

LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE (LEDPA)/ PREFERRED ALTERNATIVE SELECTION

Copperhead Road Extension from US 561 (Knightsville Highway) to SR
1308 (Big Creek Road)

Onslow County

STIP Project E-1225

North Carolina Department of Transportation
Division 3



MERGER CONCURRENCE POINT 3

MARCH 7, 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)	Sharon King
U.S. Army Corps of Engineers (USACE)	Henry Osborne
North Carolina Department of Water Resources (NCDWR)	Jenna Faust
North Carolina Department of Transportation	Jo Merger
HNTB	Jane Merger

The purpose of this meeting is to present relevant information to the E-1225 project Merger Team to reach concurrence on an extension of the project study area (CP1) and Least Environmentally Damaging Practicable Alternative (CP3) for the subject project.

1.1 Project Description

The North Carolina Department of Transportation (NCDOT) proposes to extend Copperhead Road from US 561 (Knightsville Highway) to Big Creek Road north of Capeside, in Onslow County. The project includes a potential new location crossing of the Newer River. The project location is shown in Figure 1.

1.2 Project History and Merger Plan

The project is in the 2021-2029 NCDOT State Transportation Improvement Program (STIP) and would be funded by State Highway Trust Funds. The project is State-funded. Right-of-way (ROW) and Construction funding are scheduled for 2024 and 2026, respectively. The current STIP cost estimate is presented 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	\$2,250,000
Utilities	\$784,000
Construction	\$39,576,000
Total*	\$42,610,000
*Includes \$1,000,000 in prior years costs. Note: cost estimates are subject to change.	

Table 2. STIP E-1225 Project Schedule*

Milestone	Format	Schedule
Categorical Exclusion	Electronic Distribution	July 2022
Concurrence Point 4A	Virtual Meeting	September 2022
Begin ROW Acquisition		June 2024
Begin Construction		June 2026
*Tentative, subject to change		

1.3 Past Merger Meeting Summary

Visit the ATLAS Workbench website to view the signed CP1-CP2A Merger Team Meeting Agreement forms.

- **CP 1:** Merger Meeting held on October 18, 2019 - concurrence reached.
- **CP2:** Merger Meeting held on February 10, 2020 - concurrence reached.
- **CP 2A:** Merger Meeting held on February 1, 2021- concurrence reached.
- **Public Involvement:**
 - Public meeting was held on October 23, 2020
 - Small group meetings were held with representatives from local homeowners' associations and the Newer River Boaters Association.
 - Project website has been developed which includes a survey seeking input on how the study area is used.
 - 30-day Public Comment Period was held from October 15 to November 15, 2020.
 - Second public meeting was held after determination of LEDPA, on January 12, 2021.
 - Public Meeting Maps can be viewed on the NCDOT Projects website:
<https://www.ncdot.gov/projects/Pages/default.aspx>

2. Purpose and Need of the Project

The Purpose of the project is to improve the transportation network in the project study area to benefit mobility and connectivity. The Need to be addressed by the proposed project is the lack of network connectivity between Big Creek Road and US 561 in the project area degrades network mobility, quantity of travel, and quality of travel.

3. Concurrence Point 1 Revision – Project Study Area Defined

Based on the traffic analysis update, there was a need to increase storage lengths for left turns from westbound Ramsey Road to Big Creek Road southbound. These revisions, shown in Figure 2, are accommodated largely within existing NCDOT right of way and add approximately 19 acres to the study area. This additional right of way does not increase overall stream or wetland impacts for the study area and does not result in additional residential or business relocations. The revisions to the study area were based off slope stake limits and easement.

4. Detailed Study Alternatives and Impacts

Table 3 presents detailed comparisons of project impacts. The impacts from streams and wetlands are defined as the slope stake limits plus a 40-foot buffer. See Figures 3-6 in the Appendix for the Environmental Features Maps.

