

**Attachments**

Attachment A – Aquatic Resource Alteration Permit and Water Quality Certification

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Attachment C – Summary of Cultural Resources Assessments and MOA

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**Attachment A – Aquatic Resource Alteration Permit and Water  
Quality Certification**

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STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF WATER POLLUTION CONTROL  
NATURAL RESOURCES SECTION  
401 CHURCH STREET, 7<sup>TH</sup> FLOOR L & C ANNEX  
NASHVILLE, TENNESSEE 37243-1534

September 25, 2006

Mr. George Criss  
Director of Facilities Planning  
University of Tennessee; Division of Facilities Planning  
5723 Middlebrook Pike, Suite 119  
Knoxville, TN 37921

9 28 OCT 2006

Subject: **General Permit for Bank Stabilization**  
**Aquatic Resource Alteration Permit (ARAP) NRS06.252**  
**George Criss, University of Tennessee, University of Tennessee,**  
**Knoxville, Knox County, Tennessee**

Dear Mr. Criss:

We have reviewed your application for the proposed bank stabilization. Pursuant to the *Tennessee Water Quality Control Act of 1977* (T.C.A. § 69-3-101 et seq.) and supporting regulations the Division of Water Pollution Control is required to determine whether the activity described in the attached notice of coverage will violate applicable water quality standards.

This activity is governed by the *General Permit for Bank Stabilization*. The work must be accomplished in conformance with accepted plans and information submitted in support of application NRS06.252 and the limitations and conditions set forth in the *General Permit for Bank Stabilization* (enclosed). It is the responsibility of the permittee to ensure that all contractors involved with this project have read and understand the permit conditions before the project begins.

**Please note that unnecessary vegetation removal is prohibited and stabilization activities are limited to the stream bank.** In addition, adequate erosion controls must be installed prior to construction and maintained during construction of the project. All disturbed areas must be revegetated or otherwise stabilized upon completion of construction. Please make the necessary provisions for these circumstances.

We appreciate your attention to the Aquatic Resource Alteration Permit program. If you have any questions, please contact Mr. Trent Thomas at (615) 532-0700 or by e-mail at [Trent.Thomas@state.tn.us](mailto:Trent.Thomas@state.tn.us).

Sincerely,

Daniel C. Eagar  
Manager, Natural Resources Section

Encl: NOC and copy of general permit  
CC: DWPC, Knoxville Environmental Field Office  
File copy  
U.S. Army Corps of Engineers, Nashville District



Under the Aquatic Resource Alteration  
**General Permit for Bank Stabilization**  
Tennessee Department of Environment and Conservation  
Division of Water Pollution Control  
401 Church Street, 6th Floor, L&C Annex  
Nashville, Tennessee 37243-1534

**ARAP - NRS06.252**

Under authority of the Tennessee Water Quality Control Act of 1977 (TWQCA, T.C.A. 69-3-101 *et seq.*) the Division of Water Pollution Control has determined the activity described below would not violate applicable water quality standards.

This activity is governed by the *General Permit for Bank Stabilization* (effective July 1, 2005) issued pursuant to the TWQCA. The work must be accomplished in conformance with accepted plans, specifications, data and other information submitted in support of application NRS06.252 and the terms and conditions set forth in the above referenced general permit.

**PERMITTEE:** George Criss, University of Tennessee

**AUTHORIZED WORK:** Approximately 9,000 feet of riprap bank stabilization along the Tennessee River from just north of the Alcoa Highway bridge to Lonney Island on the right descending bank.

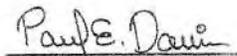
**LOCATION:** Knoxville, TN, Knox County

**WATERBODY NAME:** Tennessee River

**EFFECTIVE DATE:** 25-SEP-06      **EXPIRATION DATE:** 24-SEP-08

This does not preclude requirements of other federal, state or local laws. In particular, work shall not commence until the applicant has received the federal §404 permit from the U. S. Army Corps of Engineers, a §26a permit from the Tennessee Valley Authority or authorization under a Tennessee NPDES Storm Water Construction Permit where necessary. This permit may also serve as a federal §401 water quality certification (pursuant to 40 C.F.R. §121.2) since the planned activity was reviewed and the division has reasonable assurance that the activity will be conducted in a manner that will not violate applicable water quality standards (T.C.A. § 69-3-101 *et seq.* or of § § 301, 302, 303, 306 or 307 of *The Clean Water Act*).

The state of Tennessee may modify, suspend or revoke this authorization 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 TWQCA. Failure to comply with permit terms may result in penalty in accordance with T.C.A. §69-3-115.



Paul E. Davis, P.E.  
Director, Division of Water Pollution Control

RDA 1017

## General Permit for Bank Stabilization

Effective Date: July 1, 2005  
Expiration Date: June 30, 2010

This general permit authorizes the repair and protection of eroded stream and reservoir banks. Bank stabilization activities typically include grading of the bank to the appropriate slope, based on hydrology, in conjunction with the placement of riprap, gabion baskets and/or installation of bioengineering techniques. Bioengineering techniques shall incorporate primarily materials found in the natural riparian environment, such as cedar tree revetments, rock or log current deflection weirs, live willow post application and log crib structures.

Failure to comply with the terms and conditions of this permit is a violation of the *Tennessee Water Quality Control Act of 1977* and is subject to penalty in accordance with T.C.A. §69-3-115.

### Exclusions

This general permit shall not be used to authorize activities in the following circumstances:

- 1) where the proposed activity may adversely affect wetlands;
- 2) where a portion of the proposed activity is located in any waterway which is identified by the department as having contaminated sediments, and where the activity will likely mobilize the contaminated sediments;
- 3) when the proposed activity will adversely affect a species formally listed on either state or federal lists of threatened or endangered species or their critical habitat;
- 4) when the department determines that the proposed activities, either individually or cumulatively, may result in degradation to waters of the state; or
- 5) when an individual permit is otherwise required.

Projects not qualifying for authorization under this general permit, may be authorized by an individual permit, provided that all requirements of the *Tennessee Water Quality Control Act of 1977* are met.

### Notification

- 1) Notification to the division is not required where:
  - (a) the length of the stream or reservoir bank to be treated is less than three times the top-of-bank width of the stream channel, not to exceed a total length of 50 feet, and where the total volume of soil, sand or gravel disturbed or re-deposited is less than ten cubic yards. Bank stabilization work conducted in accordance with this provision is limited to one site per 1000 linear feet of stream or reservoir bank, and may be done only once without notification; or
  - (b) the activity is located within water resource development lands and waters, including flowage easement, managed by the Tennessee Valley Authority (TVA) or the United States Army Corps of Engineers (USCOE)
- 2) Except as provided in item 1) of this section, notification to the division is required by submission of an original, signed application (form CN-1091) along with the following minimum information:
  - (a) a cover letter explaining the scope of the project;
  - (b) a USGS topographical map showing the exact location of the proposed project; and
  - (c) a single copy of construction plans and drawings which include all dimensions and specifications for the proposed work, as well as pollution control methods and/or structures.

Except as provided in item 1) of this section, work shall not commence until the applicant has received written authorization from the division that the proposed activities may proceed under this general permit or that an individual permit has been issued.

All activities covered under this general permit, with or without notification, shall comply with all terms and conditions contained hereinafter.

*General Permit for Bank Stabilization*

### Terms and Conditions

- 1) The work shall be accomplished in conformance with the accepted plans, specifications, data and other information submitted in support of the above mentioned application and the limitations, requirements, and conditions set forth herein.
- 2) Applicant is responsible for obtaining the necessary authorization pursuant to applicable provisions of §10 of *The Rivers and Harbors Act of 1899*; §404 of *The Clean Water Act* and §26a of *The Tennessee Valley Authority Act*, as well as any other federal, state or local laws.
- 3) Applicant is responsible for obtaining coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Construction Activities for construction sites involving clearing, grading or excavation that result in an area of disturbance of one or more acres, and activities that result in the disturbance of less than one acre if it is part of a larger common plan of development or sale.
- 4) Where the activity is not located within water resource development lands and waters, including flowage easement, managed by the TVA or the USCOE, the placement of riprap is limited to 300 linear feet of stream or reservoir bank. Vegetative or bioengineering methods of bank stabilization and activities located within water resource development lands and waters, including flowage easement, managed by the TVA or the USCOE are not subject to this restriction.
- 5) Sediment shall be prevented from entering waters of the state. Erosion and sediment controls shall be designed according to the size and slope of disturbed or drainage areas to detain runoff and trap sediment and shall be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices.
- 6) Erosion and sediment control measures shall be in place and functional before earth moving operations begin, and shall be constructed and maintained throughout the construction period. Temporary measures may be removed at the beginning of the work day, but shall be replaced at the end of the work day.
- 7) Sediment should be removed from sediment traps, silt fences, sedimentation ponds, and other sediment controls as necessary, and shall be removed when design capacity has been reduced by 50%. Discharges from sediment basins and traps shall be through a pipe or lined or well-grassed channel so that the discharge does not cause erosion.
- 8) Litter, construction debris, and construction chemicals exposed to storm water shall be picked up prior to anticipated storm events (e.g. forecasted by local weather reports), or otherwise prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, daily pick-up, etc.). After use, silt fences should be removed or otherwise prevented from becoming a pollutant source for storm water discharges.
- 9) Clearing, grubbing and other disturbance to the riparian vegetation shall be kept at the minimum necessary for slope construction and equipment operations. Unnecessary riparian vegetation removal, including trees, is prohibited.
- 10) Pre-construction vegetative ground cover shall not be destroyed, removed or disturbed more than 10 calendar days prior to grading or earth moving unless the area is seeded and/or mulched or other temporary cover is installed.
- 11) Excavated materials, removed vegetation, construction debris, and other wastes shall be removed to an upland location and properly stabilized or disposed of in such a manner as to prevent reentry into the waterway.
- 12) Stabilization measures shall be initiated within seven days after the construction activity has temporarily or permanently ceased.
- 13) Temporary or permanent soil stabilization shall be accomplished within 15 days after final grading or other earth work. Permanent stabilization with perennial vegetation (using native herbaceous and woody plants where practicable) or other permanently stable, non-eroding surface shall replace any temporary measures as soon as practicable.
- 14) Muddy water to be pumped from excavation and work areas shall be held in settling basins or filtered prior to its discharge into surface waters. Settling basins shall not be located closer than 20 feet from the top bank of the stream and water shall be discharged through a pipe, well grassed or lined channel or other equivalent means so that the discharge does not cause erosion and sedimentation.
- 15) The activity may not be conducted in a manner that would permanently disrupt the movement of fish and aquatic life.

*General Permit for Bank Stabilization*

- 16) Stream beds shall not be used as transportation routes for construction equipment. Temporary stream crossings shall be limited to one point in the construction area and erosion control measures shall be utilized where stream banks are disturbed. Stream crossings should be constructed of clean rock and stream flow should be conveyed in appropriately sized pipe. The crossing shall be constructed so that stream flow is not obstructed. Following construction, all materials used for the temporary crossing shall be removed and disturbed stream banks shall be restored and stabilized if needed.
- 17) Materials used in bank stabilization shall include clean rock, riprap, anchored trees or other non-erodible materials found in the natural environment. Except for activities covered by item 1)(a) of the Notification section, stabilization materials shall not include gravel, sand, sediments, chert, soil or other materials that are likely to erode.
- 18) Materials used in bank stabilization projects shall be free of contaminants, including toxic pollutants, hazardous substances, waste metal, construction debris and other wastes as defined by T.C.A. 69-3-103(18).
- 19) Material may not be placed in a location or manner so as to impair surface water flow into or out of any wetland area.
- 20) Appropriate steps shall be taken to ensure that petroleum products or other chemical pollutants are prevented from entering waters of the state. All spills shall be reported to the appropriate emergency management agency and to the division. In the event of a spill, measures shall be taken immediately to prevent pollution of waters of the state, including groundwater.
- 21) This general permit does not authorize impacts to cultural, historical or archaeological features or sites.
- 22) Where authorization is required, the division will establish an expiration date for coverage under this general permit that is specific to the authorization and separate from the general permit expiration date.

APPROVED: Paul E. Davis  
Paul E. Davis, Director, Water Pollution Control

DATE: 6-30-05

*General Permit for Bank Stabilization*

-----Original Message-----

From: Larry Everett [mailto:Larry.Everett@state.tn.us]  
Sent: Thursday, November 08, 2007 4:50 PM  
To: George Daws  
Subject: Re: Knox/Blount Greenway

Mr. Daws,

Based on our discussions and your description of the proposed activities associated with the greenway it does not appear that an Aquatic Resource Alteration Permit or 401 Water Quality Certification will be necessary. Such permits are required for physical alteration of streams (top of bank to top of bank) and wetlands.

Thanks,

Larry Everett, Biologist  
TDEC-Water Pollution Control  
3711 Middlebrook Pike  
Knoxville, TN 37921  
(865) 594-5593 phone  
(865) 594-5601 fax  
larry.everett@state.tn.us e-mail

>>> "George Daws" <GDaws@cityofknoxville.org> 11/8/2007 2:49 PM >>>

Larry,

The City of Knoxville is proposing to construct a greenway that would extend along the top of bank of the Tennessee River from the Buck Karnes Bridge to the Knox County Marine Park. The total length of the proposed greenway is approximately 10,000 feet. The 10' wide greenway will be constructed between 10 and 20 foot away from the existing top of bank along the Tennessee River.

We will be installing a 37' pedestrian bridge as part of this project as indicated on the attached .pdf. This is necessary to bridge over a small stream perpendicular to the Tennessee River. As we discussed over the phone, we do not feel that this bridge or the abutments will alter this stream and therefore will not need to obtain an ARAP permit.

After you have had a chance to review the attached pdf's, please let us know in writing if you feel that we will need to obtain an ARAP permit. If you have any questions or need any additional information, feel free to give me a call at 215-6121.

Thanks,

George Daws, P.E.  
Civil Engineering Division  
City of Knoxville  
865-215-6121



STATE OF TENNESSEE  
 DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
 KNOXVILLE ENVIRONMENTAL FIELD OFFICE  
 DIVISION OF WATER POLLUTION CONTROL  
 3711 MIDDLEBROOK PIKE  
 KNOXVILLE, TN 37921



December 18, 2007

Mr. George Criss  
 Director of Facilities Planning  
 University of Tennessee, Division of Facilities Planning  
 5723 Middlebrook Pike, Suite 119  
 Knoxville, TN 37921

Subject: **General Permit for Construction and Removal of Minor Road Crossings**  
**Aquatic Resource Alteration Permit (ARAP) NR0703.218**  
**University of Tennessee Golf Team Facility (Practice Course)**  
**University of Tennessee - Division of Facilities Planning**  
**Knoxville, Knox County, Tennessee**

Dear Mr. Criss:

We have reviewed your application for the proposed construction of two pedestrian bridges. Pursuant to the *Tennessee Water Quality Control Act of 1977* (T.C.A. § 69-3-101 et seq.) and supporting regulations the Division of Water Pollution Control is required to determine whether the activity described in the attached notice of coverage will violate applicable water quality standards.

This activity is governed by the *General Permit for Construction and Removal of Minor Road Crossings*. The work must be accomplished in conformance with accepted plans and information submitted in support of application NR0703.218 and the limitations and conditions set forth in the *General Permit for Construction and Removal of Minor Road Crossings* (enclosed). It is the responsibility of the permittee to ensure that all contractors involved with this project have read and understand the permit conditions before the project begins.

