



**§401 WATER QUALITY CERTIFICATION**  
**Aquatic Resource Alteration Permit NRS23.104**

Pursuant to §401 of *The Federal Clean Water Act* (33 U.S.C. 1341), any applicant for a federal license or permit to conduct any activity which may result in any discharge into the waters of the U.S. shall provide the federal licensing or permitting agency a certification from the state in which the discharge originates or will originate. Accordingly, the Division of Water Resources requires reasonable assurance that the activity will not violate provisions of *The Tennessee Water Quality Control Act of 1977* (T.C.A. §69-3-101 et seq.) or provisions of §§301, 302, 303, 306 or 307 of *The Clean Water Act*.

Subject to conformance with accepted plans, specifications, and other information submitted in support of the application, pursuant to 33 U.S.C. 1341 and T.C.A. §69-3-101 et seq., the State of Tennessee hereby certifies and authorizes the activity described below.

**PERMITTEE:** M. Scott Turnbow  
Tennessee Valley Authority  
1101 Market Street  
LP5 D-C  
Chattanooga, TN 37402

**AUTHORIZED WORK:** Installation of 1,800 feet of rip rap (three to 27 inch diameter at base, two to six inch diameter on top), 3,200 cubic yards of stone columns and additional fill (Class B and Class A-3 stone and additional aggregates) totaling 80,000 cubic yards in 6.6 acres of Emory River Embayment on Watts Bar Reservoir for reinforcement of the east dike to ensure seismic stability. Place fish habitat structures (Mossbacks) on 6.6 acres of Watts Bar Reservoir to offset loss of resource values associated with this fill.

**LOCATION:** Kingston Fossil Plant, Emory River, Harriman, Roane County  
Latitude 35.901323, Longitude -84.516185

**EFFECTIVE DATE:** February 6, 2024

**EXPIRATION DATE:** February 5, 2029

A handwritten signature in cursive script, appearing to read "M. Lee Barker".

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for Jennifer Dodd  
Director, Division of Water Resources

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## **PART I**

### **Authorized Work:**

Installation of the following on an Emory River embayment on Watts Bar Reservoir in support of seismic mitigation requirements on the east dike of TVA's Kingston Fossil Plant in Harriman:

Rip Rap (1,800 feet) – Approximately 1,000 feet of currently armored east dike shoreline will receive additional rip rap and approximately 800 feet of unarmored east dike shoreline will receive rip rap. Rip rap will consist of Class B (3 to 27 inch diameter) on the base and Class A-3 (2 to 6 inch diameter) on top.

Fill – A 160-foot by 20-foot-thick working platform of aggregate and graded rock (Class B stone of 3 to 27 inch diameter and Class A-3 stone of 2 to 6 inch diameter) will be placed in front of the east dike and remain in place after project completion. Additional aggregate, rock fill and stone columns will be placed in the embayment to reinforce the east dike (Class b and Class A-3 stone as well as aggregates of sizes 2, 10, 24 and 57). Total fill will be approximately 80,000 cubic yards (including approximately 32,000 cubic yards of stone column) and occupy 6.6 acres.

Fish Habitat – Fish habitat structures (Mossbacks) will be placed at 40 locations primarily in Watts Bar Reservoir to offset habitat loss due to structural fill.

### **Special Conditions:**

1. Any in-stream equipment shall be free of leaks of fluids and oils; e.g., hydraulic, transmission, crankcase, engine coolant fluids, etc. Fill shall be free of contaminants and debris.
2. Only clean fill (e.g., rock and dirt free of construction debris) may be used for this project.
3. Appropriate steps shall be taken to ensure that petroleum products and other chemical pollutants are prevented from entering waters of the state. All spills must be reported to the appropriate emergency management agency, and measures shall be taken to prevent pollution of waters of the state, including groundwater, should a spill occur.
4. Best Management Practices (BMPs) shall be stringently implemented throughout all dredging activities to prevent sediments, oils, or other project-related pollutants from being discharged into waters of the state.
5. Material may not be placed in a location or manner so as to impair surface water flow into or out of any wetland area.

