




STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

May 16, 2005

MEMORANDUM TO: Mr. Terry R. Gibson, PE  
Division 6 Engineer

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

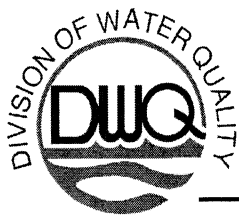
SUBJECT: Cumberland County, Hope Mills Bypass from SR 1141  
(Bingham Drive) to SR 1132 (Legion Road); State Work Order  
Number 8.2623601; T.I.P. No. U-0620

Attached is the modification to the U. S. Army Corps of Engineers Permit and the Division of Water Quality 401 Water Quality Certification for the above referenced project. All environmental permits have been received for the construction of this project.

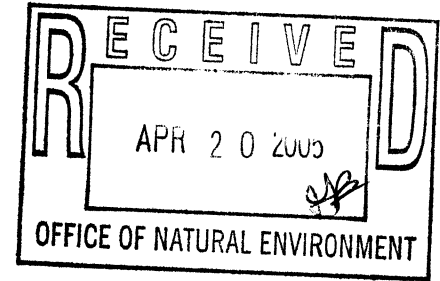
PSH/gyb

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. Omar Sultan  
Mr. John F. Sullivan, FHWA  
Mr. Jim Rerko, Division 6 DEO



April 13, 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

Re: Certification Pursuant to Section 401 of the Federal Clean Water Act,  
Modification to the Construction of Hope Mills Bypass from SR 1141 to SR 1132, Cumberland  
County, Federal Aid Project No. STP-0622(2), State Project No. 8.2623601, TIP No. U-620, WQC  
Project No. 040806, WBS Element 34760.1.1  
WQC No. 3465

Dear Dr. Thorpe:

Attached hereto is a modification to Certification No. 3465 issued to the North Carolina Department of Transportation on April 13, 2005. The attached modification authorizes 0.12 acres of additional permanent wetland impacts and 0.04 acres of additional temporary wetland impacts and 120 linear feet of additional temporary stream impacts. 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 July 23, 2004 and all other corresponding modifications still apply except where superseded by this certification.

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

Sincerely,

Alan W. Klimek, P.E.  
Director

Attachments  
Modifications to WQC No. 3465

cc: Richard Spencer, US Army Corps of Engineers Wilmington Field Office  
Christopher Militscher, US Environmental Protection Agency – Region IV  
Ken Averitte, NC DWQ Fayetteville Regional Office  
Central Files  
File Copy

**APPROVAL OF 401 Water Quality Certification and ADDITIONAL CONDITIONS**

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, and 15 NCAC 2B .0233. This certification authorizes the NCDOT to incur the following impacts:

**Table 1. – Wetland Impacts in the Cape Fear River Basin**

<b>Site</b>	<b>Total (acres)</b>	<b>Mitigation Required (acres)</b>
<b>Site 3 Impacts authorized under original WQC</b>		
Fill	0.82	0.82
<b>Total</b>	<b>0.82</b>	<b>0.82</b>
<b>Site 3 Impacts for this modification</b>		
Mechanized Clearing	0.08	0.08
<b>Total Modified Impacts for Site 3</b>	<b>0.90</b>	<b>0.90</b>
<b>Site 5 Impacts authorized under original WQC</b>		
Fill	0.10	0.10
Mechanized Clearing	0.05	0.05
<b>Total</b>	<b>0.15</b>	<b>0.15</b>
<b>Site 5 Impacts for this modification</b>		
Fill	0.02	0.02
Temporary	0.04	0
<b>Total Modified Impacts for Site 5</b>	<b>0.21</b>	<b>0.17</b>
<b>Site 6 Impacts authorized under original WQC</b>		
Fill	0.35	0.35
Mechanized Clearing	0.04	0.04
<b>Total</b>	<b>0.39</b>	<b>0.39</b>
<b>Site 6 Impacts for this modification</b>		
Mechanized Clearing	0.02	0.02
<b>Total Modified Impacts for Site 6</b>	<b>0.41</b>	<b>0.41</b>

**Table 2. – Stream Impacts in the Cape Fear River Basin**

<b>Section</b>	<b>Stream Impacts (linear feet)</b>	<b>Mitigation Required (linear feet)</b>
<b>Site 2 Impacts authorized under original WQC</b>	280	280
<b>Site 2 Impacts for this modification</b>		
Temporary	60	0
<b>Total Modified Impacts for Site 2</b>	<b>340</b>	<b>280</b>
<b>Site 6 Impacts authorized under original WQC</b>	259	259
<b>Site 6 Impacts for this modification</b>		
Temporary	60	0
<b>Total Modified Impacts for Site 6</b>	<b>319</b>	<b>259</b>

The project shall be constructed pursuant to the application submitted on February 25, 2005. The application provides adequate assurance that the discharge of fill material into the waters of the Cape Fear River Basins 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, 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 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. We understand that you have chosen to perform compensatory mitigation for impacts to wetlands and streams through an in-lieu payment to the North Carolina Ecosystem Enhancement Program (NCEEP), and that the NCEEP has agreed to implement the mitigation for the project. The subject project is listed in Exhibit 2 of the July 22, 2003 Memorandum of Agreement between NC DENR, NC DOT, and the US Army Corps of Engineers, Wilmington District. The compensatory mitigation shall be conducted in the same eco-region as the impacts that are occurring as a result of this project. NCEEP has indicated in a letter dated March 16, 2005 that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements associated with the additional 0.12 acres of wetland impact for the above-referenced project as detailed in the table below:

Type of Impact	Amount of Mitigation
Riverine Wetlands	0.12 ac

Conditions from WQC No. 3465 issued July 23, 2004:

2. 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 be design, installed, operated, and maintained in accordance with 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. The design, installation, operation and maintenance of the sediment and erosion control measures must be such that they equal or exceed, the requirements specified in the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*. The devices shall be maintained on all construction sites, borrow sites, and waste pile (spoil) projects, including contractor-owned or leased borrow pits associated with the project.
  - c. For borrow pit sites, the erosion and sediment control measures must be designed, installed, operated and maintained in accordance with the most recent version of the *North Carolina Surface Mining Manual*.
  - d. Any reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
3. No waste, spoil, solids, or fill of any kind shall occur in wetlands, waters, or riparian areas beyond the footprint of the impacts depicted in the application. All construction activities shall be performed so that no violations of state water quality standards, statutes, or rules occur.
4. 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 within 30 days after the project has been released.

