

DETAILED STUDY ALTERNATIVES CARRIED FORWARD

Copperhead Road Extension from US 561 (Knightsville Highway) to Big
Creek Road

Onslow County

STIP Project E-1225

North Carolina Department of Transportation
Division 3



MERGER CONCURRENCE POINT NUMBER 2

2020

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1. Introduction

Lead federal agency: US Army Corps of Engineers

Primary points of contact for the subject project are:

Agency	Name
Federal Highway Administration (FHWA)	James Herr
U.S. Army Corps of Engineers (USACE)	Morgan Barrett
North Carolina Department of Water Resources (NCDWR)	Sasha Carson
North Carolina Department of Transportation	Jim Dawson
HNTB	Jane Reese

The purpose of this Merger Team meeting is to gain concurrence on the alternatives to carry forward for detailed study (Concurrence Point 2).

1.1 Project Description

The North Carolina Department of Transportation (NCDOT) proposes to extend Copperhead Road from US 561 (Knightsville Highway) to SR 1308 (Big Creek Road) north of Capeside, in Onslow County. The project includes a potential new location crossing of the Newer River. The project is approximately 5.3 miles long and is identified in the State Transportation Improvement Program (STIP) as Project No. E-1225, WBS No. 86753.0.9, Federal Aid No. STP-2211(1). The project location is shown in Figure 1.

1.2 Project History and Merger Plan

The project is in the 2020-2029 NCDOT STIP which was approved by the NCDOT Board of Transportation in September 2019. Right-of-way (ROW) and Construction funding are scheduled for 2024 and 2026, respectively. The current costs for the project as estimated in the current STIP are shown in Table 1. The proposed project schedule is included in Table 2 and is based on the [Merger Plan](#). The schedule and cost estimates are draft and subject to change.

Table 1. 2021-2029 STIP E-1225 Cost Estimate

Phase	Cost Estimate
Right of Way	\$2,107,000
Utilities	\$500,000
Construction	\$37,576,000
Total*	\$41,183,000
*includes \$1,000,000 in prior years costs. Note: cost estimates are subject to change.	

Table 2. STIP Project E-1225 Milestone Targets

Milestone	Format	Schedule*
Concurrence Point 2A	Virtual Meeting	April 2020
Concurrence Point 3/4A	Virtual Meeting	April 2021
Categorical Exclusion	Electronic Distribution	August 2022
Begin ROW Acquisition		August 2024
Begin Construction		August 2026
*tentative, subject to change		

2. Summary of CP 1 Purpose and Need

2.1 Identified Needs

As concurred upon in the CP1 Merger Meeting, the Need for this project is to improve network mobility, capacity and connectivity between Big Creek Road and US 561 in the project area.

2.2 Proposed Purpose

The primary purpose of the proposed project is to address system linkage and capacity deficiencies that exist between Big Creek Road and US 561 (Knightsville Highway) in the project area by developing a potential new location crossing of the Newer River and improving the Copperhead Road/US 561 intersection, which currently is at a bad skew.

3. Project Study Area

The Project Study Area is shown in Figure 2 and there have been no changes to the study area since CP 1.

4. Summary of Alternatives Considered

4.1 No-Build Alternative

The No-Build Alternative only includes minor restoration activities to ensure the safety, maintenance, and continued operation of the existing highway. It does not require additional right of way or any improvements to the highway that would generate impacts to human or natural resources. Although it will not reduce travel time or provide increased mobility and connectivity required to meet the purpose and need of the project, the No-Build Alternative will be carried forward to provide a basis for comparison with other alternatives carried forward for detailed study for this proposed action.

4.2 Build Alternatives

Three Build Alternatives are being considered for this project (Figure 3):

1. Northern Alignment Alternative

- Realign Copperhead Road to intersect Cedar Valley Road, including approximately 1.0 mile of roadway on new location. Widen Cedar Valley Road bridge over the Newer River to accommodate 12-ft travel lanes and 8-ft shoulders. Roadway improvements along existing alignments (12-ft travel lanes, 8-ft shoulders with 4 feet paved, 30-ft clear zone). Purchase of right of way for a future multi-lane roadway.

