

PROJECT SPECIAL PROVISION

(10-18-95)

Z-1

PERMITS

The Contractor's attention is directed to the following permits, which have been issued to the Department of Transportation by the authority granting the permit.

<u>PERMIT</u>	<u>AUTHORITY GRANTING THE PERMIT</u>
Dredge and Fill and/or Work in Navigable Waters (404)	U. S. Army Corps of Engineers
Water Quality (401)	Division of Environmental Management, DENR State of North Carolina
TVA	Tennessee Valley Authority

The Contractor shall comply with all applicable permit conditions during construction of this project. Those conditions marked by * are the responsibility of the department and the Contractor has no responsibility in accomplishing those conditions.

Agents of the permitting authority will periodically inspect the project for adherence to the permits.

The Contractor's attention is also directed to Articles 107-10 and 107-14 of the *Standard Specifications* and the following:

Should the Contractor propose to utilize construction methods (such as temporary structures or fill in waters and/or wetlands for haul roads, work platforms, cofferdams, etc.) not specifically identified in the permit (individual, general, or nationwide) authorizing the project it shall be the Contractor's responsibility to coordinate with the Engineer to determine what, if any, additional permit action is required. The Contractor shall also be responsible for initiating the request for the authorization of such construction method by the permitting agency. The request shall be submitted through the Engineer. The Contractor shall not utilize the construction method until it is approved by the permitting agency. The request normally takes approximately 60 days to process; however, no extensions of time or additional compensation will be granted for delays resulting from the Contractor's request for approval of construction methods not specifically identified in the permit.

Where construction moratoriums are contained in a permit condition which restricts the Contractor's activities to certain times of the year, those moratoriums will apply only to the portions of the work taking place in the waters or wetlands provided that activities outside those areas is done in such a manner as to not affect the waters or wetlands.

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U.S. ARMY CORPS OF ENGINEERS
WILMINGTON DISTRICT

Action ID: SAW-2010-0052
TIP No. B-3335

County: Graham

USGS Quad: Fontana Dam

GENERAL PERMIT (REGIONAL AND NATIONWIDE) VERIFICATION

Property Owner / Authorized Agent: Gregory J. Thorpe, Ph.D., Environmental Management Director, PDEA, NCDOT

Address: 1598 Mail Service Center
Raleigh, NC 27699-1598

Telephone No.: 919-431-2000

Size and location of property (water body, road name/number, town, etc.): Bridge No. 70 over the Cheoah River on SR 1134, Joyce Kilmer Road, near Robbinsville, Graham County, NC (TIP No. B-3335).

Description of projects area and activity: To replace Bridge No. 70 over the Cheoah River with a new structure located 50-feet upstream of the existing bridge. Project impacts include 0.32 acre of temporary surface water impacts (work causeways), 0.11 acre of temporary wetland impacts, and 0.03 acre of permanent wetland fill.

Applicable Law: Section 404 (Clean Water Act, 33 USC 1344)
 Section 10 (Rivers and Harbors Act, 33 USC 403)

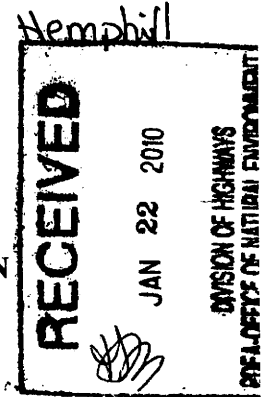
Authorization: Regional General Permit Number:
Nationwide Permit Number: 23 and 33

Your work is authorized by the above referenced permit provided it is accomplished in strict accordance with the attached conditions and your submitted plans. Any violation of the attached conditions or deviation from your submitted plans may subject the permittee to a stop work order, a restoration order and/or appropriate legal action.

Special Conditions

1. All work must be performed in strict compliance with the plans received by this office on November 16, 2009, which are a part of this permit. Any modification to the permit plans must be approved by the USACE prior to implementation
2. Failure to institute and carry out the details of these special conditions will result in a directive to cease all ongoing and permitted work within waters and/or wetlands associated with the permitted project, or such other remedies and/or fines as the District Engineer or his authorized representatives may seek.
3. The permittee shall require its contractors and/or agents to comply with the terms and conditions of this permit in the construction and maintenance of this project, and shall provide each of its contractors and/or agents associated with the construction or maintenance of this project with a copy of this permit, and any authorized modifications. A copy of this permit, and any authorized modifications, including all conditions, shall be available at the project site during construction and maintenance of this project.
4. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area.
5. Conditions 1-10 of the attached US Fish and Wildlife letter of July 11, 2008 are hereby incorporated as special conditions of this permit.
6. The permittee will report any violation of these conditions or violations of Section 404 of the Clean Water Act in writing to the Wilmington District, U. S Army Corps of Engineers, within 24 hours of the permittee's discovery of the violation.

This verification will remain valid until the expiration date identified below unless the nationwide authorization is modified, suspended or revoked. If, prior to the expiration date identified below, the nationwide permit



authorization is reissued and/or modified, this verification will remain valid until the expiration date identified below, provided it complies with all requirements of the modified nationwide permit. If the nationwide permit authorization expires or is suspended, revoked, or is modified, such that the activity would no longer comply with the terms and conditions of the nationwide permit, activities which have commenced (i.e., are under construction) or are under contract to commence in reliance upon the nationwide permit, will remain authorized provided the activity is completed within twelve months of the date of the nationwide permit's expiration, modification or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend or revoke the authorization.

Activities subject to Section 404 (as indicated above) may also require an individual Section 401 Water Quality Certification. You should contact the NC Division of Water Quality (telephone (919) 733-1786) to determine Section 401 requirements.

For activities occurring within the twenty coastal counties subject to regulation under the Coastal Area Management Act (CAMA), prior to beginning work you must contact the N.C. Division of Coastal Management.

This Department of the Army verification does not relieve the permittee of the responsibility to obtain any other required Federal, State or local approvals/permits.

If there are any questions regarding this verification, any of the conditions of the Permit, or the Corps of Engineers regulatory program, please contact David Baker at 828-271-7980.

Corps Regulatory Official David Baker Date: January 20, 2010

Expiration Date of Verification: January 20, 2012

The Wilmington District is committed to providing the highest level of support to the public. To help us ensure we continue to do so, please complete the attached customer Satisfaction Survey or visit <http://regulatory.usacesurvey.com/> to complete the survey online.

Determination of Jurisdiction:

- A. Based on preliminary information, there appear to be waters of the US including wetlands within the above described project area. This preliminary determination is not an appealable action under the Regulatory Program Administrative Appeal Process (Reference 33 CFR Part 331).
- B. There are Navigable Waters of the United States within the above described project area subject to the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- C. There are waters of the US and/or wetlands within the above described project area subject to the permit requirements of Section 404 of the Clean Water Act (CWA)(33 USC § 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed five years from the date of this notification.
- D. The jurisdictional areas within the above described project area have been identified under a previous action. Please reference jurisdictional determination issued ____. Action ID

Basis of Jurisdictional Determination: The Cheoah River flows into the Little Tennessee River which is a Section 10 navigable-in-fact waterway (TNW).

Appeals Information: (This information does not apply to preliminary determinations as indicated by paragraph A. above).

Attached to this verification is an approved jurisdictional determination. If you are not in agreement with that approved jurisdictional determination, you can make an administrative appeal under 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and request for appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the following address:

District Engineer, Wilmington Regulatory Program
Attn: David Baker, Project Manager
151 Patton Avenue, Room 208
Asheville, North Carolina 28801

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address within 60 days from the *Issue Date* below.

****It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this correspondence.****

Corps Regulatory Official: David Baker

Issue Date: **January 20, 2010**

Expiration Date: **January 20, 2015**

SURVEY PLATS, FIELD SKETCH, WETLAND DELINEATION FORMS, PROJECT PLANS, ETC., MUST BE ATTACHED TO THE FILE COPY OF THIS FORM, IF REQUIRED OR AVAILABLE.

Copy Furnished:

Mark Davis, NCDOT, Division 14 Environmental Officer

Permit Number: SAW-2010-0052

Permit Type: NW 23 and 33

Name of County: Graham

Name of Permittee: **Gregory J. Thorpe, Ph.D., Environmental Management Director, PDEA, NCDOT**

Date of Issuance: January 20, 2010

Project Manager: David Baker

* Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Attention: CESAW-RG-A
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Applicant: Thorpe, Ph.D., Environmental Management Director, PDEA, NCDOT	File Number: SAW-2010-0052	Date: January 20, 2010
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input checked="" type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I: The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/ncf/functions/cw/ccw/otcg> or Corps regulations at 43 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact:

David Baker, Project Manager
 USACE, Asheville Regulatory Field Office
 151 Patton Ave, Room 208
 Asheville, NC 28806
 828-271-7980

If you only have questions regarding the appeal process you may also contact:

Mr. Michael F. Bell,
 Administrative Appeal Review Officer
 CESAD-ET-CO-R
 U.S. Army Corps of Engineers, South Atlantic Division
 60 Forsyth Street, Room 9M15
 Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:
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For appeals on Initial Proffered Permits and approved Jurisdictional Determinations send this form to:

District Engineer, Wilmington Regulatory Division, Attn: David Baker, Project Manager, Asheville Regulatory Field Office, 151 Patton Avenue, Room 208, Asheville, NC 28801.

For Permit denials and Proffered Permits send this form to:

Division Engineer, Commander, U.S. Army Engineer Division, South Atlantic, Attn: Mr. Mike Bell, Administrative Appeal Officer, CESAD-ET-CO-R, 60 Forsyth Street, Room 9M15, Atlanta, Georgia 30303-8801

NATIONWIDE PERMIT 23
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS
FEDERAL REGISTER
AUTHORIZED MARCH 19, 2007

Approved Categorical Exclusions. Activities undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another Federal agency or department where:

(a) That agency or department has determined, pursuant to the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (40 CFR part 1500 et seq.), that the activity is categorically excluded from environmental documentation, because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment; and

(b) The Office of the Chief of Engineers (Attn: CECW-CO) has concurred with that agency's or department's determination that the activity is categorically excluded and approved the activity for authorization under NWP 23.

The Office of the Chief of Engineers may require additional conditions, including pre-construction notification, for authorization of an agency's categorical exclusions under this NWP.

* **Notification:** Certain categorical exclusions approved for authorization under this NWP require the permittee to submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27). The activities that require pre-construction notification are listed in the appropriate Regulatory Guidance Letters. (Sections 10 and 404)

Note: The agency or department may submit an application for an activity believed to be categorically excluded to the Office of the Chief of Engineers (Attn: CECW-CO). Prior to approval for authorization under this NWP of any agency's activity, the Office of the Chief of Engineers will solicit public comment. As of the date of issuance of this NWP, agencies with approved categorical exclusions are the: Bureau of Reclamation, Federal Highway Administration, and U.S. Coast Guard. Activities approved for authorization under this NWP as of the date of this notice are found in Corps Regulatory Guidance Letter 05-07, which is available at:

<http://www.usace.army.mil/inet/functions/cw/cecwo/reg/rglsindx.htm>. Any future approved categorical exclusions will be announced in Regulatory Guidance Letters and posted on this same web site.

**NATIONWIDE PERMIT 33
DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS
FINAL NOTICE OF ISSUANCE AND MODIFICATION OF NATIONWIDE PERMITS
FEDERAL REGISTER
AUTHORIZED MARCH 19, 2007**

Temporary Construction, Access, and Dewatering. Temporary structures, work, and discharges, including cofferdams, necessary for construction activities or access fills or dewatering of construction sites, provided that the associated primary activity is authorized by the Corps of Engineers or the U.S. Coast Guard. This NWP also authorizes temporary structures, work, and discharges, including cofferdams, necessary for construction activities not otherwise subject to the Corps or U.S. Coast Guard permit requirements. Appropriate measures must be taken to maintain near normal downstream flows and to minimize flooding. Fill must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. The use of dredged material may be allowed if the district engineer determines that it will not cause more than minimal adverse effects on aquatic resources. Following completion of construction, temporary fill must be entirely removed to upland areas, dredged material must be returned to its original location, and the affected areas must be restored to pre-construction elevations. The affected areas must also be revegetated, as appropriate. This permit does not authorize the use of cofferdams to dewater wetlands or other aquatic areas to change their use. Structures left in place after construction is completed require a section 10 permit if located in navigable waters of the United States. (See 33 CFR part 322.)

* **Notification:** The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 27). The pre-construction notification must include a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions. (Sections 10 and 404)

NATIONWIDE PERMIT CONDITIONS

The following General Conditions must be followed in order for any authorization by a NWP to be valid:

1. **Navigation.** (a) No activity may cause more than a minimal adverse effect on navigation.
(b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
(c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
2. **Aquatic Life Movements.** No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
3. **Spawning Areas.** Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
4. **Migratory Bird Breeding Areas.** Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.
5. **Shellfish Beds.** No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.
6. **Suitable Material.** No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
7. **Water Supply Intakes.** No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
8. **Adverse Effects From Impoundments.** If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. Endangered Species. (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized

under any NWP which “may affect” a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

* (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have “no effect” on listed species or critical habitat, or until Section 7 consultation has been completed.

(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

(e) Authorization of an activity by a NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal “takes” of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at <http://www.fws.gov/> and <http://www.noaa.gov/fisheries.html> respectively.

18. Historic Properties. (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

(b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

* (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State

Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NHPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NHPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NHPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

(d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

(e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWP. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWP.

(f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

(g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

24. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:
“When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate

the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

* 26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
- (b) A statement that any required mitigation was completed in accordance with the permit conditions; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

* 27. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

- (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
- (2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is “no effect” on listed species or “no potential to cause effects” on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained.

Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed project;

(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

(5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

(4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

(5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

(e) District Engineer's Decision: In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment

(after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

FURTHER INFORMATION

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
3. NWPs do not grant any property rights or exclusive privileges.
4. NWPs do not authorize any injury to the property or rights of others.
5. NWPs do not authorize interference with any existing or proposed Federal project.

DEFINITIONS

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a

decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or

flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of “open waters” include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a coarse substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through

which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term “single and complete project” is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a “single and complete project” is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream’s course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWP, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

REGIONAL CONDITIONS FOR NATIONWIDE PERMITS IN THE WILMINGTON DISTRICT

1.0 Excluded Waters

The Corps has identified waters that will be excluded from the use of all NWP's during certain timeframes. These waters are:

1.1. Anadromous Fish Spawning Areas

Waters of the United States identified by either the North Carolina Division of Marine Fisheries (NCDMF) or the North Carolina Wildlife Resources Commission (NCWRC) as anadromous fish spawning areas are excluded during the period between February 15 and June 30, without prior written approval from NCDMF or NCWRC and the Corps.

1.2. Trout Waters Moratorium

Waters of the United States in the twenty-five designated trout counties of North Carolina are excluded during the period between October 15 and April 15 without prior written approval from the NCWRC. (see Section I. b. 7. for a list of the twenty-five trout counties).

1.3. Sturgeon Spawning Areas

Waters of the United States designated as sturgeon spawning areas are excluded during the period between February 1 and June 30, without prior written approval from the National Marine Fisheries Service (NMFS).

*** 2.0 Waters Requiring Additional Notification**

The Corps has identified waters that will be subject to additional notification requirements for activities authorized by all NWP's. These waters are:

*** 2.1. Western NC Counties that Drain to Designated Critical Habitat**

Waters of the U.S. that requires a Pre-Construction Notification pursuant to General Condition 27 (PCN) and located in the sixteen counties listed below, applicants must provide a copy of the PCN to the US Fish and Wildlife Service, 160 Zillicoa Street, Asheville, North Carolina 28805. This PCN must be sent concurrently to the US Fish and Wildlife Service and the Corps Asheville Regulatory Field Office. Please see General Condition 17 for specific notification requirements related to Federally Endangered Species and the following website for information on the location of designated critical habitat.

Counties with tributaries that drain to designated critical habitat that require notification to the Asheville US Fish and Wildlife Service: Avery, Cherokee, Forsyth, Graham, Haywood,

Henderson, Jackson, Macon Mecklenburg, Mitchell, Stokes, Surry, Swain, Transylvania, Union and Yancey.

Website and office addresses for Endangered Species Act Information:

The Wilmington District has developed the following website for applicants which provide guidelines on how to review linked websites and maps in order to fulfill NWP general condition 17 requirements.

<http://www.saw.usace.army.mil/wetlands/ESA>

Applicants who do not have internet access may contact the appropriate US Fish and Wildlife Service offices or the US Army Corps of Engineers office listed below.

US Fish and Wildlife Service
Asheville Field Office
160 Zillicoa Street
Asheville, NC 28801
Telephone: (828) 258-3939

Asheville US Fish and Wildlife Service Office counties: All counties west of and including Anson, Stanly, Davidson, Forsyth and Stokes Counties

US Fish and Wildlife Service
Raleigh Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Telephone: (919) 856-4520

Raleigh US Fish and Wildlife Service Office counties: all counties east of and including Richmond, Montgomery, Randolph, Guilford, and Rockingham Counties.

*** 2.2. Special Designation Waters**

Prior to the use of any NWP in any of the following North Carolina identified waters and contiguous wetlands, applicants must comply with Nationwide Permit General Condition 27 (PCN). The North Carolina waters and contiguous wetlands that require additional notification requirements are:

“Outstanding Resource Waters” (ORW) and “High Quality Waters” (HQW) (as designated by the North Carolina Environmental Management Commission), or
“Inland Primary Nursery Areas” (IPNA) (as designated by the North Carolina Wildlife Resources Commission), or “Contiguous Wetlands” (as defined by the North Carolina Environmental Management Commission), or “Primary Nursery Areas” (PNA) (as designated by the North Carolina Marine Fisheries Commission).

*** 2.3. Coastal Area Management Act (CAMA) Areas of Environmental Concern**

Non-Federal applicants for any NWP in a designated “Area of Environmental Concern” (AEC) in the twenty (20) counties of Eastern North Carolina covered by the North Carolina Coastal Area Management Act (CAMA), must also obtain the required CAMA permit. Construction activities for non-Federal projects may not commence until a copy of the approved CAMA permit is furnished to the appropriate Wilmington District Regulatory Field Office (Wilmington Field Office – P.O. Box 1890, Wilmington, NC 28402 or Washington Field Office – P.O. Box 1000, Washington, NC 27889).

*** 2.4. Barrier Islands**

Prior to the use of any NWP on a barrier island of North Carolina, applicants must comply with Nationwide Permit General Condition 27 (PCN).

*** 2.5. Mountain or Piedmont Bogs**

Prior to the use of any NWP in a “Mountain or Piedmont Bog” of North Carolina, applicants shall comply with Nationwide Permit General Condition 27 (PCN).

Note: The following wetland community types identified in the N.C. Natural Heritage Program document, “Classification of Natural communities of North Carolina (Michael P. Schafale and Alan S. Weakley, 1990), are subject to this regional condition.

Mountain Bogs	Piedmont Bogs
Swamp Forest-Bog Complex	Upland depression Swamp Forest
Swamp Forest-Bog Complex (Spruce Subtype)	
Southern Appalachian Bog (Northern Subtype)	
Southern Appalachian Bog (Southern Subtype)	
Southern Appalachian Fen	

*** 2.6. Animal Waste Facilities**

Prior to use of any NWP for construction of animal waste facilities in waters of the US, including wetlands, applicants shall comply with Nationwide Permit General Condition 27 (PCN).

*** 2.7. Trout Waters**

Prior to any discharge of dredge or fill material into streams or waterbodies within the twenty-five (25) designated trout counties of North Carolina, the applicant shall comply with

Nationwide Permit General Condition 27 (PCN). The applicant shall also provide a copy of the notification to the appropriate NCWRC office to facilitate the determination of any potential impacts to designated Trout Waters. Notification to the Corps of Engineers will include a statement with the name of the NCWRC biologist contacted, the date of the notification, the location of work, a delineation of wetlands, a discussion of alternatives to working in the mountain trout waters, why alternatives were not selected, and a plan to provide compensatory mitigation for all unavoidable adverse impacts to mountain trout waters.

NCWRC and NC Trout Counties

Mr. Ron Linville			
Western Piedmont Region Coordinator	Alleghany	Caldwell	Watauga
3855 Idlewild Road	Ashe	Mitchell	Wilkes
Kernersville, NC 27284-9180	Avery	Stokes	
Telephone: (336) 769-9453	Burke	Surry	

Mr. Dave McHenry			
Mountain Region Coordinator	Buncombe	Henderson	Polk
20830 Great Smoky Mtn. Expressway	Cherokee	Jackson	Rutherford
Waynesville, NC 28786	Clay	Macon	Swain
Telephone: (828) 452-2546	Graham	Madison	Transylvania
Fax: (828) 452-7772	Haywood	McDowell	Yancey

3.0 List of Corps Regional Conditions for All Nationwide Permits

The following conditions apply to all Nationwide Permits in the Wilmington District:

3.1. Limitation of Loss of Perennial Stream Bed

NWPs may not be used for activities that may result in the loss or degradation of greater than 300 total linear feet of perennial streams. The NWPs may not be used for activities that may result in the loss or degradation of greater than 300 total linear feet of ephemeral and intermittent streams that exhibit important aquatic function(s)* Loss of stream includes the linear feet of stream bed that is filled, excavated, or flooded by the proposed activity. The District Commander can waive the 300 linear foot limit for ephemeral and intermittent streams on a case-by-case basis if he determines that the proposed activity will result in minimal individual and cumulative adverse impacts to the aquatic environment. Waivers for the loss of ephemeral and intermittent streams must be in writing. This waiver only applies to the 300 linear feet threshold for NWPs. Mitigation may still be required for impacts to ephemeral and intermittent streams, on a case-by-case basis, depending on the impacts to the aquatic environment of the proposed project. [*Note: The Corps uses the Stream Quality Assessment Worksheet, located with Permit Information on the Regulatory Program Web Site, to aid in the determination of aquatic function within the intermittent stream channel.]

3.2. Mitigation for Loss of Stream Bed Exceeding 150 Feet.

For any NWP that results in a loss of more than 150 linear feet of perennial and/or ephemeral/intermittent stream, the applicant shall provide a mitigation proposal to compensate for the loss of aquatic function associated with the proposed activity. For stream losses less than 150 linear feet, that require a PCN, the District Commander may determine, on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effect on the aquatic environment.

3.3. Pre-construction Notification for Loss of Streambed Exceeding 150 Feet.

Prior to use of any NWP for any activity which impacts more than 150 total linear feet of perennial stream or ephemeral/ intermittent stream, the applicant must comply with Nationwide Permit General Condition 27 (PCN). This applies to NWPs that do not have specific notification requirements. If a NWP has specific notification requirements, the requirements of the NWP should be followed.

