

**Concurrence Point 4A
Avoidance and Minimization**

TIP Project No. U-6187
WBS 48647.1.1

Extension of SR 1630 (Baltimore Road)
and Interchange at I-40
Davie County



January 26, 2024

Purpose of Today's Meeting:

The purpose of this meeting packet is to summarize all avoidance and minimization measures (AMMs) committed to and / or completed throughout project development.

1. Introduction and Project Overview

1.1 Introduction and Purpose

The North Carolina Department of Transportation (NCDOT) proposes to extend SR 1630 (Baltimore Road) and construct an interchange at I-40 on a new alignment. The project is included in the *Current 2024-2033 State Transportation Improvement Program (STIP)*, December 2023, as Project No. U-6187 and is currently scheduled for right-of-way in Fiscal Year (FY) 2024 and construction let in FY 2025.

In accordance with the National Environmental Policy Act (NEPA)/Section 404 Merger Process, NCDOT is seeking concurrence from the NEPA/404 Merger Team on CP 4A – Avoidance & Minimization Measures. This coordination is to identify methods and opportunities for avoidance and minimization of impacts to natural and human resources associated with the proposed construction of the Least Environmentally Damaging Practicable Alternative (LEDPA)/Preferred Alternative for STIP Project U-6187. The NEPA/404 Merger Team includes:

U-6187 NEPA/404 Merger Team	
USACE	Andrew Williams
USEPA	Amanetta Somerville
NCWRC	David McHenry
NCDWR	Ryan Conchilla
NCSHPO	Renee Gledhill-Earley
USFWS	Lauren Wilson
FHWA	Donnie Brew
WSUMPO	Kelly Garvin
NCDOT, Division 9	William Blanton Matt Jones Ryan Newcomb Amy Euliss

Materials in this packet include project history, a summary of public involvement, potential environmental impacts by alternative, the LEDPA recommendation, and avoidance and minimization measures taken to date.

1.2 Project Description

STIP U-6187 proposes to construct a 2-lane extension of Baltimore Road and new interchange with I-40 on a new alignment, with a design speed of 60 miles per hour (mph). The existing Baltimore Road is a 2-lane undivided facility with a speed limit of 55 miles per hour (mph).

Figure 1 shows the project vicinity and study area, and **Figure 2** shows the environmental and community features in the study area (figures are included in Appendix A).

1.3 Project Status & Schedule (subject to change)

- [NEPA Documentation – July 2023](#)
- CP4 A Coordination – January 2024
- CP4 B Meeting – February 2024
- Right of Way Acquisition – May 2024
- Begin Construction – June 2025

1.4 Project Cost

Based on construction estimates dated January 2024, the current project construction cost is estimated at \$36,681,090. **Table 1** illustrates past cost estimates associated with the Preferred Alternative.

Table 1. Preferred Alternative Cost Estimates History

Construction	Right-of-Way & Utilities	Mitigation	Total
<i>NCDOT 2020-2029 STIP Estimate (October 2022)</i>			
\$28,600,000	\$3,700,000	--	\$32,300,000
<i>Cost Estimate (August 2022)</i>			
\$28,700,000	\$4,115,450	\$865,640	\$33,681,090

2. Merger Process History

2.1 Concurrence Points 1 & 2

On April 13, 2022, the NEPA/404 Merger Team met to discuss Purpose and Need and Study Area (CP 1) and Detailed Study Alternatives (CP 2), for the referenced project. The Merger Team agreed to the following Purpose and Need and defined the study area. The signed CP 1 and CP 2 forms are attached for your reference (Appendix B).

Purpose of Proposed Action

The purpose of the project is to provide direct access to I-40 from the communities of Bixby, Redland, and the surrounding rural area while adhering to local land use plans.

Need for Proposed Action

- *Provide direct routing to I-40 for industrial traffic in accordance with local comprehensive and future land use plans.*
- *Improve mobility for local/regional travelers while maintaining residential cohesiveness in accordance with local comprehensive and future land use plan.*

The Merger Team also agreed to the detailed study alternatives to be carried forward, including the No-Build Alternative and Build Alternatives 1, 2, 3, and 4 shown in **Figure 3** (Appendix A).

Typical sections for the Baltimore Road extension and bridge over I-40 are shown below (Figures A and B).

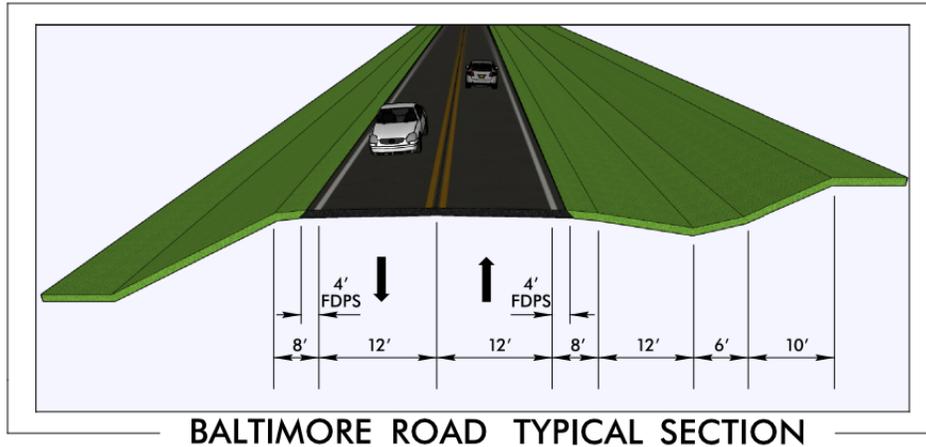


Figure A: Snapshot of typical section for the extension of Baltimore Road.

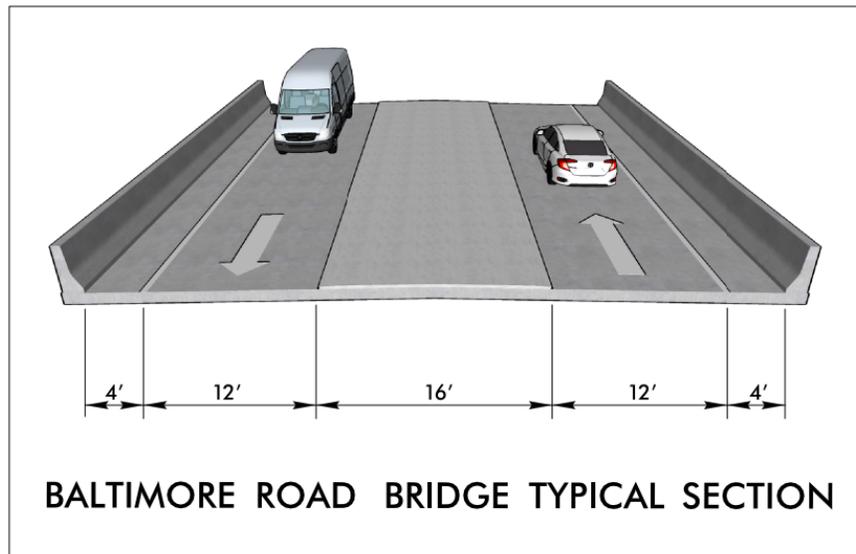


Figure B: Snapshot of typical section for Baltimore Road at the bridge over I-40.

2.2 Concurrence Point 2A

On October 7, 2022, the NEPA/404 Merger Team concurred on Bridging Decisions and Alignment Review (CP 2A), for the referenced project. The signed CP 2A form is attached for your reference (Appendix B).

Alternatives 1 and 4 will require a minimum of three (3) major hydraulic structures at Sites 1, 2A, and 3 and one (1) major roadway structure at Site 5. Alternatives 2 and 3 will require a minimum of two (2) major hydraulic structures at Sites 2B and 4 and one (1) major roadway structure at Site 6. The location and recommendation for the major structures vary per Alternative. An overview of all major structure locations is shown in **Figure 4** (Appendix A).

