

## **AVOIDANCE AND MINIMIZATION**

NC 211 IMPROVEMENTS FROM NC 906 (MIDWAY ROAD/MIDDLETON  
BOULEVARD) TO NC 87  
BRUNSWICK COUNTY  
STIP PROJECT R-5021

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION



**SECTION 404 /NEPA MERGER**  
**CONCURRENCE POINT 4A**

SEPTEMBER 13, 2017

## Meeting Agenda

1. Introductions and Sign-In (5 minutes)
2. Purpose of Meeting (5 minutes)
3. Project Overview and Past Concurrence Meetings (5 minutes)
4. Avoidance and Minimization Measures (60 minutes)
  - a. Review Concurrence Point 4A Signature Form (10 minutes)
5. Project Schedule (5 minutes)



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## 1. Introduction

Project R-5021 involves widening NC 211 in Brunswick County from a mostly two-lane roadway to a four-lane median divided facility. In addition, grade-separated interchanges are proposed at the existing intersections of NC 211 and NC 906 (Midway Road/Middleton Boulevard) near Oak Island and St. James, and at NC 211 and NC 133 (Long Beach Road) near Southport (see Figure 1). The total length of the project is 7.2 miles.

The purpose of the proposed project is to improve the traffic-carrying capacity of NC 211 between SR 1500 [now NC 906] (Midway Road) and NC 87.

The proposed action is included in the 2018-2027 State Transportation Improvement Plan (STIP). Right of way acquisition is in progress; construction let is scheduled in fiscal year 2018 (refer to Table 1).

**Table 1. Current Project Schedule**

<b>Milestone</b>	<b>Date</b>
Public Meeting	October 5, 2017
FONSI Re-evaluation	April 2018
Begin ROW Acquisition	In progress
Begin Construction	June 19, 2018

### 1.1. Purpose of Today's Meeting

The purpose of today's meeting is to present to the Merger Team changes that have occurred to the project design since the Concurrence Point (CP) 3 and CP 4A meetings. Concurrence will be requested on a change in the selected alternative for Section 1 of the project. The Merger Team concurred on widening to the north with an at-grade intersection at Midway Road for this section. Northern widening with an interchange is now proposed at NC 906.

### 1.2. Project History

Concurrence Points 1 and 2	May 2009
Concurrence Point 2A	December 2009
Environmental Assessment	February 2011
Concurrence Point 3	November 2011
Public hearing	June 28, 2011
Concurrence Point 4A	January 2012
FONSI	April 2012
Concurrence Point 4B	August 2014
Reevaluation of FONSI	October 2015

The last Merger Team Meeting was the CP 4B meeting held on August 21, 2014.

## 2. Design Revisions Subsequent to Concurrence Point 4A

Since the 2015 reevaluation, the Preferred Alternative has been revised to include two grade-separated interchanges – one at NC 906 (Midway Road/Middleton Boulevard) and NC 211 and one at Long Beach Road and NC 211 (Figure 1). The Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) addressed impacts of an interchange at NC 906. NCDOT is preparing a reevaluation of the FONSI for the project to address the current NC 906 interchange design and the addition of the Long Beach Road interchange. This reevaluation is expected to be approved in April 2018. Revised impacts to jurisdictional resources are presented in Section 3 of this report.

The design revisions will be presented to the public at a public meeting, scheduled for October 5, 2017 in the project area.

### 2.1. Context for Design Revisions

At the time of CP 3, NCDOT's intent was to purchase right of way for an interchange at NC 906 but build an at-grade intersection, even though the at-grade intersection would operate near capacity (level of service E) in the design year (2035). The decision to delay construction of the interchange was partly due to local opposition. At that time, the Town of Oak Island was opposed to even the purchase of right of way for an interchange at NC 906.

Since the CP 3 meeting, there has been rapid development along the project corridor. The North Carolina Office of State Budget and Management (OSBM, 2016) now projects Brunswick County's population will increase by 50 percent between 2015 and 2035, much more than the 21 percent increase forecasted for North Carolina. The addition of interchanges at NC 906 and Long Beach Road, in concert with the proposed widening of NC 211, will further improve traffic flow to and from rapidly developing coastal communities in Brunswick County, including Southport, Oak Island and St. James. The inclusion of the interchanges meets the purpose of the project.

An updated traffic forecast was obtained for the project in 2014. This updated forecast showed the NC 211/NC 906 at-grade intersection would be nearing capacity during summer weekdays shortly after the design year (2035). The 2014 forecast also showed that the Long Beach Road at-grade intersection would be over capacity in 2035. In addition, recent coordination with local communities has indicated that opposition to constructing the NC 906 interchange has decreased.

### 2.2. NC 211 and NC 906

A quadrant interchange configuration at NC 211 and Midway Road (Section 1 of project) was previously developed and presented as a Preliminary Build Alternative at the November 16, 2011 CP 3 Merger Team Meeting. An interchange at this location was not selected as part of the Least Environmentally Damaging Practicable Alternative (LEDPA). Impacts associated with the quadrant interchange were presented at CP 3 and in the EA. The FONSI stated that NCDOT would purchase the right of way for a future interchange at this location, but construct an at-grade interchange as part of the project. The current interchange design takes into consideration the on-going development and growth pressures along the corridor described above.

The current interchange design differs from the design previously considered and includes construction of ramps in the northeast and southwest interchange quadrants only. The interchange at NC 906 will result in operational improvements over an at-grade intersection at this location. Compared to an at-grade intersection, the proposed interchange will reduce network delay per vehicle in the year 2035 by 33 percent in the AM peak and 43 percent in the PM peak and the network average speed will increase by 14 percent and 4 percent in the AM and PM peak, respectively.

### 2.3. NC 211 and Long Beach Road

The current design includes a slight realignment of Long Beach Road to the east to cross NC 211 on a bridge, very near the existing at-grade intersection. The existing signal on NC 211 at Old Long Beach Road would remain in place. Old Long Beach Road would be extended to the north to tie into Long Beach Road approximately ¼-mile north of NC 211. This extension would function as a ramp in the northeast interchange quadrant and create a signalized intersection on Long Beach Road north of NC 211. The existing Old Long Beach Road would function as a ramp in the southeast interchange quadrant. Full-movement would be permitted at both ends of these ramps.

The proposed interchange will result in operational improvements over an at-grade intersection. An at-grade intersection at NC 211 and Long Beach Road is projected to operate at or above capacity in 2035 without improvements.

### 2.4. Maintenance of LEDPA

Though the proposed design changes increase the total amount of stream impacts, the north widening continues to result in fewer impacts than widening to the south. Impacts to WB and WD are minimized, or avoided, in the current design for the interchange at NC 906. A shift to the south would result in additional impacts to these two wetlands. A shift to the south at Long Beach Road would not completely avoid impacts to wetlands or streams north of NC 211 (i.e., R3324-WA and R3324-Tributary) and would result in greater impacts to the existing commercial development in this area. Therefore, the decision to widen NC 211 to the north remains the LEDPA.

## 3. Concurrence Point 4A – Avoidance and Minimization Revised

Tables 4-6 summarize the anticipated impacts to individual jurisdictional resources by R-5021. For consistency, impacts were calculated using the current design slope stakes plus 25 feet to allow a side-by-side comparison of the impacts described in the 2012 CP4A report.

Note that Table 7 lists the existing structures (bridges and culverts) as well as the proposed structures based on the 2017 design.

