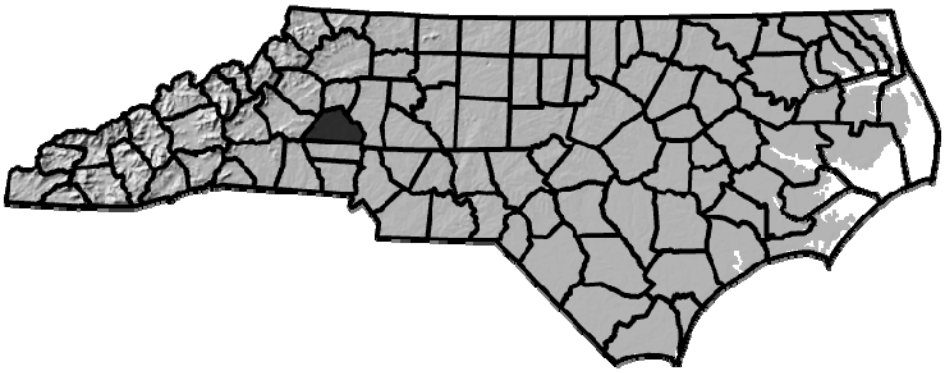
ANNUAL REPORT FOR 2025



UT to Smyre Creek Mitigation Site
Catawba County
TIP No. R-3100B
COE Action ID: SAW-2009-00902
NCDWR Project #: 20160982v.2

Prepared By:
Roadside Environmental Unit and Environmental Analysis Unit
North Carolina Department of Transportation
December 2025

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SUMMARY

The following report summarizes the stream monitoring activities that have occurred during the Year 2025 at the UT to Smyre Creek Mitigation Site in Catawba County. This report provides the monitoring results for the second formal year of monitoring (Year 2025). The Year 2025 monitoring period was the second of two scheduled years of monitoring on the UT to Smyre Creek Mitigation Site (See Success Criteria Section 2.1).

During the Year 2025 monitoring period, NCDOT completed herbicide applications for kudzu at the site twice. During the annual monitoring visit, a headcut and three beaver dams were noted along the channel. The herbicide applications at the site have visibly reduced the invasive species across the site.

NCDOT contacted USDA personnel to assist with beaver and dam removal at the site in October 2025. During a subsequent site visit in November, a second headcut was noted on the site. Due to concerns regarding channel stability, NCDOT proposes to conduct a site visit with the Regulatory and Division personnel to determine the best course of action at the site. This site visit will be completed early in 2026. Reforestation of the site will be completed once any channel repairs are made (if necessary) and kudzu is at a more manageable level. The monitoring cycle will restart once NCDOT has completed reforestation activities at the site.

1.0 INTRODUCTION

1.1 Project Description

The following report summarizes the stream monitoring activities that have occurred during the Year 2025 at the UT to Smyre Creek Mitigation Site. The site is located at the intersection of NC 16 and Coley Fish Pond Road in Catawba County at Sta. 44+00 to 47+50 –L- Lt. (Figure 1). The UT to Smyre Creek was constructed to provide mitigation for stream impacts associated with Transportation Improvement Program (TIP) number R-3100B in Catawba County.

The mitigation site provided approximately 335 linear feet of stream relocation. The relocation of the UT to Smyre Creek Mitigation Site involved relocating 335 feet of stream channel. A new floodplain and channel were excavated. The riparian buffer zone was also planted. Note the permit states that Roadside Environmental has placed plantings inside the 25' sewer easement. Those plantings are subject to the maintenance of the buffer, and may be mowed periodically, outside of NCDOT control.

1.2 Purpose

In order for a mitigation site to be considered successful, the site must meet the success criteria. This report details the monitoring in 2025 at the UT to Smyre Creek Mitigation Site.

1.3 Project History

February 2024	Streambank Reforestation Completed
September 2024	Stream Channel and Vegetation Monitoring (Year 1)
May 2025	Kudzu Herbicide Application
September 2025	Stream Channel and Vegetation Monitoring (Year 2)
September 2025	Kudzu Herbicide Application

1.4 Debit Ledger

The entire UT to Smyre Creek stream mitigation site was used for the R-3100B project to compensate for unavoidable stream impacts.

