Monitoring Data Record

Project Title: Cashiers (R-2224A) COE Action ID: 200230408
Stream Name: unnamed tributary to the Thorpe Reservoir DWQ Number: 000536
City, County and other Location Information: Sta. 136+00LT on NC 107 N of Cashiers
Date Construction Completed: December 2003 Monitoring Year: (6) of 5
Ecoregion: _____ 8 digit HUC unit 06010203
USGS Quad Name and Coordinates: _____
Rosgen Classification: _____
Length of Project: 948' Urban or Rural: Urban Watershed Size: _____
Monitoring DATA collected by: M. Green and J. Young Date: 8/11/09
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

Dates reference photos have been taken at this site: 5/20/04, 1/05/05, 5/31/05, 10/18/06, 2/27/07, 9/11/07, 2/12/08, 8/14/08, 3/5/09, 8/11/09

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 to 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):

Estimated causes, and proposed/required remedial action:

ADDITIONAL COMMENTS: Vegetation noted on site included willow oak, alder, scarlet oak, white oak, birch, black willow, dogwood, rhododendron, tulip poplar, northern red oak, white pine, chestnut oak, sycamore, green ash, red maple, woolgrass, lespedeza, *Juncus* sp., jewelweed, goldenrod, and various grasses. The supplemental plantings and transplants that the division forces have planted on site have helped to greatly improve the vegetation coverage. Due to the rocky soil conditions it has been a challenge getting planted vegetation established. The planted vegetation is established along the streambank and within the buffer areas. NCDOT proposes to discontinue vegetation monitoring at the Cashiers Stream Site (UT to the Thorpe Reservoir).

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 relocation is stabilized for the Year 6 Summer evaluation. The streambanks are stabilized with woody and herbaceous vegetation. One bankfull event during the 2005 evaluation was visually noted at this stream relocation over the monitoring period. NCDOT proposes to discontinue channel stability monitoring at the Cashiers Stream Site (UT to the Thorpe Reservoir).

Date Inspected	Station Number	Station Number	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?					
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.

Cashiers Stream

Photo 1 (Upstream)

Photo 2 (Downstream)

Photo 3 (Upstream)

Photo 4 (Downstream)

Photo 5 (Upstream)
Year 6 – August 2009

Photo 6 (Downstream)

Cashiers Stream

Photo 7 (Upstream)

Photo 8 (Downstream)

