



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT L. MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

September 25, 2013

MEMORANDUM TO: Mr. Louis Mitchell, PE
Division 10 Engineer

FROM: Philip S. Harris, III, P.E., Section Head
Natural Environment Unit
Project Development and Environmental Analysis Branch

SUBJECT: Mecklenburg County; Improvements to Mallard Creek Church
Road from Sugar Creek Road to Harris Blvd; Federal Project No.
STPDA-5238(4); WBS Element 34811.1.1; **TIP U-2507A.**

E. J. Fuchs

Attached are the U.S. Army Corps of Engineers Section 404 Nationwide permit, the NC Division of Water Quality (DWQ) Section 401 Water Quality Certification, and the NCDWQ Isolated Wetland permit for the above referenced project. All environmental permits have been received for the construction of this project.

A copy of this permit package will be posted on the NCDOT website at:
<http://www.ncdot.gov/doh/preconstruct/pe/neu/permit.html>

Cc: w/o attachment (see website for attachments):
Mr. Randy Garris, P.E. State Contract Officer
Mr. Larry Thompson, Division Environmental Officer
Mr. Majed Alghandour, P. E., Programming and TIP
Mr. Jay Bennett, P.E., Roadway Design Unit
Mr. Dewayne Sykes, P.E. Utilities Unit
Mr. Art McMillan, P.E., Hydraulics Unit
Mr. Tom Koch, P.E., Structure Design Unit
Mr. Mark Staley, Roadside Environmental Unit
Mr. Ron Hancock, P.E., State Roadway Construction Engineer
Mr. Mike Robinson, P.E., State Bridge Construction Engineer
Ms. Jennifer Harris, P.E., PDEA Western Section Head
Ms. Beth Harmon, EEP
Mr. Phillip Ayscue, Office of Inspector General
Mr. Clarence Coleman, P.E., FHWA

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

TELEPHONE: 919-707-6100
FAX: 919-212-5785

WEBSITE: WWW.NCDOT.ORG

LOCATION:
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610-4328

PROJECT COMMITMENTS

Mecklenburg County
Mallard Creek Road (SR 2467) between
Sugar Creek Road and Sugar Creek Road and
Mallard Creek Church Road
WBS Element 34811.1
TIP PROJECT U-2507A

Roadway Design Unit

Roadway Design will incorporate 11-foot inside lanes, 12-foot outside lanes, and a 5-foot bike lane on the proposed Graham Street Extension/Mallard Creek Road. All left-turn lanes on the proposed Graham Street Extension/Mallard Creek Road will be reduced to 11 feet.

Roadway Design Unit, Right of Way Unit, Division 10 and the City of Charlotte

Contingent upon a municipal agreement with the City of Charlotte to reimburse NCDOT for the total cost for construction and installation, NCDOT will provide concrete pads for CATS shelters at locations identified by the City of Charlotte. The City of Charlotte will provide designs and specifications to NCDOT.

Transportation Mobility and Safety Unit, Bike and Pedestrian Unit, Division 10 and the City of Charlotte

Pedestrian signals and cross walks will be included at the Sugar Creek Road intersection.

Division 10, Program Development and the City of Charlotte

Additional landscaping for the project by the City of Charlotte will be allowed. Planting, maintenance, funding, and liability issues pertaining to the landscaping will be the responsibility of the City of Charlotte. All landscape design created by the City of Charlotte must meet state guidelines. Please coordinate with Bob Kopetsky, NCDOT Landscape Design and Development Section, at (919) - 707-2934

COMMITMENTS FROM PERMITTING

Division 10 Construction Unit:

401 Certification Condition #1

The riprap size at Permit Site 1 shall be Class I as indicated on the revised plans received May 9, 2012.

401 Certification Condition #2

The riprap size at Permit Site 2 and 3 shall be Class II as indicated on the revised plans received May 9, 2012.

401 Certification Condition #3

Rock check dams are being installed in the relocated stream at Permit Site 1. NCDOT will be using Class I riprap and filter stone to construct the check dams. DWQ recommends the use of coir fiber matting in lieu of filter stone. Please be advised that if filter stone is deposited downstream, DWQ will require the hand removal of the filter stone from any impacted length.

401 Certification Condition #4

Temporary riprap stabilization is authorized at the outlet of the 7'x 8' reinforced concrete box culvert at Permit Site 2. NCDOT is advised that the riprap must be removed upon completion of the project and the stream bank stabilized with coir fiber matting and appropriate vegetation. If the riprap is not removed, a permit modification and mitigation for 76 linear feet of stream impact will be required.

401 Certification Condition #5

A large pond will be drained at Permit Site 3. A jurisdictional stream, at the upstream end of the existing pond, was observed feeding into the pond during a field visit. Therefore, it is likely that a jurisdictional stream will be identified during the proposed pond draining. The impacts authorized by this certification at Permit Site 3 are for impacts to surface waters (ponds), with the exception of 19 linear feet of stream impact located downstream of the pond dam. No impacts to any jurisdictional stream located in this pond are approved by this Water Quality Certification. A modification will be required for impacts to any length of stream within the pond. Additionally, the permit must be modified to change all designated "open water impacts" at this site to "stream impacts". Based on the length of any proposed stream impact, additional stream mitigation may be required.

401 Certification Condition #7

At Permit Sites 3 and 5, where ponds will be drained, proper measures will be taken to drain the pond with limited impacts to upstream and downstream channel stability as well as to native aquatic species. Proper measures will be taken to avoid sediment release and/or sediment accumulation downstream as a result of pond draining. If typical pond draining techniques will create significant disturbance to native aquatic species, additional measures such as collection and relocation may be necessary to prevent a

significant fish kill. NCDOT shall consult with the North Carolina Wildlife Resources staff to determine if there are any sensitive species, and the most appropriate measures to limit impacts to these species. The Permittee shall observe any natural channel re-establishment, or utilize natural channel construction techniques, to ensure that the jurisdictional stream channel above and below the drained pond remain stable and that no additional impacts occur within the natural stream channel as a result of draining the pond.

401 Certification Condition #8

This existing stormwater outfall, which discharges to Permit Site 3, must be stabilized as indicated on the revised plans received May 9, 2012.

401 Certification Condition #9

A stormwater ditch, with a slope of 11%, is proposed to outfall to the stream at a 90 degree angle. NCDOT is advised that if the stream destabilizes due to the slope and/or angle of the stormwater outfall, corrective actions to stabilize the stream will be required.

DEPARTMENT OF THE ARMY PERMIT

Permittee: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
ATTN: DR. GREGORY J. THORPE, PH.D

Permit No.: SAW-2008-02424

Issuing Office: CESAW-RG-A

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: The proposed project involves widening of the existing Mallard Creek Road from W.T. Harris Boulevard (SR 2665) to its intersection with Hubbard Road (SR 2480) and then continuing to the southeast on new location to Sugar Creek Road (SR 2480) with an extension from Rumble Road (SR 2501) to Neal Road (SR 2498) in Mecklenburg County, North Carolina. In the original project description, U-2507 A included an extension from Rumble Road to Neal Road, but was removed due to funding. The City of Charlotte Department of Transportation has taken on the extension portion of the project as the City Boulevard extension/connector. Both projects are being reviewed concurrently but will be permitted as separate actions.

U-2507 A includes construction of a one-mile, four lane divided roadway with curb and gutter on new location from the Graham Street/Sugar Creek Road intersection to Garrison Drive. At Garrison Avenue, the proposed project will tie into the existing Mallard Creek Road and continue as a widening project to the intersection of W.T. Harris Boulevard. Jurisdictional aquatic impacts due to the proposed construction will occur at 6 sites. Total permanent impacts associated with the proposed project total 0.15 acre of wetlands (0.11 acres are isolated wetland impacts), 1,121 linear feet of jurisdictional stream channel, and 1.09 acre of open water impacts. Temporary impacts total less than 0.01 acre stream channel.

Project Location: Charlotte, Mecklenburg County, North Carolina

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on **December 31, 2017**. 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 ATTACHED SPECIAL CONDITIONS

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.

SPECIAL CONDITIONS
Action ID: SAW-2008-02424

Work Limits

- a) All work authorized by this permit must be performed in strict compliance with the attached plans, which are a part of this permit. Any modification to these plans must be approved by the US Army Corps of Engineers (USACE) prior to implementation.

- b) The permittee shall schedule a preconstruction meeting between its representatives, the contractor's representatives, and the Corps of Engineers, Asheville 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, Asheville 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.

- c) 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. This permit does not authorize temporary placement or double handling of excavated or fill material within waters or wetlands outside the permitted area. This prohibition applies to all borrow and fill activities connected with this project.

- d) 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 waters or wetlands or to reduce the reach of waters or wetlands.

Related Laws

- f) The North Carolina Division of Water Quality has issued a conditioned Water Quality Certification (Number 3921) on May 24, 2012, for your project, the conditions of that certification are hereby incorporated as special conditions of this permit. For your convenience, a copy of the certification is attached as Exhibit A. These referenced conditions are hereby incorporated as special conditions of this permit.

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g) 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. 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, Ext. 526 or (800) 662-7956 and provisions of the North Carolina Oil Pollution and Hazardous Substances Control Act will be followed.

Project Maintenance

h) The permittee shall advise the Corps in writing prior to beginning the work authorized by this permit and again upon completion of the work authorized by this permit.

i) 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.

j) 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. A copy of this permit, including all conditions, shall be available at the project site during construction and maintenance of this project.

k) The permittee shall employ all sedimentation and erosion control measures necessary to prevent an increase in sedimentation or turbidity within waters and wetlands outside the permit area. This shall include, but is not limited to, the immediate installation of silt fencing or similar appropriate devices around all areas subject to soil disturbance or the movement of earthen fill, and the immediate stabilization of all disturbed areas. 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).

l) 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.