Please note that excavation and fill activities associated with the road crossing must be separated from flowing waters. This may be accomplished through the utilization of cofferdams (non-erodible materials), berms or temporary channels. Channel widening is expressly prohibited under the terms of the general permit. In addition, adequate erosion controls must be installed prior to construction and maintained during construction of the project. All disturbed areas must be revegetated or otherwise stabilized upon completion of construction. Please make the necessary provisions for these circumstances.

We appreciate your attention to the Aquatic Resource Alteration Permit program. If you have any questions, please contact Mr. Jason Mann at (865) 594-1077 or by e-mail at [Jason.Mann@state.tn.us](mailto:Jason.Mann@state.tn.us).

Sincerely,

*Natalie Harris*  
 Natalie Harris  
 Knoxville Environmental Field Office Manager

Encl: NOC and copy of general permit  
 CC: TNR132888

FACILITIES PLANNING Fax: 865-974-7313 Dec 21 2007 11:34 P.02



Under the Aquatic Resource Alteration
General Permit for Construction and Removal of Minor Road Crossings

Tennessee Department of Environment and Conservation
Division of Water Pollution Control
401 Church Street, 6th Floor, L&C Annex
Nashville, Tennessee 37243-1534

ARAP - NR0703.218

Under authority of the Tennessee Water Quality Control Act of 1977 (TWQCA, T.C.A. 69-3-101 et seq.) the Division of Water Pollution Control has determined the activity described below would not violate applicable water quality standards.

This activity is governed by the General Permit for Construction and Removal of Minor Road Crossings (effective July 1, 2005) issued pursuant to the TWQCA. The work must be accomplished in conformance with accepted plans, specifications, data and other information submitted in support of application NR0703.218 and the terms and conditions set forth in the above referenced general permit.

PERMITTEE: University of Tennessee - Division of Facilities Planning
AUTHORIZED WORK: Construction of two pedestrian bridges
LOCATION: Fort Loudon Lake @ 2045 Alcoa Highway, Knoxville, TN 37920, Knox County
WATERBODY NAME: Fort Loudon Lake

EFFECTIVE DATE: 18-DEC-07 EXPIRATION DATE: 18-DEC-08

This does not preclude requirements of other federal, state or local laws. In particular, work shall not commence until the applicant has received the federal §404 permit from the U. S. Army Corps of Engineers, a §26a permit from the Tennessee Valley Authority or authorization under a Tennessee NPDES Storm Water Construction Permit where necessary. This permit may also serve as a federal §401 water quality certification (pursuant to 40 C.F.R. §121.2) since the planned activity was reviewed and the division has reasonable assurance that the activity will be conducted in a manner that will not violate applicable water quality standards (T.C.A. § 69-3-101 et seq. or of § § 301, 302, 303, 306 or 307 of The Clean Water Act).

The state of Tennessee may modify, suspend or revoke this authorization 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 TWQCA. Failure to comply with permit terms may result in penalty in accordance with T.C.A. §69-3-115.

Paul E. Davis (handwritten signature)

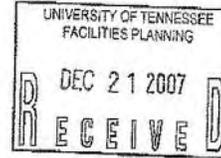
Paul E. Davis, P.E.
Director, Division of Water Pollution Control

RDA 2971

80 p Dec 21 2007 11:35 Fax: 865-974-7319 FACILITIES PLANNING



STATE OF TENNESSEE  
 DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
 KNOXVILLE ENVIRONMENTAL FIELD OFFICE  
 DIVISION OF WATER POLLUTION CONTROL  
 3711 MIDDLEBROOK PIKE  
 KNOXVILLE, TN 37921  
 PHONE 865-594-6035 STATEWIDE 1-888-891-8332 FAX 865-594-6105



December 18, 2007

Mr. George Criss  
 Director of Facilities Planning  
 University of Tennessee, Division of Facilities Planning  
 5723 Middlebrook Pike, Suite 119  
 Knoxville, TN 37921

Subject: **NPDES Construction General Permit Tracking No. TNR132888**  
**University of Tennessee Golf Team Facility (Practice Course)**  
**University of Tennessee - Division of Facilities Planning**  
**Knoxville, Knox County, Tennessee**

Dear Mr. Criss:

The Division of Water Pollution Control (the division) acknowledges receipt of the Notice of Intent (NOI) form for the above referenced project. The NOI was received on November 2, 2007. The NOI was submitted to obtain coverage under a General NPDES Permit for Storm Water Discharges Associated with Construction Activity. Enclosed is the Notice of Coverage (NOC) form which shows the site name and location, receiving stream, effective date of coverage, etc.

**Contractor Information**

As of the date this NOI was processed, no contractor was identified on the NOI. A primary contractor, or contractor otherwise responsible for sediment and erosion controls on the construction site, must be identified and must submit an NOI to this office prior to beginning earth clearing operations on site. When submitting the NOI, the contractor should indicate on the NOI form the above referenced permit tracking number.

**Storm Water Pollution Prevention Plan (SWPPP)**

You have submitted a Storm Water Pollution Prevention Plan (SWPPP) as required by Part 1.4.2 of the CGP. Please note that the division has not performed an engineering review of the SWPPP and does not certify whether the SWPPP adequately provides for the pollution prevention requirements at the site as described in the general permit. The division acknowledges that you have submitted a SWPPP that appears to include the required components of a SWPPP. It is the responsibility of all site operators to design, implement, and maintain measures that are sufficient to prevent pollution at the referenced site, and to remain in compliance with the terms and conditions of the general permit.

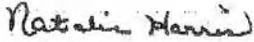
Dec 21 2007 11:36 FAX: 865-974-7313 FACILITIES PLANNING P.04

**Threatened and Endangered Species**

The receiving stream for a construction site for which the NOI was submitted has federal or state listed threatened and endangered species in the area, or downstream of your project. Storm water discharges and storm water discharge-related activities that are not protective of legally protected listed or proposed threatened or endangered aquatic fauna in the receiving stream; or discharges or activities that would result in a 'take' of a federally listed endangered or threatened fish or wildlife species are not authorized by the general permit. If the division finds that storm water discharges or storm water related activities are likely to result in any of the above effects, the division will deny the coverage under this general permit unless and until project plans are changed to protect the listed species. In addition, discharges from your construction site that result in harm to such species may incur additional fines and penalties from the US Fish and Wildlife Service and/or the Tennessee Wildlife Resources Agency.

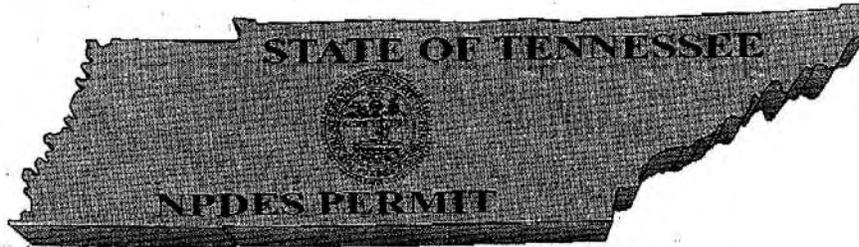
We appreciate your attention to the general construction storm water permit and its requirements. We believe this does make a difference to the quality of state waters. If you have any questions, please contact Mr. Jason Mann at (865) 594-1077 or by e-mail at [Jason.Mann@state.tn.us](mailto:Jason.Mann@state.tn.us).

Sincerely,



Natalie Harris  
Knoxville Environmental Field Office Manager  
Division of Water Pollution Control

CC: TNR132888  
JTM



Tracking No. TNR132888

**NOTICE OF COVERAGE UNDER THE GENERAL NPDES  
PERMIT FOR STORM WATER DISCHARGES ASSOCIATED  
WITH CONSTRUCTION ACTIVITY (CGP)**

Tennessee Department of Environment and Conservation  
Division of Water Pollution Control  
401 Church Street, 6th Floor, L&C Annex  
Nashville, Tennessee 37243-1534

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 *et seq.*) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, *et seq.*):

Name of the Construction Project: **University of Tennessee Golf Team Facility (Practice Course) (27.1 acres)**  
Construction site Owner/Developer: **University of Tennessee-Division of Facilities Planning**  
Contractor(s): **no contractor**  
is authorized to discharge: **storm water associated with construction activity**  
from site located at: **Fort Loudon Lake @ 2045 Alcoa Highway, Knoxville, TN 37920, Knox County**  
to receiving waters named: **Fort Loudon Lake**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

Likely presence of threatened or endangered species in one mile radius: **YES**  
Likely presence of threatened or endangered species downstream: **YES**

Additional pollution prevention requirements apply for discharges into waters which TDEC identifies as:  
a) impaired by siltation: **NO** b) high quality waters: **NO**

Your coverage under the CGP shall become effective on , and shall be terminated upon receipt of Notice of Termination, or the date of expiration of the CGP, **May 30, 2010**.

*Paul E. Davis*

Paul E. Davis, Director  
Division of Water Pollution Control

CN-0759

RDA4 2352 and 2366

Facilities Planning Fax: 865-974-7313 Dec 21 2007 11:36 p.m.

UNIVERSITY OF TENNESSEE  
FACILITIES PLANNING

DEC 21 2007

RECEIVED

STATE OF TENNESSEE



NPDES PERMIT

**GENERAL NPDES PERMIT**  
**FOR DISCHARGES OF STORM WATER**  
**ASSOCIATED WITH CONSTRUCTION ACTIVITIES**

**PERMIT NO. TNR100000**

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the authorization by the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.) and the Water Quality Act of 1987, P.L. 100-4, except as provided in part 4.4 (Discharges into Impaired or High Quality Waters) of this general permit, operators of point source discharges of storm water associated with construction activities into waters of the State of Tennessee, are authorized to discharge storm water associated with construction activities in accordance with the following permit monitoring and reporting requirements, effluent limitations, and other provisions as set forth in parts 1 through 8 herein, from the subject outfalls to waters of the State of Tennessee.

This permit is issued on: June 16, 2005

This permit is effective on: June 17, 2005

This permit expires on: May 30, 2010

Paul E. Davis, P.E., Director  
Division of Water Pollution Control

CN-0739

RDAs 2352 and 2366



**ENGINEERING "NO-RISE" CERTIFICATION  
FOR FLOODWAY ENCROACHMENT**

This is to certify that I am a duly qualified engineer licensed to practice in the state of Tennessee. It is to further certify that the attached technical data supports the fact that proposed UT Riverbank Stabilization - Phase 2 will not impact (Name of Development) the Base Flood Elevations (500-year flood), floodway elevations and the floodway widths on Tennessee River at published sections in the Flood Insurance Study for (Name of Stream) Knoxville / Knox County; 475434 / 475433, dated May 2, 2007 (Name of Community & Community ID Number) and will not impact the Base Flood Elevations (500-year flood), floodway elevations, and floodway widths at unpublished cross-sections in the vicinity of the proposed development.

Signature W. J. Goddard  
Phone Number 865-588-8544 (x1124) EMAIL wjgoddard@mactec.com  
Representing University of Tennessee, Facilities Planning  
Address 5723 Middlebrook Pike, Suite 119  
City Knoxville State TN Zip Code 37921-0040  
December 6, 2007  
(Date)

**DEPARTMENT OF ENGINEERING  
APPROVED**

CHANGES INDICATED IN: —  
Based upon R4-MT Form  
DATE: 1/10/08  
Revised 6/03  
BY: Chris Rowley



\* The minimum flood required for FEMA floodplain analysis is the 100-year flood, unless local regulations are stricter.  
\*\* The base flood in the City of Knoxville is defined as the 500-year flood by City Ordinance, Chapter 12, Section 12-4.

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**Attachment B – Joint Public Notice and Public Comments**

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## Public Notice

[Return to previous page](#)

Tennessee Valley Authority

November 20, 2007

### Proposed action

Greenway development and public golf practice facility

### Location

Fort Loudoun Reservoir, Knox County, Tennessee

### Description

TVA and the U.S. Army Corps of Engineers (USACE) request your comments on a proposal to develop a greenway and public golf practice facility along the Tennessee River on Fort Loudoun Reservoir.

In October 2007, TVA and USACE received a joint application from the University of Tennessee (UT) for 9,000 liner feet of riprap stabilization, two pedestrian bridges that will be shared by the greenway and golf facility, a culvert for the greenway, and 18,000 cubic yards of fill along the left descending bank of Fort Loudoun Reservoir between Tennessee River miles 643.5 and 645.2. TVA and USACE are jointly preparing an environmental assessment on the impacts of the proposal.

The greenway is part of a recreational walking and biking trail planned by UT and the City of Knoxville. A portion of the greenway, approximately one acre, would be located on TVA property lying below the 822-foot mean sea level (msl) elevation contour. The facility would be constructed by UT and regularly made available for public use. UT would also utilize the facility for noncredit golf classes and collegiate golf practice. Approximately three acres of the 35-acre facility would be located on TVA property lying below the 822-foot msl elevation contour. The rough areas would be planted in native grasses and create a natural buffer to adjacent streams.

The riprap stabilization, pedestrian bridges, culvert, and fill would require approval by TVA under Section 26a of the TVA Act and by USACE under Section 10 of the River and Harbors Act and Section 404 of the Clean Water Act. The use of TVA land would

require approval and execution of a land use license for public recreation purposes to the City of Knoxville and UT.

Please submit your comments to Heather McGee by letter, e-mail, or fax at the appropriate address or fax number below by December 23, 2007. Comments can also be submitted to Deborah T. Tuck, Regulatory Specialist, U.S. Army Corps of Engineers, 3701 Bell Road, Nashville, TN 37214, by letter or e-mail: [deborah.s.tuck@usace.army.mil](mailto:deborah.s.tuck@usace.army.mil).

Please note that any comments received, including names and addresses, will become part of the administrative record and will be available for public inspection.

Additional information is available at the [Corps of Engineers site](#) or by contacting:

Heather L. McGee  
NEPA Services, Tennessee Valley Authority  
400 West Summit Hill Drive, WT11-D  
Knoxville, TN 37902  
E-mail: [hmcgee@tva.gov](mailto:hmcgee@tva.gov)  
Phone: 256-386-2561  
Fax: 865-632-3451



**US Army Corps  
of Engineers.**  
Nashville District

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# Public Notice

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Public Notice No. 07-83

Date: November 23, 2007

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Application No. 2006-01627

Expiration: December 23, 2007

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Please address all comments to: Ms. Deborah T. Tuck  
Nashville District Corps of Engineers, Regulatory Branch  
3701 Bell Road, Nashville, TN 37214

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## JOINT PUBLIC NOTICE

US ARMY CORPS OF ENGINEERS  
AND  
TENNESSEE VALLEY AUTHORITY

**SUBJECT:** Proposed Riprap, Golf Practice Facility and Greenway Between Tennessee River Miles 643.5, Left Bank and 645.2, Left Bank, Fort Loudoun Lake, Knox County, Tennessee

**TO ALL CONCERNED:** The application described below has been submitted for a Department of the Army (DA) Permit pursuant to **Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act (CWA)**.

**APPLICANT:** The University of Tennessee (UT)  
Attn: Mr. Robbi Stivers  
Director, Office of Real Estate Administration  
5723 Middlebrook Pike, Suite 120  
Knoxville, Tennessee 37996

**LOCATION:** Between Tennessee River Miles 643.5, Left Bank and 645.2, Left Bank, Fort Loudoun Lake, Knox County, Tennessee  
Latitude N35.9476; Longitude W-83.9535, Knoxville, Tennessee  
USGS Quadrangle

**DESCRIPTION:** The applicant proposes to install approximately 9,000 linear feet of riprap to stabilize the eroded shoreline at the subject location. The work would involve placement of approximately 5,200 cubic yards (cy) of rock fill material to armor the bank with heights ranging from 3'-8'. Riprap approximately 16" in diameter would be placed between Elevation 815 and 807. Approximately 3,900 cy of material would be placed below the normal summer pool Elevation 813. Approximately 1,000 cy of lakebed material would be removed to construct a keyway at the toe to prevent washout. The project would be performed in phases. There would be no bank shaping. Riparian vegetation would be removed by hand and kept to a minimum. Prior to placement of the riprap, a layer of 10-ounce geo-textile filter fabric would be placed along the entire length being stabilized.

