



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

September 5, 2006

Eric Alsmeyer  
US Army Corps of Engineers  
Raleigh Field Office  
6508 Falls of Neuse Road, Suite 120  
Raleigh, NC 27615-6814

Mr. John Hennessy  
NC Department of Environment and Natural Resources  
Division of Water Quality  
1650 Mail Service Center  
Raleigh, NC 27699-1650

Dear Sirs:

**Subject: Update to TIP No. R-2000G Permit Site 2**  
Northern Wake Expressway (I-540) from US 1 to US 64 in Wake County,  
Division 5. State Project No. 8.2401701, Federal Aid Project No. F-123-1(1),  
WBS Element No. 34365.1.1.

**Reference:** NCDENR-DWQ Water Quality Certification Project No. 030114 and  
USACE Action ID 199920387.

The North Carolina Department of Transportation (NCDOT) is currently constructing a new controlled-access six-lane, divided highway to be known as the Northern Wake Expressway (I-540) from US 1 to US 64 in Wake County. NCDOT submitted an individual Section 404 (of the Clean Water Act) Permit Application to the U.S. Army Corps of Engineers (USACE) for the subject project on March 29, 1996. On October 10, 1996, the Section 404 Permit was issued by the USACE and on September 27, 1996, a Section 401 Water Quality Certification was issued the N.C. Division of Water Quality (NCDWQ). The USACE has issued Section 404 Permit Modifications on June 2, 2003, May 4, 2004, December 1, 2004 and May 25, 2005. The NCDWQ has issued Section 401 Water Quality Certificate Modifications on May 5, 2003, August 29, 2003, April 19, 2004, November 10, 2004, May 17, 2005 and May 20, 2005.

The purpose of this submittal is to inform the USACE and NCDWQ about the following permitted site for NCDOT project R-2000, Section G. The NCDOT is **not** requesting a permit modification.

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

TELEPHONE: 919-715-1334  
FAX: 919-715-5501  
WEBSITE: [WWW.NCDOT.ORG](http://WWW.NCDOT.ORG)

**LOCATION:**  
2728 CAPITAL BLVD.  
SUITE 240  
RALEIGH NC 27604

## **Section G**

### Permit Drawing 10 of 50

The channel immediately upstream of the 900 mm structure at 425+80 Rt -L- has experienced significant instability since it was installed in June 2004. An investigation of the drainage area upstream of the structure revealed the presence of the Raleigh Christian Community (RCC) property (now known as Wake Chapel Church). This tract of land has a very large impervious footprint, much of which was apparently constructed in 1999. The channel appears to originate on or near the church tract and then continue through a wooded area owned by another property owner before entering the NCDOT right-of-way. A stormwater outfall structure constructed on the RCC property has failed to diffuse the flow of stormwater runoff from the on-site parking lots. Concentrated runoff from the tract resulted in the degradation of the stream and adjacent wetland that flows to the 900 mm structure. Significant amount of sediment filled in the stream channel and wetland both downstream and upstream of the structure within the NCDOT right-of-way. A headcut subsequently formed in the stream channel immediately upstream of the pipe inlet, attributable to the deposition of sediment in the system.

Eric Alsmeyer of the USACE conducted a site visit with NCDOT personnel on August 3, 2004. The purpose of the site visit was to examine the current state of the permit site, identify potential methods to stabilize the channel located near the inlet of the structure and investigate the upstream drainage system. The RCC property appeared to be the contributing factor to the instability of the stream.

The regulatory agencies were made aware of the adjacent property owner (the tract located between the RCC property and the NCDOT right-of-way), Ms. Lucy M. Holden by email dated August 18, 2004. This was made available in an attempt to provide some type of background information for possible investigation by the regulatory agencies. The NCDOT felt that no suitable methods of stabilization could be pursued until environmental issues at the RCC property could be addressed and rectified. The stream and wetland both upstream and downstream of the structure site within NCDOT right-of-way continued to degrade in August 2004. Significant amounts of sandy material were continually becoming deposited in the stream channel and filling in the adjacent wetland. Rainfall at that time associated with Hurricanes Bonnie and Charley accelerated the headcut at the inlet of the structure. This information was relayed to the regulatory agencies, who suggested that NCDOT install a temporary pipe inlet protection device in the channel immediately upstream of the inlet.