2. Middle Alignment Alternative

- Realign Copperhead Road to intersect Briarneck Road, including approximately 1.0 mile of roadway on new location. Improve existing roadways (12-ft travel lanes, 8-ft shoulders with 4 feet paved, 30-ft clear zone). Purchase of right of way for a future multi-lane roadway.

3. Southern Alignment Alternative

- Realign Copperhead Road to a new intersection with US 561 and continue on new alignment, including a new location crossing of the Newer River to form the fourth leg of the existing Ramsey Road and Big Creek Road intersection.

4.3 Alternatives Eliminated

The following alternatives were eliminated from consideration and will not be carried forward for detailed study:

- **Transportation Demand Management (TDM) Alternative**
 - Alternative will not eliminate the existing traffic congestion or provide increased mobility and connectivity required to meet the Purpose and Need of the project. Therefore, the TDM Alternative will not be carried forward as a detailed study alternative.
- **Transportation Systems Management (TSM) Alternative**
 - Alternative does not address the existing lack of connectivity and mobility included in the Purpose and Need Statement for this project. Therefore, the TSM Alternative will not be carried forward as a detailed study alternative.
- **Upgrade Existing Alternative**
 - Alternative does not address the need for an additional crossing of the Newer River to provide additional connectivity in the region identified in the Purpose and Need Statement would not be achieved. Therefore, the upgrade existing alternative will not be carried forward as a detailed study alternative.

5. Analysis of Build Alternatives

Table 3 shows natural resources present within the Project Study Area of each alternative being carried forward. Measurements were quantified using a slope stake limit of 40 feet. Streams and wetlands represent field delineated resources, though they have not been verified by the agencies at the time of this report, except for Bachelor's Delight Creek. The project would bridge the Newer River floodway in any alternative; however, the Newer River is included in the stream counts below. These are shown on the Environmental Features Map, Figure 4.

Table 3. Resource Presence in Project Study Area¹				
		Northern Alternative	Middle Alternative	Southern Alternative
Length (mile)		6.5	5.7	4.7
Wetlands (acre)		37*	44*	34
Streams (feet)		10,080*	9,670*	5,990
Floodway		6	13	28
Floodplain (acre)	100-Year	20	13	15
	500-Year	9	8	1
Parcels		383	236	124
¹ Measurements quantified using 40-foot slope stake limit.				
*Measurement includes 5 acres of wetland or 480 feet of stream associated with the Big Creek Road crossing of Bachelor's Delight Creek, calculated based on Onslow County GIS data (i.e., NRTR/WEX did not cover this crossing).				

6. Summary of Public Involvement

A postcard announcing the start of the project was sent on December 28, 2019. A website is available to the public (www.wideninginOnslow.com) describing the project and will be updated as project milestones are reached. To date, five calls and two emails have been received. All support the project in

principle. A Public Meeting and Local Officials Informational Meeting are planned following Concurrence Point 2A.

7. Merger Plan Review/Next Steps

Based on the proposed Merger Plan for the project, NCDOT proposes the next Merger Meeting will be CP 2A (Bridging Decisions and Alignment Review). Prior to the next Merger Meeting, NCDOT will complete the Hydraulic Planning Report (HPR). It is anticipated that the CP 2A meeting will be held in three months; Merger Team members will be notified of any changes that require a revision of this timetable.

