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STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

April 22, 2005

MEMORANDUM TO: ~~Mr. Jim H. Trogdon, PE~~  
Division 4 Engineer

FROM: Philip S. Harris, III, P.E., Manager *PHS*  
Office of the Natural Environment  
Project Development and  
Environmental Analysis Branch

SUBJECT: Wake and Johnston Counties; US 70 (Clayton Bypass) from I-40  
to US 70 Business; State Work Order Number 8.T311002;  
Federal-Aid Project No. NHF-60-1(9); TIP Number R-2552AA,  
AB, B, and C

Attached is the U.S. Army Corps of Engineers Permit Number 200220745 and the modification of the DWQ Water Quality Certification for the above referenced project.

PSH/gyb

Attachment

- cc: ~~Mr. Art McMillan, P.E.~~  
~~Mr. Jay Bennett, P.E.~~  
~~Mr. David Chang, P.E.~~  
~~Mr. Randy Garris, P.E.~~  
~~Mr. Greg Perfetti, P.E.~~  
~~Mr. Mark Staley~~  
~~Mr. John F. Sullivan, III, FHWA~~  
~~Mr. Omar Sultan~~  
~~Mr. Jamie Shern, Division 4 DEO~~

MAILING ADDRESS:  
NC DEPARTMENT OF TRANSPORTATION  
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS  
1598 MAIL SERVICE CENTER  
RALEIGH NC 27699-1598

TELEPHONE: 919-733-3141  
FAX: 919-733-9794  
WEBSITE: WWW.DOT.ORG

LOCATION:  
TRANSPORTATION BUILDING  
1 SOUTH WILMINGTON STREET  
RALEIGH NC

## PROJECT COMMITMENTS

US 70 (Clayton Bypass) from I-40 to US 70 Business  
Wake and Johnston Counties  
Federal Aid Project No. NHF-60-1(9)  
State Project No. 8.T311002  
R-2552AA, AB, B, and C

### COMMITMENTS DEVELOPED THROUGH PROJECT DEVELOPMENT AND DESIGN

Access to residences, neighborhoods, businesses, and schools will be maintained either directly onto secondary roadways or via service roads or closure roads where justified.

*This is a Standard Environmental Commitment*

To the fullest extent possible, suitable access will be maintained to farm parcels during construction.

*This is a Standard Environmental Commitment*

All stream relocations/channelizations will be performed in accordance with NCDEHNR's guidance memorandum "Stream Relocations/ Channelization Guidelines dated October 20, 1993" or latest guidelines.

*This is a Standard Environmental Commitment*

NCDOT will coordinate with FEMA and local authorities in the final design to ensure compliance with applicable floodplain ordinances and regulations if required. When final design is completed, modeling using HEC-2 or other methods will be conducted to qualify the changes to the 100-year WSEL. After hydraulic and hydrologic modeling is completed, certification will be obtained.

*This certification has been obtained*

NCDOT's Best Management Practices (BMP's) to be utilized include temporary detention ponds, silt fences, and stabilization of disturbed areas by reseeding. High Water Quality (HQW) sedimentation erosion control design will be implemented on all aspects of the project located within the Swift Creek Watershed.

NCDOT will suggest that contractors attempt to salvage trees for pulpwood and saw timber. Additionally, NCDOT will make an effort to protect trees within the right-of-way limits.

A final wetland mitigation plan will be developed in cooperation with the USCOE, the NCDEM and other federal and state resource agencies. Final mitigation measures will be developed during the final design and permitting phases of the project.

*A stream and wetland mitigation plan has been developed and is documented in the 401 water quality permit conditions*

Measures will be taken in controlling the dust generated during construction activities in order to protect and avoid inconveniencing motorists or area residents.

***This is a Standard Environmental Commitment***

Several possible mitigative options have been discussed between NCDOT and the USFWS. NCDOT proposes to pursue the option described below. Specific details will need to be developed and the feasibility of this plan explored through coordination with the agencies involved. The purpose of this mitigative option is to lessen the likelihood of secondary development associated with the Clayton Bypass in the Swift Creek Watershed.

**Provide funding for Johnston County Watershed Administrator position:** Johnston County is seeking to fund at least a ten year position, to implement watershed ordinances that will provide needed protection of Swift Creek in Johnston County. It is anticipated that between \$50,000 and \$60,000 will be needed to cover salary and equipment needs. The responsibilities of this position are for the entire County and not limited to the Swift Creek subbasin. The percentage of this amount that would be appropriate for NCDOT to provide would be determined. It should also be noted that a stretch of Swift Creek below Lake Benson to I-40, which lies in Wake County, is also critical for the preservation of the DWM.

***The Watershed Administrator position is currently in place***

**NCDOT Proposed Mitigation Plan**

NCDOT will provide \$25,000 for a period of five years, a total of \$125,000 to Johnston County to go towards the Watershed Administrator position previously described. Secondary impacts associated with other future NCDOT projects in the Swift Creek watershed will be addressed once those projects are consulted on.

In addition to providing partial funding for the "Watershed Administrator" position in Johnston County, NCDOT will also provide the USFWS with funding, not to exceed \$75,000 to go towards dwarf-wedge mussel propagation efforts to augment the Swift Creek population. This project will be performed by Richard Neves at Virginia Polytechnic Institute and State University and take three years to complete. The project will involve collection of gravid dwarf-wedge mussel females from the Swift Creek basin, coordinated with John Alderman. Glochidia removal and subsequent juvenile propagation will take place at Virginia Polytechnic Institute and State University. Juveniles will be cultured for 3-6 months, and released into Swift Creek at suitable sites to be determined. Release sites will be monitored for success rates. The project will attempt to produce 1000 to 2000 juveniles per year for release.

In addition, construction related environmental commitments that will minimize the likelihood of direct impacts to the dwarf wedge mussel will be implemented regardless of the mitigation option chosen. These include:

1. The use of high quality erosion and sedimentation control standards throughout the construction process in all areas within the Swift Creek watershed.

2. Written notice of the pre-construction conference by the resident engineer to the USFWS (Raleigh Field Office), the NCWRC non-game and protected species program, and the protected species coordinator of the NCDOT Planning & Environmental Branch.
3. NCDOT will schedule field meetings and discussions at the proposed crossings of I-40 Clayton Bypass Interchange, to develop methods to avoid/minimize direct impacts to Swift Creek.

*NCDOT has coordinated additional conservation measures with the USFWS, NCWRC, and the Local Governments for the protection of the Dwarf Wedge Mussel, which are outlined in the Biological Assessment completed by NCDOT in November 2004*

#### COMMITMENTS DEVELOPED THROUGH PERMITTING

##### ***Roadside Environmental Unit (REU), Divisions 4 and 5 Construction***

All sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored after the Division of Land Resources has released the project.

All channel relocations will be constructed in a dry work area, and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for 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 coir fiber and seedling establishment is allowable. Also, rip-rap may be allowed if it is necessary to maintain the physical integrity of the stream, but NCDOT must provide written justification and any calculations used to determine the extent of rip-rap coverage requested.

##### ***REU, Divisions 4 and 5 Construction***

All temporary fills in wetlands and surface waters shall be removed upon completion of the project. In addition, the post-construction removal of any temporary bridge structures or fill will need to return the project site to its pre-construction contours and elevations. The revegetation of the impacted areas with appropriate native species will be required.

##### ***Divisions 4 and 5 Construction, Hydraulics***

The dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or reducing the depth of the stream. Disturbed floodplains and streams should be restored to natural geomorphic conditions.

##### ***Hydraulics Unit, Roadway Design Unit***

Two copies of the final construction drawings shall be furnished to NCDWQ prior to the pre-construction meeting. Written verification shall be provided to the NC Division of Water

Quality that the final construction drawings comply with the attached permit drawings contained in NCDOT's application dated July 22, 2004.

NCDOT will ensure that the construction design plans for this project do not deviate from the permit plans attached to the Section 404 permit. Written verification shall be provided that the final construction drawings comply with the permit drawings, attached to the permit, prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Raleigh Regulatory Field Office prior to any active construction in waters or wetlands.

Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, NCDOT shall forward the latest version of project construction drawings to the Corps of Engineers, Raleigh Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

***Hydraulics Unit, Divisions 4 and 5 Construction***

Culverts that are less than 48-inch in diameter should be buried to a depth equal to or greater than 20% of their size to allow for aquatic life passage, unless otherwise authorized by this certification. Culverts that are 48-inch in diameter or larger should be buried at least 12 inches below the stream bottom to allow natural stream bottom material to become established in the culvert following installation and to provide aquatic life passage during periods of low flow. These measurements must be based on natural thalweg depths.

***REU, Divisions 4 and 5 Construction***

Pursuant to NCAC15A 2B.0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

***REU***

Riparian vegetation reestablishment shall include a minimum of at least 2 native hardwood tree species planted at a density sufficient to provide 320 trees per acre at maturity. In addition, within one year proof shall be submitted that the riparian buffer has been restored and annual reports will be submitted for a period of 5 years showing that the trees and vegetation have survived and that diffuse flow through the riparian buffer has been maintained. Failure to achieve the 320 trees per acre after 5 years will require reporting by the DOT to DWQ. The report shall provide appropriate remedial actions to be implemented. Approval of the plan by the DWQ is required.

***Divisions 4 and 5 Construction***

Upland clearing limits must be approved by the Division of Land Resources prior to any land disturbing activities. A copy of the final clearing method and plan for upland areas shall be

submitted to the Division of Land Resources for approval prior to incurring impacts on the project.

***Roadway Design, Divisions 4 and 5 Construction***

At Sites AA11a, AA11b and AA11c 4:1 side slopes will be utilized due to concerns for public safety.

***Hydraulics Unit, Divisions 4 and 5 Construction***

At site C11 the pipe will be placed at natural ground without draining and/or impacting the nearby wetland.

***REU, Divisions 4 and 5 Construction***

In accordance with NCDOT's application, the following sediment and erosion controls measures will be implemented in accordance with the plan submitted to, and approved by, the Division of Land Resources. Failure to comply with the conditions listed below, will constitute violation of the 401 Water Quality Certification if that failure results in a violation of state water quality standards:

- Basins will be designed to meet the surface area requirement for the peak runoff event for a 25-year storm.
- Basins located at critical discharge points on the project will utilize the Faircloth Skimmer with jute baffles and polyacrylamides (PAMs) to improve settling efficiency
- Exposed areas located adjacent to critical areas will utilize erosion control matting to assist in stabilization.
- Erosion control matting will be utilized in ditchlines to reduce accelerated erosion.
- An onsite inspector will review the sedimentation and erosion control devices daily to insure compliance with the sedimentation and erosion control plan.
- The Roadside Environmental Unit will provide drive through inspections weekly to insure compliance with the Sedimentation Pollution Control Act.
- DOT will propose a hydroseeding timeline for less than 14 days to insure that all exposed erodable areas are protected from storm events.
- Hazardous Spill Catch Basin installation will be phased on Ramp D and temporary sediment traps will be utilized during the installation to insure that sediment laden runoff is not transported offsite.
- Field changes to the Sediment and Erosion Control Plan will go through Roadside Environmental.
- A water quality monitoring program will be in place to identify any sources of sediment discharge to Swift Creek from construction activities.

***Divisions 4 and 5 Construction, Roadway Design, PDEA, Hydraulics***

All work must be performed in strict compliance with the plans attached to the Section 404 permit, which are a part of the permit. Any modification to the permit plans must be approved by the USACE prior to implementation.

***REU, Divisions 4 and 5 Construction***

Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands. NCDOT shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

During the clearing phase of the project, heavy equipment must not be operated in surface waters of stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of nonerodable materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

***PDEA, Hydraulics, REU***

***MITIGATION***

**STREAM RELOCATIONS PERFORMED BY NCDOT**

**IMPLEMENTATION:** NCDOT shall mitigate for 410 linear feet of unavoidable impact to streams with important aquatic function, associated with this project, by completing 410 linear feet of onsite stream relocation/restoration, as described in the permit application. The stream relocation/restoration shall be constructed in accordance with the North Carolina Wildlife Resources Commission's (NCWRC) "Stream Relocation Guidelines." NCDOT shall consult with NCWRC on the stream relocation/restoration and implement all practicable recommendations in the design of specific site requirements for re-establishment of bank vegetation, and placement of meanders and habitat structures. Vegetation shall be used to the maximum extent practicable to stabilize banks, and riprap and other man-made structural measures shall be minimized. NCDOT shall construct all channel relocations/restoration in a dry work area, and stabilize the new channel before stream flows are diverted. Whenever possible, NCDOT shall allow new channels to stabilize for an entire growing season. The Corps of Engineers, Raleigh Regulatory Field Office will be notified in advance by facsimile transmission or electronic mail of the intended diversion of water into the new channel and approval must be obtained from the USACE prior to the diversion taking place. The banks and buffer area of the relocated channel will be planted with appropriate species of deep-rooted, woody vegetation. A final inspection of the channel relocation by a representative of the Corps of Engineers, Asheville Regulatory Field Office will be conducted prior to completion of the road project. No clearing and grubbing of the existing channel shall take place until the stream has been diverted into the new channel.

