

Type III Categorical Exclusion Action

STIP Project No.	I-5111
WBS Element	42346.1.1
Federal Project No.	IMNHF-040-4(139)301

A. Project Description

The North Carolina Department of Transportation (NCDOT), in consultation with the Federal Highway Administration (FHWA), proposes to widen and improve approximately 11 miles of Interstate 40 (I-40) on the southeast side of the City of Raleigh, between Exits 301 and 312 (see Figure 1). The project is designated as I-5111 in the 2018-2027 North Carolina State Transportation Improvement Program (STIP). The 11-mile segment of I-40 and surrounding area that is assessed in this Categorical Exclusion (CE) is referred to as the study corridor or project study area.

The proposed project is located in Wake and Johnston Counties. It begins near Exit 301, where I-40 diverges from Interstate 440 (I-440) at the Raleigh Beltline, and extends southeast to near Exit 312, which is the interchange of I-40 and North Carolina Highway 42 (NC 42). Existing I-40 through the entire length of the study corridor is a median divided, controlled access freeway. The functional classification for I-40 is Interstate and it is designated as a Strategic Transportation Corridor by NCDOT. The proposed project, I-5111, is identified as a Regionally Significant project in the Capital Area Metropolitan Planning Organization (CAMPO) 2040 Metropolitan Transportation Plan (MTP) and shown in the MTP as completed by 2030.

B. Description of Purpose and Need

Purpose of Project

The purpose of the proposed project is to better accommodate forecasted levels of congestion on I-40 from Exit 301 (Raleigh Beltline) to Exit 312 (NC 42) through 2040 in accordance with CAMPO's long term goals to impart a positive impact on mobility for the public using this transportation corridor.

Need for Project

The need for the project is demonstrated through existing and projected traffic volumes in the I-40 study corridor. Current traffic conditions on I-40 throughout the entire length of the study corridor are often very crowded and subject to frequent delays due to regional commuting patterns, particularly during morning and evening rush hours. With Raleigh and Research Triangle Park serving as employment centers for the region, many people commute into the Raleigh area and live in outlying towns and surrounding counties. This section of I-40 serves suburban communities in Wake and Johnston Counties and also connects to the I-95 corridor. In addition, this leg of I-40 ultimately serves as a primary route to the North Carolina beaches and during the summer months tends to experience heavy traffic volumes around the weekends.

Information provided by NCDOT's Traffic Forecasting Unit and Congestion Management Unit shows recent (2015) data for traffic conditions throughout the project corridor generally operating at Level of Service (LOS) "D" and "E".¹ Existing and estimated average travel speeds are well below the posted speed limit during peak hours. Public comments from two public workshops held in 2009 and 2017 support this information, conveying for many attendees the frustration with the congestion and delays experienced on a daily basis along this segment of I-40. Based on the project's 2015 revised traffic forecast (dated June 5, 2015), traffic volumes along I-40 in the study corridor are projected to increase by 50 to 61 percent between 2015 and 2040, with conditions in 2040 deteriorating into LOS "F" in a no-build scenario.

Improving long-term travel conditions on I-40 throughout the study corridor, with a goal of achieving LOS "E" or better, will help achieve CAMPO's desired long-term goals. This will have a direct and positive impact on mobility experienced by the public using this corridor and allow for more efficient long range travel and daily commuting between Raleigh and NC 42 with fewer delays.

C. Categorical Exclusion Action Classification

The proposed project is classified as Type III for purposes of preparing the CE.

D. Proposed Improvements

NCDOT evaluated the No Build Alternative and two Build Alternatives for the proposed project. Build Alternative 1 would add two general purpose lanes in each direction throughout the project limits (see Figure 2), and Build Alternative 2 would add two general purpose lanes in each direction between I-440 (Exit 301) and US 70 Bypass (Exit 309) but only add one general purpose lane in each direction between US 70 Bypass and NC 42 (Exit 312) (see Figure 3).

The following paragraphs describe the No Build Alternative and the two Build Alternatives considered for the proposed action, and the identification of the Preferred Alternative. Additionally, this section describes other alternatives that were considered, but screened out in advance of design level studies for various reasons.

No Build Alternative

A No Build Alternative is an alternative for which no physical improvements to the existing roadway or construction of a new facility is proposed. The No Build Alternative for this project does not meet the transportation goals of the NCDOT and CAMPO, fails to provide solutions to anticipated high traffic volumes in the area, and does not satisfy the purpose and need for action. For these reasons, NCDOT does not consider the No Build Alternative as the preferred alternative for this proposed project. The No Build Alternative does, however, provide a basis for

¹ The traffic carrying ability of a roadway is described by levels of service (LOS) that range from LOS A to LOS F. LOS A represents unrestricted maneuverability and operating speeds. LOS B represents reduced maneuverability and operating speeds. LOS C represents restricted maneuverability and operating speeds closer to the speed limit. LOS D represents severely restricted maneuverability and unstable, low operating speeds. LOS E represents operating conditions at or near the capacity level. LOS F represents breakdown conditions characterized by stop and go travel.

comparing the benefits and adverse impacts of the Build Alternatives. Thus, the No Build Alternative is included in this CE.

