts during spring and fall (Brady et al. 1982; Tuttle 1976). Although they prefer caves, gray bats have been documented roosting in large numbers in buildings (Gunier and Elder 1971). They forage over bodies of water. Records document the occurrence of nine gray bat cave hibernacula and one mist net capture in Jackson County, Alabama. The closest of these records is a cave approximately 4.7 miles away from the proposed actions. One cave is known to exist within three miles of the project footprint, approximately 2.4 miles from the project. No suitable winter roosting habitat was observed in the action area during field reviews of the project footprint. Suitable foraging habitat for gray bat occurs over wetlands in and around the action area.

Indiana bats hibernate in caves in winter and use areas around them in fall and spring (for swarming and staging), prior to migration back to summer habitat. During the summer, Indiana bats roost under the exfoliating bark of dead and living trees in mature forests with an open understory often near sources of water. Indiana bats are known to change roost trees frequently throughout the season, yet still maintain site fidelity, returning to the same summer roosting areas in subsequent years. This species forages over forest canopies, along forest edges, and tree lines, and occasionally over bodies of water (Pruitt and TeWinkel 2007, Kurta et al. 2002, USFWS 2017). Records for Indiana bat exist in Jackson

County, the closest of which is from a cave approximately 4.7 miles away. Recent surveys of the cave did not result in observations of Indiana bat.

The northern long-eared bat (NLEB) predominantly overwinters in large hibernacula such as caves, abandoned mines, and cave-like structures. During the fall and spring they utilize entrances of caves and the surrounding forested areas for swarming and staging. In the summer, NLEBs roost individually or in colonies beneath exfoliating bark or in crevices of both live and dead trees. Roost selection by NLEB is similar to Indiana bat; however, it is thought that NLEBs are more opportunistic in roost site selection. This species has also been documented roosting in abandoned buildings and under bridges. NLEBs emerge at dusk to forage below the canopy of mature forests on hillsides and roads, and occasionally over forest clearings and along riparian areas (Harvey et al. 2011; USFWS 2014; USFWS 2017). Records for NLEB exist in Jackson County, the closest of which is from a cave approximately 4.7 miles away. Recent surveys of the cave confirmed this cave as a winter hibernacula for this species.

One cave is known to exist approximately 2.4 miles from the project. No suitable winter roosting habitat for Indiana bat or NLEB was observed in the action area during field reviews of the project footprint. Overall, the sections of the tree line proposed for removal did not offer suitable summer roosting habitat for Indiana bat or NLEB. However, the tree line, in addition to wetlands, offer suitable foraging habitat for both bat species.

A query of the TVA Natural Heritage Database (3/21/2016) indicated 8 state and/or federally listed aquatic animal species records within ten miles of the proposed project near Tennessee River miles 397.0 - 400.4 including one fish and seven mussel species. (Aquatics Table 3-2). Of these records, three mussels are federally listed as endangered.



**Table 3-2. Federally listed aquatic animal species reported from Jackson County, Alabama and other species of conservation concern documented within ten miles of Raccoon Creek Impoundment EA<sup>1</sup>**

Common Name	Scientific Name	Status <sup>2</sup>	
		Federal	State(Rank <sup>3</sup> )
Mussels			
Butterfly	<i>Ellipsaria lineolate</i>	--	TRKD(S3)
Sheepnose	<i>Plethobasus cyphus</i>	LE	SP(S1)
Ohio Pigtoe	<i>Pleurobema cordatum</i>	--	TRKD(S2)
Pyramid Pigtoe	<i>Pleurobema rubrum</i>	--	SP(S2)
Winged Mapleleaf	<i>Quadrula fragosa</i>	LE	SP(SX)
Monkeyface	<i>Quadrula metanevra</i>	--	TRKD(S3)
Orange-foot Pimpleback	<i>Plethobasus cooperianus</i>	LE	SP(S1)
Fishes			
Southern Cavefish	<i>Typhlichthys subterraneus</i>	--	SP(S3)

<sup>1</sup> Source: TVA Regional Natural Heritage Database, extracted 3/21/2016

<sup>2</sup> Status Codes: DM = Delisted, recovered, and still being monitored; LE = Listed Endangered; LT = Listed Threatened; SP = State Protected; TRKD = Tracked.

<sup>3</sup> State Ranks: S2 = Imperiled; S3 = Vulnerable; Apparently Secure; S#B = Rank of Breeding population.

<sup>4</sup> Federally listed species that have been recorded in Jackson County, Alabama, but not within three miles of the project area.

None of the federally listed species was considered extant and could occur in the vicinity of the project because these species are either 1) extirpated from this the state or this portion of their former range, 2) represented by “historical” (> 25 years old) records that indicate they are extremely rare or extirpated from the area and not expected to occur near the project, and/or 3) ordinarily occur in habitat outside that of the project area (mainstem Tennessee River). Similarly, of the five species that are only listed or tracked at the state level, the only species within a ten-mile radius that are believed to still occur in the area and live in habitat like that at the project site (big river; tailwater) include the following species: Butterfly, Ohio Pigtoe, Pyramid Pigtoe, and Monkeyface.

**Environmental Consequences** – Under Alternative A, the proposed dewatering unit would not be constructed. Vegetation and soil in the area would continue to be managed for commercial agricultural purposes. Under this alternative, there would be no impacts to listed animal species or their habitats.

Under proposed Alternative B, TVA would permit and partially fund the construction of a new levee and modify an existing levee to create a fourth impoundment. The unit would be filled with water in fall which would be retained in the unit until spring when it would be drained. A vegetative cover would be managed year-round in the action area. Of the species reviewed, the action area provides foraging habitat only for federally listed bats. The active osprey nest near the project is a sufficient distance away such that actions would not affect this nest, or nesting osprey. TVA has determined there would be no effect on green salamander, eastern milksnake, osprey, and bald eagle.

The forested tree line proposed for removal would remove a small amount of forested foraging habitat for Indiana bat and NLEB. The proposed actions would impact some areas of existing wetlands, but would increase the duration of flooding events in the action area. This would increase the availability of foraging habitat and available drinking water in the action area for federally listed bats. Due to the abundance of similarly suitable foraging habitat over the other three existing dewatering areas, adjacent forested areas, and the adjacent reservoir, proposed actions would have no measurable effect on foraging bats.

A portable pump would be used to supplement filling of the impoundment. The pump would operate an approximate 2 week period to fill the dewatering period. The pump would have a floating to keep the intake off of the river bed and a mesh screen would be fitted to the intake. Based on the short duration of pump operation, physical controls of the intake, and the lack of suitable habitat at the project location, there would be no effect to aquatic species.

The proposed actions would have no measurable effect on any federally listed threatened or endangered species.

### ***Wetlands and Waters of the U.S.***

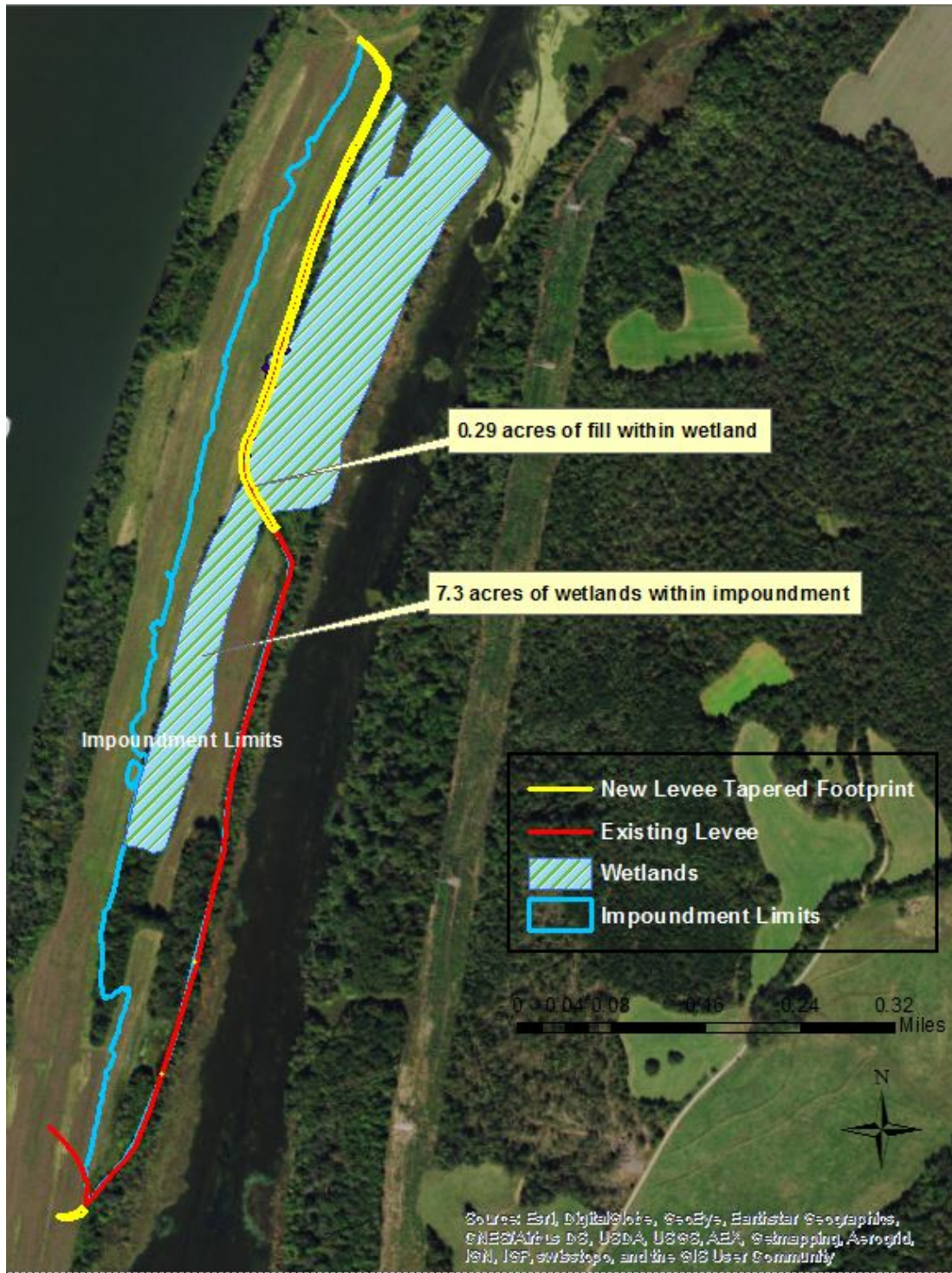
Affected Environment – The U.S. Army Corps of Engineers (USACE) regulates the discharge of fill material into waters of the United States, including wetlands pursuant to Section 404 of the Clean Water Act (CWA) (33 USC 1344). Additionally, EO 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impact to wetlands and to preserve and enhance their natural and beneficial values.

As defined in the Section 404 of the CWA, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands and wetland fringe areas can also be found along the edges of many watercourses and impounded waters (both natural and man-made). Wetland habitat provides valuable public benefits including flood storage, erosion control, water quality improvement, wildlife habitat, and recreation opportunities.

Raccoon Creek WMA is located in the Southwestern Appalachians ecoregion, Sequatchie Valley subregion, as designated by USEPA (Griffith et al. 2001). Wetlands in this region are primarily associated with low lying, poorly drained areas and the floodplains of streams, rivers, and reservoirs. Within the WMA itself, land use is a mix of agriculture, open fields, woodlands, and wetlands. A field survey conducted in April 2017 indicated there is extensive wetland habitat immediately east of the footprint of the proposed levee (see Figure 3-1 below). This 30+ acre area is a mix of forested, scrub-shrub, and emergent

wetlands that are associated with impoundment-driven waters of the impounded Nichols Branch and Coon Creek.

The footprint of the proposed levee crosses two small areas of this larger wetland complex. The southernmost portion of the levee crosses 0.09-acres of an emergent wetland, comprised of lizard tail (*Saururus cernuus*), cattail (*Typha latifolia*), giant cutgrass (*Zizaniopsis miliacea*), pickerelweed (*Pontederia cordata*), soft rush (*Juncus effusus*) and green arrow arum (*Peltandra virginica*). As it runs north, the levee crosses 0.2-acres of a strip of forested/scrub-shrub wetland; this small area is comprised primarily of red maple (*Acer rubrum*), and water oak (*Quercus phellos*). As shown in Figure 3-1, approximately 7.3-acres of forested wetland lie within the footprint of the proposed impoundment itself.



**Figure 3-1 – Wetland Delineation**



**Environmental Consequences** – Under Alternative A, the fourth dewatering unit would not be constructed within the Raccoon Creek WMA. The three existing dewatering units would continue to be managed for seasonal agricultural uses in the summer and then flooded during the winter to provide foraging habitat for waterfowl. The location of the proposed fourth unit would continue to be managed for commercial agricultural purposes. There would be no changes to wetlands.

Under proposed Alternative B, ADCNR would construct the new levee and modify the existing levee to create a fourth impoundment within the Raccoon Creek WMA. Construction of the levee would result in approximately 0.29 acres of direct wetland impacts associated with placement of fill.

Beneficial impacts to approximately 7 acres of forested wetlands would result with the completion of the project. These impacts would be associated with increasing the duration and depth of flooding within the proposed boundaries of the impoundment. The unit would be filled in the fall and allowed to retain water over the winter months, and drained and managed for year round vegetation cover in the spring. No clearing of trees is planned for the forested wetland within the impoundment, but there would be some change in the composition and structure of the forest due to the change in hydrology. More water tolerant species such as red maple and willow oak would be expected to maintain their presence within this area; less tolerant species such as Chinese privet would be expected to decline.

TVA is required to comply with EO 11990 and TVA NEPA procedures, including the requirement for a public notice for actions affecting wetlands. A no practicable alternative analysis indicated that an alternative, non-wetland site was not available for non-wetland dependent activities. The siting of the impoundment in a wetland meets the purpose and need of the project of enhancing and providing wetland habitat for waterfowl. Additionally, the size and location of the levee was modified to lessen its footprint, and to minimize wetland impacts associated with levee fill. TVA published a public notice on September 26th, 2017. No public comments were received.

