



Leilani

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

March 26, 2004

US Army Corps of Engineers
Asheville Regulatory Field Office
151 Patton Avenue, Room 208
Asheville, NC 28801-5006

WEB ACCESS / GIS GROUP

MAR 30 2004

WATER QUALITY SECTION

ATTN: Steve Lund
NCDOT Coordinator

Dear Sir:

Subject: **Nationwide 27 Permit Application** for the Back Creek Stream Mitigation Site in Mecklenburg County, for TIP No. R-967CA, State Project 6.689002T. \$475 to Work Order 6.689002T (WBS Element 34355.1.2).

Please find enclosed a Pre-Construction Notification Application and a stream restoration plan view for Back Creek Stream Mitigation Site. The North Carolina Department of Transportation (NCDOT) proposes to restore 4,135.5 linear feet of Back Creek and two unnamed tributaries to improve the stream's natural resources and for the purpose of obtaining stream mitigation credit. The Back Creek site is located in Mecklenburg County approximately five miles east of Charlotte and is part of the Yadkin River Basin. The watershed has a total drainage area of 4.1 square miles and is located in eight-digit hydrologic unit code (HUC) 03040105. Back Creek flows easterly under Back Creek Church Road at the western boundary of the site and is joined by two unnamed tributaries before exiting the eastern boundary of the site.

The stream channels onsite are straightened and degraded with little or no riparian buffer. Past land use activities, including the clearing of riparian vegetation, channel straightening and dredging, along with watershed urbanization, have resulted in bank erosion and channel incision, loss of bedform diversity and aquatic habitat degradation. The watershed draining to the project site is highly urbanized, characterized by high-density residential development, commercial and industrial complexes. The site is bounded on the north and partially on the south by residential development, on the east by Back Creek Church Road, and on the west by the new construction of I-485.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1548 MAIL SERVICE CENTER
RALEIGH NC 27699-1548

TELEPHONE: 919-733-3141
FAX: 919-733-9794

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET
RALEIGH NC

The proposed plan calls for the restoration of the all three streams' natural dimension, pattern, and profile and creating a floodplain on the northern tributary. The project will restore 4,135.5 feet of channel, enhance 3.51 acres of wetland, restore 0.44 acres of wetland, and create 0.42 acres of wetland. Stream length would be increased from 4,035 feet to 4,135.5 feet and a diverse pattern of riffles and pools would replace the existing run dominated bed profile. Approximately 17.5 acres of stream buffer would be placed into a conservation easement and planted to provide a forested riparian area.

It is expected that many environmental benefits will be realized. Restoration of the stream channel to a natural form will stabilize the stream and greatly reduce bank erosion and sediment pollution from the project area. Restoration of native floodplain vegetation and a forested riparian buffer will reduce water temperatures and protect water quality through improved floodplain and wetland functionality. Increased stream diversity in the form of meanders, pool to riffle sequences and vegetated stream banks will improve aquatic habitat and the natural aesthetics of the stream corridor. This project is being proposed to offset unavoidable impacts due to construction of R-967CA.

Regulatory Approvals

Application is hereby made for a Nationwide 27 Permit as required for the above-mentioned activities. By copy of this letter, we are also requesting a 401 General Water Quality Certification. In compliance with Section 143-215.3D(e) of the NCAC we will provide \$475 to act as payment for processing the Section 401 permit application as previously noted in this application (see Subject line). Seven copies of the application are being provided to the North Carolina Department of Environment and Natural Resources, Division of Water Quality, for their review.

Thank you for your assistance with this project. If you have questions about this project, please contact LeiLani Paugh at (919) 715-1457.

