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**Project Name:** Washington County (VA) Service Authority Intake  
**Project Number:** 2006-6

**REVISED FINDING OF NO SIGNIFICANT IMPACT  
TENNESSEE VALLEY AUTHORITY**

WASHINGTON COUNTY SERVICE AUTHORITY REQUEST FOR SECTION 26a APPROVAL  
TO CONSTRUCT AN INTAKE IN SOUTH HOLSTON RESERVOIR (TRACT NO. SH 737F)  
SOUTH FORK HOLSTON RIVER MILE 72.5R NEAR THE CONFLUENCE OF  
THE MIDDLE FORK HOLSTON RIVER  
WASHINGTON COUNTY, VIRGINIA

The Washington County Service Authority (WCSA) proposes to construct a new 12-million-gallon-per-day (MGD) raw water intake structure at South Fork Holston River Mile 72.5 about 150 feet upstream of the confluence of the Middle Fork Holston River. The purpose of the intake is to provide increased capacity for the Washington County water treatment plant in anticipation of additional demands for future municipal water supply. The proposed project would affect land owned by WCSA over which TVA holds a flowage easement. Because the proposed intake structure would constitute a permanent obstruction, approval under Section 26a of the Tennessee Valley Authority (TVA) Act is required. Because of revisions to the design and construction of the intake structure, TVA is issuing this revised finding of no significant impact (FONSI).

TVA prepared an environmental assessment (EA) of the proposed project and issued a FONSI on December 1, 2006. Those documents are incorporated by reference.

TVA determined that the project as proposed in 2006 would adversely affect Archaeological Site 44WG0560, which is eligible for inclusion in the National Register of Historic Places (NRHP). Additionally, the project would have a minor visual effect on the nearby Norfolk & Western Railroad bridge. The bridge is part of the Virginia Creeper Trail, which has been previously determined eligible for inclusion in the NRHP.

Because of the potential adverse effects to historic properties, a memorandum of agreement (MOA) between TVA, the Virginia State Historic Preservation Officer (SHPO) within the Virginia Department of Historic Resources, the Eastern Band of Cherokee Indians, and WCSA was established. The MOA, which was executed on November 6, 2006, stipulated that if impacts to Site 44WG0560 could not be avoided, mitigation for loss of the site would include the development and implementation of a data recovery plan. The MOA also stipulated that WCSA would use appropriate material and colors as well as vegetative screening to avoid or reduce adverse visual effects of the intake structure on the nearby Virginia Creeper Trail and trestle. WCSA would be responsible for and provide all funds necessary for the mitigation.

WCSA subsequently submitted new plans that would avoid effects to Site 44WG0560. The revised proposal involves the placement of an underwater intake structure at approximately the same location as the previously proposed site (see Attachments 1 and 2). This long, boxlike intake structure would be embedded in the streambed and would be approximately 57 feet long, 9 feet deep, and 9 feet high (see Attachment 3). The structure would have inlets on the top, the side facing the river, and the upstream and downstream ends. The top of the intake structure would be at elevation 1,710.4. The normal lake level at this location is 1,729 feet, while the low

water elevation at River Mile 72.5 is estimated to be 1,710.5. Three permanent warning buoys would be installed to warn boaters of the low-water obstacle. Two 20-inch-diameter water lines and an 8-inch-diameter sediment flush pipe to the intake would be installed by directional boring to connect the intake structure to the raw water pump stations as shown in Attachment 1. A raw water pump and motor would be installed in a small building located on the inland portion of the tract above the 500-year flood elevation (i.e., 1,742), also shown in Attachment 1.