Due to the placement of fill, an individual Section 404 permit and Section 401 Water Quality Certification is assumed. Mitigation at standard USACE permit requirements (typically 2:1 ratio) would offset direct wetland impacts to an insignificant level. Indirect wetland impacts associated with this project are considered beneficial, in that additional wetland habitat would be created and managed for wildlife.

### ***Historic and Archaeological Resources***

**Affected Environment** – TVA defined the “area of potential effect” (APE) for this undertaking as the 37-acre impoundment area. An additional 1640 linear feet (500 meters) was added to the APE along the shoreline to determine a suitable location for the pump and ramp. TVA contracted with Tennessee Valley Archeological Research (TVAR) to conduct a Phase I cultural survey of the APE (*A Phase I Archaeological Survey of Tennessee Valley Authority’s Raccoon Creek Wildlife Management Area*). The survey resulted in the expansion of two previously recorded sites (1JA140 and 1JA145), and identification of seven newly identified archaeological sites (1JA1197-1JA1203). It was TVA’s finding that sites 1JA1200, 1JA1201, 1JA1202 and 1JA1203 were ineligible for the National Register of Historic Places (NRHP), that sites 1JA145, 1JA1197, 1JA1198, and 1JA1199 should remain undetermined for NRHP eligibility pending further investigation and that 1JA140 should be considered eligible for the NRHP.

TVA cultural resources staff met on site with the TVA project manager, siting engineer, wetland specialist and ADCNR in order to discuss ways to minimize potential adverse effects to any historic properties identified within the APE. In order to decrease the potential for erosion, the area would be taken out of no till agriculture and native vegetation would be managed allowing for year round vegetation cover. The vegetative cover, along with the levee and peninsula crest, would help to dampen waves, current, and wind fetch and therefore is unlikely to cause increased erosion. The water control structure (WCS) for draining the pool would be appropriately sized to produce a similarly insignificant rate of fall. The design capacity of the WCS would be intentionally limited to avoid discharging excessive energy into the slough that may produce surface scouring. In order to ensure that the site's historic properties would not be inadvertently adversely affected during the construction of the levee, the sites would be flagged and no heavy equipment or laydown areas would be allowed within these areas and the pump and ramp would be placed outside the boundaries of site 1JA1197 and 1JA145. A portion of the levee would be located on the border of site 1JA1198. The site is characterized by deeply buried deposits and should not be affected by compression. A small scatter of fire cracked rock and flaked stones was identified at surface but these artifacts were not in-situ. Conditions would be placed on construction so that it must be conducted when the land is firm and dry and would stay within the eastern edge of the site along the tree line.

Environmental Consequences – Under Alternative A, the proposed dewatering unit would not be constructed. Vegetation and soil in the area would continue to be managed for commercial agricultural purposes. Under this alternative, the area will still be subject to uncontrolled flooding and as a result may lead to unavoidable erosional impacts to identified resources. .

Under proposed Alternative B, TVA would permit and partially fund the construction of a new levee and modify an existing levee to create a fourth impoundment. The unit would be filled with water in fall, which would be retained until spring when it would be drained. The action alternative could provide beneficial impacts to identified resources as year round vegetation cover will control erosional effects.

In a letter dated March 13, 2017, the Alabama SHPO agreed that with the above conditions in place, sites 1JA145, 1JA1197, 1JA1198, and 1JA1199 and 1JA140 would not be adversely affected by the proposed undertaking. However, the SHPO disagreed with our findings that 1JA1200, 1JA1201, 1JA1202, and 1JA1203 are ineligible for the NRHP. TVA therefore agreed that the same avoidance conditions should be in place for sites 1JA1200, 1JA1201, 1JA1202, and 1JA1203. Thereafter, in a letter dated March 29, 2017, the Alabama SHPO concurred with TVA's finding that no historic properties would be affected.

### ***Floodplains***

Affected Environment – The area subject to a one-percent chance of flooding in any given year is normally called the 100-year floodplain. As a federal agency, TVA must evaluate development a proposal occurring within the 100-year floodplain to ensure that the project is consistent with the requirements of EO 11988 (Floodplain Management). The objective of EO 11988 is "...to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative" (EO 11988, Floodplain Management). The EO is not intended to prohibit floodplain development in all cases, but rather to create a consistent government policy against such development

under most circumstances. The EO requires that agencies avoid the 100-year floodplain unless there is no practicable alternative.

The Flood Control Storage Zone is situated between the winter pool elevation and the TVA Flood Risk Profile (FRP) elevation, and is the volume of space available to store water during storm events. The Power Storage Zone is situated between the January 1 operating guide and the June 1 operating guide elevations, and is the volume of space available to store water for use in power generation. At the proposed project location, the Flood Control Storage Zone would be situated between elevation 593.0 and about elevation 606, and the Power Storage Zone would be situated between elevations 593.0 and 595.0.

The 100-year flood and TVA Flood Risk Profile elevations at the project site are shown in Table 3-3.

**Table 3-3. River miles and flood elevations, NGVD 1929.**

Location	100-year flood elevation	TVA Flood Risk Profile elevation
Tennessee River Mile 397.0	602.9	604.8
Tennessee River Mile 400.4	604.4	606.5

TVA established guidelines for evaluating proposed waterfowl subimpoundments, in order to waive compensation for the displaced flood storage. In reviewing a proposed waterfowl subimpoundment, the project must meet the all of following criteria:

- Project is developed on public lands using public funds or a combination of funding from public and quasi-public sources;
- Project is developed in cooperation with one or more public agencies, either state or federal, who would provide for the long term operation and maintenance of the project;
- Project provides wildlife-related public use opportunities;
- Project would be managed primarily for the purpose of providing habitat for migratory and wintering wildlife; and
- Project would enhance TVA's goal of environmental responsibility by facilitating development of wetlands wildlife enhancement projects through the formation of partnerships with organizations not normally able to provide such habitat on their own.

Environmental Consequences – There would be no change to existing conditions under the No Action Alternative.

Under proposed Alternative B, TVA would permit and partially fund the construction of a new levee and modify an existing levee to create a fourth impoundment. Cut and fill

activities to construct the impoundment would take place between elevations 596 and 602 MSL. Consistent with EO 11988, cut and fill to construct a waterfowl subimpoundment would be considered a recreational, functionally dependent use of the floodplain, which should result in only minor impacts.

The completion of the project would result in the loss of approximately 14.1 acre-feet of flood control storage in Guntersville Reservoir. The project would meet all of the criteria in the guidelines for waterfowl subimpoundments. Based on TVA analysis, the loss of flood storage has been minimized while still meeting project objectives, which would be consistent with the TVA Flood Control Storage Loss Guideline. Additionally, there would be no loss of Power Storage. Therefore, Flood Risk has no objection to the proposed project and there would be no significant impacts to floodplains.

### ***Recreation***

Affected Environment – The proposed project involves the approval and funding of the construction of a fourth impoundment within the Raccoon Creek Wildlife Management Area (WMA).

Currently, there are four WMAs in Jackson County, Alabama: Mud Creek, North Sauty, Crow Creek, and Raccoon Creek. The WMAs are managed under license by the Alabama Department of Conservation and Natural Resources. In total, there are 22,384 acres of public lands in the four WMAs in Jackson County. Common recreational activities in these areas include nature and birding watching, hiking, hunting, and fishing.

Environmental Consequences – Under Alternative A, the proposed dewatering unit would not be constructed. Vegetation and soil in the area would continue to be managed for commercial agricultural purposes. Under this alternative, there would be no changes to recreational opportunities within the Raccoon Creek WMA.

Under proposed Alternative B, TVA would permit and partially fund the construction of the fourth impoundment at Raccoon Creek WMA. The creation of the fourth impoundment would increase recreational hunting opportunities in the area. Of the 22,384 acres of WMA land in Jackson County, 663 acres consists of manipulated waterfowl habitat in the form of impoundments and vector control projects. Of those 663 acres of suitable waterfowl habitat, recreational hunter access to waterfowl is limited to the perimeter of the impoundments along the levees or by utilizing small watercraft. Very little of the existing habitat is accessible solely by foot.

The addition of the new impoundment in Raccoon Creek would convert an additional 37 acres of land to suitable aquatic waterfowl habitat. This would increase the recreational opportunities for bird and nature watching as well as waterfowl hunting. The proposed impoundment at Raccoon Creek was designed to have an average water depth of 1.75 feet, and a maximum depth of 3.3 feet. By designing the new impoundment to average such a shallow depth, it would provide an additional 37 acres of waterfowl habitat which would be accessible entirely by foot.

While some upland habitat would be lost by the conversion to wetland habitat, there is still substantial contiguous upland habitat in the Raccoon Creek WMA. By providing additional aquatic habitat and a new area which is accessible by foot, the project would increase public recreational opportunities for hunting and bird watching in the WMA and Jackson County.



***Land Use and Prime Farmland***

Affected Environment – Prime farmland is land that is the most suitable for economically producing sustained high yields of food, feed, fiber, forage, and oilseed crops. Prime farmlands have the best combination of soil type, growing season, and moisture supply and are available for agricultural use (i.e., not water or urban built-up land). The Farmland Protection Policy Act (7 United States Code [U.S.C.] 4201 et seq.) requires Federal agencies to take into account the adverse effects of their actions on prime or unique farmlands. The purpose of the Act is “to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses.”

All of the soils present within the area of disturbance include prime farmlands and farmland of statewide importance as shown in Table 3-4.

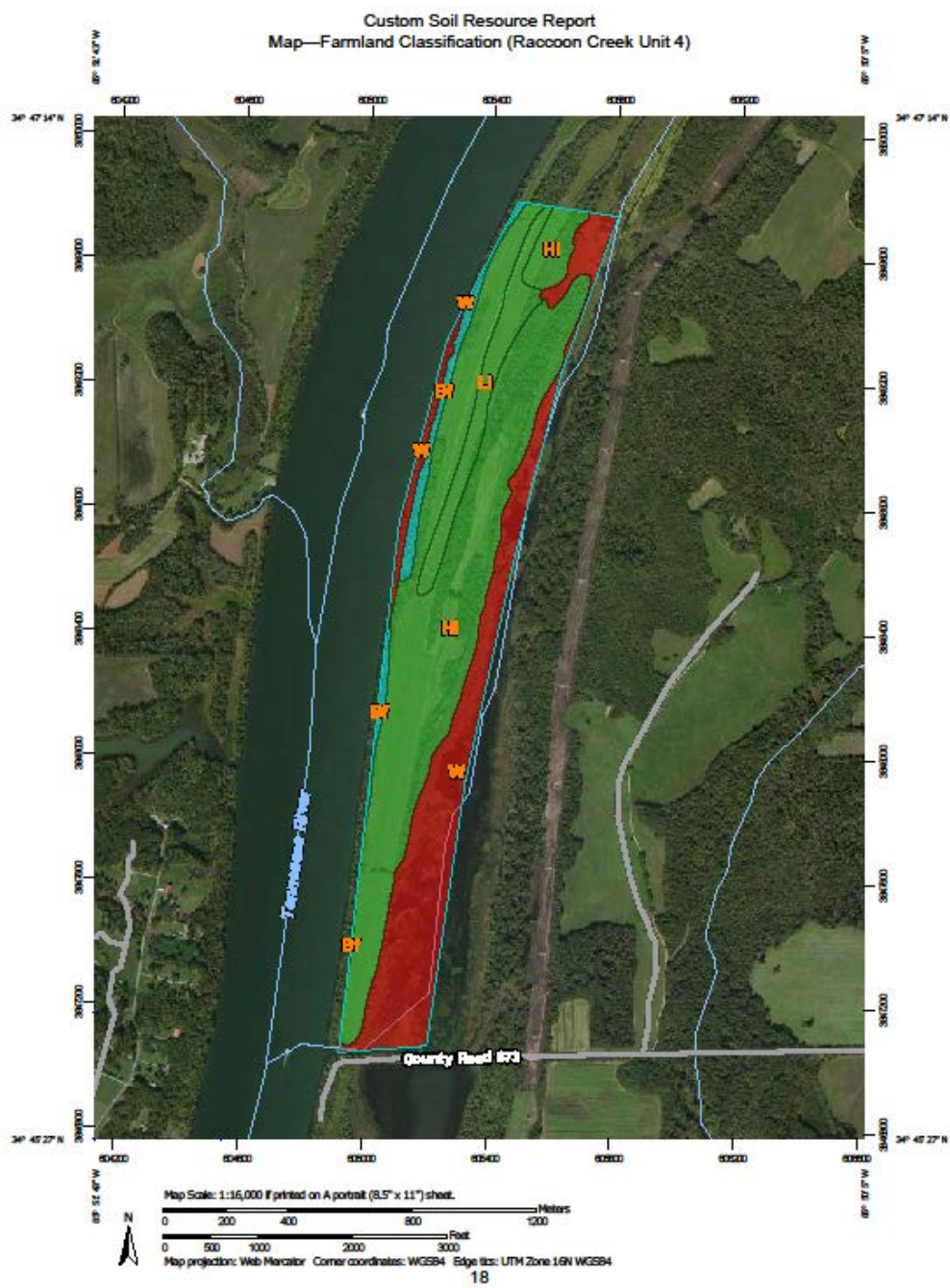


Figure 3-2 USDA Soil Report

**Table 3-4. Prime Farmland and Farmland of Statewide Importance within the project area.**

Map Unit Symbol	Map Unit Name	Rating
Bf	Bruno fine sandy loam	Farmland of statewide importance
HI	Huntington silt loam	All areas are prime farmland
LI	Lindside silt loam	All areas are prime farmland
W	Water	Not prime farmland

Environmental Consequences – Under Alternative A the proposed dewatering unit would not be constructed. Vegetation and soil in the area would continue to be managed for commercial agricultural purposes. Under this alternative, there would be no impacts to prime farmlands and Farmlands of Statewide Importance.

