Monitoring Data Record

Project Title: R-2214A COE Action ID: 200330312
Stream Name: Mud Creek Tributary (Site 3) DWQ Number: 011715
City, County and other Location Information: Intersection of US 25 and Industrial Park Rd. in Hendersonville, NC
Date Construction Completed: March 2005 Monitoring Year: (5) of 5
Ecoregion: 8 digit HUC unit: 06010105
USGS Quad Name and Coordinates:
Rosgen Classification:
Length of Project: 464' Urban or Rural: Rural Watershed Size:
Monitoring DATA collected by: M. Green and J. Young Date: 8/10/09
Applicant Information:
Name: NCDOT Roadside Environmental Unit
Address: 1425 Rock Quarry Rd. Raleigh, NC 27610
Telephone Number: (919) 861-3772 Email address: mlgreen@ncdot.gov
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 States: NCDOT shall perform the following components of Level I monitoring twice each year for the 5 year monitoring period (summer and winter): Reference photos, plant survival, and visual inspection of channel stability. If less than two bankfull events occur during the first 5 years, NCDOT shall continue monitoring until the second bankfull event is documented. The bankfull events must occur during separate monitoring years. In the event that the required bankfull events do not occur during the 5 year monitoring period, the USACE, in consultation with resource agencies, may determine that further monitoring is not required.

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

Total number of reference photo locations at this site: 4 reference points - 2 photos at each 2 overview photos taken of site
Dates reference photos have been taken at this site: 4/25/05, 3/20/06, 10/18/06, 2/27/07, 9/11/07, 2/12/08, 8/14/08, 3/5/09, 8/10/09

Individual from whom additional photos can be obtained (name, address, phone):

Other Information relative to site photo reference: A site map with photo point locations is attached with this report.

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):
DWQ requested that NCDOT treat the Japanese Knotweed that was located onsite.

Estimated causes, and proposed/required remedial action: NCDOT has started treating the Japanese Knotweed and will continue to monitor the Japanese Knotweed to see if further applications will be needed.

ADDITIONAL COMMENTS: Bareroot seedlings noted on the streambank and in the floodplain consisted of black willow, silky dogwood, river birch, black cherry, white oak, white pine, black walnut, sycamore, tag alder, and red maple. Herbaceous vegetation was also very thick along the streambank and in the floodplain and consisted of species such as *Juncus* sp., lespedeza, multi-flora rose, goldenrod, woolgrass, jewelweed, *Scirpus* sp., Japanese Knotweed, and various grasses.

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

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.

The stream is stabilized for the Year 5 Summer evaluation, except, for some bank scouring noted along the left bank @ Sta. 184+00. This area of bank scouring is where the small beaver dam was removed. Also, there is some bank scouring on the right bank behind a rootwad @ Sta. 184+50. A bankfull event occurred while we were onsite evaluating the stream relocation. NCDOT will continue to monitor this stream relocation.

Date Inspected 8/10/09	Station Number 184+00 Additional Photo	Station Number 184+50 Additional Photo	Station Number	Station Number	Station Number
Structure Type					
Is water piping through or around structure?					
Head cut or down cut present?					
Bank or scour erosion present?	Bank scouring noted on left bank	Bank scouring on right bank behind rootwad			
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.

Mud Creek Tributary

Photo 1 (Upstream)

Photo 2 (Downstream)

Photo 3 (Upstream)

Photo 4 (Downstream)

Photo 5 (Upstream)

Photo 6 (Downstream)

Year 5 Summer – August 2009

Mud Creek Tributary

Photo 7 (Upstream)

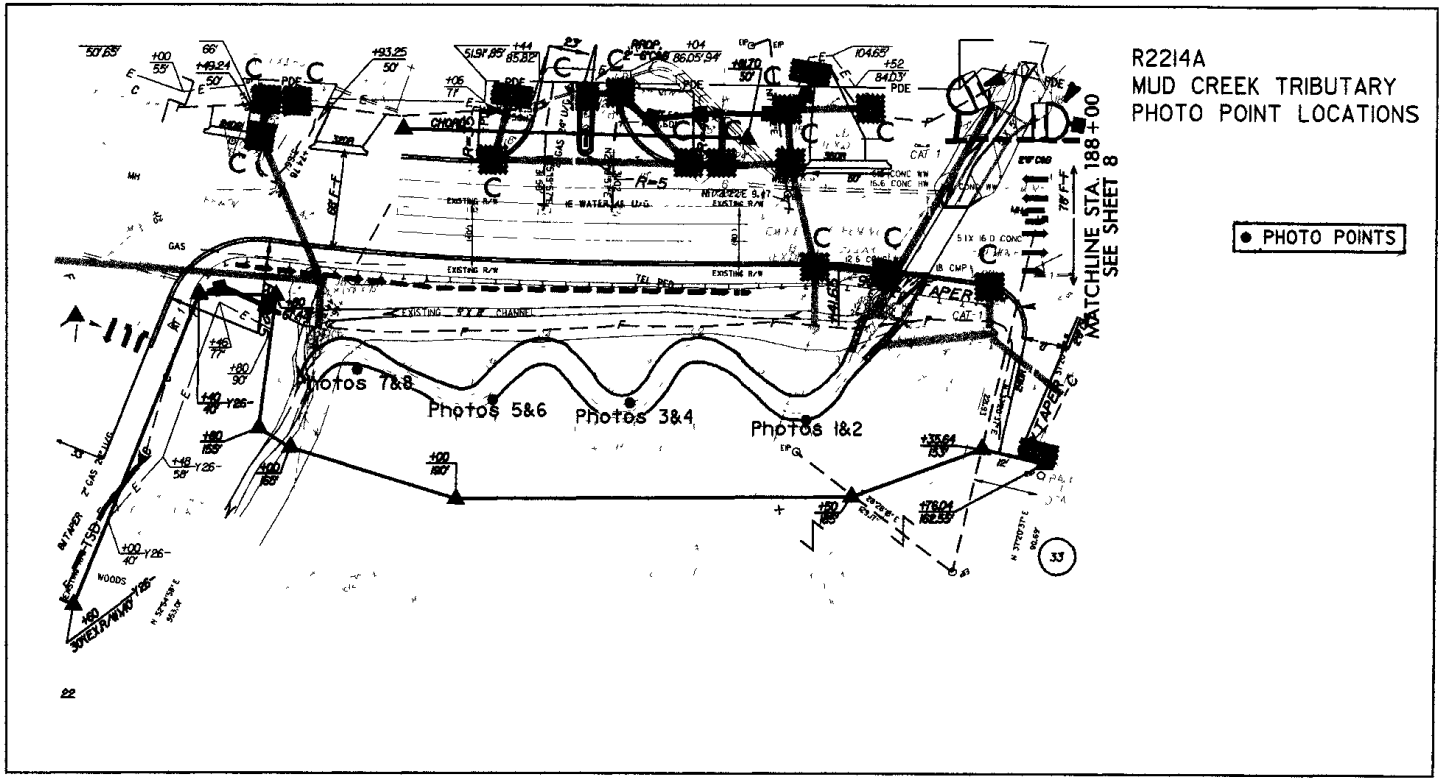
Photo 8 (Downstream)

Photo 9 (Overview looking upstream)

Photo 10 (Overview looking downstream)

Bank scouring on left bank @ Sta. 184+00

Bank scouring on right bank behind rootwad @ Sta. 184+50


R2214A
MUD CREEK TRIBUTARY
PHOTO POINT LOCATIONS
PHOTO POINTS
Photos 7&8
Photos 5&6
Photos 3&4
Photos 1&2
MATCHLINE STA. 188+00
SEE SHEET 8