### **General Conditions:**

1. It is the responsibility of the applicant to convey all terms and conditions of this permit to all contractors. A copy of this permit, approved plans and any other documentation pertinent to the activities authorized by this permit shall be maintained on site at all times during periods of permitted activities.
2. The amount of channel modifications or other impacts associated with the activity shall be limited to the minimum necessary to accomplish the project purpose.
3. All activities must be accomplished in conformance with the approved plans, specifications, data, and other information submitted in support of the ARAP application (form CN-1091) (except as where no application is required as specified below), and the limitations, requirements, and conditions set forth herein. Failure to comply with the terms and conditions of this permit is a violation of the Act.

4. Activities, either individually or cumulatively, that may result in an appreciable permanent loss of resource values to streams or wetlands are not covered. This permit shall not be used incrementally to combine with other activities resulting in an appreciable permanent loss of water resource values.
5. Adverse impacts to state- or federal-listed species and their critical habitat is prohibited. This permit does not authorize adverse impacts to cultural, historical, or archaeological features or sites.
6. Native riparian vegetation removal, including tree removal, is prohibited. Coverage under this permit does not serve to waive any local riparian buffer protection requirement, and permittees are responsible for obtaining any necessary local approval.
7. Widening of the channel as a result of this activity is prohibited.
8. Activities that directly impact wetlands or impair surface water flow into or out of any wetland areas are not covered.
9. Activities occurring in known or likely habitat of state or federally listed threatened, endangered, deemed in need of management, or species of special concern may not be authorized without prior coordination with the Tennessee Wildlife Resources Agency (TWRA) and TDEC Division of Natural Areas (DNA) to determine if any special conditions are required to avoid and/or minimize harm to the listed species or their habitat. Adverse effects to federally listed threatened and endangered species are not authorized by this permit. Permittee is responsible for obtaining prior authorization from the United States Fish and Wildlife Service (USFWS) as required by Section 7 or Section 10 under the Endangered Species Act
10. Work shall not commence until the permittee has obtained all necessary authorizations pursuant to applicable provisions of Section 10 of The Rivers and Harbors Act of 1899, section 26a of The Tennessee Valley Authority Act, Section 404 and Section 402 of the Clean Water Act (including, but not limited to an NPDES permit for construction stormwater), or any other federal, state, or local laws.
11. The use of monofilament-type erosion control netting or blanket is prohibited in the stream channel, stream banks, or any disturbed riparian areas within 30 feet of top of bank.
12. This permit does not authorize impacts to cultural, historic, or archaeological features or sites.
13. This permit does not authorize access to public or private property. Arrangements concerning the use of public or private property shall be made with the landowner. The permittee is responsible for obtaining any additional permitting or maintenance agreements with other government or public agencies or lands.
14. All activities must be carried out in such a manner as will prevent violations of water quality criteria as stated in TDEC Rule Chapter 0400-40-03, or impairment of the uses of waters of the state as designated by Rule Chapter 0400-40-04.

## **PART II**

### **Monitoring and Reporting Requirements**

Upon project completion, a report and photographs must be submitted to the Division's Natural Resources Unit (NRU) located on the 11th Floor of the William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, Nashville, Tennessee 37243, via email at [water.permits@tn.gov](mailto:water.permits@tn.gov), or to the permit writer Scott Hall at [Scott.Hall@tn.gov](mailto:Scott.Hall@tn.gov). The report and photographs must document and demonstrate that the project has been completed as permitted, and that placement of the fish habitat structures (mossbacks) is complete. Please be sure to indicate the ARAP permit number on your submittal. The annual report to the U.S. Army Corps of Engineers documenting dredged material removal volume and disposal disposition may be submitted to the NRU to meet this reporting requirement.

