

FINAL ENVIRONMENTAL ASSESSMENT

File No. 200100835

PROPOSED ROLLISON MARINA AT SHOAL CREEK

Mile 1.4, Right Bank, Shoal Creek, Opposite Tennessee River Mile 264.4, Right Bank,
Wilson Reservoir, Lauderdale County, Alabama

U.S. ARMY CORPS OF ENGINEERS
Nashville District, Regulatory Branch

In cooperation with
TENNESSEE VALLEY AUTHORITY

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Chapter 1.0 Purpose and Need for Project

1.1 Background. On November 29, 2007, the U.S. Army Corps of Engineers (Corps) and Tennessee Valley Authority (TVA) received a joint Department of the Army (DA) and TVA permit application from Randy Rollison, 174 Maury Lane, Florence, Alabama 35634, for the proposed construction of a commercial marina and loading dock on Wilson Reservoir. On December 6, 2007, the agencies requested additional information from the applicant. The agencies considered the application complete on December 28, 2007, after receipt of the requested information.

The applicant proposes to construct a commercial marina within a 300-foot-long (extending from the shore) by 321-foot-wide area adjacent to an existing concrete seawall fronting Mr. Rollison's property on Shoal Creek. The proposed construction would consist of one 24-foot-wide access walkway paralleling the seawall; one 12-foot by 262-foot dock with seven boat slips, each measuring 25 feet by 28 feet, 4 inches; one 100-foot by 128-foot, 8-inch fuel and pump-out dock containing four slips; and one 14-foot by 124-foot walkway adjacent to a fixed 40-foot by 40-foot boat launching/loading platform. The platform would be constructed by driving sheet steel pilings from a barge into a 40-foot by 40-foot square, filling the square with washed gravel and capping with concrete. About 623 cubic yards of fill material would be required. Floor elevation of the platform would be 2.5 feet above normal summer pool elevation of 507.5-foot mean sea level. The proposed facilities would be protected within an L-configured breakwater measuring 10 feet wide and 300 feet by 250 feet on each side. Surfaces of the floating walkways, docks, and floating breakwater would be approximately 18 inches above the water, and all floating structures would be secured with telescoping spud poles or anchored cables. Land-based activities would include construction of a 300-slip dry stack storage building, ship store, restaurant, and retail space. The marina and associated amenities would serve the boating public on Wilson Reservoir.

The loading dock meets the criteria for authorization under DA Section 404 Nationwide Permit (NWP) #25, dated March 19, 2007, which permits the discharge of material such as concrete and rock into tightly sealed forms or cells where the material will be used as a structural member for standard pile-supported structures. The State of Alabama issued a water quality certification for NWP #25 on May 30, 2007.

The Corps and TVA issued Joint Public Notice (JPN) No. 07-100 (Appendix A) on January 9, 2008, to advertise the proposal. During the week that the comment period was to expire, the agencies learned that adjacent property owners of the applicant had not been advised of the notice. In order to allow them an opportunity to comment, they were provided a copy of the notice, and the comment period was extended for them until March 14, 2008. Of the 35 written responses, 19 requested that a public hearing be held, 26 stated they were opposed, and three were in favor of the proposed work. The agencies sent copies of all responses (Appendix B) to the applicant for his rebuttal, and he responded by e-mail on April 18, 2008 (Appendix C).

TVA staff met on site with Mr. Rollison on March 5, 2008, and discussed his proposal. On March 12, 2008, Richard Graham, of the Corps, met on site with the applicant. Bordering the site to the south were high-tension aerial power lines, the historic U.S. Highway 72 (US) bridge, and a new four-lane bridge recently constructed by the Alabama Department of Transportation (ALDOT). The Marina Mar Marina is located just south of the new bridge, and Mr. Graham noted a rather long breakwater extending lakeward. This was of particular interest, because one public notice comment stated that the applicant's proposed breakwater would extend lakeward so far that it would become an obstruction to navigation. A subsequent phone call to the manager of the Marina Mar Marina revealed that the breakwater is 320 feet long, which is shorter than the one the applicant proposes to construct. Shoal Creek at this location is approximately 850 feet wide. The Marina Mar Marina breakwater was approved prior to the effective date of TVA's current regulation regarding lengths of such structures into the channel (see navigation and safety in Section 3.4). On this afternoon, there was little boating activity within Shoal Creek. The proposed land-based activities would be located within an open area on the applicant's property on Maury Lane. There are a couple of commercial businesses across Maury Lane from the applicant's property. Maury Lane dead-ends into a residential community. See inspection report (Appendix D).

1.2 Decision Required. The proposed location is a water of the United States (U.S.) as defined by 33 Code of Federal Regulations (CFR) Part 328 and a navigable water of the U.S. as defined by 33 CFR Part 329.

- **Section 10 of the Rivers and Harbors Act of 1899** prohibits the alteration or obstruction of any navigable water of the U.S. unless authorized by the Secretary of the Army acting through the Chief of Engineers.

DA and TVA permits are required; therefore, the agencies must decide on one of the following:

- Issuance of permits for the proposed work
- Issuance of permits with modifications or conditions
- Denial of the permits

1.3 Other Approvals Required. Other federal, state, and/or local approvals may be required for the work.

- **Section 26a of the TVA Act** requires that no dam, appurtenant work, or other obstruction affecting navigation, flood control, or public lands or reservations be constructed and thereafter operated or maintained across, along, or in the Tennessee River or any of its tributaries until plans for such construction, operation, and maintenance have been submitted to and approved by TVA. In addition to other provisions of its approval, TVA would require the applicant to employ best management practices (BMPs) to control erosion and sedimentation, as necessary, to prevent adverse aquatic impacts. TVA is reviewing this application for a Section

26a permit. TVA is a cooperating agency in the preparation of this environmental assessment.