**AS-BUILT SURVEY:** NCDOT shall complete an as-built channel survey within sixty days of completion of the stream relocation construction. NCDOT shall document changes in the dimension, pattern, profile, vegetation plantings, and structures installed, of the relocated channel

from the proposed design. NCDOT shall also include in the as-built survey: photo documentation at representative segments and structures; and a plan view diagram.

**MONITORING SCHEDULE:** NCDOT shall perform the following components of Level I monitoring each year for the 5-year monitoring period: Reference photos; plant survival (i.e., identify specific problem areas (missing, stressed, damaged or dead plantings), estimated causes, and proposed/required remedial action); visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. NCDOT shall submit the monitoring reports to the USACE, Raleigh Regulatory Field Office Project Manager, within sixty days after completing the monitoring. If less than two bankfull events occur during the first 5 years, NCDOT shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the five-year monitoring period, the USACE, in consultation with the resource agencies, may determine that further monitoring is not required. It is suggested that all bankfull occurrences be monitored and reported through the required monitoring period. NCDOT shall perform and submit photo documentation twice each year (summer and winter) for the 5-year monitoring period, and for any subsequently required monitoring period.

**MONITORING DATA/REPORT:** NCDOT shall include the following information in the Level I monitoring report for the site: reference photos; plant survival notes and recommendations, as appropriate; and a report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. NCDOT shall complete the Monitoring Data Record, Sections 1, 2 and 3 (pages 1, 2 and 3, attached to the permit), for each representative segment of the channel, and for each year of monitoring (twice each year, summer and winter, for reference photos). NCDOT shall include in the monitoring reports a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

**STREAM MITIGATION SUCCESS CRITERIA:** The mitigation success criteria, and required remediation actions, will be generally based on Appendix II, and the Photo Documentation, Ecological Function, and Channel Stability criteria in the "Stream Mitigation Guidelines", dated April, 2003 (available on the internet at [http://www.saw.usace.army.mil/wetlands/Mitigation/stream\\_mitigation.html](http://www.saw.usace.army.mil/wetlands/Mitigation/stream_mitigation.html)), pages 24 and 25, under "Success Criteria: ".

***Divisions 4 and 5 Construction, PDEA-Office of Natural Environment***

The Project Development and Environmental Analysis, Office of Natural Environment Engineering Unit shall provide assistance with construction for any on-site wetland mitigation, stream mitigation, or stream relocation. Prior to construction, the Natural Environment Engineering Unit shall be contacted.

**PDEA, REU, Divisions 4 and 5 Construction, Roadway Design, Hydraulics**  
**SECTION 7 COMPLIANCE**

NCDOT shall implement and enforce all the conservation measures for "Direct Effects" described in Sections 4.1 and 4.3 of NCDOT's "Addendum to the Biological Assessment; Clayton Bypass; Johnston and Wake County, North Carolina; R-2552", dated March, 2005, to avoid an adverse effect to the endangered dwarf wedgemussel (*Alasmidonta heterodon*) and Tar spiny mussel (*Elliptio steinstansana*). As stated in the Addendum, NCDOT shall not begin construction on the Clayton Bypass until after all the proposed ordinances and ordinance amendments, which are the conservation measures for "Indirect and Cumulative Effects" (Sections 4.2 and 4.4), are adopted. A copy of the Addendum to the Biological Assessment is available upon request. Please contact Matt Haney at (919) 715-1428 to request a copy of the document.

**PDEA**  
**EEP MITIGATION**

Compensatory mitigation for the unavoidable impacts to 12.00 acres of riverine wetlands, 10.29 acres of non-riverine wetlands, and 9,511 linear feet of perennial stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated March 24, 2005 from William D. Gilmore, EEP Director. The EEP will provide the compensatory mitigation.

Compensatory mitigation for impacts to 712,098 square feet of Neuse Riparian Buffers shall be provided for.

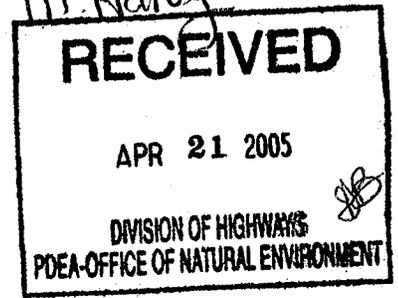
NCDOT has chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided in the Neuse River Basin and done in accordance with 15A NCAC 2B 0.233 at a cost of \$0.96 per square foot for 1,611,135 square feet of buffer impact. Therefore, a total payment of \$1,546,305.12 shall be submitted to the EEP to offset the project impacts. The payment to EEP, and the required riparian buffer mitigation shall be implemented in accordance with all the Memorandum's of Agreement signed between the North Carolina Department of Environment and Natural Resources and the NC Department of Transportation that govern the practice and function of the EEP.



REPLY TO  
ATTENTION OF:

DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 1890  
WILMINGTON, NORTH CAROLINA 28402-1890

April 7, 2005



Regulatory Division

Action ID. 200220745

Dr. Gregory J. Thorpe, Ph.D.  
Environmental Management Director, PDEA  
N.C. Department of Transportation  
1548 Mail Service Center  
Raleigh, NC 27699-1548

Dear Dr. Thorpe:

Enclosed is a Department of the Army permit to authorize the discharge of fill material into waters of the United States, for construction of US 70 Clayton Bypass (T.I.P. No. R-2552), crossing White Oak Creek, Little Creek, Cooper Branch, Reedy Branch and unnamed tributaries to Swift Creek, from I-40 in Wake County to US 70 Business, in Johnston County, North Carolina. The Corps is issuing this permit in response to your written request of November 1, 2004, and the ensuing administrative record.

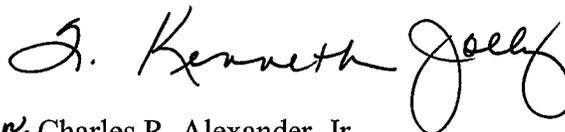
If any change in the authorized work is required because of unforeseen or altered conditions or for any other reason, the plans revised to show the change must be sent promptly to this office. Such action is necessary, as revised plans must be reviewed and the permit modified.

Carefully read your permit. The general and special conditions are important. Your failure to comply with these conditions could result in a violation of Federal law. Certain significant general conditions require that:

- a. You must complete construction before December 31, 2009.
- b. You must notify this office in advance as to when you intend to commence and complete work.
- c. You must allow representatives from this office to make periodic visits to your worksite as deemed necessary to assure compliance with permit plans and conditions.

Should you have questions, contact Mr. Eric Alsmeyer of my Raleigh Field Office regulatory staff at telephone (919) 876-8441, extension 23.

Sincerely,



*for* Charles R. Alexander, Jr.  
Colonel, U.S. Army  
District Engineer

Enclosures

Copy Furnished with enclosures:

Chief, Source Data Unit  
NOAA/National Ocean Service  
ATTN: Sharon Tear N/CS261  
1315 East-West Hwy., Rm 7316  
Silver Spring, MD 20910-3282

Copies Furnished with special conditions and plans:

Mr. Pete Benjamin, Field Supervisor  
U.S. Fish and Wildlife Service  
Fish and Wildlife Enhancement  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

Mr. Ron Sechler  
National Marine Fisheries  
Service, NOAA  
Pivers Island  
Beaufort, North Carolina 28516

Mr. David Rackley  
National Marine Fisheries  
Service, NOAA  
219 Fort Johnson Road  
Charleston, South Carolina 29412-9110

Mr. Ronald Mikulak , Chief  
Wetlands Section - Region IV  
Water Management Division  
U.S. Environmental Protection Agency  
Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, Georgia 30303

Mr. Doug Huggett  
Division of Coastal Management  
North Carolina Department of  
Environment and Natural Resources  
1638 Mail Service Center  
Raleigh, North Carolina 27699-1638

Mr. William D. Gilmore, P.E.  
EEP Transition Manager  
Ecosystem Enhancement Center  
1652 Mail Service Center  
Raleigh, NC 27699-1652

DEPARTMENT OF THE ARMY PERMIT

NC Department of Transportation

Permittee \_\_\_\_\_

200220745

Permit No. \_\_\_\_\_

USAED, Wilmington

Issuing Office \_\_\_\_\_

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description:

Place fill material impacting a total of 24.03 acres of wetlands and 11.337 linear feet of stream, for construction of the US 70 Clayton Bypass (T.I.P. No. R-2552), crossing White Oak Creek, Little Creek, Cooper Branch, Reedy Branch and unnamed tributaries to Swift Creek.

Project Location:

From I-40 in Wake County to US 70 Business, in Wake and Johnston Counties, North Carolina.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on December 31, 2009. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

**Special Conditions:**

See enclosed sheet.

**Further Information:**

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

(X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

PLP/S/11 \_\_\_\_\_ 3/31/05 \_\_\_\_\_  
(PERMITEE) (DATE)

NC DEPARTMENT OF TRANSPORTATION

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

S. Kenneth Jolly \_\_\_\_\_ 4/7/05 \_\_\_\_\_  
(DISTRICT ENGINEER) (DATE)

for CHARLES R. ALEXANDER, JR. COLONEL

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_ \_\_\_\_\_  
(TRANSFeree) (DATE)



RECEIVED

JAN 27 2005

RALEIGH REGULATORY FIELD OFFICE

**COPY**

Michael F. Easley, Governor  
William G. Ross Jr., Secretary  
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director  
Division of Water Quality

January 14, 2005

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

Dear Dr. Thorpe:

Re: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Neuse River Buffer Authorization Proposed Construction of US 70 (Clayton Bypass) from I-40 to US 70 Business in Wake and Johnston Counties, TIP No. R-2552AA, AB, B and C, State Project No. 8.T311002, Federal Aid Project No. NHF-60-1(9).  
WQC Project No. 041760

Attached hereto is a copy of Certification No. 3496 issued to The North Carolina Department of Transportation dated January 14, 2005.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Alan W. Klimek, P.E.  
Director

Attachments

cc: Wilmington District Corps of Engineers  
Mr. Mike Bell, Corps of Engineers Washington Field Office  
Mr. Eric Alsmeyer, Corps of Engineers Raleigh Field Office  
Mr. Christopher Militscher, US EPA, Region IV  
Mr. Jim Trogdon, PE, Division 4 Engineer, PO Box 3165, Wilson, NC 27895  
Mr. Jamie Shern, Division 4 Environmental Officer, PO Box 3165, Wilson, NC 27895  
Mr. Jon Nance, PE, Division 5 Engineer, 2612 N. Duke St., Durham, NC 27704  
Mr. Chris Murray, Division 5 Environmental Officer, 2612 N. Duke St., Durham, NC 27704  
Mr. Matt Haney, ONE, 2728-168 Capital Blvd., Parker Lincoln Bldg., Raleigh, NC 27604  
Mr. William Gilmore, Ecosystem Enhancement Program  
NCDWQ Raleigh Regional Office  
Central Files  
File Copy

**Y900**

**APPROVAL OF 401 Water Quality Certification and ADDITIONAL CONDITIONS  
And Neuse River Buffer Rules**

**THIS CERTIFICATION** 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 (DWQ) Regulations in 15 NCAC 2H, Section .0500. The project shall be constructed pursuant to the application dated received November 1, 2004, to construct US 70 (Clayton Bypass) from I-40 to US 70 Business in Wake and Johnston Counties. The approved design is that submitted in your application dated received November 1, 2004 and subsequent additional information dated received January 6 and 7 2005. This certification authorizes the NCDOT to impact 24.02 acres of jurisdictional wetlands, permanently impact 9,921 linear feet of stream, temporarily impact 1,416 linear feet of stream and impact 27.82 acres of protected Neuse Riparian Buffers (15.94 acres in Zone 1 and 11.88 acres in Zone 2) in Wake and Johnston Counties. This authorization also authorizes a minor variance on the AA section at Station L 68+80 for a level spreader in Buffer Zone 2 and a minor variance at Station Y 11 REV 15+00 for two preformed scour holes in Buffer Zone 2. The authorized impacts are as described below:

**Section AA Wetland Impacts in the Neuse River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)
AA1b				0.01	
AA2b	0.01			0.01	
AA4b				0.01	
AA5b	0.03			0.02	
AA6	0.03			0.01	
AA7	0.03			0.01	
AA8	0.05			0.02	
AA9	0.01			0.01	
AA10a	0.01			0.01	
AA10b					0.12
AA11a, 11b, 11c	2.31			0.06	
AA12	0.01				
AA14	0.16	0.02			1.48
AA16	0.04			0.02	
<b>Total</b>	<b>2.69</b>	<b>0.02</b>		<b>0.19</b>	<b>1.60</b>

**Section AB Wetland Impacts in the Neuse River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)
AB1	0.11			0.01	
AB3	0.04			0.01	
AB4	0.01	0.01			0.08
AB5b	0.07			0.02	
AB5c	0.08			0.01	
AB7	0.09				
AB6a	0.01		0.01		
AB8	0.17			0.05	
AB9	0.09			0.01	
AB10	0.45			0.02	
AB11	0.47			0.03	
<b>Total</b>	<b>1.59</b>	<b>0.01</b>	<b>0.01</b>	<b>0.16</b>	<b>0.08</b>

**Section B Wetland Impacts in the Neuse River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)
1	0.16			0.045	
2	0.429			0.046	
3	1.203			0.081	
4	1.217			0.028	
5	1.899		0.175	0.117	
12	0.117				
<b>Total</b>	<b>5.025</b>		<b>0.175</b>	<b>0.317</b>	

**Section C Wetland Impacts in the Neuse River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)
C1	0.04	0.03		0.04	
C2				0.06	
C3	2.26			0.11	
C6	1.77		0.01	0.40	
C7	1.18		0.36	0.13	
C8	1.06				
C9	0.01			0.02	
C10	0.02			0.04	
C11	0.97		0.36	0.27	
C12				0.03	
C13	0.97			0.22	
C14	0.12		0.02	0.21	
C15	1.09			0.29	
C16			0.01	0.05	
<b>Total</b>	<b>9.49</b>	<b>0.03</b>	<b>0.76</b>	<b>1.87</b>	

**Section AA Surface Water and Stream Impacts in the Neuse River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)	Temporary Stream Impacts (ft)	Natural Channel Design (ft)
AA1b				10	
AA3a	0.01		26	13	
AA3b	0.01		13	10	
AA4b	0.02		128	30	
AA5a	0.01		236		
AA5b	0.05		391	10	
AA10a	0.07		30	20	
AA10b			10	10	
AA11a	0.05		437		
AA11b	0.04		417	20	
AA11c	0.04		407		
AA14		0.01			
AA15a	0.01		85	10	
AA15b	0.01		98	20	
AA16	0.79		10	10	
AA17	0.03		240		
AA18a	0.45		355	10	
AA18b	0.03		167	20	
<b>Total</b>	<b>1.62</b>	<b>0.01</b>	<b>3,050</b>	<b>193</b>	

**Section AB Surface Water and Stream Impacts in the Neuse River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)	Temporary Stream Impacts (ft)	Natural Channel Design (ft)
AB2		0.05	325	98	
AB4	0.01	0.02			
AB5b			128	26	
AB5c	0.06		364	108	
AB5d	0.13		561	13	
AB7	0.13				
AB6a	0.02		102	10	
AB6b	0.09		226		
AB8	0.01		118	23	
AB11	0.06		351	131	
<b>Total</b>	<b>0.51</b>	<b>0.07</b>	<b>2,175</b>	<b>409</b>	

**Section B Surface Water and Stream Impacts in the Neuse River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)	Temporary Stream Impacts (ft)	Natural Channel Design (ft)
1	0.043	0.024	191	105	
2	0.063	0.020	276	88	
3	0.071	0.009	475	62	
4	0.103	0.010	673	71	
5	0.245	0.024	722	73	410
6	0.103	0.008	443	46	
7	0.025		163		
8		0.002	6	30	
9	0.081	0.026	354	115	
10	0.024	0.011	127	58	
11	0.274				
12	0.065	0.031	388	166	
<b>Total</b>	<b>1.097</b>	<b>0.165</b>	<b>3.818</b>	<b>814</b>	<b>410</b>

**Section C Surface Water and Stream Impacts in the Neuse River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)	Temporary Stream Impacts (ft)	Natural Channel Design (ft)
C1		0.28	115		
C2	1.54				
C4			26		
C5	0.03	0.01	282		
C6	0.06	0.02	272		
C7	0.06				
C10	0.02		52		
C12			16		
C13	0.01		30		
C14	0.01	0.01	33		
C16	0.01	0.01	52		
<b>Total</b>	<b>1.74</b>	<b>0.33</b>	<b>878</b>		

**Section AA Neuse Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
AA1a	431	2,611				
AA1b	2,125	1,765	108			
AA3a	3,718	4,049			3,718	4,049
AA3b	4,112	4,392			4,112	4,392
AA4a	11,348	8,145			11,348	8,145
AA4b	8,830	6,470	108		8,722	6,470
AA5a	41,581	32,338	194	108	41,387	32,230
AA5b	-see AA5a for site totals-					
AA6			108	323		
AA10a	11,797	9,601	215		11,582	9,601
AA10b	18,156	14,594	538	108		
AA11b	46,633	32,446	39,339	15,193	7,294	17,253
AA11c	-see AA11b for site totals-					
AA13	3,720	5,909				
AA14	18,514	15,334	17,776	11,976		
AA15a	5,572	4,048				
AA15b	6,284	8,148				
AA16	27,649	19,749	2,690		24,959	19,749
AA18a	28,646	18,336			28,646	18,336
AA18b	8,818	6,899			8,818	6,899
AA19	2,165	1,922			2,165	1,922
<b>Total</b>	<b>239,124</b>	<b>196,756</b>	<b>61,076</b>	<b>27,708</b>	<b>152,751</b>	<b>129,046</b>

**Section AB Neuse Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
AB2	24,211	15,173			24,211	15,173
AB4	18,478	13,016	8,229			
AB5c	58,509	44,230			58,509	44,230
AA5d	-see AB5c for site totals-					
AB7			9,272			
AB8	7,294	4,831				
AB11	20,326	13,775	14,761		5,565	13,775
<b>Total</b>	<b>128,818</b>	<b>91,025</b>	<b>32,262</b>		<b>88,285</b>	<b>73,178</b>

**Section B Neuse Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Onsite Buffer Replacement Zone 1 (sq. ft.)	Onsite Buffer Replacement Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
1	11,250	12,196	5,985	1,715			5,265	10,481
2	14,866	11,954	10,382	4,527			4,484	7,427
3	24,801	19,088	19,247	10,620			5,554	8,468
4	36,511	30,223	27,400	11,569			9,111	18,654
5	37,785	37,688	21,034	17,609	9,671	7,494	7,080	12,585
6	25,889	12,148					25,889	12,148
7	4,845	5,626						
8	1,147	2,138						
9	20,306	18,380					20,306	18,380
10	14,886	11,323			5,566	4,911	9,320	6,412
11	11,071	5,718					11,071	5,718
12	36,491	12,865	3,498	1,787	5,770	3,111	27,223	7,967
<b>Total</b>	<b>239,848</b>	<b>179,347</b>	<b>87,546</b>	<b>47,827</b>	<b>21,007</b>	<b>15,516</b>	<b>125,303</b>	<b>108,240</b>

**Section C Neuse Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
C1	25,272	13,712		86		
C4	2,097	861				
C5	19,889	13,157			19,889	13,157
C6	19,472	13,196	19,472	12,454		742
C9	549	958			549	958
C10	5,479	2,099	1,929	75		
C12	2,712	1,087	1,119	75		
C13	1,937	850	1,676	829		
C14	4,801	2,390	2,863	1,454		
C16	4,176	2,153	593	321		
<b>Total</b>	<b>86,384</b>	<b>50,463</b>	<b>27,652</b>	<b>15,294</b>	<b>20,438</b>	<b>14,857</b>

**Mitigation Requirements for Neuse Riparian Buffers Project Wide**

	Impact (sq. ft.)	Replacement Ratio	Total Impact (sq. ft.)	Fee schedule	Payment amount for Mitigation
<b>Zone 1</b>	386,777	3:1	1,160,331	\$0.96/sq. ft.	\$1,113,917.76
<b>Zone 2</b>	325,321	1.5:1	487,981.5	\$0.96/sq. ft.	\$468,462.24
<b>Total Mitigation Payment Required</b>					<b>\$1,582,380.00</b>

The application provides adequate assurance that the discharge of fill material into the waters of the Neuse River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate

the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your application dated received November 1, 2004 and subsequent revisions dated received January 6 and 7, 2005, as described in the Public Notice. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Corps of Engineers Permit, whichever is sooner.

**Condition(s) of Certification:**

1. Construction will be conducted in such a manner as to prevent a significant increase in turbidity outside the area of construction or construction-related discharge. 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 in order to assure compliance with the appropriate turbidity water quality standard.
  - a. The erosion and sediment control measures for the project must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the North Carolina Sediment and Erosion Control Planning and Design Manual. These 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 equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the North Carolina Surface Mining Manual. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
2. All sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored after the Division of Land Resources has released the project;
3. If an environmental document is required, this Certification is not valid until a FONSI or ROD is issued by the State Clearinghouse. All water quality-related conditions of the FONSI or ROD shall become conditions of this Certification;
4. No live or fresh concrete shall come into contact with waters of the state until the concrete has hardened.
5. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
6. All channel relocations will be constructed in a dry work area, and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for 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 coir fiber and seedling establishment is allowable. Also, rip-rap 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 requested.

7. Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.
8. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed, unless otherwise authorized by this certification, to allow low flow passage of water and aquatic life unless it can be shown to DWQ that providing passage would be impractical. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.
9. Compensatory mitigation for impacts to 712,098 square feet of Neuse Riparian Buffers shall be provided for as described below.

Zone of Impact	Impacts (Square Feet)	Replacement Ratio	Total Square Feet of Mitigation Required
Zone 1	386,777	3:1	1,160,331
Zone 2	325,321	1.5:1	487,981.5
Total	712,098		1,648,312.5

We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through an in lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP), and that the EEP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided through an in-lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP) at a rate of \$0.96 per square foot. Therefore, a total payment of \$1,582,380.00 shall be submitted to the NCEEP to offset the impacts. No construction activities in Neuse River Riparian buffers shall begin until payment for buffer mitigation is made and the Ecosystem Enhancement Program receives and clears your check (made payable to DENR Ecosystem Enhancement Program). The payment to NCEEP shall be sent within two months of issuance of the 404 permit. If you have any questions concerning the Ecosystem Enhancement Program please contact them at 919-733-5208.

10. Compensatory mitigation for impacts to 22.28 acres of jurisdictional wetlands shall be done. Total mitigation shall be provided as described below:

*Offsite Compensatory Mitigation*

Compensatory mitigation for the unavoidable impacts to 2.44 acres of riverine wetlands and 0.18 acres of non-riverine wetlands in the Central Piedmont in the Hydrologic Cataloging Unit 03020201 and 9.51 acres of riverine wetlands and 10.04 acres of non-riverine wetlands in the Northern Inner Coastal Plain in the Hydrologic Cataloging Unit 03020201, associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated 26 October 2004, and in accordance with the Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003. In addition, NCDOT will be responsible for supplying additional mitigation for the remaining impacts to 0.12 acres of wetlands not covered by the above letter

from the Ecosystem Enhancement Program (EEP). DOT shall submit a mitigation plan to, and get approval from, the NC Division of Water Quality to provide the additional 0.12 acres of wetland mitigation prior to incurring any impacts anywhere on the project. A letter from the EEP agreeing to accept the mitigation will constitute an acceptable mitigation plan.

11. Compensatory mitigation for impacts to 9,921 linear feet of streams shall be done at a replacement ratio of 1:1. Applying a replacement ratio of 1:1, total mitigation for 9,921 linear feet of streams shall be provided as described below:

*Onsite Compensatory Mitigation*

410 linear feet of onsite mitigation shall be provided for unavoidable impacts to streams through the construction of the onsite stream relocation at Site 5, Section B of the project. The stream restoration shall be constructed in accordance with the approved design received in your application dated received November 1, 2004.

*Offsite Compensatory Mitigation*

Compensatory mitigation for the unavoidable impacts to 2,095 linear feet of streams in the Central Piedmont in the Hydrologic Cataloging Unit 03020201 and 7,342 linear feet of streams in the Northern Inner Coastal Plain in the Hydrologic Cataloging Unit 03020201 associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated 26 October 2004, and in accordance with the Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003. In addition, NCDOT will be responsible for supplying additional mitigation for the remaining impacts to 74 linear feet of streams not covered by the above letter from the Ecosystem Enhancement Program (EEP). DOT shall submit a mitigation plan to, and get approval from, the NC Division of Water Quality to provide the additional 74 linear feet of stream mitigation prior to incurring any impacts anywhere on the project. A letter from the EEP agreeing to accept the mitigation will constitute an acceptable mitigation plan.

12. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
13. All temporary fills in wetlands and surface waters shall be removed upon completion of the project. In addition, the post-construction removal of any temporary bridge structures or fill will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species will be required.
14. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
15. The dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or reducing the depth of the stream. Disturbed floodplains and streams should be restored to natural geomorphic conditions.
16. Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.
17. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
18. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.

19. Two copies of the final construction drawings shall be furnished to NCDWQ prior to the pre-construction meeting. Written verification shall be provided to the NC Division of Water Quality that the final construction drawings comply with the attached permit drawings contained in your application dated July 22, 2004.
20. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
21. NCDOT, and its authorized agents, shall conduct its 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 law and Federal law. If DWQ determines that such standards or laws are not being met (including the 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, DWQ may reevaluate and modify this certification to include conditions appropriate to assure compliance with such standards and requirements in accordance with 15A NCAC 2H.0507(d). Before modifying the certification, DWQ shall notify NCDOT and the US Army Corps of Engineers, provide public notice in accordance with 15A NCAC 2H.0503 and provide opportunity for public hearing in accordance with 15A NCAC 2H.0504. Any new or revised conditions shall be provided to NCDOT in writing, shall be provided to the United States Army Corps of Engineers for reference in any permit issued pursuant to Section 404 of the Clean Water Act, and shall also become conditions of the 404 Permit for the project.
22. A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
23. DOT shall schedule a preconstruction meeting for this project prior to incurring any impacts in jurisdictional waters including wetlands. The Division of Water Quality shall be notified a minimum of 30 days prior to the preconstruction conference.
24. Culverts that are less than 48-inch in diameter should be buried to a depth equal to or greater than 20% of their size to allow for aquatic life passage, unless otherwise authorized by this certification. Culverts that are 48-inch in diameter or larger should be buried at least 12 inches below the stream bottom to allow natural stream bottom material to become established in the culvert following installation and to provide aquatic life passage during periods of low flow. These measurements must be based on natural thalweg depths.
25. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
26. Any violations, during the construction of the approved project, of this 401 Water Quality Certification or the North Carolina State Water Quality Standards as defined in 15A NCAC 2B .0200 Rules, shall be reported immediately to the North Carolina Division of Water Quality.
27. Pursuant to NCAC15A 2B.0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

### Project Specific Conditions:

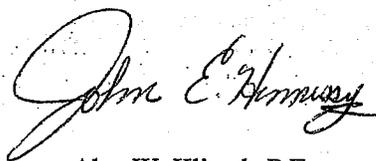
28. Riparian vegetation reestablishment shall include a minimum of at least 2 native hardwood tree species planted at a density sufficient to provide 320 trees per acre at maturity. In addition, within one year proof shall be submitted that the riparian buffer has been restored and an annual report will be submitted for a period of 5 years showing that the trees and vegetation have survived and that diffuse flow through the riparian buffer has been maintained. Failure to achieve the 320 trees per acre after 5 years will require reporting by the DOT to DWQ. The report shall provide appropriate remedial actions to be implemented. Approval of the plan by the DWQ is required.
29. Upland clearing limits must be approved by the Division of Land Resources prior to any land disturbing activities. A copy of the final clearing method and plan for upland areas shall be submitted to the Division of Land Resources for approval prior to incurring impacts on the project.
30. At Sites AA11a, AA11b and AA11c 4:1 side slopes will be utilized due to concerns for public safety.
31. At site C11 the pipe will be buried to the extent possible without draining the nearby wetland.
32. In accordance with your application, the following sediment and erosion controls measures will be implemented in accordance with the plan submitted to, and approved by, the Division of Land Resources. Failure to comply with the conditions listed below, will constitute violation of the 401 Water Quality Certification if that failure results in a violation of state water quality standards:
  - Basins will be designed to meet the surface area requirement for the peak runoff event for a 25-year storm.
  - Basins located at critical discharge points on the project will utilize the Faircloth Skimmer with jute baffles and polyacrylamides (PAMs) to improve settling efficiency
  - Exposed areas located adjacent to critical areas will utilize erosion control matting to assist in stabilization.
  - Erosion control matting will be utilized in ditchlines to reduce accelerated erosion.
  - An onsite inspector will review the sedimentation and erosion control devices daily to insure compliance with the sedimentation and erosion control plan.
  - The Roadside Environmental Unit will provide drive through inspections weekly to insure compliance with the Sedimentation Pollution Control Act.
  - DOT will propose a hydroseeding timeline for less than 14 days to insure that all exposed erodable areas are protected from storm events.
  - Hazardous Spill Catch Basin installation will be phased on Ramp D and temporary sediment traps will be utilized during the installation to insure that sediment laden runoff is not transported offsite.
  - Field changes to the Sediment and Erosion Control Plan will go through Roadside Environmental.
  - A water quality monitoring program will be in place to identify any sources of sediment discharge to Swift Creek from construction activities.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 14<sup>th</sup> day of January 2005

DIVISION OF WATER QUALITY

A handwritten signature in black ink, appearing to read "Alan W. Klimek". The signature is written in a cursive style with a large initial "A".

Alan W. Klimek, P.E.  
Director

WQC No. 3496



DWQ Project No.: \_\_\_\_\_

County: \_\_\_\_\_

Applicant: \_\_\_\_\_

Project Name: \_\_\_\_\_

Date of Issuance of 401 Water Quality Certification: \_\_\_\_\_

**Certificate of Completion**

Upon completion of all work approved within the 401 Water Quality Certification or applicable Buffer Rules, and any subsequent modifications, the applicant is required to return this certificate to the 401/Wetlands Unit, North Carolina Division of Water Quality, 1621 Mail Service Center, Raleigh, NC, 27699-1621. This form may be returned to DWQ by the applicant, the applicant's authorized agent, or the project engineer. It is not necessary to send certificates from all of these.

**Applicant's Certification**

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Agent's Certification**

I, \_\_\_\_\_, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Engineer's Certification**

\_\_\_\_\_ Partial \_\_\_\_\_ Final

I, \_\_\_\_\_, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project, for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the 401 Water Quality Certification and Buffer Rules, the approved plans and specifications, and other supporting materials.

Signature \_\_\_\_\_ Registration No. \_\_\_\_\_

Date \_\_\_\_\_





DEPARTMENT OF THE ARMY  
WILMINGTON DISTRICT, CORPS OF ENGINEERS  
P.O. BOX 1890  
WILMINGTON, NORTH CAROLINA 28402-1890

REPLY TO  
ATTENTION OF:

**SPECIAL CONDITIONS (Action ID. 200220745; NCDOT/TIP R-2552)**

#### COMPLIANCE WITH PLANS

a) All work must be performed in strict compliance with the attached plans, which are a part of this permit. Any modification to the permit plans must be approved by the USACE prior to implementation.

#### ACTIVITIES NOT AUTHORIZED

b) Except as authorized by this permit or any USACE approved modification to this permit, no excavation, fill, or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, within waters or wetlands, nor shall any activities take place that cause the degradation of waters or wetlands. In addition, except as specified in the plans attached to this permit, no excavation, fill or mechanized land-clearing activities shall take place at any time in the construction or maintenance of this project, in such a manner as to impair normal flows and circulation patterns within, into, or out of waters or wetlands or to reduce the reach of waters or wetlands.

This permit does not authorize temporary placement or double handling of excavated or fill material within jurisdictional waters, including wetlands, outside the permitted area. Additionally, no construction materials or equipment will be placed or stored within jurisdictional waters, including wetlands.

#### CONSTRUCTION PLANS

c) The permittee will ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Written verification shall be provided that the final construction drawings comply with the attached permit drawings prior to any active construction in waters of the United States, including wetlands. Any deviation in the construction design plans will be brought to the attention of the Corps of Engineers, Raleigh Regulatory Field Office prior to any active construction in waters or wetlands.

d) Prior to commencing construction within jurisdictional waters of the United States for any portion of the proposed project, the permittee shall forward the latest version of project construction drawings to the Corps of Engineers, Raleigh Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

#### POLLUTION SPILLS

e) All mechanized equipment will be regularly inspected and maintained to prevent contamination of waters and wetlands from fuels, lubricants, hydraulic fluids, or other toxic

materials. No equipment staging or storage of construction material will occur in wetlands. Hydro-seeding equipment will not be discharged or washed out into any surface waters or wetlands. In the event of a spill of petroleum products or any other hazardous waste, the permittee shall immediately report it to the N.C. Division of Water Quality at (919) 733-5083 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

#### NOTIFICATION

f) The permittee shall advise the Corps in writing at least two weeks prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

#### CLEAN FILL MATERIAL

g) Unless otherwise authorized by this permit, all fill material placed in waters or wetlands shall be generated from an upland source and will be clean and free of any pollutants except in trace quantities. Metal products, organic materials (including debris from land clearing activities), or unsightly debris will not be used.

#### CONTRACTOR COMPLIANCE

h) 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.

#### SEDIMENTATION AND EROSION CONTROL MEASURES

i) The permittee shall use appropriate sediment and erosion control practices which equal or exceed those outlined in the most recent version of the "North Carolina Sediment and Erosion Control Planning and Design Manual" to assure compliance with the appropriate turbidity water quality standard. . 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 in order to assure compliance with the appropriate turbidity water quality standards. Additionally, the project must remain in full compliance with all aspects of the Sedimentation Pollution Control Act of 1973 (North Carolina General Statutes Chapter 113A Article 4).

Adequate sedimentation and erosion control measures must be implemented prior to any ground disturbing activities to minimize impacts to downstream aquatic resources. These measures must be inspected and maintained regularly, especially following rainfall events. All fill material must

be adequately stabilized at the earliest practicable date to prevent sediment from entering into adjacent waters or wetlands. The permittee shall remove all sediment and erosion control measures placed in wetlands or waters, and shall restore natural grades in those areas, prior to project completion.

During the clearing phase of the project, heavy equipment must not be operated in surface waters or stream channels. Temporary stream crossings will be used to access the opposite sides of stream channels. All temporary diversion channels and stream crossings will be constructed of nonerodable materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

No fill or excavation for the purposes of sedimentation and erosion control shall occur within jurisdictional waters, including wetlands, unless it is included on the plan drawings and specifically authorized by this permit.

#### REPORTING OF VIOLATIONS

j) The permittee will report any violation of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act in writing to the Wilmington District, U. S Army Corps of Engineers, within 24 hours of the permittee's discovery of the violation.

#### COMPLIANCE WITH SPECIAL CONDITIONS

k) 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.

#### WET CONCRETE

l) The permittee shall take measures to prevent live or fresh concrete from coming into contact with any surface waters until the concrete has hardened.

#### CULVERTS

m) All authorized culverts will be installed to allow the passage of low stream flows and the continued movement of fish and other aquatic life as well as to prevent headcutting of the streambed. For all box culverts and for pipes greater than 48 inches in diameter, the bottom of the pipe will be buried at least one foot below the bed of the stream unless burial would be impractical and the Corps of Engineers has waived this requirement. For culverts 48 inches in diameter or smaller, the bottom of the pipe must be buried below the bed of the stream to a depth equal to or greater than 20 percent of the diameter of the culvert. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in disequilibrium of wetlands or streambeds or banks, adjacent to, upstream or downstream of the structures. In order to allow for the continued

movement of bed load and aquatic organisms, existing stream channel widths and depths will be maintained at the inlet and outlet ends of culverts. Riprap armoring of streams at culvert inlets and outlets shall be minimized above the ordinary high water elevation in favor of bioengineering techniques such as bank sloping, erosion control matting and revegetation with deep-rooted, woody plants.

#### PRECONSTRUCTION MEETING

n) The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Raleigh Regulatory Field Office, NCDOT Regulatory Project Manager, prior to any work within jurisdictional waters and wetlands to ensure that there is a mutual understanding of all of the terms and conditions contained within this Department of the Army Permit. The permittee shall provide the USACE, Raleigh Regulatory Field Office, NCDOT Regulatory Project Manager, with a copy of the final plans at least two weeks prior to the preconstruction meeting along with a description of any changes that have been made to the project's design, construction methodology or construction timeframe. The permittee shall schedule the preconstruction meeting for a time when the USACE and North Carolina Division of Water Quality (NCDWQ) Project Managers can attend. The permittee shall invite the Corps and NCDWQ Project Managers a minimum of thirty (30) days in advance of the scheduled meeting in order to provide those individuals with ample opportunity to schedule and participate in the required meeting.