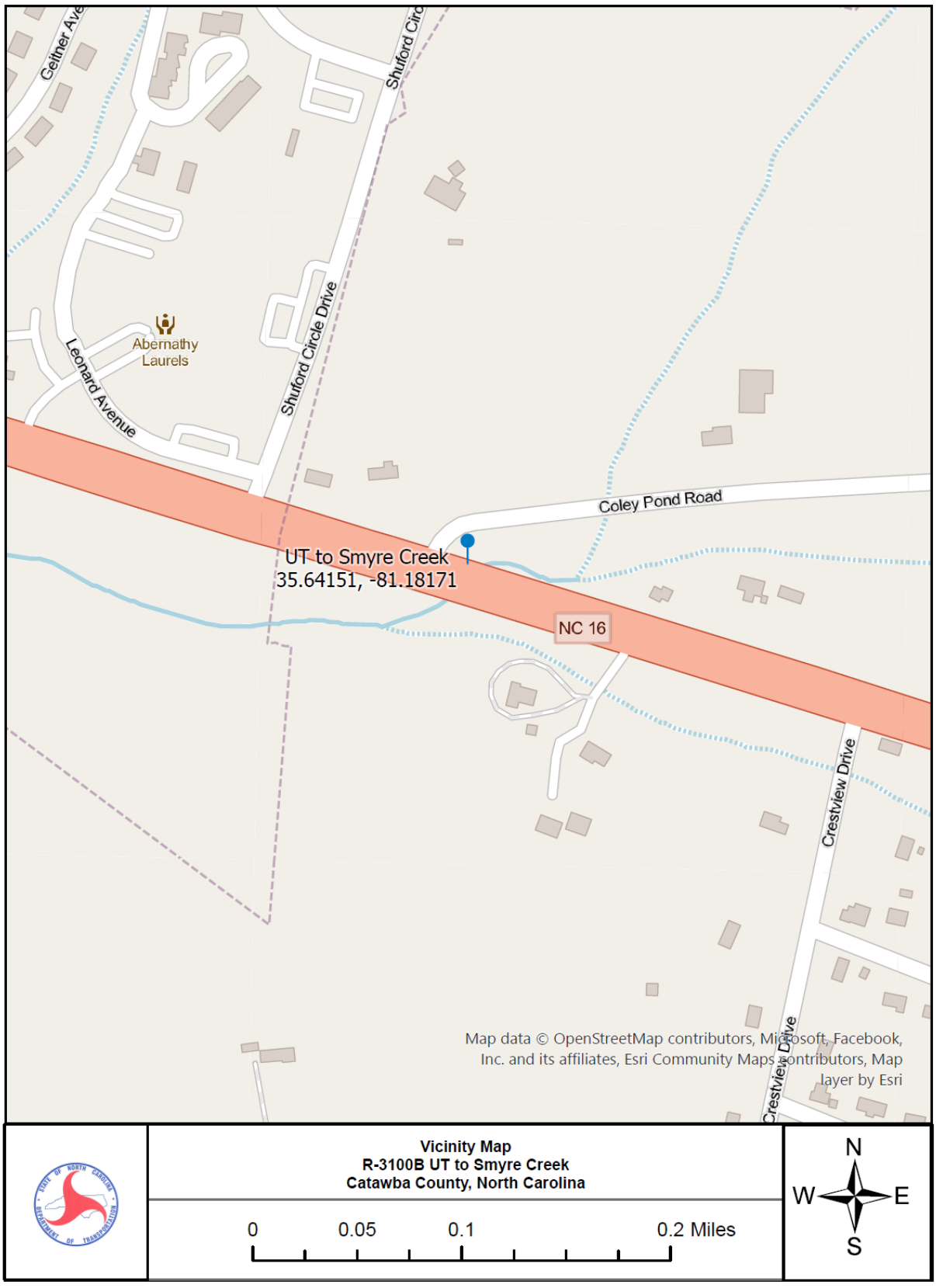

Figure 1. Vicinity Map

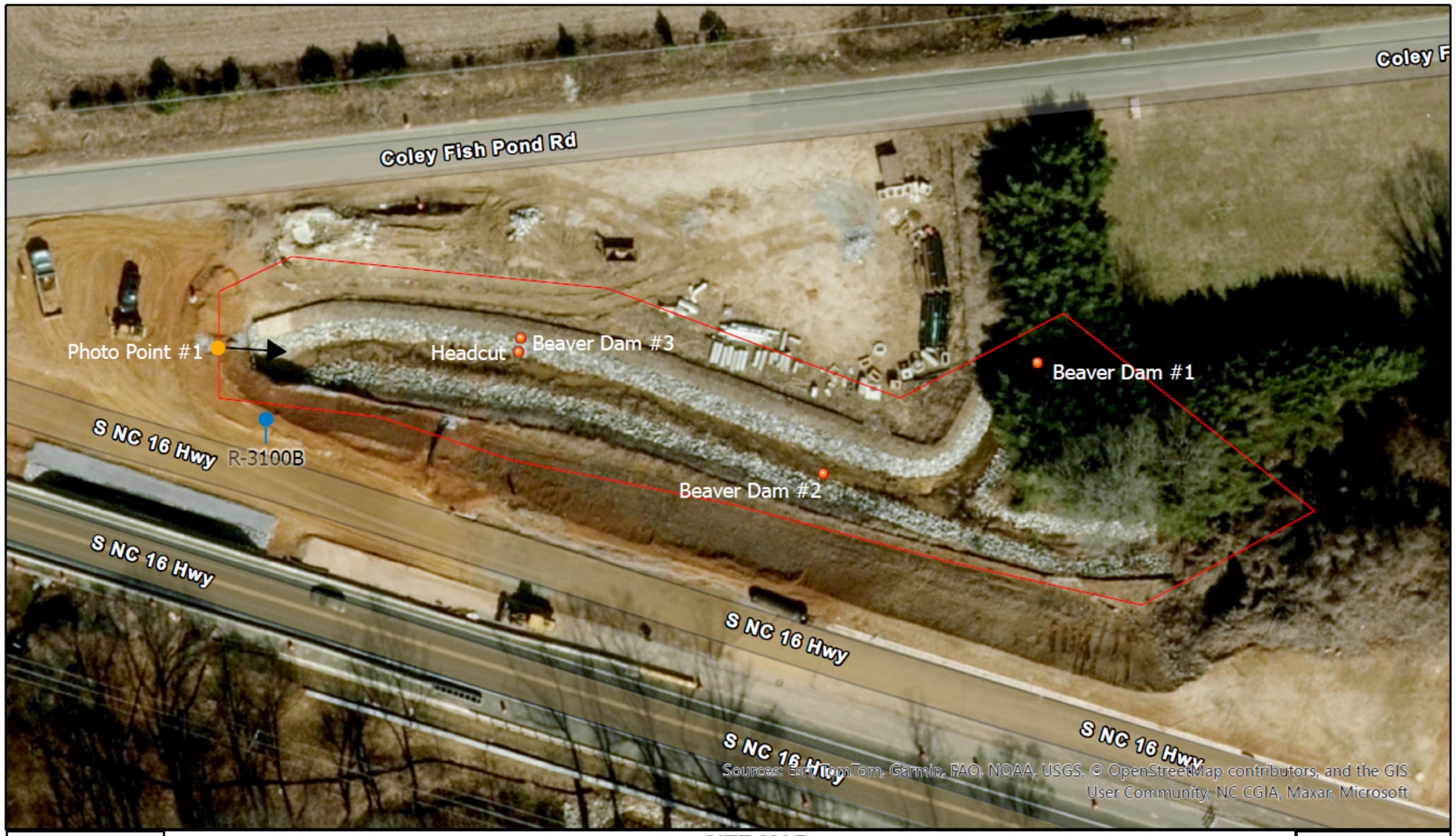

Figure 2. Site Map

PROJECT REFERENCE NO.	SHEET NO.
R-3100B	EC-20A/CONST.06
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