The Merger Team agreed to the following major structures at each site as part of the detailed study alternatives (Alternatives 1-4):

- Site 1 – Construct new 1 @ 8'x8' RCBC (for Alternatives 1 & 4)
- Site 2A – Remove and replace existing culvert with 1 @ 8'x8' RCBC (for Alternatives 1 & 4)

- Site 2B – Retain & extend existing 1@ 6'x6' RCBC approximately 158' (for Alternatives 2 & 3)
- Site 3 – Construct new 1 @ 7'x7' RCBC (for Alternatives 1 & 4)
- Site 4 – Construct new 2 @ 8'x8' RCBC (for Alternatives 2 & 3)
- Site 5 – Construct new 212' Roadway Bridge (for Alternatives 1 & 4)
- Site 6 – Construct new 212' Roadway Bridge (for Alternatives 2 & 3)

After CP 2A, prior to the public meeting, the project provided updated mitigation costs for each Alternative.

2.3 Concurrence Point 3

On December 12, 2022, the NEPA/404 Merger Team concurred on Alternative 3 as the Least Environmentally Damaging Practicable Alternative (CP 3) or the Preferred Alternative, for the referenced project. The signed CP 3 form is attached for your reference (Appendix B).

Potential Impacts

Alternative 3 was evaluated and selected as the Preferred Alternative. **Table 2** summarizes the potential associated impacts of the Preferred Alternative.

Table 2. Potential Resource Impacts for the Preferred Alternative

Resource	Impacts
<i>Property</i>	
Potential Affected Parcels	28
Total Full	5
<i>Residential</i>	<i>5 (9 dwellings)</i>
<i>Note: some residential parcels contain multiple dwellings</i>	
<i>Vacant</i>	<i>0</i>
Total Partial	23
<i>Residential</i>	13
<i>Vacant</i>	11
Impacts Church Property	No

Natural Environment	
Wetlands (acres)	0.46*
NCWAM Rating**	High
<p><i>* Based on current stream surveys, completed after LEDPA selection, wetland impacts are projected to be 0.478 acres (0.016 acre increase). See documentation in Figure 13 in Appendix D.</i></p> <p><i>** A Low NCWAM rating corresponds with cleared land, a High NCWAM rating is forested. Potential wetland impacts the project area are primarily forested.</i></p>	
Streams and Tributaries (acres)	0.10*
Streams and Tributaries (linear ft.)	942*
NCSAM Rating**	Low
<p><i>* Based on current stream surveys, completed after LEDPA selection, stream impacts are projected to be 0.119 acres (0.019 acre increase) and 1,226 linear ft (284 linear ft increase). See documentation in Figure 13 in Appendix D.</i></p> <p><i>** The NCSAM rating for Smith Creek in the impact area is rated low quality due to cattle access and lack of forested buffer.</i></p>	
Ponds (acres)	0
Human Environment	
Area in Active Agriculture	Yes
<p><i>Note: Visual evidence of a cattle ranch was observed south of the proposed interchange location with I-40</i></p>	
Historic Resources	No
Archaeological Sites	No

Property Impacts

Property impacts were measured from the proposed right of way line and are shown for the Preferred Alternative in Appendix C. It was assumed that a property would be a full acquisition if the existing structure or more than half the property would be impacted. Property impacts are subject to change as designs are refined.

Water Resources

A Natural Resources Technical Report (NRTR) was approved in October 2022. A Preliminary Jurisdictional Determination (PJD) was approved in September 2022 and a revised PJD to include additional study areas has been sent to USACE for approval.

No High-Quality Waters (HQW), Outstanding Resource Waters (ORW) or water supply watershed WS-I or WS-II waters occur in the study area or within 1.0 mile of the study area. No streams within the study area or within 1.0 mile downstream of the study area are identified in the North Carolina 2022 Final 303(d) list of impaired waters.

Specific wetland and stream impacts are shown for the Preferred Alternative in Appendix D.

Area in Active Agriculture

According to the NC Department of Agriculture and Consumer Services GIS data, the project area is not in a Voluntary Agricultural District (VAD). Evidence of active agriculture (cattle) was seen during a field meeting in the area just south of the Preferred Alternative’s proposed interchange location with I-40.

Historic Resources

A review of HPOWEB was conducted on February 20, 2020. There are properties over 50 years of age in the Area of Potential Effects (APE); therefore, it was determined that a survey would be required.

The survey was conducted on March 3, 2020, and it was determined that no historic properties were present or affected.

Archaeological Resources

A review of the databases maintained by the Office of State Archaeology (OSA) was performed on March 3, 2020. There are no known historic architectural resources located within or adjacent to the Study Area for which intact archaeological deposits would be anticipated within the proposed project's footprint.

According to a concurrence letter signed on March 4, 2022, an archaeological survey is not required for this project; however, a federal permit will be required since this is a new location project with permanent and / or temporary utility and / or drainage easements.

Protected Species

An estimate of tree clearing was performed based upon the anticipated clearance requirement for slope stakes. Using a 25-foot buffer where drainage does not exist outside of the slope stake yielded 38 acres of projected tree clearing. Should the federal status of the Tricolored Bat change from ‘proposed endangered’ to ‘endangered’ between April 1 and October 15 of any year, a tree clearing moratorium will need to be performed.

The USFWS lists 3 federally protected species for the study area in IPaC (**Table 3**).

Table 3. USFWS IPaC Listing for Threatened and Endangered Species

Common Name	Scientific Name	Federal Status	Survey Date(s)	Biological Conclusion
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered	5/31/2022	Not Required*
Michaux's Sumac	<i>Rhus michauxii</i>	Endangered	5/18/2022 5/31/2022	NLAA
Schweinitz's Sunflower	<i>Helianthus schweinitzii</i>	Endangered	5/18/2021 & 5/31/22	NLAA

Source: Endangered and Threatened Species and Species of Concern for the study area (USFWS IPaC, accessed 1/24/2024)

*Tree clearing moratorium is anticipated pending federal status change of the *Perimyotis subflavus* between April 1 and October 15 of any year.

Community Resources

A preliminary demographic screening and review of community resources was conducted. The community in the project area is primarily residential and is surrounded by industrial and employment centers.

Census Tract 803, Block Group 3 (CT 803, BG 3) in the southwest corner of the direct community impact area, shown in **Figure 5** (Appendix A), meets one of the NCDOT thresholds for minority population (**Table 4**) and both NCDOT thresholds for low income (**Table 5**). Despite being the area of highest minority and low-income populations out of each block group, it also is the least dense block group. Furthermore, there are no other demographic indicators of any protected group within the demographic study area (DSA).

Table 4. Minority Population within the DSA

Geography	Total Population	White, Non-Hispanic		Minority Population*		Meets Thresholds	
		#	%	#	%	50%	10% over County
CT 803, BG 2	2,723	2,557	93.9%	166	6.1%	No	No
CT 803, BG 3	2,551	1,904	74.6%	647	25.4%	No	Yes
CT 802, BG 2	1,106	967	87.4%	139	12.6%	No	No
DSA	6,380	5,428	85.1%	952	14.9%	No	No
Advance CDP	924	882	95.5%	42	4.5%		
Bermuda Run town	2,568	2,456	95.6%	112	4.4%		
Davie County	41,991	35,562	84.7%	6,429	15.3%		
North Carolina	10,155,624	6,433,039	63.3%	3,722,585	36.7%		

* Minority population includes all races that are Non-White and Hispanic populations that are also White.

Source: US Census Bureau, American Community Survey 5-year Estimates (2014-2018), Table B03002, "Hispanic or Latino Origin by Race."

Table 5. Low-Income Population within the DSA

Geography	Population for whom Poverty Status is Determined	Below Poverty Level		Under 50% of Poverty Level		Between 100% and 149% of Poverty Level		Meets Thresholds	
		#	%	#	%	#	%	25%	5% over County
CT 803, BG 2	2,638	60	2.3%	50	1.9%	59	2.2%	No	No
CT 803, BG 3	2,551	725	28.4%	295	11.6%	157	6.2%	Yes	Yes
CT 802, BG 2	1,106	93	8.4%	75	6.8%	17	1.5%	No	No
DSA	6,295	878	13.9%	420	6.7%	233	3.7%	No	No
Advance CDP	924	109	11.8%	-	0.0%	112	12.1%		
Bermuda Run town	2,545	193	7.6%	9	0.4%	108	4.2%		
Davie County	41,671	5,710	13.7%	1,561	3.7%	2,899	7.0%		
North Carolina	9,881,292	1,523,949	15.4%	663,550	6.7%	1,002,739	10.1%		

Source: US Census Bureau, American Community Survey 5-year Estimates (2014-2018), Table C17002, "Ratio of Income to Poverty Level in the Past 12 Months."

