

SECTION 404/NEPA MERGER PROJECT TEAM MEETING
CP 2A: Major Hydraulic Crossings and Alignment Review

Improve US 401 Intersection with NC 55/NC 42 and
construct a new connection to Judd Parkway

Wake County

STIP Project U-5751

North Carolina Department of Transportation

Division 5



July 13, 2022

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1. Introduction

1.1 Project Description

The North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP) Project No. U-5751 is approximately three miles in length and consists of improving the US 401 intersection with NC 55/NC 42. The project will also include improvements to the NC 55 intersection with NC 42 and the construction of a connector road from NC 55 to Judd Parkway in Fuquay-Varina, Wake County. This project is currently state-funded, and the anticipated environmental document for this project is an Environmental Assessment (EA). A federal document is being completed to allow for additional funding options for the project. The project location is shown on **Figure 1**.

1.2 Purpose of the Meeting

The purpose of today's meeting is to obtain concurrence on major hydraulic crossings and preliminary alignments for each alternative.

1.3 Project History

During a July 2019 Merger screening meeting, representatives from the US Army Corps of Engineers (USACE), NC Division of Water Resources (NCDWR), Federal Highway Administration (FHWA), and North Carolina Department of Transportation (NCDOT) met to discuss the project. At the time the project team was evaluating options of a connector road from NC 55 to Judd Parkway. However, the STIP description focused more closely on the US 401 intersection with NC 42/NC 55 and the NC 55 intersection with NC 42. One primary reason the agency representatives recommended the project should remain in the Merger process was due to this difference. In September 2019 the STIP description was amended to include the connector road for consistency.

Concurrence Point 1: Purpose and Need and Study Area Defined

The Merger Team met and concurred on the project Purpose and Need and Study Area on February 20, 2020.

The purpose of the project is:

The purpose of the proposed project is to improve traffic flow at and near the intersections of US 401 with NC 42-55 and NC 55 with NC 42. The purpose is also to alleviate congestion between NC 55 and Judd Parkway in Fuquay-Varina. Measures of effectiveness (MOE) may include travel delay and queue lengths.

The need for the project is:

Based on a number of local and regional transportation studies, the local community needs relief from the existing and future congestion at the US 401/NC 42-NC 55 and NC 42/NC 55 intersections. The community also needs a more efficient connection to Judd Parkway for the northwest to southeast traffic that passes through the project vicinity.

The study area boundary is shown on **Figure 1** and is described as included in the CP 1 signed concurrence form as follows:

The study area extends along US 401, NC 42, and NC 55 and allows consideration of a range of possible alternatives to meet the Purpose and Need of the project.

Concurrence Point 2: Detailed Study Alternatives

The Merger Team met and concurred on the Detailed Alternatives Carried Forward on February 20, 2020. The Detailed Alternatives include the No Build as well as the following Build Alternatives and are depicted on **Figure 2**. The Build Alternatives are described as included in the CP 2 signed concurrence form as follows:

- **Build Alternative 1 (Orange)** – Alternative 1 crosses US 401 and the railroad the same as the other two alternatives and continues on the common northwest heading for a longer distance before curving to the west and intersect Sunset Lake Road. It is just south of the Jones-Johnson Ballentine Historic District. Alternatives 1 and 2 have the same alignment west of Sunset Lake Road.
- **Build Alternative 2 (Yellow)** – Alternative 2 passes on the north side of the Abiding Presence Lutheran Church property and curves around to the north of the residential area that is located on the west side of Sunset Lake Road. It ties into Judd Parkway just to the east of Stewart Street.
- **Build Alternative 3 (Purple)** – Alternative 3 is the southernmost of the three. It intersects Sunset Lake Road at Products Road, utilizes a portion of existing Products Road, and ties into existing Judd Parkway.

Public Involvement

A virtual public meeting was held on March 22, 2022, from 6:00 PM to 8:00 PM. There were 183 attendees. A total of 227 comments were left in the virtual public meeting chat box by 93 members of the public. A total of 267 comments were received during the comment period on the project website by 44 members of the public.

2. Water Resources

Jurisdictional sites in the original study area were verified in the field by Eric Alsmeyer with USACE on August 9, 2017 and he issued a Preliminary Jurisdictional Determination (PJD) on September 11, 2017. The study area was expanded in July 2019 and jurisdictional sites were verified in the field by Andy Williams with the USACE on April 15, 2021. He issued a PJD for the expanded study area on May 17, 2021.

Twenty-four streams were identified within the 2019 study area and included two named streams: Black Creek and Terrible Creek. The remainder are unnamed tributaries (UTs) to these streams. These streams are considered jurisdictional surface waters under Section 404 of the Clean Water Act. All jurisdictional streams have been designated as warm water streams for the purposes of mitigation. The majority of the study area is within the Neuse River Basin (USGS Hydrologic Unit 03020201). The western portion of the study area, southwest of intersection of NC 55 and Wilbon Road (SR 1110), is part of the Cape Fear River basin (USGS Hydrologic Unit 03030004). No water resources or wetlands were identified in the Cape Fear River basin portion of the study area. Streamside riparian zones within the study area are protected under provisions of the Neuse River Buffer Rules administered by NCDWR. The location of these streams is shown in **Figures 3a-i**. Stream, surface water, and buffer information are found in **Table 1**.

Table 1. Characteristics of Jurisdictional Streams in the Study Area

Stream Name	Map ID	NCDWR Index Number	Best Usage Classification	Bank Height (ft)	Bankfull width (ft)	Depth (in)	Length (ft.) in Study Area	Classification	Compensatory Mitigation Required	River Basin Buffer	NCSAM Rating
UT to Black Creek	SA	27-45-(1)	B;NSW	2	3	8	3,708	Perennial	Yes	Subject	--
UT to Black Creek	SB	27-45-(1)	B;NSW	1	2	4	290	Perennial	Yes	Not Subject	--
UT to Black Creek	SC	27-45-(1)	B;NSW	1	2	4	112	Intermittent	Yes	Not Subject	--
UT to Black Creek	SD	27-45-(1)	B;NSW	1	1	3	88	Intermittent	Yes	Not Subject	--
UT to Black Creek	SE	27-45-(1)	B;NSW	1	2	6	1,351	Perennial	Yes	Subject	--
UT to Black Creek	SG	27-45-(1)	B;NSW	2	3	6	198	Perennial	Yes	Subject	--
UT to Black Creek	SI	27-45-(1)	B;NSW	3	5	6	559	Intermittent	Yes	Not Subject	--
UT to Black Creek	SJ	27-45-(1)	B;NSW	1	1	4	234	Perennial	Yes	Subject	--
UT to Terrible Creek	SK	27-43-15-8-(1)	B;NSW	3	2	4	179	Intermittent	Yes	Subject	Medium
UT to Black Creek	SL	27-45-(1)	B;NSW	1	2	5	380	Intermittent	Yes	Subject	--
Terrible Creek	SM	27-43-15-8-(1)	B;NSW	2	3	2	1,109	Perennial	Yes	Subject	--
UT to Terrible Creek	SN	27-43-15-8-(1)	B;NSW	1.5	2	2	935	Intermittent	Undetermined	Subject	--
UT to Terrible Creek	SO	27-43-15-8-(1)	B;NSW	3	3	2	977	Perennial	Yes	Subject	--
UT to Terrible Creek	SP	27-43-15-8-(1)	B;NSW	2	2	2	848	Intermittent	Undetermined	Subject	--
							755	Perennial	Yes	Subject	--
UT to Terrible Creek	SQ	27-43-15-8-(1)	B;NSW	2	2	1	2,983	Perennial	Yes	Subject	--
UT to Terrible Creek	SR	27-43-15-8-(1)	B;NSW	0.5	1	0.5	59	Intermittent	Undetermined	Subject	--
UT to Terrible Creek	SS	27-43-15-8-(1)	B;NSW	2	2	1	549	Perennial	Yes	Subject	--
UT to Terrible Creek	ST	27-43-15-8-(1)	B;NSW	0.5	1.5	0.5	662	Intermittent	Undetermined	Subject	--
UT to Terrible Creek	SU	27-43-15-8-(1)	B;NSW	0.5	2	1	1,083	Intermittent	Undetermined	Subject	--
UT to Terrible Creek	SV	27-43-15-8-(1)	B;NSW	0.5	1	1	333	Intermittent	Undetermined	Subject	--
UT to Terrible Creek	SAA	27-43-15-8-(1)	B;NSW	2	4	4	336	Intermittent	Undetermined	Subject	--
UT to Terrible Creek	SAB	27-43-15-8-(1)	B;NSW	1	3	6	87	Intermittent	Undetermined	Subject	--
UT to Terrible Creek	SAC	27-43-15-8-(1)	B;NSW	1	5	8	55	Intermittent	Undetermined	Subject	Low
UT to Black Creek	SAD	27-45-(1)	B;NSW	1	3	0	169	Intermittent	Undetermined	Subject	--

There are no designated High Quality Waters (HQW), Outstanding Resource Waters (ORW), or water supply watersheds (WS-I or WS-II) within or within 1.0 mile downstream of the study area. The North Carolina 2018 Final 303(d) list of impaired waters does not identify any impaired waters within the study area. Terrible Creek, from the dam at Johnsons Pond to Middle Creek, approximately 0.9 mile downstream of the study area, is listed in the 2018 Final 303(d) list due to a Fair benthos rating. No trout waters, anadromous fish habitat, or primary nursery areas occur in the study area. No construction moratorium is anticipated for this project.

Thirty-eight jurisdictional wetlands were identified within the study area. The location of these wetlands is shown in **Figures 3a-i**. Wetland information is found in **Table 2**.

Table 2. Characteristics of Jurisdictional Wetlands in the Study Area

Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area (ac.) in Study Area
WA	Headwater Forest	High	Riparian	0.25
WB	Headwater Forest	High	Riparian	6.28
WC	Headwater Forest	High	Riparian	0.47
WD	Headwater Forest	High	Riparian	1.34
WE	Headwater Forest	High	Riparian	0.52
WF	Bottomland Hardwood Forest	Medium	Riparian	2.25
WG	Headwater Forest	Medium	Riparian	2.22
WH	Headwater Forest	High	Riparian	0.49
WI	Headwater Forest	High	Riparian	1.53
WJ	Headwater Forest	High	Riparian	0.75
WK	Headwater Forest	Low	Riparian	1.19
WL	Headwater Forest	Medium	Riparian	0.09
WM	Headwater Forest	High	Riparian	7.64
WN	Headwater Forest	High	Riparian	0.27
WO	Headwater Forest	High	Riparian	0.83
WP	Headwater Forest	High	Riparian	0.07
WQ	Headwater Forest	High	Riparian	0.04
WR	Headwater Forest	High	Riparian	0.64
WS	Headwater Forest	High	Riparian	0.02
WT	Headwater Forest	High	Riparian	0.44
WU	Headwater Forest	High	Riparian	0.19
WV	Headwater Forest	High	Riparian	0.19
WW	Headwater Forest	High	Riparian	0.18
WX	Bottomland Hardwood Forest	High	Riparian	3.06
WY	Headwater Forest	High	Riparian	0.18
WZ	Headwater Forest	High	Riparian	0.12
WAA	Headwater Forest	High	Riparian	5.25

Table 2. Characteristics of Jurisdictional Wetlands in the Study Area

Map ID	NCWAM Classification	NCWAM Rating	Hydrologic Classification	Area (ac.) in Study Area
WAB	Headwater Forest	Low	Riparian	0.02
WAC	Headwater Forest	High	Riparian	0.34
WAD	Headwater Forest	High	Riparian	0.22
WAE	Headwater Forest	High	Riparian	0.93
WBA	Headwater Forest	High	Riparian	0.11
WBB	Headwater Forest	High	Riparian	0.67
WBC	Headwater Forest	High	Riparian	2.23
WBE	Headwater Forest	High	Riparian	0.44
WBF	Headwater Forest	High	Riparian	1.71
WBG	Headwater Forest	Low	Riparian	0.10
WBH	Headwater Forest	High	Riparian	0.66

3. CP 2A: Major Hydraulic Crossings and Alignment Review

Major hydraulic crossings are those with a contributing drainage area requiring conveyance greater than a 72-inch opening (with an open area of 30 square feet or greater to convey flow through the project). A total of three potential major hydraulic crossings were identified for the proposed project (**Figure 3**). These structures are described in **Table 3** and additional information including individual site plans and photographs are included in the section below.

