

MITIGATION PLAN
BOSEMAN BUFFER MITIGATION SITE

Edgecombe County, NC
NCDEQ Contract No. 7872
NCDMS ID No. 100119
NCDWR Project No. 2019-0800
RFP No. 16-007711



Tar-Pamlico River Basin
HUC 03020101
January 23, 2020
Prepared For:
NC Department of Environmental Quality
Division of Mitigation Services
1652 Mail Service Center, Raleigh, NC 27699-1652



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Prepared By:

With Assistance From:



1117 Peachtree Walk NE, Suite 126
Atlanta, GA 30309
404-840-2697



Venture 1, 940 Main Campus Dr., Suite 500
Raleigh, NC 27606
919-754-5009

This Mitigation Plan has been written in conformance with the requirements of the following:

- 15A NCAC 02B.0295 Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers.

These documents govern DMS operations and procedures for the delivery and compensatory mitigation.

Contributing Staff

Ted Griffith, Eco Terra Principal in Charge
Ryan Perry, Eco Terra Construction Oversight

Heather Smith, VHB Project Manager
Lane Sauls, VHB Quality Assurance

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1.0 Introduction

The Boseman Buffer Mitigation Site is a buffer restoration project located approximately 2.5 miles southeast of the Town of Rocky Mount in Edgecombe County, NC (Figure 1). The underlying project parcel is comprised of 276 acres of agricultural and forested areas. The Project Site is approximately 14.9 acres along two unnamed tributaries to the Tar River. An expected 617,394.032 (ft²) riparian buffer credits will be generated by the project in the 03020101 8-digit HUC of the Tar-Pamlico River Basin (Figure 2).

The Site is located within the Hydrologic Unit Code (HUC) 03020101120030, a Targeted Local Watershed (TLW) and North Carolina Department of Water Resources (NCDWR) sub-basin 03-03-02. The unnamed tributaries flow into the Tar River approximately one and half miles downstream of the project. According to the N.C. Division of Mitigation Services' (DMS) 2010 Tar-Pamlico River Basin Restoration Priorities (RBRP) document, amended 2018, the project will support the identified goals for the TLW, as well as the overall HUC. As stated in the RBRP, restoration of riparian buffers to address agricultural runoff is a *high priority* for this 14-digit TLW HUC.



The Boseman Buffer Mitigation Site will help to reduce future sediment and nutrient loading into the unnamed tributaries and downstream Tar River. It will also improve terrestrial habitats along these streams by establishing riparian corridors and allowing the land to undergo natural succession to forested community types. The area surrounding the streams is primarily agricultural fields. The project will restore vegetative buffers to a maximum of 115 feet from the streams and will remove rotating crops and fertilizer inputs. The restored riparian buffer and adjacent riparian areas will filter runoff from

the surrounding farm fields. Invasive vegetation will be treated as needed within the project area to promote native vegetation.

2.0 Mitigation Project Summary

The major goals of the proposed buffer restoration project are to address agricultural runoff, including nutrients and sediment, protect the project site in perpetuity, and restore terrestrial habitat. The detailed goals and objectives are found below in Table 1.

Table 1: Goals and Objectives

Goal	Objective	Supported CU-wide and HUC RBRP Goals
Reduce nutrient levels	Nutrient input will be decreased by filtering runoff from the agricultural fields through restored 115-foot wide native buffer zones. The total amount of restored buffer and adjacent riparian areas will be 621,810 sq.ft.	Promote nutrient and sediment reduction in agricultural areas by restoring riparian buffers and adjacent riparian areas. *
Reduce sediment levels	Nutrient input will be decreased by filtering runoff from the agricultural fields through restored 115-foot wide native buffer zones. The total amount of restored buffer and adjacent riparian area will be 621,810 sq.ft.	Promote nutrient and sediment reduction in agricultural areas by restoring riparian buffers and adjacent riparian areas. *
Project protection in perpetuity	Implement a project in a TLW and record a conservation easement.	Continue targeted implementation of projects under the Buffer programs. #
Restore terrestrial habitat	Riparian buffer and adjacent riparian areas will be restored with native vegetation and invasive vegetation will be managed.	DMS' programmatic goal, <i>North Carolina General Statute 143-214.10</i> #

* TLW and RBRP goal, # RBRP goal

2.1 Existing Site Conditions

Proposed buffer restoration will convert approximately 14.9 acres of agricultural fields along two unnamed tributaries (hereinafter referred to as UT 1 and UT 2) to functioning riparian corridors. The fields are currently in rotating row crops and early successional herbaceous vegetation. UT 1 enters the project site along the western property boundary and flows in an eastward direction. UT 1 meets the definition of at least intermittent per the NCDWR On-Site Determination for Applicability to the Tar-Pamlico Buffer Rules Letter (Buffer Letter), dated July 9, 2019 (Appendix A). UT 2 originates within the property boundary as an ephemeral channel (Reach 2a) and transitions to an intermittent channel (Reach 2b) (Buffer Letter) prior to its confluence with UT 1. There is a third unnamed tributary with a stream origin point within the property boundary and flows in an eastward direction to the confluence with UT 1. This tributary is at least intermittent per the Buffer Letter but is not being used to produce riparian buffer credit for this project.

Project attributes associated with the proposed buffer site are provided in Table 2.

Table 2: Buffer Project Attributes

Project Name	Boseman Buffer Mitigation Site
Hydrologic Unit Code	03020101
River Basin	Tar-Pamlico
Geographic Location (decimal degrees)	35.96451, -77.705926
Site Protection Instrument	Conservation Easement
Total Credits (BMUs)	617,394.032
Types of Credits	Riparian Buffer
Mitigation Plan Date	October 2019
Initial Planting Date	March 2020
Baseline Report Date	March 2020
MY1 Report Date	November 2020
MY2 Report Date	November 2021
MY3 Report Date	November 2022
MY 4 Report Date	November 2023
MY 5 Report Date	November 2024
Close out Report Date/Visit	May 2025

In addition to buffer restoration on subject streams, per the Consolidated Buffer Mitigation Rules (15A NCAC 02B 0.0295 (o)), alternative mitigation is proposed on the Site in the form of buffer restoration on ephemeral channels. The proposed project is in compliance with these rules in the following ways:

Buffer Restoration on Ephemeral Channels (15A NCAC 02B 0.0295 (o)(7)):

- NCDWR conducted a site visit on June 14, 2019 to evaluate the two unnamed tributaries on the Project (Figure 3).
- The mitigation area on the Site’s ephemeral channel (UT 2 Reach 2a) is located within the drainage area for UT 2 (Figure 3).
- The ephemeral channel is directly connected to UT 2 Reach 2b, an intermittent or perennial channel, and will be protected under a contiguous conservation easement boundary (Figure 3).
- The mitigation area on the ephemeral channel is less than 25% of the total buffer mitigation area on the Site (Table 3).

2.2 Watershed Characterization

The Site is approximately 2.5 miles southeast of the Town of Rocky Mount on the south side of NC Hwy. 97 (Figure 1). The Site is within the Tar River TLW (HUC 03020101120030) as described

in the DMS 2010 Tar-Pamlico RBRP, amended August 2018. According to the 2018 RBRP, nearly half of the 55-square mile Tar River drainage area consists of agriculturally related landuses and 42% of the land is either wetland or forested. The watershed has approximately 9% development with 1.4% denoted as impervious surface. There are 131 miles of stream channels in the drainage area and 44% of the stream channels are not currently buffered. Edgecombe County remains mostly undeveloped aside from the areas in and around the population centers of Rocky Mount, Tarboro, and Princeville. The County population decreased 6.7% between the 2010 census and 2017.

Drainage areas for the on-site streams and buffer areas were determined by delineating watersheds in USGS Stream Stats. Figure 4 shows the watershed boundaries for each unnamed tributary. Table 3 describes the current land use and drainage area for each unnamed tributary.

Table 3: Drainage Area and Land Use

Reach Name	NCDWR Stream Designation*	Restored Buffer Area (acres/sq.ft.)	Watershed Area (acres)	Land Use
UT 1	Intermittent (at least)	11.26/490,568	167	49% Agriculture 41% Forested/Wetland
UT 2 Reach 2a	Ephemeral#	1.80/78,590	12	
UT 2 Reach 2b	Intermittent (at least)	1.21/52,652	19	
Total:		14.27 acres /621,810sq.ft.		

* Per the Buffer Letter (Appendix A), # Total mitigation on ephemeral channels is 12.6% of the total mitigated area and is in compliance with 15A NCAC 02B 0.0295(o)(7) which limits mitigation on ephemeral channels to no more than 25% of the total mitigated area.

2.3 Soils

Elevations at and surrounding the Project Site are nearly level to gently sloping. Soils underlying the area are mapped as loam and sandy loam and consist of the Roanoke and Wickham series (Figure 5). Specific soil mapping units are listed in Table 4.

Table 4: Boseman Buffer Site Soil Series

Soil Name	Description
Roanoke loam (Ro)	These soils are poorly drained. They are found in drainageways in the Piedmont, and upper and middle Coastal Plain. They have slow to very slow runoff and permeability.
Wickham sandy loam, 0-4% slopes (WkB)	These soils are well drained. They are found on stream terraces in the Piedmont and Coastal Plain. They have medium to rapid runoff, and moderate permeability.

2.4 Geology

The Project Site is located within the Rolling Coastal Plain of the Middle and Upper Coastal Plains physiographic province. Both the Middle and Upper Coastal Plains are characterized by broad, flat terraces adjacent to low-gradient stream channels with elevations ranging from 300-1,000 feet. The Site is located in the Yorktown and Duplin Formation (Tpy) and is characterized by fossiliferous clay with varying amounts of fine grained sand.

2.5 Vegetation

Vegetative communities within the project area consist of row crops and early successional, herbaceous vegetation. The main difference in vegetative community is the current degree of wetness and the ability to cultivate crops. The wetter areas are not being used for row crops, but vegetation is being maintained. The wetter areas have wetland herbaceous vegetation present throughout. Typical herbaceous vegetation in the wetter areas includes soft rush (*Juncus effusus*), tear thumb (*Polygonum sagittatum*), and seed box (*Ludwigia alternifolia*).

2.6 Access and Site Constraints

Directions from Raleigh:

- Follow US-64 East Bypass to exit 470 for Atlantic Avenue
- Turn right onto NC-97 East/Atlantic Avenue and follow for 1.3 miles
- Turn right onto NC-97 East and follow for 4.6 miles
- Turn right onto a dirt road after passing Beacon Tower Lane

A permanent access easement from NC 97 was recorded as part of the project. There is one 25 foot break in the easement for the existing farm road.

There is one private airport, Thompson Farms Airport, within a five-mile radius. The restoration of a riparian buffer and adjacent riparian areas is not expected to create issues with waterfowl because no additional water resources will be created as part of the project.

2.7 Site Resources

The Site has been in agricultural production since 1955 and no changes have been observed to the current stream configuration since that time (Figure 6). The property owner has verified that the property has been in some form of agricultural production for the past 75 years.

NCDWR staff visited the Site on June 14, 2019 to determine subjectivity of on-site resources to the Tar-Pamlico buffer rules and their suitability for riparian buffer mitigation per the Consolidated Buffer Mitigation Rule (15A NCAC 02B 0.0295). The two unnamed tributaries were found to be suitable for riparian buffer mitigation in the Tar-Pamlico River Basin. The resulting NCDWR letters are in Appendix A.

3.0 Site Protection Instrument

3.1 Site Protection Instrument Summary Information

The property needed to restore the riparian buffer and adjacent riparian areas, access the easement and manage the Site includes portions of the parcel listed in Table 5. The proposed conservation easement on this property has not been recorded. A copy of the draft land protection instrument is included in Appendix B.

All site protection instruments require a 60-day advance notification to the State prior to any action to void, amend, or modify the document. No such action shall take place unless approved by the State.

3.2 Current Ownership and Long-Term Protection

The Site is located on one parcel owned by Joel Boseman et al. (Table 5). An option agreement for the project area was signed by the property owners and was recorded at the Edgecombe County Register of Deeds. The option agreement allows restriction of the land use in perpetuity through a conservation easement. Eco Terra will convey the conservation easement to the State to provide long term protection of the Site.

Table 5: Current Ownership and Long-Term Protection

Parcel Identification Number	County	Owner	Acreage in Conservation Easement	Deed Book and Page Number	Site Protection Instrument	Identified Conservation Easement Holder
3880-38-6335	Edgecombe	Joel Boseman et al	14.9 ac	To be recorded	Conservation Easement	State of North Carolina

4.0 Regulatory Considerations

Table 6 summarizes the regulatory considerations for the proposed project. These considerations are expanded upon in Sections 4.1-4.4. A copy of the signed Categorical Exclusion Form is provided in Appendix C.

Table 6: Regulatory Considerations

Parameter	Applicable	Resolved	Supporting Documentation
Waters of the U.S. -Section 404	No	N/A	N/A
Waters of the U.S.-Section 401	No	N/A	N/A
Endangered Species Act	Yes	Yes	Signed CE Appendix C
Historic Preservation Act	Yes	Yes	Signed CE Appendix C
Coastal Zone Management Act	No	N/A	N/A
FEMA Floodplain Compliance*	Yes	TBD	TBD
Essential Fisheries Habitat	No	N/A	N/A

*The floodplain development permit will be submitted to Edgecombe County once the conservation easement is recorded.

4.1 Threatened and Endangered Species

The US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) identifies two federally threatened and endangered species and three proposed species under the Endangered Species Act. One species is protected under the Bald and Golden Eagle Protection Act (Table 7).

Table 7: Federally Listed Species for Edgecombe County

Scientific Name	Common Name	Federal Status*	Suitable Habitat
<i>Haliaeetus leucocephalus</i>	Bald Eagle	BGPA	No
<i>Picoides borealis</i>	Red-cockaded woodpecker	E	No
<i>Necturus lewisi</i>	Neuse River waterdog	PT	No
<i>Noturus furiosus</i>	Carolina madtom	PE	No
<i>Fusconaia masoni</i>	Atlantic pigtoe	PT	No
<i>Parvaspina steinstansana</i>	Tar River spiny mussel	E	No

* BGPA - Bald and Golden Eagle Protection Act, E - Endangered, PT – Proposed Threatened, PE – Proposed Endangered

Bald eagle

Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

A desktop-GIS assessment of the project study area, as well as the area within a 1.13-mile radius (1.0 mile plus 660 feet) of the project limits, was performed in April 2017 using 2013 color aerials. The Tar River can be considered a potential feeding source within this radius. A juvenile bald eagle was observed on-site in late 2018 and an on-site nest survey was conducted on June 3, 2019. During the survey very few trees capable of supporting a nest were observed and no nests were found. The majority of the forested area within 660' of the study area contained successional growth trees. Additionally, information provided by NC Natural Heritage Program (NCNHP) showed there were no known occurrences of the species within 1 mile of the project study area.

Red-cockaded woodpecker

The red-cockaded woodpecker (RCW) typically occupies open, mature stands of southern pines, particularly longleaf pine (*Pinus palustris*), for foraging and nesting/roosting habitat. The RCW excavates cavities for nesting and roosting in living pine trees, aged 60 years or older, which are contiguous with pine stands at least 30 years of age to provide foraging habitat. The foraging range of the RCW is normally no more than 0.5 miles.

A desktop-GIS assessment of the project study area was performed in May 2019 using 2017 color aerials. No areas within the project area are dominated by pine trees; the project area is devoid of mature forests and contains row crops and herbaceous vegetation. Additionally, information provided by NCNHP showed there were no known occurrences of the species 1 mile of the project study area.

Neuse River waterdog

In North Carolina, the Neuse River waterdog specific habitat characteristics include low to moderate gradient streams and low current velocity. It is a fully aquatic salamander, never leaving the water. It lacks lungs, getting oxygen from the water via external gills and needs clean, flowing water with high dissolved oxygen concentrations. The species dwells in streams wider than 45 feet (15 meters) but has been found in smaller creeks.

The study area is located in the Tar-Pamlico River basin. NCNHP records dated July 2018 show the closest documented population of the Neuse River waterdog is located approximately 1.3 river miles downstream of the study area in the Tar River. The record for this population is categorized as "current". The record is dated 2015.

Suitable habitat for the Neuse River waterdog does not exist within the study area. The majority of the streams on-site are intermittent, and the perennial portions of the streams are heavily affected by sediment and fertilizer inputs from the surrounding farm fields. The perennial channel immediately downstream of the study area was experiencing eutrophication during a site visit on June 3, 2019. This same portion of the stream had no visible flow and the channel is approximately nine to 12 feet wide. The proposed riparian buffer and adjacent riparian areas mitigation project will not include any work within any stream channels. The project will consist of planting native hardwood trees within 115 feet of the stream channels.

Carolina madtom

In North Carolina, the species occurs in riffles, runs, and pools in medium to large streams and rivers. Ideally, it inhabits fresh waters with continuous, year-round flow and moderate gradient in both the Piedmont and Coastal Plain physiographic regions. Optimal substrate for the Carolina madtom is predominantly silt-free, stable, gravel and cobble bottom habitat, and it must have cover for nest sites, including under rocks, bark, relic mussel shells, and even cans and bottles.

The study area is located in the Tar-Pamlico River basin. NCNHP records dated July 2018 show the closest documented population of the Carolina madtom is located approximately 4.1 river miles downstream of the study area in the Tar River. The record for this population is categorized as "historical". The record is dated 1985.

Suitable habitat for the Carolina madtom does not exist within the study area. The majority of the streams on-site are intermittent, and the perennial portions of the streams are heavily affected by sediment and fertilizer inputs from the surrounding farm fields. The perennial channel immediately downstream of the study area was experiencing eutrophication during a site visit on June 3, 2019. This same portion of the stream had no visible flow and the channel is approximately nine to 12 feet wide. Substrate within the on-site streams consists entirely of silt and is not suitable for this species. The proposed riparian buffer and adjacent riparian areas mitigation project will not include any work within any stream channels. The project will consist of planting native hardwood trees within 115 feet of the stream channels.

Atlantic pigtoe

In North Carolina, the preferred habitat of the Atlantic pigtoe is coarse sand and gravel, and rarely in silt and detritus. Historically, the best populations existed in small creeks to larger rivers with excellent water quality, where flows were sufficient to maintain clean, silt-free substrates. The study area is located in the Tar-Pamlico River basin. NCNHP records dated July 2018 show the closest documented population of the Atlantic pigtoe is located approximately 12.0 river miles downstream of the study area in the Tar River. The record for this population is categorized as "current". The record is dated 2004.

Suitable habitat for the Atlantic pigtoe does not exist within the study area. The majority of the streams on-site are intermittent, and the perennial portions of the streams are heavily affected by sediment and fertilizer inputs from the surrounding farm fields. The perennial channel immediately downstream of the study area was experiencing eutrophication during a site visit on June 3, 2019. This same portion of the stream had no visible flow and the channel is approximately nine to 12 feet wide. The proposed riparian buffer and adjacent riparian areas mitigation project will not include any work within any stream channels. The project will consist of planting native hardwood trees within 115 feet of the stream channels.

Tar River spiny mussel

The Tar spiny mussel is endemic to the Tar and Neuse River drainage basins in North Carolina. This mussel requires a stream with fast flowing, well-oxygenated, circumneutral pH water. The stream bed should be composed of unconsolidated gravel and coarse sand. The water needs to be relatively silt-free, and stream banks should be stable, typically with many roots from adjacent riparian trees and shrubs.

The study area is located in the Tar-Pamlico River basin. NCNHP records dated July 2018 show the closest documented population of the Tar River spiny mussel is located approximately 14.6 river miles downstream of the study area in the Tar River. The record for this population is categorized as "current". The record is dated 2001.

Suitable habitat for the Tar River spiny mussel does not exist within the study area. The majority of the streams on-site are intermittent, and the perennial portions of the streams are heavily affected by sediment and fertilizer inputs from the surrounding farm fields. The perennial channel

immediately downstream of the study area was experiencing eutrophication during a site visit on June 3, 2019. This same portion of the stream had no visible flow and the channel is approximately nine to 12 feet wide. The proposed riparian buffer and adjacent riparian areas mitigation project will not include any work within any stream channels. The project will consist of planting native hardwood trees within 115 feet of the stream channels.

4.2 Cultural Resources

The National Historic Preservation Act declares a national policy of historic preservation to protect, rehabilitate, restore, and reuse districts, sites, buildings, structures, and objects significant in American architecture, history, archaeology, and culture, and Section 106 mandates that federal agencies take into account the effect of an undertaking on a property that is included in, or is eligible for inclusion in, the National Register of Historic Places.

There are no existing structures in the project area. The Site is not located near any sites listed on the National Register with the State Historic Preservation Office (SHPO). SHPO was contacted for completion of the Categorical Exclusion and SHPO had no concerns or comments on the Site. The approved Categorical Exclusion is in Appendix C.

4.3 FEMA Floodplain Compliance

The Site is located within the 100-year floodplain of the Tar River. A floodplain development permit will be submitted to the Edgecombe County floodplain Manager once the conservation easement is recorded. Proposed implementation of work will not commence until all required permits have been received.

4.4 Other Environmental Issues

An EDR Radius Map Report with Geotcheck was ordered for the Site through Environmental Data Resources, Inc. (EDR) on June 7, 2019 as part of the Categorical Exclusion. The target property and the adjacent properties are not listed in any of the Federal, State, or Tribal environmental databases searched by EDR. There are no known or potential hazardous waste sites identified within one mile of the Site. The Executive Summary of the EDR report is included in Appendix D.

5.0 Implementation Plan

The project design will restore high quality riparian buffers and adjacent riparian areas to two unnamed tributaries to the Tar River. The project will not have any adverse impacts to on-site wetlands; no grading activities will occur within jurisdictional wetland boundaries. Figure 7 depicts the planting plan for the Site. More detailed descriptions of the proposed restoration activity are found in Sections 5.1 through 5.3.

5.1 Parcel Preparation

The land proposed for buffer restoration is currently in agricultural production. The planting rows will be ripped to improve soil compaction prior to planting in the upland areas. Sediment and erosion control measures will be used to prevent sediment from entering the streams during a rain event and may include sediment and erosion control fencing. Pre-emergent aquatic safe herbicide will be used in the tree rows to control potential herbaceous weed competition.

Additional post planting herbicide will be used within the planting rows for at least the first three years as needed. The fields within the project area contain limited number of invasive plants and an aquatic safe herbicide, such as Rodeo, will only be sprayed in areas where there is an existing population of non-native invasive plant species. All herbicide will be applied by a licensed herbicide applicator. In the event that drain tiles are found during construction, they will be removed.

5.2 Riparian Buffer and Adjacent Riparian Area Restoration Activities

The revegetation plan for the buffer restoration area will include permanent seeding in the active farming areas. Seeding will not be applied to areas with an existing native herbaceous layer, primarily the jurisdictional wetland areas. The Site will be planted to replicate a Coastal Plain Small Stream Swamp (blackwater subtype) community with two planting zones, floodplain and mesic. Proposed tree species are shown in Table 8.

Table 8: Proposed Species List

Scientific Name	Common Name	Planting Zone	Approximate Percentage
<i>Nyssa biflora</i>	Water tupelo	Floodplain	10%
<i>Platanus occidentalis</i>	Sycamore	Floodplain	10%
<i>Betula nigra</i>	River birch	Floodplain	10%
<i>Nyssa sylvatica</i>	Blackgum	Both	15%
<i>Quercus laurifolia</i>	Laurel oak	Both	10%
<i>Fraxinus pennsylvanica</i>	Green ash	Floodplain	5%
<i>Salix nigra</i>	Black willow	Floodplain/Live stake	5%
<i>Liriodendron tulipifera</i>	Tulip poplar	Mesic	30%
<i>Ilex opaca</i>	American holly	Mesic	10%
<i>Carpinus caroliniana</i>	American hornbeam	Mesic	15%
<i>Quercus nigra</i>	Water oak	Both	10%
<i>Quercus phellos</i>	Willow oak	Both	10%
<i>Quercus lyrata</i>	Overcup oak	Floodplain	10%
<i>Cornus amomum</i>	Silky dogwood	Floodplain/Live stake	5%
<i>Sorghastrum nutans</i>	Indian grass	Permanent Seed Mixture	N/A
<i>Agrostis alba</i>	Redtop	Permanent Seed Mixture	N/A
<i>Andropogon gerardii</i>	Big bluestem	Permanent Seed Mixture	N/A
<i>Panicum virgatum</i>	Switchgrass	Permanent Seed Mixture	N/A
<i>Setaria italica</i>	Foxtail millet	Temporary Seed Mixture	N/A
<i>Pennisetum glaucum</i>	Pearl top millet	Temporary Seed Mixture	N/A

Trees will be planted at a density sufficient to meet the performance standards outlined in the Rule 15A NCAC 02B .0295 of 260 trees per acre at the end of five years. A density of approximately 600-800 trees per acre is proposed for the initial planting. No one tree species will be greater than 50% of the established stems. An appropriate temporary seed mix will also be applied as necessary to provide temporary ground cover for soil stabilization and reduction of sediment loss during rain events. Temporary seed mix species are found in Table 8. This will be followed by an appropriate permanent seed mixture.

Vegetation management and herbicide applications may be needed to prevent competition of invasive species with the planted species. Planting is scheduled to begin in March 2020.

5.3 Determination of Credits

Mitigation credits shown in Table 9 and Figure 8 are based on surveyed top of banks of the unnamed tributaries and conservation easement. All areas within 115 feet from the features as measured perpendicular from the tops of banks will be devoted to generate buffer mitigation credits. Table 9 details the determination of credits.