Chapter 2.0 Public Involvement Process

On January 9, 2008, the Corps and TVA issued JPN No. 07-100 (Appendix A) to advertise the proposed work. All responses to the notice are included in Appendix B. The applicant's rebuttal to the responses is included in Appendix C. A summary of the responses is as follows:

- By letter dated January 28, 2008, the Alabama Department of Conservation and Natural Resources advised (1) that the applicant should be made aware of the potential for adverse impacts to state- or federally protected species; (2) that no net loss of stream or wetland functions should occur as a result of the project; (3) that the applicant be encouraged to use BMPs to minimize shoreline erosion and to adhere to state water quality standards; and (4) that the applicant coordinate with the Marine Police Division regarding navigational safety aspects of the project.
- By letter dated January 29, 2008, the Alabama Historical Commission (AHC) advised that it would complete its review upon receipt of comments from the Corps' cultural resources staff regarding this undertaking's potential to affect historic properties. After receiving these comments, AHC concurred by letter dated February 29, 2008, that there are no National Register of Historic Places (NRHP) listed or eligible properties affected by this undertaking.
- Of the 35 comments received as a result of the JPN (33 individuals and two state agencies), 26 individuals opposed the proposed work, three were in favor of it, and 19 requested a public hearing be held to discuss the issues.

Comments Supporting the Proposal

- There is a significant shortage of available boat slips for rent on Wilson Reservoir, and new mooring facilities would be welcome and needed as the area grows.
- A need exists for extra fueling facility, boat launch, and loading area.
- Previous proposals for similar facilities have been halted by small interest groups.
- The project would provide a greater good for the public.
- Marina would entice new residents/businesses, lower jobless rate, and encourage tourism.
- Other area marinas need updating and, therefore, a new facility would be very welcome.
- Applicant is of unquestionable character, lives on site, keeps home and surrounding area clean, and would do the same for the proposed facilities.

Comments Opposing the Proposal

- There would be impacts to river ecology, fishery, and wildlife from fuel runoff, noise, air quality, and trash.
- Increased crime and introduction of alcohol at marina are concerns.
- The proposed wave-break would cause an obstruction to navigation.
- The process for how to monitor the marina for impacts to pollution, water quality, and boating safety is unclear.
- Over-crowding of the lake with more boats will decrease public safety.
- Current area dock facilities are already adequate.
- There would be adverse financial effects on the other two nearby marinas.
- Financial risk incurred by the applicant and the possibility of the business failing, requiring the applicant to post bond and the dock being removed, are troubling issues.
- Shoreline erosion due to boat wakes is a concern.
- Dry dock might block the view of the lake or bridge from people driving on Maury Lane.
- Traffic issues include increased vehicular traffic on Maury Lane and trouble turning onto US 72.
- There would be a negative effect on property values.
- Marina would detract from the beauty of the area.
- The placement of another marina at this location would be improper because of low clearance of the US 72 bridge.
- Existing problems with area septic systems would be increased because of the proposed dock.
- New facility would detract from the serenity of the residential neighborhood.
- The new facility could be washed away in a flash flood.

Comments on the Draft Environmental Assessment

On September 9, 2008, TVA sent a draft of this environmental assessment (DEA) to a total of 43 individuals representing federal, state, and local agencies, private individuals, and citizens groups, including the applicant and interested citizens who had previously commented on the public notice. In addition, the DEA was posted on the TVA external Web site and, thus, made available to the public. TVA requested that comments be submitted on the contents of the DEA by October 9, 2008.

Following review of the DEA and conversations with Mr. Rollison, Alabama Department of Environmental Management (ADEM) indicated that it does not object to construction

of the commercial marina and loading dock as proposed. In an e-mail dated September 30, 2008, the U.S. Fish and Wildlife Service (USFWS) indicated that it had reviewed the DEA and that no significant adverse effects on fish and wildlife resources are expected to result from the project. Therefore, USFWS had no objections to issuance of the requested approval (Appendix F). Comments on the DEA were also received from six private citizens who expressed concerns about recreational boating, navigation safety, land-based transportation/traffic, aesthetics, public health and environment (sanitary sewer), and noise. All relevant issues raised in these comments have been addressed, as appropriate, in this final EA. See additional correspondence, including AHC consultation, which has been included in Appendixes E and F.

Chapter 3.0 Environmental and Public Interest Factors Considered

3.1 Introduction. 33 CFR 320.4(a) states the decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. Public Notice 07-100 listed factors that may be relevant to the proposal and must be considered. The following sections discuss those factors identified as relevant through the public interest review process and provide a concise description of the anticipated impacts. The relevant blocks are checked with a description of the impacts.

3.2 Physical/Chemical Characteristics and Anticipated Changes.

(x) substrate – The reservoir bottom substrate in Shoal Creek in the vicinity of the proposed marina consists of clay soil with some scattered shale and other loose rocks. This common bottom structure provides habitat for benthic macroorganisms and foraging areas for some species of common abundant fish. A small 40-foot by 40-foot area of this substrate would be filled in for construction of the dry dock's launching platform. Benthic macroorganisms within the launching platform area would be destroyed, but the overall effects on benthic life in this area would be insignificant. Some areas of substrate under the proposed facility's walkways would be left in partial to total shade from the sun. However, these areas of habitat would continue to function as habitat for aquatic life.