Table 3. Major Hydraulic Structures¹ Recommendations, Cost Estimate, and Potential Impacts by Alternative

SITE NO	ROUTE	STREAM NAME	NRTR MAP ID	NCDWR STREAM INDEX NUMBER	STREAM/WETLAND SIZE (ft / ac ²)	STREAM CLASS	DRAINAGE AREA (mi ²)	EXISTING STRUCTURE	ALTERNATIVE 1 (Orange)				ALTERNATIVE 2 (Yellow)				ALTERNATIVE 3 (Purple)		Cost Estimate		
								Number, Size, Structure Type	Rec. Structure	Potential Stream/Wetland Impact ³	Bridging Option	Bridging Potential Stream/Wetland Impact ³	Rec. Structure	Potential Stream/Wetland Impact ³	Bridging Option	Bridging Potential Stream/Wetland Impact ³	Rec. Structure	Potential Stream/Wetland Impact ³	Construction (Culvert/Bridge)	Mitigation ⁴ (Culvert/Bridge)	Total (Culvert/Bridge)
1	Judd Parkway	Terrible Creek	SM	27-43-15-8-(1)	1,109	B; NSW	0.23	(2) 10' x 6' RCBC	(2) 10' x 6' RCBC	230 linear ft.			(2) 10' x 6' RCBC	230 linear ft.			(2) 10' x 6' RCBC	230 linear ft.	\$270,000	\$278,000	\$548,000
2	Judd Parkway	UT to Terrible Creek	SO / WX	27-43-15-8-(1)	977 / 3.06	B; NSW	0.53	10' x 9' RCBC									10' x 9' RCBC	150 linear ft./ 0.1 ac.	\$190,000	\$177,000	\$367,000
3	Judd Parkway (new location)	UT to Terrible Creek	SO / WX	27-43-15-8-(1)	977 / 3.06	B; NSW	0.53	N/A (new location)	7' x 7' RCBC (buried 1')	465 linear ft./ 1 ac.	7 span @ 84' = 588' total length	0.1 ac	7' x 7' RCBC (buried 1')	465 linear ft./ 1 ac.	7 span @ 84' = 588' total length	0.1 ac			\$235,000/ \$9,500,000	\$774,000/ \$13,000	\$1,009,000/ \$9,513,000

NOTES:

- (1) Major Hydraulic Structures – an open area of 30 square feet or greater (72-inch opening) to convey flow through the project
- (2) Reflects wetland area/stream length within the study area.
- (3) Impacts based on slope stake limits plus 40 feet.
- (4) Assumed 2:1 mitigation using DMS Current Rate Schedules <https://deq.nc.gov/about/divisions/mitigation-services/dms-customers/current-rate-schedules>
- (5) Gray shading indicates that this Site is not crossed by the alternative.

3.1 Site 1

Site 1 is located in the northern most portion of the project at Terrible Creek along Judd Parkway and is applicable to all three alternatives.

Recommendations: NCDOT proposes to retain and extend the two 10' x 6' RCBC. Stream relocation and channel improvements are anticipated to account for increased roadway width encroaching into UT to Terrible Creek. The proposed plan view is shown below in **Image 1**.

Potential Impacts: Approximately 230 linear feet of channel impacts are anticipated to Terrible Creek (Stream SM).

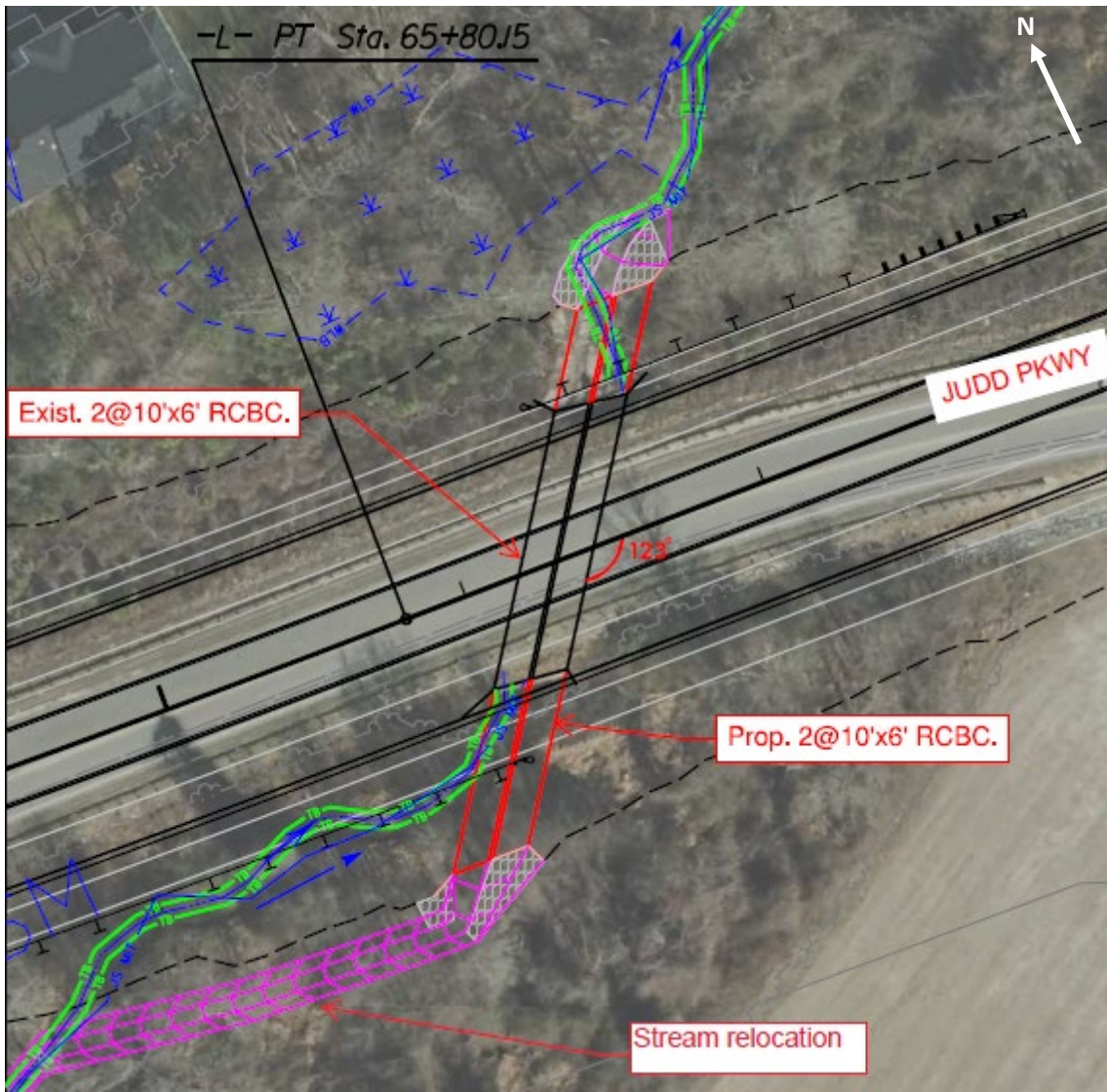


Image 1. Site 1 Plan View



Image 2. Site 1 – Outlet looking upstream



Image 3. Site 1 - 10' X 6' RCBC inlet looking downstream with 2-foot sill

3.2 Site 2

Site 2 is applicable to Alternative 3 at UT to Terrible Creek. The hydraulic analysis indicates that the existing culvert is adequately sized for the future growth of the surrounding area.

Recommendations: NCDOT recommends retaining and extending existing culvert with a two 10' x 9' RCBC. The proposed plan view is shown below in **Image 4**.

Potential Impacts: Approximately 150 linear feet of channel impacts to Stream SO and 0.1 acres of fill in wetlands to Wetland WX are anticipated.

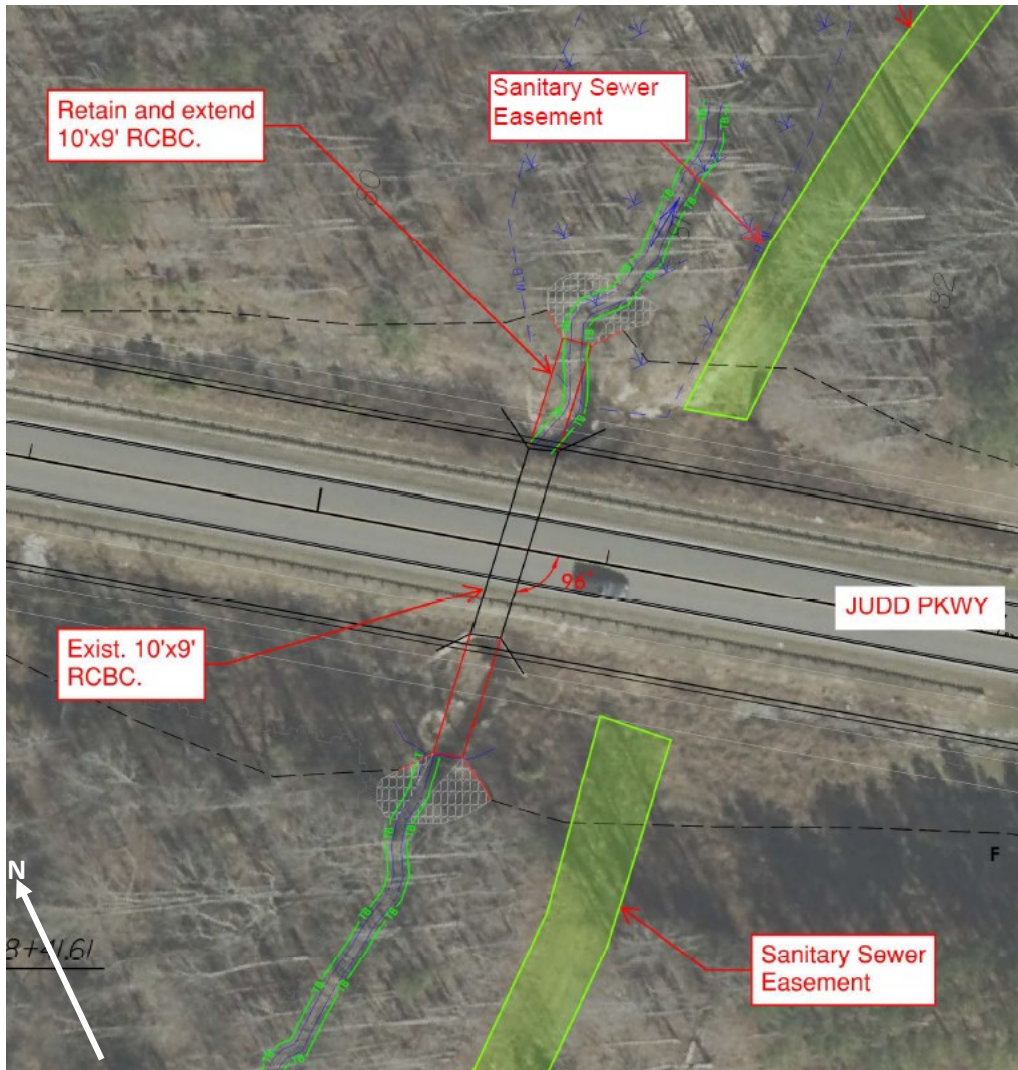


Image 4. Site 2 Plan View



Image 5. Site 2 - 10' X 9' RCBC inlet looking downstream



Image 6. Site 2 - 10' X 9' RCBC outlet looking upstream

3.3 Site 3

Site 3 is approximately 200 feet downstream of the existing structure at Site 2 and is applicable to Alternatives 1 and 2. Preliminary sizing showed a 7' x 7' RCBC buried one foot would be appropriately sized. Utility relocations need to be considered at this crossing since there is an existing sanitary sewer on the east side of culvert site that will likely be impacted by the project.

