Monitoring Data Record

Project Title: R-210C (Sites 4 and 5) COE Action ID: 1993-0-0570
Stream Name: unnamed tributary to the Little Crane Creek DWQ Number: 010404
City, County and other Location Information: Intersection of Service Rd. and Oak Leaf Rd. off of US 1 (Vass Bypass) in Lee County (Sta. 22+00 to Sta. 24+80)
Date Construction Completed: March 2004 Monitoring Year: (1) of 5 (Restart)
Ecoregion: 8 digit HUC unit 03030004
USGS Quad Name and Coordinates:
Rosgen Classification:
Length of Project: 980' Urban or Rural: Rural Watershed Size:
Monitoring DATA collected by: M. Green, J.Young Date: 6/4/08
Applicant Information:
Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Rd. Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@dot.state.nc.us
Consultant Information
Name:
Address:
Telephone Number: Email address:
Project Status: Complete

Monitoring Level required by COE and DWQ (404 permit/ 401 Cert.): Level 1 ~~2~~ ~~3~~
Monitoring Level 1 requires completion of *Section 1, Section 2 and Section 3*

Permit Conditions: : The permittee shall monitor the stream relocation site for a period of five years starting the year following construction. Monitoring data at the site should include the following: reference photos, plant survival, and channel stability. Data shall be collected each year for 5 years at the same time of year. No less than two bankfull events must be documented through the required 5-year monitoring period. If less than two bankfull events occur during the first 5 years, monitoring will continue until the second bankfull event is documented. The bankfull events must occur during separate monitoring years.

Section 1. PHOTO REFERENCE SITES
(Monitoring at all levels must complete this section)

Total number of reference photo locations at this site: 8 reference points, 2 photos at each

Dates reference photos have been taken at this site: 6/7/05, 6/22/06, 6/19/07, 6/4/08

Individual from whom additional photos can be obtained (name, address, phone):
Other Information relative to site photo reference: A site map is included with this report showing the photo point locations.

If required to complete Level 3 monitoring only stop here; otherwise, complete section 2.

Section 2. PLANT SURVIVAL
Attach plan sheet indicating reference photos.

Identify specific problem areas (missing, stressed, damaged or dead plantings):

Estimated causes, and proposed/required remedial action:

ADDITIONAL COMMENTS: UT Little Crane Creek was replanted in February 2006 due to low survival rates from the initial planting. The areas where riprap was removed from the site was replanted in March 2008. The streambanks were live staked with silky dogwood live stakes. The floodplain was replanted with river birch, swamp chestnut oak, and willow oak. Other vegetation noted onsite consisted of black willow, tulip poplar, sweetgum, woolgrass, fennel, goldenrod, *Juncus* sp., pine, lespedeza, *Pluchea* sp., sedge, cattail, wax myrtle, oak, gum, and various grasses. Stem counts were conducted onsite. After the replanting took place it was determined that 680 trees per acre are surviving for Year 1 as seen in the table below.

If required to complete Level 1 and Level 2 monitoring only stop here; otherwise, complete section 3.

Plot #	River Birch	Swamp Chestnut Oak	Willow Oak	Total (1 year)	Total (at planting)	Density (Trees/Acre)
1	12	22	6	40	40	680
Average Density (Trees/Acre)						680

Section 3. CHANNEL STABILITY

Visual Inspection: The entire stream project as well as each in-stream structure and bank stabilization/revetment structure must be evaluated and problems addressed.

Report on the visual inspection of channel stability. Physical measurements of channel stability/morphology will not be required. Include a discussion of any deviations from as-built and an evaluation of the significance of these deviations and whether they are indicative of a stabilizing or destabilizing situation.

In order for NCDOT to be in compliance with the 404 permit the monitoring sequence for UT Little Crane Creek was restarted at Year 1 in June of 2008. This was due to the permit violation where riprap was placed in two areas along the stream relocation. The riprap has since been removed and these areas have been replanted. Overall, the stream is stabilized for the Year 1 monitoring evaluation with herbaceous and woody vegetation. The two headcuts noted below have been recorded before on past evaluations. This stream relocation will continue to be monitored to see if remedial action needs to take place.

6/4/08	Sta. 22+80 -Y14-	Sta. 23+60 -Y14-	Station Number	Station Number	Station Number
Structure Type	Log Vane				
Is water piping through or around structure?	Water is piping under log vane				
Head cut or down cut present?	Headcut	Headcut			
Bank or scour erosion present?					
Other problems noted?					