### 3.1. Avoidance

Efforts were made to avoid wetlands and streams as preliminary designs for the project were developed. However, due to the number and location of wetlands in the project area, it is not feasible to completely avoid impacts to the waters of the U.S. and meet the purpose and need of the project.

Twenty-nine (29) wetlands, 28 open waters, and 15 streams exist within the study area (note that 10 wetlands identified in the 2012 CP 4A were not identified during the most recent field surveys). The current design for the project will affect 23 wetlands, 4 open waters, and 11 streams.

### 3.2. Minimization Measures Previously Agreed to and Implemented

The project minimizes impacts to resources as a part of its design. The Merger Team previously concurred with the following minimization measures, which have been incorporated into the proposed project:

- Replace the bridge over Dutchman's Creek with a bridge instead of a culvert.
- The maximum slope (3:1) will be used through wetland areas instead of 4:1 slope.
- Include guardrail and move U-turn bulb to avoid and minimize impacts to the red cockaded woodpecker (RCW) foraging habitat area.

### 3.3. Additional Avoidance and Minimization Measures

- A retaining wall and expressway gutter will be constructed in the southeast quadrant of the NC 906 interchange to minimize impacts to Wetland WD.

### 3.4. Mitigation

There are no on-site mitigation opportunities on this project.

The anticipated impacts to wetlands (25.3 acres) and streams (2,292 feet) by this project are distributed between the Cape Fear basin (HUC 03030005) and the Lumber basin (HUC 03040207) (see Table 2). Based on recent coordination with NC Department of Environmental Quality (DEQ) Division of Mitigation Services (DMS) in early August 2017, DMS can supply all mitigation needs for R-5021.

**Table 2. Jurisdictional Resource Impacts by HUC**

Resource Type	Cape Fear River Basin (HUC 03030005)	Lumber River Basin (HUC 03040207)
<b>Wetland (acre)</b>	17.3	8.7
<b>Open Water (acre)</b>	0.6	0.3
<b>Stream (feet)</b>	2,046	356

**Table 3. Summary of Environmental Impacts**

	@ 2012 CP4A (North Widening w/At- grade Intersection)	2017 (North Widening w/Interchange)	Change
Residential Relocations	4	9	5
Business Relocations	5	7	2
Jurisdictional Wetland Impacts (acre)	40.1	26	-14.1
Open Waters Impacts (acre)	0.7	0.9	0.2
Stream Impacts (feet)	701	2,402	1,701

**Table 4. Individual Wetland Impacts**

Map ID	Project Section	Figure 2 Sheet #	Cowardin Classification	Classification	DWQ Wetland Rating	Wetland Impacts (acre)			Notes on Changes
						@ 2012 CP4A (North Side Widening) <sup>1</sup>	2017 CP4A <sup>2</sup>	Change	
WA	1	2	PFO1/4C	Riparian	N/A	0 (both)	0.0	0.0	N/A
WB	1	2	PFO1/4B / PSSS3B	Non-riparian	35	3.7 (I) 0.5 (AG)	1.3	-2.5	N/A
WC	1	2	PFO1/4E	Non-riparian	35	0.2 (I) 0.1 (AG)	0.4	0.2	N/A
WD	1	2	PSSS3B / PFO4B	Non-riparian	35	1.3 (I) 0.3 (AG)	2.0	0.7	N/A
WE	1	2	PFO1/4F	Non-riparian	35	0.0	0.0	0.0	Lateral wetland, not included in current WET file. (Refer to Table 6, SG and SH.)
WF	2	2	PFO1/4B / PSSS3B	Non-riparian	35	0.5	0.6	0.1	N/A
WG	2	2	PFO1/4B / PSSS3B	Non-riparian	35	0.1	0.2	0.1	N/A
WH	2	2-3	PFO1/4E	Non-riparian	35	1.5	2.1	0.6	N/A
WI	2	2-3	PFO1/4B	Non-riparian	35	0.3	0.0	-0.3	WI includes portion of previous WJ in current WET file.
WJ	2	3	PFO1/4E	Non-riparian	35	0.2	0.0	-0.2	The remaining portion of previous WJ not included in current WET file.
WK	2	3	PFO4A / PSSS3A	Non-riparian	35	0.0	0.0	0.0	N/A
WL	2	3	PFO4A / PSSS3A	Non-riparian	35	3.5	2.1	-1.4	The southern boundary of WL is approx. 75 feet north of the previous boundary in the current WET file.
WM	2	3	PSSS3A	Non-riparian	35	0.0	0.0	0.0	WM not included in current WET file.
WN	2	3-4	PF04C / PSSS3C	Non-riparian	35	10.7	0.0	-10.7	WN is not included in the current WET file (assumed part of current Mirasol Development)
WO	2	3-4	PF04C / PSSS3C	Non-riparian	35	2.7	0.4	-2.3	The northern boundary of WO is approx. 40 feet south of the previous boundary in the current WET file.
WP	2	4	PSS1/7F	Non-riparian	N/A	0.0	0.0	0.0	Lateral wetland, not included in current WET file.

**Table 4. Individual Wetland Impacts**

Map ID	Project Section	Figure 2 Sheet #	Cowardin Classification	Classification	DWQ Wetland Rating	Wetland Impacts (acre)			Notes on Changes
						@ 2012 CP4A (North Side Widening) <sup>1</sup>	2017 CP4A <sup>2</sup>	Change	
WQ	2	N/A	PSS1/7F	Riparian	N/A	0.2	0.1	-0.1	The lateral portion of previous WQ is not included in the current WET file.
WR	2	4	PSS1/7F	Non-riparian	N/A	0.1	0.1	0.0	N/A
WS	2	4	PSSF3 / PFO4F	Non-riparian	N/A	0.1	0.1	0.0	N/A
WT	2	4	PSSF3 / PFO4F	Riparian	89	0.4	0.4	0.0	N/A
WU	2	4	PSSF3 / PFO4F	Riparian	89	0.1	0.2	0.1	The western boundary of the previous WU has been extended to the west in current WET file.
WV	2	4-5	PSS7A	Non-riparian	N/A	0.8	0.8	0.0	N/A
WW	2	4-5	PSS1/7F	Non-riparian	N/A	0.0	0.0	0.0	Lateral wetland, not included in current WET file.
WX	2	5	PFO4B	Non-riparian	35	7.0	6.8	-0.2	N/A
WY	2	5	PFO4B	Non-riparian	35	2.7	2.8	0.1	N/A
WZ	2	5	PFO4A / PSS7A	Non-riparian	35	2.7	0.0	-2.7	The northern boundary of the previous WZ is approx. 30 feet south in the current WET file. Also, the western portion of WZ is not included in the current WET file
WAA	2	5-6	PFO4B	Riparian	N/A	3.5	3.4	-0.1	N/A
WAB	2	5-6	PSS1/7C	Riparian	N/A	0.7	0.1	-0.6	Not included in current WET file.
WAC	2	5	PFO4A / PSS7A	Non-riparian	35	0.1	1.2	1.1	Not included in current WET file.
WAD	2	5	PFO4A / PSS7A	Non-riparian	35	0.0	0.0	0.0	Not included in current WET file.
WAE	2	7	PFO1/3C	Riparian	85	0.7	0.0	-0.7	N/A
WAF	3	7	PFO1/3C	Riparian	85	0.2	0.0	-0.2	The northern boundary of the previous WAF is approx. 30 feet north in the current WET file.

