



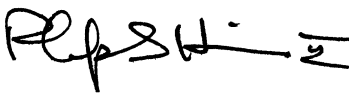
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

February 21, 2005

MEMORANDUM TO: Mr. Timothy Johnson, P.E.  
Division 8 Engineer

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

SUBJECT: Chatham County, Widening of US 421 from south of SR 1007  
(Plank Road) at Gulf to the existing four-lane Bypass north of  
SR 2210 (Carter-Brooks Road) south of Siler City; TIP Number  
R-2610A and B; State Work Order Number 6.529005T

Attached is the modification of the US Army Corps of Engineers permit for the above referenced project.

PSH/gyb

Attachment

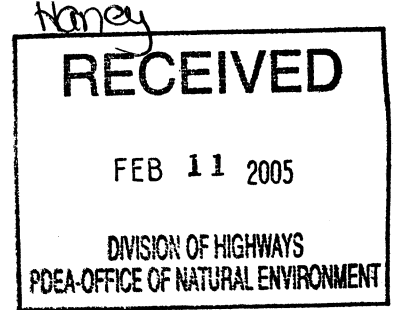
cc: Mr. Art McMillan, P.E.  
Mr. Omar Sultan  
Mr. Jay Bennett, P.E.  
Mr. David Chang, P.E.  
Mr. Randy Garris, P.E.  
Mr. Greg Perfetti, P.E.  
Mr. Mark Staley  
Mr. John F. Sullivan, III, FHWA  
Mr. Art King, Division 8 Environmental Officer



REPLY TO  
ATTENTION OF:

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

February 8, 2005



Regulatory Division

Subject: Action ID No. 1997-00360, TIP No. R-2610, US 421 Improvements, Chatham County, North Carolina.

Dr. Gregory J. Thorpe, Ph.D.  
Environmental Management Director  
Project Development & Environmental Analysis  
1548 Mail Service Center  
Raleigh, N.C. 27699-1548



Dear Dr. Thorpe:

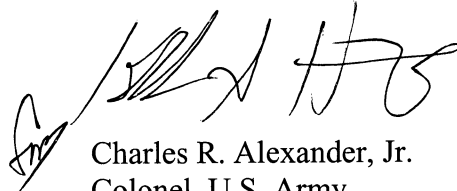
On 21 January 2005, the Corps of Engineers received information from the EEP – NCDOT Coordinator stating that the stream mitigation requirement was incorrectly stated in our permit conditions. As a result of this error we are issuing this modification letter to correct the mitigation requirement. Therefore, the Department of the Army permit is hereby modified as follows:

1. Special Condition 9 shall read – *Compensatory mitigation for the unavoidable impacts to 0.26 acres of wetland and 2,137 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 July 30, 2004 from William D. Gilmore, EEP Transition Manager. The EEP will provide 1.1 acres of preservation of non-riverine wetlands, 1.5 acres of preservation of riverine habitat and 15,900 linear feet of stream preservation in the Central Piedmont Eco-Region at the Allen Site in Wake County and 5,470 linear feet of preservation of warm water stream channel in the Central Piedmont Eco-Region at the Eno River – Wilderness Site in Durham County that has been acquired and protected by the EEP. 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 minimum of 0.11 acres of restoration of non-riverine wetlands, 0.15 acres of restoration of riverine wetlands and 2,137 linear feet of restoration of warm water stream channel in the Cape Fear River basin (Hydrologic Cataloging Unit 03030003 by July 22, 2005 and half of the proposed preservation mitigation would be available at that time for mitigation for other project impacts. Construction within wetlands on the permitted highway project shall begin only after the EEP has provided written confirmation to the District Engineer that the EEP and not the NCDOT is responsible for providing the required mitigation, pursuant to Paragraph VI.B.7 of the MOA. The NCDOT shall, within 30 days of the issue date of this permit (modification), certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.*

Furthermore, please note that all unmodified terms and conditions of your original Department of the Army permit shall remain in effect and the original permit expiration date shall remain the same.

Should you have any questions, please contact Mr. Richard Spencer, Wilmington Field Office, Regulatory Division, at telephone (910) 251-4172.

