

Channel Mitigation Monitoring Sheets I, II, III, AND IV  
Monitoring Data Record

Project Title: U-2579B COE Action ID: SAW-2008-03183  
Stream Name: UT to Fisher Branch – Permit Site 20 DWR Number: 2014-0090v2  
City, County and other Location Information: The mitigation site is located on the Winston-Salem Northern Beltway Eastern Section just south of Hastings Mill Rd.  
Date Construction Completed: Streambank reforestation completed on March 1, 2018  
Monitoring Year: ( 3 ) of 5  
Ecoregion: Southern Outer Piedmont 8 digit HUC unit 03040101  
USGS Quad Name and Coordinates: Winston-Salem East 36.100238°, -80.135216°

**Rosgen Classification:** \_\_\_\_\_

Length of Project: 490 linear feet  
Urban or Rural: Rural Watershed Size: 0.14 sq. miles  
Monitoring DATA collected by: M. Green and M. Ingram  
Date: 8-25-20

**Applicant Information:**

Name: NCDOT Roadside Environmental Unit  
Address: 1425 Rock Quarry Road Raleigh, NC 27610  
Telephone Number: (919) 615-6733 Email address: [mlgreen@ncdot.gov](mailto:mlgreen@ncdot.gov)

**Consultant Information:**

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_ Email address: \_\_\_\_\_

**Project Status:** Complete

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**Monitoring Level required by COE and DWR (404 permit/ 401 Cert.):** Level

**Mitigation Plan States**

**5.0 Performance Standards**

Success for vegetation monitoring within the riparian buffer areas are based on the survival of at least 260 stems of five-year-old trees at year five. Assessment of channel stability will be based on the survival of riparian vegetation and lack of bank erosion, channel widening or down-cutting.

**6.0 Monitoring Requirements**

All the mitigation sites will be monitored according to the April 2003 Stream Mitigation Guidelines. The following components of Level 1 monitoring will be performed each year of the 5-year monitoring period: reference photos, plant survival (i.e., identify specific problem areas (missing, stressed, damaged or dead plantings), estimated causes and proposed/required remedial action; visual inspection of channel stability. Physical measurements of channel stability/morphology will not be performed. A monitoring report will be submitted within 60 days after completing the monitoring.

Section 1. PHOTO REFERENCE SITES

*(Monitoring at all levels must complete this section)*

**Total number of reference photo locations at this site:** A total of 6 photos were taken from 3 photo point locations and 1 additional overview photo of the site.

**Dates reference photos have been taken at this site:** 8-14-18, 8-29-19, 8-25-20

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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.

Section 2. PLANT SURVIVAL

Attach plan sheet indicating reference photos.

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

**Planted vegetation is lacking upstream of PP#1 and also a small area within the left buffer at PP#3.**

Estimated causes, and proposed/required remedial action: **A supplemental planting is scheduled for these areas in the 2020-2021 planting window. See attached map of supplemental planting areas.**

ADDITIONAL COMMENTS: \_\_\_\_\_

March 2018: Streambank reforestation was completed

August 2018: Year 1 Monitoring noted Black Willow and Silky Dogwood live stakes were surviving along the streambank. The site has 680 trees per acre surviving for Year 1.

August 2019: Year 2 Monitoring noted Black Willow and Silky Dogwood live stakes were surviving along the streambank. The site has 680 trees per acre surviving for Year 2.

**August 2020: Year 3 monitoring noted planted vegetation survival was good, except for, the areas noted above. Vegetation Plot #1 had 663 trees per acre surviving for Year 3.**

**Other vegetation noted onsite included buttonbush, volunteer sycamore, jewelweed, cattail, sweetgum, *Sagittaria* sp., red maple, woolgrass, and various grasses.**

**NCDOT will continue to monitor the planted vegetation in 2021.**

**October 2020: Regulatory Agency review held onsite with NCDOT**

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

Plot #	Green Ash	Sycamore	Willow Oak	Water Oak	Total (Year 3)	Total (at planting)	Density (Trees/Acre)
1	8	28	2	1	39	40	663
<b>Year 3 Average Density (Trees/Acre)</b>							<b>663</b>
Year 2 Average Density (Trees/Acre)							680
Year 1 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.

The UT to Fisher Branch onsite stream mitigation site is stable for the Year 3 evaluation from just downstream of PP#1 to the inlet of the box culvert. There are portions of the stream from the beginning of the site to just downstream of PP#1 where the banks are eroding and sloughing off. Some sections of the channel have started to form a new bankfull bench and are stabilizing. A supplemental planting is schedule, as mentioned in Section 2 of this report for these areas where erosion is occurring and planted vegetation is lacking. NCDOT will continue to monitor channel stability at the UT to Fisher Branch Mitigation Site in 2021.