Build Alternatives

Build Alternative 1 would add two lanes in each direction along I-40 from I-440 to NC 42 (Exit 301 to 312), a distance of approximately 11 miles. This alternative provides increased capacity to improve long-term travel conditions throughout the entire length of the study corridor on I-40.

Build Alternative 2 is the addition of two general purpose lanes in each direction along I-40 from I-440 to US 70 Bypass, (Exit 301 to 309), a distance of approximately 9 miles, and one additional general purpose lane in each direction along I-40 from US 70 Bypass to NC 42 (approximately 2 miles). This alternative would not achieve the same extent of improved capacity and LOS throughout the entire length of the study corridor on I-40 as Build Alternative 1.

Both alternatives would also modify the I-40 interchanges at I-440, US 70 Business and the US 70 Bypass in order to better re-align the ramps and mainline. The I-440 interchange (see Figure 4) is realigned to better accommodate the ramp tie-ins at the project's northern terminus and remove the current 3-level structure configuration. The US 70 Business interchange (see Figure 5) is expanded to include a new "leftover" from eastbound US 70 to westbound I-40, in order to eliminate the loop in the southeast quadrant and subsequent problematic weave section onto I-40 westbound. The US 70 Bypass interchange (see Figure 6) includes a potential modification to the ramp tie-in from westbound I-40 to eastbound Clayton Bypass. An Interstate Access Request (IAR) has been completed (December 2017) for the US 70 Business reconfiguration, and is pending FHWA approval once the NEPA document is approved. FHWA deemed an IAR unnecessary for the I-440 and US 70 Bypass realignments.

Alternatives Eliminated from Further Consideration

NCDOT considered improving transportation in the I-40 study corridor with alternative modes of transportation (e.g., ride sharing, vanpooling, and mass transit), transportation system management (i.e., converting existing lanes to high occupancy vehicle lanes or bus rapid transit, or implementing high occupancy tolling), and new alternatives at a different location. These alternatives were eliminated from further consideration because they would not alone be sufficient to accommodate the travel demand through the study corridor.

Preferred Alternative/LEDPA

The August 2015 Traffic Capacity Analysis Technical Memorandum concluded that while both Build Alternatives are anticipated to provide equal capacity and LOS in 2040 along I-40 from I-440 to US 70 Bypass, Build Alternative 1 offers improved capacity and level of service along I-40 from US 70 Bypass to NC 42. The improved capacity of Build Alternative 1 through the entire length of the I-40 study corridor led to NCDOT's identification of Build Alternative 1 as the preferred alternative. The NEPA/Section 404 Merger Team concurred that Build Alternative 1 is the LEDPA on July 12, 2017.

NCDOT has prioritized several other STIP projects in the area:

- I-4739, Access improvements in the vicinity of the I-40/NC 42 interchange (Exit 312), with right-of-way acquisition and construction in Fiscal Year (FY) 2019.
- R-3410B, Widen NC 42 from NC 50 to US 70 Bypass to multi lanes in Johnston County, with right-of-way acquisition in FY 2021 and construction in FY2022.
- R-2828, Future NC 540 freeway on new location from US 401 to I-40 (Southern Wake Freeway/Triangle Expressway Southeast Extension), with right-of-way acquisition and construction in FY2020.
- R-2829, Future NC 540 freeway on new location from I-40 to US 64/US 264 Bypass (Eastern Wake Freeway/Triangle Expressway Southeast Extension), with right-of-way acquisition and construction in FY2027 with a portion being unfunded in future years.

In addition to these programmed STIP projects, the CAMPO 2040 MTP proposes a number of future road improvement projects along the corridor (Table 1).

Table 1. Other Anticipated Highway Projects

2040 MTP ID	Road	From	To	Horizon Year
F41	I-40 (Managed Lanes)	Wade Avenue	Johnston County line	2030
A16	Rock Quarry Road (widening)	Old Birch Road	Sunnybrook Road	2030
A120	Tryon Road Extension	Garner Road	Rock Quarry Road	2030
A138c	Jones Sausage Connector	White Oak Road	I-40	2030
A301	US 70	I-40	NC 42	2040
A142a	Timber Drive East	Waterfield Drive	White Oak Road	2030
A143a	White Oak Road	US 70	I-540	2040
A407b3	NC 42 (widening)	NC 50	I-40	2030
F41b	I-40 (Managed Lanes)	Johnston County line	Cornwallis Road	2030

Source: CAMPO 2040 MTP at <http://www.campo-nc.us/adopted-2040-mtp>

E. Special Project Information for Build Alternative 1

This section summarizes the proposed improvement associated with Build Alternative 1, the preferred alternative.

Roadway Cross-section and Alignment

The proposed project would improve the existing roadways within the study corridor; no new alignments are proposed. The entire study corridor segment from I-440 to NC 42 features a wide median dividing the opposing directions of travel, in addition to wide lateral clearance space on the right-side shoulders. Table 2 summarizes the existing and proposed cross-section configurations within the study corridor.