Table 3. Alternative Impacts Comparison Table

Resource	Alternative 1A (Southern Alignment)	Alternative 1B (Middle Alignment)	Alternative 2 (Northern Alignment)
Schools	2 (Our Lady Immaculate Girls School and Delta Elementary)	2 (Our Lady Immaculate Girls School and Delta Elementary)	1 (Boykin Elementary)
Existing and Proposed Greenway Crossings	1 (Cow Horn-Newer River Paddle Trail)	1 (Cow Horn-Newer River Paddle Trail)	1 (Cow Horn-Newer River Paddle Trail)

Table 3. Alternative Impacts Comparison Table

Resource	Alternative 1A (Southern Alignment)	Alternative 1B (Middle Alignment)	Alternative 2 (Northern Alignment)
Places of Worship	1 (Iglesias Hispania Macedonia)	1 (Iglesias Hispania Macedonia)	4 (New Home Church, Grace Chapel Ministries, Holy Hopes International Fellowship, Iglesias Hispania Macedonia)
Major Utility Crossings	0	0	1
100-year Floodplain and Floodway Crossings	1 (Newer River)	1 (Newer River)	1 (Newer River)
Stream Impacts* (Linear Feet)	1,873**	1,522**	3,796**
Stream Crossings (Number)	9	8	8
Wetland Impacts* (Acres)	21.7***	8.3***	14.3***
Wetland Crossings (Number)	5	4	5
Stream Mitigation Sites	1	0	0
Prime Farmlands / Farmlands of Statewide Importance (Acres)	125.2 / 28.9	83.8 / 20.7	105.8 / 29.8
Estimated Residential Structures Impacted	81	58	159
Estimated Business Structures Impacted	13	9	20
Noise Impacts	TBD	TBD	TBD
Hazardous Materials Sites	1	1	2
Potential Low Income Population Impacts	Yes	Yes	Yes
Potential Minority Population Impacts	Yes	Yes	Yes
Conservation Easements	0	0	1
Recreational Areas/Parks (no.)	1 (Cow Horn-Newer River Paddle Trail)	1 (Cow Horn-Newer River Paddle Trail)	1 (Cow Horn-Newer River Paddle Trail)

Table 3. Alternative Impacts Comparison Table

Resource	Alternative 1A (Southern Alignment)	Alternative 1B (Middle Alignment)	Alternative 2 (Northern Alignment)
Historic Properties (no.)	1 (Swift-Walker House) avoids direct impacts (E)	1 (Swift-Walker House) avoids direct impacts	3 (Nicholson's Store, Lincoln-Dudley House, Petteway Historic District) (L)

* Impacts calculated based on slope stake limits plus an additional 40 feet.

** Stream impacts reported to the nearest 10 feet

*** Wetland impacts reported to the nearest 0.1 acre

E= Eligible for National Register of Historic Places (NRHP)

L= Listed in NRHP

5. Preferred Alternative/LEDPA

NCDOT is recommending Alternative 1B (Middle Alignment) as the LEDPA. Based on NCDOT's evaluation, Alternative 1B has the following:

- Provides Operational alignment advantages (better horizontal alignment)
- Avoids stream mitigation site easement
- Avoids conservation easement
- Fewest stream and wetland impacts
- Fewer farmland impacts
- Requires fewest residential property impacts
- Fewest historic architecture impacts
- Faster travel time

For these reasons, NCDOT is recommending Alternative 1B as its Preferred Alternative.