5. 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.
6. NCDOT and its contactors and/or agents shall not excavate, fill, or perform mechanized land clearing at any time in the construction or maintenance of this project within waters and/or wetlands, except as authorized by this Certification, or any modification to this Certification. There shall be no excavation from, or waste disposal into jurisdictional wetlands or waters associated with this Certification without appropriate modification. If this occurs, compensatory mitigation will be required since it is a direct impact from road construction activities.
7. Excavation of stream crossings should be conducted in the dry unless demonstrated by the applicant or its authorized agent to be unfeasible and approved by the DWQ. Sandbags, cofferdams, flexible pipe or other diversion structures should be used to minimize excavation in flowing water.
8. Placement of culverts and other structures in waters, streams, and wetlands must be placed below the elevation of the streambed 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. The natural dimension, pattern and profile of the streams above and below the crossing shall not be modified by widening the stream channel or changing the depth of the stream except as approved by this certification.
10. The removal of vegetation in riparian areas should be minimized. NCDOT is encouraged to use existing on-site vegetation and materials for stream bank stabilization and to minimize the use of riprap. Riprap shall not be placed in the stream bottom.
11. Riparian vegetation using native trees and shrubs, must be re-established within the construction limits of the project by the end of the growing season following completion of construction to re-establish the riparian zone and to provide long-term erosion control.
12. Heavy equipment should be operated from the bank rather than in the stream channel unless demonstrated by the applicant or its authorized agent to be unfeasible and approved by the DWQ. 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 substances.
13. Live or fresh concrete shall not come into contact with waters of the state until the concrete has hardened. Water that inadvertently contacts uncured concrete should not be discharged to surface waters.
14. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.

15. NCDOT shall require its contractors (and/or agents) to comply with all of the terms of this Certification, and shall provide each of its contractors (and/or agents) a copy of this Certification.

16. *Mitigation:*

Wetland Mitigation

Compensatory mitigation for 2.3 acres of wetland impacts shall be provided through the following schemes:

- The NCDENR Ecosystem Enhancement Program has agreed to provide compensatory mitigation for 2.82 acres of wetland impacts incurred for construction of U-0620. DWQ acknowledges that the NCDENR Ecosystem Enhancement Program has agreed to provide compensation for the subject project (reference EEP letters of March 3, 2004 and May 20, 2004).

Stream Mitigation

- The NCDENR Ecosystem Enhancement Program has agreed to provide compensatory mitigation for 1215 feet of stream impacts incurred for construction of U-0620 (reference EEP letters of March 3, 2004 and May 20, 2004).

17. 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.

18. All the authorized activities and conditions of the certification associated with the original Water Quality Certification dated July 23, 2004 and all other corresponding modifications still apply except where superceded by this certification.

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 13<sup>th</sup> day of April 2005

DIVISION OF WATER QUALITY

Alan W. Klimek, P.E.  
Director

WQC No. 3465



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. \_\_\_\_\_

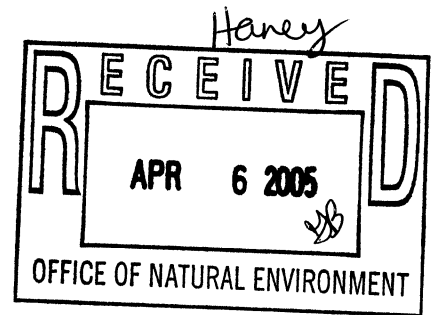
Date \_\_\_\_\_



REPLY TO  
ATTENTION OF:

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

March 31, 2005



Regulatory Division

Subject: Action ID No. 1997-04287, TIP No. U-620 Hope Mills Bypass, Cumberland Counties, 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:

I am responding to your request dated February 25, 2005 for a modification to the existing Department of the Army (DA) permit issued for the above referenced project on August 17, 2004. The proposed project modifications are as follows:

**ROAD CONSTRUCTION CHANGES AND IMPACT SUMMARY REVISION**

Changes in construction have become necessary in order to complete the TIP project. Revised permit drawings have been submitted showing the required changes as follows:

**Permit drawing Site 2, Station 106+32**

**A temporary diversion channel built in accordance with the NCDOT BMP Manual Section 5.2.4 will be required to construct the twin culverts in the dry. This results in 60 linear feet of temporary stream channel and bank impact.**

**Permit drawing Site 3, Station 121+56 – 125+73 –L-**

**Construction requires an additional 0.08 acre of mechanized clearing to complete the stream diversion.**

**Permit drawing Site 5, Station 159+45 – 163+25 –L-**

**0.02 acre of additional wetland impact will be required for the excavation and backfill to construct the required spread footer for the bridge bent. 0.04 acre of temporary impact is required for the placement of stone on filter fabric to level the temporary timber mats for crane operations**