Eric Alsmeyer (USACE), John Hennessy (NCDWQ) and various NCDOT personnel conducted a subsequent site visit on September 21, 2004. The purpose of the site visit again was to evaluate methods of stabilization at the structure and to assess the drainage area upstream of the structure. Several alternatives were discussed at that time and the NCDOT was instructed to forward them to the regulatory agencies. The regulatory agencies agreed to investigate enforcement action at the church. The NCDOT felt that no method for stabilization could be agreed to or implemented until the excessive and overwhelming sediment transport throughout the system could be abated. Two construction scenarios were subsequently faxed to the regulatory agency on October 15, 2004.

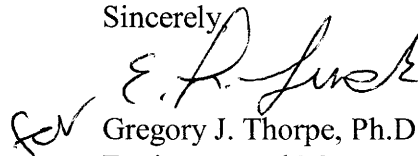
The temporary pipe inlet protection device installed upstream of the pipe inlet has stabilized the headcut at the site. However, another channel had formed at the inlet of the structure that is currently exhibiting signs of instability. The regulatory agencies have been contacted numerous times since October 2004 in an attempt to get information concerning any enforcement action taken against the RCC property. The NCDENR-DWQ issued a Notice of Violation to Wake Chapel Church on June 9, 2005.

An on-site meeting to discuss the site was conducted on May 26, 2006 attended by Danny Smith and Nikki Maher (NCDWQ Wetlands & Stormwater Branch), Jay Keller (Keller Environmental, representing the Wake Chapel Church) and various NCDOT personnel. The purpose of the meeting was to discuss proposed stabilization of the site upstream of the structure in light of the construction schedule associated with R-2000F/G. NCDOT personnel stated during the meeting that the R-2000F/G project is to be substantially complete by November 2006 and that access to the site upstream of the structure within the right-of-way would continue to be problematic as the project nears completion.

Remedial action does not appear to be forthcoming by Wake Chapel Church, within their property, the adjacent property or NCDOT right-of-way. Therefore, the NCDOT is proposing to permanently leave this pipe inlet protection in place above the inlet of the 900 mm structure within NCDOT right-of-way. The majority of impacts from this activity are located within the previously permitted mechanized clearing portion of the site. The NCDOT does not propose mitigation for this activity as it is required to provide protection to the structure and downstream jurisdictional resources as a result of off-site action.

If you have any questions or need additional information, please call Rachelle Beauregard at (919) 715-1383 or Chris Murray at (919) 560-6081.

Sincerely,



Gregory J. Thorpe, Ph.D.