() currents, circulation, or drainage patterns

(x) suspended particulates, turbidity – During construction of the proposed launching platform, some small amount of localized turbidity is likely to result from the sheet steel pilings being driven into the substrate. However, effects on water quality and aquatic life are expected to be both minor and temporary in nature.

() baseflow

(x) storm, wave and erosion – Construction of the marina, as proposed, would involve the use of a spud pole and cabled anchoring system. This should securely

anchor the facility and would be expected to perform as designed and hold the marina in place. In the event that it failed, the applicant would likely be allowed to rebuild the marina facilities according to the original plans. Additionally, if the permits are issued, they would be conditioned to advise the applicant of the possibility that the structures proposed to be constructed would be located in recreational waters and would be subject to wave wash or potential collision damage from passing vessels. Issuance of the permits would not relieve the applicant from taking all proper steps to ensure the integrity of the structures and the safety of any boats moored thereto from damage by wave wash. The applicant could not hold the U.S. liable for any such damage.

(x) water quality – *Alabama’s Water Quality Assessment and Listing Methodology* (ADEM 2008) identifies Shoal Creek from its confluence with Indian Camp Creek (near Shoal Creek Mile 10) to Wilson Reservoir as supporting swimming and other whole-body water-contact sports, as well as fish and wildlife. Water quality would be temporarily affected by construction activities in association with implementation of this proposal. Corps and TVA permits would be conditioned so that the applicant must employ BMPs during, and for an appropriate time following, construction phases. The proposed facility operations would include a fueling area where the accidental discharge of petroleum products into the water could occur. Negligible amounts of spillages, which are likely to occur during fueling, would be dissipated rather quickly by evaporation and normal water circulation in Shoal Creek. Proper operating, safety, and good housekeeping procedures, outlined in a Spill Prevention, Control, and Countermeasures Plan to comply with federal regulations, are expected to be followed at the marina, and therefore, water quality impacts related to spillage of petroleum substances would be minor. In accordance with such plans the marina operator would, among other things, have a spill kit with absorption pads to catch or promptly clean up accidental oil or gas spillage.

All freshwater lakes, reservoirs, and rivers not capable of interstate vessel traffic are defined by the Clean Water Act as “no discharge areas (NDA).” Because it is capable of accommodating interstate vessel traffic, Wilson Reservoir is a discharge reservoir. The proposed marina would also include a marine sewage pump-out station for vessels with holding tanks. Having such a facility on Wilson Reservoir could benefit water quality by allowing boaters an environmentally preferable alternative to dumping their untreated effluent into the reservoir. The applicant, Mr. Rollison, has also advised the Corps and TVA that effluent from this facility would be pumped into the Florence city sewer system, which presently ends about 1,700 feet west of his property. This was originally a private section of the sewer line that the City of Florence (City) now controls. There is currently a moratorium on new connections to the line because of a leak, but Mr. Rollison has told TVA staff that the line should be open to connections within a year or so. He plans to work with the City and ADEM, as appropriate, and construct a lift station to pump all treated wastewater from his project site into the existing City system when it is available. He has also indicated that if he builds his facilities before he could connect to the sewer line, then he would temporarily use an approved septic system on his property. If so, such a system would comply with any county health department regulatory requirements. He would not put in the pump-out station for boaters until he

could connect to the City's line. Therefore, no water quality impacts from sewage discharges into Shoal Creek are anticipated.

() flood control functions

(x) – shore erosion and accretion patterns. There are many variables that contribute to shore erosion. However, there are no measurable means of determining erosion as a direct result of recreational boating in the area that might originate from the proposed marina site. The shoreline fronting the applicant's property has an existing concrete seawall that would eliminate the possibility for shoreline erosion at the marina site. Much of the nearby shoreline both upstream and downstream in the vicinity of the US 72 bridge and Marina Mar Marina has also been stabilized with riprap minimizing the effects of wave erosion.

As previously mentioned, use of BMPs during and following construction would minimize sediment in runoff from the site and into Shoal Creek.

3.3 Biological Characteristics and Anticipated Changes.

() special aquatic sites (wetlands, pool and riffle areas, sanctuaries and refuges)

(x) endangered or threatened species – No response to the JPN was received from the USFWS. However, as mentioned in Chapter 2 Comments on the Draft Environmental Assessment, on September 30, 2008, the USFWS indicated that it had reviewed the DEA and that no significant adverse effects on fish and wildlife resources are expected to result from the project. Therefore, USFWS had no objections to issuance of the requested approval.

The following federally listed species have been identified within Lauderdale County, Alabama: three fish (*Etheostoma boschungii*, *E. wapiti*, and *Speoplatyrhinus poulsoni*), two mammals (*Myotis grisescens* and *M. sodalis*), 25 mussels (*Cyprogenia stegaria*, *Dromus dromas*, *Epioblasma brevidens*, *E. capsaeformis*, *E. f. florentina*, *E. o. obliquata*, *E. t. torulosa*, *E. turgidula*, *Fusconaia cor*, *F. cuneolus*, *Hemistena lata*, *Lampsilis abrupta*, *L. virescens*, *Lemiox rimosus*, *Leptodea leptodon*, *Lexingtonia dolabelloides*, *Obovaria retusa*, *Plethobasus cooperianus*, *P. cyphyus*, *Pleurobema clava*, *P. plenum*, *Ptychobranthus subtentum*, *Quadrula intermedia*, *Toxolasma cylindrellus*, and *Villosa fabalis*), one snail (*Athearnia anthonyi*), and two plants (*Arabis georgiana* and *Leavenworthia crassa*). The formally federally listed bald eagle (*Haliaeetus leucocephalus*) is known from Lauderdale County. There are also several federally listed mussel species formerly known to occur within the vicinity of the proposed project. These populations have been extirpated (i.e., no longer occur) from the vicinity since the construction of Wilson Dam. There is a federally listed fish, boulder darter (*Etheostoma wapiti*), known to occur within the Shoals Creek watershed some distance upstream of the proposed project site. This species, in the vicinity of the project site, has also been extirpated since the construction of Wilson Dam.