Under proposed Alternative B, TVA would permit and partially fund the construction of a new levee and modify an existing levee to create a fourth impoundment. The project would impact 1.25 acres of Prime Farmland, which would be converted from agricultural uses with the extension of the levee.

For comparison, Table 3-5 provides a summary of farming in Jackson county and overall in the State of Alabama. The change in farming and farming acreages from 2007 to 2012 is also included.

**Table 3.5. Farming Statistics for Jackson County, Alabama**

Location	Number of Farms	Percentage of Total Area in Farms	Land in Farms (Acres)	Average Size of Farms (Acres)	Change from 2007 to 2012		
					Number of Farms	Land in Farms (Acres)	Average Size of Farms (Acres)
Jackson County	1,376	33.6	231,845	168	-147	-11,005	+9
Alabama	43,223	27.5	8,902,654	206	-5,530	-130,883	+21

The amount of prime farmland and farmland of statewide importance that would be removed from agricultural use is minor in comparison to the total acres in Jackson County and in the state of Alabama. Therefore, impacts to prime farmlands are minor.

## **Cumulative Impacts**

Cumulative impacts are defined in the Council on Environmental Quality's regulations at 40 C.F.R. § 1508.7 as follow:

Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Past actions that have already occurred and present actions are integrated in to the existing baseline conditions discussed above. The project area and surrounding lands within the Raccoon Creek WMA have been managed for public use since 1951. Long term agreements between TVA and ADCNR stipulate that the WMA continue to be managed to benefit wildlife as well as accommodate public use of the associated resources. Due to these agreements being in place, the cumulative effects of the approval of the additional impoundment should be insignificant.

## CHAPTER 4 – SUPPORTING INFORMATION

### **Preparers**

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**ATTACHMENT A:**

Environmental Review Checklist



## Categorical Exclusion Checklist for Proposed TVA Actions

Categorical Exclusion Number Claimed	Organization ID Number RLR277408	Tracking Number <i>(NEPA Administration Use Only)</i> 34446	
Form Preparer Joshua Burnette	Project Initiator/Manager Joshua Burnette	Business Unit P&NR - Reservoir Property & Resource Mgmt	
Project Title RLR 277408 Raccoon Creek Phase 4 waterfowl impoundment			Hydrologic Unit Code
Description of Proposed Action <i>(Include Anticipated Dates of Implementation)</i> For Proposed Action See Attachments and References		<input type="checkbox"/> Continued on Page 3 <i>(if more than one line)</i>	
Initiating TVA Facility or Office		TVA Business Units Involved in Project P&NR - Reservoir Property & Resource Mgmt	
Location <i>(City, County, State)</i> Jackson, AL, Guntersville Reservoir TNRM 398L, XGR-176PT2			

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

### Part 1. Project Characteristics

Is there evidence that the proposed action...	No	Yes	Commit- ment	Information Source for Insignificance
1.Is major in scope?	X			Burnette, Joshua 08/17/2017
2.Is part of a larger project proposal involving other TVA actions or other federal agencies?	X			Burnette, Joshua 08/17/2017
* 3.Involves non-routine mitigation to avoid adverse impacts ?	X		No	Burnette, Joshua 08/17/2017
4.Is opposed by another federal, state, or local government agency?	X			Burnette, Joshua 08/17/2017
* 5.Has environmental effects which are controversial?	X			Burnette, Joshua 08/17/2017
* 6.Is one of many actions that will affect the same resources?	X			Burnette, Joshua 08/17/2017
7.Involves more than minor amount of land?		X		For comments see attachments

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

## Part 2. Natural and Cultural Features Affected

Would the proposed action...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Potentially affect endangered, threatened, or special status species?		X	No	No	For comments see attachments
2.Potentially affect historic structures, historic sites, Native American religious or cultural properties, or archaeological sites?		X	No	Yes	For comments see attachments
3.Potentially take prime or unique farmland out of production?		X	No	No	For comments see attachments
4.Potentially affect Wild and Scenic Rivers or their tributaries?	X		No	No	Burnette, Joshua 08/17/2017
5.Potentially affect a stream on the Nationwide Rivers Inventory?	X		No	No	Burnette, Joshua 08/17/2017
6.Potentially affect wetlands?		X	Yes	No	For comments see attachments
7.Potentially affect water flow, stream banks or stream channels?		X	No	No	For comments see attachments
8.Potentially affect the 100-year floodplain?		X	No	No	For comments see attachments
9.Potentially affect ecologically critical areas, federal, state, or local park lands, national or state forests, wilderness areas, scenic areas, wildlife management areas, recreational areas, greenways, or trails?		X	No	No	For comments see attachments
10.Contribute to the spread of exotic or invasive species?		X	No	No	For comments see attachments
11.Potentially affect migratory bird populations?		X	No	No	For comments see attachments
12.Involve water withdrawal of a magnitude that may affect aquatic life or involve interbasin transfer of water?	X		No	No	Burnette, Joshua 08/17/2017
13.Potentially affect surface water?	X		No	No	Burnette, Joshua 08/17/2017
14.Potentially affect drinking water supply?	X		No	No	Burnette, Joshua 08/17/2017
15.Potentially affect groundwater?	X		No	No	Burnette, Joshua 08/17/2017
16.Potentially affect unique or important terrestrial habitat?	X		No	No	For comments see attachments
17.Potentially affect unique or important aquatic habitat?	X		No	No	For comments see attachments

## Part 3. Potential Pollutant Generation

Would the proposed action potentially (including accidental or unplanned)...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Release air pollutants?		X	No	No	For comments see attachments
2.Generate water pollutants?	X		No	No	Burnette, Joshua 08/17/2017
3.Generate wastewater streams?	X		No	No	Burnette, Joshua 08/17/2017
4.Cause soil erosion?		X	Yes	No	For comments see attachments
5.Discharge dredged or fill materials?		X	Yes	No	For comments see attachments
6.Generate large amounts of solid waste or waste not ordinarily generated?	X		No	No	Burnette, Joshua 08/17/2017
7.Generate or release hazardous waste (RCRA)?	X		No	No	Burnette, Joshua 08/17/2017
8.Generate or release universal or special waste, or used oil?	X		No	No	Burnette, Joshua 08/17/2017
9.Generate or release toxic substances (CERCLA, TSCA)?	X		No	No	Burnette, Joshua 08/17/2017
10.Involve materials such as PCBs, solvents, asbestos, sandblasting material, mercury, lead, or paints?	X		No	No	Burnette, Joshua 08/17/2017
11.Involve disturbance of pre-existing contamination?	X		No	No	Burnette, Joshua 08/17/2017
12.Generate noise levels with off-site impacts?		X	No	No	For comments see attachments
13.Generate odor with off-site impacts?	X		No	No	Burnette, Joshua 08/17/2017
14.Produce light which causes disturbance?	X		No	No	Burnette, Joshua 08/17/2017
15.Release of radioactive materials?	X		No	No	Burnette, Joshua 08/17/2017
16.Involve underground or above-ground storage tanks or bulk storage?	X		No	No	Burnette, Joshua 08/17/2017
17.Involve materials that require special handling?	X		No	No	Burnette, Joshua 08/17/2017

**Part 4. Social and Economic Effects**

Would the proposed action...	No	Yes	Permit	Commitment	Information Source for Insignificance
1.Potentially cause public health effects?	X			No	Burnette, Joshua 08/17/2017
2.Increase the potential for accidents affecting the public?	X			No	Burnette, Joshua 08/17/2017
3.Cause the displacement or relocation of businesses, residences, cemeteries, or farms?	X			No	Burnette, Joshua 08/17/2017
4.Contrast with existing land use, or potentially affect resources described as unique or significant in a federal, state, or local plan?	X			No	Burnette, Joshua 08/17/2017
5.Disproportionately affect minority or low-income populations?	X			No	Burnette, Joshua 08/17/2017
6.Involve genetically engineered organisms or materials?	X			No	Burnette, Joshua 08/17/2017
7.Produce visual contrast or visual discord?	X			No	Burnette, Joshua 08/17/2017
8.Potentially interfere with recreational or educational uses?		X		No	For comments see attachments
9.Potentially interfere with river or other navigation?	X		No	No	Burnette, Joshua 08/17/2017
10.Potentially generate highway or railroad traffic problems?	X			No	Burnette, Joshua 08/17/2017

**Part 5. Other Environmental Compliance/Reporting Issues**

Would the proposed action...	No	Yes	Commitment	Information Source for Insignificance
1.Release or otherwise use substances on the Toxic Release Inventory list?	X		No	Burnette, Joshua 08/17/2017
2.Involve a structure taller than 200 feet above ground level?	X		No	Burnette, Joshua 08/17/2017
3.Involve site-specific chemical traffic control?	X		No	Burnette, Joshua 08/17/2017
4.Require a site-specific emergency notification process?	X		No	Burnette, Joshua 08/17/2017
5.Cause a modification to an existing environmental permit or to existing equipment with an environmental permit or involve the installation of new equipment/systems that will require a permit?	X		No	Burnette, Joshua 08/17/2017
6.Potentially impact operation of the river system or require special water elevations or flow conditions??	X		No	Burnette, Joshua 08/17/2017
7.Involve construction or lease of a new building or demolition or renovation of existing building (i.e. major changes to lighting, HVAC, and/or structural elements of building of 1000 sq. ft. or more)?	X		No	Burnette, Joshua 08/17/2017

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

An ☒ EA or ☐ EIS Will be prepared.

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

Project Initiator/Manager Joshua Burnette	Date 08/21/2017
TVA Organization UNKN	E-mail jaburne2@tva.gov
	Telephone

**Environmental Concurrence Reviewer**

W. Doug White 08/18/2017  
\_\_\_\_\_  
Signature

**Preparer Closure**

Joshua Burnette 08/21/17  
\_\_\_\_\_  
Signature

**Other Environmental Concurrence Signatures (as required by your organization)**

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Signature

**Other Review Signatures** (as required by your organization)**Attachments/References**

## Description of Proposed Action Continued from Page 1

Proposed project is to construct approximately a 37 acre waterfowl impoundment (field 4a shown in attached plans) to provide more recreational opportunities for the public and to create more habitat. Impoundment would be created by constructing a 1:4 levee approximately 4' in height by 40' in width to an elevation of 600'. No shaping of the existing grade would occur. All dirt used for construction would be brought in from off site from a commercial operation free of invasives or from an approved borrow pit. A portable pump would be used to fill the impoundment to an elevation of 599' and a small gravel ramp approximately 15' in width would need to be constructed along the shoreline. (See map for locations of ramp & levee). Approximately 10 trees would need to be removed for construction of the levee and consist mostly of ash, boxelder, and maples. No exfoliating bark is present in the trees to be removed.

## CEC General Comment Listing

1.	Updated plans 12-12-16		
	By: Joshua Burnette	03/28/2017	
	Files: Raccoon Creek Design Output R0 for Pre-NEPA 12-12-2016.pdf	03/28/2017	468.73 Bytes
2.	NO COMMENT TEXT		
	By: 26a Added Comment		
3.	NO COMMENT TEXT		
	By: 26a Added Comment		
4.	NO COMMENT TEXT		
	By: 26a Added Comment		

## CEC Comment Listing

## Part 1 Comments

7.	While the footprint for levee construction will be approximately 3.4 acres, the project will result in the creation of a 37 acre dewatering unit.	
	By: W. D White	08/18/2017

## Part 2 Comments

1.	See attached table for records of special status species based off of search of TVA natural heritage data on 3/21/2016. Records for Eastern Milk Snake exist within 3 miles of the project footprint. The Eastern Milk Snake habitat varies widely, and includes wet areas and agricultural field edges, which can be found within the project footprint. There could be direct effects to individuals if individuals are immobile at the time of actions (eggs). However, because there is suitable habitat in the surrounding area, mobile individuals would likely move to adjacent areas. Because the project footprint is relatively small across the landscape, impacts are not likely to affect populations of this species and are therefore not significant. Review of project plans, site photos, and TVA heritage data shows that the project is not likely to adversely affect other species or their habitat.		
	By: Brett M Hartis	04/19/2016	
	Files: 34446 Heritage_species_list.pdf	04/19/2016	84.62 Bytes
1.	Potential impacts to threatened or endangered terrestrial animal species are discussed in the Environmental Assessment.		
	By: Elizabeth B Hamrick	08/15/2017	
2.	SHPO/Tribal Attachments		
	By: Michaelyn S Harle	04/12/2017	
	Files: 17-0474 (3).pdf	04/12/2017	38.86 Bytes
	UKB_ TVA-Raccoon Creek WMA Levee, Jackson Co, AL	04/12/2017	615.85 Bytes
	Tribal CID67961_response 06Apr2017.pdf		
2.	EA Input and Consultation Letters Attached		
	By: Michaelyn S Harle	04/12/2017	
	Files: EA Input.docx	04/12/2017	14.85 Bytes
	17-0474ii (3).pdf	04/12/2017	31.80 Bytes
	UKB_ TVA-Raccoon Creek WMA Levee, Jackson Co, AL	04/12/2017	615.85 Bytes
	Tribal CID67961_response 06Apr2017.pdf		
	EBCI TVA- Raccoon Creek_response 06March2017.pdf	04/12/2017	92.42 Bytes

3. The project would impact 1.25 acres of prime farmland, which would be converted from agricultural uses with the extension of the levee. However, the amount of prime farmland and farmland of statewide importance that would be removed from agricultural use is minor in comparison to the total acres in Jackson County and the state of Alabama.

Please see the EA for additional analysis.