Table 9. Bosman Buffer Mitigation Site DMS # 100119, NCDWR # 2019-0800

Project Area																
Tar-Pamlico 03020101																
19.16394																
297.54099																
N Credit Conversion Ratio (ft ² /pound)																
P Credit Conversion Ratio (ft ² /pound)																
Credit Type	Location	Subject? (enter NO if ephemeral or ditch ¹)	Feature Type	Mitigation Activity	Min-Max Buffer Width (ft)	Feature Name	Total Area (ft ²)	Total (Creditable) Area of Buffer Mitigation (ft ²)	Initial Credit Ratio (x:1)	% Full Credit	Final Credit Ratio (x:1)	Convertible to Riparian Buffer?	Riparian Buffer Credits	Convertible to Nutrient Offset?	Delivered Nutrient Offset: N (lbs)	Delivered Nutrient Offset: P (lbs)
Buffer	Rural	Yes	I / P	Restoration	0-100	UT 1	484,071	484,071	1	100%	1.00000	Yes	484,071.000		-	-
Buffer	Rural	Yes	I / P	Restoration	101-200	UT 1	6,497	6,497	1	33%	3.03030	Yes	2,144.012		-	-
Buffer	Rural	No	Ephemeral	Restoration	0-100	UT 2 Reach 2a	78,508	78,508	1	100%	1.00000	Yes	78,508.000		-	-
Buffer	Rural	No	Ephemeral	Restoration	101-200	UT 2 Reach 2a	82	82	1	33%	3.03030	Yes	27.060		-	-
Buffer	Rural	Yes	I / P	Restoration	0-100	UT 2 Reach 2b	52,640	52,640	1	100%	1.00000	Yes	52,640.000		-	-
Buffer	Rural	Yes	I / P	Restoration	101-200	UT 2 Reach 2b	12	12	1	33%	3.03030	Yes	3.960		-	-
Totals:							621,810	621,810								

Enter Preservation Credits Below

Credit Type	Location	Subject?	Feature Type	Mitigation Activity	Min-Max Buffer Width (ft)	Feature Name	Total Area (sf)	Total (Creditable) Area for Buffer Mitigation (ft ²)	Initial Credit Ratio (x:1)	% Full Credit	Final Credit Ratio (x:1)	Riparian Buffer Credits	
Buffer				Preservation								-	
Preservation Area Subtotal (ft²):							0						
Preservation as % Total Area of Buffer Mitigation:							0.0%						
Ephemeral Reaches as % Total Area of Buffer Mitigation:							12.6%						
TOTAL AREA OF BUFFER MITIGATION (TABM)													
Mitigation Totals											Square Feet	Credits	
Restoration:											621,810	617,394.032	
Enhancement:											0	0.000	
Preservation:											0	0.000	
Total Riparian Buffer											621,810	617,394.032	
TOTAL NUTRIENT OFFSET MITIGATION													
Mitigation Totals											Square Feet	Credits	
Nutrient Nitrogen:											0	0.000	
Offset: phosphorus:											0	0.000	

1. The Randleman Lake buffer rules allow some ditches to be classified as subject according to 15A NCAC 02B .0250 (5)(a).

6.0 Monitoring Plan and Performance Standards

The Site monitoring plan was developed to demonstrate that the required performance standards are met and project goals and objectives are achieved. The monitoring report shall provide project data and chronicle issues that arise during the five-year monitoring period. These reports will assist in population of DMS databases and assist in the close-out process.

Table 10 summarizes the proposed monitoring plan components associated with this project.

Table 10: Monitoring Plan Components

Performance Standards	Monitoring Protocol	Reaches	Quantity	Frequency
Vegetation	CVS Level II/Photos	All	12	Annual
Reference Stations	Photos	All	10	Annual
Visual Assessments	Visual Assessment/Photos	All	As needed	Semi-annual

The performance standards for the Project follow approved criteria presented in the Consolidated Buffer Rule (15A NCAC 02B .0295). Annual monitoring and semi-annual site visits will be conducted to assess the condition of the finished project. Performance standards will be evaluated throughout the five-year post-construction monitoring period.

6.1 Vegetation

The Consolidated Buffer Rule (15A NCAC 02B .0295) requires survival of at least four native hardwood trees and shrubs, and 260 stems per acre at the end of a five year monitoring period. No one species will constitute greater than 50 percent of the stems. Twelve permanent vegetation 100 m² monitoring plots, two percent of the planted area, will be placed throughout the Site to document tree survival. Vegetation monitoring will follow the CVS-EEP Level II Protocol for Recording Vegetation (2008). The vigor, height, and diameter at breast height (DBH), if applicable, will be recorded during the monitoring visits. Approximate locations of permanent vegetation plots are shown on Figure 9.

6.2 Photo Reference Stations

Photographs of vegetation plots will be taken each year and there will be an additional ten photographs taken to document stream condition and easement integrity. These photos will be taken at the same location and direction each year.

6.3 Visual Assessments

Visual assessments will be performed twice a year during the five years of monitoring. Areas of concern, low stem density, invasive species or easement encroachment, will be mapped and photographed and described in the monitoring report. Problem areas will be re-evaluated during subsequent site visits.

6.4 Reporting Performance Standards

A baseline monitoring document and record drawing depicting deviations from the proposed planting to the actual planting will be provided. Annual monitoring reports will use the DMS Riparian Buffer and Nutrient Offset Baseline and Annual Monitoring Report Template version 2.0

(May 2017). The monitoring reports will be submitted to DMS in the fall of each year for a total of five years or until performance standards have been met.

6.5 Maintenance and Contingency Plans

Actions will be taken to correct issues identified in the annual monitoring reports that jeopardize the success of the project. If required, additional hardwood trees will be planted, invasive species will be controlled, and additional signage will be installed. These are examples and others may become necessary through the five-year monitoring period.

7.0 Stewardship

The Site will be marked with signage by the Provider prior to as-builts. The Provider will inspect the boundary marking on a yearly basis and repair as needed during the monitoring period.

The Site will be transferred to the NCDEQ Stewardship Program. The Stewardship Program shall serve as the conservation easement holder and long-term steward for the property and conduct inspections of the Site to determine whether the conservation easement is being upheld. The NCDEQ Stewardship Program is developing an endowment system within the non-reverting, interest-bearing Conservation Lands Conservation Fund Account. The use of funds from the Endowment Account will be governed by North Carolina General Statute GS 113A-232(d)(3). Interest gained by the endowment fund may be used for stewardship, monitoring, stewardship administration, and land transaction costs, if applicable.

No fencing is planned for this project. The draft Site Protection Instrument can be found in Appendix B.

8.0 References

15A NCAC 02B .0295 Mitigation Program Requirements for Protection and Maintenance of Riparian Buffers. 2015.

N.C. Department of Environmental Quality. Division of Mitigation Services. 2018. Tar-Pamlico River Basin Restoration Priorities.

N.C. Department of Natural and Cultural Resources. N.C. State Historic Preservation Office. 2018. (<http://gis.ncdcr.gov/hpoweb/>) (Accessed January 3, 2019)

N.C. Floodplain Mapping Program. 2018. N.C. Flood Risk Information System. (<https://fris.nc.gov/fris/Home.aspx?ST=NC>) (Accessed January 3, 2019)

U.S. Census Bureau. 2018. QuickFacts, Edgecombe County, North Carolina. Updated 1 July, 2018 <https://www.census.gov/quickfacts/fact/dashboard/edgecombecountynorthcarolina/PST045218>

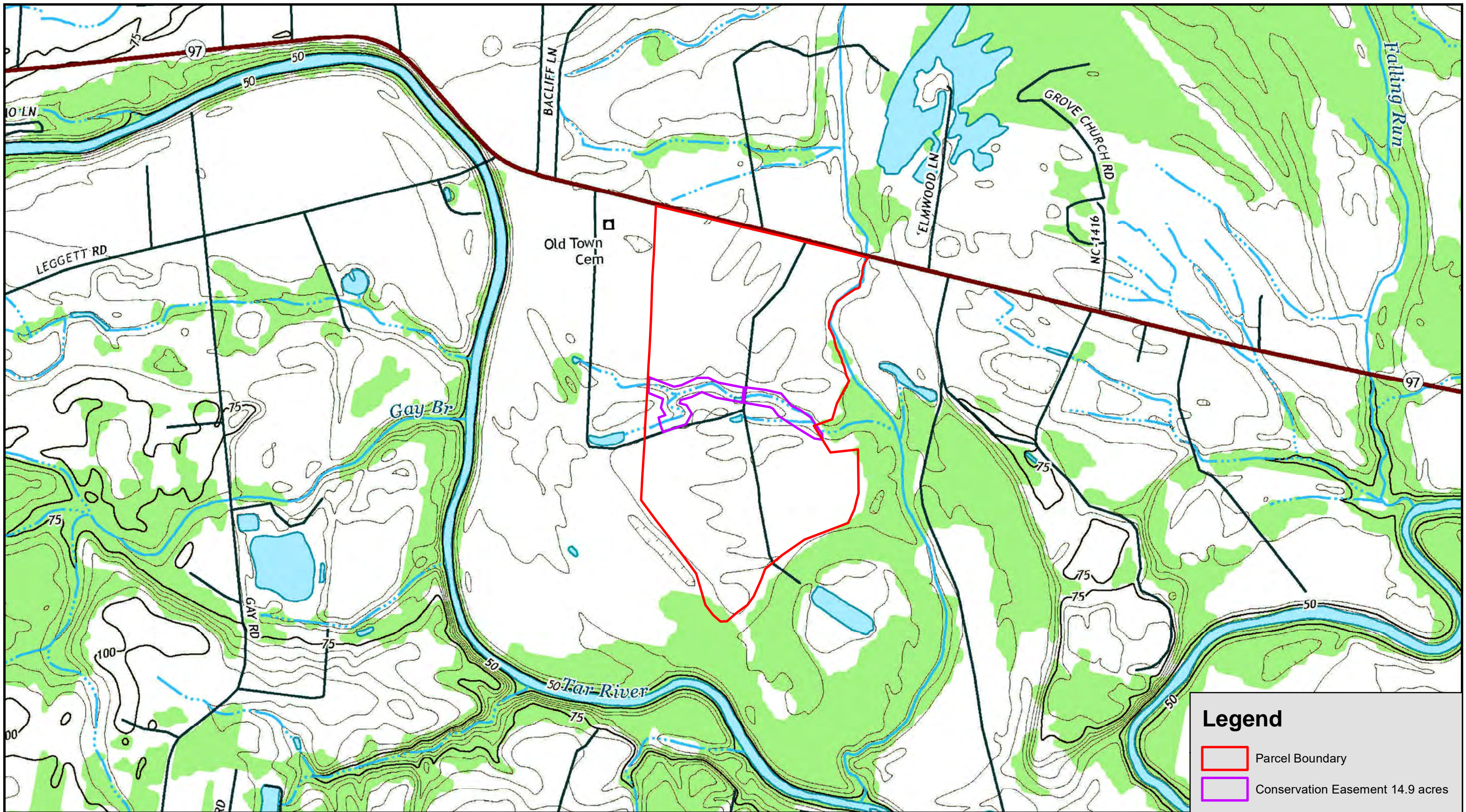
U.S. Department of Agriculture. Natural Resources Conservation Service. 1979. Soil Survey of Edgecombe County, North Carolina.

U.S. Department of Agriculture. Natural Resources Conservation Service. 2018. Web Soil Survey. (<https://websoilsurvey.nrcs.usda.gov/app/>). (Accessed January 2, 2019)

U.S. Fish and Wildlife Service, 2018. Endangered Species, Threatened Species, Federal Species of Concern, and Candidate Species, Edgecombe County, North Carolina. Updated 27 June 2018. (<https://www.fws.gov/raleigh/species/cntylist/edgecombe.html>)

U.S. Geological Survey. 2013. Hartsease. 1:24,000. North Carolina Topographic Quadrangle (7.5-minute series). Reston, VA: U.S. Department of the Interior, USGS, 2013.

U.S. Geological Survey. 2018. StreamStats. (<https://streamstats.usgs.gov/ss/>) (Accessed January 3, 2019)



Legend

- Parcel Boundary
- Conservation Easement 14.9 acres



Vicinity Map
 Boseman Buffer Mitigation Site
 Tar-Pamlico 03020101
 Edgecombe County, North Carolina
 January 2020
 2013 Hartsease USGS Quadrangle

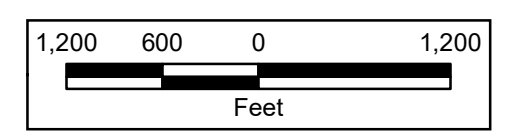
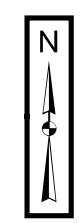
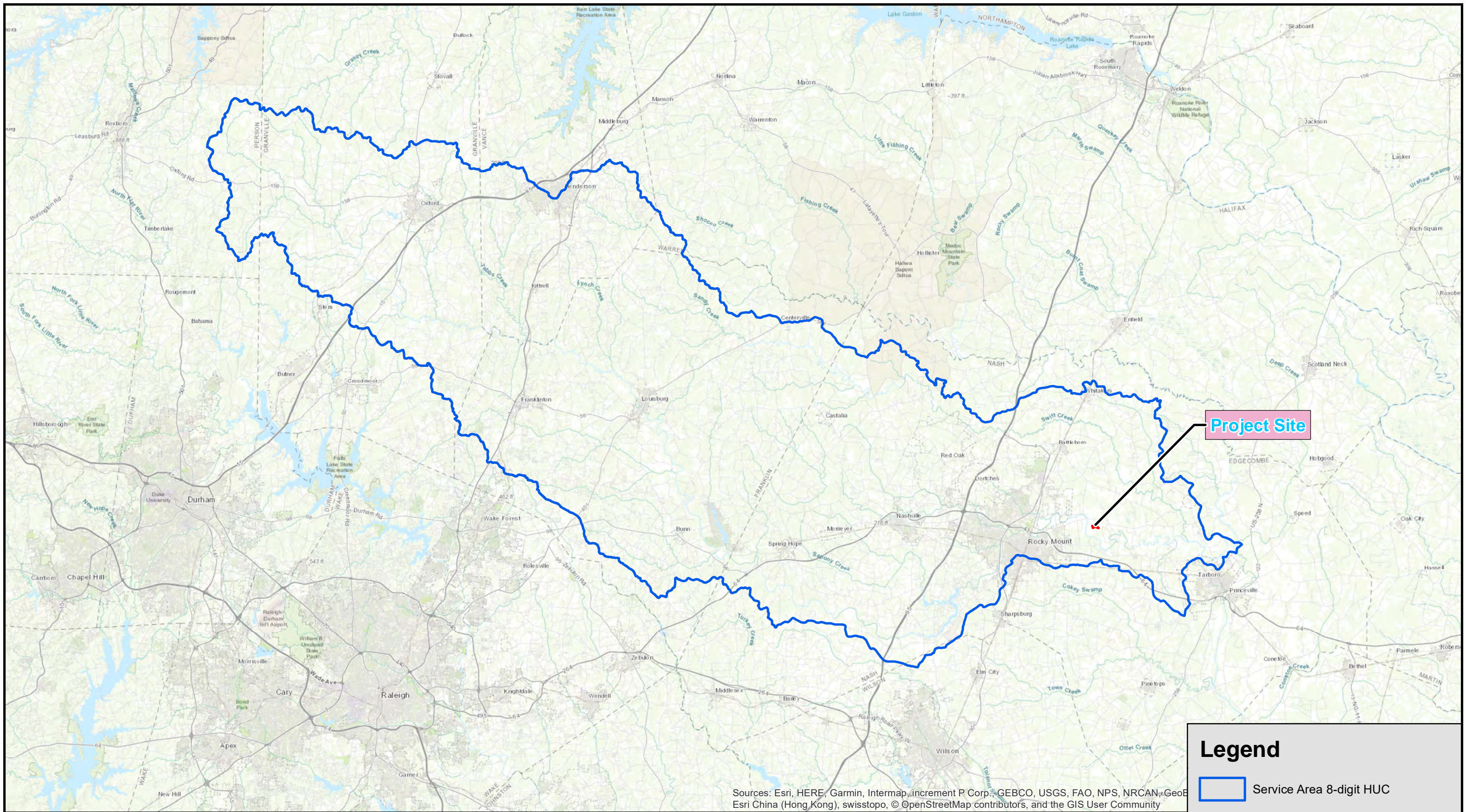


Figure 1



Project Site

Legend

 Service Area 8-digit HUC



Service Area
Boseman Buffer Mitigation Site
Tar-Pamlico 03020101
Edgecombe County, North Carolina
January 2020
 ESRI Topographic Basemap

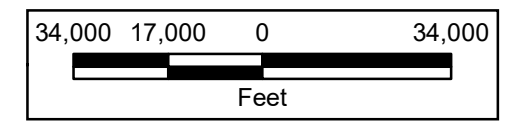
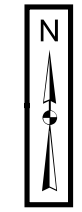
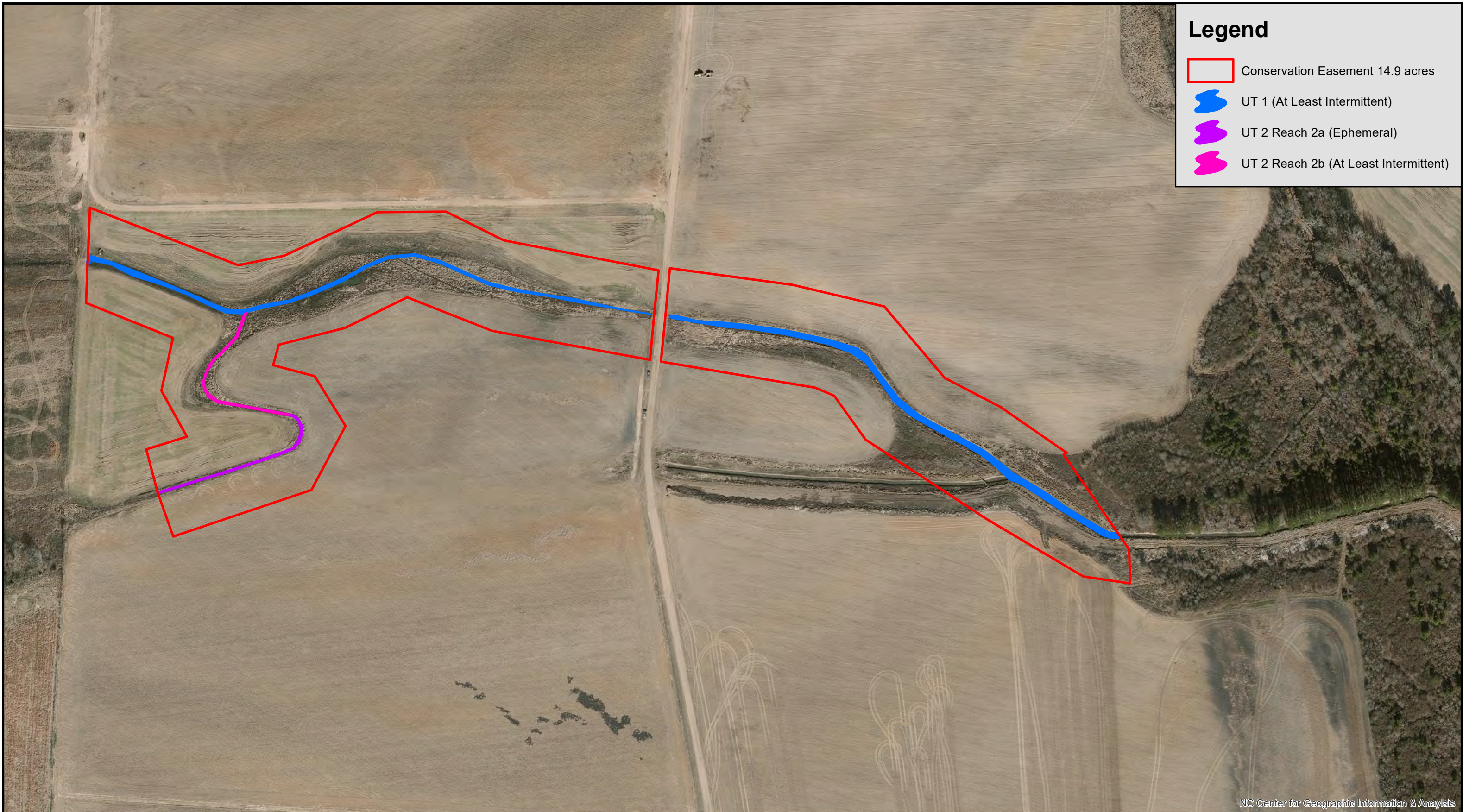


Figure 2



Legend

- Conservation Easement 14.9 acres
- UT 1 (At Least Intermittent)
- UT 2 Reach 2a (Ephemeral)
- UT 2 Reach 2b (At Least Intermittent)

NC Center for Geographic Information & Analysis



Existing Conditions
Boseman Buffer Mitigation Site
Tar-Pamlico 03020101
Edgecombe County, North Carolina
January 2020
 2017 Aerial from NCOneMap

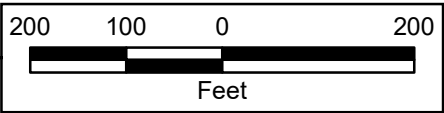
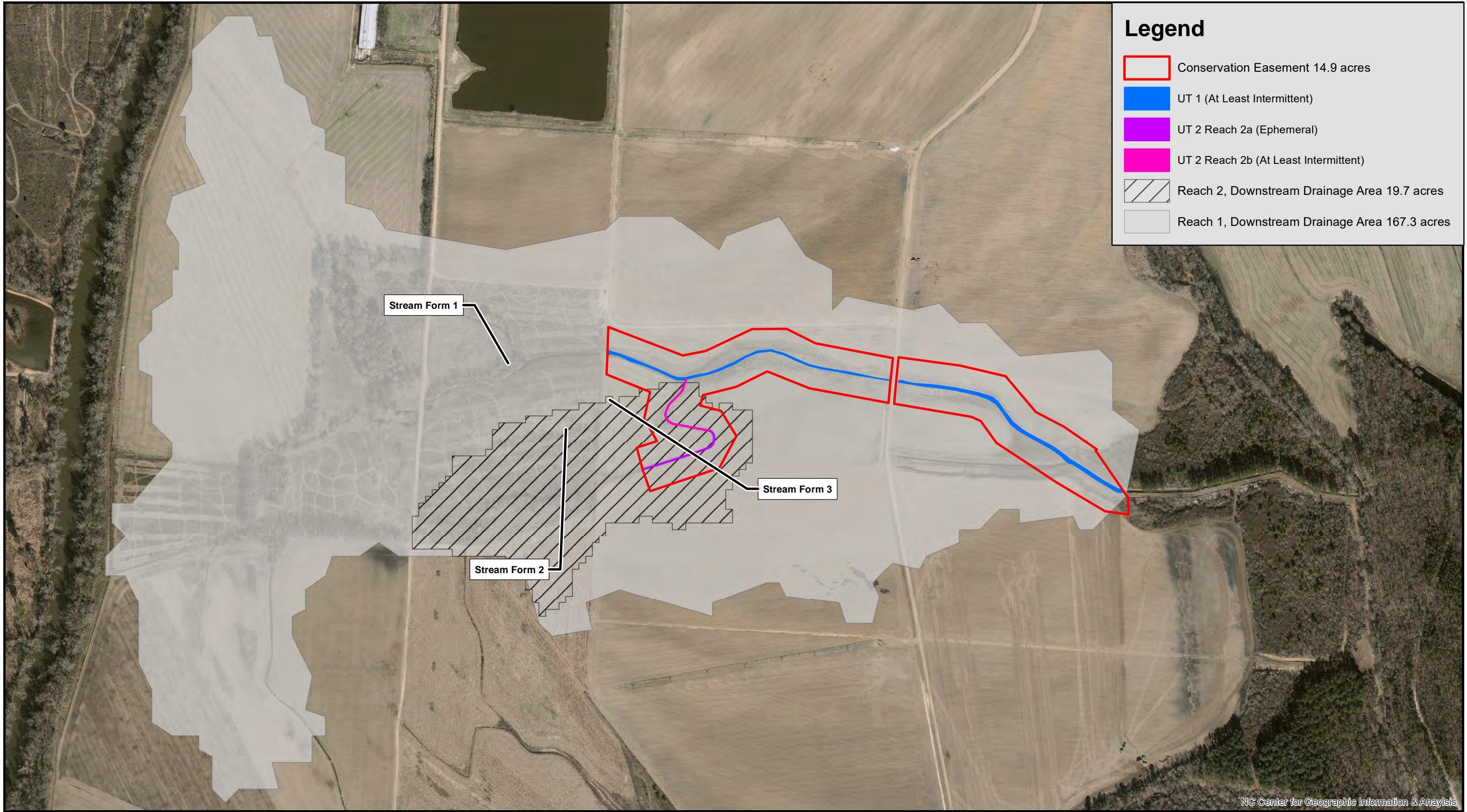


Figure 3



Legend

- Conservation Easement 14.9 acres
- UT 1 (At Least Intermittent)
- UT 2 Reach 2a (Ephemeral)
- UT 2 Reach 2b (At Least Intermittent)
- Reach 2, Downstream Drainage Area 19.7 acres
- Reach 1, Downstream Drainage Area 167.3 acres