Recommendations: NCDOT recommends installing 7' x 7' RCBC buried one foot. The proposed plan view is shown in **Image 7**.

Potential Impacts: Culvert: Approximately 465 linear feet of channel impacts to Stream SO, 0.9 acres of fill in Wetland WX, and 0.1 acres of excavation in Wetland WX are anticipated.

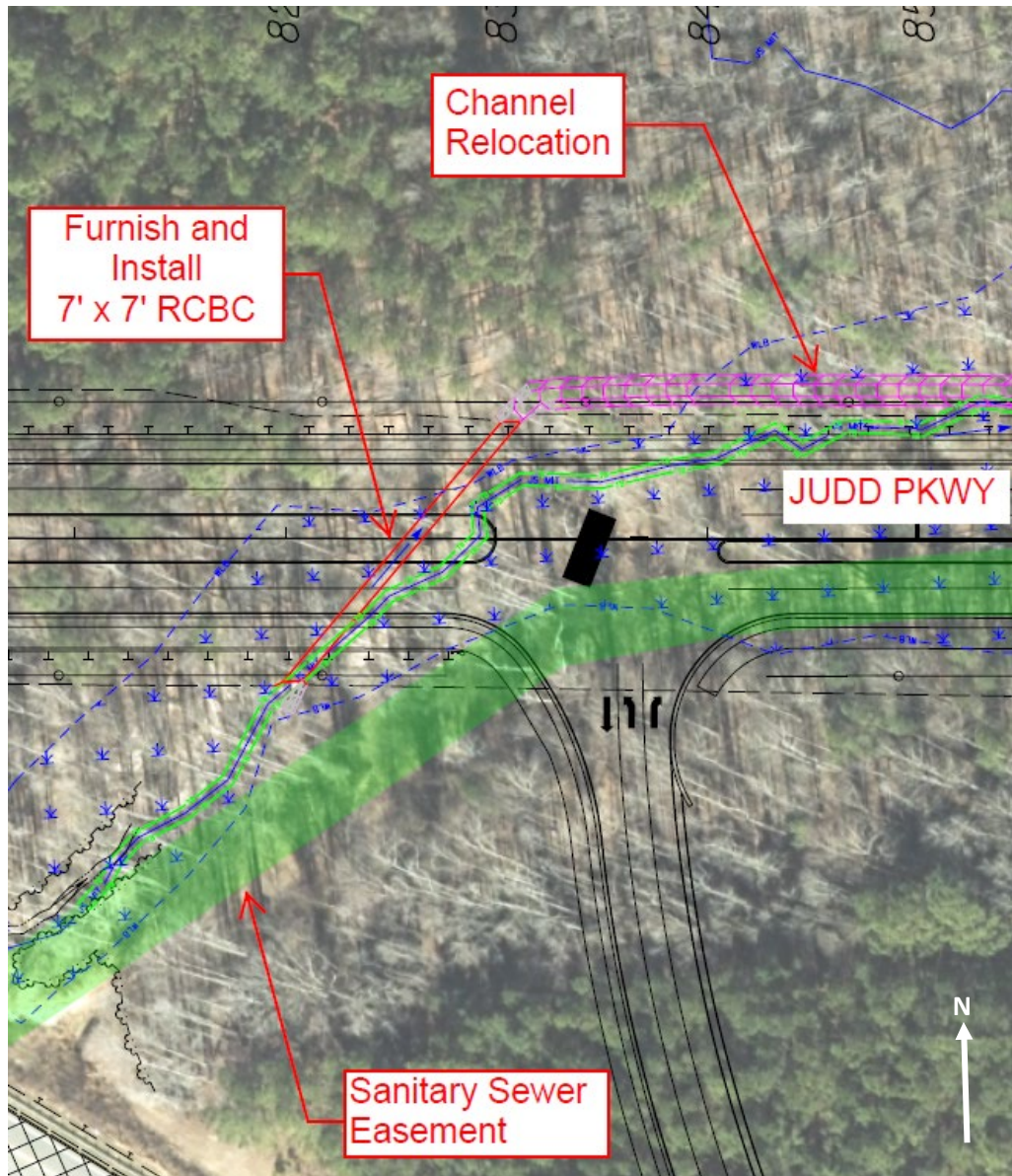


Image 7. Site 3 Plan View

Bridging Option: A seven-span bridge across the wetland system in the vicinity of Site 3 was reviewed and shown in **Image 8**. Approximately 0.1 ac of fill in wetland WX are anticipated. The estimated construction cost is \$9,500,000 and estimated mitigation cost is \$13,000 for a total cost estimate of \$9,513,000. This exceeds the cost estimate of the culvert option by \$8.5 million.

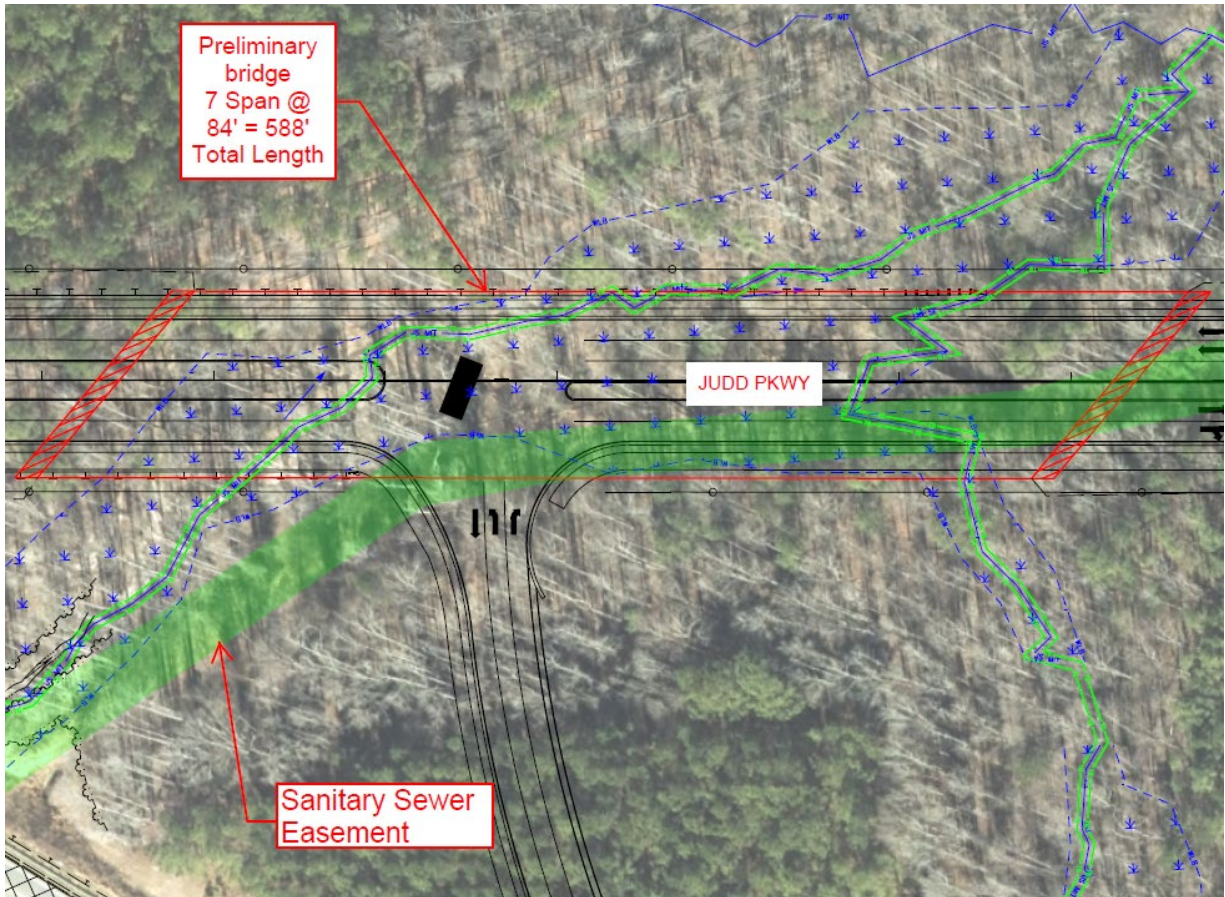


Image 8. Site 3 Bridge Plan View



Image 9. Site 3 – Looking upstream



Image 10. Site 3 – Looking downstream at stream relocation tie-in location



Image 11. Site 3 - At culvert centerline looking downstream across floodplain

4. Project Schedule

Table 4 provides the proposed project schedule.