By: W. D White

08/18/2017

8. Please see attached word document located at  
\\main\share\rsoe\rg wm-Work-FloodRisk\H&H Impact Reviews & Studies\Reviews CEC\2017\

By: Carrie C Williamson

04/10/2017

Files: CEC 34446 gunt raccoon cr ph 4 subimpoundment.docx 04/10/2017

15.96 Bytes

9. Review of TVA heritage data shows 4 managed areas, 1 special area, and 5 natural areas within 5 miles of the project site. The project has the potential to affect these areas, specifically the Raccoon Creek State Wildlife Management Area. While this project has the potential to impact this area, the proposed actions have been identified as likely positive impacts when compared to the management goals and actions of the managed area. Proposed actions are intended to increase habitat for species of emphasis within the managed area. Any negative impacts to this area should be considered minimal.  
By: Brett M Hartis 04/19/2016

10. The proposed project does have the potential to spread invasive and/ or exotic species within the project area, especially aquatic plant species. A wide variety of invasive submersed, emergent, and floating leaf plants are currently found adjacent to the project area. Water primrose, alligatorweed, hydrilla, water hyacinth, and other species are known to occur very near to the project site. Given that the project site is currently designated as lowland terrestrial area, habitat is not currently suitable for such species, however proposed project actions may create suitable habitat for such species in the future. Furthermore, any disturbance of the existing terrestrial habitat poses the potential to introduce opportunistic terrestrial invasive plant species. BMPs(such as pumping water from unfested areas, drying/ cleaning equipment after use, avoiding material from outside of the project area, etc) should be followed to reduce the potential spread of invasive species within the project area, including during construction and maintenance of the project area in the future.

By: Brett M Hartis

04/19/2016

10. Based on review of the actions, site location information, maps, photographs, and field review, the proposed project would not contribute to the spread of exotic or invasive terrestrial animal species.

By: Elizabeth B Hamrick

08/15/2017

11. Review of TVA heritage data shows records for bald eagle and osprey within 3 miles of the project site. The project is sufficiently distant (> 660 feet) to avoid effects on these resources. The project is unlikely to affect migratory bird populations.

By: Brett M Hartis

04/19/2016

11. Potential impacts to migratory bird populations are discussed in the Environmental Assessment.

By: Elizabeth B Hamrick

08/15/2017

16. Habitat for the Eastern Milk Snake has been identified within the project footprint and records of this species exist nearby. The Eastern Milk Snake habitat varies widely, and includes wet areas and agricultural field edges, which can be found within the project footprint. There could be direct affects to individuals if individuals are immobile at the time of actions (eggs). However, because there is suitable habitat in the surrounding area, mobile individuals would likely move to adjacent areas. Because the project footprint is relatively small across the landscape, impacts are not likely to affect populations of this species and are therefore not significant.

By: Brett M Hartis

04/19/2016

16. One cave record is known within three miles of the project footprint, approximately 2.4 miles from the action area. This cave would not be impacted by the proposed actions. No caves were observed during field reviews. Supplemental habitat for wading birds and ducks exists on the Wildlife Management Area where actions are proposed. The project proposes to create additional habitat for dabbling ducks. Similarly suitable unmanaged habitat occurs in the surrounding landscape, such that this WMA habitat is not unique or important to duck population survival in the region. Activities associated with the proposed project would not impact unique or important terrestrial habitats.

By: Elizabeth B Hamrick

08/15/2017

17. Most populations of state and federally listed mussels, snails and fishes were extirpated after the completion of Guntersville Dam. Extant populations are known from some of the Tennessee River below the dams and from some of the unimpounded tributaries. Habitat at the proposed site, impounded embayment, is not suitable for the various state and federally listed aquatic species known to occur in the vicinity.

By: Brett M Hartis

04/19/2016

6. The project footprint contains wetland areas along it's lower lying reaches and the proposed changes would likely affect these wetland areas by changing the hydrologic regime in the area of the project. While the project is likely to alter existing wetland areas, the proposed actions will likely increase the overall area of wetland habitat within the project footprint and increasing recruitment of wetland plant species. Therefore, impacts to overall wetland habitat in the project area will be positive in measure.

By: Brett M Hartis

04/19/2016

6. Wetland impact analysis is discussed in the project environmental assessment.

By: Kim Pilarski-Hall

08/15/2017

7. Project plans show that the stream bank will be impacted by the placement of a mobile pump along the main channel, however impacts should be considered minimal. The proposed project also has the potential to impact water flow in the adjacent embayment, as the project proposes to draw water from that area. While water will be taken from the adjacent embayment, the rate at which the water will be drawn is low and thus the impact to adjacent stream flow should be considered minimal at best.  
By: Brett M Hartis 04/19/2016

#### Part 3 Comments

1. Minor air emissions will be emitted from heavy equipment during the construction of the levee. These impacts will be of short duration and insignificant.  
By: W. D White 08/18/2017
4. Earthwork and soil disturbance from heavy equipment has the potential to lead to erosion. This potential should be minimized with the use of standard construction BMPs.  
  
This project will disturb approximately 1.25 acres of land with the construction of the new levee, and will require an NPDES Construction General Permit. The development of a Stormwater Pollution Prevention Plan is a component of this permit.  
By: W. D White 08/18/2017
5. The construction of the levee will fill 0.29 acres of wetlands. This impact will require Section 404 permit from the US. Army Corps of Engineers and a Section 401 Water Quality Certification from the Alabama Department of Environmental Management.  
  
Additionally, 7 acres of forested wetlands will be inundated with the operation of the dewatering unit. Additional analysis of wetland impacts are described in the Environmental Assessment.  
By: W. D White 08/18/2017
12. Noise levels from construction equipment can be above nuisance levels. These impacts should only be of short duration during construction of the new levee.  
By: W. D White 08/18/2017

#### Part 4 Comments

8. Short term impacts to recreation activities such as hunting, bank fishing, and bird watching are expected during the construction of the levee. The completion of the project should lead to increased opportunities to these recreational activities. See the EA for additional analysis.  
By: W. D White 08/18/2017

#### CEC Permit Listing

##### Part 2 Permits

6. Section 404 Permit (404 Clean Water Act)  
  
By: Kim Pilarski-Hall 08/15/2017

##### Part 3 Permits

4. National Pollutant Discharge Elimination System Permit (402 Clean Water Act)  
  
By: W. D White 08/18/2017
5. State Water Quality Certification (401 Clean Water Act)  
  
By: W. D White 08/18/2017
5. Section 404 Permit (404 Clean Water Act)  
  
By: W. D White 08/18/2017

#### CEC Commitment Listing

##### Part 2 Commitments

2. User Defined: 1. the area will be taken out of no till agriculture and native vegetation will be managed allowing for year round vegetation cover.  
2. the water control structure (WCS) for draining the pool will be appropriately sized to produce a similar insignificant rate of fall. The design capacity of the WCS will be intentionally limited to avoid discharging excessive energy into the slough that may produce surface scouring  
3. All sites will be flagged and avoided during construction, no heavy equipment or laydown areas will be allowed in within the flagged areas  
4. Levee will be constructed when the land is dry and fir and construction will stay within the eastern edge of the site along the tree line.  
5. the pump and ramp will be plced outsidie the boundaries of site of 1J1197 and 1JA145  
By: Michaelyn S Harle 04/12/2017











# Raccoon Creek Wildlife Management Area - Pond 4A

## Design Engineering Output for Preliminary NEPA Assessment

by John Hoover, P.E.

R0 December 12, 2016

### 1.0 SCOPE

This report provides engineering design output that can be used by subject matter experts as input for a preliminary NEPA assessment of the proposed Pond 4A project at the Raccoon Creek Wildlife Management Area (WMA).

### 1.1 Purpose

The purpose is to provide NEPA subject matter experts with tailored design information that can be used to perform a preliminary NEPA scoping assessment.

### 1.2 Project Description

Pond 4A is located on the east bank of Guntersville Lake at Tennessee River mile (TRM) 398.3. See Figure 1.

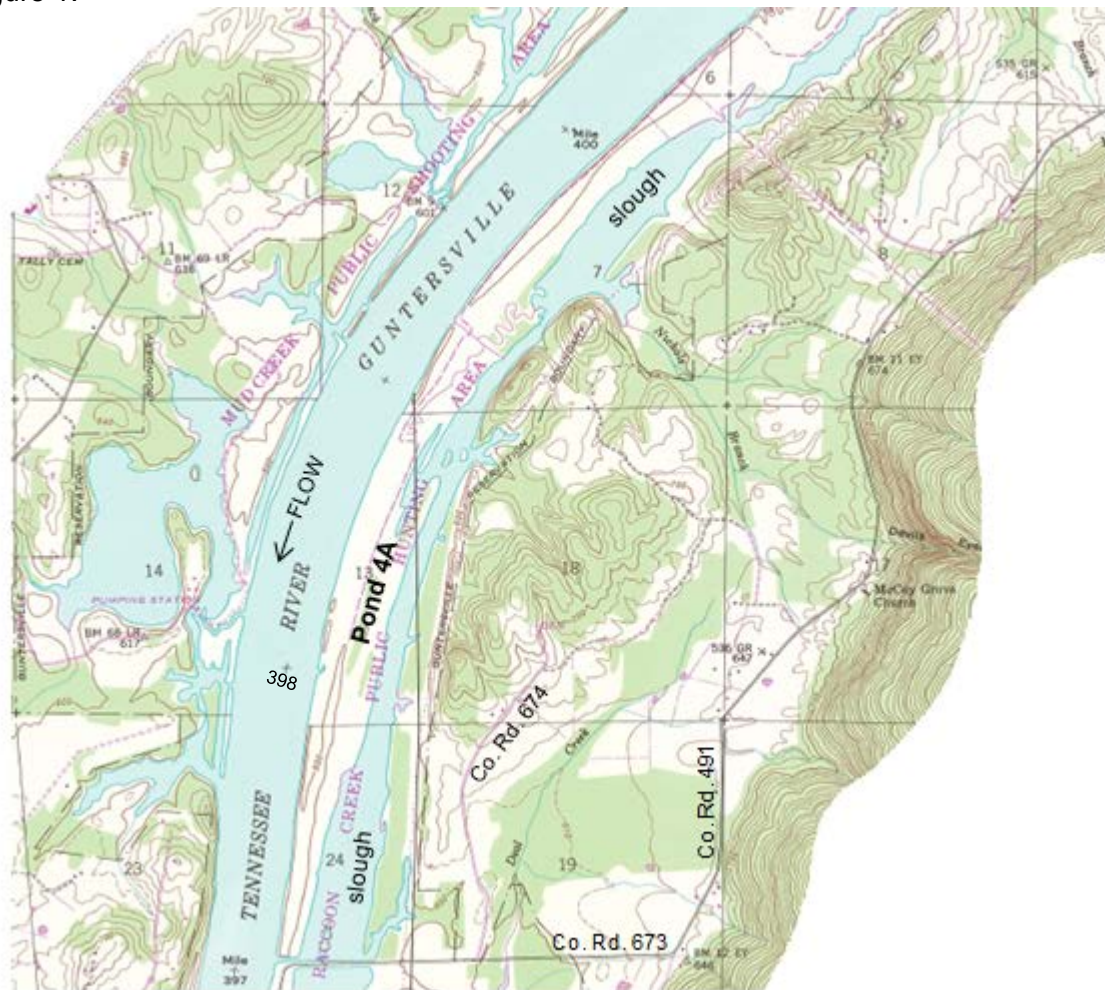


Figure 1. Site Location Map for Raccoon Creek WMA Proposed Pond 4A [8.1]

## 2.0 BACKGROUND

Previous activities for the Pond 4A project include preliminary design and a site visit by NEPA subject matter experts..

### 2.1 Preliminary Design

The survey data and conceptual layout of three new waterfowl impoundments (herein called Ponds 4A, 4B, & 4C) was performed by Ducks Unlimited (DU) [8.2]. The DU design output was then developed further and enhanced by TVA Natural Resources [8.3]. See Figure 2.



Figure 2. Preliminary Conceptual Design Plan for Pond 4A

## 2.2 Site Visit by NEPA Subject Matter Experts

A site visit was conducted by subject matter experts on November 29, 2016. Subjects of archeology, biology, engineering, wetlands, wildlife, and zoology were represented. Only the proposed site for Pond 4A was investigated because Ponds 4B and 4C have been indefinitely deferred.

## 2.3 Resulting Site Visit Action Items for Engineering

**2.3.1.** It was postulated that the new levee footprint will likely all be in a delineated wetland and may affect organic artifacts. Consequently, the new levee will be re-designed to keep the wetland disturbed area as small as possible and to be cognizant of known organic artifact zones.

**2.3.2** The average depth of Pond 4A was requested.

**2.3.3.** An evaluation by engineering that addresses potential erosion will eventually be required for the NEPA process.

**2.3.4.** Additional information regarding historical river flooding and long term inundation caused by rainwater ponding could possibly be beneficial.

## 3.0 LEVEE RE-DESIGN

The side slopes of the new levee have been increased to 30% from horizontal in order to decrease the width of the levee footprint so that the total area of affected wetland is decreased. Detailed cross sections of the new levee re-design for Pond 4A are graphed in Appendix A. The resulting specifications for Pond 4A are listed in Table 1.

FEATURE	VALUE
total disturbed area	3.4 ac
disturbed area in wetland	1.3 ac
mean pond depth	21.2 in
maximum pond depth	39.5 in
new levee mean inside toe elev	597.1 ft
new levee mean outside toe elev	596.8 ft
new levee mean height	39.6 in
loose earthen fill required	4,500 yd <sup>3</sup>
seeding area required	3.4 ac

**Table 1. Pond 4A Specifications**

## 4.0 KNOWN ORGANIC ARTIFACT ZONES

Zones of known organic artifacts are overlaid onto the levee design plan as shown in Figure 3.



Figure 3. Known Organic Artifact Zones and Levee Plan for Pond 4A

## 5.0 POTENTIAL EROSION

The threat of potential erosion is insignificant for the following reasons.

### 5.1 Stormwater Pollution Prevention Plan (SWPPP)

During construction the activities will follow a SWPPP written specifically for this project.

### 5.2 Natural Landform Slope Remains Unchanged

There will be no grading or re-shaping of the natural ground that will be the basin for Pond 4A. The existing slope of the peninsular landform is very mild and has withstood centuries of being frequently inundated by river flooding without erosion. The mean slope of the pond bottom from elevation 599.0 ft-msl to the levee toe for the entire pond length is only 0.011 ft/ft (i.e., 1.1%).



### **5.3 Vegetative Cover Remains**

Vegetative cover of the Pond 4A basin will remain year-round because the inundation will only be seasonal. The pond will be drained for the growing seasons, which will enable luscious vegetative cover to be restored and remain a vibrant source for wildlife food and cover.