Stream Form 1

Stream Form 3

Stream Form 2

NC Center for Geographic Information & Analysis



Drainage Area Map
Boseman Buffer Mitigation Site
Tar-Pamlico 03020101
Edgecombe County, North Carolina
January 2020

2017 Aerial from NCOneMap, Drainage Areas from StreamStats

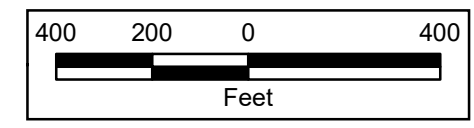
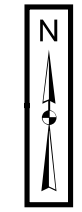



Figure 4



Legend
 Conservation Easement 14.9 acres



Soil Survey
 Boseman Buffer Mitigation Site
 Tar-Pamlico 03020101
 Edgecombe County, North Carolina
 January 2020

1979 Printed NRCS Soil Survey of Edgecombe County, Map Sheets 9 & 13

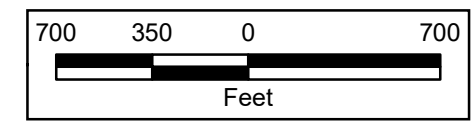
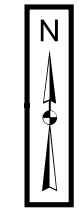
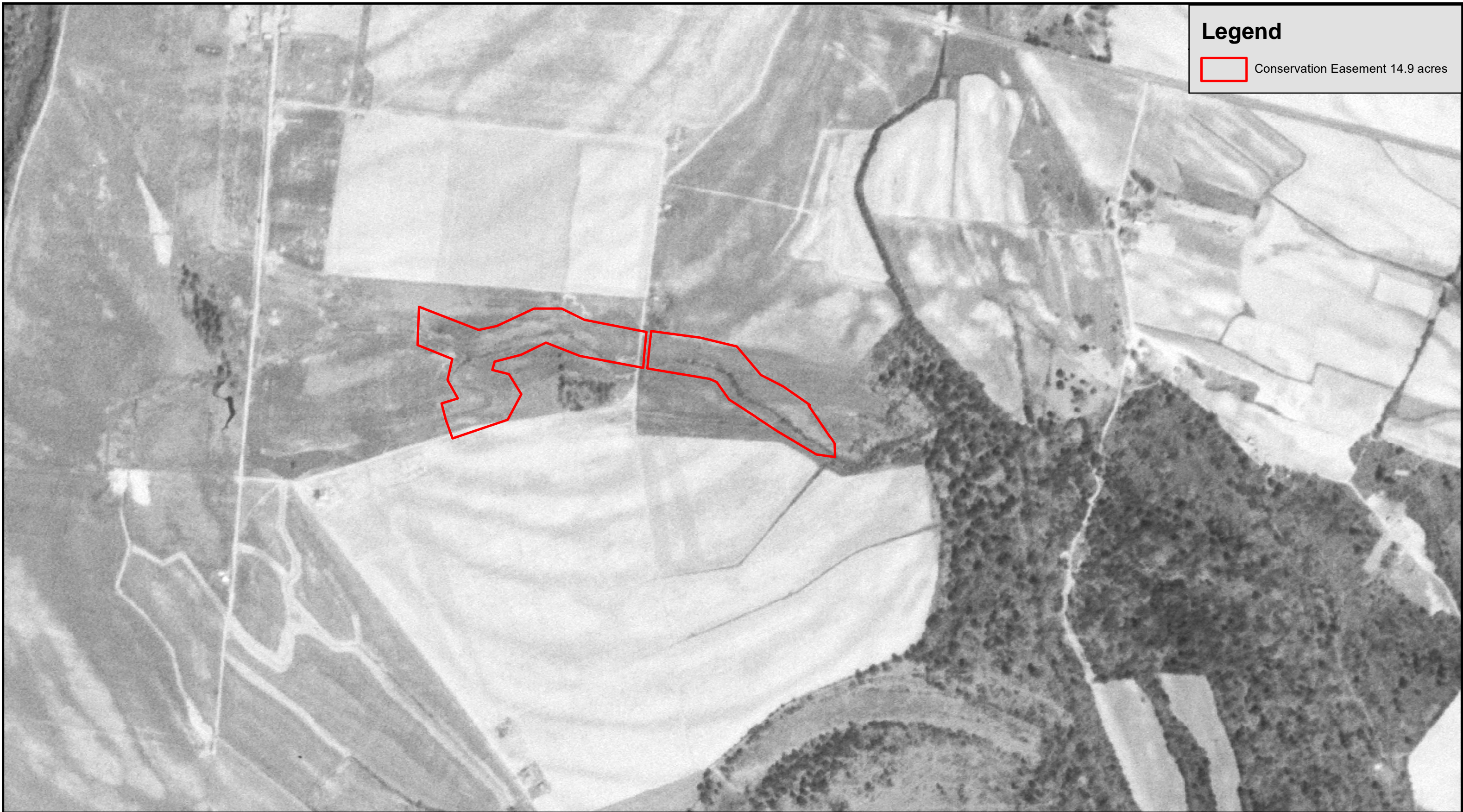



Figure 5



Legend

 Conservation Easement 14.9 acres



Historic 1955 Aerial
Boseman Buffer Mitigation Site
Tar-Pamlico 03020101
Edgecombe County, North Carolina
January 2020
1955 Aerial from USGS Earth Explorer

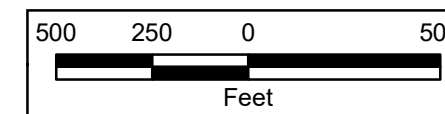
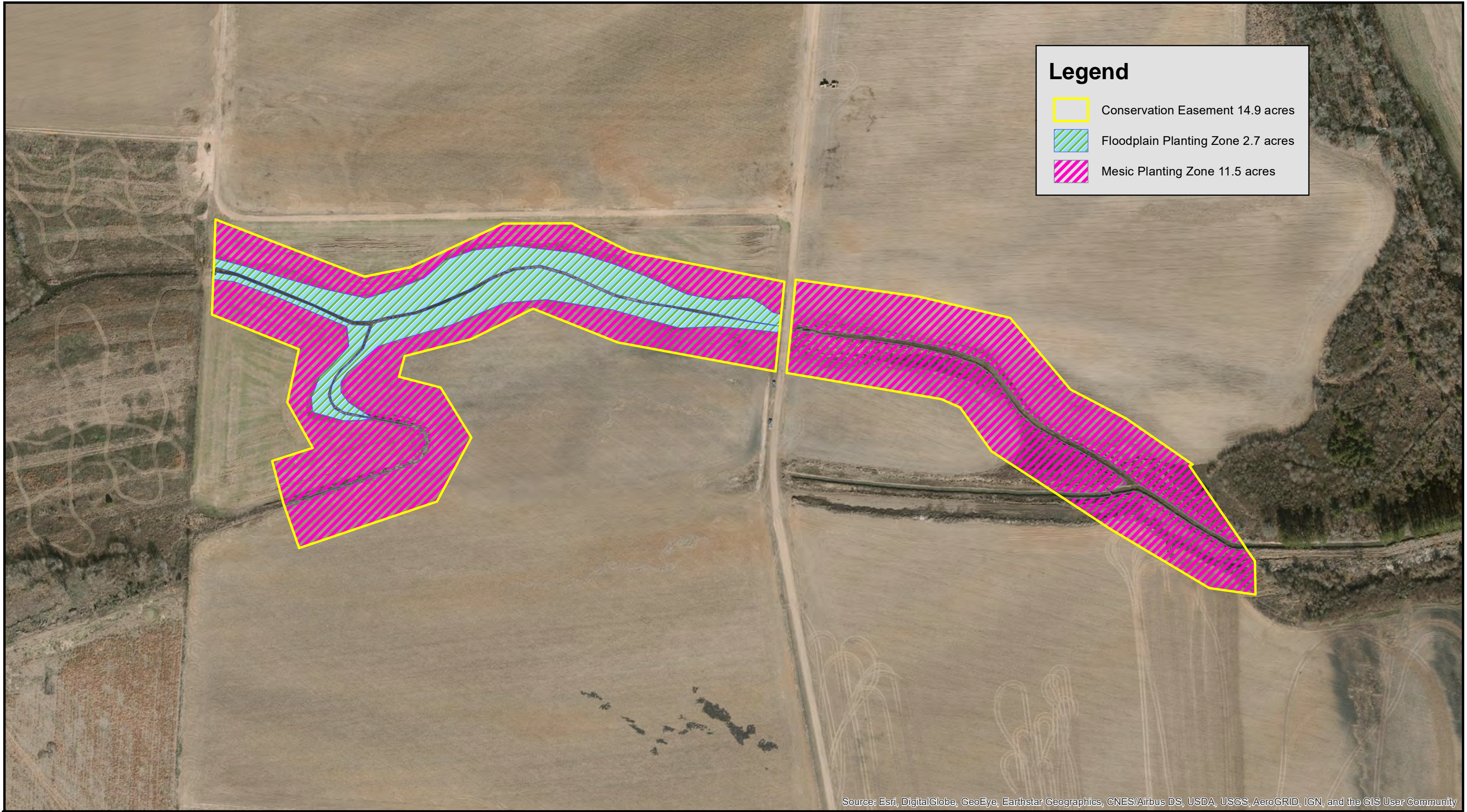


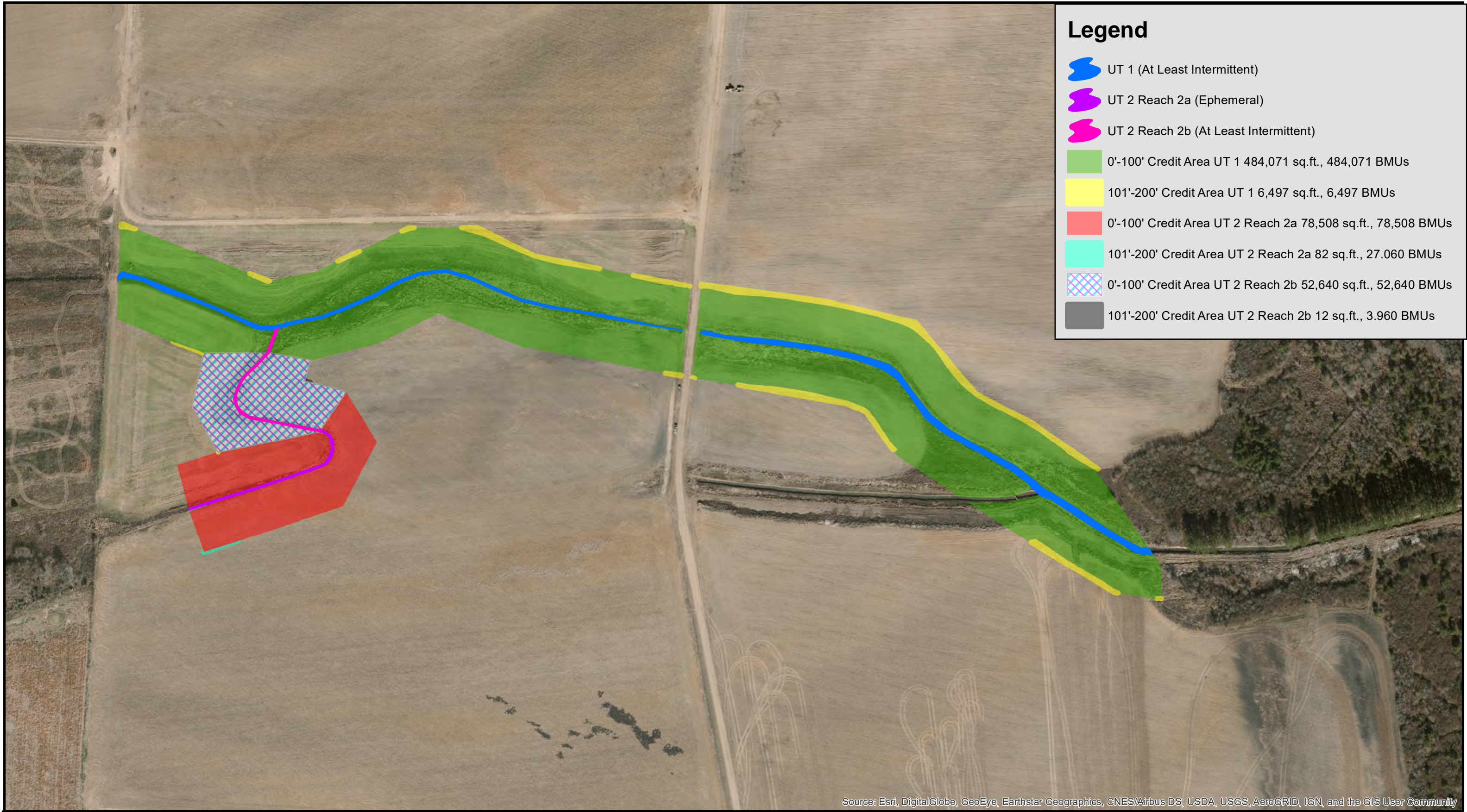
Figure
6












Legend

-  Conservation Easement 14.9 acres
-  Floodplain Planting Zone 2.7 acres
-  Mesic Planting Zone 11.5 acres

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

-  UT 1 (At Least Intermittent)
-  UT 2 Reach 2a (Ephemeral)
-  UT 2 Reach 2b (At Least Intermittent)
-  0'-100' Credit Area UT 1 484,071 sq.ft., 484,071 BMUs
-  101'-200' Credit Area UT 1 6,497 sq.ft., 6,497 BMUs
-  0'-100' Credit Area UT 2 Reach 2a 78,508 sq.ft., 78,508 BMUs
-  101'-200' Credit Area UT 2 Reach 2a 82 sq.ft., 27.060 BMUs
-  0'-100' Credit Area UT 2 Reach 2b 52,640 sq.ft., 52,640 BMUs
-  101'-200' Credit Area UT 2 Reach 2b 12 sq.ft., 3.960 BMUs

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Buffer Credit Determination
Boseman Buffer Mitigation Site
 Tar-Pamlico 03020101
 Edgecombe County, North Carolina
 January 2020
 2017 Aerial from NCOneMap

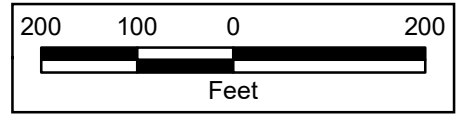
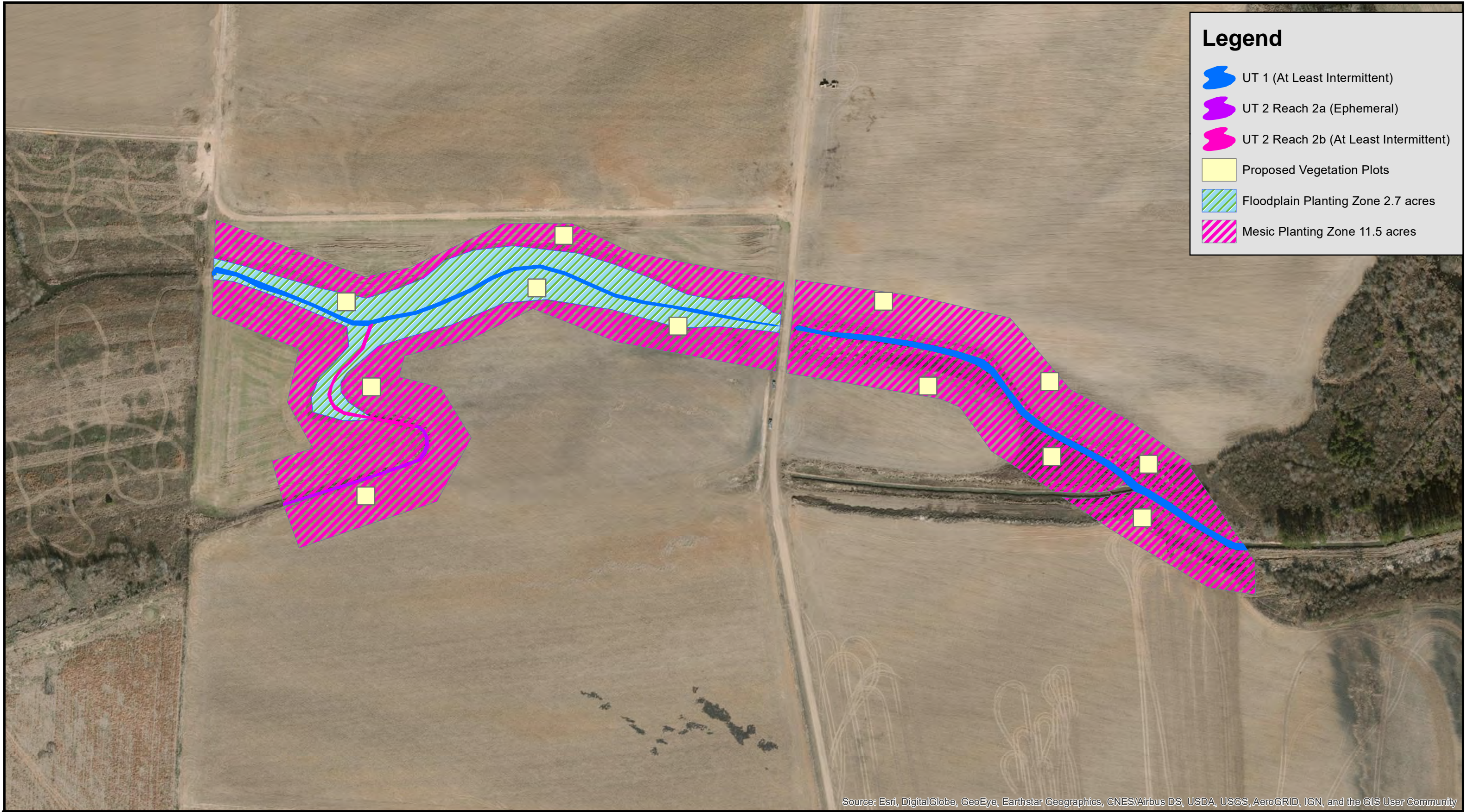








Figure 8



Legend

-  UT 1 (At Least Intermittent)
-  UT 2 Reach 2a (Ephemeral)
-  UT 2 Reach 2b (At Least Intermittent)
-  Proposed Vegetation Plots
-  Floodplain Planting Zone 2.7 acres
-  Mesic Planting Zone 11.5 acres

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community




Proposed Vegetation Plot Location
Boseman Buffer Mitigation Site
 Tar-Pamlico 03020101
 Edgecombe County, North Carolina
 January 2020
 2017 Aerial from NCOneMap

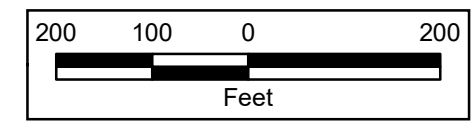
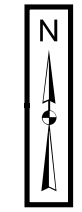


Figure 9

APPENDIX A

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

LINDA CULPEPPER
Director



NORTH CAROLINA
Environmental Quality

July 9, 2019

DWR Project # 2019-0800 V2
Edgecombe County

Eco Terra Partners, LLC
Attention: Ted Griffith
1117 Peachtree Walk NE,
Suite 126
Atlanta, GA 30309

Subject: On-Site Determination for Applicability to the Tar-Pamlico Buffer Rules (15A NCAC 02B .0259)

Project Name: Boseman Buffer Mitigation Site

Parcel ID Number: 388038633500; PIN 3880-38-6335

Address/ Location: 7488 NC 97, Battleboro, NC 27809, Edgecombe County
Lat. 35.963791, Long. -77.703655

Stream(s) Evaluated: Unnamed Tributaries to Tar River, Classified as C; NSW

Determination Date: 6/14/2019

Staff: DWR, Shelton Sullivan

Dear Mr. Griffith,

On June 14, 2019, Shelton Sullivan of the Division of Water Resources (DWR) Central Office conducted an on-site review of features located on the subject property at the request of Ted Griffith of Eco Terra Partners, LLC. The purpose of the inspection was to determine the presence or absence of streams on the site and their ephemeral / intermittent / perennial (E/I/P) characteristics and transition points and the applicability of the Tar-Pamlico Riparian Area Protection Rules (15A NCAC 02B .0259) within the proposed project easement.

The enclosed maps depict the features evaluated and this information is also summarized in the table below. Streams that are "Subject" are shown on the most recently published NRCS Soil Survey of Edgecombe County and/or the most recent copy of the USGS Topographic (at 1:24,000 scale) maps, have been located on the ground at the site, and possess characteristics that qualify them to be at least intermittent streams. Features that are "Not Subject" are not depicted on the required maps, not present on the property, or have been determined to not be at least intermittent.



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1617 Mail Service Center | Raleigh, North Carolina 27699-1617
919.707.9000

Please note that there may be other streams or features located on the property beyond the proposed project easement that may be subject to the Tar-Pamlico Riparian Area Protection Rules, considered jurisdictional according to the US Army Corps of Engineers, and subject to the Clean Water Act.

See the following table for the features rated during the DWR site visit:

Feature ID	Feature Type	*E/I/P Other	Subject to Buffer Rules	Start @	Stop @	Depicted on Soil Survey	Depicted on USGS Topo
R1	Stream	"I" at least	Yes	Labeled as R1 on aerial map provided, at northwestern project boundary	Continues downstream to the eastern project boundary	Yes	Yes
R2A	Stream	"E"	No	Labeled as R2A on aerial map provided, on the southwestern project boundary	Continues to the flagged point R2B where the stream becomes intermittent	Yes	Yes
R2B	Stream	"I" at least	Yes	Labeled R2B on aerial map provided	Continues downstream to confluence with R1	Yes	Yes
R3	Stream (not in the current proposed project boundary)	"I" at least	Yes	Labeled R3 on aerial map provided; Begins on the eastern side of the main path	Continues downstream to confluence with R1	Yes	Yes

* E: Ephemeral, I: Intermittent P: Perennial

This on-site determination shall expire five (5) years from the date of this letter. Landowners or affected parties that dispute a determination made by the DWR may request a determination by the Director. An appeal request must be made within sixty (60) calendar days of the date of this letter to the Director in writing.

If sending via U.S. Postal Service:
 DWR- 401 & Buffer Permitting Branch
 c/o Karen Higgins
 1617 Mail Service Center
 Raleigh, NC 27699-1617

If sending via delivery service (UPS, FedEx, etc.)
 DWR- 401 & Buffer Permitting Branch
 c/o Karen Higgins
 512 N Salisbury St
 Raleigh, NC 27604

This determination is final and binding as detailed above, unless an appeal is requested **within sixty (60) calendar days**.

This letter only addresses the stream features on the subject property and within the proposed easement and the applicability of the buffer rules and does not approve any activity within buffers or within waters of the state. If you have any additional questions or require additional information, please call Shelton Sullivan at (919) 707-3636. This determination is subject to review as provided in Articles 3 & 4 of G.S. 150B.