Table 2: Existing and Proposed Cross-Section Configurations

I-40, West to East		Median Width (feet)	Total Number of Lanes	
From	To		Existing (EB/WB)	Build Alternative 1 (EB/WB)
I-440 EB Diverge	I-440 WB Merge	N/A	2 / 2	3 / 3
I-440	US 70 Business	70 – 85	3 / 3	5 / 5
US 70 Business	US 70 Bypass	46	2 / 2	4 / 4
US 70 Bypass	NC 42	46	2 / 2	4 / 4

EB = Eastbound, WB = Westbound

Build Alternative 1 includes a full typical section with graded outside grass shoulders to accommodate potential future widening, without requiring future grading or right-of-way impacts. The design would generally allow a future lane to be constructed by adding outside paved shoulders and re-striping the existing pavement within the footprint of the I-5111 project. This additional space could accommodate the future managed lanes that are anticipated based on CAMPO’s 2040 MTP (see Table 1).

Right-of-Way and Access Control

The construction of Build Alternative 1 involves widening the existing right-of-way laterally on both sides of the roadway. This right-of-way acquisition is anticipated to result in minimal adverse affects on adjacent properties, as the existing I-40 corridor was originally established containing setbacks for future widening.

The segment of I-40 in the study corridor currently features limited access control, as all intersecting roadways are designed as merge and diverge segments at a limited number of interchange junctions. The interchange of I-40 at NC 42 is proposed to be re-configured from traditional diamond to a diverging diamond, but the same principle of limited access control still applies with Build Alternative 1.

Speed Limit

There would be no changes to speed limits on I-40 or exit ramps in the study corridor as a result of the proposed project. The posted speed limit between I-440 and US 70 Business is 65 Miles per Hour (MPH), while south of US 70 Business the posted speed limit increases to 70 MPH.

Design Speed

There would be no changes to design speed on I-40 or exit ramps in the study corridor as a result of the proposed project. The design speed between I-440 and US 70 Business is 70 MPH and south of US 70 Business it is 75 MPH.

Anticipated Design Exceptions

There are no design exceptions anticipated at this stage of planning and design.

Intersections/Interchanges

Table 3 describes the existing interchange junctions with I-40 within the study corridor, from west to east.

Table 3: Study Corridor Interchange Junctions

Interchange Junction on I-40	Configuration
I-440	Major Merge/Diverge
Jones Sausage Road	Conventional Diamond
US 70 / US 70 Business	Full Cloverleaf
US 70 Bypass	Trumpet
NC 42	Conventional Diamond (Proposed Diverging Diamond per I-4739)

Table 4 identifies the intersections that were included in the study area and were evaluated for existing and future-year LOS in the Traffic Capacity Analysis Technical Memorandum:

Table 4: Study Area Surface Intersections

Major Street	Minor Street
Jones Sausage Road	I-40 Eastbound Ramp Terminal
Jones Sausage Road	I-40 Westbound Ramp Terminal
US 70 Business Westbound	I-40 Eastbound Ramp Terminal
US 70 Business Eastbound	I-40 Westbound Ramp Terminal
NC 42	I-40 Eastbound Ramp Terminal
NC 42	I-40 Westbound Ramp Terminal

Several additional intersections could be added within the study area, pending the final recommended design plans carried forward.

Service Roads

There are no existing or planned service roads in the study area.

Railroad Crossings

There are no existing or planned at-grade railroad crossings in the study area. One railroad segment (Norfolk-Southern freight line owned by North Carolina Railroad) crosses over I-40 directly north of the interchange of I-40 and US 70 Business, and crosses at-grade through Jones Sausage Road just west of the overpass. This railroad is identified as a serviced route for the future Durham-Wake Commuter Rail.

Structures

Several ramp flyover structures exist in the study area at each of the interchanges, but no additional structures are proposed to be added. However, several structures within the study area would possibly need to be replaced pending the final typical section of the Preferred Alternative. Excluding the interchange junctions, the grade-separated roadway crossings within the study area include:

- Rock Quarry Road
- East Garner Road
- Norfolk Southern Railroad Bridge
- White Oak Road
- New Bethel Church Road

Of those listed above, the Rock Quarry Road, East Garner Road and White Oak Road structures are currently proposed to be replaced.

In addition to the roadway grade separations, a number of major stream crossings exist along the corridor. Table 5 provides a summary of the proposed recommendations for managing flow at major stream crossings.