#### BORROW AND WASTE

o) To ensure that all borrow and waste activities occur on high ground and do not result in the degradation of adjacent wetlands and streams, except as authorized by this permit, the permittee shall require its contractors and/or agents to identify all areas to be used to borrow material, or to dispose of dredged, fill, or waste material. The permittee shall provide the USACE with appropriate maps indicating the locations of proposed borrow or waste sites as soon as the permittee has that information. The permittee will coordinate with the USACE before approving any borrow or waste sites that are within 400 feet of any streams or wetlands. All jurisdictional wetland lines on borrow and waste sites shall be verified by the Corps of Engineers and shown on the approved reclamation plans. The permittee shall ensure that all such areas comply with Special Condition b) of this permit, and shall require and maintain documentation of the location and characteristics of all borrow and disposal sites associated with this project. This information will include data regarding soils, vegetation and hydrology sufficient to clearly demonstrate compliance with the Special Condition b). All information will be available to the USACE upon request. NCDOT shall require its contractors to complete and execute reclamation plans for each waste and borrow site and provide written documentation that the reclamation plans have been implemented and all work is completed. This documentation will be provided to the Corps of Engineers within 30 days of the completion of the reclamation work.

## MITIGATION

### STREAM RELOCATIONS PERFORMED BY NCDOT

p) **IMPLEMENTATION:** The permittee shall mitigate for 410 linear feet of unavoidable impact to streams with important aquatic function, associated with this project, by completing 410 linear feet of onsite stream relocation/restoration, as described in the permit application. The stream relocation/restoration shall be constructed in accordance with the North Carolina Wildlife Resources Commission's (NCWRC) "Stream Relocation Guidelines." NCDOT shall consult with NCWRC on the stream relocation/restoration and implement all practicable recommendations in the design of specific site requirements for re-establishment of bank vegetation, and placement of meanders and habitat structures. Vegetation shall be used to the maximum extent practicable to stabilize banks, and riprap and other man-made structural measures shall be minimized. The permittee shall construct all channel relocations/restoration in a dry work area, and stabilize the new channel before stream flows are diverted. Whenever possible, the permittee shall allow new channels to stabilize for an entire growing season. The Corps of Engineers, Raleigh Regulatory Field Office will be notified in advance by facsimile transmission or electronic mail of the intended diversion of water into the new channel and approval must be obtained from the USACE prior to the diversion taking place. The banks and buffer area of the relocated channel will be planted with appropriate species of deep-rooted, woody vegetation. A final inspection of the channel relocation by a representative of the Corps of Engineers, Ashville Regulatory Field Office will be conducted prior to completion of the road project. No clearing and grubbing of the existing channel shall take place until the stream has been diverted into the new channel.

q) **AS-BUILT SURVEY:** The permittee shall complete an as-built channel survey within sixty days of completion of the stream relocation construction. The permittee shall document changes in the dimension, pattern, profile, vegetation plantings, and structures installed, of the relocated channel from the proposed design. The permittee shall also include in the as-built survey: photo documentation at representative segments and structures; and a plan view diagram.

r) **MONITORING SCHEDULE:** The permittee shall perform the following components of Level I monitoring each year for the 5-year monitoring period: Reference photos; plant survival (i.e., identify specific problem areas (missing, stressed, damaged or dead plantings), estimated causes, and proposed/required remedial action); visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. The permittee shall submit the monitoring reports to the USACE, Raleigh Regulatory Field Office Project Manager, within sixty days after completing the monitoring. If less than two bankfull events occur during the first 5 years, the permittee shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the five-year monitoring period, the USACE, in consultation with the resource agencies, may determine that further monitoring is not required. It is suggested that all bankfull occurrences be monitored and reported through the required monitoring period. The permittee shall perform and submit photo documentation twice each year (summer and winter) for the 5-year monitoring period, and for any subsequently required monitoring period.

s) MONITORING DATA/REPORT: The permittee shall include the following information in the Level I monitoring report for the site: reference photos; plant survival notes and recommendations, as appropriate; and a report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. The permittee shall complete the Monitoring Data Record, Sections 1, 2 and 3 (pages 1, 2 and 3, attached), for each representative segment of the channel, and for each year of monitoring (twice each year, summer and winter, for reference photos). The permittee shall include in the monitoring reports a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

t) STREAM MITIGATION SUCCESS CRITERIA: The mitigation success criteria, and required remediation actions, will be generally based on the attached Appendix II, and the Photo Documentation, Ecological Function, and Channel Stability criteria in the "Stream Mitigation Guidelines", dated April, 2003 (available on the internet at [http://www.saw.usace.army.mil/wetlands/Mitigation/stream\\_mitigation.html](http://www.saw.usace.army.mil/wetlands/Mitigation/stream_mitigation.html)), pages 24 and 25, under "Success Criteria: ".

#### SECTION 7 COMPLIANCE

u) NCDOT shall implement and enforce all the conservation measures for "Direct Effects" described in Sections 4.1 and 4.3 of NCDOT's "Addendum to the Biological Assessment; Clayton Bypass; Johnston and Wake County, North Carolina; R-2552", dated March, 2005, to avoid an adverse effect to the endangered dwarf wedgemussel (*Alasmidonta heterodon*) and Tar spiny mussel (*Elliptio steinstansana*). As stated in the Addendum, NCDOT shall not begin construction on the Clayton Bypass until after all the proposed ordinances and ordinance amendments, which are the conservation measures for "Indirect and Cumulative Effects" (Sections 4.2 and 4.4), are adopted.

#### EEP MITIGATION

v) Compensatory mitigation for the unavoidable impacts to 12.00 acres of riverine wetlands, 10.29 acres of non-riverine wetlands, and 9,511 linear feet of perennial stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated March 24, 2005 from William D. Gilmore, EEP Director. The EEP will provide the compensatory mitigation as follows:

**Central Piedmont, CU 03020201 (2.48 acre riverine; 0.18 acres non-riverine; and 2,095 feet of stream):**

#### **Riverine Wetland Mitigation:**

#### **High Quality Riverine Wetland Preservation (10:1) in same eco-region (24.80 acres)**

Langley Cypress Creek, Franklin County	18.92 acres
Allen Site, Wake County	5.88 acres

**Non-Riverine Wetland Mitigation:**

High Quality Non-Riverine Wetland Preservation (10:1) in same eco-region (1.80 acres)  
Stevens Pennys Bend, Durham County 1.80 acres

**Stream Mitigation:**

High Quality Stream Preservation (10:1) in same eco-region (20,950 feet)  
Flat River (Treyburn), Durham County 18,750 feet  
Harper Sandy/Swift, Franklin County 2,200 feet

**Northern Inner Coastal Plain, CU 03020201 (9.52 acres riverine, 10.11 acres non-riverine; and 7,416 feet of stream):**

**Riverine Wetland Mitigation:**

High Quality Riverine Wetland Preservation (10:1) in same eco-region (95.20 acres)  
Roanoke River, Halifax County

**Non-Riverine Wetland Mitigation:**

20.22 acres of non-riverine restoration-equivalent wetland mitigation within CU 03020201 of the Neuse River Basin will be provided using EEP's existing compensatory non-riverine wetland mitigation assets. A minimum of 1:1 (impact to mitigation) must be in the form of wetlands restoration.

**Stream Mitigation:**

High Quality Stream Preservation (10:1) in same eco-region (41,188 feet)  
Roanoke River, Halifax County 36,432 feet  
Edwards Tract, Nash County 4,756 feet

6,594 linear feet of restoration-equivalent warm water stream mitigation within CU 03020201 of the Neuse River Basin will be provided using EEP's existing compensatory stream mitigation assets.

Pursuant to the EEP Memorandum of Agreement (MOA) between the State of North Carolina and the US Army Corps of Engineers signed on July 22, 2003, the EEP will provide a total minimum of 12.00 acres of restoration of riverine wetlands, 10.29 acres of restoration of non-riverine wetlands, and 9,511 linear feet of restoration of warm water stream channel in the Neuse River basin (Hydrologic Cataloging Unit 03020201) by July 22, 2005 and half of the proposed preservation mitigation would be available at that time for mitigation for other project impacts. The NCDOT shall, within 30 days of the issue date of this permit, certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.

**Channel Mitigation Monitoring Sheets I, II, III, AND IV  
Monitoring Data Record**

Project Title: \_\_\_\_\_ COE Action ID: \_\_\_\_\_

Stream Name: \_\_\_\_\_ DWQ Number: \_\_\_\_\_

City, County and other Location Information: \_\_\_\_\_

Date Construction Completed: \_\_\_\_\_ Monitoring Year: ( ) of 5

Ecoregion: \_\_\_\_\_ 8 digit HUC unit \_\_\_\_\_

USGS Quad Name and Coordinates: \_\_\_\_\_

**Rosgen Classification:** \_\_\_\_\_

Length of Project: \_\_\_\_\_ Urban or Rural: \_\_\_\_\_ Watershed Size: \_\_\_\_\_

Monitoring DATA collected by: \_\_\_\_\_ Date: \_\_\_\_\_

**Applicant Information:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Email address: \_\_\_\_\_

**Consultant Information:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Email address: \_\_\_\_\_

Project Status: \_\_\_\_\_

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**Monitoring Level required by COE and DWQ (404/Sec. 10 permit/ 401 Cert.):** Level 1 2 3  
Monitoring Level 3 requires completion of *Section 1* (circle one)  
Monitoring Level 2 requires completion of *Section 1 and Section 2*  
Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*  
If biological monitoring is required by DWQ, then Section 4 should also be completed

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**Section 1. PHOTO REFERENCE SITES**

*(Monitoring at all levels must complete this section)*

Attach site map showing the location and angle of all reference photos with a site designation (name, number, letter, etc.) assigned to each reference photo location. Photos should be provided for all structures and cross section locations, should show both banks and include an upstream and downstream view. Photos taken to document physical stability should be taken in winter. Photos taken to document vegetation should be taken in summer (at representative locations). Attach photos and a description of each reference photo or location. We recommend the use of a photo identification board in each photo to identify location.

**Total number of reference photo locations at this site:** \_\_\_\_\_

**Dates reference photos have been taken at this site:** \_\_\_\_\_

**Individual from whom additional photos can be obtained (name, address, phone):** \_\_\_\_\_

Other Information relative to site photo reference: \_\_\_\_\_

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**If required to complete Level 3 monitoring only stop here; otherwise, complete section 2.**

**Section 2. PLANT SURVIVAL**

Attach plan sheet indicating plots and sample area locations and reference photos.

**Survival plots:**

DATE:					
Area within the easement is:					
Area sampled by survival plots:					
Number of survival plots sampled:					
Random or nonrandom site selection:					
% Coverage within survival plots is:					
Photos of reference plots taken: yes/no					

Provide a written description of specific data or findings and photos as needed for clarity.

**Live Stake counts:**

DATE:					
Area within the easement is:					
Area sampled for stake survival:					
Number of plots sampled:					
Random or nonrandom site selection:					
Average number of surviving stakes:					
Range of survival for all plots:					

Provide a written description of specific data or findings as needed for clarity.

**Tree counts:**

DATE:					
Area within the easement is:					
Area sampled for tree survival:					
Number of plots sampled:					
Random or nonrandom site selection:					
Average number of surviving trees:					
Range of survival for all plots:					

Provide a written description of specific data or findings as needed for clarity.

**Bankfull Events:**

Date measured:					
Method of Verification:					

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

**Section 3. CHANNEL STABILITY**

Attach plan sheet(s) indicating the locations of cross-sections and beginning and ending of longitudinal profiles if the entire reach is not profiled. Year to year changes in cross-sections, longitudinal profile and bed material should be plotted and submitted. Comparison overlays from previous years for profile and cross-section monitoring should be provided.

**Cross-sections:** attach plots of each cross-section showing year to year changes.  
Provide the following data for each cross-section:

Date measured					
Cross-section being measured					
Cross-sectional area: as-built/present					
Bankfull width: as-built/present					
Floodprone Width: as-built/present					
Width/depth: as-built/present					
Entrenchment ratio: as-built/present					
Stream Type: as-built/present*					

\* only required for riffle cross-sections

**Longitudinal profiles:** attach plots of the longitudinal profile showing year to year changes and the locations of installed or natural structures that affect profile.