Sincerely,

A handwritten signature in blue ink that reads "Paul Wojoski".

for
Karen Higgins, Supervisor
401 & Buffer Permitting Branch

Enclosures: Photographs with Description; Site Map, Soil Survey, USGS Topo

cc: Joel Boseman, P.O. Box 550, Battleboro, NC 27809
Joel Boseman via email bosemanforms@yahoo.com
Ted Griffith, Eco Terra Partners, LLC via email ted@ecoterra.com
401 & Buffer Permitting Branch files

Boseman Buffer Mitigation Site Photographs, 6-14-2019

R1 Start Location



R1 Downstream from Start Location



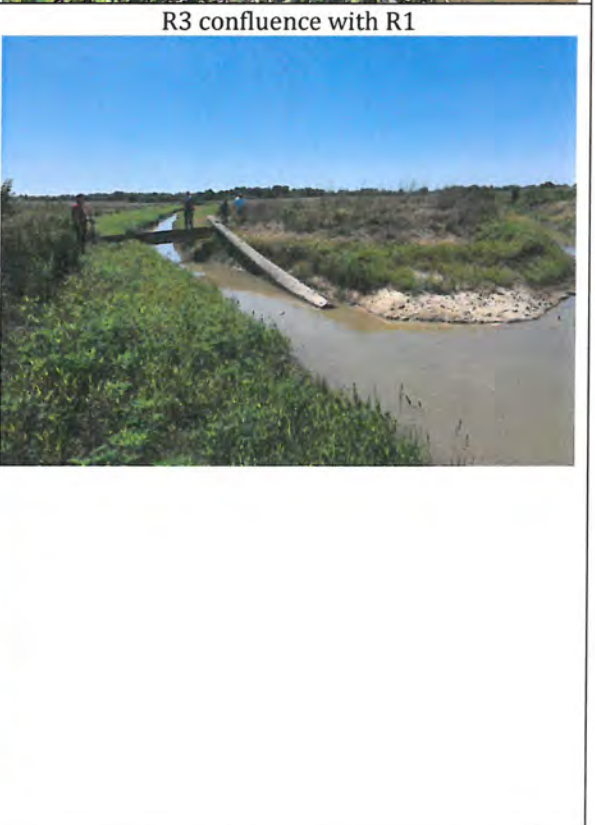
R1 upstream of main path; looking downstream

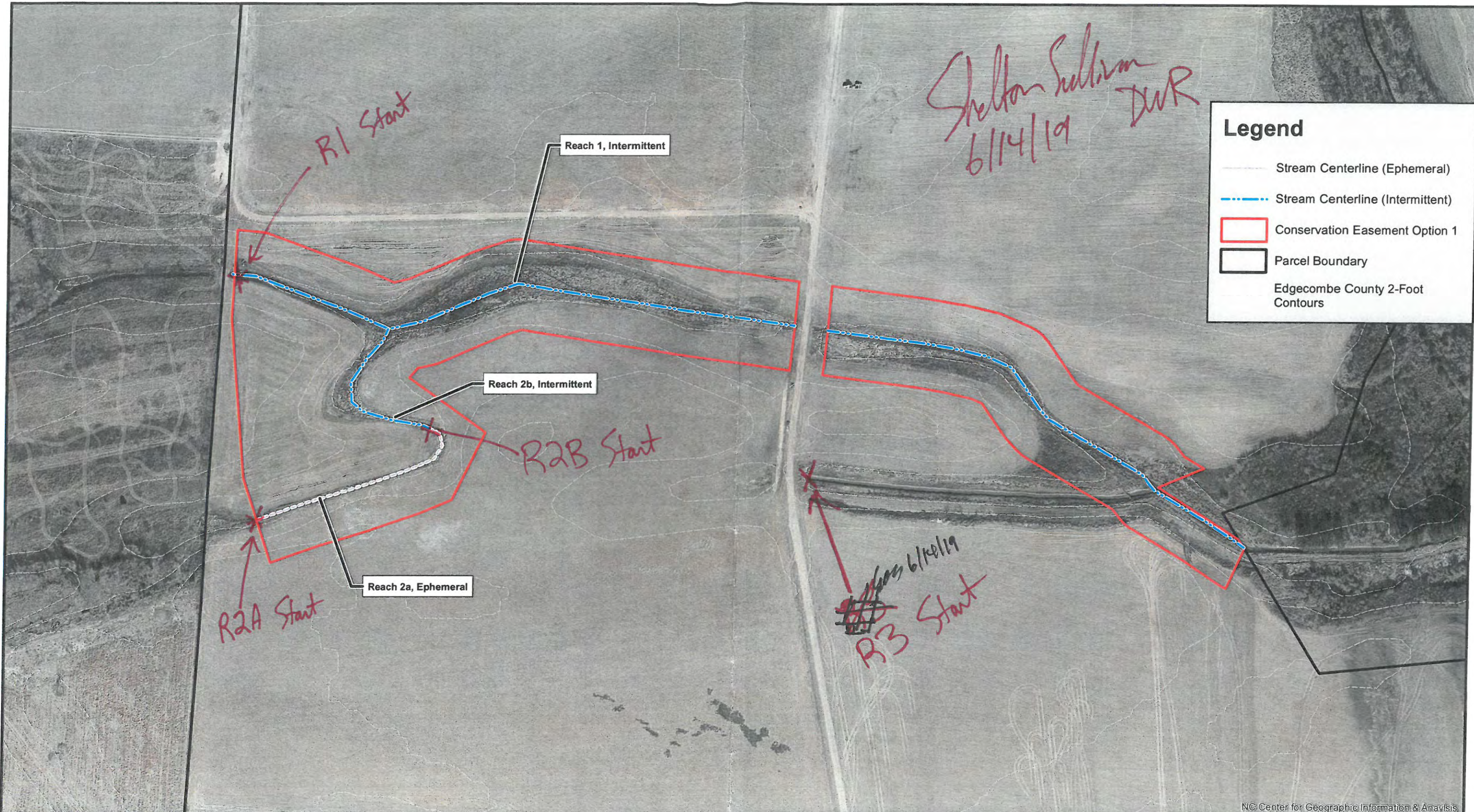


R1 at eastern most project boundary



Boseman Buffer Mitigation Site Photographs, 6-14-2019 (continued)





Existing Conditions
 Boseman Buffer Mitigation Site
 Tar-Pamlico 03020101
 Edgecombe County, North Carolina
 January 2019
 2017 Aerial from NCOneMap

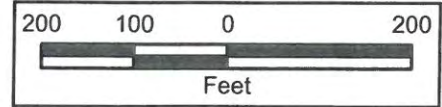
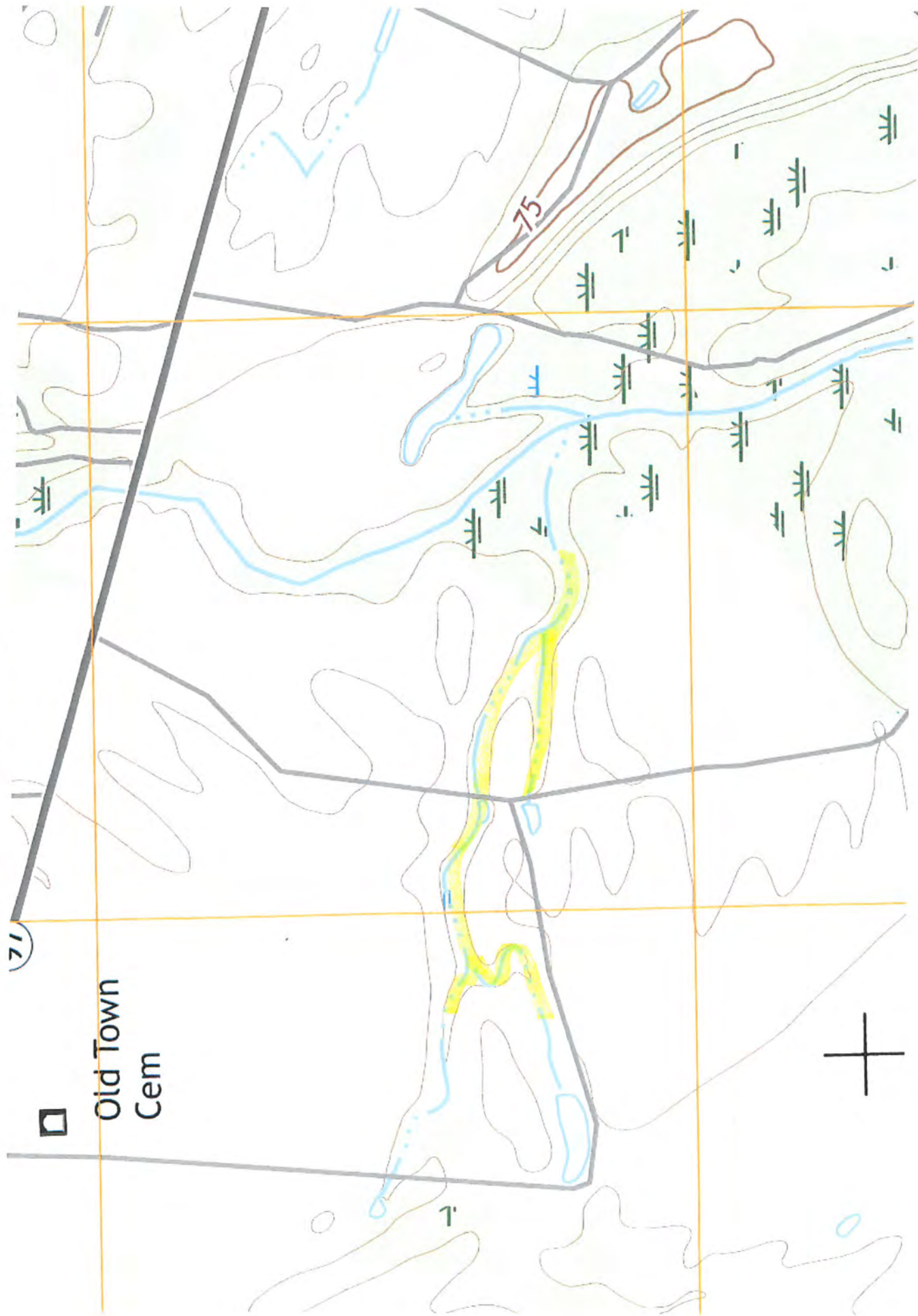
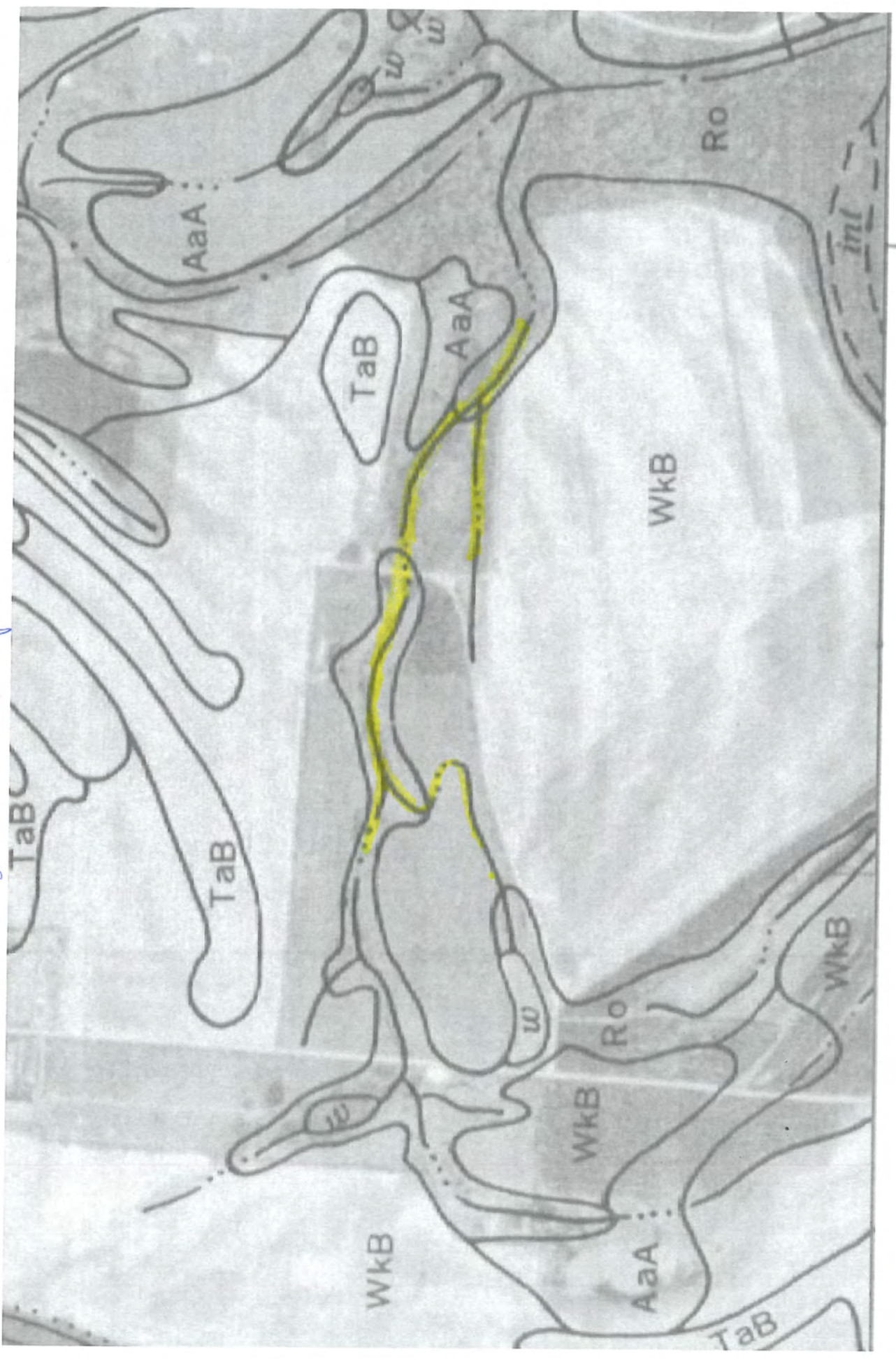


Figure 1B

GPS 6-21-11
USGS Great Edgemont Co. Map



NRCS Edgemoor Co. Map



ROY COOPER
Governor
MICHAEL S. REGAN
Secretary
LINDA CULPEPPER
Director



NORTH CAROLINA
Environmental Quality

July 17, 2019

Ted Griffith
Eco Terra Partners, LLC
1117 Peachtree Walk NE, Suite 126
Atlanta, GA 30309
(via electronic mail: Ted@EcoTerra.com)

DWR# 2019-0800
Edgecombe County

Re: Site Viability for Buffer Mitigation & Nutrient Offset – Boseman Site
Located near 8019-7621, NC 97, Battleboro, NC
Tar-Pamlico 03020101

Dear Mr. Griffith,

On June 7, 2019, Katie Merritt, with the Division of Water Resources (DWR), received a request from Eco Terra Partners, LLC (ETP) for an onsite mitigation determination near the above-referenced site (Site). The Site is located within the Tar-Pamlico River Basin in the 8-digit Hydrologic Unit Code 03020101. The Site is being proposed as part of a full-delivery nutrient offset and riparian buffer mitigation project for the Division of Mitigation Services (RFP #16-007711). Staff from the Division of Mitigation Services were also present onsite. At your request, Ms. Merritt performed an onsite assessment of riparian land uses adjacent to streams and channels onsite, which are shown on the attached map labeled “Figure 1B-Existing Conditions”.

Ms. Merritt’s evaluation of the features onsite and their associated mitigation determination for the riparian areas are provided in the table below. This evaluation was made from Top of Bank (TOB) and landward 200’ from each feature for buffer mitigation pursuant to 15A NCAC 02B .0295 (effective November 1, 2015) and for nutrient offset credits pursuant to 15A NCAC 02B .0240.

<u>Feature</u>	<u>Classification onsite</u>	<u>¹Subject to Buffer Rule</u>	<u>Riparian Land uses adjacent to Feature (0-200’)</u>	<u>Buffer Credit Viable</u>	<u>²Nutrient Offset Viable</u>	<u>⁵Mitigation Type Determination w/in riparian areas</u>
R1	Stream	Yes	Non-forested row crop fields with areas forested downstream @ confluence w/ R3	³ Yes	Yes (<i>non-forested ag fields only</i>)	Non-forested areas - Restoration Site per 15A NCAC 02B .0295 (n) Forested Areas - Preservation Site per 15A NCAC 02B .0295 (o)(5) <i>Drain tiles shall be removed to restore diffused flow</i>
R2A	Ephemeral	No	Non-forested row crop fields	⁴ Yes	Yes	Restoration Site per 15A NCAC 02B .0295 (o)(7)



<u>Feature</u>	<u>Classification onsite</u>	<u>¹Subject to Buffer Rule</u>	<u>Riparian Land uses adjacent to Feature (0-200')</u>	<u>Buffer Credit Viable</u>	<u>²Nutrient Offset Viable</u>	<u>⁵Mitigation Type Determination w/in riparian areas</u>
R2B	Stream	Yes	Non-forested row crop fields	Yes	Yes	Restoration Site per 15A NCAC 02B .0295 (n)
R3	Stream	Yes	Non-forested row crop fields	Yes	Yes	Restoration Site per 15A NCAC 02B .0295 (n)

¹Subjectivity calls for the features were determined by DWR in correspondence dated July 9, 2019 using the 1:24,000 scale quadrangle topographic map prepared by USGS and the most recent printed version of the soil survey map prepared by the NRCS .

² NC Division of Water Resources - Methodology and Calculations for determining Nutrient Reductions associated with Riparian Buffer Establishment

³The area of preservation credit within a buffer mitigation site shall comprise of no more than 25 percent (25%) of the total area of buffer mitigation per 15A NCAC 0295 (o)(5) and 15A NCAC 0295 (o)(4). Site cannot be a Preservation Only site to comply with this rule.

⁴The area of the mitigation site on ephemeral channels shall comprise no more than 25 percent (25%) of the total area of buffer mitigation per 15A NCAC 02B .0295 (o)(7).

⁵All features proposed for buffer mitigation or nutrient offset, must have a conservation easement established that includes the tops of channel banks when being measured perpendicular and landward from the banks, even when no credit is viable within the 50' riparian buffer.

The maps attached to this letter were prepared by ETP and were initialed by Ms. Merritt on July 17, 2019.

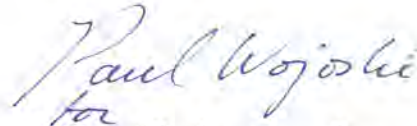
This letter does not constitute an approval of this site to generate mitigation credits. Pursuant to 15A NCAC 02B .0295, a mitigation proposal and a mitigation plan shall be submitted to DWR for written approval **prior** to conducting any mitigation activities in riparian areas and/or surface waters for buffer mitigation credit. Pursuant to 15A NCAC 02B .0240, a proposal regarding a proposed nutrient load-reducing measure for nutrient offset credit shall be submitted to DWR for approval prior to any mitigation activities in riparian areas and/or surface waters.

All vegetative plantings, performance criteria and other mitigation requirements for riparian restoration, enhancement and preservation must follow the requirements in 15A NCAC 02B .0295 to be eligible for buffer and/or nutrient offset mitigation credits. For any areas depicted as not being viable for nutrient offset credit above, one could propose a different measure, along with supporting calculations and sufficient detail to support estimates of load reduction, for review by the DWR to determine viability for nutrient offset in accordance with 15A NCAC 02B .0240.

Boseman Site
Eco Terra
July 17, 2019

This viability assessment will expire on July 17, 2021 or upon the submittal of an As-Built Report to the DWR, whichever comes first. **This letter should be provided in all stream and wetland, buffer and/or nutrient offset mitigation plans for this Site.**

Sincerely,

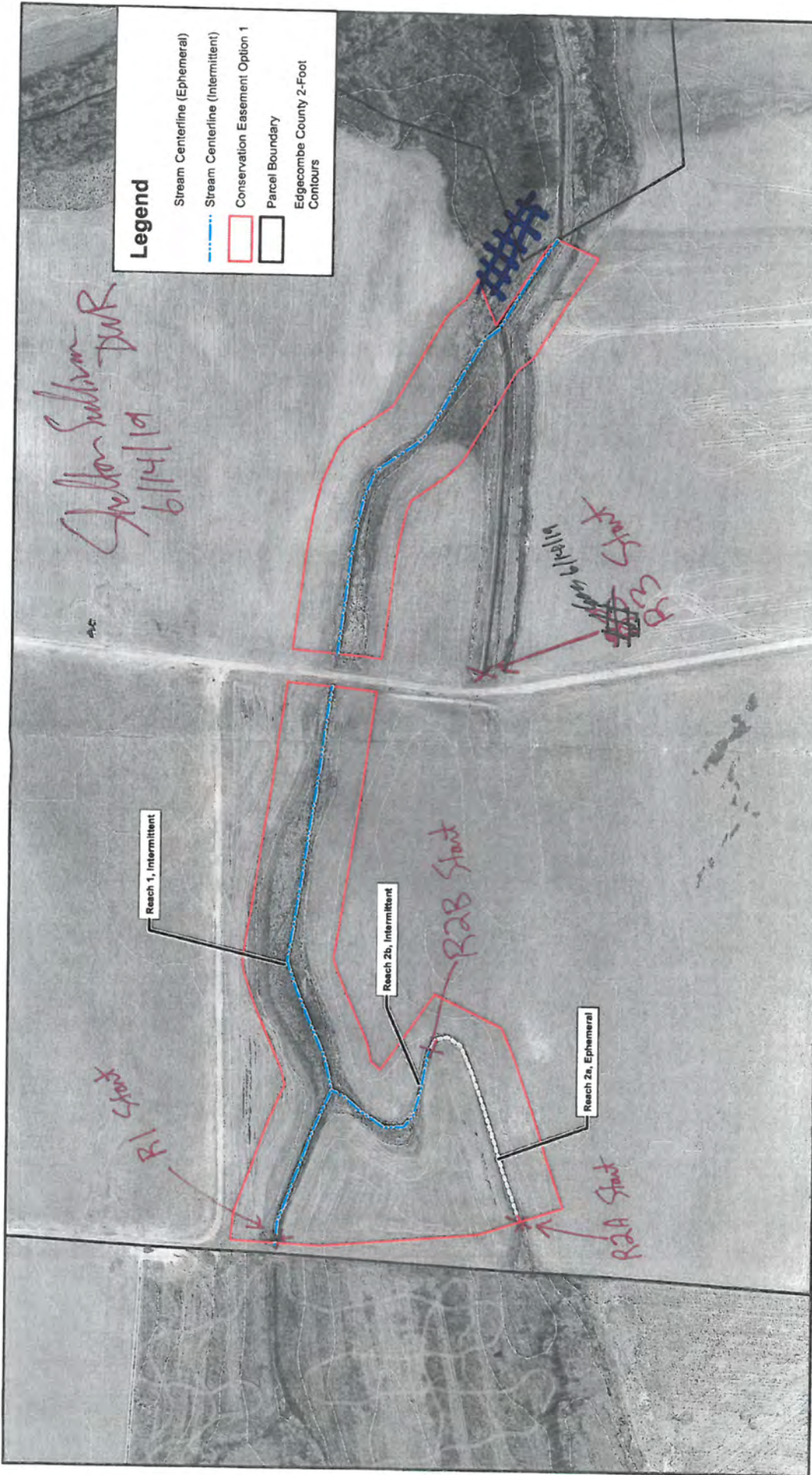


for
Karen Higgins, Supervisor
401 and Buffer Permitting Branch

KAH/km

Attachments: Figure 1B-Existing Conditions Map/Stream Determination

cc: File Copy (Katie Merritt)
Jeff Schaffer- DMS (via electronic mail)



Legend

- Stream Centerline (Ephemeral)
- Stream Centerline (Intermittent)
- Conservation Easement Option 1
- Parcel Boundary
- Edgecombe County 2-Foot Contours

NC Computer for Geographic Information Systems

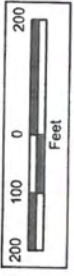


Figure 1B

Existing Conditions
 Boseman Buffer Mitigation Site
 Tar-Pamlico 03020101
 Edgecombe County, North Carolina
 January 2019
 2017 Aerial from NCOneMap



6/17/19
 ### = Forested

APPENDIX B

STATE OF NORTH CAROLINA

**DEED OF CONSERVATION EASEMENT
AND RIGHT OF ACCESS PROVIDED
PURSUANT TO
FULL DELIVERY
MITIGATION CONTRACT**

EDGECOMBE COUNTY

**SPO File Number: 33-UK
DMS Project Number: 100119**

Prepared by: Office of the Attorney General
Property Control Section
Return to: NC Department of Administration
State Property Office
1321 Mail Service Center
Raleigh, NC 27699-1321

THIS DEED OF CONSERVATION EASEMENT AND RIGHT OF ACCESS, made this 17th day of October, 2019, by **Joel M. Boseman**, (“**Grantor**”), whose mailing address is PO Box 550 Battleboro, NC 27809, to the State of North Carolina, (“**Grantee**”), whose mailing address is State of North Carolina, Department of Administration, State Property Office, 1321 Mail Service Center, Raleigh, NC 27699-1321. The designations of Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine, or neuter as required by context.

WITNESSETH:

WHEREAS, pursuant to the provisions of N.C. Gen. Stat. § 143-214.8 et seq., the State of North Carolina has established the Division of Mitigation Services (formerly known as the Ecosystem Enhancement Program and Wetlands Restoration Program) within the Department of Environment and Natural Resources for the purposes of acquiring, maintaining, restoring, enhancing, creating and preserving wetland and riparian resources that contribute to the protection and improvement of water quality, flood prevention, fisheries, aquatic habitat, wildlife habitat, and recreational opportunities; and

WHEREAS, this Conservation Easement from Grantor to Grantee has been negotiated, arranged and provided for as a condition of a full delivery contract between **Eco Terra Partners LLC** whose mailing address is 1117 Peachtree Walk NE Atlanta, GA 30309 and the North Carolina Department of Environmental Quality, to provide stream, wetland and/or buffer mitigation pursuant to the North Carolina Department of Environmental Quality Purchase and Services Contract Number 7872.

WHEREAS, The State of North Carolina is qualified to be the Grantee of a Conservation Easement pursuant to N.C. Gen. Stat. § 121-35; and

WHEREAS, the Department of Environment and Natural Resources and the United States Army Corps of Engineers, Wilmington District entered into a Memorandum of Understanding, (MOU) duly executed by all parties on November 4, 1998. This MOU recognized that the Wetlands Restoration Program was to provide effective compensatory mitigation for authorized impacts to wetlands, streams and other aquatic resources by restoring, enhancing and preserving the wetland and riparian areas of the State; and

WHEREAS, the Department of Environment and Natural Resources, the North Carolina Department of Transportation and the United States Army Corps of Engineers, Wilmington District entered into a Memorandum of Agreement, (MOA) duly executed by all parties in Greensboro, NC on July 22, 2003, which recognizes that the Division of Mitigation Services (formerly Ecosystem Enhancement Program) is to provide for compensatory mitigation by effective protection of the land, water and natural resources of the State by restoring, enhancing and preserving ecosystem functions; and

WHEREAS, the Department of Environment and Natural Resources, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the North Carolina Wildlife Resources Commission, the North Carolina Division of Water Quality, the North Carolina Division of Coastal Management, and the National Marine Fisheries Service entered into an agreement to continue the In-Lieu Fee operations of the North Carolina Department of Natural Resources' Division of Mitigation Services (formerly Ecosystem Enhancement Program) with an effective date of 28 July, 2010, which supersedes and replaces the previously effective MOA and MOU referenced above; and

WHEREAS, the acceptance of this instrument for and on behalf of the State of North Carolina was granted to the Department of Administration by resolution as approved by the Governor and Council of State adopted at a meeting held in the City of Raleigh, North Carolina, on the 8th day of February 2000; and

WHEREAS, the Division of Mitigation Services in the Department of Environmental Quality, which has been delegated the authority authorized by the Governor and Council of State to the Department of Administration, has approved acceptance of this instrument; and

WHEREAS, Grantor owns in fee simple certain real property situated, lying, and being in Township NO. 7, Edgecombe County, North Carolina (the "**Property**"), and being more

particularly described as that certain parcel of land containing approximately 277.49 acres and being conveyed to the Grantor by deed as recorded in **Deed Book 1640 at Page 0667** of the Edgecombe County Registry, North Carolina; and

WHEREAS, Grantor is willing to grant a Conservation Easement and Right of Access over the herein described areas of the Property, thereby restricting and limiting the use of the areas of the Property subject to the Conservation Easement to the terms and conditions and purposes hereinafter set forth, and Grantee is willing to accept said Easement and Access Rights. The Conservation Easement shall be for the protection and benefit of the waters of *two unnamed tributaries to the Tar River*

NOW, THEREFORE, in consideration of the mutual covenants, terms, conditions, and restrictions hereinafter set forth, Grantor unconditionally and irrevocably hereby grants and conveys unto Grantee, its successors and assigns, forever and in perpetuity, a Conservation Easement along with a general Right of Access.