Section 404/NEPA Merger Project Team Meeting Agreement

Concurrence Point No. 2 Detailed Study Alternatives Carried Forward

Project Name/Description: US 561 (Knightsville Highway) to SR 1308 (Big Creek Road). Construct Extension of Copperhead Road on new location. **STIP Project: E-1225**

- _____ **Northern Alternative** - realign Copperhead Road to intersect Cedar Valley Road; improve Cedar Valley Road to Big Creek Road intersection; purchase right of way for a future multi-lane roadway.
- _____ **Middle Alternative** - realign Copperhead Road to intersect Briarneck Road; improve Briarneck Road for approximately one mile; construct new alignment roadway to cross the Newer River on new location to a new Big Creek Road intersection; purchase right of way for a future multi-lane roadway.
- _____ **Southern Alternative** - realign Copperhead Road to a new intersection with US 561; construct new alignment roadway to cross the Newer River on new location to the existing Ramsey Road and Big Creek Road intersection; purchase right of way for a future multi-lane roadway.

The Merger Team has concurred on this date of February 17, 2020, on the above identified detailed study alternatives to be carried forward for STIP Project E-1225.

USACE _____

FHWA _____

USEPA _____

NCDOT _____

USFWS _____

NOAA Fisheries _____

NCDWR _____

NCHPO _____

NCWRC _____

CMPO _____

NCDCM _____

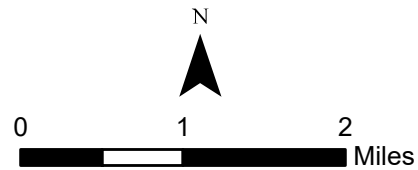
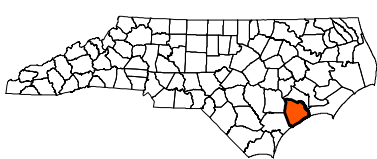
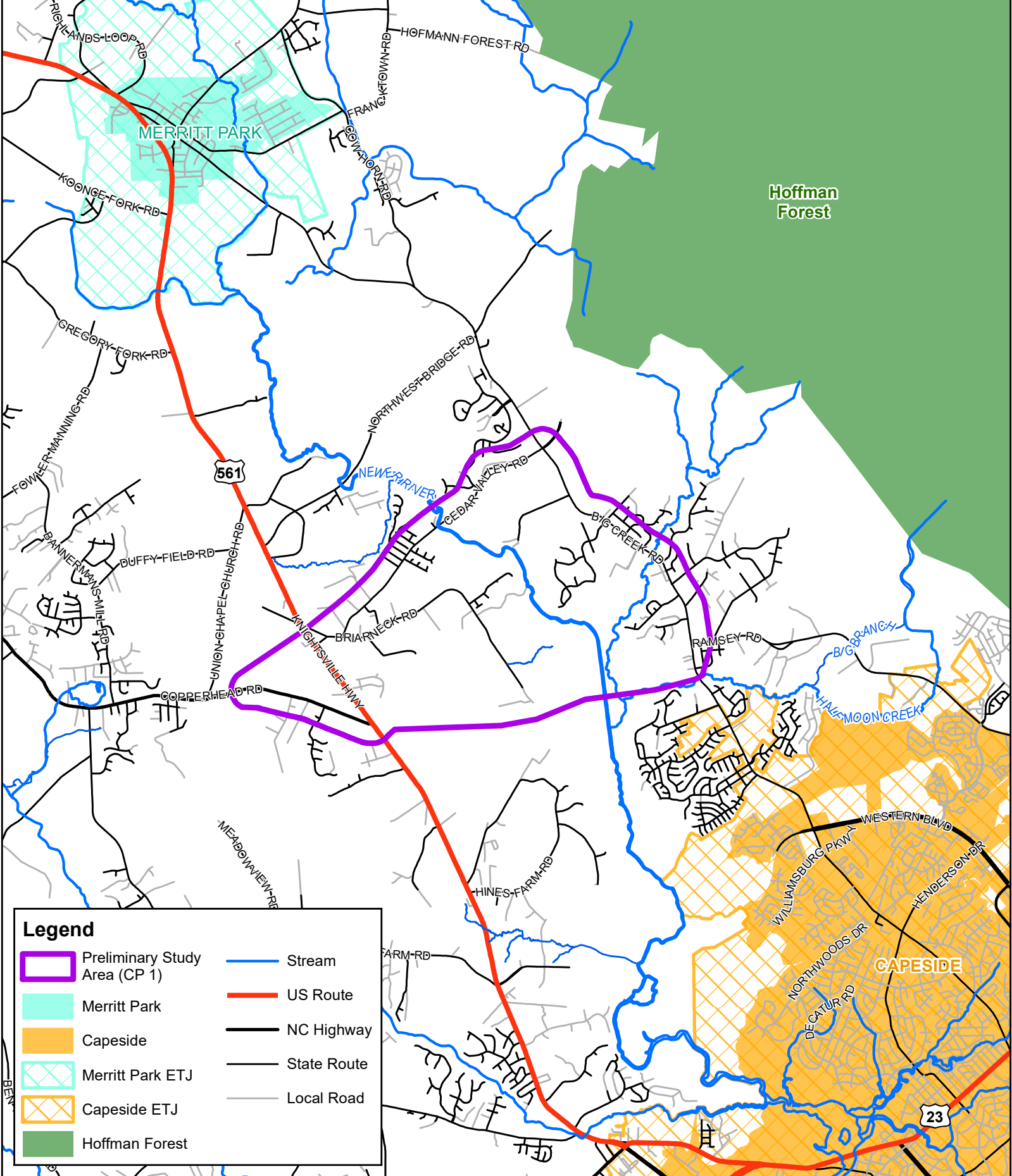
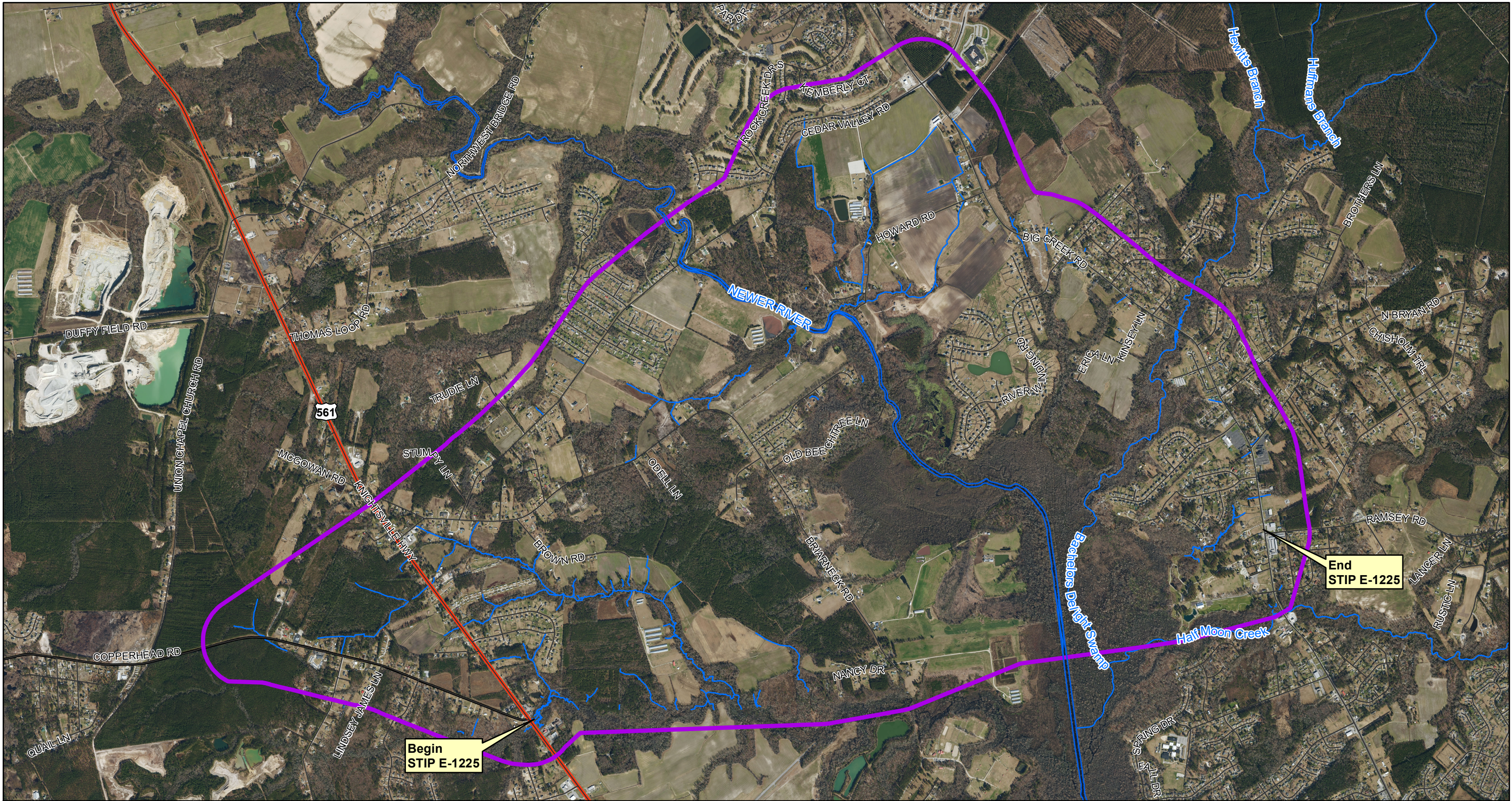