**Table 4. Individual Wetland Impacts**

Map ID	Project Section	Figure 2 Sheet #	Cowardin Classification	Classification	DWQ Wetland Rating	Wetland Impacts (acre)			Notes on Changes
						@ 2012 CP4A (North Side Widening) <sup>1</sup>	2017 CP4A <sup>2</sup>	Change	
WAG	3	6	PFO1/3C	Riparian	46	0.0	0.0	0.0	N/A
WAH	2	6-7	PFO1C	Riparian	85	0.4	0.5	0.1	N/A
WAI	3	6-7	PEM/SS1C	Riparian	13	0.0	0.0	0.0	Lateral wetland, not included in current WET file.
R3324-WA	2	6	PEM1	Non-riverine non-tidal freshwater marsh	13	0.0	0.0	0.0	Lateral wetland impact; -L- 323+50 LT.
R3324-WA	2	6	PF03/4B, PSS3B	Non-riverine pocosin	12.4	0.0	0.2	0.2	Wetland impact from Long Beach Road Interchange; -Y14A- 54+00 RT.
R3324-WB	2	6	PF03/4B, PSS3B	Non-riverine pocosin	11	0.0	0.1	0.1	Wetland impact from Long Beach Road Interchange; -Y14A- 55+80 LT.
R3324-WB	2	6	PF03/4B, PSS3B	Non-riverine pocosin	11	0.0	0.1	0.1	Wetland impact from Long Beach Road Interchange; -Y14A- 64+77 RT.
Notes: <sup>1</sup> @ 2012 CP4A impacts were rounded to the nearest tenth; <sup>2</sup> Impacts calculated based on current design slope stakes plus 25 feet; Cowardin Classifications: PFO – Palustrine, forested; PSS – Palustrine, scrub-shrub I – interchange; AG – at-grade intersection; both – both configurations yielded the same impacts.									



**Table 5. Individual Open Water Impacts**

Map ID	Project Section	Figure 2 Sheet #	Open Water Impacts (acre)			Notes on Changes
			@ 2012 CP4A (North Side Widening) <sup>1</sup>	2017 CP4A <sup>2</sup>	Change	
Pond C	1	3	0.0	0.0	0.0	Pond 1 @ 2012 CP4A; -L- 124+50 RT.
Pond D	1	4	0.0	0.0	0.0	Pond 2 @ 2012 CP4A; -L- 209+00 RT.
Pond F	2	4	0.0	0.0	0.0	Pond 3 @ 2012 CP4A; -L- 213+00 RT..
Pond E	2	4	0.2	0.4	0.2	Pond 4 @ 2012 CP4A; -L- 213+00 LT.
Pond G	2	4	0.1	0.0	-0.1	Pond 5 @ 2012 CP4A; -L- 236+00 LT.
Pond H	2	4-5	0.0	0.0	0.0	Pond 6 @ 2012 CP4A; -L- 237+50 LT..
Pond I	2	4-5	0.0	0.0	0.0	Pond 7 @ 2012 CP4A; -L- 238+50 LT..
Pond J	2	4-5	0.0	0.0	0.0	Pond 8 @ 2012 CP4A; -L- 240+75 LT..
OWA	1	2	0.0 (Both)	0.0	0.0	Not included in current WET file.
OWB	1	2	0.3 (Both)	0.0	0.0	N/A
OWC	1	N/A	0.0 (Both)	0.0	0.0	Gone - JS filled by Two Eleven Midway.
OWD	1	N/A	0.0	0.0	0.0	Gone - JS filled by Two Eleven Midway.
OWE	2	5	0.0	0.3	0.3	OWB @ 2012 CP4A; -L- 280+50 RT.
Pond M	2	6	0.0	0.0	0.0	N/A
Pond N	2	6	0.0	0.0	0.0	N/A
Pond O	2	6	0.0	0.0	0.0	N/A
Pond X	2	6	0.0	0.0	0.0	N/A
Pond Y	2	6	0.0	0.0	0.0	N/A
Pond Z	2	6	0.0	0.0	0.0	N/A
Pond P	3	6	0.0	0.0	0.0	Pond 9 @ 2012 CP4A; -L- 365+50 LT.
Pond Q	3	6	0.0	0.0	0.0	Pond 10 @ 2012 CP4A; -L- 367+00 LT.
Pond R	3	7	0.0	0.0	0.0	Pond 11 @ 2012 CP4A; -L- 374+50 LT.
Pond S	3	7	0.1	0.1	0.0	Pond 12 @ 2012 CP4A; -L- 375+25 LT.
Pond T	3	7	0.0	0.0	0.0	N/A
Pond U	3	7	0.0	0.0	0.0	N/A
Ditch 1	3		0.0	0.0	0.0	Not included in current WET file.
OWF	1	2	0.0	0.1	0.1	OW not located in @ 2012 CP4A WET file.
OWG	2	6	0.0	0.0	0.0	JS Non-Mitigable ditch feature not included @2012 CP4A WET file.
Notes: <sup>1</sup> @ 2012 CP4A impacts were rounded to the nearest tenth; <sup>2</sup> Impacts calculated based on current design slope stakes plus 25 feet; I – interchange; AG – at-grade intersection; both – both configurations yielded the same impacts.						