Buffer overview looking upstream from Photos 1 & 2

Buffer overview looking downstream from Photos 1 & 2

Buffer overview looking upstream from Photos 3 & 4

Buffer overview looking upstream from Photos 5 & 6

Year 6 Summer – August 2009

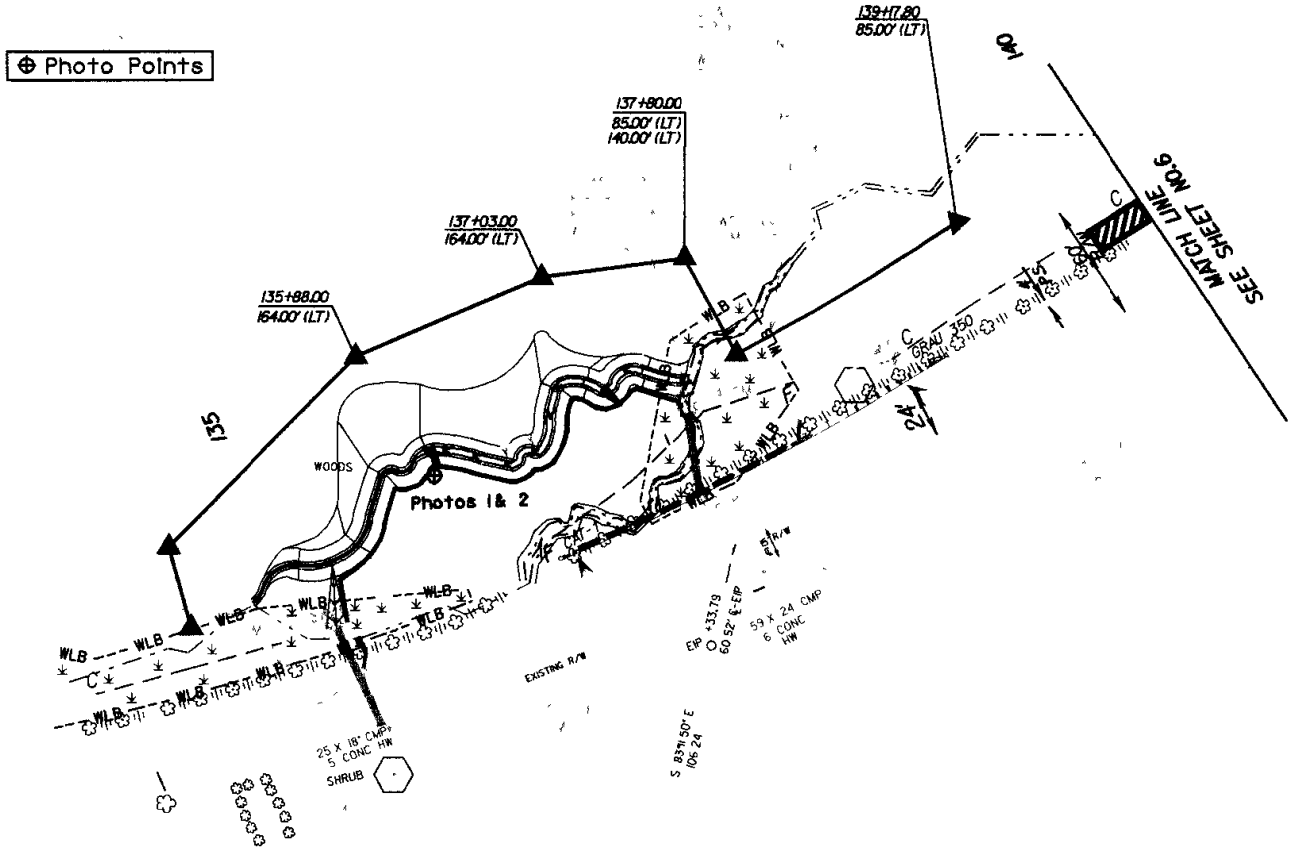
Cashiers Stream

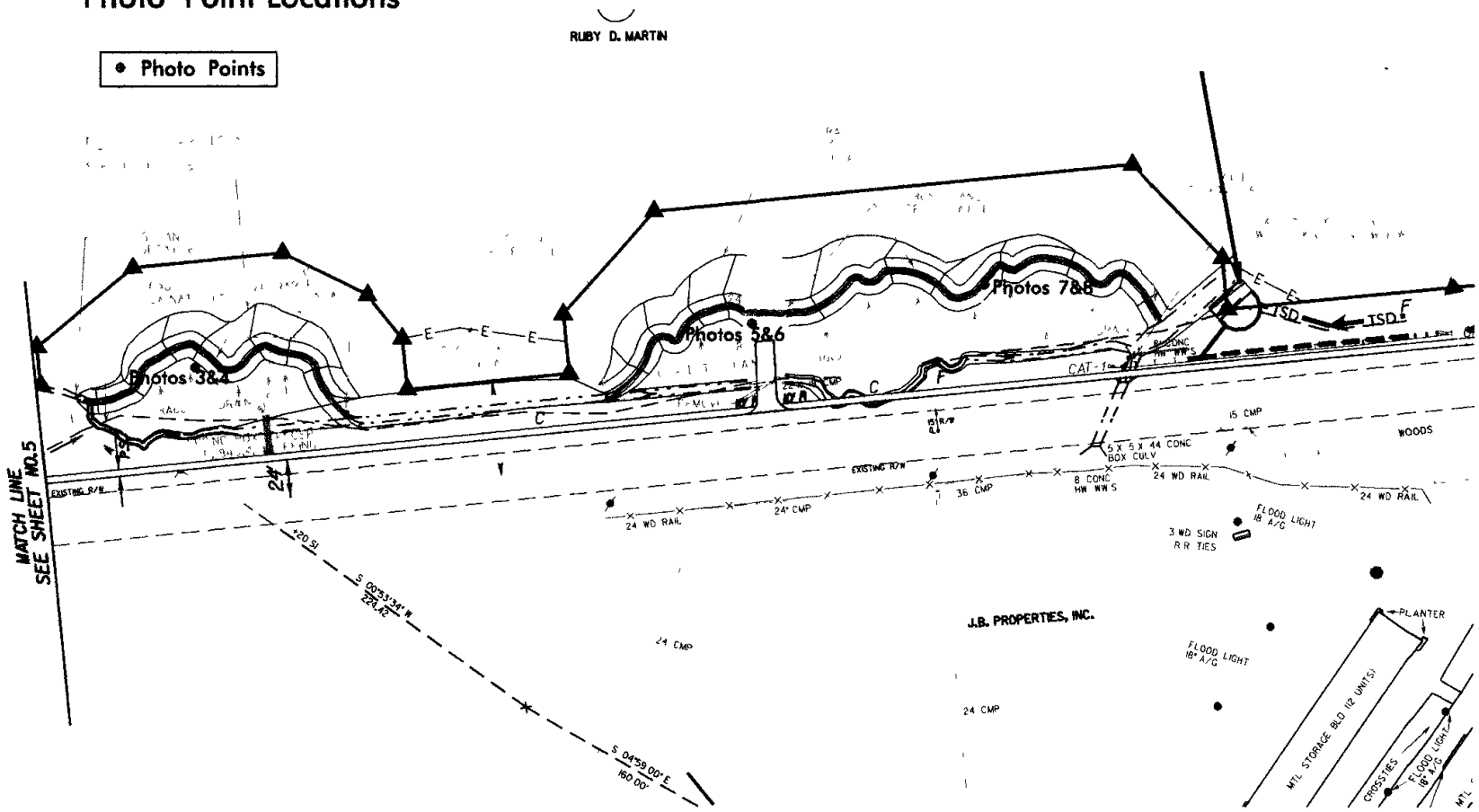
Buffer overview downstream from Photos 5 & 6

Buffer overview looking downstream from Photos 7 & 8

Year 6 Summer – August 2009

R-2224A
Cashier Stream
Photo Point Location



R–2224A Cashier Stream
Photo Point Locations

• Photo Points