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m) 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 non-erodable materials. Grubbing of riparian vegetation will not occur until immediately before construction begins on a given segment of stream channel.

n) 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.

o) The permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the work will, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the water or wetland to its pre-project condition.

Enforcement

p) Violations of these conditions or violations of Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act must be reported in writing to the Wilmington District U.S. Army Corps of Engineers within 24 hours of the permittee's discovery of the violation.

q) 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, Asheville Regulatory Field Office prior to any active construction in waters or wetlands.

r) 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, Asheville Regulatory Field Office NCDOT Regulatory Project Manager. Half-size drawings will be acceptable.

s) Measures will be included in the construction/installation that will promote the safe passage of fish and other aquatic organisms. The dimension, pattern, and profile of the stream above and below a pipe or culvert should not be modified by widening the stream channel or by reducing the depth of the stream in connection with the construction

SPECIAL CONDITIONS
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activity. The width, height, and gradient of a proposed opening should be such as to pass the average historical low flow and spring flow without adversely altering flow velocity. Spring flow should be determined from gauge data, if available. In the absence of such data, bankfull flow can be used as a comparable level.

t) Culverts greater than 48 inches in diameter will be buried at least one foot below the bed of the stream. Culverts 48 inches in diameter or less shall be buried or placed on the stream bed as practicable and appropriate to maintain aquatic passage, and every effort shall be made to maintain the existing channel slope. The bottom of the culvert must be placed at a depth below the natural stream bottom to provide for passage during drought or low flow conditions. Destabilizing the channel and head cutting upstream should be considered in the placement of the culvert. A waiver from the depth specifications in this condition may be requested in writing. The waiver will be issued if it can be demonstrated that the proposal would result in the least impacts to the aquatic environment.

u) 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.

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

Mitigation

w) In order to compensate for impacts associated with this permit, mitigation shall be provided in accordance with the provisions outlined on the most recent version of the attached Compensatory Mitigation Responsibility Transfer Form. The requirements of this form, including any special conditions listed on this form, are hereby incorporated as special conditions of this permit authorization.

U.S. ARMY CORPS OF ENGINEERS
Wilmington District
Compensatory Mitigation Responsibility Transfer Form

Permittee: North Carolina Department of Transportation

Action ID: SAW-2008-02424

Project Name: U-2507 A, Widening SR 2467 (Mallard Creek Road) from Sugar Creek Road to SR 2665 (W. T. Harris Boulevard)

County: Mecklenburg

Instructions to Permittee: The Permittee must provide a copy of this form to the Mitigation Sponsor, either an approved Mitigation Bank or the North Carolina Ecosystem Enhancement Program (NCEEP), who will then sign the form to verify the transfer of the mitigation responsibility. Once the Sponsor has signed this form, it is the Permittee's responsibility to ensure that to the U.S. Army Corps of Engineers (USACE) Project Manager identified on page two is in receipt of a signed copy of this form before conducting authorized impacts, unless otherwise specified below. If more than one mitigation Sponsor will be used to provide the mitigation associated with the permit, or if the impacts and/or the mitigation will occur in more than one 8-digit Hydrologic Unit Code (HUC), multiple forms will be attached to the permit, and the separate forms for each Sponsor and/or HUC must be provided to the appropriate mitigation Sponsors.

Instructions to Sponsor: The Sponsor must verify that the mitigation requirements shown below are available at the identified site. By signing below, the Sponsor is accepting full responsibility for the identified mitigation, regardless of whether or not they have received payment from the Permittee. Once the form is signed, the Sponsor must update the appropriate ledger and provide a copy of the signed form to the Permittee and to the USACE Bank/In-Lieu Fee Program Manager. The Sponsor must also comply with all reporting requirements established in their authorizing instrument.

Permitted Impacts and Compensatory Mitigation Requirements:

Permitted Impacts Requiring Mitigation*

8-digit HUC and Basin: 03040105, Yadkin River Basin

Stream Impacts (linear feet)			Wetland Impacts (acres)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
974				0.04		

*If more than one mitigation sponsor will be used for the permit, only include impacts to be mitigated by this sponsor.

Compensatory Mitigation Requirements:

8-digit HUC and Basin: 03040105, Yadkin River Basin

Stream Mitigation (credits)			Wetland Mitigation (credits)			
Warm	Cool	Cold	Riparian Riverine	Riparian Non-riverine	Non-Riparian	Coastal
1,948				0.08		

Mitigation Site Debited: NC EEP

(List the name of the bank to be debited. For umbrella banks, also list the specific site. For NCEEP, list NCEEP. If the NCEEP acceptance letter identifies a specific site, also list the specific site to be debited).

Section to be completed by the Mitigation Sponsor

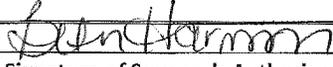
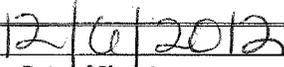
Statement of Mitigation Liability Acceptance: I, the undersigned, verify that I am authorized to approve mitigation transactions for the Mitigation Sponsor shown below, and I certify that the Sponsor agrees to accept full responsibility for providing the mitigation identified in this document (see the table above), associated with the USACE Permittee and Action ID number shown. I also verify that released credits (and/or advance credits for NCEEP), as approved by the USACE, are currently available at the mitigation site identified above. Further, I understand that if the Sponsor fails to provide the required compensatory mitigation, the USACE Wilmington District Engineer may pursue measures against the Sponsor to ensure compliance associated with the mitigation requirements.

Mitigation Sponsor Name: NC DENR EEP

Name of Sponsor's Authorized Representative: Beth Harmon

U.S. ARMY CORPS OF ENGINEERS

Wilmington District

	
Signature of Sponsor's Authorized Representative	Date of Signature

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

Conditions for Transfer of Compensatory Mitigation Credit:

- Once this document has been signed by the Mitigation Sponsor and the USACE is in receipt of the signed form, the Permittee is no longer responsible for providing the mitigation identified in this form, though the Permittee remains responsible for any other mitigation requirements stated in the permit conditions.
- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This form is not valid unless signed by the mitigation Sponsor and USACE Project Manager. For questions regarding this form or any of the conditions of the permit authorization, contact the Project Manager at the address below.

USACE Project Manager: Liz Hair
USACE Field Office: Asheville Regulatory Field Office
US Army Corps of Engineers
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006

Email: sarah.e.hair@usace.army.mil

HAIR.SARAH.E

A.1054693512

USACE Project Manager Signature

Digitally signed by HAIR.SARAH.E
A.1054693512
DN: c=US, o=U.S. Government, ou=DoD,
ou=PKJ, ou=USA, cn=HAIR.SARAH.E
A.1054693512

Date: 2012.10.18 17:49:15 -04'00'

October 18, 2012

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.

**USACE Wilmington District
Compensatory Mitigation Responsibility Transfer Form, Page 2**

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- Construction within jurisdictional areas authorized by the permit identified on page one of this form can begin only after the USACE is in receipt of a copy of this document signed by the Sponsor, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein. For authorized impacts conducted by the North Carolina Department of Transportation (NCDOT), construction within jurisdictional areas may proceed upon permit issuance; however, a copy of this form signed by the Sponsor must be provided to the USACE within 30 days of permit issuance. NCDOT remains fully responsible for the mitigation until the USACE has received this form, confirming that the Sponsor has accepted responsibility for providing the mitigation requirements listed herein.
- Signed copies of this document must be retained by the Permittee, Mitigation Sponsor, and in the USACE administrative records for both the permit and the Bank/ILF Instrument. It is the Permittee's responsibility to ensure that the USACE Project Manager (address below) is provided with a signed copy of this form.
- If changes are proposed to the type, amount, or location of mitigation after this form has been signed and returned to the USACE, the Sponsor must obtain case-by-case approval from the USACE Project Manager and/or North Carolina Interagency Review Team (NCIRT). If approved, higher mitigation ratios may be applied, as per current District guidance and a new version of this form must be completed and included in the USACE administrative records for both the permit and the Bank/ILF Instrument.

Comments/Additional Conditions:

This form is not valid unless signed by the mitigation Sponsor and USACE Project Manager. For questions regarding this form or any of the conditions of the permit authorization, contact the Project Manager at the address below.

USACE Project Manager: Liz Hair
USACE Field Office: Asheville Regulatory Field Office
US Army Corps of Engineers
151 Patton Avenue, Room 208
Asheville, North Carolina 28801-5006

Email: sarah.e.hair@usace.army.mil

HAIR.SARAH.E

A.1054693512

USACE Project Manager Signature

Digitally signed by HAIR.SARAH.E
A.1054693512
DN: c=US, o=U.S. Government, ou=DoD,
ou=PKI, ou=USA, cn=HAIR.SARAH.E
A.1054693512
Date: 2012.10.18 17:49:15 -04'00'

October 18, 2012

Date of Signature

Current Wilmington District mitigation guidance, including information on mitigation ratios, functional assessments, and mitigation bank location and availability, and credit classifications (including stream temperature and wetland groupings) is available at <http://ribits.usace.army.mil>.