Parcels located within a portion of the CT 803, BG 3 have the potential to be affected, shown in **Figure 6** (Appendix A).

For the Preferred Alternative, there are 4 residential and 2 vacant parcels that may be partially impacted and 1 residential parcel that may be fully acquired within CT 803, BG 3.

Property impacts associated with the Preferred Alternative can be found in Appendix C. Based on review of the potentially affected areas, most of the parcels are single-family housing on individual lots. There are some parcels that include multiple residences, including manufactured housing, which may be affordable, but do not appear to be indicators of low income. The areas of potential impact do not include common recreation uses or other obvious signs of higher levels of cohesion. There is not a major concern for

identifying relocation options in Davie County for both rental and ownership. Coordination with impacted property owners will continue through small group meetings to determine if there are any concerns regarding family grouping/dependency, impaired mobility, and stability post-construction. This property owner coordination will inform the right-of-way acquisition process.

Traffic Operations

A Traffic Operations Analysis was approved in September 2022. Traffic operation recommendations are included in **Table 6** below for the Preferred Alternative.

Table 6. Traffic Operation Recommendations for Preferred Alternative

	Preferred Alternative
2045 Build LOS of EB Ramps Intersection (AM/PM)	B/C (Stop Control)
2045 Build LOS of WB Ramps Intersection (AM/PM)	A/A (Free Flow)
2045 Build LOS of US 158 at Baltimore Rd Intersection (AM/PM)	D/D (with multiple turn lane improvements)
Traffic Control at Ramp Junctions	Stop Control (EB), Free Flow (WB)
Spacing to NC 801 Interchange (miles)	1.25
Spacing to Rest Area Interchange (miles)	1.75
General Traffic Notes	Turn lane improvements required at the US 158 / Baltimore Rd intersection

NCDOT Recommended LEDPA

Based on impact analyses, stakeholder coordination efforts, public feedback, and regulatory constraints (i.e. Section 404(b)(1) requirements), the Merger Team concurred that Alternative 3 is the Least Environmentally Damaging Practicable Alternative and thus is the FHWA/NCDOT preferred alternative. Alternative 3 would meet the Purpose and Need of the project and, when compared with other alternatives, would incur the least number of impacts to 404 wetlands and streams.

3. Public Involvement

On November 3, 2022, NCDOT held a Local Officials Information Meeting and public meeting in Advance, NC, with around 137 attendees. A project website and comment forms for feedback on alternative projects were provided, with the deadline for comments on November 17, 2022. The alternatives received varying preferences with 31% for Alternative 1, 13% for 2, 10% for 3, 16% for 4, and 28% for the No-Build. Most comments related to personal property impacts, noise concerns, environment impact, property values, and traffic increase. The Redland Church expressed concern over church property impact. USACE also posted a public notice on November 2, 2022, with a comment period ending on December 2, 2022, but received no further comments.

4. Concurrence Point 4A – Avoidance and Minimization Measures

The Merger Team is being requested to review and concur on opportunities for avoidance and minimization of impacts to natural and human resources associated with the proposed construction of the

LEDPA/Preferred Alternative for STIP Project U-6187. Avoidance and minimization measures (AMMs) have been undertaken throughout development and design of the LEDPA for the U-6187 (**Table 7**). NCDOT will continue to evaluate design details through final design.

Table 7. U-6187 Preferred Alternative, Avoidance and Minimization Measures

Location (if applicable)	Avoidance & Minimization Measure
Concurrence Point 1 – Purpose & Need and Study Area Defined	
Project Study Area	Minimized study area to avoid impacts to Smith Creek where it is parallel to the roadway. The study area is sized to accommodate an improvement of I-40 as well as a proposed connection to Baltimore Rd and realignment where necessary to bring the horizontal and vertical alignment up to current design standards; coordinated to align with current and future land use plans.
	Avoided established neighborhood areas to the west of the project study area.
Concept Development	Eliminated concepts from consideration for a variety of factors and feasibility concerns, including avoiding established neighborhoods and providing appropriate interchange spacing along I-40.
Concurrence Point 2 – Detailed Study Alternatives Carried Forward	
Detailed Study Alternatives	Alternatives 3 and 4 shifted the alignment of most of the proposed road away from an existing unnamed wetland complex. Alternative 3 proposes to implement a three-legged T-style interchange on new alignment, which avoids the existing wetland complex to the northeast of Baltimore Road/US-158 intersection. Alternatives 1 and 2 were eliminated to avoid additional wetland and stream impacts northeast of the Baltimore Road/US-158 intersection.
	Alternative 2 and Alternative 3 shifted the location of the I-40 interchange east and away from the confluence of UT to Smith Creek and Smith Creek, which avoided and minimized impacts to streams and wetlands.
Concurrence Point 3 – LEDPA/Preferred Alternative Selection	
Impacted properties	NCDOT commits to holding meetings with property owners and residents of parcels that are expected to be fully acquired to examine options to minimize impacts to the greatest extent practicable.
Concurrence Point 4A – Avoidance and Minimization	
Jurisdictional Areas	2:1 slopes with guardrails are proposed adjacent to wetlands and at pipe crossings to lessen the roadway fill and minimize impacts to streams and wetlands. Shoulder berm gutter will be proposed at high-fill locations to capture and direct runoff at these locations, which will help reduce erosion.
I-40 Interchange	Design of the eastbound I-40 exit ramp as a stop-controlled approach instead of a free-flowing, continuous movement allowed the corner radius to be tightened and eliminated the need for a second parallel southbound lane along Baltimore Road, which reduced the impacts of Baltimore Road extension to wetlands and the Smith Creek crossing south of I-40.
Wetland Impact Minimization	The conceptual drainage layout originally consisted of a single cross pipe and ditching through wetland H near -L- STA. +/-21+00 LT. To minimize impacts to Wetland H, two cross pipes and toe protection have been recommended for the cross drainage in this area.
Wetland avoidance	The conceptual drainage layout originally consisted of a single Berm Ditch

	Outlet and cross pipe at approximately -L- 55+00 which concentrated flow and required an outfall ditch to Wetland Q. To minimize impacts to Wetland Q and maintain existing drainage patterns as much as practicable, an additional Berm Ditch Outlet and cross pipe was added at STA. 50+00 which reduced the amount of concentrated flow and allowed systems to discharge without impact to Wetland Q.
Stream Impact Minimization	The conceptual drainage layout originally consisted of an 18" RCP cross pipe at approximately -RPD- STA. +/-21+00 that required outlet channel work to tie in with Stream D downstream of the 66" Welded Steel Pipe outfall channel work is proposed. The 18" RCP crosspipe alignment has been revised to outlet in the same vicinity of the 66" Welded Steel Pipe outfall channel work to minimize impacts to Stream D.
Stream Impact Minimization	The new location Smith Creek culvert under -L has been revised from previous planning level designs. It was originally called to be a 2@8'x8' RCBC but has been revised to a 1@14'x8' RCBC. This was done to minimize risks of culvert clogging due to debris. Providing a single opening without the center web required with multiple barrel culverts will minimize risks of stream degradation.
Stream Impact Minimization	The existing Smith Creek culvert under -Y2- has been revised from previous planning level designs. This structure was originally called to be an extension of the existing 6'x6' RCBC, but it is now being recommended to extend the existing 6'x6' RCBC with a 6'x7' RCBC to allow for 1.0' burial and a 1.0' sill since the existing culvert is perched. This burial and sill placement will stabilize stream bed material and minimize risks of stream degradation.
	Project drainage will be designed to maintain existing drainage patterns and minimize direct discharge into streams and wetlands as much as practicable.
	Dissipator pads will be placed at drainage outfalls to promote diffuse flow.

Final designs are not yet available and stormwater design plans continue to be developed. Therefore, specific avoidance and minimization measures associated with these developing design plans will be addressed in CP 4B and 4C. NCDOT will also implement avoidance and minimization measures during construction of the project in compliance with permitting requirements. NCDOT is currently exploring the feasibility of on-site mitigation measures for water resources. If deemed feasible, coordination with the merger team will occur.

Merger Plan Review/Next Steps

Based on the proposed Merger Plan for the project, NCDOT proposes the next Merger Meeting will be CP 4B (Hydraulic Design Review). The CP 4B meeting will be held in February 2024, and the Merger Team members will be notified of any changes that require a revision of this timetable.