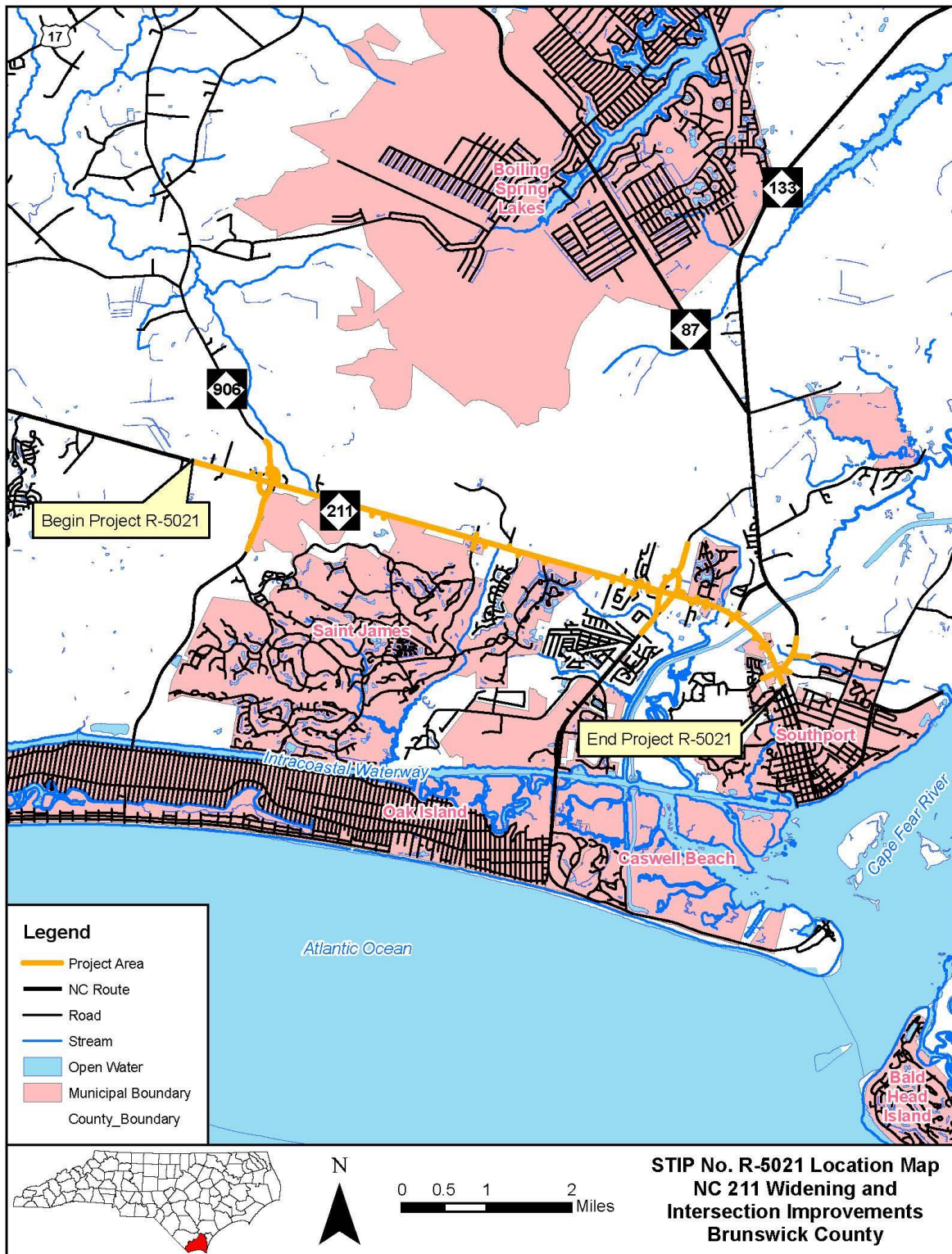
**Table 6. Individual Stream Impacts**

Map ID	Project Section	Figure 2 Sheet #	Stream Impacts (feet)			Notes on Changes
			@ 2012 CP4A (North Side Widening)	2017 CP4A <sup>1</sup>	Change	
SA	1	2	0	0	0	SA is located beyond project limits.
River Swamp	1	2	0	99	99	River Swamp was partially shown as open water (OWB) @ 2012 CP4A; -L-83+50 LT.
SF	2	2	0	105	105	This feature was shown as linear wetland (WE) @ 2012 CP4A; -L-100+43.
Midway Branch	2	2	0	152	152	N/A
SB	2	4	140	165	25	N/A
SC	2	4	0	0	0	N/A
Beaverdam Swamp	2	4	231	217	-14	N/A
SD	2	6	207	202	-5	N/A
Price Creek	3	7	66	45	-21	N/A
SE	3	7	57	61	4	N/A
Dutchman Creek	3	6-7	0	0	0	Dutchman Creek is bridged.
SJ	2	6-7	0	0	0	N/A
SH	2	2	0	109	109	This feature was shown as linear wetland (WE) @ 2012 CP4A; L-106+01.
R3324-TRIBUTARY	2	6	0	632	632	Reconstructed channel constructed as part of R-3324 and impacted by Long Beach Road Interchange; -Y14A-59+89 - 66+17 LT.
R3324-TRIBUTARY	2	6	0	615	615	Reconstructed channel constructed as part of R-3324 and impacted by Long Beach Road Interchange; -Y14A-53+88 - 59+21 RT.
Notes: <sup>1</sup> Impacts calculated based on current design slope stakes plus 25 feet.						

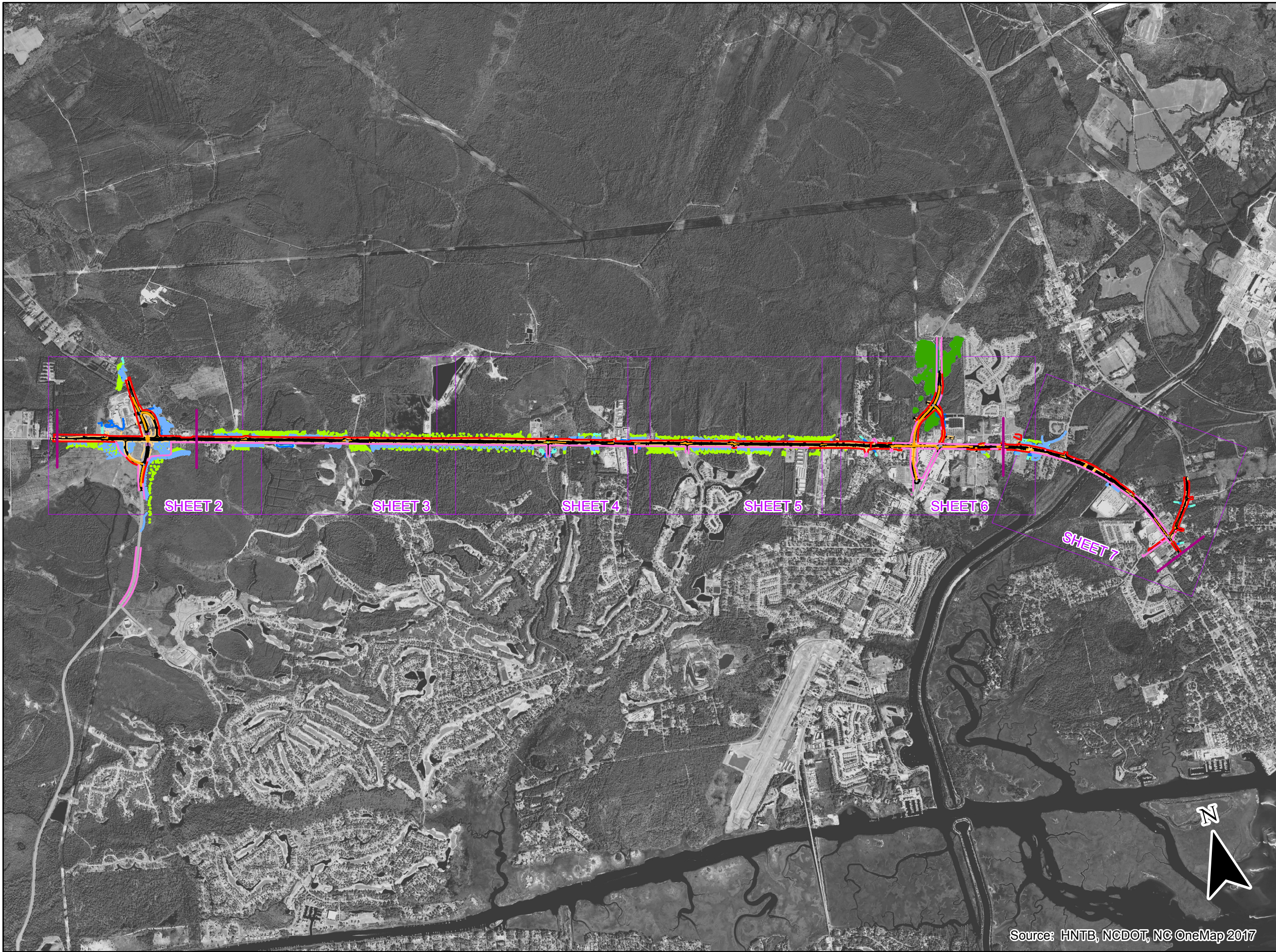
**Table 7. Proposed Bridge/Culvert Locations and Lengths (2017)**