Table 5. Major Stream Crossings and Culvert Design

Site	Approx. Station -ALN-	Stream Crossing	Drainage Area (Sq Mi) ¹	Est. Length (ft)	Land Usage Urban/Rural	IA% ²	Design IA% ³	Stream Class ⁴	Prelim. Culvert Size ⁵
1	Sta 65+00 -L-	Big Branch Tributary 3	0.86	245	Urban	10.8	20	C; NSW	Ext. (2) 8' X 5' RCBC* <i>Prop. (2) 8' X 7' RCBC</i>
2	Sta 91+30 -L-	Big Branch Tributary 1	3.87	346	Urban	8.1	20	C; NSW	Ext. (2) 10' X 9' RCBC
3	Sta 150+53 -L-	Poplar Branch	0.20	366	Urban	13.9	24	C; NSW	Ext. 72" RCP
4	Sta 186+97 -L-	UT to Big Branch	0.11	275	Urban	25.1	35	C; NSW	Ext. 60" RCP
5	Sta 249+13 -L-	UT to White Oak Creek	0.32	417	Urban	42.9	42.9	C; NSW	Ext. 72" CMP <i>Prop. 7' X 7' RCBC</i>
6	-Y5RPA-	UT to White Oak Creek	0.33	253	Urban	41.8	41.8	C; NSW	Ext. 72" RCP <i>Prop. 7' X 8' RCBC</i>
7A	-Y5RPC-	UT to White Oak Creek	0.32	293	Urban	25.5	28	C; NSW	Ext. 66" RCP <i>Prop. 7' X 7' RCBC</i>
7B	-Y5RPB-	UT to White Oak Creek	0.30	225	Urban	26.2	36	C; NSW	Ext. 66" RCP <i>Prop. 7' X 7' RCBC</i>
8	Sta 322+95 -L-	UT to White Oak Creek	0.61	223	Urban	3.1	10	C; NSW	Ext. 72" RCP <i>Prop. 7' X 8' RCBC</i>
9	Sta 386+82 -L-	UT to Swift Creek	0.48	243	Urban	3.6	10	C; NSW	Ext. 72" RCP <i>Prop. 7' X 8' RCBC</i>
10	Sta 405+40 -L-	UT to Swift Creek	0.45	252	Urban	1.6	10	C; NSW	Ext. 66" CMP <i>Prop. 7' X 7' RCBC</i>
11		Floodplain			Rural				Ext. 60" RCP
12	Sta 506+00 -L-	Swift Creek	79.10	200	Rural			C; NSW	Bridge
13		Floodplain			Rural				Ext. 60" CMP

¹ Drainage Areas from USGS Streamstats for North Carolina, verified by FEMA FIS information (if applicable)

² Impervious Area Estimates from USGS Streamstats for North Carolina, 2011 National Land Use Data Set

³ Impervious Area for preliminary sizing based on estimated future growth and developments

⁴ Stream Classification per North Carolina Department of Environmental Quality, Division of Water Resources

⁵ Preliminary culverts were sized using HDS-5. These sizes assumed a maximum 1.2 HW/D for the 50 year storm

* Improved inlet, Chart 58

Coordination is continuing on several fronts regarding the Swift Creek bridge. Three separate TIP projects (I-5111, I-4739, Complete 540) converge in the southern-most two miles of I-5111 near Swift Creek. NCDOT, as part of I-5111, is anticipating constructing the Swift Creek bridge crossing to accommodate the necessary lanes along I-40. Doing so

would minimize the magnitude and duration of the construction impacts to the traveling public and the resources in the vicinity of Swift Creek. The proposed bridge width is currently configured for 5 striped lanes in each direction with an accommodation for one additional lane in each direction for any future widening. Section 7 consultation has resulted in a June 2018 Biological Assessment for I-5111 and a May 2018 Biological Evaluation for I-4739. NCDOT is coordinating the environmental studies and design for both projects to the greatest degree possible.

Bicycle and Pedestrian Facilities/Greenways

Pursuant to American Association of State Highway and Transportation Officials (AASHTO) guidelines that govern freeway design criteria, bicycle and pedestrian facilities are prohibited from being built on interstate system facilities. Therefore, accommodation for bicycle and pedestrian travel was not included as part of this project. Coordination with local agencies has occurred previously, and will continue to occur in order to determine the need for sidewalks on -Y- line bridge replacements.

Utilities

Potential utility impacts have preliminarily been identified. As project design progresses, utility design coordination will commence as the project moves into final design.

Noise Barriers

See Section G, Item 28 below.

Work Zone, Traffic Control and Construction Phasing

During construction, the contractor will be required to maintain a minimum of 3 (11' wide) lanes per direction on I-40 from I-440 to the US 70 Bus interchange and 2 (11' wide) lanes per direction from the US 70 Bus Interchange to NC 42. The Construction Phasing concept outlined below may be referred to as "Inside-Outside Construction":

- Phase 1: Shift traffic to the outside of existing pavement utilizing positive protection, reinforced / reconstructed existing shoulder pavement and temporary pavement to create working room for the construction of permanent and temporary improvements within the existing median to the extent required for Phase 2 traffic patterns.
- Phase 2: For the majority of the project, shift all traffic onto the newly constructed pavement within the existing median area and create working areas to the outside of traffic in both directions utilizing positive protection. In restricted areas (bridges and interchanges), shift 1 direction of I-40 into the median area to construct permanent improvements to the outside of that direction only.
- Phase 3 (restricted areas): Shift all traffic toward the pavement completed in Phases 1 and 2 utilizing positive protection to create working areas along the outside for the remaining direction of traffic.
- Phase 4: Shift all traffic to final patterns and complete any and all remaining construction activities.