NEPA / 404 MERGER TEAM MEETING AGREEMENT

CONCURRENCE POINT 4A: Avoidance and Minimization Measures

PROJECT NAME / DESCRIPTION: Construct a 2-lane extension of SR 1630 (Baltimore Road) and interchange at I-40

TIP PROJECT NO.: U-6187

FEDERAL AID PROJECT NO.: 4864701

WBS NO.: 48647.1.1

Avoidance and Minimization Measures Review

The Merger Team has concurred on this date to enact the following avoidance and minimization measures as part of the LEDPA/Preferred Alternative:

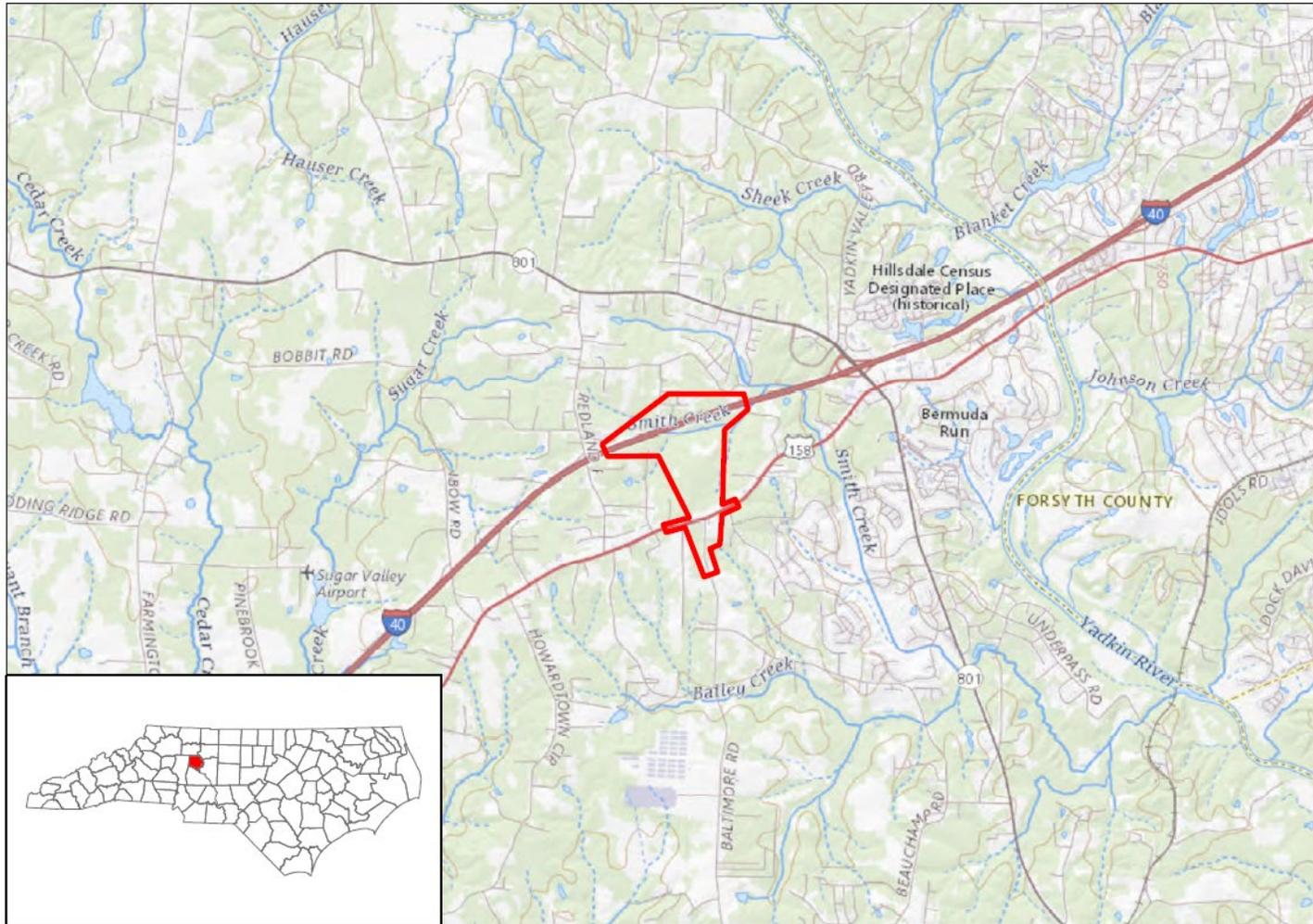
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I-40 Interchange	Design of the eastbound I-40 exit ramp as a stop-controlled approach instead of a free-flowing, continuous movement allowed the corner radius to be tightened and eliminated the need for a second parallel southbound lane along Baltimore Road, which reduced the impacts of Baltimore Road extension to wetlands and the Smith Creek crossing south of I-40.
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USACE	FHWA
NCDOT	NCDWR
USEPA	WSUAMPO
USFWS	SHPO
NCWRC	

Appendix A
Figures

Figure 1: Vicinity Map



STIP Project No. U-6187 | NCDOT Division 9 | Davie County, NC



Legend

 U-6187 Study Area

Service Layer Credits: USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed August, 2021.