Sincerely,



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

Copies Furnished:

Ms. Sarah McBride  
N.C. State Historic Preservation Office  
4617 Mail Service Center  
Raleigh, NC 27699-4617

Mr. John Hennessy  
NCDENR-DWQ  
Wetlands Section  
1650 Mail Service Center  
Raleigh, NC 27699-1650

Mr. Chris Militcher  
EPA/Raleigh Office  
Office of Environmental Assessment  
310 New Bern Avenue, Room 206  
Raleigh, NC 27601

Mr. Art King  
Division Environmental Officer, Division 8  
North Carolina Department of  
Transportation  
P.O. Box 1067  
Aberdeen, North Carolina 28315

Mr. James J. Rerko, PWS  
Division Environmental Officer  
North Carolina Department of  
Transportation  
Division 6  
P.O. Box 1150  
Fayetteville, North Carolina 28302-1150

Mr. William D. Gilmore, P.E.  
EEP Transition Manager  
Ecosystem Enhancement Center  
1652 Mail Service Center  
Raleigh, NC 27699-165

## PROJECT COMMITMENTS

Widening of US 421 from south of SR 1007 (Plank Road) at Gulf to the existing four-lane Bypass north of SR 2210 (Carter-Brooks Road) south of Siler City  
Chatham County  
State Project No. 6.529005T  
R-2610A and B

### COMMITMENTS DEVELOPED THROUGH PROJECT DEVELOPMENT AND DESIGN

NCDOT best management practices for protection of surface waters will be followed during construction of this project to prevent siltation of nearby streams.

During construction, care will be taken to prevent damage to utilities located along the project, especially waterlines running parallel to and crossing the project and the fiber-optic cable and gas line running along the east side of US 421.

The following project commitments are proposed in order to avoid adverse effects to the Cape Fear shiner:

High quality water (HQW) erosion control standards will be utilized for the entire project.

Clearing and grubbing adjacent to Bear Creek and Tick Creek (within 100 meters (328 feet) of either end of the existing bridge) will only be performed during the growing season (between April 15<sup>th</sup> and November 15<sup>th</sup>).

Representatives of the NCDOT Natural Resources Section, the NC Wildlife Resources Commission, and the US Fish and Wildlife Service will be invited to the pre-construction conference for the project.

### COMMITMENTS DEVELOPED THROUGH PERMITTING

#### ***Division 8, Roadside Environmental Unit (REU)***

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.

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 re-vegetation of the impacted areas with appropriate native species will be required.

### ***Roadway Design, Division 8***

Two copies of the final construction drawings shall be furnished to NC Division of Water Quality (DWQ) prior to the pre-construction meeting. Written verification shall be provided that the final construction drawings comply with the permit drawings contained in the application dated November 26, 2003, and Right-of-Way plans submitted on February 13, 2004.

### ***Division 8***

No in-stream work shall be performed during the period from April 1 to October 15 of any year in Bear Creek or Tick Creek.

The outside wetland or water boundary as well as along the construction corridor within these boundaries approved under the Water Quality Certification shall be clearly marked by orange fabric fencing for the areas that have been approved to infringe within the wetland or water prior to any land disturbing activities.

At no time, shall more than one fill causeway be permitted within Tick Creek. At no time, shall a fill causeway obstruct greater than 50 percent of the cross-section of Tick Creek be installed.

The temporary causeways located at Tick Creek shall be removed no later than 30 days after the completion of the bridge deck slab.

The temporary rock causeways at L-station Station 22+83, Section B shall not extend into the natural stream channel.

The temporary rock causeways at L-station Station 97+00, Section B shall be placed on filter cloth and shall be removed in its entirety upon completion of bridge construction. Removal of the causeway and stabilization of the disturbed embankment area shall be accomplished within 30 calendar days following bridge completion or 30 calendar days following the end of the in-stream work moratorium. A restoration plan shall be submitted to the Corps of Engineers, Wilmington Regulatory Field Office NCDOT Regulatory Project Manager for review and approval 30 calendar days prior to the start of causeway removal.

The temporary diversion structures at L-stations 13+28, 52+75, and 62+34, Section A shall be constructed in accordance with Section 5.2.2 of the North Carolina Department of Transportation "*Best Management Practices for Construction and Maintenance Activities*", dated August 2003. All temporary fill shall be removed in its entirety upon completion of the construction at that site.

### ***REU***

The NCDOT shall strictly adhere to sediment and erosion control Best Management Practices as described for High Quality Waters entitled "Design Standards in Sensitive Watersheds" (15A NCAC 04B .0024) throughout design and construction of the project.