Sincerely,


Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch

CC: *lund*
✓ Mr. John Hennessy, NCDWQ
✓ Ms. Marella Buncick, USFWS
✓ Ms. Marla Chambers, NCWRC
✓ Mr. Jay Bennett, P.E., Roadway Design
Mr. Omar Sultan, Programming and TIP
Mr. Art McMillan, P.E., Highway Design
Mr. David Chang, P.E., Hydraulics
Mr. Greg Perfetti, P.E., Structure Design
Mr. Mark Staley, Roadside Environmental
Mr. B.G. Payne, P.E., Division 10 Engineer
✓ Mr. Larry Thompson, Division 10 DEO
✓ Mr. David Franklin, USACE, Wilmington
✓ Mr. William D. Gilmore, P.E., EEP, Raleigh
✓ Ms. Becky Fox, USEPA
✓ Mr. John F. Sullivan, III, P.E., FHWA

USACE Action ID No. _____ DWQ No. _____

(If any particular item is not applicable to this project, please enter "Not Applicable" or "N/A".)

I. Processing

1. Check all of the approval(s) requested for this project:

- Section 404 Permit Riparian or Watershed Buffer Rules
- Section 10 Permit Isolated Wetland Permit from DWQ
- 401 Water Quality Certification

2. Nationwide, Regional or General Permit Number(s) Requested: NWP 27

3. If this notification is solely a courtesy copy because written approval for the 401 Certification is not required, check here:

4. If payment into the North Carolina Wetlands Restoration Program (NCWRP) is proposed for mitigation of impacts (verify availability with NCWRP prior to submittal of PCN), complete section VIII and check here:

5. If your project is located in any of North Carolina's twenty coastal counties (listed on page 4), and the project is within a North Carolina Division of Coastal Management Area of Environmental Concern (see the top of page 2 for further details), check here:

II. Applicant Information

1. Owner/Applicant Information

Name: NC Department of Transportation
Mailing Address: 1548 Mail Service Center
Raleigh, NC 27699-1548

Telephone Number: 919-733-3141 Fax Number: 919-715-1501

E-mail Address: _____

2. Agent/Consultant Information (A signed and dated copy of the Agent Authorization letter must be attached if the Agent has signatory authority for the owner/applicant.)

Name: N/A

Company Affiliation: _____

Mailing Address: _____

Telephone Number: _____ Fax Number: _____

E-mail Address: _____

III. Project Information

Attach a **vicinity map** clearly showing the location of the property with respect to local landmarks such as towns, rivers, and roads. Also provide a detailed **site plan** showing property boundaries and development plans in relation to surrounding properties. Both the vicinity map and site plan must include a scale and north arrow. The specific footprints of all buildings, impervious surfaces, or other facilities must be included. If possible, the maps and plans should include the appropriate USGS Topographic Quad Map and NRCS Soil Survey with the property boundaries outlined. Plan drawings, or other maps may be included at the applicant's discretion, so long as the property is clearly defined. For administrative and distribution purposes, the USACE requires information to be submitted on sheets no larger than 11 by 17-inch format; however, DWQ may accept paperwork of any size. DWQ prefers full-size construction drawings rather than a sequential sheet version of the full-size plans. If full-size plans are reduced to a small scale such that the final version is illegible, the applicant will be informed that the project has been placed on hold until decipherable maps are provided.

1. Name of project: Back Creek Site Mitigation Project
2. T.I.P. Project Number or State Project Number (NCDOT Only): R-967CA
3. Property Identification Number (Tax PIN): _____
4. Location
County: Mecklenburg Nearest Town: Charlotte, NC
Subdivision name (include phase/lot number): _____
Directions to site (include road numbers, landmarks, etc.): Hwy 49 North from Charlotte, right on Back Creek Church Road, site is approximately one mile on left
5. Site coordinates, if available (UTM or Lat/Long): _____
(Note – If project is linear, such as a road or utility line, attach a sheet that separately lists the coordinates for each crossing of a distinct waterbody.)
6. Property size (acres): approximately 17.5 acres (conservation easement)
7. Nearest body of water (stream/river/sound/ocean/lake): Back Creek
8. River Basin: Yadkin River Basin, HUC# 03040105
(Note – this must be one of North Carolina's seventeen designated major river basins. The River Basin map is available at <http://h2o.enr.state.nc.us/admin/maps/>.)
9. Describe the existing conditions on the site and general land use in the vicinity of the project at the time of this application: Project site is located in a rapidly developing region of Mecklenburg County. The watershed draining to the project site is highly urbanized, characterized by high-density residential development, commercial and industrial complexes. The site is bounded on the north and partially on the south by residential development, on the east by Back Creek Church Road, and on the west by the new construction of I-485. Most of the stream channels onsite are straightened and degraded with little or no riparian buffer.