Date measured	
Avg. slope riffles: as-built/present	
Avg. slope pools: as-built/present	
Number of riffles: as-built/present	
Number of pools: as-built/present	

**Pebble counts:** Attach a printout of pebble count data and a graphical plot of bed material showing the cumulative % finer than X millimeters and the number of particles in standard size classes. Year to year changes in bed material should also be plotted and provided.

Date measured					
Cross-section being measured					
D16: as-built/present					
D50: as-built/present					
D84: as-built/present					

**Visual Inspection:** The entire stream project as well as each instream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Date Inspected	Station Number				
Structure Type					
Is water piping through or around structure?					
Head cut or down cut present?					
Bank or scour erosion present?					
Other problems noted?					

**NOTE:** Attach separate narrative sheets to each monitoring report describing/discussing the overall monitoring results. Include the identification of specific problem areas/channel failures, estimated cause and proposed/required remedial action. This should include a brief discussion of any parameter that has changed significantly from as-built. (See success criteria discussion in Section 11.)

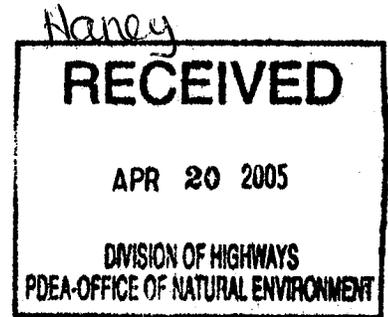
**Appendix II. General criteria used to evaluate the success or failure of activities at mitigation sites and required remedial actions to be implemented should monitoring indicate failure of a component.**

Mitigation Component	Success (requires no action)	Failure →	Action
(1) <u>Photo Reference Sites</u> Longitudinal photos Lateral photos	No substantial* aggradation, degradation or bank erosion.	Substantial aggradation, degradation or bank erosion.	When substantial aggradation, degradation or bank erosion occurs, remedial actions will be planned, approved, and implemented.
(2) <u>Plant Survival</u> Survival plots Stake counts Tree counts	<p>≥ 75% Coverage in Photo Plots</p> <p>Survival and growth of at least 320 trees/acre through year 3, then 10% mortality allowed in year 4 (288 trees/acre) and additional 10% mortality in year 5 for 260 trees/acre through year 5.</p>	<p>&lt; 75% coverage in photo plots for herbaceous cover.</p> <p>Survival of less than 320 trees per acre through year 3 and then less than the success criteria for years 4 and 5.</p>	Areas of less than 75% coverage will be re-seeded and or fertilized, live stakes and bare rooted trees will be planted to achieve desired densities.
(3) <u>Channel Stability</u> Cross-sections Longitudinal profiles Pebble counts	Minimal evidence of instability (down-cutting, deposition, bank erosion, increase in sands or finer substrate material).	Substantial* evidence of instability.	When Substantial evidence of instability occurs, remedial actions will be planned, approved, and implemented.
(4) <u>Biological Indicators</u> Invertebrate populations Fish populations	Population measurements remain the same or improve, and species composition indicates a positive trend.	Population measurements and species composition indicate a negative trend.	Reasons for failure will be evaluated and remedial action plans developed, approved, and implemented.

**\*Substantial or subjective determinations of success will be made by the mitigation sponsor and confirmed by COE and review agencies.**  
 Monitoring Level 1 will include items 1, 2, and 3, and may include item 4 based on the project review.  
 Monitoring Level 2 will include items 1 and 2, and may include item 3 based on the project review.  
 Monitoring Level 3 will include only item 1.



April 14, 2005



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

Dear Dr. Thorpe:

Re: Modification to the 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Modification of Neuse River Buffer Authorization for Proposed Construction of US 70 (Clayton Bypass) from I-40 to US 70 Business in Wake and Johnston Counties, TIP No. R-2552AA, AB, B and C, State Project No. 8.T311002, Federal Aid Project No. NHF-60-1(9).  
WQC Project No. 041760

Attached hereto is a modification of Certification No. 3496 issued to The North Carolina Department of Transportation dated January 14, 2005. The attached modification authorizes 0.1 acres of additional temporary wetland impacts at Station 137+41 to 138+19 -L2- (C section, Site 7) for the purpose of relocation of an aerial utility line, the installation of a new transmission tower at Station 14+50 -LREV- (AA section, buffer site AA14) with no additional buffer impacts, 3,000 square feet (1,800 square feet in Zone 1 and 1,200 square feet in Zone 2) of additional buffer impact at Station 21+10 -L- (AA section, buffer site AA15a) for the purpose of relocation of an aerial utility line and 3,000 square feet (1,800 square feet in Zone 1 and 1,200 square feet in Zone 2) of additional buffer impact at Station 14+80 -Y11-REV (B section, buffer site 10) for the purpose of relocation of an aerial utility line. This modification also authorizes the pipe at Site C 11 to be placed on natural ground to prevent the nearby wetland from being impacted and/or drained. This modification is applicable only to the additional proposed activities. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 14, 2005 still apply except where superceded by this certification.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Alan W. Klimek, P.E.  
Director

Attachments

RECEIVED

cc: Wilmington District Corps of Engineers  
Corps of Engineers Washington Field Office  
Mr. Eric Alsmeyer, Corps of Engineers Raleigh Field Office  
Mr. Christopher Milijscher, US EPA, Region IV  
Mr. Jim Trogdon, PE, Division 4 Engineer, PO Box 3165, Wilson, NC 27895  
Mr. Jamie Sherr, Division 4 Environmental Officer, PO Box 3165, Wilson, NC 27895  
Mr. Jon Nance, PE, Division 5 Engineer, 2612 N. Duke St., Durham, NC 27704  
Mr. Chris Murray, Division 5 Environmental Officer, 2612 N. Duke St., Durham, NC 27704  
Mr. Matt Haney, ONE, 2728-168 Capital Blvd., Parker Lincoln Bldg., Raleigh, NC 27604  
Mr. Galen Cail, PE, NCDOT Hydraulics Unit, 1020 Birch Ridge Rd, Raleigh, NC 27610  
Mr. William Gilmore, Ecosystem Enhancement Program  
NCDWQ Raleigh Regional Office  
Central Files  
File Copy

**Modification of APPROVAL OF 401 Water Quality Certification and ADDITIONAL CONDITIONS  
And Neuse River Buffer Rules**

**THIS CERTIFICATION** 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 (DWQ) Regulations in 15 NCAC 2H, Section .0500. The project shall be constructed pursuant to the modification dated received March 18, 2005 and subsequent submittals dated received April 11, 2005 to construct US 70 (Clayton Bypass) from I-40 to US 70 Business in Wake and Johnston Counties. The attached modification authorizes 0.1 acres of additional temporary wetland impacts at Station 137+41 to 138+19 -L2- (C section, Site 7) for the purpose of relocation of an aerial utility line, the installation of a new transmission tower at Station 14+50 -LREV- (AA section, buffer site AA14) with no additional buffer impacts, 3,000 square feet (1,800 square feet in Zone 1 and 1,200 square feet in Zone 2) of additional buffer impact at Station 21+10 -L- (AA section, buffer site AA15a) for the purpose of relocation of an aerial utility line and 3,000 square feet (1,800 square feet in Zone 1 and 1,200 square feet in Zone 2) of additional buffer impact at Station 14+80 -Y11-REV (B section, buffer site 10) for the purpose of relocation of an aerial utility line. This modification also authorizes the pipe at Site C 11 to be placed on natural ground to prevent the nearby wetland from being impacted and/or drained in Wake and Johnston Counties. This modification is applicable only to the additional proposed activities. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 14, 2005 still apply except where superseded by this certification. The authorized impacts are as described below:

**Section AA Wetland Impacts in the Neuse River Basin**

<b>Site</b>	<b>Fill (ac)</b>	<b>Fill (temporary) (ac)</b>	<b>Excavation (ac)</b>	<b>Mechanized Clearing (ac)</b>	<b>Hand Clearing (ac)</b>
AA1b				0.01	
AA2b	0.01			0.01	
AA4b				0.01	
AA5b	0.03			0.02	
AA6	0.03			0.01	
AA7	0.03			0.01	
AA8	0.05			0.02	
AA9	0.01			0.01	
AA10a	0.01			0.01	
AA10b					0.12
AA11a, 11b, 11c	2.31			0.06	
AA12	0.01				
AA14	0.16	0.02			1.48
AA16	0.04			0.02	
<b>Total</b>	<b>2.69</b>	<b>0.02</b>		<b>0.19</b>	<b>1.60</b>

**Section AB Wetland Impacts in the Neuse River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)
AB1	0.11			0.01	
AB3	0.04			0.01	
AB4	0.01	0.01			0.08
AB5b	0.07			0.02	
AB5c	0.08			0.01	
AB7	0.09				
AB6a	0.01		0.01		
AB8	0.17			0.05	
AB9	0.09			0.01	
AB10	0.45			0.02	
AB11	0.47			0.03	
<b>Total</b>	<b>1.59</b>	<b>0.01</b>	<b>0.01</b>	<b>0.16</b>	<b>0.08</b>

**Section B Wetland Impacts in the Neuse River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)
1	0.16			0.045	
2	0.429			0.046	
3	1.203			0.081	
4	1.217			0.028	
5	1.899		0.175	0.117	
12	0.117				
<b>Total</b>	<b>5.025</b>		<b>0.175</b>	<b>0.317</b>	

**Section C Wetland Impacts in the Neuse River Basin**

Site	Fill (ac)	Fill (temporary) (ac)	Excavation (ac)	Mechanized Clearing (ac)	Hand Clearing (ac)
C1	0.04	0.03		0.04	
C2				0.06	
C3	2.26			0.11	
C6	1.77		0.01	0.40	
C7	1.18		0.36	0.13	
C7 New impacts with this modification		0.10			
C8	1.06				
C9	0.01			0.02	
C10	0.02			0.04	
C11	0.97		0.36	0.27	
C12				0.03	
C13	0.97			0.22	
C14	0.12		0.02	0.21	
C15	1.09			0.29	
C16			0.01	0.05	
Original 401 WQC Totals	9.49	0.03	0.76	1.87	
New totals with this modification	<b>9.49</b>	<b>0.13</b>	<b>0.76</b>	<b>1.87</b>	

**Section AA Surface Water and Stream Impacts in the Neuse River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)	Temporary Stream Impacts (ft)	Natural Channel Design (ft)
AA1b				10	
AA3a	0.01		26	13	
AA3b	0.01		13	10	
AA4b	0.02		128	30	
AA5a	0.01		236		
AA5b	0.05		391	10	
AA10a	0.07		30	20	
AA10b			10	10	
AA11a	0.05		437		
AA11b	0.04		417	20	
AA11c	0.04		407		
AA14		0.01			
AA15a	0.01		85	10	
AA15b	0.01		98	20	
AA16	0.79		10	10	
AA17	0.03		240		
AA18a	0.45		355	10	
AA18b	0.03		167	20	
<b>Total</b>	<b>1.62</b>	<b>0.01</b>	<b>3,050</b>	<b>193</b>	

**Section AB Surface Water and Stream Impacts in the Neuse River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)	Temporary Stream Impacts (ft)	Natural Channel Design (ft)
AB2		0.05	325	98	
AB4	0.01	0.02			
AB5b			128	26	
AB5c	0.06		364	108	
AB5d	0.13		561	13	
AB7	0.13				
AB6a	0.02		102	10	
AB6b	0.09		226		
AB8	0.01		118	23	
AB11	0.06		351	131	
<b>Total</b>	<b>0.51</b>	<b>0.07</b>	<b>2,175</b>	<b>409</b>	

**Section B Surface Water and Stream Impacts in the Neuse River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)	Temporary Stream Impacts (ft)	Natural Channel Design (ft)
1	0.043	0.024	191	105	
2	0.063	0.020	276	88	
3	0.071	0.009	475	62	
4	0.103	0.010	673	71	
5	0.245	0.024	722	73	410
6	0.103	0.008	443	46	
7	0.025		163		
8		0.002	6	30	
9	0.081	0.026	354	115	
10	0.024	0.011	127	58	
11	0.274				
12	0.065	0.031	388	166	
<b>Total</b>	<b>1.097</b>	<b>0.165</b>	<b>3.818</b>	<b>814</b>	<b>410</b>

**Section C Surface Water and Stream Impacts in the Neuse River Basin**

Site	Permanent Fill in Surface Water (ac)	Temporary Fill in Surface Water (ac)	Permanent Stream Impacts (ft)	Temporary Stream Impacts (ft)	Natural Channel Design (ft)
C1		0.28	115		
C2	1.54				
C4			26		
C5	0.03	0.01	282		
C6	0.06	0.02	272		
C7	0.06				
C10	0.02		52		
C12			16		
C13	0.01		30		
C14	0.01	0.01	33		
C16	0.01	0.01	52		
<b>Total</b>	<b>1.74</b>	<b>0.33</b>	<b>878</b>		