### ***Project Development and Environmental Analysis Branch (PDEA), Division 8***

Compensatory mitigation for impacts to streams shall be done for 698 linear feet of stream impact at a replacement ratio of 1:1. Compensatory mitigation for impacts to jurisdictional streams shall be provided by onsite stream relocations of 217 linear feet of a tributary to Cedar Creek. The onsite stream relocation shall be constructed in accordance with the design submitted in the January 30, 2004 application. All stream relocations shall have 50-foot wooded buffers planted on both sides of the stream. As-Built for the completed streams shall be submitted to the DWQ 401 Wetlands Unit within 30 days of the completion of the construction of the relocations. If the parameters of this condition are not met, then the NCDOT shall supply additional stream mitigation for the 217 linear feet of impacts. In addition to the 217 linear feet of on-site mitigation, compensatory mitigation for an additional 481 linear feet of streams is required. DWQ understands that NCDOT has chosen to perform compensatory mitigation for impacts to streams through an in lieu payment to the NC Ecosystem Enhancement Program (EEP), and that the EEP has agreed to implement the mitigation for the project. Mitigation for unavoidable impacts to streams shall be provided through an in-lieu payment to the EEP at a rate of \$200 per linear foot. Therefore, a total payment of \$96,200 shall be submitted to the EEP to offset the stream impacts associated with this project.

No construction activities shall begin anywhere on the project until a Secondary and Cumulative Impact Analysis for the project is submitted to, and approved by, the DWQ.

Compensatory mitigation for the unavoidable impacts to 0.26 acres of wetland and 2,137 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 July 30, 2004 from William D. Gilmore, EEP Transition Manager. The EEP will provide 1.1 acres of preservation of non-riverine wetlands, 1.5 acres of preservation of riverine habitat and 15,900 linear feet of stream preservation in the Central Piedmont Eco-Region at the Allen Site in Wake County and 5,470 linear feet of preservation of warm water stream channel in the Central Piedmont Eco-Region at the Eno River – Wilderness Site in Durham County that has been acquired and protected by the EEP. 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 minimum of

0.11 acres of restoration of non-riverine wetlands, 0.15 acres of restoration of riverine wetlands and 2,137 linear feet of restoration of warm water stream channel in the Cape Fear River basin (Hydrologic Cataloging Unit 03030003 by July 22, 2005 and half of the proposed preservation mitigation would be available at that time for mitigation for other project impacts. Construction within wetlands on the permitted highway project shall begin only after the EEP has provided written confirmation to the District Engineer that the EEP and not the NCDOT is responsible for providing the required mitigation, pursuant to Paragraph VI.B.7 of the MOA. The NCDOT shall, within 30 days of the issue date of this permit (modification), certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.

#### Stream Relocation Requirements:

NCDOT will relocate 253 linear feet of stream at the following locations:

NCDOT shall mitigate for 36 linear feet of unavoidable impacts to an unnamed tributary to Deep River (Section A, Impact Site #1), an important stream channel, by completing 36 linear feet of onsite stream relocation, as described in the permit application.

NCDOT shall mitigate for 217 linear feet of unavoidable impacts to an unnamed tributary to Cedar Creek (Section A, Impact Site #5), an important stream channel, by completing 217 linear feet of onsite stream relocation, as described in the permit application.

The relocations will be performed subject to the following conditions:

The stream relocation shall be constructed in accordance with the North Carolina Wildlife Resources Commission's (NCWRC) "Stream Relocation Guidelines", and with the permit drawings. NCDOT shall consult with NCWRC on all stream relocations 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 monitor the stream relocation site for a period of five years starting the year following construction. Monitoring data at the site should include the following: reference photos, plant survival and channel stability. Data shall be collected each year for 5 years at the same time of year. No less than two (2) bankfull flow events must be documented through the required 5-year monitoring period. If less than 2 bankfull events occur during the first 5 years, monitoring will continue until the second bankfull event is documented. The bankfull events must occur during separate monitoring years.

#### ***REU***

Vegetation used to stabilize banks shall be limited to native woody species, and will include establishment of a 50 foot wide vegetated buffer on the relocated channel. Stream banks will be planted with native vegetation that represents both woody (trees and

shrubs) and herbaceous species. Species selection will be based on a survey of the vegetation from the approved reference reach. Survival of woody species planted at the stream mitigation sites must be at least 320 trees/acre through year three. A ten percent mortality rate will be accepted in year four (288 trees/acre) and another ten percent in year five, resulting in a required survival rate of 260 trees/acre through year five.

NCDOT shall use soil and erosion control measures for "High Quality Waters" in and within 100 meters of Bear Creek and Tick Creek for the protection of Cape Fear Shiner. These sediment and erosion control measures shall be installed prior to any demolition or land clearing activities and maintained throughout project construction.