NOTE: Attach separate narrative sheets to each monitoring report describing/discussing the overall monitoring results. Include the identification of specific problem areas/channel failures, estimated cause and proposed/required remedial action. This should include a brief discussion of any parameter that has changed significantly from as-built.

UT Little Crane Creek

Photo 1 taken from PP#1 looking upstream

Photo 2 taken from PP#1 looking downstream

Photo 3 taken from PP#2 looking upstream

Photo 4 taken from PP#2 looking downstream

Photo 5 taken from PP#3 looking upstream

Photo 6 taken from PP#3 looking downstream

Year 1 Restart – June 2008

UT Little Crane Creek

Photo 7 taken from PP#4 looking upstream

Photo 8 taken from PP#4 looking downstream

Photo 9 taken from PP#5 looking upstream

Photo 10 taken from PP#5 looking downstream

Photo 11 taken from PP#6 looking upstream

Photo 12 taken from PP#6 looking downstream

Year 1 Restart – June 2008

UT Little Crane Creek

Photo 13 taken from PP#7 looking upstream

Photo 14 taken from PP#7 looking downstream

Photo 15 taken from PP#8 looking upstream

Photo 16 taken from PP#8 looking downstream

Headcut b/t PP #5 and #6 @ Station 22+80-Y14-

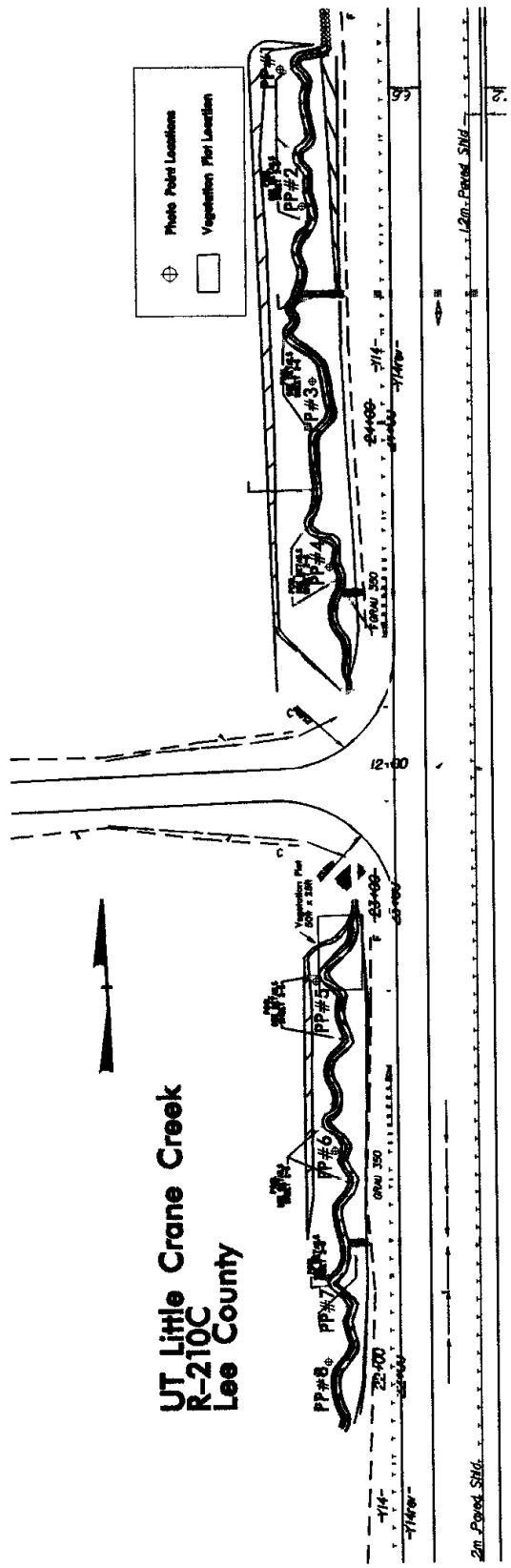
Removed Riprap Area @ Site 4

Year 1 Restart – June 2008

UT Little Crane Creek

Removed Riprap Area @ Site 5

Year 1 Restart – June 2008


UT Little Crane Creek
R-210C
Lee County
Photo Point Locations
Vegetation Plot Location
PP#1
PP#2
PP#3
PP#4
PP#5
PP#6
PP#7
PP#8
GRAU 350
12+00
22+00
2m Paved Shld.
1.2m Paved Shld.