Figure 2: Environmental and Community Features

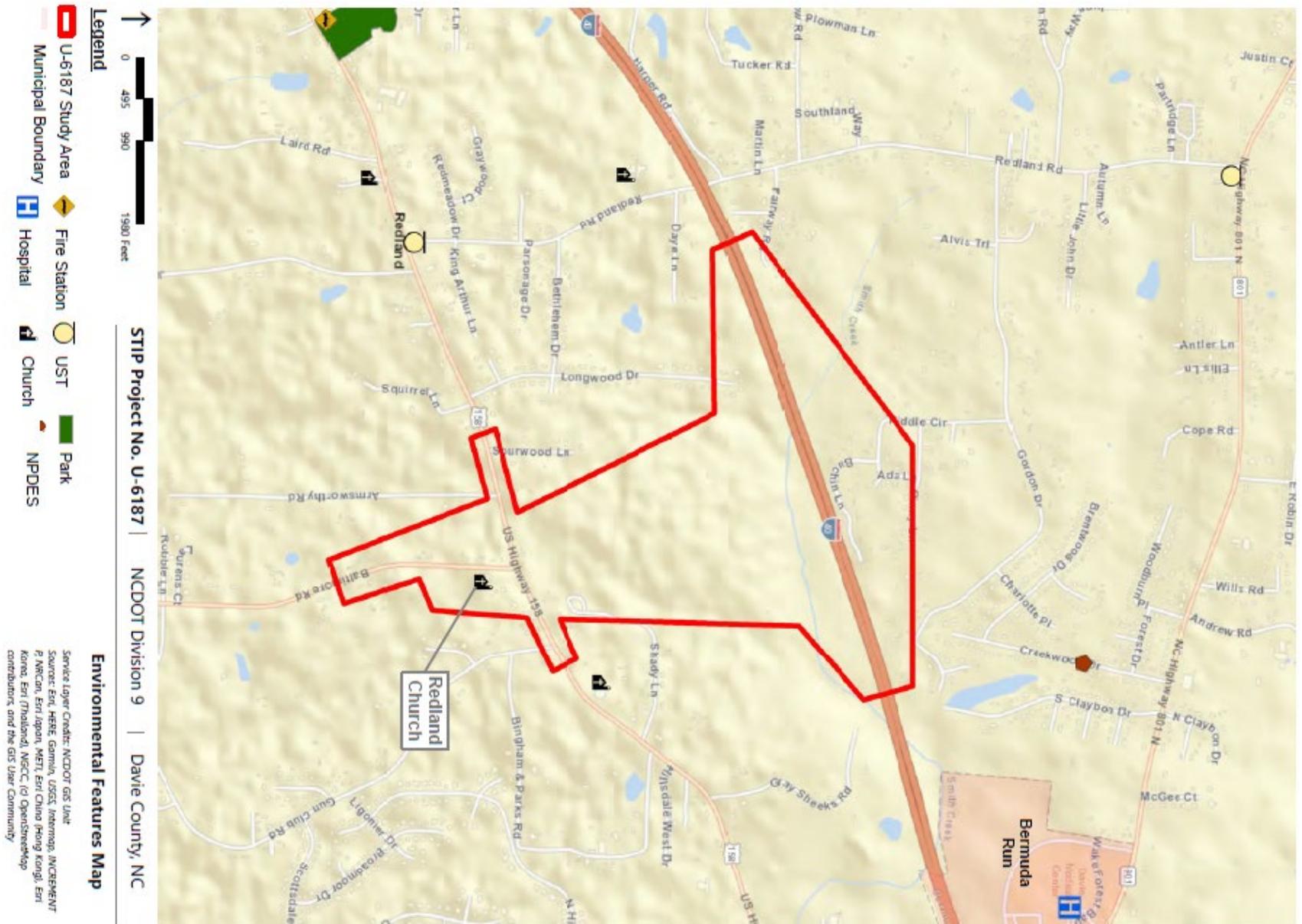
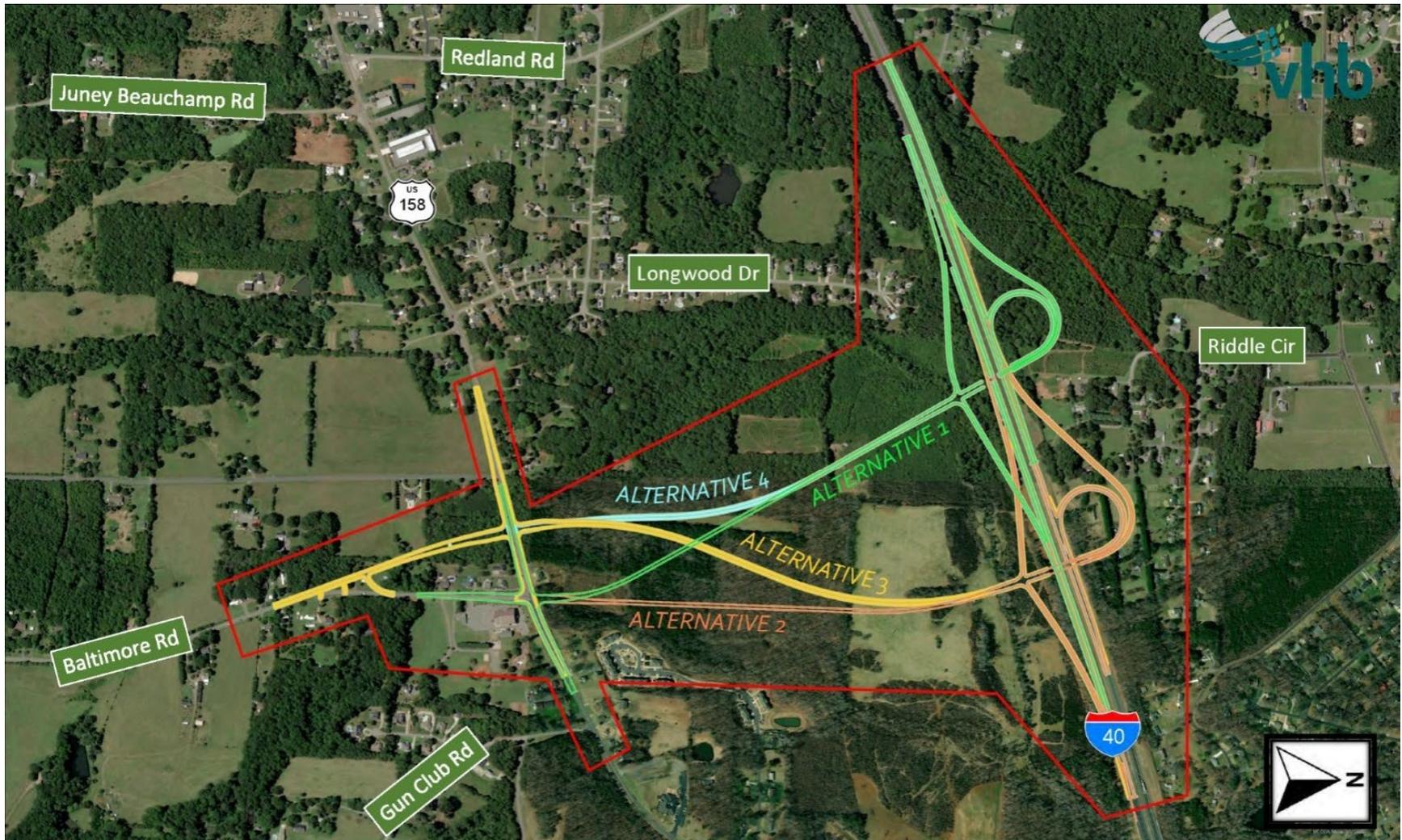
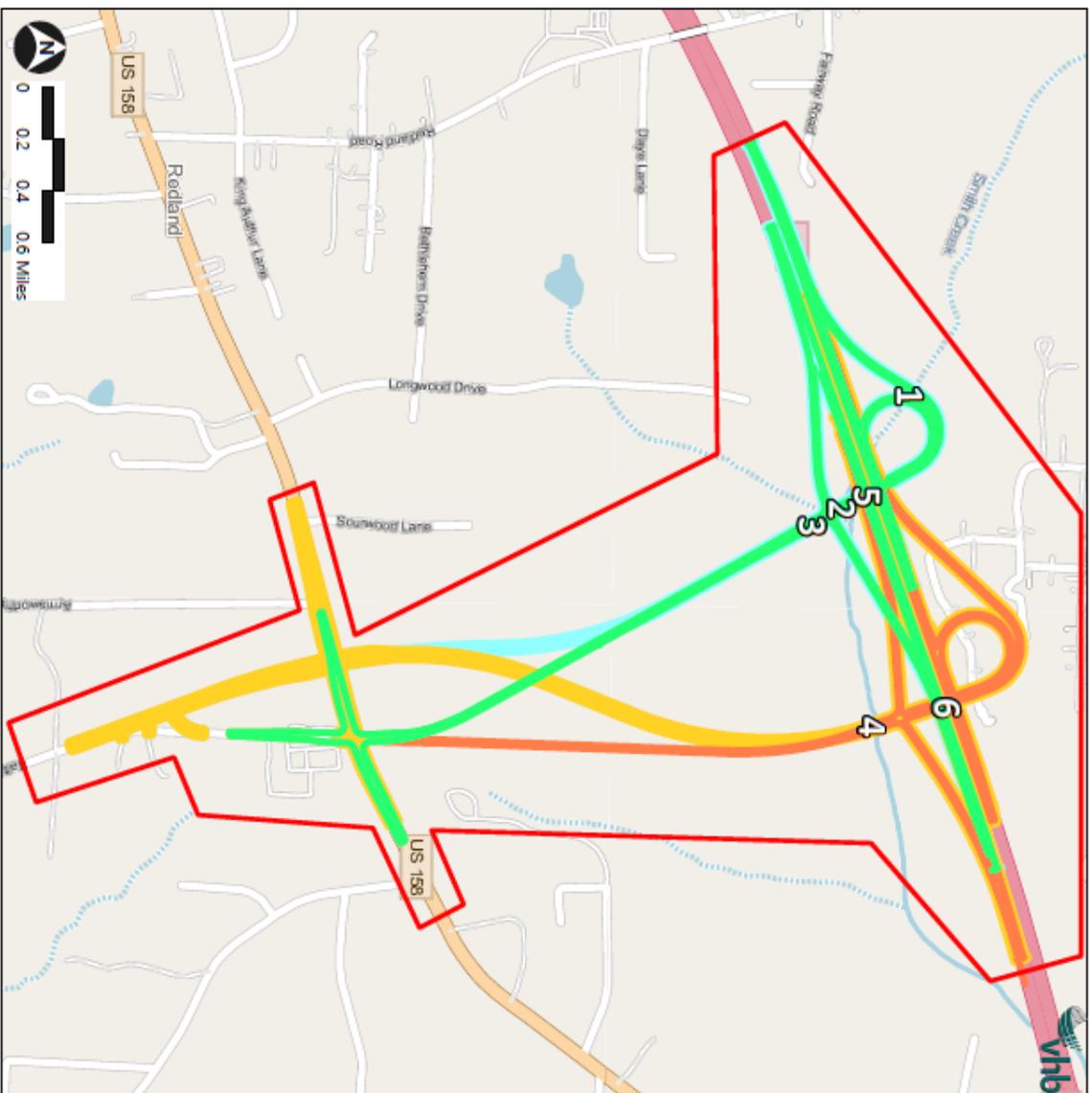