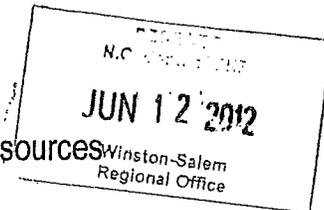
North Carolina Department of Environment and Natural Resources

Division of Water Quality

Charles Wakild
Director

Beverly Eaves Perdue
Governor

Dee Freeman
Secretary



May 24, 2012

Gregory J. Thorpe, Ph.D., Environmental Management Director
North Carolina Department of Transportation
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, North Carolina, 27699-1598

JUN 10 2012

Subject: 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Isolated Wetlands Permit Pursuant to IWGP100000 with Additional Conditions for the Proposed Upgrade of Existing Mallard Creek Road (SR 2457) from H.T. Harris Boulevard (SR 2665) to the Intersection of Hubbard Road (SR 2494) and Continuing Southeast on New Location to Sugar Creek (SR 2480) with an Additional Extension from Rumble Road (SR 2501) to Neal Road (SR 2498), Mecklenburg County, TIP No. U-2507A, WBS Element No. 34811.2.3, NCDWQ Project No. 11-1102

Dear Dr. Thorpe:

Attached hereto is a copy of Certification No. 3921 issued to The North Carolina Department of Transportation (NCDOT) dated May 24, 2012.

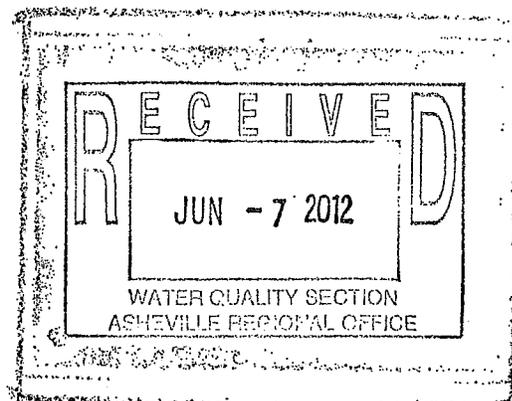
If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Charles Wakild
Director

Attachments

- ~~cc: Sarah Hair, US Army Corps of Engineers, Asheville Field Office~~
- Chris Militscher, Environmental Protection Agency (electronic copy only)
- Marla Chambers, NC Wildlife Resources Commission (electronic copy only)
- Marella Buncick, US Fish and Wildlife Service (electronic copy only)
- William Gilmore, Ecosystem Enhancement Program
- Michael Turchy, NCDOT PDEA
- Larry Thompson, NCDOT Division 10 Environmental Officer
- Sonia Carrillo, NCDWQ Transportation Permitting Unit
- Polly Lespinasse, NCDWQ Mooresville Regional Office
- David Wainwright, NCDWQ Transportation Permitting Unit
- File Copy



Mooresville Regional Office
Location: 610 East Center Ave., Suite 301 Mooresville, NC 28115
Phone: (704) 663-1699 \ Fax: (704) 663-6040 \ Customer Service: 1-877-623-6748
Internet: <http://portal.ncdenr.org/web/wq>

One
North Carolina
Naturally

401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and Isolated Wetlands Permit Pursuant to IWGP100000 with 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 (NCDWQ) Regulations in 15 NCAC 2H.0500 and the Isolated Wetlands Permit Pursuant to IWGP100000. This certification authorizes the NCDOT to permanently impact 1,137 linear feet of jurisdictional streams, 0.04 acres of jurisdictional wetlands, 0.11 acres of jurisdictional isolated wetlands, and 1.09 acres of pond, and to temporarily impact 106 lf of streams and 0.02 acres of ponds in Mecklenburg County. The project shall be constructed pursuant to the application received December 20, 2011, and additional information received May 9, 2012. The authorized impacts are as described below:

Stream Impacts in the Yadkin Pee-Dee River Basin

Permit Site No. / Station No.s	Permanent Fill in Intermittent Stream (linear ft)	Temporary Fill in Intermittent Stream (linear ft)	Permanent Fill in Perennial Stream (linear ft)	Temporary Fill in Perennial Stream (linear ft)	Total Stream Impact (linear ft)	Stream Impacts Requiring Mitigation (linear ft)
Site 1/Stations 51+50 to 53+23-L-LT, 53+75 to 58+49 -L-, 53+75 to 53+90-L-LT			726 lf (152 lf for culvert/stream relocation to base ditch, 552 lf for relocation of base ditch, 22 lf for bank stabilization)	20 lf for stream realignment	746 lf	726 lf
Site 2/Stations 57+19 to 57+58-L-, 57+44 to 58+30-L-			286 lf (214 lf for culvert, 72 lf for bank stabilization)	76 lf for stream realignment and diversions	362 lf	286 lf
Site 3/Station 63+20 to 63+21 -L-RT			19 lf for bank stabilization		19 lf	0
Site 4/Station 27+14 to 27+83-Y6-RT			78 lf (44 lf for culvert, 34 lf for bank stabilization)	10 lf for diversions	88 lf	0
Site 6/Station 17+66 to 17+98-Y13-LT	28 lf for bank stabilization				28 lf	0
Total	28 lf	0	1,109 lf	106 lf	1,243 lf	1,012 lf

Total Stream Impacts for Yadkin Pee-Dee River Basin: 1,243 linear feet

Wetland Impacts in the Yadkin Pee-Dee River Basin (Riverine)

Permit Site No. / Station No.s	Permanent Fill/Excavation/ Clearing Impacts (ac)	Temporary Impacts (ac)	Total Wetland Impact (ac)	Wetland Impacts Requiring Mitigation (ac)
Site 3/Station 63+88 to 64+23-L-RT	0.01 ac (fill)		0.01 ac	0
Site 4/Station 27+14 to 27+83-Y6-RT	0.02ac (0.01 ac fill, 0.01 ac mechanized clearing)		0.02 ac	0
Site 6/Station 17+66 to 17+98-Y13-LT	0.01 ac (mechanized clearing)		0.01 acre	0
Total	0.04 ac	0	0.04 ac	0

Total Wetland Impacts for Yadkin Pee-Dee River Basin: 0.04 acres

Isolated Wetland Impacts in the Yadkin Pee-Dee River Basin

Permit Site No./ Station No.s	Permanent Fill/Excavation/ Clearing Impacts (ac)	Temporary Impacts (ac)	Total Wetland Impact (ac)	Wetland Impacts Requiring Mitigation (ac)
Site 1/Station 50+59 to 52+15-L-RT	0.11 ac (0.07 ac fill, 0.04 ac mechanized clearing)		0.11 ac	0

Total Isolated Wetland Impacts for Yadkin Pee-Dee River Basin: 0.11 acres

Open Water Impacts in the Yadkin Pee-Dee River Basin

Permit Site No.	Permanent Fill/ Draining in Open Waters (ac)	Temporary Fill/ Draining in Open Waters (ac)	Total Fill/ Draining in Open Waters (ac)
Site 3	0.26 ac (fill)	0.82 ac (draining)	1.08 ac
Site 5	0.01 ac (fill)	0.02 ac (draining)	0.03 ac
Total	0.27 ac	0.84 ac	1.11 ac

Total Open Water Impacts for Yadkin-Pee Dee River Basin: 1.11 acres

The application provides adequate assurance that the discharge of fill material into the waters of the Yadkin-Pee Dee River Basins and associated wetlands, 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 received December 20, 2011, and additional information received May 9, 2012. Should your project change, you are required to notify the NCDWQ 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 on the same day as the expiration date of the corresponding Corps of Engineers Permit.

Conditions of Certification:

1. The riprap size at Permit Site 1 shall be Class I as indicated on the revised plans received May 9, 2012.
2. The riprap size at Permit Sites 2 and 3 shall be Class II as indicated on the revised plans received May 9, 2012.
3. Rock check dams are being installed in the relocated stream at Permit Site 1. NCDOT will be using Class I riprap and filter stone to construct the check dams. DWQ recommends the use of coir fiber matting in lieu of filter stone. Please be advised that if filter stone is deposited downstream, DWQ will require the hand removal of the filter stone from any impacted stream length.

4. **Temporary riprap stabilization is authorized at the outlet of the 7' x 8' reinforced concrete box culvert at Permit Site 2. NCDOT is advised that the riprap must be removed upon completion of the project and the streambank stabilized with coir fiber matting and appropriate vegetation. If the riprap is not removed, a permit modification and mitigation for 76 linear feet of stream impact will be required.**
5. A large pond will be drained at Permit Site 3. A jurisdictional stream, at the upstream end of the existing pond, was observed feeding into the pond during a field visit. Therefore, it is likely that a jurisdictional stream will be identified during the proposed pond draining. **The impacts authorized by this certification at Permit Site 3 are for impacts to surface waters (ponds), with the exception of 19 linear feet of stream impact located downstream of the pond dam. No impacts to any jurisdictional stream located in this pond are approved by this Water Quality Certification.** A modification will be required for impacts to any length of stream within the pond. Additionally, the permit must be modified to change all designated "open water impacts" at this site to "stream impacts". Based on the length of any proposed stream impact, additional stream mitigation may be required.
6. All portions of the proposed project draining to 303(d) listed watersheds that are impaired due to biological criteria exceedances (Doby Creek) shall not discharge stormwater directly to surface waters. Stormwater shall be treated using appropriate best management practices (e.g., vegetated conveyances, constructed wetlands, detention ponds, etc.) prior to discharging to surface waters.
7. At Permit Sites 3 and 5, where ponds will be drained, proper measures will be taken to drain the pond with limited impact to upstream and downstream channel stability as well as to native aquatic species. Proper measures will be taken to avoid sediment release and/or sediment accumulation downstream as a result of pond draining. If typical pond draining techniques will create a significant disturbance to native aquatic species, additional measures such as collection and relocation may be necessary to prevent a significant fish kill. NCDOT shall consult with the North Carolina Wildlife Resources staff to determine if there are any sensitive species, and the most appropriate measures to limit impacts to these species. The Permittee shall observe any natural channel re-establishment, or utilize natural channel construction techniques, to ensure that the jurisdictional stream channel above and below the drained pond remain stable and that no additional impacts occur within the natural stream channel as a result of draining the pond.
8. The existing stormwater outfall, which discharges to Permit Site 3, must be stabilized as indicated on the revised plans received May 9, 2012.
9. A stormwater ditch, with a slope of 11%, is proposed to outfall to the stream at a 90 degree angle. NCDOT is advised that if the stream destabilizes due to the slope and/or angle of the stormwater outfall, corrective actions to stabilize the stream will be required.
10. Compensatory mitigation for 1,012 linear feet of impact to streams is required. We understand that the North Carolina Ecosystem Enhancement Program (EEP) has agreed to implement the stream mitigation for the project. EEP has indicated in a letter dated December 14, 2011, that they will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the above-referenced project, in accordance with the North Carolina Department of Environment and Natural Resources' Ecosystem Enhancement Program In-Lieu Fee Instrument signed July 28, 2010.
11. All culverts shall be placed below the elevation of the streambed by one (1) foot for all culverts with a diameter greater than 48 inches, and 20 percent of the culvert diameter for culverts having a diameter less than 48 inches, to allow low flow passage of water and aquatic life. 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 downstream of the above structures. The applicant is required to provide evidence that the equilibrium is being maintained if requested in writing by NCDWQ. If this condition is unable to be met due to bedrock or other limiting features encountered during construction, please contact NCDWQ for guidance on how to proceed and to determine whether or not a permit modification will be required.
12. If multiple pipes or barrels are required, they shall be designed to mimic the natural stream cross section as closely as possible, including pipes or barrels at floodplain elevation and/or sills, where appropriate. Widening the stream channel shall be avoided. Stream channel widening at the inlet or outlet end of the structure(s) typically decreases water velocity causing sediment deposition that requires increased maintenance and disrupts aquatic life passage.