The Conservation Easement Area consists of the following:

Tracts Number 3880-38-6335 containing a total of 14.919 **acres** as shown on the plats of survey entitled “Final Plat, Conservation Easement for North Carolina Division of Mitigation Services, Project Name: Boseman Buffer Mitigation Site, SPO File No. 33-UK, EEP Site No. 100119, Property of Joel M. Boseman,” dated _____, 2019 by Timothy P. Murray, PLS Number L-4833 and recorded in the Edgecombe County, North Carolina Register of Deeds at **Plat Book _____ Pages _____**.

See attached “**Exhibit A**”, Legal Description of area of the Property hereinafter referred to as the “Conservation Easement Area”

The purposes of this Conservation Easement are to maintain, restore, enhance, construct, create and preserve wetland and/or riparian resources in the Conservation Easement Area that contribute to the protection and improvement of water quality, flood prevention, fisheries, aquatic habitat, wildlife habitat, and recreational opportunities; to maintain permanently the Conservation Easement Area in its natural condition, consistent with these purposes; and to prevent any use of the Easement Area that will significantly impair or interfere with these purposes. To achieve these purposes, the following conditions and restrictions are set forth:

I. DURATION OF EASEMENT

Pursuant to law, including the above referenced statutes, this Conservation Easement and Right of Access shall be perpetual and it shall run with, and be a continuing restriction upon the use of, the Property, and it shall be enforceable by the Grantee against the Grantor and against Grantor’s heirs, successors and assigns, personal representatives, agents, lessees, and licensees.

II. GRANTOR RESERVED USES AND RESTRICTED ACTIVITIES

The Conservation Easement Area shall be restricted from any development or usage that would impair or interfere with the purposes of this Conservation Easement. Unless expressly reserved as a compatible use herein, any activity in, or use of, the Conservation Easement Area by the Grantor is prohibited as inconsistent with the purposes of this Conservation Easement. Any rights not expressly reserved hereunder by the Grantor have been acquired by the Grantee. Any rights not expressly reserved hereunder by the Grantor, including the rights to all mitigation credits, including, but not limited to, stream, wetland, and riparian buffer mitigation units, derived from each site within the area of the Conservation Easement, are conveyed to and belong to the Grantee. Without limiting the generality of the foregoing, the following specific uses are prohibited, restricted, or reserved as indicated:

A. Recreational Uses. Grantor expressly reserves the right to undeveloped recreational uses, including hiking, bird watching, hunting and fishing, and access to the Conservation Easement Area for the purposes thereof.

B. Motorized Vehicle Use. Motorized vehicle use in the Conservation Easement Area is prohibited except within a Crossing Area(s) or Road or Trail as shown on the recorded survey plat.

C. Educational Uses. The Grantor reserves the right to engage in and permit others to engage in educational uses in the Conservation Easement Area not inconsistent with this Conservation Easement, and the right of access to the Conservation Easement Area for such purposes including organized educational activities such as site visits and observations. Educational uses of the property shall not alter vegetation, hydrology or topography of the site.

D. Damage to Vegetation. Except within Crossing Area(s) as shown on the recorded survey plat and as related to the removal of non-native plants, diseased or damaged trees, or vegetation that destabilizes or renders unsafe the Conservation Easement Area to persons or natural habitat, all cutting, removal, mowing, harming, or destruction of any trees and vegetation in the Conservation Easement Area is prohibited.

E. Industrial, Residential and Commercial Uses. All industrial, residential and commercial uses are prohibited in the Conservation Easement Area.

F. Agricultural Use. All agricultural uses are prohibited within the Conservation Easement Area including any use for cropland, waste lagoons, or pastureland.

G. New Construction. There shall be no building, facility, mobile home, antenna, utility pole, tower, or other structure constructed or placed in the Conservation Easement Area.

H. Roads and Trails. There shall be no construction or maintenance of new roads, trails, walkways, or paving in the Conservation Easement.

All existing roads, trails and crossings within the Conservation Easement Area shall be shown on the recorded survey plat.

I. Signs. No signs shall be permitted in the Conservation Easement Area except interpretive signs describing restoration activities and the conservation values of the Conservation Easement Area, signs identifying the owner of the Property and the holder of the Conservation Easement, signs giving directions, or signs prescribing rules and regulations for the use of the Conservation Easement Area.

J. Dumping or Storing. Dumping or storage of soil, trash, ashes, garbage, waste, abandoned vehicles, appliances, machinery, or any other material in the Conservation Easement Area is prohibited.

K. Grading, Mineral Use, Excavation, Dredging. There shall be no grading, filling, excavation, dredging, mining, drilling, hydraulic fracturing; removal of topsoil, sand, gravel, rock, peat, minerals, or other materials.

L. Water Quality and Drainage Patterns. There shall be no diking, draining, dredging, channeling, filling, leveling, pumping, impounding or diverting, causing, allowing or permitting the diversion of surface or underground water in the Conservation Easement Area. No altering or tampering with water control structures or devices, or disruption or alteration of the restored, enhanced, or created drainage patterns is allowed. All removal of wetlands, polluting or discharging into waters, springs, seeps, or wetlands, or use of pesticide or biocides in the Conservation Easement Area is prohibited. In the event of an emergency interruption or shortage of all other water sources, water from within the Conservation Easement Area may temporarily be withdrawn for good cause shown as needed for the survival of livestock on the Property.

M. Subdivision and Conveyance. Grantor voluntarily agrees that no further subdivision, partitioning, or dividing of the Conservation Easement Area portion of the Property owned by the Grantor in fee simple ("fee") that is subject to this Conservation Easement is allowed. Any future transfer of the Property shall be subject to this Conservation Easement and Right of Access and to the Grantee's right of unlimited and repeated ingress and egress over and across the Property to the Conservation Easement Area for the purposes set forth herein.

N. Development Rights. All development rights are permanently removed from the Conservation Easement Area and are non-transferrable.

O. Disturbance of Natural Features. Any change, disturbance, alteration or impairment of the natural features of the Conservation Easement Area or any intentional introduction of non-native plants, trees and/or animal species by Grantor is prohibited.

The Grantor may request permission to vary from the above restrictions for good cause shown, provided that any such request is not inconsistent with the purposes of this Conservation Easement, and the Grantor obtains advance written approval from the Division of Mitigation Services, 1652 Mail Services Center, Raleigh, NC 27699-1652.

III. GRANTEE RESERVED USES

A. Right of Access, Construction, and Inspection. The Grantee, its employees and agents, successors and assigns, receive a perpetual Right of Access to the Conservation Easement Area

over the Property at reasonable times to undertake any activities on the property to restore, construct, manage, maintain, enhance, protect, and monitor the stream, wetland and any other riparian resources in the Conservation Easement Area, in accordance with restoration activities or a long-term management plan. Unless otherwise specifically set forth in this Conservation Easement, the rights granted herein do not include or establish for the public any access rights.

B. Restoration Activities. These activities include planting of trees, shrubs and herbaceous vegetation, installation of monitoring wells, utilization of heavy equipment to grade, fill, and prepare the soil, modification of the hydrology of the site, and installation of natural and manmade materials as needed to direct in-stream, above ground, and subterranean water flow.

C. Signs. The Grantee, its employees and agents, successors or assigns, shall be permitted to place signs and witness posts on the Property to include any or all of the following: describe the project, prohibited activities within the Conservation Easement, or identify the project boundaries and the holder of the Conservation Easement.

D. Fences. Conservation Easements are purchased to protect the investments by the State (Grantee) in natural resources. Livestock within conservation easements damages the investment and can result in reductions in natural resource value and mitigation credits which would cause financial harm to the State. Therefore, Landowners (Grantor) with livestock are required to restrict livestock access to the Conservation Easement area. Repeated failure to do so may result in the State (Grantee) repairing or installing livestock exclusion devices (fences) within the conservation area for the purpose of restricting livestock access. In such cases, the landowner (Grantor) must provide access to the State (Grantee) to make repairs.

E. Crossing Area(s). The Grantee is not responsible for maintenance of crossing area(s), however, the Grantee, its employees and agents, successors or assigns, reserve the right to repair crossing area(s), at its sole discretion and to recover the cost of such repairs from the Grantor if such repairs are needed as a result of activities of the Grantor, his successors or assigns.

IV. ENFORCEMENT AND REMEDIES

A. Enforcement. To accomplish the purposes of this Conservation Easement, Grantee is allowed to prevent any activity within the Conservation Easement Area that is inconsistent with the purposes of this Conservation Easement and to require the restoration of such areas or features in the Conservation Easement Area that may have been damaged by such unauthorized activity or use. Upon any breach of the terms of this Conservation Easement by Grantor, the Grantee shall, except as provided below, notify the Grantor in writing of such breach and the Grantor shall have ninety (90) days after receipt of such notice to correct the damage caused by such breach. If the breach and damage remains uncured after ninety (90) days, the Grantee may enforce this Conservation Easement by bringing appropriate legal proceedings including an action to recover damages, as well as injunctive and other relief. The Grantee shall also have the power and authority, consistent with its statutory authority: (a) to prevent any impairment of the Conservation Easement Area by acts which may be unlawful or in violation of this Conservation Easement; (b) to otherwise preserve or protect its interest in the Property; or (c) to seek damages from any appropriate person or entity. Notwithstanding the foregoing, the Grantee reserves the immediate

right, without notice, to obtain a temporary restraining order, injunctive or other appropriate relief, if the breach is or would irreversibly or otherwise materially impair the benefits to be derived from this Conservation Easement, and the Grantor and Grantee acknowledge that the damage would be irreparable and remedies at law inadequate. The rights and remedies of the Grantee provided hereunder shall be in addition to, and not in lieu of, all other rights and remedies available to Grantee in connection with this Conservation Easement.

B. Inspection. The Grantee, its employees and agents, successors and assigns, have the right, with reasonable notice, to enter the Conservation Easement Area over the Property at reasonable times for the purpose of inspection to determine whether the Grantor is complying with the terms, conditions and restrictions of this Conservation Easement.

C. Acts Beyond Grantor's Control. Nothing contained in this Conservation Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury or change in the Conservation Easement Area caused by third parties, resulting from causes beyond the Grantor's control, including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken in good faith by the Grantor under emergency conditions to prevent, abate, or mitigate significant injury to life or damage to the Property resulting from such causes.

D. Costs of Enforcement. Beyond regular and typical monitoring expenses, any costs incurred by Grantee in enforcing the terms of this Conservation Easement against Grantor, including, without limitation, any costs of restoration necessitated by Grantor's acts or omissions in violation of the terms of this Conservation Easement, shall be borne by Grantor.

E. No Waiver. Enforcement of this Easement shall be at the discretion of the Grantee and any forbearance, delay or omission by Grantee to exercise its rights hereunder in the event of any breach of any term set forth herein shall not be construed to be a waiver by Grantee.

V. MISCELLANEOUS

A. This instrument sets forth the entire agreement of the parties with respect to the Conservation Easement and supersedes all prior discussions, negotiations, understandings or agreements relating to the Conservation Easement. If any provision is found to be invalid, the remainder of the provisions of the Conservation Easement, and the application of such provision to persons or circumstances other than those as to which it is found to be invalid, shall not be affected thereby.

B. Grantor is responsible for any real estate taxes, assessments, fees, or charges levied upon the Property. Grantee shall not be responsible for any costs or liability of any kind related to the ownership, operation, insurance, upkeep, or maintenance of the Property, except as expressly provided herein. Upkeep of any constructed bridges, fences, or other amenities on the Property are the sole responsibility of the Grantor. Nothing herein shall relieve the Grantor of the obligation to comply with federal, state or local laws, regulations and permits that may apply to the exercise of the Reserved Rights.

C. Any notices shall be sent by registered or certified mail, return receipt requested to the parties at their addresses shown herein or to other addresses as either party establishes in writing upon notification to the other.

D. Grantor shall notify Grantee in writing of the name and address and any party to whom the Property or any part thereof is to be transferred at or prior to the time said transfer is made. Grantor further agrees that any subsequent lease, deed, or other legal instrument by which any interest in the Property is conveyed is subject to the Conservation Easement herein created.

E. The Grantor and Grantee agree that the terms of this Conservation Easement shall survive any merger of the fee and easement interests in the Property or any portion thereof.

F. This Conservation Easement and Right of Access may be amended, but only in writing signed by all parties hereto, or their successors or assigns, if such amendment does not affect the qualification of this Conservation Easement or the status of the Grantee under any applicable laws, and is consistent with the purposes of the Conservation Easement. The owner of the Property shall notify the State Property Office and the U.S. Army Corps of Engineers in writing sixty (60) days prior to the initiation of any transfer of all or any part of the Property or of any request to void or modify this Conservation Easement. Such notifications and modification requests shall be addressed to:

Division of Mitigation Services Program Manager
NC State Property Office
1321 Mail Service Center
Raleigh, NC 27699-1321

and

General Counsel
US Army Corps of Engineers
69 Darlington Avenue
Wilmington, NC 28403

G. The parties recognize and agree that the benefits of this Conservation Easement are in gross and assignable provided, however, that the Grantee hereby covenants and agrees, that in the event it transfers or assigns this Conservation Easement, the organization receiving the interest will be a qualified holder under N.C. Gen. Stat. § 121-34 et seq. and § 170(h) of the Internal Revenue Code, and the Grantee further covenants and agrees that the terms of the transfer or assignment will be such that the transferee or assignee will be required to continue in perpetuity the conservation purposes described in this document.

VI. QUIET ENJOYMENT

Grantor reserves all remaining rights accruing from ownership of the Property, including the right to engage in or permit or invite others to engage in only those uses of the Conservation

Easement Area that are expressly reserved herein, not prohibited or restricted herein, and are not inconsistent with the purposes of this Conservation Easement. Without limiting the generality of the foregoing, the Grantor expressly reserves to the Grantor, and the Grantor's invitees and licensees, the right of access to the Conservation Easement Area, and the right of quiet enjoyment of the Conservation Easement Area,

TO HAVE AND TO HOLD, the said rights and easements perpetually unto the State of North Carolina for the aforesaid purposes,

AND Grantor covenants that Grantor is seized of said premises in fee and has the right to convey the permanent Conservation Easement herein granted; that the same is free from encumbrances and that Grantor will warrant and defend title to the same against the claims of all persons whomsoever.

IN TESTIMONY WHEREOF, the Grantor has hereunto set his hand and seal, the day and year first above written.

_____ (SEAL)

NORTH CAROLINA
COUNTY OF EDGECOMBE

I, _____, a Notary Public in and for the County and State aforesaid, do hereby certify that Joel M. Boseman, Grantor, personally appeared before me this day and acknowledged the execution of the foregoing instrument.

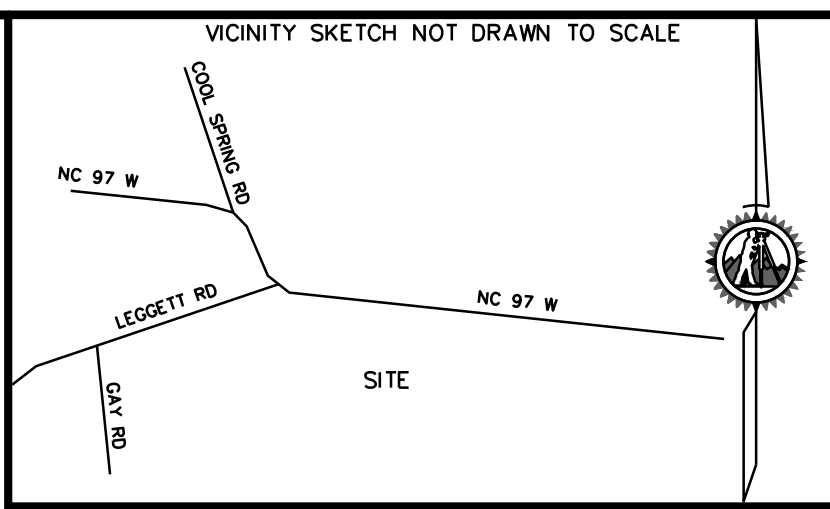
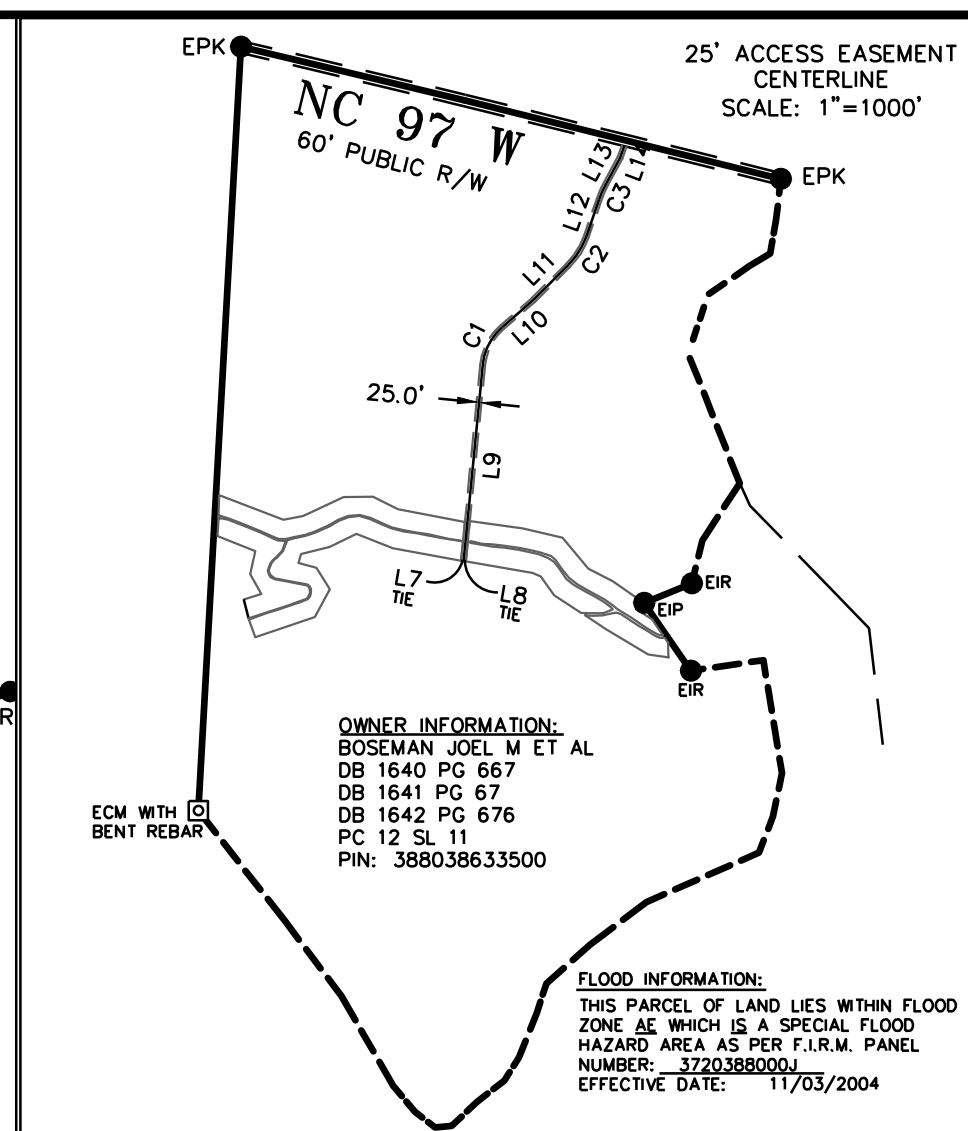
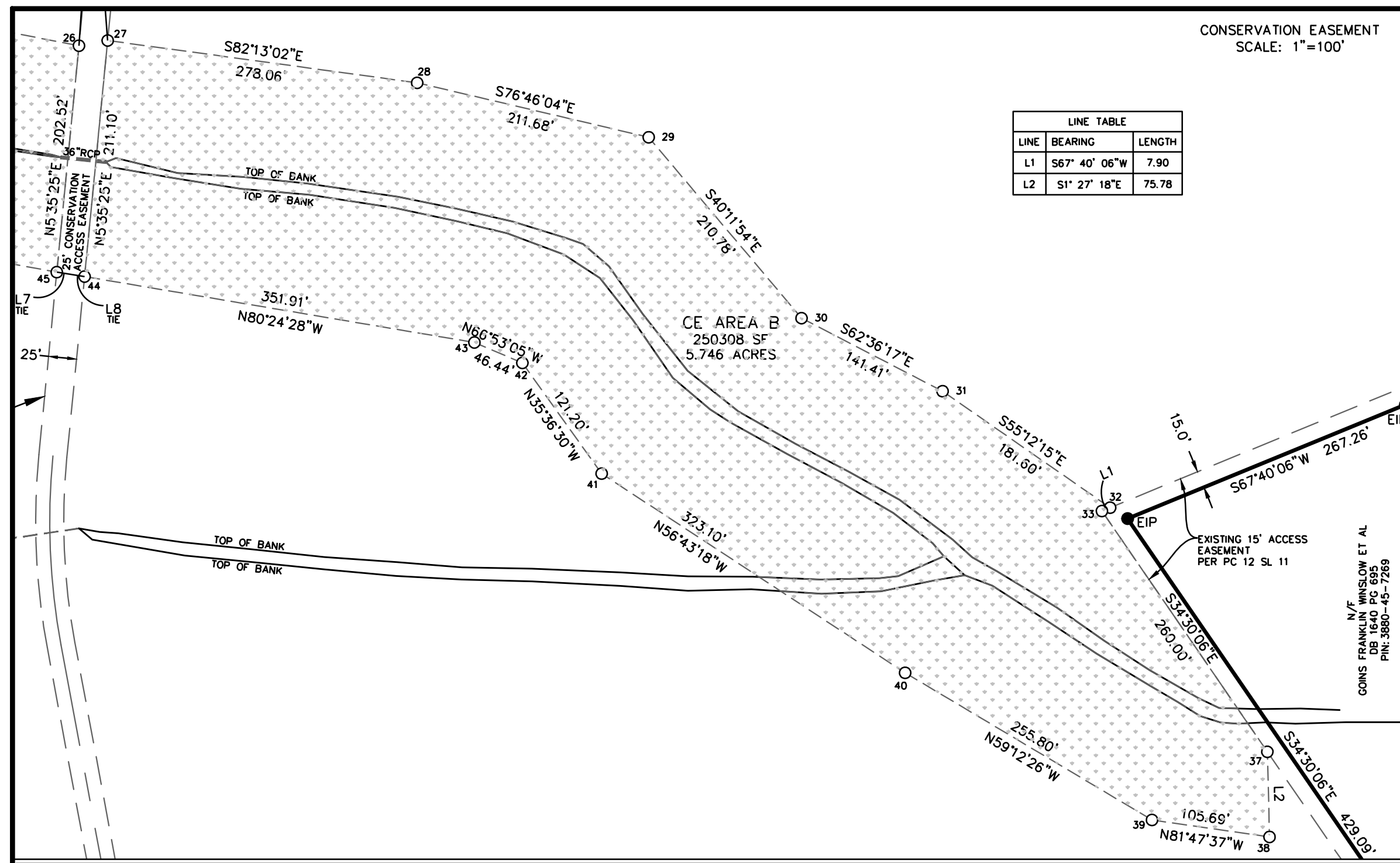
IN WITNESS WHEREOF, I have hereunto set my hand and Notary Seal this the _____ day of _____, 2019.