### **5.4 Negligible Wave Action**

Pond 4A will be a quiescent pool protected by the levee and peninsula crest from wind. The vegetative cover will help to dampen waves, current, and wind fetch (i.e., sloshing).

### **5.5 Negligible Rate of Rise/Fall**

The FSL volume of Pond 4A (18,000,000+ gal) dwarfs the practical pump capacity of 2,800 gpm. It will take a minimum of 107 hours to fill Pond 4A. This equates to a mean water surface elevation rate of rise that is less than 1/4 inch per hour. The water control structure (WCS) for draining the pool will be appropriately sized to produce a similar insignificant rate of fall. (The design capacity of WCS will be intentionally limited to avoid discharging excessive energy into the slough.)

## **6.0 FLOOD INUNDATION**

This site is known to frequently flood and be partially inundated for long periods. The following subsections quantify those subjective observations.

### **6.1 Maximum Flood of Record**

The maximum flood of record at the site occurred in 1867. [8.4] The flood crested at elevation 616 ft-msl, so the flood applied a minimum water column height of 17 ft on any artifacts potentially affected by Pond 4A. This means the organic artifacts have all been exposed to a pressure that exceeds 1,060 psf, which is much greater than the weight of the new levee or the water weight of Pond 4A.

### **6.1 River Flooding**

Using historical data for the Scottsboro gage, South Pittsburg gage, and Nickajack Dam discharge records the river elevation at the Pond 4A site has exceeded the FSL elevation of Pond 4A (599.0 ft-msl) on at least 100 days since 1986. [8.5] [8.6]

**6.1.1.** Using extrapolation and Source Documents 8.4, 8.5, & 8.6 it can be hypothesized that elevation 599.0 ft-msl at TRM 398.3 has been exceeded on no fewer than 300 days.

**6.1.2.** The river elevation at TRM 398.3 has exceeded 596.3 ft-msl no less than 600 days since January 1, 1986.

**6.1.3.** Based on electronic water records, extrapolation back in time, and Source Documents 8.4, 8.5, & 8.6 it can be theorized that the river elevation at TRM 398.3 has exceeded 596.3 ft-msl on a minimum of 1,600 days.

### **6.2 Slough Flooding**

As the river rises, the slough also rises. When the slough water surface elevation exceeds approximately 596.3 ft-msl, the existing no-till field becomes partially flooded.

### 6.3 Standing Water

As the slough rises, water flows onto the lower reaches of the project site from the slough via the wetlands between the north end of the existing levee and cross section STA 69+00. When the slough recedes, standing water will remain and inundate the lower elevations of the project site for long periods of time. See Figure 4, Figure 5, and the cross section plots in Appendix A.

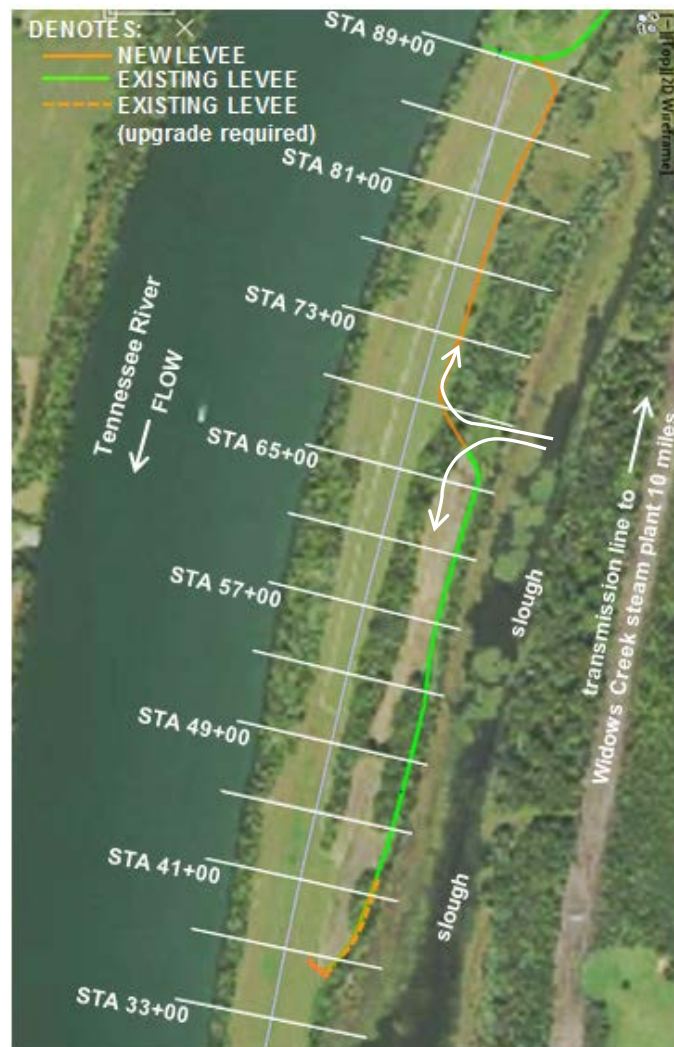


Figure 4. Flow Paths to Existing Project Site Caused by Slough Flooding

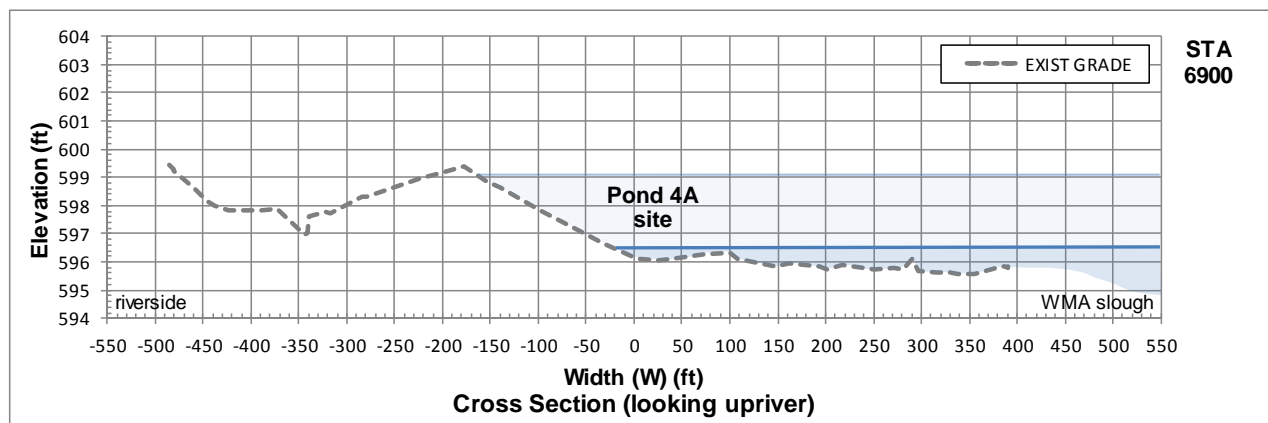


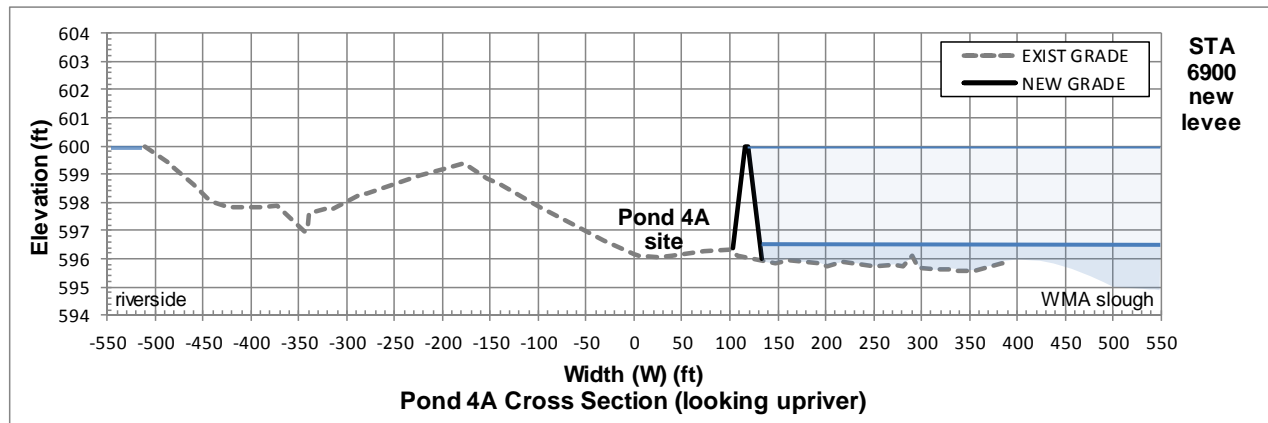
Figure 5. Flow Path to Existing Project Site Caused by Frequent Slough Flooding



**6.3.1** Standing water on the project site is also caused by rainfall. Careful study of the of the cross sections plotted in Appendix A reveals bowls and lowlands where runoff cannot escape. This is especially true for water that gets trapped on the inside of the existing levee.

## 6.4 Organic Artifact Inundation Reduction

The proposed new levee for Pond 4A will eliminate inundation of the Pond 4A footprint that is caused by slough flooding. If the new levee had been constructed in 1939, at least 1,000 days of organic artifact inundation would have been prevented within the Pond 4A footprint. See Figure 6.



**Figure 6. Organic Artifact Inundation Protection from Slough Flooding by New Levee**

## 7.0 CONCLUDING COMMENTARY

### 7.1 Artifact Inundation

It is this author's opinion that the proposed Pond 4A footprint "floods a lot" and "often has standing water". During February through November for the life of the proposed Pond 4A project, the new levee will eliminate inundation of cultural artifacts that is caused by slough flooding.

### 7.2 Levee Weight on Cultural Artifacts

Relative to the water weight of 1,060 psf for the 1867 flood or annual wheel loads for a 32,000-lb John Deere T670 self-propelled combine harvester, the weights of the new levee or associated construction loads are less.

### 7.3 Site Serenity

The noise, vibration, dust, and diesel exhaust pollution that result from operating a John Deere T670 combine for soy bean harvesting is very disturbing. A compromise could possibly be explored with Native American stakeholders and ADCNR whereby the State prohibits huge, deafening farm implements from driving on any known areas of buried human remains that have already been mapped within the Pond 4A footprint.

## **8.0 SOURCE DOCUMENTS**

### **8.1 Map**

- USGS Quadrangle 95E, Stevenson, AL.

### **8.2 Interim Design**

- Ducks Unlimited Project No. DU-AL-14-4, by William T. Hill, P.E., dated May 12, 2015.

### **8.3 Owner's Review**

- Hoover, John H., "Raccoon Creek Wildlife Management Area - Owner's Review of Proposed Levee Additions in Phase 4," TVA Natural Resources, Knoxville, TN, March 11, 2016.

### **8.4 TVA Drawing**

- TVA Drawing 1K112, "Flood Profiles," Flood Control Investigations by Water Control Planning Department, Knoxville, TN, January 1, 1940.

### **8.5 TVA Water Records**

- "Scottsboro Midnight Stage Gage Readings, 1986 - 2016," TVA River Forecast Center, Knoxville, TN, retrieved on December 12, 2016.
- Nickajack Dam Hourly Discharge Records, 1985 - 2016," TVA River Forecast Center, Knoxville, TN, retrieved on December 12, 2016.
- "South Pittsburg Midnight Stage Gage Readings, 2003 - 2016," TVA River Forecast Center, Knoxville, TN, retrieved on December 12, 2016.

### **8.6 TVA Geographic Information Systems - Stream Gage Project**

- "Tennessee River nr Scottsboro, Previous Descriptions,"  
<http://ssv.tva.gov/infrastructure/RSGISLR/GIS/Stream%20Gage%20Project/>
- "Tennessee River at South Pittsburg, Previous Descriptions,"  
<http://ssv.tva.gov/infrastructure/RSGISLR/GIS/Stream%20Gage%20Project/>