Nonessential experimental populations of spotfin chubs (*Cyprinella monacha*) and boulder darters occur upstream of the proposed marina location, near the influx zone of the river and reservoir. These populations would not be impacted by the development and operation of the marina, due to the location and distance from the marina.

There is one endangered mammal, gray bat (*Myotis grisescens*), known to occur in the vicinity of the project. No caves are known to occur within a 4-mile radius, and no suitable gray bat habitat occurs at the proposed marina site. No state-listed rare, threatened, or unusual plant or animal species occurs at the project site. Therefore, DA and TVA have concluded that this project would have no effect on any state- or federally listed plants or animals. As mentioned above, in an e-mail dated September 30, 2008, USFWS also concluded that the project would have no significant adverse effects on fish and wildlife resources.

(x) habitat for fish and other aquatic organisms – Physical habitat at the project site is generally suitable to support the type of fish species common in Wilson Reservoir. Typical fish species expected to occur at the site include largemouth bass, smallmouth bass, bluegill, redear sunfish, freshwater drum, and catfish. As previously mentioned, a small amount of shallow water habitat would be eliminated when the 40-foot by 40-foot area is filled in for construction of the dry dock's launching platform. These impacts are expected to be minimal since these types of aquatic fish and benthic macroinvertebrate species known to occur along the project site are typical of impounded conditions. Outside of the launching platform area, preexisting conditions suitable to these aquatic species would return following construction. The proposed marina's walkway and associated water use facilities would provide habitat structure as well as cooler, shaded sites for aquatic fauna and areas for attachment by sedentary species.

(x) wildlife habitat – The proposed project would transform the upland area to commercial operation with dry stack boat storage, parking lots, restaurant, and retail sales. The project site, on the private land, is bordered on the north by residential homes, on the south by US 72, with Maury Lane to the east. This property is kept mowed as a lawn and has only a few very large trees on it. Maury Lane is a two-lane, paved, dead-end road that is the only entrance to a small residential area. Because such habitat is of poor to marginal quality, populations and diversity of resident wildlife in the area are low. Thus, only limited numbers of small wildlife such as rabbit, opossum, skunk, rodents, amphibians, and reptiles would likely frequent the area. The proposed facility would likely cause wildlife to alter their feeding, nesting, and migrating patterns in order to avoid this area both during and after construction and to relocate to more desirable, wooded locations within the vicinity. These small, displaced wildlife populations would compete with others of their species for available suitable habitat and eventually reach equilibrium in their new environment.

() biological availability of possible contaminants in dredged or fill material

3.4 Human Use Characteristics and Anticipated Impacts.

() existing and potential water supplies; water conservation

(x) water-related recreation – The applicant has indicated that there are available customers waiting for docking services in other marinas on Wilson Reservoir. This proposed marina would provide typical marina services such as fuel, sewage pump-out, ship/convenience store, restaurant, and public restrooms. Marina Mar Marina, located immediately downstream of US 72 and the proposed Randy Rollison project, is being operated at maximum capacity. Its owner does not currently desire to expand its marina operations. Emerald Beach Marina is located approximately 1 mile upstream and on the opposite bank of Shoal Creek. The ownership of Emerald Beach has recently changed, and it is currently not accepting new renters. It is anticipated that the new owners of Emerald Beach would likely be applying to modify and expand their operations. In an on-site meeting on September 23, 2008, Emerald Beach owners presented TVA with preliminary plans for an expansion including anticipated additional future docks and other water and land-based facilities. The potential effects of the additional boaters resulting from an Emerald Beach Marina expansion are evaluated in Section 3.5, Cumulative and Secondary Impacts.

The proposed Rollison marina would provide safe moorage facilities for area boaters and enhance recreational boating opportunities within this area of Shoal Creek and Wilson Reservoir. It is also designed to provide transient boater short-term dock moorage. The marina would provide 300 dry dock slips with 11 transient wet slips for area boaters; these wet slips would accommodate 22 boats (see slip dimensions in Appendix A). At build-out and maximum capacity, an additional 322 boats would have immediate access for water-related recreation. However, it is not expected that all of these boats would be on Shoal Creek or the Tennessee River (Wilson Reservoir) at the same time. During the recreation season, a slight increase in boating activity and usage would occur. Based on observations in the vicinity of the proposed marina and on other TVA reservoirs, recreational boaters maintain similar patterns. As a result, TVA assumes that only about 25 percent of boats stored at commercial facilities are likely to be in use during a typical summer weekend day and 35 percent on a peak-use holiday weekend. Therefore, the proposed facility would likely result in up to 81 additional boats on the reservoir on a typical weekend day during the summer and 113 additional boats during a holiday weekend. Impacts from these additional boats would not significantly affect overall reservoir (water-related) recreation, and increased use within this area would not jeopardize recreational boating safety on Shoal Creek and Wilson Reservoir. Taking into account the maximum permissible length the docks would extend onto the reservoir (see navigation and safety section below), the width of the channel would still provide ample room for boats in slips to maneuver in and out of the channel without interfering with other boat traffic. The increase in boating traffic would likely be gradual. The contribution of boats from the proposed marina is not expected to significantly reduce safety for the boating public on this reach of Shoal Creek and Wilson Reservoir, as long as recreational boaters follow safe boating practices and the Coast Guard-recommended safety zones around commercial boat and barge traffic on the river.