Notary Public

My commission expires:

Exhibit A

[INSERT LEGAL DESCRIPTION]



GENERAL LEGEND OF NOMENCLATURE

EXISTING IRON PIPE/ROD (EIP/EIR)
 SEE NOTE #5

LINE TYPE LEGEND

P/L ADJOINER OR R/W
 CONSERVATION EASEMENT
 EXISTING ACCESS EASEMENT

ACRONYMS:

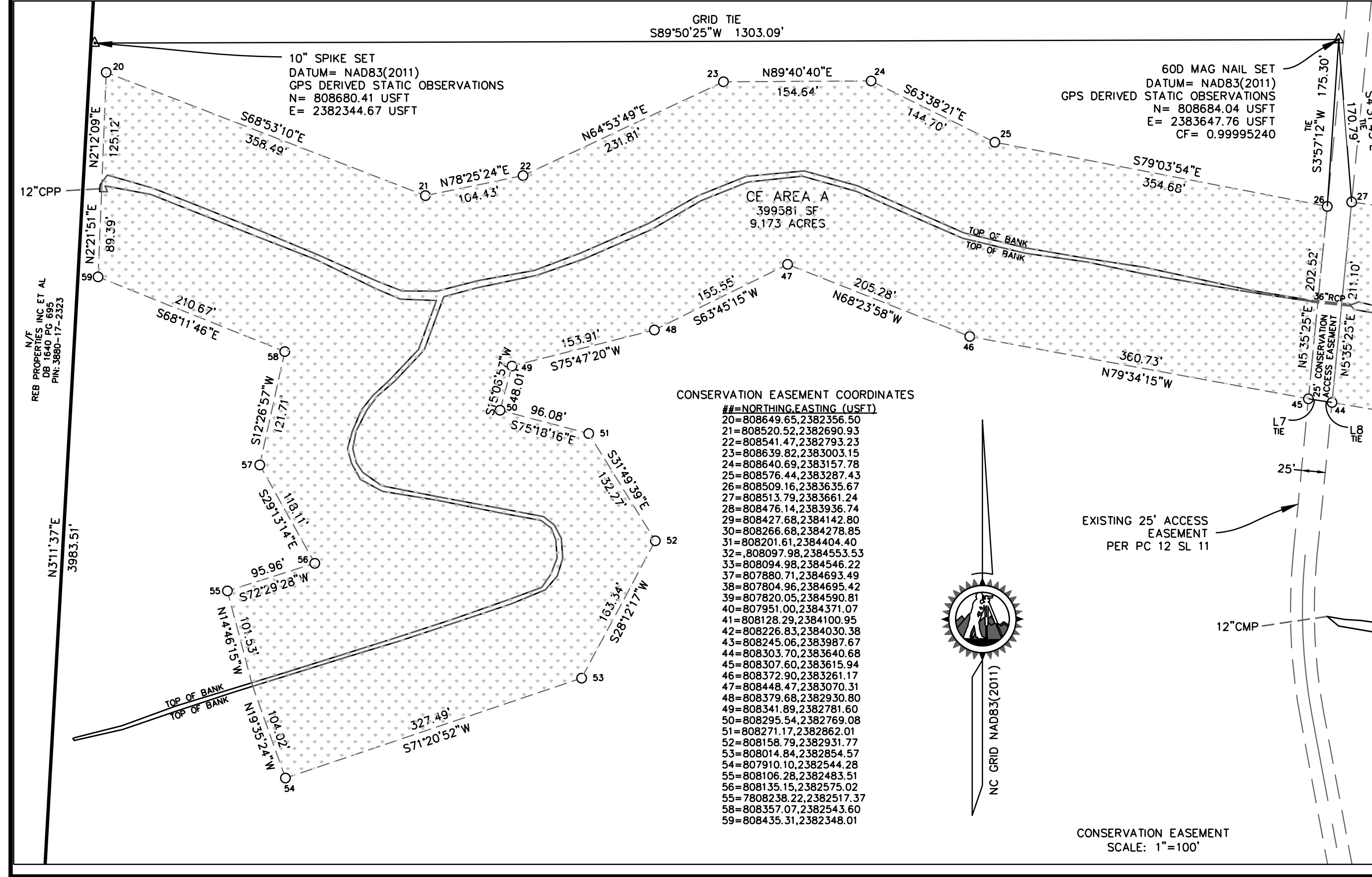
DB = DEED BOOK
 PG = PAGE
 PC = PLAT CABINET
 SL = SLOPE
 SF = SQUARE FEET
 USFT = SURVEY FEET
 EPK = EXISTING MAIL
 N/F = NOW/FORMERLY
 P/L = PROPERTY LINE
 R/W = RIGHT OF WAY

NC = NORTH CAROLINA
 TWP = TOWNSHIP
 PIN = PARCEL ID NUMBER
 CMP = CORRUGATED METAL PIPE
 CPP = CORRUGATED PLASTIC PIPE
 RCP = REINFORCED CONCRETE PIPE
 ECM = EXISTING CONCRETE MONUMENT
 CE = CONSERVATION EASEMENT

REVIEW OFFICER CERTIFICATION:
 STATE OF NORTH CAROLINA
 COUNTY OF EDGEcombe

REVIEW OFFICER OF EDGEcombe COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED, MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

REVIEW OFFICER: _____ DATE: _____



CONSERVATION EASEMENT AREA SUMMARY

PIN: 388038633500
 JOEL M. BOSEMAN & JEAN J. BOSEMAN
 DB 1640 PG 667
 OWNER ADDRESS:
 PO BOX 550
 BATTLEBORO, NC, 27809

CE AREA	AREA
A	9.173 AC
B	5.746 AC
TOTAL	14.919 AC

I, Timothy P. Murray, PLS L-4833, certify that this map was drawn under my supervision from an actual survey made under my supervision (deed description recorded in Book 1640, page 667; that the boundary lines not surveyed are shown as bold dashed lines; that the ratio of precision as calculated is 1:100,000.

47-30 amendments to the General Statutes of North Carolina, effective October 1, 2019, require this plat to be signed, sealed, and dated by the surveyor and seal this plat as shown for REVIEW ONLY.

PRELIMINARY PLAT NOT FOR RECORDING, SALES OR CONVEYANCE

PLS L-4833

CERTIFICATE OF OWNERSHIP AND DEDICATION:

I (WE) HEREBY CERTIFY THAT I (WE) ARE THE OWNER(S) OF THE PROPERTY AS SHOWN AND DESCRIBED HEREON, I (WE) ALSO HEREBY ACCEPT AND ADOPT THIS RECORDED PLAT AND CONSERVATION EASEMENT WITH MY (OUR) FREE CONSENT AND DEDICATE ALL EASEMENTS, RIGHTS OF WAY, AND ACCESS ROADS TO PUBLIC AND/OR PRIVATE USE AS NOTED ON SAID PLAT.

OWNER(S) _____ DATE _____

OWNER(S) _____ DATE _____

NOTES:

1- ALL DISTANCES ARE HORIZONTAL GROUND MEASUREMENTS IN U.S.F.T.
 2- AREA IS CALCULATED USING CAD SOFTWARE METHODS.
 3- THIS PLAT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT OR TITLE COMMITMENT. THERE ARE NO KNOWN CHANGES IN R/W AND THERE MAY BE EXISTING EASEMENTS AND/OR ENCUMBRANCES AFFECTING THE SUBJECT PARCEL THAT ARE NOT SHOWN HEREON.
 4- UNDERGROUND UTILITY LINES & IRRIGATION WERE NOT PAINTED AND LOCATED BY THIS FIRM.
 5- EASEMENT CORNER MONUMENTS ARE 5/8" REBAR WITH 3-1/4" ALUMINUM CAPS.
 6- BOUNDARY LINES NOT SURVEYED ARE SHOWN AS BOLD DASHED LINES.
 7- ENVIRONMENTAL AND SUBSURFACE CONDITIONS WERE NOT EXAMINED AS PART OF THIS SURVEY. NO STATEMENT IS MADE TO THE EXISTENCE OF ENVIRONMENTAL OR SUBSURFACE CONDITIONS WHICH WOULD AFFECT THE USE OR DEVELOPMENT OF THE TRACT.
 8- THE STATE OF NORTH CAROLINA, ITS EMPLOYEES AND AGENTS, SUCCESSORS AND ASSIGNS, RECEIVE A PERPETUAL RIGHT OF ACCESS TO THE EASEMENT AREA OVER THE PROPERTY AT REASONABLE TIMES TO UNDERTAKE ANY ACTIVITIES TO RESTORE, CONSTRUCT, MAINTAIN, ENHANCE, AND MONITOR THE STREAM, WETLAND AND ANY OTHER RIPARIAN RESOURCES IN THE EASEMENT AREA, IN ACCORDANCE WITH THE RESTORATION ACTIVITIES OR A LONG-TERM MANAGEMENT PLAN AS DESCRIBED IN SECTION II-A OF THE CONSERVATION EASEMENT AGREEMENT. PREFERRED ACCESS ROUTES ARE SHOWN HEREON.
 9- THE EXISTENCE OR NON-EXISTENCE OF WETLANDS ON THE SUBJECT PROPERTY HAS NOT BEEN DETERMINED BY THIS SURVEY.

I, TIMOTHY P. MURRAY, Professional Land Surveyor L-4833, certify that this plat was drawn under my supervision from an actual survey made under my supervision (deed description recorded in Book 1640, page 667; that the boundary lines not surveyed are shown as bold dashed lines; that the ratio of precision as calculated is 1:100,000.

47-30 amendments to the General Statutes of North Carolina, effective October 1, 2019, require this plat to be signed, sealed, and dated by the surveyor and seal this plat as shown for REVIEW ONLY.

PRELIMINARY PLAT NOT FOR RECORDING, SALES OR CONVEYANCE

PLS L-4833

TERRESTRIAL SURVEYING PC
 Professional Land Surveying / License C-3903
 P.O. Box 91041 / Raleigh North Carolina 27675
 p: 919.219.4278 / e: info@TerrestrialSurveying.com

CONSERVATION EASEMENT



FOR THE STATE OF NORTH CAROLINA,
 DIVISION OF MITIGATION SERVICES
 (SPO FILE #____; DMS PROJECT #100119
 OWNER: BOSEMAN, JOEL M - BOSEMAN, JEAN J
 NO. 7 TWP., EDGEcombe COUNTY, NC
 SURVEY DATE: SEPTEMBER 4, 2019
 DATE: OCTOBER 11, 2019
 SCALE: 1"=100'
 BAR GRAPH 1 inch = 100ft.
 BOSEMAN-NC-97-W.DWG

APPENDIX C

Appendix A

Categorical Exclusion Form for Division of Mitigation Services Projects
Version 2

Note: Only Appendix A should be submitted (along with any supporting documentation) as the environmental document.

Part 1: General Project Information	
Project Name:	Boseman Buffer Site
County Name:	Edgecombe County
DMS Number:	100119
Project Sponsor:	Eco Terra, LLC
Project Contact Name:	Ted Griffith
Project Contact Address:	1117 Peachtree Walk NE, Suite 126, Atlanta, GA 30309
Project Contact E-mail:	ted@ecoterra.com
DMS Project Manager:	Lindsay Crocker
Project Description	
The Boseman Buffer Site is a riparian buffer restoration project located approximately 6.5 miles northeast of Rocky Mount in western Edgecombe County. Historically the site has been used for agriculture. The project includes planting approximately 610,000 square feet of riparian buffer along two unnamed tributaries to the Tar River, in Tar River Basin (03020101).	
For Official Use Only	
Reviewed By: 	<u>8/2/2019</u>
Date	DMS Project Manager
Conditional Approved By:	
Date	For Division Administrator FHWA
<input type="checkbox"/> Check this box if there are outstanding issues	
Final Approval By: 	<u>8-2-19</u>
Date	For Division Administrator FHWA

Part 2: All Projects Regulation/Question		Response
Coastal Zone Management Act (CZMA)		
1. Is the project located in a CAMA county?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Does the project involve ground-disturbing activities within a CAMA Area of Environmental Concern (AEC)?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Has a CAMA permit been secured?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Has NCDCCM agreed that the project is consistent with the NC Coastal Management Program?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)		
1. Is this a "full-delivery" project?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Has the zoning/land use of the subject property and adjacent properties ever been designated as commercial or industrial?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
3. As a result of a limited Phase I Site Assessment, are there known or potential hazardous waste sites within or adjacent to the project area?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
4. As a result of a Phase I Site Assessment, are there known or potential hazardous waste sites within or adjacent to the project area?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
5. As a result of a Phase II Site Assessment, are there known or potential hazardous waste sites within the project area?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
6. Is there an approved hazardous mitigation plan?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
National Historic Preservation Act (Section 106)		
1. Are there properties listed on, or eligible for listing on, the National Register of Historic Places in the project area?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Does the project affect such properties and does the SHPO/THPO concur?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. If the effects are adverse, have they been resolved?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act)		
1. Is this a "full-delivery" project?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Does the project require the acquisition of real estate?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
3. Was the property acquisition completed prior to the intent to use federal funds?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
4. Has the owner of the property been informed: * prior to making an offer that the agency does not have condemnation authority; and * what the fair market value is believed to be?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Part 3: Ground-Disturbing Activities	
Regulation/Question	Response
American Indian Religious Freedom Act (AIRFA)	
1. Is the project located in a county claimed as "territory" by the Eastern Band of Cherokee Indians?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Is the site of religious importance to American Indians?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Is the project listed on, or eligible for listing on, the National Register of Historic Places?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Have the effects of the project on this site been considered?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Antiquities Act (AA)	
1. Is the project located on Federal lands?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Will there be loss or destruction of historic or prehistoric ruins, monuments or objects of antiquity?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Will a permit from the appropriate Federal agency be required?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Has a permit been obtained?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Archaeological Resources Protection Act (ARPA)	
1. Is the project located on federal or Indian lands (reservation)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Will there be a loss or destruction of archaeological resources?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Will a permit from the appropriate Federal agency be required?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Has a permit been obtained?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Endangered Species Act (ESA)	
1. Are federal Threatened and Endangered species and/or Designated Critical Habitat listed for the county?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Is Designated Critical Habitat or suitable habitat present for listed species?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A
3. Are T&E species present or is the project being conducted in Designated Critical Habitat?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Is the project "likely to adversely affect" the specie and/or "likely to adversely modify" Designated Critical Habitat?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
5. Does the USFWS/NOAA-Fisheries concur in the effects determination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
6. Has the USFWS/NOAA-Fisheries rendered a "jeopardy" determination?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A

Executive Order 13007 (Indian Sacred Sites)	
1. Is the project located on Federal lands that are within a county claimed as "territory" by the EBCI?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Has the EBCI indicated that Indian sacred sites may be impacted by the proposed project?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Have accommodations been made for access to and ceremonial use of Indian sacred sites?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Farmland Protection Policy Act (FPPA)	
1. Will real estate be acquired?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. Has NRCS determined that the project contains prime, unique, statewide or locally important farmland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
3. Has the completed Form AD-1006 been submitted to NRCS?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Fish and Wildlife Coordination Act (FWCA)	
1. Will the project impound, divert, channel deepen, or otherwise control/modify any water body?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Have the USFWS and the NCWRC been consulted?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Land and Water Conservation Fund Act (Section 6(f))	
1. Will the project require the conversion of such property to a use other than public, outdoor recreation?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Has the NPS approved of the conversion?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Magnuson-Stevens Fishery Conservation and Management Act (Essential Fish Habitat)	
1. Is the project located in an estuarine system?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Is suitable habitat present for EFH-protected species?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
3. Is sufficient design information available to make a determination of the effect of the project on EFH?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
4. Will the project adversely affect EFH?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
5. Has consultation with NOAA-Fisheries occurred?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Migratory Bird Treaty Act (MBTA)	
1. Does the USFWS have any recommendations with the project relative to the MBTA?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Have the USFWS recommendations been incorporated?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Wilderness Act	
1. Is the project in a Wilderness area?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Has a special use permit and/or easement been obtained from the maintaining federal agency?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A



Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) provides a Federal "Superfund" to clean up uncontrolled or abandoned hazardous-waste sites as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment.

An EDR Radius Map Report with Geotrack was ordered for the site through Environmental Data Resources, Inc on June 7, 2019. The subject property and adjacent properties were not listed on any Federal, State, or Tribal environmental databases queried by EDR. The assessment showed no evidence of "recognized environmental conditions" associated with the target property. The EDR Executive Summary is included in the Appendix. The entire report is available upon request.

National Historic Preservation Act (Section 106)

The National Historic Preservation Act declares a national policy of historic preservation to protect, rehabilitate, restore, and reuse districts, sites, buildings, structures, and objects significant in American architecture, history, archaeology, and culture, and Section 106 mandates that the federal agencies take into account the effect of an undertaking on a property that is included in, or is eligible for inclusion in, the National Register of Historic Places.

The State Historic Preservation Office (SHPO) reviewed the project site at the request of Eco Terra with respect to any archeological and architectural resources related to the Boseman Buffer Mitigation Site. SHPO responded in a letter dated July 12, 2019, stating they "are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed." The Section 106 correspondences are included in the Appendix.

Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act)

These acts, collectively known as the Uniform Act, provide for uniform and equitable treatment of persons displaced from their homes, businesses, non-profit associations, or farms by federal and federally-assisted programs, and establish uniform and equitable land acquisition policies.

The Boseman Buffer Mitigation site is a full-delivery project that includes land acquisition. Notification of the fair market value of the project property and the lack of condemnation authority by Eco Terra was provided to the landowner in a letter dated July 10, 2019. A copy of the letter is included in the Appendix.

Endangered Species Act (ESA)

Section 7 of the ESA requires federal agencies, in consultation with and with the assistance of the Secretary of the Interior or of Commerce, as appropriate, to ensure that actions they authorize, fund or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species.



The official USFWS Information for Planning and Consultation (IPaC) species for the study are lists two federally listed species, red-cockaded woodpecker (*Picoides borealis*) and Tar River spiny mussel (*Elliptio steinstansana*), and three species proposed for federal listing, Neuse River waterdog (*Necturus lewisi*), Carolina madtom (*Noturus furiosus*), and Atlantic pigtoe (*Fusconaia masoni*). Additionally, the USFWS website lists one species, bald eagle (*Haliaeetus leucocephalus*) protected under the Bald and Golden Eagle Protection Act (BGPA). The project site contains marginally suitable habitat for the bald eagle. A pedestrian survey was conducted on June 3, 2019 within areas with suitable habitat. No bald eagle nests were observed during the survey. Suitable habitat does not exist within the project for the remaining listed species.

A self-certification letter was submitted by VHB to the USFWS on August 1, 2019. VHB has not received any comments at the time of this writing about the proposed biological conclusions. A copy of the self-certification submittal and the confirmation of receipt email from USFWS are included in the Appendix.

Farmland Protection Policy Act (FPPA)

The FPPA requires that, before taking or approving any federal action that would result in conversion of farmland, the agency must examine the effects of the action using the criteria set forth in the FPPA, and if there are adverse effects, must consider alternatives to lessen them.

The Boseman Buffer Mitigation Site includes conversion of prime farmland. The AD-1006 Form was completed and submitted to the Natural Resources Conservation Service (NRCS). The completed form and correspondence documenting the submittal is included in the Appendix.

Fish and Wildlife Coordination (FWCA)

The FWCA requires consultation with the USFWS and appropriate state wildlife agency on projects that alter or modify a water body. Reports and recommendations prepared by these agencies document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources.

The Boseman Buffer Mitigation Site includes riparian buffer restoration. There will be no in-channel work completed as a part of this project. VHB requested comment on the project from the NC Wildlife Resources Commission (NCWRC) and USFWS. The Wildlife Resources Commission (WRC) provided comments about including sediment and erosion control measures, and wider buffers than required by NCDWR are preferred in areas with listed species. A copy of the letters and email correspondence are included in the Appendix.

Migratory Bird Treaty Act (MBTA)

The MBTA makes it unlawful for anyone to kill, capture, collect, possess, buy, sell, trade, ship, import, or export any migratory bird. The indirect killing of birds by destroying their nests and eggs is covered by the MBTA, so construction in nesting areas during nesting seasons can constitute a taking.

VHB requested comment for the Boseman Buffer Mitigation Site from the USFWS regarding the MBTA. The USFWS has not responded at this time. All correspondence with the USFWS is included in the Appendix.

Categorical Exclusion Appendix
Boseman Buffer Mitigation Site

Boseman Buffer Site

7620 NC 97

Rocky Mount, NC 27801

Inquiry Number: 5676457.2s

June 07, 2019

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
 Please contact EDR at 1-800-352-0050
 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

7620 NC 97
ROCKY MOUNT, NC 27801

COORDINATES

Latitude (North): 35.9645470 - 35° 57' 52.36"
Longitude (West): 77.7056290 - 77° 42' 20.26"
Universal Transverse Mercator: Zone 18
UTM X (Meters): 256004.8
UTM Y (Meters): 3983200.8
Elevation: 59 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5944948 HARTSEASE, NC
Version Date: 2013

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140521
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
7620 NC 97
ROCKY MOUNT, NC 27801

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
--------	-----------	---------	-------------------	--------------------	----------------------------

NO MAPPED SITES FOUND

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List

EXECUTIVE SUMMARY

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

NC HSDS..... Hazardous Substance Disposal Site

State- and tribal - equivalent CERCLIS

SHWS..... Inactive Hazardous Sites Inventory

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... List of Solid Waste Facilities

OLI..... Old Landfill Inventory

DEBRIS..... Solid Waste Active Disaster Debris Sites Listing

LCID..... Land-Clearing and Inert Debris (LCID) Landfill Notifications

State and tribal leaking storage tank lists

LUST..... Regional UST Database

LAST..... Leaking Aboveground Storage Tanks

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

LUST TRUST..... State Trust Fund Database

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

UST..... Petroleum Underground Storage Tank Database

AST..... AST Database

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

INST CONTROL..... No Further Action Sites With Land Use Restrictions Monitoring

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

VCP..... Responsible Party Voluntary Action Sites

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Projects Inventory

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY..... Recycling Center Listing

EXECUTIVE SUMMARY

HIST LF.....	Solid Waste Facility Listing
INDIAN ODI.....	Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9.....	Torres Martinez Reservation Illegal Dump Site Locations
ODI.....	Open Dump Inventory
IHS OPEN DUMPS.....	Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL.....	Delisted National Clandestine Laboratory Register
US CDL.....	National Clandestine Laboratory Register

Local Land Records

LIENS 2.....	CERCLA Lien Information
--------------	-------------------------

Records of Emergency Release Reports

HMIRS.....	Hazardous Materials Information Reporting System
SPILLS.....	Spills Incident Listing
IMD.....	Incident Management Database
SPILLS 90.....	SPILLS 90 data from FirstSearch
SPILLS 80.....	SPILLS 80 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR.....	RCRA - Non Generators / No Longer Regulated
FUDS.....	Formerly Used Defense Sites
DOD.....	Department of Defense Sites
SCRD DRYCLEANERS.....	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR.....	Financial Assurance Information
EPA WATCH LIST.....	EPA WATCH LIST
2020 COR ACTION.....	2020 Corrective Action Program List
TSCA.....	Toxic Substances Control Act
TRIS.....	Toxic Chemical Release Inventory System
SSTS.....	Section 7 Tracking Systems
ROD.....	Records Of Decision
RMP.....	Risk Management Plans
RAATS.....	RCRA Administrative Action Tracking System
PRP.....	Potentially Responsible Parties
PADS.....	PCB Activity Database System
ICIS.....	Integrated Compliance Information System
FTTS.....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS.....	Material Licensing Tracking System
COAL ASH DOE.....	Steam-Electric Plant Operation Data
COAL ASH EPA.....	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER.....	PCB Transformer Registration Database
RADINFO.....	Radiation Information Database
HIST FTTS.....	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS.....	Incident and Accident Data
CONSENT.....	Superfund (CERCLA) Consent Decrees
INDIAN RESERV.....	Indian Reservations
FUSRAP.....	Formerly Utilized Sites Remedial Action Program
UMTRA.....	Uranium Mill Tailings Sites
LEAD SMELTERS.....	Lead Smelter Sites

EXECUTIVE SUMMARY

US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
ABANDONED MINES.....	Abandoned Mines
FINDS.....	Facility Index System/Facility Registry System
ECHO.....	Enforcement & Compliance History Information
UXO.....	Unexploded Ordnance Sites
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
AIRS.....	Air Quality Permit Listing
ASBESTOS.....	ASBESTOS
COAL ASH.....	Coal Ash Disposal Sites
DRYCLEANERS.....	Drycleaning Sites
Financial Assurance.....	Financial Assurance Information Listing
NPDES.....	NPDES Facility Location Listing
UIC.....	Underground Injection Wells Listing
AOP.....	Animal Operation Permits Listing
PCSRP.....	Petroleum-Contaminated Soil Remediation Permits
SEPT HAULERS.....	Permitted Septage Haulers Listing
CCB.....	Coal Ash Structural Fills (CCB) Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS.....	Recovered Government Archive State Hazardous Waste Facilities List
RGA LF.....	Recovered Government Archive Solid Waste Facilities List
RGA LUST.....	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