### **Duty to Reapply**

If any portion of the permitted activities, including the authorized impacts to water resources, are not completed before the expiration date of this permit the applicant must apply for permit re-issuance. The permittee shall submit such information and forms as are required to the director of the Division of Water Resources at least ninety (90) days prior to its expiration date. Such applications must be properly signed and certified.

### **Property Rights**

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

### **Other Information**

If the permittee becomes aware that he/she failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Director, then he/she shall promptly submit such facts or information.

### **Transfer/Change of Ownership**

- a. This permit may be transferred to another party, provided there are no activity or project modifications, no pending enforcement actions, or any other changes which might affect the permit conditions contained in the permit, by the permittee if:
- b. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;
- c. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and contractual liability between them; and
- d. The Director does not notify the current permittee and the new permittee within 30 days of his intent to modify, revoke, reissue, or terminate the permit, or require that a new application be filed rather than agreeing to the transfer of the permit.
- e. The permittee must provide the following information to the division in their formal notice of intent to transfer ownership:
  1. the permit number of the subject permit;
  2. the effective date of the proposed transfer;
  3. the name and address of the transferor;

4. the name and address of the transferee;
5. the names of the responsible parties for both the transferor and transferee;
6. a statement that the transferee assumes responsibility for the subject permit;
7. a statement that the transferor relinquishes responsibility for the subject permit;
8. the signatures of the responsible parties for both the transferor and transferee, and;
9. a statement regarding any proposed modifications to the permitted activities or project, its operations, or any other changes which might affect the permit conditions contained in the permit.

### **Change of Mailing Address**

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

### **Noncompliance**

#### **Effect of Noncompliance**

All impacts shall be consistent with the terms and conditions of this permit. Any permit noncompliance constitutes a violation of applicable State and Federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

### **Reporting of Noncompliance**

#### **24-Hour Reporting**

- a. In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate Environmental Field Office within 24-hours from the time the permittee becomes aware of the circumstances. (The Environmental Field Office should be contacted for names and phone numbers of environmental response personnel).
- b. A written submission must be provided within five (5) days of the time the permittee becomes aware of the circumstances unless this requirement is waived by the Director on a case-by-case basis. The permittee shall provide the Director with the following information:
  1. A description of the discharge and cause of noncompliance;
  2. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and
  3. The steps being taken to reduce, eliminate, and prevent recurrence of the non-complying discharge.

#### **Scheduled Reporting**

For instances of noncompliance which are not reported under subparagraph a. above, the permittee shall report the noncompliance by contacting the permit coordinator and provide all information concerning the steps taken or planned to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

### **Adverse Impact**

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including but not limited to, accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance. It shall not be a defense

for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

## **Liabilities**

### **Civil and Criminal Liability**

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of pollutants to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its discharge activities in a manner such that public or private nuisances or health hazards will not be created.

### **Liability under State Law**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or the Federal Water Pollution Control Act, as amended.

This permit does not preclude requirements of other federal, state or local laws. This permit also serves as a State of Tennessee Aquatic Resource Alteration Permit (ARAP) pursuant to the Tennessee Water Quality Control Act of 1977 (T.C.A. §69-3-101 et seq.).

The State of Tennessee may modify, suspend or revoke this permit or seek modification or revocation should the state determine that the activity results in more than an insignificant violation of applicable water quality standards or violation of the act. Failure to comply with permit terms may result in penalty in accordance with T.C.A. §69-3-115.