3.4. Restriction on Use of Live Concrete

For all NWPs which allow the use of concrete as a building material, measures will be taken to prevent live or fresh concrete, including bags of uncured concrete, from coming into contact with waters of the state until the concrete has hardened.

3.5. Requirements for Using Riprap for Bank Stabilization

For all NWPs that allow for the use of riprap material for bank stabilization, the following measures shall be applied:

3.5.1. Filter cloth must be placed underneath the riprap as an additional requirement of its use in North Carolina waters.

3.5.2. The placement of riprap shall be limited to the areas depicted on submitted work plan drawings.

3.5.3. The riprap material shall be clean and free from loose dirt or any pollutant except in trace quantities that would not have an adverse environmental effect.

3.5.4. It shall be of a size sufficient to prevent its movement from the authorized alignment by natural forces under normal conditions.

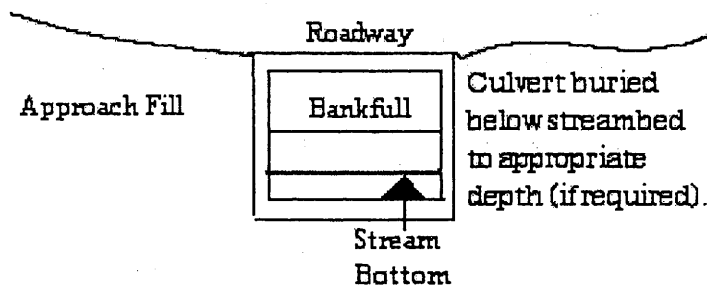
3.5.5. The riprap material shall consist of clean rock or masonry material such as, but not limited to, granite, marl, or broken concrete.

3.5.6. A waiver from the specifications in this Regional Condition may be requested in writing. The waiver will only be issued if it can be demonstrated that the impacts of complying with this Regional condition would result in greater adverse impacts to the aquatic environment.

3.6. Safe Passage Requirements for Culvert Placement

For all NWP that involve the construction/installation of culverts, measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction activity. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gage data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

In the twenty (20) counties of North Carolina designated as coastal counties by the Coastal Area Management Act (CAMA): All pipe and culvert bottoms shall be buried at least one foot below normal bed elevation when they are placed within the Public Trust Area of Environmental Concern (AEC) and/or the Estuarine Waters AEC as designated by CAMA, and/or all streams appearing as blue lines on United States Geological Survey (USGS) quad sheets.



In all other counties: Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain the existing channel slope. The bottom of the culvert must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions.

Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert.

A waiver from the depth specifications in this condition may be requested in writing. The waiver will be issued if it can be demonstrated that the proposal would result in the least impacts to the aquatic environment.

All counties: Culverts placed in wetlands do not have to be buried.

3.7. Notification to NCDENR Shellfish Sanitation Section

Applicants shall notify the NCDENR Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination from the disposal area and cause a temporary shellfish closure to be made. Such notification shall also be provided to the appropriate Corps of Engineers Regulatory Field Office. Any disposal of sand to the ocean beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand should be used and no dredged sand from closed shell fishing areas may be used. If beach disposal were to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swimming advisory shall be posted, and a press release shall be issued.

3.8. Preservation of Submerged Aquatic Vegetation

Adverse impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP within any of the twenty coastal counties defined by North Carolina's Coastal Area Management Act of 1974 (CAMA).

4.0 Additional Regional Conditions Applicable to Specific Nationwide Permits

The following regional conditions are required for NWP #33 – Temporary Construction, Access and Dewatering:

4.1. The required restoration plan must include a timetable for restoration activities.

NC DIVISION OF WATER QUALITY - GENERAL CERTIFICATION CONDITIONS

For the most recent General Certification conditions, call the NC Division of Water Quality, Wetlands/401 Certification Unit at (919) 733-1786 or access the following website:
<http://h2o.enr.state.nc.us/newetlands/certs.html>

NC DIVISION OF COASTAL MANAGEMENT - STATE CONSISTENCY

In a letter dated May 7, 2007, the North Carolina Division of Coastal Management found this NWP consistent with the North Carolina Coastal Zone Management Program. Updates on CAMA Consistency for NC can be found on the NC DCM web site at:
<http://dcm2.enr.state.nc.us/Permits/consist.htm>

EASTERN BAND OF THE CHEROKEE INDIANS TRIBAL WATER QUALITY CERTIFICATIONS

In a letter dated May 8, 2007, US EPA, on behalf of the Eastern Band of Cherokee Indians, provided Tribal General Conditions for Nationwide Permits on Cherokee Indian Reservation. These Tribal General Conditions are located on the Corps website at:
<http://www.saw.usace.army.mil/WETLANDS/NWP2007/EBCI-certs.html>

Citations:

2007 Nationwide Permits Public Notice for Final Issue Date: March 15, 2007

Correction Notice for Nationwide Permits, Federal Register / Vol. 72, No. 88 / Tuesday, May 8, 2007 / Notices p.26082

2007 SAW Regional Conditions – Authorized June 1, 2007

This and other information can be found on the Corps web site at:
<http://www.saw.usace.army.mil/WETLANDS/NWP2007/nationwide-permits.html>

3.7. Notification to NCDENR Shellfish Sanitation Section

Applicants shall notify the NCDENR Shellfish Sanitation Section prior to dredging in or removing sediment from an area closed to shell fishing where the effluent may be released to an area open for shell fishing or swimming in order to avoid contamination from the disposal area and cause a temporary shellfish closure to be made. Such notification shall also be provided to the appropriate Corps of Engineers Regulatory Field Office. Any disposal of sand to the ocean beach should occur between November 1 and April 30 when recreational usage is low. Only clean sand should be used and no dredged sand from closed shell fishing areas may be used. If beach disposal were to occur at times other than stated above or if sand from a closed shell fishing area is to be used, a swimming advisory shall be posted, and a press release shall be issued.

3.8. Preservation of Submerged Aquatic Vegetation

Adverse impacts to Submerged Aquatic Vegetation (SAV) are not authorized by any NWP within any of the twenty coastal counties defined by North Carolina's Coastal Area Management Act of 1974 (CAMA).

4.0 Additional Regional Conditions for Specific Nationwide Permits

4.1 The following regional condition is required for NWP #23 – Approved Categorical Exclusions

No development activities authorized by this NWP may begin until the permittee obtains a consistency determination or a CAMA permit from the North Carolina Division of Coastal Management, if either required.

The following regional conditions are required for NWP #33 – Temporary Construction, Access and Dewatering:

The required restoration plan must include a timetable for restoration activities.



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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

JUL 14 2008

July 11, 2008

Dr. Gregory J. Thorpe, Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Dr. Thorpe:

Subject: Endangered Species Concurrence, Proposed Replacement of Bridge No. 70 over the Cheoah River on SR 1134 in Graham County, North Carolina, Federal Project No. BRZ-1134(1), WBS Element No. 3298.1.2, T.I.P. No. B-3335

As requested by the North Carolina Department of Transportation (NCDOT), we have reviewed the mussel survey report for the federally endangered Appalachian elktoe (*Alasmidonta raveneliana*) with regard to the subject proposed bridge replacement. Information for this concurrence letter is based on a review of the survey results, alternatives analysis, and an on-site meeting held on May 8, 2008, with representatives from the NCDOT and our staff. The following comments are provided in accordance with the National Environmental Policy Act (42 U.S.C. 4332(2)(c)); the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e); section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act); and the Migratory Bird Treaty Act (16 U.S.C. 703, et seq.) (MBTA).

The NCDOT proposes to construct a spanning structure that will replace Bridge No. 70. The preferred alternative is Alternative 3--replacement of the bridge on a new alignment approximately 50 feet upstream of the existing bridge--and is being carried forward into the final design. Traffic will be maintained on the existing bridge during construction. Alternative 3 would result in the lowest cost and would require the fewest number of bents in the Cheoah River and the least amount of environmental impacts.

Alcoa Power Generating Inc. installed a staff gage on Bridge No. 70 for the U.S. Fish and Wildlife Service, the North Carolina Wildlife Resources Commission, and the North Carolina Division of Water Resources (among others) to measure stream flow. Prior to demolition, the

NCDOT should make provisions for the reinstallation and calibration of the gage on the new structure.

Federally Listed Species – The listed species concurrence request we received was for the NCDOT's determination that the subject project is not likely to adversely affect the Appalachian elktoe. It was determined that the project would have no effect on the Carolina northern flying squirrel (*Glaucomys sabrinus coloratus*), Indiana bat (*Myotis sodalis*), rock gnome lichen (*Gymnoderma lineare*), or Virginia spiraea (*Spiraea virginiana*), all of which occur in Graham County.

The most recent survey for the Appalachian elktoe was conducted on May 7, 2008, during which a known location 0.5 mile downstream of the project area was verified as still occupied by the Appalachian elktoe. No mussels of any kind were observed in the stretch of the river 400 meters downstream and 100 meters upstream of the project area. To minimize potential impacts to the Appalachian elktoe and its designated critical habitat, the NCDOT will accomplish the following:

1. Design standards for sensitive watersheds will be used.
2. Provisions will be made in the new bridge design for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the river. This buffer should be large enough to alleviate any potential effects from the runoff of storm water and pollutants.
3. Best management practices for environmentally sensitive areas will be implemented to minimize and control sedimentation and erosion prior to any ground-disturbing activities. All erosion-control measures will be reviewed daily to ensure that sedimentation and erosion are being effectively controlled. If the planned devices are not functioning as intended, they will be replaced immediately with better devices. Temporary or permanent herbaceous vegetation will be planted on all bare soil within 15-days of ground-disturbing activities to provide long-term erosion control.
4. Sandbag cofferdams will be installed so that excavation and work areas will be isolated from the Cheoah River. Any seepage that inadvertently contacts live concrete will be pumped into cofferdams in an upland area in order to prevent water with high levels of pH from moving into surface waters.
5. Bridge materials will not be allowed to fall into the Cheoah River. Any materials that inadvertently fall into the creek will be immediately removed.
6. The project will be sequenced so that temporary cofferdams are only in place the minimal time needed, and only one cofferdam will be in place at a time.

7. All mechanized equipment operated near surface waters will be inspected and maintained regularly in order to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
8. No toxic materials, equipment, or construction debris/material will be stored, stockpiled, or otherwise left in the 100-year floodplain or other areas where in-stream contamination could occur due to flooding, runoff, or leaching.
9. Vegetation will be maintained wherever possible. The removal of vegetation should be minimized to the maximum extent possible.
10. All invasive legumes will be removed from the erosion-control plan. Specifically, crown vetch and Korean and Sericea lespedeza will not be used for erosion control. These nonnative lespedezas and crown vetch are aggressive invasive species that could choke out native vegetation. Furthermore, in general, when revegetating disturbed areas, we strongly recommend that only native plant species be used or, if an adequate seed source cannot be found, that noninvasive species (such as annual rye) be used until native plants can reestablish themselves. If kudzu is encountered during construction, it should be removed annually.

The U.S. Forest Service (USFS) has expressed interest in the NCDOT creating a parking area on the eastern approach to the existing bridge as a part of this project. We contacted Ms. Karen Compton of the USFS to obtain information about how the parking lot will be constructed and maintained and how impacts to federally listed species will be avoided. Ms. Compton indicated that she will work on making this information available. However, because this information is not yet available, additional consultation will be required for this portion of the project.

We are available to attend a preconstruction meeting to review and explain these conditions. If the above measures are implemented, we concur with the NCDOT's determination that the bridge construction and demolition may affect, but is not likely to adversely affect, the Appalachian elktoe. Therefore, we believe the requirements under section 7(c) of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

Invasive Species – We are also concerned with the introduction and spread of invasive exotic species in association with the proposed project. Without active management, including the revegetation of disturbed areas with native species, project corridors will likely only be sources of (and corridors for) the movement of invasive exotic plant species. Exotic species are a major contributor to species depletion and extinction, second only to habitat loss. Exotics are a factor contributing to the endangered or threatened status of more than 40 percent of the animals and

plants on the *Federal List of Endangered and Threatened Wildlife and Plants*.¹ It is estimated that at least 4,000 exotic plant species and 2,300 exotic animal species are now established in the United States, costing more than \$130 billion a year to control.² Additionally, the U.S. Government has many programs and laws in place to combat invasive species (see www.invasivespecies.gov) and thus cannot spend money to counter these efforts. Specifically, Section 2(a)(3) of Executive Order 13112 - Invasive Species (February 3, 1999) directs federal agencies to “not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere.” Despite their short-term erosion-control benefits, many exotic species used in soil stabilization seed mixes are persistent once they are established, thereby preventing the reestablishment of native vegetation. Many of these exotics plants³ are also aggressive invaders of nearby natural areas, where they are capable of displacing already established native species. Therefore, we strongly recommend that only native plant species be used in association with all aspects of this project.

Additionally, because this site is within the Nantahala National Forest, avoiding invasive exotic species is particularly important. Tall fescue (including Kentucky 31 fescue) and *Sericea lespedeza* are listed as a category 1 exotic invasive plant species on the Regional Forester’s List and Ranking Structure—Invasive Exotic Plant Species of Management Concern for the U.S. Forest Service’s Southern Region. Category 1 exotic plant species are known to be invasive and persistent throughout all or most of their range within the Southern Region. They can spread into, and persist in, native plant communities and displace native plant species. Therefore, they pose a demonstrable threat to the integrity of the natural plant communities in the Southern Region. The use of category 1 species is prohibited on national forest land.

Migratory Birds – The MBTA (16 U.S.C. 703-712) prohibits the taking, killing, possession, transportation, and importation of migratory birds (including the bald eagle), their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. To avoid impacts to migratory birds, we recommend conducting a visual inspection of the bridge and any other migratory bird nesting habitat within the project area during the migratory bird nesting season from March through September. If migratory birds are discovered nesting in the project impact area, including on the existing bridge, the NCDOT should avoid impacting the nests during the migratory bird nesting season (March through September). If birds are discovered nesting on the bridge during years prior to the proposed construction date, the NCDOT, in consultation with us, should develop measures to discourage birds from establishing nests on the bridge by means that will not result in the take of the birds or eggs, or the NCDOT should avoid construction and demolition activities during the nesting period.

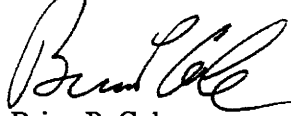
¹Wilcove, D. S., D. Rothstein, J. Dubow, A. Phillips, and E. Losos. 1998. Quantifying threats to imperiled species in the United States. *BioScience* 48:607-615.

²Pimentel, D., L. Lach, R. Zuniga, and D. Morrison. 2000. Environmental and economic costs of nonindigenous species in the United States. *BioScience* 50:53-65.

³Lists of invasive exotic plants can be found at <http://www.tneppc.org/> and <http://www.invasive.org/eastern/srs/> on the Internet.

If you have questions about these comments, please contact Mr. Troy Wilson of our staff at 828/258-3939, Ext. 226. In any future correspondence concerning this project, please reference our Log Number 4-2-05-226.

Sincerely,



Brian P. Cole
Field Supervisor

cc:

- Mr. Dave Baker, Asheville Regulatory Field Office, U.S. Army Corps of Engineers, 151 Patton Avenue, Room 208, Asheville, NC 28801-5006
- Ms. Marla J. Chambers, Western NCDOT Permit Coordinator, North Carolina Wildlife Resources Commission, 12275 Swift Road, Oakboro, NC 28129
- Ms. Karen M. Lynch, Project Development and Environmental Analysis Branch, North Carolina Department of Transportation, 1598 Mail Service Center, Raleigh, NC 27699-1598
- Mr. Brian Wrenn, North Carolina Division of Water Quality, Central Office, 2321 Crabtree Blvd., Suite 250, Raleigh, NC 27604
- Ms. Christy Wright, North Carolina Division of Water Quality, Central Office, 2321 Crabtree Blvd., Suite 250, Raleigh, NC 27604



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Asheville Field Office
160 Zillicoa Street
Asheville, North Carolina 28801

March 11, 2010

Dr. Gregory J. Thorpe, Manager
Project Development and Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Subject: Endangered Species Concurrence, Proposed Replacement of Bridge No. 70 over the Cheoah River on SR 1134 in Graham County, North Carolina, Federal Project No. BRZ-1134(1), WBS Element No. 3298.1.2, T.I.P. No. B-3335

On February 4, 2010, we received your letter (via email) requesting section 7 concurrence on the subject project and its possible impacts on the federally threatened spotfin chub (*Erimonax monacha*). We previously provided concurrence (July 11, 2008) with a "may affect, not likely to adversely affect" determination for this project based on possible impacts and mitigation measures being put in place for the Appalachian elktoe (*Alasmidonta raveneliana*) and Virginia spiraea. The following comments are provided in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531-1543) (Act).

Since our original concurrence, the federally threatened spotfin chub (*Erimonax monacha*) has been reintroduced to the Cheoah River. In 2002, the North Carolina Natural Resource Agency Group [North Carolina Wildlife Resources Commission, North Carolina Department of Environment and Natural Resources (primarily the Division of Water Resources), U.S. Fish and Wildlife Service, and U.S. Forest Service] and others developed a "Target Fish Assemblages for Aquatic Restoration" for the Cheoah River. Restoration of multiple species, including the spotfin chub, is included in the cooperative restoration plan for the Cheoah River. As part of this ongoing interagency aquatic restoration effort, the spotfin chub was reintroduced in June 2009 about 0.5 miles below the subject project area. This effort includes future planned augmentations with the goal of reestablishing a viable spotfin chub population.

As a result, it is possible that individual spotfin chubs could be found within the vicinity of the project during demolition and construction. However, because the adults are mobile and currently likely occur at extremely low densities, we believe potential impacts to adults from the subject project are unlikely, insignificant and discountable. Other potential impacts resulting

from construction activities include sedimentation and erosion that may negatively affect water quality through siltation. Silt can bury the eggs and young of spotfin chubs and can reduce the number and diversity of aquatic insects that they depend upon for food. We believe the following measures to address potential sedimentation and erosion that NCDOT has agreed to put in place to minimize impacts to the endangered Appalachian elktoe, and its designated critical habitat in the Cheoah River, will be similarly protective for the life history and habitat requirements of the spotfin chub.

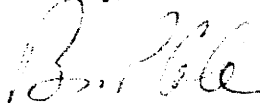
1. Design standards for sensitive watersheds will be used.
2. Provisions will be made in the new bridge design for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the river. This buffer should be large enough to alleviate any potential effects from the runoff of storm water and pollutants.
3. Best management practices for environmentally sensitive areas will be implemented to minimize and control sedimentation and erosion prior to any ground-disturbing activities. All erosion-control measures will be reviewed daily to ensure that sedimentation and erosion are being effectively controlled. If the planned devices are not functioning as intended, they will be replaced immediately with better devices. Temporary or permanent herbaceous vegetation will be planted on all bare soil within 15-days of ground-disturbing activities to provide long-term erosion control.
4. Sandbag cofferdams will be installed so that excavation and work areas will be isolated from the Cheoah River. Any seepage that inadvertently contacts live concrete will be pumped into cofferdams in an upland area in order to prevent water with high levels of pH from moving into surface waters.
5. Bridge materials will not be allowed to fall into the Cheoah River. Any materials that inadvertently fall into the creek will be immediately removed.
6. The project will be sequenced so that temporary cofferdams are only in place the minimal time needed, and only one cofferdam will be in place at a time.
7. All mechanized equipment operated near surface waters will be inspected and maintained regularly in order to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
8. No toxic materials, equipment, or construction debris/material will be stored, stockpiled, or otherwise left in the 100-year floodplain or other areas where in-stream contamination could occur due to flooding, runoff, or leaching.
9. Vegetation will be maintained wherever possible. The removal of vegetation should be minimized to the maximum extent possible.

10. All invasive legumes will be removed from the erosion-control plan. Specifically, crown vetch and Korean and *Sericea lespedeza* will not be used for erosion control. These nonnative lespedezas and crown vetch are aggressive invasive species that could choke out native vegetation. Furthermore, in general, when revegetating disturbed areas, we strongly recommend that only native plant species be used or, if an adequate seed source cannot be found, that noninvasive species (such as annual rye) be used until native plants can reestablish themselves. If kudzu is encountered during construction, it should be removed annually.

We are available to attend a preconstruction meeting to review and explain these conditions. With implementation of the above listed measures, we concur with the NCDOT's determination that the subject bridge construction and demolition may affect, but is not likely to adversely affect, the spotfin chub. Therefore, we believe the requirements under section 7(c) of the Act are fulfilled. However, obligations under section 7 of the Act must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this review, or (3) a new species is listed or critical habitat is determined that may be affected by the identified action.

If you have questions about these comments, please contact Mr. Troy Wilson of our staff at 828/258-3939, Ext. 226. In any future correspondence concerning this project, please reference our Log Number 4-2-05-226.

Sincerely,



Brian P. Cole
Field Supervisor

cc:

- Mr. Dave Baker, Asheville Regulatory Field Office, U.S. Army Corps of Engineers, 151 Patton Avenue, Room 208, Asheville, NC 28801-5006
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Ms. Christy Wright, North Carolina Division of Water Quality, Central Office, 2321 Crabtree Blvd., Suite 250, Raleigh, NC 27604

Hemphill, Jeffrey L

From: Troy_Wilson@fws.gov
Sent: Thursday, March 11, 2010 9:40 AM
To: Troy_Wilson@fws.gov
Cc: Wrenn, Brian; 'Baker, David K SAW'; Lusk, Elizabeth L; Hemphill, Jeffrey L; 'Karen Compton'; Lynch, Karen M
Subject: Re: B-3335 concurrence for spotfin chub

All,

My apologies--we neglected to remove the language regarding the use of cofferdams (#4 in the list of measures from the original documentation). According to clarificaton of removal techniques received from the engineer, the causeways completely surround the construction areas so that all excavation is within the limits of the causeway. Therefore, the reference to cofferdams is not appropriate for this project. The contractor will still need to do some control of fresh concrete that may otherwise seep into the causeway stone.

Thank you,
Troy

Troy Wilson
U.S. Fish & Wildlife Service
Asheville Ecological Services Field Office
160 Zillicoa Street
Asheville, NC 28801

office: 828.258.3939 x226
cell: 828.216.4969
fax: 828.258.5330

Troy Wilson/R4/FWS/DOI

03/11/2010 09:04 AM

To: Karen Lynch

cc: "Lusk, Elizabeth L" <ellusk@ncdot.gov>, "Hemphill, Jeffrey L" <jhemphill@ncdot.gov>, 'Karen Compton' <kcompton@fs.fed.us>, "Wrenn, Brian" <brian.wrenn@ncdenr.gov>, "Baker, David K SAW" <David.K.Baker@usace.army.mil>

Subject: B-3335 concurrence for spotfin chub [Link](#)

Karen,

Attached is our spotfin chub concurrence letter for B-3335 (replacement of Bridge 70 over Cheoah River on SR 1134 in Graham Co, NC).