The Construction Phasing may be altered during final design.

Cost Estimate

Cost estimates for the Preferred Alternative are provided below in Table 6.

Table 6: Cost Estimate for the Preferred Alternative/LEDPA

Right-of-Way Cost	\$4,000,000
Utility Cost	TBD
Construction Cost	\$221,000,000
Total Cost	\$225,000,000

Preliminary Impacts

Preliminary impacts for the Preferred Alternative are shown below in Table 7.

Table 7: Impact Matrix for the Preferred Alternative (Build Alternative 1)

Resources		Alternative 1
Length (miles)		11
Relocations	Residential	0
	Business	0
	Non-profit	0
Total Relocations		0
Minority / Low Income Populations (Disproportionate Impacts)		0
Historic Properties (Adverse Effects)		0
Community Facilities Impacted		0
Section 4(f) Impacts		0
Noise Receptor Impacts		336
Prime Farmland (acres)		30.87
Streams ¹ – Calculated 25' from back of slope stake (linear feet)		7,037
Wetlands ¹ (acres)		1.26
Federally Protected Species	<i>Michaux's sumac</i>	No Effect
	<i>Dwarf wedgemussel</i>	MA-LAA ²
	<i>Yellow lance</i>	MA-LAA ²
	<i>Red cockaded woodpecker</i>	No Effect
	<i>Tar spiny mussel</i>	No Effect

NOTES:

1. Impact quantities are based on construction limits plus an additional 25 feet.
2. MA-LAA denotes "May affect – Likely to Adversely Affect."

F. Project Impact Criteria Checklists

Table 8 is the NCDOT Project Impact Criteria Checklist, which is used to summarize impacts for Build Alternative 1 (Preferred). For resource impacts identified with the checked box **Yes**, additional information is provided for those questions in Section G.

Table 8. Summary of Impacts for Build Alternative 1 (Preferred)			
<u>Type III Actions</u>	Yes	No	
If the proposed improvement is identified as a Type III Class of Action answer all questions. <ul style="list-style-type: none"> • The Categorical Exclusion will require FHWA approval. • If any questions are marked “yes” then additional information will be required for those question in Section G. 			
1	Does the project involve potential effects on species listed with the US Fish and Wildlife Service (USFWS) or National Marine Fisheries (NMFS)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Does the project result in impacts subject to the conditions of the Bald and Golden Eagle Protection Act (BGPA)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Does the project generate substantial controversy or public opposition, for any reason, following appropriate public involvement?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Does the project cause disproportionately high and adverse impacts relative to low-income and/or minority populations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Does the project involve substantial residential or commercial displacements or right of way acquisition?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Does the project include a determination under Section 4(f)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Is a project-level analysis for direct, indirect, or cumulative effects required based on the NCDOT community studies screening tool?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Is a project level air quality Mobile Source Air Toxics (MSAT) analysis required?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8a	Is the project in an Air Quality Non-attainment or Maintenance Area for a National Ambient Air Quality Standard?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	Is the project located in anadromous fish spawning waters?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Does the project impact waters classified as Outstanding Resource Water (ORW), High Quality Water (HQW), Water Supply Watershed Critical Areas, 303(d) listed impaired water bodies, buffer rules, or Submerged Aquatic Vegetation (SAV)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Does the project impact waters of the United States in any of the designated mountain trout streams?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
12	Does the project require a U.S. Army Corps of Engineers (USACE) Individual Section 404 Permit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13	Will the project require an easement from a Federal Energy Regulatory Commission (FERC) licensed facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14	Does the project include Section 106 of the National Historic Preservation Act (NHPA) effects determination other than a no effect, including archaeological remains? Are there project commitments identified?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15	Does the project involve hazardous materials and/or landfills?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

16	Does the project require work encroaching and adversely effecting a regulatory floodway or work affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR 650 subpart A?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17	Is the project in a Coastal Area Management Act (CAMA) county and substantially affects the coastal zone and/or any Area of Environmental Concern (AEC)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18	Does the project require a U.S. Coast Guard (USCG) permit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
19	Does the project involve construction activities in, across, or adjacent to a designated Wild and Scenic River present within the project area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20	Does the project involve Coastal Barrier Resources Act (CBRA) resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
21	Does the project impact federal lands (e.g. USFS, USFWS, etc.) or Tribal Lands?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
22	Does the project involve any changes in access control?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23	Does the project have a permanent adverse effect on local traffic patterns or community cohesiveness?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24	Will maintenance of traffic cause substantial disruption?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25	Is the project inconsistent with the STIP or the Metropolitan Planning Organization's (MPO's) Transportation Improvement Program (TIP) (where applicable)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26	Does the project require the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, Tennessee Valley Authority (TVA), Tribal Lands, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
27	Does the project involve Federal Emergency Management Agency (FEMA) buyout properties under the Hazard Mitigation Grant Program (HMGP)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
28	Is the project considered a Type I under the NCDOT's Noise Policy?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
29	Is there prime or important farmland soil impacted by this project as defined by the Farmland Protection Policy Act (FPPA)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
30	Are there other issues that arose during the project development process that affected the project decision?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

G. Additional Documentation as Required from Section F

Checklist Item 1: Federally Protected Species

Table 9 provides the list of federally protected species in Wake and Johnston Counties, all of which are under the jurisdiction of USFWS. Brief descriptions of the listed species and the Biological Conclusion describing whether the proposed project would affect the species, follow Table 9. The Biological Conclusion is based on field observation and survey results in the study area. See Appendix for additional information on these species.