13. The site shall be graded to its preconstruction contours and revegetated with appropriate native species for the 1,035 linear feet of streams being impacted due to site dewatering activities.
14. The riprap used for streambank stabilization, ditchline stabilization along streambanks and floodplain bench construction shall be of sufficient size to prevent migration of the riprap into the active stream channel.
15. If concrete is used during construction, a dry work area shall be maintained to prevent direct contact between curing concrete and stream water. Water that inadvertently contacts uncured concrete shall not be discharged to surface waters due to the potential for elevated pH and possible aquatic life and fish kills.
16. 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.
17. The dimension, pattern and profile of the stream above and below the crossing shall not be modified. Disturbed floodplains and streams shall be restored to natural geomorphic conditions.
18. The Permittee shall ensure that the final design drawings adhere to the permit and to the permit drawings submitted for approval.
19. All work in or adjacent to stream waters shall be conducted in a dry work area. Approved BMP measures from the most current version of NCDOT Construction and Maintenance Activities manual such as sandbags, rock berms, cofferdams and other diversion structures shall be used to prevent excavation in flowing water.
20. Heavy equipment shall be operated from the banks rather than in the stream channel in order to minimize sedimentation and reduce the introduction of other pollutants into the stream.
21. 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.
22. No rock, sand or other materials shall be dredged from the stream channel except where authorized by this certification.
23. Discharging hydroseed mixtures and washing out hydroseeders and other equipment in or adjacent to surface waters is prohibited.
24. The permittee 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 and Federal law. If NCDWQ 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, NCDWQ may reevaluate and modify this certification.
25. All fill slopes located in jurisdictional wetlands shall be placed at slopes no flatter than 3:1, unless otherwise authorized by this certification.
26. A copy of this Water Quality Certification shall be maintained 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.
27. 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.
28. The issuance of this certification does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by other government agencies (i.e. local, state, and federal) having jurisdiction, including but not limited to applicable buffer rules, stormwater management rules, soil erosion and sedimentation control requirements, etc.

29. The Permittee shall report any violations of this certification to the Division of Water Quality within 24 hours of discovery.
30. Upon completion of the project (including any impacts at associated borrow or waste sites), the NCDOT (or their authorized agent) shall complete and return the enclosed "Certification of Completion Form" to notify NCDWQ when all work included in the 401 Certification has been completed.
31. Native riparian vegetation must be reestablished in the riparian areas within the construction limits of the project by the end of the growing season following completion of construction.
32. There shall be no excavation from, or waste disposal into, jurisdictional wetlands or waters associated with this permit without appropriate modification. Should waste or borrow sites, or access roads to waste or borrow sites, be located in wetlands or streams, compensatory mitigation will be required since that is a direct impact from road construction activities.
33. 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 protect surface waters standards:
 - a. The erosion and sediment control measures for the project must be designed, installed, operated, and maintained in accordance with the most recent version of the *North Carolina Sediment and Erosion Control Planning and Design Manual*.
 - 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 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. The reclamation measures and implementation must comply with the reclamation in accordance with the requirements of the Sedimentation Pollution Control Act.
34. Sediment and erosion control measures shall not be placed in wetlands or waters unless otherwise approved by this Certification.
35. 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 Permit. This Certification shall expire upon the expiration of the 404 Permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings
6714 Mail Service Center
Raleigh, NC 27699-6714
Telephone: (919)-431-3000, Facsimile: (919)-431-3100

A copy of the petition must also be served on DENR as follows:

Mr. William Cary, General Counsel
Department of Environment and Natural Resources
1601 Mail Service Center
Raleigh, NC 27699-1601

This, the 24th day of May 2012

DIVISION OF WATER QUALITY

A handwritten signature in black ink, appearing to read 'C. Wakild', with a long horizontal stroke extending to the right.

for Charles Wakild
Director

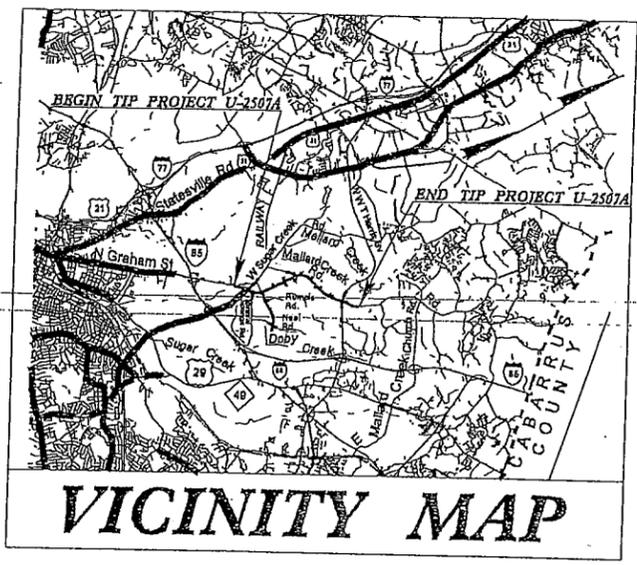
WQC No. 3921

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

Permit Drawing
Sheet 1 of 23

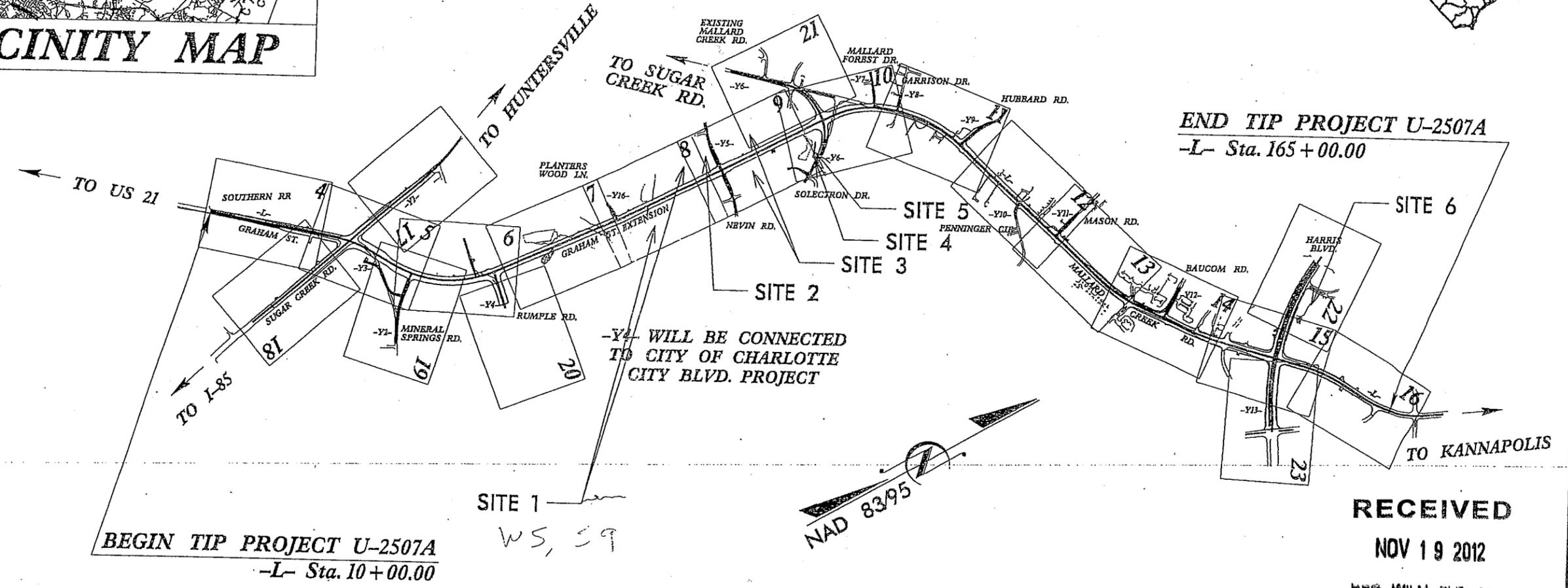
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-2507A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34811.1.1	STP-5238(2)	PE	