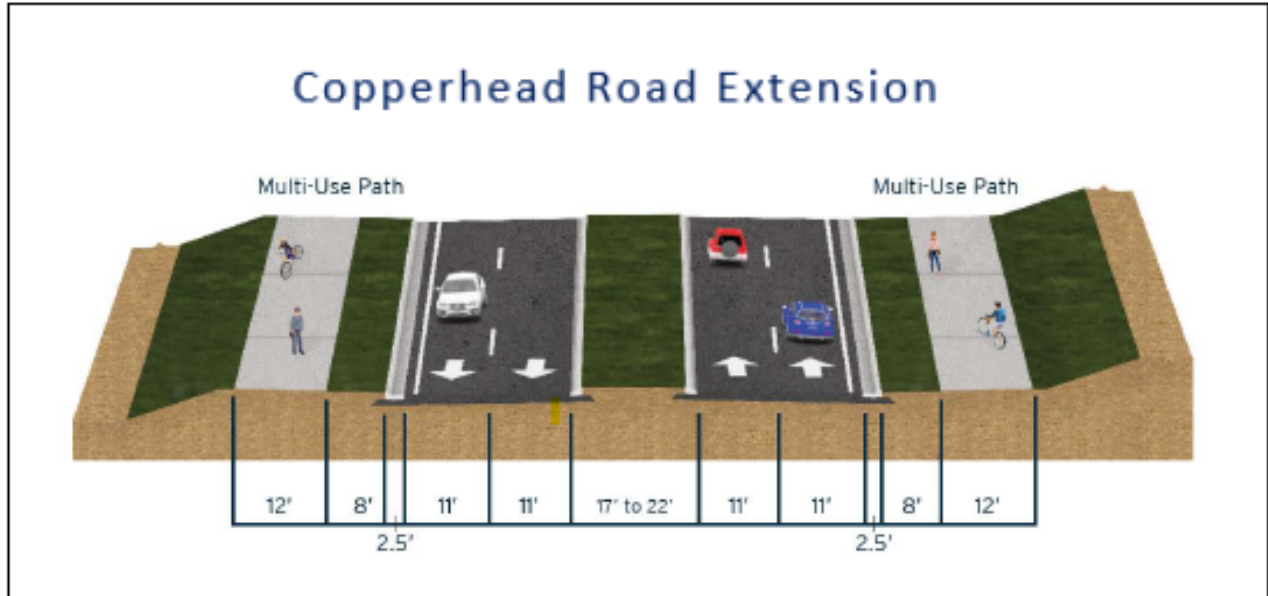
6. Merger Plan Review/Next Steps

Based on the Merger Plan for the project, NCDOT proposes the next Merger Meeting will be CP 4A (Avoidance and Minimization Measures). Prior to the next Merger Meeting, NCDOT will complete impact analyses based on refined designs and reduced slope stake limits. It is anticipated that the CP 4A meeting will be held in six months; Merger Team members will be notified of any changes that require a revision of this timetable.

ATTACHMENTS

Typical Section

Typical Section for the proposed project is shown below:



APPENDIX

- Figure 1 Project Vicinity
- Figure 2 Revised Study Area
- Figure 3 Environmental Features: Overview
- Figure 4 Figure 3 Environmental Features: Alternative 1A
- Figure 5 Environmental Features: Alternative 1B
- Figure 6 Environmental Features: Alternative 2