(x) aesthetics – The presence of the proposed marina and loading dock would result in a permanent change and alter the visual characteristics of the shoreline at this location. As previously mentioned, the project site, located on the private land, is bordered on the north by residential homes, on the south by US 72, with Maury Lane to the east. There are several commercial businesses along US 72 on the east side of Maury Lane. Two commercial marinas are located nearby, Emerald Beach about a mile upstream on the opposite bank of Shoal Creek, and Marina Mar Marina downstream on the same bank as the Randy Rollison proposal and south of the US 72 bridge. The proposed dry dock facility would be located within the applicant's mowed yard where there is ample area for this development. Maury Lane is a two-lane paved road that dead-ends within a somewhat secluded, moderately upscale residential neighborhood. Opposite the proposed site on the other side of Maury Lane are two commercial buildings, a row of three small rental houses, a mobile home rental lot, and a vacant house.

To reduce the overall height of the facility, the applicant has designed the dry dock so that the entire first floor would be located below the current existing grade (i.e., ground elevation). Numerous existing water use facilities and associated structures have been permitted within 0.5 mile on either side of the marina location along Shoal Creek. This proposal is consistent with current land uses near the highway and along the Shoal Creek shoreline, and the overall visual integrity of the area would not be significantly impacted. The existing types of residential and commercial developments in this area have existed for many years and viewers from the highway and waterway have come to accept these views as normal. Because of these current land uses, the existing commercial harbor downstream, recently completed US 72 bridge, and the increasing commercial development along the highway in this part of Florence, area aesthetics are not expected to be greatly diminished by the proposed facility.

(x) traffic/transportation patterns – As indicated above, the increase in boating traffic would likely be gradual and the contribution of boats from the proposed project is not expected to significantly reduce safety for the boating public on this reach of Shoal Creek and Wilson Reservoir (see navigation and safety section below).

The proposed facility would likely increase vehicular traffic on Maury Lane and potentially raise safety concerns associated with access to and from US 72. Some additional traffic would be expected as a result of building the proposed marina. However, most of the traffic increase to the marina would likely be seasonal during the peak summer recreation months with less of an increase during inclement weather and cooler months. The proposed land-based restaurant would likely generate a low to moderate amount of year-round traffic.

TVA staff inspected the area in the vicinity of US 72 and Maury Lane on August 5, 2008, to evaluate potential impacts associated with the proposed development on local traffic and safety. Primary access to the marina is via Maury Lane from US 72. Maury Lane intersects US 72 approximately 0.25 mile west of the new US 72 bridge across Shoal

Creek. Maury Lane is a two-lane road that provides access to the small residential area. The segment of Maury Lane that would provide access to the proposed marina is a high- to mid-quality roadway with adequate shoulders and good sight distance.

US 72 is a four-lane, divided highway running east-west across northern Alabama. At the intersection of US 72 and Maury Lane, the highway has three travel lanes running in each direction, and the divided median contains left-turn lanes for each direction. There is also a right-turn lane for traffic heading west and turning onto Maury Lane. All turn lanes are of adequate size and length to allow vehicles to execute intended turns. Therefore, vehicles executing such turns are not expected to cause any significant delays to the traffic flow or decrease safety.

The assessment of traffic impacts for this proposed action is based on the transportation planning and engineering concept of Level of Service (LOS) found in the *Highway Capacity Manual* (Transportation Research Board 2000). The LOS concept addresses the quality of service, or operating conditions, provided by the roadway network, as perceived by motorists. LOS is a qualitative measure, expressed as one of six levels, which is described in terms of travel time, comfort, safety, and maneuvering freedom and incorporates various measurable factors associated with a particular segment of a roadway into the analysis. The six levels of service (A through F) are defined as differing qualities of service provided by a roadway.

- LOS A is defined as the highest quality of service that a particular class of highway can provide. It is a condition of free flow in which there is little or no restriction on speed or maneuverability caused by the presence of other vehicles.
- LOS B is a zone of stable flow. The restriction on maneuverability is negligible, and there is little probability of major reduction in speed or flow.
- LOS C is a zone of stable flow, but at this volume and density level, most drivers are becoming restricted in their freedom to select speed, change lanes, or pass.
- LOS D approaches unstable flow. Tolerable average operating speeds are maintained, but could be subject to considerable and sudden variation. This condition is tolerable for short periods.
- LOS E is unstable with lower operating speeds and some momentary stoppages. There is little independence of speed selection and maneuverability. The upper limit of this level is the capacity of the facility.
- LOS F indicates forced-flow operations at low speeds. The level of density increases to the effect of a traffic “jam.”

Based on current traffic data, US 72 and Maury Lane have a LOS of B and A, respectively. Even with the addition of the proposed marina and future traffic projections, the LOS for US 72 and Maury Lane would remain unchanged. Any minor changes in traffic flow or patterns attributable to the proposed marina, shoreline, and

other associated land-based development would not significantly decrease safety in the vicinity of this project.

() energy consumption or generation

() conservation

(x) air quality – Given the nature of the activity, air quality during performance of the work would not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR part 93.153. After project completion, levels of pollutants normally associated with combustion engines would be slightly higher due to increased traffic within the commercially developing area.