10. Describe the overall project in detail, including the type of equipment to be used: The project consists of restoring Back Creek and two unnamed tributaries within the site boundaries to a natural stream channel form, creating a bankfull bench as needed, replanting the riparian buffer, and placing a conservation easement on site (see restoration design figure). The types of equipment to be used include a trackhoe excavator, loader, dump truck, and hand labor.
11. Explain the purpose of the proposed work: This is a Priority 1 and 2(Rosgen) stream restoration project that provides mitigation credits for unavoidable off-site impacts. The proposed stream channel restoration will stabilize the stream, provide for a forested riparian buffer, increase habitat value, and reduce bank erosion and sediment pollution from the project area.

IV. Prior Project History

If jurisdictional determinations and/or permits have been requested and/or obtained for this project (including all prior phases of the same subdivision) in the past, please explain. Include the USACE Action ID Number, DWQ Project Number, application date, and date permits and certifications were issued or withdrawn. Provide photocopies of previously issued permits, certifications or other useful information. Describe previously approved wetland, stream and buffer impacts, along with associated mitigation (where applicable). If this is a NCDOT project, list and describe permits issued for prior segments of the same T.I.P. project, along with construction schedules.

The wetland delineation was accepted by USACE rep Steve Lund and the Notification of Jurisdictional Determination was issued by the USACE Wilmington District on June 16, 2003. The site contains 3.95 acres of jurisdictional wetland and hydric soils.

V. Future Project Plans

Are any future permit requests anticipated for this project? If so, describe the anticipated work, and provide justification for the exclusion of this work from the current application.

No.

VI. Proposed Impacts to Waters of the United States/Waters of the State

It is the applicant's (or agent's) responsibility to determine, delineate and map all impacts to wetlands, open water, and stream channels associated with the project. The applicant must also provide justification for these impacts in Section VII below. All proposed impacts, permanent and temporary, must be listed herein, and must be clearly identifiable on an accompanying site plan. All wetlands and waters, and all streams (intermittent and perennial) must be shown on a

delineation map, whether or not impacts are proposed to these systems. Wetland and stream evaluation and delineation forms should be included as appropriate. Photographs may be included at the applicant's discretion. If this proposed impact is strictly for wetland or stream mitigation, list and describe the impact in Section VIII below. If additional space is needed for listing or description, please attach a separate sheet.

Provide a written description of the proposed impacts: This Priority 1 and 2 stream restoration project impacts a total of 4,045 linear feet of existing stream channel. The project requires installing a temporary pump-around system, excavating a new meandering channel for the project reaches, excavating a floodplain, stabilizing the banks, installing structures, and filling the existing channels. Length of stream channel will be increased to 4,135.5 feet under the proposed project.

1. Individually list wetland impacts below:

| Wetland Impact Site Number (indicate on map) | Type of Impact* | Area of Impact (acres) | Located within 100-year Floodplain** (yes/no) | Distance to Nearest Stream (linear feet) | Type of Wetland*** |
|--|-----------------|------------------------|---|--|--------------------|
| none | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |

- * List each impact separately and identify temporary impacts. Impacts include, but are not limited to: mechanized clearing, grading, fill, excavation, flooding, ditching/drainage, etc. For dams, separately list impacts due to both structure and flooding.
- ** 100-Year floodplains are identified through the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM), or FEMA-approved local floodplain maps. Maps are available through the FEMA Map Service Center at 1-800-358-9616, or online at <http://www.fema.gov>.
- *** List a wetland type that best describes wetland to be impacted (e.g., freshwater/saltwater marsh, forested wetland, beaver pond, Carolina Bay, bog, etc.) Indicate if wetland is isolated (determination of isolation to be made by USACE only).