PN 07-83  
FN 2006-01627

All excavated material would be removed to an upland location. All work would be performed during dry weather conditions. This work would also require TVA approval.

In addition to the above, the applicant, in partnership with Knox County and the City of Knoxville, proposes to develop a greenway and golf practice facility. The greenway is part of a recreational walking/bike riding path planned by UT and the City of Knoxville. A portion of the greenway, approximately one acre, would be located on TVA property lying below the 822-foot mean sea level (msl) elevation contour. The golf practice facility would be constructed by UT and regularly made available for public use. UT would also utilize the golf practice facility for non-credit golf classes and collegiate golf practice. Approximately three acres of the thirty-five acre golf practice facility would be located on TVA property lying below the 822-foot msl elevation contour. The majority of TVA property would be utilized as rough areas and would be planted in native grasses creating a natural buffer to adjacent streams. Construction of the golf practice facility and greenway would involve the excavation of approximately 22,000 cubic yards of upland material and the placement of approximately 18,000 of upland fill. The greenway would be located on UT property and extend 1.75 miles in length along the shoreline. The golf practice facility and greenway would not require a DA permit but would require TVA approval. The use of TVA land would require execution of a land use license for public recreation purposes to the City of Knoxville and UT. The associated work would involve the construction of two pedestrian (span) bridges, and one pedestrian bridge with a culvert, over a small drainage. The greenway trail and pedestrian bridges meet the criteria of DA Nationwide Permit #42, Recreational Facilities, which became effective March 19, 2007. These structures would also require approval by TVA under Section 26a of the TVA Act.

The decision whether to issue a permit will be based on an evaluation of the probable impacts including cumulative impacts of the activity on the public interest. That decision will reflect the national concern for both the protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the work, must be balanced against its reasonably foreseeable detriments.

All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and

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FN 2006-01627

wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people. In addition, the evaluation of the impact of the activity on the public interest will include application of the guidelines promulgated by the Administrator, Environmental Protection Agency, under authority of Section 404(b)(1) of the CWA (40 CFR Part 230).

A permit will be granted unless the District Engineer determines that it would be contrary to the public interest. The Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity.

Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments may be used in the preparation of an Environmental Assessment (EA) and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments may also be used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. An EA will be prepared by this office prior to a final decision concerning issuance or denial of the requested DA Permit. The Corps and TVA are jointly preparing the EA.

Archaeological surveys (Phase I) were conducted along the UT property, this includes the golf practice facility, greenway and shoreline. In addition, Site evaluation (Phase II) investigations were also performed for the remainder of the proposed project site for the golf practice facility. Historic Properties were identified in the project area. A Memorandum of Agreement was executed between TVA, Tennessee State Historic Preservation Office (SHPO) and UT and Knox County regarding the potential adverse affects on historic properties. The signatories to the MOA have agreed on a Treatment Plan and archaeological monitoring to avoid adversely affecting historic properties. This Plan places restrictions on the installation of the riprap, greenway and golf practice facility.

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Upon review of the proposed project and Treatment Plan for preserving the historic properties, the Corps has determined that as proposed the project has no potential to adversely effect National Register of Historic Places listed or eligible properties. This review constitutes the full extent of cultural resources investigations unless comment to this notice is received documenting that significant sites or properties exist which may be adversely affected by this work. Copies of this notice are being sent to the office of the State Historic Preservation Officer.

Based on available information, the proposed work will not destroy or endanger any federally-listed threatened or endangered species or their critical habitats, as identified under the Endangered Species Act. Therefore, we have reached a no effect determination and initiation of formal consultation procedures with the U.S. Fish and Wildlife Service is not planned at this time.

Other federal and state approvals may be required for the proposed work. Specifically, the Tennessee Valley Authority would require approval under Section 26a of the TVA Act. In addition to other provisions of its approval, TVA would require the applicant to employ best management practices to control erosion and sedimentation, as necessary, to prevent adverse aquatic impacts.

The state of Tennessee, Department of Environment and Conservation (TDEC), Division of Water Pollution Control, must certify that applicable water quality standards will not be violated by the bank stabilization activity, pursuant to Section 401(a)(1) of the CWA. On September 25, 2006, TDEC issued an Aquatic Resources Alterations Permit (ARAP) NRS06.252, pursuant to the Tennessee Water Quality Control Act for the proposed bank stabilization activity. The applicant has been advised to contact TDEC directly for other approvals that may be required from that agency.

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

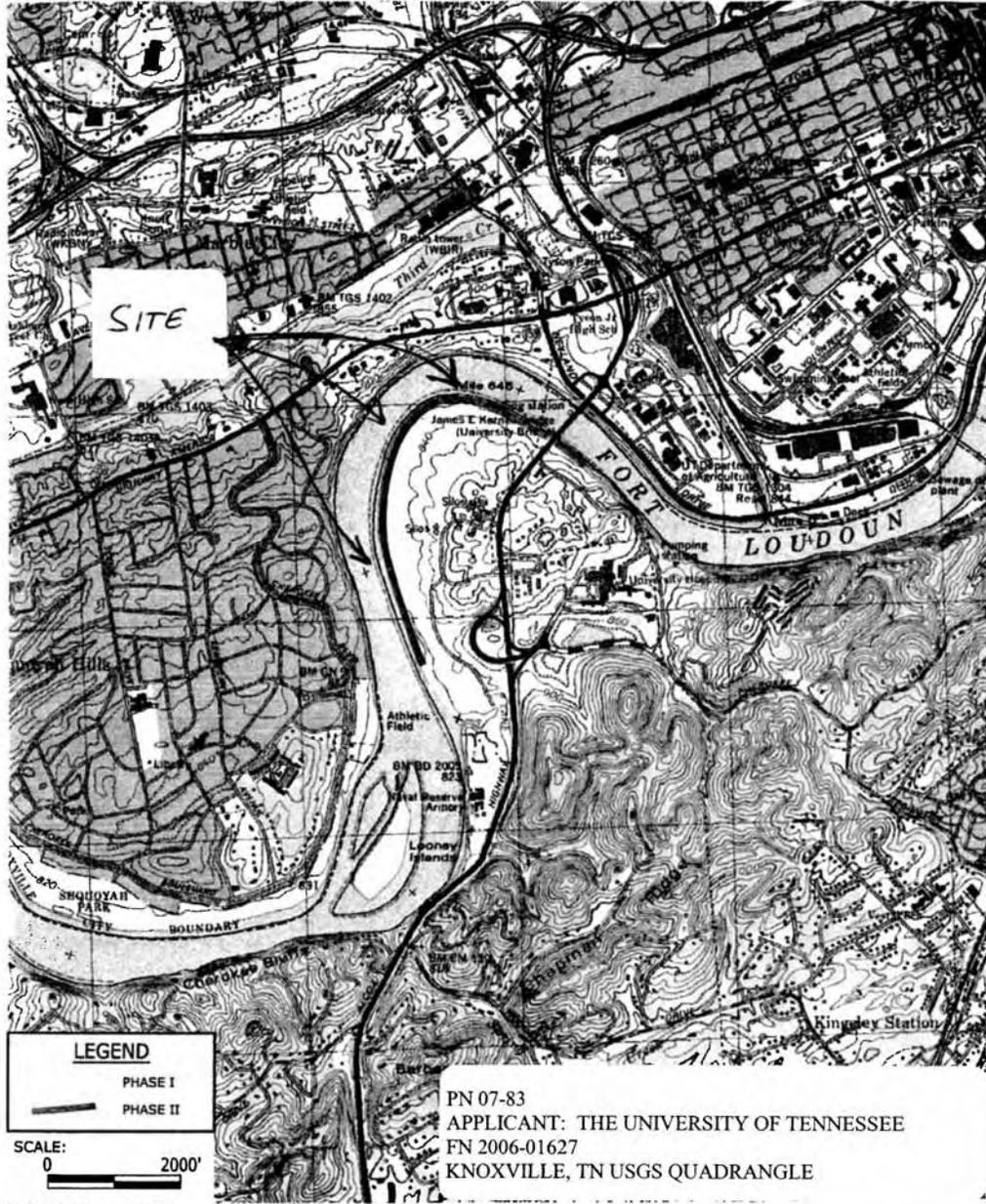
Written statements received in this office on or before the expiration date will become a part of the record and will be considered in the determination. Any response to this notice should be directed to the Regulatory Branch, Attention: Ms. Deborah T. Tuck, at the above address, telephone (615) 369-7518.

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It is not necessary to comment separately to TVA since copies of all comments will be sent to that agency and will become part of its record on the proposal. Please direct any questions relative to the TVA 26a permit or land use agreement to Ms. Heather McGee, NEPA Services, Tennessee Valley Authority, 400 West Summit Hill Drive, WT11-D, Knoxville, Tennessee 37902. E-mail: [hlmcgee@tva.gov](mailto:hlmcgee@tva.gov). More information regarding the proposal may also be found at TVA's website at [tva.gov](http://tva.gov), Public Notices link.

Detailed plans of the proposed work are available upon request. If you received this notice by mail and wish to view all of the diagrams, visit our web site at <http://www.lrn.usace.army.mil/cof/notices.htm>, or contact Ms. Tuck at the above address or phone number.

SOURCE: USGS TOPOGRAPHIC MAP OF THE KNOXVILLE, TN QUADRANGLE.



UNIVERSITY OF TENNESSEE  
KNOXVILLE, TENNESSEE

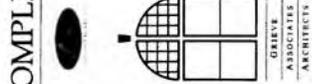
**MACTEC**

1725 Louisville Drive  
Knoxville, TN 37921  
Phone: 865-588-8544 Fax: 865-588-8026

UT RIVERBANK REPAIR AND DESIGN  
KNOXVILLE, TENNESSEE

PROJECT NO. 3043-05-1055-03 FIGURE 1

PN 07-83  
 APPLICANT: THE UNIVERSITY OF TENNESSEE  
 FN 2006-01627  
 KNOXVILLE, TN USGS QUADRANGLE

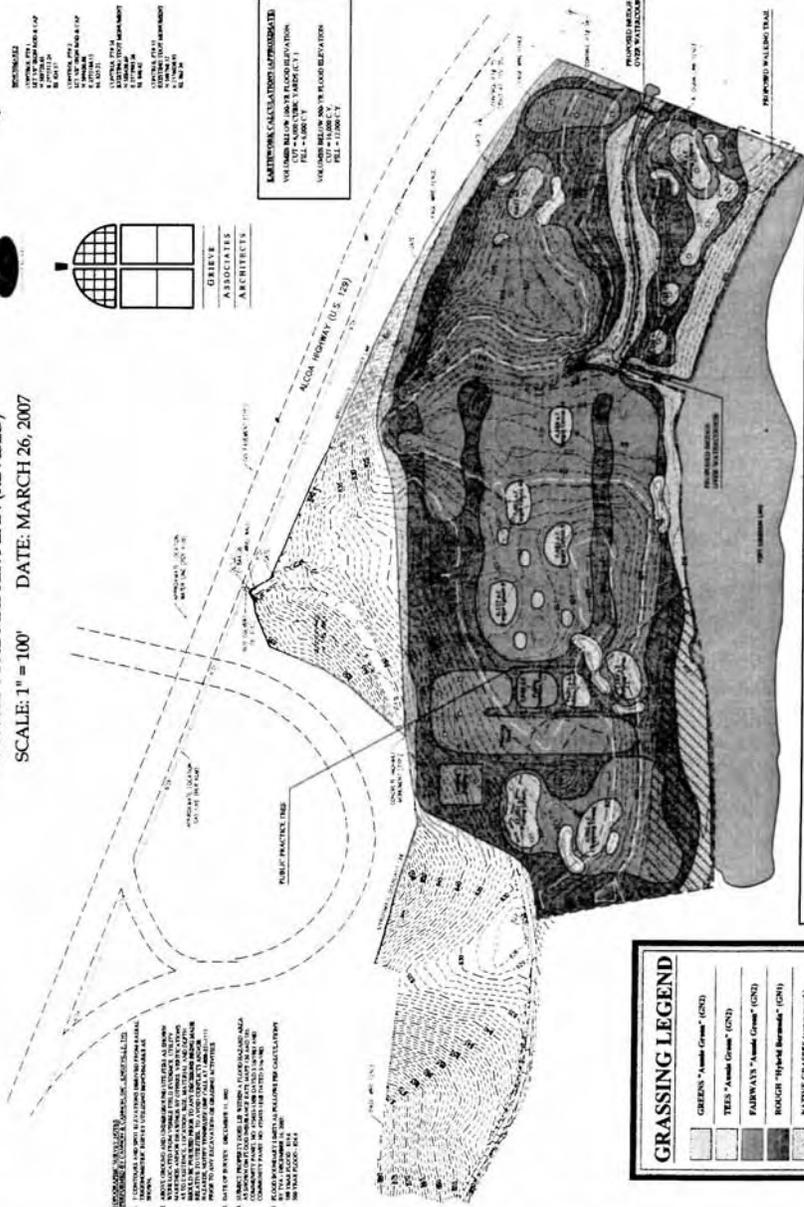


TN STATE PLANE  
 (NAD 83)  
 UNITS: FEET  
 HORIZONTAL SCALE: 1" = 100'  
 VERTICAL SCALE: 1" = 10'  
 DATE: MARCH 26, 2007

**UT INTERCOLLEGIATE GOLF COMPLEX**  
 CONCEPTUAL MASTER PLAN (REVISED)  
 SCALE: 1" = 100' DATE: MARCH 26, 2007

1. CONSULTOR AND OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL APPLICABLE AGENCIES AND LOCAL JURISDICTIONS.
2. THIS PLAN IS A CONCEPTUAL MASTER PLAN AND IS NOT A FINAL DESIGN. THE DESIGNER ASSUMES NO LIABILITY FOR THE ACCURACY OF THE INFORMATION PROVIDED HEREON.
3. THE DESIGNER HAS CONDUCTED VISUAL ANALYSES AND HAS IDENTIFIED AREAS OF VISUAL SENSITIVITY. VISUAL IMPACT STATEMENTS SHALL BE PREPARED FOR ALL DEVELOPMENT IN THESE AREAS.
4. THE DESIGNER HAS CONDUCTED VISUAL ANALYSES AND HAS IDENTIFIED AREAS OF VISUAL SENSITIVITY. VISUAL IMPACT STATEMENTS SHALL BE PREPARED FOR ALL DEVELOPMENT IN THESE AREAS.
5. THE DESIGNER HAS CONDUCTED VISUAL ANALYSES AND HAS IDENTIFIED AREAS OF VISUAL SENSITIVITY. VISUAL IMPACT STATEMENTS SHALL BE PREPARED FOR ALL DEVELOPMENT IN THESE AREAS.