<b>Site #</b>	<b>Stream</b>	<b>Existing Structure</b>	<b>Proposed Structure</b>
<b>1</b>	Beaverdam Swamp (FEMA Limited Detailed Study)	Bridge #0076 L = 19'-8"	2 @ 9' x 8' RCBC
<b>2</b>	Unnamed Tributary (UT) to Jump and Run Creek	2 @ 6' x 4' RCBC w/ 2 @ 6' x 6' RCBC extension on outlet	2 @ 7' x 7' RCBC
<b>3</b>	Dutchman's Creek (FEMA Detailed Study)	Bridge #0024 L = 31'-00'	Dual Bridges L = 140'-0"
<b>4</b>	Progress Energy Discharge Canal	Bridge #0093 L = 326'-00"	Replace existing Bridge; add Parallel Bridge (L = 311'-5")
<b>5</b>	UT to River Swamp	1 @ 6'x4' RCBC w/ 1 @ 6' x 5' RCBC extension on outlet	1 @ 10' X 5' RCBC

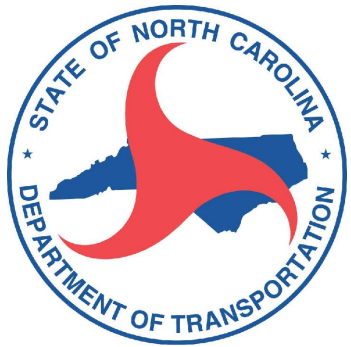
Figure 1. Project Location Map







Source: HNTB, NCDOT, NC OneMap 2017

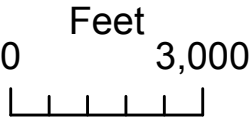


North Carolina  
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Division of Highways

Design Subject to Change

**Legend**

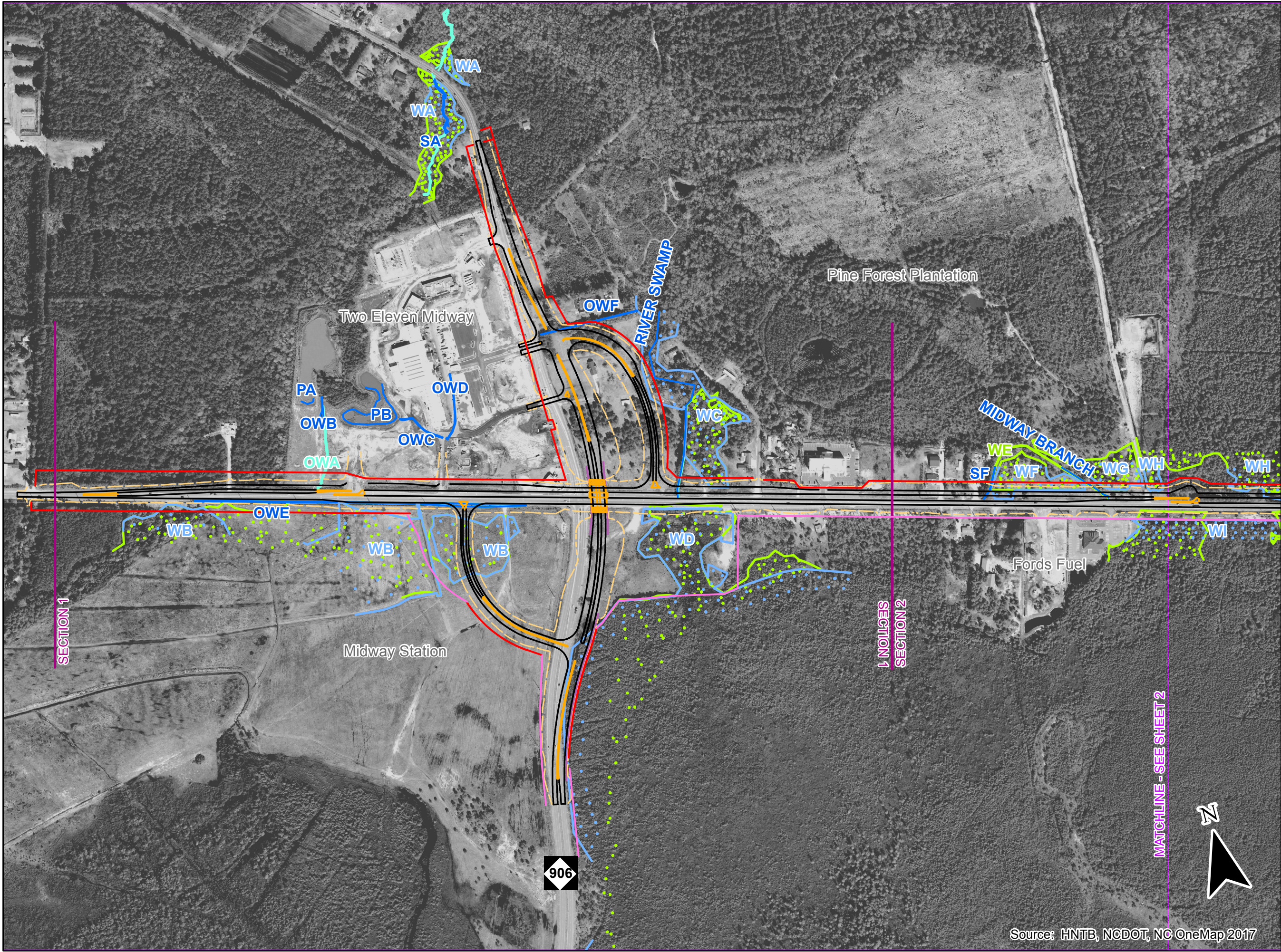
- Existing Right of Way
- Proposed Right of Way
- Proposed Slope Stakes
- Proposed Structure
- Proposed Edge of Travel
- Proposed Retaining Wall
- Wetland (2017)
- Stream or Open Water (2017)
- Wetland (2012)
- Stream or Open Water (2012)
- R-3334 Wetland
- R-3324 Stream or Open Water



STIP No. R-5021  
NC 211 Widening and  
Intersection Improvements  
Brunswick County

**SHEET 1 OF 7**  
**FIGURE 2**



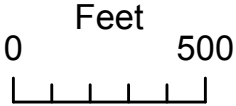


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Design Subject to Change

**Legend**

- Existing Right of Way
- Proposed Right of Way
- Proposed Slope Stakes
- Proposed Structure
- Proposed Edge of Travel
- Proposed Retaining Wall
- Wetland (2017)
- Stream or Open Water (2017)
- Wetland (2012)
- Stream or Open Water (2012)
- R-3334 Wetland
- R-3324 Stream or Open Water