Permit drawing Site 6, Station 183+85 – 185+08 –L-

**A temporary diversion channel built in accordance with the NCDOT BMP Manual Section 5.2.4 will be required to construct the culverts in the dry. This results in 60 linear feet of temporary stream channel and bank impact. Construction also requires an additional 0.02 acre of mechanized clearing to complete the stream diversion.**

I have determined that the proposed project modifications described above are not contrary to the public interest and therefore, the DA permit is hereby modified to include authorization for the modifications listed above and as shown on the revised permit drawings (enclosed). Special Condition number 6 is hereby modified to read as follows:

**Compensatory mitigation for the unavoidable impacts to 2.47 acres of riverine wetland and 1,215 linear feet of stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated March 16, 2005 from William D. Gilmore, EEP Director. The EEP will provide 24.70 acres of preservation of wetlands and 12,150 linear feet of stream preservation in the Southern Inner Coastal Plain Eco-Region at the Great Coharie Site in Sampson 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 2.47 acres of restoration of riverine wetlands and 1,215 linear feet of restoration of warm water stream channel in the Cape Fear River basin (Hydrologic Cataloging Unit 03030004 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.**

Please note that the conditions of a modified Water Quality Certification shall be a part of this authorization. Furthermore, all unmodified terms and conditions of your original Department of the Army permit of August 17, 2005 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,



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

Enclosures

Copies Furnished (with enclosures):

Mr. David Cox  
North Carolina Wildlife Resources Commission  
512 N. Salisbury Street  
Raleigh, North Carolina 27604-1188

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

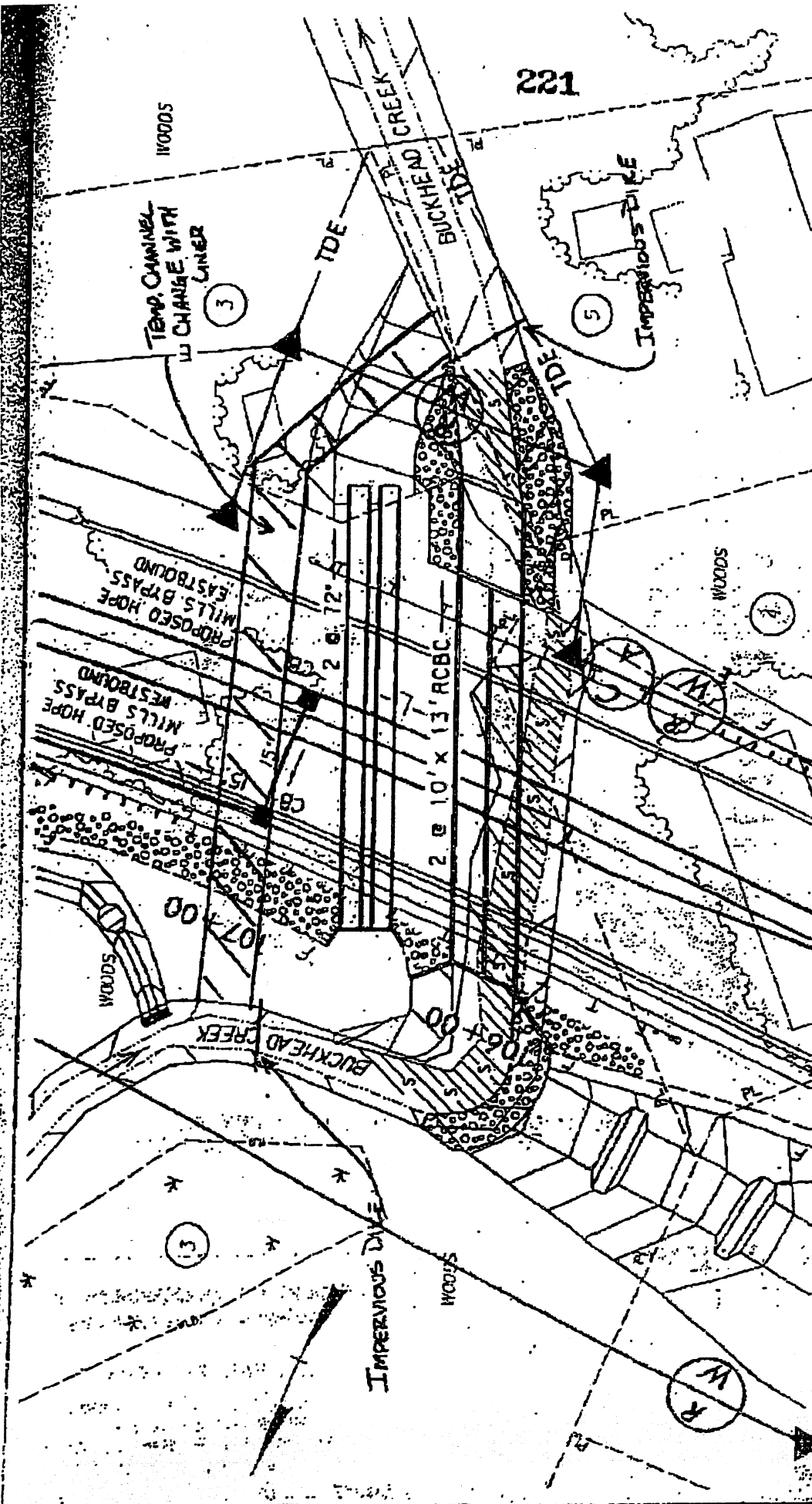
Mr. Pete Benjamin  
U.S. Fish and Wildlife Service  
Fish and Wildlife Enhancement  
Post Office Box 33726  
Raleigh, North Carolina 27636-3726

