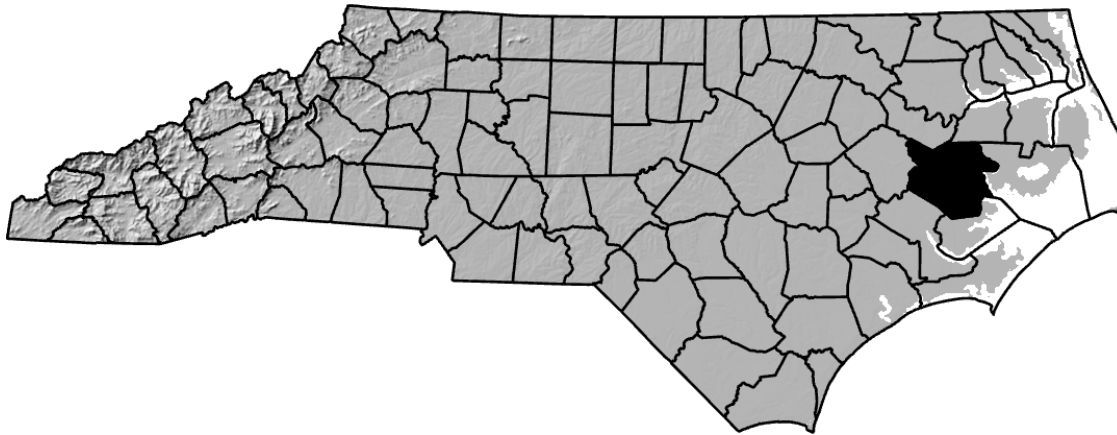


# ANNUAL REPORT FOR 2023



**Duck Creek Temporary Impact Site**

**Beaufort County**

**WBS #: 17BP.2.R.85**

**COE Action ID: SAW-2018-00993**

**DWR Project #: 20180542**

**CAMA Permit #: 85-18**



Prepared By:  
Roadside Environmental Unit and Environmental Analysis Unit  
North Carolina Department of Transportation  
July 2023

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Appendix A – Site Photos and Site Map

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## SUMMARY

The Duck Creek Temporary Impact Site is located in Beaufort County. This is an annual report for temporary impacts associated with the bridge replacement of Bridge No. 249 over Duck Creek on Hawkins Beach Road. The temporary impact site was planted in February 2020 (bareroot seedlings and live stakes) and July 2020 (marsh grass).

The temporary impacts encompass approximately 0.09 acres (404: 0.05 acres and CAMA: 0.04 acres). The area that was impacted is being monitored to ensure that it re-attains wetland jurisdictional status. Hydrologic monitoring is not required for this site; however, vegetation monitoring is required for two years per the DWR permit and three years per the CAMA permit.

A supplemental planting was completed in November 2020 within the 404 area with approximately 20 baldcypress and water tupelo seedlings being planted within the wetter area adjacent to Duck Creek.

Due to constant inundation within the CAMA temporary impact area (1742 ft<sup>2</sup>) and failure to return to wetland jurisdictional status, a NCDOT/Regulatory Agency meeting was held onsite in March 2021 to discuss remediation options. During the on-site meeting, it was determined that NCDOT would survey the adjacent marsh to determine the elevation range of the existing successful CAMA marsh. Based on those elevations, NCDOT would then raise the elevation of an approximately 4 foot by 80 foot wide swath (320 ft<sup>2</sup>) from the toe of slope out into the CAMA temporary impact area. NCDOT maintenance forces installed additional fill to raise the area to this elevation in June 2021. In June 2021 sawgrass was planted in this area by NCDOT Roadside Environmental forces. The remainder of the temporary impact area (1422 ft<sup>2</sup>) was noted as having been colonized SAV. DCM issued a Letter of Revision April 2021 releasing NCDOT from restoring the remaining portion of the temporary impact area to coastal wetlands to pre-project grade (See Appendix B for Letter of Authorization). A supplemental marsh grass planting with black needle rush and sawgrass was completed in May 2022.

After the third year of monitoring, the Duck Creek Temporary Impact Site shows by visual observation that the temporarily impacted area is re-attaining jurisdictional wetland status within the 404 and CAMA temporary impacted areas. The 404 area trees were surviving and the CAMA area had sawgrass and black needle rush plants that have established and starting to spread across the planted area.

NCDOT proposes to continue vegetation monitoring at the Duck Creek Temporary Impact Site in 2024.

## 1.0 INTRODUCTION

### 1.1 Project Description

The Duck Creek Temporary Impact Site is located in Beaufort County at Bridge No. 249 over Duck Creek on Hawkins Beach Road (Figure 1). The temporary impacts encompass approximately 0.09 acres. The area that was impacted is being monitored to ensure that it re-attains jurisdictional wetland status. Hydrologic monitoring is not required for this site; however, vegetation monitoring is required for two years per the DWR permit and three years per the CAMA permit.