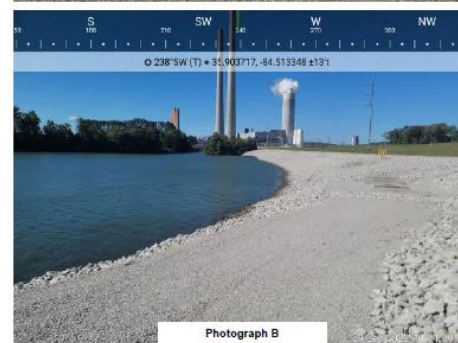
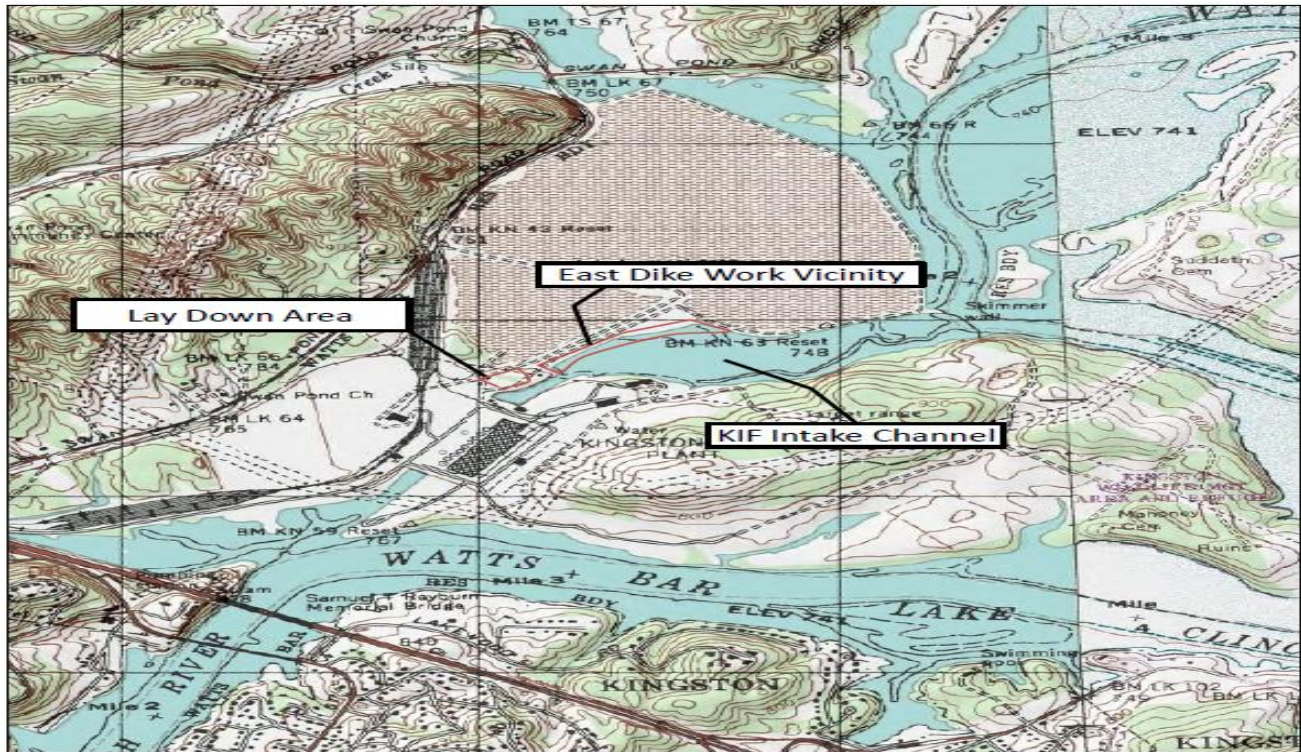
An appeal of this action may be made as provided in T.C.A. § 69-3-105(i) and Rule 0400-40-07-.04(9) by submitting a petition for appeal:

1. The petition must be filed within 30 days after public notice of the issuance of the permit.
2. The petition must specify the basis for the appeal and state a claim for relief based on an alleged violation of the Tennessee Water Quality Control Act or the rules promulgated thereunder. Third parties shall specify facts sufficient to establish that they have satisfied the statutory and regulatory preconditions and otherwise have standing to appeal.
3. The petition should be addressed to the technical secretary of the Tennessee Board of Water Quality, Oil and Gas at the following address: Jennifer Dodd, Director, Division of Water Resources, William R. Snodgrass - Tennessee Tower, 312 Rosa L. Parks Avenue, Nashville, Tennessee 37243-1102, or you may submit such petition electronically to [TDEC.Appeals@tn.gov](mailto:TDEC.Appeals@tn.gov). Any hearing would be in accordance with T.C.A. §§ 69-3-110 and 4-5-301 et seq.