Thank you,
Troy

4/21/2010

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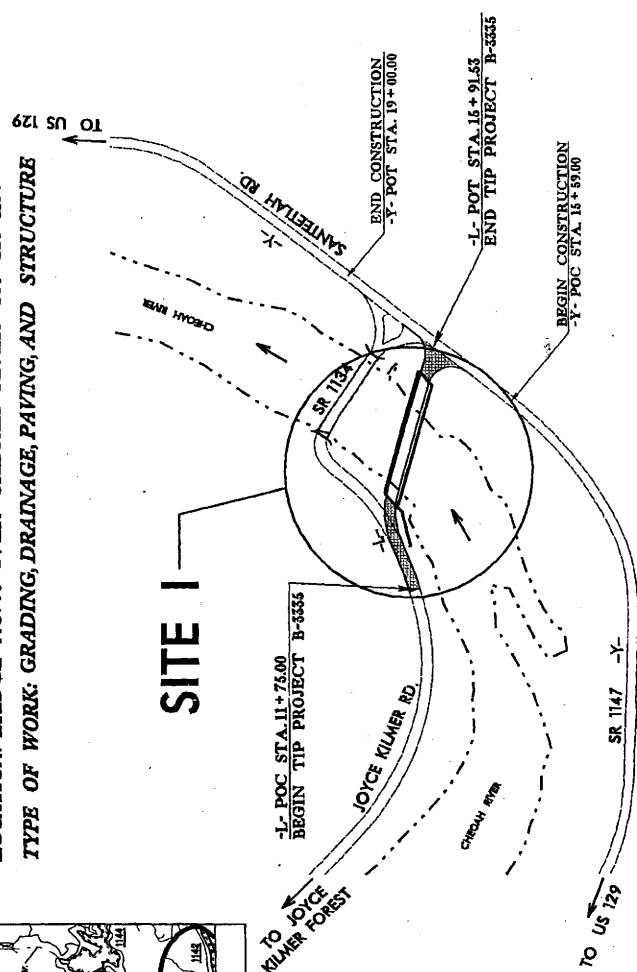
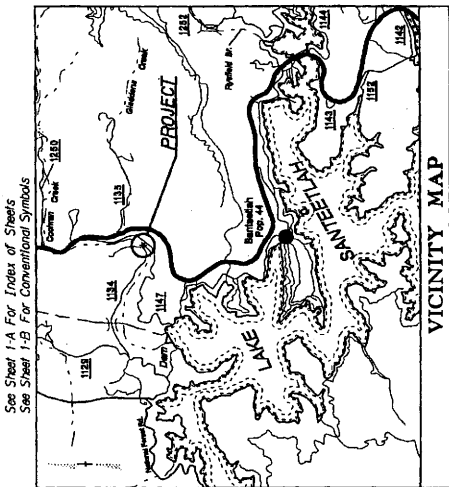
Troy Wilson
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office: 828.258.3939 x226
cell: 828.216.4969
fax: 828.258.5330

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
GRAHAM COUNTY

LOCATION: BRIDGE NO. 70 OVER CHEOAH RIVER ON SR 134
TYPE OF WORK: GRADING, DRAINAGE, PAVING, AND STRUCTURE

PROJECT NO.	B-3335	DATE	1
DATE	3/29/08	BY	PE
DATE	3/29/08	BY	ROW & UTIL.



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TIP PROJECT: B-3335

NOTES: (1) CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II
(2) THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES.

GRAPHIC SCALES

50' 25' 0' 50' 100'

PLANS

50' 25' 0' 50' 100'

PROFILE (HORIZONTAL)

10' 5' 0' 10' 20'

PROFILE (VERTICAL)

DESIGN DATA

ADT 2010 = 175
ADT 2030 = 250

DHV = 20 %
D = 65 %
T = 3 %

V = 20 MPH
FUNG CLASS = LOCAL

* T1ST 1 % DUAL 2 %

WETLAND PERMIT

Prepared in the Office of
DIVISION OF HIGHWAYS
1448 N. HARRIS BLVD., 2ND FL.
RALEIGH, NC 27610

RIGHT OF WAY DATE: JUNE 10, 2009
LETTING DATE: JUNE 15, 2010

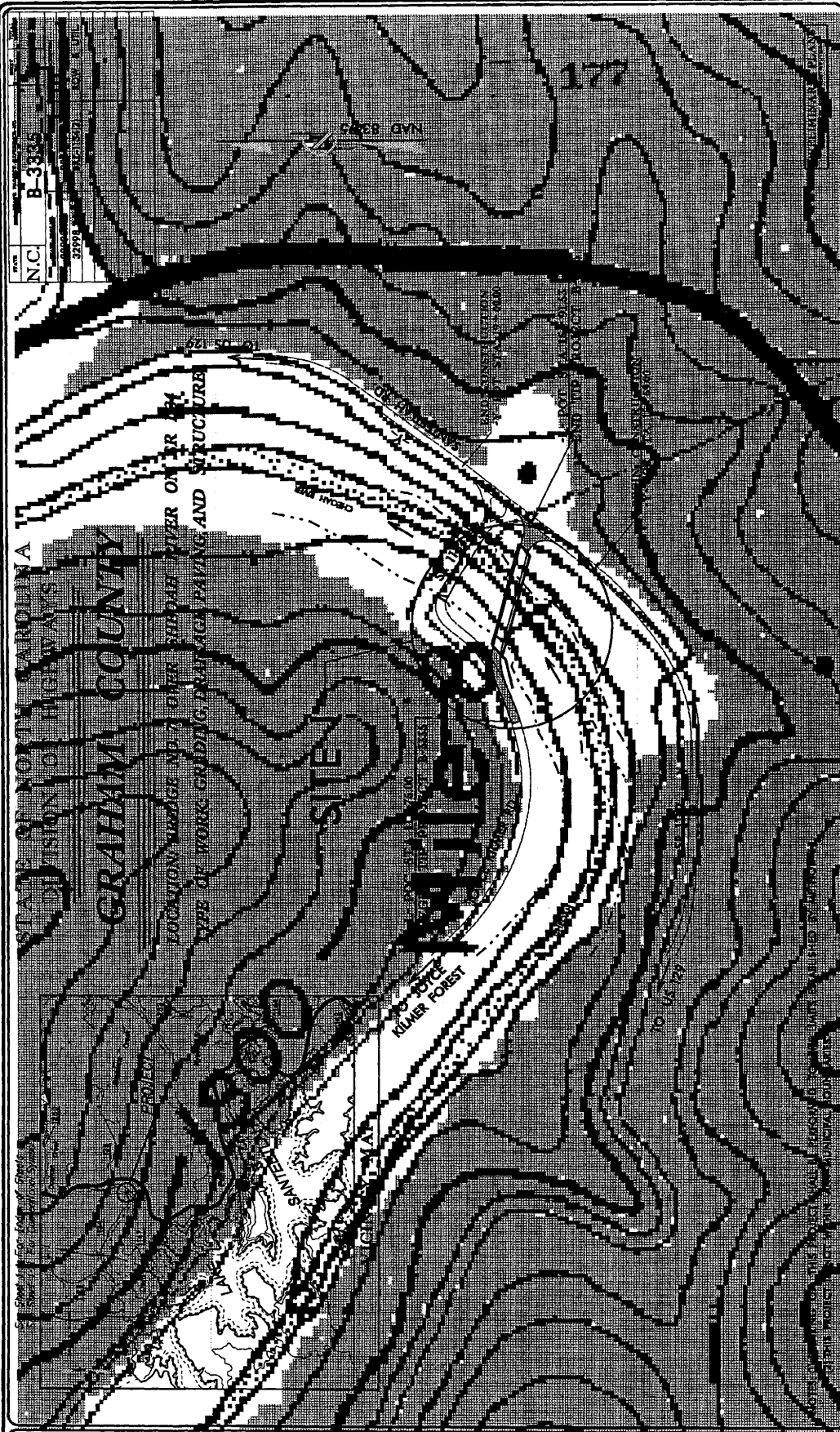
PROJECT ENGINEER: ROGER THOMAS, PE
PROJECT DESIGNER: MICHAEL LITTLE, PE

HYDRAULICS ENGINEER: _____
ROADWAY DESIGN ENGINEER: _____
STRUCTURE: _____




CONTRACT:

17-AUG-2009 08:45
T:\hydro\clients\permits_environmental\drawings\b3335_p.m.tsh.dgn
PROJECT AT H172945



CONTRACT: TTP PROJECT: B-3335

DIVISION OF HIGHWAYS
 STATE OF NORTH CAROLINA

 STATE HIGHWAY DESIGN DIVISION

HYDRAULICS ENGINEER _____ P.E.
 ROADWAY DESIGN ENGINEER _____ P.E.
 PROJECT NO. _____

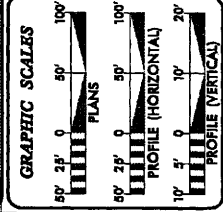
Prepared in the Office of
DIVISION OF HIGHWAYS
 1000 North Tryon St.,
 Raleigh, N.C. 27611
 ALL DRAWINGS SUBMITTED TO THE STATE OF NORTH CAROLINA SHALL BE THE PROPERTY OF THE STATE OF NORTH CAROLINA AND SHALL NOT BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE DIVISION OF HIGHWAYS.

RIGHT OF WAY DATE: JUNE 10, 2009
 LETTING DATE: JUNE 15, 2010

PROJECT ENGINEER: ROGER THOMAS, PE
 PROJECT DESIGNER: MICHAEL LITTLE, PE

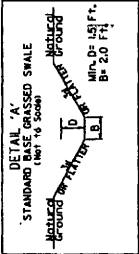
WETLAND PERMIT

DESIGN DATA
 ADT 2010 = 175
 ADT 2030 = 250
 DHV = 20 %
 D = 65 %
 T = 3 %
 V = 20 MPH
 FUNC CLASS = LOCAL
 * TTST 1 % DUAL 2 %



B-3335	4
HWY SHEET NO.	HYDRAULIC ENGINEER
ROADWAY DESIGN NUMBER	

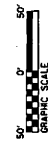
NAD 83/95



178

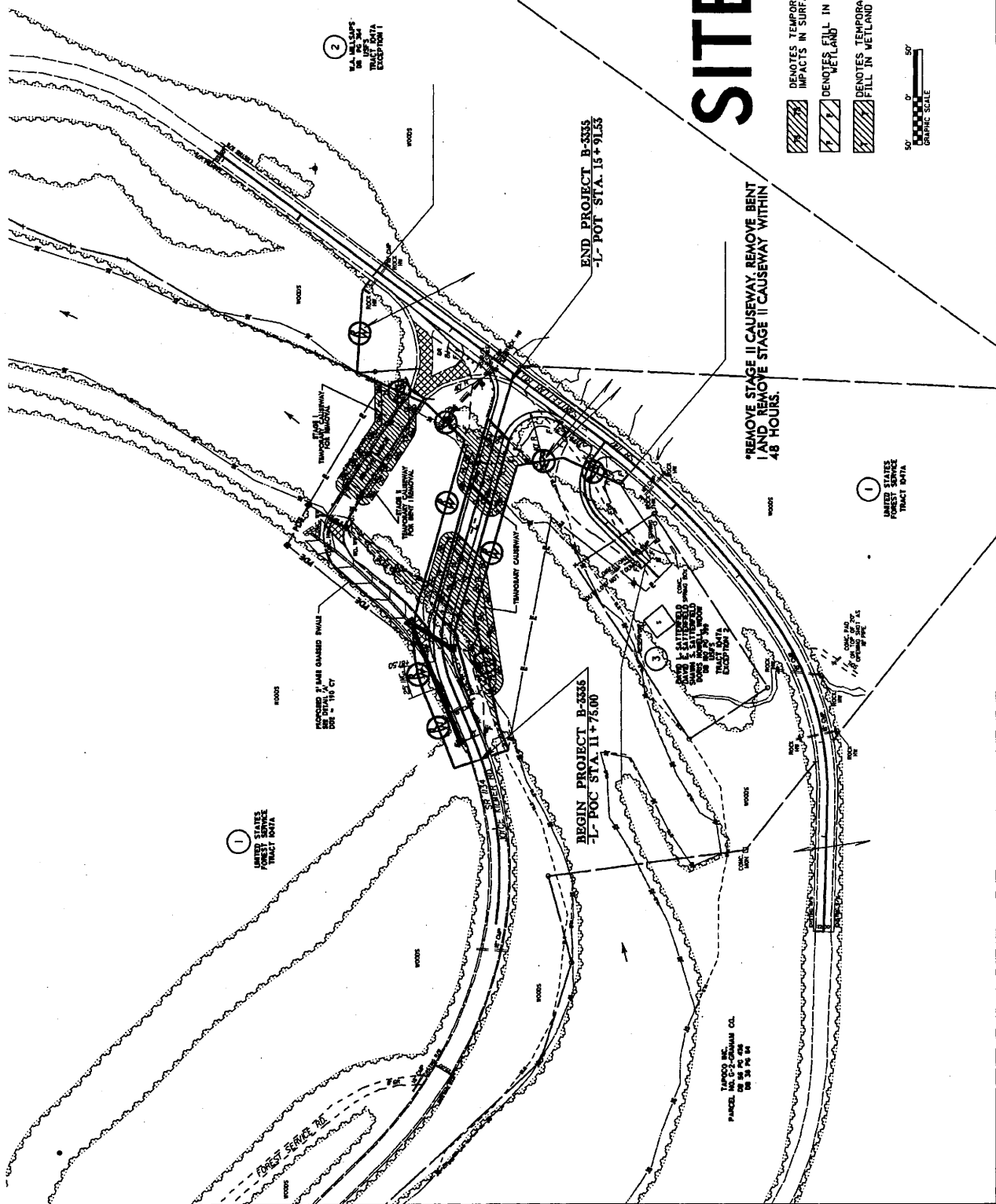
SITE I

- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND



REVISED 3/22/2010

Permit Drawing
Sheet 3 of 5



REVISIONS

7/27/2010 11:48 AM C:\GIS\Environmental\Drawings\B-335\p\d\revised\pml_wa.dgn

TUPPOO INC.
PARCEL NO. C-2-ORANGE CO.
DATE 08/28/94

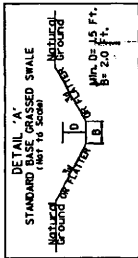
① UNITED STATES FOREST SERVICE TRACT DATA

① UNITED STATES FOREST SERVICE TRACT DATA

② UNITED STATES FOREST SERVICE TRACT DATA EXCEPTION I

PROJECT NO.	179
PROJECT NAME	179
DATE	179
BY	179
CHECKED BY	179
APPROVED BY	179

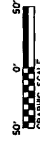
MAD 8/95



179

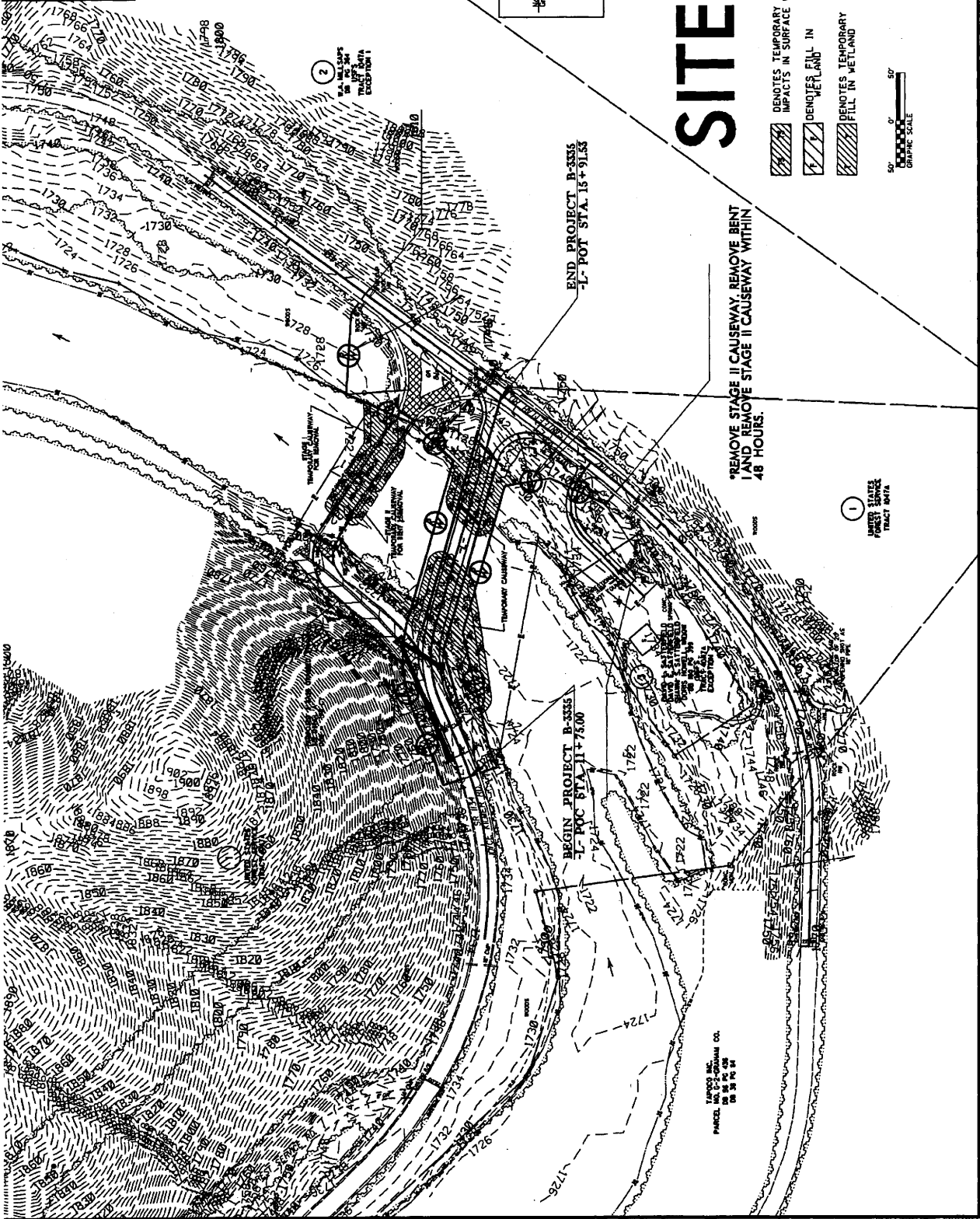
SITE I

- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY FILL IN WETLAND
- DENOTES TEMPORARY FILL IN WETLAND



REVISED 3/22/2010

Permit Drawing
Sheet 4 of 5



NO.	DATE	REVISIONS

22-MAR-2010 10:00 AM
C:\Users\j\Documents\179\179 Environmental\Drawings\179-235-hyd-prm-wel-FC.kgm

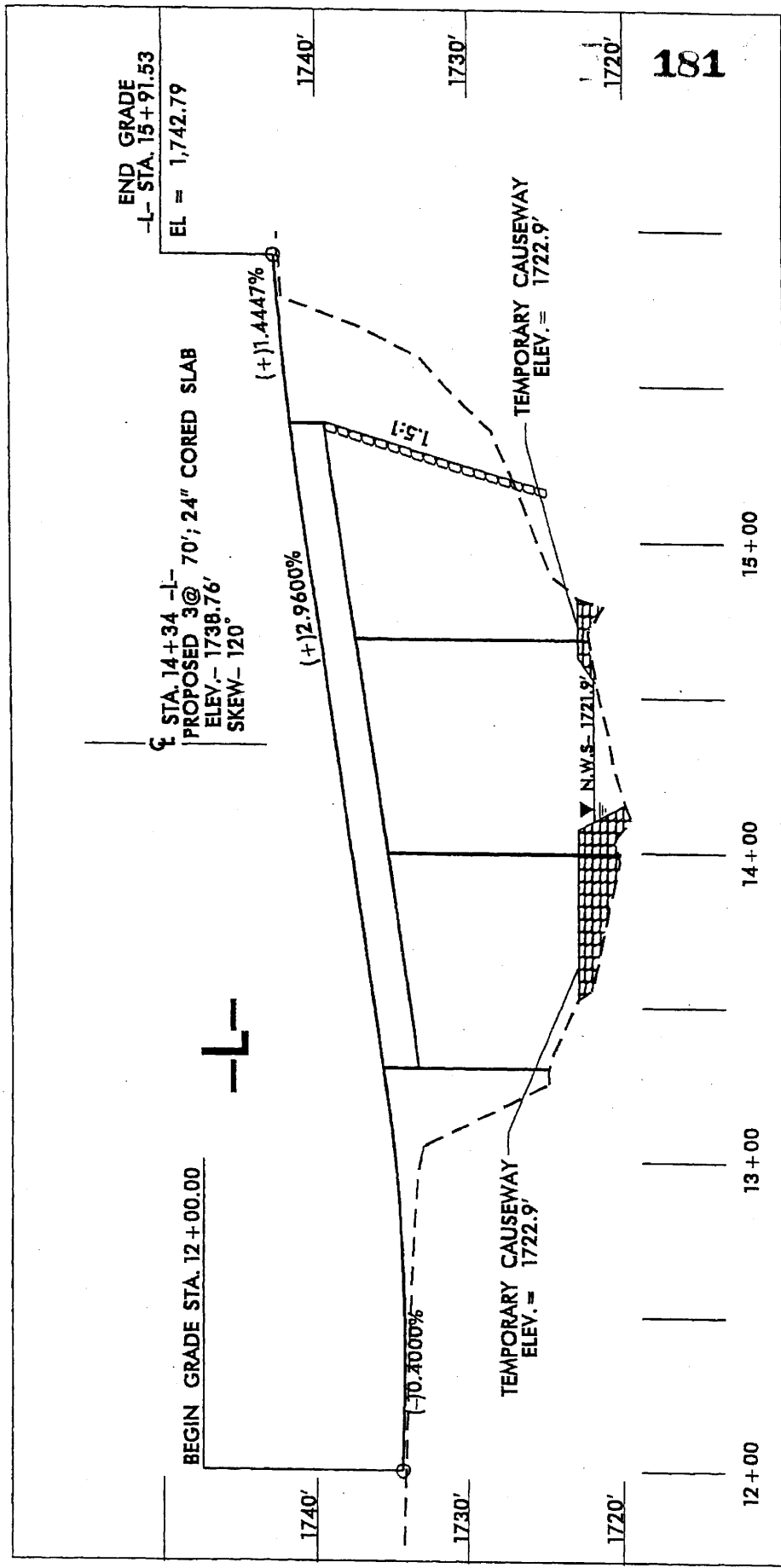
WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS				SURFACE WATER IMPACTS									
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)				
1	13+25-15+40-L-	3@70'x24" CORED SLAB	0.03	0.11												
		CAUSEWAY								0.28			250			
TOTALS:			0.03	0.11						0.28			250			

