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DEERFIELD MARINA PROPOSED COMMERCIAL RECREATION LICENSE AND WATER USE FACILITIES

FINAL ENVIRONMENTAL ASSESSMENT

Norris Reservoir Campbell County, Tennessee

> **PREPARED BY: TENNESSEE VALLEY AUTHORITY**

> > **NOVEMBER 2019**

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CHAPTER 1

1.0 PURPOSE AND NEED FOR ACTION

Parc Properties, LLC (the applicant) proposes to develop Tennessee Valley Authority (TVA) property on Norris Reservoir in Campbell County, Tennessee, for commercial recreation purposes. In 2018, the applicant requested that TVA approve a marina and grant a commercial recreation license to allow for the development and operation of the marina, including pedestrian use facilities and bank stabilization. The proposal is consistent with TVA's mission of service and meets TVA's goal of providing recreational opportunities in the Tennessee Valley Region.

The property is located on a portion of tract XNR-156 on the right descending bank of the Powell River in an embayment of Norris Reservoir at Powell River Mile 8.1 (Figures 1-1 and 1-2). TVA owns the property below the shoreline (1020-foot contour). TVA retains flowage rights only on XNR-156 from the 1020-foot contour to the 1044-foot contour elevation. Currently, a community water-use facility for the backlying Deerfield Resort is constructed in the proposed project limits. The current facility consists of two covered floating boat slips, with a total of 48 boat slips.

The proposal includes a multi-slip marina facility on this property consisting of 288 boat slips for public rent, establishment of harbor limits, and 1,403' of bank stabilization. The existing boat slips would remain, but would be reoriented within the new harbor limits and become a part of the commercial marina. The land above the 1044-foot contour elevation is private property where TVA has no land rights.

1.1. Proposed Action

As described above, the applicant's proposal consists of the conversion of an existing community facility into a commercial marina on Norris Reservoir tract XNR-156. Below is a list of the facilities and land-based activities that would be subject to Section 26a permitting and TVA recreation license approval. Project plans are also included in Attachment A.

List of facilities below the 1020-foot contour:

Marina

• Ten new floating covered slip structures with electric utilities built in phases, each structure 179' long by 66' wide with a 20' long by 6' wide access walkway to each. The two existing floating covered community slip structures with 48 slips will be reoriented to allow for the construction of the commercial marina and converted to commercial slips. After completion, the marina will consist of 288 total commercial slips.

• Three floating access walkways, 33' long by 6' wide (qty. 1), 600' long by 6' wide (qty. 1), 250' long by 6' wide (qty. 1), with two concrete walkways each 50' long by 8' wide.

- Establishment of approximately 11.1 acres of harbor limits.
- 1,403.4' of riprap bank stabilization.

Land based activities located between 1020-foot contour and 1044-foot contour elevation:

• Pedestrian walkways to access marina from parking areas.

Roads and parking associated with the proposed development are located above the 1044-foot contour elevation and would not require TVA's approval.



Figure 1-1. Project Location Map



Figure 1-2. Project Location Map



Figure 1-3. Project Vicinity Map

1.2. Decision To Be Made

Section 26a of the TVA Act of 1933, as amended, requires that TVA approval be obtained prior to the construction, operation, or maintenance of any obstruction affecting navigation, flood control, or public lands. Therefore, TVA's action would be to make a decision on the Section 26a approval request for the proposed floating facilities, harbor limits, and shoreline stabilization.

TVA also has the action of issuing a commercial license for the operation of a commercial marina on TVA property.

The U.S. Army Corps of Engineers (USACE) and TVA have a Memorandum of Understanding that designates TVA as the Lead Federal Agency for conducting environmental reviews under the National Environmental Policy Act (NEPA) and other applicable federal laws and regulations for proposed work that may occur on property which is under TVA custody or control.

1.3. Public Involvement

In accordance with TVA policy on Section 26a permit requests for commercial recreation facilities, TVA issued a public notice on November 5, 2018 requesting comments for the proposed action. During the public comment period occurring through December 5, 2018, TVA received 42 comments expressing environmental impact concerns including but not limited to recreation and boating safety, shoreline erosion, wildlife habitat loss, air emissions, and visual impacts. TVA received two comments in favor of the proposal citing increased boating storage and recreational opportunities.

TVA's public and agency involvement included a public notice and a 30-day public review of the Draft EA. The availability of the Draft EA was announced in a media release and was posted on TVA's website. Additionally, TVA notified the individuals who commend on the 2018 public notice. TVA's agency involvement included notification of the availability of the Draft EA to local, state and federal agencies and federally recognized tribes as part of the review. Chapter 3 provides a list of agencies, tribes, and organizations notified of the availability of the Draft EA. Comments were accepted from start to stop via U.S. postal mail, e-mail, and via TVA's website.

Sixty individual comments were received from the Tennessee Department of Environment and Conservation (TDEC), the Tennessee Wildlife Resource Agency (TWRA) and 36 members of the public. All comments were carefully reviewed, and the text of the EA was edited as appropriate. Appendix A contains comments on the draft EA and TVA's responses to those comments.

1.4. Necessary Permits and Approvals

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

Section 10 of the Rivers and Harbors Act of 1899 prohibits the alteration or obstruction of any navigable waters of the United States unless authorized by the Secretary of the Army acting through the Chief of Engineers. The Powell River is listed as a navigable water of the United States, as defined by 33 Code of Federal Regulations (CFR) Part 329, and is therefore subject to Section 10 of the Rivers and Harbors Act.

Section 404 of the Clean Water Act (CWA) prohibits the discharge of dredged or fill material into waters of the United States unless authorized by the Department of the Army. Powell River is waters of the United States as defined by 33 CFR Part 328. Riprap is considered fill material and is therefore subject to Section 404 of the CWA.

Section 401 of the CWA requires a Water Quality Certification (WQC) from the State of Tennessee prior to the issuance of a federal permit for activities, which result in a discharge to navigable waters. The Tennessee Department of Environment and Conservation (TDEC) administers Section 401 WQC through the Aquatic Resource Alteration Permit (ARAP) program.

CHAPTER 2

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

TVA has considered the direct, indirect, and cumulative effects of the federal actions related to the applicant's proposal. Construction of the marina, pedestrian use facilities, and bank stabilization are dependent upon the license and 26a approvals. Therefore, the area assessed in this Environmental Assessment (EA) includes the proposed marina, commercial recreation license area, and associated pedestrian use facilities.

2.1. Alternatives

Preliminary internal scoping by TVA has determined that from the standpoint of the NEPA, there are two alternatives available to TVA. These are the No Action Alternative and the Proposed Action Alternative, which are described below.

No Action Alternative

Implementation of the No Action Alternative would result in the denial or withdrawal of the applicant's request for a commercial recreation license and Section 26a approval for the proposed marina and facilities. The existing community facility would not be modified and no work would occur within the project area. Therefore, no resources would be impacted by the proposed action.

The Proposed Action Alternative

Under the Proposed Action Alternative, TVA would issue a commercial recreation license and Section 26a approval to the applicant to construct the proposed marina. The license would be a 30-day revocable license to operate commercial recreation facilities. The proposed marina, described in detail in Appendix A, would contain twelve boat slip structures accommodating 288 vessels. Currently there are two boat slip structures accommodating 48 vessels within the existing community facility. These two structures would be reoriented to allow for the installation of the additional ten structures accommodating 240 vessels.

No dredging would be required for construction of the marina. Pedestrian access walkways would be constructed to allow access to the floating boat slips. Because harbor limits are required for commercial marinas, TVA would establish harbor limits identified in Figure 1-1. The applicant has also requested 1,403.4 feet of riprap bank stabilization for the proposed marina.

2.2. Comparison of Alternatives

Under the No Action Alternative, TVA would not issue a commercial recreation license and a Section 26a permit for the proposed marina. No work would occur within the project area; therefore, no resources would be impacted by the proposed action. This alternative would not meet the needs of the applicant or TVA's mission of providing recreational opportunities in the Tennessee Valley region.

Under the Proposed Action Alternative, TVA would grant the commercial recreation license and 26a permit to the applicant. TVA has reviewed the proposed action alternative and documented potential environmental impacts related to the project in the attached categorical exclusion checklist (Checklist) (Attachment B). The Checklist identifies the resources present in the project area and documents TVA's determination that the proposal would not significantly affect these resources. As documented in the Checklist, the proposed action would not potentially impact wetlands, solid and hazardous wastes, natural areas, scenic rivers, prime farmland, or groundwater. Potential impacts to other environmental resources are further evaluated in Chapter 3 of this Draft Environmental Assessment. Under the Proposed Action Alternative, direct, indirect, and cumulative impacts to surface water and soil erosion, visual effects, noise, threatened and endangered species, navigation, recreation, archeological and historical resources, aquatic ecology, air quality, and floodplains would be insignificant with the inclusion of the mitigation measures and conditions outlined in Section 2.3.

2.3. 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 as 26a permit conditions to reduce the potential for adverse environmental effects.

To ensure that the proposed and future development would be consistent with Executive Order (EO) 11988, the following conditions would be included in the final TVA Section 26a permit and any transfer documents:

Condition 1: All floating facilities shall be securely anchored to prevent them from floating free during major floods.

Condition 2: For all electrical services permitted, a disconnect must be located at or above the 1035.0-foot contour that is accessible during flooding.

Condition 3: For purposes of shoreline bank stabilization, all portions of the shoreline bank stabilization shall be constructed or placed, on average, no more than two feet from the existing shoreline at June 1 Flood Guide elevation.

The below Navigation conditions would be included in TVA's Section 26a Permit:

Condition 4: No portion of the marina facilities may extend beyond the Navigation approved harbor limits.

Condition 5: The applicant is to be advised in writing that the facilities would be on a commercial navigation channel or marked recreational channel and may be vulnerable to wave wash and possible collision damage from passing vessels.

To minimize temporary noise impacts, the following condition would be included:

Condition 6: All construction work will be restricted to daylight hours Monday through Friday to minimize temporary noise impacts.

A number of activities associated with the proposed project were addressed in TVA's programmatic consultation completed in April 2018 with the U.S. Fish and Wildlife Service on routine actions and federally listed bats in accordance with Endangered Species Act (ESA) Section 7(a)(2). For those activities with potential to affect bats, TVA committed to implementing specific conservation measures. These activities and associated conservation measures are identified on the TVA Bat Strategy Project Screening Form (Attachment C) and would be implemented as part of the proposed project:

Condition 7: Noise will be short-term, transient, and not significantly different from urban interface or natural events (i.e., thunderstorms) that bats are frequently exposed to when present on the landscape.

Condition 8: Operations involving chemical/fuel storage or resupply and vehicle servicing will be handled outside of riparian zones (streamside management zones) in a manner to prevent these items from reaching a watercourse. Earthen berms or other effective means will be installed to protect stream channel from direct surface runoff. Servicing will be done with care to avoid leakage, spillage, and subsequent stream, wetland, or ground water contamination. Oil waste, filters, and other litter will be collected and disposed of properly. Equipment servicing and chemical/fuel storage will be limited to locations greater than 300-ft from sinkholes, fissures, or areas draining into known sinkholes, fissures, or other karst features.

Condition 9: Direct temporary lighting away from any suitable habitat during the active season. Evaluate the use of outdoor lighting during the active season and seek to minimize light pollution when installing new or replacing existing permanent lights by angling lights downward or via other light minimization measures (e.g., dimming, directed lighting, motion-sensitive lighting).

2.4. The Preferred Alternative

TVA's preferred alternative is the Proposed Action Alternative with the mitigation measures outlined in Section 2.3. Under this alternative, TVA would issue a commercial recreation license and 26a approval to the applicant for the proposed marina. The Proposed Action Alternative meets the needs of the applicant and supports TVA's mission of providing recreational opportunities in the Tennessee Valley region.

CHAPTER 3

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1. Surface Water and Soil Erosion

<u>Affected Environment</u> - The proposed project is located in Campbell County, Tennessee. This project area drains to water ways within the ten-digit HUC 0601020604 Norris Lake-Powell River watershed. The surface water streams in the proposed project area and vicinity are listed below in Table 1. Precipitation in the general area of the proposed project averages about 50.9 inches per year. The wettest month is May with approximately 5.71 inches of precipitation, and the driest month is August with 2.95 inches. The average annual air temperature is 59.1 degrees Fahrenheit, ranging from a monthly average of 48 degrees Fahrenheit to 70.2 degrees Fahrenheit (US Climate Data, 2019). Stream flow varies with rainfall and averages about 24.41 inches of runoff per year, i.e., approximately 1.80 cubic feet per second, per square mile of drainage area (USGS 2008).

The federal Clean Water Act requires all states to identify all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards and to establish priorities for the development of limits based on the severity of the pollution and the sensitivity of the established uses of those waters. States are required to submit reports to the United States Environmental Protection Agency. The term "303(d) list" refers to the list of impaired and threatened streams and water bodies identified by the state. This portion of the Norris Reservoir/Powell River is not currently listed on Tennessee's 303(d) list (TDEC, 2018). A fish advisory is in place for a portion of the Norris Reservoir, however this advisory does not include the Powell River. Table 1 provides a listing of local streams with their state designated uses (TDEC 2013).

		,	1		,		
Stroom		Use Classification ¹					
Stream	NAV	DOM	IWS	FAL	REC	LWW	IRR
Powell River/Norris Reservoir		Х	Х	Х	Х	Х	Х

Table 1. Designations for Streams in the Vicinity of the Proposed Project.

¹ Codes: DOM = Domestic Water Supply; IWS = Industrial Water Supply; FAL = Fish and Aquatic Life; REC = Recreation; LWW = Livestock Watering and Wildlife; IRR = Irrigation, NAV = Navigation

<u>Environmental Consequences</u> – Under the No Action Alternative, TVA would not issue the 26a permit and recreation license for the commercial marina, harbor limits, and bank stabilization. The existing community facility would remain unchanged and there would be no associated impacts to surface water and soil erosion from construction activities associated with the proposed marina. Potential impacts to surface water could result in the continued operation of the community facility, including the introduction of oils, lubricants and/or fuels to surface waters; solid waste introduction from trash and debris not being properly stored or disposed of; and black or grey water discharges to surface waters. However, these impacts would be considered minor with continued implementation good housekeeping practices included in 26a permit general and standard conditions Best Management Practices (BMPs).

Under the Proposed Action Alternative, the construction activities would have the potential to temporarily affect surface water via storm water runoff. Soil erosion and sedimentation could clog small streams and threaten aquatic life. A general construction storm water permit would be needed if more than one acre is disturbed. If required, this permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify specific BMPs to address construction-related activities that would be adopted to minimize storm water impacts. As mentioned in Section 1.4, an ARAP permit and a USACE permit would be required for bank stabilization. These permits include conditions and requirements to minimize impacts to waters of the State/US. TVA would require compliance with all appropriate state and federal permit requirements. In addition, issuance of the 26a Permit would require the applicant to implement General and Standard Conditions (Attachment D) such as construction BMPs. Appropriate BMPs would be followed during construction and all proposed project activities would be conducted in a manner to ensure that waste materials are contained and the introduction of pollution materials to the receiving waters are minimized. Therefore, with permit compliance and standard 26a permit conditions included to ensure implementation of BMPs, only minor temporary impacts to surface waters would be expected from construction activities.

The implementation and operation of the proposed action has the potential to have impacts to surface waters from the day-to-day operation of the facility. Some of these potential impacts could include the introduction of oils, lubricants and/or fuels to surface waters; solid waste introduction from trash and debris not being properly stored or disposed of; and black or grey water discharges to surface waters. These potential impacts would be mitigated by employing standard 26a permit conditions for BMPs and good housekeeping practices, keeping the marina clean of oil and debris, maintaining adequate garbage pick-up services on-site, and ensuring that there are no unpermitted discharges. Therefore, with the implementation of general and standard conditions and good housekeeping practices, impacts associated with marina operations are expected to be minor.

3.2. Threatened and Endangered Species

Affected Environment - The Endangered Species Act (ESA) provides broad protection for species of fish, wildlife, and plants that are listed as threatened or endangered in the United States. ESA outlines procedures for federal agencies to follow when taking actions that may jeopardize federally listed species or their designated critical habitat. The policy of Congress is that federal agencies must seek to conserve endangered and threatened species and use their authorities in furtherance of ESA's purposes. The State of Tennessee provides protection for species considered endangered or of special concern within the state other than those federally listed under the ESA. The listing is handled by TDEC; however, the TDEC Natural Heritage Inventory Program and TVA Regional Natural Heritage Program both maintain databases of aquatic animal species that are considered endangered or of special concern in Tennessee. The TVA Heritage Review (Attachment E) provides a list of species found in TVA's natural heritage data. The review conducted on April 3, 2019 showed there were sixteen state listed plant species found within five miles of the proposed action; eleven federally listed and four state listed aquatic species found within ten miles of the proposed action; and two federally listed terrestrial animal species found within three miles of the proposed action.