CONTRACT: TIP PROJECT: U-2507A



MECKLENBURG COUNTY

LOCATION: CHARLOTTE - SR 2467 (MALLARD CREEK ROAD)
FROM GRAHAM STREET EXTENSION TO SR 2665
(HARRIS BOULEVARD)
TYPE OF WORK: GRADING, DRAINAGE, AND PAVING

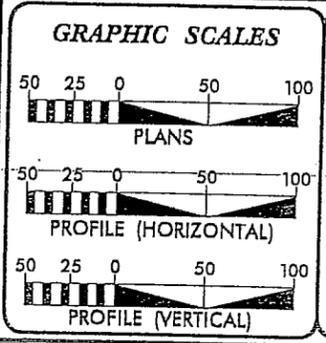


RECEIVED
NOV 19 2012
REG: WLM, FLB, DRG

WETLAND IMPACTS

THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF CHARLOTTE.
THERE IS NO CONTROL OF ACCESS ON THIS PROJECT.
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD _____

CONTRACT: TIP PROJECT: U-2507A



DESIGN DATA

ADT 2010 =	32850
ADT 2030 =	45600
DHV =	10 %
D =	55 %
T =	8 % *
V =	50 MPH
* TTST 2.	DUAL 6

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT U-2507A =	2.94 MILES
LENGTH OF STRUCTURE TIP PROJECT U-2507A =	0.00 MILES
TOTAL LENGTH OF TIP PROJECT U-2507A =	2.94 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh NC, 27610

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:	JUNE 19, 2009	TONY HOUSER, PE PROJECT ENGINEER
LETTING DATE:	JUNE 21, 2011	JASON TALLEY, PE PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER	ROADWAY DESIGN ENGINEER
SIGNATURE: _____	SIGNATURE: _____

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

*****SYTIME*****
*****DCNS*****
*****USERNAME*****

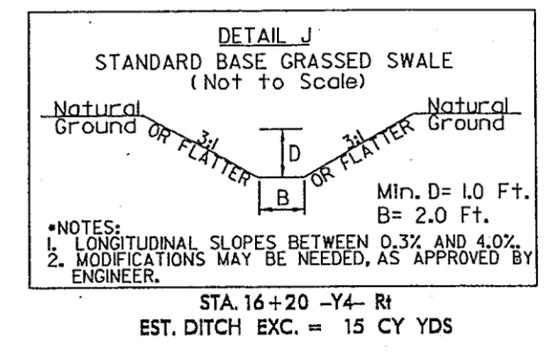
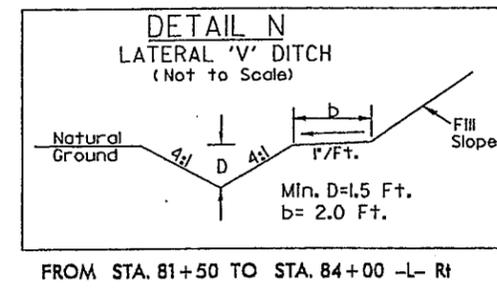
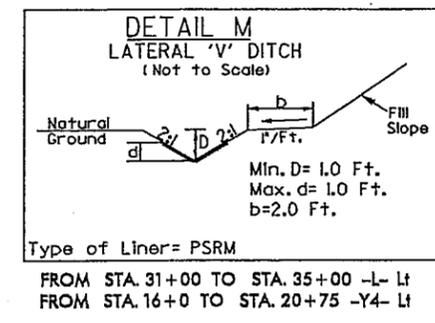
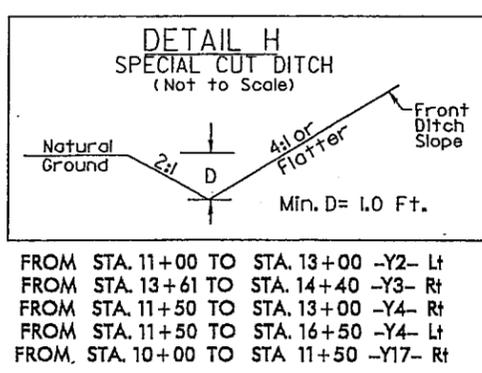
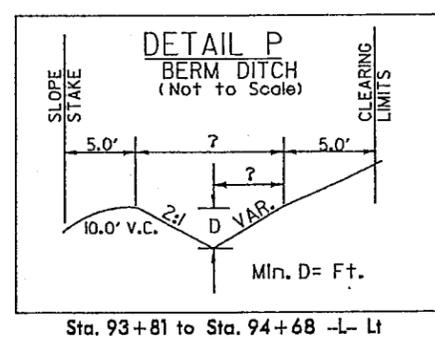
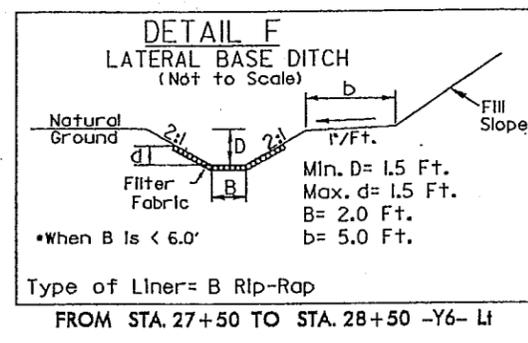
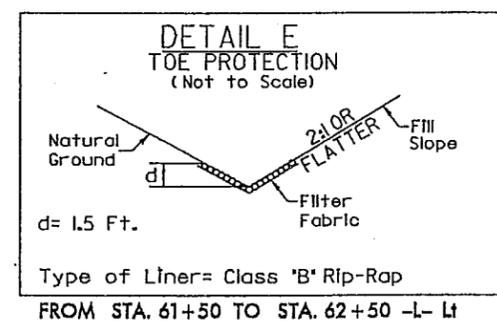
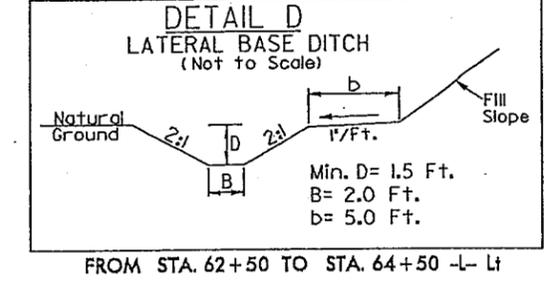
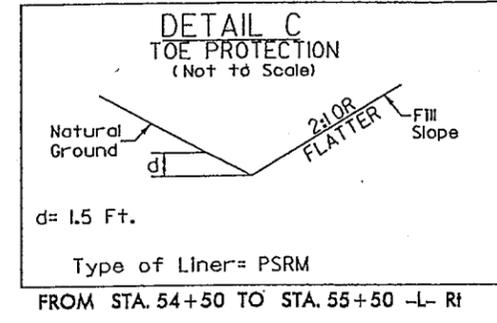
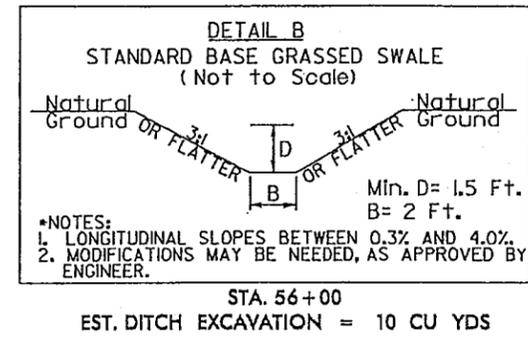
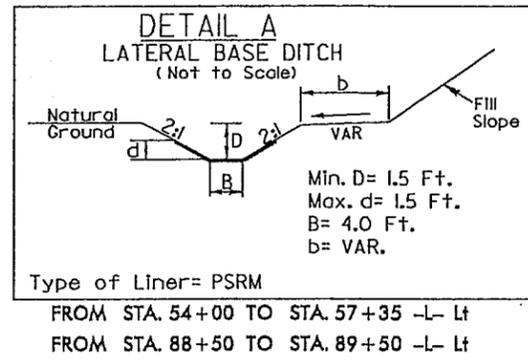
DRAINAGE DITCH DETAILS

ROADWAY DESIGN ENGINEER PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR A/W ACQUISITION

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Revised February 2012
Permit Drawing
Sheet 2 of 23