### **Impacts Assessment**

With the exception of potential effects to historic resources, the potential environmental effects of implementing the revised proposal are expected to be the same as those evaluated in the 2006 EA and FONSI. By design, WCSA's recent proposal would result in a reduced potential for adverse effects to historic resources. The proposed directional drilling would be conducted at a level deep enough (elevation 1,714 or deeper) to avoid the disturbance of archaeological resources. WCSA would be required to employ appropriately textured and colored materials and vegetative screening of on-site structures to minimize adverse visual effects to the Virginia Creeper Trail. Because the water intake structure would be underwater and the raw water intake lines would be buried, the visual effect of the project on the Virginia Creeper Trail and trestle would be minimal. Thus, TVA has determined that the currently proposed undertaking, implemented in conjunction with certain measures as listed below in the Mitigation section, would not adversely affect historic properties. The Virginia SHPO concurred with this determination in a letter of May 8, 2009. As requested by the Virginia SHPO, WCSA has prepared a contingency plan to address actions and mitigative measures to be implemented in the event of inadvertent effects to Site 44WG0560 during construction. The proposed action thus satisfies the requirements of Section 106 of the National Historic Preservation Act.

The site of the proposed intake is in the upper reaches of the South Holston Reservoir, and water levels at the site are influenced by reservoir levels. Normal water level at the intake is estimated to be 1,729, while the top of the proposed intake structure would be at elevation 1,710.4. Thus, the structure would be submerged approximately 18.6 feet from mid-April through mid-September. South Holston Reservoir is normally at its lowest levels from early December through mid-February. During this time, the top of the intake structure could be covered by only a few inches of water. A series of three warning buoys would be placed immediately upstream, downstream, and in the channel fronting the intake structure. This measure would afford adequate protection to any recreational boating that may occur during the winter months.

### **Mitigation and Special Conditions of Approval**

The 2006 FONSI stated that the Section 26a approval would be conditioned to include the requirement for WCSA to implement the nine stipulations of the MOA. Additionally, WCSA would be required to comply with the standard and general conditions in the Section 26a permit, as well as to follow procedures included in the *Virginia Erosion and Sediment Control Handbook*, 3rd edition, during construction. Also according to the 2006 FONSI, the Section 26a approval would be conditioned to limit the maximum peak daily withdrawal to 12 MGD, require annual usage reporting, and a prohibition against the sale or transfer of water from this source outside the existing utility service territory.

The May 8, 2009, letter from the Virginia Department of Historic Resources stated that because ground disturbance within Site 44WG0560 would be avoided by the current design, WCSA is no longer bound by Stipulations I through V of the MOA. Thus, WCSA would no longer be obligated to develop and implement a data recovery plan to mitigate for adverse effects to Site

44WG0560. The letter also indicated that if certain stipulations were included as conditions of approval by TVA, the proposed action would be considered to have no adverse effect on historic properties. Thus, the following measures will be imposed on WCSA as conditions of TVA Section 26a approval. These measures replace those in the 2006 FONSI. Additionally, WCSA will be required to provide documentation indicating how each of these conditions was completed as required.

1. All surface impacts associated with the raw water pump building, pump control building, parking area, and access road and other associated facilities, but excluding the raw water line and screen intake, will be limited to areas above the 100-year flood line (i.e., elevation 1,738).
2. The raw water pipes and the sediment removal pipe will be installed using horizontal directional drilling at an elevation of 1,714 feet or lower as it passes beneath Site 44WG0560.
3. Construction impacts to Site 44WG0560 will be minimized by implementing the following measures:
  - Construction will be carried out in accordance with the plan provided by Olver Inc. on April 15, 2009.
  - All construction workers will be clearly informed that all construction is to be limited to the area delineated in that drawing.
  - Filter fabric and a minimum of 6 inches of rock fill will be applied to the ground surface to minimize disturbance caused by construction machinery.
  - Filter fabric will cover ground surface to be used for temporary storage of soil.
  - Any trees to be removed from the site area will be cut at the ground surface with root systems left undisturbed.
4. An archaeological contingency plan will be implemented to address any inadvertent direct impacts to Site 44WG0560 resulting from the failure of the horizontal directional drilling or other construction activities.
5. Visual effects to the Virginia Creeper Trail will be minimized by implementing the following measures:
  - Appropriately textured and colored construction materials, subject to approval by the Virginia Department of Historic Resources, will be employed to blend the project into the pastoral setting.
  - To the extent feasible, existing vegetation between the project and the Virginia Creeper Trail will not be disturbed.
  - To the extent feasible, additional vegetation of appropriate native species will be planted to further obscure the new construction from the Virginia Creeper Trail.