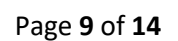
## Appendix – Site Maps, Plans, Habitat Structures

### Site Overview

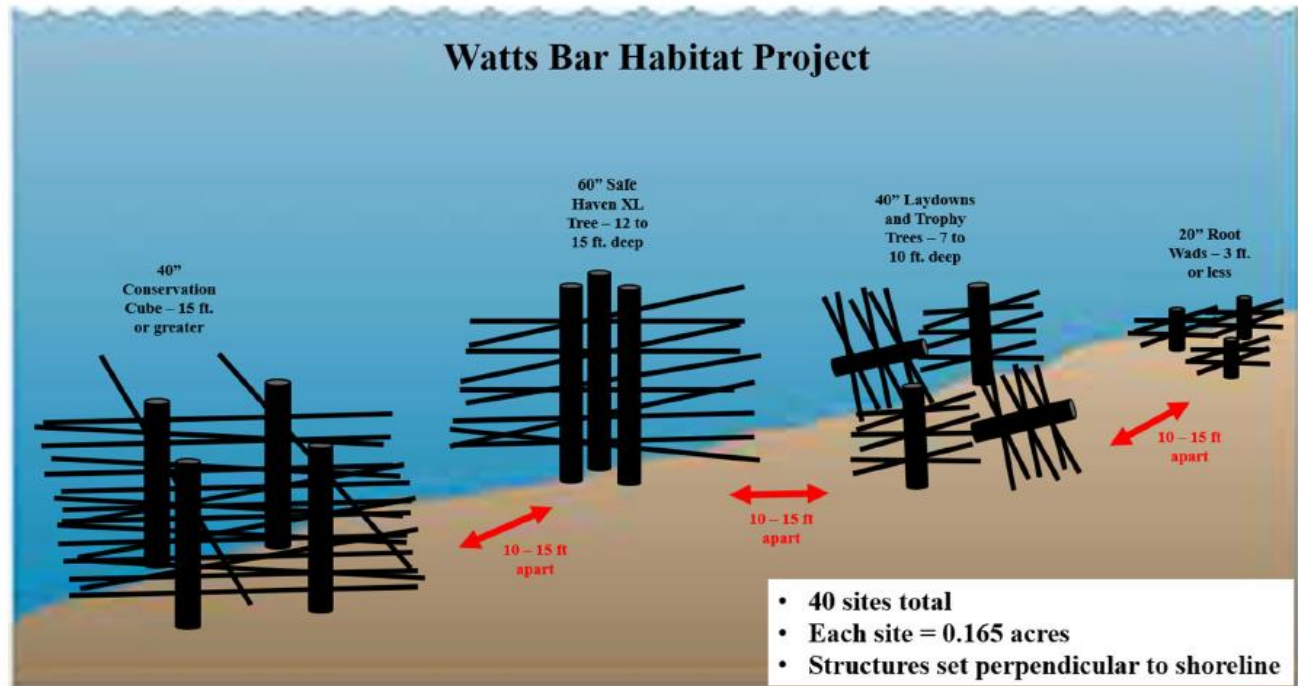


East Dike Shoreline Photographs	
Kingston Fossil Plant – East Dike Roane County, TN	
 Geosyntec consultants	Figure 1
Project No.: TN9176	March 2023