### 1.2 Purpose

In order for a temporary impact site to be considered successful, a site must meet vegetation success criteria. This report details the vegetation monitoring in 2023 at the Duck Creek Temporary Impact Site. Hydrologic monitoring was not required for the site.

### 1.3 Project History

February 2020	Streambank Reforestation Completed
July 2020	Marsh Grass Planting Completed
September 2020	Vegetation Monitoring (Year 1)
November 2021	Additional Wetland Reforestation in 404
March 2021	Area NCDOT/Regulatory Onsite Agency
April 2021	Meeting DCM Letter of Authorization Issued
June 2021	Additional Fill Added to Temp. CAMA Impact
June 2021	Marsh Grass Planting Completed
August 2021	Vegetation Monitoring (Year 1 Restart)
May 2022	Supplemental Marsh Grass Planting
September 2022	Vegetation Monitoring (Year 2)
June 2023	Vegetation Monitoring (Year 3)

### 1.4 Debit Ledger

The restoration of the Duck Creek Temporary Impact Site was used entirely to compensate for temporary impacts on the Beaufort Br. No. 249 project. There were no wetland mitigation credits generated from the restoration of the impacted area.

## **2.0 VEGETATION: DUCK CREEK TEMPORARY IMPACT SITE (YEAR 3 MONITORING)**

### **2.1 Success Criteria**

#### **NCDWR**

Due to the possibility that compaction and/or other site alterations might prevent the temporary wetland impact area from re-attaining jurisdictional wetland status; the permittee shall provide an update on the wetland areas temporarily impacted by the temporary on-site detour. This update shall be conducted two growing seasons after completion of the work and shall consist of photographs and a brief report on the progress of the areas in re-attaining wetland jurisdictional status. Upon submission of this update to the NCDWR, the permittee shall schedule an agency field meeting with the NCDWR to determine if the wetland areas temporarily impacted by this project have re-attained jurisdictional wetland status. If the wetland areas temporarily impacted by this project have not re-attained jurisdictional wetland status, the NCDWR shall determine if compensatory wetland mitigation is to be required.

#### **NCDWM**

Due to the possibility that compaction and/or other site alterations might prevent the temporary Coastal Wetland impact areas from re-attaining pre-project wetland functions, the permittee shall provide an annual update on the Coastal Wetland areas temporarily impacted by this project. This annual update shall consist of photographs and a brief written report on the progress of these temporarily impacted areas in re-attaining their pre-project wetland functions. The permittee shall schedule a meeting with DCM to verify the extent and location of temporary impacts upon project completion. Within three years after project completion, the permittee shall hold another agency field meeting with DCM to determine if the Coastal Wetland areas temporarily impacted by this project have re-attained pre-project wetland functions. If at the end of three years DCM determines that the Coastal Wetland areas temporarily impacted by the project have not re-attained pre-project wetland functions, DCM will determine whether compensatory wetland mitigation shall be required.

## 2.2 Description of Species

The following live stakes species were planted in the Streambank Area (Type I):

*Salix nigra*, Black Willow

*Cornus amomum*, Silky Dogwood

The following tree species were planted in the 404 Wetland Area (Type II):

*Liriodendron tulipifera*, Tulip Poplar

*Platanus occidentalis*, Sycamore

*Quercus phellos*, Willow Oak

*Betula nigra*, River Birch

*Taxodium distichum*, Baldcypress

*Nyssa aquatica*, Water Tupelo

The following marsh grass species were planted in the CAMA Wetland Area (Type II):

*Spartina cynosuroides*, Big Cordgrass

*Juncus roemerianus*, Black Needlerush

*Cladium jamaicense*, Sawgrass

## 2.3 Results of Vegetation Monitoring

The impacted area where the temporary impacts occurred is re-attaining jurisdictional wetland status within the 404 and CAMA temporary impacted areas. The 404 area noted sycamore, willow oak, river birch, and baldcypress trees surviving. Other species noted within the 404 area included cattail, baccharis, pine, marsh-elder, wax myrtle, sweetgum, fennel, *Juncus* sp., and various grasses.

The CAMA area had sawgrass and black needle rush plants that have established and are starting to spread across the planted area. The planted area was inundated with a couple of inches of water at the time of monitoring. Other species noted within the CAMA area included marsh-elder, *Scirpus* sp., *Juncus* sp. and various grasses.

## **2.4 Conclusions**

There were approximately 0.09 acres of temporary impacts. There were no plots established on the site. By visual observation, the Duck Creek Temporary Impact Site shows by visual observation that the temporarily impacted area is re-attaining jurisdictional wetland status within the 404 and CAMA temporary impacted areas.