Mr. Chris Militcher  
United States Environmental Protection Agency  
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, Division 6  
North Carolina Department of Transportation  
P.O. Box 1150  
Fayetteville, North Carolina 28302-1150

Ms. Beth Harmon  
North Carolina Ecosystem Enhancement Program  
1652 Mail Service Center  
Raleigh, North Carolina 27699-1652



PLAN VIEW  
 SITE 2

N.C. DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 CUMBERLAND COUNTY  
 PROJECT 814436D1 (U-0620)  
 HOPE MILLS BYPASS  
 FROM SR 1141 (BINGHAM DRIVE)  
 TO SR 1363 (BLK ROAD)  
 SHEET 7 OF 11 01/31/05

REV. 2/05

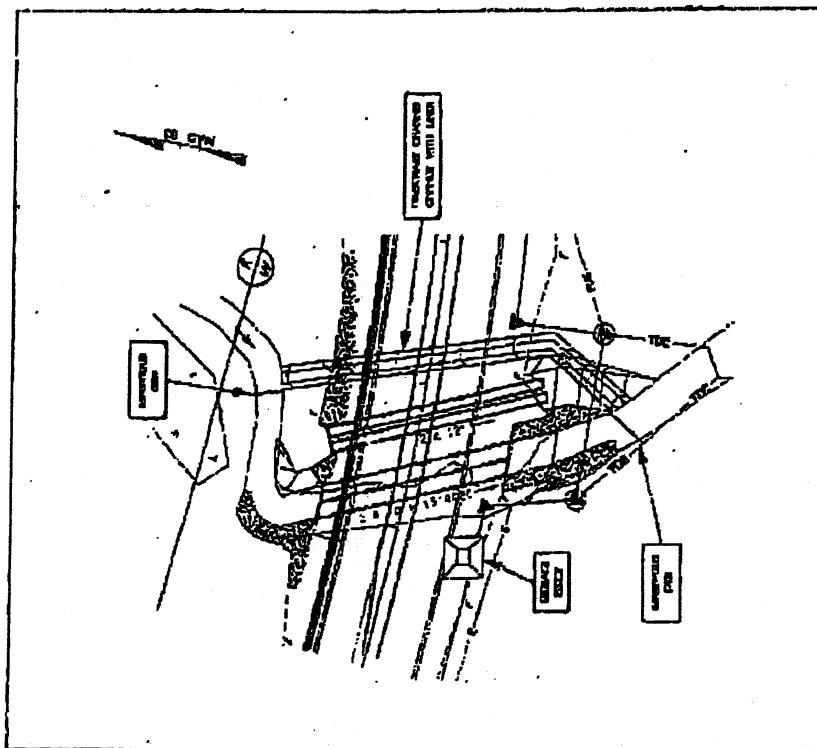


DENOTILS FALL IN  
 SURFACE WATERS



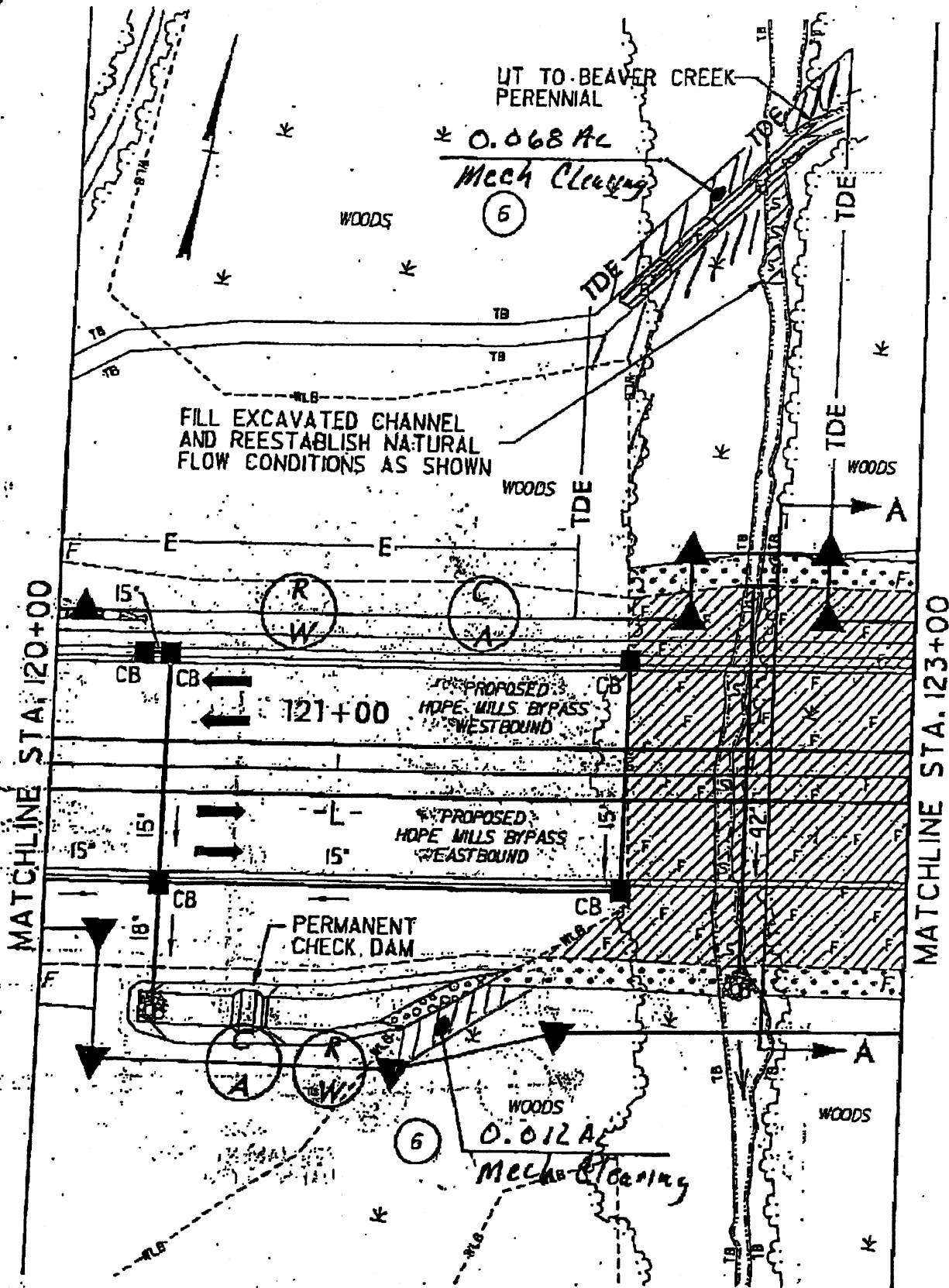
PROJECT APPROVED FOR	DATE
U-0000	02-11-05
DESIGNED BY	
CHECKED BY	
DATE	