Environmental Management Director, PDEA

cc: w/attachment

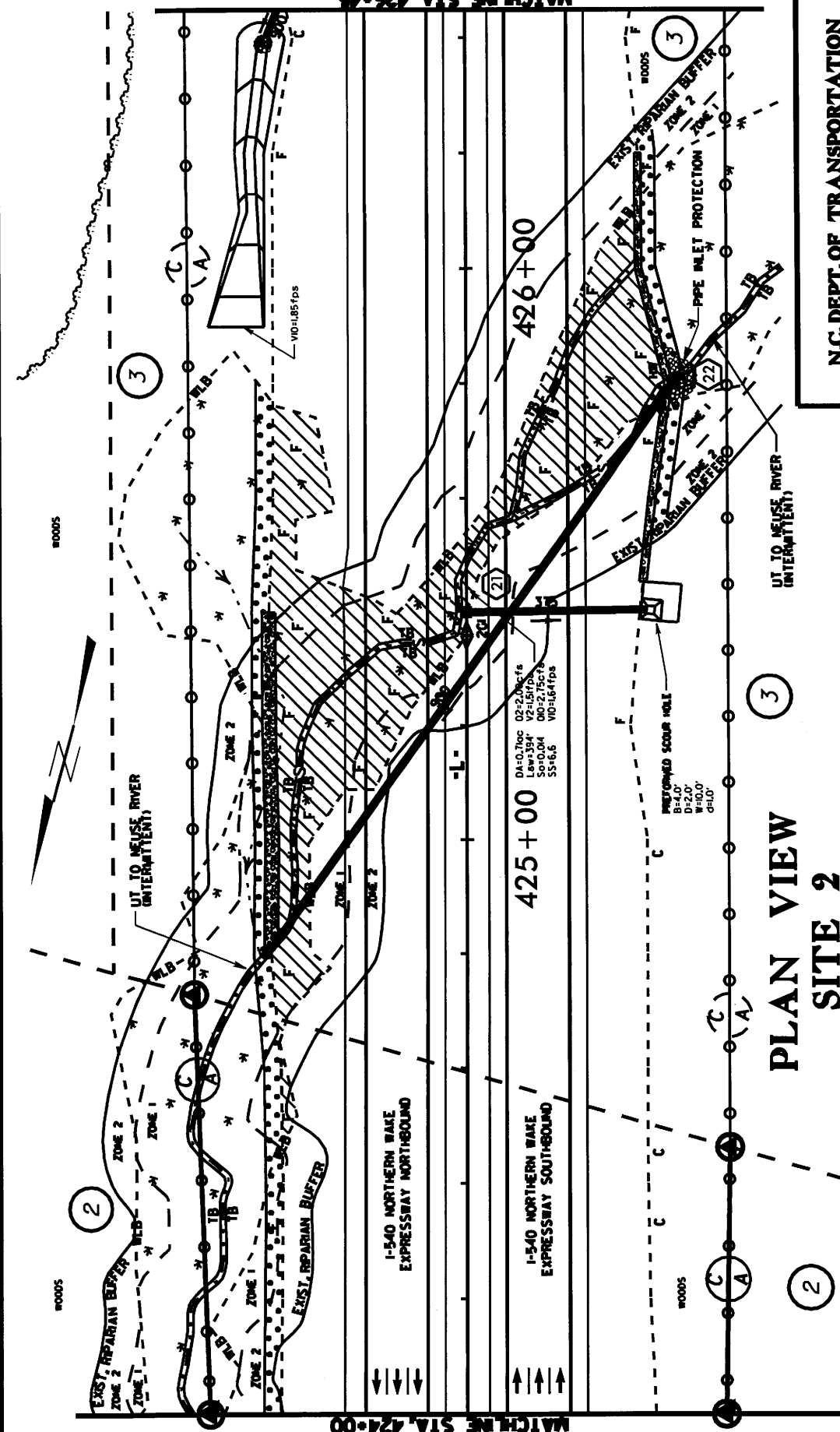
- Ms. Kathy Matthews, USEPA
- Mr. Ronald Mikulak, USEPA – Atlanta, GA
- Mr. Clarence W. Coleman, P.E., FHWA
- Dr. David Chang, P.E., Hydraulics
- Mr. Mark Staley, Roadside Environmental
- Mr. Greg Perfetti, P.E., Structure Design
- Mr. Jon Nance, P.E., Division Engineer
- Mr. Chris Murray, DEO

w/o attachment




- Mr. Jay Bennett, P.E., Roadway Design
- Mr. Majed Alghandour, P. E., Programming and TIP
- Mr. Art McMillan, P.E., Highway Design
- Mr. Scott McLendon, USACE, Wilmington

MATCHLINE STA. 426+45

MATCHLINE STA. 424+00



# PLAN VIEW SITE 2

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



N.C. DEPT. OF TRANSPORTATION  
DIVISION OF HIGHWAYS

WAKE COUNTY

PROJECT: 8U/01712 (R-3000G)  
I-540 NORTHERN WAKE EXPRESSWAY

SHEET 10 OF 50

REV 9/09/05  
10/29/02