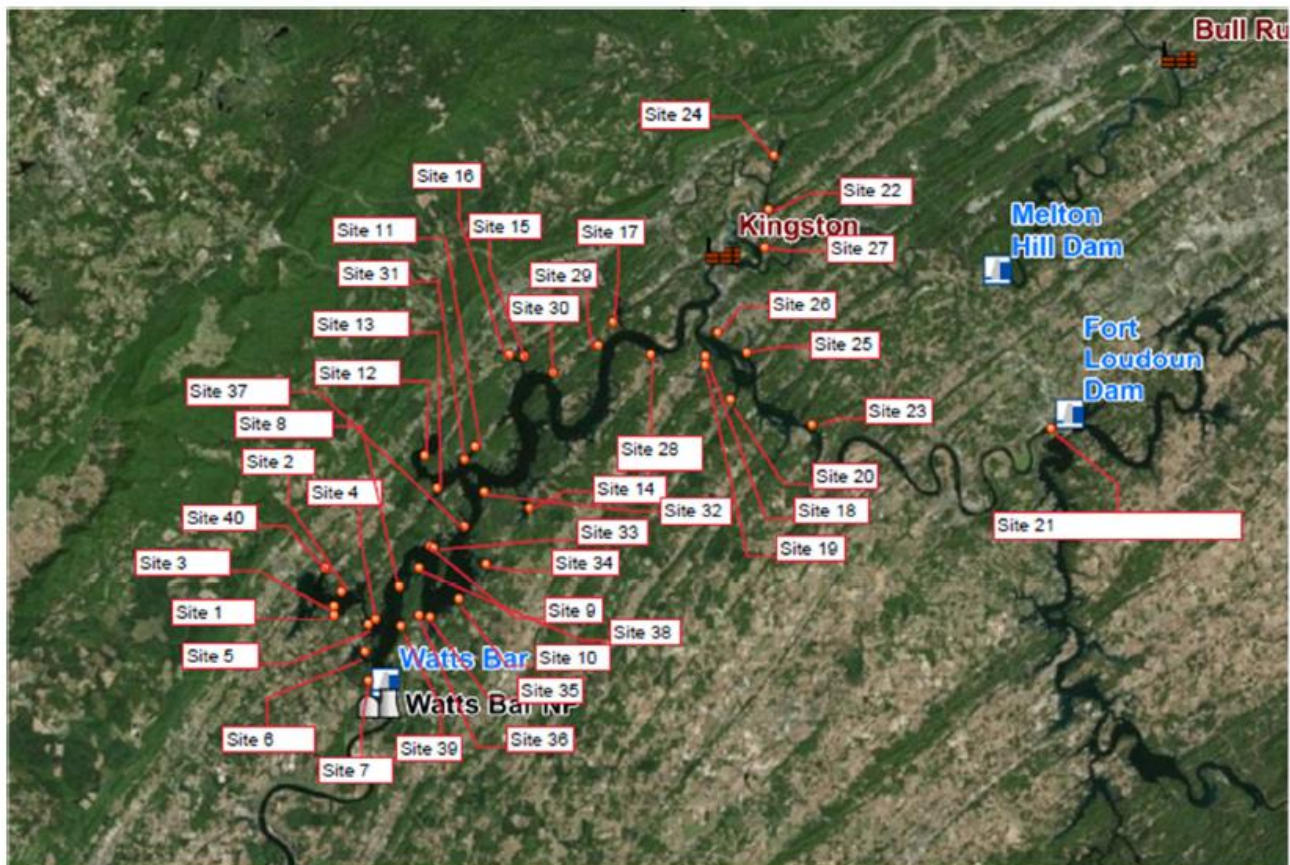


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## Fish Habitat (Mossbacks) and Locations



Habitat siting locations are represented as follows:



Habitat improvement shall occur at 40 specific locations below:

Site ID	Latitude	Longitude	Depth (ft)	Acreage Of Improvement
Site 1	35.663856	-84.823542	3 to 25	0.165
Site 2	35.678741	-84.817820	3 to 25	0.165
Site 3	35.669935	-84.823594	3 to 25	0.165
Site 4	35.661626	-84.791516	3 to 25	0.165
Site 5	35.657705	-84.797347	3 to 25	0.165
Site 6	35.640878	-84.797766	3 to 25	0.165
Site 7	35.621958	-84.797107	3 to 25	0.165
Site 8	35.681948	-84.772272	3 to 25	0.165
Site 9	35.707921	-84.747768	3 to 25	0.165
Site 10	35.674896	-84.724824	3 to 25	0.165
Site 11	35.772297	-84.711915	3 to 25	0.165
Site 12	35.766429	-84.752530	3 to 25	0.165
Site 13	35.744699	-84.742486	3 to 25	0.165
Site 14	35.732833	-84.669976	3 to 25	0.165
Site 15	35.829425	-84.674378	3 to 25	0.165
Site 16	35.830936	-84.685654	3 to 25	0.165
Site 17	35.852304	-84.603124	3 to 25	0.165
Site 18	35.829759	-84.531334	3 to 25	0.165
Site 19	35.823954	-84.531450	3 to 25	0.165
Site 20	35.802000	-84.510129	3 to 25	0.165
Site 21	35.783292	-84.258269	3 to 25	0.165
Site 22	35.924195	-84.481193	3 to 25	0.165
Site 23	35.786229	-84.446378	3 to 25	0.165
Site 24	35.958215	-84.476749	3 to 25	0.165
Site 25	35.832438	-84.498383	3 to 25	0.165
Site 26	35.845320	-84.521510	3 to 25	0.165
Site 27	35.899500	-84.483902	3 to 25	0.165
Site 28	35.831056	-84.573090	3 to 25	0.165
Site 29	35.837364	-84.615382	3 to 25	0.165
Site 30	35.819237	-84.651116	3 to 25	0.165
Site 31	35.764338	-84.721679	3 to 25	0.165
Site 32	35.742870	-84.705978	3 to 25	0.165
Site 33	35.706371	-84.745029	3 to 25	0.165
Site 34	35.696652	-84.704053	3 to 25	0.165
Site 35	35.662795	-84.747583	3 to 25	0.165
Site 36	35.664102	-84.756641	3 to 25	0.165
Site 37	35.721122	-84.720813	3 to 25	0.165
Site 38	35.693962	-84.756148	3 to 25	0.165
Site 39	35.656653	-84.770698	3 to 25	0.165
Site 40	35.694361	-84.830572	3 to 25	0.165
Total				6.6 acres

## Permit Rationale

<p style="text-align: center;"><b>PERMIT RATIONALE</b> <b>Aquatic Resource Alteration Permit NRS23.104</b></p>
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Tennessee Valley Authority Kingston Fossil Facility  
Roane County  
February 2, 2024  
*Permit Writer: Scott Hall*

## Summary

Applicant:  
Tennessee Valley Authority

Contact:  
M. Scott Turnbow  
Tennessee Valley Authority  
1101 Market Street  
LP5 D-C  
Chattanooga, TN 37402

Activity Location: Emory River Embayment Watts Bar Reservoir, Harriman, Roane County

Installation of the following on an Emory River embayment on Watts Bar Reservoir in support of seismic mitigation requirements on the east dike of TVA's Kingston Fossil Plant in Harriman:

Rip Rap (1,800 feet) – Approximately 1,000 feet of currently armored east dike shoreline will receive additional rip rap and approximately 800 feet of unarmored east dike shoreline will receive rip rap.

Fill – A 160-foot by 20-foot-thick working platform of aggregate (Class B stone of 3 to 27 inch diameter and Class A-3 stone of 2 to 6 inch diameter) and graded rock (aggregate sizes 2, 10, 24, and 57) will be placed in front of the east dike and remain in place after project completion. Additional aggregate, rock fill and stone columns will be placed in the embayment to reinforce the east dike. Total fill will be approximately 80,000 cubic yards (including approximately 32,000 cubic yards of stone column) and occupy 6.6 acres.