<u>Environmental Consequences</u> – Under the No Action Alternative, the proposed actions would not be implemented and would not involve any expansion beyond what has previously been reviewed. Therefore, there would be no impacts to threatened and endangered species.

Under the Proposed Action Alternative, there would be no effect on any protected plant species due the nature of actions and the location. There are eleven federally listed and four state listed aquatic species found within ten miles of the proposed action. The installation of riprap for the purpose of bank stabilization would occur within the drawdown zone on Norris Reservoir. During winter low pool this zone is dry and does not provide suitable habitat for any of the listed aquatic species. TVA's General and Standard Conditions BMPs require this work to be performed during winter low pool (i.e. "in the dry"). In addition, ground disturbance would be minimized and all work done in accordance with TVA's General and Standard Conditions BMPs, no impacts are anticipated to occur to threatened and/or endangered aquatic species.

As documented in Attachment E, there were two federally listed terrestrial animal species found within three miles of the proposed actions. The proposed actions do not include the removal of suitable summer roost habitat for Myotis (bats) species. In addition, BMPs and erosion control measures would be used in and around bodies of water to ensure there are no impacts to hydrology, water quality, and potential foraging habitats. There are also four caves located within three miles of the project area. However, due to the location and nature of the proposed actions there will be no effect on these sites. TVA would require specific conservation measures identified in the TVA Bat Strategy Project Screening Form (Attachment C) to be implemented as part of the proposed project. A number of activities associated with the proposed project were addressed in TVA's programmatic consultation with the U.S. Fish and Wildlife Service completed in April, 2018 on routine actions and federally listed bats, which fulfills TVA's consultation obligations under ESA Section 7(a)(2). With the implementation of BMPs and specific conservation measures during proposed project activities, bats species would not be impacted by the proposed actions.

3.3. Aquatic Ecology

<u>Affected Environment</u> - TVA has developed an overall aquatic monitoring program, termed Reservoir Health Ratings, to evaluate the ecological health of the Tennessee River watershed that it helps manage. Components of the Reservoir Health Ratings program include 1) dissolved oxygen (DO); (2) chlorophyll, a measure of the amount of algae in the water; (3) sediment contaminants – PCBs, pesticides, and metals; (4) benthic macroinvertebrates, and (5) fish assemblage. Each indicator is evaluated separately, and individual ratings are also combined into a single, composite health score for each reservoir. Because collection methods and rating criteria for the fish and benthic communities were different prior to 1994, those results cannot be compared directly to samples taken using current methods and therefore are not presented in this document.

Monitoring location	Dissolved Oxygen	Chlorophyll	Fish	Bottom life	Sediment
Forebay	Poor	Good	Fair	Fair	Fair
Mid-reservoir, Clinch River	Poor	Good	Good	Fair	Fair
Mid-reservoir, Powell River	Poor	Good	Good	Good	Fair

 Table 2. Ecological Health Indicators at Norris Reservoir — 2011.

Dissolved oxygen rated poor due to low concentrations in the lower water column near Norris Dam. However, the volume of water affected from 1998 to 2004 was smaller than in other years because the sampling site was in the immediate area of the diffusers. In 2006, the site was moved upstream and the volume of low-oxygen water has increased but remains less than pre-1998 levels. Chlorophyll continues to rate good at all three monitoring locations. During extremely dry conditions, this indicator can rate fair or even poor at the forebay location due to fewer nutrients and less organic material being washed into the reservoir when rainfall/runoff occur.

Monitoring typically shows good fish species diversity and balanced population characteristics at the mid-reservoir locations. The forebay has rated fair each year monitored due largely to the collection of fewer fish species than what would be expected. Bottom life typically rates poor or fair at the forebay and fair or good at the mid-reservoir sites. Low levels of PCBs were detected in the sediment samples at each location, and the concentrations of arsenic were above suggested background levels at the forebay and Powell mid-reservoir locations. The forebay sediments typically have elevated concentrations of arsenic and lead. Low levels of the pesticide chlordane were detected in the sediments at each site in some previous years.

<u>Environmental Consequences</u> - Under the No Action Alternative, the proposed actions would not be implemented. Therefore, there would be no impacts to aquatic ecology for marina expansion. However, changes to aquatic ecology in streams within the watershed would likely occur over the long term due to factors such as the continuation of anthropogenic activities. Potential impacts to aquatic ecology could also result from the continued operation of the community facility. However, with 26a permit general and standard conditions for implementation of BMPs, these impacts are expected to be minor.

Under the Proposed Action Alternative, impacts to aquatic communities within Norris Reservoir could occur from construction of the floating marina and associated gangways due to noise and increased boat activities. As previously mentioned, the bank stabilization would be required to occur within the reservoir drawdown zone and would be completed in the dry during winter low pool. Ground disturbance would be minimized and all work done in accordance with TVA's General and Standard Conditions Best Management Practices (BMPs). With proper implementation of BMPs during construction, impacts associated with the construction and operation of the marina to the aquatic ecology would be minor and insignificant.

3.4. Navigation

<u>Affected Environment</u> - The proposed marina facility would include twelve boat slip structures accommodating 288 vessels. Currently there are two boat slip structures accommodating 48 vessels within the existing community facility. These two structures would be reoriented to allow for the installation of the additional ten structures accommodating 240 vessels.

<u>Environmental Consequences</u> - Under the No Action Alternative, the proposed actions would not be implemented and would not involve any expansion beyond what has previously been reviewed. Therefore, there would be no impacts to navigation from the existing permitted facilities.

Under the Proposed Action Alternative, TVA would issue the 26a permit and recreation license for expansion of the marina. TVA requires that harbor limits may not extend more than one-third distance across an embayment. The proposed harbor limits meet this requirement. Although this embayment could potentially become more congested with boat traffic, TVA anticipates that the impacts to navigation would not be significant with implementation of the following conditions:

• No portion of the marina facilities may extend beyond the approved harbor limits.

• The applicant would be advised in writing that the facilities would be on a commercial navigation channel or marked recreational channel and may be vulnerable to wave wash and possible collision damage from passing vessels.

TVA provided information related to the proposed Deerfield Marina development to the Tennessee Wildlife Resources Agency (TWRA). This agency is responsible for addressing recreational boating safety issues on waters within the State. TWRA has indicated that it had no objection to the development from a boating safety perspective (Attachment XX).

3.5. Recreation

<u>Affected Environment</u> - The proposed marina facility includes 288 new commercial wet slips on Norris Reservoir, Power River Mile 8.1R. The recreation study area consists of a 6-mile upstream and downstream corridor (Powell River mile 2.1-14.1), which is the accepted average distance traveled by a motorboat from its origin. The study area consists of approximately 3,950 water surface acres calculated at full summer pool. The land base in the study area is predominately private to the north with public state land (Chuck Swan WMA) bordering it to the south. There are five active private marinas within the study area. In addition, one permitted marina facility (Pointe Marina) has not been constructed as of the date of this study but has been included in the study. The decision to include the Pointe Marina was based on the fact that it is permitted and could be built without further review or permitting from TVA. Of these six marinas, there are a total of 1290 permitted wet slips and 85 dry slips. The study area also includes 646 permitted active private water use facilities.

In order to evaluate the recreational use demand, TVA reviewed participation rates derived from the National Survey on Recreation and the Environment (NSRE) data. The NSRE data provides information about current recreation activity participation rates and the projected future recreation demand for areas of the US. This supply and demand data is then compared to available facilities to determine if the proposed project would fulfill unmet

recreation needs. The Proposed Action Alternative would primarily support the activity of motorboating. The NSRE outlines motorboating as being a widely popular recreation activity with approximately 23% of the state's population participating. Recent demand trends have shown a 13.2% increase in motorboating nationally. Within the study area, TVA staff's knowledge of occupancy rates in existing commercial facilities supports the conclusion that this area has a high demand for this type of activity and supporting facilities. It is expected that the increase in demand for recreation will project into the future, increasing the need for additional recreational facilities than what is currently available within the study area.

Additionally, TVA reviewed the Water Recreation Opportunity Spectrum (WROS), which provides a framework for inventorying water-based recreational activities. Based on this framework, waterways are classified into six defined settings. These settings are assigned based on the overall biophysical and social inventory of the waterway, and WROS aids in managing recreation experiences compatible with the setting classification. The WROS approach also provides a means to define transitional areas as they become more developed or use increases.

Setting (Classification)	Generalized Description Summary of the Recreation Experiences by WROS Class	Standard (Acres/boat)
Urban	Limited opportunities to see, hear or smell the natural resources due to the extensive level of development, human activity, and natural resource modification.	1-10
	Watching and meeting other visitors is expected and socializing with family and friends is important.	
	Diverse range of visitors and activities, including groups and special events.	
	Convenience is central and dominant.	
Suburban	Limited or seldom opportunities to see, hear or smell the natural resources due to the widespread and prevalent level of development, human activity, and natural resource modification.	10-20
	Watching and meeting other visitors is expected and socializing with family and friends is important.	
	Diverse range of visitors and activities.	
	Convenience is central and dominant.	

Table 3. WROS Classification Summary and Associated Boating Density Standards.

Rural Developed	Occasional or periodic opportunities to see, hear or smell the natural resources due to the common and frequent level of development, human activity, and natural resource modification. Brief periods of solitude, though the presence of other visitors is expected. Diverse range of visitors and activities. A moderate level of comfort and convenience expected.	20-50
Rural Natural	 Frequent opportunities to see, hear or smell the natural resources due to occasional or periodic level of development, human activity, and natural resource modification. A sense of independence and freedom with a moderate level of management presence important. Diverse range of visitors and activities though experiences tend to be more resource-dependent. Comfort and convenience is not important or expected. 	50-110
Semi-primitive	 Widespread and prevalent opportunities to see, hear or smell the natural resources due to seldom or minor level of development, human activity, and natural resource modification. Solitude and lack of contact with other visitors, managers and management is important. Opportunities for more adventure-based enthusiasts and overnight visitors. A sense of challenge, adventure, risk and self- reliance is important. 	110-480
Primitive	Extensive opportunities to see, hear or smell the natural resources due to the rare and very minor level of development, human activity, and natural resource modification. Solitude and lack of sight, sound and smells of others is important.	480-3,200

Opportunities for human powered activities (e.g. canoeing, fly fishing, backpacking, etc.).	
A sense of solitude, peacefulness, tranquility, challenge, adventure, risk, testing skills, orienteering, and self-reliance is important.	

Source: WROS 2004

TVA developed an assessment to estimate the density of recreational boats on TVA reservoirs, called the Boating Density Worksheet. TVA uses the worksheet to estimate the boating density of defined areas and compare it to WROS settings. Through the worksheet, TVA can compare current conditions and experiences with those that would result with the permitting of a specific action. This analysis aids TVA in the management of reservoir resources and quality of recreation experiences offered to the public. For purposes of this evaluation, current boating use on TVA reservoirs was estimated for three different points in the peak summer boating season (May through September): (a) non-holiday week days, (b) non-holiday weekend days, and (c) peak use holiday weekend days (Memorial Day, July4th, and Labor Day).

a) Non-holiday weekdays. This case estimates 15 percent of vessels stored at commercial marinas and private access facilities are likely to be in use each non-holiday weekday (Monday through Thursday) from May to September.

b) Non-holiday weekend days. This case estimates 25 percent of vessels stored at commercial marinas and private access facilities are likely to be in use during non-holiday weekend days (Friday, Saturday, and Sunday) from May to September.

c) Peak use holiday weekend days. This case estimates 35 percent of vessels stored at commercial marinas and private access facilities are likely to be in use during holiday weekend days (Friday, Saturday, Sunday, and Monday) from May to September.

The estimate of watercraft currently using the study area of Norris Reservoir on an average daily basis on a weekday is 303 boating units with 13.0 surface acres per boating unit. Non-holiday weekend days are currently estimated to have 505 boating units with 7.8 surface acres per boating unit. Peak use holiday weekend days are estimated to currently have 707 boating units with 5.6 surface acres per boating unit. These estimates are based on the 3,950 surface acres within the study area at full summer pool.

<u>Environmental Consequences</u>- Under the No Action Alternative, a Section 26a permit and commercial recreation license would not be issued and the proposed actions would not be implemented. There would not be any expansion beyond what has previously been reviewed. Therefore, there would be no direct, indirect, or cumulative impacts to recreation under this alternative.

Under the Proposed Action Alternative, TVA would issue a Section 26a permit and recreational license to authorize the commercial marina. TVA provided information related to the proposed Deerfield Marina development to the Tennessee Wildlife Resources Agency (TWRA). This agency is responsible for addressing recreational boating safety issues on waters within the State. TWRA has indicated that it had no objection to the development from a boating safety perspective.

The estimate of recreational boating density including the proposed marina expansion from a community to commercial facility calculated to be 346 boating units with 11.4 surface acres per boating unit for weekday boating. Non-holiday weekend days are estimated to have 577 boating units with 6.8 acres per boating unit. Peak use on holiday weekend days with the proposed marina expansion is estimated at 808 boating units with 4.9 surface acres per boating unit. There is an approximately 14.2% average increase in boating units for the three estimations for weekday, non-holiday weekend days, and holiday weekend days. The analysis outlined above assumes full buildout of the Pointe Marina, which currently has no facilities. In terms of WROS setting classifications, the current conditions of the study area for current recreational users is urban for peak summer holidays and average summer weekend days and suburban for average summer weekdays. With the addition of the proposed slips, peak summer holidays and non-holiday weekend days would remain urban and average weekdays would remain suburban. Based on TVA's analysis, the additional wet slips proposed would not significantly change the character of the study area; therefore, there would not be a significant impact on recreation.

3.6. Visual Effects

<u>Affected Environment</u> - As previously discussed, the proposed marina facility is located within an embayment on Norris Reservoir at Powell River Mile 8.1. Multiple residences in direct line of sight of the proposed facilities were identified, and new homes are under construction on the adjacent property. The visual character of the proposed project area and the surrounding area is a mixture of wooded areas, residential, commercial, and recreation facilities. There is an existing marina adjacent to the location of the proposed marina and existing large water use facilities in the cove.

<u>Environmental Consequences</u> - Under the No Action Alternative, a Section 26a permit and commercial recreation license would not be issued and the proposed actions would not be implemented. There would not be any expansion beyond what has previously been reviewed. Therefore, there would be no direct, indirect, or cumulative impacts to visual effects under this alternative.

Under the Proposed Action Alternative, TVA would issue a Section 26a permit and recreational license to authorize the commercial marina. Construction would create a temporary visual discord for the duration of this work. Once complete, however, the proposed marina would be consistent with the current visual character of the area. Therefore, there would be minor and temporary visual impacts during construction of the proposed facilities. In accordance with 18 CFR Part 1304.9, approval for construction under this permit expires 18 months after the date of issuance unless construction has been initiated. The construction duration is out of TVA's jurisdiction. The completed facility would result in minor visual changes, however those impacts would be similar to other developments in this section of the reservoir.

3.7. Noise

<u>Affected Environment</u> – Community noise levels follow the extent of human activities. As activities go up, the community noise increases and to some degree the reverse is also true. The primary source of noise from commercial operation of the marina would be motorized watercraft. Noise emission levels for recreational boating activities can range from 40 dBA (very quiet) to 90 dBA from a personal watercraft (i.e. "jet ski"). Motorboats and personal watercraft may also exhibit short elevated bursts of noise as a result of speed of the watercraft and other operational factors. TWRA regulates boating and personal

watercraft for the safety of the public by enforcing Tennessee State boating laws. State boating regulations require the noise level of any motorized vessel must not exceed 86 decibels at a distance of 50 feet or more from the vessel (TWRA 2018). Additional guidelines are provided by TWRA to prevent excessive noise from personal watercraft, such as avoiding excessive noise near residential areas, particularly early in the morning (TWRA 2018).

The WROS system referred to in Section 3.5 includes indicators of noise to help classify the recreational experience. The current WROS classification settings of the study area are urban for peak summer holidays and average summer weekend days and suburban for average summer weekdays. The WROS urban setting description includes limited opportunities to hear the natural resources due to the extensive level of development, human activity, and natural resource modification. The suburban setting characterizes the opportunities to hear natural surroundings as "limited or seldom". In both classification settings, the current noise level is taken into account due to the level of existing development and human activity in the study area.