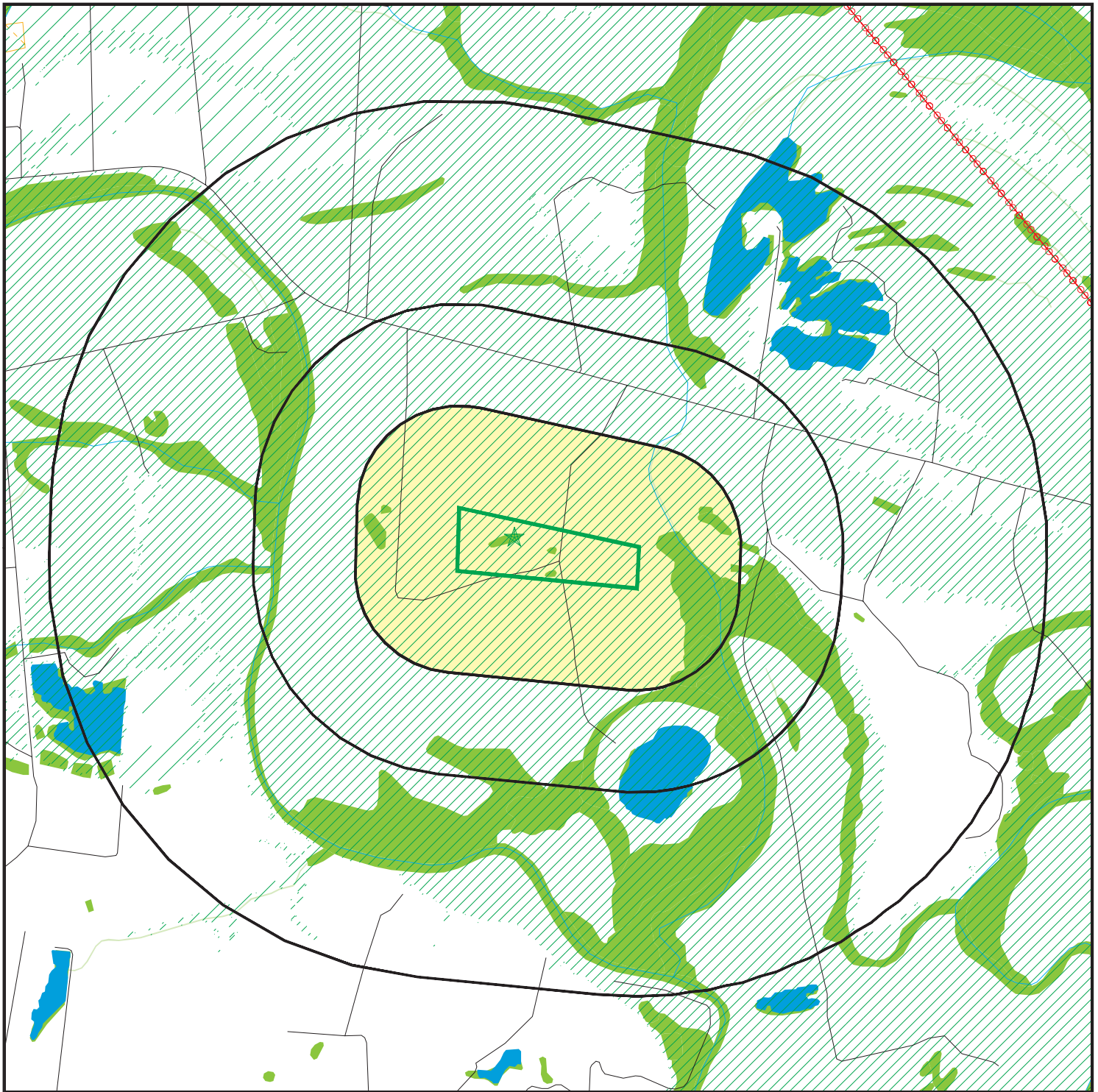
Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5676457.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Hazardous Substance Disposal Sites

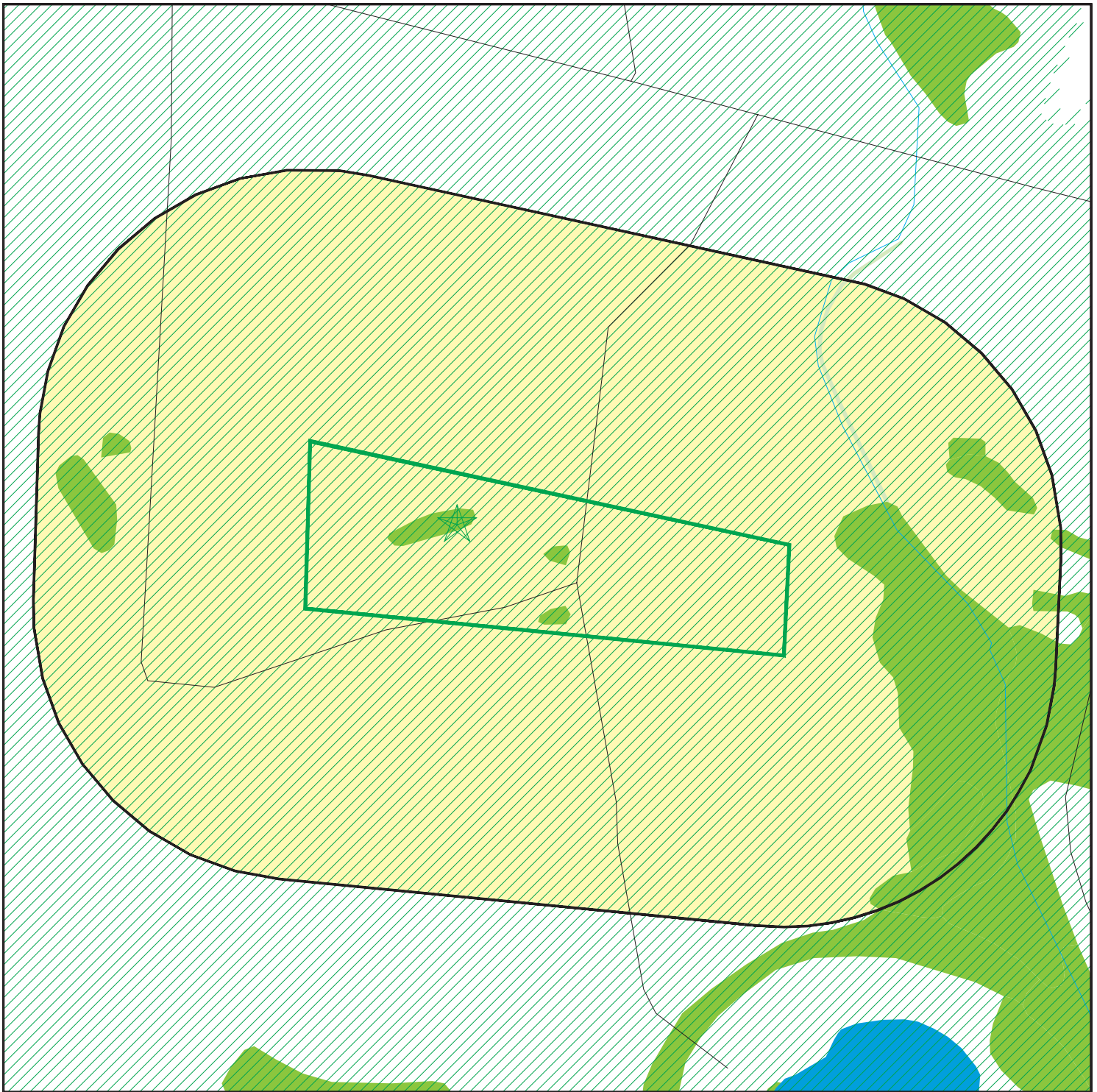















This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Boseman Buffer Site
 ADDRESS: 7620 NC 97
 Rocky Mount NC 27801
 LAT/LONG: 35.964547 / 77.705629

CLIENT: Vanasse Hangen Brustlin, Inc
 CONTACT: Lane Sauls
 INQUIRY #: 5676457.2s
 DATE: June 07, 2019 8:46 am

DETAIL MAP - 5676457.2S



- | | | |
|---|--|--|
|  Target Property |  Indian Reservations BIA |  Hazardous Substance Disposal Sites |
|  Sites at elevations higher than or equal to the target property |  100-year flood zone | |
|  Sites at elevations lower than the target property |  500-year flood zone | |
|  Manufactured Gas Plants |  National Wetland Inventory | |
|  Sensitive Receptors |  State Wetlands | |
|  National Priority List Sites | | |
|  Dept. Defense Sites | | |

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Boseman Buffer Site
 ADDRESS: 7620 NC 97
 Rocky Mount NC 27801
 LAT/LONG: 35.964547 / 77.705629

CLIENT: Vanasse Hangen Brustlin, Inc
 CONTACT: Lane Sauls
 INQUIRY #: 5676457.2s
 DATE: June 07, 2019 8:47 am



To: U.S. Fish and Wildlife Service (via electronic correspondence to Raleigh@fws.gov)

RE: Protected Species Assessment
Boseman Buffer Site
Battleboro, Edgecombe County, NC

VHB is under contract with Division of Mitigation Services through Eco Terra, LLC to provide biological conclusions for federally protected species for the Boseman Buffer Site. The proposed project will entail planting native hardwood trees along two unnamed tributaries to the Tar River and placing the project under a permanent conservation easement. There will be no in-channel work during the course of the project. This is a non-federal applicant and we are utilizing the Self-Certification Letter.

We have reviewed the most recent USFWS list of species, dated May 31, 2019, for the project area in Edgecombe County. We have attached the following information to assist with your review.

- Protected Species Assessment including project description, habitat descriptions and proposed biological conclusions for listed species;
- Figures-
 - Figure 1. Vicinity Map
 - Figure 2. Aerial Map
- Site photographs;
- Official Species List dated 5/31/2019
- NCDNCR Natural Heritage Program Correspondence
- Species Conclusion Table
- Online Project Review Request Letter

Sincerely,

VHB Engineering NC, P.C.

A handwritten signature in black ink, appearing to read "Heather Smith", is positioned above the printed name.

Heather Smith, LSS

Senior Environmental Scientist

Engineers | Scientists | Planners | Designers

Venture I
940 Main Campus Drive, Suite 500
Raleigh, North Carolina 27606
P 919.829.0328
F 919.833.0034

To: U.S. Fish and Wildlife Service (via electronic correspondence to Raleigh@fws.gov)



Ref: 39077.02
 August 1, 2019
 Page 2

PROTECTED SPECIES ASSESSMENT

**Boseman Buffer Site
 Edgecombe County, NC**

PROJECT DESCRIPTION

The Boseman Buffer Site has been identified for the purpose of providing in-kind mitigation for unavoidable riparian buffer impacts in the Tar-Pamlico River Basin. The project site is located on NC-97 in Battleboro, NC (35.968728, -77.704679). The Edgecombe County property identification number is 3880-38-6335. The project entails placing a conservation easement on approximately 15 acres and planting the site in native hardwood trees. The site has been in agricultural production since at least 1955. The areas surrounding the existing stream channels are devoid of woody vegetation and are planted with row crops. The project site is located within the 100-year floodplain of the Tar River. Please refer to Figure 1 for a vicinity map of the project.

FEDERALLY PROTECTED SPECIES

As of May 31, 2019, the United States Fish and Wildlife Service (USFWS) lists five federally protected species for Edgecombe County (Table 1) and the bald eagle is protected under the Bald and Golden Eagle Protection Act. A brief description of each species' habitat requirements follows, along with the biological conclusions rendered based on habitat and survey results in the study area. Habitat requirements for each species are based on the current best available information from referenced literature and/or USFWS.

Table 1. Federally Protected Species Listed for Edgecombe County				
Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Haliaeetus leucocephalus</i>	Bald eagle	BGPA	Yes	No Eagle Permit Required
<i>Picoides borealis</i>	Red-cockaded woodpecker	Endangered	No	No Effect
<i>Necturus lewisi</i>	Neuse River waterdog	Proposed Threatened	No	No Effect
<i>Noturus furiosus</i>	Carolina madtom	Proposed Endangered	No	No Effect
<i>Fusconaia masoni</i>	Atlantic pigtoe	Proposed Threatened	No	No Effect
<i>Elliptio steinstansana</i>	Tar River spiny mussel	Endangered	No	No Effect

BGPA = Bald and Golden Eagle Protection Act

To: U.S. Fish and Wildlife Service (via electronic correspondence to Raleigh@fws.gov)

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Bald eagle

Optimal Survey Window: year-round; November – March (optimal to observe birds and nests); February – May (optimal to observe active nesting)

Habitat Description: Habitat for the bald eagle primarily consists of mature forest in proximity to large bodies of open water for foraging. Large dominant trees are utilized for nesting sites, typically within 1.0 mile of open water.

Biological Conclusion: Not Required

A desktop-GIS assessment of the project study area, as well as the area within a 1.13-mile radius (1.0 mile plus 660 feet) of the project limits, was performed in April 2017 using 2013 color aerials. There are no water bodies large enough and sufficiently open to be considered a potential feeding source within this radius. However, a juvenile bald eagle was observed on-site in late 2018 and an on-site nest survey was conducted on June 3, 2019. During the survey very few trees capable of supporting a nest were observed and no nests were found. The majority of the forested area within 660' of the study area contained successional growth trees. Additionally, information provided by NCNHP showed there were no known occurrences of the species within 1 mile of the project study area.

Due to the lack of suitable foraging habitat, the lack of known occurrences, the lack of nests observed, and the minimal impact anticipated for this project, it has been determined that this project will not affect this species and no Eagle Act permit is required.

Red-cockaded woodpecker

USFWS Recommended Survey Window: year-round; November-early March (optimal)

Habitat Description: The red-cockaded woodpecker (RCW) typically occupies open, mature stands of southern pines, particularly longleaf pine (*Pinus palustris*), for foraging and nesting/roosting habitat. The RCW excavates cavities for nesting and roosting in living pine trees, aged 60 years or older, which are contiguous with pine stands at least 30 years of age to provide foraging habitat. The foraging range of the RCW is normally no more than 0.5 miles.

Biological Conclusion: No Effect

A desktop-GIS assessment of the project study area was performed in May 2019 using 2017 color aerials. No areas within the project area are dominated by pine trees; the project area is devoid of mature forests and contains row crops and herbaceous vegetation. Additionally, information provided by NCNHP showed there were no known occurrences of the species 1 mile of the project study area.

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Due to the lack of suitable foraging and nesting habitat, the lack of known occurrences within 1 mile of the study area, and the minimal impact anticipated for this project, the biological conclusion for this species is "No Effect".

Neuse River waterdog

USFWS Recommended Survey Window: Undetermined

Habitat Description: In North Carolina, the Neuse River waterdog specific habitat characteristics include low to moderate gradient streams and low current velocity. It is a fully aquatic salamander, never leaving the water. It lacks lungs, getting oxygen from the water via external gills and needs clean, flowing water with high dissolved oxygen concentrations. The species dwells in streams wider than 15 meters but has been found in smaller creeks.

Biological Conclusion: No Effect

The study area is located in the Tar-Pamlico River basin. NCNHP records dated July 2018 show the closest documented population of the Neuse River waterdog is located approximately 1.3 river miles downstream of the study area in the Tar River. The record for this population is categorized as "current". The record is dated 2015.

Suitable habitat for the Neuse River waterdog does not exist within the study area. The majority of the streams on-site are intermittent, and the perennial portions of the streams are heavily affected by sediment and fertilizer inputs from the surrounding farm fields. The perennial channel immediately downstream of the study area was experiencing eutrophication during a site visit on June 3, 2019. This same portion of the stream had no visible flow and the channel is approximately three to four meters wide. The proposed riparian buffer mitigation project will not include any work within any stream channels. The project will consist of planting native hardwood trees within 200 feet of the stream channels.

Given the nature of the project, the degraded condition of the streams, lack of habitat on-site and the avoidance of channel impacts, VHB is seeking concurrence with a "No Effect" biological conclusion for this species.

Carolina madtom

USFWS Recommended Survey Window: Undetermined

Habitat Description: In North Carolina, the species occurs in riffles, runs, and pools in medium to large streams and rivers. Ideally, it inhabits fresh waters with continuous, year-round flow and moderate gradient in both the Piedmont and Coastal Plain physiographic regions. Optimal substrate for the Carolina madtom is predominantly silt-free, stable, gravel and cobble bottom habitat, and it must have cover for nest sites, including under rocks, bark, relic mussel shells, and even cans and bottles.

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Biological Conclusion: No Effect

The study area is located in the Tar-Pamlico River basin. NCNHP records dated July 2018 show the closest documented population of the Carolina madtom is located approximately 4.1 river miles downstream of the study area in the Tar River. The record for this population is categorized as "historical". The record is dated 1985.

Suitable habitat for the Carolina madtom does not exist within the study area. The majority of the streams on-site are intermittent, and the perennial portions of the streams are heavily affected by sediment and fertilizer inputs from the surrounding farm fields. The perennial channel immediately downstream of the study area was experiencing eutrophication during a site visit on June 3, 2019. This same portion of the stream had no visible flow and the channel is approximately three to four meters wide. Substrate within the on-site streams consists entirely of silt and is not suitable for this species. The proposed riparian buffer mitigation project will not include any work within any stream channels. The project will consist of planting native hardwood trees within 200 feet of the stream channels.

Given the nature of the project, the distance from known populations, the degraded condition of the streams, and the avoidance of channel impacts, the biological conclusion for this species is "No Effect"

Atlantic pigtoe

USFWS Recommended Survey Window: Undetermined

Habitat Description: In North Carolina, the preferred habitat of the Atlantic pigtoe is coarse sand and gravel, and rarely in silt and detritus. Historically, the best populations existed in small creeks to larger rivers with excellent water quality, where flows were sufficient to maintain clean, silt-free substrates.

Biological Conclusion: No Effect

The study area is located in the Tar-Pamlico River basin. NCNHP records dated July 2018 show the closest documented population of the Atlantic pigtoe is located approximately 12.0 river miles downstream of the study area in the Tar River. The record for this population is categorized as "current". The record is dated 2004.

Suitable habitat for the Atlantic pigtoe does not exist within the study area. The majority of the streams on-site are intermittent, and the perennial portions of the streams are heavily affected by sediment and fertilizer inputs from the surrounding farm fields. The perennial channel immediately downstream of the study area was experiencing eutrophication during a site visit on June 3, 2019. This same portion of the stream had no visible flow and the channel is approximately three to four meters wide. The proposed riparian buffer mitigation project will not include any work within any stream channels. The project will consist of planting native hardwood trees within 200 feet of the stream channels.

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Given the nature of the project, the distance from known populations, the degraded condition of the streams, and the avoidance of channel impacts, the biological conclusion for this species is "No Effect".

Tar River spiny mussel

USFWS Recommended Survey Window: Year Round

Habitat Description: The Tar spiny mussel is endemic to the Tar and Neuse River drainage basins in North Carolina. This mussel requires a stream with fast flowing, well-oxygenated, circumneutral pH water. The bottom should be composed of unconsolidated gravel and coarse sand. The water needs to be relatively silt-free, and stream banks should be stable, typically with many roots from adjacent riparian trees and shrubs.

Biological Conclusion: No Effect

The study area is located in the Tar-Pamlico River basin. NCNHP records dated July 2018 show the closest documented population of the Tar River spiny mussel is located approximately 14.6 river miles downstream of the study area in the Tar River. The record for this population is categorized as "current". The record is dated 2001.

Suitable habitat for the Tar River spiny mussel does not exist within the study area. The majority of the streams on-site are intermittent, and the perennial portions of the streams are heavily affected by sediment and fertilizer inputs from the surrounding farm fields. The perennial channel immediately downstream of the study area was experiencing eutrophication during a site visit on June 3, 2019. This same portion of the stream had no visible flow and the channel is approximately three to four meters wide. The proposed riparian buffer mitigation project will not include any work within any stream channels. The project will consist of planting native hardwood trees within 200 feet of the stream channels.

Given the nature of the project, the distance from known populations, the degraded condition of the streams, and the avoidance of channel impacts, the biological conclusion for this species is "No Effect".



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Raleigh Ecological Services Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Phone: (919) 856-4520 Fax: (919) 856-4556

In Reply Refer To:

May 31, 2019

Consultation Code: 04EN2000-2019-SLI-0962

Event Code: 04EN2000-2019-E-02196

Project Name: Boseman Buffer Site

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The species list generated pursuant to the information you provided identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Section 7 of the Act requires that all federal agencies (or their designated non-federal representative), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species. A biological assessment or evaluation may be prepared to fulfill that requirement and in determining whether additional consultation with the Service is necessary. In addition to the federally-protected species list, information on the species' life histories and habitats and information on completing a biological assessment or

evaluation and can be found on our web page at <http://www.fws.gov/raleigh>. Please check the web site often for updated information or changes

If your project contains suitable habitat for any of the federally-listed species known to be present within the county where your project occurs, the proposed action has the potential to adversely affect those species. As such, we recommend that surveys be conducted to determine the species' presence or absence within the project area. The use of North Carolina Natural Heritage program data should not be substituted for actual field surveys.

If you determine that the proposed action may affect (i.e., likely to adversely affect or not likely to adversely affect) a federally-protected species, you should notify this office with your determination, the results of your surveys, survey methodologies, and an analysis of the effects of the action on listed species, including consideration of direct, indirect, and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e., no beneficial or adverse, direct or indirect effect) on federally listed species, then you are not required to contact our office for concurrence (unless an Environmental Impact Statement is prepared). However, you should maintain a complete record of the assessment, including steps leading to your determination of effect, the qualified personnel conducting the assessment, habitat conditions, site photographs, and any other related articles.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

Not all Threatened and Endangered Species that occur in North Carolina are subject to section 7 consultation with the U.S Fish and Wildlife Service. Atlantic and shortnose sturgeon, sea turtles, when in the water, and certain marine mammals are under purview of the National Marine Fisheries Service. If your project occurs in marine, estuarine, or coastal river systems you should also contact the National Marine Fisheries Service, <http://www.nmfs.noaa.gov/>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. If you have any questions or comments, please contact John Ellis of this office at john_ellis@fws.gov.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Raleigh Ecological Services Field Office

Post Office Box 33726

Raleigh, NC 27636-3726

(919) 856-4520

Project Summary

Consultation Code: 04EN2000-2019-SLI-0962

Event Code: 04EN2000-2019-E-02196

Project Name: Boseman Buffer Site

Project Type: ** OTHER **

Project Description: Plant native hardwood stems along unnamed tributaries to the Tar River.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/35.963915877074676N77.70713591801106W>



Counties: Edgecombe, NC

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

Amphibians

NAME	STATUS
Neuse River Waterdog <i>Necturus lewisi</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6772	Proposed Threatened

Fishes

NAME	STATUS
Carolina Madtom <i>Noturus furiosus</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/528	Proposed Endangered

Clams

NAME	STATUS
Atlantic Pigtoe <i>Fusconaia masoni</i> There is proposed critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5164	Proposed Threatened
Tar River Spinemussel <i>Elliptio steinstansana</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1392	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Species Conclusions Table

Project Name: Boseman Buffer Site

Date: August 1, 2019

Species / Resource Name	Conclusion	ESA Section 7 / Eagle Act Determination	Notes / Documentation
Bald eagle <i>Haliaeetus leucocephalus</i>	Unlikely to disturb nesting bald eagles	No eagle act permit required	No NCNHP records or suitable habitat within 1.13 miles. 2013 orthophoto used to look for potential foraging water bodies. Nest survey conducted on June 3, 2019, no nests found.
Red-cockaded woodpecker <i>Picoides borealis</i>	No suitable habitat present	No Effect	There are no suitable pines within the study area for foraging or nesting. No NCNHP records or suitable habitat within 1.0 mile.
Neuse River waterdog <i>Necturus lewisi</i>	No suitable habitat present	No Effect	The on-site streams are mainly intermittent in flow regime and the perennial portions have water quality that is negatively impacted by nutrient and sediment inputs from the surrounding farm fields. The perennial channel immediately downstream of the site has no flow and eutrophication on June 3, 2019. NCNHP record within 1.0 mile but no habitat on-site.
Carolina madtom <i>Noturus furiosus</i>	No suitable habitat present	No Effect	The on-site streams are mainly intermittent in flow regime and the perennial portions have water quality that is negatively impacted by nutrient and sediment inputs from the surrounding farm fields. The perennial channel immediately downstream of the site has no flow and eutrophication on June 3, 2019. No NCNHP records or suitable habitat within 1.0 mile.
Atlantic pigtoe <i>Fusconaia masoni</i>	No suitable habitat present	No Effect	The on-site streams are mainly intermittent in flow regime and the perennial portions have water quality that is negatively impacted by nutrient and sediment inputs from the surrounding farm fields. The perennial channel immediately downstream of the site has no flow and eutrophication on June 3, 2019. No NCNHP records or suitable habitat within 1.0 mile.
Tar River spiny mussel <i>Elliptio steinstansana</i>	No suitable habitat present	No Effect	The on-site streams are mainly intermittent in flow regime and the perennial portions have water quality that is negatively impacted by nutrient and sediment inputs from the surrounding farm fields. The perennial channel immediately downstream of the site has no flow and eutrophication on June 3, 2019. No NCNHP records or suitable habitat within 1.0 mile.
Northern long-eared bat	No suitable habitat present	No Effect	No tree cutting or vegetation removal will occur.
Critical habitat	No critical habitat present	No Effect	N/A

Acknowledgement: I agree that the above information about my proposed project is true. I used all of the provided resources to make an informed decision about impacts in the immediate and surrounding areas.



Signature /Title

8/1/2019

Date



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Raleigh Field Office
P.O. Box 33726
Raleigh, NC 27636-3726

Date: _____

Self-Certification Letter

Project Name _____

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Raleigh Ecological Services online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the project named above in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. Based on your analysis, mark all the determinations that apply:

“no effect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or

“may affect, not likely to adversely affect” determinations for proposed/listed species and/or proposed/designated critical habitat; and/or

“may affect, likely to adversely affect” determination for the Northern long-eared bat (*Myotis septentrionalis*) and relying on the findings of the January 5, 2016, Programmatic Biological Opinion for the Final 4(d) Rule on the Northern long-eared bat;

“no Eagle Act permit required” determinations for eagles.

We certify that use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the “no effect” or “not likely to adversely affect” determinations for proposed and listed species and proposed and designated critical habitat; the “may affect” determination for Northern long-eared bat; and/or the “no Eagle Act permit required” determinations for eagles. Additional coordination with this office is not needed. Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species. Should project plans change or if additional information on the distribution of proposed or listed species, proposed or designated critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for 1 year. Information about the online project review process including instructions, species information, and other information regarding project reviews within North Carolina is available at our website <http://www.fws.gov/raleigh/pp.html>. If you have any questions, you can write to us at Raleigh@fws.gov or please contact Leigh Mann of this office at 919-856-4520, ext. 10.