0.5 ACRE STREAMBANK REFORESTATION

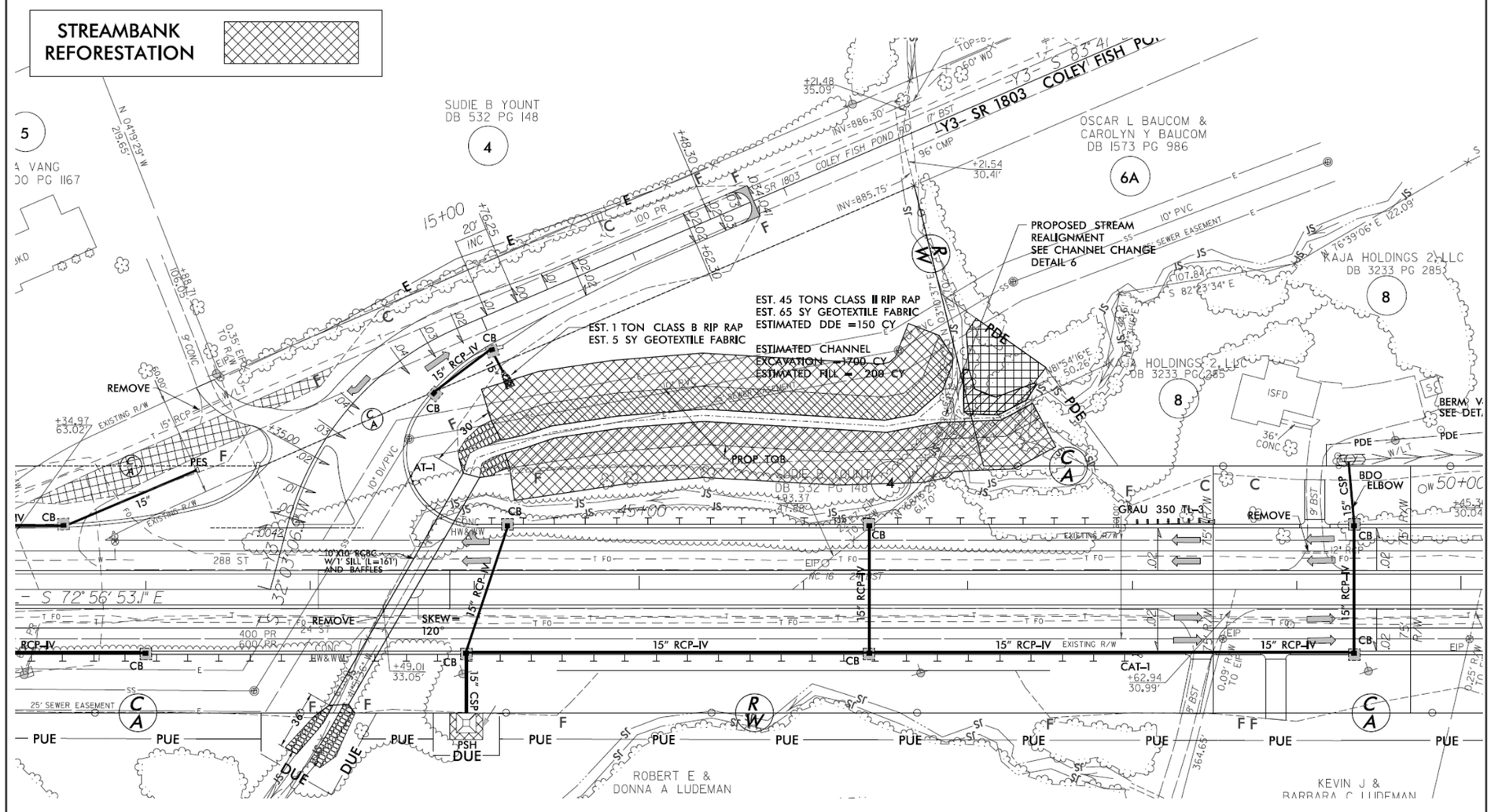

Figure 3. Streambank Reforestation

2.0 STREAM ASSESSMENT

2.1 Success Criteria

ACOE Condition #2.
The stream relocation associated with R-3100B Sites 2 & 2a shall be visually monitored with photo stations for at least two bankfull flow events occurring in separate calendar years to ensure channel stability post construction.