## **3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS**

NCDOT proposes to continue vegetation monitoring at the Duck Creek Temporary Impact Site in 2024.

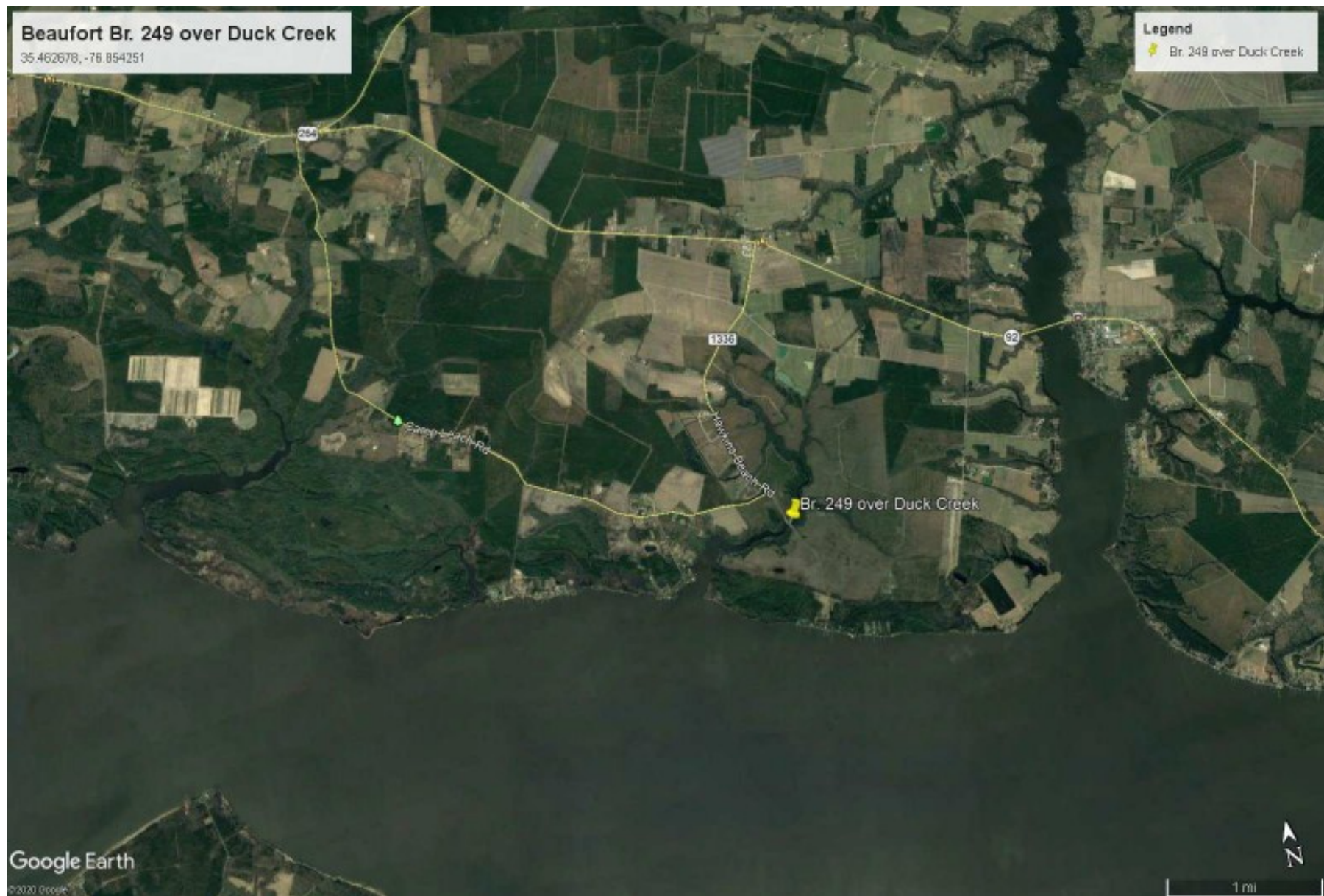


Figure 1. Vicinity Map



## **APPENDIX A**

### **SITE PHOTOS & SITE MAP**

# Duck Creek Temporary Impact Site



Photo 1



Additional CAMA area photo



Photo 2



Photo 3

June 2023

**TEMPORARY DETOUR (-DET-) DETAIL SHEET**

**WETLAND & STREAM IMPACTS**

**HNTB**

PROJECT NO. 1709-2-0000  
SHEET NO. 100  
DATE: 10/1/10  
BY: J. H. H. (JHH)  
CHECKED: J. H. H. (JHH)  
APPROVED: J. H. H. (JHH)  
DESIGNED: J. H. H. (JHH)  
DRAWN: J. H. H. (JHH)  
SCALE: 1" = 40'  
DATE: 10/1/10  
BY: J. H. H. (JHH)  
CHECKED: J. H. H. (JHH)  
APPROVED: J. H. H. (JHH)  
DESIGNED: J. H. H. (JHH)  
DRAWN: J. H. H. (JHH)