<u>Environmental Consequences</u> – Under the No Action Alternative, a Section 26a permit and commercial recreation license would not be issued and the proposed actions would not be implemented. There would not be any marina expansion beyond what has previously been reviewed. The current noise emission levels for recreational boating would be expected to continue. The opportunities to hear the natural environment would remain "limited" on peak summer holidays and average summer weekend days and would remain "limited or seldom" on average summer weekdays.

Under the Proposed Action Alternative, TVA would issue a Section 26a permit and recreational license to authorize the commercial marina. Temporary noise impacts would be expected during the construction of the proposed marina facility. However, TVA would require as a 26a permit condition that all construction work would be restricted to daylight hours, Monday through Friday to minimize impacts.

The primary source of noise from commercial operation of the marina would be motorized watercraft, which would be expected to increase from the increased number of motorboats and personal watercraft. However, TVA's recreational analysis in Section 3.5 shows the recreational setting classification and opportunities to hear the natural environment would not significantly change with the increase in recreational boating. The opportunities to hear the natural environment would remain "limited" on peak summer holidays and average summer weekend days and would remain "limited or seldom" on average summer weekdays. Moreover, all boaters are expected to be in compliance with state boating laws and regulations that set standards for noise levels. Therefore, with compliance with existing state regulations and implementation of mitigation measures to address temporary impacts during construction, there would be no significant impacts to noise under the Proposed Action Alternative.

3.8. Archaeological and Historical Resources

<u>Affected Environment</u> - Historic and cultural resources, including archaeological resources, are protected under various federal laws, including the Archaeological Resources Protection Act, the Native American Graves Protection and Repatriation Act, and the National Historic Preservation Act (NHPA). Section 106 of the NHPA requires federal agencies to consult with the respective State Historic Preservation Officer when proposed federal actions could affect these resources. The area of potential effects (APE) for cultural resources is defined at 36 CFR §800.16(d) (a section of the federal regulations implementing Section 106 of the National Historic Preservation Act) as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." TVA has determined that the area of potential effects (APE) is the entire 11.1 acres for new harbor limits, area of the commercial recreation license including the flowage easement area up to the 1044-foot contour, plus historic structures within a one-half mile radius that have a direct line of sight of the project.

All activities for this project would be below or immediately adjacent to summer pool elevation on Norris Reservoir. The shoreline in the APE has been previously investigated by a survey conducted during the winter drawdown. No archaeological sites were identified here (Gage and Herrmann 2009). The environmental setting – steep slopes of a ridge facing a small draw – has low potential for significant archaeological deposits. Soils above the lake are mapped as Fullerton and Bodine gravelly silt loams, 25 to 70 percent slopes, and Talbott-Rock outcrop complex, 30 to 50 percent slopes (United States Department of Agriculture–National Resources Conservation Service [USDA-NRCS] 2019). The lake bed on the slope has been eroded by wave action, which has removed topsoil.

No historic structures are indicated at this location on the 1936 and 1941 editions of the USGS Demory, TN 7.5-minute quadrangle map, and there are no National Register listings here. No previously inventoried historic architectural properties are listed in the area on the Tennessee Historical Commission online viewer.

<u>Environmental Consequences</u> – Under the No Action Alternative, a Section 26a permit and commercial recreation license would not be issued and the proposed actions would not be implemented. Therefore, there would be no direct, indirect, or cumulative actions to historic properties under this alternative.

Under the Proposed Action Alternative, TVA would issue a Section 26a permit and recreational license to authorize the commercial marina. TVA has determined there would be no effect to archeological sites based on a previous survey of the area and existing environmental setting. In addition, the viewshed has been compromised by the construction of a modern subdivision, several large commercial marinas, and several private boat docks. If any above ground historic properties are located within view of the project, their integrity of setting and feeling would not be diminished by the construction of the proposed water use facilities. Therefore, TVA finds that the proposed undertaking would have no effects to historic properties. The Tennessee State Historic Preservation Office concurred with TVA's finding that there are no National Register of Historic Places listed or eligible properties affected by the undertaking.

3.9. Air Quality

<u>Affected Environment</u> - Under the Clean Air Act, the U.S. Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS; USEPA 2015) to protect and enhance the nation's air quality resources. The primary NAAQS were promulgated to protect the public health, including the health of "sensitive populations, such as people with asthma, children, and older adults." Secondary NAAQS protect public welfare by promoting ecosystems health, preventing decreased visibility, and damage to crops and buildings.

The USEPA has set NAAQS for the following criteria pollutants:

- Sulfur dioxide (SO₂),
- Ozone (O₃),
- Nitrogen Dioxide (NO₂),
- Particulate matter whose particles are \leq 10 micrometers (PM₁₀),
- Particulate matter whose particles are ≤ 2.5 micrometers (PM_{2.5}),
- Carbon monoxide (CO), and
- Lead (Pb).

Table 4.National Ambient Air Quality Standards

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide	primary	8 hours	9 ppm	Not to be exceeded more
(CO)		1 hour	35 ppm	than once per year
Lead (Pb)	primary and secondary	Rolling 3 month average	0.15 µg/m ^{3 <u>(1)</u>}	Not to be exceeded
Nitrogen Dioxide (NO2)	primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	primary and secondary	1 year	53 ppb ⁽²⁾	Annual Mean
Ozone (O₃)	primary and secondary	8 hours	0.070 ppm ⁽³⁾	Annual fourth- highest daily maximum 8-hour concentration, averaged over 3 years

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
		primary	1 year	12.0 µg/m³	annual mean, averaged over 3 years
Particle	PM2.5	secondary	1 year	15.0 μg/m³	annual mean, averaged over 3 years
Pollution (PM)		primary and secondary	24 hours	35 µg/m³	98th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24 hours	150 µg/m³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO₂)		primary	1 hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

Source: USEPA 2019.

Notes:

- In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 μg/m³ as a calendar quarter average) also remain in effect.
- 2 The level of the annual NO₂ standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.
- 3 Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards additionally remain in effect in some areas. Revocation of the previous (2008) O₃ standards and

transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

4 The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or is not meeting the requirements of a SIP call under the previous SO₂ standards (40 CFR 50.4(3)), A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the require NAAQS.

Ambient air monitors measure concentrations of criteria pollutants to determine attainment with these standards. The USEPA classifies geographic areas as being "attainment" areas, or "nonattainment" areas. A geographic area with air concentrations at or below the NAAQS is referred to as an "attainment" area. An area with air concentrations that exceed these standards is referred to as a "nonattainment" area. New sources of air pollution in or near these areas may be subject to more stringent air permitting requirements. There is no ambient air quality data for Campbell County, Tennessee. The closest data, which are located in adjacent surrounding counties included in Table 5, are all in attainment status for National Ambient Air Quality Standards.

The USEPA Air Quality Statistics Report displays air pollution values related to national standards for air quality. This report includes pertinent values for all six criteria pollutants. The report lets you see if an area's maximum air quality statistics are above the level of the national standards for a particular year. The USEPA has listed the following annual air quality standards (USAEPA 2019b):

- Ozone 0.12 ppm (1-hour), 0.070 ppm (8-hour)
- Sulfur Dioxide 75 ppb (1-hour), 140 ppb (24-hour), 30 ppb (annual)
- Particulate matter whose particles are \leq 10 micrometers (PM₁₀) 150 ug/m3 (24-hour)
- Particulate matter whose particles are ≤ 2.5 micrometers (PM_{2.5}): 35 ug/m3 (24-hour) 12.0 ug/m3 (annual)
- Lead (Pb) 0.15 ug/m3 (3-month avg)

Although Air Quality Index includes all available pollutant measurements, many areas have monitoring stations for some, but not all, of the pollutants. Table 5 includes the 2018 ambient concentrations for which data was available for the counties surrounding the proposed marina location. This information combined with the attainment status of these counties demonstrates that the air quality in the area of the proposed action is good.

Table 5. 2018 Ambient Concentrations of Criteria Air Pollutants¹

County	Ozone 2 nd Max 1-hr (ppm)	Ozone 4 th Max 8-hr (ppm)	SO2 99 th Percentile 1-hr (ppb)	SO2 2 nd Max 24-hr (ppb)	SO2 Mean 1-hr (ppb)	PM2.5 98 th Percentile 24-hr (μg/m ³)	PM2.5 Annual Mean (µg/m³)	PM10 2 nd Max 24-hr (μg/m ³)	PM10 Mean 24-hr (µg/m ³)	Lead Max 3- Mo Avg (µg/m ³)
Claiborne, TN	0.07	0.062	-	-	-	-	-	-	-	-
Anderson, TN	0.08	0.063	6	2	1	-	-	-	-	-
Knox, TN	0.08	0.067	-	-	-	19	9.4	39	17	0.06

Roane, TN	-	-	-	-	-	15	6.8	-	-	-
Bell, KY	0.07	0.061	-	-	-	16	7.6	-	-	-

Source: USEPA 2019b.

1 No air quality data is available for listed counties for CO and NO₂.

<u>Environmental Consequences</u> –Under the No Action Alternative, a Section 26a permit and commercial recreation license would not be issued and the proposed actions would not be implemented. There would not be any marina expansion beyond what has previously been reviewed. The current air emission levels for recreational boating would be expected to continue.

Under the Proposed Action Alternative, TVA would issue a Section 26a permit and recreational license to authorize the commercial marina. Air quality impacts from construction activities would be temporary in nature and dependent on both manmade factors (e.g. intensity of activity, control measures, etc.) and natural factors (e.g. wind speed, wind direction, soil moisture, etc.). Air quality impacts from the operation of the marina would primarily be related to emissions from increased recreational boat traffic. Based on the recreation study conducted, the proposed facilities could create about a 14% increase in the number of boats within the study area. TVA studies have shown that watercraft emissions are small when compared to the total amount of county air emissions, For example, a 2017 analysis on Tims Ford reservoir found that a 13% increase in watercraft emissions would lead to less than 0.7% percent increases in overall emissions (TVA 2017). When compared to the total emissions sources in Campbell County, watercraft emission increases from the construction and operation of the marina are not expected to have adverse impact on air quality nor lead to an exceedance or violation of any applicable air quality standard. Therefore, there would be no significant impacts to air quality under the Proposed Action Alternative.

3.10. Floodplains

<u>Affected Environment</u> - A floodplain is the relatively level land area along a stream or river that is subject to periodic flooding. The area subject to a one-percent chance of flooding in any given year is normally called the 100-year floodplain. It is necessary to evaluate development in the 100-year floodplain to ensure that the project is consistent with the requirements of Executive Order (EO) 11988. The proposed project would be located at Powell River at Tennessee River Mile 8.1 on Norris Reservoir. The 100- and 500-year flood elevations at this location are 1032.0 feet and 1035.0 feet, respectively.

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

<u>Environmental Consequences</u> –Under the No Action Alternative, a Section 26a permit and commercial recreation license would not be issued and the proposed actions would not be

implemented. There would not be any marina expansion beyond what has previously been reviewed. Therefore, there would be no changes to conditions within the local floodplains.

Under the Proposed Action Alternative, the floating slips, utility service to the docks, bank stabilization, and walkways would be located within the 100-year floodplain of the Powell River. Consistent with EO 11988, these facilities are considered to be repetitive actions in the 100-year floodplain that should result in minor impacts. To minimize adverse impacts, TVA would include the following conditions in the Section 26a permit: the floating slips would be anchored to prevent them from floating free during major floods, and the cutoff for electric service must be located at or above elevation 1035.0 feet and be accessible during floods. The walkways are approvable as proposed with no conditions.

Up to 3.1 acre-feet of bank stabilization material would be placed within the Flood Storage Zone, occupying about 1,400 linear feet of shoreline. There is no practical alternative to locating this amount of stabilization material within the reservoir because of the length of shoreline to stabilize. To minimize adverse impacts, the 26a permit would contain the following condition: bank stabilization would be placed, on average, no more than two feet from the existing shoreline at June 1 flood guide elevation. Therefore, the bank stabilization would comply with the TVA Flood Storage Loss Guideline and EO 11988. With these mitigation measures, the Proposed Action Alternative would have no significant impact on floodplains and their natural and beneficial values.

3.11. Cumulative Effects

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

Cumulative impact is the impact on the environment, which results from the incremental impact on 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.

TVA considered potential cumulative impacts to surface water and soil erosion, threatened and endangered species, aquatic ecology, navigation, visual effects, noise, archaeological and historical resources, air quality, and floodplains due to the Proposed Project and associated activities; however, TVA determined minor, or no, impacts are anticipated. Therefore, these resources are not discussed in depth with respect to cumulative impacts.

Past actions that have already occurred and present actions are integrated into the existing baseline conditions discussed above. TVA received two proposals for marinas in the same vicinity on Norris Reservoir, Powell River mile 8.1R. TVA prepared environmental assessments for each request, including detailed recreation analysis for the total slips for both proposals to examine appropriateness and potential cumulative impacts to recreation. Section 26a of the Act requires that TVA's approval be obtained prior any water-based construction activities. Accounting for both facilities, the estimates for recreational boating density increased to 354 boating units with 11.1 surface acres per boating unit for weekday boating. Non-holiday weekend days are estimated to have 590 boating units with 6.7 acres per boating unit. Peak use on holiday weekend days with both proposals is estimated at 826 boating units with 4.8 surface acres per boating unit. The average increase in boating

units across the three estimates for weekday, non-holiday weekend days, and holiday weekend days is approximately 16.8%.

TVA's recreational analysis of the cumulative effects of the additional slips proposed would not significantly change the character of the study area. The study area would currently be classified as an urban setting during peak summer holiday times and average summer weekends, and suburban on an average summer weekday. With the addition of the slips included in both proposals, peak summer holidays and average summer weekend days would remain urban, and average weekdays would remain suburban. Therefore, the study area is able to accommodate the additional wet boating slips from both proposals without significant cumulative impacts.