**GRAVITATIONAL CALCULATION APPROXIMATIONS**  
 THE GRAVITATIONAL CALCULATION APPROXIMATIONS ARE BASED ON THE FOLLOWING ASSUMPTIONS:  
 1. ALL ELEVATIONS ARE IN FEET ABOVE SEA LEVEL (FASL).  
 2. THE GROUND SURFACE IS REPRESENTED BY THE 100' ELEVATION CONTOUR.  
 3. THE PROPOSED GRADE IS REPRESENTED BY THE 100' ELEVATION CONTOUR.  
 4. THE GRAVITATIONAL CALCULATION APPROXIMATIONS ARE BASED ON THE FOLLOWING ASSUMPTIONS:  
 5. THE GRAVITATIONAL CALCULATION APPROXIMATIONS ARE BASED ON THE FOLLOWING ASSUMPTIONS:  
 6. THE GRAVITATIONAL CALCULATION APPROXIMATIONS ARE BASED ON THE FOLLOWING ASSUMPTIONS:



**GRASSING LEGEND**

[Symbol]	GREENS "A" Grade Grass" (G2)
[Symbol]	TREES "A" Grade Grass" (G2)
[Symbol]	FAIRWAYS "A" Grade Grass" (G2)
[Symbol]	ROUGH "B" Grade Grass" (G2)
[Symbol]	NATIVE GRASSES (lower rough)
[Symbol]	TEST PLOTS (TPB)

**SITE GRADING KEY**

[Symbol]	100 Year Flood Elevation (Approx.)
[Symbol]	500 Year Flood Elevation (Approx.)
[Symbol]	Archaeologically Significant Area
[Symbol]	Area of Total Avoidance (No Fill Allowed)
[Symbol]	Finished Ground Elevation Contour (10'-0")
[Symbol]	Finished Ground Elevation Contour (15'-0")

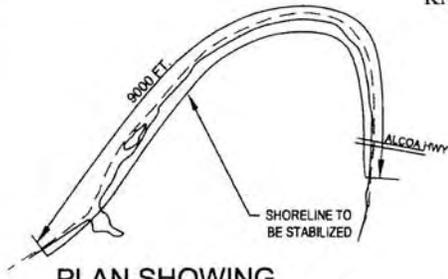
UNIVERSITY OF TENNESSEE  
 SAC NO. 540109-05-01

UNIVERSITY OF TENNESSEE  
 100 CAMP PAVILION  
 KNOXVILLE, TN 37996-0001

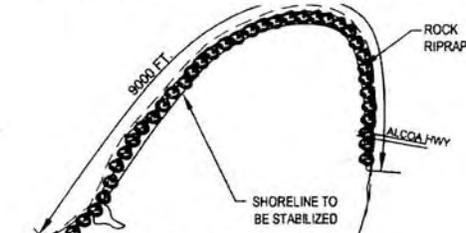
CONCEPTUAL MASTER PLAN  
 SITE GRADING

C1.2

PN 07-83  
 APPLICANT: THE UNIVERSITY OF TENNESSEE  
 FN 2006-01627  
 KNOXVILLE, TN USGS QUADRANGLE



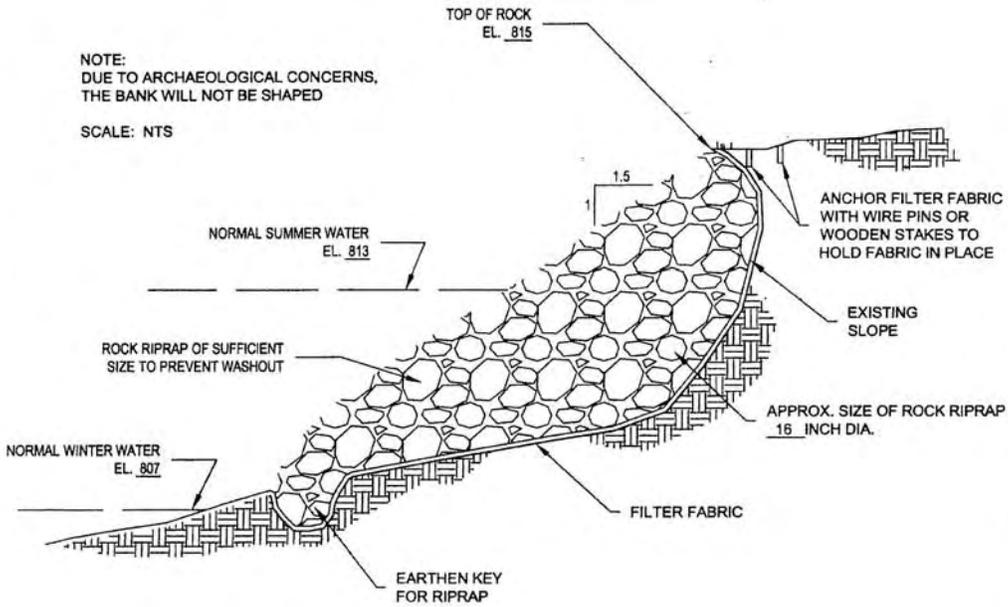
**PLAN SHOWING EXISTING SHORELINE**



**PLAN SHOWING STABILIZED SHORELINE**

NOTE:  
 DUE TO ARCHAEOLOGICAL CONCERNS,  
 THE BANK WILL NOT BE SHAPED

SCALE: NTS



**SECTION SHOWING STABILIZED SHORE LINE**

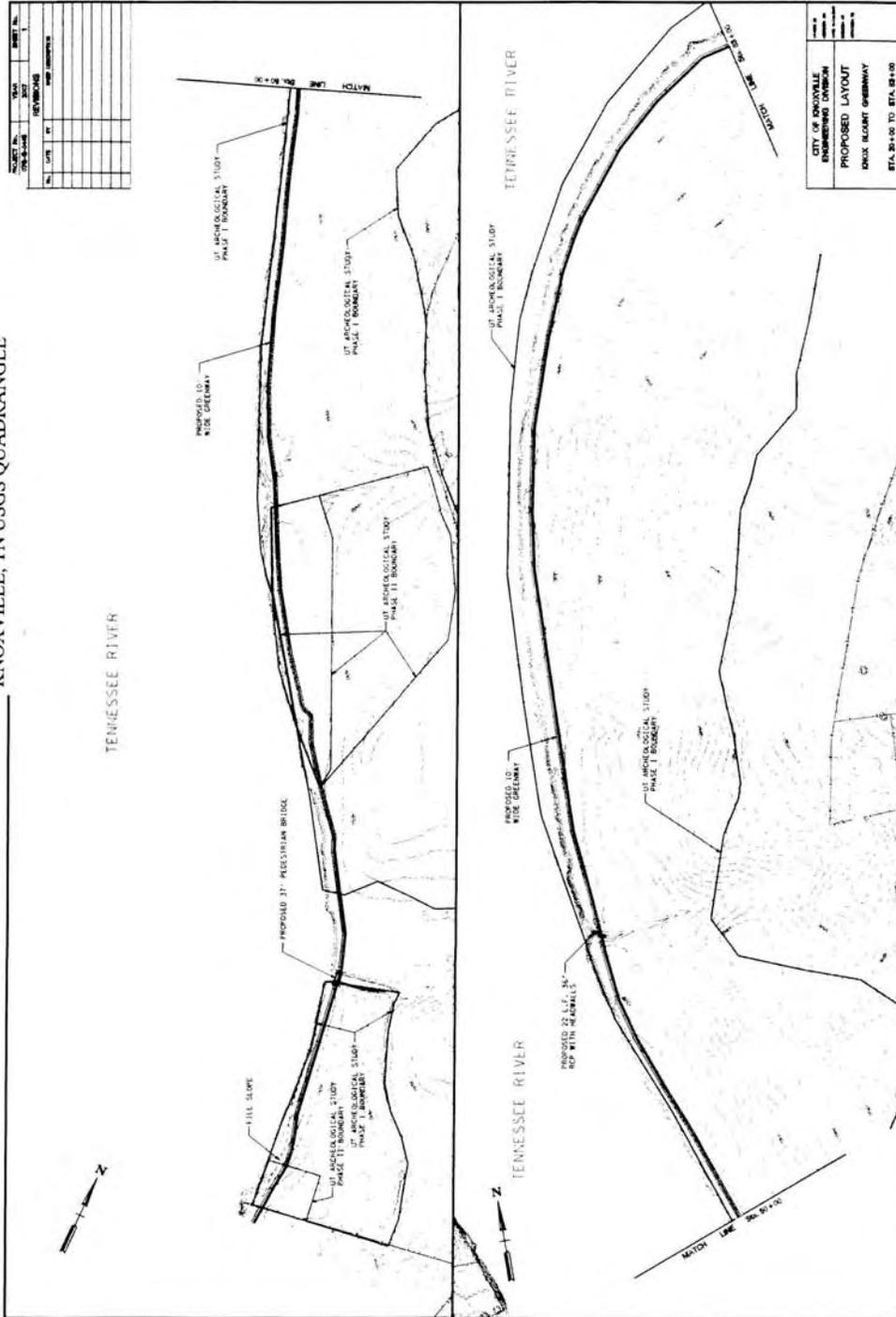
THE NORMAL SUMMER WATER LEVEL IS: EL. 813

NOTE:  
 INCLUDE ALL DIMENSIONS AND ELEVATIONS  
 WHERE INDICATED.

TYPICAL SHORELINE ROCK RIPRAP			
PROJECT LOCATION INFORMATION:			
STREAM NAME	TENNESSEE RIVER	SUBDIVISION NAME	N/A
RESERVOIR NAME	FORT LOUDOUN	LOT NUMBER	PARCEL 001
MILE MARKER	693.5 - 645.2 LB	MAP NO.	CLT MAP 108
(APPLICANT'S NAME) GEORGE CRISS, DIRECTOR, UNIVERSITY OF TENNESSEE, DIVISION OF FACILITIES			



PN 07-83  
 APPLICANT: THE UNIVERSITY OF TENNESSEE  
 FN 2006-01627  
 KNOXVILLE, TN USGS QUADRANGLE



PN 07-83  
 APPLICANT: THE UNIVERSITY OF TENNESSEE  
 FN 2006-01627  
 KNOXVILLE, TN USGS QUADRANGLE





**TENNESSEE HISTORICAL COMMISSION**  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
2941 LEBANON ROAD  
NASHVILLE, TN 37243-0442  
(615) 532-1550

→ DT  
or  
12/17

December 6, 2007

Ms. Deborah Tuck  
U.S. Army Corps of Engineers, Nashville District  
Regulatory Branch  
3701 Bell Road  
Nashville, Tennessee 37214

RE: COE-N, PN# 07-83/BANK STAB. TRM 643.5L, KNOXVILLE, KNOX COUNTY

Dear Ms. Tuck:

Pursuant to your request, this office has reviewed documentation concerning the above-referenced undertaking received Wednesday, November 28, 2007. This is a requirement of Section 106 of the National Historic Preservation Act for compliance by the participating federal agency or applicant for federal assistance. Procedures for implementing Section 106 of the Act are codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Considering available information, we concur that the project as currently proposed will not adversely affect any property that is eligible for listing in the National Register of Historic Places. Therefore, this office has no objection to the implementation of this project. Please direct questions and comments to Jennifer M. Barnett (615) 741-1588, ext. 105. We appreciate your cooperation.

Sincerely,

E. Patrick McIntyre, Jr.  
Executive Director and  
State Historic Preservation Officer

EPM/jmb

01 DEC 2007



→ DT  
12/17

Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

December 13, 2007

(Name)  
Address  
Address  
Address  
Address

Dear \_\_\_\_\_:

TVA, UNIVERSITY OF TENNESSEE SHORELINE STABILIZATION, KNOXVILLE,  
KNOX COUNTY, TENNESSEE

The University of Tennessee (UT) at Knoxville is considering placing approximately 9000 feet of riprap to stabilize shoreline and protect the archaeological resources fronting a tract of UT property. This stabilization is on Tennessee Valley Authority (TVA) flowage easement, and TVA must approve this type of activity under a federal permit. Therefore, the project is subject to compliance with the regulations of the Advisory Council (36 CFR Part 800) implementing Section 106 of the *National Historic Preservation Act of 1966*. The project area is located on Fort Loudoun Reservoir in Knox County, Tennessee (between Tennessee River Mile 643.4 and 645.1L; 7.5' Quadrangle Knoxville, TN- TVA 147NW).

UT has submitted *Phase I Archaeological Survey of the University of Tennessee-Knoxville Experiment Station (Cherokee Campus) West of Alcoa Highway, Knox County, Tennessee*. To access this report, please go to the following website ([http://arl.as.utk.edu/files/Cherokee\\_campus\\_draft.pdf](http://arl.as.utk.edu/files/Cherokee_campus_draft.pdf)). These investigations demonstrated that the upper 18 to 24 inches of soil across the river terraces of the Cherokee farm are part of the disturbed plow zone. A late 19<sup>th</sup> to early 20<sup>th</sup> century historic scatter (40KN112) was reviewed, and due to lack of intact archaeological deposits, it was recommended as ineligible for listing in the National Register of Historic Places (NRHP). In addition, the survey extended the boundary of 40KN045 and recommended the additional portions as eligible for listing in the NRHP. 40KN45 is located with the project area proposed for stabilization. TVA Cultural Resources concurred with the recommendation of 40KN112 as ineligible and agreed that 40KN045 is eligible for the NRHP; including the extension of the site boundary of 40KN45.

To preserve the resources without impacting the archaeology, our office placed commitments on the installation of the riprap:

- Due to the large size of the beach area below summer pool elevation, the rock will be extended toward the channel and not into the bank; therefore, it should not be necessary to cut a keyway in the beach to hold the rock into place--no bank reshaping and all vegetation will be removed by hand

17 DEC 2007

- a layer of 10 ounce geo-textile filter fabric placed along the entire shoreline proposed for stabilization prior to placing rock
- placement of Class 2 (or Class B ~ a nominal weight of 125 pounds per rock) riprap to the top of the bank
- all work will be conducted during dry weather conditions
- in addition, if heavy equipment (track hoe) is required for accessing areas for stabilization that a barge cannot reach or a keyway is necessary, archaeological monitoring will be necessary
- if archaeological resources are exposed during this procedure, all work will cease in the area where the resources have been encountered.

TVA Cultural Resources is requesting your comments on shoreline stabilization procedures.

TVA Cultural Resources is conducting this consultation as prescribed pursuant to 36 CFR Part 800.3(f)(2) of the Advisory Council's regulations. Please review your records and documentation within the project area regarding historic properties or areas that you have attached religious, cultural or traditional significance. Should such sites or areas of interest be present, TVA Cultural Resources is inviting your office to be a consulting party to the project. If you wish to participate, please respond within thirty (30) calendar days after receipt of this letter.

The same letter has been forwarded to the following tribes: United Keetoowah Band of Cherokee Indians in Oklahoma; Cherokee Nation; Eastern Band of Cherokee Indians; Muscogee (Creek) Nation of Oklahoma; Alabama-Coushatta Tribe of Texas; Alabama-Quassarte Tribal Town; Kialegee Tribal Town; Thlopthlocco Tribal Town; Shawnee Tribe; Absentee-Shawnee Tribe of Oklahoma; Eastern Shawnee Tribe of Oklahoma; The Chickasaw Nation; Seminole Tribe of Florida; and Choctaw Nation of Oklahoma.