(x) historic properties and cultural values – Following the Corps providing additional information and by letter dated February 29, 2008, AHC concurred that there are no NRHP listed or eligible properties that would be affected by this undertaking (see Appendix B).

By letters dated May 6, 2008, and May 7, 2008, TVA consulted with the AHC and federally recognized tribal representatives that may have an interest in the project. This consultation conveyed TVA's determination that no historic properties, including archaeological resources and the nearby historic Shoal Creek Bridge, would be affected by this undertaking. This historic bridge remains as a remnant of an ALDOT replacement project and was previously determined to be NRHP eligible. TVA's determination that the historic bridge would not be affected was due to previous development in the area. The viewshed of the historic bridge has already been compromised by the recent construction of the adjacent four-lane US 72 bridge spanning Shoal Creek just south of the historic bridge. The AHC concurred with these findings in a letter dated May 15, 2008. The Choctaw Nation of Oklahoma, in a letter dated June 25, 2008, also concurred that the project would have no adverse effect on any historic properties in the project's area of potential effect (Appendix E).

(x) navigation and safety – Shoal Creek is not a commercial waterway, but is commonly used recreational waters. With a couple of exceptions, the recreational boating channel is essentially bank-to-bank on Shoal Creek to about Mile 6, well upstream of the proposed marina. TVA marks the right-ascending channel line at the mouth of Shoal Creek (Tennessee River Mile 265, right bank) and also at Shoal Creek Mile 3.2, left bank, where natural shoaling occurs. As proposed, the marina breakwater would extend 300 feet into the recreational channel, greater than 1/3 the distance across the 850-foot-wide creek channel at the marina site.

Therefore, to comply with TVA Section 26a regulatory requirements, the applicant would be required to do the following:

1. Reduce the lakeward extension of the facility by 17 feet to meet TVA's regulatory requirement that the structure not extend more than 1/3 of the distance to the opposite shoreline to allow for safe passage for through boaters.
2. Attach lights and reflectors around the perimeter of the facility to enhance its visibility.
3. Designate harbor limits to the limits of the structure only, i.e., 283 feet long (extending from the shore) by 321 feet wide.
4. Delineate a no-wake zone within marina confines only.
5. Recognize that the proposed facilities would be located in recreational waters where they would be subject to wave wash or potential collision damage.

See storm, wave and erosion in Section 3.2 for a discussion of the applicant taking all proper steps to ensure the integrity of the structures and the safety of any boats moored thereto from damage by wave wash. In addition, see water-related recreation and traffic/transportation patterns in Section 3.4 for an analysis of effects of the proposed development on boating safety and a discussion of US 72 traffic and safety, respectively.

(x) noise – Additional noise would be generated during project construction. However, it is expected that construction would be performed during daylight hours, be temporary, and be within normal ranges for construction equipment. No construction-related blasting is expected to occur. Existing traffic on the nearby highway, commercial operations at adjoining businesses, and current boating and related recreation activities create occasional moderate background noise. Construction noise from this project is expected to increase background noise levels slightly, while nighttime noise levels would not increase because of this project. After project completion, however, the normal noise associated with occasional boat traffic at a commercial marina would be present. Because of the existing level of background noise and the slight increase expected in daytime noise levels during construction, impacts from noise on residents in the community are expected to be insignificant.

(x) land use classification – The property is located in Lauderdale County, Alabama, approximately 0.25 mile outside the city limits of Florence. The land use would change from its current use, vacant residential lots, to commercial. The City does not currently exercise its zoning regulations within the extraterritorial zoning jurisdiction; therefore, the property would not be subject to government approval to change the use to commercial (see note below). However, since the property does fall within the City's extraterritorial zoning, it would be subject to certain City ordinances, such as construction codes. Provided that the applicant meets the City's codes, this would be a compatible use of this property. Note: Annexed Territory and Extraterritorial Zoning Jurisdiction Areas are defined as all territory that may hereafter be annexed to the City or any area placed under the extraterritorial zoning jurisdiction of the City shall be considered to be in the R-1 District, Single-Family Residence District/Conventional lots, until otherwise classified. Please see City of Florence, Alabama Web site at: http://www.florenceal.org/City_Departments/Building_Department/Zoning/index.html#def

economics – Contractors, the workforce, and the material suppliers would positively benefit economically from the proposed work. The applicant would benefit economically from dry dock rental fees, restaurant sales, store and retail sales, and other commercial components that he may decide to include in the future. The Lauderdale County area would benefit from property taxes, as well as from having a new attraction for the City. The proposed facility is not expected to have an adverse financial effect on other area marinas or the value of real property in the nearby community. The presence of an additional marina could stimulate other marinas to improve their existing facilities or offer more services in order to attract more customers.

food and fiber production

mineral needs

consideration of private property – The applicant, Randy Rollison, proposes to construct the marina, dry stack, restaurant, and other associated facilities on property he owns fronting Shoal Creek. He owns a home on Maury Lane on an adjoining lot in the adjacent subdivision. These properties lie between and within one river mile of the two existing marinas previously discussed. This proposed additional commercial use is consistent with current uses of nearby property and local zoning and applicable land use and development plans (see land use classification above).

environmental justice – There is no concentration of minority or low-income persons living within the vicinity of the proposed project. It is anticipated that workers would be hired from within the Florence community, and economic benefits would be dispersed throughout the area. The facility would be open to the public. Therefore, it has been determined that there would be no disproportionate effect on minority populations or low-income persons from approval and implementation of the project at this site. There would be no residential relocations caused by the proposed action.