# CULVERT CONSTRUCTION SEQUENCE (STA. 106 + 32)



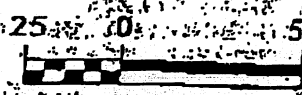
CONSTRUCTION SEQUENCE (STA. 106 + 32)

1. EXISTING PAVEMENT MARK REMOVAL
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**PLAN VIEW**  
**SITE 3**

- DENOTES MECHANIZED CLEARING
- ▨ DENOTES EXCAVATION IN WETLANDS
- ▨ DENOTES FILL IN WETLANDS
- ▨ DENOTES FILL IN SURFACE WATERS



N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

CUMBERLAND COUNTY

PROJECT: R1442601 (U-0620)  
HOPE MILLS BYPASS  
FROM SR 1141 (GINGHAM DRIVE)  
TO SR 1363 (ELK ROAD)

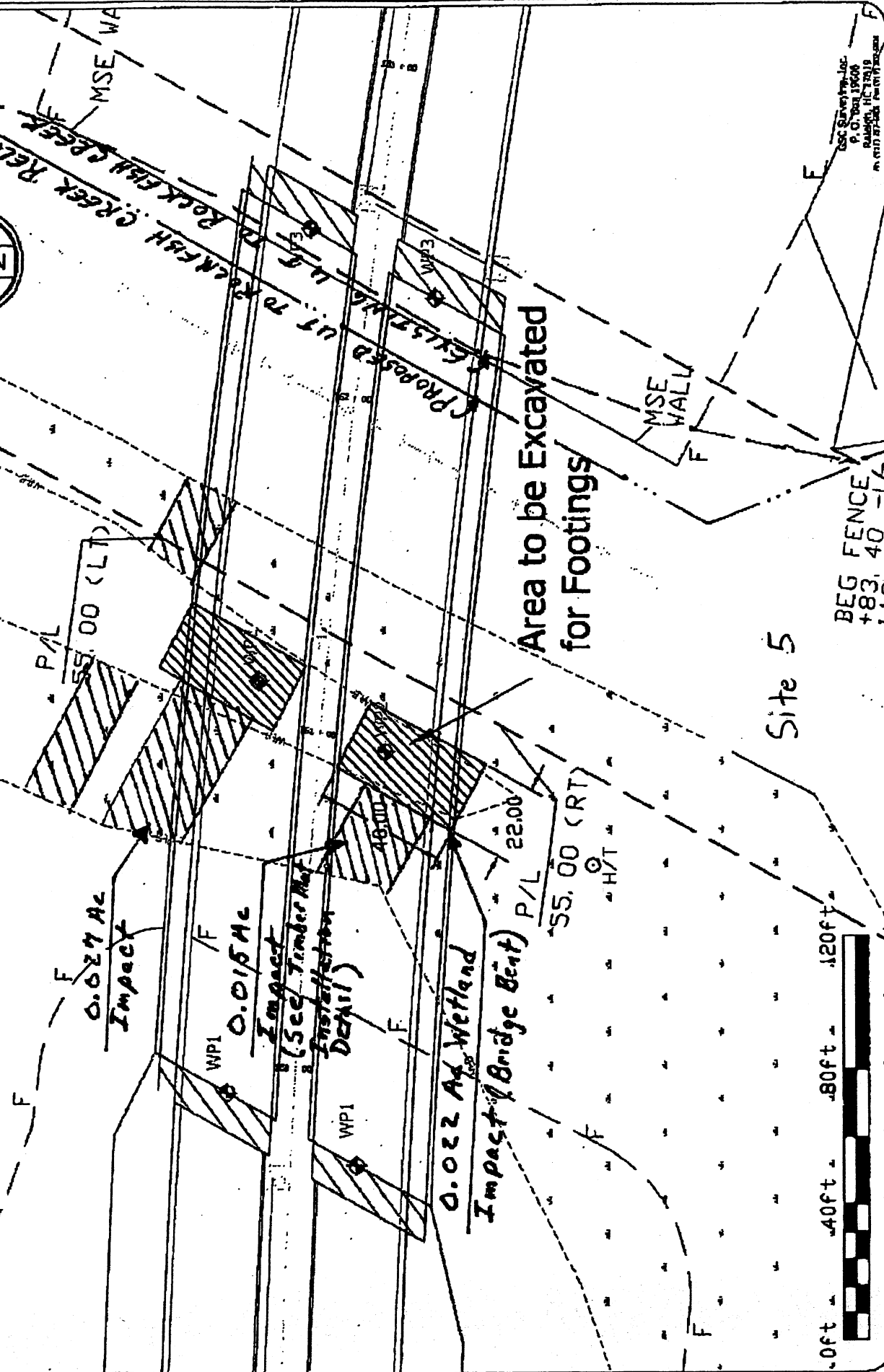
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REV. 2105