Figure 3: Detailed Study Alternatives





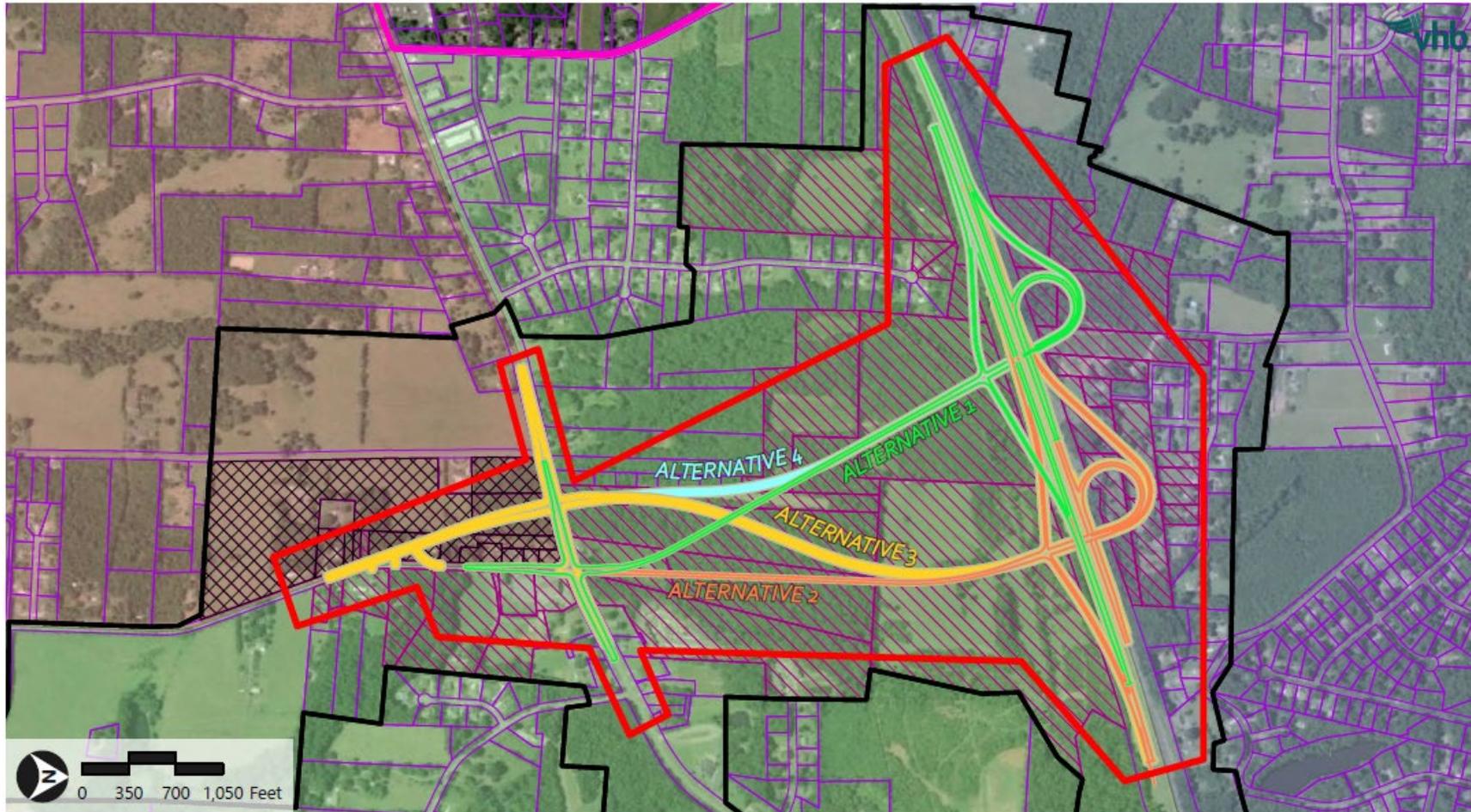
- Legend**
- Alternative 1
 - Alternative 2
 - Alternative 3
 - Alternative 4
 - U-6187 Study Area

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Figure 4: Structure Locations

Figure 6: Affected Parcels

U-6187 | Baltimore Road



- | | | | | |
|-------------------------------------|------------------------------|---------------|---------------|--------------------------------|
| U-6187 Direct Community Impact Area | Potentially Affected Parcel | Alternative 1 | Alternative 4 | BG 3, CT 803, EJ Concentration |
| U-6187 Demographic Study Area | Parcel within EJ Block Group | Alternative 2 | BG 2, CT 802 | |
| U-6187 Study Area | Davie County Parcels | Alternative 3 | BG 2, CT 803 | |

Source: NC CGIA, Maxar

Appendix B
Merger Concurrence to Date

NEPA / 404 MERGER TEAM MEETING AGREEMENT

CONCURRENCE POINT 1: Purpose and Need and Study Area Defined

PROJECT NAME / DESCRIPTION: Construct a 2-lane extension of SR 1630 (Baltimore Road) and interchange at I-40

TIP PROJECT NO.: U-6187

FEDERAL AID PROJECT NO.: N/A

WBS NO.: 48647.1.1

Purpose of Proposed Action

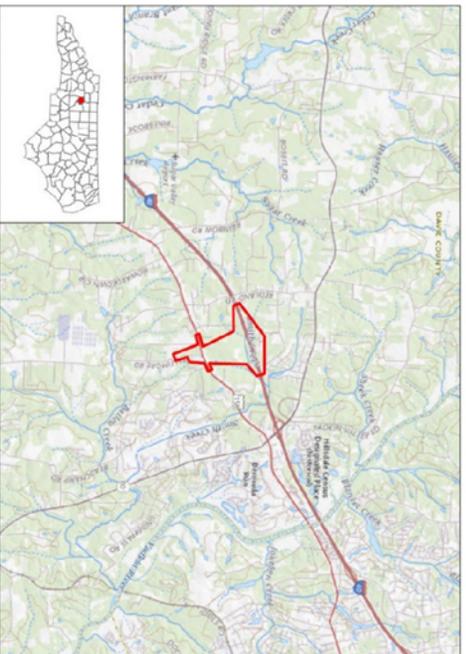
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Need for Proposed Action

- Provide direct routing to I-40 for industrial traffic in accordance with local comprehensive and future land use plans.
- Improve mobility for local/regional travelers while maintaining residential cohesiveness in accordance with local comprehensive and future land use plans.

Study Area Defined

The project study area is shown below:



The Project Team met on April 13, 2022, and concurs with the Purpose and Need and Study Area Defined for the proposed project as stated above:

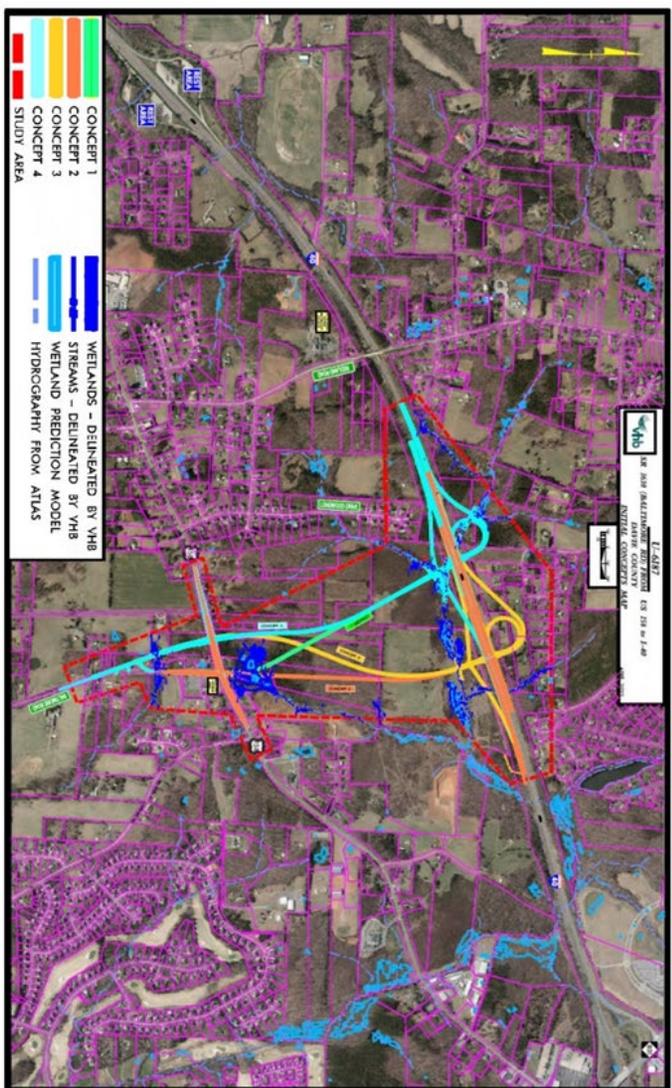
USACE	DocuSigned by: <i>Andrew Williams</i>	NDOT	DocuSigned by: <i>SPN</i>
USEPA	DocuSigned by: <i>Amantia Samuville</i>	USFWS	DocuSigned by: <i>Lansen Wilson</i>
NCWRC	DocuSigned by: <i>David McHenry</i>	FHWA	DocuSigned by: <i>Darin Bruw</i>
NCDWR	DocuSigned by: <i>Dave Munnica</i>	WSUMPD	DocuSigned by: <i>Kelly Savvin</i>
SHPD	DocuSigned by: <i>Renee McMill-Sauby</i>		