## APPENDIX A - Levee Cross Sections

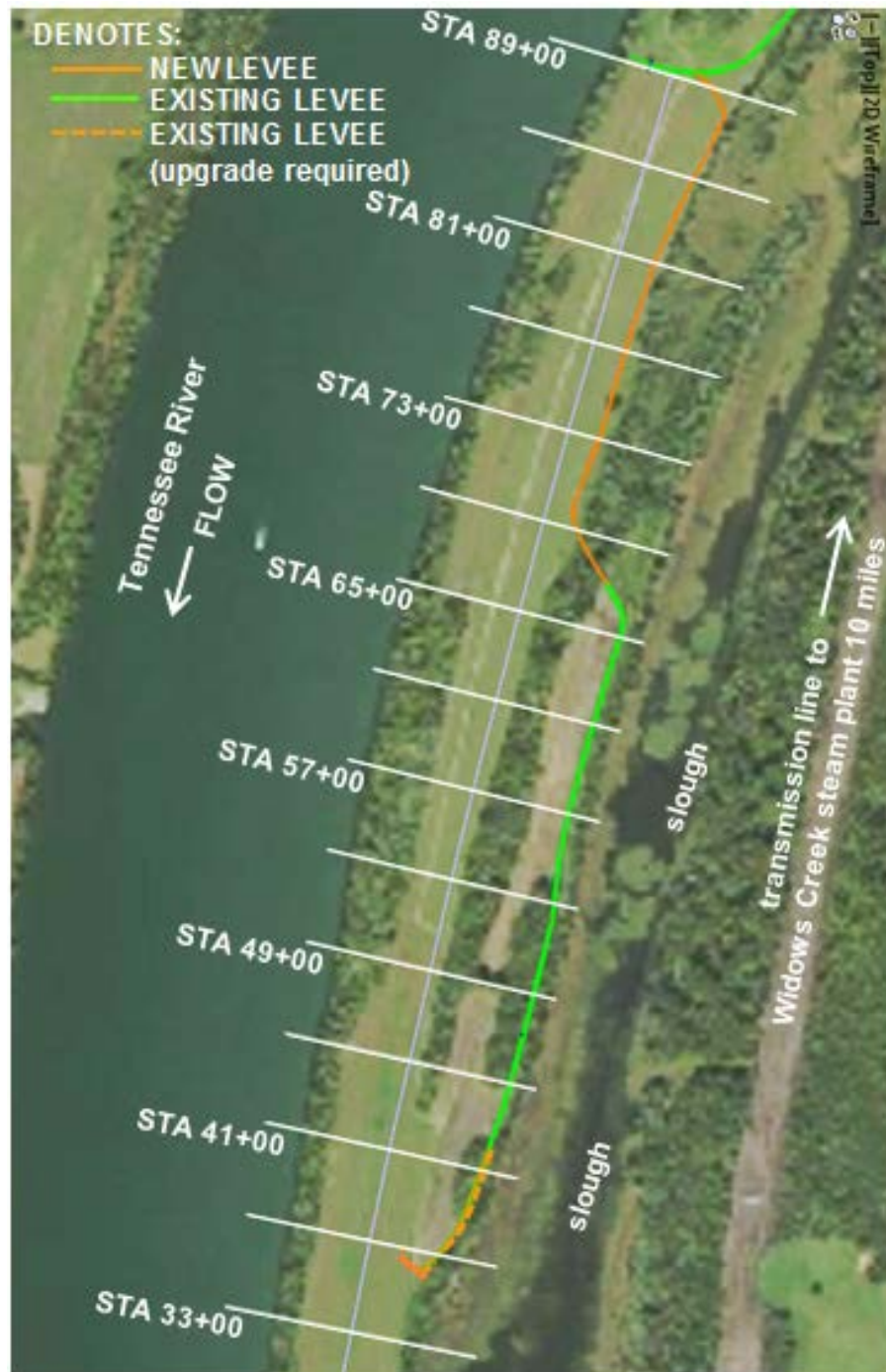
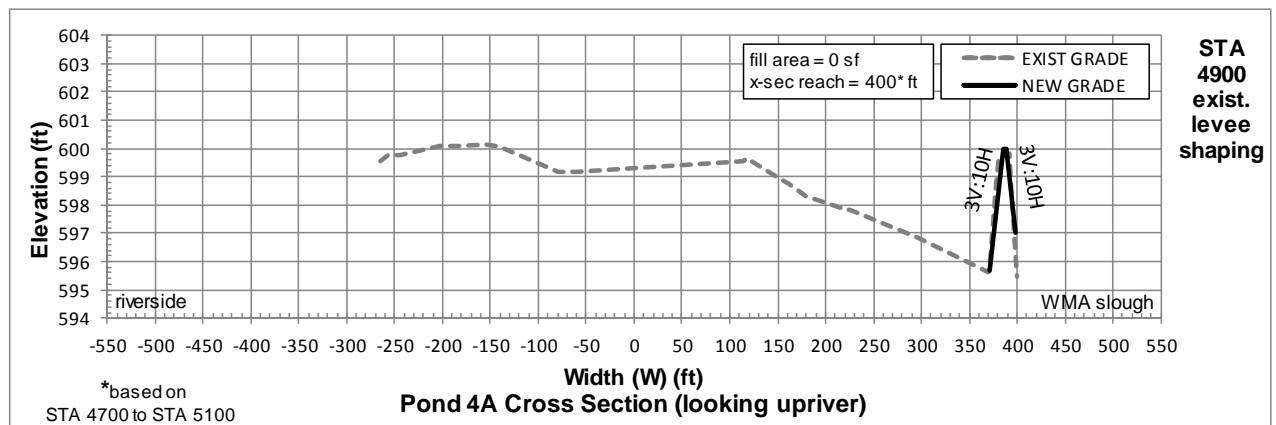
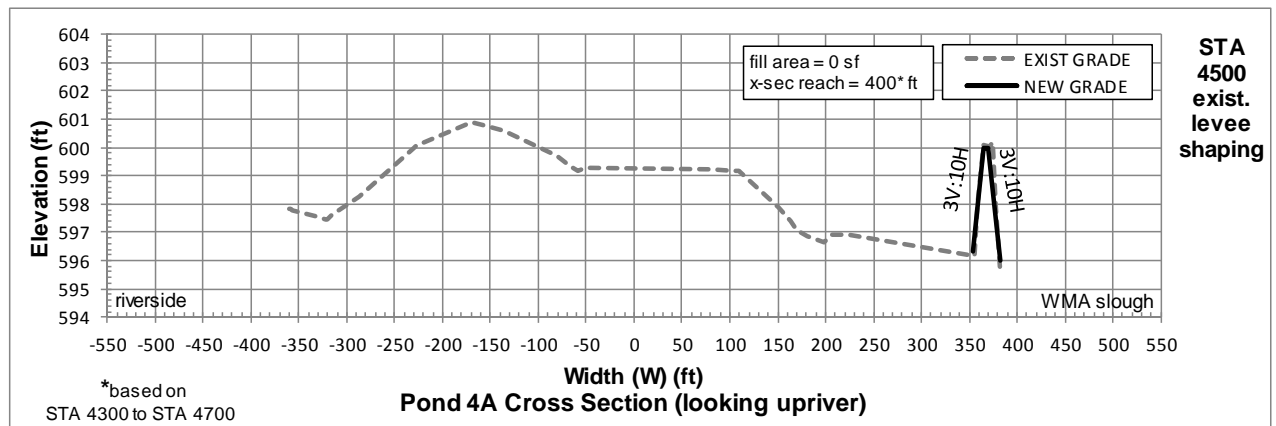
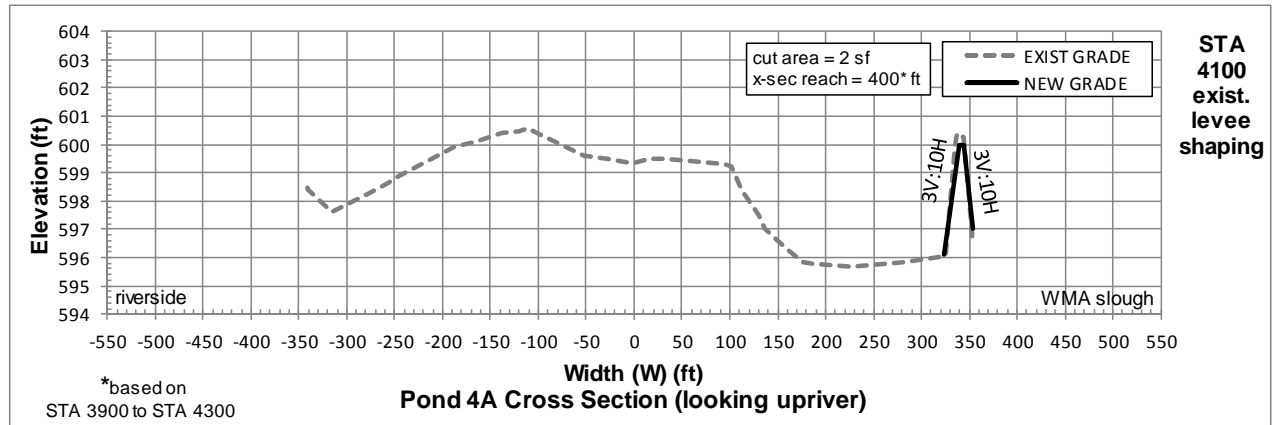
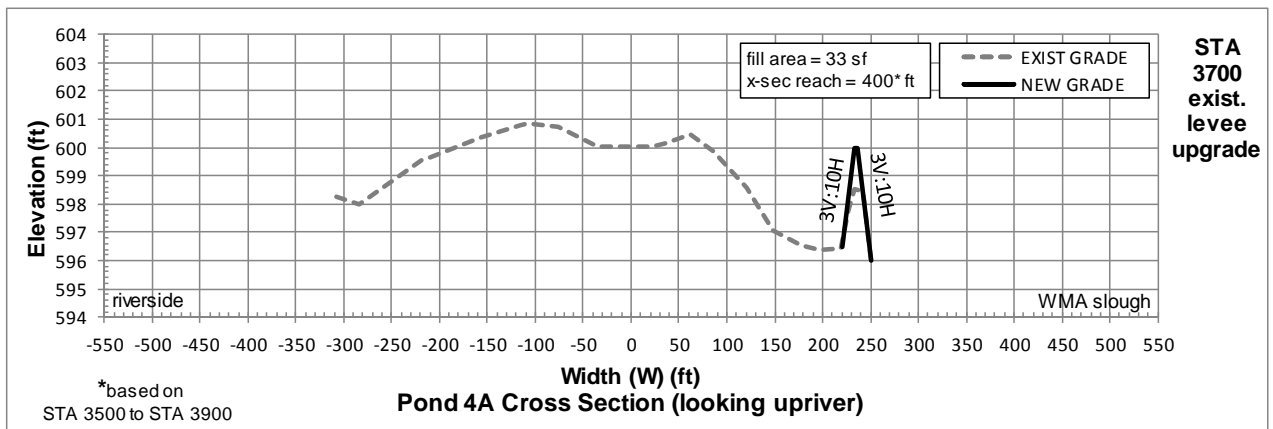
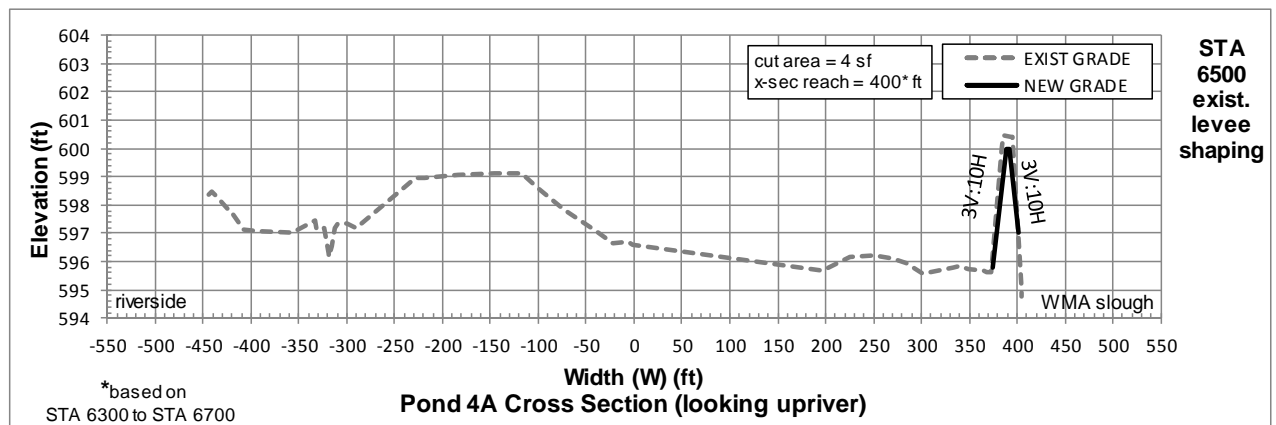
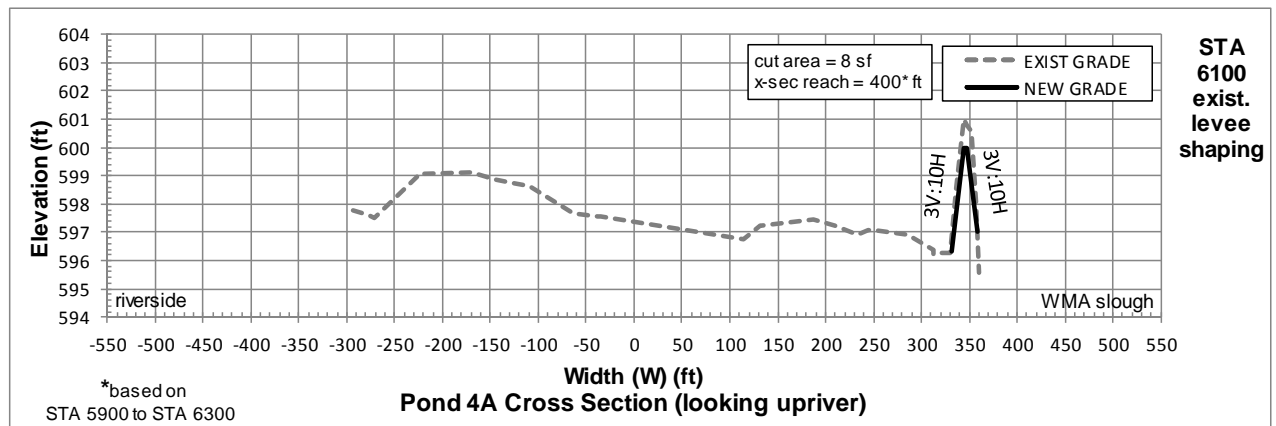
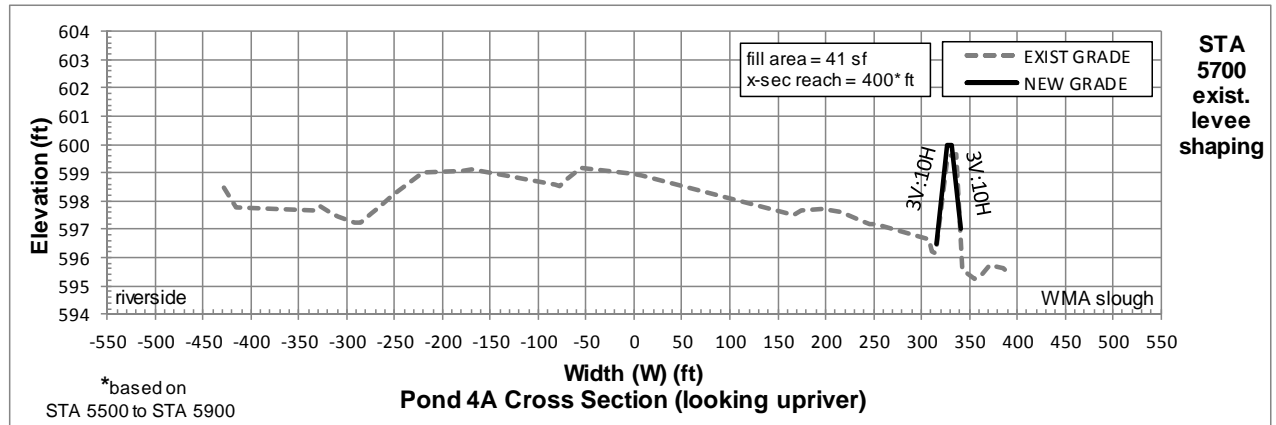
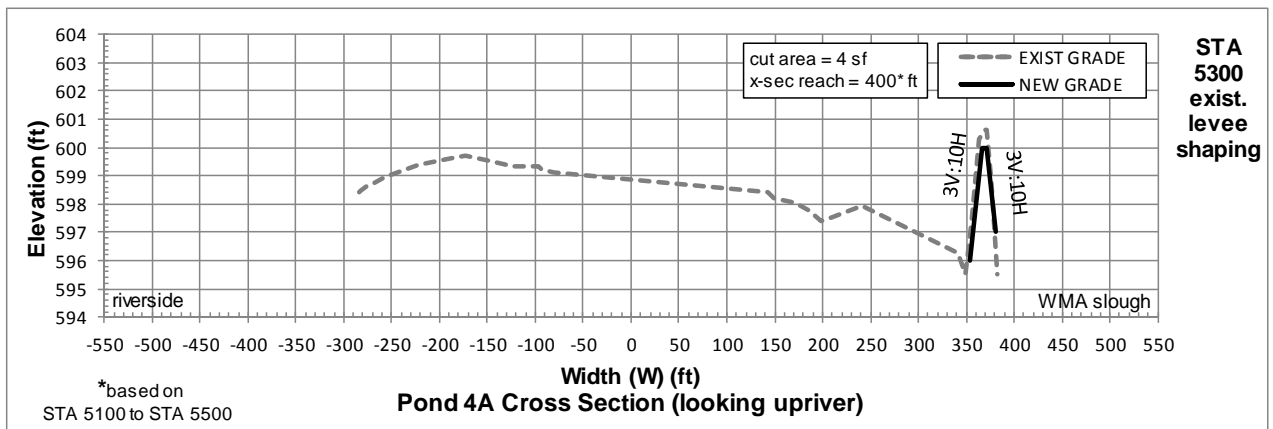