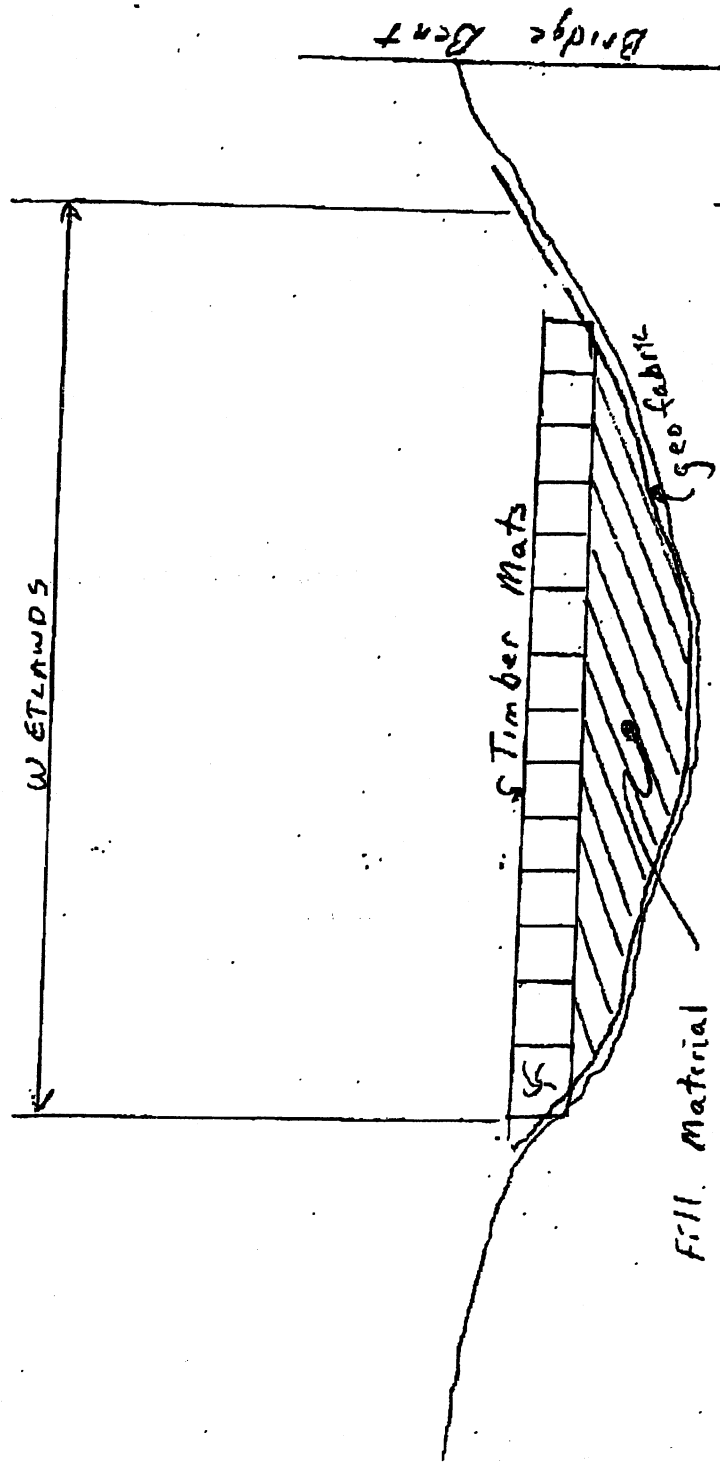
# U-0620 Hope Mills Bypass

## Str #2 & #3 over CSX Railroad



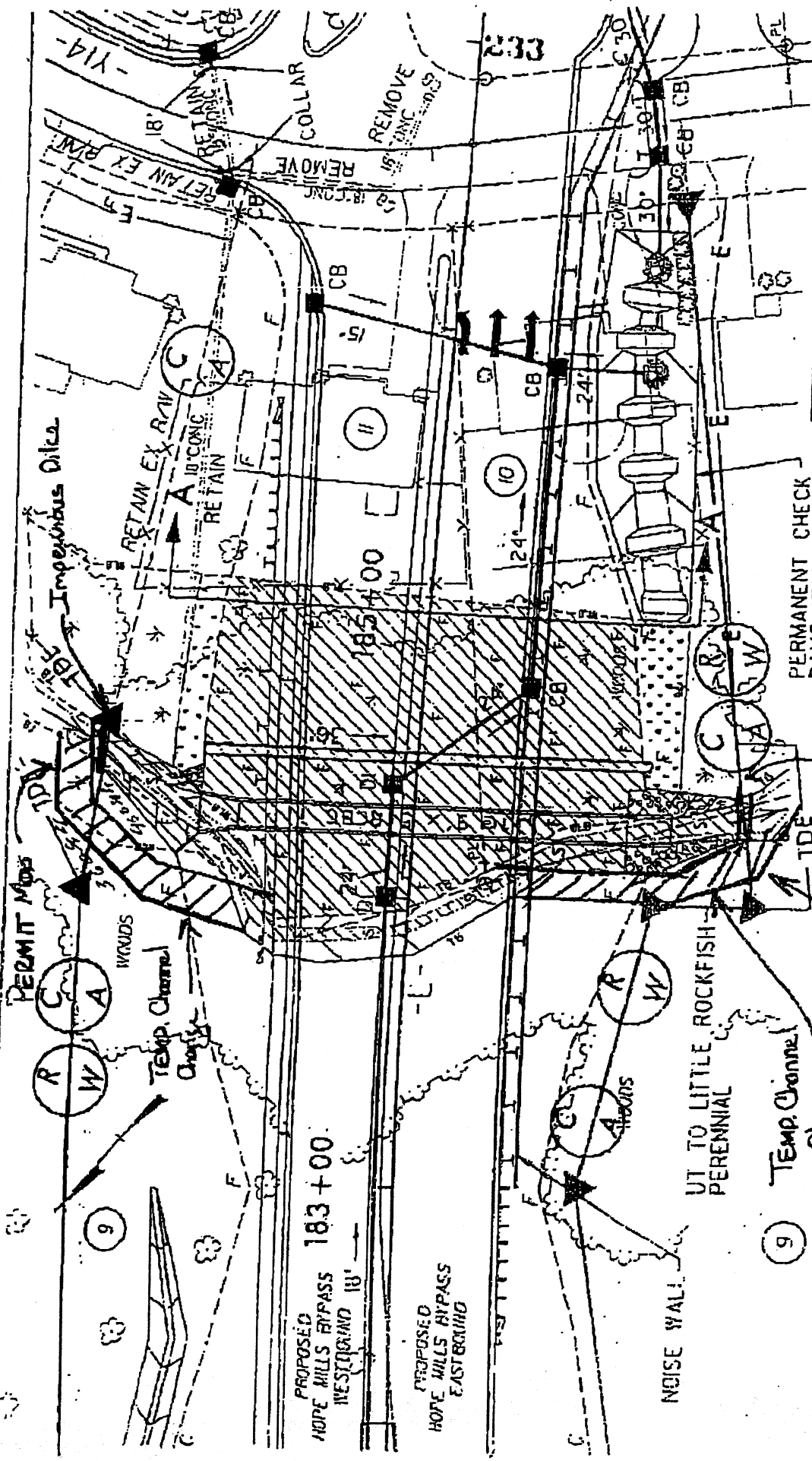
Area to be Excavated for Footings

ASC Surveying, Inc.  
 P. O. Box 19608  
 Raleigh, NC 27619  
 Aerial Photography



Timber Mat Installation

Site 5



N.C. DEPT. OF TRANSPORTATION  
 DIVISION OF HIGHWAYS  
 CUMBERLAND COUNTY  
 PROJECT: B1442602 (U-0620)  
 HOPE MILLS BYPASS  
 FROM SR 1141 (BINGHAM DRIVE)  
 TO SR 1363 (BLK ROAD)  
 SHEET \_\_\_ OF \_\_\_ 01/21/05

- DENOTES MECHANIZED CLEARING
- DENOTES FILL III RETAILARDS
- DENOTES FILL IN SURFACE WATERS

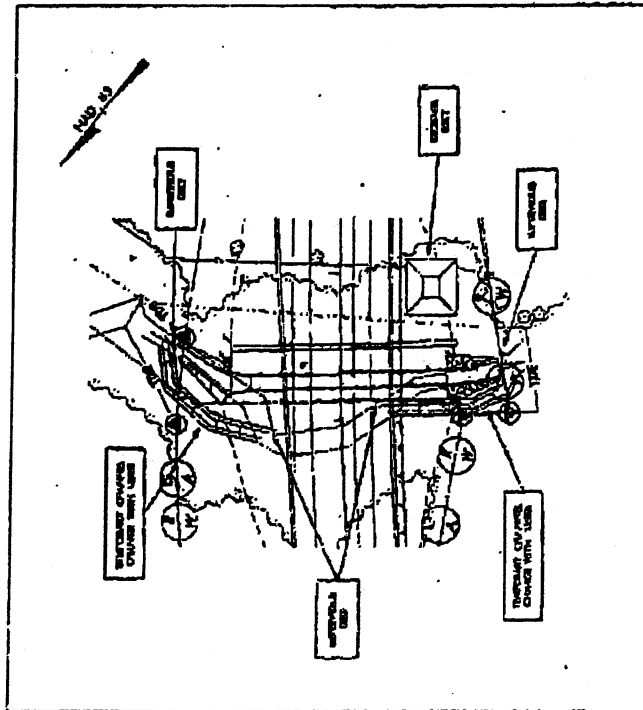
PLAN VIEW  
 SITE 6  
 Permit Mod  
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REV 2/05

PROJECT DEVELOPER U-0020	DATE 02-03-05/17
DESIGNER BARNHILL TARBORG	PROJECT NO. 0002

# CULVERT CONSTRUCTION SEQUENCE (STA. 184 + 27)



CONSTRUCTION SEQUENCE (STA. 184 + 27)

1. CONSTRUCT CURB AND SIDEWALK
2. CONSTRUCT MAIN STRUCTURE
3. CONSTRUCT SIDEWALK
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## PROJECT COMMITMENTS

Hope Mills Bypass from SR 1141 (Bingham Drive) to SR 1132 (Legion Road)  
Cumberland County  
State Project No. 8.2623601  
U-620

*Current status, changes, or additions to the project commitments as shown in the environmental document for the project are printed in italics.*

### COMMITMENTS DEVELOPED THROUGH PROJECT DEVELOPMENT AND DESIGN

#### **Standard Operating Procedures**

Precautions will be taken to minimize impacts to water resources in the study area. NCDOT's Best Management Practices for Protection of Surface Waters will be strictly enforced during the construction stage of the project.

NCDOT's Stream Crossing Guidelines for Anadromous Fish Passage will apply to all stream crossings within the project area.