Table 4. STIP Project U-5751 Schedule

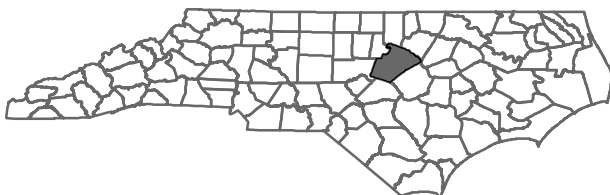
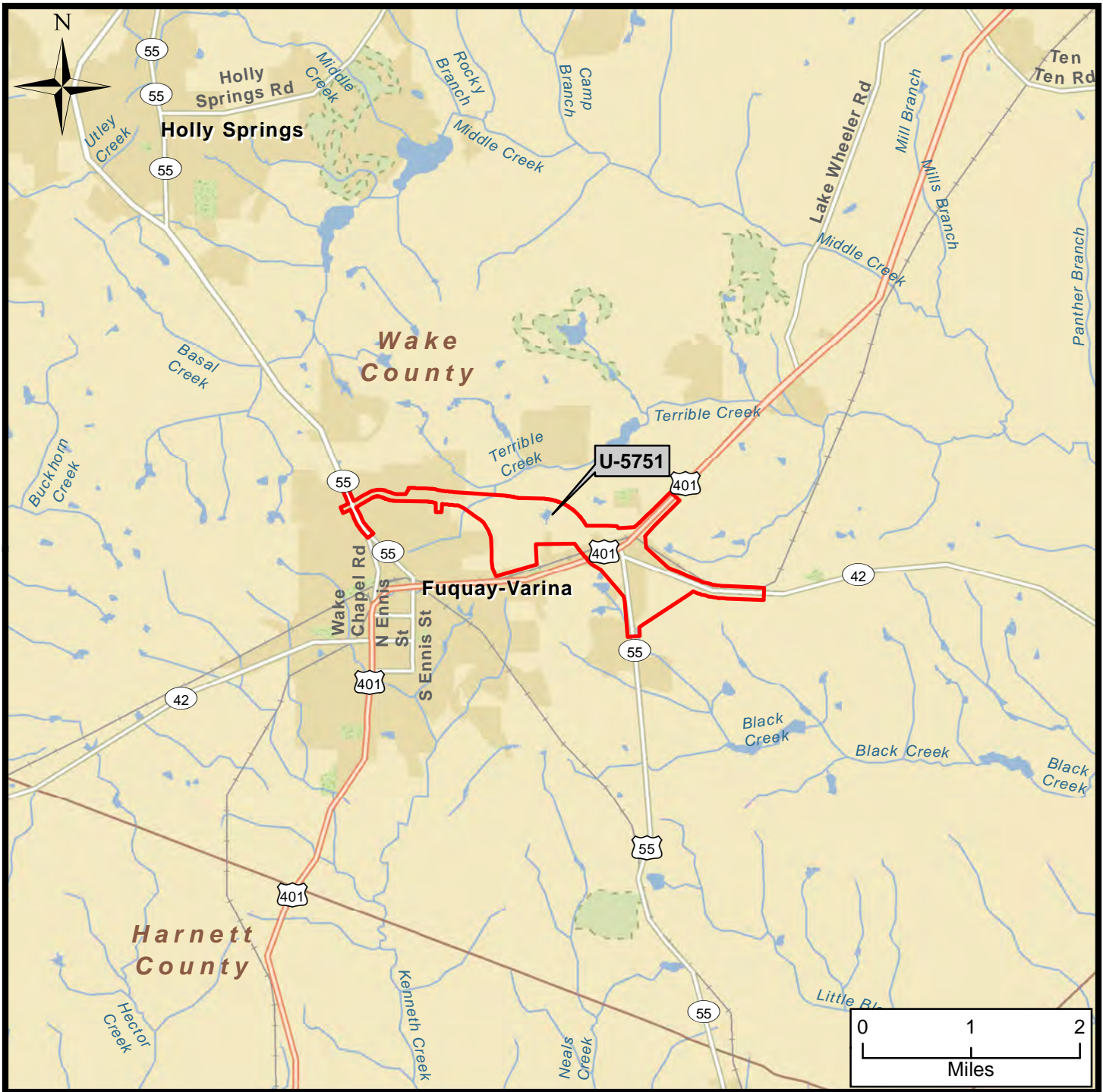
Milestone	Schedule
Concurrence Points 1/2	February 20, 2020
Virtual Public Meeting	March 22, 2022
Concurrence Point 2A	July 13, 2022
Concurrence Point 3/4A	Fall 2022*
Final Environmental Document*	Fall 2023*
ROW Acquisition	FY 2029 *
Construction	Post Year


*Tentative, subject to change. ROW and construction dates per the current 2020 – 2029 STIP (May 2022)

5. Avoidance and Minimization

The alternatives were developed with avoidance to both human and natural resources as detailed below. Avoidance and minimization measures are ongoing and will be formally discussed at the Concurrence Point 4A (Avoidance and Minimization). The following are avoidance and minimization measures to date:

- The alignments were set to utilize as much of the existing infrastructure as possible while minimizing additional impacts to adjacent homes along the corridor.
- Alignments were set to avoid permanent impacts to historical properties.
- The proposed new location structure (Site 3) conveying a jurisdictional stream will be buried to allow for aquatic passage.



	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT MANAGEMENT UNIT</p>
<p>STIP PROJECT U-5751 INTERSECTIONS OF US 401 WITH NC 55 AND NC 55 WITH NC 42 FUQUAY-VARINA, WAKE COUNTY NCDOT DIVISION 5</p>	
<p>Vicinity Map</p>	<p>Figure 1</p>

Legend

U-5751 Study Area

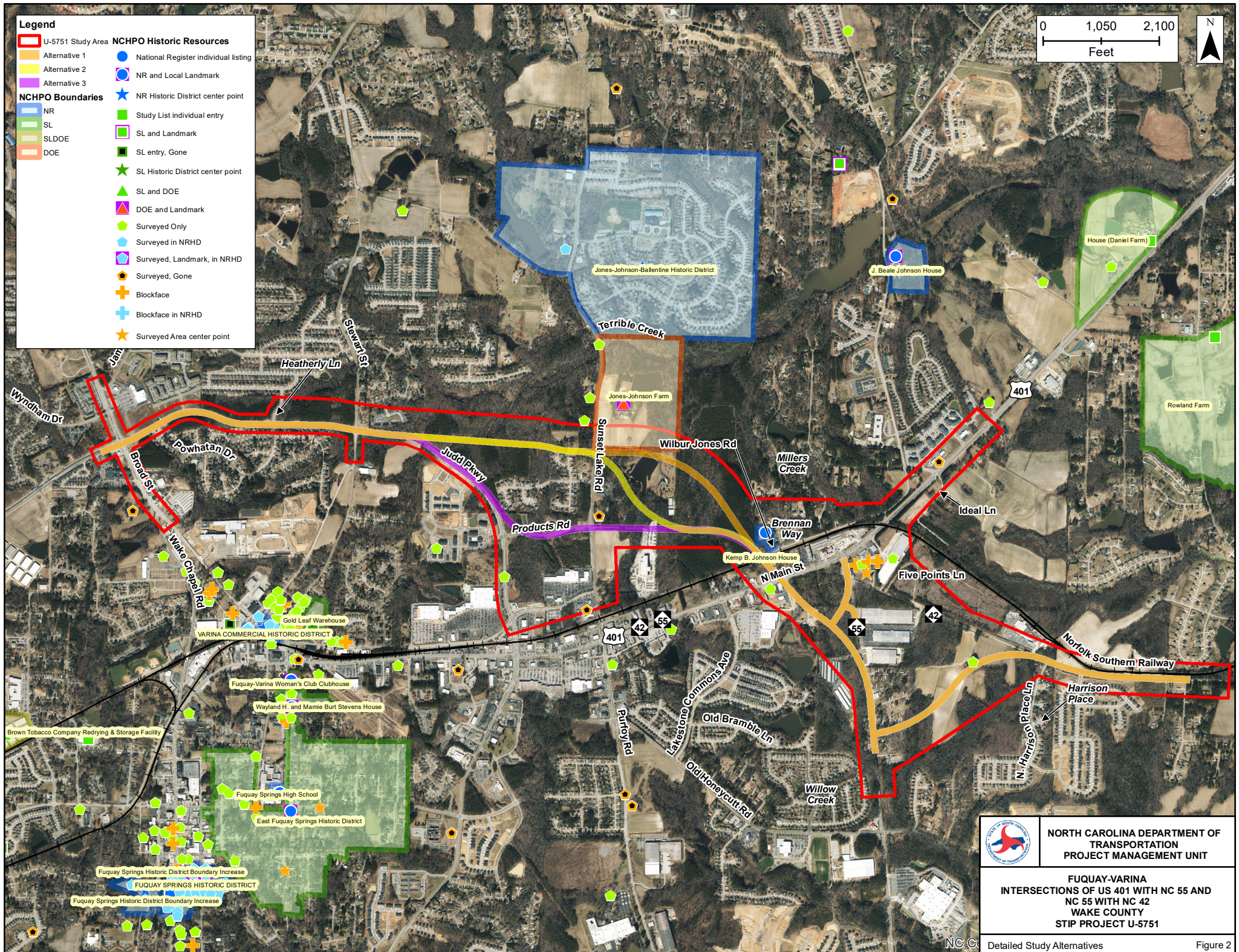
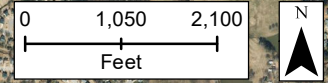
- Alternative 1
- Alternative 2
- Alternative 3


NCHPO Boundaries

- NR
- SL
- SLDOE
- DOE

NCHPO Historic Resources

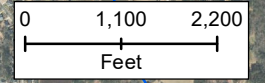
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- NR and Local Landmark
- NR Historic District center point
- Study List individual entry
- SL and Landmark
- SL entry, Gone
- SL Historic District center point
- SL and DOE
- DOE and Landmark
- Surveyed Only
- Surveyed in NRHD
- Surveyed, Landmark, in NRHD
- Surveyed, Gone
- Blockface
- Blockface in NRHD
- Surveyed Area center point



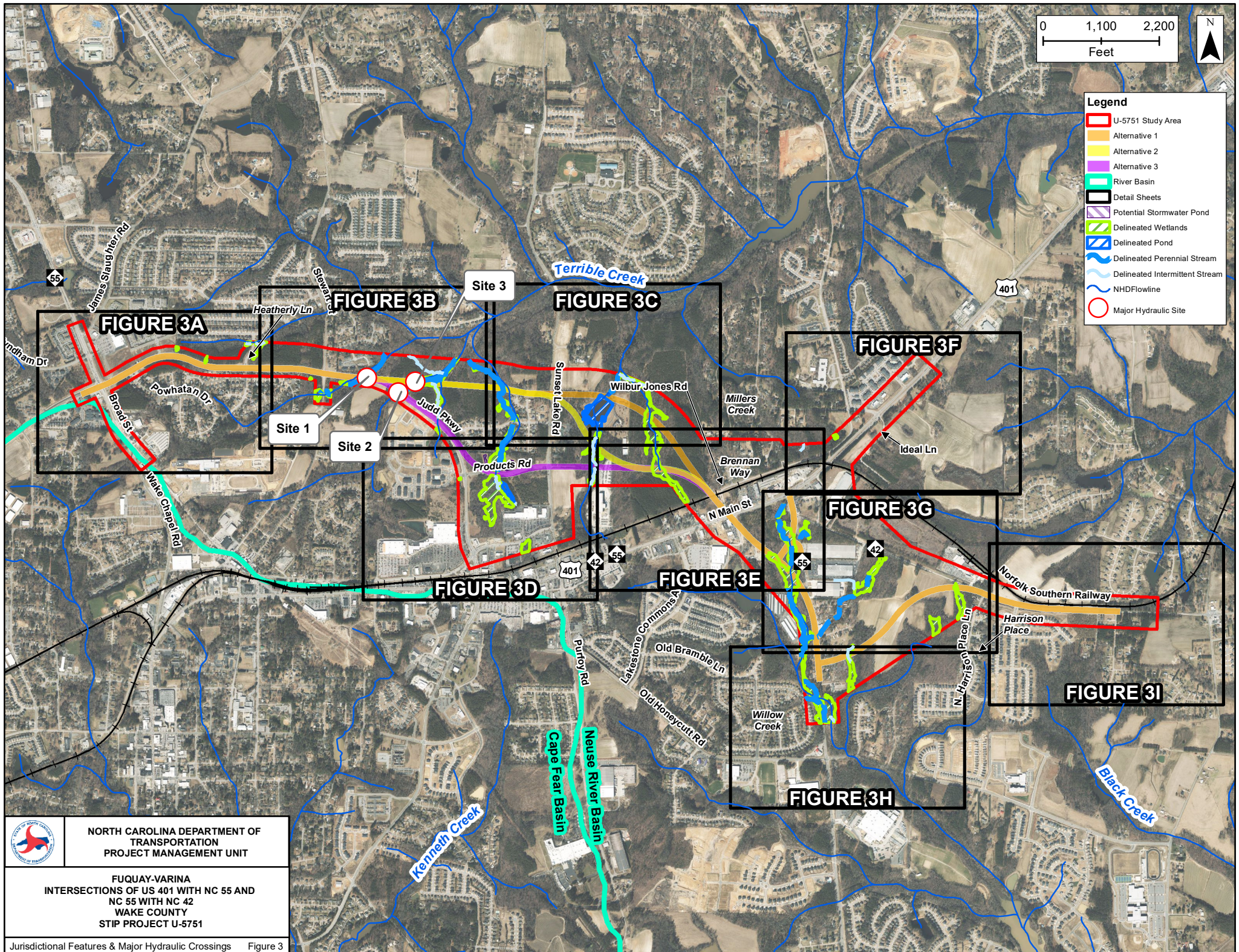
 **NORTH CAROLINA DEPARTMENT OF TRANSPORTATION**
PROJECT MANAGEMENT UNIT

FUQUAY-VARINA INTERSECTIONS OF US 401 WITH NC 55 AND NC 55 WITH NC 42
WAKE COUNTY
STIP PROJECT U-5751

NC DOT Detailed Study Alternatives Figure 2



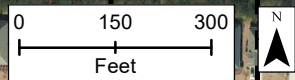
- Legend**
- U-5751 Study Area
 - Alternative 1
 - Alternative 2
 - Alternative 3
 - River Basin
 - Detail Sheets
 - Potential Stormwater Pond
 - Delineated Wetlands
 - Delineated Pond
 - Delineated Perennial Stream
 - Delineated Intermittent Stream
 - NHDFlowline
 - Major Hydraulic Site