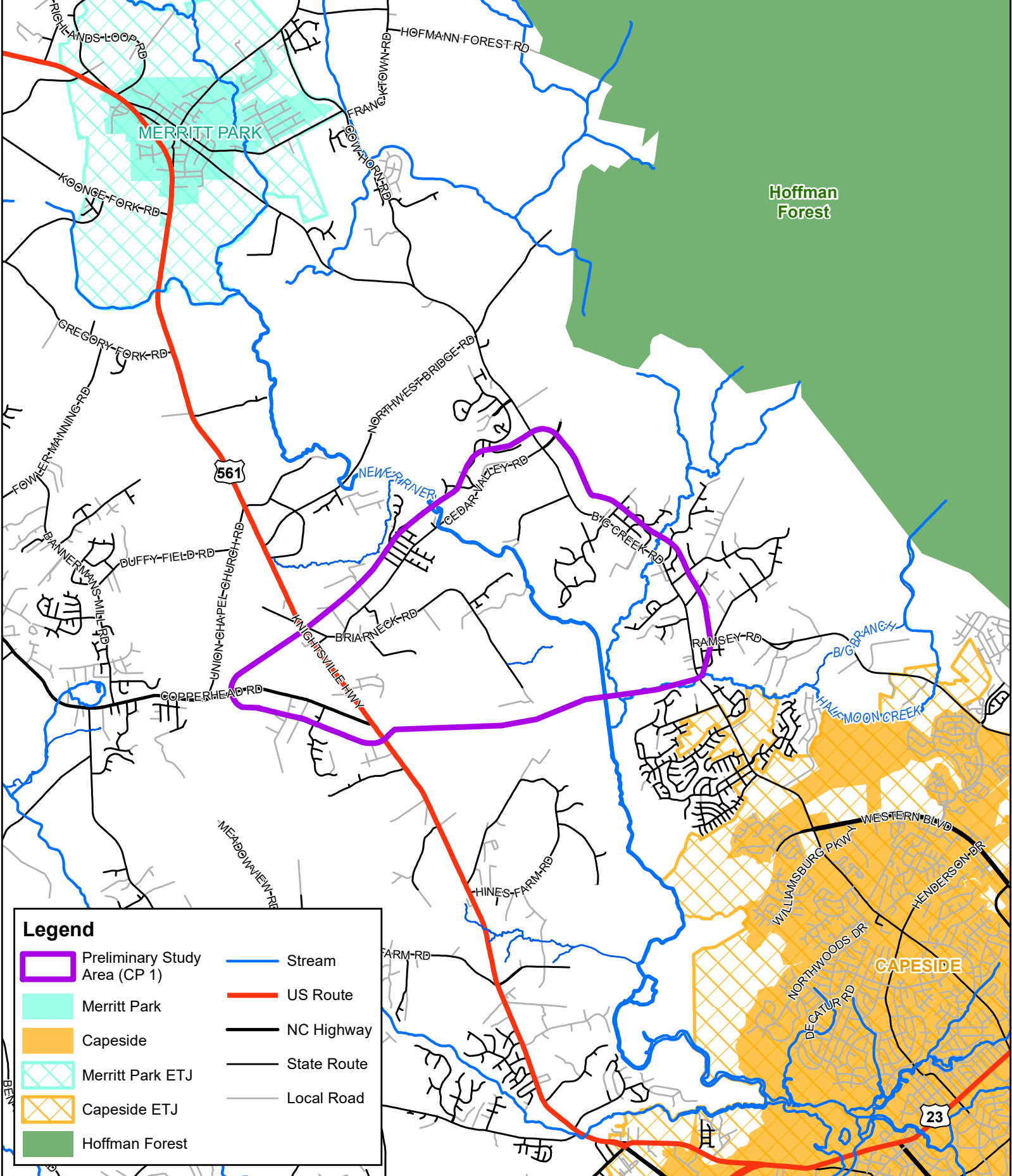


Figure 1: Vicinity Map
STIP Project E-1225

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

Figure 2. Revised Study Area

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

Legend

- Proposed Study Area
- Previous Study Area
- Alternative 1A
- Alternative 1B
- Alternative 2
- Jurisdictional Stream
- US Route
- State Route
- Local Road