Table 9. USFWS Listed Species in the Study Area

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
<i>Alasmidonta heterodon</i>	Dwarf wedgemussel ^{1,2}	E	Yes	May Affect –Likely to Adversely Affect
<i>Elliptio lanceolata</i>	Yellow lance ^{1,2}	T	Yes	May Affect –Likely to Adversely Affect
<i>Elliptio steinstansana</i>	Tar River spiny mussel ²	E	Yes	No Effect
<i>Picoides borealis</i>	Red-cockaded woodpecker ^{1,2}	E	No	No Effect
<i>Rhus michauxii</i>	Michaux's sumac ^{1,2}	E	Yes	No Effect

Source:

E- Endangered; T-Threatened; 1-Wake County; 2-Johnston County

Dwarf wedgemussel. Biological Conclusion: May Affect –Likely to Adversely Affect

In North Carolina, the dwarf wedgemussel is known from the Neuse and Tar River drainages. According to the North Carolina Natural Heritage Program (NCNHP) database (latest version October 2016), dwarf wedgemussel has been recorded in Swift Creek within 1.0 mile of the study area. NCDOT is actively consulting with USFWS and has prepared a Biological Assessment (BA) for the dwarf wedgemussel. Potential direct effects due to construction of I-5111 are being documented in the BA, which is expected not to Jeopardize the continued existence of the dwarf wedgemussel or result in the destruction or adverse modification of critical habitat of the dwarf wedgemussel.

Yellow lance. Biological Conclusion: May Affect –Likely to Adversely Affect

In North Carolina, the yellow lance is known from the Neuse and Tar River drainages. The yellow lance was recently listed by USFWS. NCDOT is actively consulting with USFWS has prepared a Biological Assessment (BA) for the yellow lance. Potential direct effects due to construction of I-5111 are being documented in the BA, which is expected not to Jeopardize the continued existence of the yellow lance or result in the destruction or adverse modification of critical habitat of the yellow lance.

Northern long-eared bat. Biological Conclusion: May Affect –Likely to Adversely Affect

In North Carolina, the northern long-eared bat occurs in the mountains and coastal plain. According to NCNHP records, a known species occurrence (EO ID 32135) is located 1.3 miles northwest of the study area. The USFWS has developed a programmatic biological opinion (PBO) in conjunction with the FHWA, USACE, and NCDOT for the northern long-eared bat in eastern North Carolina. The PBO covers the entire NCDOT program in

Divisions 1-8, including all NCDOT projects and activities. The programmatic determination for northern long-eared bat for the NCDOT program in Divisions 1-8 is “May Affect, Likely to Adversely Affect.” The PBO will provide incidental take coverage for northern long-eared bat and will ensure compliance with Section 7 of the Endangered Species Act for five years for all NCDOT projects with a federal nexus in Divisions 1-8, which includes Wake and Johnston Counties where I-5111 is located.

Checklist Item 8: MSAT Analysis

The purpose of this project is to better accommodate forecasted levels of congestion on I-40 from Exit 301 (Raleigh Beltline) to Exit 312 (NC 42). This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special Mobile Source Air Toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the no-build alternative.

Checklist Item 8a: Air Quality Conformity

Followed USDOT Interim Guidelines on Conformity Requirements for the 1997 Ozone NAAQS.

Checklist Items 10 & 12: Waters and Corps 404 Permit

The project will require a permit from the US Army Corps of Engineers for Section 404 wetland and stream impacts, but it is yet to be determined whether the permit would be an Individual Permit (likely) or a Nationwide or General Permit. The project will also impact riparian stream buffers in the Neuse River Basin and will require a Buffer Authorization from the NC Division of Water Resources.

Checklist Item 16: Floodplains

The project contains three crossings within a Flood Hazard Zone, designated as Zone AE, for which the 100-year base flood elevations and corresponding regulatory floodway have been established. The NCDOT Hydraulics Unit will coordinate with the NC Floodplain Mapping Program to determine the project’s applicability of NCDOT’s Memorandum of Agreement, as well as future design requirements and coordination needs.

Checklist Item 28: NCDOT Noise Policy Type 1 Project

Since the project adds capacity via additional lanes, the project is classified as a Type I project per 23 CFR 772. A Traffic Noise Report prepared for NCDOT April 13, 2017, and available in the NCDOT project file, identified traffic noise impacts from the Build Alternatives.