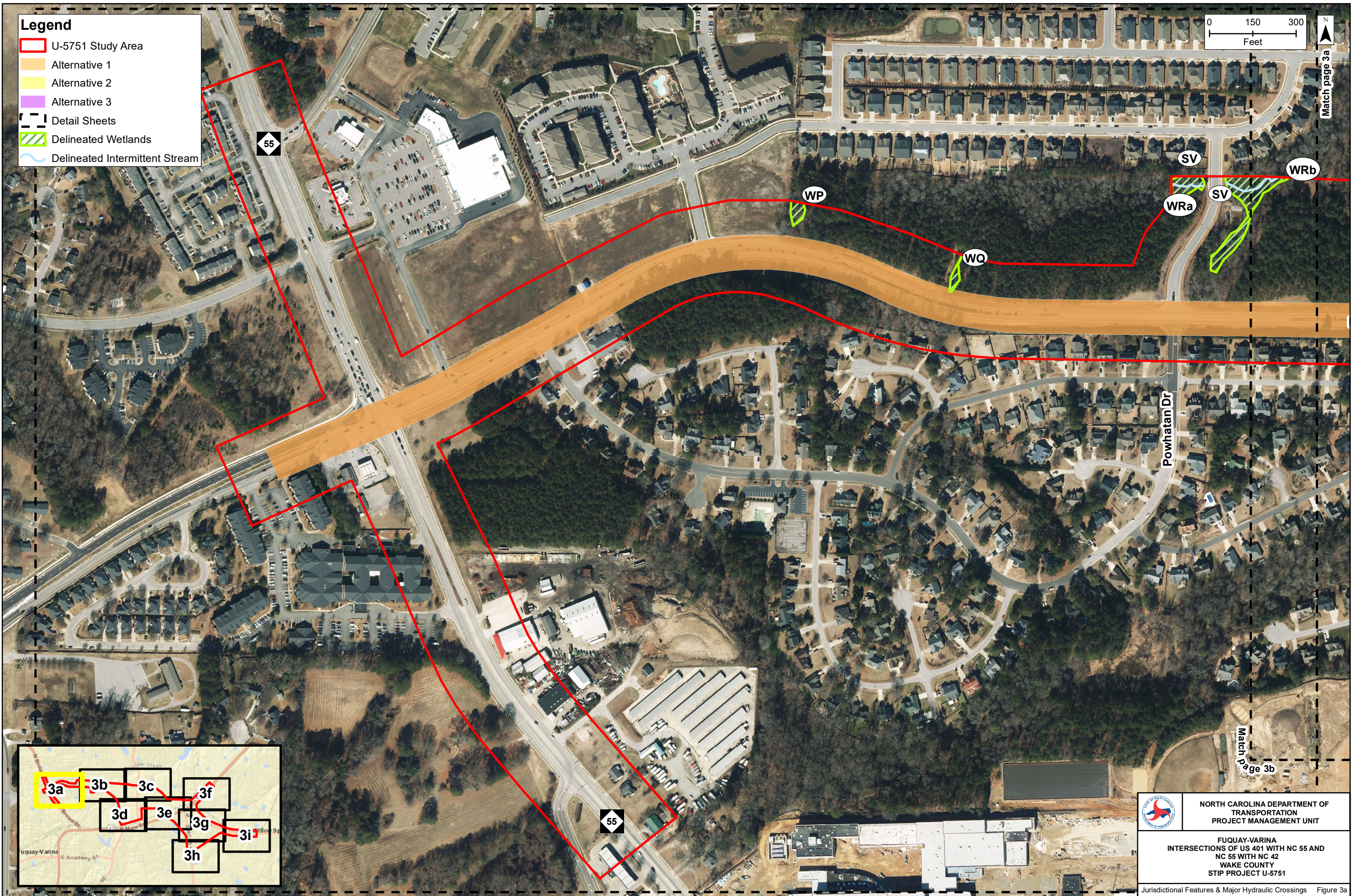
**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PROJECT MANAGEMENT UNIT**

**FUQUAY-VARINA
INTERSECTIONS OF US 401 WITH NC 55 AND
NC 55 WITH NC 42
WAKE COUNTY
STIP PROJECT U-5751**

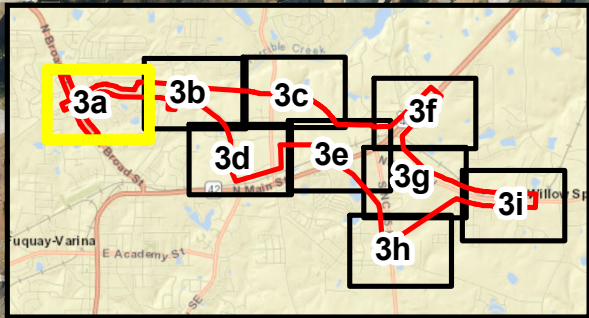
- Legend**
- U-5751 Study Area
 - Alternative 1
 - Alternative 2
 - Alternative 3
 - Detail Sheets
 - Delineated Wetlands
 - Delineated Intermittent Stream



Match page 3a

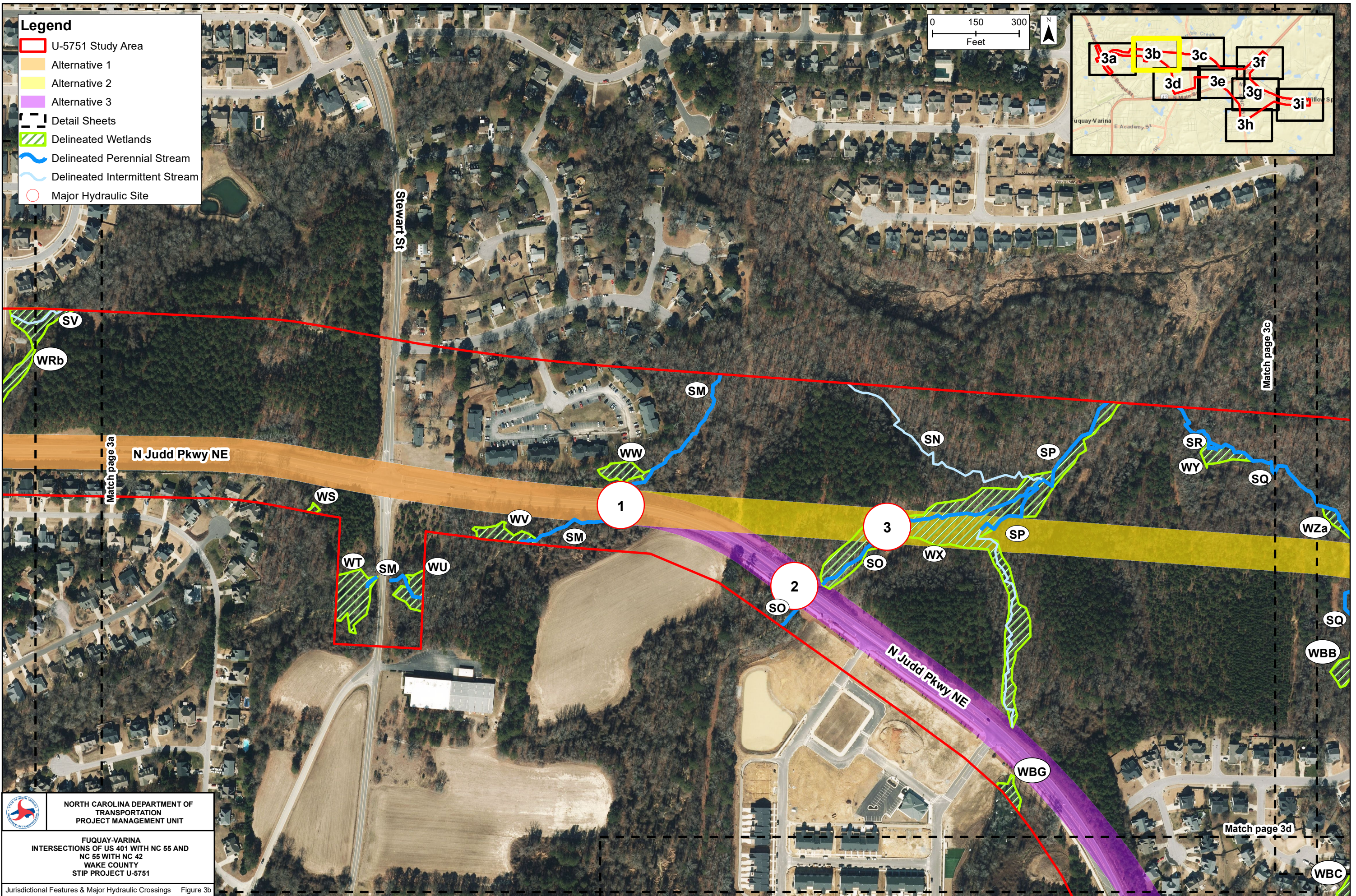
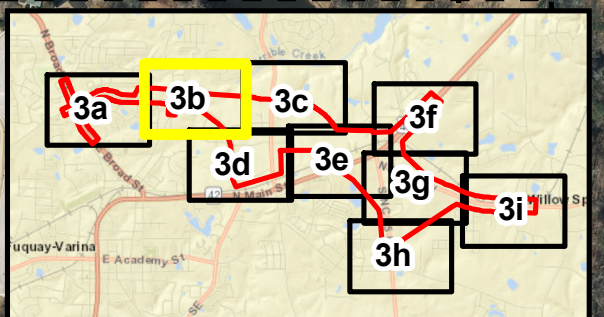
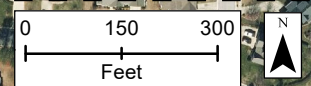



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	<p>NORTH CAROLINA DEPARTMENT OF TRANSPORTATION PROJECT MANAGEMENT UNIT</p>
<p>FUQUAY-VARINA INTERSECTIONS OF US 401 WITH NC 55 AND NC 55 WITH NC 42 WAKE COUNTY STIP PROJECT U-5751</p>	
<p>Jurisdictional Features & Major Hydraulic Crossings Figure 3a</p>	

- Legend**
- U-5751 Study Area
 - Alternative 1
 - Alternative 2
 - Alternative 3
 - Detail Sheets
 - Delineated Wetlands
 - Delineated Perennial Stream
 - Delineated Intermittent Stream
 - Major Hydraulic Site