List the total acreage (estimated) of all existing wetlands on the property: 3.51 acres
 Total area of wetland impact proposed: The proposed plan will restore 0.44 acres of wetland, enhance 3.51 acres of wetland, and create 0.42 acres of wetland.

2. Individually list all intermittent and perennial stream impacts below:

| Stream Impact | Type of Impact* | Length of Impact (linear feet) | Stream Name** | Average Width of Stream Before Impact | Perennial or Intermittent? (please specify) |
|---------------|------------------|--------------------------------|-------------------|---------------------------------------|---|
| Back Creek | Filled/Relocated | 3332 | Back Creek | 23.6 | Perennial |
| Southern Trib | Filled/Relocated | 359 | Unnamed Tributary | 6.9 | Perennial |
| Northern Trib | Filled/Relocated | 354 | Unnamed Tributary | 5.5 | Perennial |
| | | | | | |
| | | | | | |

- * List each impact separately and identify temporary impacts. Impacts include, but are not limited to: culverts and associated rip-rap, dams (separately list impacts due to both structure and flooding), relocation (include linear feet before and after, and net loss/gain),

stabilization activities (cement wall, rip-rap, crib wall, gabions, etc.), excavation, ditching/straightening, etc. If stream relocation is proposed, plans and profiles showing the linear footprint for both the original and relocated streams must be included.

** Stream names can be found on USGS topographic maps. If a stream has no name, list as UT (unnamed tributary) to the nearest downstream named stream into which it flows. USGS maps are available through the USGS at 1-800-358-9616, or online at www.usgs.gov. Several internet sites also allow direct download and printing of USGS maps (e.g., www.topozone.com, www.mapquest.com, etc.).

Cumulative impacts (linear distance in feet) to all streams on site: 4,045 feet

3. Individually list all open water impacts (including lakes, ponds, estuaries, sounds, Atlantic Ocean and any other water of the U.S.) below:

| Open Water Impact Site Number (indicate on map) | Type of Impact* | Area of Impact (acres) | Name of Waterbody (if applicable) | Type of Waterbody (lake, pond, estuary, sound, bay, ocean, etc.) |
|---|-----------------|------------------------|-----------------------------------|--|
| none | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

* List each impact separately and identify temporary impacts. Impacts include, but are not limited to: fill, excavation, dredging, flooding, drainage, bulkheads, etc.

4. Pond Creation

If construction of a pond is proposed, associated wetland and stream impacts should be included above in the wetland and stream impact sections. Also, the proposed pond should be described here and illustrated on any maps included with this application.

Pond to be created in (check all that apply): uplands stream wetlands
 Describe the method of construction (e.g., dam/embankment, excavation, installation of draw-down valve or spillway, etc.): _____

Proposed use or purpose of pond (e.g., livestock watering, irrigation, aesthetic, trout pond, local stormwater requirement, etc.): _____

Size of watershed draining to pond: _____ Expected pond surface area: _____

VII. Impact Justification (Avoidance and Minimization)

Specifically describe measures taken to avoid the proposed impacts. It may be useful to provide information related to site constraints such as topography, building ordinances, accessibility, and financial viability of the project. The applicant may attach drawings of alternative, lower-impact site layouts, and explain why these design options were not feasible. Also discuss how impacts were minimized once the desired site plan was developed. If applicable, discuss construction techniques to be followed during construction to reduce impacts.

This is a Priority 1 and 2 stream restoration project that provides mitigation credits for unavoidable off-site impacts. The site will impact 4,045 feet of channel while restoring 4,135.5 feet of channel, replanting 17.5 acres of buffer, enhancing 3.51 acres of wetland, restoring 0.44 acres of wetland, and creating 0.42 acres of wetland, all of which will be protected under a perpetual conservation easement.

VIII. Mitigation

DWQ - In accordance with 15A NCAC 2H .0500, mitigation may be required by the NC Division of Water Quality for projects involving greater than or equal to one acre of impacts to freshwater wetlands or greater than or equal to 150 linear feet of total impacts to perennial streams.