Figure 7: Concurrence Point 1 Agreement

NEPA / 404 MERGER TEAM MEETING AGREEMENT

CONCURRENCE POINT 2: Detailed Study Alternatives Carried Forward
PROJECT NAME / DESCRIPTION: Construct a 2-lane extension of SR 1630 (Baltimore Road) and interchange at I-40
TIP PROJECT NO.: U-6187
FEDERAL AID PROJECT NO.: N/A
WBS NO.: 48647.1.1

Detailed Study Alternatives Carried Forward
Detailed study alternatives to be carried forward are the No-Build Alternative, Concepts 1, 2, 3, and 4 for the referenced project, as shown below:



The Project Team met on April 13, 2022, and concurs with the Detailed Study Alternatives Carried Forward for the proposed project as stated above:

DocuSigned by:
Lucky Williams
USACE DocuSign Envelope ID: 3972C181...

DocuSigned by:
Liamon Wilson
NCDOT DocuSign Envelope ID: 387453...

DocuSigned by:
Donnie Pyru
FHWA DocuSign Envelope ID: C9B9C0DDA1487...

DocuSigned by:
Killy Carwin
WSUMPO DocuSign Envelope ID: 5121EE8407451...

DocuSigned by:
Renee Meddill-Savoy
SHPD DocuSign Envelope ID: A7D6A64AE2B746C...

Figure 8: Concurrence Point 2 Agreement

NEPA / 404 MERGER TEAM MEETING AGREEMENT

CONCURRENCE POINT 3: Least Environmentally Damaging Practicable Alternative (LEDDA)
PROJECT NAME / DESCRIPTION: Construct a 2-lane extension of SR 1630 (Baltimore Road) and interchange at I-40
TIP PROJECT NO.: U-6187
FEDERAL AID PROJECT NO.: Pending
WBS NO.: 48647.1.1

Least Environmentally Damaging Practicable Alternative (LEDDA)

The Merger Team has concurred on this date that Alternative 3 is the LEDPA moving forward, shown below.

Alternative 3:

- Provides realignment and extension of Baltimore Road to I-40
- Provides a new interchange on I-40 southeast of Riddle Circle

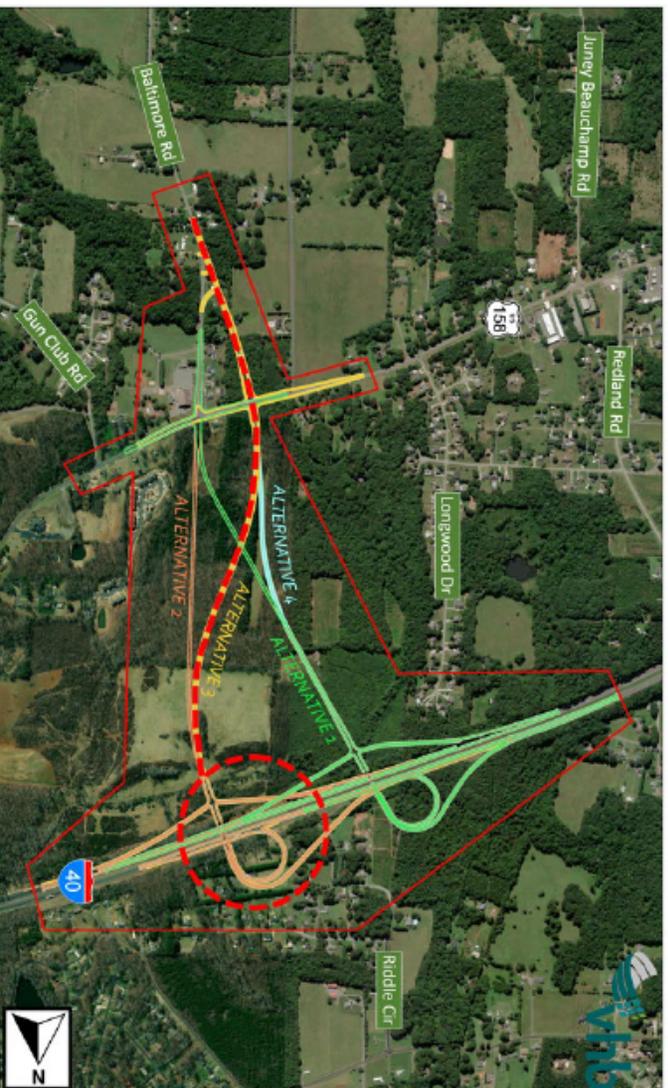
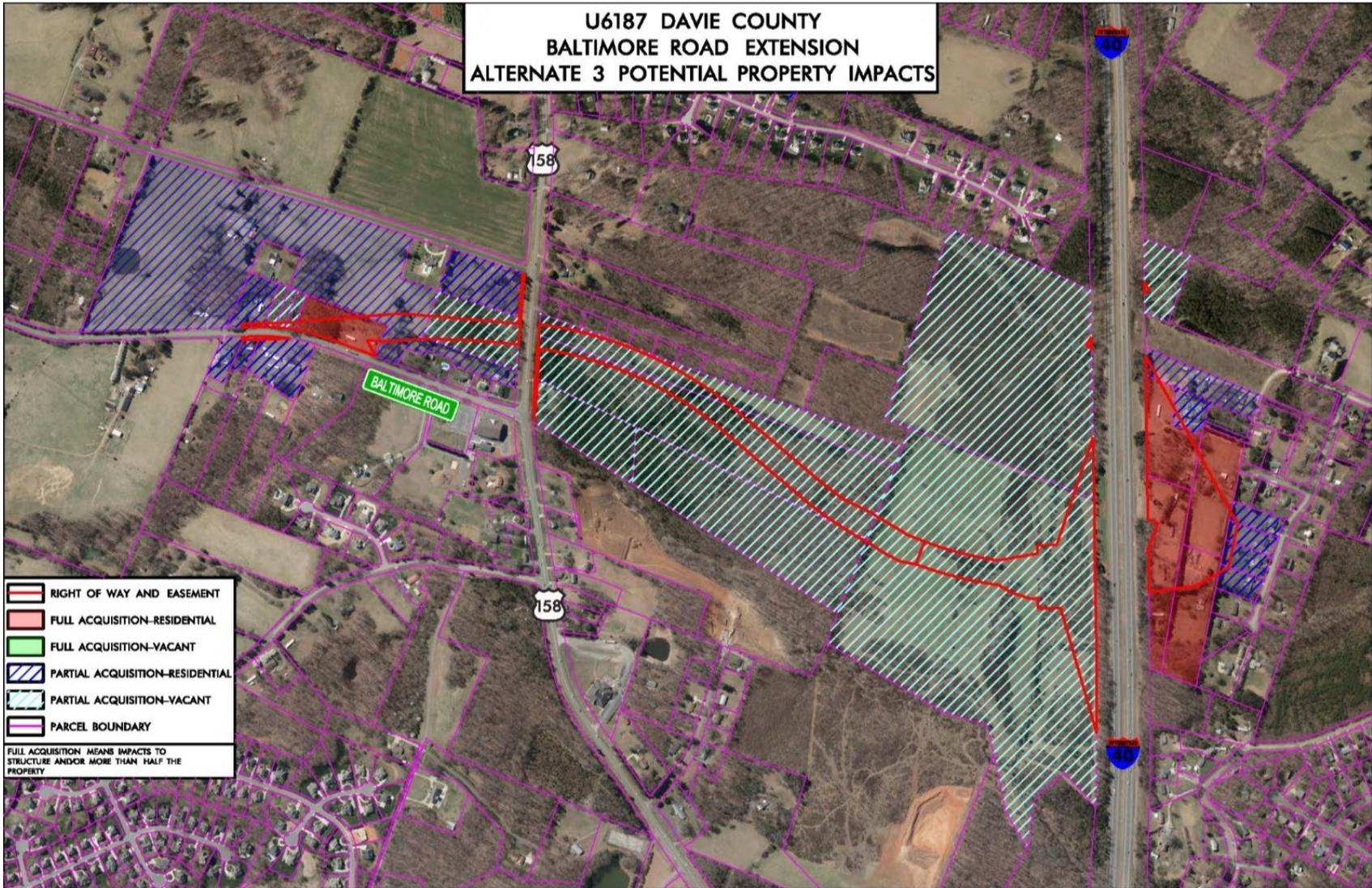