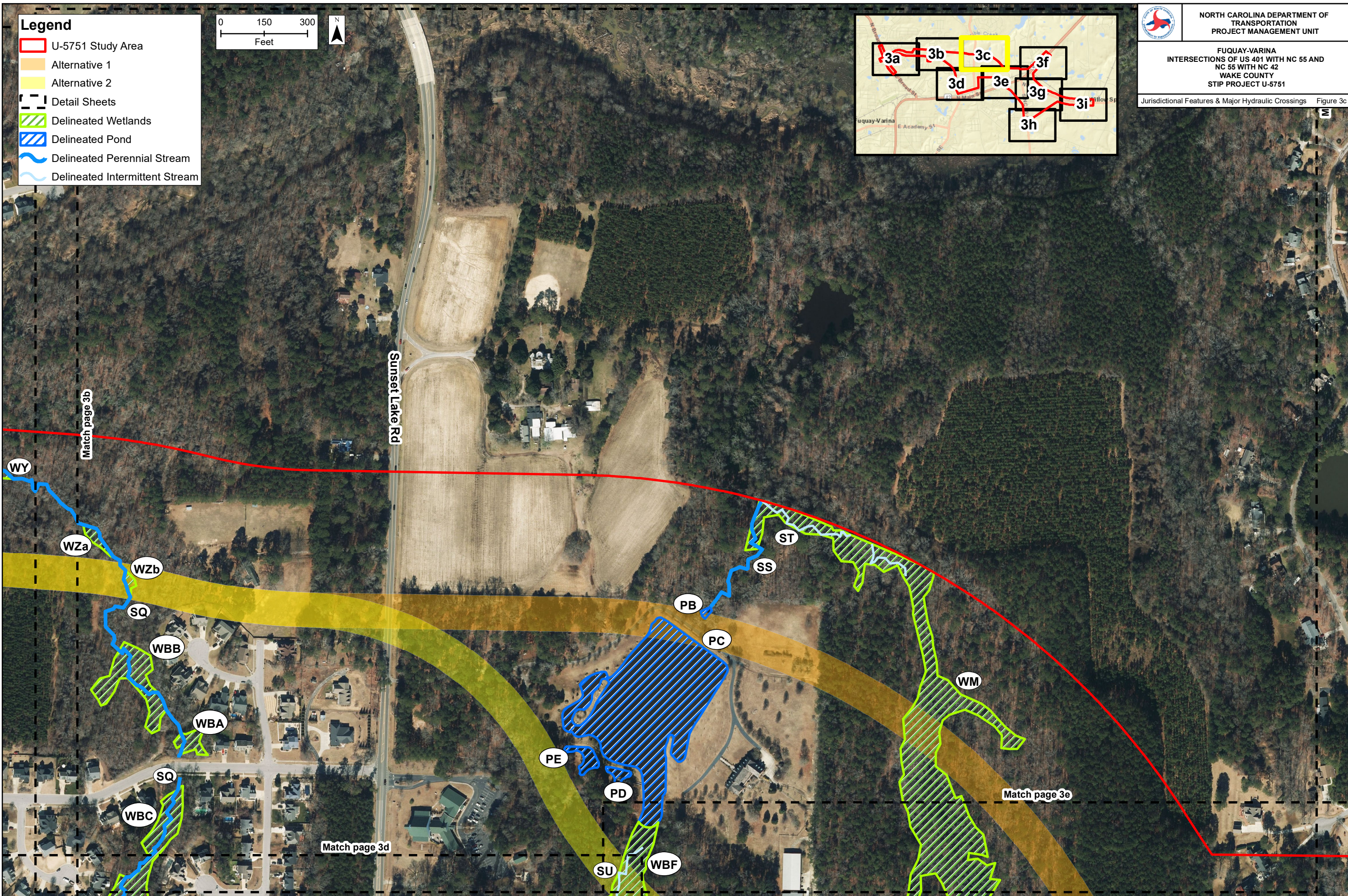
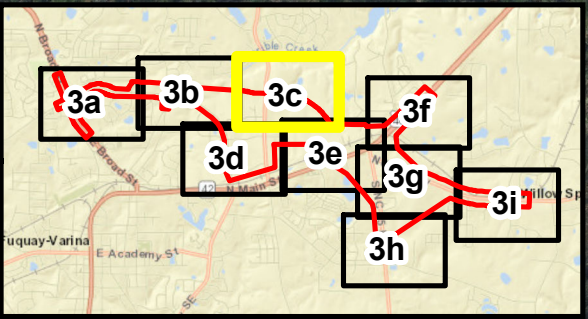
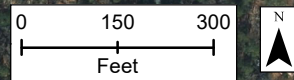



NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 PROJECT MANAGEMENT UNIT
 FUQUAY-VARINA
 INTERSECTIONS OF US 401 WITH NC 55 AND
 NC 55 WITH NC 42
 WAKE COUNTY
 STIP PROJECT U-5751

Jurisdictional Features & Major Hydraulic Crossings Figure 3b

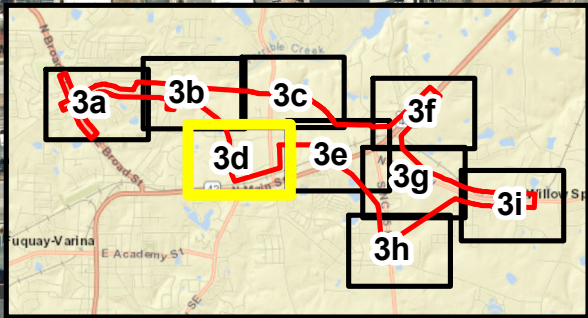
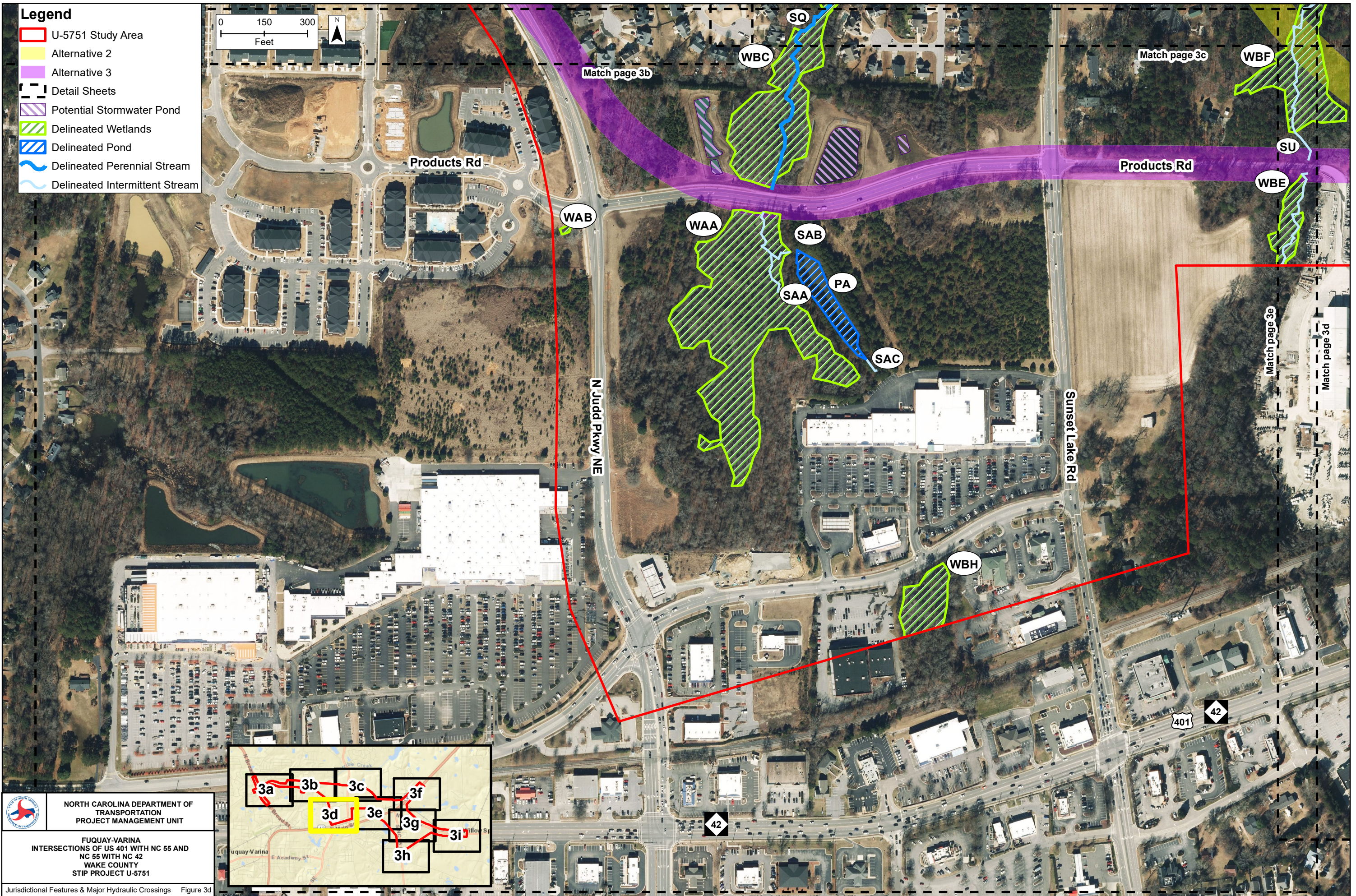
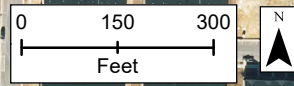
Legend


- U-5751 Study Area
- Alternative 1
- Alternative 2
- Detail Sheets
- Delineated Wetlands
- Delineated Pond
- Delineated Perennial Stream
- Delineated Intermittent Stream