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CHAPTER 4

4.0 LIST OF PREPARERS AND CONSULTED PARTIES

4.1. TVA Preparers

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Travis Giles, Environmental Scientist - Visual, Noise, Air Quality & NEPA Compliance

Steven Clay Guerry, Recreation Strategy Specialist – Recreation

Robert Marker, Recreation Representative – Recreation

Craig Phillips, Biologists - Aquatic Ecology, Threatened and Endangered Aquatic Species

Carrie Williamson, PE, CFM, Program Manager – Floodplains and Flood Risk

W. Douglas White, NEPA Specialist - NEPA Compliance

Elizabeth R. Smith, NEPA Specialist - NEPA Compliance

A. Chevales Williams, Specialist, Water Permits and Compliance –Surface Water and Erosion

Kelvin Young, Watershed Representative - Threatened and Endangered Species

4.2. Agencies and Others Consulted

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

Tennessee Wildlife Resources Agency

U.S. Army Corps of Engineers

U.S. Fish and Wildlife Services

Tennessee Historical Commission

Absentee Shawnee Tribe of Oklahoma

Alabama-Coushatta Tribe of Texas

Cherokee Nation

Coushatta Tribe of Louisiana

Eastern Band of Cherokee Indians

Eastern Shawnee Tribe of Oklahoma

Kialegee Tribal town

Muscogee (Creek) Nation

Shawnee Tribe

Thlopthlocco Tribal Town

United Keetoowah Band of Cherokee Indians in Oklahoma

CHAPTER 5

5.0 LITERATURE CITED

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CHAPTER 6

6.0 LIST OF ATTACHMENTS

Attachment A – Public Comments and TVA responses

- Attachment B Consultation
- Attachment C Project Plans
- Attachment D Categorical Exclusion Checklist
- Attachment E TVA Bat Strategy Project Screening Form
- Attachment F General and Standard 26a Permit Conditions
- Attachment G Heritage Data Review

Attachment A – Public Comments and TVA responses

	Public Comment	TVA Response
1	I am in favor of approving the Deerfield Marina. I believe that adding the marina would improve property values around the area and have a positive economic impact in the areas around LaFollette. The expansion for more condominiums requires the need for more boat slips.	Comment noted.
2	I have seen some concern raised about the additional boat traffic in an already busy area. In my several years of experience on the lake, even on a busy weekend only 10% of the boats in any given marina are actually out on the lake. Adding another 250- 300 slips will only put about 30 boats additional boats out on the water. I would argue weather and price of gas impact how many boats actually go out on the lake much more so than the quantity of slips available on the water.	TVA estimates of average boating density levels are based on the Tims Ford Boating Capacity Study conducted by TVA in 2002. Information collected as part of this study included observation and counts of summer weekday and summer weekend boating use levels at public boat ramps. Commercial marinas, community docks and individual private docks. Counts included all types of boats including personal watercraft. While there may be some variation in boat use levels among TVA reservoirs, TVA believes it is reasonable to apply the data collected at Tims Ford to other reservoirs in the system.
3	We strongly feel the proposal to increase the Deerfield Marina by 288 commercial slips is way too much density for this area	TVA developed an assessment to estimate the density of recreational boats on TVA reservoirs, called the Boating Density Worksheet. Current boating use on TVA reservoirs was estimated for three different points in the peak summer boating season (May through September): (a) non-holiday week days, (b) non-holiday weekend days, and (c) peak use holiday weekend days (Memorial Day, July4th, and Labor Day). The boating density assessment does indicate an increase in boating traffic within the 3,950 surface acre study area if the marinas are developed as proposed. However, the character of the boating experience is not expected to change significantly. This conclusion is based on the application of the Water Recreation Opportunity Spectrum classification system as outlined in the EA.
4	We have noticed a change in the water quality after the other homes and slips were built.	The federal Clean Water Act requires all states to identify all waters where required pollution controls are not sufficient to attain or maintain applicable water quality standards and to establish priorities for the development of limits based on the severity of the pollution and the sensitivity of the established uses of those waters. States are required to submit reports to the United States Environmental Protection Agency. The term "303(d) list" refers to the list of impaired and threatened streams and water bodies identified by the state. This portion of the Norris Reservoir/Powell River is not currently listed on Tennessee's 303(d) list.
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5	The area shoreline is eroding much faster over the past several years as the boat traffic has increased, and this project will make it much worse.	TVA routinely places rock riprap along the banks of its reservoirs. The intention of bank stabilization projects is to minimize the destabilization and erosion of the shoreline and banks and the resultant turbidity and sedimentation of reservoir waters.
6	We are very concerned for the safety of the boaters While we recognize the TVA intent to serve the public recreation demand, there is also the paramount obligation to provide for boating safety.	TVA provided information related to the proposed Deerfield Marina development to the Tennessee Wildlife Resources Agency (TWRA). This agency is responsible for addressing recreational boating safety issues on waters within the State. TWRAs Boating Safety Officer has indicated that TWRA has no objection to the development from a boating safety perspective (email dated 12/19/18).
7	We are concerned for impacts on the environment	The environmental assessment prepared by TVA for this project assesses the environmental impacts of the proposed marina development. The intent of an EA is to determine whether the impacts of a proposed action are "significant" warranting further analysis. The document is a tool in making a decision to proceed under a finding of no significant impact, or to prepare an environmental impact statement.
8	Additional boat traffic will cause a safety concern to swimmers/paddleboarders/children	TVA provided information related to the proposed Deerfield Marina development to the Tennessee Wildlife Resources Agency (TWRA). This agency is responsible for addressing recreational boating safety issues on waters within the State. TWRAs Boating Safety Officer has indicated that TWRA has no objection to the development from a boating safety perspective (email dated 12/19/18).
9	l do not support the Deerfield proposal.	Comment noted.
10	Additional boat traffic will cause more wake and damage to property, boats and docks.	While TVA supports the concept of establishing no wake zones at appropriate locations, the Tennessee Wildlife Resources Agency has jurisdiction over establishment of no wake zones on waters within the state.

11	Due to the existing marinas and private docks, the proposal will lead to overcrowding in the cove	TVA developed an assessment to estimate the density of recreational boats on TVA reservoirs, called the Boating Density Worksheet. Current boating use on TVA reservoirs was estimated for three different points in the peak summer boating season (May through September): (a) non-holiday week days, (b) non-holiday weekend days, and (c) peak use holiday weekend days (Memorial Day, July4th, and Labor Day). The boating density assessment does indicate an increase in boating traffic within the 3,950 surface acre study area if the marinas are developed as proposed. However, the character of the boating experience is not expected to change significantly. This conclusion is based on the application of the Water Recreation Opportunity Spectrum classification system as outlined in the EA.
12	Deerfield is a private community, and turning the community dock into a commercial marina will negatively impact property values.	Comment noted.
13	The Deerfield project will lead to an increase of vehicle traffic in the area	Roads and parking associated with the proposed development are located above the 1044-foot contour elevation and would not require TVA's approval. However, TVA performed an analysis of traffic impacts related to the proposed project in response to this comment. The Tennessee Department of Transportation (TDOT) and the Federal Highway Administration (FHWA) use Level of Service (LOS) to represent the overall traffic operations on a roadway. LOS standards are assigned letters to categorize quality of service, with A being the best and F being the worst. Based on FHWA criteria, the LOS for the 2-lane rural roads with a posted speed of less than 40 mph that surround the proposed project would be categorized as level D. Changing LOS from one level to another is a good indicator of significance. To change the LOS to F would require an increase in volume to the state where demand outpaces roadway capacity. Therefore, while additional traffic is anticipated from the proposed projects, the increase is anticipated to be minor and would not change the level of service for the surrounding roadways.
14	There is not enough room in the Deerfield community to handle the necessary vehicle parking. The parking plan is providing on 70 spaces for 240 slips. And no trailer parking has been identified.	Per best practices of marina design, parking is allotted one parking space for every three wet slips. 70 public spaces in Area 1, an additional 30 public spaces in Area 2, and 5 ADA spaces for a total of 105 parking spaces.

15	Increased public access into a private community is a security concern for residents.	Comment noted.
16	Visual - Does not agree there would be visual impacts	Construction would create a temporary visual discord for the duration of this work. Once complete, however, the proposed marina would be consistent with the current visual character of the area. Therefore, there would be minor and temporary visual impacts during construction of the proposed facilities. The completed facility would result in minor visual changes, however those impacts would be similar to other developments in this section of the reservoir.
17	Visual - It would be unsightly, seeing nothing but docks.	Construction would create a temporary visual discord for the duration of this work. Once complete, however, the proposed marina would be consistent with the current visual character of the area. Therefore, there would be minor and temporary visual impacts during construction of the proposed facilities. The completed facility would result in minor visual changes, however those impacts would be similar to other developments in this section of the reservoir.
18	Visual - Trailers/vehicles anywhere, especially being located on Deer Trail would become an eyesore.	Roads and parking associated with the proposed development are located above the 1044-foot contour elevation and would not require TVA's approval.
19	Has there been any discussion of extending the no wake zone?	While TVA supports the concept of establishing no wake zones at appropriate locations, the Tennessee Wildlife Resources Agency has jurisdiction over establishment of no wake zones on waters within the state.

20	There is an eagle's nest within a 1½ mile radius of the proposed marina. Turtles live in the cove, and herons frequent the cove along with the eagles, hawks, owls, humming birds and other birds. In a cove where fish and turtles abounded, it has quickly become an area where life is dying. We have an eagle in one nest in the cove. We also have sited many different varieties of birds including endangered owl life. All of this is in danger of being lost as well as many other endangered mammals, fish and plants.	As stated in section 2.2 of the EA, TVA performed a preliminary review of potential environmental impacts by the proposed project. During that preliminary review, it was deemed that the proposed project would have no significant impacts to common terrestrial or aquatic species or their habitats. The results of that review can be found in the environmental checklist in Attachment D. Impacts to threatened and endangered terrestrial and aquatic species are discussed in detail in Section 3.2 of the EA.
21	Spillage of petrochemicals, cleaning products, waste products and trash from boats harbored in the slips.	If warranted, the handling of chemicals would be detailed in a project specific Stormwater Pollution Prevention Plan (SWPPP) or in a site specific Spill Prevention Plan (SPCC). TVA also has a clean marina program that can provide guidance on these matters. Additionally, the implementation of good housekeeping practices included in 26a permit general and standard conditions Best Management Practices (BMPs) would help to mitigate surface water impacts.
22	Construction materials such as scrap treated lumber and sawdust from cutting the treated lumber.	If warranted, the disposal and handling of construction materials would be detailed in a project specific SWPPP. TVA also has a clean marina program that can provide guidance on these matters. Additionally, the implementation of good housekeeping practices included in 26a permit general and standard conditions Best Management Practices (BMPs) would help to mitigate surface water impacts.

23	Runoff water from the proposed parking that contains lubricants, gasoline, diesel fuel, antifreeze and other chemicals. These would not only affect the lake water but also the drinking water from the wells. As a side note have you seen the water study report on our (Deerfield Resort) Public Water System?	Comment noted; this question is out of the scope of this permit. However, with implementation of the Best Management Practices (BMPs) and good housekeeping practices included in the Clean Marina Document, impacts would be expected to be minor.
24	Fire hazard and emergency response. There is no access for fire and no proposed fire and medical response plans	Within TVA's Commercial Recreation Guidelines, TVA requires operators of all commercial marinas to provide an Operations & Evacuation Plan that is reviewed annually by TVA for compliance. This plan would include safety measures for things such as fuel shut offs, electrical disconnects, proper signage, personnel training, personnel evacuation, flood risk plans, and operational procedures. If approved for licensure, the commercial operators of both of the proposed marinas would be required to provide the same.
25	Law enforcement	Comment noted; out of TVAs jurisdiction.
26	The Deerfield Marina site plan does not show the other multi-slipped docks on the opposite shore and the narrowing of the navigational channel to less than ¼ of the natural channel. As the water level goes down in late summer and early fall through the winter, the channel narrows even more	It is the intent of the 1/3 rule to ensure that adequate width/depth of the recreational channel is maintained such that boaters can safely transit the area. The width/depth is measured at full summer pool. According to the proposed harbor limits included in the Environmental Assessment, the harbor limits do not extend more than 1/3 of the way across the entire channel, thereby complying with the navigation condition. A map has been added to Recreation Section 3.5 of the EA.
27	 a. The plans do not indicate the true state of the property. b. Not indicating the docks on the opposite shore and the additional houses that have been occupied for over a year, this in my opinion shows an intentional act to deceive. 	A map has been added to Recreation Section 3.5 of the EA.

28	a. The additional slips will increase the boat noise, loud stereos and vulgar language in a residential community. There is currently no enforcement of the noise ordinance nor do I see a plan for enforcement or see the ability to enforce.	TWRA regulates boating and personal watercraft safety by enforcing Tennessee State boating laws. State boating regulations require that the noise level of any motorized vessel must not exceed 86 decibels at a distance of 50 feet or more from the vessel (TWRA 2018). Additional guidelines are provided by TWRA to prevent excessive noise from personal watercraft, such as avoiding excessive noise near residential areas, particularly early in the morning (TWRA 2018).
29	I disagree with the assessment on page 20 that assumed on "35% of vessels in use on a holiday weekend". My estimate is that nearly 70-80% of boat owners are on the lake during holiday times. Anyone on the lake during holiday peak days near Deerfield would attest that boat traffic is a challenge today. The addition of 288 boat slips will frther increase density in this part of the lake.	TVA estimates of average boating density levels are based on the Tims Ford Boating Capacity Study conducted by TVA in 2002. Information collected as part of this study included observation and counts of summer weekday and summer weekend boating use levels at public boat ramps. Commercial marinas, community docks and individual private docks. Counts included all types of boats including personal watercraft. While there may be some variation in boat use levels among TVA reservoirs, TVA believes it is reasonable to apply the data collected at Tims Ford to other reservoirs in the system.
30	While shoreline protection is mentioned for a small area, it does not cover erosion for the rest of the main channel due to the additional boat traffic. There are several areas of uninhabited shoreline near Deerfield area that show erosion (dirt/mud) during normal summer weekend that should also be addressed if additional slips are considered.	TVA routinely places rock riprap along the banks of its properties. The intention of bank stabilization projects is to minimize the destabilization and erosion of the shoreline and banks and the resultant turbidity and sedimentation of reservoir waters.
31	I would also consider removing language that states, "future development and amenities are subject to change at developers discretion."	Any change in scope would require additional reviews and approval by TVA.
32	The applicant has built facilities and is not maintaining them. If the permit is approved, the operator will not maintain them.	TVA commercial recreation license agreements require operators to properly maintain facilities within the licensed areas; TVA also conducts annual inspections to ensure license requirements are being met.

33	The Chuck Swan Nature Preserve will also suffer greatly from the traffic more boats will create.	Comment noted. While TVA supports the concept of establishing no wake zones at appropriate locations, the Tennessee Wildlife Resources Agency has jurisdiction over establishment of no wake zones on waters within the state.
34	We look to TVA to use a more common sense approach to the fact that more boats means more damage to shoreline and those personal docks that reside on that shoreline. Adding signage to many residential areas and restricting wake boarding and or size of wake a boat can make in residential area would go a long way in maintaining the increased boat traffic that has come to Norris Lake	While TVA supports the concept of establishing no wake zones at appropriate locations, the Tennessee Wildlife Resources Agency has jurisdiction over establishment of no wake zones on waters within the state.

35	TDEC believes that TVA's proposed measures to mitigate	Addressed in final Woodson EA and Deerfield EA
	environmental impacts to	
	Tennessee's air resources are	
	adequate. Other than a small	
	increase in emissions from boat	
	engines due to a minor increase in	
	projected boat	
	usage of about 16.8% in the study	
	area and small transient increases	
	in emissions from construction	
	equipment	
	used during the project, no air	
	pollution concerns were identified.	
	TDEC does note that the table	
	presented on	
	page 27 (Table 5), providing the	
	local (neighboring county or state)	
	air monitoring data contains an	
	unclear neader	
	statistics presented TDEC	
	recommends that the header be	
	revised to read PM 2.5 "Annual	
	Mean" and drop "24-hr" for the	
	2018 calendar year data presented.	
	2010 calonidar your data procented.	
36	During the course of construction	Addressed in final Woodson EA and Deerfield EA
	and facility operations, all materials	
	determined to be wastes should be	
	evaluated (e.g., waste	
	determinations) and managed (e.g.,	
	inspections, container	
	requirements, permitted transport,	
	and disposal) in accordance with	
	the Solid and Hazardous Wastes	
	Kules and Regulations of the State	
	(IDEC DSW/M Bule 0400 Chapters 11 and	
	12 respectively) in addition to other	
	applicable TVA best management	
	practices TDEC recommends that	
	the Final FA include reference to	
	applicable state regulations	

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37	As noted in the Draft EA, an Aquatic Resource Alteration Permit (ARAP) will be required as well as a National Pollution Discharge Elimination System (NPDES) Stormwater Construction Permit (CGP) with accompanying Surface Water Pollution Prevention Plan if more than an acre of land will be disturbed. 3 TDEC applauds the mitigation measures discussed in Section 2.3 under Executive Order 11988 which includes operations involving chemical/fuel storage staying outside the riparian zone. Additionally, TDEC assumes that the policy regarding no new floating cabins will include this marina project and encourages TVA to provide clarification regarding this in the Final EA.	As per language in TVAs Commercial Recreation license and current regulations, non-navigable houseboats or boathouses shall not be permitted to be moored at the licensed premises or in the adjacent waters as per TVAs license agreement. The applicants did not request floating cabin as part of this application, therefore, are not a part of this review.
38	TDEC has concerns that there is no discussion regarding cumulative	Cumulative impacts are discussed in 3.12. Potable water and sewage would occur above the 1044-foot elevation, therefore not
	impacts associated with the development of the Deerfield Marina and adjoining potential Woodson Marina, given that the two marinas are proposed	part of TVAs jurisdiction. The applicant is required to obtain proper permitting pertaining to these activities. Further clarification needs to be discussed with the property owner.
	to be located side by side. TDEC also	
	has concern as to how potable water will be supplied to the facility and how any sewage will be	
	The Deerfield Resort Homeowners Association is a public water system in the vicinity but is currently under a TDEC	
	Order and there are concerns as to whether the system would be able	
	supply the Marina and maintain compliance.4 TDEC recommends TVA consider these additional	
	items in the Final EA.	