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 GRAHAM COUNTY
 WBS-32998.1.2 (B-3335)
 Revised 3/22/2010

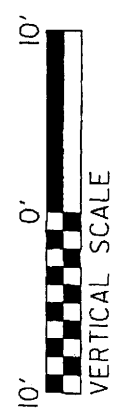
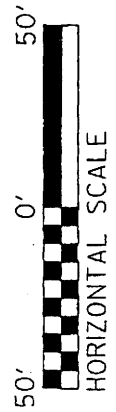
NOTE: STRUCTURES STATED TOTAL IN-STREAM AND WETLAND IMPACTS FOR NEW BRIDGE ARE LESS THAN 0.01 ACRE

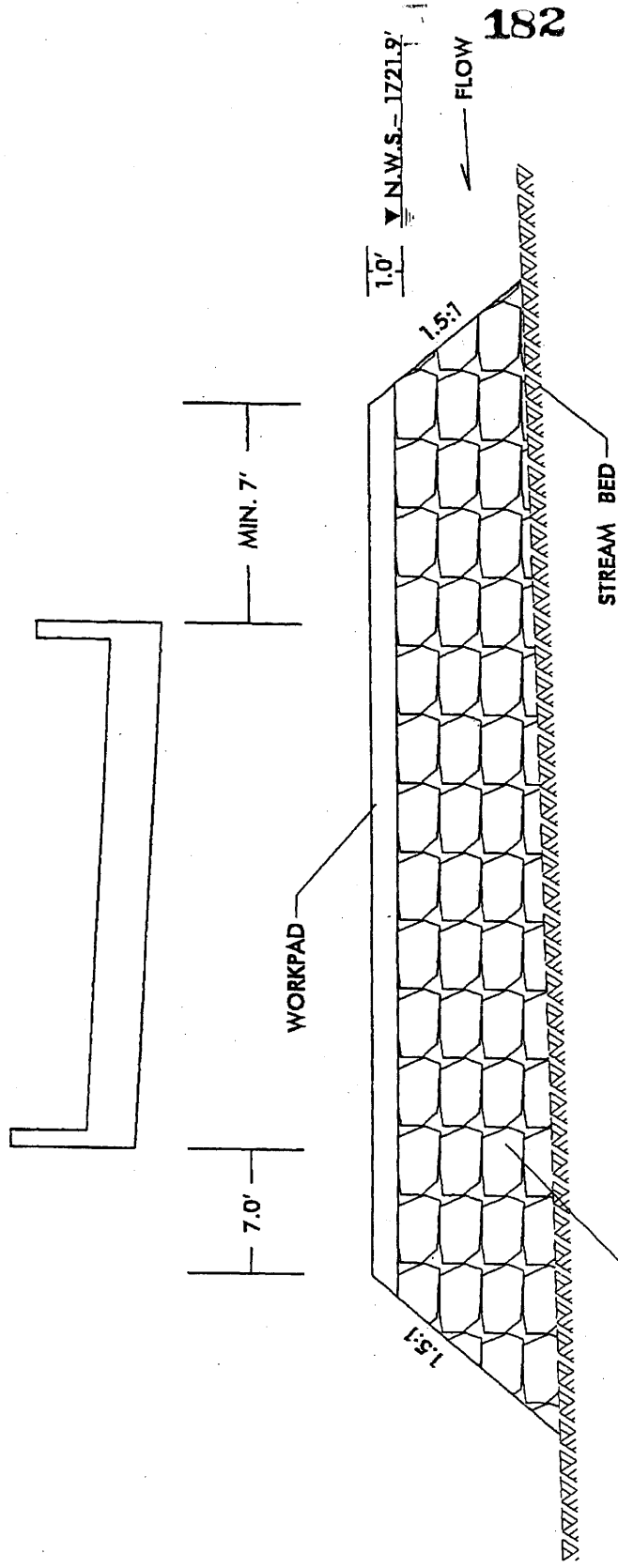
ATN Revised 3/21/05



CAUSEWAY PROFILE

NCDOT
 DIVISION OF HIGHWAYS
 GRAHAM COUNTY
 PROJECT: 32998.1.2 (B-3335)
 RELPACE BRG #70 OVER
 CHEOAH RIVER ON SR 1134
 SHEET OF 8 / 17 / 09





QUANTITIES OF ESTIMATES
 VOLUME OF CLASS II RIP RAP- 1970cu. yds.
 AREA OF CLASS II RIP RAP- 0.32 Acres

CAUSEWAY DETAIL
 (NOT TO SCALE)

NCDOT
 DIVISION OF HIGHWAYS
 GRAHAM COUNTY
 PROJECT: 32998.1.2 (B-3335)
 REPLACE BRG #70 OVER
 CHEOAH RIVER ON SR 1134

SHEET OF 8 / 17 / 09

PROPERTY OWNERS
NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	US FOREST SERVICE	ROUTE 1 BOX 16A ROBBINSVILLE NC 28771

NCDOT
DIVISION OF HIGHWAYS
GRAHAM COUNTY
PROJECT: 32998.1.2 (B-3335)
REPLACE BRG #70 OVER
CHEOAH RIVER ON SR 1134
SHEET OF 8/17/09

GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 23 (APPROVED CATEGORICAL EXCLUSIONS) AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)

Water Quality Certification Number 3701 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (23) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. The category of activities shall include only Federally-approved Categorical Exclusion projects.

The State of North Carolina certifies that the specified category of activity will not violate applicable portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

- * Any proposed fill or substantial modification of wetlands or waters (including streams) under this General Certification requires notification to the Division of Water Quality (the "Division"). Two (2) copies shall be submitted to the Division at the time of notification in accordance with 15A NCAC 2H .0501(a).

If any one (1) of the Conditions of Certification cannot be met, or, if the activities meet any one (1) of the following thresholds, then require *written approval* from the Division of Water Quality (the "Division") is required:

- I. Stream and/or buffer impacts:
 - a. Stream impacts equal or greater than 40 linear feet.
 - b. Any impacts to streams and/or buffers in the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other basins with Riparian Area Protection Rules [Buffer Rules] in effect at the time of application [in accordance with 15A NCAC 2B .0200]), *unless* the activities are listed as "EXEMPT" from these Rules.
- II. Impacts to waters of equal to or greater than one-third (1/3) of an acre.
- III. Wetland impacts:
 - a. Equal to or greater than one-third (1/3) acre East of Interstate-95.
 - b. Equal to or greater than one-tenth (1/10) acre West of Interstate-95.
 - c. Any impacts to wetlands adjacent to waters designated as: ORW, SA, WS-I, WS-II, or Trout, or wetlands contiguous to waters designated as a North Carolina or National Wild and Scenic River.
 - d. Any impacts to coastal wetlands [15A NCAC 7H .0205], or Unique Wetlands (UWL) [15A NCAC 2H .0506].
- IV. If the activity is associated with or in response to a Notice of Violation or an enforcement action initiated by the Division and/or the Division of Land Resources.
- V. Projects with any impacts to streams, wetlands, and/or waters that have received a Notice of Violation from the Division and/or Division of Land Resources.

- * In accordance with North Carolina General Statute Section 143-215.3D(e), any requirement for written approval for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, then one payment to both agencies shall be submitted and will be the higher of the two fees.

Conditions of Certification:

1. No Impacts Beyond those Authorized in the Written Approval or Beyond the Thresholds for use of This Certification

No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts authorized in the written approval or beyond the thresholds allowed for use of this General Certification, including incidental impacts. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control Best Management Practices, shall be performed so that no violations of state water quality standards, statutes, or rules occur.

2. Standard Erosion and Sediment Control Practices

Erosion and sediment control practices must be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices:

- a. Design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- b. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
- c. Reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.
- d. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times, except for publicly funded linear transportation projects when materials can be accessed offsite in a timely manner.
- e. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNA's), Trout (Tr), SA, WS-I, WS-II, High Quality (HQW), or Outstanding Resource (ORW) waters, then the sediment and erosion control requirements contained within *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) supercede all other sediment and erosion control requirements.

3. No Sediment and Erosion Control Measures in Wetlands or Waters

Sediment and erosion control measures should not be placed in wetlands or waters outside of the permitted impact areas without prior written approval by the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Land Resources or locally delegated program has released the project.

4. Construction Stormwater Permit NCG010000

Upon the approval of an Erosion and Sedimentation Control Plan issued by the Division of Land Resources (DLR) or a DLR delegated local erosion and sedimentation control program, an NPDES General stormwater permit (NCG010000) administered by the Division is automatically issued to the project. This General Permit allows stormwater to be discharged during land disturbing construction activities as stipulated by conditions in the permit. If your project is covered by this permit [applicable to construction projects that disturb one (1) or more acres], full compliance with permit conditions including the sedimentation control plan, self-monitoring, record keeping and reporting requirements are required. A copy of this permit and monitoring report forms may be found at http://h2o.enr.state.nc.us/su/Forms_Documents.htm.

NCDOT shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit.

5. Construction Moratoriums and Coordination

If activities must occur during periods of high biological activity (i.e. sea turtle or bird nesting), then biological monitoring may be required at the request of other state or federal agencies and coordinated with these activities. This condition can be waived through written concurrence on a case-by-case basis upon reasonable justification.

All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) to lessen impacts on trout, anadromous fish, larval/post-larval fishes and crustaceans, or other aquatic species of concern must be obeyed. This condition can be waived through written concurrence on a case-by-case basis upon reasonable justification.

Work within the twenty-five (25) designated trout counties or identified state or federal endangered or threatened species habitat shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

6. If concrete is used during the construction, then a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life/fish kills.

7. Riparian Area Protection (Buffer) Rules

Activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman, or Catawba River Basins (or any other basin with buffer rules), shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0233, .0259, .0250, and .0243, and shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices. All riparian area protection rule requirements, including diffuse flow requirements, must be met.

8. Water Supply Watershed Buffers

The 100-foot wide (high-density development) or the 30-foot wide vegetative buffer (all other development) shall be maintained adjacent to all perennial waters except for allowances as provided in the Water Supply Watershed Protection Rules [15A NCAC 2B .0212 through .0215].

9. Work in the Dry

All work in or adjacent to stream waters shall be conducted in a dry work area. Approved best management practices from the most current version of the NC Sediment and Erosion Control Manual, or the NC DOT Construction and Maintenance Activities Manual, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Channel realignments shall be constructed by excavating the new channel from downstream to upstream before connecting it to the existing channel. Exceptions to this condition require submittal to, and approval by, the Division of Water Quality.

10. For all activities requiring re-alignment of streams, a stream relocation plan must be included for written Division approval. Relocated stream designs should include the same dimensions, patterns and profiles as the existing channel (or a stable reference reach if the existing channel is unstable), to the maximum extent practical. The new channel should be constructed in the dry and water shall not be turned into the new channel until the banks are stabilized. Vegetation used for permanent bank stabilization shall be limited to native woody species, and should include establishment of a 30-foot wide wooded and an adjacent 20-foot wide vegetated buffer on both sides of the relocated channel to the maximum extent practical. A transitional phase incorporating appropriate erosion control matting materials and seedling establishment is allowable. Rip-rap, A-Jacks, concrete, gabions or other hard structures may be allowed if it is necessary to maintain the physical integrity of the stream, but the applicant must provide written justification and any calculations used to determine the extent of rip-rap coverage. Please note that if the stream relocation is conducted as a stream restoration as defined in the US Army Corps of Engineers Wilmington District, April 2003 *Stream Mitigation Guidelines* (or its subsequent updates), the restored length can be used as compensatory mitigation for the impacts resulting from the relocation.

11. Placement of Culverts and Other Structures in Waters and Wetlands

The application must include construction plans with cross-sectional details in order to indicate that the current stability of the stream will be maintained or enhanced (i.e., not result in head cuts).

Culverts required for this project shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. Existing stream dimensions (including the cross section dimensions, pattern, and longitudinal profile) must be maintained above and below locations of each culvert. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life unless otherwise justified and approved by the Division.

Installation of culverts in wetlands must ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. Additionally, when roadways, causeways or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges must be provided to maintain

the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

Any rip rap required for normal pipe burial and stabilization shall be buried such that the original stream elevation is restored and maintained.

The establishment of native, woody vegetation and other soft stream bank stabilization techniques must be used where practicable instead of rip-rap or other bank hardening methods.

12. Compensatory Mitigation

In accordance with 15A NCAC 2H .0506 (h), compensatory mitigation maybe required for losses of 150 linear feet or more of streams and/or one (1) acre or more of wetlands. For linear, public transportation projects, impacts equal to or exceeding 150 lines feet per stream may require mitigation.

In watersheds classified as: ORW, HQW, Tr, WS-I, and WS-II, compensatory stream mitigation may be required at a 1:1 ratio for not only perennial but also intermittent stream impacts equal to or exceeding 150 feet and that require application and written approval from the Division, unless the project is a linear, publicly-funded transportation project, which has a 150-foot per-stream impact allowance.

Buffer mitigation may be required for any project with Buffer Rules in effect at the time of application for buffer impacts resulting from activities classified as "allowable with mitigation" within the Buffer Rules or require a variance under the Buffer Rules.

A determination of buffer, wetland and stream mitigation requirements shall be made for any General Certification for this Nationwide Permit.

When compensatory mitigation is required for a project, the mitigation plans must be approved by the Division, in writing, before the impacts approved by this Certification occur. The most current design and monitoring protocols from the Division shall be followed and written plans submitted for the Division approval as required in those protocols. Alternately, the Division will accept payment into an in-lieu fee program or mitigation bank. Before any permanent building or structure on site is occupied, the mitigation plan must be implemented and/or constructed or proof of payment to a mitigation bank or in-lieu fee program must be provided to the Division. In the case of public road projects, the mitigation plan must be implemented, before the road is opened to the traveling public whenever practical or at the earliest reasonable time during the construction of the project

- * 13. If an environmental document is required under NEPA or SEPA, then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse.
- 14. For activities requiring written approval, additional site-specific conditions may be added to the cover letter projects in order to ensure compliance with all applicable water quality and effluent standards.
- * 15. Certificate of Completion

When written authorization is required for use of this certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return the certificate of completion attached to the approval. One copy of the certificate shall be sent to the DWQ Central Office in Raleigh at 1650 Mail Service Center, Raleigh, NC, 27699-1650.

16. This General Certification shall expire three (3) years from the date of issuance of the written approval or on the same day as the expiration date of the corresponding Nationwide and Regional General Permits. In accordance with General Statute 136-44.7B, certifications issued to the NCDOT shall expire only upon expiration of the federal 404 Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. If the construction process for approved activities will overlap the expiration and renewal date of the corresponding 404 Permit and the Corps allows for continued use of the 404 Permit, then the General Certification shall also remain in effect without requiring re-application and re-approval to use this Certification for the specific impacts already approved.
17. The applicant/permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If the Division determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then the Division may reevaluate and modify this General Water Quality Certification.

Non-compliance with or violation of the conditions herein set forth by a specific fill project shall result in revocation of this General Certification for the project and may result in criminal and/or civil penalties.

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity, if it is determined that the project is likely to have a significant adverse effect upon water quality including state or federally listed endangered or threatened aquatic species or degrade the waters so that existing uses of the wetland, stream or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: November 1, 2007

DIVISION OF WATER QUALITY

By



Coleen H. Sullins

Director

History Note: Water Quality Certification (WQC) Number 3701 replaces Water Quality Certification Number 2670 issued on January 21, 1992, WQC Number 2734 issued on May 1 1993, WQC Number 3107 issued on February 11, 1997, WQC Certification Number 3361 issued March 18, 2002, WQC Certification Number 3403 issued March 2003, and WQC Number 3632 issued March 2007. This General Certification is rescinded when the Corps of Engineers re-authorizes Nationwide Permit 23 or when deemed appropriate by the Director of the DWQ.

**GENERAL CERTIFICATION FOR PROJECTS ELIGIBLE
FOR U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT NUMBER 33
(TEMPORARY CONSTRUCTION, ACCESS AND DEWATERING)
AND RIPARIAN AREA PROTECTION RULES (BUFFER RULES)**

Water Quality Certification Number 3688 is issued in conformity with the requirements of Section 401, Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Quality Regulations in 15A NCAC 2H, Section .0500 and 15A NCAC 2B .0200 for the discharge of fill material to waters and wetland areas as described in 33 CFR 330 Appendix A (B) (33) and for the Riparian Area Protection Rules (Buffer Rules) in 15A NCAC 2B .0200. The category of activities shall include any fill activity for temporary construction, access and de-watering.

The State of North Carolina certifies that the specified category of activity will not violate appropriate portions of Sections 301, 302, 303, 306 and 307 of the Public Laws 92-500 and 95-217 if conducted in accordance with the conditions hereinafter set forth.

Activities covered by this General Certification *do not* require written approval from the Division of Water Quality (the "Division") as long as they comply with the Conditions listed below. **If any of these Conditions cannot be met, or if the activity is associated with or in response to a Notice of Violation from the Division of Water Quality or the NC Division of Land Resources, then written approval from the Division is required. Activities that are located within river basins with Riparian Area Protection Rules (Buffer Rules) require written approval unless listed in the as "Exempt" within the riparian rules.**

* In accordance with North Carolina General Statute Section 143-215.3D(e), any requirement for written approval for a 401 Water Quality Certification must include the appropriate fee. If a project also requires a CAMA Permit, then one payment to both agencies shall be submitted and will be the higher of the two fees.

Conditions of Certification:

1. No Impacts Beyond those authorized by this Certification

No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the thresholds authorized by this Certification, including incidental impacts. All construction activities, including the design, installation, operation, and maintenance of sediment and erosion control Best Management Practices, shall be performed so that no violations of state water quality standards, statutes, or rules occur.

2. Standard Erosion and Sediment Control Practices

Erosion and sediment control practices shall be in full compliance with all specifications governing the proper design, installation and operation and maintenance of such Best Management Practices:

- a. Design, installation, operation, and maintenance of the sediment and erosion control measures must be such that they equal, or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
- b. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.

- c. Reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act and the Mining Act of 1971.
 - d. Sufficient materials required for stabilization and/or repair of erosion control measures and stormwater routing and treatment shall be on site at all times. except for publicly funded linear transportation projects when materials can be accessed offsite in a timely manner.
 - e. If the project occurs in waters or watersheds classified as Primary Nursery Areas (PNAs), Trout (Tr), SA, WS-I, WS-II, High Quality (HQW), or Outstanding Resource (ORW) waters, then the sediment and erosion control requirements contained within *Design Standards in Sensitive Watersheds* (15A NCAC 04B .0124) supercede all other sediment and erosion control requirements.
3. No Sediment and Erosion Control Measures in Wetlands or Waters

Sediment and erosion control measures should not be placed in wetlands or waters outside of the permitted impact areas without prior written approval from the Division. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, then the design and placement of temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or stream beds or banks, adjacent to or upstream and down stream of the above structures. All sediment and erosion control devices shall be removed and the natural grade restored within two (2) months of the date that the Division of Land Resources or locally delegated program has released the project.

4. Construction Stormwater Permit NCG010000

Upon the approval of an Erosion and Sedimentation Control Plan issued by the Division of Land Resources (DLR) or a DLR delegated local erosion and sedimentation control program, an NPDES General stormwater permit (NCG010000) administered by the Division is automatically issued to the project. This General Permit allows stormwater to be discharged during land disturbing construction activities as stipulated by conditions in the permit. If your project is covered by this permit [applicable to construction projects that disturb one (1) or more acres], full compliance with permit conditions including the sedimentation control plan, self-monitoring, record keeping and reporting requirements are required. A copy of this permit and monitoring report forms may be found at http://h2o.enr.state.nc.us/su/Forms_Documents.htm.

NCDOT shall be required to be in full compliance with the conditions related to construction activities within the most recent version of their individual NPDES (NCS000250) stormwater permit.

5. Construction Moratoriums and Coordination

All moratoriums on construction activities established by the NC Wildlife Resources Commission (WRC), US Fish and Wildlife Service (USFWS), NC Division of Marine Fisheries (DMF), or National Marine Fisheries Service (NMFS) to lessen impacts on trout, anadromous fish, larval/post-larval fishes and crustaceans, or other aquatic species of concern must be obeyed. This condition can be waived through written concurrence on a case by case basis upon reasonable justification.

Work within the twenty-five (25) designated trout counties or identified state or federal endangered or threatened species habitat shall be coordinated with the appropriate WRC, USFWS, NMFS, and/or DMF personnel.

6. Riparian Area Protection (Buffer) Rules

Activities located in the protected 50-foot wide riparian areas (whether jurisdictional wetlands or not) within the Neuse, Tar-Pamlico, Randleman and Catawba River Basins (or any other basin with buffer rules), shall be limited to "uses" identified within and constructed in accordance with 15A NCAC 2B .0233, .0259, .0250, and .0243, and shall be located, designed, constructed, and maintained to have minimal disturbance to protect water quality to the maximum extent practicable through the use of best management practices. All buffer rule requirements, including diffuse flow requirements, shall be met.

7. Water Supply Watershed Buffers

The 100-foot wide (high-density development) or the 30-foot wide vegetative buffer (all other development) shall be maintained adjacent to all perennial waters except for allowances as provided in the Water Supply Watershed Protection Rules [15A NCAC 2B .0212 through .0215].

- * 8. If an environmental document is required under NEPA or SEPA, then this General Certification is not valid until a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) is issued by the State Clearinghouse.

9. Placement of culverts and other structures in waters, streams, and wetlands

The application must include construction plans with cross-sectional details in order to indicate that the current stability of the stream will be maintained or enhanced (i.e., not result in head cuts).

Culverts required for this project shall be designed and installed in such a manner that the original stream profiles are not altered and allow for aquatic life movement during low flows. Existing stream dimensions (including the cross section dimensions, pattern, and longitudinal profile) must be maintained above and below locations of each culvert. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed by one foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life, unless otherwise justified and approved by the Division

Installation of culverts in wetlands must ensure continuity of water movement and be designed to adequately accommodate high water or flood conditions. Additionally, when roadways, causeways or other fill projects are constructed across FEMA-designated floodways or wetlands, openings such as culverts or bridges must be provided to maintain the natural hydrology of the system as well as prevent constriction of the floodway that may result in destabilization of streams or wetlands.

Any rip rap required for normal pipe burial and stabilization shall be buried such that the original stream elevation is restored and maintained.