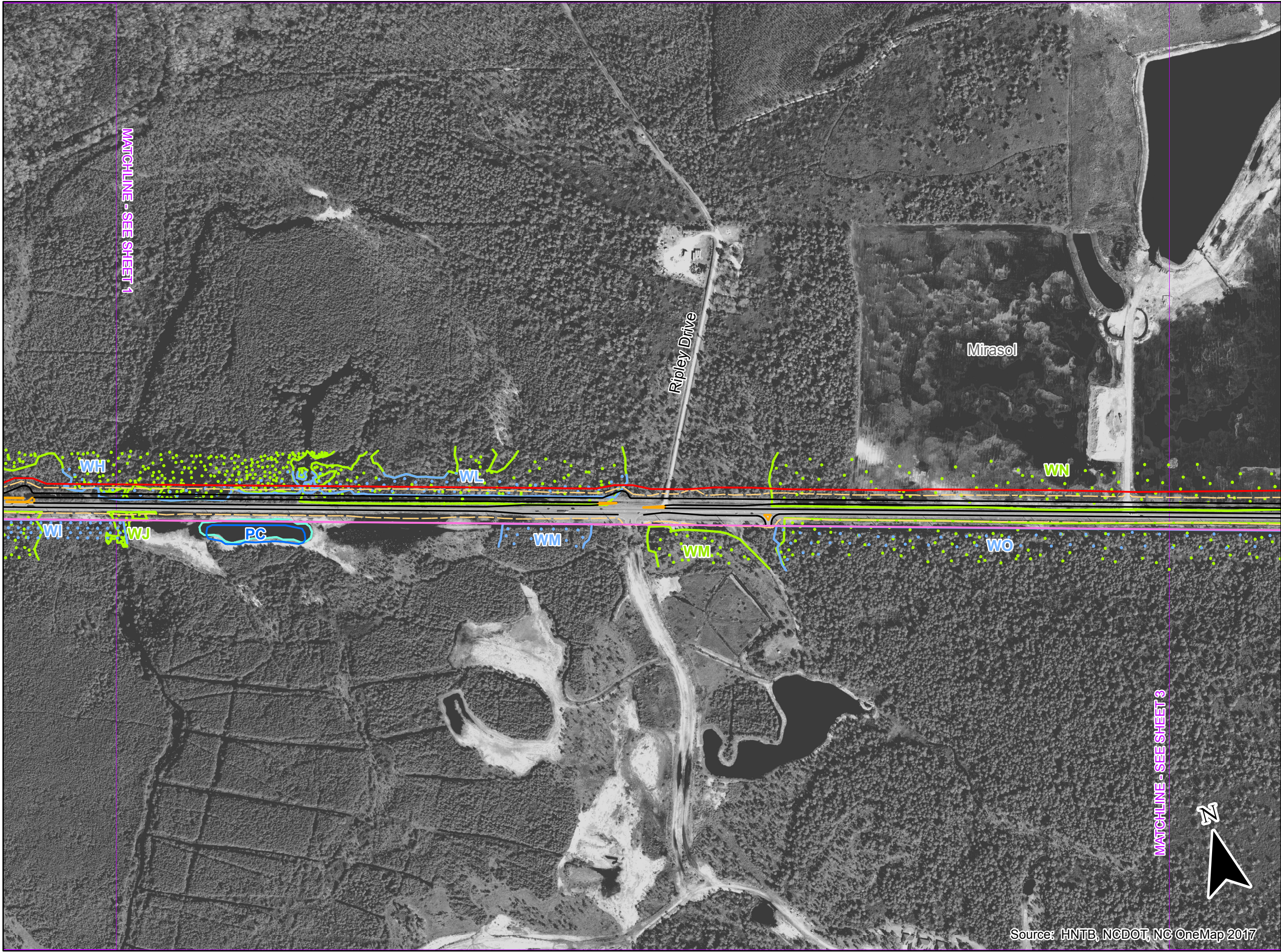


STIP No. R-5021  
NC 211 Widening and  
Intersection Improvements  
Brunswick County

**SHEET 2 OF 7**  
**FIGURE 2**

Source: HNTB, NCDOT, NC OneMap 2017



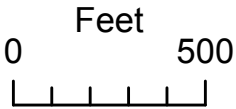


North Carolina  
Department of Transportation  
Division of Highways

Design Subject to Change

**Legend**

- Existing Right of Way
- Proposed Right of Way
- Proposed Slope Stakes
- Proposed Structure
- Proposed Edge of Travel
- Proposed Retaining Wall
- Wetland (2017)
- Stream or Open Water (2017)
- Wetland (2012)
- Stream or Open Water (2012)
- R-3334 Wetland
- R-3324 Stream or Open Water

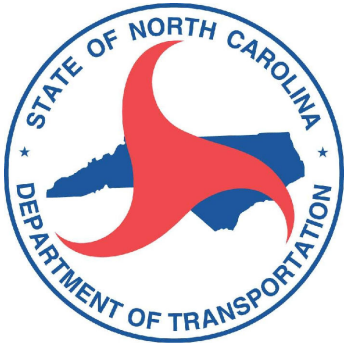
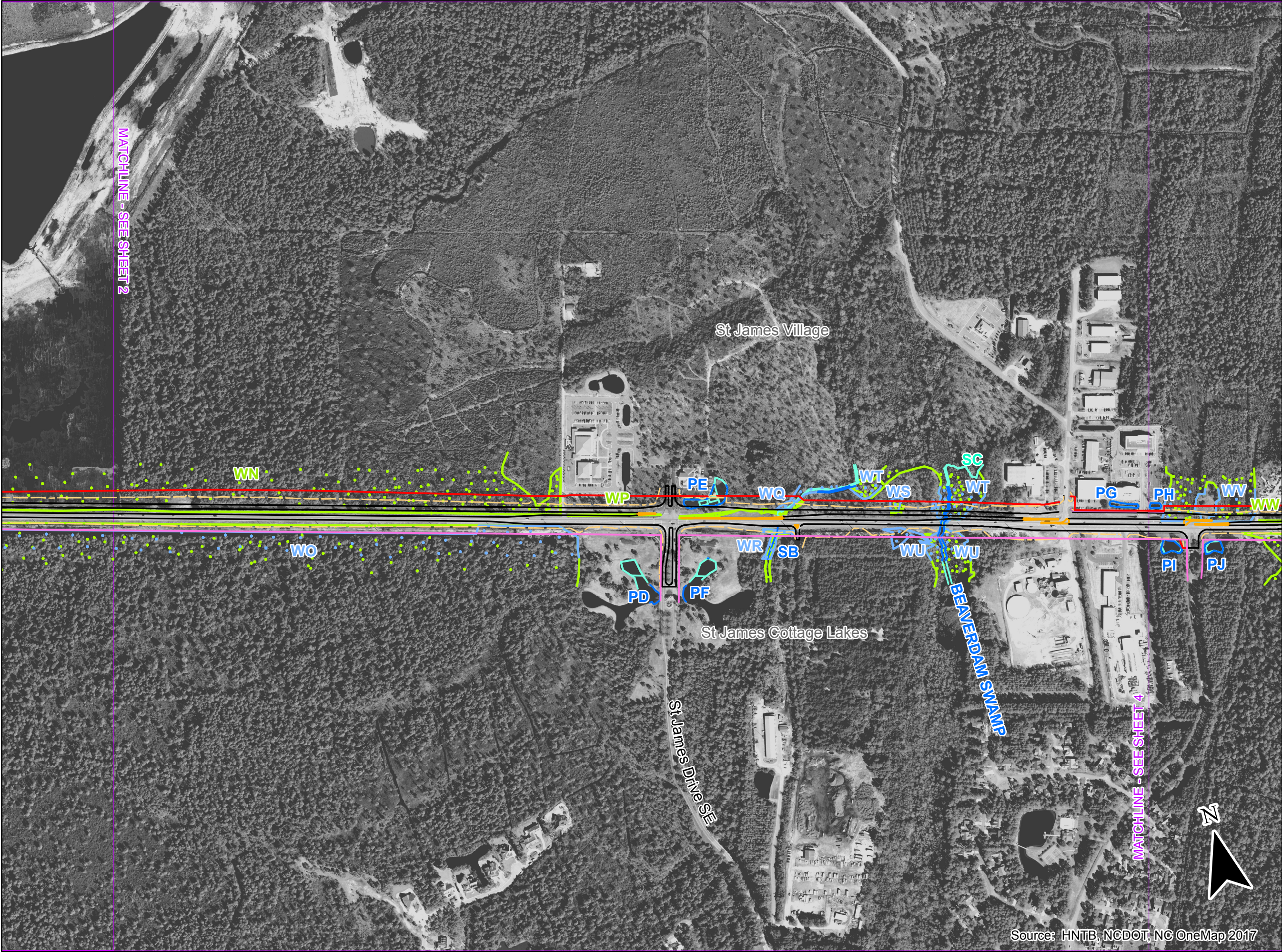