39	Deerfield can add slips as needed as properties are sold. This would be more controlled and would better protect our resort that we chose to live in and pay for the services provided.	In accordance with 18 CFR Part 1304.9, approval for construction under this permit expires 18 months after the date of issuance unless construction has been initiated.
40	This increased boating traffic will result in a higher demand for law enforcement in the area and could potentially result in an increase in the number of boating accidents. An increase in boating traffic could also result in an increase in property damage due to wakes from vessels coming in and going out of the marina area. The Tennessee Wildlife Resources Agency will only be able to respond to boating accidents and provide patrol with existing manpower due to funding constraints. These constraints will result in the inability of the Agency to hire additional Boating Officers to meet the additional demand for manpower which may result due to this project. Follow up - TWRA has no objection to the project but we did want to inform you up front that we expect increased boat traffic, but do not have the funds to provide extra Law Enforcement patrol for the project.	TVA provided information related to the proposed Deerfield Marina development to the Tennessee Wildlife Resources Agency (TWRA). This agency is responsible for addressing recreational boating safety issues on waters within the State. TWRA has indicated that it had no objection to the development from a boating safety perspective.
41	The proposal is much larger than anything which could be used by the amount of homes or condos in the area	Recreational boating is currently a popular outdoor recreation activity and recent demand trends have shown a 13.2% increase in motorboating nationally. It is expected that this increase will project into the future. TVA staff knowledge of current commercial marina occupancy rates in this area of Norris Reservoir also supports the conclusion that there is a high local demand for boating and boating related support facilities.

42	We believe that the proposal will cause financial hardship to the current Deerfield marina owner.	Recreational boating is currently a popular outdoor recreation activity and recent demand trends have shown a 13.2% increase in motorboating nationally. It is expected that this increase will project into the future. TVA staff knowledge of current commercial marina occupancy rates in this area of Norris Reservoir also supports the conclusion that there is a high local demand for boating and boating related support facilities.
43	Please locate Pointe Marina and identify the number of approved slips.	The Pointe Marina site is located on the right descending bank of the Powell River at river mile 4.0. It is located about 1.6 miles from the proposed Deerfield and Woodson marina sites. 500 public boat slips have been approved and permitted for Pointe Marina.
44	 3) In regard to the potential of congestion within the cove the ES states, " Although this embayment could potentially become more congested with boat traffic, TVA anticipates that the impacts to navigation will not be significant with implementation of the following conditions: • The applicant is to be advised in writing that the facilities would be on a commercial navigation channel or marked recreational channel and may be vulnerable to wave wash and possible collision damage from passing vessels". While the question as to whether the cove will be more congested can be argued; the stated mitigating condition is unacceptable. With the current configuration of existing slips, waves are produced and damage does occur to both physical property (boats & docks) as well as causing bank erosion. Buoys marking the cove as a slow area in several locations often go unheeded because there is no enforcement or consequence to those who ignore this visual posting. Stronger meaningful mitigation for this condition is needed and should be addressed in both ESs. 	We will continue to use the condition to notify applicants of the possibility of wave wash. If the navigation aids/buoys are unheeded, TWRA should be notified of the issue.

45	4) The ES discusses Visual Effects	Multiple residences in direct line of sight of the proposed facilities
_	in both applications primarily from	were identified, and new homes are under construction in the
	the impairment	vicinity. The visual character of the proposed project area and the
	caused during construction. "Visual	surrounding area is a mixture of wooded areas, residential.
	Effects As previously discussed.	commercial, and recreation facilities. There is an existing marina
	the proposed marina facility is	adjacent to the location of the proposed marina and existing large
	located within an embayment on	water use facilities in the cove. Construction would create a
	Norris Reservoir at Powell River	temporary visual discord for the duration of this work. Once
	Mile 8.1 Multiple residences in	complete however the proposed marina would be consistent with
	direct	the current visual character of the area. Therefore, there would be
	line of sight of the proposed	minor and temporary visual impacts during construction of the
	facilities were identified, and new	proposed facilities. In accordance with 18 CFR Part 1304.9
	homes are under construction in	approval for construction under this permit expires 18 months after
	the vicinity.	the date of issuance unless construction has been initiated. The
	The visual character of the	construction duration is out of TVA's jurisdiction. The completed
	proposed project area and the	facility would result in minor visual changes, however those impacts
	surrounding area is a mixture of	would be similar to other developments in this section of the
	wooded areas	reservoir
	residential commercial and	
	recreation facilities. There is an	
	existing marina adjacent to the	
	location of	
	the proposed marina and existing	
	large water use facilities in the	
	cove Construction would create a	
	temporary visual discord for the	
	duration of this work. Once	
	complete however the proposed	
	marina	
	would be consistent with the	
	current visual character of the area	
	Therefore, there would be minor	
	and	
	temporary visual impacts during	
	construction of the proposed	
	facilities. The completed facility	
	would result	
	in minor visual changes, however	
	those impacts would be similar to	
	other developments in this section	
	of	
	the reservoir". Nothing is discussed	
	about the lasting visual effect lake	
	front owners will be	
	left with once construction is	
	completed including the décor of	
	the proposed slips . No	
	stipulation is made when	
	construction must be completed	
	leaving the door open for a	
	long term project that may never be	
	completed. I believe the statement	
	was made by one	
	developer at the public meeting.	
	that was held earlier in this	
	process, that the intent was	
	to do the construction in phases	
	based on demand for the slips.	
	Thus the duration of the	
	construction phase could be	
	indefinite. Being a lakefront	
	property resident I am upset our	

interest has not been addressed in	
any manner by either developer.	
The ES should address	
the long term visual impact the	
proposals will have on lake front	
properties.	

46	5) The ESs both discuss noise from	Community noise levels follow the extent of human activities. As
-	the aspects of temporary effects	activities go up, the community noise increases and to some degree
	during construction and has	the reverse is also true. The primary source of noise from
	limited discussion concerning noise	commercial operation of the marina would be motorized watercraft
	during recreational boating	Noise emission levels for recreational boating, activities can range
	"Temporary poise impacts would	from 40 dBA (very quiet) to 90 dBA from a personal watercraft (i.e.
	he expected during the construction	"iet ski") Motorboats and personal watercraft may also exhibit short
	of the proposed marine facility	eleveted bursts of poins and personal watercrait may also exhibit short
	Usweyer, TVA would require as a	elevated builds of holse as a result of speed of the water chait and
		other operational factors. TWRA regulates boating and personal
	20d	basting lows. State basting regulations require the paice lovel of
	permit condition that all	boating laws. State boating regulations require the holse level of
	construction work would be	any motorized vessel must not exceed 60 deciders at a distance of
	restricted to daylight hours, Monday	50 feet or more from the vessel (100 RA 2018). Additional guidelines
		are provided by I WRA to prevent excessive noise from personal
	minimize impacts. The primary	watercraft, such as avoiding excessive hoise hear residential areas,
	source of noise from commercial	particularly early in the morning (TWRA 2018). TVA would require
	operation of the marina would be	as a 26a permit condition that all construction work would be
	motorized	restricted to daylight hours, Monday through Friday to minimize
	watercraft, which would be	impacts.
	expected to increase from the	In accordance with 18 CFR Part 1304.9, approval for construction
	increased number of motorboats	under this permit expires 18 months after the date of issuance
	and personal	unless construction has been initiated. However, the construction
	watercraft. However, TVA's	duration is out of TVA's jurisdiction.
	recreational analysis shows the	
	recreational setting classification	
	and	
	opportunities to hear the natural	
	environment would not significantly	
	change with the increase in	
	recreational	
	boating. The opportunities to hear	
	the natural environment would	
	remain "limited" on peak summer	
	holidays	
	and average summer weekend	
	days and would remain "limited or	
	seldom" on average summer	
	weekdays.	
	Moreover, all boaters are expected	
	to be in compliance with state	
	boating laws and regulations that	
	set	
	standards for noise levels.	
	Therefore, with compliance with	
	existing state regulations and	
	implementation of	
	mitigation measures to address	
	temporary impacts during	
	construction, there would be no	
	significant impacts	
	to noise under the Proposed Action	
	Alternative. As with the comment	
	#4 there are no parameters on	
	the duration of construction for	
	either of the two proposed projects	
	A time limitation should	
	he established once construction is	
	started Secondly the author of the	
	FS has not been	
	evnosed to the noise deperated by	
	bosters on weekends throughout	
	the summer socion within	

standards for nuisance noise from loud exhausts, enhanced boat stereo systems, as well as general background traffic noise, there is no enforcement. The increased number of boats within this confined area will definitely increase. These types of noise levels and related noise issues should be addressed in both the ESs as it is definitely a form of environmental pollution.	

47	6) The FS only minimally	Within TVA's Commercial Recreation Guidelines, TVA requires
	addresses spill control and counter	operators of all commercial marinas to provide an Operations &
	measures: primarily during	Evacuation Plan that is reviewed annually by TVA for compliance.
	construction. If	This plan would include safety measures for things such as fuel shut
	a permit is granted for all slips.	offs, electrical disconnects, proper signage, personnel training.
	there will be the potential for more	personnel evacuation, flood risk plans, and operational procedures.
	than 15.000 gals of petrochemicals	If approved for licensure, the commercial operators of both of the
	in storage. Neither plan depicts	proposed marinas would be required to provide the same.
	how emergency equipment would	
	gain access to the boat slip areas.	
	ln .	
	the case of project #2019-14,	
	emergency egress will be	
	extremely difficult since crews	
	would have to	
	pass through existing condo units	
	to access walkways leading to	
	ramps that connect to the dock	
	walkways. Handling emergencies	
	such as the catastrophic fire that	
	occurred recently at Springs	
	Dock, along with spill containment	
	should be addressed in the ES.	
48	7) Even though parking areas	From a construction perspective, TVA requires all commercial
	would be in areas beyond the	entities to comply with the standard terms and conditions as noted in
	control of the TVA, runoff from	their 26a permit (if approved). Those standards and conditions do
	these areas	contain language to prevent excessive runoff or contaminants from
	should be addressed in the both	getting into reservoirs during construction. Furthermore, once a
	ESs, as runon ultimately will flow to	marina is permitted and operational, the marina is inspected
	the lake, unless runoff is	annually by IVA to ensure compliance with the terms and conditions
	diverted to another area.	noted in the same permit and license agreement(s). The issues of
		signage etc is included in that appual inspection

49	8) Proposal 2019-13 (Woodson)	Regarding commercial marinas within TVA's purview of
	appears to be strictly a commercial	consideration, all commercial marinas must be made available to
	venture to furnish docks for public	the public. In the case of each of the marinas being considered, the
	use, such as the existing Deerfield	same holds true and both applicants have been made aware of this
	Marina (areas other than the Tiki	requirement. In acknowledging such, all commercial marinas could
	Bar). Proposal 2019-014	be impacted by both local and non-local developments -
	(Deerfield) appears to depict the	commercial, residential, or transient. So long as the availability of
	number of slips related to the future	the commercial amenities for the marina is available to the public,
	residential development, Such	the correlation between developments and the marina(s) is indirect.
	residential resort sprawl causes	Demand for the use of the public marina and its amenities can come
	concerns relating to many areas	from a variety of sources leading to the correlation being
	associated with density and	indeterminate.
	number	
	of the housing units. Based on	
	information from the Tennessee	
	Environment & Conservation,	
	Division of Water Resources, it	
	would appear that the ground water	
	is currently displaying indications	
	that pollutants from residential units	
	are being detected in the drinking	
	water obtained from wells	
	density begging units will only	
	density housing units will only	
	increase the level of pollutarits both	
	In the ground water and the lake. It	
	source of environmental pollution	
	should be mentioned in both ESs	
	should be mentioned in both Eos.	
50	Is it the intent of TVA to maintain	It is the intent of the 1/3 rule to maintain adequate channel
	an open channel representing 1/3rd	width/depth of the recreational channel such that boaters can safely
	or 2/3rds of the total	transit the area. According to the proposed harbor limits included in
	width of the cove. The ES states,	the Environmental Assessment, the harbor limits do not extend
	"IVA requires that harbor limits	more than 1/3 of the way across the entire channel, thereby
	may not extend more than one-third	complying with the navigation condition. Likewise, community slips
	distance across an embayment". In	located across from the proposed Deerfield Marina would not be
	the Deerfield Proposal (2019-14) it	allowed to extend beyond one-third across the embayment.
	would appear that the	
	combination of slips on both sldes	
	of the cove would exceed the one-	
	Initia extension requirement. Places starify this	
	requirement. Flease ciality (IIIS	
	requirement.	

51	10) The model used to determine boat density is valid but as with all such models it is a distribution over a large area and does not appear to take in peak loading within a relatively small defined area. The area inclusive of Springs Dock, Deerfield Cove, Shanghai and Sugar Hollow is extremely crowded during the periods mentioned in the ES. Is there a way to calculate the boat density specifically for this area during the time periods noted?	The 3950 acre study area consists of a 6-mile upstream and downstream section of the Powell River (Powell River mile 2.1-14.1) and represents the accepted average distance travelled by a motorboat from its origin. Because the majority of the typical boating experience will take place within this area, TVA believes it is reasonable to use this to estimate boating density levels and correlate the results with the defined WROS settings.
52	I am not opposed to the expansion of some slips in the proposed area but what has been proposed seems to be excessive and almost exclusively tied to further development high density residential units. As a full time resident and owner of multiple properties including a lake (cove) front residence, I believe the total number of proposed new slips is excessive and will only detracted from the environmental aesthetics and quality in this area. The total number should be reduced.	The proposed marinas would be intended to meet the boating needs of the general public. As outlined in the EA, there is a high demand for motorboating and support facilities such as commercial marinas.
53	As an aside, even though it is beyond the scope of this EA, it is disturbing how one property was able to secure two multiple bay slips for a singular piece of property within Deerfield Cove.	Comment noted; it is beyond the scope of this environmental assessment.

54	Apart from the analytical environmental impact data cataloged in this document, it is our belief that the recreational use demand data (section 3.5) completely misses the exact impact the proposed additional facilities would have on the specific Deerfield Marina location. The boating traffic this past July 4th weekend posed multiple safety threats including near collisions and several witnessed near misses of skiers/swimmers/children in the water. It is not clear whether or not the 35% use estimation for peak use periods includes boats and personal watercraft launched without an associated marina slip.	TVA provided information related to the proposed Deerfield Marina development to the Tennessee Wildlife Resources Agency (TWRA). This agency is responsible for addressing recreational boating safety issues on waters within the State. TWRAs Boating Safety Officer has indicated that TWRA has no objection to the development from a boating safety perspective (email dated 12/19/18). TVA's estimates of boating use includes all types of boats including personal water craft. All boat ramps, commercial marina slips, community slips, and individual private docks within a study area are included in preparing estimates of total boat use levels.
55	I would suggest a water "traffic" assessment between Memorial Day and Labor Day be performed before the marinas are allowed. You would see that size of some of boats are excessive, the manner in which they are operated is unacceptable. And that in a lot of the narrow passages cannot support more boat traffic.	TVA developed an assessment to estimate the density of recreational boats on TVA reservoirs, called the Boating Density Worksheet. Current boating use on TVA reservoirs was estimated for three different points in the peak summer boating season (May through September): (a) non-holiday week days, (b) non-holiday weekend days, and (c) peak use holiday weekend days (Memorial Day, July4th, and Labor Day). The boating density assessment does indicate an increase in boating traffic within the 3,950 surface acre study area if the marinas are developed as proposed. However, the character of the boating experience is not expected to change significantly. This conclusion is based on the application of the Water Recreation Opportunity Spectrum classification system as outlined in the EA.
56	Lack of enforcement of the laws on Norris is bad as well. The TWRA officers up here are great, but more of them is needed. I can go out of any ramp and within 5 min see multiple violations. Including a lot of BWIs. With the addition of two more "drinking" platforms or Marinas as they are called it will make even worse.	TVA provided information related to the proposed Deerfield Marina development to the Tennessee Wildlife Resources Agency (TWRA). This agency is responsible for addressing recreational boating safety issues on waters within the State. TWRAs Boating Safety Officer has indicated that TWRA has no objection to the development from a boating safety perspective (email dated 12/19/18).
57	We are concerned with this becoming a public resort that it will cause further issues with maintenance causing fees to go up for the residents of Deerfield.	As commercial operations, revenues would be generated from the general public including Deerfield Community residents having a need for marina services and facilities.