The establishment of native, woody vegetation and other soft stream bank stabilization techniques must be used where practicable instead of rip-rap or other bank hardening methods.

10. Work in the Dry

All work in or adjacent to stream waters shall be conducted in a dry work area. Approved best management practices from the most current version of the NC Sediment and Erosion Control Manual, or the NC DOT Construction and Maintenance Activities Manual, such as sandbags, rock berms, cofferdams, and other diversion structures shall be used to minimize excavation in flowing water. Channel realignments shall be constructed by excavating the new channel from downstream to upstream before connecting it to the existing channel. Exceptions to this condition require submittal to, and approval by, the Division of Water Quality.

11. If concrete is used during the construction, then a dry work area should be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete should not be discharged to surface waters due to the potential for elevated pH and possible aquatic life/fish kills.

12. Temporary Fills

All temporary fill and culverts shall be removed and the impacted area returned to the original grade, including each stream's original cross sectional dimensions, planform pattern, and longitudinal bed and bed profile after construction is complete or within two (2) months of the establishment of the crossing, whichever is sooner, and the various sites shall be stabilized with natural woody vegetation (except for the maintenance areas of permanent utility crossings) and restored to prevent erosion. If the crossings are not completely removed and restored as described above within the specified time above, then written approval from the Division must be obtained to modify this condition.

13. Pipes shall be installed under the road or causeway in all streams to carry at least the 25-year storm event as outlined in the most recent edition of the *North Carolina Sediment and Erosion Control Planning and Design Manual* or the *North Carolina Surface Mining Manual* so as not to restrict stream flow during use of this General Certification.
14. For projects requiring written approval, additional site-specific conditions may be added to the cover letter in order to ensure compliance with all applicable water quality and effluent standards.

* 15. Certificate of Completion

When written authorization is required for use of this certification, upon completion of all permitted impacts included within the approval and any subsequent modifications, the applicant shall be required to return the certificate of completion attached to the approval. One copy of the certificate shall be sent to the DWQ Central Office in Raleigh at 1650 Mail Service Center, Raleigh, NC, 27699-1650.

16. This General Certification shall expire three (3) years from the date of issuance of the written approval or on the same day as the expiration date of these corresponding Nationwide and Regional General Permits. In accordance with General Statute 136-44.7B, certifications issued to the NCDOT shall expire only upon expiration of the federal 404 Permit. The conditions in effect on the date of issuance of Certification for a specific project shall remain in effect for the life of the project, regardless of the expiration date of this Certification. If the construction process for approved activities will overlap the expiration and renewal date of the corresponding 404 Permit and the Corps allows for continued use of the 404 Permit, then the General Certification shall also remain in effect without requiring re-application and re-approval to use this Certification for the specific impacts already approved.

17. The applicant/permittee and their authorized agents shall conduct all activities in a manner consistent with State water quality standards (including any requirements resulting from compliance with §303(d) of the Clean Water Act), and any other appropriate requirements of State and Federal Law. If the Division determines that such standards or laws are not being met, including failure to sustain a designated or achieved use, or that State or Federal law is being violated, or that further conditions are necessary to assure compliance, then the Division may reevaluate and modify this General Water Quality Certification.

Non-compliance with or violation of the conditions herein set forth by a specific fill project shall result in revocation of this General Certification for the project and may result in criminal and/or civil penalties.

The Director of the North Carolina Division of Water Quality may require submission of a formal application for individual certification for any project in this category of activity if it is determined that the project is likely to have a significant adverse effect upon water quality, including state or federally listed endangered or threatened aquatic species, or degrade the waters so that existing uses of the wetland, stream or downstream waters are precluded.

Public hearings may be held for specific applications or group of applications prior to a Certification decision if deemed in the public's best interest by the Director of the North Carolina Division of Water Quality.

Effective date: November 1, 2007

DIVISION OF WATER QUALITY

By



Coleen H. Sullins

Director

History Note: Water Quality Certification Number 3388 replaces Water Quality Certification Number 2727 issued on May 1, 1992, Certification Number 3114 issued on February 11, 1997, Certification Number 3366 issued March 18, 2002, and Certification Number 3634 issued March, 2007. This General Certification is rescinded when the Corps of Engineers reauthorize Nationwide Permit 33 or when deemed appropriate by the Director of the Division of Water Quality.

BIOLOGICAL ASSESSMENT/BIOLOGICAL EVALUATION

**NCDOT BRIDGE 70 (B-3335) REPLACEMENT,
DUKE POWER LINE RELOCATION, AND
PARKING AREA CONSTRUCTION**

NANTHALA NATIONAL FOREST

CHEOAH RANGER DISTRICT

GRAHAM COUNTY

NORTH CAROLINA

Jason K. Farmer
Fisheries Biologist, Nantahala National Forest
Cheoah Ranger District
1070 Massey Branch Road
Robbinsville, NC 28771

1.0 Project Description

1.1 Alternative 1

No activities proposed.

1.2 Alternative 2

Replace the existing bridge with a two-lane spanning structure at approximately Cheoah River Mile 8.1.

1.3 Alternative 3 (Preferred Alternative)

The NCDOT proposes to construct a spanning structure that will replace Bridge #70. The new bridge would be on a new alignment approximately 50 feet upstream of the existing bridge. Following dismantling of the existing bridge, a small parking area would be retained at the existing bridge site on the northwestern side of the river to provide parking for river access. The existing pavement would be pulled up, leaving a gravel surface, and the drainage would be directed away from the river to a vegetated filter strip. Additional gravel may be placed at the site to reduce the potential for erosion from the site. This parking area would provide access for anglers and river trail users.

This project would also include relocating an existing powerline to a private inholding adjacent to the proposed bridge site.

2.0 Aquatic Threatened, Endangered and Sensitive Species

2.1 Boundaries of Aquatic Analysis Areas

This analysis addresses project area waters and analysis area waters associated with the NCDOT Bridge #70 Project. Project area waters are defined as those in the area of potential site-specific impacts on aquatic habitat and populations, and do not necessary overlap effects to botanical and wildlife resources. In addition to project area waters, the analysis area encompasses waters downstream that potentially could be impacted by project activities. The aquatic analysis area for this project consists of the following watershed: the Cheoah River.

Data for aquatic resources exist in two forms: general inventory and monitoring of forest resources and data provided by cooperating resource agencies from resources on or flowing through the forest. Both of these sources are accurate back to approximately 1980 and are used regularly in project analyses. Data collected prior to 1980 are used primarily as historical data.

Additional information specifically addressing aquatic PETS species was obtained from NCWRC biologists, North Carolina Natural Heritage Program records, and US Fish and Wildlife Service biologists.

2.2 Species Evaluated and Rationale

Information specifically addressing aquatic PETS species was obtained from North Carolina Wildlife Resources Commission (NCWRC) biologists, North Carolina Natural Heritage Program (NCNHP) records, US Fish and Wildlife Service (USFWS) biologists, and Tennessee Valley Authority (TVA) biologists.

2.2.1 Previous Survey Information

Previous surveys have located the federally endangered Appalachian elktoe within the Cheoah River. These surveys include mussel surveys by the U.S. Fish and Wildlife Service, U.S. Forest Service, and the North Carolina Wildlife Resources Commission, as well as electrofishing surveys conducted by the NCWRC and USFS. In addition, aquatic insects have been monitored by the NCDENR at fixed locations in the aquatic analysis area (NCDENR, 2005).

2.2.2 New Surveys or Inventories Conducted

The need for additional surveys was considered using the 1989 Vegetation Management Standard for PETS Species Inventory, as interpreted by the Interim Guidance for National Forests in Texas (November 1, 2005). No additional surveys were deemed necessary for this project because previous surveys failed to yield any populations of, or potential habitats for, endangered, threatened or sensitive aquatic species in the immediate vicinity of the proposed bridge location. Additional mussel surveys may be required by the U.S. Fish and Wildlife Service prior to the beginning of bridge construction.

No additional aquatic surveys for PETS species were conducted for this project. Existing data were used in this analysis because previous surveys for threatened, endangered and sensitive aquatic species have been conducted in the area.

2.2.3 Species Undergoing Analysis for Effects

Thirteen aquatic PETS species are either known to occur or may occur on the Nantahala National Forest (Attachment A1). The North Carolina Natural Heritage Database was queried for occurrences of PETS species in Graham County. One PETS species remained after this initial filter; however, one threatened species and two sensitive species were included in the analysis because these species have either been introduced or will soon be introduced to the Cheoah River. These four species were then filtered using their habitat information and the availability of these habitats within the aquatic analysis area (Attachment A2). Based upon the results of this filtering process four PETS aquatic species were evaluated for this analysis (Table 2.2.3).

The federally endangered Appalachian elktoe occurs within the Cheoah River and the Cheoah River is designated critical habitat for the species. The federally threatened spotfin chub, *Erimonax monachus*, was reintroduced to the Cheoah River in June 2009. There are no other known proposed, threatened, or endangered species currently within the project area. The sensitive species, *Percina squamata*, is planned for reintroduction to the Cheoah River prior to

the construction of the new bridge. Approximately 332 juvenile wounded darters (*Etheostoma vulneratum*) were released into the Cheoah River in August 2008 (Ruble et al. 2009).

Table 2.2.3: Summary of endangered, threatened and sensitive aquatic species undergoing effects analysis for the NCDOT Bridge #70 Project.

Status	Species	Habitat	Reason for Effects Analysis
Endangered	<i>Alasmidonta raveneliana</i>	Large streams and rivers	Known to occur within the analysis area
Threatened	<i>Erimonax monachus</i>	Large streams and rivers	Known to occur within the Cheoah River
Sensitive	<i>Etheostoma vulneratum</i>	Large streams and rivers, Little TN River system, Jackson, Macon, Swain Co.	Proposed for reintroduction to the Cheoah River – Some individuals stocked in August 2008
Sensitive	<i>Percina squamata</i>	Higher gradient upland rivers, Tennessee River system, Cherokee, Jackson, Macon, Swain Co.	Proposed for reintroduction to the Cheoah River

2.3 Effects of Alternatives on Aquatic Species

2.3.1 Endangered and Threatened Species

Proposed, endangered, and threatened species considered in this analysis are those included in the National Forests in North Carolina (TES) species list (January 2002). All PET species that might occur on the Nantahala National Forest were considered. Potentially affected species were identified from information on habitat relationships, element occurrence records of PET species as maintained by the North Carolina Natural Heritage Program and field data on the project area.

Species Evaluated and rationale

The Appalachian elktoe is federally listed as endangered. It is known to occur in the project area. The USFWS has designated the Cheoah River in the project area as critical habitat for the Appalachian elktoe (Federal Register, 2002). Appalachian elktoe have been found at several locations in the Cheoah River during the various surveys.

Appalachian Elktoe (*Alasmidonta raveneliana*)

The Appalachian elktoe is a rare freshwater mussel that is native to streams and rivers of the southern Appalachian region. It has a thin, but not fragile, kidney-shaped shell, reaching up to about 3.2 inches in length and 1.4 inches in height. Little is known about its habitat

requirements, though the species has been reported from relatively shallow, medium-sized creeks and rivers with cool, clean, well-oxygenated, moderate-to-fast flowing water. The species is most often found in riffles, runs, and shallow flowing pools with stable, relatively silt-free, coarse sand and gravel substrate associated with cobble, boulders, and/or bedrock. According to the USFWS, the species is seldom found in stream reaches with accumulations of silt or shifting sand, gravel, or cobble.

Mussel searches conducted by Pennington and Associates, Inc. (PAI) in the Cheoah River in 2000 found one live specimen of the elktoe. The live individual was located just downstream of the confluence with Gladdens Creek, in a shallow run with a substrate of silt and sand flanked by aquatic vegetation. A single relic shell of the Appalachian elktoe was found at a beaver dam just downstream from the confluence of Cochran Creek. No other individuals were found and no other mussel species were found in the Cheoah River.

In August 2002, the North Carolina Department of Transportation (NCDOT) in conjunction with the USFS and the USFWS conducted a mussel survey of the Cheoah River in preparation for the planned replacement of Bridge Number 70, which crosses the Cheoah River on Joyce Kilmer Road. The NCDOT survey found 10 live specimens and 5 relic shells in several different locations in the river.

U.S. Fish and Wildlife Service personnel surveyed five sections of the river in 2003 and found Appalachian elktoe in two sections of the river (Cantrell, pers. comm.). The population between Gladdens Branch and Cochran Creek was well established with “lots of mussels” present. Another site between Half Mile Creek and the bridge at River Mile 1.8 had “some mussels” present.

Approximately 400 meters downstream and 150 meters upstream of the proposed bridge location were surveyed in May 2008 for Appalachian elktoes. No mussels were located during these surveys. The population located approximately 0.5 miles downstream of the existing bridge were re-surveyed and confirmed to still occupy the area.

Fish species that serve as hosts for the Appalachian elktoe (Dr. Jim Layzer, Tennessee Technological University, unpublished data) which have been collected in the Cheoah River include warpaint shiner (*Luxilus coccogenis*), northern hogsucker (*Hypentelium nigricans*), river redhorse (*Moxostoma carinatum*), greenfin darter (*Etheostoma chlorbranchium*), tangerine darter (*Percina aurantiaca*), mottled sculpin (*Cottus bairdi*), and black redhorse (*Moxostoma duquesnii*). The elktoe population appears to be reproducing and individuals thriving in certain areas of the river.

The proposed project potentially affects the Appalachian elktoe by possible sediment inputs to the river during construction of the new bridge. Specific design features to eliminate or control sediment have been developed by NCDOT under informal consultation with the U.S. Fish and Wildlife Service due to concerns about sedimentation effects to the Appalachian elktoe and the critical habitat within the Cheoah River.

Direct and indirect effects:

Bridge Construction:

Alternative 1: The existing bridge would not be replaced.

Alternative 2: Replace the existing bridge with a two-lane spanning structure at approximately Cheoah River Mile 8.1.

Alternative 3 (Preferred Alternative): Replace the existing bridge with a two-lane spanning structure at approximately 50 feet upstream of the existing bridge. Following dismantling of the existing bridge, a small parking area would be retained at the existing bridge site on the northwestern side of the river to provide parking for river access. This parking area would only consist of the existing gravel parking area and the existing paved road leading to the parking area. Additional gravel may be placed at the site to reduce the potential for erosion from the site. This parking area would provide access for anglers and river trail users.

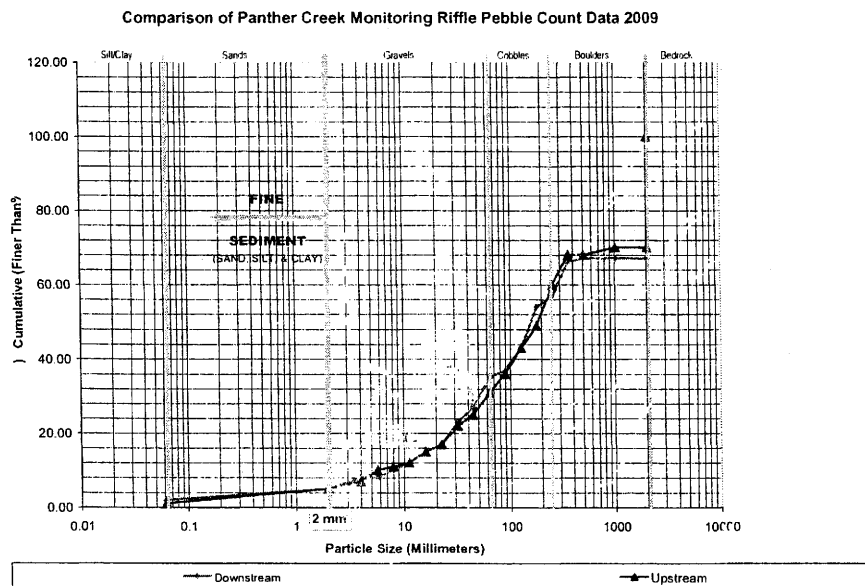
Construction of the new bridge will require soil excavation and filling to construct the bridge abutments. The NCDOT will follow nine specific measures required by the U.S. Fish and Wildlife Service (July 11, 2008 and March 11, 2010 Letters of Concurrence for Proposed Replacement of Bridge No. 70 and accompanying email to March 2010 letter) to minimize the potential effects of bridge replacement upon the Appalachian elktoe. These design measures would prevent visible sediment from entering the Cheoah River and road/bridge deck stormwater runoff would be directed into a vegetated buffer to minimize the inputs of hydrocarbons to the Cheoah River. Based upon these design measures, implementation of the proposed bridge replacement may affect, but is not likely to adversely affect the Appalachian elktoe because no mussels have been located at the proposed site. Additional mussel surveys may also be required by the U.S. Fish and Wildlife Service immediately prior to the initiation of bridge construction.

Parking Area Construction: The vegetation on the cut and fill slopes would not be disturbed, which would provide a filter for storm runoff. Ground disturbance would be seeded and mulched after the existing bridge is dismantled. Additional gravel may be placed at the parking area to harden the parking surface and prevent erosion. Any sediments carried by storm runoff would likely be deposited within the first 20 feet below the parking area within the vegetated buffer. Sediments from the parking area are not likely to enter the designated critical habitat of the Cheoah River in measurable quantities since project design features would distribute runoff to vegetative filters.

A very small quantity of sediments may enter the river during bridge replacement; however, these effects would not be measurable approximately 50 feet below the construction site. Sedimentation may reduce the quality of spawning gravel and/or embed larger substrate within the first 50 feet of bridge installation. The duration of the effect depends upon stream type (stream energy available to move particles) and storm runoff magnitude and frequency. The effect could move downstream although it would dissipate the further removed it is from the source. Higher gradient stream channels may have these sediments scoured and the effect would be dissipated throughout the stream channel. Much of the habitat within the project area is bedrock and boulder. Sediment accumulation at this site is unlikely to occur because this reach

receives sufficient flow to scour and disperse sediments. These effects would dissipate prior to reaching the habitats currently occupied by the Appalachian elktoe (approximately 0.5 mile downstream). Monitoring for a previous bridge replacement on the Cheoah Ranger District suggests that no discernible changes in habitat quality or quantity occurs during bridge replacement projects when erosion control measures are properly installed and maintained (Figure 1). Particle sizes ≤ 2 mm in diameter made up 5% of the substrate in both the above bridge reach and the below bridge reach.

Figure 1. Pebble count monitoring results following completion of Bridge #99 over Panther Creek. Construction completed approximately one week prior to surveys. Monitoring conducted approximately 100 meter upstream and 100 meter downstream of construction area.



The effects of bridge construction, minor sediment inputs after erosion control is implemented, would only occur in approximately 0.40 acre (approximately 0.73% of the river surface area) of the Cheoah River. The effects of the bridge removal would occur in a short section of the river (approximately 0.34 acre or 0.62% of the Cheoah River) for the duration of installation activities. The specific design details will minimize the amount of sediment entering the river. These activities are not likely to adversely affect the Appalachian elktoe or the designated critical habitat.

Water Quality: Water quality should not be affected because LRMP and NC-FPG standards are followed. Additional measures will be implemented to provide protection for the Appalachian elktoe (as stated within the July 11, 2008 Letter of Concurrence). Construction areas would be seeded and hardened within 15 days of site disturbance. Silt fences, sediment basins, or other erosion control methods would be used around construction areas to prevent visible sediment from entering area streams. Given the small size of canopy openings from stream crossings, stream temperatures are unlikely to be affected. Sediment impacts would be minimized by the application of LRMP standards and NC-FPG compliance, erosion control precautions, and stream crossing methods incorporated into the project. These effects would persist for

approximately 0.5 day at the construction sites, possibly longer depending upon the local weather conditions and the stream channel gradient.

Effects of bridge and parking area runoff: The project design features would likely prevent hydrocarbons from reaching the Cheoah River by diverting stormwater runoff from the bridge into vegetated filter areas. Visitor use of the parking area is expected to be low throughout most of the year with occasionally high usage occurring on approximately 20 days annually during whitewater boating events. The sporadic nature of this usage would likely preclude the accumulation of large amounts of hydrocarbons in parking areas. This would result in a low probability of hydrocarbons occurring in runoff through most of the year. Any hydrocarbons that might enter the Cheoah River after passing through sediment traps or vegetative filters would be of such low concentrations that potential effects of these compounds to the aquatic organisms would be immeasurable. These compounds would be unlikely to cause adverse effects to the aquatic organisms because of the high volatility of fuels and the relative low toxicity of motor vehicle lubricants (Crabtree, 2004). Concentrations of polycyclic aromatic hydrocarbons in mussels below bridges over piedmont North Carolina streams were found to be higher than concentrations in mussels upstream of bridges. However, these concentrations were low, despite the lack of filtration of runoff, and are unlikely to create adverse effects on adult mussels (Levine et. al, 2004; page 71). Therefore, the potential concentrations of hydrocarbons in the Cheoah River are expected to be extremely low (possibly undetectable by analytical methods).

Riparian vegetation: The riparian vegetation removal along the river banks would be partially mitigated by removal of the existing bridge and revegetation of the bridge abutments. There may be a slight decrease in shoreline vegetation resulting from the new bridge construction but this reduction would be minor and would not alter the river's temperature. The old bridge site would be revegetated and begin to return to a more natural condition. The trees removed for relocation of the power line would not alter stream water temperatures because the trees are few in number (approximately 30 trees would be cut for the bridge and power line corridor). The new flow regime should provide large woody debris recruitment from shoreline vegetation, which would more closely mimic the pre-impoundment condition of the river. This activity would have no effect on the Appalachian elktoe or the designated critical habitat.

Effects of installing staff gage: A staff gage would be removed from the existing bridge and installed on or near the new bridge by drilling a 2 inch hole into a rock or bridge support and inserting the gage. This action is minor and would not negatively affect the aquatic resources of the Cheoah River. There would be no effects from this activity.