Fish Habitat – Fish habitat structures (Mossbacks) will be placed at 40 locations primarily in Watts Bar Reservoir to offset habitat loss due to structural fill.

Nature of Business: Dike reinforcement and fill of backwater embayment.

Waterbody Name: Emory River, Roane County.



## Permit Status

ARAP NRS23.104 issued:	<b>February 6, 2024</b>
ARAP NRS23.104 expires:	<b>February 5, 2029</b>
ARAP Application received:	<b>April 10, 2023</b>
Application Complete:	<b>November 23, 2023</b>

## Status of Affected Waters:

### Emory River Embayment of Watts Bar Reservoir, TN06010208001\_2000, Ecoregion 67f

Designated Use	Use Support	Causes	Sources
<b>livestock watering &amp; wildlife</b>	<b>Fully Supporting</b>	<b>N/A</b>	<b>N/A</b>
<b>irrigation</b>	<b>Fully Supporting</b>	<b>N/A</b>	<b>N/A</b>
<b>recreation</b>	<b>Non-Supporting</b>	<b>Chlordane, Mercury, PCBs</b>	<b>Contaminated Sediments, Atmospheric Deposition</b>
<b>fish and aquatic life</b>	<b>Fully Supporting</b>	<b>N/A</b>	<b>N/A</b>
<b>domestic and industrial water supply</b>	<b>Fully Supporting</b>	<b>N/A</b>	<b>N/A</b>

Assessment Date: February 28, 2019

The affected waters have been determined to have available parameters for habitat alteration.

The affected waters are not known Exceptional Tennessee Waters.

## Alterations

Installation of the following on an Emory River embayment on Watts Bar Reservoir in support of seismic mitigation requirements on the east dike of TVA's Kingston Fossil Plant in Harriman:

**Rip Rap (1,800 feet)** – Approximately 1,000 feet of currently armored east dike shoreline will receive additional rip rap and approximately 800 feet of unarmored east dike shoreline will receive rip rap. Rip rap will consist of Class B (3 to 27 inch diameter) on the base and Class A-3 (2 to 6 inch diameter) on top.

**Fill** – A 160-foot by 20-foot thick working platform of aggregate and graded rock (Class B and Class A-3 stone, and aggregates size 2, 10, 24, and 57) will be placed in front of the east dike and remain in place after project completion. Additional aggregate, rock fill and stone columns will be placed in the embayment to reinforce the east dike. Total fill will be approximately 80,000 cubic yards (including approximately 32,000 cubic yards of stone column) and occupy 6.6 acres.

**Fish Habitat** – Fish habitat structures (Mossbacks) will be placed at 40 locations primarily in Watts Bar Reservoir

to offset habitat loss due to structural fill.

### **Alternatives Analysis and Selection of Least Impactful Practicable Alternative**

The applicant has submitted an alternatives analysis that indicates no practicable alternative to the method of reinforcing the east dike.

Based on the available information, the Division has made the determination that the applicant has demonstrated that the activity represents the least impactful practicable alternative to accomplish the project purpose.

### **Existing Conditions/Loss of Resource Values**

The Emory River embayment is in an industrialized setting with very little hydraulic flow through. Most of the banks in the area are currently armored. Very little habitat loss will occur relative to the amount of similar habitat on Watts Bar Reservoir and the Emory River. Resource loss will be offset through installation of fish habitat structures on the same area (6.6 acres) as that being filled.

The Division has determined that these activities, if conducted in accordance with the submitted plans and permit conditions, will not result in any appreciable permanent loss of resource values.

### **Antidegradation**

In accordance with the Tennessee Antidegradation Statement (Rule 0400-40-03-.06), the Division has made the determination that the activities will not result in an appreciable permanent loss of resource values, and therefore will result in no more than de minimis degradation of waters with available parameters for habitat.

For more information, please reference Tennessee's Antidegradation Statement which is found in Chapter 0400-40-03 of the Rules of the Tennessee Department of Environment and Conservation.