58	My main concern is the overdevelopment of a resource that not only furnishes recreational activities but is also my drinking water, as well as the drinking water of thousands of other residents. I find it hard to believe that with all the commercial docks, houseboats and sewer systems (plus petroleum products spilled into Norris Lake) that the water is guaranteed safe to drink and use.	The Safe Drinking Water Act (SDWA) is the federal law that protects public drinking water supplies throughout the nation. Under the SDWA, EPA sets standards for drinking water quality. Tennessee has primacy over the drinking water and therefore conducts an annual report, in addition to the reporting required by the drinking water utility. A public water system is required to monitor and verify that the levels of contaminants present in the water do not exceed an established maximum contaminant level. If a public water system fails to monitor as required or fails to report monitoring results correctly, then a monitoring or reporting violation occurs. Generally, the larger the population served by a water system, more frequent monitoring and reporting is required. Additionally, the SDWA requires public water systems to notify the public when they have violated these regulations. This public utility is currently under a TDEC Order and would be required to comply with TDEC regulations and limitations in order to ensure good drinking water quality.
59	Couple this with more navigation hazards and safety issues- especially the large houseboats that erode the shoreline with very large waves that also make it unsafe for smaller boats in the majority of narrow channels of Norris Lake, particularly on the Powell River side. These waters are unsafe when boats large enough for the Great Lakes and the seas are allowed to be used in Norris Lake.	Comment noted; the size of boating vessels is outside of TVAs jurisdiction.

60	Many families were forced off their	TVA uses reservoir land management plans as a tool to manage the
	land by TVA. Considering that	293,000 acres of public land under its stewardship. Land plans are
	these lands were bought from the	updated in an order that considers the age of the current plan,
	poor farmers who originally	known deficiencies, and any developing trends that warrant potential
	homesteaded here, how in good	changes. Updates to land plans allow TVA to respond to new
	conscience can TVA allow	issues and changes in conditions and circumstances while
	commercial dock owners and	identifying and evaluating the most suitable use of public land.
	developers to use public owned	These important land use decisions are key to helping TVA strike a
	resources beyond their original	balance for the overall health, economic development, and
	intended purposes?	recreation opportunities of our reservoir land. As of the latest lands
	Please stop all future shoreline and	plan for Norris Reservoir (2001), TVA proposed Land Use
	commercial development on Norris	Allocations based upon the same established land zones as for all
	Lake and reverse the existing	of TVA lands (Land Zones 1-7). TVA primarily plans lands for Land
	congestion and pollution of the	zones 2-7 due to the fact that Zone 1 is Non-TVA Land. Specific to
	Lake. The majority of the shoreline	the case of these two proposed marinas, those properties lie within
	on the north east side of Norris	a Zone 1, Non-TVA Land. Properties within a Zone 1 are managed
	Lake (on the Powell River side)	based upon their legal land rights granted within their deeds and
	was sold by TVA and the property	TVA aligns its decisions with such. Furthermore, lands within Zone
	is now privately owned.	1 must be able to satisfy the TVA terms and conditions for which
	The quiet and peaceful lake that I	they are applying, whether residential, community, or commercial.
	knew as a child is now being turned	
	into a commercial enterprise that is	
	already too crowded and is, at	
	times, unsafe.	
	Our public waterways need to be	
	jus that. They do not need to be	
	private enterprises that have little	
	respect for conservation and safety.	
	 knew as a child is now being turned into a commercial enterprise that is already too crowded and is, at times, unsafe. Our public waterways need to be jus that. They do not need to be private enterprises that have little respect for conservation and safety. 	

Attachment B – Cultural Consultation



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902

July 2, 2019

Mr. E. Patrick McIntyre, Jr. Executive Director and State Historic Preservation Officer Tennessee Historical Commission 2941 Lebanon Pike Nashville, Tennessee 37243-0442

Dear Mr. McIntyre:

TENNESSEE VALLEY AUTHORITY (TVA), DEERFIELD MARINA, CAMPBELL COUNTY, TENNESSEE (36.340210, -84.001105)

TVA received a request for a 26A Permit for a new commercial recreation license over approximately 11.1 acres in Campbell County, Tennessee on Norris Reservoir. The developer of the Deerfield Resort proposes to build a new multi-slip facility on TVA property to rent boats slips to the general public. The facility would have a maximum of 280 slips and would be built in phases. Additionally, the developer proposes to stabilize approximately 800 feet or shoreline with riprap (Figures 1 and 2). On March 27, 2019, TVA consulted with your office in regard to this project, stating that activities would result in no effect to historic properties. Your office concurred in a letter dated April 2, 2019.

TVA had determined that the area of potential effects (APE) was the 11.1 acres plus historic structures within a one-half mile radius that have a direct line of sight of the project. The APE is located in Campbell County, Tennessee on an unnamed tributary to the Powell River at RM 8.0R (Figure 3). All activities proposed to be permitted for this project are on TVA fee-owned land and flowage easement. After re-reviewing project activities, TVA's flowage easement was inadvertently excluded from the APE map and calculated acreage during the previous consultation. A revised APE was determined to include the flowage easement, a total of 15.2 acres. Proposed activities have not changed.

The shoreline in the APE has been previously investigated by a survey conducted during the winter drawdown. No archaeological sites were identified here (Gage and Herrmann 2009). The environmental setting – steep slopes of a ridge facing a small draw – has low potential for significant archaeological deposits. Soils above the lake are mapped as Fullerton and Bodine gravelly silt loams, 25 to 70 percent slopes, and Talbott-Rock outcrop complex, 30 to 50 percent slopes (United States Department of Agriculture–National Resources Conservation Service [USDA-NRCS] 2019). The lake bed on the slope has been eroded by wave action, which has removed topsoil.

Attachment B – Cultural Consultation cont.

Mr. E. Patrick McIntyre, Jr. Page 2 July 2, 2019

No historic structures are indicated at this location on the 1936 and 1941 editions of the USGS Demory, TN 7.5-minute quadrangle map, and there are no National Register listings here. No previously inventoried historic architectural properties are listed in the area on the Tennessee Historical Commission online viewer. The viewshed has been compromised by the construction of Norris Reservoir, a modern subdivision, several large commercial marinas, and several private boat docks. If any above ground historic properties are located within view of the project, their integrity of setting and feeling would not be diminished by the construction of the proposed water use facilities.

For the reasons stated above, TVA finds that the proposed undertaking would have no effects to historic properties. Pursuant to 36 CFR Part 800.4(d)(1), we are seeking your concurrence with TVA's finding of no effect.

Pursuant to 36 CFR Part 800.3(f)(2), TVA is consulting with federally recognized Indian tribes regarding properties within the survey area that may be of religious and cultural significance to them and eligible for the National Register of Historic Places.

If you have any questions or comments, please contact Michael Angst by email, mgangst@tva.gov or by phone, (865) 632-6257.

Sincerely,

Clinton E. Jones Manager Cultural Compliance

MGA:ABM Enclosures cc (Enclosures): Ms. Jennifer Barnett Tennessee Division of Archaeology 1216 Foster Avenue, Cole Bldg. #3 Nashville, Tennessee 37210

Attachment C – TWRA Consultation

Giles, Travis Adam

From:	Darren Rider <darren.rider@tn.gov></darren.rider@tn.gov>
Sent:	Wednesday, December 19, 2018 11:30 AM
То:	Guerry, Steven Clay
Subject:	RE: Permitting of marinas on Powell River/Norris reservoir

TVA External Message. Please use caution when opening.

After review of major Ripley's and Captain Whitehead's comments - we have no objections from a boating safety perspective with you proceeding with the application.

From: Guerry, Steven Clay [mailto:scguerry@tva.gov]
Sent: Wednesday, December 19, 2018 8:34 AM
To: Darren Rider
Cc: Forster, David Benjamin
Subject: RE: Permitting of marinas on Powell River/Norris reservoir

Hi Darren-Just following up to see if you guys have any input

From: Guerry, Steven Clay
Sent: Wednesday, December 12, 2018 1:23 PM
To: 'Darren Rider' <Darren.Rider@tn.gov>
Cc: Forster, David Benjamin (dbforster@tva.gov) <dbforster@tva.gov>
Subject: RE: Permitting of marinas on Powell River/Norris reservoir

Thanks Darren,

Sorry this wasn't more clear but 52 of the slips in the description are there currently. The new slips that would be in addition is 198. We are looking at all aspects of this proposal and specifically wanted you guys to weigh in on a couple questions:

1- Do you guys have an objection to us proceeding with this application from a boating safety perspective?

2- If you have an objection are there specific mitigation techniques that could be done to remove any significant boating safety concerns?

Again thank for the review

Attachment D – Project Plans



Attachment D – Project Plans cont.



Attachment D – Project Plans cont.



Attachment D – Categorical Exclusion Checklist

Categorical Exclusion Number Claimed	Organization RLR288283	ID Number		Trackir 38694	ing Number (NEPA Administration Use Only)
Form Preparer		Project Initiator/Manager		Business Unit	
David B Forster		David B Forster		P&N	NR - Commercial & Public Recreation
Project Title Hydrologic Unit Code 26a Category 2 RLR 288283 Parc Properties, LLC Norris Reservoir - Deerfield Marina Hydrologic Unit Code					Hydrologic Unit Code
Description of Proposed Action (Include Anticipated Dates of Implementation) Continued on Page 3 (if more than one line) Applicant(s): Parc Properties, LLC 1235 Deerfield Way LaFollette TN 37766					
Initiating TVA Facility or Office TVA Business Units Involved in Project					ess Units Involved in Project
Eastern Region			P&NR - Commercial & Public Recreation		
Location <i>(City, County, State)</i> CAMPBELL, TN, County, State: CAMPBELL, TN_Map Sheet(s): 30 C/D Stage_Stream(s): Powell R 8 R					

Categorical Exclusion Checklist for Proposed TVA Actions

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

Part 1. Project Characteristics

ls tl	nere evidence that the proposed action	No	Yes	Commit- ment	Information Source for Insignificance
	1.ls major in scope?	Х			NOA, Forster, David B. 04/11/2018
	2.Is part of a larger project proposal involving other TVA actions or other federal agencies?	х			NOA, Forster, David B. 04/11/2018
*	3.Involves non-routine mitigation to avoid adverse impacts ?	Х		No	Giles, Travis A. 06/11/2018
	4.Is opposed by another federal, state, or local government agency?	Х			Giles, Travis A. 06/11/2018
*	5.Has environmental effects which are controversial?	Х			NOA, Forster, David B. 04/11/2018
*	6.Is one of many actions that will affect the same resources?		Х		For comments see attachments
	7.Involves more than minor amount of land?	Х			NOA, Forster, David B. 04/11/2018

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

Would the proposed action	No	Yes	Permit	Commit- ment	Information Source for Insignificance
1.Potentially affect endangered, threatened, or special status species?		х	No	No	For comments see attachments
 Potentially affect historic structures, historic sites, Native American religious or cultural properties, or archaeological sites? 		x	No	No	For comments see attachments
3.Potentially take prime or unique farmland out of production?	Х		No	No	NOA, Forster, David B. 04/11/2018
4.Potentially affect Wild and Scenic Rivers or their tributaries?	Х		No	No	Giles, Travis A. 06/11/2018
5.Potentially affect a stream on the Nationwide Rivers Inventory?	Х		No	No	Giles, Travis A. 06/11/2018
6.Potentially affect wetlands?	Х		No	No	For comments see attachments
7.Potentially affect water flow, stream banks or stream channels?		х	No	No	For comments see attachments
8.Potentially affect the 100-year floodplain?		Х	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?	х		No	No	For comments see attachments
10.Contribute to the spread of exotic or invasive species?	Х		No	No	For comments see attachments
11.Potentially affect migratory bird populations?	Х	1	No	No	For comments see attachments
12.Involve water withdrawal of a magnitude that may affect aquatic life or involve interbasin transfer of water?	х		No	No	NOA, Forster, David B. 04/11/2018
13.Potentially affect surface water?		Х	No	No	For comments see attachments
14.Potentially affect drinking water supply?	Х		No	No	NOA, Forster, David B. 04/11/2018
15.Potentially affect groundwater?	Х		No	No	NOA, Forster, David B. 04/11/2018
16.Potentially affect unique or important terrestrial habitat?	Х		No	No	For comments see attachments
17.Potentially affect unique or important aquatic habitat?	Х		No	No	For comments see attachments

Part 2. Natural and Cultural Features Affected

Part 3. Potential Pollutant Generation

Would the proposed action potentially (including accidental or unplanned)	No	Yes	Permit	Commit- ment	Information Source for Insignificance
1.Release air pollutants?		Х	No	No	For comments see attachments
2.Generate water pollutants?		Х	No	No	For comments see attachments
3.Generate wastewater streams?	Х		No	No	CBC, Forster, David B. 04/11/2018
4.Cause soil erosion?		Х	Yes	No	For comments see attachments
5.Discharge dredged or fill materials?		Х	Yes	No	For comments see attachments
6.Generate large amounts of solid waste or waste not ordinarily generated?	х		No	No	CBC, Forster, David B. 04/11/2018
7.Generate or release hazardous waste (RCRA)?	Х		No	No	CBC, Forster, David B. 04/11/2018
8.Generate or release universal or special waste, or used oil?	х		No	No	CBC, Forster, David B. 04/11/2018
9.Generate or release toxic substances (CERCLA, TSCA)?	Х		No	No	CBC, Forster, David B. 04/11/2018
10.Involve materials such as PCBs, solvents, asbestos, sandblasting material, mercury, lead, or paints?	х		No	No	CBC, Forster, David B. 04/11/2018
11.Involve disturbance of pre-existing contamination?	Х		No	No	Giles, Travis A. 06/11/2018
12.Generate noise levels with off-site impacts?		Х	No	No	For comments see attachments
13.Generate odor with off-site impacts?	Х		No	No	CBC, Forster, David B. 04/11/2018
14.Produce light which causes disturbance?	Х		No	No	CBC, Forster, David B. 04/11/2018
15.Release of radioactive materials?	Х		No	No	CBC, Forster, David B. 04/11/2018
16.Involve underground or above-ground storage tanks or bulk storage?	х		No	No	CBC, Forster, David B. 04/11/2018
17.Involve materials that require special handling?	Х		No	No	CBC, Forster, David B. 04/11/2018

Part 4. Social and Economic Effects

Would the proposed action	No	Yes	Permit	Commit- ment	Information Source for Insignificance
1.Potentially cause public health effects?	Х			No	NOA, Forster, David B. 04/11/2018
2.Increase the potential for accidents affecting the public?	Х			No	For comments see attachments
3.Cause the displacement or relocation of businesses, residences, cemeteries, or farms?	х			No	NOA, Forster, David B. 04/11/2018
4.Contrast with existing land use, or potentially affect resources described as unique or significant in a federal, state, or local plan?	х			No	Giles, Travis A. 06/11/2018
5.Disproportionately affect minority or low-income populations?	х			No	NOA, Forster, David B. 04/11/2018
6.Involve genetically engineered organisms or materials?	Х			No	NOA, Forster, David B. 04/11/2018
7.Produce visual contrast or visual discord?		Х		No	For comments see attachments
8.Potentially interfere with recreational or educational uses?		Х		No	For comments see attachments
9.Potentially interfere with river or other navigation?		Х	No	No	For comments see attachments
10.Potentially generate highway or railroad traffic problems?	Х			No	For comments see attachments

Part 5. Other Environmental Compliance/Reporting Issues

Would the proposed action	No	Yes	Commit- ment	Information Source for Insignificance
1.Release or otherwise use substances on the Toxic Release Inventory list?	х		No	NOA, Forster, David B. 04/11/2018
2.Involve a structure taller than 200 feet above ground level?	Х		No	NOA, Forster, David B. 04/11/2018
3.Involve site-specific chemical traffic control?	Х		No	NOA, Forster, David B. 04/11/2018
4.Require a site-specific emergency notification process?	Х		No	NOA, Forster, David B. 04/11/2018
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?	х		No	NOA, Forster, David B. 04/11/2018
6.Potentially impact operation of the river system or require special water elevations or flow conditions??	х		No	Giles, Travis A. 06/11/2018
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)?	х		No	Giles, Travis A. 06/11/2018

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 Da∨id B Forster			Date 06/08	8/2018
TVA Organization	E-mail		Telephone	
P&NR	dbforste@tva.g	ov		
Environmental Conc	urrence Reviewer		Preparer Clos	sure
Travis Adam Giles	06/10/2019	Travis A Giles		06/10/19
Sigi	nature		Signatur	e
Other Environmental Concurr	ence Signatures (as required by y	our organization)		

Other Environmental Concurrence Signatures (as required by your organization)

Signature

Signature

Signature

Signature

Other Review Signatures (as required by your organization)

David B. Harrell	06/1	2/2018	
	Signature		Signature
-	Signature		Signature
~	Signature		Signature