Sincerely,



Patricia Bernard Ezzell  
Historian/Native American Liaison

cc: Ms. Jennifer Barnett  
Tennessee Division of Archaeology  
Cole Building, #3  
1216 Foster Avenue  
Nashville, Tennessee 37210

Mr. J. Ruben Hernandez ✓  
U.S. Army Corps of Engineers  
3701 Bell Road  
Nashville, Tennessee 37214



STATE OF TENNESSEE  
**DEPARTMENT OF ENVIRONMENT AND CONSERVATION**

Division of Natural Areas  
 7th Floor L&C Annex  
 401 Church Street  
 Nashville, Tennessee 37243  
 Phone 615/532-0431 Fax 615/532-0046

December 19, 2007

Deborah Tuck  
 Department of the Army  
 Nashville District Corps of Engineers, Regulatory Branch  
 3701 Bell Road  
 Nashville, Tennessee 37214

Re: Public Notice 07-83, UTK Rip-rap Shoreline Stabilization, Fort Loudon Lake, Knox County, TN

Dear Ms. Tuck:

The Division of Natural Areas (Division) has reviewed Public Notice 07-83 for rip-rap shoreline stabilization on Fort Loudon Lake in Knox County, Tennessee. Our natural heritage database indicates that rare aquatic species have been observed in the immediate vicinity (within one-mile) of the proposed stabilization:

Type	Scientific Name	Common Name	Global Rank	State Rank	Fed. Protection	St. Protection
Heron Rookery	Heron rookery	Heron Rookery	GNR	SNR	**	**
Mollusc	<i>Athearnia anthonyi</i>	Anthony's River Snail	G1	S1	LE,XN	E
Mollusc	<i>Dromus dromas</i>	Dromedary Pearlymussel	G1	S1	LE	E
Mollusc	<i>Plethobasus cooperianus</i>	Orange-foot Pimpleback	G1	S1	LE	E

Within four miles of the project, the state-rare spiny river-snail (*Io fluviatilis*) and the federally threatened yellowfin madtom (*Noturus flavipinnis*) have been observed in Fort Loudon Lake. Several of these rare species observations are historical in nature, and their populations may have been extirpated by impoundment of the Tennessee River. If conversations have not yet been initiated, the applicant should contact the Tennessee Wildlife Resources Agency and the US Fish and Wildlife Service to ensure that rare aquatic fauna will not be potentially impacted by the proposed activity.

Please keep in mind that not all areas of Tennessee have been surveyed and that a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. For additional information regarding Tennessee's rare and endangered species or interpretation of status or ranks, please visit our website at <http://www.state.tn.us/environment/na/>.

Thank you for the opportunity to comment on the subject permit and for considering Tennessee's rare species throughout the planning of this project. Should you have any questions, please do not hesitate to contact me at (615) 532-0440.

Sincerely,

Silas Mathes  
 Natural Heritage Data Manager

### Field Descriptions for the Rare Species Coverage

**G\_rank**-The global or world-wide rank of a species which is a non-legal rank indicating the rarity and vulnerability of a species.

<b>G1</b>	Extremely rare and critically imperiled in the world with five or fewer occurrences, or very few remaining individuals, or because of some special condition where the species is particularly vulnerable to extinction
<b>G2</b>	Very rare and imperiled within the world, six to twenty occurrences, or few remaining individuals, or because of some factor(s) making it vulnerable to extinction
<b>G3</b>	Rare and uncommon in its range or found locally in a restricted range, generally from 21-100 occurrences
<b>G4</b>	Widespread, abundant, and apparently secure globally, but with cause for long-term concern
<b>G5</b>	Demonstrably widespread and secure globally.
<b>GH</b>	Of historical occurrence throughout its range, e.g. formally part of the established biota, with the expectation that it may be rediscovered
<b>GU</b>	Can not be ranked using available information
<b>GX</b>	Believed to be extirpated throughout its range
<b>HYB</b>	Hybrid within its range in Tennessee
<b>SSYN</b>	Synonym for another species
<b>_Q</b>	Questionable taxonomy (GRANKs only)
<b>_T#</b>	Subspecific taxon rank (GRANKs only)

**S\_rank** – The state rank of a species in Tennessee. Like the G\_rank this is a non-legal rank indicating the rarity and vulnerability of a species at the state level.

**USESAs**-The federal listing under the U.S. Endangered Species Act

<b>LE</b>	<b>Listed Endangered</b>	Taxon is threatened by extinction throughout all or a significant portion of its range
<b>E/SA</b>	<b>Endangered by Similarity of Appearance</b>	Taxon is treated as an endangered species because it may not be easily distinguished from a listed species
<b>LT</b>	<b>Listed Threatened</b>	Taxon is likely to become an endangered species in the foreseeable future
<b>T/SA</b>	<b>Threatened by Similarity of Appearance</b>	Taxon is treated as a threatened species because it may not be easily distinguished from a listed species
<b>PE</b>	<b>Proposed Endangered</b>	Taxon proposed for listing as endangered
<b>PT</b>	<b>Proposed Threatened</b>	Taxon proposed for listing as threatened
<b>C</b>	<b>Candidate species***</b>	Taxon for which the USFWS has sufficient

		information to support proposals to list the species as threatened or endangered, and for which the Service anticipates a listing proposal
(PS)	<b>Partial Status (based on taxonomy)</b>	Taxon which is listed in part of its range, but for which Tennessee <u>subspecies</u> are not included in the Federal designation
(PS:status)	<b>Partial Status (based on political boundaries)</b>	Taxon which is listed in part of its range, but for which Tennessee <u>populations</u> are not included in the Federal designation e.g. (PS:LE)
(status, XN)	<b>Non-essential experimental population in portion of range</b>	Taxon which has been introduced or re-introduced in an area from which it has been extirpated, and for which certain provisions of the Act may not apply

**SPROT**-The legal listing in Tennessee

<b>E</b>	<b>Endangered</b>	Any species or subspecies whose prospects of survival or recruitment within the state are in jeopardy or are likely to become so within the foreseeable future
<b>T</b>	<b>Threatened</b>	Any species or subspecies that is likely to become an endangered species within the foreseeable future
<b>D</b>	<b>“Deemed in Need of Management”</b>	Any species or subspecies of <b>nongame wildlife</b> which the executive director of the TWRA believes should be investigated in order to develop information relating to populations, distribution, habitat needs, limiting factors, and other biological and ecological data to determine management measures necessary for their continued ability to sustain themselves successfully. This category is analogous to “Special Concern.”
<b>S</b>	<b>Special Concern</b>	Any species or subspecies of <b>plant</b> that is uncommon in Tennessee, or has unique or highly specific habitat requirements or scientific value and therefore requires careful monitoring of its status.

<b>Additional Modifiers for the Plant SPROT</b>		
<b>PE</b>	<b>Proposed Endangered</b>	Any species or subspecies of plant nominated by the Scientific Advisory Committee to be added to the list of Tennessee's endangered species. After approval by the commissioner of the Dept. of Environment & Conservation and the concurrence of the commissioner of Agriculture, these plants will formally become State endangered.
<b>PT</b>	<b>Proposed Threatened</b>	Any species or subspecies of a plant nominated by the Scientific Advisory Committee to be added to the list of Tennessee threatened species. After a public hearing, these plants will formally become State threatened.
<b>E-PT</b>	<b>Endangered--Proposed Threatened</b>	Species which are currently on the state list of endangered plants, but are proposed by the Scientific Advisory Committee to be down-listed to threatened. After approval by the commissioner of the Dept. of Environment & Conservation and the concurrence of the commissioner of Agriculture, these plants will formally become State threatened.
<b>E-PS</b>	<b>Endangered Proposed Special Concern</b>	Species which are currently on the state list of endangered plants, but are proposed by the Scientific Advisory Committee to be down-listed to special concern. After approval by the commissioner of the Dept. of Environment & Conservation and the concurrence of the commissioner of Agriculture, these plants will formally become State special concern.
<b>T-PE</b>	<b>Threatened Proposed Endangered</b>	Species which are currently on the state list of threatened plants, but are proposed by the Scientific Advisory Committee to be listed on the state endangered list. After approval by the commissioner of the Dept. of Environment & Conservation and the concurrence of the commissioner of Agriculture, these plants will formally become State endangered.
<b>T-PS</b>	<b>Threatened Proposed Special Concern</b>	Species which are currently on the state list of threatened plants, but are proposed by the Scientific Advisory Committee to be down-listed to special concern. After a public hearing, these plants will formally become State special concern.
<b>P</b>	<b>Possibly Extirpated</b>	Species or subspecies that have not been seen in Tennessee for the past 20 years. May no longer occur in Tennessee.
<b>C</b>	<b>Commercially Exploited</b>	Due to large numbers being taken from the wild and propagation or cultivation insufficient to meet market demand. These plants are of long-term conservation concern, but the Division of Natural Heritage does not recommend they be included in the normal environmental review process.

**EO\_RANK**-The viability rank of the element occurrence

**COUNTY**-The county of the occurrences

**QUAD** – The 1:24000 USGS quadrangle of the occurrence

**HUC**- The eight-digit hydrologic unit code of the occurrence

**LAST\_OBS**- The date when the occurrence was last observed

**GENERAL DESCRIPTION** – Information as to the habitat and associated species of the occurrence

**EO DATA** – Information as to the number, size, or condition of the occurrence

**DIRECTIONS** – description of the location of the occurrence



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
446 Neal Street  
Cookeville, TN 38501

December 20, 2007

Environmental Stewardship  
and Policy

DEC 27 2007

Doc Type:  
Index Field:  
Project Name:  
Project Number:

Lt. Colonel Bernard R. Lindstrom  
District Engineer  
U.S. Army Corps of Engineers  
3701 Bell Road  
Nashville, Tennessee 37214

Attention: Ms. Deborah T. Tuck, Regulatory Branch

Subject: Public Notice No. 07-83. The University of Tennessee. Proposed Riprap, Golf Practice Facility, and Greenway, Between Tennessee River Miles 643.5 and 645.2, Left Bank, Fort Loudon Lake, Knox County, Tennessee.

Dear Colonel Lindstrom:

Fish and Wildlife Service personnel have reviewed the subject public notice. The proposed project would involve the placement of riprap for bank stabilization along approximately 9,000 linear feet of eroded shoreline between Tennessee River Miles 643.5 and 645.2 in Knox County, Tennessee. Approximately 3,900 cubic yards of material would be placed below the normal summer pool elevation. The riprap would be approximately 16 inches in diameter and would be keyed in at the toe to prevent washout. A layer of 10-ounce geo-textile filter fabric would be placed along the entire length of river bank being stabilized. The applicant (The University of Tennessee), in partnership with Knox County and the City of Knoxville, also proposes to develop a greenway and a golf practice facility. Approximately one acre of the greenway and three acres of the golf facility would be located on Tennessee Valley Authority (TVA) property. The majority of the TVA property would be planted in native grasses, creating a natural buffer to adjacent streams. The following constitute the comments of the U.S. Department of the Interior, provided in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.).

Endangered species collection records available to the Service indicate that the federally listed or proposed endangered or threatened species occur within the impact area of the project. We note, however, that collection records available to the Service may not be all-inclusive. Our data base is a compilation of collection records made available by various individuals and resource agencies. This information is seldom based on comprehensive surveys of all potential habitat and thus does not necessarily provide conclusive evidence that protected species are present or absent at a specific locality. However, based on the best information available at this time, we believe that the

requirements of section 7 of the Endangered Species Act of 1973, as amended, are fulfilled. Obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of the action that may affect listed species or critical habitat in a manner not previously considered, (2) the action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the action.

We do not anticipate significant adverse impacts to fish and wildlife or their habitats as a result of this project. Therefore, the Service has no objection to the issuance of a permit for the work described in the subject public notice.

Thank you for this opportunity to review the subject notice. Please contact Robbie Sykes of my staff at 931/528-6481 (ext. 209) if you have questions about these comments.

Sincerely,



Lee A. Barclay, Ph.D.  
Field Supervisor

xc: Robert Todd, TWRA, Nashville, TN  
Dan Eagar, TDEC, Nashville, TN  
Darryl Williams, EPA, Atlanta, GA  
Heather McGee, TVA, Knoxville, TN



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
446 Neal Street  
Cookeville, TN 38501

#2006-0106 DT  
w  
1/29

January 18, 2008

Lt. Colonel Bernard R. Lindstrom  
District Engineer  
U.S. Army Corps of Engineers  
3701 Bell Road  
Nashville, Tennessee 37214

Attention: Ms. Deborah T. Tuck, Regulatory Branch

Subject: Public Notice No. 07-83. The University of Tennessee. Proposed Riprap, Golf Practice Facility, and Greenway, Between Tennessee River Miles 643.5 and 645.2, Left Bank, Fort Loudon Lake, Knox County, Tennessee.

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22 JAN 2008

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Sincerely,



Lee A. Barclay, Ph.D.  
Field Supervisor

xc: Robert Todd, TWRA, Nashville, TN  
Dan Eagar, TDEC, Nashville, TN  
Darryl Williams, EPA, Atlanta, GA  
Heather McGee, TVA, Knoxville, TN



*the*  
**Chickasaw**  
**Nation** HEADQUARTERS

*Arlington at Mississippi / Box 1548 / Ada, OK 74821-1548 / (580) 436-2603*

*Bill Anoatubby*  
Governor

*Jefferson Keel*  
Lieutenant  
Governor

January 7, 2008

Ms. Pat Ezzell  
Historian/Native American Liaison  
Tennessee Valley Authority  
400 west Summit Hill Drive  
Knoxville, TN 37902-1499

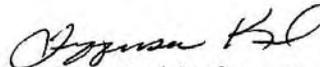
Dear Ms. Ezzell:

Thank you for your letter of notification regarding Tennessee Valley Authority, University of Tennessee Shoreline Stabilization in Knox County Tennessee. The project area is located on Fort Loudoun Reservoir between Tennessee River mile 643.4 and 645.1. We are interested in participating as a consulting party for this proposed project.

We are unaware of any specific historic properties or traditional cultural, religious and/or sacred sites at this time. However, in the event of inadvertent discoveries, we expect all construction activities to cease and we be notified according to all applicable state and federal laws.

If you have any questions, please contact Ms. Giny Nail, historic preservation officer, at (580) 332-8685.

Sincerely,

  
Jefferson Keel, Lt. Governor  
The Chickasaw Nation



**God Bless America!**



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

→ DT  
KW  
1/28

January 18, 2008

Dr. Joe Garrison  
Tennessee Historical Commission  
2941 Lebanon Pike  
Nashville, Tennessee 37243

TVA, UT GOLF COURSE, STABILIZATION AND KNOX COUNTY GREENWAY,  
KNOXVILLE, KNOX COUNTY, TENNESSEE

Dear Dr. Garrison:

The Tennessee Valley Authority (TVA) is compiling an Environmental Assessment for multiple actions on University of Tennessee-Knoxville (UT) property. The actions include a greenway, stabilization, and practice golf course. Currently the entire tract of UT property is used for agriculture and dairy. A 7-acre portion of the property within the proposed practice golf course was transferred by TVA to Knox County for public recreation purposes and Knox County has transferred to UT. Under the agreement between TVA and Knox County, development of the area is subject to compliance with the regulations of the Advisory Council (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act of 1966. The project area is located on Fort Loudoun Reservoir in Knox County, Tennessee (between Tennessee River Mile 643.4 and 645.3L; 7.5' Quadrangle Knoxville, TN- TVA 147NW). For the county to meet its public recreation mission, UT has agreed to construct a greenway/riverwalk between Tennessee River Mile 643.7 and 645.2L. Lastly, UT proposes to install 9000 feet of riprap to protect property and archaeological resources; this action requires a TVA 26a permit. It is TVA Cultural Resources' opinion that the area of potential effect for this project is defined as the golf course itself, the greenway, the shoreline proposed for stabilization and any area that would be visually affected by these actions.

TVA has executed a Memorandum of Agreement (MOA) with your office concerning adverse effects to historic properties (archaeology) regarding the UT-proposed practice golf course and Knox County greenway. The MOA is attached on the CD, including the appendices. Our office did not address visual effects on historic structures during the earlier consultation because the greenway route had not been selected. In addition, UT proposes to proceed with the golf course construction and to install riprap to protect UT shoreline property and archaeological resources. No historic structures listed on the National Register of Historic Places (NRHP) are located on the UT property or along the greenway route. However, there are NRHP-listed historic structures (Bleak House and H.L. Dulin House) and other historic structures along the shoreline in the Sequoyah Hills community across the Tennessee River that may be visually affected by the proposed actions.