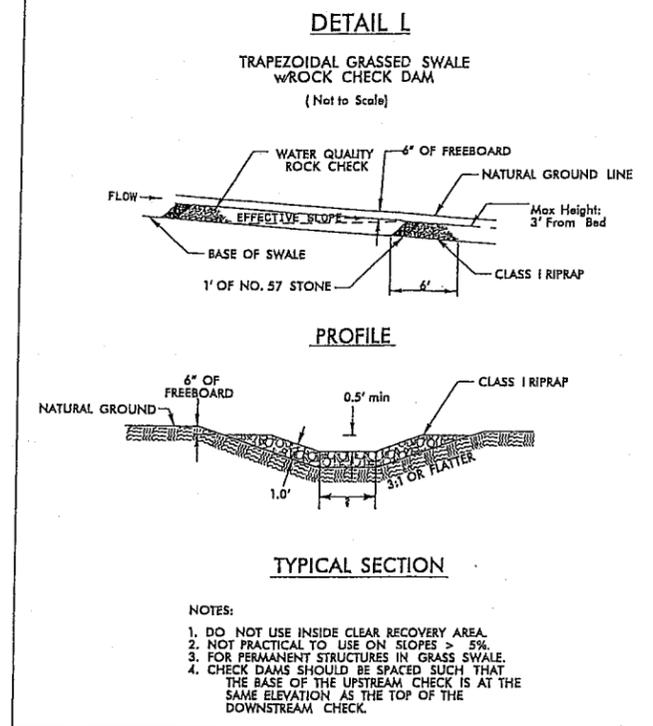


DRAINAGE DITCH DETAILS

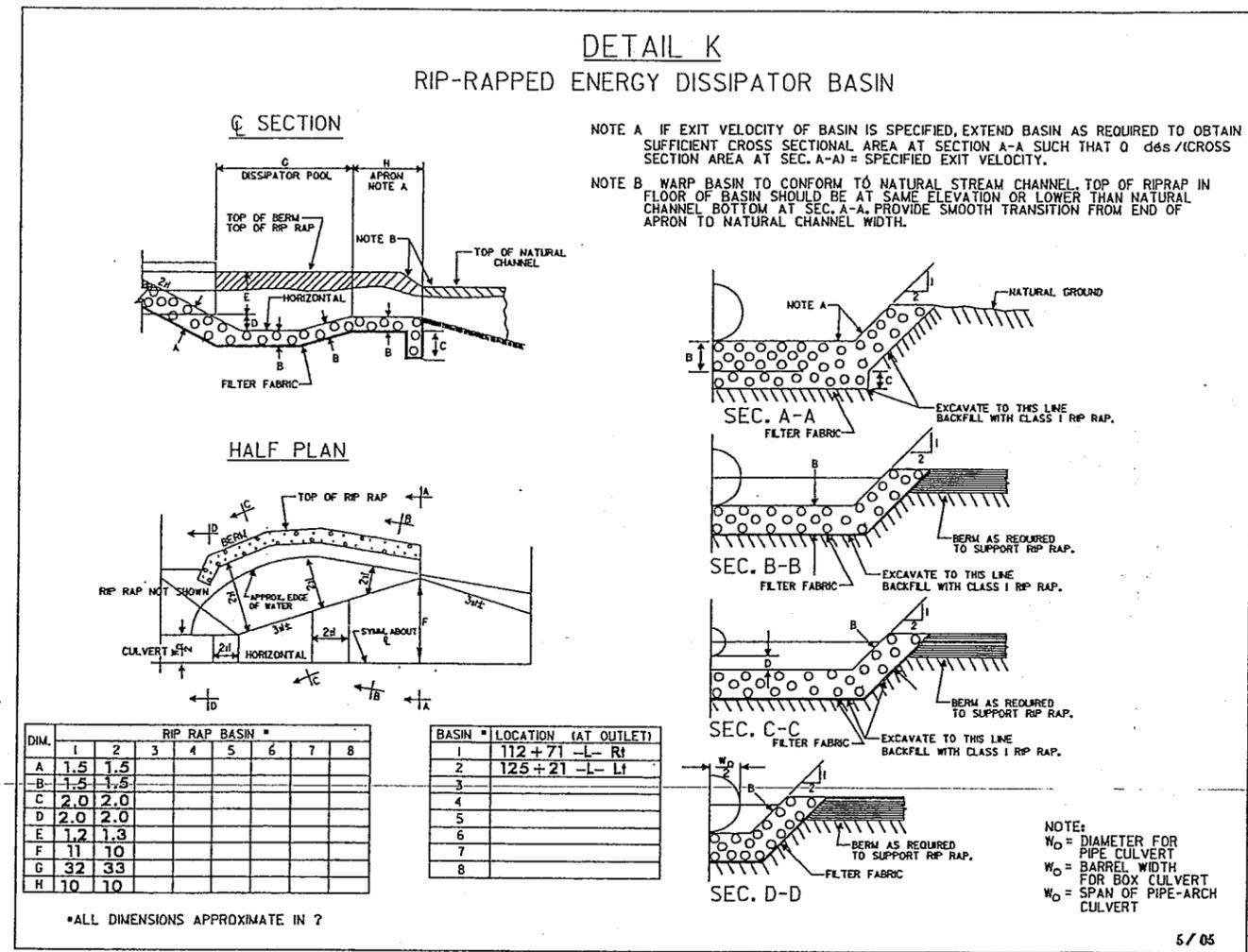
ROADWAY DESIGN ENGINEER
PAVEMENT DESIGN ENGINEER

INCOMPLETE PLANS
DO NOT USE FOR A/W ACQUISITION
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

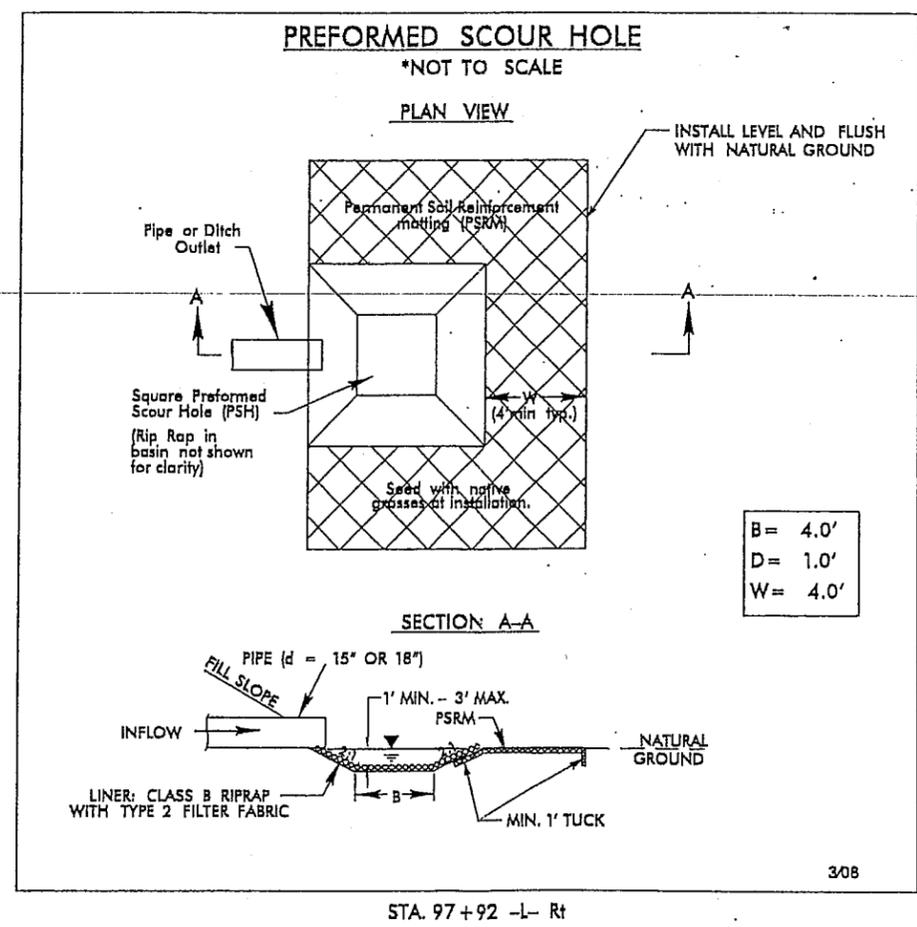
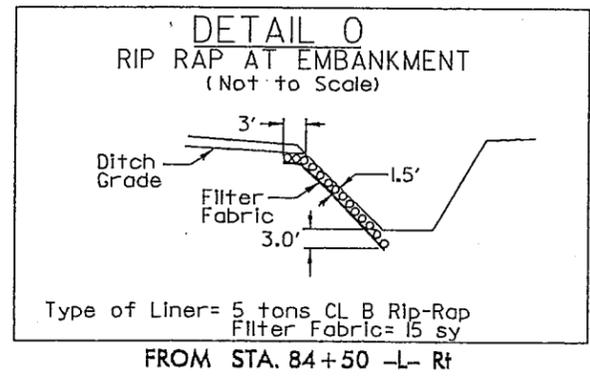
Revised February 2012
Permit Drawing
Sheet 3 of 23



FROM STA. 54+00 TO STA. 57+35 -L- Lt
2 Tons of Class "B" Rip Rap per check dam
0.5 Tons of 57 stones per check dam
Min of 4 check dams required



Sta 112+71 -L- Rt Est 175 cu yds excavation Est 80 tons Class "I" Rip Rap
Sta 125+21 -L- Lt Est 150 cu yds excavation Est 70 tons Class "I" Rip Rap