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

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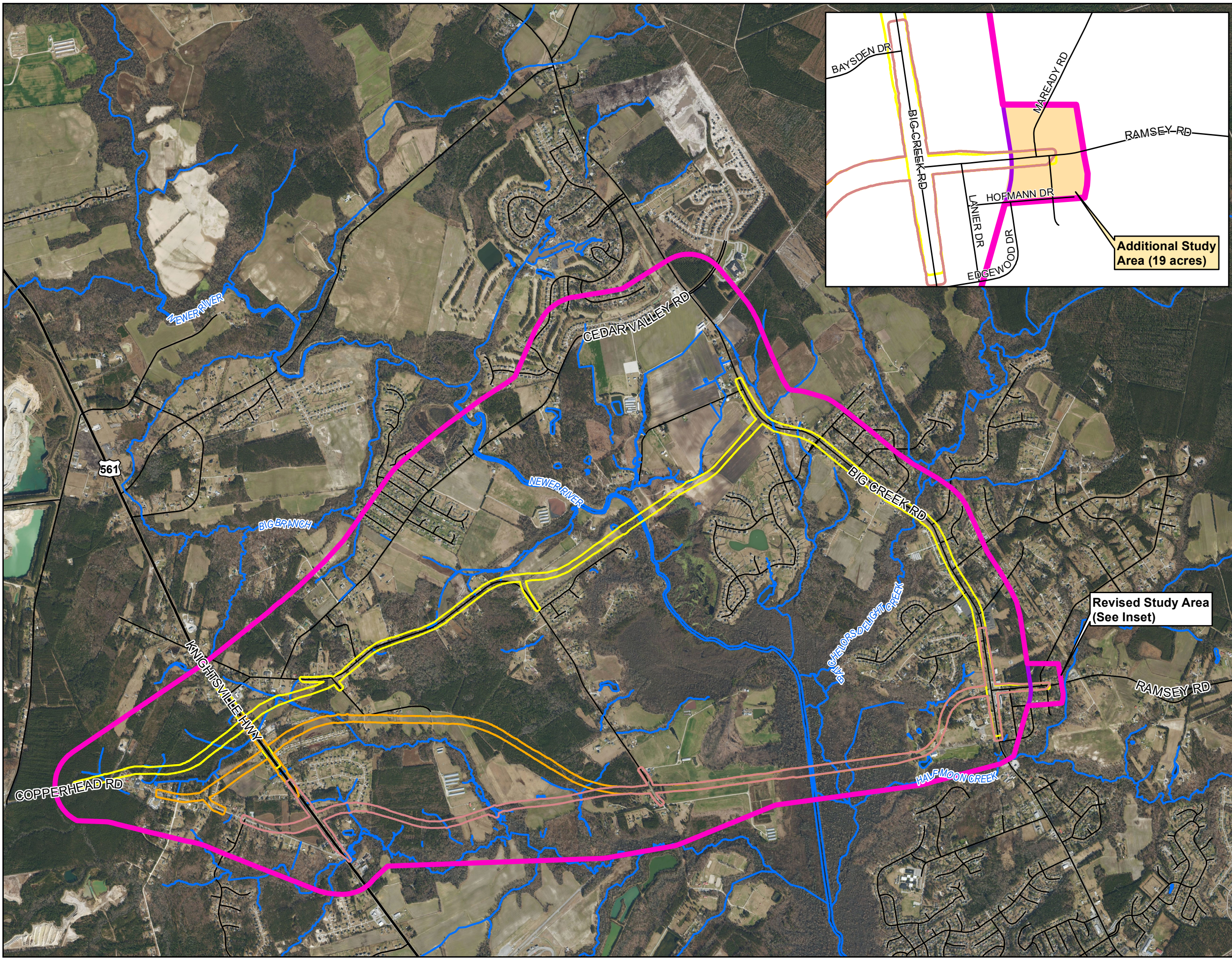
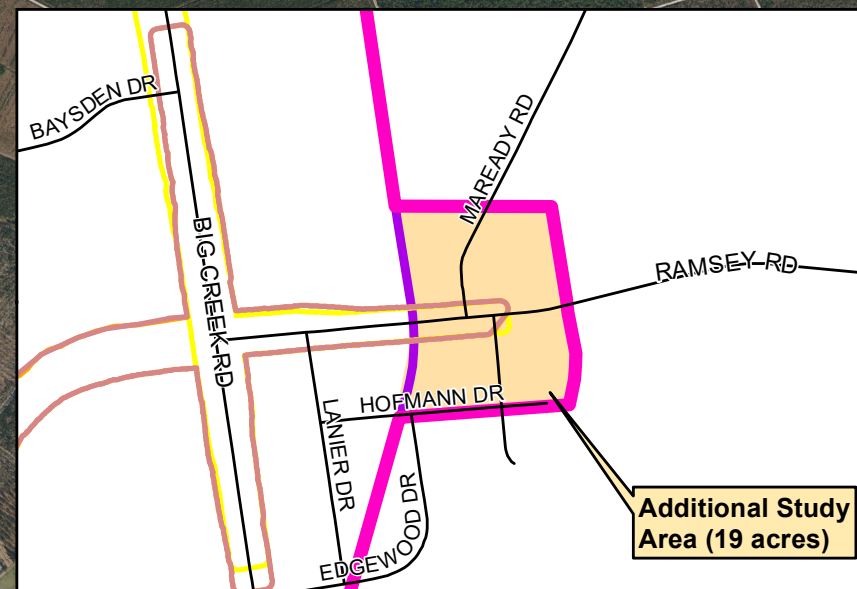


Figure 3. Environmental Features Map

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

Legend

- Study Area (Revised)
- Alternative 1A (Southern Alternative)
- 1B (Middle Alternative)
- 2 (Southern Alternative)
- Regional UST Hazardous Waste Site
- Firestation
- Places of Worship
- School
- Fire Station
- Historic Site
- NRHP Historic District
- Natural Heritage Natural Area (NHP)
- Voluntary Agriculture District (VAD)
- 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.