Under either Build Alternative 1 or 2, 332 residential units, 1 church, 1 community pool, a dog run, and athletic fields at the East Garner Elementary School would be affected by traffic noise. Impacts would be located in the following noise sensitive areas (NSAs):

- NSA 1: Receptors in southwest quadrant of the I-440/I-40 interchange along Southgate Drive and Golden Amber Court.
- NSA 2: Receptors in northeast quadrant of the I-440/I-40 interchange along Briarmont Court and Woodmeadow Parkway.
- NSA 3: Receptors in southeast quadrant of the I-440/I-40 interchange along Sunbright Lane.
- NSA 4: Receptors north of Rock Quarry Road and west of I-40.
- NSA 5: Receptors south of Rock Quarry Road, west of I-40, and along Shepherd Valley Street, Follow Me Way and Benevolence Drive.
- NSA 6: Receptors south of Rock Quarry Road, east of I-40, and along Dutchman Road, Rivermist Drive, and Orchard Trace Way.
- NSA 7: Receptors north of Jones Sausage Road, west of the I-40 eastbound offramp to Jones Sausage Road, and along Tharrington Road and Watkins Valley Road.
- NSA 8: Athletic fields at the East Garner Elementary School, receptors north of WKBQ Radio Station Road and west of I-40, and east of Jones Sausage Road.
- NSA 11: Abberly Place Apartments and a dog run at the complex, receptors west of I-40 and east of Timber Drive East.
- NSA 12: Receptors south of White Oak Road, west of I-40, and along Laroub Lane and Battle Field Drive.
- NSA 13: Receptors south of White Oak Road, east of I-40, and along Bovine Place, Smithlanding Drive, and Sellie Drive.
- NSA 14: Receptors north and south of New Bethel Church Road west of I-40.
- NSA 15: Receptors north and south of New Bethel Church Road east of I-40.
- NSA 18: Receptors north of I-440/I-40 in the northwest quadrant of the I-440/I-40 interchange along Maplewood Lane and Belafonte Drive.

Noise barriers were evaluated for their ability to feasibly and reasonably reduce noise levels under either alternative at affected receptors. Because of the close similarity in the two build alternatives, the same noise barriers were evaluated and both were modeled as noise walls. Five of the noise walls were found to meet NCDOT's criteria for feasibility and reasonableness and are recommended for a more detailed analysis once final design plans are available.

- NSA 2: Located between I-40 and the multi-family homes northeast of the I-40 and I-440 interchange (Walnut Ridge Apartments and The Neighborhoods of Walnut Creek). Abatement in the form of a noise wall, approximately 1,293 feet long, was found to be feasible and reasonable, and therefore, is likely to be included in the project.
- NSA 5: Located south of Rock Quarry Road between I-40 and a neighborhood of single family homes (Providence). Abatement in the form of a noise wall,

approximately 2,500 feet long, was found to be feasible and reasonable, and therefore, is likely to be included in the project.

- NSA 6: Located south of Rock Quarry Road between I-40 and the single-family homes west of Dutchman Road and Rivermist Drive (Dutchman Creek). Abatement in the form of a noise wall, approximately 3,900 feet long, was found to be feasible and reasonable, and therefore, is likely to be included in the project.
- NSA 11: Located between I-40 and the Abberly Place Apartment Homes, east of Timber Drive East near the White Oak Crossing Shopping Center. Abatement in the form of a noise wall, approximately 3,550 feet long, was found to be feasible and reasonable, and therefore, is likely to be included in the project.
- NSA 12: Located between I-40 and the single-family homes along Laurob Lane and Battle Field Drive, south of White Oak Road. Abatement in the form of a noise wall, approximately 2,454 feet long, was found to be feasible and reasonable, and therefore, is likely to be included in the project.

All other noise walls evaluated were found to be either infeasible or unreasonable per NCDOT policy and are not likely to be included in the project. Under the abated Build Alternative 1 scenario, noise impacts would be abated at 235 residences, 1 church, 1 public pool, and 1 dog run with unabated impacts remaining at 97 residential receptors and the athletic fields at the East Garner Elementary School. In the same manner under the abated Build Alternative 2, noise impacts would be abated at 226 residences, 1 church, 1 public pool, and 1 dog run with unabated impacts remaining at 106 residential receptors and the athletic fields at the East Garner Elementary School.

The major construction elements of this project are expected to be earth removal, hauling, grading, bridge construction, and paving. General construction noise impacts, such as temporary speech interference for passers-by and those individuals living or working near the project, can be expected particularly from paving operations, pile driving at bridges, and earth moving equipment during grading operations. Construction noise impacts would occur due to the proximity of numerous noise-sensitive receptors to project construction activities. Construction noise control measures would be incorporated into the project plans and specifications. The Traffic Noise Study is available for review on NCDOT's I-5111 project specific page.