STIP No. R-5021  
NC 211 Widening and  
Intersection Improvements  
Brunswick County

**SHEET 3 OF 7**  
**FIGURE 2**

Source: HNTB, NCDOT, NC OneMap 2017



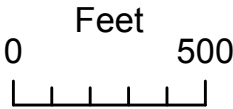


North Carolina  
Department of Transportation  
Division of Highways

Design Subject to Change

**Legend**

- Existing Right of Way
- Proposed Right of Way
- Proposed Slope Stakes
- Proposed Structure
- Proposed Edge of Travel
- Proposed Retaining Wall
- Wetland (2017)
- Stream or Open Water (2017)
- Wetland (2012)
- Stream or Open Water (2012)
- R-3334 Wetland
- R-3324 Stream or Open Water



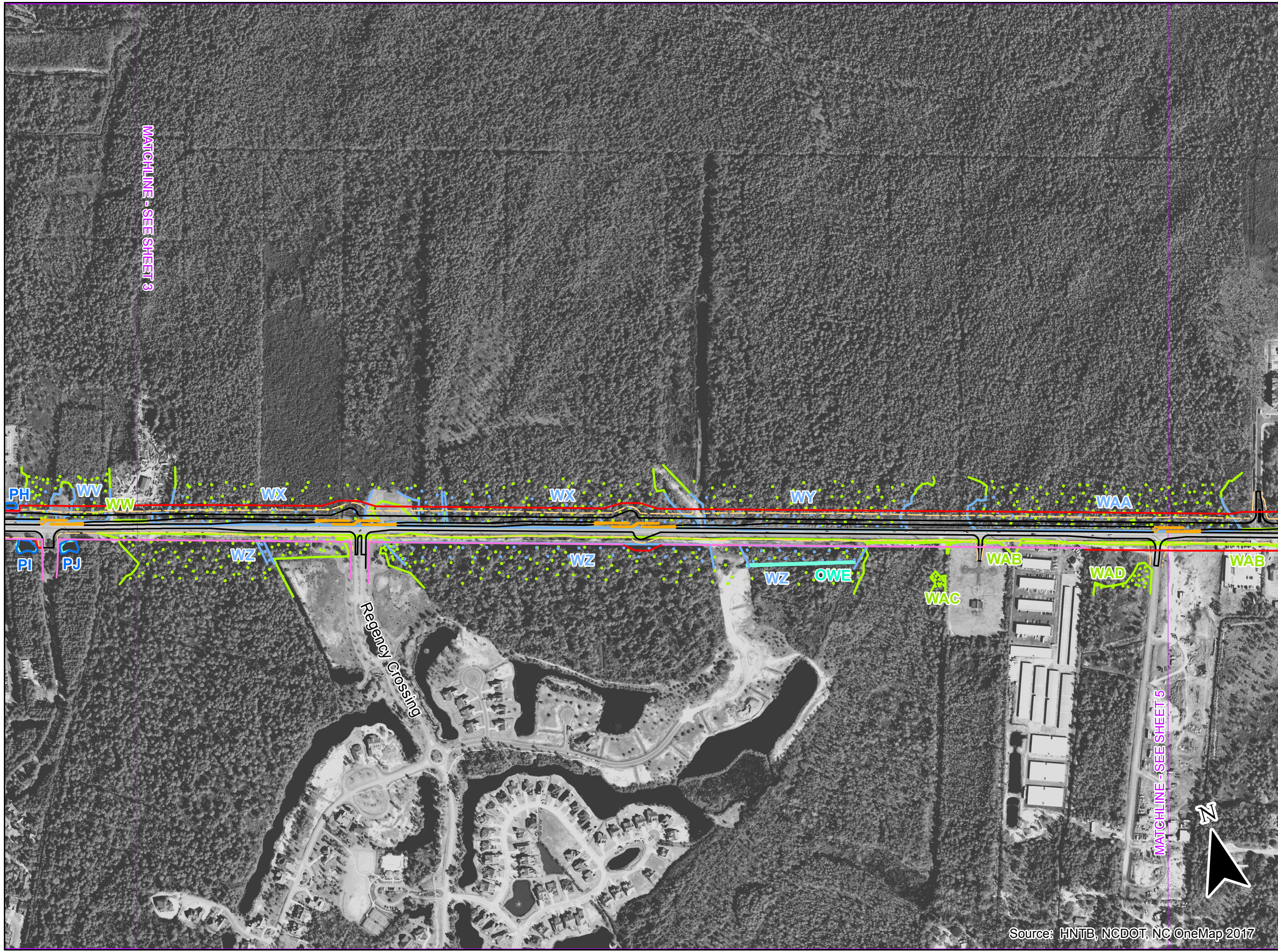
STIP No. R-5021  
NC 211 Widening and  
Intersection Improvements  
Brunswick County

**SHEET 4 OF 7**  
**FIGURE 2**

Source: HNTB, NCDOT, NC OneMap 2017



MATCHLINE - SEE SHEET 3

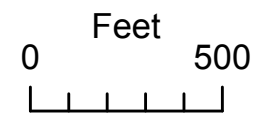


North Carolina  
Department of Transportation  
Division of Highways

Design Subject to Change

**Legend**

- Existing Right of Way
- Proposed Right of Way
- Proposed Slope Stakes
- Proposed Structure
- Proposed Edge of Travel
- Proposed Retaining Wall
- Wetland (2017)
- Stream or Open Water (2017)
- Wetland (2012)
- Stream or Open Water (2012)
- R-3334 Wetland
- R-3324 Stream or Open Water