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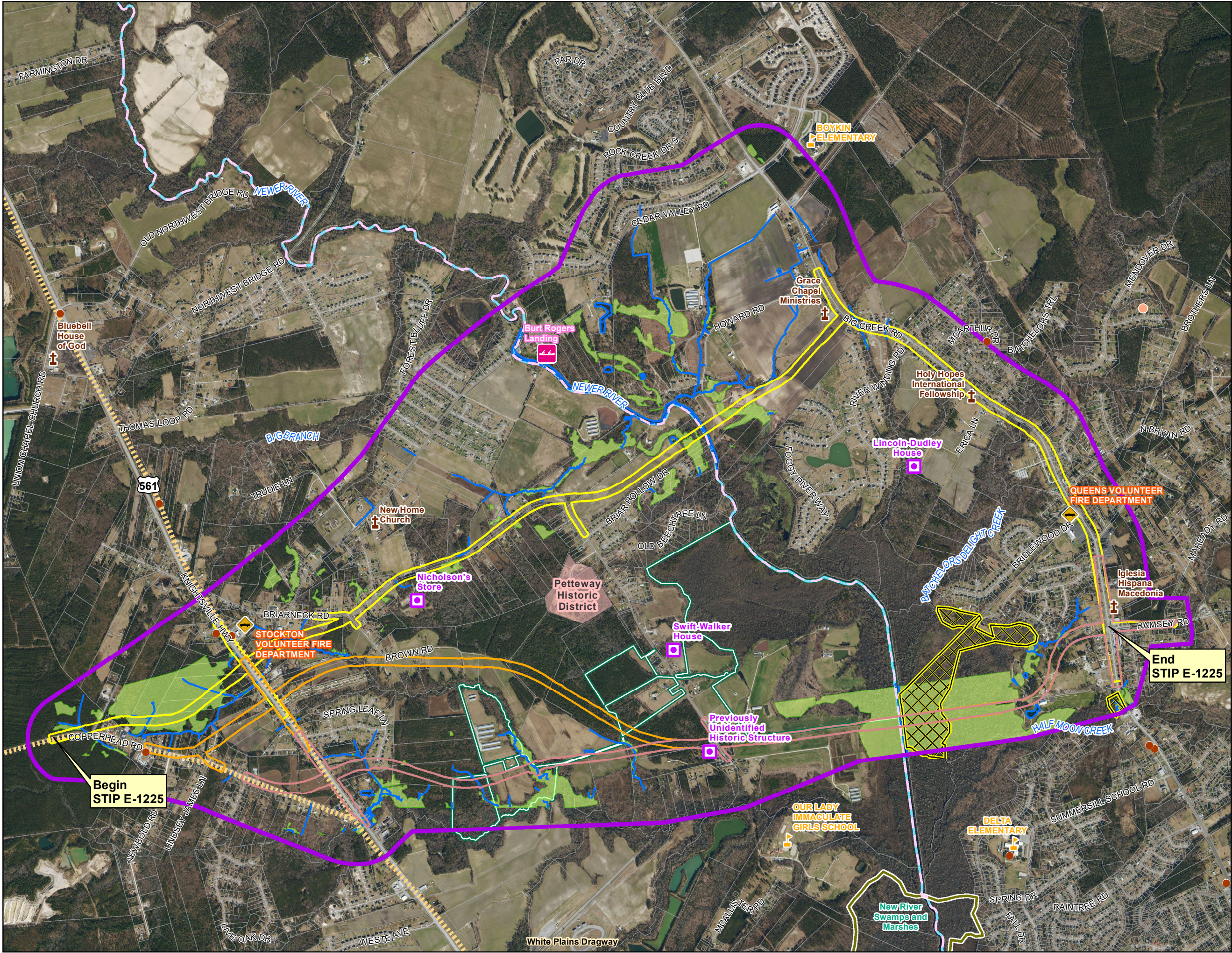


Figure 4. Environmental Features Map: Alternative 1A

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

Legend

- Alternative 1A
- 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.