**PERMIT DRAWING SHEET 4 OF 14**

**TEMP. FILL IN CANAL WETLAND = 0.04 AC/1000 SF**  
**TEMP. FILL IN WETLAND = 0.01 AC/100 SF**  
**TEMPORARY IMPACTS IN SURFACE WATER = 0.01 AC/100 SF**

**TEMP. FILL IN WETLANDS = 0.05 AC/1000 SF**  
**TEMP. FILL IN CANAL WETLAND = 0.01 AC/100 SF**

**BRIDGE HYDRAULIC DATA**

DESIGN DISCHARGE	= 400	CFS
DESIGN FREQUENCY	= 10	YRS
DESIGN HW ELEVATION	= 15	FT
BASE DISCHARGE	= 600	CFS
BASE FREQUENCY	= 100	YRS
BASE HW ELEVATION	= 17	FT
OVERTOPPING DISCHARGE	= 1000	CFS
OVERTOPPING FREQUENCY	= 100	YRS
OVERTOPPING ELEVATION	= 19	FT

**DATE OF SURVEY = 8-24-10**  
**WSELEVATION AT DATE OF SURVEY = 15 FT**

## **Appendix B**

**DCM Letter of Authorization April 19, 2021**



ROY COOPER  
Governor  
DIONNE DELLI-GATTI  
Secretary  
BRAXTON DAVIS  
Director



NORTH CAROLINA  
Environmental Quality

April 19, 2021

Mr. Jay Johnson  
Environmental Program Supervisor  
Division Two  
N. C. Department of Transportation  
2815 Rouse Road Ext.  
Kinston, N.C. 28504

RE: CAMA Major Development Permit No. 85-18, Letter of Authorization,  
Bridge No. 249 over Duck Creek, Beaufort County

Dear Mr. Johnson:

This letter is in response to the N.C. Department of Transportation (NCDOT) request letter dated April 6, 2021, including the attached drawing (1) dated April 6, 2021, all as received on April 13, 2021. The request is to revise the current restoration plan for the temporary impact area located in the northwest quadrant of the Beaufort Bridge No. 249 replacement project. NCDOT proposes to place additional fill within a 4' x 80' section of the Coastal Wetland temporary impact area parallel to the shoreline and immediately adjacent to the causeway as depicted on the attached workplan drawing to restore the area to the elevation of the adjacent Coastal Wetlands. The fill material would then be planted with sawgrass, *Cladium jamaicense*, and monitoring would continue in accordance with requirements of the active CAMA Permit 85-18.

NCDOT is also requesting to conduct the proposed work during the in-water work moratorium (February 15<sup>th</sup> to September 30<sup>th</sup>), which is required by Condition No. 1 of the active CAMA Permit 85-18. NCDOT has committed to implement turbidity curtains during any filling or disturbance to the open water to contain any offsite erosion or sediment loss.

The project temporarily impacted approximately 1,742 square feet of Coastal Wetlands. As stated in the NCDOT request letter, it was noted during an on-site interagency meeting on March 24, 2021 that the remainder of the temporary impact area has been colonized with submerged aquatic vegetation species (SAV). Therefore, NCDOT has proposed to be relieved of the permit requirement to restore the remaining portion of approximately 1,422 square feet of temporary impacts to Coastal Wetlands to the pre-project grade, thereby not destroying the newly established SAV habitat.

Please be advised that through this **Letter of Authorization**, the Division of Coastal Management (DCM) conveys its determination that the revision as described in the NCDOT request letter dated April 6, 2021 is consistent with existing State rules and regulations and is in keeping with the original purpose and intent of CAMA Permit No. 85-18.



North Carolina Department of Environmental Quality | Division of Coastal Management  
Morehead City Office | 400 Commerce Avenue | Morehead City, North Carolina 28557  
252.808.2808

This letter shall be attached to the original of CAMA Permit No. 85-18, which was issued on August 6, 2018, as well as the refinement issued on May 28, 2019, and copies of all documents shall be readily available on-site when a DCM representative inspects the project for compliance. All conditions and stipulations of the active permit shall remain in force unless altered herein. This approval does not eliminate the need to obtain any additional permits, approvals or authorizations that may be required.

Please contact Stephen Lane at [Stephen.lane@ncdenr.gov](mailto:Stephen.lane@ncdenr.gov) or Cathy Brittingham at [cathy.brittingham@ncdenr.gov](mailto:cathy.brittingham@ncdenr.gov) if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Howell", written in a cursive style.

Jonathan Howell  
Major Permits Coordinator

cc: Tom Steffens, USACE  
Garcy Ward, NCDWR  
Randy Griffin, NCDOT