Effects to the Appalachian elktoe:

The effects of this project to the Appalachian elktoe and its habitat are evaluated above. Additionally, any effects that may occur to the 7 Primary Constituent Elements of the Appalachian elktoe critical habitat are likely to occur as a result of the new flow releases and not as a result of the proposed bridge replacement because the NCDOT has taken the necessary measures to prevent sediments from entering the river in measurable quantities. Any possible effects to the Primary Constituent Elements from the new flow regime were disclosed in the Tapoco Project FERC EA and its supporting documentation. Therefore, the cumulative effects

of this project on the 7 Primary Constituent Elements of the Appalachian elktoe critical habitat are:

1. *Permanent, flowing, cool, clean water.* The new flow regime will provide more flowing, cooler water. Replacement of the existing bridge will not affect water temperatures or water quality. Reservoir releases will mitigate any minor (and immeasurable) temperature increases that might result from the change in shading from the two bridge designs. There would be no effects to the Cheoah River flow, water temperature or water quality resulting from this project.
2. *Geomorphically stable stream channels and banks.* The new flow regime will inevitably alter the stream channel and banks as substrates and large woody debris are rearranged by the flows. These rearranging actions will restore the river to a more natural condition which should provide better habitat for the Appalachian elktoe. The bridge replacement actions would be stabilized to prevent erosion and bank instability. The removal of the existing bridge pilings would remove an artificial structure from the river channel and restore the area to a more natural condition. There would be no effects to the stream channel or banks from this project.
3. *Pool, riffle, and run sequences within the channel.* The pool, riffle, run complex within the Cheoah River is largely determined by the underlying bedrock. Replacement of the bridge will not affect these attributes.
4. *Stable sand, gravel, cobble, and boulder or bedrock substrates with no more than low amounts of fine sediment.* The new flow regime is rearranging substrates, depositing some fines in backwater areas and sequestering some substrate particles from old deposits. Additional gravels will be supplemented to enhance the habitat within the river. Bridge replacement plans would prevent visible sediment from entering the river; therefore, there would be no effects to this habitat element.
5. *Moderate to high stream gradient.* The stream gradient of the Cheoah River will only change over time as the mountains erode away. Replacement of the bridge will not affect the stream gradient.
6. *Periodic natural flooding.* While the dam may have some cushioning effects to the natural flooding patterns, it cannot prevent major floods from affecting the river. Additionally, high flow events are scheduled for the new flow regime. These events were scheduled based upon the hydrographs for similar streams and the tributaries of the Cheoah River. Replacement of the bridge will not increase or decrease the incidence of floods or bankfull events (natural or otherwise).
7. *Fish hosts, with adequate living, foraging, and spawning areas for them.* The improved minimum flows and gravel augmentation should improve habitats for the fishes within the Cheoah River and invertebrates (Alcoa Power Generating, Inc., Tapoco Division, 2003). Fish species that serve as hosts for the Appalachian elktoe (Dr. Jim Layzer, Tennessee Technological University, unpublished data) which have been collected in the Cheoah River include warpaint shiner (*Luxilus coccogenis*), northern hogsucker (*Hypentelium nigricans*), river redhorse (*Moxostoma carinatum*), greenfin darter (*Etheostoma chlorbranchium*), tangerine darter (*Percina aurantiaca*), mottled sculpin (*Cottus bairdi*), and black redhorse (*Moxostoma duquesnii*). Project plans will prevent visible sediment from entering the river, thus there would be no impacts to any of these fishes. The minor reduction of shoreline habitat associated with the new bridge construction would not affect the overall

foraging habitat for any fish species. Furthermore, the streambanks where the current bridge is located would become revegetated, providing additional bank cover for fishes.

Effects to the spotfin chub:

The spotfin chub was reintroduced into the Cheoah River in June 2009, the effects of the proposed bridge replacement will be analyzed for this species.

Spotfin chub "habitat includes cool and warm, typically clear, large creeks or medium-sized rivers of moderate gradient, in upland and montane areas, generally in or near moderate and swift currents over gravel to bedrock, rarely over sand or silt (Lee et al. 1980, Burkhead and Jenkins 1991). Eggs are laid in stone cracks, crevices, or in the narrow interface of two touching rocks (Burkhead and Jenkins 1991). Jenkins and Burkhead (1994) reported breeding sites in moderate current of shallow portions of runs, in areas strewn with unsilted rubble and boulders" (Nature Serve 2009).

Meyer and Sutherland (2005) found that spotfin chubs in the Little Tennessee River spawned over crevices within bedrock riffles with very little fine sediment. Spawning has been reported from mid-May through early September (Jenkins and Burkhead 1984; in Meyer and Sutherland 2005).

The Cheoah River at the proposed bridge replacement project area does provide suitable habitat for the spotfin chub. This site could be occupied by individuals of the spotfin chub during the construction phase of the project, however, the presence of spotfin chubs at the bridge location is unlikely due to the relatively small number of individuals within the river (approximately 600 released into the river in 2009) and it is unlikely that these individuals have moved upstream to the bridge since they were released.

Direct and Indirect Effects:

The effects of the proposed bridge replacement would be minimized by the project design features to protect the Appalachian elktoe. Relocation of the power line would not alter stream bank vegetation or result in sedimentation of the river because the corridor is located approximately 50 feet from the river bank and the soil disturbed for installation of the new wooden poles would be confined to the immediate vicinity of the holes. Retention of the existing parking area would not affect the Cheoah River because the existing bridge approach would be retained as a gravel parking area and all drainage would be directed away from the river to a vegetated filter area. These activities would be completed during the bridge construction/demolition while erosion control measures are already in place.

Effects of Past, Ongoing and Foreseeable Actions:

Previous actions. Previous actions within the Cheoah River watershed include the Barker/Belding/Blackgum Project EA and Goldmine Salvage. These activities occurred between 1996 and 2000. These sales included timber harvest (clear cutting, shelterwood, two-aged regeneration, salvage cutting, and intermediate thinning), construction of approximately 3.5

miles of roads, and reconstruction of approximately 1.6 miles of roads. Additional activities associated with these timber sales included: pre-harvest herbicide treatments, herbicide site preparation, chainsaw site preparation, hand planting pine seedlings, prescribed fire for wildlife habitat and site preparation, vine control, wildlife habitat improvements, large woody debris placement for fish habitat, and recreational trail improvements. As a result of the length of time since completion of these sales, any effects to the aquatic resources are reflected in the current affected environment. The Hazanet Timber Project is currently being implemented. Portions of this project occur within the Cheoah River watershed. The Hazanet Project includes two-age timber harvest, thinning, regeneration, burning, group selection harvest, oak midstory preharvest treatment, vine control and timber stand improvement, and wildlife habitat improvements. This project also includes construction of 0.5 mile of road in the Sarvis Branch drainage (Compartment 33); construction of 0.25 mile system road in Compartment 35; construction of 0.4 mile of temporary haul road in Compartment 35; reconstruction of approximately 0.2 mile of road in Compartment 33. Best management practices and forest plan standards are being implemented for these activities and no measurable adverse effects are occurring to the aquatic resources in the Cheoah River. The Cheoah River Recreation Project included construction of a whitewater boating put-in facility below Santeetlah Dam, construction of 2 additional boating access sites, and a take-out facility on Calderwood Lake. Since the establishment of a high flow regime, one additional boat access site has been constructed on private land downstream of the confluence of Cochran's Creek.

Previous operations at Santeetlah Dam have had negative effects upon the aquatic organisms and the aquatic habitat. The dam has interrupted the Cheoah River's hydrological processes, creating a degraded habitat situation. The current condition of the Cheoah River habitat and its aquatic species abundance and diversity is a reflection of the effects of river impoundment (See Alcoa Power Generating, Inc., Tapoco Division, 2003, for a complete discussion of the effects of river impoundment). There are no other previous actions on private lands within the analysis area that are known to be affecting the aquatic resources of the Cheoah River.

The new flow regime has increased the amount of in-channel vegetation clumps being scoured from the river. Additionally, some of this vegetation has been cut to improve boater safety. One hundred cubic yards of gravel was added to the Cheoah River in 2008.

Cumulative effects: The only effects anticipated would be those described in the proposed actions because there are no ongoing effects from previous actions.

Ongoing actions. The Cheoah River receives moderate use by the whitewater boating community for approximately 20 days per year. The USFS continues to maintain the boat access facilities at the existing sites. The NCWRC and USFWS have proposed to continue stockings of the federally threatened spotfin chub into the Cheoah River. There are no ongoing actions on public or private lands within the analysis area that are known to be affecting the aquatic resources of the Cheoah River.

Future actions. The Cheoah Ranger District proposes to treat non-native invasive species within the Cheoah River corridor using herbicides. These actions would be implemented using project design standards developed during consultation with the U.S. Fish and Wildlife Service to avoid

effects to any threatened or endangered species. The Cheoah River Fund Board is proposing to introduce gravel and cobble into the river in 2010 to improve habitat conditions for aquatic species.

Cumulative effects: The only effects anticipated would be those described in the proposed actions because no effects are anticipated from any future actions.

Approximately 13% of the Cheoah River shoreline is under private ownership (excluding Alcoa Power Generating ownership). There are no known projects planned for the Cheoah River on private lands. The Land Trust for the Little Tennessee River is proposing to treat non-native invasive species using herbicides and restore native vegetation within the Yellow Creek tract. No potential effects to the project area aquatic resources are expected to occur from future actions on adjacent private lands.

Summary of Cumulative Effects:

The effects of the bridge replacement have been described above and would be minimal because the project design features would prevent or contain sediments and avoid inputs of hydrocarbons. The sediment dilution as surface water from Santeetlah Lake enters the watershed would minimize the effects of any minor increases of sediment resulting from bridge replacement activities. The cumulative effects in Alternative 3 would only occur in 0.74 acre (approximately 1.36%) of the Cheoah River for the duration of construction activities. These effects would be immeasurable in the Cheoah River. The minimum flow regime (with scheduled high flows) would facilitate the recovery of the aquatic community and scour sediments from the channel. There would be no effects to the aquatic resources resulting from the relocation of the existing power line or the retention of the gravel parking area at the bridge.

2.3.2 Sensitive Species

- **Wounded Darter** (*Etheostoma vulneratum*):

The wounded darter has been stocked into the Cheoah River (approximately 200 individuals). These fish were stocked in 2008 but their survival rates are not known. The species is assumed to be present within the treatment area of the proposed bridge replacement project. This species is typically found in moderate to large rivers and is associated with moderate currents over boulder substrates (Etnier and Starnes 1993). The species typically spawns from mid May through late July (Stiles 1972; cited by Etnier and Starnes 1993). Although most of the substrate in the treatment area is bedrock, some boulder substrates exist at the site. Therefore, the area provides some potential habitat for the wounded darter.

Direct, Indirect, and Cumulative Effects:

The direct, indirect, and cumulative effects of the proposed bridge replacement project would be the same as those described for the spotfin chub. The project design features to minimize effects to the Appalachian elktoe and spotfin chub would prevent any effects from occurring to this species. The NCDOT Bridge #70 Replacement Project would have no effect on any sensitive aquatic species or its habitat because project design features to protect the Appalachian elktoe and spotfin chub would provide protection for the wounded darter.

- **Olive Darter** (*Percina squamata*):

Although no olive darters have been recorded within the Cheoah River, the species is proposed for introduction by Conservation Fisheries and the Cheoah Fund Board. "Habitat includes small to medium upland rivers, including high-gradient streams in chutes with moderate to torrential current over rubble and boulders, deeper downstream portions of gravel riffles in streams of moderate gradient, and sometimes shallow pools with gravel or rock bottoms (Comiskey and Etnier 1972; Burr and Warren 1986; Etnier and Starnes 1993; C. F. Saylor, personal communication)" (NatureServe database). The proposed treatment area contains suitable habitat for this species.

Direct, Indirect, and Cumulative Effects:

The direct, indirect, and cumulative effects of the proposed bridge replacement project would be the same as those described for the spotfin chub. The NCDOT Bridge #70 Replacement Project would have no effect on any sensitive aquatic species or its habitat because project design features to protect the Appalachian elktoe and spotfin chub would provide protection for the olive darter.

There are no other known sensitive species in the analysis area. For Alternatives 1 and 2, there will be no direct, indirect, or cumulative effects to any sensitive species.

2.3.3 Consultation History

The NCDOT initiated informal consultation with the U.S. Fish and Wildlife Service in 2003. A letter of concurrence was obtained by NCDOT on July 11, 2008. After the spotfin chub was reintroduced to the Cheoah River in June of 2009 consultation was revisited and a letter of concurrence was obtained by NCDOT on March 11, 2010. The NCDOT will follow nine specific measures required by the U.S. Fish and Wildlife Service (March 11, 2010 Letter of Concurrence for Proposed Replacement of Bridge No. 70 and email of the same date) to minimize the potential effects of bridge replacement upon the Appalachian elktoe and spotfin chub.

2.4 Determination of Effect for Aquatic Species

The NCDOT Bridge #70 Replacement Project is **not likely to adversely affect** the Appalachian elktoe because project design features developed in consultation with the U.S. Fish and Wildlife Service would prevent sedimentation to the Cheoah River. Implementation of this project is **not likely to adversely affect** the spotfin chub because the project design features to protect the Appalachian elktoe would also protect the spotfin chub. The U.S. Fish and Wildlife Service has concurred with these determinations for the bridge replacement. Relocation of the existing power line would have **no effects** to the Appalachian elktoe, its critical habitat or the spotfin chub because project design features would prevent sediment from entering project area streams and riparian vegetation disturbance would be discountable. Consultation with the U.S. Fish and Wildlife Service **has been completed for aquatic resources**. The NCDOT Bridge #70 Replacement Project would have no effect on any sensitive aquatic species or habitats because

project design features to protect the Appalachian elktoe and spotfin chub would provide protection for the wounded darter and olive darter.

Table 2.4: Determination of effect of the NCDOT Bridge #70 Replacement Project and associated activities on the evaluated proposed, endangered, threatened and sensitive aquatic species.

USFS Status	Species	Alternative 1	Alternative 3
Endangered	<i>Alasmidonta raveneliana</i>	No effect.	May affect, Not likely to adversely affect*
Threatened	<i>Erimonax monachus</i>	No effect.	May affect, Not likely to adversely affect*
Proposed	None	No effect.	No effect.
Sensitive	<i>Etheostoma vulneratum</i>	No impact.	No impact.
Sensitive	<i>Percina squamata</i>	No impact.	No impact.

*The U.S. Fish and Wildlife Service has concurred with this determination for the bridge replacement. There would be no additional effects to the species resulting from the proposed power line relocation or the retention of the gravel parking area.

3.0 Botanical Threatened, Endangered and Sensitive Species

3.1 Boundaries of Botanical Analysis Areas

Because plants are rooted species that must be present in the proposed treatment area to undergo effects, the analysis area for endangered, threatened and sensitive species was confined to the expected impact zone surrounding the proposed treatment area. Because each plant species has a unique life history, the temporal response to management activities must be evaluated on a species-by-species basis.

3.2 Species Evaluated and Rationale

All endangered and threatened plant species listed by the U. S. Fish and Wildlife Service for the Nantahala National Forest were considered for this analysis (Attachment B1). No candidate plant species occur on the Nantahala National Forest, and therefore were not considered further. All sensitive species listed by the Regional Forester (USFS, 2001) were also considered for this analysis.

3.2.1 Previous Survey Information

The Biotics Database was queried for endangered, threatened and sensitive plant species growing inside the proposed treatment area. It contained no records for any endangered, threatened or sensitive plant species in the proposed treatment area.

3.2.2 New Surveys or Inventories Conducted

The proposed treatment area was previously surveyed for endangered, threatened and sensitive plant species by Gary Kauffman, Botanist for the National Forests of North Carolina. No endangered, threatened or sensitive plant species were located during his survey (Table 3.2.2).

3.2.3 Species Undergoing Analysis for Effects

Table 3.2.2: Summary of endangered, threatened and sensitive plant species undergoing effects analysis for the Bridge 70 Replacement Project (see Attachment B1 for a complete list of species evaluated).

Status	Species	Habitat	Reason for Effects Analysis
Endangered	None	Not applicable	Not applicable
Threatened	None	Not applicable	Not applicable
Sensitive	None	Not applicable	Not applicable

3.3 Effects of Alternatives on Botanical Species

Because no endangered, threatened or sensitive plant species were located in the proposed treatment area, there will be no direct, indirect or cumulative effects to any endangered, threatened or sensitive plant species.

3.4 Determination of Effect for Botanical Species

Because no endangered, threatened or sensitive plant species were located in the proposed treatment area, there should be no direct, indirect or cumulative effects to any endangered, threatened or sensitive plant species. Consultation with the U. S. Fish and Wildlife Service is not necessary for botanical resources.

4.0 Terrestrial Wildlife Threatened, Endangered and Sensitive Species

4.1 Species Evaluated and Rationale

Proposed, endangered, threatened, and sensitive (PETS) species considered in this analysis are those included on the Regional Forester's PETS species list (January, 2002). All 30 PETS terrestrial animal species that might occur on the Nantahala National Forest were considered (see

attachment). Potentially affected species were identified from information on habitat relationships, element occurrence records of PETS animals as maintained by the North Carolina Natural Heritage Program and field data on the project area. All but one of the five PET species (the Indiana Bat) was dropped from further consideration due to a lack of suitable habitat (Attachment W1). All but four of the 25 sensitive species considered in this analysis were dropped from consideration due to lack of suitable habitat in the project area or being outside the known or expected range of the species.

4.1.1 Previous Survey Information

Stands of possible PETS species habitat were surveyed previously. Species-specific effects are described below. Recommendations are based on best available information and include direct and indirect effects to PETS species off site or on private land.

Potentially affected species were identified from information on habitat relationships, element occurrence records of PET animals as maintained by the North Carolina Natural Heritage Program and field data on the project area. All but one of these (the Indiana Bat) was dropped from further consideration due to a lack of suitable habitat (Attachment W1).

4.1.2 Species Undergoing Analysis for Effects

No federally proposed or listed species are known to occur in the project area. The Indiana bat (*Myotis sodalis*), an endangered species, may occur. The Junaluska salamander (*Eurycea junaluska*) is a sensitive species that is known to occur between Santeetlah Dam and the SR 1134 bridge. Three other sensitive species; the northern bush katydid (*Scudderia septentrionalis*), Diana fritillary butterfly (*Speyeria diana*) and southern Appalachian salamander (*Plethodon teyahalee*); may occur in the project area (See Table 4.1.2). Recommendations are based on best available information and include direct effects and indirect effects to PETS species off site or on private land.

Sensitive species considered in this analysis are those identified by the Regional Forester for which population viability is a concern (August, 2001). All sensitive terrestrial animal species that might occur on the Nantahala National Forest were considered (Attachment W1). Potentially affected species were identified from information on habitat relationships, element occurrence records of sensitive animals as maintained by the North Carolina Natural Heritage Program and field data on the project area.

Table 4.1.2: Known and potential endangered, threatened and sensitive terrestrial wildlife species undergoing further evaluation for the NCDOT Bridge 70 Replacement Project.

Species	USFS Status	Habitat Description	Likelihood of Occurrence
Indiana bat (<i>Myotis sodalis</i>)	Endangered	Roosts in caves and hollow trees	May occur
Northern bush katydid (<i>Scudderia septentrionalis</i>)	Sensitive	Treetops at edges of broadleaved forest	May occur
Diana fritillary butterfly (<i>Speyeria diana</i>)	Sensitive	Deciduous and pine woodlands	May occur
S. appalachian salamander (<i>Plethodon teyahalee</i>)	Sensitive	Moist forests at all elevations	May occur
Junaluska salamander (<i>Eurycea junaluska</i>)	Sensitive	Wider portions of streams below 2395'; Tullulah and Santeetlah creeks, Cheoah River and tributaries	Known to occur

4.1.3 New Surveys or Inventories Conducted

The need for additional surveys was considered using the 1989 Vegetation Management Standard for PETS Species Inventory, as interpreted by the Interim Guidance for National Forests in Texas (November 1, 2005). No additional surveys were deemed necessary for this project because previous surveys failed to yield any populations of, or potential habitats for, endangered or threatened terrestrial animal species.

Inventories were not conducted for four sensitive species potentially occurring in the activity area (Table 4.1.2), because habitat is not limited across the forest, so information on the number and location of individuals in this particular area would not change the assessment of effects to viability of the population. Surveys for the Junaluska salamander were completed recently within the project area.

4.2 Effects of Alternatives on Terrestrial Wildlife Species

4.2.1 Endangered and Threatened Species

Indiana Bat (*Myotis sodalis*),

The Indiana bat (*Myotis sodalis*) may utilize the project area. This bridge project **will have no effect** on the Indiana bat because but no suitable roost trees were located at the site, and the small footprint of the project will result in little impact to potential habitat. This project would have no effect on any other federally proposed or listed terrestrial animal species.

The Nantahala National Forest, Cheoah Ranger District, proposes to permit Duke Energy to move a portion of a distribution line where it crosses the Cheoah River in Graham County. This powerline project **will have no effect on** the Indiana bat, because all standards and guides for the

protection of this species, as listed in Amendment 10 of the Land and Resources Management Plan, will be followed. **No snags will be cut between April 15 and October 15**, which will prevent any direct effects from occurring. The small footprint of the project will result in little impact to potential habitat. This project would have no effect on any other federally proposed or listed terrestrial animal species.

4.2.2 Sensitive Species

- **Northern bush katydid** (*Scudderia septentrionalis*)
Utilizes habitats that are common across the Forest. Although individuals may be impacted if they are present, the project will not affect the availability of suitable habitat across the Forest.
- **Diana fritillary butterfly** (*Speyeria diana*)
This species was recorded from only three sites in western North Carolina prior to 1994, according to the North Carolina Natural Heritage Program database. In the last five years, this species has been found at more than 34 different locations in and near the Nantahala and Pisgah National Forests. The records are widely distributed, with 22 sites on or near the Nantahala National Forest. It is often found along roadsides through mature forest, particularly coves with rhododendron. Direct effects to this species are possible from any activity that uses heavy equipment or disturbs the soil or vegetation. Small-scale disturbances are unlikely to affect the availability of suitable habitat. The main threat to this species would be from the large-scale use of insecticides.
- **Southern Appalachian salamander** (*Plethodon teyahalee*)
This species is found in moist forests in the southwestern mountains at all elevations. It is thought to be fairly common across Graham, Swain, Cherokee, Clay and Macon counties. Dr. Richard Highton's collection at the Smithsonian lists 1007 records for this species from 10 counties at elevations from 1160 feet to 6000 feet. This includes 267 records on the National Forest, distributed across the same 10 counties and four ranger districts. Direct effects to this species are possible from any activity that uses heavy equipment or disturbs the soil.
- **Junaluska salamander** (*Eurycea junaluska*)
This species is an aquatic to semi-aquatic salamander that inhabits mid- to large streams and rivers in eastern Tennessee and western North Carolina. It was described in 1976 from collections taken from the Cheoah River, Santeetlah Creek and Tululah Creek in Graham County, North Carolina (Sever D. M., et al 1976). Collections of *E. bislineata* outnumbered *E. junaluska* along both Tululah and Santeetlah Creeks, but not along the Cheoah River. Ovipositing occurs in the spring, with hatching about a month later. The aquatic larval period ranges from 1-2 years, with metamorphosis occurring mainly in June and July. The juvenile salamanders leave the water later in the summer.