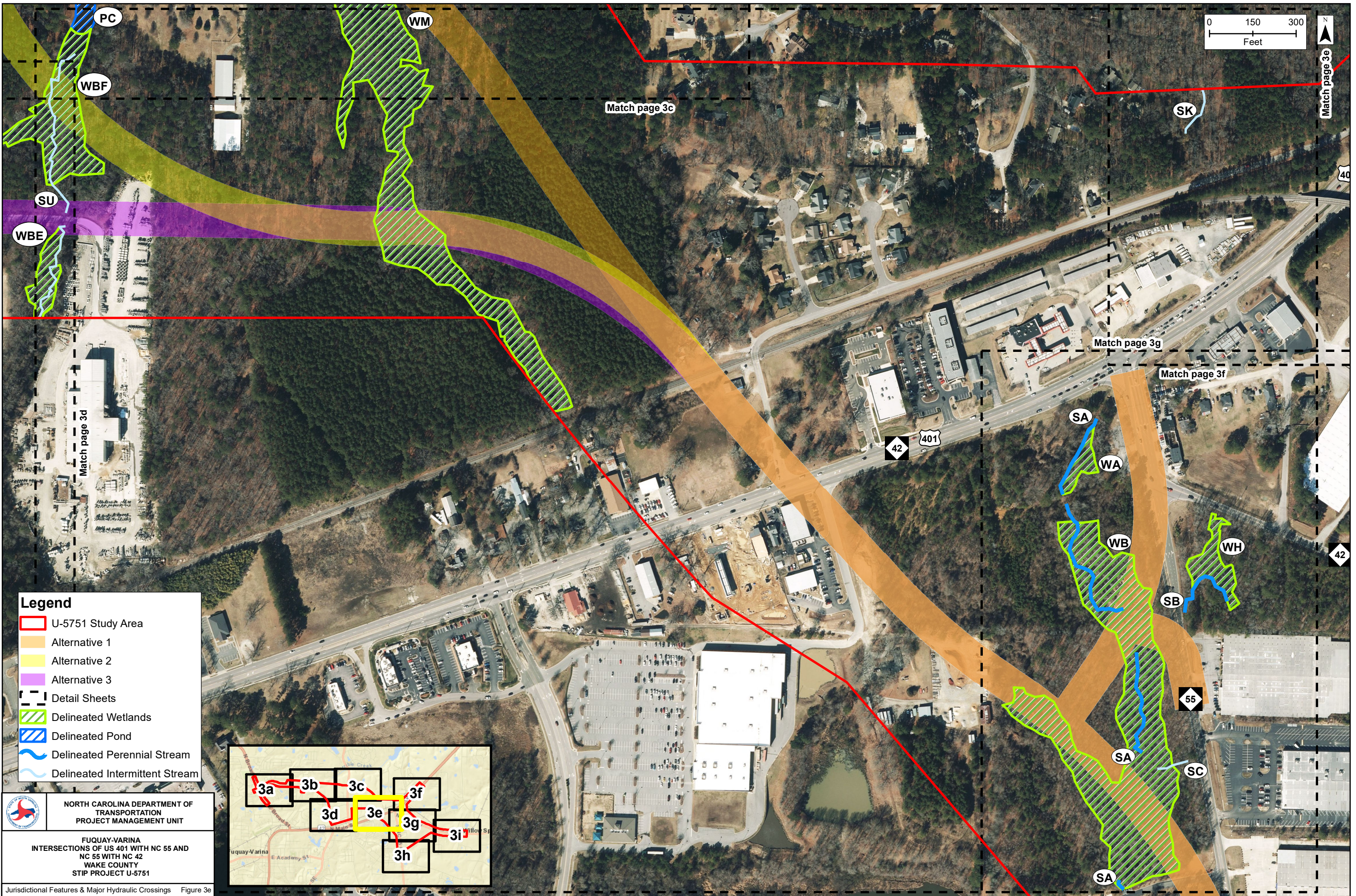
Legend

- U-5751 Study Area
- Alternative 2
- Alternative 3
- Detail Sheets
- Potential Stormwater Pond
- Delineated Wetlands
- Delineated Pond
- Delineated Perennial Stream
- Delineated Intermittent Stream



 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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FUQUAY-VARINA
INTERSECTIONS OF US 401 WITH NC 55 AND
NC 55 WITH NC 42
WAKE COUNTY
STIP PROJECT U-5751

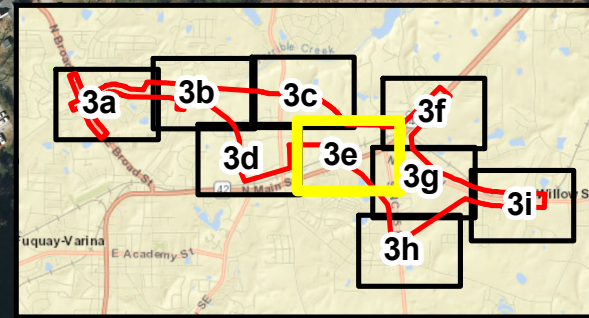


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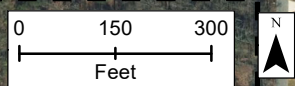
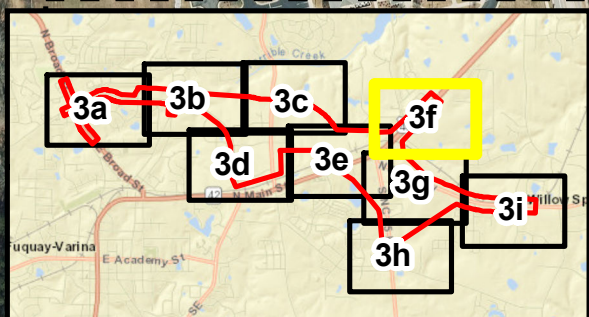
- U-5751 Study Area
- Alternative 1
- Alternative 2
- Alternative 3
- Detail Sheets
- Delineated Wetlands
- Delineated Pond
- Delineated Perennial Stream
- Delineated Intermittent Stream

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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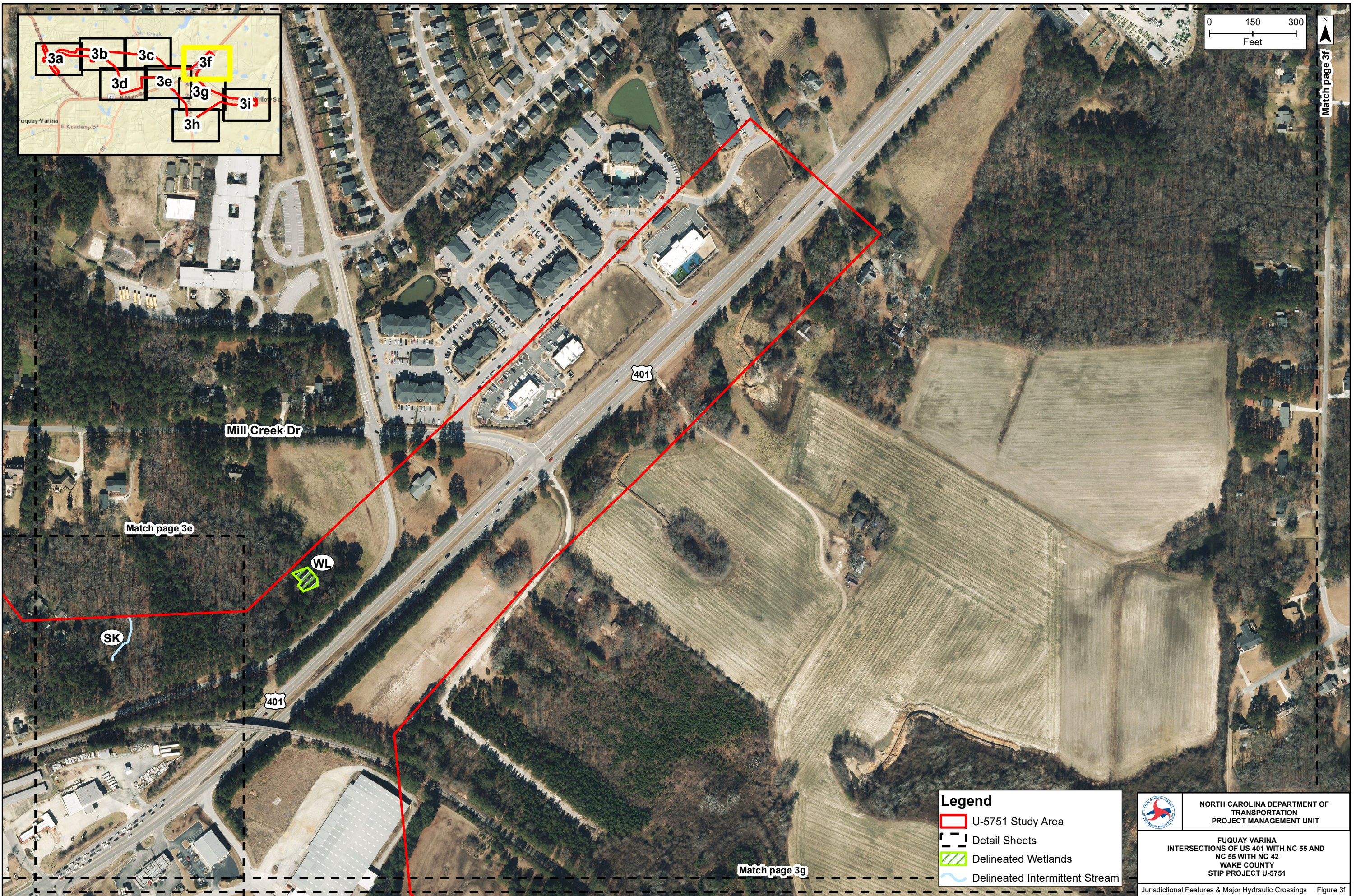
FUQUAY-VARINA
 INTERSECTIONS OF US 401 WITH NC 55 AND
 NC 55 WITH NC 42
 WAKE COUNTY
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Jurisdictional Features & Major Hydraulic Crossings Figure 3e



Match page 3f



Mill Creek Dr

Match page 3e

WL

SK

401

401

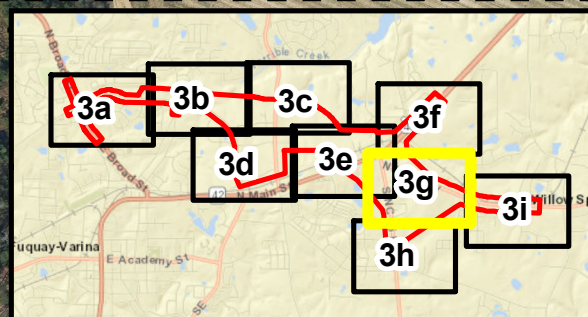
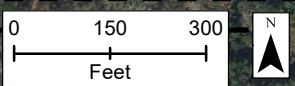
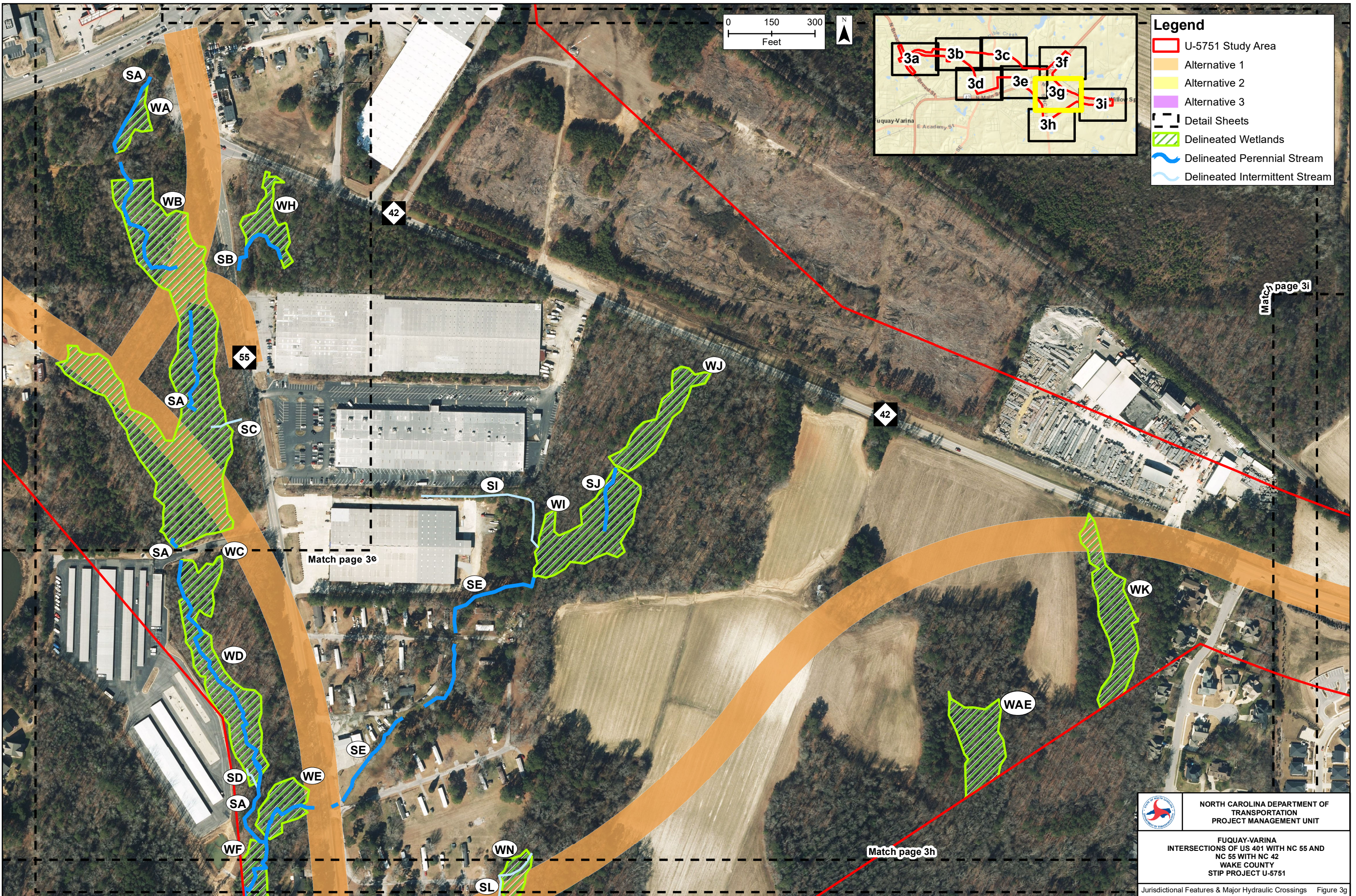
Match page 3g