*Greenway*

- The greenway is depicted in purple on the enclosed maps. Construction of the greenway will involve some small, above-ground structures (pedestrian bridges), and will be paved. No utilities will be placed along the greenway (no lights or water lines). Due to the minimal impact and low silhouette, it is TVA Cultural Resources' opinion that the installation of a greenway will not adversely affect historic properties (historic structures).

22 JAN 2008

*Riprap*

- The stabilization is depicted in yellow; along the shoreline, paralleling but separate from the greenway route. UT is considering placing approximately 9000 feet of riprap to stabilize the area and protect archaeological resources. Due to the large size of the beach area below summer pool elevation and to avoid impacting intact archaeological features, the rock will be extended toward the channel and not into the bank. Although the placing of stone would have more visual effects to historic structures than bio-stabilization, that is not possible in this instance. Unfortunately, hard armoring is the only effective way to stabilize the shoreline because of volume of recreational boat traffic and high energy water-flows. Re-vegetation techniques will not have the time to establish to provide proper protection. However, over time the rock will become weathered and have a more "natural" appearance. It is TVA Cultural Resources' opinion that although there will be visual effects to historic properties (historic structures) they would not be adverse.

*Practice Golf Course*

- The practice golf course will be on approximately 35 acres of land and will be maintained for mainly the UT golf team but would allow for public use. The course will have one small maintenance building placed along the northern edge near the Alcoa Highway off ramp loop; away from the river. Due to the minimal alterations and benign use, it is TVA Cultural Resources' opinion that the proposed golf course would have no adverse effects on historic properties (historic structures).

Therefore, pursuant to the requirements of Section 106 of the *National Historic Preservation Act* and its implementing regulations at 36 CFR Part 800.4, TVA Cultural Resources is requesting your concurrence regarding our findings of no adverse effects.

If you have any questions or comments, please contact Eric Howard at (865) 632-2457 or by e-mail at [aehoward@tva.gov](mailto:aehoward@tva.gov).

Sincerely,



Thomas O. Maher, Ph.D.  
Manager  
Cultural Resources

Enclosures

cc: Mr. J. Ruben Hernandez ✓  
U. S. Army Corps of Engineers  
3701 Bell Road  
Nashville, Tennessee 37214



**TENNESSEE HISTORICAL COMMISSION**  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
2941 LEBANON ROAD  
NASHVILLE, TN 37243-0442  
(615) 532-1550

February 20, 2008

Dr. Thomas O. Maher  
Tennessee Valley Authority  
400 West Summit Hill Dr.  
Knoxville, Tennessee, 37902-1499

RE: TVA, UT GOLF COURSE STABILIZATION/KNOX COUNTY GREENWAY, KNOXVILLE,  
KNOX COUNTY

Dear Dr. Maher:

In response to your request, received on Tuesday, January 22, 2008, we have reviewed the documents you submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicant for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800. You may wish to familiarize yourself with these procedures (Federal Register, December 12, 2000, pages 77698-77739) if you are unsure about the Section 106 process.

Considering available information, we find that the project as currently proposed MAY ADVERSELY AFFECT PROPERTIES THAT ARE ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES. You should now begin immediate consultation with our office, the owners of affected historic properties identified in the survey report, and the Sequoyah Hills Neighborhood Association to determine their feelings about the potential for project effects posed by the proposed riprap along the shoreline within the project's Area of Potential Effects. Please direct questions and comments to Joe Garrison (615) 532-1550-103. We appreciate your cooperation.

Sincerely,

E. Patrick McIntyre, Jr.  
Executive Director and  
State Historic Preservation Officer

EPM/jyg



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

February 25, 2008

Bleak House and Confederate Memorial Hall  
3148 Kingston Pike  
Knoxville, Tennessee 37919

Dear Sir:

The University of Tennessee-Knoxville (UT) is considering placing approximately 9,000 feet of riprap to stabilize shoreline and protect the archaeological resources fronting a tract of UT property. Riprap is rock used to armor shorelines against water erosion. Riprap reduces water erosion by resisting the hydraulic pressure and dissipating the energy of wakes caused by boat traffic. This stabilization is on Tennessee Valley Authority (TVA) flowage easement, and TVA must approve this type of activity under a federal permit. Therefore, the project is subject to compliance with the regulations of the Advisory Council on Historic Preservation (36 CFR Part 800) implementing Section 106 of the *National Historic Preservation Act*. The project area (see enclosed map) is located on Fort Loudoun Reservoir in Knox County, Tennessee (between Tennessee River Mile 643.4 and 645.1L; 7.5' Quadrangle Knoxville, TN- TVA 147NW). TVA Cultural Resources is requesting your comments on the shoreline stabilization.

TVA Cultural Resources is conducting this consultation as prescribed pursuant to 36 CFR Part 800.2 of the Advisory Council's on Historic Preservation regulations. None of the proposed activities are on the Bleak House property. However, your office may have interest regarding this project since the Bleak House and Confederate Memorial Hall is across the Tennessee River from the proposed stabilization. Therefore, TVA Cultural Resources is inviting your office to provide comments on the project. Please respond within fifteen (15) calendar days after receipt of this letter.

If you have any questions or comments please Eric Howard at (865) 632-2457 or email [aehoward@tva.gov](mailto:aehoward@tva.gov).

Sincerely,

Thomas O. Maher, Ph.D.  
Manager  
Cultural Resources

Enclosure

cc: J. Ruben Hernandez (USACE)  
Regulatory Branch  
3701 Bell Road  
Nashville, Tennessee 37214

Dr. Joe Garrison  
Tennessee Historical Commission  
2941 Lebanon Pike  
Nashville, Tennessee 37243

Janet Duffey, LCB 1A-LCT  
Heather McGee, SB 1H-M  
EDMS, WT 11D-K



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

February 25, 2008

H. L. Dulin House  
3100 Kingston Pike  
Knoxville, Tennessee 37919

Dear Sir:

The University of Tennessee-Knoxville (UT) is considering placing approximately 9,000 feet of riprap to stabilize shoreline and protect the archaeological resources fronting a tract of UT property. Riprap is rock used to armor shorelines against water erosion. Riprap reduces water erosion by resisting the hydraulic pressure and dissipating the energy of wakes caused by boat traffic. This stabilization is on Tennessee Valley Authority (TVA) flowage easement, and TVA must approve this type of activity under a federal permit. Therefore, the project is subject to compliance with the regulations of the Advisory Council on Historic Preservation (36 CFR Part 800) implementing Section 106 of the *National Historic Preservation Act*. The project area (see enclosed map) is located on Fort Loudoun Reservoir in Knox County, Tennessee (between Tennessee River Mile 643.4 and 645.1L; 7.5' Quadrangle Knoxville, TN- TVA 147NW). TVA Cultural Resources is requesting your comments on the shoreline stabilization.

TVA Cultural Resources is conducting this consultation as prescribed pursuant to 36 CFR Part 800.2 of the Advisory Council's on Historic Preservation regulations. None of the proposed activities are on the H. L. Dulin House property. However, your office may have interest regarding this project since the H. L. Dulin House is across the Tennessee River from the proposed stabilization. Therefore, TVA Cultural Resources is inviting your office to provide comments on the project. Please respond within fifteen (15) calendar days after receipt of this letter.

If you have any questions or comments please contact Eric Howard at (865) 632-2457 or by email at [aehoward@tva.gov](mailto:aehoward@tva.gov).

Sincerely,

Thomas O. Maher, Ph.D.  
Manager  
Cultural Resources

Enclosure

cc: J. Ruben Hernandez (USACE)  
Regulatory Branch  
3701 Bell Road  
Nashville, Tennessee 37214

Dr. Joe Garrison  
Tennessee Historical Commission  
2941 Lebanon Pike  
Nashville, Tennessee 37243

Janet Duffey, LCB 1A-LCT  
Heather McGee, SB 1H-M  
EDMS, WT 11D-K



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499

February 25, 2008

Mr. James Bletner  
Kingston Pike Sequoyah Hills Association  
3819 Glenfield Drive  
Knoxville, Tennessee 37919

Dear Mr. Bletner:

The University of Tennessee-Knoxville (UT) is considering placing approximately 9,000 feet of riprap to stabilize shoreline and protect the archaeological resources fronting a tract of UT property. Riprap is rock used to armor shorelines against water erosion. Riprap reduces water erosion by resisting the hydraulic pressure and dissipating the energy of wakes caused by boat traffic. This stabilization is on Tennessee Valley Authority (TVA) flowage easement, and TVA must approve this type of activity under a federal permit. Therefore, the project is subject to compliance with the regulations of the Advisory Council on Historic Preservation (36 CFR Part 800) implementing Section 106 of the *National Historic Preservation Act*. The project area (see enclosed map) is located on Fort Loudoun Reservoir in Knox County, Tennessee (between Tennessee River Mile 643.4 and 645.1L; 7.5' Quadrangle Knoxville, TN- TVA 147NW). TVA Cultural Resources is requesting your comments on the shoreline stabilization.

TVA Cultural Resources is conducting this consultation as prescribed pursuant to 36 CFR Part 800.2 of the Advisory Council's on Historic Preservation regulations. None of the proposed activities are on property within the Sequoyah Hills Community. However, the Kingston Pike Sequoyah Hills Association may have interest regarding this project since the Sequoyah Hills Community is across the Tennessee River from the proposed stabilization. Therefore, TVA Cultural Resources is inviting your office to provide comments on the project. Please respond within fifteen (15) calendar days after receipt of this letter.

If you have any questions or comments please Eric Howard at (865) 632-2457 or email [aehoward@tva.gov](mailto:aehoward@tva.gov).

Sincerely,

Thomas O. Maher, Ph.D.  
Manager  
Cultural Resources

Enclosure

cc: Mr. J. Ruben Hernandez (USACE)  
Regulatory Branch  
3701 Bell Road  
Nashville, Tennessee 37214

Dr. Joe Garrison  
Tennessee Historical Commission  
2941 Lebanon Pike  
Nashville, Tennessee 37243

Janet Duffey, LCB 1A-LCT  
Heather McGee, SB 1H-M  
EDMS, WT 11D-K

**Attachment C – Summary of Cultural Resources  
Assessments and MOA**

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For at least 12,000 years, the Tennessee River and the Little Tennessee River Valley have been an area for human occupation that became more intense through succeeding cultural periods. In East Tennessee, archaeological investigations have demonstrated that Tennessee and the eastern Ridge and Valley region were the setting for each one of these cultural/temporal traditions: Paleo-Indian (10,000-8000 B.C.), Archaic (8000-1200 B.C.), Woodland (1200 B.C.-A.D. 1000), Mississippian (A.D. 1000-1500), Protohistoric-Contact (A.D. 1500-1750), Historic European American and African American (A.D. 1750-Present) Periods. Prehistoric archaeological stages are based on changing settlement and land use patterns and artifact styles. Each of these broad periods is generally broken into subperiods (Early, Middle, and Late), which are also based on artifact styles and settlement patterns. Smaller time periods, known as 'Phases,' are represented by distinctive sets of artifactual remains.

The Paleo-Indian Period represents the documented first human occupation of the area. The settlement and land use pattern of this period was dominated by highly mobile bands of hunters and gatherers. The subsequent Archaic Period represents a continuation of the hunter-gatherer lifestyle. Through time, there is increasing social complexity and the appearance of horticulture late in the period. The settlement pattern during this period is characterized by spring and summer campsites. Increased social complexity, reliance on horticulture and agriculture, and the introduction of ceramic technology characterize the Woodland Period. The increased importance of horticulture is associated with a less mobile lifestyle as suggested by semipermanent structures. The Mississippian Period, the last prehistoric period in East Tennessee, is associated with the pinnacle of social complexity in the Southeastern United States. This period is characterized by permanent settlements, palisades, maize agriculture, and chiefdom-level societies. These settlements normally occurred on the second terrace because of the soil-rich bottomlands used for horticulture. The Protohistoric-Contact Period consisted of the effects of European contact in the region. Native American cultural traditions periodically utilizing resources in East Tennessee in this period would have been Creek, Shawnee, Yuchi, and Cherokee. However, this area was predominately occupied by the Cherokee during most of this period.

By the mid-18th century, the Historic European American and African American Period began as European hunters and fur trappers were crossing the Appalachians to explore and exploit the abundant wildlife and other natural resources of the region. The Cherokee, in an attempt to protect their fur trade, convinced the English to issue a proclamation in 1763 forbidding European access of the land west of the Blue Ridge. By 1786, European Americans were already settling in upper East Tennessee along the Watauga and Holston Rivers. After the American Revolution, attempts were made to establish the independent State of Franklin from the western territories of North Carolina. The State of Franklin ceased to exist in 1789. In 1796, the territory became the State of Tennessee (Gerson 1968). By the late 1830s, European American settlers and the United States government had effectively removed most of the Indian inhabitants from the area.

With the expansion of the United States of America, this location became part of Tennessee. The Cherokee ceded their claim to the land that is now Knox County under the terms of the Treaty of the Holston, which was signed on July 2, 1791. Later the same year, the settlement that became Knoxville was designated as the territorial capitol. In 1792, the fledgling town was named Knoxville in honor of General Henry Knox (MacArthur 1976). From 1796 until 1811, Knoxville had the distinction of being the territorial capitol of Tennessee, while the legislature rotated its meetings between Knoxville, Nashville, and

Murfreesboro. The Tennessee River waterways became a part of a significant transportation and trade network throughout the region. By the mid-1800s, railroads were constructed and a more passable roadway system connected Knoxville to Charleston and other prominent cities at that time (MacArthur 1976). All of these developments solved a number of economic needs for Knoxville and brought more settlers and skilled workers to the area. By 1850, Knoxville had left the frontier far behind and was developing into a commercial center. The local economy was no longer dominated by farming as more and more people came into the area and sons of the affluent early settlers completed their education and returned to Knoxville as doctors, lawyers, bankers, teachers, real estate holders, etc. (Young 1993). With this advantage, East Tennessee had a more mixed economic base than the middle and western portion of the state by 1860.

Knoxville was of vital importance during the Civil War because of its commercial and manufacturing strengths and, most importantly, East Tennessee's natural resources. Many East Tennesseans were loyal to the Union, but there were also many Confederate sympathizers. The Confederacy was in control of Knoxville until the Union troops, led by General Ambrose E. Burnside, arrived in the city on September 3, 1863. General Burnside established his headquarters on Gay Street in the home of John H. Crozier, a Confederate sympathizer (Seymour 1982). Union defenses for Knoxville were under the charge of Captain Orlando Poe. Confederate troops under the command of General James Longstreet attacked on November 29, 1863, and what became known as the Battle of Fort Sanders lasted for 20 minutes. Many houses and other buildings were burned or badly damaged as a result of the conflict.

After the Civil War, Knoxville began its rise to prominence as a major southern wholesale and jobbing center. The catalyst for this period of rapid economic growth was the arrival of rail transportation. The heyday of the steamboat had passed, and a new era was beginning. Outside of Knoxville, little had changed since the Civil War. Most of the area relied on agriculture and farming. With the development of TVA in 1933, the economy and lifeways changed with the wide availability of low-cost electrical services. This, in turn, brought about successful ventures in economic development and recreation to Knoxville and the surrounding communities.

TVA is mandated under the NHPA of 1966 to preserve important historic properties affected by TVA undertakings. In response to this federal legislation, TVA conducts surveys to record historic properties. From reviewing the initial project and associated federal permits and approvals, TVA Cultural Resources and the SHPO determined the APE for historic properties to be the golf practice facility and greenway route. Since the initial permit submittal, the shoreline stabilization has now been included in the APE for the EA. An archaeological site identification survey (Phase I) was recommended to determine the effects on historic properties for these actions.