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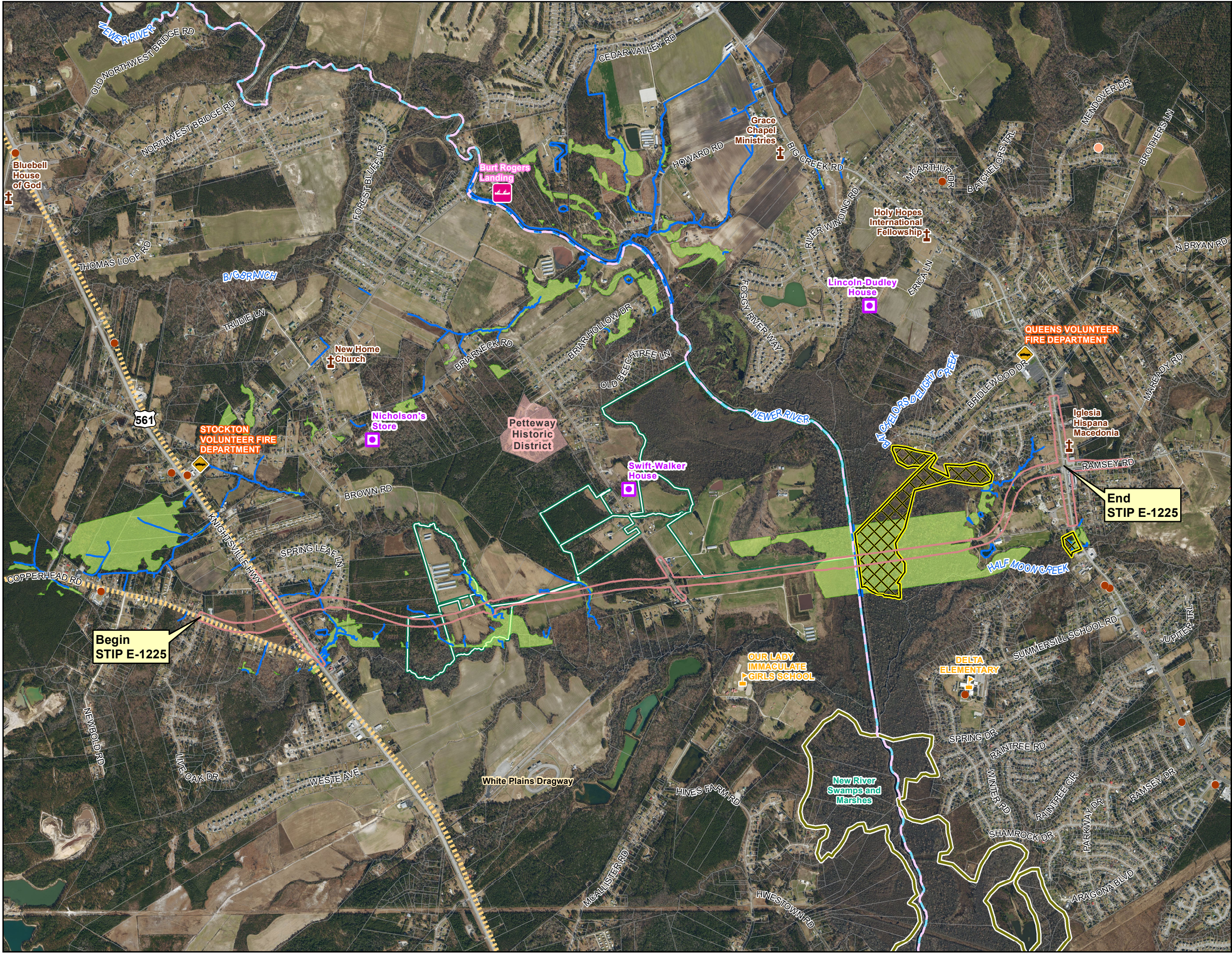


Figure 5. Environmental Features Map: Alternative 1B

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

- Legend**
- Alternative 1B
 - 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.