Consistent with the 2006 EA and FONSI, the TVA Section 26a approval would require WCSA to adhere to special conditions and requirements, including a maximum peak daily withdrawal rate of 12 MGD, the preparation of annual water usage reports, and the prohibition of sale or transfer

of water from this source outside the existing utility service territory. Additionally, the Section 26a approval would expire at the end of 15 years from the date of issuance.

**Conclusion and Findings**

With the exception of potential effects to historic resources, which would be greatly reduced under the revised proposal, TVA has determined that the environmental review conducted in 2006 adequately addresses the potential environmental effects of WCSA's revised proposal. Construction of the proposed water intake under the revised proposal would avoid potential effects to historic resources. TVA concludes that approval of the applicant's proposed intake structure and the subsequent construction and operation of the facility would not be a major federal action significantly affecting the quality of the environment. Accordingly, an environmental impact statement is not required.



August 3, 2010

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Susan J. Kelly, Senior Manager  
Federal Determinations  
Environmental Permits and Compliance  
Tennessee Valley Authority

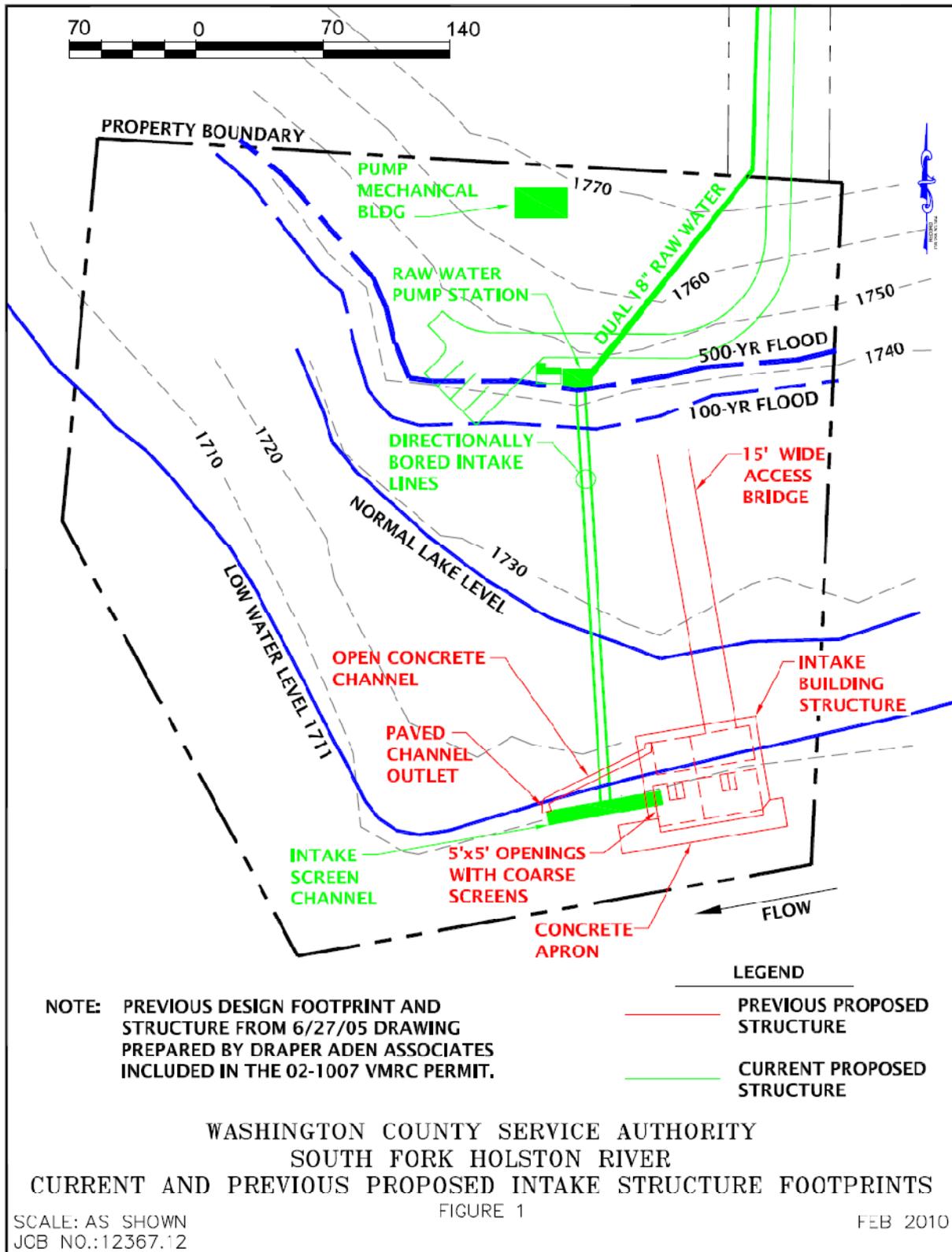
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Date Signed