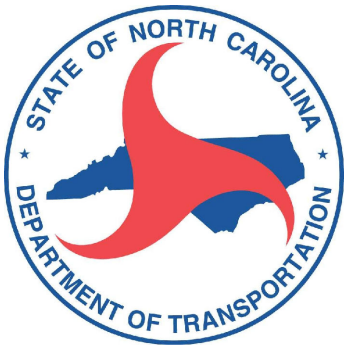
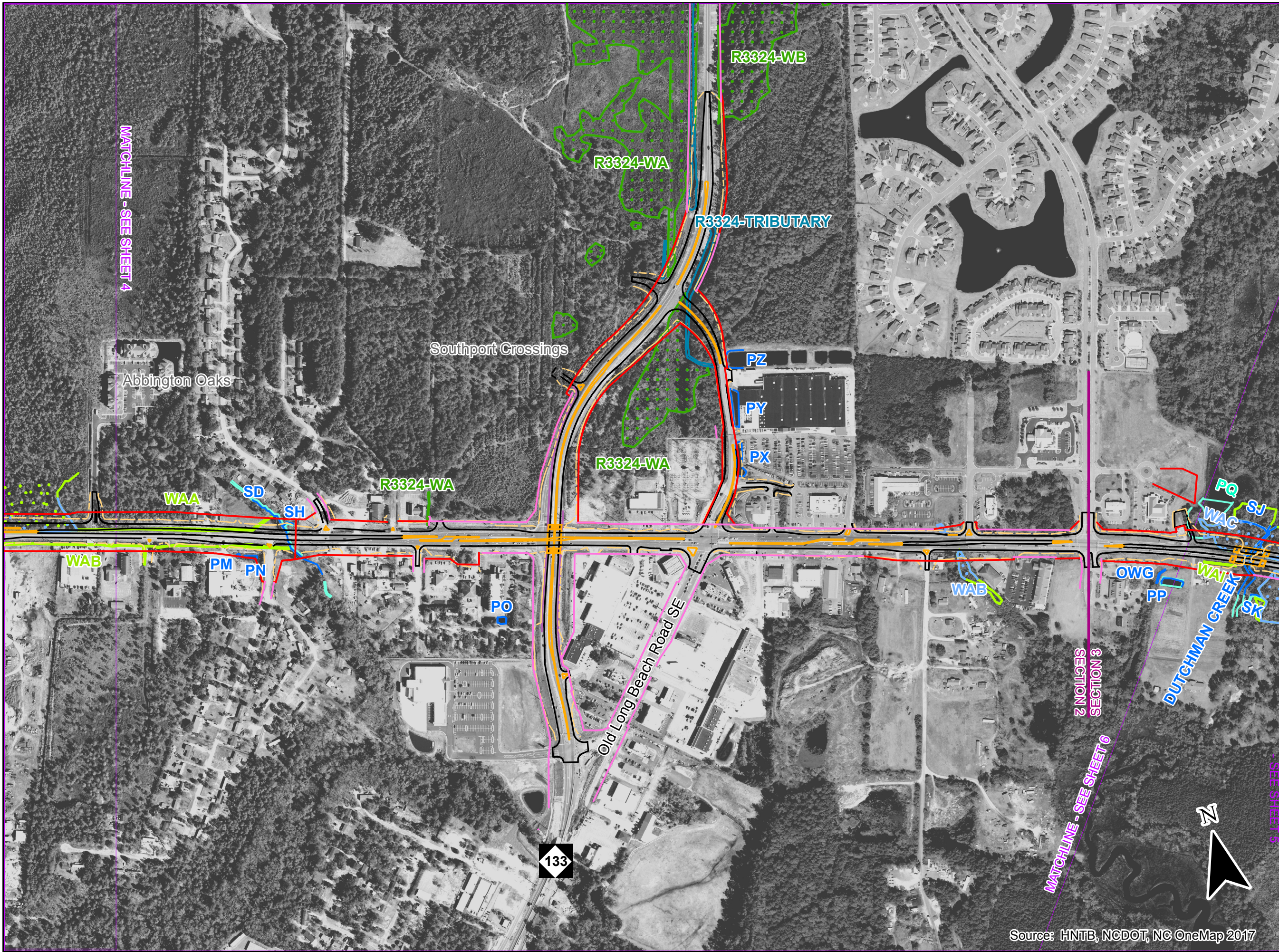


STIP No. R-5021  
NC 211 Widening and  
Intersection Improvements  
Brunswick County

**SHEET 5 OF 7**  
**FIGURE 2**

Source: HNTB, NCDOT, NC OneMap 2017



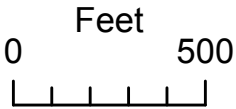


North Carolina  
Department of Transportation  
Division of Highways

Design Subject to Change

**Legend**

- Existing Right of Way
- Proposed Right of Way
- Proposed Slope Stakes
- Proposed Structure
- Proposed Edge of Travel
- Proposed Retaining Wall
- Wetland (2017)
- Stream or Open Water (2017)
- Wetland (2012)
- Stream or Open Water (2012)
- R-3334 Wetland
- R-3324 Stream or Open Water



STIP No. R-5021  
NC 211 Widening and  
Intersection Improvements  
Brunswick County

**SHEET 6 OF 7**  
**FIGURE 2**

Source: HNTB, NCDOT, NC OneMap 2017



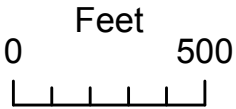


North Carolina  
Department of Transportation  
Division of Highways

Design Subject to Change

**Legend**

- Existing Right of Way
- Proposed Right of Way
- Proposed Slope Stakes
- Proposed Structure
- Proposed Edge of Travel
- Proposed Retaining Wall
- Wetland (2017)
- Stream or Open Water (2017)
- Wetland (2012)
- Stream or Open Water (2012)
- R-3334 Wetland
- R-3324 Stream or Open Water



STIP No. R-5021  
NC 211 Widening and  
Intersection Improvements  
Brunswick County

**SHEET 7 OF 7**  
**FIGURE 2**

Source: HNTB, NCDOT, NC OneMap 2017



<b>Federal Aid Project Number:</b>	STP-0211(21)
<b>State Project Number:</b>	WBS Element 41582.1.1
<b>TIP Project Number:</b>	R-5021
<b>TIP Description:</b>	NC 211 From S.R. 1500 [NC 906] (Midway Road) to NC 87, widen to multi-lanes, Brunswick County

## NC 211 Sections Preliminary Build Alternatives

The Section 404/NEPA Merger Team concurred with the Least Environmentally Damaging Practicable Alternative (LEDPA) listed above for TIP Project R-5021.

## NAME

AGENCY

DATE \_\_\_\_\_

[illegible]

**Section 404/NEPA Merger Project Team Meeting Agreement  
Concurrence Point Number 4A: Avoidance and Minimization**

**Federal Aid Project Number:** STP-0211(21)  
**State Project Number:** WBS Element 41582.1.1  
**TIP Project Number:** R-5021  
**TIP Description:** NC 211 From S.R. 1500 [NC 906] (Midway Road) to NC 87, widen to multi-lanes, Brunswick County

Section 404 Avoidance and Minimization Measures: The current design for the project will affect 26 of the wetlands, 9 of the open waters, and 10 of the streams. The NC 211 improvement project minimizes impacts to resources as a part of its design.

In an effort to avoid and minimize impacts to jurisdictional wetlands and streams associated with the LEDPA, NCDOT will implement each of the following measures:

The Merger Team previously concurred with the following minimization measures resulting from the January 19, 2012 CP4A, which have been incorporated into the proposed project:

- Replace the bridge over Dutchman's Creek with a bridge instead of a culvert.
- The maximum slope (3:1) will be used through wetland areas instead of 4:1 slope to reduce impacts to wetlands by 4.07 acres, open waters by 0.02 acres, and streams by 15 feet.
- Include guardrail and move U-turn bulb to avoid and minimize impacts to the red cockaded woodpecker (RCW) foraging habitat area.

NCDOT proposes the following minimization measures in light of current designs:

- A retaining wall and expressway gutter will be constructed in the southeast quadrant of the NC 211 and Middleton Boulevard interchange (-YREV- STA. 37+75 – 47+20) to minimize construction impacts in WD.

Additional Avoidance and Minimization Measures:

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The Section 404/NEPA Merger Team concurred with the Avoidance and Minimization measures listed above for TIP Project R-5021.

**CONCURRING AGENCIES**

<u>NAME</u>	<u>AGENCY</u>	<u>DATE</u>