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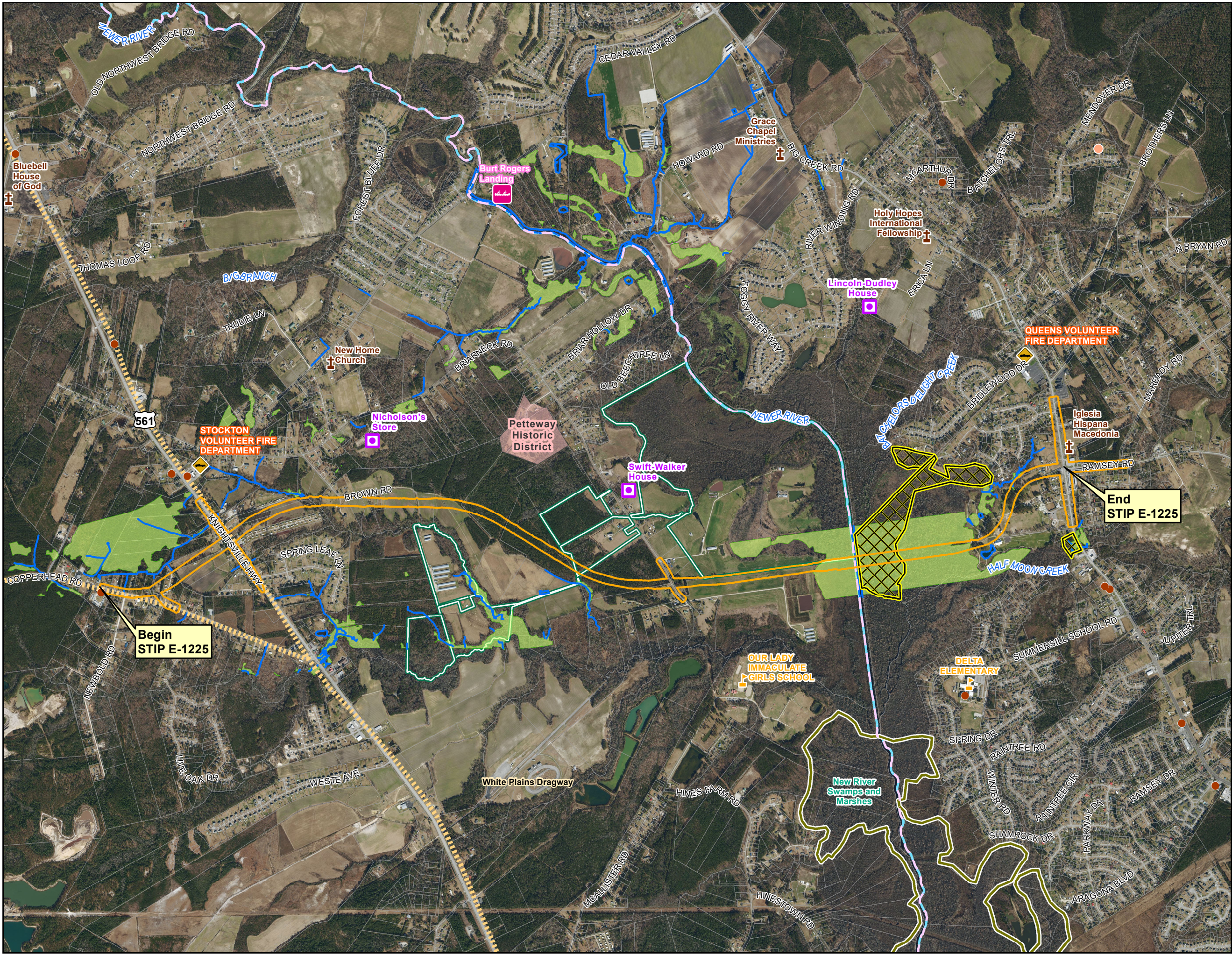


Figure 6. Environmental Features Map: Alternative 2

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

Legend

- 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.

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