**Attachments**

1. Original Proposal and Currently Proposed Water Intake Location
2. Intake Structure Location and Profile Elevations
3. Intake Structure Design

Attachment 1. Original Proposal and Currently Proposed Water Intake Location



WASHINGTON COUNTY SERVICE AUTHORITY  
 SOUTH FORK HOLSTON RIVER  
 CURRENT AND PREVIOUS PROPOSED INTAKE STRUCTURE FOOTPRINTS

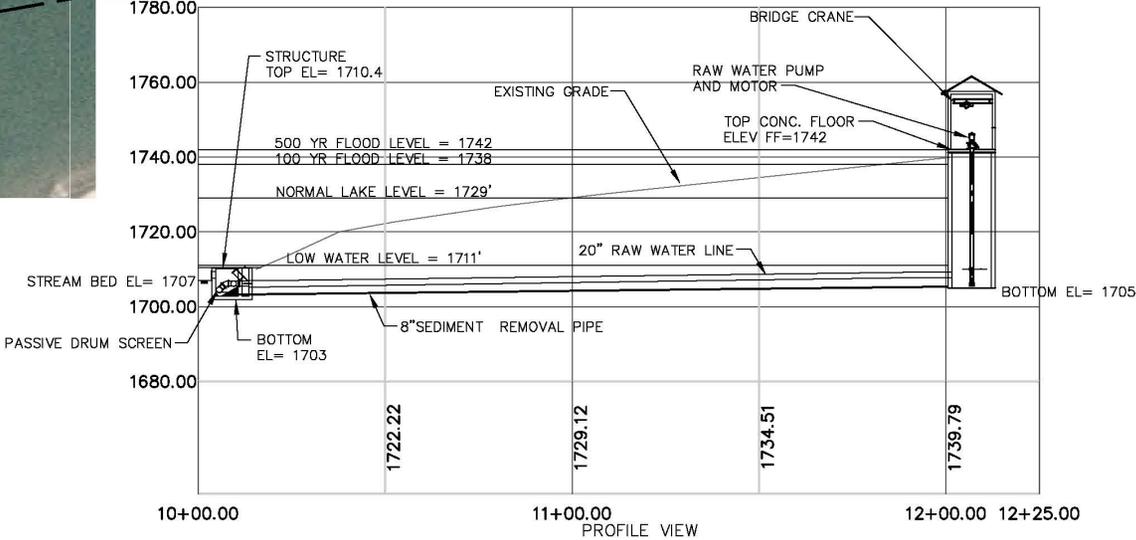