In April to May 2004, personnel from the UT Archaeological Research Laboratory (ARL) conducted a site identification (Phase I) archaeological survey within a portion of the UT-Knoxville Experiment Station, Knoxville, Tennessee. The project area consists of gently rolling to flat cropland and pasture and is situated on alluvial terraces and colluvial slopes adjacent to Fort Loudoun Reservoir. The archaeological investigation met the Tennessee state guidelines for archaeological investigations. In areas with less than 30 percent surface visibility and less than 12 percent slope, shovel tests were excavated at approximately 30-meter intervals. In areas where the slope was greater than 12 percent, a visual inspection was made for cultural features. Portions of two previously recorded sites

are partially located within the project area. Both previously recorded sites were reexamined.

One site (40KN45) is located on the alluvial terrace and colluvial bench north of the unnamed drainage that runs through the project area. The artifacts recovered from the site range from the Archaic through Mississippian Periods. Soil profiles suggested a high probability for the occurrence of intact subsurface cultural features on the site.

The second site (40KN113) is located on a natural levee and colluvial bench. Results indicated that there were two distinct components of this site. Artifacts associated with this site are Woodland through Mississippian and European American Periods. Soil profiles and the occurrence of intact subsurface cultural features suggest prehistoric use of the area. The recovery of historic ceramic fragments also indicated a previously unknown early 19th century deposit as well.

After this site identification survey, it was recommended that the sites should be avoided and if that were not possible that site evaluation (Phase II) investigations would be necessary. The Tennessee SHPO concurred with this finding (July 24, 2004). The following federally recognized tribes were notified of this finding and were invited to participate: Eastern Band of Cherokee Indians; United Keetoowah Band of Cherokee Indians in Oklahoma; Cherokee Nation; Muscogee (Creek) Nation of Oklahoma; Alabama-Coushatta Tribe; Alabama-Quassarte Tribal Town; Kialegee Tribal Town; Thlopthlocco Tribal Town; Poarch Band of Creek Indians; Shawnee Tribe; Absentee-Shawnee Tribe of Oklahoma; and Eastern Shawnee Tribe of Oklahoma. Only the Eastern Band of Cherokee Indians chose to participate in the process.

Based on the limited acreage, UT could not redesign to avoid the resources, and a site evaluation (Phase II) was conducted at 40KN45 and 40KN113. In August 2004, personnel from ARL and UT Department of Anthropology conducted a Phase II archaeological evaluation of the two sites. Backhoe stripping of plowzone was initiated at 40KN113 (Angst et al. 2005). Because of the extensive amount of erosion and the lack of observed intact cultural deposits across most of the site, stripping was abbreviated only to locations that contained intact archaeological features. In order to incorporate the observations made in the field, the methodology at the other site (40KN45) was altered to accommodate a wider plowzone stripping interval of 40 meters. When intact archaeological deposits were encountered, additional stripping was conducted at the originally proposed 20-meter interval. Plowzone stripping was also abbreviated in some locations due of the absence of intact deposits and because of soil conditions making it an unlikely area for cultural activity.

Another revision to the original scope of work was the abandonment of the archaeological assessment of the lower terrace (when a trench was excavated, groundwater began to seep in 1 meter from the surface). With the water table so close to the surface, it was determined that an adequate assessment of the archaeological deposits could not be performed during summer pool of adjacent Fort Loudoun Reservoir.

Based on the data gathered during the Phase II archaeological assessment of sites 40KN113 and 40KN45, portions of both sites contain significant archaeological data and are eligible for the NRHP. The eligible portion of 40KN113 includes remains of a prehistoric activity, a historic European-American cellar, and the immediate surrounding area most likely associated with an early 19th century farmstead. Furthermore, 40KN45 contained a

deep midden identified in the lower terrace immediately adjacent to Fort Loudoun Reservoir and an apparent late Mississippian village.

Based on the studies, the sites contain information important to history and prehistory and may be adversely affected by the construction of the golf practice facility. TVA, the SHPO, UT, and Knox County agreed that an MOA should be drafted to address the adverse effects on historic properties regarding the golf practice facility construction (placement of cut and fill) and, since a greenway route had not been selected at the time, allowed for survey-phased compliance for the greenway route. The MOA was executed on April 18, 2006. The Eastern Band of Cherokee Indians chose not to sign as a concurring party.

Additional archaeological investigations occurred at the remaining portion of the UT property; this included the area proposed for stabilization and the greenway. From March to April 2006, ARL conducted a site identification (Phase I) archaeological survey (Angst 2007). The project area consists of approximately 187 acres of rolling to flat cropland, pasture, and developed areas. Pedestrian survey of the exposed shoreline of Fort Loudoun Reservoir, shovel testing, mechanical coring, and geophysical studies identified prehistoric and historic archaeological deposits on the floodplain and terraces. These investigations have demonstrated that the upper 18 to 24 inches of soil across the river terraces are part of the disturbed plowzone, sediments impacted by agriculture activities. These deposits, with prehistoric artifacts, are interpreted as an extension of 40KN45. A limited array of historic artifacts was also recovered from the terraces. In addition, a Civil War map of Knoxville depicts a house on the terrace. The house appears to be associated with a road and Confederate ferry crossing on the Tennessee River. Archival research suggests that European-American occupation in the area may date to as early as the late 18th century, and some of the artifacts recovered during this study may be associated with that occupation. During the testing, a trench-like feature was identified near the possible location of the Civil War-era house. This may be the archaeological manifestation of the road leading to the ferry. The location of the road would be important in relocating historic activity mapped along the road, such as the ferry crossing and the house.

In a letter dated, October 30, 2007, TVA Cultural Resources agreed with the extension of site boundaries regarding 40KN45 and placed conditions on the installation of the greenway and riprap to minimize potential adverse effects on historic properties. The SHPO concurred with TVA findings in a letter dated, November 2, 2007. Additionally, a letter was sent to the following tribes allowing them the opportunity to provide comments regarding the proposed shoreline stabilization procedures: Eastern Band of Cherokee Indians; United Keetoowah Band of Cherokee Indians in Oklahoma; Cherokee Nation; Muscogee (Creek) Nation of Oklahoma; Alabama-Coushatta Tribe; Alabama-Quassarte Tribal Town; Kialegee Tribal Town; Thlopthlocco Tribal Town; Poarch Band of Creek Indians; Shawnee Tribe; Absentee-Shawnee Tribe of Oklahoma; and Eastern Shawnee Tribe of Oklahoma.



**TENNESSEE HISTORICAL COMMISSION**  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
2941 LEBANON ROAD  
NASHVILLE, TN 37243-0442  
(615) 532-1550

November 2, 2007

Dr. Thomas Maher  
Tennessee Valley Authority  
400 W. Summit Hill Drive  
WT 11D - Cultural Resources  
Knoxville, Tennessee 37902

RE: TVA, U.T. KNOXVILLE EXPERIMENT STATION, KNOXVILLE, KNOX COUNTY

Dear Dr. Maher:

Pursuant to your request, and in accordance with the signed agreement document for this undertaking, this office has reviewed documentation concerning the avoidance measures for construction near National Register eligible archaeological site 40KN45. This is a requirement of Section 106 of the National Historic Preservation Act for compliance by the participating federal agency or applicant for federal assistance. Procedures for implementing Section 106 of the Act are codified at 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Considering available information, we concur that archaeological site 40KN112 does not contain archaeological resources eligible for inclusion in the National Register of Historic Places and that the boundaries for site 40KN45 should be expanded in accordance with the results of the archaeological investigations. We further concur that the construction, as currently proposed, with the minimization and avoidance measures, will not adversely affect any property that is eligible for listing in the National Register of Historic Places. Please direct questions and comments to Jennifer M. Barnett (615) 741-1588, ext. 105. We appreciate your cooperation.

Sincerely,

E. Patrick McIntyre, Jr.  
Executive Director and  
State Historic Preservation Officer

EPM/jmb



Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, Tennessee 37902-1499  
October 30, 2007

Ms. Jennifer Barnett  
Tennessee Division of Archaeology  
Cole Building #3  
1216 Foster Avenue  
Nashville, Tennessee 37210

TVA, UT GOLF COURSE AND KNOX COUNTY GREENWAY MEMORANDUM OF AGREEMENT, KNOXVILLE, KNOX COUNTY, TENNESSEE

Dear Ms. Barnett:

Per the existing Memorandum of Agreement with the University of Tennessee-Knoxville (UT) and Knox County, our office is notifying you that the proposed greenway route has been selected, and the map and description are enclosed on CD. Additional files on the CD are sketch maps, Knox County letter to TVA, UT survey report, Cherokee Farm Archaeological Plan and other consultation letters.

UT submitted *Phase I Archaeological Survey of the University of Tennessee-Knoxville Experiment Station (Cherokee Campus) West of Alcoa Highway, Knox County, Tennessee*; your office was supplied a hard copy of the report earlier. The report details the investigations of the tract at the proposed greenway area and adjacent to the Golf Course; maps are in the report. These investigations have demonstrated that the upper 18 to 24 inches of soil across the river terraces of the Cherokee farm are part of the disturbed plow zone. A late 19<sup>th</sup> to early 20<sup>th</sup> century scatter (40KN112) was reviewed, and due to lack of intact archaeological deposits, it was recommended as ineligible for listing in the National Register of Historic Places (NRHP). In addition, the survey extended the boundary of 40KN045 and recommended the additional portions as eligible for listing in the NRHP. Our office concurs with the recommendation of 40KN112 as ineligible and agrees that 40KN045 is eligible for the NRHP.

Based on the enclosed report, TVA Cultural Resources concurs with your office and UT regarding cultural resources management along the proposed greenway route; letters dated July 10, 2006, and July 25, 2006, and Boyce Driskell's (Director, UT Archaeological Research Laboratory- ARL) Archaeological Plan, June 6, 2006 letter (see the enclosed CD). Furthermore, the Knox County-City of Knoxville proposal, submitted to our office, appears to abide by these conditions. Our office agrees that this is an appropriate approach to preserving resources while utilizing the area for recreational opportunities. Except for the remote potential of direct impact to sub-plow zone deposits during construction, the light utility nature and intent of the greenway surface will not cause an adverse impact to the archaeological resources underlying this area.

Construction of the greenway will typically be limited to the upper 18 inches of soil along the length of this project. However, some structures are proposed that will exceed this depth. These structures and the proposed measures to ensure minimal disturbance to any significant archaeological or culture resources are listed below. This strategy would have the following conducted prior to or during the construction of the greenway trail on UT property:

- Pipe and Headwalls in Existing Ditches-where excavation is necessary, personnel from the ARL will monitor to determine the existence of archeologically significant materials.

Ms. Jennifer Barnett  
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October 30, 2007

- Drainage under Greenway-where excavation is necessary, personnel from the ARL will monitor to determine the existence of archeologically significant materials.
- Bridge Abutments-ARL will investigate the abutment footprints to determine the existence of archeologically significant materials.

Separate from the greenway route but along the shoreline fronting the Cherokee Campus and the proposed golf course, UT is considering placing approximately 9000 feet of riprap to stabilize the area and protect the resources. Due to the large size of the beach area below summer pool elevation, the rock will be extended toward the channel and not into the bank; therefore, it should not be necessary to cut a keyway in the beach to hold the rock into place. To have no adverse effects on 40KN045, our office recommends the following stipulations in the placement of riprap 1) no bank reshaping and all vegetation will be removed by hand, 2) a layer of 10 ounce geo-textile filter fabric placed along the entire shoreline proposed for stabilization prior to placing rock, 3) placement of Class 2 (or Class B ~ a nominal weight of 125 pounds per rock) riprap to the top of the bank, and 4) all work will be conducted during dry weather conditions. In addition, if heavy equipment (track hoe) is required for accessing areas for stabilization that a barge cannot reach or a keyway is necessary, archaeological monitoring will be necessary. If archaeological resources are exposed during this procedure, all work will cease in the area where the resources have been encountered. Furthermore, if this project is not completed within 5 years of submittal to TVA, UT will consult with your office to determine if these requirements are still suitable or if additional investigations will be necessary.

TVA Cultural Resources is requesting your concurrence on the following:

- 40KN112 is ineligible for listing in the NRHP;
- 40KN045 boundary should be extended and is eligible for listing in the NRHP;
- and
- There will be no adverse effects to historic properties if the above commitments (greenway installation and shoreline stabilization) are met.

Therefore, pursuant to the requirements of Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR Part 800.4, TVA Cultural Resources is requesting your concurrence regarding our findings.

If you have any questions or comments, please call Eric Howard at (865) 632-2457 or email [aehoward@tva.gov](mailto:aehoward@tva.gov).

Sincerely,



Thomas O. Maher, Ph.D.  
Manager  
Cultural Resources

Enclosure

cc: Mr. J. Ruben Hernandez (w/Enclosure)  
U.S. Army Corps of Engineers  
3701 Bell Road  
Nashville, Tennessee 37214

95084

**MEMORANDUM OF AGREEMENT  
PURSUANT TO 36 CFR PART 800**

WHEREAS, TVA transferred a 7-acre tract of land to Knox County, Tennessee ("County land") for public recreation use in 1952; and

WHEREAS, Knox County is required to obtain Tennessee Valley Authority's (TVA) approval to modify the deed for the County land such that the current restrictions that limit use of the tract for public recreation are removed; and

WHEREAS, the University of Tennessee (UT) has requested transfer of the County land to the State of Tennessee; and

WHEREAS, UT proposes to develop a private practice golf course and associated amenities on County land and 28 acres of State land adjoining the County land; and

WHEREAS, in exchange for the County land, UT proposes to allow construction of 4 miles of greenway trail by Knox County on State land; and

WHEREAS, UT shall be responsible for the construction and maintenance of the golf course and associated amenities; and

WHEREAS, the County shall be responsible for the construction and maintenance of the greenway trail; and

WHEREAS, TVA, in consultation with the Tennessee State Historic Preservation Officer (SHPO), has determined that the area of potential effects (APE) for archaeological resources will be the entire 35 acres encompassed by the proposed practice golf course and four miles of proposed greenway, as referenced in Appendix B; and

WHEREAS, archaeological resources identification and evaluation has been completed within the archaeological APE for the proposed practice golf course, as referenced in Appendix C-1 and C-2; and

WHEREAS, TVA and the SHPO have determined that the undertaking will affect archaeological sites 40KN45 and 40KN113, properties eligible for listing in the National Register of Historic Places (NRHP); and

WHEREAS, TVA has consulted with Knox County, UT, SHPO, Eastern Band of Cherokee Indians, Cherokee Nation, United Keetoowah Band, Muscogee (Creek) Nation of Oklahoma, Poarch Band of Creek Indians, Kialegee Tribal Town, Thlopthlocco Tribal Town, Alabama Quassarte Tribal Town, Alabama-Coushatta Tribe, Shawnee Nation, Absentee-Shawnee Tribe of Oklahoma and Eastern Shawnee Tribe of Oklahoma pursuant to 36 CFR Part 800, the regulations of the Advisory Council on Historic Preservation (Council) implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, pursuant to 36 CFR Part 800.5(a)(3), TVA shall use a phased process consistent with identification and evaluation efforts conducted pursuant to 36 CFR Part 800.4 (b)(2); and

WHEREAS, UT has been invited to be a signatory to this agreement and will be responsible for all costs necessary for implementation of this agreement regarding the golf course and associated amenities; and

WHEREAS, Knox County has been invited to be a signatory to this agreement and will be responsible for all costs necessary for implementation of this agreement regarding the greenway trail; and

WHEREAS, the Eastern Band of Cherokee Indians has been invited to concur in this agreement; and

WHEREAS, certain terms used in this agreement are defined in Appendix A, Glossary of Terms; and

WHEREAS, the description of the proposed golf course and greenway sections; the reports *A Report on Phase I Archaeological Survey for the Proposed Golf Course at the University of Tennessee-Knoxville Experiment Station, Knoxville, Tennessee* and *Phase II Archaeological Evaluation of Sites 40KN45 and 40KN113 for the Proposed Golf Course at the University of Tennessee-Knoxville Experiment Station, Knox County, Tennessee*; and the document "Archaeological Phase Compliance Status" are made a part of this agreement by reference as Appendices B, C, and D respectively.