Figure A1. Proposed Levee Locations and Cross Sections for Pond 4A



**Figure A2. Cross Sections for Proposed Pond 4A**



**Figure A2. Cross Sections for Proposed Pond 4A (cont'd)**

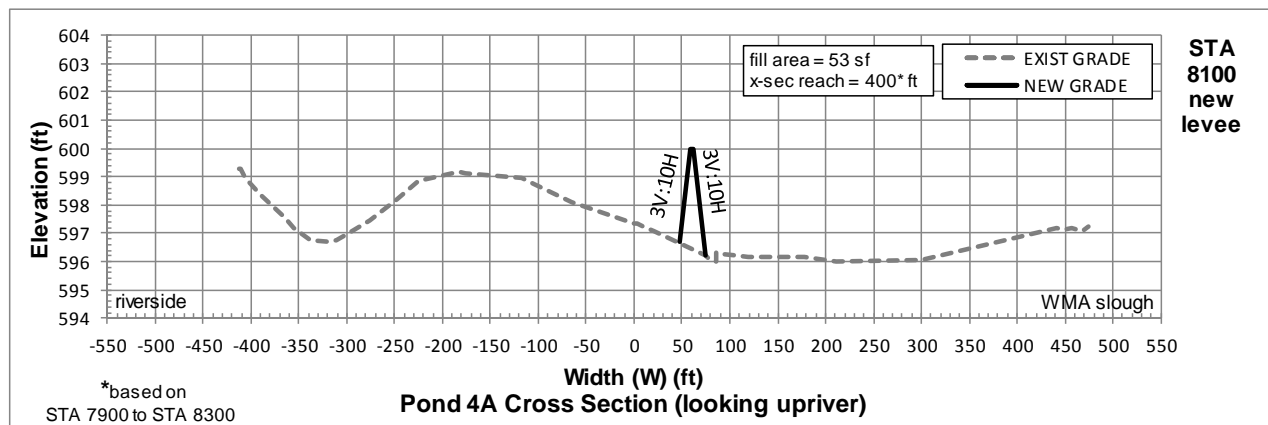
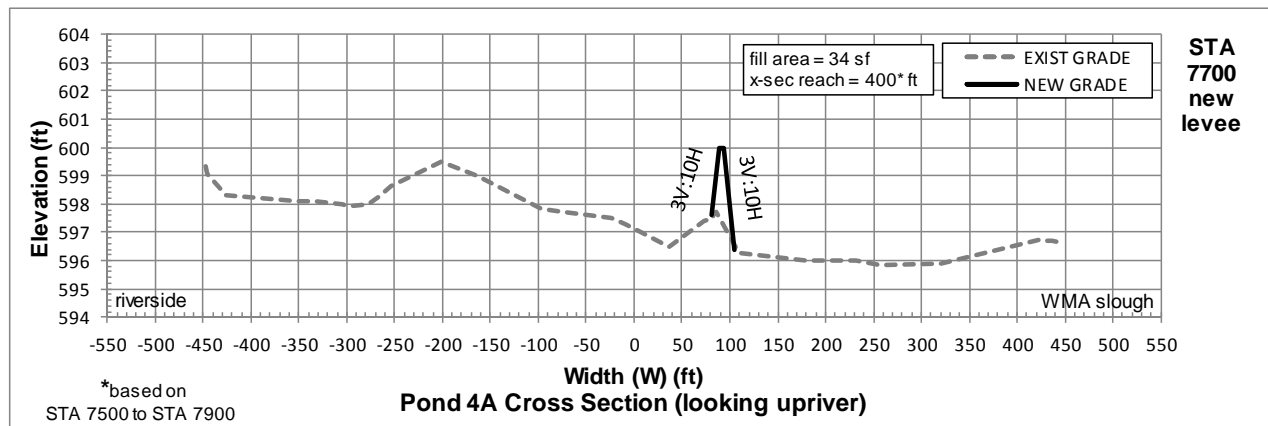
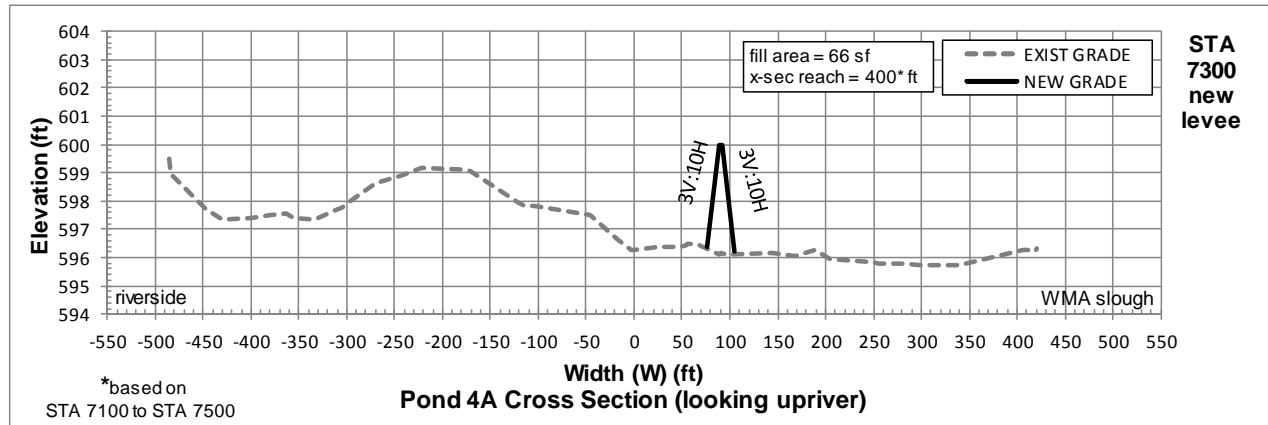
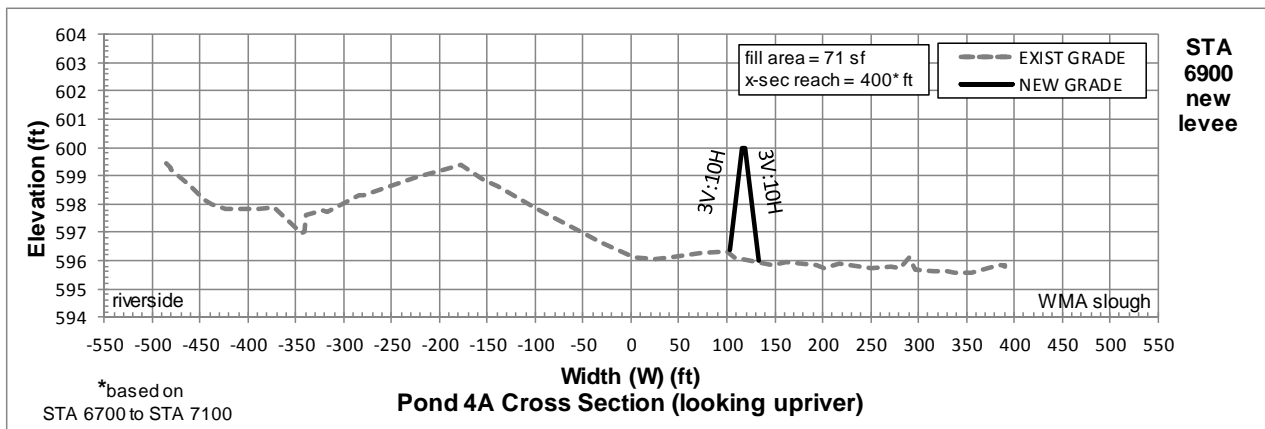


Figure A2. Cross Sections for Proposed Pond 4A (cont'd)

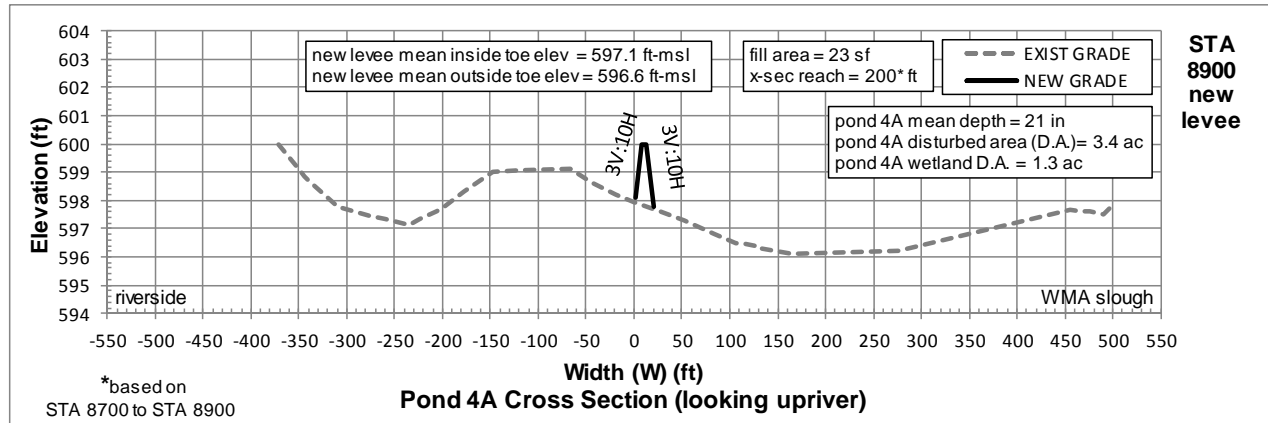
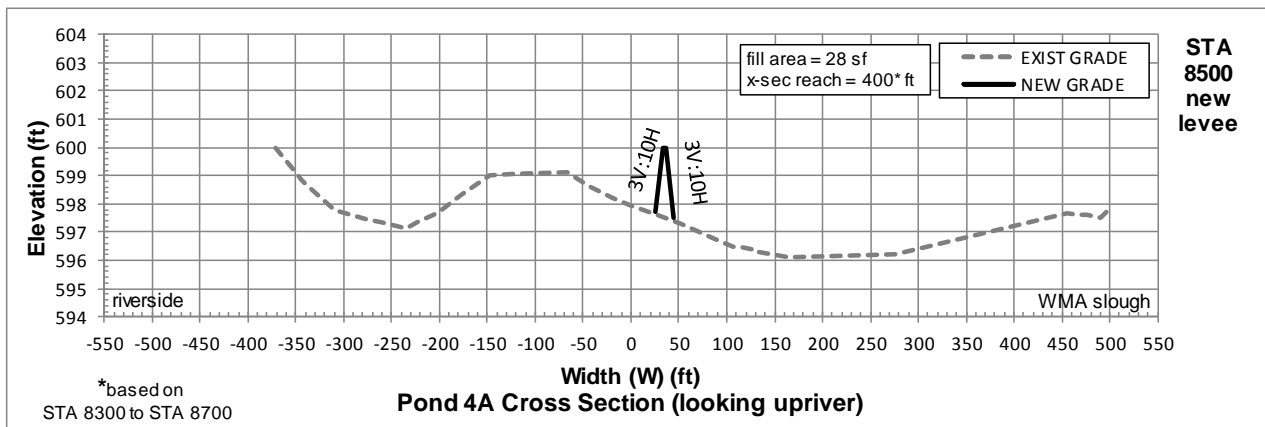


Figure A2. Cross Sections for Proposed Pond 4A (cont'd)