FIGURE 1

SCALE: AS SHOWN  
 JCB NO.: 12367.12

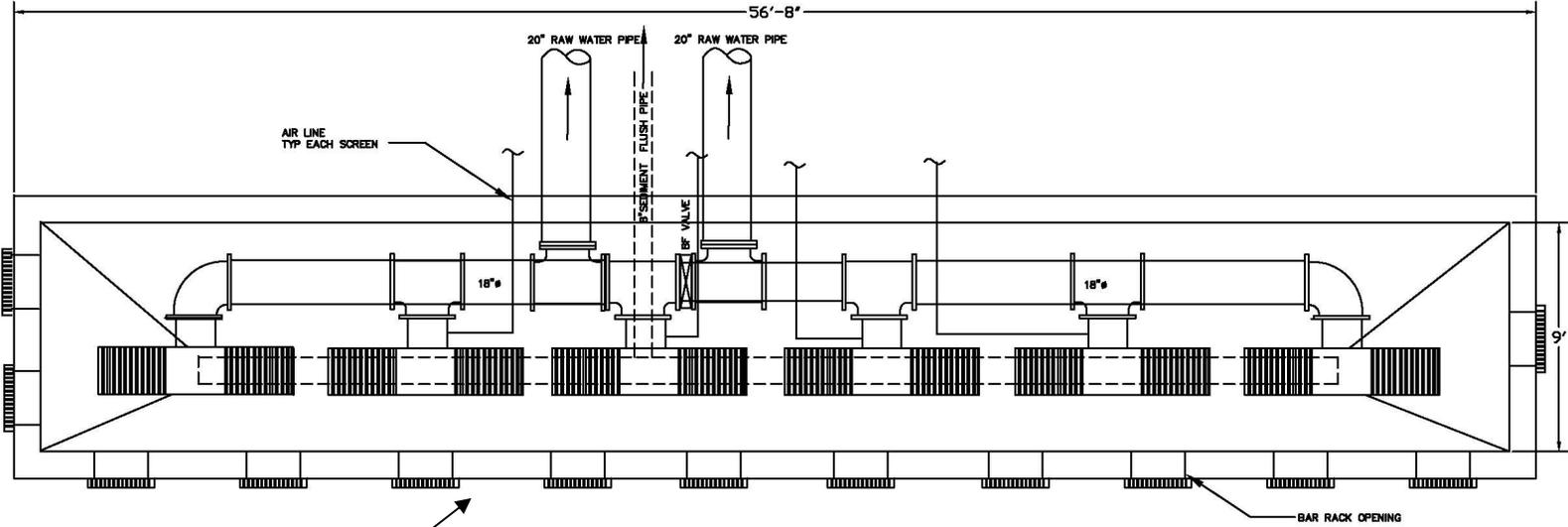
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## Attachment 2. Intake Structure Location and Profile Elevations

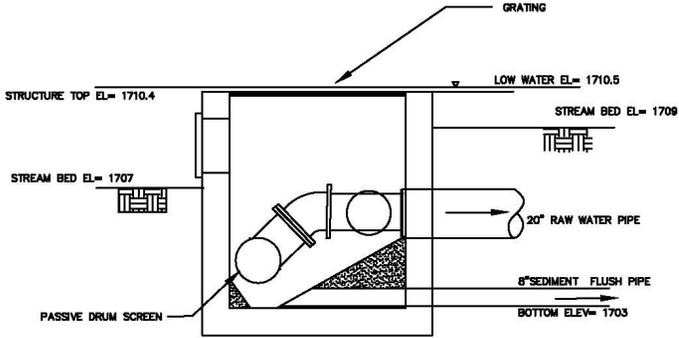


**Attachment 3. Intake Structure Design**



Top view of proposed intake structure

INTAKE SCREEN PLAN



End view of proposed intake structure

INTAKE SCREEN SECTION