Sever (1976) searched the Cheoah River during the day, and the adjacent roads during rainy nights. In 1973 and 1974 he collected a eight *E. junaluska*, six on U.S. 129 along the Cheoah River between two and seven miles SE of Tapoco, and two in the adjacent river. In 1975 he collected an additional 11 salamanders on U.S. 129 and one on S.R. 1134, along the upper part of the Cheoah. He noted that the species was common on some roads at night, but very

difficult to find by turning rocks, etc. during the day in what would seem to be suitable habitat (Sever 1984).

In 1994 and 1995, Dr. Richard C. Bruce and Travis J. Ryan spent nearly 400 hours searching for the Junaluska salamander at 63 sites in western North Carolina. *E. junaluska* was located in three areas. They were not relocated in Tullulah Creek, but one new population was documented in Snowbird Creek in southwestern Graham County. He noted that *E. junaluska* was the most abundant larval salamander at the Cheoah River site, but comprised only 7-19% of the larval *Eurycea* community in Santeetlah Creek, and 0-30% in Snowbird Creek. The Cheoah River site also differed from the other two sites in that the vegetation was early successional and the larvae appeared to metamorphose earlier, indicating a faster growth rate.

Bruce and Ryan (1995) considered the Santeetlah Creek population to be stable and the Snowbird Creek population to be precarious, primarily due to the lack of individuals collected during the second year. Although a subsequent survey in 1997 (Ryan 1997) also failed to locate any *E. junaluska*, he considered it premature to conclude a population failure. Population fluctuations may be commonplace for salamanders with limited habitat ranges and low population size. These fluctuations are often unexplained and may be due to natural factors inherent in metapopulations.

As for the Cheoah River, they concluded that heavy construction vehicles driving across the breeding sites had adversely affected the population. This location contained the majority of larvae collected at any site in 1994, whereas after disturbance none were found in 1995.

In 2000 and 2001, Dr. William Gutzke and his crew searched over 50 streams, tributaries and rivers in North Carolina for Junaluska salamanders, spending over 1000 man-hours. *E. junaluska* was not found in the upper part of the Cheoah River, but ten adults were found on S.R. 1134 beside the river. This species was also found on U.S. 129 about a mile both upstream and downstream of Tapoco Lodge (Gutzke 2002). Although the difficulty of finding the Junaluska salamander in the river was previously noted by Sever (1976), the number of salamanders in the upper part of the river may be depressed due to the continued damage caused by equipment traversing the river at the breeding site. A recent heavy input of sediment from an adjacent construction site may have also degraded the habitat and increased the buildup of woody vegetation. The presence of the dam would prevent this damage from being repaired by a scouring flood event.

During these surveys the species was also found in Peachtree Creek in Cherokee County and at two locations in Blair Creek in Clay County in 2000. These sites are in the Hiwassee River drainage and are located on private land. On the National Forests in North Carolina, *E. junaluska* is limited to Santeetlah Creek, Snowbird Creek, and (downstream past Santeetlah Lake) the Cheoah River. The majority of the species habitat is along the more than 9 mile long Cheoah River, with about 3 miles of occupied habitat along Snowbird Creek, and a small area, perhaps 0.5 mile, of Santeetlah Creek.

The most recent survey of the Cheoah River was conducted during April and May of 2009 found Junaluska salamanders only in the upper part of the river, between SR 1134 and

Santeetlah Dam. Adults were found on the road during rain events, moving between woodland habitats and the river; eggs and larvae were found under the SR1134 Bridge. Since this is the only known breeding location for Junaluska salamanders in the Cheoah River, it is important to protect this habitat from disturbance. In addition, direct effects to adult salamanders are possible from heavy equipment and construction activities on the river bank and the adjacent road. These effects are possible at any time of year, but are more likely during the spring when females are moving to the river to breed. The following mitigation measures are intended to limit adverse impacts to the Junaluska salamander:

- 1) During the normal breeding period of April and May, construction activities will be limited to the top of the bank and the deck of the bridge. The area between the known breeding location and the adjacent wooded slopes will be kept clear of construction equipment and materials to maintain a clear passage for the salamanders between the breeding site and terrestrial habitats.
- 2) Removal of the existing bridge will be done from the southeast (US 129) side to protect the breeding site. (Remove the deck surface, except over the salamander habitat, and start the removal of beams and knocking over bents from the US129 side. Install temporary pipes between the knocked over bents, working to the bent at the salamander site. Remove this bent by pulling it down and away from the critical area. Break up and remove the bents, pipe, and rip-rap working back to the starting point.)

Provided that the above mitigation measures are implemented, this project may impact individuals of the Junaluska salamander (*Eurycea junaluska*), but will not affect the viability of this species across the Forest.

4.3 Determination of Effect for Terrestrial Wildlife

This project **will have no effect** on the Indiana bat. The bridge project will have no effect on any other federally proposed or listed terrestrial animal species. Consultation with the U.S. Fish and Wildlife Service **is not required** for terrestrial animal species.

The Nantahala National Forest, Cheoah Ranger District, proposes to permit Duke Energy to move a portion of a distribution line where it crosses the Cheoah River in Graham County. This powerline project **will have no effect on** the Indiana bat, because all standards and guides for the protection of this species, as listed in Amendment 10 of the Land and Resources Management Plan, will be followed. **No snags will be cut between April 15 and October 15**, which will prevent any direct effects from occurring. The small footprint of the project will result in little impact to potential habitat. This project would have no effect on any other federally proposed or listed terrestrial animal species.

Provided that the two mitigation measures listed above are implemented, this project may impact individuals of the northern bush katydid (*Scudderia septentrionalis*), Diana fritillary butterfly (*Speyeria diana*), Junaluska salamander (*Eurycea junaluska*) and southern Appalachian

salamander (*Plethodon taylori*), but will not affect the viability of these species across the Forest. The project will have no impact on any other sensitive species. No cumulative effects on species viability across the Forest will result.

Consultation with the U.S. Fish and Wildlife Service is not required for terrestrial wildlife species.

Table 4.3: Determination of effect of each alternative on the evaluated endangered, threatened and sensitive terrestrial wildlife species.

Species	USFS Status	Alternative 1	Alternative 3
Indiana bat	Endangered	No effect	No effect
Northern bush katydid	Sensitive	No impacts	May impact*
Diana fritillary butterfly	Sensitive	No impacts	May impact*
Southern Appalachian salamander	Sensitive	No impacts	May impact*
Junaluska salamander	Sensitive	No impacts	May impact*

*May impact individuals but is not likely to cause a trend to federal listing or a loss of viability across the forest

5.0 Determination of Effects

5.1 Aquatic Endangered, Threatened and Sensitive Species

The NCDOT Bridge #70 Replacement Project is **not likely to adversely affect** the Appalachian elktoe because project design features developed in consultation with the U.S. Fish and Wildlife Service would prevent sedimentation to the Cheoah River. Implementation of this project is **not likely to adversely affect** the spotfin chub because the project design features to protect the Appalachian elktoe would also protect the spotfin chub. The U.S. Fish and Wildlife Service has concurred with these determinations for the bridge replacement. Relocation of the existing power line would have **no effects** to the Appalachian elktoe, its critical habitat, or the spotfin chub because project design features would prevent sediment from entering project area streams and riparian vegetation disturbance would be discountable. The NCDOT Bridge #70 Replacement Project would have no effect on any sensitive aquatic species or habitats because project design features to protect the Appalachian elktoe and spotfin chub would provide protection for the wounded darter and olive darter. Consultation with the U.S. Fish and Wildlife Service **has been completed for aquatic resources.**

The NCDOT Bridge #70 Replacement Project would have no effect on any sensitive aquatic species or habitats because project design features to protect the Appalachian elktoe and spotfin chub would provide protection for the wounded darter and olive darter.

5.2 Botanical Endangered, Threatened and Sensitive Species

Because no endangered, threatened or sensitive plant species were located in the proposed treatment area, there should be no direct, indirect or cumulative effects to any endangered, threatened or sensitive plant species. Consultation with the U. S. Fish and Wildlife Service is not necessary for botanical resources.

5.3 Terrestrial Wildlife Endangered, Threatened and Sensitive Species

This project **will have no affect** on the Indiana bat. The bridge project will have no effect on any other federally proposed or listed terrestrial animal species. Consultation with the U.S. Fish and Wildlife Service **is not required** for terrestrial species.

The Nantahala National Forest, Cheoah Ranger District, proposes to permit Duke Energy to move a portion of a distribution line where it crosses the Cheoah River in Graham County. This powerline project **will have no effect on** the Indiana bat, because all standards and guides for the protection of this species, as listed in Amendment 10 of the Land and Resources Management Plan, will be followed. **No snags will be cut between April 15 and October 15**, which will prevent any direct effects from occurring. The small footprint of the project will result in little impact to potential habitat. This project would have no effect on any other federally proposed or listed terrestrial animal species.

Provided that the two mitigation measures listed above are implemented, this project may impact individuals of the northern bush katydid (*Scudderia septentrionalis*), Diana fritillary butterfly (*Speyeria diana*), Junaluska salamander (*Eurycea junaluska*) and southern Appalachian salamander (*Plethodon teyahalee*), but will not affect the viability of these species across the Forest. The project will have no impact on any other sensitive species. No cumulative effects on species viability across the Forest will result.

5.4 Mitigation Measures

1. The NCDOT will follow nine specific measures required by the U.S. Fish and Wildlife Service (March 11, 2010 Letter of Concurrence for Proposed Replacement of Bridge No. 70 and email of the same date) to minimize the potential effects of bridge replacement upon the Appalachian elktoe and the spotfin chub.
2. Junaluska salamander – During the normal breeding period of April and May, construction activities will be limited to the top of the bank and the deck of the bridge. The area between the known breeding location and the adjacent wooded slopes will be kept clear of construction equipment and materials to maintain a clear passage for the salamanders between the breeding site and terrestrial habitats.
3. Junaluska salamander – Removal of the existing bridge will be done from the southeast (US 129) side to protect the breeding site. (Remove the deck surface, except over the salamander habitat, and start the removal of beams and knocking over bents from the

US129 side. Install temporary pipes between the knocked over bents, working to the bent at the salamander site. Remove this bent by pulling it down and away from the critical area. Break up and remove the bents, pipe, and rip-rap working back to the starting point.)

/s/ **Jason K. Farmer**

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March 11, 2010

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- Crabtree, D.M. 2004. Effects of petroleum and various industrial and automotive organic compounds on fishes, with particular reference to salmonid fishes in fresh water and paved parking lot runoff. Umatilla National Forest, Walla Walla, Washington. 15 Pages.
- Etnier, D.A. and W.C. Starnes. 1993. The Fishes of Tennessee. University of Tennessee Press. Knoxville, Tennessee. 681 Pages.
- Levine J.F., W.G. Cope, D. Shea, A.E. Bogan, M. Stoskopf, B. Showers, L.L. Gustafson, P. Lazaro, W. Thorsen, D. Forestier, C.B. Eads, E.F. Anderson. 2004. Assessment of the impact of highway runoff on freshwater mussels in North Carolina streams. North Carolina State University, Department of Environmental and Molecular Toxicology. Raleigh, North Carolina. 109 Pages.
- Meyer, J.L. and A.B. Sutherland. 2005. Effects of excessive sediment on stress, growth and reproduction of two southern Appalachian minnows, *Erimonax monachus* and *Cyprinella galactura*. Final Report to the Department of the Interior. 210 Pages.
- Nature Serve. <http://www.natureserve.org/explorer/servlet/NatureServe?init=Species>. Accessed May 2009.
- NCDENR, 2005. Basinwide assessment report – Little Tennessee River Basin. North Carolina Department of Environment and Natural Resources. 74 Pages.
- Ruble, C.L., P.L. Rakes, and J.R. Shute. 2009. Propagation and reintroduction of the wounded darter, *Etheostoma vulneratum*, to the Cheoah River, North Carolina. Final report to : U.S. Fish and Wildlife Service, Asheville, North Carolina Field Office. 7 Pages.

7.0 Attachments

Attachment A1: Endangered, threatened and sensitive aquatic species, Nantahala National Forest.

USFS Status	Type	Species	Habitat/Distribution
<i>Endangered/ Threatened</i>	Bivalve	<i>Alasmidonta raveneliana</i>	Little Tennessee River drainage and Tuckaseegee River; Nolichucky River
	Bivalve	<i>Pegias fabula</i>	Lower Little Tennessee River; historic record from Valley River, Cherokee Co.
	Fish	<i>Cyprinella monacha</i>	Little TN River; French Broad River system
<i>Sensitive</i>	Bivalve	<i>Alasmidonta varicose</i>	Little Tennessee River, Macon and Swain Co. (Historic record)
	Bivalve	<i>Fusconaia barnesiana</i>	Lower Little TN River and Hiwassee River
	Bivalve	<i>Lasmigona holstonia</i>	Valley River, Historic Record, Cherokee Co.
	Crustacean	<i>Cambarus georgiae</i>	Streams in Little TN River, Macon Co.
	Crustacean	<i>Cambarus parrishi</i>	Streams in Hiwassee River drainage
	Crustacean	<i>Cambarus reburus</i>	Tributary to Horsepasture River, Transylvania Co.; upper French Broad River
	Crustacean	<i>Cambarus chaugaensis</i>	Streams in Savannah River drainage, Jackson, Macon, and Transylvania Co.; SC and GA
	Dragonfly	<i>Macromia margarita</i>	Rivers, Macon, Swain, Transylvania Co.; Caldwell Co.
	Fish	<i>Etheostoma vulneratum</i>	Large streams and rivers, Little TN River system, Jackson, Macon, Swain Co.
	Fish	<i>Percina squamata</i>	Higher gradient upland rivers, Tennessee River system, Cherokee, Jackson, Macon, Swain Co.

Attachment A2: Endangered, threatened and sensitive aquatic species evaluated for the NCDOT Bridge 70 Replacement Project. The analysis includes known and potentially occurring aquatic species from the Graham County, NC. Potential occurrence is based on known distributions of the species and the presence of suitable habitat.

USFS Status	Type	Species	Likelihood of Occurrence in Analysis Area
Endangered	Bivalve	<i>Alasmidonta raveneliana</i>	Known to Occur
Threatened	Fish	<i>Erimonax monachus</i>	May Occur ⁴
Sensitive	Fish	<i>Etheostoma vulneratum</i>	May Occur ⁴
Sensitive	Fish	<i>Percina squamata</i>	May Occur ⁴

Notes:

1 = Species not considered further in analysis because there is no suitable habitat present or vicinity records in the analysis area

The project will not affect the species.

2 = Vicinity records, in or downstream of the analysis area, but not necessarily in project area.

3 = Suitable habitat present, but no vicinity records.

4 = Species proposed for reintroduction prior to bridge construction

Attachment B1: Endangered, threatened and sensitive plant species, Pisgah and Nantahala National Forests.

USFS Status	Species	Habitat/Distribution
Endangered	<i>Geum radiatum</i>	High Elevation Rocky Summit
Endangered	<i>Gymnoderma lineare</i>	High Elevation Rocky Summit, Moist Rock Outcrop in Acidic Cove
Endangered	<i>Houstonia montana</i>	Grassy Bald, High Elevation Rocky Summit
Endangered	<i>Sagittaria fasciculata</i>	Southern Appalachian Bog, Streamside, Swamp Forest-Bog Complex
Endangered	<i>Sarracenia jonesii</i>	Southern Appalachian Bog
Endangered	<i>Sarracenia oreophila</i>	low elevation Southern Appalachian Bog
Endangered	<i>Sisyrinchium dichotomum</i>	Montane Oak Woodland, Mafic Rock, Roadsides
Threatened	<i>Helonias bullata</i>	Southern Appalachian Bog, Swamp Forest-Bog Complex
Threatened	<i>Hexastylis naniflora</i>	Rich Deciduous Woodland Bluffs
Threatened	<i>Hudsonia montana</i>	High Elevation Rocky Summit, Pine-Oak/Heath Forest
Threatened	<i>Isotria medeoloides</i>	White Pine Forest, Mesic Oak-Hickory
Threatened	<i>Liatris helleri</i>	High Elevation Rocky Summit, Montane Acidic Cliff
Threatened	<i>Solidago spithamea</i>	High Elevation Rocky Summit
Threatened	<i>Spiraea virginiana</i>	Riverside Scour Zone
Sensitive	<i>Aconitum reclinatum</i>	Northern Hardwood Cove Forest, Boulderfield Forest, High Elevation Seep, Rich Cove Forest
Sensitive	<i>Acrobolbus ciliatus</i>	Spruce-Fir Forest, Spray Cliff
Sensitive	<i>Allium cuthbertii</i>	Low Elevation Granitic Dome
Sensitive	<i>Aneura maxima</i>	Spray Cliff
Sensitive	<i>Anzia americana</i>	Gorge, Acidic Cove
Sensitive	<i>Aspiromitus appalachianus</i>	Stream
Sensitive	<i>Asplenium x ebenoides</i>	Montane Calcareous Cliff
Sensitive	<i>Bazzania nudicaulis</i>	Spruce-Fir Forest
Sensitive	<i>Berberis canadensis</i>	Rich Cove Forest, Glade, Mafic Rock
Sensitive	<i>Boechera patens</i>	Montane Mafic Cliff, Montane Calcareous Cliff
Sensitive	<i>Brachydontium trichodes</i>	Spruce-Fir Forest
Sensitive	<i>Bryocrumia vivicolor</i>	Spray Cliff, Moist Montane Acidic Cliff, Gorge
Sensitive	<i>Buckleya distichophylla</i>	Hemlock Hardwood Forest, Acidic Cove Forest, Montane Acidic Cliff, Mesic Oak-Hickory
Sensitive	<i>Buxbaumia minakatae</i>	Rotting Logs
Sensitive	<i>Calamagrostis cainii</i>	High Elevation Rocky Summit
Sensitive	<i>Campylopus paradoxus</i>	High Elevation Rocky Summit
Sensitive	<i>Cardamine clematitidis</i>	Boulderfield, Northern Hardwood Forest, Spruce-Fir Forest, High Elevation Seep
Sensitive	<i>Carex biltmoreana</i>	High Elevation Granitic Dome, Montane Cedar-Hardwood Forest, Montane Acidic Cliff
Sensitive	<i>Carex communis var. amplisquama</i>	Rich Cove Forest, Mafic Rock
Sensitive	<i>Carex misera</i>	High Elevation Rocky Summit, Montane Acidic Cliff, High Elevation Granitic Dome
Sensitive	<i>Carex radfordii</i>	Rich Cove Forest, Escarpment Gorge
Sensitive	<i>Carex roanensis</i>	Rich Cove Forest, Montane Oak-Hickory

USFS Status	Species	Habitat/Distribution
Sensitive	<i>Cephalozia macrostachya</i> <i>ssp. australis</i>	Rock Outcrop in Acidic Cove Forest in Gorge
Sensitive	<i>Cephaloziella massalongi</i>	High Elevation Rocky Summit
Sensitive	<i>Cheilolejeunea evansii</i>	Acidic Cove, Oak-White Pine Forest, Escarpement Gorge
Sensitive	<i>Chelone cuthbertii</i>	Southern Appalachian Bog
Sensitive	<i>Cleistis bifaria</i>	Pine-Oak/Heath Forest, Pine-Oak Woodland, Shortleaf Pine
Sensitive	<i>Coreopsis latifolia</i>	Rich Cove Forest, Northern Hardwood Cove Forest
Sensitive	<i>Danthonia epilis</i>	High Elevation Granitic Dome, Seep
Sensitive	<i>Delphinium exaltatum</i>	Rich Cove Forest, Grassy Bald, Glade, Montane Oak-Hickory, Mafic Rock
Sensitive	<i>Desmodium ochroleucum</i>	Openings in Oak Woodlands
Sensitive	<i>Diervilla rivularis</i>	Streamside, Acidic Cove Forest
Sensitive	<i>Diplophyllum apiculatum</i> var. <i>taxifolioides</i>	Bog, Wet Soils
Sensitive	<i>Diplophyllum obtusatum</i>	Spruce-Fir Forest
Sensitive	<i>Ditrichum ambiguum</i>	Acidic Cove Forest, High Elevation Red Oak Forest
Sensitive	<i>Drepanolejeunea</i> <i>appalachiana</i>	Acidic Cove, Montane Oak-Hickory Forest
Sensitive	<i>Entodon concinnus</i>	Moist Montane Calcareous Cliff
Sensitive	<i>Ephebe americana</i>	High Elevation Rocky Summit
Sensitive	<i>Euphorbia purpurea</i>	Northern Hardwood Forest, Rich Cove Forest, Mesic Oak-Hickory Forest
Sensitive	<i>Eurybia avita</i>	Low Elevation Granitic Outcrop
Sensitive	<i>Fissidens appalachensis</i>	High Elevation Streams
Sensitive	<i>Fothergilla major</i>	Pine-Oak/Heath Forest, Montane Oak Woodland, Roadside
Sensitive	<i>Frullania appalachiana</i>	Spruce-Fir Forest
Sensitive	<i>Frullania oakesiana</i>	Spruce-Fir Forest
Sensitive	<i>Gentiana austromontana</i>	Grassy Bald, High Elevation Red Oak Forest, Northern Hardwood Forest
Sensitive	<i>Geum geniculatum</i>	Boulderfield Forest, High Elevation Seep
Sensitive	<i>Geum lobatum</i>	Acidic Cove Forest, Mesic Oak-Hickory, Gorge
Sensitive	<i>Glyceria nubigena</i>	Northern Hardwood Forest, Boulderfield, High Elevation Seep, Spruce-Fir Forest
Sensitive	<i>Hasteola suaveolens</i>	Montane Alluvial Forest
Sensitive	<i>Helianthus glaucophyllus</i>	Rich Cove Forest, Northern Hardwood Forest, High Elevation Red Oak Forest, Mesic Oak-Hickory Forest, Roadside
Sensitive	<i>Heuchera longiflora</i>	Rock Outcrops in Rich Cove Forest, Mafic Rock
Sensitive	<i>Hexastylis contracta</i>	Acidic Cove Forest
Sensitive	<i>Hexastylis rhombiformis</i>	Acidic Cove Forest, Hemlock Hardwood Forest, Montane Alluvial Forest
Sensitive	<i>Homaliadelphus sharpii</i>	Dry Montane Calcareous Cliff
Sensitive	<i>Hygrohypnum closteri</i>	Stream
Sensitive	<i>Hymenophyllum tayloriae</i>	Spray Cliff, Grotto, Gorge
Sensitive	<i>Hypericum graveolens</i>	High Elevation Seep, Wet Meadow, Grassy Bald