3.5 Cumulative and Secondary Impacts. One of the most important aspects of cumulative effect assessment is that it requires consideration of how actions by others (including those actions completely unrelated to the action) have and will affect the same resources. Cumulative environmental effects for the proposed facilities were assessed in accordance with guidance provided by the President’s Council on Environmental Quality (U.S. Environmental Protection Agency 1999). This guidance provides a process for identifying and evaluating cumulative effects in the National Environmental Policy Act (NEPA). For purposes of cumulative impact assessment, the spatial boundary has been broadened to consider similar effects on boating and water quality from Marina Mar Marina, located immediately downstream of US 72 to Emerald Beach Marina, located on the opposite bank about 1 mile upstream of this proposed development.

This analysis focuses on these similar marina facilities, their operations, and their potential effects on the same resources. In this case, reasonably foreseeable future actions include:

- Increased real estate value for the applicant's property and other properties within the area.
- Improved recreational boating due to additional moorage, storage, gas, and pump-out facilities.
- Increased boating effects on crowding, navigation and safety, and water quality.
- Probability that other marinas would improve their facilities to compete with this facility.

Future associated work that may be proposed in the vicinity of the site can be identified as cumulative or secondary impacts; however, determining the magnitude and significance of cumulative effects; modifying to avoid, minimize, or mitigate significant cumulative effects; and planning for monitoring and adaptive management would have to be addressed on a case-by-case basis. The current quality of the environment in the vicinity on this proposal is good, and mitigation required to reduce effects of this proposal are expected to make its effects minor.

The new owners of Emerald Beach Marina have indicated their intension to expand their operations. The owners are acquiring additional adjoining land, in part, for security and to buffer their structures and property. Indicative of suburban Florence, property values in the area are probably stable or slightly increasing. Emerald Beach currently has 71 slips; the majority of them are 20 feet to 22 feet wide. About 50 of these slips have two boats, with the remainder having larger cruisers and houseboats. Currently, Emerald Beach has a total capacity to accommodate 121 boats in wet slips and has no dry storage area.

As a part of its expansion, Emerald Beach's preliminary plans include 214 wet slips and 240 dry-stack storage spaces for a total of 454 boats. The existing wet slips would be replaced by the newly planned structures. Because existing capacity would be replaced in the future, this represents a net increase of 333 additional boats at this location. In addition, the Emerald Beach owners are likely to propose construction of 220 condominium units, to be built in phases. These residents would be users of these new facilities and would not have docks dedicated to their exclusive use. Based on previously stated assumptions regarding the same time usage originating from this expanded facility (see water-related recreation in Section 3.4), it is expected that the expanded facility could likely result in up to 83 additional boats on the reservoir on a typical summer weekend day during the boating season and 116 additional boats during a peak-use holiday weekend.

The increase in boating traffic from Mr. Rollison's facilities would likely be gradual (a maximum of 322 boats at build-out) with no more than 113 additional boaters on the reservoir at peak use. Taking into account the planned expansion at Emerald Beach, the cumulative increase in boats from the two marinas, 220 at peak use, is not expected to significantly reduce safety for the boating public in Shoal Creek and Wilson Reservoir, as long as recreational boaters follow safe boating practices, State of Alabama boating laws, and the U.S. Coast Guard-recommended safety zones around commercial boat and barge traffic on the river.

Even with foreseeable expansion at Emerald Beach Marina, minor amounts of gas and oil spillages would be dissipated rather quickly by evaporation and normal water circulation in Shoal Creek. Spill Prevention, Control, and Countermeasures Plans, in compliance with federal regulations, are expected to be followed at the marinas. Future projects requiring state and federal permits would also likely require incorporation of measures to reduce their effects similarly. See Sections 3.2, 3.3, and 3.4 for discussions of likely effects of this development on water quality, aquatic and terrestrial wildlife habitat, water-related recreation, traffic/transportation patterns, navigation and safety, and land use and consideration of private property. Overall, while there would be permanent impacts on the tract, given the relatively small area of impact and the relatively low physical and biological functions present in the impact area, the proposal is not anticipated to have a substantial cumulative or secondary effect upon the existing environment, and the sustainability of important resources would not be adversely affected.

Chapter 4.0 Alternatives

4.1 Introduction. This section discusses alternatives as required by 33 CFR 320.4(a)(2). The relevant environmental issues identified in Chapter 3.0 were used to formulate the alternatives. The alternatives that were given detailed consideration are listed below.

4.2 Description of Alternatives. Only reasonable alternatives have been considered in detail, as specified in 40 CFR 1508.14(a).

a. **No Action.** No action may be brought about by either of the following: (1) that the applicant elects to eliminate the proposed work currently under jurisdiction of the Corps and TVA or (2) that the permit be denied.

b. **The Applicant's Proposed Action.** This would consist of permitting the proposed commercial marina and loading dock as described in the public notice.

c. **Applicant's Action With Special Conditions.** In accordance with 33 CFR 320.4(r), review of the proposed action has revealed mitigation measures typical for activities of this nature, which would reduce environmental impacts of the proposed action. The recommended conditions (listed in Section 4.4) were discussed with the applicant, who verbally agreed to those conditions.

d. Other Alternative. The applicant could reduce the size of the loading dock and/or breakwater area in order to minimize impacts to aesthetics. However, this alternative would not meet the applicant's needs or purpose and, therefore, will not receive further consideration.