**Section AA Neuse Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
AA1a	431	2,611				
AA1b	2,125	1,765	108			
AA3a	3,718	4,049			3,718	4,049
AA3b	4,112	4,392			4,112	4,392
AA4a	11,348	8,145			11,348	8,145
AA4b	8,830	6,470	108		8,722	6,470
AA5a	41,581	32,338	194	108	41,387	32,230
AA5b	-see AA5a for site totals-					
AA6			108	323		
AA10a	11,797	9,601	215		11,582	9,601
AA10b	18,156	14,594	538	108		
AA11b	46,633	32,446	39,339	15,193	7,294	17,253
AA11c	-see AA11b for site totals-					
AA13	3,720	5,909				
AA14	18,514	15,334	17,776	11,976		
AA15a	5,572	4,048				
AA15a New impacts with this modification	1,800	1,200				
AA15b	6,284	8,148				
AA16	27,649	19,749	2,690		24,959	19,749
AA18a	28,646	18,336			28,646	18,336
AA18b	8,818	6,899			8,818	6,899
AA19	2,165	1,922			2,165	1,922
Original 401 WQC Total	239,124	196,756	61,076	27,708	152,751	129,046
New total with this modification	240,924	197,956	61,076	27,708	152,751	129,046

**Section AB Neuse Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
AB2	24,211	15,173			24,211	15,173
AB4	18,478	13,016	8,229			
AB5c	58,509	44,230			58,509	44,230
AA5d	-see AB5c for site totals-					
AB7			9,272			
AB8	7,294	4,831				
AB11	20,326	13,775	14,761		5,565	13,775
<b>Total</b>	<b>128,818</b>	<b>91,025</b>	<b>32,262</b>		<b>88,285</b>	<b>73,178</b>

**Section B Neuse Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Onsite Buffer Replacement Zone 1 (sq. ft.)	Onsite Buffer Replacement Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
1	11,250	12,196	5,985	1,715			5,265	10,481
2	14,866	11,954	10,382	4,527			4,484	7,427
3	24,801	19,088	19,247	10,620			5,554	8,468
4	36,511	30,223	27,400	11,569			9,111	18,654
5	37,785	37,688	21,034	17,609	9,671	7,494	7,080	12,585
6	25,889	12,148					25,889	12,148
7	4,845	5,626						
8	1,147	2,138						
9	20,306	18,380					20,306	18,380
10	14,886	11,323			5,566	4,911	9,320	6,412
10 New impacts with this modification	1,800	1,200					-9,320	-6,412
11	11,071	5,718					11,071	5,718
12	36,491	12,865	3,498	1,787	5,770	3,111	27,223	7,967
Original 401 WQC Total	239,848	179,347	87,546	47,827	21,007	15,516	125,303	108,240
New Total with this modification	241,648	180,547	87,546	47,827	21,007	15,516	115,983	101,828

**Section C Neuse Riparian Buffer Impacts**

Site	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Wetlands in Zone 1 (sq. ft.)	Wetlands in Zone 2 (sq. ft.)	Mitigation Required Zone 1 (sq. ft.)	Mitigation Required Zone 2 (sq. ft.)
C1	25,272	13,712		86		
C4	2,097	861				
C5	19,889	13,157			19,889	13,157
C6	19,472	13,196	19,472	12,454		742
C9	549	958			549	958
C10	5,479	2,099	1,929	75		
C12	2,712	1,087	1,119	75		
C13	1,937	850	1,676	829		
C14	4,801	2,390	2,863	1,454		
C16	4,176	2,153	593	321		
<b>Total</b>	<b>86,384</b>	<b>50,463</b>	<b>27,652</b>	<b>15,294</b>	<b>20,438</b>	<b>14,857</b>

**Mitigation Requirements for Neuse Riparian Buffers Project Wide**

	<b>Impact (sq. ft.)</b>	<b>Replacement Ratio</b>	<b>Total Impact (sq. ft.)</b>	<b>Fee schedule</b>	<b>Payment amount for Mitigation</b>
<b>Zone 1</b>	386,777	3:1	1,160,331	\$0.96/sq. ft.	\$1,113,917.76
New Zone 1 totals with this modification	377,457	3:1	1,132,371	\$0.96/sq. ft.	\$1,087,076.16
<b>Zone 2</b>	325,321	1.5:1	487,981.5	\$0.96/sq. ft.	\$468,462.24
New Zone 2 totals with this modification	318,909	1.5:1	478,764	\$0.96/sq. ft.	\$459,228.96
Original 401 WQC Total Mitigation Payment Required					\$1,582,380.00
<b>New Total Mitigation Payment Required with this modification</b>					<b>\$1,546,305.12</b>

The application provides adequate assurance that the discharge of fill material into the waters of the Neuse River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your modified application dated received March 18, 2005 and subsequent revisions dated received April 11, 2005. All the authorized activities and conditions of certification associated with the original Water Quality Certification dated January 14, 2005 still apply except where superceded by this certification. Should your project change, you are required to notify the DWQ and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire three years from the date of the cover letter from DWQ or on the same day as the expiration date of the corresponding Corps of Engineers Permit, whichever is sooner.

**Condition(s) of Certification:**

1. Construction will be conducted in such a manner as to prevent a significant increase in turbidity outside the area of construction or construction-related discharge. 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 in order to assure compliance with the appropriate turbidity water quality standard.
  - a. The erosion and sediment control measures for the project must equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the North Carolina Sediment and Erosion Control Planning and Design Manual. These 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 equal or exceed the proper design, installation, operation and maintenance outlined in the most recent version of the North Carolina Surface Mining Manual. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.

2. All sediment and erosion control measures shall not be placed in wetlands or waters to the maximum extent practicable. If placement of sediment and erosion control devices in wetlands and waters is unavoidable, they shall be removed and the natural grade restored after the Division of Land Resources has released the project;
3. If an environmental document is required, this Certification is not valid until a FONSI or ROD is issued by the State Clearinghouse. All water quality-related conditions of the FONSI or ROD shall become conditions of this Certification;
4. No live or fresh concrete shall come into contact with waters of the state until the concrete has hardened.
5. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
6. All channel relocations will be constructed in a dry work area, and stabilized before stream flows are diverted. Channel relocations will be completed and stabilized prior to diverting water into the new channel. Whenever possible, channel relocations shall be allowed to stabilize for an entire growing season. Vegetation used for 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 coir fiber and seedling establishment is allowable. Also, rip-rap 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 requested.
7. Upon completion of the project, the NCDOT shall complete and return the enclosed "Certification of Completion Form" to notify DWQ when all work included in the 401 Certification has been completed. The responsible party shall complete the attached form and return it to the 401/Wetlands Unit of the Division of Water Quality upon completion of the project.
8. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed, unless otherwise authorized by this certification, to allow low flow passage of water and aquatic life unless it can be shown to DWQ that providing passage would be impractical. Design and placement of culverts and other structures including temporary erosion control measures shall not be conducted in a manner that may result in dis-equilibrium of wetlands or streambeds or banks, adjacent to or upstream and down stream of the above structures. The applicant is required to provide evidence that the equilibrium shall be maintained if requested in writing by DWQ.
9. Compensatory mitigation for impacts to 712,098 square feet of Neuse Riparian Buffers shall be provided for as described below.

Zone of Impact	Impacts (Square Feet)	Replacement Ratio	Total Square Feet of Mitigation Required
Zone 1	377,457	3:1	1,132,371
Zone 2	318,909	1.5:1	478,764
Total	696,366		1,611,135

We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to Neuse Riparian Buffers

shall be provided in the Neuse River Basin and done in accordance with 15A NCAC 2B 0.233 at a cost of \$0.96 per square foot for 1,611,135 square feet of buffer impact. Therefore, a total payment of \$1,546,305.12 shall be submitted to the EEP to offset the project impacts. The payment to EEP, and the required riparian buffer mitigation shall be implemented in accordance with all the Memorandum's of Agreement signed between the North Carolina Department of Environment and Natural Resources and the NC Department of Transportation that govern the practice and function of the EEP.

10. No additional compensatory mitigation for wetlands is required.
11. No additional compensatory mitigation for streams is required.
12. During the construction of the project, no staging of equipment of any kind is permitted in waters of the U.S., or protected riparian buffers.
13. All temporary fills in wetlands and surface waters shall be removed upon completion of the project. In addition, the post-construction removal of any temporary bridge structures or fill will need to return the project site to its preconstruction contours and elevations. The revegetation of the impacted areas with appropriate native species will be required.
14. Riparian vegetation must be reestablished within the construction limits of the project by the end of the growing season following completion of construction.
15. The dimension, pattern and profile of the stream above and below the crossing should not be modified by widening the stream channel or reducing the depth of the stream. Disturbed floodplains and streams should be restored to natural geomorphic conditions.
16. Any riprap used must not interfere with thalweg performance and aquatic life passage during low flow conditions.
17. All mechanized equipment operated near surface waters must be regularly inspected and maintained to prevent contamination of stream waters from fuels, lubricants, hydraulic fluids, or other toxic materials.
18. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
19. Two copies of the final construction drawings shall be furnished to NCDWQ prior to the pre-construction meeting. Written verification shall be provided to the NC Division of Water Quality that the final construction drawings comply with the attached permit drawings contained in your application dated July 22, 2004.
20. The outside buffer, wetland or water boundary located within the construction corridor approved by this authorization shall be clearly marked by highly visible fencing prior to any land disturbing activities. Impacts to areas within the fencing are prohibited unless otherwise authorized by this certification.
21. NCDOT, and its authorized agents, shall conduct its 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 law and Federal law. If DWQ determines that such standards or laws are not being met (including the 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, DWQ may reevaluate and modify this certification to include conditions appropriate to assure compliance with such standards and requirements in accordance with 15A NCAC 2H.0507(d). Before modifying the certification, DWQ shall notify NCDOT and the US Army Corps of Engineers, provide public notice in accordance with 15A NCAC 2H.0503 and provide opportunity for public hearing in accordance with 15A NCAC 2H.0504. Any new or revised conditions shall be provided to NCDOT in writing, shall be

provided to the United States Army Corps of Engineers for reference in any permit issued pursuant to Section 404 of the Clean Water Act, and shall also become conditions of the 404 Permit for the project.

22. A copy of this Water Quality Certification shall be posted on the construction site at all times. In addition, the Water Quality Certification and all subsequent modifications, if any, shall be maintained with the Division Engineer and the on-site project manager.
23. DOT shall schedule a preconstruction meeting for this project prior to incurring any impacts in jurisdictional waters including wetlands. The Division of Water Quality shall be notified a minimum of 30 days prior to the preconstruction conference.
24. Culverts that are less than 48-inch in diameter should be buried to a depth equal to or greater than 20% of their size to allow for aquatic life passage, unless otherwise authorized by this certification. Culverts that are 48-inch in diameter or larger should be buried at least 12 inches below the stream bottom to allow natural stream bottom material to become established in the culvert following installation and to provide aquatic life passage during periods of low flow. These measurements must be based on natural thalweg depths.
25. There shall be no excavation from or waste disposal into jurisdictional wetlands or waters associated with this permit without appropriate modification of this permit. Should waste or borrow sites be located in wetlands or stream, compensatory mitigation will be required since it is a direct impact from road construction activities.
26. Any violations, during the construction of the approved project, of this 401 Water Quality Certification or the North Carolina State Water Quality Standards as defined in 15A NCAC 2B .0200 Rules, shall be reported immediately to the North Carolina Division of Water Quality.
27. Pursuant to NCAC15A 2B.0233(6), sediment and erosion control devices shall not be placed in Zone 1 of any Neuse Buffer without prior approval by the NCDWQ. At this time, the NCDWQ has approved no sediment and erosion control devices in Zone 1, outside of the approved project impacts, anywhere on this project. Moreover, sediment and erosion control devices shall be allowed in Zone 2 of the buffers provided that Zone 1 is not compromised and that discharge is released as diffuse flow.