USACE - In accordance with the Final Notice of Issuance and Modification of Nationwide Permits, published in the Federal Register on March 9, 2000, mitigation will be required when necessary to ensure that adverse effects to the aquatic environment are minimal. Factors including size and type of proposed impact and function and relative value of the impacted aquatic resource will be considered in determining acceptability of appropriate and practicable mitigation as proposed. Examples of mitigation that may be appropriate and practicable include, but are not limited to: reducing the size of the project; establishing and maintaining wetland and/or upland vegetated buffers to protect open waters such as streams; and replacing losses of aquatic resource functions and values by creating, restoring, enhancing, or preserving similar functions and values, preferable in the same watershed.

If mitigation is required for this project, a copy of the mitigation plan must be attached in order for USACE or DWQ to consider the application complete for processing. Any application lacking a required mitigation plan or NCWRP concurrence shall be placed on hold as incomplete. An applicant may also choose to review the current guidelines for stream restoration in DWQ's Draft Technical Guide for Stream Work in North Carolina, available at <http://h2o.enr.state.nc.us/ncwetlands/strmgide.html>.

1. Provide a brief description of the proposed mitigation plan. The description should provide as much information as possible, including, but not limited to: site location (attach directions and/or map, if offsite), affected stream and river basin, type and amount (acreage/linear feet) of mitigation proposed (restoration, enhancement, creation, or preservation), a plan view, preservation mechanism (e.g., deed restrictions, conservation easement, etc.), and a description of the current site conditions and proposed method of construction. Please attach a separate sheet if more space is needed.

Site location, affected streams, river basin, and site conditions are described in Section III. This stream restoration project provides a total of length of 4135.5 feet of restored stream channel. The project will be preserved within a conservation easement. The project requires a temporary pump-around system, excavating new meandering channels, stabilizing the banks, installing structures, and filling some portions of the existing channels. The proposed design is shown on the restoration design figure.

2. Mitigation may also be made by payment into the North Carolina Wetlands Restoration Program (NCWRP). Please note it is the applicant's responsibility to contact the NCWRP at (919) 733-5208 to determine availability and to request written approval of mitigation prior to submittal of a PCN. For additional information regarding the application process for the NCWRP, check the NCWRP website at <http://h2o.enr.state.nc.us/wrp/index.htm>. If use of

| Zone* | Impact (square feet) | Multiplier | Required Mitigation |
|-------|----------------------|------------|---------------------|
| 1 | | 3 | |
| 2 | | 1.5 | |
| Total | | | |

* Zone 1 extends out 30 feet perpendicular from near bank of channel; Zone 2 extends an additional 20 feet from the edge of Zone 1.

If buffer mitigation is required, please discuss what type of mitigation is proposed (i.e., Donation of Property, Conservation Easement, Riparian Buffer Restoration / Enhancement, Preservation or Payment into the Riparian Buffer Restoration Fund). Please attach all appropriate information as identified within 15A NCAC 2B .0242 or .0260.

XI. Stormwater (required by DWQ)

Describe impervious acreage (both existing and proposed) versus total acreage on the site. Discuss stormwater controls proposed in order to protect surface waters and wetlands downstream from the property.

There will be no change in impervious acreage.

XII. Sewage Disposal (required by DWQ)

Clearly detail the ultimate treatment methods and disposition (non-discharge or discharge) of wastewater generated from the proposed project, or available capacity of the subject facility.

None

XIII. Violations (required by DWQ)

Is this site in violation of DWQ Wetland Rules (15A NCAC 2H .0500) or any Buffer Rules?

Yes No

Is this an after-the-fact permit application?

Yes No

XIV. Other Circumstances (Optional):

It is the applicant's responsibility to submit the application sufficiently in advance of desired construction dates to allow processing time for these permits. However, an applicant may choose to list constraints associated with construction or sequencing that may impose limits on work schedules (e.g., draw-down schedules for lakes, dates associated with Endangered and Threatened Species, accessibility problems, or other issues outside of the applicant's control).

R. J. Smith

Applicant/Agent's Signature

3/24/04

Date

(Agent's signature is valid only if an authorization letter from the applicant is provided.)