2.2 Stream Description

2.2.1 Post-Construction Conditions

The restoration of the UT to Smyre Creek Mitigation Site involved relocating 335 feet of UT to Smyre Creek. A new floodplain and channel were excavated and for stabilization purposes, riprap on geotextile fabric will line the banks. The riparian buffer zone was also planted. Note the permit states that Roadside Environmental has placed plantings inside the 25' sewer easement. Those plantings are subject to the maintenance of the buffer, and may be mowed periodically, outside of NCDOT control.

2.2.2 Monitoring Conditions

The objective of the UT to Smyre Creek stream restoration was to restore the stream to a more natural pattern with a vegetated woody buffer. A visual stream assessment will be conducted annually each year of the monitoring period.

2.3 Results of the Stream Assessment

2.3.1 Site Data

The visual assessment of the stream noted a headcut approximately 100 feet upstream of the culvert and three beaver dams were noted throughout the relocation. NCDOT contacted USDA personnel to assist with beaver and dam removal at the site in October 2025. During a subsequent site visit in November, a second headcut was noted on the site. Due to concerns regarding channel stability, NCDOT proposes to conduct a site visit with the Regulatory and Division personnel to determine the best course of action at the site. This site visit will be completed early in 2026.

NCDOT will continue to monitor the channel stability at UT to Smyre Creek in 2026.

3.0 VEGETATION: UT to SMYRE CREEK

3.1 Description of Species

The following tree species were planted on the streambank:

Salix nigra, Black Willow

Cornus amomum, Silky Dogwood

The following tree species were planted in the buffer area:

Platanus occidentalis, Sycamore

Ulmus americana, American Elm

Quercus shumardii, Shumard's Oak

Alnus serrulate, Tag Alder

3.2 Results of Vegetation Monitoring

Streambank & Buffer Vegetation: Due to the site being taken over by kudzu, very few planted live stakes or seedlings were noted surviving. Kudzu herbicide applications have reduced the amount of invasive species onsite. The sewer line easement within the site limits was recently mowed as noted was possible within the permit conditions.

3.3 Conclusions

Reforestation of the site will be completed once any channel repairs are made (if necessary) and kudzu is at a more manageable level.

4.0 OVERALL CONCLUSIONS/RECOMMENDATIONS

Invasive kudzu noted at UT to Smyre Creek within the site limits has been reduced with the herbicide applications in 2025. Beaver dams and a headcut were noted along the stream relocation.

NCDOT contacted USDA personnel to assist with beaver and dam removal at the site in October 2025. During a subsequent site visit in November, a second headcut was noted on the site. Due to concerns regarding channel stability, NCDOT proposes to conduct a site visit early in 2026 with the Regulatory and Division personnel to determine the best course of action at the site. Reforestation will be completed once any channel repairs are made (if necessary) and kudzu is at a more manageable level.

NCDOT will continue stream and vegetation monitoring the UT to Smyre Creek Mitigation Site in 2026.

5.0 REFERENCES

Department of the Army Permit, Permittee: North Carolina Department of Transportation, Permit No. SAW-2009-00902, TIP No. R-3100B

North Carolina Department of Environment and Natural Resources, Division of Water Resources, February 28, 2017, NC 16 Widening from SR 1801 to SR 1895 in Catawba County, TIP R-3100A/B, NCDWR Project No. 20160982v.2

Supplemental Information for the Site 2 Stream Relocation on Section B, NC 16 Widening, Catawba County, North Carolina TIP Number R-3100B, February 27, 2017

APPENDIX A

SITE PHOTOGRAPHS

UT to Smyre Creek

Photo Point #1

Beaver Dam #1

Beaver Dam #2

Beaver Dam #3

Headcut

September 2025