NOW THEREFORE, TVA, UT and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations to satisfy TVA's Section 106 responsibilities. The TVA Federal Preservation Officer, or the designee thereof, shall act for TVA in all matters concerning the administration of this Agreement.

#### STIPULATIONS

TVA, in consultation with the SHPO and UT AND KNOX COUNTY, will ensure that additional identification, evaluation, and treatment of historic properties are carried out by UT AND KNOX COUNTY relative to all development within the above-referenced APE before the commencement of any ground-disturbing activities within the APE that could affect such historic properties.

##### 1. IDENTIFICATION

Identification level surveys have been completed within the Archaeological APE for the proposed practice golf course as defined in Appendix B and described in Appendix C-1. These surveys met the Secretary of the Interior's Standards and Guidelines for Identification (48 FR 44720-23). Once the proposed greenway route has been formally selected, an identification survey will be necessary before its construction. The survey shall be carried out in a manner consistent with 48 FR 44720-23. This survey shall be conducted in consultation with TVA and the SHPO. A written report of the results of the survey shall be submitted to TVA for review and approval. TVA will submit the approved draft report to all signatories for review, allowing 30 days for comments. TVA will incorporate existing information such as previous survey data, photographs, maps, drawings, building plans, descriptions, sketches, etc. into the new data. Although no historic structures eligible for listing in the National Register of Historic Places are located within the practice golf course boundary or potential greenway route, UT AND KNOX COUNTY will assess the visual effects of this project to historic structures in the vicinity of the golf course boundary.

##### 2. EVALUATION

Evaluation surveys have been completed within the Archaeological APE for the proposed practice golf course as defined in Appendix B and described in Appendix C-2. However, no deep testing was conducted at the Lower Terrace location (as defined in Appendix B-2) because the project was redesigned to avoid this location. Additional evaluation will be necessary if project plans are

revised and this area is impacted. In addition, if potentially eligible historic properties are identified within the selected greenway route, further evaluation will be necessary if these resources cannot be avoided and preserved. TVA, in consultation with the SHPO and UT AND KNOX COUNTY, shall cause to be conducted archaeological investigations to evaluate the significance of historic properties in accordance with 36 CFR Part 800.4(c). For historic properties that have been determined to be potentially eligible for the NRHP, UT AND KNOX COUNTY shall evaluate each site for National Register eligibility in a manner consistent with the Secretary of the Interior's Standards and Guidelines for Identification (48 FR 44720-23) and the Tennessee SHPO Standards and Guidelines for Archaeological Resource Management Studies. The scope of work (SOW) for the evaluation study will be submitted to TVA and the SHPO for approval. Upon completion of the evaluation, UT AND KNOX COUNTY shall submit a draft report of the National Register eligibility to TVA for review and consultation. TVA will submit a copy of the report to all signatories, allowing thirty (30) days for their review and comments.

TVA, in consultation with the SHPO, UT AND KNOX COUNTY and Indian tribes that attach religious and cultural significance to identified properties, shall apply the National Register criteria (36 CFR Part 63) to properties identified within the APE in evaluating such properties for National Register eligibility. The passage of time, changing perceptions of significance, or incomplete prior evaluations may require reevaluation of properties previously determined eligible or ineligible. It is acknowledged that Indian tribes possess special expertise in assessing the eligibility of historic properties that may possess characteristics of religious and cultural significance to them.

Should a dispute arise on the eligibility of a historic property, TVA will consult with the SHPO to resolve the objection. If TVA and the SHPO do not agree, TVA shall obtain a determination of eligibility from the Secretary of Interior (Secretary) pursuant to 36 CFR Part 63. If an Indian tribe that consulted in the development of this MOA and that attaches religious and/or cultural significance to a property off tribal land does not agree with the determination of eligibility, it may ask the Council to request TVA to obtain a determination of eligibility from the Secretary.

### 3. TREATMENT

TVA shall ensure that a plan for the treatment of historic properties adversely affected by the proposed undertaking ("Treatment Plan") is developed and executed in consultation with the SHPO, UT AND KNOX COUNTY and those Indian tribes that attach religious and cultural significance to eligible properties. The Treatment Plan will be developed and executed before the commencement of any ground disturbing activities associated with this undertaking. The Treatment Plan will delineate a procedure for determining the most appropriate methods of avoiding, minimizing, or resolving adverse effects on historic properties. Such measures may include, but not be limited to, avoidance of the historic property, data recovery, or a combination of these. All treatment measures applied toward the avoidance and minimization of adverse effect, or a combination of these measures will be monitored by UT AND KNOX COUNTY for effectiveness on a timeframe agreed to by all signatories with a report of findings and recommendations submitted to the TVA and the SHPO for comment. Any measures found ineffective shall be resolved by TVA in consultation with the other signatories.

Development and implementation of Treatment measures will be conducted as follows:

#### a. AVOIDANCE:

UT AND KNOX COUNTY shall ensure, to the fullest extent practicable, that all sites determined eligible for listing in the NRHP are avoided by any activities that could affect the characteristics of a site that qualify it for listing in the NRHP. In the design of the development, every consideration to avoid adversely affecting historic properties will be exhausted. All eligible historic properties, including those subsequently discovered or identified and determined eligible for the NRHP by the evaluation process under Stipulation 2, that are avoided will be protected by a buffer zone of adequate dimensions as determined by

TVA, in consultation with the SHPO, UT AND KNOX COUNTY and Indian tribes that attach religious and cultural significance.

b. DATA RECOVERY:

When historic properties will be adversely affected by unavoidable physical destruction or damage and all practicable avenues of avoidance have been exhausted, data recovery will be implemented. Any such determination of unavoidable adverse effect shall be made by TVA, in consultation with the SHPO, UT AND KNOX COUNTY and Indian tribes that attach religious and cultural significance to the eligible properties. In such an instance, a data recovery plan shall be developed by TVA in consultation with all signatories for the recovery of historic and archaeological data from sites that are determined to be eligible for inclusion in the NRHP. Because of the unique nature of each archaeological site, requirements for data recovery at any particular site will be determined by TVA, in consultation with all signatories. TVA shall ensure that the data recovery plan is implemented in consultation with all signatories to resolve adverse effects through recovery of significant information from historic or archaeological sites.

The data recovery plan will be consistent with the Secretary of the Interior's Standards and Guidelines for Identification (48 FR 44720-23), the Secretary of Interior's Professional Qualification Standards (48 FR 22716), and the Tennessee SHPO Standards and Guidelines for Archaeological Resource Management Studies. A written report of the data recovery shall be submitted by TVA to all signatories for review and comments. The data recovery plan shall specify, at a minimum:

1. the property, properties, or portions of properties where data recovery is to be carried out;
2. any property, properties, or portions of properties that will be destroyed without data recovery;
3. the research questions to be addressed through the data recovery, with an explanation of their relevance and importance;
4. the field and laboratory methods to be used, with an explanation of their relevance to the research questions;
5. the methods to be used in analysis, data management, and dissemination of data, including a schedule;
6. the proposed disposition of recovered materials and records;
7. proposed methods for involving the interested public in the data recovery;
8. proposed methods for disseminating results of the work to the interested public;
9. a proposed schedule for the submission of progress reports to TVA and the SHPO;
10. a plan delineating the manner in which historic properties, human remains and associated funerary objects discovered subsequent to the ratification of this agreement document would be treated;

TVA shall provide all signatories an opportunity to monitor the implementation of the data recovery plan.

#### 4. POST REVIEW DISCOVERIES

Previously unidentified historic properties discovered during the implementation of the development will be subject to the evaluation process under Stipulation 2 and treated according to the process under Stipulation 3.

#### 5. REPORTS

TVA shall ensure that all investigations undertaken for compliance with this agreement are recorded in formal written reports that meet the Secretary of Interior's Standards and Guidelines for Identification (48 FR 44720-23) and the Tennessee SHPO Standards and Guidelines for Architectural and Archaeological Resources Management Studies. The SHPO, UT AND KNOX COUNTY and Indian tribes that attach religious and cultural significance to eligible properties shall be afforded thirty (30) days to review and comment on any reports submitted as compliance with this agreement.

#### 6. TREATMENT OF HUMAN REMAINS AND FUNERARY OBJECTS

UT AND KNOX COUNTY, in consultation with TVA, the SHPO, and Indian tribes that attach religious and cultural significance to eligible properties (concerned Indian tribes), shall ensure that the treatment of any human remains and associated funerary objects discovered within the project area complies with all applicable state and federal laws. Should human remains be encountered during historic properties investigations or post-review discovery, all ground disturbing activities within 50 feet of the discovery will be ceased immediately. All human remains will be left in place and protected from disturbance.

UT AND KNOX COUNTY shall immediately notify the Knox County Coroner, the State Archaeologist, TVA and the SHPO, should any human remains and/or associated funerary objects be encountered in connection with an undertaking covered by this agreement. TVA will notify the concerned Indian tribes within forty-eight (48) hours of being informed of the presence of these remains and funerary objects, and invite signatories and these Indian tribes to comment on any plans developed to treat these remains and funerary objects. Whenever and wherever it is feasible, human remains will be preserved in place. UT AND KNOX COUNTY, in consultation with TVA, the SHPO, and concerned Indian tribes shall ensure that those remains and artifacts are treated in a manner that is consistent with the Advisory Council of Historic Preservation's "Policy Statement Regarding the Treatment of Human Remains and Grave Goods" (1988). Further, this treatment will be conducted in accordance with the applicable provisions of Tennessee Code Annotated (T.C.A.) 46-4-101 et seq. ("Termination of Use of Land as a Cemetery,"); T.C.A. 11-6-116, ("Excavation of Areas Containing Native American Indian Remains,"); T.C.A. 11-6-119 ("Reburial of Human Remains or Native American Burial Objects following Discovery or Confiscation") and Tennessee Rules and Regulations Chapter 0400-9-1 ("Native American Indian Cemetery Removal and Reburial,"); Native American Graves Protection and Repatriation Act (NAGPRA) and its implementing regulations (43 CFR Part 10); and the policies of the culturally affiliated Indian tribes regarding the treatment of human remains and funerary objects, if such human remains are of Native American origin and cultural affiliation can be determined.

#### 7. TIMETABLE FOR COMPLIANCE

- a. TVA and UT AND KNOX COUNTY shall ensure that Stipulations 1-3 of this agreement are met before commencement of any ground-disturbing activities. If development is to be completed

in a phased construction, the stipulations of this agreement may be satisfied independently for each phase.

- b. Throughout this agreement, unless otherwise stated, the SHPO, UT AND KNOX COUNTY and Indian tribes that attach religious and cultural significance to eligible properties shall have thirty (30) days to review and comment on all reports concerning investigations of historic properties and proposed data recovery plans provided by TVA. Comments received from the signatories shall be taken into consideration in preparing final plans. TVA will supply copies of the final reports and data recovery plans to the signatories.

#### **8. PHASED COMPLIANCE**

Pursuant to 36 CFR Part 800.5(a)(3) TVA, in consultation with the SHPO and other consulting parties, shall use a phased process in applying the criteria of adverse effect consistent with phased identification and evaluation efforts conducted pursuant to 36 CFR Part 800.4 (b)(2).

#### **9. LAND TRANSFER OF PROPERTY RIGHTS**

The conveyance, whether by the transfer, lease or sale, of any portion of the 7-acre County land that contains or may contain a historic property, from UT to a third party will include, when necessary to protect historic properties, a legally binding preservation covenant for the protection of such properties prepared in consultation with the SHPO and other signatories. TVA may release the grantee from the preservation covenant in whole or in part, as appropriate, pursuant to the terms of the covenant and after consultation with the SHPO and other signatories. The covenant may be enforced by TVA or the United States of America. The conveyance of any land parcel that has been determined by TVA, in consultation with the SHPO and other signatories, not to contain any historic properties shall not be subject to such a preservation covenant.

#### **10. ADMINISTRATIVE CONDITIONS**

- a. If Stipulations 1 to 8 has not been implemented within ten (10) years from the date of this agreement's execution, this agreement shall be considered null and void, unless the signatories have agreed in writing as provided in Paragraph 10.b. below to an extension for carrying out its terms. Upon the agreement's becoming null and void, TVA, SHPO, and UT AND KNOX COUNTY will resume consultation pursuant to 36 CFR Part 800.
- b. If the implementation of Stipulations 1 to 8 has not commenced within 4 (four) years from the date of this agreement's execution TVA, SHPO and UT AND KNOX COUNTY shall review the agreement to determine whether the agreement should be extended. If an extension is deemed necessary, TVA, SHPO, and UT AND KNOX COUNTY will consult in accordance with 36 CFR Part 800.6(c) to make appropriate revisions to the agreement.
- c. The signatories to this agreement may agree to amend the terms of the agreement. Such amendment shall be effective upon the signatures of all signatories to this agreement, and the amendment shall be appended to the agreement as an attachment.
- d. Should any signatory object within thirty (30) days after receipt of any plans, specifications, contracts, or other documents provided for review pursuant to this agreement, TVA shall consult with the objecting party to resolve the objection.
- e. If any signatory to this agreement determines that the terms of the agreement cannot be or are not being carried out, the signatories shall consult to seek an amendment to the agreement. If the agreement is not amended, then any signatory may terminate the

agreement. If the agreement is so terminated, TVA shall ensure that historic properties within the area of potential effect for the undertaking are protected in accordance with Section 106 of the National Historic Preservation Act until such time that TVA may enter into a new MOA with the signatories or request the comments of the Council pursuant to 36 CFR Part 800.7(a).

Execution of this Agreement by TVA, SHPO, and UT AND KNOX COUNTY, and implementation of its terms evidence that TVA has taken into account the effects of the undertaking on historic properties, and that TVA has complied with its obligations under section 106 of the National Historic Preservation Act.

**SIGNATORIES**

TENNESSEE VALLEY AUTHORITY

By: [Signature] Date: 4.7.06  
[Kathryn J. Jackson, Executive Vice President, RSO&E]

THE TENNESSEE STATE HISTORIC PRESERVATION OFFICER

By: [Signature] Date: 4/18/06  
[Herbert L. Harper, Deputy State Historic Preservation Officer]

**INVITED SIGNATORIES**

UNIVERSITY OF TENNESSEE

By: [Signature] Date: 3-17-06  
[ ]

KNOX COUNTY, TENNESSEE

By: [Signature] Date: 3-9-06  
[Michael R. Ragsdale, Knox County Mayor]

**CONCURRENCE BY OTHERS**

THE EASTERN BAND OF THE CHEROKEE INDIANS

By: \_\_\_\_\_ Date: \_\_\_\_\_  
[Russell Townsend, Tribal Historic Preservation Officer]

By: \_\_\_\_\_ Date: \_\_\_\_\_

By: \_\_\_\_\_ Date: \_\_\_\_\_

CONTRACT NO. 06-081  
APPROVED AS TO LEGAL FORM  
[Signature] 3-9-06  
KNOX COUNTY LAW DIRECTOR DATE