#### ***Hydraulics Unit and Project Development and Environmental Analysis Branch (PDEA)***

The NCDOT Hydraulics Unit will coordinate with the Federal Emergency Management Agency (FEMA) and local authorities during final design to process the floodway revisions and ensure compliance with applicable floodplain ordinances. Floodway revisions are anticipated to be needed for the crossing of Beaver Creek, Beaver Creek tributary B, and Buckhead Creek.

*Floodway revisions will be required for Buckhead Creek. In-kind replacement is being pursued for Beaver Creek and Beaver Creek Tributary B. The NCDOT Hydraulics Unit will coordinate with FEMA before construction.*

#### ***Roadway Design Unit***

Efforts will be made during design to further reduce impacts to a wetland area near the CSX Railroad on Alternate 1. These minimization efforts will be coordinated with resource agencies early in the preliminary design process.

*Wetlands in the vicinity of the CSX Railroad will be spanned with the proposed new bridge. This will minimize the impacts to these wetlands. The alignment was also adjusted to minimize impacts to these wetlands.*

AASHTO guideline 14-foot wide outside lanes will be constructed on George Owen Road and 4-foot paved shoulders will be provided on the new location portion of the project for bicycle accommodations.

*Curb and gutter will be provided on the new location portion of the project to provide sidewalks. Due to the need for curb and gutter, 14-foot wide outside lanes will be provided on the new location portion of the project for bicycle accommodations.*

*Sidewalks will be constructed on the south side of the proposed project for the entire length.*

### **PDEA**

The NCDENR, Division of Parks and Recreation recommended mitigation consisting of protecting a nearby tract of wet pine flatwoods. No wet pine flatwoods have been identified in the project area however, this will be evaluated in more detail during the design phase.

*No wet pine flatwoods have been identified in the project area.*

NCDOT committed to providing mitigation for unavoidable wetland impacts. This mitigation will be developed in coordination with resource agencies during the preliminary process.

*This project is located in a WRP Basin therefore; NCDOT is prohibited to search for mitigation for this project. Mitigation will be handled through the WRP.*

### **Design Services**

Noise walls will be constructed at the Pinewoods Lakes subdivision from just west of Pinewood Drive to southeast of the cul-de-sac at Pinewood Drive.

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

WRC recommends installing a level spreader into wetland areas to aid in filtering stormwater runoff. Project Development along with Roadway Design will work with the Hydraulics Unit to develop stormwater drainage plans. A series of alternates for handling runoff will be developed for the proposed project. Drainage Plans will be forwarded to resource agencies once they are completed.

*A drainage plan was completed in April 2001. This plan included a level spreader along with a ditch detail for ditches that end in the vicinity of wetlands. This plan was forwarded to resource agencies for their comments.*

### **Geotechnical Unit**

The Hope Mills Bypass will impact four facilities with underground storage tanks (UST's). These facilities could not be avoided, therefore, "Preliminary Site Assessments" will be performed prior to right of way acquisition to determine the existence and/or extent of any contamination.

*Per the Geotechnical Unit, a "Preliminary Site Assessment" will begin in December 2001. Right of way will not be acquired in the vicinity of the four facilities being impacted prior to approval from the Geotechnical Unit.*

#### ***Area Traffic Engineer***

The Area traffic engineer will determine if intermediate installation of a left turn land and turn signal is warranted at the Cumberland Road/George Owen Road intersection.

*An intermediate signal will be installed at the Cumberland Road/George Owen Road intersection. A permanent signal will be installed once construction begins on this portion of the project.*

### **COMMITMENTS DEVELOPED THROUGH PERMITTING**

#### ***Division 6***

The outside wetland and water boundary located within the construction corridor approved by the Water Quality Certification (WQC) shall be clearly marked by orange fabric fencing prior to any land disturbing activities. Impacts to those areas are prohibited unless otherwise authorized by the WQC.

#### ***Division 6, Roadside Environmental Unit (REU)***

The removal of vegetation in riparian areas should be minimized. NCDOT is encouraged to use existing on-site vegetation and materials for stream bank stabilization and to minimize the use of rip rap. Rip rap shall not be placed in the stream bottom.

Riparian vegetation, using native trees and shrubs, must be re-established within the construction limits of the project by the end of the growing season following completion of construction to reestablish the riparian zone and to provide long-term erosion control.

#### ***Division 6***

The temporary work pads at L-station 161+00, Site 5 and the temporary detour fill at Y2DET 12+50, Site 7A, shall be placed on filter cloth and shall be removed in its entirety upon completion of construction at the site. Removal of the fill and stabilization of the disturbed substrate area shall be accomplished within 30 calendar days following completion of construction at the site. 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 fill removal.

## ***PDEA***

Compensatory mitigation for the unavoidable impacts to 2.47 acres of riverine wetland and 1,215 linear feet of stream associated with the proposed project shall be provided by the Ecosystem Enhancement Program (EEP), as outlined in the letter dated March 16, 2005 from William D. Gilmore, EEP Director. The EEP will provide 24.70 acres of preservation of wetlands and 12,150 linear feet of stream preservation in the Southern Inner Coastal Eco-Region at the Great Coharie Site in Sampson 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 2.47 acres of restoration of riverine wetlands and 1,215 linear feet of restoration of warm water stream channel in the Cape Fear River basin (Hydrologic Cataloging Unit 03030004 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 the 404 permit, certify that sufficient funds have been provided to EEP to complete the required mitigation, pursuant to Paragraph V. of the MOA.

## ***REU, Division 6***

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 within 30 days after the project has been released.

## ***Hydraulics, Division 6***

The natural dimension, pattern and profile of the streams above and below the crossing shall not be modified by widening the stream channel or changing the depth of the stream except as approved by the 401 certification.