Sincerely,

/s/Pete Benjamin

Pete Benjamin
Field Supervisor
Raleigh Ecological Services

Enclosures - project review package

From: Raleigh, FW4
To: [Smith, Heather](#)
Subject: Confirmation of Project Receipt Re: [EXTERNAL] Boseman Buffer Mitigation Site Self-Certification [Filed 01 Aug 2019 08:06]
Date: Thursday, August 1, 2019 7:44:00 AM

Thank you for submitting your online project package. We will review your package within 30 days of receipt. If you have submitted an online **project review request letter**, expect our response within 30 days. If you have submitted an online **project review certification letter**, you will typically not receive a response from us since the certification letter is our official response. However, if we have additional questions or we do not concur with your determinations, we will contact you during the review period.



May 30, 2019

Renee Gledhill-Earley
State Historic Preservation Office
4617 Mail Service Center
Raleigh, NC 27699-4617

Re: Division of Mitigation Services Buffer Restoration Project in Edgecombe County
Boseman Buffer Site

Ms. Gledhill-Earley,

The Division of Mitigation Services (DMS) requests review and comment on any possible issues that might emerge with respect to archaeological or cultural resources associated with a riparian buffer restoration project (Figures 1 & 2).

The Boseman Buffer Site has been identified for the purpose of providing in-kind mitigation for unavoidable riparian buffer impacts in the Tar-Pamlico River Basin. The project site is located on NC-97 in Battleboro, NC (35.968728, -77.704679). The Edgecombe County property identification number is 3880-38-6335. The project entails placing a conservation easement on approximately 15 acres and planting the site in native hardwood trees. The site has been in agricultural production since at least 1955. The existing stream channels are devoid of woody vegetation and are planted with row crops. The project site is located within the 100-year floodplain of the Tar River and will require an Edgecombe County floodplain development permit. Funding is not being sought from any state or federal agencies. No architectural structures or archaeological artifacts have been observed or noted during the preliminary surveys of the site for restoration purposes (See attached photos).

We are requesting a review of the site based on the attached information to determine the presence of any historic properties or archaeological resources.

Sincerely,

Ted Griffith
Project Manager
ted@ecoterra.com



**North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office**

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

July 12, 2019

Ted Griffith
Eco Terra
1117 Peachtree Walk NE, Suite 126
Atlanta, GA 30309

Re: Create Boseman Buffer Site, NC 97, Battleboro, Edgecombe County, ER 19-1882

Dear Mr. Griffith:

Thank you for your letter of May 30, 2019, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

for Ramona Bartos, Deputy
State Historic Preservation Officer



July 10th, 2019

Joel Boseman
PO Box 550
Battleboro, NC 27809

Dear Joel,

As part of the environmental documentation process in preparation for the stream mitigation project on your property, this letter is to inform you of provisions in the Federal Highway Administration Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, referred to as the Uniform Act.

The Uniform Act requires that we inform you in writing that this conservation easement transaction is voluntary and that the project is being developed by Eco Terra Partners LLC for the North Carolina Division of Mitigation Services (NCDMS). Neither Eco Terra nor NCDMS have the authority to acquire the property by eminent domain. In addition, Eco Terra believes that the agreed purchase price for the conservation easement area represents the fair market value.

This letter is for your information, and you do not need to respond. As always, please feel free to call me at 336-847-4566 with any questions.

Sincerely,

Ryan Perry

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request			
Name of Project		Federal Agency Involved			
Proposed Land Use		County and State			
PART II (To be completed by NRCS)		Date Request Received By NRCS		Person Completing Form:	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %		Amount of Farmland As Defined in FPPA Acres: %		
Name of Land Evaluation System Used	Name of State or Local Site Assessment System		Date Land Evaluation Returned by NRCS		
PART III (To be completed by Federal Agency)		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site					
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide Important or Local Important Farmland					
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)					
PART VI (To be completed by Federal Agency) Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
TOTAL SITE ASSESSMENT POINTS		160			
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)		100			
Total Site Assessment (From Part VI above or local site assessment)		160			
TOTAL POINTS (Total of above 2 lines)		260			
Site Selected:		Date Of Selection		Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>	
Reason For Selection:					
Name of Federal agency representative completing this form:					Date:

(See Instructions on reverse side)

From: [Smith, Heather](#)
To: ["Cortes, Milton - NRCS, Raleigh, NC"](#)
Subject: RE: [External] RE: Boseman Buffer Site- Edgecombe County
Date: Thursday, August 1, 2019 8:03:49 AM
Attachments: [AD1006_Boseman Buffer Site.pdf](#)
[image001.gif](#)

Milton,

Here is the completed form for your records.

Thank you,

Heather Smith, LSS
Senior Environmental Scientist



Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606-5217
P 919.754.5019 | F 919.833.0034
hsmith@vhb.com

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From: Cortes, Milton - NRCS, Raleigh, NC <milton.cortes@usda.gov>
Sent: Friday, May 31, 2019 12:07 PM
To: Smith, Heather <hsmith@vhb.com>
Subject: RE: [External] RE: Boseman Buffer Site- Edgecombe County
Importance: High

Heather:

Ok, attached the Farmland Conversion Impact Rating (AD1006) evaluation. Also, I attached the Farmland Map I created out of the shape file you sent. For your reference.

If I can be of further assistance please let me know.

Best Regards;

Milton Cortes

State Soil Scientist

USDA NRCS

4407 Bland Rd., Suite 117

Raleigh, NC 27609

Desk: 919-873-2171

From: Smith, Heather <hsmith@vhb.com>
Sent: Friday, May 31, 2019 10:44 AM
To: Cortes, Milton - NRCS, Raleigh, NC <milton.cortes@usda.gov>
Subject: RE: [External] RE: Boseman Buffer Site- Edgecombe County

Milton,

The revised package is attached. Let me know if you need anything else for this.

Thank you for your help with this!

Heather Smith, LSS
Senior Environmental Scientist



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940 Main Campus Drive, Suite 500
Raleigh, NC 27606-5217
P 919.754.5019 | F 919.833.0034
hsmith@vhb.com

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From: Cortes, Milton - NRCS, Raleigh, NC <milton.cortes@usda.gov>
Sent: Friday, May 31, 2019 7:52 AM
To: Smith, Heather <hsmith@vhb.com>
Subject: RE: [External] RE: Boseman Buffer Site- Edgecombe County
Importance: High

Heather:

I apologize. I thought that you had submitted an AD1006 request, before. Attached the set of instructions I usually sent to our customers. It will give you two alternatives: 1. Created the map as specified or 2. Send me a boundary shapefile of the area of interest. Either way will work.

Thanks

Milton Cortes
USDA NRCS
Raleigh, NC
Desk: 919-873-2171

From: Smith, Heather <hsmith@vhb.com>
Sent: Friday, May 31, 2019 6:55 AM
To: Cortes, Milton - NRCS, Raleigh, NC <milton.cortes@usda.gov>
Subject: Re: [External] RE: Boseman Buffer Site- Edgecombe County

Milton,

If you send me an example of a map you need I can work on that. This is my first submitted like this.

Thanks,

Heather

Sent from my iPhone

On May 30, 2019, at 16:05, Cortes, Milton - NRCS, Raleigh, NC <milton.cortes@usda.gov> wrote:

Heather:

Please, can you send me the shape file of the Boseman Buffer Site? I need to create a soils map, a map unit inventory and acreage inventory unless you have a map like that.

Thanks

Milton Cortes
State Soil Scientist
USDA NRCS
4407 Bland Rd., Suite 117
Raleigh, NC 27609
Desk: 919-873-2171

From: Smith, Heather <hsmith@vhb.com>
Sent: Thursday, May 30, 2019 3:49 PM
To: Cortes, Milton - NRCS, Raleigh, NC <milton.cortes@usda.gov>
Cc: Ted Griffith <ted@ecoterra.com>; Jamey O'Shaughnessey <jamey@ecoterra.com>;
Sauls, Lane <lsauls@vhb.com>
Subject: Boseman Buffer Site- Edgecombe County

Milton,

I am working on a categorical exclusion for a riparian buffer mitigation site in Battleboro in Edgecombe County. Please find my attached Farmland Conversion Impact Rating Form AD-1006 and site mapping. Please let me know if you need any additional information.

Thank you,

Heather Smith, LSS
Senior Environmental Scientist

<image001.gif>

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940 Main Campus Drive, Suite 500
Raleigh, NC 27606-5217
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July 8, 2019

Ref: 39077.02

Shannon Deaton
N.C. Wildlife Resource Commission
Division of Inland Fisheries
Habitat Conservation Program Manager
1721 Mail Service Center
Raleigh, NC 27699

Re: Boseman Buffer Mitigation Site
Edgecombe County, North Carolina

Ms. Deaton,

VHB and Eco Terra, LLC request review and comment on any possible issues that may emerge with respect to fish and wildlife issues associated with the proposed Boseman Buffer Mitigation Site. A USGS Topographic Map and an Overview Site Map showing the approximate project area are enclosed.

The Boseman Buffer Mitigation Site is being developed to provide in-kind mitigation for unavoidable riparian buffer impacts in the Tar-Pamlico River basin. The current stream channels lack a forested buffer and the majority of the proposed project is currently in row crops. The site has been in agricultural use since at least 1955.

Please feel free to contact me with any questions concerning this project.

Sincerely,

VHB Engineering NC, P.C.

A handwritten signature in black ink, appearing to read "H. Smith", is written over a light blue circular stamp.

Heather Smith, LSS

Senior Environmental Scientist
hsmith@vhb.com
919-754-5019

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940 Main Campus Drive, Suite 500
Raleigh, North Carolina 27606
P 919.829.0328
F 919.833.0034

From: Dunn, Maria T.
To: [Smith, Heather](#)
Subject: RE: [External] Boseman Buffer Mitigation Site-FWCA Coordination
Date: Friday, July 26, 2019 3:28:49 PM

Dear Ms. Smith,

I have looked at the site located off NC Hwy 97 east of Rocky Mount for a NCDMS full delivery project for riparian buffer mitigation in the Tar-Pamlico basin. The area is currently in agricultural use with minimal to no buffer.

Since there was no detail provided regarding site plans, it is difficult to say whether or not the project will provide successful mitigation. Site design is important to insure water quality and wildlife benefits can be obtained through the project by means of floodplain connectivity, appropriate vegetation, and travel corridors. The Tar River near this location is designated as critical habitat for Atlantic sturgeon, is designated a primary nursery area, and has several listed fresh water mussels within the river proper and some of its tributaries. Although these designations and species are not present in the immediate project area, it is suggested if the project moves forward that sedimentation and erosion control measures are appropriately installed and maintained throughout project implementation to minimize introduced sediments to the system. Buffers larger than those required by NCDWR for the Tar-Pamlico basin are appreciated in areas with listed species.

Thank you for the opportunity to review and provide comment. If I can be of additional service, please do not hesitate to call or email.

Maria

Maria T. Dunn
Coastal Coordinator

NC Wildlife Resources Commission
943 Washington Sq. Mall
Washington, NC 27889
office: 252-948-3916
fax: 252-975-3716

www.ncwildlife.org

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From: Smith, Heather <hsmith@vhb.com>
Sent: Monday, July 8, 2019 4:30 PM
To: Deaton, Shannon L. <shannon.deaton@ncwildlife.org>
Subject: [External] Boseman Buffer Mitigation Site-FWCA Coordination

CAUTION: External email. Do not click links or open attachments unless you verify. Send all suspicious email as an

Shannon,

Attached is the information for a new NCDMS full delivery project in the Tar-Pamlico River basin. The project is a riparian buffer mitigation project, covering approximately, 15 acres.

Please let me know if you have any questions.

Thank you,

Heather Smith, LSS

Senior Environmental Scientist



Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606-5217
P 919.754.5019 | F 919.833.0034
hsmith@vhb.com

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July 23, 2019

Ref: 39077.02

John Ellis
US Fish and Wildlife Service
Raleigh Field Office
Fish & Wildlife Biologist
P.O. Box 33726
Raleigh, NC 27636-3726

Re: Boseman Buffer Mitigation Site
Edgecombe County, North Carolina

Mr. Ellis,

VHB and Eco Terra, LLC request review and comment on any possible issues that may emerge with respect to fish, wildlife, or migratory bird issues associated with the proposed Boseman Buffer Mitigation Site. A USGS Topographic Map and an Overview Site Map showing the approximate project area are enclosed.

The Boseman Buffer Mitigation Site is being developed to provide in-kind mitigation for unavoidable riparian buffer impacts in the Tar-Pamlico River basin. The current stream channels lack a forested buffer and the majority of the proposed project is currently in row crops. The site has been in agricultural use since at least 1955.

Please feel free to contact me with any questions concerning this project.

Sincerely,

VHB Engineering NC, P.C.

A handwritten signature in black ink, appearing to read 'H. Smith', is placed over a light blue rectangular background.

Heather Smith, LSS

Senior Environmental Scientist
hsmith@vhb.com
919-754-5019

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Venture I
940 Main Campus Drive, Suite 500
Raleigh, North Carolina 27606
P 919.829.0328
F 919.833.0034



January 23, 2020

Ref: 39077.02

NCDWR
1617 Mail Service Center,
Raleigh, NC 27699-1617

Re: DWR# 2019-0800 Boseman Mitigation Plan NCDWR Comments

Katie Merritt,

Please find the attached response to your comment letter dated, January 21, 2020. If you have any questions please contact me at 919-754-5019 or email at hsmith@vhb.com

Sincerely,

VHB Engineering NC, P.C.

A handwritten signature in black ink, appearing to read "Heather Smith", is written over a light blue horizontal line.

Heather Smith, LSS

Senior Environmental Scientist
hsmith@vhb.com

CC: Lindsay Crocker, NCDMS
Ted Griffith, Eco Terra

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Venture I
940 Main Campus Drive, Suite 500
Raleigh, North Carolina 27606
P 919.829.0328
F 919.833.0034

Boseman Riparian Buffer Mitigation Plan DWR# 2019-0800 DWR staff (Katie Merritt) Comments submitted 1/21/2020:

I. General Comments:

- a. There is reference to an In-Lieu Fee Instrument on cover page. This instrument is for stream & wetland compensatory mitigation. DWR & DMS have not entered into an Instrument governing the operations and procedures for the delivery of Buffer Mitigation or Nutrient Offset. Please remove reference. *The reference has been removed.*
- b. Note that this site cannot be used to generate nutrient offset credits since no nutrient offset are being proposed for DWR review and approval. If nutrient offset credits are proposed for this site, DMS must provide an asset table and corresponding asset map that shows where Nutrient offsets are proposed. *The Site is not being proposed for nutrient offset and no nutrient offset credits are included in the Mitigation Plan.*
- c. Consistent misuse of the term "riparian buffer" or "buffer" is used throughout the text and can lead to confusion or misleading information. These terms are only to be used to describe the Tar-Pamlico buffer, which is 0-50' from top of bank and has a Zone 1 & Zone 2. This also excludes Ephemeral's. Please correct terminology where it is being misused and replace with " riparian area" where applicable. *Added "and adjacent riparian areas" where applicable. Kept the credit type as "Riparian Buffer"*
- Example: "The project includes the restoration of riparian buffers and adjacent riparian areas. "

2. Section 1.0

- a. Page I, 1 st paragraph:
 - Add language to clarify this site is being submitted for buffer mitigation credits to be used in the 03020101 8-digit HUC of the Tar-Pamlico River Basin. *Added "in the 03020101 8-digit HUC of the Tar-Pamlico River Basin (Figure 2).*
 - The riparian buffer credits are shown as 617,394.032. Add "ft²" for the unit. *The "ft²" unit has been added.*
3. Add a service area map to the Figures. The Service area map should show the 03020101 8- digit HUC of the Tar-Pamlico River Basin being serviced by this project. *Added Figure 2 and updated subsequent Figure numbers.*

4. Section 2.0

- a. Table 1 : clarify that 621,810 ft² includes "riparian buffers and adjacent riparian areas *Added adjacent riparian areas.*
- b. Table 2 has unrealistic expectations for Initial Planting Date *Updated to March 2020*
- c. Table 3: when comparing to Table 9, the Restored buffer areas in this table are inconsistent. UT1 should be 490,568, but this table says 484,131; UT2 reach 2a should be 1.80 acres & 78,590ft; and UT2 reach 2b should be 1.21 acres & 52,652. Please explain. (please note, that the 25% of the total mitigated area for ephemerals is calculated before

applying any ratios from the rule".) Updated Table 3 to be consistent with Table 9. The percentage of mitigation on the ephemeral channel was calculated using total area not buffer mitigation credits. $78,590 \text{ sq.ft.}/621,810 \text{ sq.ft.} = 0.12639$ or 12.6%. This is shown on Table 9.

5. Section 2.6: Provide directions to the site & I didn't see where the Lat & Long were provided. Added directions in Section 2.6. Lat/Long is in Table 2, under Geographic Location (decimal degrees)
6. Section 2.7: correct typo for rule from 0.029 to .0295 Typo has been corrected.
7. Section 5.1: no mentioning of sediment & erosion control measures proposed. With this site's slope along UT1 & UT2, and the disking that will be necessary for site preparation, please explain how stormwater runoff during a rain event during site preparation, will be controlled such that sediment loss to the streams is prevented? Also need to clarify that the herbicide used will be one that is safe for the stream systems and will be applied by a licensed sprayer. Updated the paragraph to the following, "The land proposed for buffer restoration is currently in agricultural production. The planting rows will be ripped to improve soil compaction prior to planting in the upland areas. Sediment and erosion control measures will be used to prevent sediment from entering the streams during a rain event and may include sediment and erosion control fencing. Pre-emergent aquatic safe herbicide will be used in the tree rows to control potential herbaceous weed competition. Additional post planting herbicide will be used within the planting rows for at least the first three years as needed. The fields within the project area contain limited number of invasive plants and an aquatic safe herbicide, such as Rodeo, will only be sprayed in areas where there is an existing population of non-native invasive plant species. All herbicide will be applied by a licensed herbicide applicator. In the event that drain tiles are found during construction, they will be removed."
8. Section 5.2: Planting a permanent seed mix that is abundant in annual and perennial pollinator species is strictly voluntary but is being encouraged by DWR in other mitigation plans to promote diversity and enhance the health of the herbaceous layer, which can also greatly benefit planted stems. Planting in January 2020 is not likely. Change this date. A permanent seed mix is included in Table 8. The planting date was updated to March 2020.
9. Section 5.3, last sentence: change to "All areas within 115 feet from features as measured perpendicular from the tops of banks will be devoted to generate buffer mitigation credits" Added sentence as stated above.
10. Table 9: This table needs additional information in order for DWR to confirm the information provided is compliant with the rules.
 - a. Add columns for "Mitigation Type", "Total Area" (this is the area measured before ratios are applied), "% Full Credit", "Final Credit Ratio" and complete the table. The Credit Ratio column in the table doesn't follow the rule. It should be either 1:1, 2:1, 5:1 or 10:1 depending on the Mitigation Type (see 0295 (m) & (n)). The 3.03030 ratio should be in the "Final Credit Ratio" column that you add. This column is where you apply the Credit Ratio & % Full Credits columns. Updated Table 9 per the November 2019 "Project Credit Table Template" found on NCDEQs website.

- b. Change "Buffer Width" column to be "Min-Max Buffer Width" and complete the table. [Updated Table 9 per the November 2019 "Project Credit Table Template" found on NCDEQs website.](#)
- c. Showing the width as 30-100 can imply the top of bank to thirty feet is not part of the project. Therefore, it is preferred that the table actually show what the minimum-maximum widths are with the applicable ratios applied. Example: if the minimum width is top of bank and the max is 100, use 0-100' to describe the riparian areas within that min-max buffer width and apply the applicable ratios and % reductions. [Updated Table 9 per the November 2019 "Project Credit Table Template" found on NCDEQs website.](#)
- d. Add " ft² to the BMU column- [Updated Table 9 per the November 2019 "Project Credit Table Template" found on NCDEQs website.](#)
- e. There is not enough information to confirm that the calcs used to determine the "creditable area" for the riparian areas adjacent to the ephemeral is correct and compliant with 0295 (o)(7). Adding the "Total Area" column to the table will assist with this. See previous comment in 3c. [Updated Table 9 per the November 2019 "Project Credit Table Template" found on NCDEQs website.](#) The percentage of mitigation on the ephemeral channel was calculated using total area not buffer mitigation credits. $78,590 \text{ sq.ft.} / 621,810 \text{ sq.ft.} = 0.12639$ or 12.6%. This is shown on Table 9.

11. Section 6.0

- a. Recommend combining sections 6.0 & 7.0 and adding more clarity such that DWR can confirm compliance of .0295 (2)(B & E) and (4) is met. [Combined Section 6.0 and 7.0.](#)
- b. Instead of Success Criteria, please use "Performance Standards" to be consistent with .0295 terminology. [Changed "Success Criteria" to "Performance Standards"](#)
- c. No clear understanding of the data collected is provided. What exactly will be collected? DWR requires the Quantity & Quality of the stems in the plots be provided in monitoring reports. Therefore, it is expected that heights of species counting towards your perf. Criteria are included in the data along with the species name. Are you including Planted & Volunteers? CVS level 1 implies no volunteers are being counted and collected, just checking. [CVS Level II will be used. Included information in Section 6.1 that vigor, height and DBH, where applicable, will be recorded.](#)
- d. More detail needs to be provided. Provide information on what will be recorded in the plots, will they be rotating or random plots, what size and shape are the plots, do they make up a certain percentage of the planted area? [Added in Section 6.1 that the plots will be permanent 100 m² and that the 12 plots account for 2% of the planted area of 621,810 sq.ft.](#)
- e. Need to include a Figure to reference here, showing the plot placement of your 12 plots. Plot placement will need to be representative of the entire mitigation area, 0- 200' from each tributary. [Plot placement shown on Figure 9.](#)
- f. Vegetation (7. l) - This paragraph is not 100% accurate. According to the 0295 (n)(2), there are more parameters than just 260 stems/acre. Please correct. [Added information about having 4 native hardwood tree and shrub species and that no species will constitute more than 50%.](#)

12. Section 8.0 - This section describes what DENR stewardship will do. But what is the Provider expected to do during their monitoring years 1-5? Identify how the boundary will be marked at as-built. It says the stewardship program will install signage. . .but isn't that done at closeout? If so, the provider needs to install their own temporary signs and mark the easement boundary before As-Built as to avoid any confusion of where the boundaries are. **Added information stating Provider will install signage prior to as-builts.**
13. Section 4.0- Thank you for providing the summary of the Cat. Ex findings. These findings reference letters and correspondence in the Appendix, but I did not see the supporting materials and correspondence provided. Can this be provided? EDR summary was provided. **The entire Categorical Exclusion package is included in Appendix C.**
14. Figure 3:
 - a. Label the reaches so it can be compared to Table 3. **Added reaches.**
 - b. Identify what the drainage area is, not just the location of the drainage area. Are they being shown in miles or acres? I'm assuming Table 3 should align with this figure. **Added drainage area in acres to figure.**
15. Figure 7:
 - a. Do not use the Credit Ratio to describe the areas. Show the buffer widths as they are provided in Table 9. It is preferred to show them as 0-100' and 101-??' for this particular project. **Changed to 0'-100' and 101'-200'. I kept the 101'-200' consistent with what was selectable in November 2019 "Project Credit Table Template" so Table 9 would match the figures.**
 - b. Identify the riparian areas adjacent to the ephemeral channel separately from the area adjacent to the streams. Use a different color. **Distinguished between all reaches and credit area by color on figure.**
16. Was there an AD-1006 form required? **The entire Categorical Exclusion package is included in Appendix C, which includes the AD-1006 form.**
17. Overall, if the riparian restoration, enhancement and preservation is done according to the plan and addresses all comments and corrections provided by DWR, the site should provide a good buffer mitigation project.

A response to all comments above, along with edits made to the final draft are requested by DWR prior to final review & issuance of any plan approval. No work is to be done on the site until written DWR approval has been provided in accordance with 15A NCAC 02B .0295 (n)(2).

ROY COOPER

Governor

MICHAEL S. REGAN

Secretary

S. DANIEL SMITH

Director



NORTH CAROLINA
Environmental Quality

February 11, 2020

Division of Mitigation Services
Attn: Jeremiah Dow
1652 MSC
Raleigh, NC 27699-1652
(via electronic mail: jeremiah.dow@ncdenr.gov)

Re: **Boseman Buffer Mitigation Plan Approval**

Dear Mr. Dow,

The Division of Water Resources (DWR) received a draft Mitigation Plan from the Division of Mitigation Services (DMS) for the Boseman site (Site) in 2019, for review and approval under 15A NCAC 02B .0295 to be used as a buffer mitigation project in the Tar-Pamlico River Basin. DWR reviewed the Mitigation Plan and provided comments and recommendations. DWR received a revised Mitigation Plan that addressed all comments and recommendations. The table below summarizes the timeline of the Mitigation Plan:

Project Site Name	DWR Project ID #	Initial Mitigation Plan Received	Revised Mitigation Plan Received (Final Draft)	Public Notice Date
Boseman	2019-0800	November 21, 2019	January 24, 2020	N/A

By copy of this letter, the subject mitigation plan is *approved*. A copy of the final draft can be found online at:

<https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=1075869&dbid=0&repo=WaterResources>

Please feel free to call Katie Merritt at (919) 707-3637 if you have any questions regarding this correspondence.

Sincerely,

Katie Merritt
401 & Buffer Permitting Branch

cc: DWR File Copy (Katie Merritt)



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | I611 Mail Service Center | Raleigh, North Carolina 27699-1611
919.707.9000