4.3 Comparison of Alternatives.

a. No Action. With this alternative, the applicant would not be allowed to construct the marina and loading dock. No economic or recreational benefits would be derived from this alternative, and the applicant's needs would not be met.

b. The Applicant's Proposed Action. This alternative would authorize the construction of the proposed marina and loading dock according to plans outlined in the public notice. No properties listed in or eligible for the NRHP would be affected, and no federally listed species would be impacted. Some aquatic fauna and shallow water habitat would be destroyed; however, other colonies would eventually replace those lost, and the modified substrate would continue to function as habitat for aquatic life. Water quality parameters, such as turbidity, would be affected when the sheet steel pilings are driven into the substrate during construction of the loading dock. Accidental discharge of fuel into the water is likely to occur when boats refuel at the gas dock; however, this would be dissipated rather quickly by evaporation and normal water circulation in Shoal Creek. Additional moorage facilities and enhanced recreational opportunities would be realized. The proposed action is consistent with current land uses, and the area's overall aesthetics would not be significantly impacted. A gradual increase in boating traffic in Shoal Creek and vehicular traffic on Maury Lane would likely result. After project completion, levels of pollutants normally associated with combustion engines would be higher due to increased traffic within the area. There would be some increase in noise due to the additional boating and vehicular traffic. The proposed work is consistent with current uses of nearby property and local zoning and applicable land use and development plans. It has been determined that there would be no disproportionate effect on minority populations or low-income persons from approval and implementation of the project. Contractors, the workforce, and material suppliers would benefit economically from the proposed work, as would the City of Florence through property taxes. The applicant would benefit economically from rental fees and concessions sales, and his needs would be met.

c. Applicant's Action With Special Conditions. The impact of this action would be similar to the description in "b" above. Special conditions, listed in Section 4.4, have been reviewed and accepted by the applicant. This alternative would have the least adverse impacts of the options under consideration. Negative impacts to the environment would be minimized.

4.4 Recommended Special Permit Conditions. The following recommended special permit conditions, when applicable, are typically included in most

DA permits, and are necessary to comply with federal law, while affording appropriate and practicable environmental protection. Many of these conditions are standard conditions in TVA Section 26a permits.

1. The work shall be in accordance with any plans attached to this permit. You must have a copy of this permit available on the site and ensure all contractors are aware of its conditions and abide by them. *Justification: Recommended at 33 CFR 325, Appendix A.*
2. A preconstruction meeting with you, your contractors, and representatives from this office and the Tennessee Valley Authority (TVA) shall be held on site prior to any work in jurisdictional waters. The contractors shall present their method of operation for the work at this meeting. You should contact this office at least one week prior to construction to arrange the required meeting (telephone 615-369-7500). *Justification: To minimize permit noncompliance.*
3. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the U.S. *Justification: Recommended at 33 CFR 325, Appendix A.*
4. The disturbance to riparian vegetation must be kept to a minimum during construction. *Justification: To minimize the amount of disturbance in the work area.*
5. All disturbed areas shall be stabilized by straw and seeding as soon as practicable after construction. You must institute and maintain a strict erosion and sediment control program for the life of the project. *Justification: To minimize impacts on water quality.*
6. All activities associated with the project must be conducted in a way that will minimize or avoid impacts to fish and wildlife resources located in Shoal Creek and the Tennessee River. Employ best management practices prior to and throughout the duration of the project to avoid or minimize sedimentation into Shoal Creek. *Justification: To minimize impacts to fish and wildlife.*
7. The applicant must install and maintain, at his own expense, adequate safety lights, reflectors, and/or signals that would allow the boating public to recognize the marina's water-based structures between dusk and dawn. This shall be coordinated with the Alabama Marine Police Division. *Justification: To minimize impacts to navigation and safety.*
8. You must recognize that the structures being constructed are located in recreational waters and will be subject to wave wash or collision damage from passing vessels. You must take all proper steps to ensure the integrity

of the structure and the safety of boats moored thereto. *Justification: To minimize impacts to safety.*

9. The applicant must reduce the lakeward extension of the facility by 17 feet to extend into the channel no further than 1/3 of the distance to the opposite shoreline to allow for safe passage for through boaters. The harbor limits would be established at the limits of the structure only, i.e., 283 feet long by 321 feet wide. *Justification: To minimize impacts to safety.*
10. The applicant will be responsible for installing and maintaining no-wake signs, including maintaining proper placement. They must remain legible to the boating public and located within marina confines only. *Justification: To minimize impacts to safety.*
11. Any fixed structures shall have a floor elevation at least 1.5 feet above normal summer pool elevation of 507.5-foot shoreline contour. *Justification: To minimize impacts to safety.*
12. You must develop and implement a Spill Prevention, Control, and Countermeasures Plan to comply with U.S. Environmental Protection Agency's regulations. Copies of the plan will be provided to the permitting agencies. *Justification: To minimize potential post-construction water quality impacts.*

Chapter 5.0 References

Alabama Department of Environmental Management. 2008. *Alabama's Water Quality Assessment and Listing Methodology*. Available at <<http://www.adem.state.al.us/WaterDivision/WQuality/303d/WaterAssessmentMethodology2008final.pdf>>.

Transportation Research Board. 2000. *Highway Capacity Manual*. ISBN: 0309067464.

U.S. Environmental Protection Agency (USEPA). 1999. Consideration of Cumulative Impacts in EPA Review of NEPA Documents. USEPA, Office of Federal Activities (2252A). EPA 315-R-99-002/May 1999. Available at <<http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf>>.