Attachments/References

CEC General Comment Listing

1.	In the Information Source columns associated with the checklist ques Cleared By Criteria. These criteria are described in the Resource Ste By: David B Forster	stions, NOA refers to Nature of Act ewardship Prescreening Criteria Cl 04/11/2018	ion and CBC refers to hecklist Instructions.
2.	TVA Bat Strategy Form is attached.		
	By: Travis A Giles	06/13/2018	
3.	Files: Bat_Form_CEC 38694.pdf License Concurrence Sheet with Signatures	06/14/2018	1,712.33 Bytes
	By: David B Forster	12/14/2018	
	Files: Briefing_ParcProperties_Commercial_Rec_License_Requ t_FINAL Signed 9-27-18.pdf	es 12/14/2018	933.86 Bytes
4.	Parking Plan		
	By: David B Forster	12/14/2018	
	Files: Deerfield Marina_ Proposed Parking Plan for Marina_12-1 18.pdf	1- 12/14/2018	763.83 Bytes
5.	County Support Letter		
	By: David B Forster	12/14/2018	
	Files: Deerfield Marina_Campbell County Support Letter for Marina_8-21-18.pdf	12/14/2018	28.03 Bytes
б.	Land Use Application		
	By: David B Forster	12/14/2018	
7.	Files: Deerfield Marina_Signed LUP Application.pdf ADF	12/14/2018	669.38 Bytes
	By: David B Forster	12/14/2018	
	Files: Deerfield Marina_Signed ADF.pdf	12/14/2018	351.45 Bytes
8.	Plans and Layout		
	By: David B Forster	12/14/2018	
9.	Files: Deerfield Marina_Plans and Layout_Revised 2-22-18.pdf Project Maps	12/14/2018	367.32 Bytes
	By: David B Forster	12/14/2018	
	Files: Deerfield Marina_Exhibit B_D Stage and Exhibit Map.pdf	12/14/2018	237.18 Bytes
	Deerfield Marina_Exhibit A_Aerial Harbor Map_R2.pdf	12/14/2018	252.11 Bytes
	Deerfield Marina_VicinityMap.pdf	12/14/2018	293.19 Bytes
10.	Deeds		
	By: David B Forster	12/14/2018	
	Files: Deerfield Marina_XNR-156, -157, -158, -155 Special Warranty Deed.pdf	12/14/2018	631.13 Bytes
11.	Special Deed		
	By: David B Forster	12/14/2018	
	Files: Deerfield Marina_XNR-156 S-1 Deed of Exchange.pdf	12/14/2018	193.35 Bytes
12.	Rip Rap Plans		
	By: David B Forster	05/02/2019	
	Files: Deerfield Marina Stabilization Form and Plans FINAL.pdf	05/02/2019	1,083.49 Bytes

13.	NO COMMENT TEXT			
14.	By: 26a Added Comment NO COMMENT TEXT			
15.	By: 26a Added Comment NO COMMENT TEXT			
16.	By: 26a Added Comment Collection Fee Report			
17.	By: 26a Added Comment Former 26a Approval - RLR 161536			
18.	By: 26a Added Comment Harbor Map			
19.	By: 26a Added Comment NO COMMENT TEXT			
20.	By: 26a Added Comment Vicinity Map			
21.	By: 26a Added Comment Facility Map			
22.	By: 26a Added Comment Facility List Definitions			
23.	By: 26a Added Comment Bat Form			
24.	By: 26a Added Comment Completed CEC			
	By: 26a Added Comment			
CEC Comment Listing				
Part 1 Comme	nts			

6. This action is considered to have cumulative impacts covered and discussed under TVA SMI (1999). By: David B Forster 04/18/ Addresses in Shoreline Management Initiative Environmental Impact Statem ent By: David B Forster 04/11/

6.

1.

Part 2 Comments

	actions. Worst populations of state and rederally listed aquatic species were extirpated after the completion of Watts Bar Dam. Habitat at the proposed site is not suitable for the various state and federally listed aquatic species known to occur in the vicinity. Due to the location of the proposed actions there would be no effects on any protected aquatic species.					
	There are two federally listed terrestrial animal species listed terrestrial animal species occur in the vicinity of not include the removal of suitable Myotis summer roc Myotis species.	s found within 3 miles of the proposed ac he proposed actions. The proposed act st habitat. Therefore, there would be no	ctions. No ion does effects to			
	There are 16 state listed plant species found within 5 r of action and location, the proposed actions would have	niles of the proposed actions. Due to th e no effect on any protected plant speci	e nature ies.			
	By: Kelvin Young	04/17/2019				
	Files: Heritage_Species_List2.pdf	05/10/2018	406.05 Bytes			
1.	See EA for analysis.					

There is 11 federally listed and 4 state listed aquatic species found within 10 miles of the proposed

04/18/2018

04/11/2018

1.	See EA for analysis.		
	By: Travis A Giles	04/05/2019	
2.	See EA for more information.		
	By: Travis A Giles	04/05/2019	

2.	The project area of potential effects, which consists of the shoreli marina would be installed, were included in a previous archaeolo sites were recorded at this location. The paleosetting-the steep has low potential for significant archaeological deposits. No hist location on the 1936 and 1941 editions of the USGS Demory, TN are no National Register listings here. The existing lake bed has has removed topsoil, and is covered with silt accumulated during operations. No previously inventoried historic architectural prope Tennessee Historical Commission online viewer. The viewshed construction of Norris Reservoir, a modern subdivision, several la private boat docks. If any above ground historic properties are lo integrity of setting and feeling would not be further diminished by use facilities.	ne where cable anchors for the floating gical survey and no archaeological slopes of a ridge facing a small draw- ric structures are indicated at this 7.5-minute quadrangle map, and there been eroded by wave action, which the past 80+ years of reservoir rities are listed in the area on the has been compromised by the rige commercial marinas, and several cated within view of the project, their the construction of the projeced water	
	Files: CID73349_CEC38694_Parc Properties LLC_Norris	06/08/2018	12.87 Bytes
2.	ALIS SMI data depicts that the action takes place in an area surv archaeological resources present, and no potential for buried de effects of the action are anticipated outside the "GREEN" zone.	eyed for archaeological resources, no posits (GREEN in the data), and no	
8.	By: David B Forster See EA Input.	04/18/2018	
	By: Travis A Giles	04/05/2019	
8.	This facility would fall under the guidelines of TVA's class review year floodplain. From the standpoint of Flood Control, TVA has n proposed project provided the following conditions are included in floor elevation of the fixed dock will be a minimum of two feet about 1020.0 2. You agree to securely anchor all floating facilities to p major floods. 3. For purposes of shoreline bank stabilization, al on average, no more than two feet from the existing shoreline at Byr David B Forster.	of repetitive actions within the 100- o objection to the 26a permit for the n the final CEC and permit: 1. The work the normal summer pool elevation orevent them from floating free during I portions will be constructed or placed, normal summer pool elevation. 04/8/2018	
9.	There are four Managed areas (MABR) and one Heritage Site (S due to the nature and location of the proposed actions these site By: Kelvin Young	BR) located in the vicinity. However, s would not be affected. 05/10/2018	
10.	The proposed actions would not contribute to the spread of exoti-	c or invasive species.	
11.	By: Kelvin Young Due to the location the proposed actions would have no effect or	05/10/2018 migratory birds.	
13	By: Kelvin Young See EA for more information	05/10/2018	
10.	By: Travis A Giles	04/05/2019	
13.	Insignificant with implementation of General and Standard Condi Practices.	tions including Best Management	
10	By: David B Forster	04/18/2018	
16.	effect on these sites or suitable habitat for bat hibernacula.	ne proposed actions there would be no	1
17	No unique aquatic babitat areas are known from the vicinity of the	e proposed actions	
G	By: Kelvin Young	05/10/2018	
0.	No wellands impacts are expected.	05/10/2018	
6.	No impacts to wetlands proposed, project is in compliance with E agencies to minimize wetland destruction, loss, or degradation, a beneficial wetland values, while carrying out agency responsibilit	ixecutive Order 11990 requiring federal nd preserve and enhance natural and ies.	
7	By: I ravis A Giles	05/22/2019	
Γ.	will be minimal to water flow, stream banks, and stream channels	5.	
Part 3 Comme	by. Havis A Glies	1212112010	
1	See EA for discussion		
1.	By Travia A Cilas	04/17/2010	
2.	D). Inavis A Gilds No commitments beyond standard TVA requirements—i.e., comp and local environmental laws and regulations, proper implementa practices and proper containment/treatment/disposal of wastewa potential pollutants. Please review TVA Clean Marina Guidebook implementation during facility use. By: Travis A Giles	out 172013 official applicable federal, state titon of BMPs and best engineering ters, stormwater runoff, wastes, and for recommended BMPs for 12/21/2018	
2.	A spill kit must be maintained on site while any heavy machinery should be capable of containing any spill to the ground or a wate	is in operation during construction. It rway due to refueling activities or	
	nyoraulic line breakage. By: Travis A Giles	12/21/2018	

4.	Insignificant impacts for undergroung utilities, boat ramp, and ba ARAP requirements and implementation of BMPs.	ank stabiliztion with compliance with	
4.	By: Travis A Giles The total new ground disturbance, if over an acre, would require	06/13/2018 a NPDES construction permit,	
	including laydown areas and barrow/spoil disposal sites. This ap Pollution Prevention Plan be submitted that will detail BMPs and 404 permit from the USACE may be required and a ARAP 401 V No commitments beyond standard requirements—i.e., complian local environmental laws and regulations, proper implementation proper containment/treatment/disposal of wastewaters, storm wa pollutants. It is also recommended that BMPs be incorporated di facility to minimize impacts to surface water quality. Please revie recommended BMPs for implementation during facility use. This adverse impact relative to these pollutants of concern.	plication requires that a Stormwater I project plans. Additionally, a Section Water Quality Certifications from TDEC ce with all applicable federal, state and o of BMPs and best engineering, and ater runoff, wastes, and potential uring construction and during use of the w TVA Clean Marina Guidebook for project is not expected to have any	3
4	By: Travis A Giles	12/21/2018	
4.	See EA for more information.	04/05/2019	
4.	Insignificant with implementation of General and Standard Cond cluding BMPs	litions in	
	By: David B Forster	04/11/2018	
5.	See EA for more information.		
5.	By: Travis A Giles Shoreline stabilization is considered fill material and therefore re	04/05/2019 equires 401and 404 certification. 401	
	certification is covered under the general permit.		
	Docks are considered obstructions in navigable waterways and Dredges are considered source of water quality impact requiring Launch Ramps are considered source of water quality impact re	require a Section 10 permit. 9 401 and 404 certification. 9 quiring 401 and 404 certification.	
	Section 10 is required for all structures located in navigable water	ers.	
12.	By: David B Forster See EA for more information.	04/18/2018	
12.	By: Travis A Giles Further information provided in EA.	04/05/2019	
	By: Travis A Giles	03/13/2019	
Part 4 Comme	nts		
2.	See EA for more information.		
	By: Travis A Giles	04/05/2019	
2.	TVA expects no potential significant impacts for accidents affect boating safety and traffic laws by governing state agency. By: Travis A Giles	ing the public with enforcement of 12/21/2018	
7.	See EA for more information.		
	By: Travis A Giles	04/05/2019	
10.	With compliance with any applicable TDOT requirements no sign	nificant impacts to highway traffic is	
8.	By: Travis A Giles See EA for more information.	12/21/2018	
	By: Travis A Giles	04/05/2019	
9.	Please see attached navigation comments.		
	By: Nicole Berger	03/20/2019	
0	Files: 288283 - 26a - Land Use application - Powell River Mi 8.1R - Deerfield Resort.docx	ile 03/20/2019	14.14 Bytes
9.	See EA for more information.	01/05/0010	
9.	By: Travis A Giles Permit will be via 26a upon final approval of license.	04/05/2019	
	By: David B Forster	06/18/2018	
CEC Permit Lis	sting		
Part 3 Permits			
4.	Aquatic Resource Alteration Permit		
4	By: Travis A Giles National Pollutant Discharge Elimination System Permit (±402.0)6/11/2018 Slean Water Act)	
12.2	Haushailt einden Discharge Einninderen Gystern Felmit (2402 C		
5.	By: Travis A Giles 1 Section 404 Permit (¿404 Clean Water Act)	2/21/2018	

Attachment E - TVA Bat Strategy Project Screening Form

Project Screening Form - TVA Bat Strategy (05/01/2018)

This form is to assist in determining alignment of proposed projects and any required measures to comply with TVA's ESA Section 7 programmatic consultation for routine actions and federally-listed bats¹

 Project Name:
 26a Category 2 RLR 288283 Parc Properties, LLC Norris Reservoir - Deerfield Marine
 Date:
 6/13/2018

 Contact(s):
 Travis Giles
 CEC#:
 38694
 RLR#:
 288283
 Project ID:
 205799

Project Description: Marina on Norris Reservoir, Applicant(s): Parc Properties, LLC 1235 Deerfield Way LaFollette TN 37766

STEP 1) Select Appropriate TVA Action (or check here \square if none of the Actions below are applicable):

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

STEP 2) Select <u>all</u> activities from Tables 1 and 2 (<u>Column 1 only</u>) included in proposed project. If you have an activity that is not listed below, describe here):

Table 1. Activities (CHECK ALL THAT APPLY) with No Effect on Federally Listed Bats. If none, check here:

100	#	# ACTIVITI		#	ACTIVITY
Ì	0 1	Loans and/or grant awards		12	Sufferance agreement
	2	Purchase of property		13	Engineering or environmental planning or studies
	3	Purchase of equipment for industrial facilities		14	Harbor limits
	- 4	Environmental education		19	Site-specific enhancements in streams and reservoirs for aquatic animals
	- 5	Transfer of ROW easement or ROW equipment		20	Nesting platforms
	6	Property and/or equipment transfer		41	Minor water-based structures
	7	Easement on TVA property		42	Internal renovation or internal expansion of existing facility
	8	Sale of TVA property		43	Replacement or removal of TL poles, or cutting of poles to 4-6 ft above ground
	9	Lease of TVA property		44	Conductor and OHGW installation and replacement
	□ 10	Deed modification of TVA rights or TVA property		49	Non-navigable houseboats
	11	Abandonment of TVA retained rights			

Table 2. Activities (CHECK ALL THAT APPLY) and Associated Conservation Measures. If none, check here:

#	ACTIVITY	CONSERVATION MEASURES	TZ SME Review Needed
	Windshield or ground surveys for	□ a. NV1	
15	archaeological resources	🗆 b. HP2	□ <mark>b</mark> . HP1
		□ a. NV1	□ a NV3, NV4 / □ a1. NV2
		□ f. SSPC1, SSPC2, SSPC3	
16	Drilling	🗆 g. L1, L2	
	Mechanical vegetation removal;		
	does not include removal of trees or	□ a. NV1	
17	tree branches > 3" in diameter.	□ f. SSPC1, SSPC2, SSPC3, SSPC5	□ f. SSPC4, SSPC7
		∎ a. NV1	
18	Erosion control – minor	■ f. SPCC1, SSPC2, SSPC3, SSPC5	None
21	Herbicide use	🛛 d. SSPC1, SSPC2, SSPC3, SSPC5	🗆 d. SSPC6, SSPC7
		□ a. NV1	
22	Grubbing	□ f. SSPC1, SSPC2, SSPC3, SSPC5	□ f. SSPC4
23	23 Prescribed burns, burn piles, or 🛛 🗆 c. SHF1, SHF4, SHF5		□ c. SHF2, SHF3, SHF6, SHF7,

1

RLR No.