**Project Specific Conditions:**

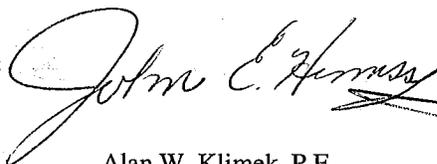
28. Riparian vegetation reestablishment shall include a minimum of at least 2 native hardwood tree species planted at a density sufficient to provide 320 trees per acre at maturity. In addition, within one year proof shall be submitted that the riparian buffer has been restored and an annual report will be submitted for a period of 5 years showing that the trees and vegetation have survived and that diffuse flow through the riparian buffer has been maintained. Failure to achieve the 320 trees per acre after 5 years will require reporting by the DOT to DWQ. The report shall provide appropriate remedial actions to be implemented. Approval of the plan by the DWQ is required.
29. Upland clearing limits must be approved by the Division of Land Resources prior to any land disturbing activities. A copy of the final clearing method and plan for upland areas shall be submitted to the Division of Land Resources for approval prior to incurring impacts on the project.
30. At Sites AA11a, AA11b and AA11c 4:1 side slopes will be utilized due to concerns for public safety.
31. At site C11 the pipe will be placed at natural ground without draining and/or impacting the nearby wetland.
32. In accordance with your application, the following sediment and erosion controls measures will be implemented in accordance with the plan submitted to, and approved by, the Division of Land Resources. Failure to comply with the conditions listed below, will constitute violation of the 401 Water Quality Certification if that failure results in a violation of state water quality standards:
  - Basins will be designed to meet the surface area requirement for the peak runoff event for a 25-year storm.
  - Basins located at critical discharge points on the project will utilize the Faircloth Skimmer with jute baffles and polyacrylamides (PAMs) to improve settling efficiency
  - Exposed areas located adjacent to critical areas will utilize erosion control matting to assist in stabilization.
  - Erosion control matting will be utilized in ditchlines to reduce accelerated erosion.
  - An onsite inspector will review the sedimentation and erosion control devices daily to insure compliance with the sedimentation and erosion control plan.
  - The Roadside Environmental Unit will provide drive through inspections weekly to insure compliance with the Sedimentation Pollution Control Act.
  - DOT will propose a hydroseeding timeline for less than 14 days to insure that all exposed erodable areas are protected from storm events.
  - Hazardous Spill Catch Basin installation will be phased on Ramp D and temporary sediment traps will be utilized during the installation to insure that sediment laden runoff is not transported offsite.
  - Field changes to the Sediment and Erosion Control Plan will go through Roadside Environmental.
  - A water quality monitoring program will be in place to identify any sources of sediment discharge to Swift Creek from construction activities.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If this Certification is unacceptable to you have the right to an adjudicatory hearing upon written request within sixty (60) days following receipt of this Certification. This request must be in the form of a written petition conforming to Chapter 150B of the North Carolina General Statutes and filed with the Office of Administrative Hearings, P.O. Box 27447, Raleigh, N.C. 27611-7447. If modifications are made to an original Certification, you have the right to an adjudicatory hearing on the modifications upon written request within sixty (60) days following receipt of the Certification. Unless such demands are made, this Certification shall be final and binding.

This the 14<sup>th</sup> day of April 2005

DIVISION OF WATER QUALITY

A handwritten signature in cursive script, appearing to read "John E. Klimek", with a horizontal line extending to the right from the end of the signature.

Alan W. Klimek, P.E.  
Director

WQC No. 3496

PLEASE COMPLETE THE FOLLOWING QUESTIONS BY GIVING US ANY COMMENTS OR SUGGESTIONS FOR HOW WE CAN IMPROVE.

200220743 R2552

**Please indicate the nature of your business (if applicable, check more than one):**

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Property Developer           | <input type="checkbox"/> Flood/Water Control District | <input type="checkbox"/> Sand & Gravel   |
| <input type="checkbox"/> Public Agency Applicant      | <input type="checkbox"/> Consultant                   | <input type="checkbox"/> Law Office      |
| <input type="checkbox"/> Civic or Trade Organization  | <input type="checkbox"/> Farming/Ranching             | <input type="checkbox"/> Silviculture    |
| <input type="checkbox"/> Member of Legislature        | <input type="checkbox"/> Public Agency                | <input type="checkbox"/> Mining          |
| <input type="checkbox"/> Federal/State/Local Official | <input type="checkbox"/> Personal/Private Project     | <input type="checkbox"/> Media           |
| <input type="checkbox"/> Conservation Organization    | <input type="checkbox"/> Adjacent Property Owner      | <input type="checkbox"/> Native American |
| <input type="checkbox"/> Other (describe): _____      |   |  |

**What service(s) did you seek from the Corps? (If applicable, check more than one):**

- |  |  |
|--|--|
| <input type="checkbox"/> General Information                     | <input type="checkbox"/> Jurisdictional/Wetland Determination          |
| <input type="checkbox"/> Pre-application Consultation            | <input type="checkbox"/> Resolution of Violation/Non-compliance        |
| <input type="checkbox"/> Nationwide General Permit               | <input type="checkbox"/> Regulatory Program Presentation               |
| <input type="checkbox"/> Regional or Programmatic General Permit | <input type="checkbox"/> Commented on Public Notice/Permit Application |
| <input type="checkbox"/> Standard Individual Permit              | <input type="checkbox"/> Other (describe): _____                       |
| <input type="checkbox"/> Letter of Permission                    | _____  |

**Which Regulatory office (Division, Asheville, Raleigh, Washington, Wilmington) did you deal with?** \_\_\_\_\_

**Name of person you contacted in our office (optional):** \_\_\_\_\_

**Do you have any comments or suggestions on the Regulatory Program?**

**Information about you (optional):**

**Name/Title:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Telephone (include area code):** \_\_\_\_\_

**May we contact you? Yes \_\_\_ No \_\_\_**

**PRIVACY ACT STATEMENT**

**Authorities:** The Government Performance and Results Act of 1993 and Executive Order (EO) 12862, "Setting Customer Service Standards", dated September 11, 1993. **Purpose:** To determine the quality of service our customers expect, as well as their satisfaction with USACE's existing services. **Information provided on this form will be used in evaluating the performance of the Corps Regulatory Program. Routine Uses:** This information may be shared with the Office of Management and Budget, members of Congress, and other Federal, state, and local government agencies.

**PLEASE MAIL COMPLETED FORM TO: USAED, WILMINGTON, REGULATORY DIVISION, ATTN: LISA MORRIS, POST OFFICE BOX 1890, WILMINGTON, NC 28402-1890.**

**(Reverse of SAW Form 673)**

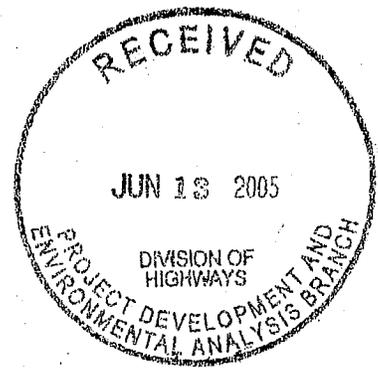
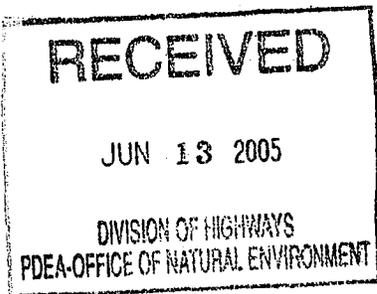
The Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to U.S. Army Engineer District, Wilmington, ATTN: Sheila Jack, Forms Information Management Officer, Post Office Box 1890, Wilmington, NC 28402-1890. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid SAW control number. PLEASE DO NOT RETURN YOUR APPLICATION TO THE ABOVE ADDRESS. RETURN COMPLETED APPLICATION TO THE ADDRESS SHOWN ON THE APPLICATION INSTRUCTION SHEET.

**U.S. ARMY ENGINEER DISTRICT, WILMINGTON  
 CUSTOMER SERVICE SURVEY – REGULATORY PROGRAM**

We at the U.S. Army Engineer District, Wilmington, Regulatory Division are committed to improving service to our customers and would like to know how well we have been doing. Who are our customers? You are our **customers** if you submitted a permit application, requested a jurisdictional determination or wetland delineation, or scheduled a pre-application meeting with us. **Other customers** include those of you who receive our Public Notice and/or commented on a particular project or our work in general, because of your interest in the Regulatory Program. To identify how we can better serve you, we need your help. Please take the time to fill out this brief survey and mail it back to us. Your honest opinions will help us determine areas in which we need to improve. For each question, please indicate the level of service you received by marking the appropriate number on a scale from 1-5, with 1 being low (dissatisfied) and 5 being high (very satisfied). If the question does not apply to you, simply mark N/A. Thank you for your time and comments! Response to this survey is VOLUNTARY. If you choose not to respond, it will not affect any current or future dealings you may have with the USAED, Wilmington in any way.

<b>I. FOR APPLICANTS &amp; OTHERS REQUIRING AUTHORIZATIONS</b>	<b>LOW SATISFACTION</b>			<b>HIGH SATISFACTION</b>		
	1	2	3	4	5	NA
1. Do you think you received your Corps permit decision in a reasonable amount of time?	1	2	3	4	5	NA
2. Do you think you received your Corps jurisdictional determination in a reasonable amount of time?	1	2	3	4	5	NA
3. If we recommended/required project changes/modifications to reduce impacts, did we clearly explain the reasons why?	1	2	3	4	5	NA
4. If we recommended/required project changes/modifications to reduce impacts, did the changes seem reasonable to you?	1	2	3	4	5	NA
5. If we denied your permit, did we clearly explain the reasons why?	1	2	3	4	5	NA
6. For enforcement cases, did our office clearly and professionally explain the basis for the enforcement action (e.g., what work we believe you performed without authorization)?	1	2	3	4	5	NA
7. For enforcement cases, did our office include options for resolution?	1	2	3	4	5	NA
<b>II. FOR "OTHER" CUSTOMERS</b>						
1. For permitted actions, was the permit effective in achieving appropriate protection/mitigation for impacts to aquatic resources?	1	2	3	4	5	NA
2. For enforcement actions, did the Corps require appropriate compensation/restoration for impacts to aquatic resources?	1	2	3	4	5	NA
<b>III. FOR APPLICANTS &amp; "OTHER" CUSTOMERS</b>						
1. Did the Corps representative act professionally and treat you with courtesy?	1	2	3	4	5	NA
2. Did the Corps provide sufficient information to allow you to complete an application form, comment on a public notice, or otherwise evaluate our work?	1	2	3	4	5	NA
3. Did we respond to your letters and telephone calls in a reasonable amount of time?	1	2	3	4	5	NA
4. Did the Corps representative answer your questions clearly, giving you accurate information about our Regulatory Program?	1	2	3	4	5	NA
5. What is your OVERALL rating of the level of service provided by the Corps of Engineers Regulatory Program?	1	2	3	4	5	NA

Note: DATA FROM THIS QUESTIONNAIRE WILL BE USED BY THE DISTRICT TO IMPROVE SERVICE. ALSO, INFORMATION WILL BE TABULATED NATIONALLY BY SERVICE AREA. RESPONDENTS WILL NOT BE IDENTIFIED BY NAME OR ORGANIZATION FOR ANY REPORT DERIVED FROM THIS SURVEY.



**RECEIPT**

June 6, 2005  
DOT TIP#: R-2552 AA, AB, B, C  
DWQ#: 04-1760  
COE#: 200220745

Greg Thorpe, PhD, Manager  
Planning & Environmental Branch  
NC Department of Transportation  
1548 Mail Service Center  
Raleigh, NC 27699-1548

Project: US 70 Clayton Bypass  
County: Wake & Johnston

The North Carolina Ecosystem Enhancement Program (NC EEP) has received a transfer of funds in the amount of \$1,546,305.12, transferred on May 31, 2005, as payment for the compensatory mitigation requirements of the 401 Water Quality Certification/Section 404 permit issued for the above referenced project. This receipt serves as notification that the compensatory mitigation requirements for this project have been satisfied. Please note that you must also comply with all other conditions of this certification and any other state, federal or local government permits or authorization associated with this activity.

The NC EEP, by acceptance of this payment, acknowledges that the NC EEP is responsible for the compensatory mitigation requirements associated with the project permit and agrees to provide the compensatory mitigation as specified in the permit. The NC EEP will restore a total of 1,610,743.5 square feet of riparian buffer in Cataloging Unit 03020201 of the Neuse River Basin.

Payments to the Ecosystem Enhancement Program are **not** reimbursable unless a request for reimbursement is received within 12 months of the date of this receipt. A letter must accompany requests for reimbursement from the permitting agency stating that the permit and/or authorization has been rescinded.

If you have any questions or need additional information, please contact Carol Shaw at 919-733-5205.

Sincerely,

*James B. Standfill*  
for  
William D. Gilmore, PE  
Director

cc: Cyndi Karoly, Wetlands/401 Unit  
Eric Alsmeyer, USACOE-Raleigh  
Eric Kulz, DWQ Regional Office-Raleigh  
File

*Restoring... Enhancing... Protecting Our State*