SITE 3

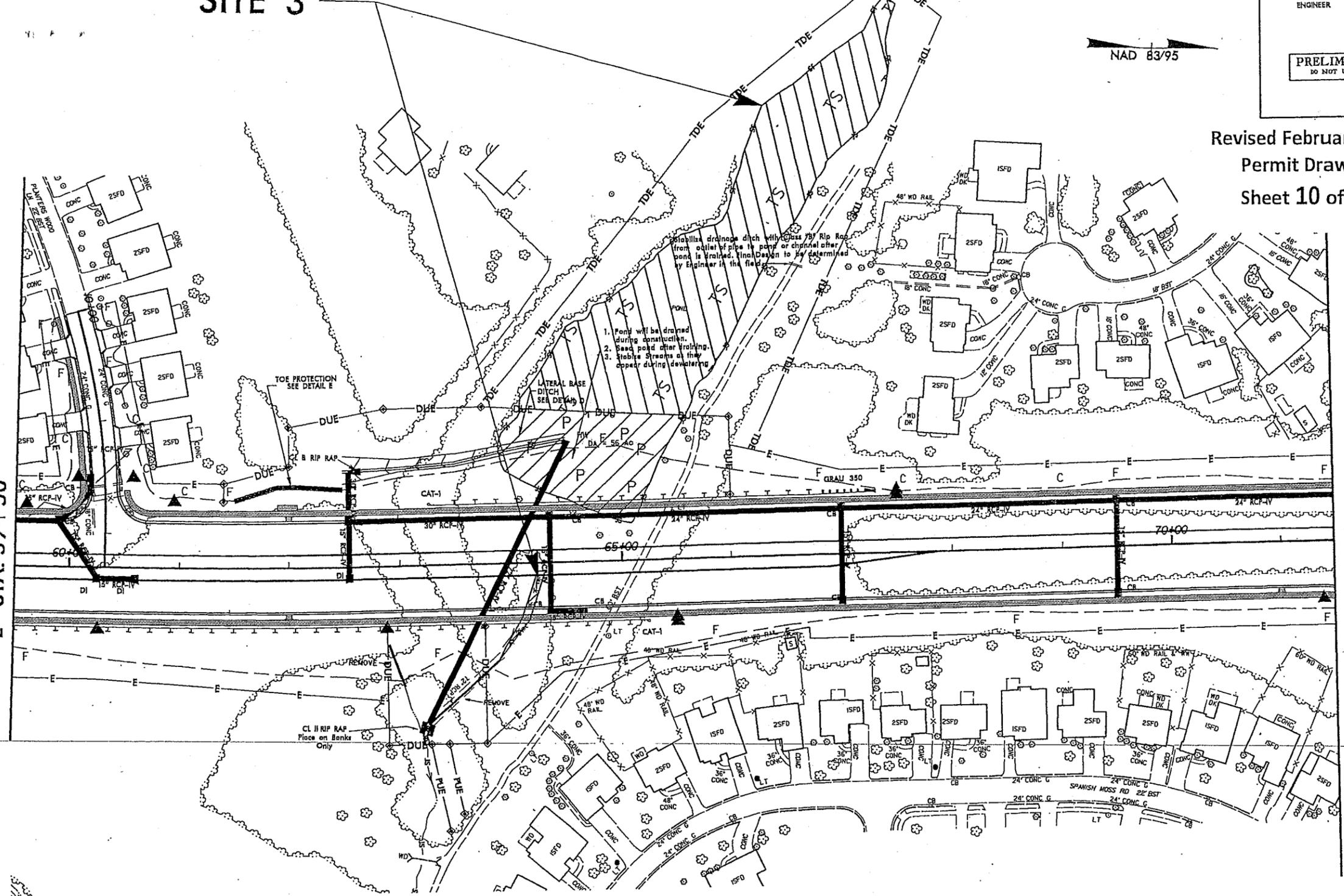
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
PRELIMINARY PLANS DO NOT USE FOR CONSTRUCTION	

NAD 83/95

Revised February 2012
Permit Drawing
Sheet 10 of 23

MATCH TO SHEET 7
-L- STA. 59+50

MATCH TO SHEET 9
-L- STA. 71+50



1. Pond will be drained during construction.
2. Seed pond after treating.
3. Stable Streams as they appear during dewatering.

Stabilize drainage ditch with Class 70 Rip Rap from outlet of pipe to pond or channel after pond is drained. Final Design to be determined by Engineer in the field.

TOE PROTECTION
SEE DETAIL E

LATERAL BASE
DITCH
SEE DETAIL D

CL II RIP RAP
Place on Banks
Only

DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

DENOTES FILL IN
WETLAND

DENOTES IMPACTS IN
SURFACE WATER
(POND)

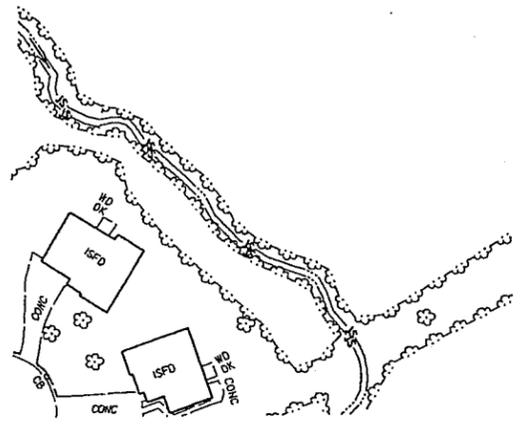


REVISIONS

R/W REVISION: UPDATED THE PROPERTY OWNER AND DEED BOOK INFORMATION FOR PARCEL 45. MODIFIED PROPERTY LINES BETWEEN PARCELS 44 AND 45. ADDED PUE ON PARCEL 46 FROM STA 68+25 RT TO L- STA 63+40 RT.

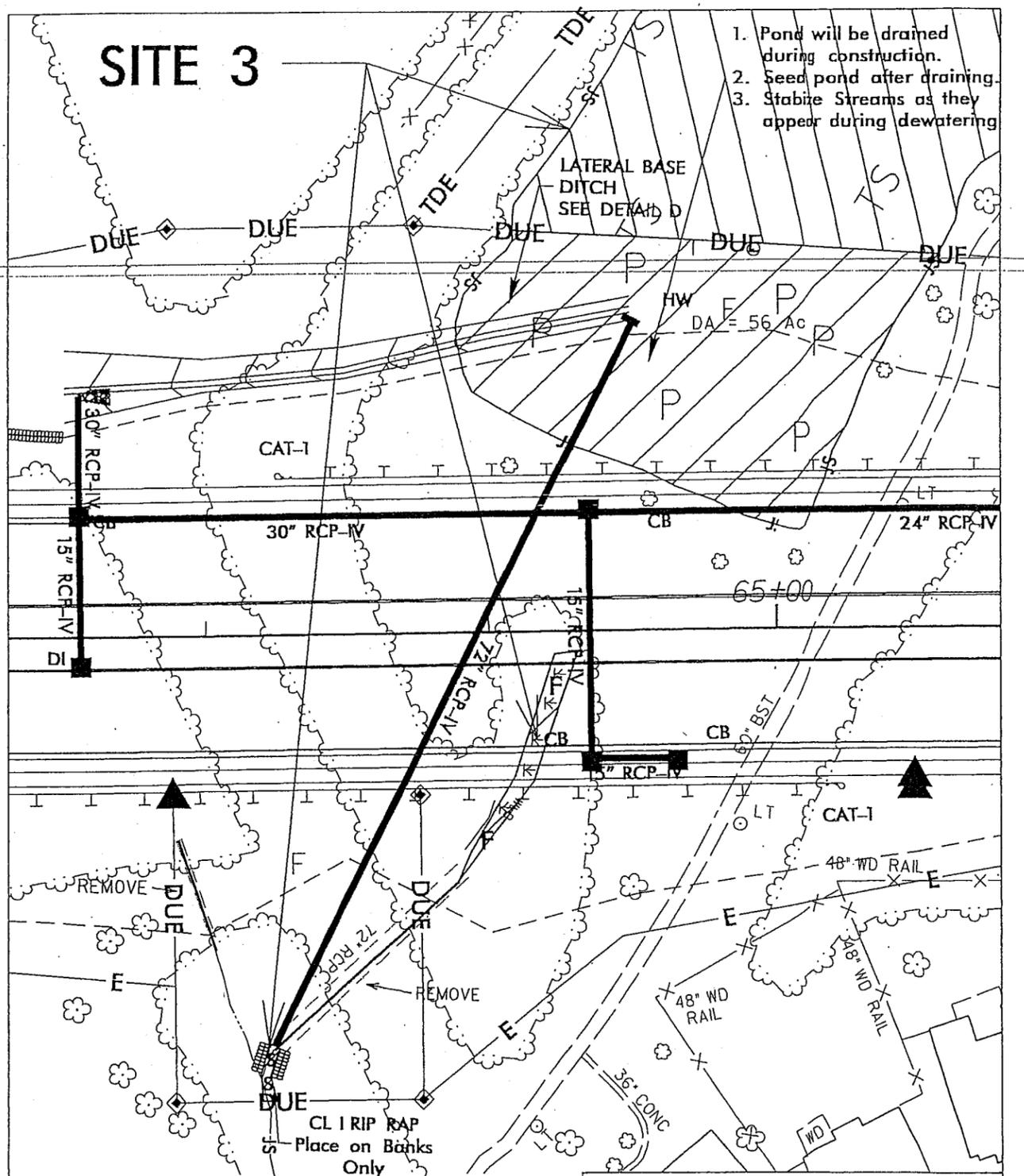
JMT 8/22/2011

*****SYSTEMS DESIGN*****
*****DESIGN NAME*****

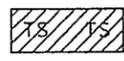
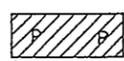


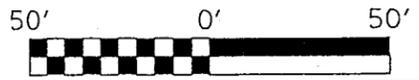
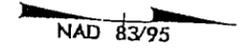
SITE 3

1. Pond will be drained during construction.
2. Seed pond after draining.
3. Stabilize Streams as they appear during dewatering