**Table 1. Records of state- and federal-listed aquatic animal species located within a 10 mile radius search**

<u>Scientific Name</u>	<u>Common Name</u>	<u>EO Rank</u>	<u>State Rank</u>	<u>State Status</u>	<u>Federal Status</u>	<u>Watershed</u>
Ellipsaria lineolata	Butterfly	E - Verified extant (viability)	S3	TRKD		
Plethobasus cooperianus	Orange-foot Pimple	H - Historical	S1	PROT	LE	
Plethobasus cyphus	Sheepnose	H - Historical	S1	PROT	LE	
Pleurobema cordatum	Ohio Pigtoe	E - Verified extant (viability)	S2	TRKD		
Pleurobema rubrum	Pyramid Pigtoe	H - Historical	S2	PROT		
Quadrula fragosa	Winged Mapleleaf	H - Historical	SX	PROT	LE	
Quadrula metanevra	Monkeyface	E - Verified extant (viability)	S3	TRKD		
Typhlichthys subterraneus	Southern Cavefish	E - Verified extant (viability)	S3	PROT		

**Table 2. Records of state- and federal-listed plant species and champion tree points located within a 5 mile radius search**

<u>Scientific Name</u>	<u>Common Name</u>	<u>EO Rank</u>	<u>State Rank</u>	<u>State Status</u>	<u>Federal Status</u>	<u>Watershed</u>
Aralia racemosa	American Spikenard	E - Verified extant (viability)	S1	SLNS		
Asplenium trichomanes	Maidenhair Spleen	E - Verified extant (viability)	S2S3	SLNS		
Bigelovia nuttallii	Nuttall's Rayless Gc	E - Verified extant (viability)	S3	SLNS		
Carex purpurifera	Sedge	E - Verified extant (viability)	S2	SLNS		
Chelone lyonii	Pink Turtlehead	E - Verified extant (viability)	S1	SLNS		
Corallorhiza wisteriana	Wister Coral-root	E - Verified extant (viability)	S2	SLNS		
Coreopsis pulchra	Woodland Tickseed	E - Verified extant (viability)	S2	SLNS		
Cuscuta harperi	Harper's Dodder	E - Verified extant (viability)	S2	SLNS		
Cystopteris tennesseensis	Tennessee Bladder	E - Verified extant (viability)	S2	SLNS		
Eurybia surculosa	Creeping Aster	E - Verified extant (viability)	S1	SLNS		
Helianthus longifolius	Longleaf Sunflower	E - Verified extant (viability)	S1S2	SLNS		
Jeffersonia diphylla	Twinleaf	E - Verified extant (viability)	S2	SLNS		
Orobanche uniflora	One-flowered Broo	E - Verified extant (viability)	S2	SLNS		
Polymnia laevigata	Tennessee Leafcup	E - Verified extant (viability)	S2S3	SLNS		
Prosartes maculata	Spotted Mandarin	E - Verified extant (viability)	S1	SLNS		
Rhododendron minus	Carolina Rhododen	E - Verified extant (viability)	S2	SLNS		

Schoenolirion croceum	Sunnybell	E - Verified extant (viabilit	S2	SLNS		
Silphium brachiatum	Cumberland Rosinv	E - Verified extant (viabilit	S2	SLNS		
Stewartia ovata	Mountain Camellia	E - Verified extant (viabilit	S2S3	SLNS		
Triosteum angustifolium	Horse-gentian	E - Verified extant (viabilit	S1	SLNS		
Viola canadensis	Canada Violet	E - Verified extant (viabilit	S2	SLNS		

**Table 3. Records of Managed Areas (MABR) points and Heritage Sites (SBR) points located within a 5 mile radius search**

Managed Areas (MABR) Points

Managed Area Name

RACCOON CREEK STATE WILDLIFE MANAGEMENT AREA

MUD CREEK STATE WILDLIFE MANAGEMENT AREA

CROW CREEK STATE REFUGE AREA

COON GULF TVA SMALL WILD AREA

Heritage Sites (SBR) Points

Site Name

COON GULF

Heritage Natural Areas

MA Name

COON GULF TRACT- FOREVER WILD ALABAMA

COON GULF TVA SMALL WILD AREA

CROW CREEK REFUGE STATE WILDLIFE MANAGEMENT AREA

MUD CREEK STATE WILDLIFE MANAGEMENT AREA

RACCOON CREEK STATE WILDLIFE MANAGEMENT AREA

**Table 4. Records of state- and federal-listed terrestrial animal species and heronry points located within a 3 mile radius search**

<u>Scientific Name</u>	<u>Common Name</u>	<u>EO Rank</u>	<u>State Rank</u>	<u>State Status</u>	<u>Federal Status</u>	<u>Watershed</u>
Aneides aeneus	Green Salamander	E - Verified extant (viabilit	S3	PROT		
Haliaeetus leucocephalus	Bald Eagle	AC - Excellent, good, or fai	S3	PROT	DM	
Lampropeltis triangulum triangulum	Eastern Milk Snake	E - Verified extant (viabilit	S2	TRKD		
Pandion haliaetus	Osprey	E - Verified extant (viabilit	S5	PROT		

**Table 5. Records of caves sites located within a 3 mile radius search**

<u>Location</u>	<u>Number</u>	<u>EO Rank</u>
AL Jackson County Cave		Not ranked

**Date of Request:** March 24, 2017

**Requested By:** Josh Burnette

**Request Type:** joint project with public and private organizations

**RLR Number:** 277408

**CEC Number:** 34446

**Applicant:** TVA

**Proposed Activity:** Raccoon Creek Phase 4 waterfowl impoundment

**Location:** Tennessee River miles 397.0 - 400.4L

100yr: 602.9 - 604.4

FRP: 604.8 - 606.5

FCSZ: 593.0 - 606.5

PSZ: 593.0 - 595.0

14.07 AF for levees (22,700 cy)

**Response Method:** Entered in ENTRAC

**Date of Response:** April 10, 2017

**Response Prepared By:** Carrie Williamson

**Comments and Conditions:**

The proposed project involves modifications to an existing waterfowl subimpoundment on Guntersville Reservoir between Tennessee River miles 397.0 and 400.4, left descending bank, to create additional shallow water habitat for wintering waterfowl.

The 100-year flood and TVA Flood Risk Profile elevations are shown in Table FP-1.

Table FP-1. River miles and flood elevations, NGVD 1929.

<b>Location</b>	<b>100-year flood elevation</b>	<b>TVA Flood Risk Profile elevation</b>
Tennessee River Mile 397.0	602.9	604.8
Tennessee River Mile 400.4	604.4	606.5

Cut and fill would take place between elevations 596 and 602. The project would result in the loss of approximately 14.1 acre-feet of flood control storage. Based on information provided in Josh Burnette's March 27 e-mail, the project would meet all of the criteria established in the guideline for handling flood control storage loss associated with waterfowl subimpoundments. Therefore, Flood Risk has no objection to the proposed project.

The following information was entered in ENTRAC:

<b><u>Category</u></b>	<b><u>Potentially Affect the 100-Year Floodplain?</u></b>	<b><u>Permit(s)</u></b>	<b><u>Commitment(s)</u></b>
Part 2 #8 - Floodplains	Yes	No	No



# ALABAMA HISTORICAL COMMISSION

468 South Perry Street  
Montgomery, Alabama 36130-0900  
334-242-3184 / Fax: 334-240-3477

Lisa D. Jones  
Executive Director  
State Historic Preservation Officer

March 29, 2017

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

Re: AHC 2017-0474  
Raccoon Creek Wildlife Management Area Levee  
Additional Information  
Jackson County

Dear Mr. Jones:

Based upon the additional information provided to our office on 28 March 2017 regarding the above referenced project, we find that we agree that sites IJA140, IJA145, IJA1197, IJA1198, and IJA1199 are potentially eligible for the National Register of Historic Places (NRHP), and sites IJA140, IJA145, IJA1197, and IJA1199 remain unevaluated for the NRHP. Per information provided by TVA understand that these sites will be avoided and protected from project activities. Therefore, we concur with TVA's determination that this undertaking will have no adverse effect to cultural resources listed on, or eligible for the NRHP.

We appreciate your commitment to helping us preserve Alabama's historic archaeological and architectural resources. Should you have any questions, please contact Eric Sipes at 334.230.2667 or [Eric.Sipes@ahc.alabama.gov](mailto:Eric.Sipes@ahc.alabama.gov). Have the AHC tracking number referenced above available and include it with any future correspondence.

Sincerely,

Lee Anne Wofford  
Deputy State Historic Preservation Officer

LAW/EDS/amh



Eastern Band of Cherokee Indians  
Tribal Historic Preservation Office  
P.O. Box 455  
Cherokee, NC 28719  
Ph: 828-359-6852 Fax 828-488-2462

DATE: 06 – March – 17

TO: Tennessee Valley Authority  
ATTN: Patricia Bernard Ezzell  
400 West Summit Hill Drive  
Knoxville, TN 37902

**PROJECT: Raccoon Creek Wildlife Management Land Area Levee**

Program Manager Ezzell:

The Tribal Historic Preservation Office of the Eastern Band of Cherokee Indians (EBCI THPO) accepts the invitation to comment on this proposed section 106 activity under §36CFR800.

I have taken the time to review the findings of the Phase I archaeological assessment associated with this undertaking, and agree with the eligibility determinations of the associated archaeological sites. With mitigation efforts in place to protect the one eligible and 4 undetermined sites, it is the opinion of the EBCI THPO that no cultural resources important to the Cherokee people should be adversely impacted by this proposed federal undertaking. As such, the proposed undertaking may proceed as planned. In the event that project design plans change, or cultural resources or human remains are inadvertently discovered, the EBCI THPO requests that all work cease and be notified so we may continue the nation-to-nation consultation process as stipulated under §36CFR800.

If we can be of further service, or if you have any comments or questions, please feel free to contact me at (828) 359-6852.

Sincerely,

Holly Austin  
Tribal Historical Preservation Office  
Eastern Band of Cherokee Indians

**From:** [Ezzell, Patricia Bernard](#)  
**To:** [Shuler, Marianne M](#); [McCampbell, Amy Boardman](#); [Harle, Michaelyn S](#)  
**Subject:** FW: TVA Raccoon Creek Wildlife Management Area Levee, Jackson County, Alabama  
**Date:** Friday, February 17, 2017 9:37:50 AM

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Comments from Shawnee Tribe.--Pat

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**From:** Tonya Tipton  
**Sent:** Thursday, February 16, 2017 5:11 PM  
**To:** Ezzell, Patricia Bernard  
**Subject:** TVA Raccoon Creek Wildlife Management Area Levee, Jackson County, Alabama

**TVA External Message. Please use caution when opening.**

This letter is in response to the above referenced project.

The Shawnee Tribe's Tribal Historic Preservation Department concurs that no known historic properties will be negatively impacted by this project.

We have no issues or concerns at this time, but in the event that archaeological materials are encountered during construction, use, or maintenance of this location, please re-notify us at that time as we would like to resume consultation under such a circumstance.

Thank you for giving us the opportunity to comment on this project.

Sincerely,  
Tonya Tipton  
Shawnee Tribe





**From:** [Shuler, Marianne M](#)  
**To:** [McCampbell, Amy Boardman](#); [Harle, Michaelyn S](#)  
**Subject:** FW: TVA-Raccoon Creek WMA Levee, Jackson Co, AL Tribal CID67961 14Feb2017  
**Date:** Thursday, April 06, 2017 1:00:43 PM  
**Attachments:**

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FYI

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**From:** karen pritchett  
**Sent:** Wednesday, April 05, 2017 1:09 PM  
**To:** Shuler, Marianne M  
**Cc: Subject:** FW: TVA-Raccoon Creek WMA Levee, Jackson Co, AL Tribal CID67961 14Feb2017

**TVA External Message. Please use caution when opening.**

Dear Marianne,

On behalf of Tribal Historic Preservation Officer (THPO) Eric Oosahwee-Voss, please accept this digital communication regarding TVA, Raccoon Creek Wildlife Management Area Levee, Jackson County, Alabama.

Please be advised that the proposed undertaking lies within the traditional territory of the United Keetoowah Band of Cherokee Indians in Oklahoma (UKB). This opinion is being provided by UKB THPO, pursuant to authority vested by the UKB Corporate Board and under resolution 16-UKB-34. The United Keetoowah Band is a Federally Recognized Indian Nation headquartered in Tahlequah, OK.

We agree with the report findings that the project will result in a finding of no adverse effect to historic properties. As the project moves forward we request the following conditions be followed:

Condition 1: Inadvertent Discoveries - In the event that human remains, burials, funerary items, sacred objects, or objects of cultural patrimony are found during project implementation, the proponent or his/her authorized agent shall cease work immediately within 200 ft of the find. They shall take steps to protect the find from further damage or disruption. They shall contact the THPO at (918) 458-6717 [desk] or (918) 207-7182 [cell] to report the find. The THPO shall contact the appropriate law enforcement authority if human remains are found. No further work shall be allowed on the project until the THPO has approved a plan for managing or preserving the remains or items.

Condition 2: Post Review Discoveries - In the event that pre-contact artifacts (i.e., arrowheads, spear points, mortars, pestles, other ground stone tools, knives, scrapers, pottery or flakes from the manufacture of tools, fire pits, culturally modified trees, etc.) or historic period artifacts or features (i.e., fragments of old plates or ceramic vessels, weathered glass, dumps of old cans, cabins, root cellars, etc.) are found during project implementation, the proponent or his/her authorized agent shall cease work immediately within 200 ft of the find. They then shall contact the THPO at (918) 458-6717 [desk] or (918) 207-7182 [cell] to report the find. No further work shall be allowed on the

project until the THPO has approved a work plan for managing or preserving the artifacts or features.

Condition 3: Activities that have the potential to disturb cultural resources outside the areas specified in the accompanying document(s) are not approved and will not proceed until cultural resources review of potential adverse effects in the new area has been completed.

Thank you for consulting with the UKB. Please note that these comments are based on information available to us at the time of the project review. We reserve the right to revise our comments as information becomes available. If you have any questions or concerns, please contact me at (918) 458-6715 or [REDACTED] or THPO Eric Oosahwee-Voss at (918) 458-6717 or [REDACTED]  
[REDACTED]

UKB#     U17-459  
         17.0468

Thank you,  
Karen Pritchett  
THPO Assistant  
Tribal Historic Preservation Office  
United Keetoowah Band of Cherokee Indians in Oklahoma  
P. O. Box 1245  
Tahlequah, OK 74465  
918-458-6715

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