Figure 10: Concurrence Point 3 Agreement

USACE	Developed by <i>Eric Almonor</i>	NCDOT	Developed by <i>SONU</i>
USEPA	Developed by <i>Amuelia Samuels</i>	USFWS	Developed by <i>Erica Ferguson</i>
NCWRC	Developed by <i>David McHenry</i>	FHWA	Developed by <i>Shawndi W. Bivins</i>
NCDWR	Developed by <i>Yvonne Okonkwa</i>	WSUAMPO	Developed by <i>Haley Carvillat</i>
SHPO	Developed by <i>Barbara Mackintosh-Sandoy</i>		

Appendix C
Potential Property Impacts

Figure 11: Potential Property Impacts



Appendix D
Potential Wetland and Stream Impacts

Figure 12: Potential Wetland and Stream Impacts

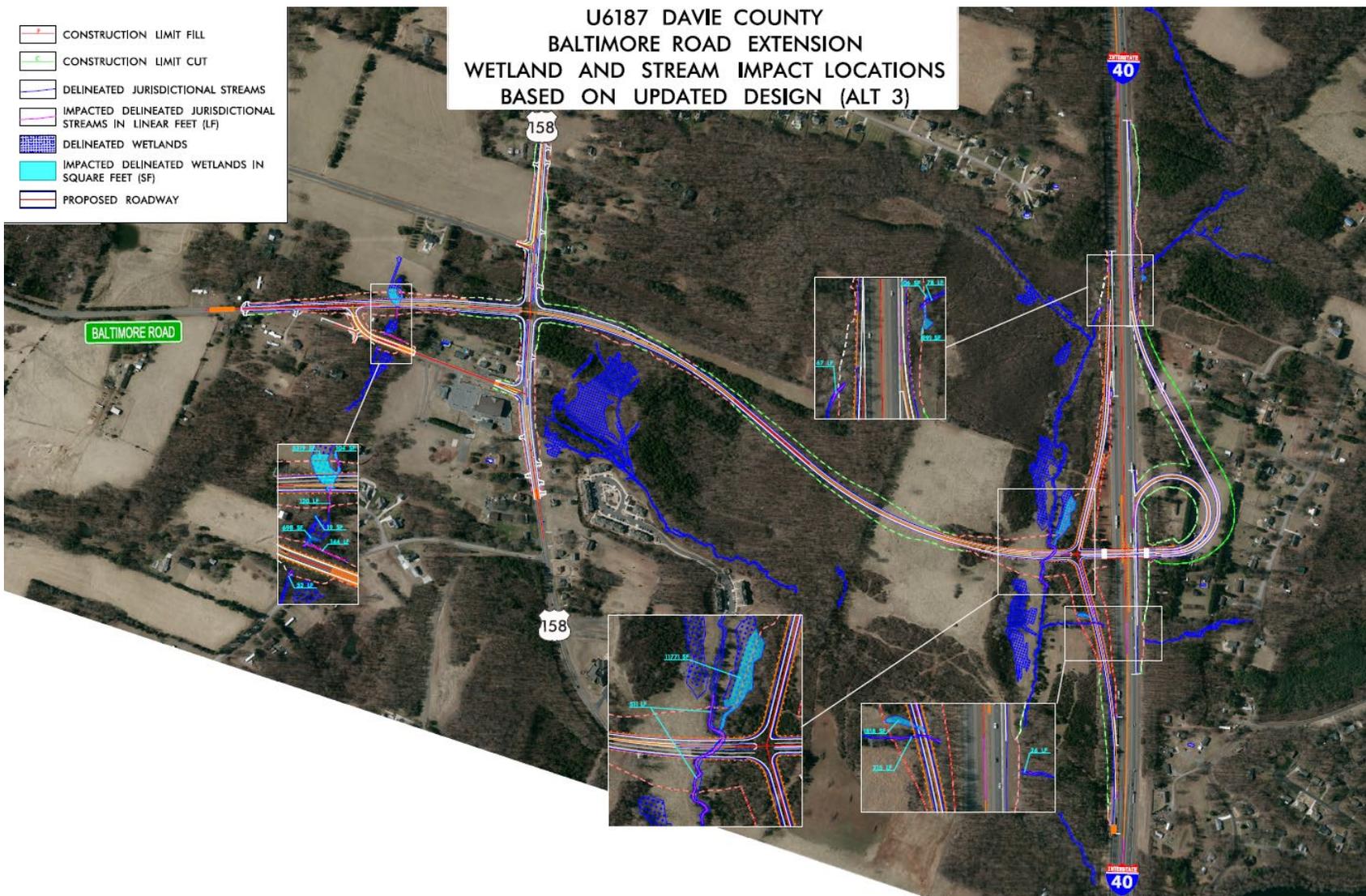


Figure 13: Potential Wetland and Stream Impacts – Changes from WEX to Final Stream Surveys

Streams								
	Sept. 2021 (LF)	Jan. 2024 (LF)	Delta (LF)	Stream Width (FT)	Sept. 2021 (SF)	Jan. 2024 (SF)	Delta (SF)	Reason for Difference
Stream A	476	511	35	5.7	2713.2	2912.7	199.5	FS* vs. WEX^ file
Stream B	50	78	28	6.8	340	530.4	190.4	FS* vs. WEX^ & Final Design channel work extended to improve channel connection to culvert extension
Stream C	90	67	-23	6.8	612	455.6	-156.4	FS* vs. WEX^ & Final Design channel work adjusted to tie in to existing channel quicker
Stream D	180	215	35	2	360	430	70	FS* vs. WEX^ & Final Design channel work extended to improve existing channel connection
Stream D	26	57	31	2	52	114	62	FS* vs. WEX^ & Final Design channel work extended to improve existing channel connection
Stream E	0	144	144	3	0	432	432	Y4 tie in was extended to appropriately tie back in with the existing road. A full typical through this section and corrected superelevations contributed to environmental impacts to stream E
Stream F	120	154	34	2	240	308	68	FS* vs. WEX^ & Missing survey data for a portion of the channel. Have requested survey from L&S & extension of Y4
Total	942	1226	284		4317.2	5182.7	865.5	
<p><i>FS* = Final Survey file contains survey located stream data. This file provides the most accurate lengths for streams and stream impacts.</i></p> <p><i>WEX^ = This file contains GPS located streams to denote stream designation (Jurisdictional/Non-Jurisdictional) and have not been survey located. Stream lengths and impacts based off this file are not as accurate as the FS file.</i></p>								
Wetlands								
	Sept. 2021 (SF)	Jan. 2024 (SF)	Delta (SF)		Sept. 2021 (AC)	Jan. 2024 (AC)	Delta (AC)	Reason for Difference
Wetland E	1818	1818	0		0.042	0.042	0.000	
Wetland G	19	19	0		0.000	0.000	0.000	
Wetland G	0	698	698		0.000	0.016	0.016	Y4 tie in was extended to appropriately tie back in with the existing road. A full typical through this section and corrected superelevations contributed to environmental impacts to Wetland G
Wetland H	5319	5319	0		0.122	0.122	0.000	
Wetland H	104	104	0		0.002	0.002	0.000	
Wetland X	106	106	0		0.002	0.002	0.000	
Wetland X	991	991	0		0.023	0.023	0.000	
Wetland R	11771	11771	0		0.270	0.270	0.000	
Total	20128	20826	698		0.462	0.478	0.016	