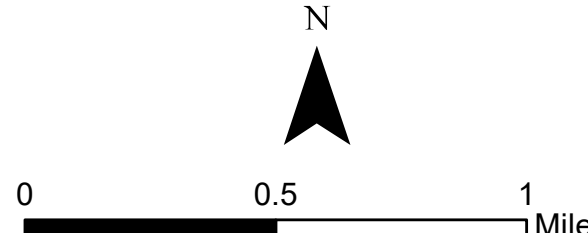
Figure 1: Vicinity Map
STIP Project E-1225

Copperhead Road Extension from US 561
(Knightsville Hwy) to Big Creek Road
Onslow County



Legend

-  Study Area (CP1)
-  Stream
-  US Route
-  NC Highway
-  Road



**Figure 2: Study Area Map
STIP Project E-1225**

Copperhead Road Extension from US 561
(Knightsville Hwy) to Big Creek Road
Onslow County

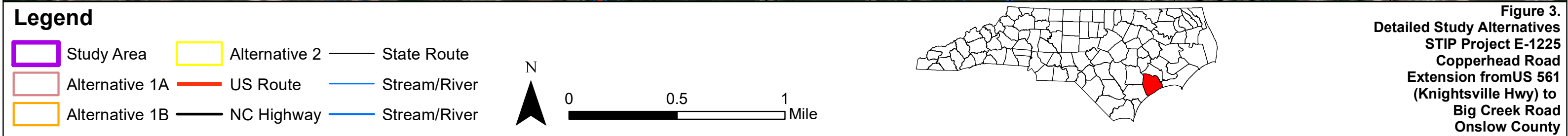
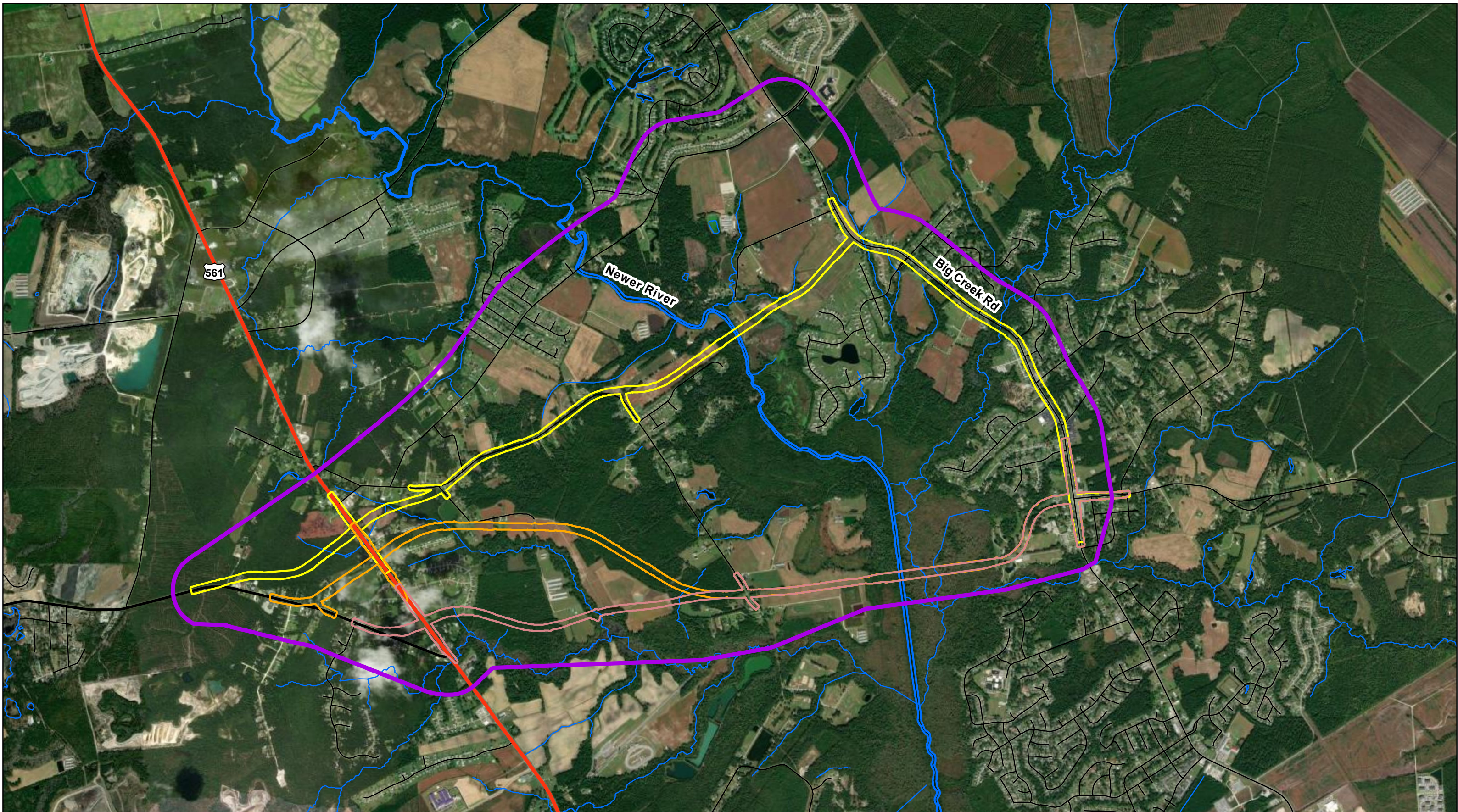


Figure 4. Environmental Features Map

Copperhead Road
Extension from US 561
(Knightsville Hwy) to
Big Creek Road
STIP Project E-1225
Onslow County

Legend

- Preliminary Study Area (CP 1)
- Alternative 1A
- Alternative 1B
- Alternative 2
- Regional UST
- Hazardous Waste Site
- Firestation
- Places of Worship
- School
- Fire Station
- Historic Site
- NRHP Historic District
- Natural Heritage Natural Area
- Voluntary Agriculture District
- FEMA Buyout Parcel
- Parcel
- New River
- Jurisdictional Stream
- Jurisdictional Wetland
- Cow Horn-New River Paddle Trail
- Paddle Trail Landing
- NCDOT Hurricane Evacuation Route

Sources: NCDOT, Onslow Co. GIS, NC OneMap, NCFMP, NC NHP, HPOWeb. Credit: HNTB North Carolina, PC, 2018.

0 2,000 4,000
Feet