Legend

- U-5751 Study Area
- Detail Sheets
- Delineated Wetlands
- Delineated Intermittent Stream

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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FUQUAY-VARINA
INTERSECTIONS OF US 401 WITH NC 55 AND
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STIP PROJECT U-5751



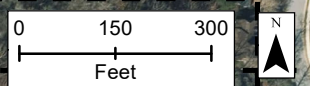
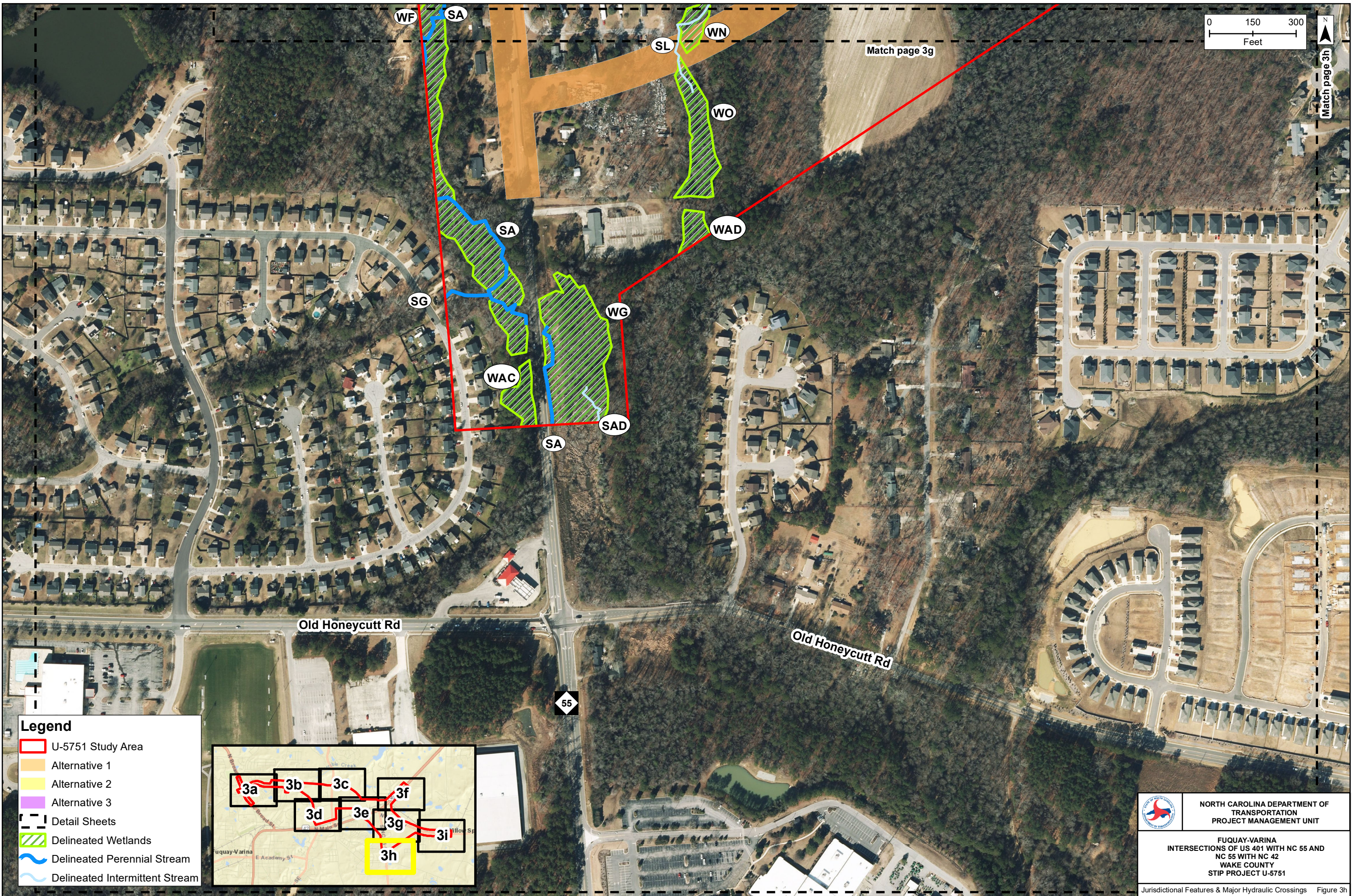
- Legend**
- U-5751 Study Area
 - Alternative 1
 - Alternative 2
 - Alternative 3
 - Detail Sheets
 - Delineated Wetlands
 - Delineated Perennial Stream
 - Delineated Intermittent Stream

Match page 3i

Match page 3e

Match page 3h

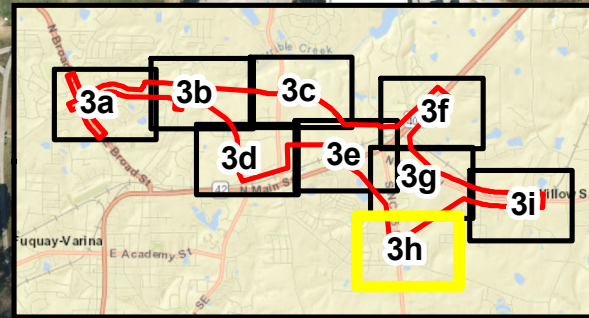
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<p>FUQUAY-VARINA INTERSECTIONS OF US 401 WITH NC 55 AND NC 55 WITH NC 42 WAKE COUNTY STIP PROJECT U-5751</p>	
<p>Jurisdictional Features & Major Hydraulic Crossings Figure 3g</p>	



Match page 3h

Legend

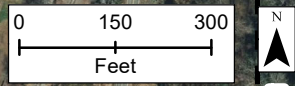
- U-5751 Study Area
- Alternative 1
- Alternative 2
- Alternative 3
- Detail Sheets
- Delineated Wetlands
- Delineated Perennial Stream
- Delineated Intermittent Stream



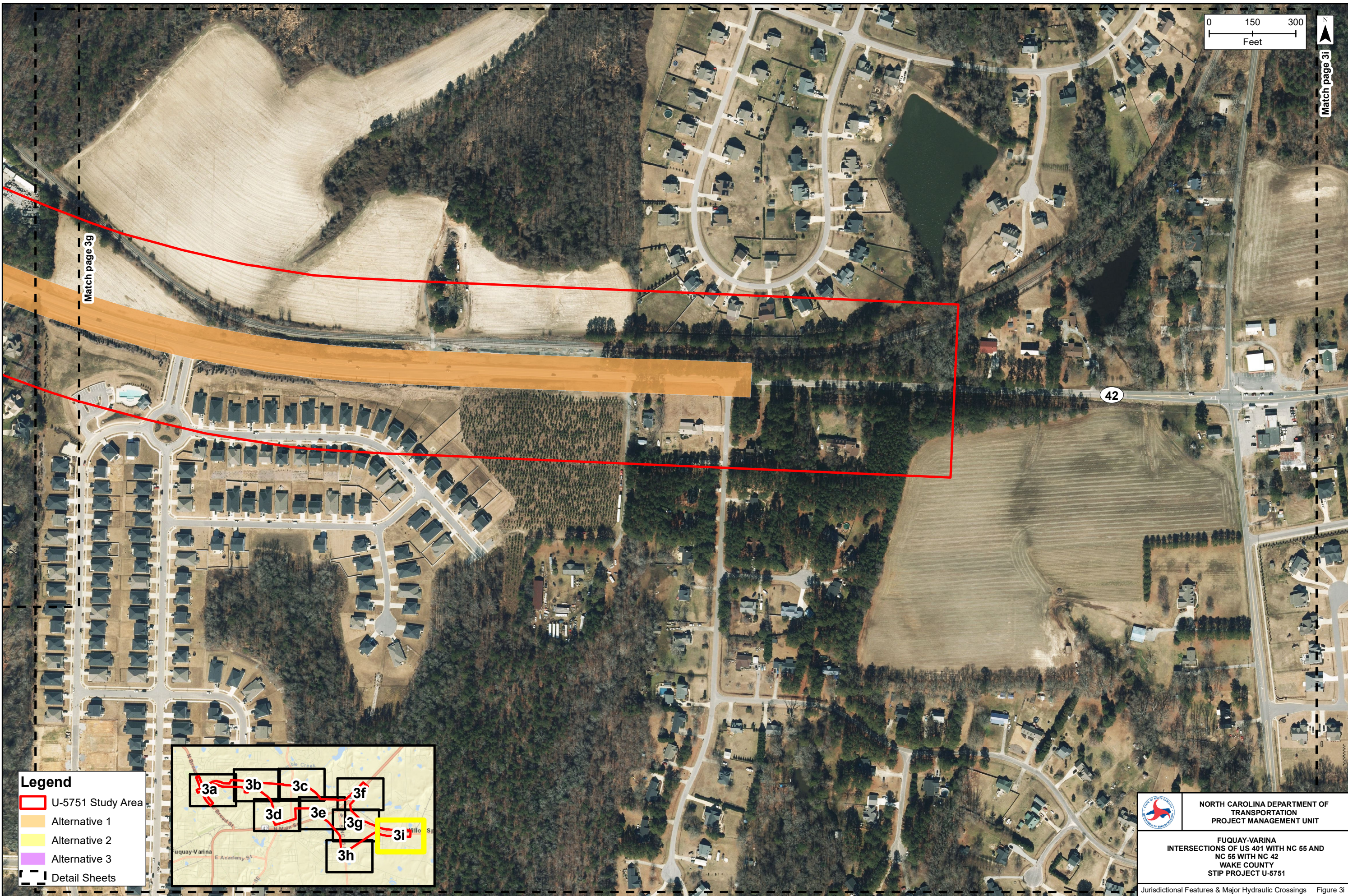
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FUQUAY-VARINA
INTERSECTIONS OF US 401 WITH NC 55 AND
NC 55 WITH NC 42
WAKE COUNTY
STIP PROJECT U-5751

Jurisdictional Features & Major Hydraulic Crossings Figure 3h

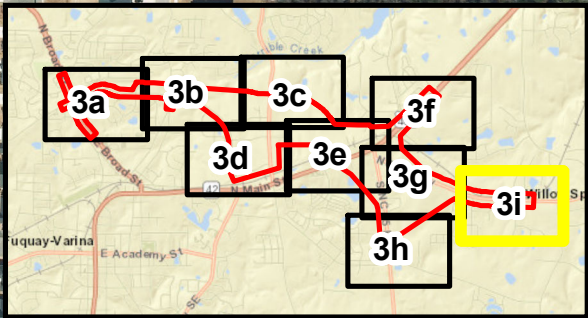


Match page 31



Legend

- U-5751 Study Area
- Alternative 1
- Alternative 2
- Alternative 3
- Detail Sheets



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WAKE COUNTY
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Jurisdictional Features & Major Hydraulic Crossings Figure 3i