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?					
Bankfull event	Wrack line 8-14-18	Wrack line 8-25-20			

**Section 4. DEBIT LEDGER**

The entire UT to Fisher Branch stream mitigation site was used at a 1:1 ratio for the U-2579B project to compensate for unavoidable stream impacts.

# UT to Fisher Branch Mitigation Site



PP #1 Upstream



PP#1 Downstream



PP #2 Upstream



PP #2 Downstream



PP #3 Upstream



PP #3 Downstream

August 2020

# UT to Fisher Branch Mitigation Site



Bank erosion upstream of PP#1



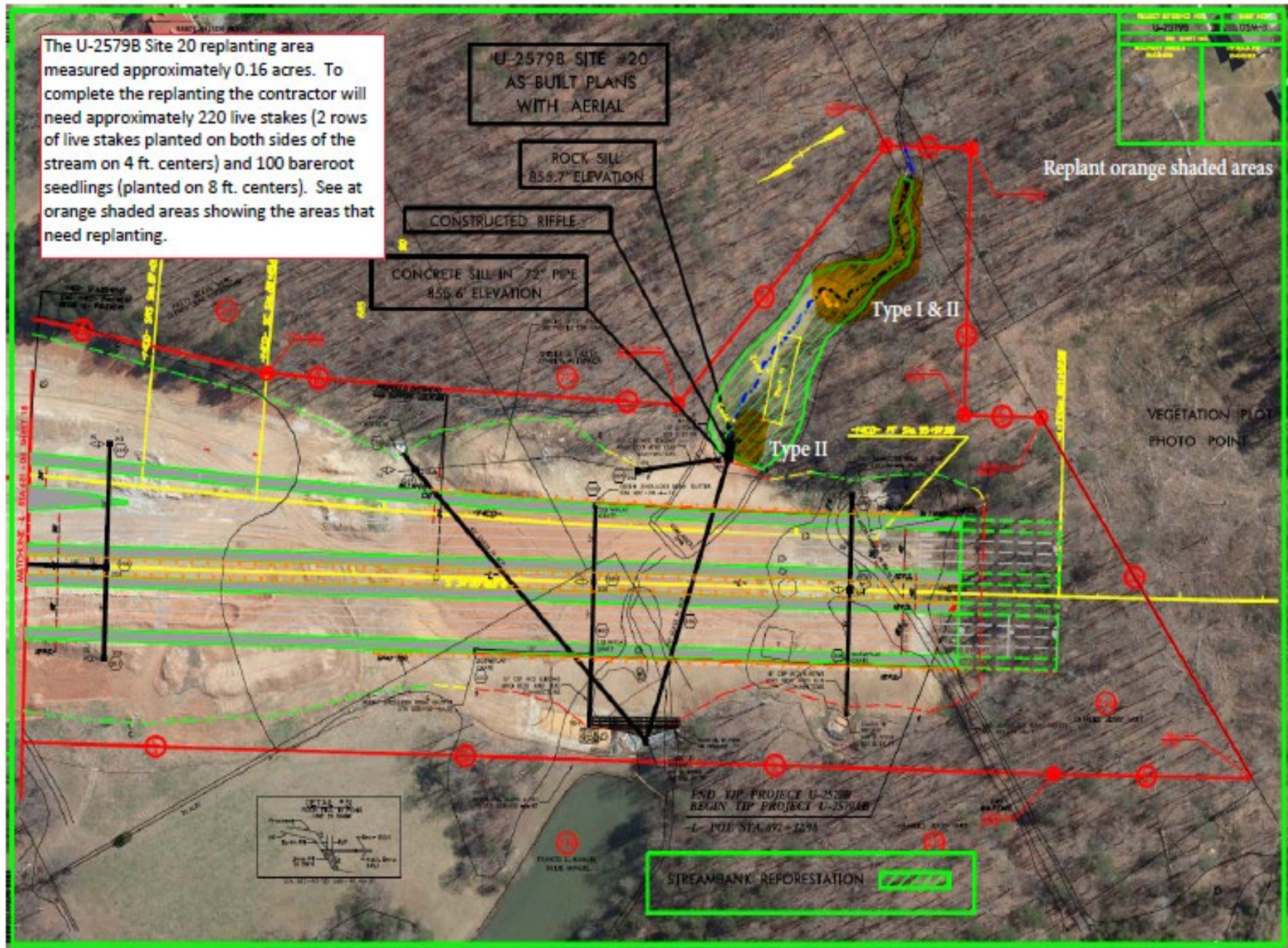
Bank erosion upstream of PP#1



Overview photo looking upstream from roadway project

August 2020





Supplemental Planting Map