GENERAL AND STANDARD CONDITIONS Section 26a and Land Use

General Conditions

- You agree to make every reasonable effort to construct and operate the facility authorized herein in a manner so as to minimize any adverse impact on water quality, aquatic life, wildlife, vegetation, and natural environmental values.
- 2. This permit may be revoked by TVA by written notice if:
 - a) the structure is not completed in accordance with approved plans;
 - b) if in TVA's judgment the structure is not maintained as provided herein;
 - c) the structure is abandoned;
 - d) the structure or work must be altered to meet the requirements of future reservoir management operations of the United States or TVA, or:
 - e) TVA finds that the structure has an adverse effect upon navigation, flood control, or public lands or reservations.
- 3. If this permit for this structure is revoked, you agree to remove the structure, at your expense, upon written notice from TVA. In the event you do not remove the structure within 30 days of written notice to do so, TVA shall have the right to remove or cause to have removed, the structure or any part thereof. You agree to reimburse TVA for all costs incurred in connection with removal.
- 4. In issuing this Approval of Plans, TVA makes no representations that the structures or work authorized or property used temporarily or permanently in connection therewith will not be subject to damage due to future operations undertaken by the United States and/or TVA for the conservation or improvement of navigation, for the control of floods, or for other purposes, or due to fluctuations in elevations of the water surface of the river or reservoir, and no claim or right to compensation shall accrue from any such damage. By the acceptance of this approval, applicant covenants and agrees to make no claim against TVA or the United States by reason of any such damage, and to indemnify and save harmless TVA and the United States from any and all claims by other persons arising out of any such damage.
- 5. In issuing this Approval of Plans, TVA assumes no liability and undertakes no obligation or duty (in tort, contract, strict liability or otherwise) to the applicant or to any third party for any damages to property (real or personal) or personal injuries (including death) arising out of or in any way connected with applicant's construction, operation, or maintenance of the facility which is the subject of this Approval of Plans.
- This approval shall not be construed to be a substitute for the requirements of any federal, state, or local statute, regulation, ordinance, or code, including, but not limited to, applicable electrical building codes, now in effect or hereafter enacted.
- 7. The facility will not be altered, or modified, unless TVA's written approval has been obtained prior to commencing work.
- You agree to notify TVA of any transfer of ownership of the approved structure to a third party. Third party is required to make application to TVA for permitting of the structure in their name.
- 9. You agree to stabilize all disturbed areas within 30 days of completion of the work authorized. All land-disturbing activities shall be conducted in accordance with Best Management Practices as defined by Section 208 of the Clean Water Act to control erosion and sedimentation to prevent adverse water quality and related aquatic impacts. Such practices shall be consistent with sound engineering and construction principles; applicable federal, state, and local statutes, regulations, or ordinances; and proven techniques for controlling erosion and sedimentation, including any *required* conditions.
- 10. You agree not to use or permit the use of the premises, facilities, or structures for any purposes that will result in draining or dumping into the reservoir of any refuse, sewage, or other material in violation of applicable standards or requirements relating to pollution control of any kind now in effect or hereinafter established.
- 11. The facility will be maintained in a good state of repair and in good, safe, and substantial condition. If the facility is damaged, destroyed, or removed from the reservoir or stream for any reason, or deteriorates beyond safe and serviceable use, it cannot be repaired or replaced without the prior written approval of TVA.
- 12. You agree that if any historical or prehistoric archaeological material (such as arrowheads, broken pottery, bone or similar items) is encountered during construction of this facility you will immediately contact this office and temporarily suspend work at that location until authorized by this office to proceed.
- 13. The Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act apply to archaeological resources located on the premises. If LESSEE {or licensee or grantee (for easement) or applicant (for 26a permit on federal land) discovers human remains, funerary objects, sacred objects, objects of cultural patrimony, or any other archaeological resources on or under the premises, LESSEE {or licensee, grantee, or applicant} shall immediately stop activity in the area of the discovery, make a reasonable effort to protect the items, and notify TVA by telephone (phone _____). Work may not be resumed in the area of the discovery until approved by TVA.
- 14. On TVA land, unless otherwise stated on this permit, vegetation removal is prohibited.
- 15. You agree to securely anchor all floating facilities to prevent them from floating free during major floods.
- 16. You are responsible for accurately locating your facility, and this authorization is valid and effective only if your facility is located on or fronting property *owned* or *leased* as shown on your application.
Standard Conditions: (Items that pertain to your request have been checked.)

1. Structures and Facilities

- a) TVA number _____ has been assigned to your facility. When construction is complete, this number shall be placed on a readily visible part of the outside of the facility in the numbers not less than three inches high.
- b) The 100-year flood elevation at this site is estimated to be ______-feet mean sea level. As a minimum, your fixed facility should be designed to prevent damage to stored boats by forcing them against roof during a 100-year flood event.
- c) Tyou agree that the float will be temporarily connected (i.e., by slip pin/ropes) and not permanently attached to nonnavigable houseboat.
- d) 🔲 You agree that this _____ shall have no side enclosures except wire mesh or similar screening.
- e) D Buildings or other enclosed structures containing sleeping or living accommodations, including toilets and related facilities, or that have enclosed floor area in excess of 32 square feet, are prohibited.
- f) 🔲 Ski jumps will not be left unattended for extended periods of time. All facilities will be tied to the shoreline or to a boathouse or pier fronting your property at the completion of each day's activities.
- g) Group For all electrical services permitted, a disconnect must be located at or above the _____-foot contour that is accessible during flooding.
- h) 🗖 You should contact your local government official(s) to ensure that this facility complies with all applicable local floodplain regulations.
- i) The entire closed-loop coil heating and air conditioning system and its support apparatus must be either placed below elevation (to provide a five-foot clearance for water craft at minimum pool elevations of _____) or located underneath a TVA approved water-use facility or other TVA approved structure. The supply and return lines must be buried as they cross the reservoir drawdown zone in areas of water depth less than five feet (minimum pool). The liquid contents of the closed-loop heating and air conditioning system must be proylene glycol or water, and the applicant or authorized agent must provide TVA with written verification of this fact.
- j) 🔲 You agree that only those facilities which have been approved by TVA prior to construction will be placed within the harbor limits and that permanent mooring buoys, boat slips, or other harbor facilities will not be placed outside the harbor limits.
- k) You agree that all storage, piping, and dispensing of liquid fuel shall comply with applicable requirements of the "Flammable and Combustible Liquids" section of the <u>National Fire Codes</u> and any additional requirements of federal, state, and local laws and regulations.
- 1) TVA. TVA.
- m) You agree that the construction project covered by this permit will be completed by the following date:_____

2. Ownership Rights

- a) D No fill will be placed higher than elevation _____ maximum shoreline contour (msc), and every precaution will be taken not to disturb or alter the existing location of the _____-foot contour elevation through either excavation or placement of fill.
- b) 🔲 It is understood that you own partial interest in the land at this location. Therefore, you should be aware that, if objections to this structure are received by the other owners of partial interest at this site, that action may be cause for TVA to consider revoking this permit.
- c) Vou are advised that TVA retains the right to flood this area and that TVA will not be liable for damages resulting from flooding.
- d) Tvou shall notify TVA of any sale or transfer of land, which would affect the landward limits of harbor area, as far in advance of such sale or transfer as possible.
- e) This approval of plans is only a determination that these harbor limits will not have any unacceptable effect on TVA programs or other interests for which TVA has responsibility. Such approval does not profess or intend to give the applicant exclusive control over the use of navigable waters involved.

f) I You recognize and understand that this authorization conveys no property rights, grants no exclusive license, and in no way restricts the general public's privilege of using shoreland owned by or subject to public access rights owned by TVA. It is also subject to any existing rights of third parties. Nothing contained in this approval shall be construed to detract or deviate from the rights of the United States and TVA held over this land under the Grant of Flowage Easement. This Approval of Plans does not give any property rights in real estate or material and does not authorize any injury to private property or invasion of private or public rights. It merely constitutes a finding that the facility, if constructed at the location specified in the plans submitted and in accordance with said plans, would not at this time constitute an obstruction unduly affecting navigation, flood control, or public lands or reservations.

3. Shoreline Modification and Stabilization

- a) For purposes of shoreline bank stabilization, all portions will be constructed or placed, on average, no more than two feet from the existing shoreline at normal summer pool elevation.
- b) Tou agree that spoil material will be disposed of and contained on land lying and being above the ______-foot contour. Every precaution will be made to prevent the reentry of the spoil material into the reservoir.
- c) 🔲 Bank, shoreline, and floodplain stabilization will be permanently maintained in order to prevent erosion, protect water quality, and preserve aquatic habitat.
- d) 🔲 You agree to reimburse TVA \$_____, which is the current value of the _____ acre feet of power storage volume displaced by fill into the reservoir.

4. Water Intake

- a) 🔲 If the reservoir falls below the elevation of the intake, the applicant will be responsible for finding another source of raw water.
- b) You must install and maintain a standard regulatory hazard buoy at the end of the intake to warn boaters of the underwater obstruction. The word "intake" should be added to the buoy and be attached using a five-foot cable.
- c) 🔲 The screen openings on the intake strainer must be 1/8-inch (maximum), to minimize the entrapment of small fish.
- d) This approval does not constitute approval of the adequacy or safety of applicant's water system. TVA does not warrant that the water withdrawn and used by applicant is safe for drinking or any other purpose, and applicant is solely responsible for ensuring that all water is properly treated before using.

5. Bridges and Culverts

- a) 🔲 You agree to design/construct any instream piers in such a manner as to discourage river scouring or sediment deposition.
- b) Applicant agrees to construct culvert in phases, employing adequate streambank protection measures, such that the diverted streamflow is handled without creating streambank or streambed erosion/sedimentation and without preventing fish passage.
- c) Concrete box culverts and pipe culverts (and their extensions) must create/maintain velocities and flow patterns which offer refuge for fish and other aquatic life, and allow passage of indigenous fish species, under all flow conditions. Culvert floor slabs and pipe bottoms must be buried at least one foot below streambed elevation, and filled with naturally occurring streambed materials. If geologic conditions do not allow burying the floor, it must be otherwise designed to allow passage of indigenous fish species under all flow conditions.
- d) All natural stream values (including equivalent energy dissipation, elevations, and velocities; riparian vegetation; riffle/pool sequencing; habitat suitable for fish and other aquatic life) must be provided at all stream modification sites. This must be accomplished using a combination of rock and bioengineering, and is not accomplished using solid, homogeneous riprap from bank to bank.
- e) Tyou agree to remove demolition and construction by-products from the site--for recycling if practicable, or proper disposal--outside of the 100-year floodplain. Appropriate BMPs will be used during the removal of any abandoned roadway or structures.

6. Best Management Practices

- a) 🔲 You agree that removal of vegetation will be minimized, particularly any woody vegetation providing shoreline/streambank stabilization.
- b) You agree to installation of cofferdams and/or silt control structures between construction areas and surface waters prior to any soildisturbing construction activity, and clarification of all water that accumulates behind these devices to meet *state* water quality criteria *at* the stream mile where activity occurs before it is returned to the unaffected portion of the stream. Cofferdams must be used wherever construction activity is at or below water elevation.
- c) 🔲 A floating silt screen extending from the surface to the bottom is to be in place during excavation or dredging to prevent sedimentation in surrounding areas. It is to be left in place until disturbed sediments are visibly settled.

- d) 🔲 You agree to keep equipment out of the reservoir or stream and off reservoir or stream banks, to the extent practicable (i.e., performing work "in the dry").
- e) 🔲 You agree to avoid contact of wet concrete with the stream or reservoir, and avoid disposing of concrete washings, or other substances or materials, in those waters.
- f) 🔲 You agree to use erosion control structures around any material stockpile areas.
- g) Tou agree to apply clean/shaken riprap or shot rock (where needed at water/bank interface) over a water permeable/soil impermeable fabric or geotextile and in such a manner as to avoid stream sedimentation or disturbance, or that any rock used for cover and stabilization shall be large enough to prevent washout and provide good aquatic habitat.
- h) 🔲 You agree to remove, redistribute, and stabilize (with vegetation) all sediment which accumulates behind cofferdams or silt control structures.
- i) You agree to use vegetation (versus riprap) wherever practicable and sustainable to stabilize streambanks, shorelines, and adjacent areas. These areas will be stabilized as soon as practicable, using either an appropriate seed mixture that includes an annual (quick cover) as well as one or two perennial legumes and one or two perennial grasses, or sod. In winter or summer, this will require initial planting of a quick cover annual only, to be followed by subsequent establishment of the perennials. Seed and soil will be protected as appropriate with erosion control netting and/or mulch and provided adequate moisture. Streambank and shoreline areas will also be permanently stabilized with native woody plants, to include trees wherever practicable and sustainable (this vegetative prescription may be altered if dictated by geologic conditions or landowner requirements). You also agree to install or perform additional erosion control structures/techniques deemed necessary by TVA.

Additional Conditions

Attachment G - Heritage Data Review

Table 1. Records of state- and federal-listed aquatic animal species located within a 10 mile radius search							
			State		Federal		
Scientific Name	Common Name	EO Rank	Rank	State Status	<u>Status</u>		
lo fluvialis	Spiny Riversnail	X - Extirpated	S2				
Lampsilis abrupta	Pink Mucket	X - Extirpated	S2	E	LE		
Etheostoma sagitta	Arrow Darter	E - Verified extant (viability not assessed)	S2	D			
Cyprogenia stegaria	Fanshell	X - Extirpated	S1	E	LE		
Lithasia geniculata	Ornate Rocksnail	H - Historical	S2				
Epioblasma florentina walkeri	Tan Riffleshell	X - Extirpated	S1	E	LE		
Chrosomus cumberlandensis	Blackside Dace	E - Verified extant (viability not assessed)	S2	т	LT		
Fusconaia cor	Shiny Pigtoe Pearly	X - Extirpated	S1	E	LE		
Cycleptus elongatus	Blue Sucker	X - Extirpated	S2	т			
Dromus dromas	Dromedary Pearly	r X - Extirpated	S1	E	LE		
Erimystax cahni	Slender Chub	X - Extirpated	S1	т	LT		
Epioblasma torulosa gubernaculum	Green Blossom Pea	X - Extirpated	SX	E	LE		
Fusconaia cuneolus	Fine-rayed Pigtoe	X - Extirpated	S1	E	LE		
Athearnia anthonyi	Anthony's River Sn	X - Extirpated	S1	E	LE		
Pleurobema plenum	Rough Pigtoe	X - Extirpated	S1	E	LE		
Table 2. Records of state- and federal-listed plant species a	and champion tree p	points located within a 5 mile radius search					
	100 201		State		Federal		
Scientific Name	Common Name	EO Rank	Rank	State Status	Status		
Thuja occidentalis	Northern White Ce	E - Verified extant (viability not assessed)	\$3	S			
Veronica catenata	Sessile Water-spee	E - Verified extant (viability not assessed)	S1	E			
Rhynchospora capillacea	Horned Beakrush	H - Historical	S1	E			
Eleocharis intermedia	Spike-rush	H - Historical	S1	E			
Carex interior	Inland Sedge	E - Verified extant (viability not assessed)					
Rhamnus alnifolia	Alderleaf Buckthor	H - Historical	S1	E			
Meehania cordata	Meehania Mint (H	H? - Possibly historical	S2	т			
Homaliadelphus sharpii	Sharp's Homaliade	H - Historical	S1	E			
Prenanthes alba	White Rattlesnake	 E - Verified extant (viability not assessed) 	S1	S			
Eleocharis elliptica	Elliptic Spikerush	E - Verified extant (viability not assessed)	S1	E			
Panax quinquefolius	American ginseng	E - Verified extant (viability not assessed)	S3S4	S-CE			
Juncus brachycephalus	Short-head Rush	E - Verified extant (viability not assessed)	S2	S			

TVA Natural Heritage database queried by K. Young on 4/3/2019 for the heritage review for TVA CEC 38694

TVA Natural Heritage database queried by K. Young on 4/3/2019 for the heritage review for TVA CEC 38694

Parnassia grandifolia	Large-leaved Grass	s E - Verified extant (viability not assessed)	S3	S			
Lonicera dioica	Mountain Honeys	u E - Verified extant (viability not assessed)	S2	S			
Patis racemosa	Mountain ricegras	s E - Verified extant (viability not assessed)	S1	E			
Sullivantia sullivantii	Sullivantia	E - Verified extant (viability not assessed)	S1	E			
Table 3. Records of state- and federal-listed terrestrial animal species and heronry points located within a 3 mile radius search							
			State		Federal		
Scientific Name	Common Name	EO Rank	Rank	State Status	Status		
Myotis grisescens	Gray Bat	H? - Possibly historical	S2	E	LE		
Myotis sodalis	Indiana Bat	C - Fair estimated viability	S1	E	LE		
			State		Federal		
Scientific Name	Common Name	EO Rank	Rank	State Status	Status		
Table 4. Records of Managed Areas (MABR) and Heritage Sites (SBR) points located within a 5 mile radius search							
MEREDITH CAVE							
CEDAR CREEK SULLIVANTIA PROTECTION PLANNING SITE							
CHUCK SWAN STATE WILDLIFE MANAGEMENT AREA							
CHUCK SWAN STATE FOREST							
Table 5. Records of caves sites located within a 3 mile radius search							
					1		

			State		Federal
Scientific Name	Common Name	EO Rank	Rank	State Status	Status
TN Campbell County Cave	A cave	Not ranked			
TN Campbell County Cave	A cave	Not ranked			
TN Campbell County Cave	A cave	Not ranked			
TN Campbell County Cave	A cave	Not ranked			