USFS Status	Species	Habitat/Distribution
Sensitive	<i>Hypericum mitchellianum</i>	High Elevation Seep, Wet Meadow, Grassy Bald
Sensitive	<i>Hypotrachyna virginica</i>	High Elevation Forest
Sensitive	<i>Ilex collina</i>	Northern Hardwood Forest, Boulderfield Forest, Southern Appalachian Bog, Swamp Forest Bog Complex
Sensitive	<i>Juglans cinerea</i>	Rich Cove Forest, Mesic Oak-Hickory, Montane Alluvial Forest
Sensitive	<i>Juncus caesariensis</i>	Southern Appalachian Bogs at Low Elevation
Sensitive	<i>Lejeunea blomquistii</i>	Spray Cliff
Sensitive	<i>Leptodontium excelsum</i>	Spruce-Fir Forest
Sensitive	<i>Leptohymenium sharpii</i>	Spruce-Fir Forest
Sensitive	<i>Liatris turgida</i>	High Elevation Granitic Dome, Montane Oak Woodland
Sensitive	<i>Lilium grayi</i>	Northern Hardwood Forest, High Elevation Seep, Grassy Bald, Wet Meadow
Sensitive	<i>Lophocolea appalachiana</i>	Spray Cliff
Sensitive	<i>Lysimachia fraseri</i>	Mesic Oak-Hickory Forest, Montane Oak Forest, Rich Cove Forest, Acidic Cove Forest, Roadside
Sensitive	<i>Malaxis bayardii</i>	Xeric Upland Forests
Sensitive	<i>Mannia californica</i>	Dry Montane Acidic Cliff
Sensitive	<i>Marshallia grandiflora</i>	Southern Appalachian Bog
Sensitive	<i>Marshallia trinervia</i>	Habitat unknown
Sensitive	<i>Marsupella emarginata</i> var. <i>latiloba</i>	Spray Cliff
Sensitive	<i>Megaceros aenigmaticus</i>	Stream
Sensitive	<i>Metzgeria furcata</i> var. <i>setigera</i>	Spruce-Fir Forest, Acidic Cove Forest in Gorge
Sensitive	<i>Metzgeria temperata</i>	High Elevation Forest
Sensitive	<i>Metzgeria uncigera</i>	Acidic Cove Forest
Sensitive	<i>Micranthes caroliniana</i>	Northern Hardwood Forest, Montane Acidic Cliff, High Elevation Rocky Summit
Sensitive	<i>Micropolypodium nimbatum</i>	Spray Cliff
Sensitive	<i>Monotropis odorata</i>	Rich Cove Forest, Mesic Oak-Hickory, Xeric Oak-Hickory, Pine-Oak/Heath Forest
Sensitive	<i>Nardia lescurii</i>	Acidic Cove Forest adjacent to streams
Sensitive	<i>Packera millefolium</i>	Montane Acidic Cliff, Montane Cedar-Hardwood Woodland, High Elevation Granitic Dome
Sensitive	<i>Pellia appalachiana</i>	rock outcrop near spray Cliff
Sensitive	<i>Peltigera venosa</i>	Stream
Sensitive	<i>Penstemon smallii</i>	Montane Acidic Cliff
Sensitive	<i>Philonotis cerina</i>	Spray Cliff, Moist Montane Acidic Cliff, Gorge
Sensitive	<i>Physcia pseudospeciosa</i>	High Elevation Granitic Dome
Sensitive	<i>Plagiochasma intermedium</i>	Streamside Limestone Rock
Sensitive	<i>Plagiochasma wrightii</i>	Streamside Limestone Rock
Sensitive	<i>Plagiochila austinii</i>	Moist Montane Acidic Cliff
Sensitive	<i>Plagiochila caduciloba</i>	Spray Cliff, Streamside, Rock Outcrop in Acidic Cove Forest in Gorge
Sensitive	<i>Plagiochila echinata</i>	Spray Cliff, Streamside, Rock Outcrop in Acidic Cove Forest in Gorge

USFS Status	Species	Habitat/Distribution
Sensitive	<i>Plagiochila sharpii</i>	High Elevation Rocky Summit, Rock Outcrop in Acidic Cove Forest in Gorge
Sensitive	<i>Plagiochila sullivanii</i> var. <i>spinigera</i>	Spray Cliff
Sensitive	<i>Plagiochila sullivanii</i> var. <i>sullivanii</i>	Spray Cliff, Spruce-Fir Forest
Sensitive	<i>Plagiochila virginica</i> var. <i>caroliniana</i>	Spray Cliff, Rock Outcrop in Acidic Cove Forest in Gorge
Sensitive	<i>Plagiochila virginica</i> var. <i>virginica</i>	On Limestone, Wet Rock Outcrop
Sensitive	<i>Plagiomnium carolinianum</i>	Rock Outcrop in Acidic Cove Forest in Gorge, Streambank
Sensitive	<i>Platanthera integrilabia</i>	High Elevation Seep, Southern Appalachian Bog
Sensitive	<i>Platyhypnidium pringlei</i>	Spray Cliff, Rock Outcrop in Acidic Cove Forest in Gorge
Sensitive	<i>Poa paludigena</i>	Southern Appalachian Bog
Sensitive	<i>Polytrichum appalachianum</i>	Rocky Summits, Mid- to High Elevation
Sensitive	<i>Porella japonica</i> ssp. <i>appalachiana</i>	Spray Cliff
Sensitive	<i>Porella wataugensis</i>	Rock Outcrop in Acidic Cove Forest in Gorge
Sensitive	<i>Porpidia diversa</i>	High Elevation Rocky Summit
Sensitive	<i>Porpidia herteliana</i>	High Elevation Rocky Summit
Sensitive	<i>Prenanthes roanensis</i>	Northern Hardwood Forest, Grassy Bald, Meadow, Roadside, High Elevation Red Oak Forest
Sensitive	<i>Pycnanthemum beadleii</i>	rock outcrops, Oak woodlands
Sensitive	<i>Pycnanthemum torrei</i>	Xeric Oak-Hickory, Glade
Sensitive	<i>Radula sullivanii</i>	Spray Cliff, Rock Outcrop in Acidic Cove Forest in Gorge
Sensitive	<i>Radula voluta</i>	Spray Cliff
Sensitive	<i>Rhachithecium perpusillum</i>	Hardwood Trees
Sensitive	<i>Rhododendron vaseyi</i>	Northern Hardwood Forest, High Elevation Seep, Southern Appalachian Bog, Meadow, Roadside
Sensitive	<i>Riccardia jugata</i>	Rotten Logs in Acidic Cove Forest in Gorge
Sensitive	<i>Robinia hartwegii</i>	High Elevation Granitic Dome
Sensitive	<i>Robinia viscosa</i> var. <i>viscosa</i>	High Elevation Granitic Dome, Woodlands
Sensitive	<i>Rudbeckia triloba</i> var. <i>pinnatifida</i>	Rich Cove Forest, Montane Mafic Cliff, Mafic Rock
Sensitive	<i>Rugelia nudicaulis</i>	Spruce-Fir Forest
Sensitive	<i>Sabatia capitata</i>	Glade, Pine-Oak Woodlands
Sensitive	<i>Sceptridium jenmanii</i>	Rich Cove Forest
Sensitive	<i>Schlotheimia lancifolia</i>	Oak-Hickory Forest, Acidic Cove Forest, Hemlock Hardwood Forest, Serpentine Rocks
Sensitive	<i>Scopelophila cataractae</i>	Copper-rich Soils, Roadsides
Sensitive	<i>Scutellaria ovata</i> ssp. <i>rugosa</i> var. <i>1</i>	Boulderfield Forest, Rocky Forest
Sensitive	<i>Scutellaria saxatilis</i>	Northern Hardwood Forest, Boulderfield Forest, Rich Cove Forest

USFS Status	Species	Habitat/Distribution
Sensitive	<i>Shortia galacifolia</i> var. <i>brevistyla</i>	Acidic Cove Forest, Streambank, Gorge
Sensitive	<i>Shortia galacifolia</i> var. <i>galacifolia</i>	Acidic Cove Forest, Streambank, Gorge
Sensitive	<i>Silene ovata</i>	Rich Cove Forest, Mesic Oak-Hickory, Roadside, Mafic Rock
Sensitive	<i>Solidago simulans</i>	High Elevation Granitic Dome
Sensitive	<i>Sphagnum flavicomans</i>	Seeps on Rock or Spray Cliffs
Sensitive	<i>Sphenolobopsis pearsonii</i>	Fraser-Fir Forest
Sensitive	<i>Splachnum pennsylvanicum</i>	Southern Appalachian Bog
Sensitive	<i>Stachys clingmanii</i>	Northern Hardwood Forest, Boulderfield Forest
Sensitive	<i>Sticta limbata</i>	High Elevation Forest
Sensitive	<i>Taxiphyllum alternans</i>	Spray Cliff, Mafic Rock
Sensitive	<i>Thalictrum macrostylum</i>	Serpentine Woodland, Serpentine Forest, Moist Woodlands
Sensitive	<i>Thaspium pinnatifidum</i>	Rich Cove Forest, Mesic Oak-Hickory, Roadside, Mafic Rock
Sensitive	<i>Thermopsis fraxinifolia</i>	Xeric Oak-Hickory Forest, Montane Oak Woodland, Pine-Oak/Heath
Sensitive	<i>Tortula ammonsiana</i>	Moist Montane Mafic Cliff
Sensitive	<i>Trillium pusillum</i> var. <i>ozarkanum</i>	Rich Cove Forest, Mesic Oak-Hickory, Mafic Rock
Sensitive	<i>Trillium rugelii</i>	Rich Cove Forest at Low Elevation
Sensitive	<i>Trillium simile</i>	Rich Cove Forest
Sensitive	<i>Tsuga caroliniana</i>	Carolina Hemlock Forest, Montane Acidic Cliff, Pine-Oak/Heath, High Elevation Rocky Summit
Sensitive	<i>Viola appalachiensis</i>	Serpentine Woodland, Serpentine Forest, Rich Cove Forest, Mesic Oak-Hickory
Sensitive	<i>Xanthoparmelia monticola</i>	High Elevation Rocky Summit

Attachment W1. Proposed, endangered, threatened, and sensitive species considered.

Species	Type	Habitat description	Likelihood of occurrence
Federally Threatened and Endangered Species			
Noonday globe	Snail	Restricted to the Nantahala Gorge	No; outside the range
Bog turtle	Reptile	Sunlit, marshy meadows, bogs, wet pastures	No; lacks suitable habitat
Bald eagle	Bird	Nests in large, open grown trees near lakes	No; nests are unlikely
Carolina n. flying squirrel	Mammal	Spruce-fir and northern hardwoods above 4000'	No; lacks suitable habitat
Indiana bat	Mammal	Roosts in caves and hollow trees	May occur
2001 Region 8 Regional Forester's Sensitive Species			
Cicindela ancocisconensis	Beetle	High elevation forests; > 4000'	No; elevation is < 4000'
Trechus luculentus unicoi	Beetle	Rocks and moss in wet ravines in w. Graham county	No; outside the range
Divergent melanoplus	Insect	Glades and balds, 1800 – 1417'; Jackson county	No; outside the range
Serrulate melanoplus	Insect	Valleys and lower slopes, e. Graham county	No; outside the range
Northern bush katydid	Insect	In the treetops at the edges of broadleaved forests	May occur
Rock-loving grasshopper	Insect	Lichen-covered rock outcrops	No; lacks suitable habitat
Frosted elfin	Butterfly	Open woods and borders, usually in dry situations	No; lacks suitable habitat
Diana fritillary butterfly	Butterfly	Deciduous and pine woodlands near streams	May occur

Species	Type	Habitat description	Likelihood of occurrence
Fraser fir angle	Moth	Spruce-fir forests with fraser fir	No; lacks suitable habitat
Lost Nantahala cave spider	Spider	Blowing Springs and Lost Nantahala Cave	No; outside the range
Nesticus sheari	Spider	Boulder fields in moist or rich forests; Graham co.	No; lacks suitable habitat
Nesticus silvanus	Spider	Boulder fields in moist or rich forests	No; lacks suitable habitat
Black mantleslug	Snail	High elevation forests; mainly spruce-fir	No; lacks suitable habitat
Glossy supercoil	Snail	Leaf litter on wooded hillsides and ravines	No; lacks suitable habitat
Santeetlah dusky salamander	Amphibian	Stream headwaters and seepage areas	No; outside the range
Junaluska salamander	Amphibian	Wider portions of streams below 2395' elevation	Known to occur
Tellico salamander	Amphibian	Hardwood forests in Unicoi Mountains	No; lacks suitable habitat
S. Appalachian salamander	Amphibian	Moist forests at all elevations	May occur
Peregrine falcon	Bird	Large vertical rock cliffs	No; lacks suitable habitat
Migrant loggerhead shrike	Bird	Fields and pastures	No; lacks suitable habitat
App. Bewick's wren	Bird	Woodland borders or openings at high elevations	No; lacks suitable habitat
Rafinesque's big-eared bat	Mammal	Old buildings, caves, mines, bridges	No; lacks suitable habitat
Southern rock vole	Mammal	Rocky areas in spruce-fir, n. hwds and balds	No; lacks suitable habitat

Species	Type	Habitat description	Likelihood of occurrence
E. Small-footed bat	Mammal	Hemlock forests, rock crevices, caves, mines	No; lacks suitable habitat
Southern water shrew	Mammal	Small streams up to 12-15' wide above 3000'	No; lacks suitable habitat



B-3335

✓ RAC 11-16-09

Tennessee Valley Authority

Section 26a Approval 229

RECEIVED
NOV 16 2009
Structure Design

RLR Id 190910	Reservoir Little Tennessee WT - Off	Category 3
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Name/Title	Company	Address	Phone/Email
	North Carolina Department of Transportation	Structure Design 1581 Mail Service Center Raleigh NC 27699-1581	919-250-4037

TVA Land Tract(s) Non TVA Tract

Subdivision/Lot(s)	Stream	Mile	Bank	Map Sheet
N/A Lot #(s):	Cheoah R	8	B	149 Quad Sheet NE

The facilities and/or activities listed below are APPROVED subject to the plans and general and special conditions attached.

1. Bridge - Vehicular Width: 27; Length: 210
2. Riprap ***See Attached Additional Conditions

This permit SUPERSEDES all previous TVA approvals at this location including permits approved under land record numbers.

TVA Representative: Erica F. Wadi

Date: November 12, 2009

May require review by U.S. Army Corps of Engineers (USACE). Plans have been forwarded to the USACE.
No construction shall commence until you have written approval or verification that no permit is required.
 Applicant is also responsible for all local and state approvals that may be required relating to water quality.
No construction shall commence until you have written approval or verification that no permit is required.

*Note special conditions (additional conditions)

GENERAL STANDARDS AND CONDITIONS

Section 26a and Land Use

General Conditions

- 1) You agree to make every reasonable effort to construct and operate the facility authorized herein in a manner so as to minimize any adverse impact on water quality, aquatic life, wildlife, vegetation, and natural environmental values.
- 2) This permit may be revoked by TVA by written notice if:
 - a) the structure is not completed in accordance with approved plans;
 - b) if in TVA's judgement the structure is not maintained in a good state of repair and in good, safe, and substantial condition;
 - c) the structure is abandoned;
 - d) the structure or work must be altered to meet the requirements of future reservoir management operations of the United States or TVA, or;
 - e) TVA finds that the structure has an adverse effect upon navigation, flood control, or public lands or reservations.
- 3) If this permit for this structure is revoked, you agree to remove the structure, at your expense, upon written notice from TVA. In the event you do not remove the structure within 30 days of written notice to do so, TVA shall have the right to remove or cause to have removed, the structure or any part thereof. You agree to reimburse TVA for all costs incurred in connection with removal.
- 4) In issuing this Approval of Plans, TVA makes no representations that the structures or work authorized or property used temporarily or permanently in connection therewith will not be subject to damage due to future operations undertaken by the United States and/or TVA for the conservation or improvement of navigation, for the control of floods, or for other purposes, or due to fluctuations in elevations of the water surface of the river or reservoir, and no claim or right to compensation shall accrue from any such damage. By the acceptance of this approval, applicant covenants and agrees to make no claim against TVA or the United States by reason of any such damage, and to indemnify and save harmless TVA and the United States from any and all claims by other persons arising out of any such damage.
- 5) In issuing this Approval of Plans, TVA assumes no liability and undertakes no obligation or duty (in tort, contract, strict liability or otherwise) to the applicant or to any third party for any damages to property (real or personal) or personal injuries (including death) arising out of or in any way connected with applicant's construction, operation, or maintenance of the facility which is the subject of this Approval of Plans.
- 6) This approval shall not be construed to be a substitute for the requirements of any federal, state, or local statute, regulation, ordinance, or code, including, but not limited to, applicable building codes, now in effect or hereafter enacted. State 401 water quality certification may apply.
- 7) The facility will not be altered, or modified, unless TVA's written approval has been obtained prior to commencing work.
- 8) You understand that covered second stories are prohibited by Section 1304.204 of the Section 26a Regulations.
- 9) You agree to notify TVA of any transfer of ownership of the approved structure to a third party. Third party is required to make application to TVA for permitting of the structure in their name (1304.10). Any permit which is not transferred within 60 days is subject to revocation.
- 10) You agree to stabilize all disturbed areas within 30 days of completion of the work authorized. All land-disturbing activities shall be conducted in accordance with Best Management Practices as defined by Section 208 of the Clean Water Act to control erosion and sedimentation to prevent adverse water quality and related aquatic impacts. Such practices shall be consistent with sound engineering and construction principles; applicable federal, state, and local statutes, regulations, or ordinances; and proven techniques for controlling erosion and sedimentation, including any required conditions under Section 6 of the Standard Conditions.
- 11) You agree not to use or permit the use of the premises, facilities, or structures for any purposes that will result in draining or dumping into the reservoir of any refuse, sewage, or other material in violation of applicable standards or requirements relating to pollution control of any kind now in effect or hereinafter established.
- 12) The Native American Graves Protection and Repatriation Act and the Archaeological Resources Protection Act apply to archaeological resources located on the premises of land connected to any application made unto TVA. If LESSEE (or licensee or grantee (for easement) or applicant (for 26a permit)) discovers human remains, funerary objects, sacred objects, objects of cultural patrimony, or any other archaeological resources on or under the premises, LESSEE (or licensee, grantee, or applicant) shall immediately stop activity in the area of the discovery, make a reasonable effort to protect the items, and notify TVA by telephone (865-228-1374). Work may not be resumed in the area of the discovery until approved by TVA.

- 13) You should contact your local government official(s) to ensure that this facility complies with all applicable local floodplain regulations.
- 14) You agree to abide by the conditions of the vegetation management plan. Unless otherwise stated on this permit, vegetation removal is prohibited on TVA land.
- 15) You agree to securely anchor all floating facilities to prevent them from floating free during major floods.
- 16) You are responsible for accurately locating your facility, and this authorization is valid and effective only if your facility is located as shown on your application or as otherwise approved by TVA in this permit. The facility must be located on land owned or leased by you, or on TVA land at a location approved by TVA.
- 17) You agree to allow TVA employees access to your water use facilities to ensure compliance with any TVA issued approvals.
- 18) It is understood that you own adequate property rights at this location. If at any time it is determined that you do not own sufficient property rights, or that you have only partial ownership rights in the land at this location, this permit may be revoked. TVA may require the applicant to provide appropriate verification of ownership.
- 19) In accordance with 18 CFR Part 1304.9, Approval for construction covered by this permit expires 18 months after the date of issuance unless construction has been initiated.

Standard Conditions (Only items that pertain to this request have been listed.)

3) Shoreline Modification and Stabilization

- c) Bank, shoreline, and floodplain stabilization will be permanently maintained in order to prevent erosion, protect water quality, and preserve aquatic habitat.

5) Bridges and Culverts

- a) You agree to design/construct any instream piers in such a manner as to discourage river scouring or sediment deposition.
- e) You agree to remove demolition and construction by-products from the site for recycling if practicable, or proper disposal—outside of the 100-year floodplain. Appropriate BMPs will be used during the removal of any abandoned roadway or structures.

6) Best Management Practices

- a) You agree that removal of vegetation will be minimized, particularly any woody vegetation providing shoreline/streambank stabilization.
- b) You agree to installation of cofferdams and/or silt control structures between construction areas and surface waters prior to any soil-disturbing construction activity, and clarification of all water that accumulates behind these devices to meet state water quality criteria at the stream mile where activity occurs before it is returned to the unaffected portion of the stream. Cofferdams must be used wherever construction activity is at or below water elevation.
- e) You agree to avoid contact of wet concrete with the stream or reservoir, and avoid disposing of concrete washings, or other substances or materials, in those waters.
- f) You agree to use erosion control structures around any material stockpile areas.
- g) You agree to apply clean/shaken riprap or shot rock (where needed at water/bank interface) over a water permeable/soil impermeable fabric or geotextile and in such a manner as to avoid stream sedimentation or disturbance, or that any rock used for cover and stabilization shall be large enough to prevent washout and provide good aquatic habitat.

Additional Conditions

See attached.

RLR 190910 Additional Conditions

*****Please notify TVA when conditions have been completed**

1. Design standards for sensitive watersheds will be used.
2. Provisions will be made in the new bridge design for roadbed and deck drainage to flow through a vegetated buffer prior to reaching the river. This buffer should be large enough to alleviate any potential effects from the runoff of storm water and pollutants.
3. BMPs for environmentally sensitive areas will be implemented to minimize and control sedimentation and erosion prior to any ground disturbing activities. All erosion-control measures will be reviewed daily to ensure that sedimentation and erosion are being effectively controlled. If the planned devices are not functioning as intended, they will be replaced immediately with better devices. Temporary or permanent herbaceous vegetation will be planted on all bare soil within 15 days of ground-disturbing activities to provide long-term erosion control.
4. Sandbag cofferdams will be installed so that excavation and work areas will be isolated from the Cheoah River. Any seepage that inadvertently contacts live concrete will be pumped into cofferdams in an upland area in order to prevent water with high levels of pH from moving into surface waters.
5. Bridge materials will not be allowed to fall into the Cheoah River. Any materials that inadvertently fall into the creek will be immediately removed.
6. The project will be sequenced so that temporary cofferdams are only in place the minimal time needed and only one cofferdam will be in place at a time.
7. All mechanized equipment operated near surface waters will be inspected and maintained regularly in order to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
8. No toxic materials, equipment, or construction debris/material will be stored, stockpiled, or otherwise left in the 100 - year floodplain or other areas where in-stream contamination could occur due to flooding, runoff, or leaching.
10. All invasive legumes will be removed from the erosion control plan. Specifically, crown vetch and Korean and Sericea lespedeza will not be used for erosion control. These nonnative lespedezas and crown vetch are aggressive invasive species that could choke out native vegetation. Furthermore, in general, when revegetating disturbed areas, we strongly recommend that only native plant species be used or, if an adequate seed source cannot be found, that noninvasive species (such as annual rye) be used until native plants can reestablish themselves. If kudzu is encountered during construction, it should be removed annually.