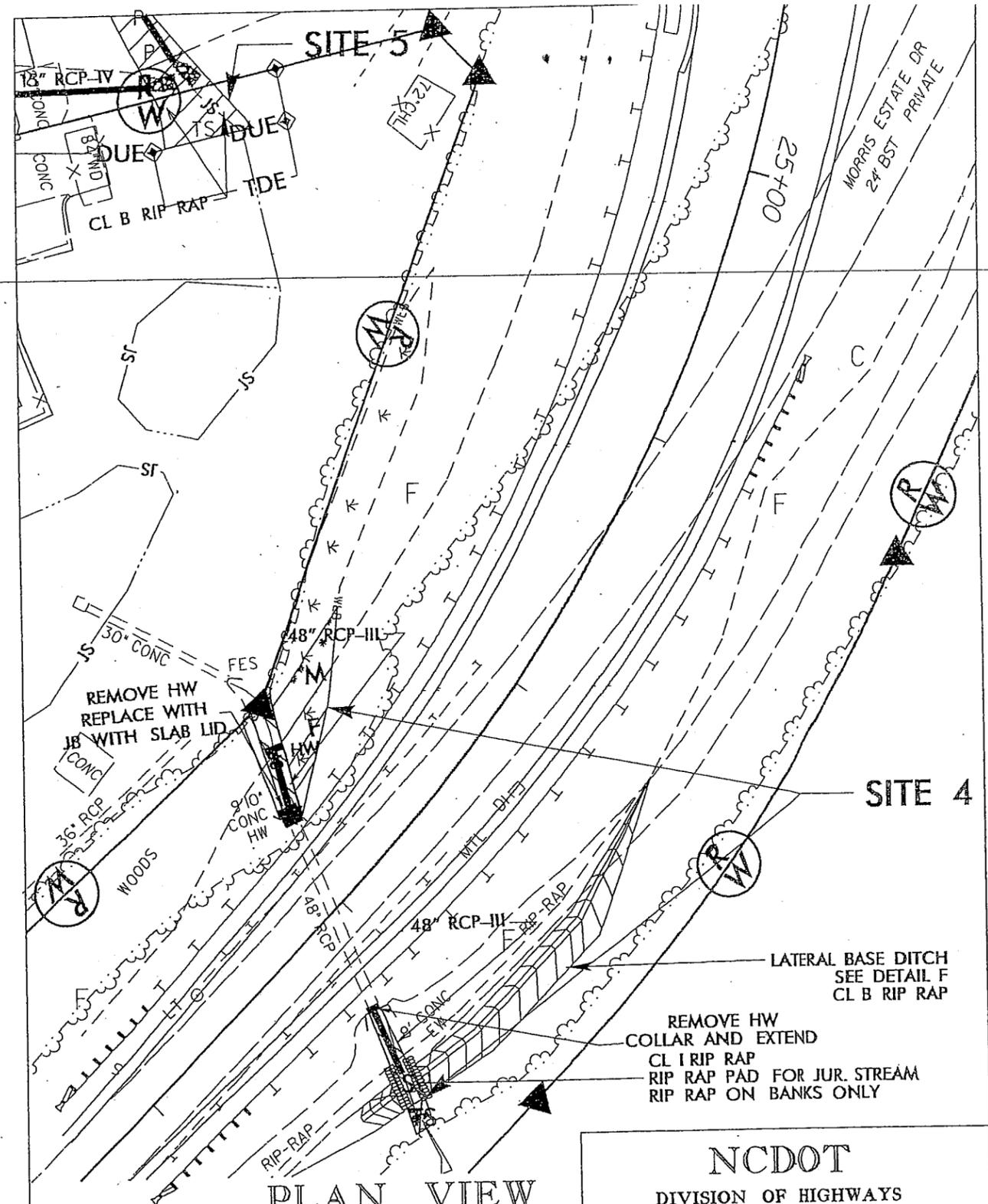
PLAN VIEW

-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES FILL IN WETLAND
-  DENOTES IMPACTS IN SURFACE WATER (POND)

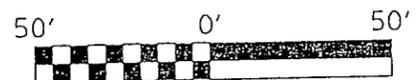


NCDOT
 DIVISION OF HIGHWAYS
 MECKLENBURG COUNTY
 PROJECT: 3481111 (U-2507A)

CHARLOTTE
 SR 2467 TO SR 2665



-  DENOTES MECHANIZED CLEARING
-  DENOTES FILL IN WETLAND
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES IMPACTS IN SURFACE WATER (POND)



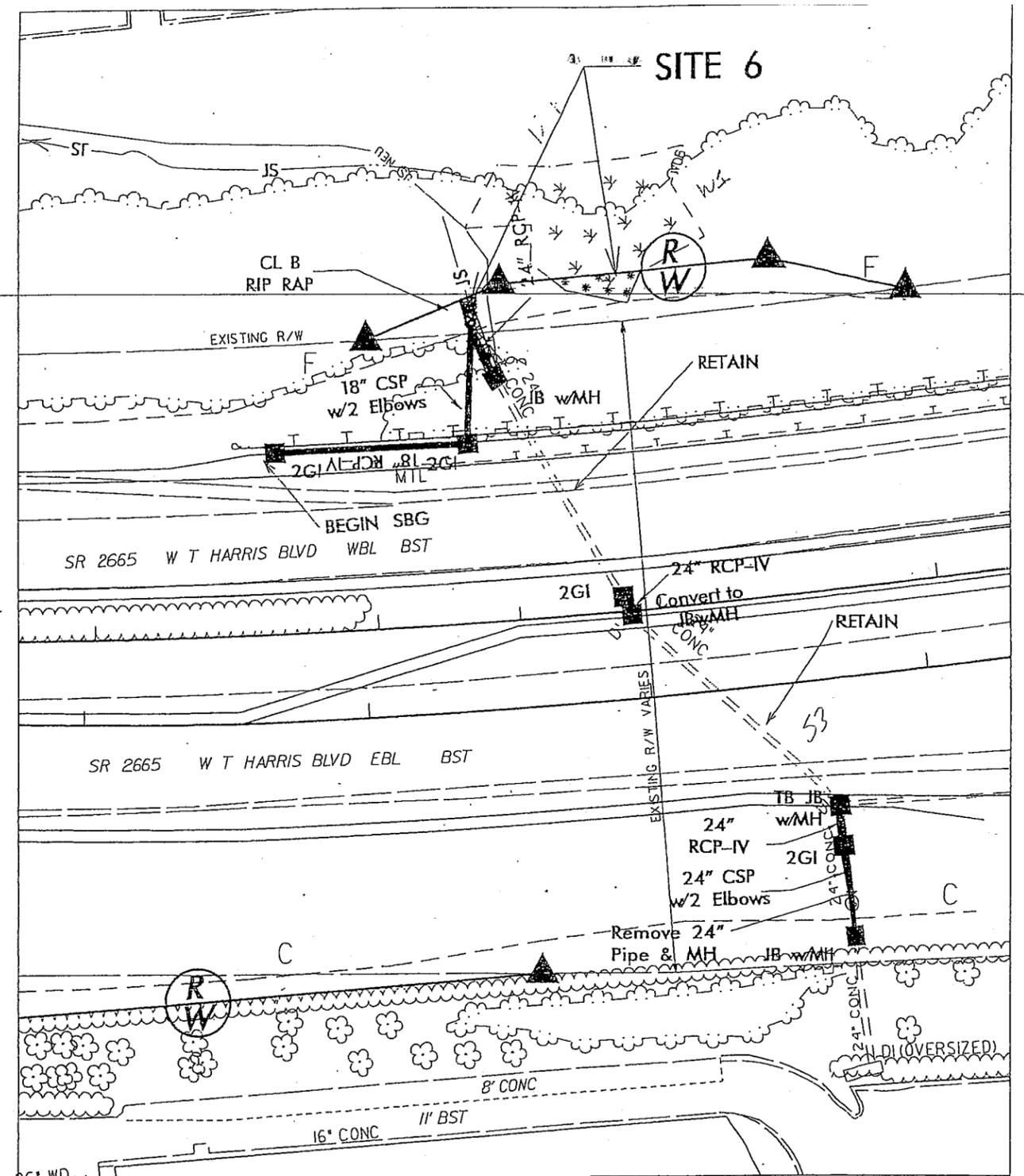
LATERAL BASE DITCH
SEE DETAIL F
CL B RIP RAP

REMOVE HW
COLLAR AND EXTEND
CL I RIP RAP
RIP RAP PAD FOR JUR. STREAM
RIP RAP ON BANKS ONLY

NCDOT
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MECKLENBURG COUNTY
PROJECT: 34811.11 (U-2507A)

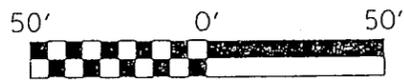
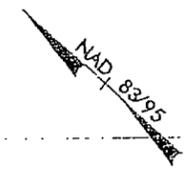
CHARLOTTE
SR 2467 TO SR 2665

SHEET **17** OF **23** 2/16/11



PLAN VIEW

-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES MECHANIZED CLEARING



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WETLAND PERMIT IMPACT SUMMARY

Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	50+59 to 52+15-L- RT	Fill	0.07			0.04						
	51+50 to 53+23-L-LT	Fill					<0.01	<0.01	152	10		
	53+75 to 58+49 -L-	Fill					0.04	<0.01	552	10		
	53+75 to 53+90-L-LT	Bank Stabilization					<0.01		22			
2	57+19 to 57+58-L-	Bank Stabilization					0.01	0.01	72	76		
	57+44 to 58+30-L-	7' x 8" RCBC					0.03		214			
3 *	63+89 to 67+58-L- LT	Fill					0.26	0.82				
	63+88 to 64+23-L- RT	Fill	0.01									
	63+20 to 63+21-L-RT	Bank Stabilization					<0.01	<0.01	19			
4	27+14 to 27+83-Y6-RT	Pipe Extension	0.01			0.01	<0.01		44			
		Bank Stabilization					<0.01	<0.01	34	10		
5 *	84+64-L- RT	Fill					0.01	0.02				
6	17+66 to	Fill				0.01	<0.01		28			
	17+98-Y13- LT											
TOTALS:			0.09			0.06	0.35	0.85	1137	106		

* Pond/Basin

Revised February 2012
Permit Drawing
Sheet 23 of 23

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

COUNTY
WBS - 34811.1.1 (U-2507A)