Checklist Item 29: Prime and Important Farmland Soil

The proposed project would affect prime and important farmland soils as defined by the Farmland Protection Policy Act (FPPA). Table 10 identifies soil that would be affected by the Build Alternatives, including prime and important farmland soils. A FPPA Project Review was provided by the Assistant State Soil Scientist of North Carolina on January 20, 2017. While farmland soil impacts are anticipated, no avoidance alternatives are feasible, and the impacts are minimal and have been documented using the Farmland Conversion Rating Forms for each county.

Table 10. Soil Impacts from Build Alternatives

Map Unit Symbol	Map Unit Name	Build Alternative 1 Area (acres) ¹	Build Alternative 2 Area (acres) ¹	Important Farmland Designation ²
AaA	Altavista fine sandy loam, 0 to 2 percent slopes, occasionally flooded	1.48	1.32	PF
ApD	Appling sandy loam, 10 to 15 percent slopes	2.19	2.20	FSI
ApB	Appling sandy loam, 2 to 6 percent slopes	2.58	1.65	PF
ApB2	Appling sandy loam, 2 to 6 percent slopes, moderately eroded	9.14	8.10	PF
ApC	Appling sandy loam, 6 to 10 percent slopes	1.07	0.70	PF
ApC2	Appling sandy loam, 6 to 10 percent slopes, moderately eroded	10.22	9.60	PF
CnA	Colfax sandy loam, 0 to 3 percent slopes	0.09	0.09	FSI
CoB	Cowarts loamy sand, 2 to 6 percent slopes	1.44	1.19	
CoC	Cowarts loamy sand, 6 to 10 percent slopes	2.83	2.58	
DuB	Durham loamy sand, 2 to 6 percent slopes	1.29	1.23	PF
MeA	Mantachie sandy loam, 0 to 2 percent slopes, rarely flooded	0.04	0.04	
NkB	Nankin fine sandy loam, 2 to 6 percent slopes	1.21	1.10	PF
NoB	Norfolk loamy sand, 2 to 6 percent slopes	3.83	3.35	PF
RnF	Rion sandy loam, 15 to 40 percent slopes	3.56	3.08	
UcC	Uchee loamy coarse sand, 6 to 12 percent slopes	0.50	0.45	FSI
VaB2	Vance sandy loam, 2 to 6 percent slopes, moderately eroded	0.06	0.05	PF
WaB	Wagram loamy sand, 2 to 6 percent slopes	3.80	3.71	FSI
WmD2	Wedowee sandy loam, 10 to 15 percent slopes, moderately eroded	1.44	1.33	
WmE	Wedowee sandy loam, 15 to 25 percent slopes	3.17	3.22	
WmC2	Wedowee sandy loam, 6 to 10 percent slopes, moderately eroded	0.50	0.31	
WoD	Wedowee sandy loam, 8 to 15 percent slopes	2.79	2.33	FSI
WoA	Wehadkee and Bibb soils, 0 to 2 percent slopes, frequently flooded	0.24	0.11	
Wt	Wehadkee loam, 0 to 2 percent slopes, frequently flooded	1.55	1.36	
WyA	Worsham sandy loam, 0 to 3 percent slopes	0.15	0.16	
Total Acreage		55.16	49.25	
Prime Farmland Total		30.87	27.10	
Farmland of State Importance Total		9.37	8.78	
¹ Areas of soil represent existing edge of pavement to proposed slope stakes.				
² PF = Prime Farmland; FSI = Farmland of State Importance				

H. Project Commitments

Widening of Interstate 40 between I-440/US 64 (Exit 301 in Southeast Raleigh) and NC 42 (Exit 312 near Clayton) Wake and Johnston Counties

June 2018

WBS Element No. 42346.1.1

STIP Project No. I-5111

NCDOT Design-Build Section – Resident Engineer

- East of East Garner Road (SR 1004) to the I-5111 eastern terminus, no construction activity shall begin, excluding investigative borings covered under a Nationwide Permit No. 6, until the Section 7 Consultation is completed.
- NCDOT will implement conservation measures as stated in Section 2.6 of the June 2018 Biological Assessment for I-5111. These commitments will be updated once the Biological Opinion is issued.
- Section 7 consultation measures at Swift Creek include:
 - Bridge bents will not be located in the channel of Swift Creek or within 10 feet (horizontally) of either top of bank.
 - No permanent or temporary structures required to build the bridge will be placed within Swift Creek. All permanent and temporary structures will be positioned such that they will not result in any bank instability or cause significant sediment to runoff into Swift Creek.
 - Construction of a filtration basin with media filter within the immediate vicinity/floodplain of the crossing of Swift Creek, with the ultimate location(s) to be determined during final design.
 - Retaining walls will be utilized along the eastbound and westbound slopes south of the Swift Creek bridge crossing to avoid/minimize adjacent wetland and stream impacts.
- The areas within the Swift Creek watershed will be identified as “Environmentally Sensitive Areas” on the Sedimentation and Erosion Control Plans. By definition, the Environmentally Sensitive Areas will be identified as a 50-foot (15.2-meter) buffer zone on both sides of the stream, measured from top of streambank. Within the identified 50-foot (15.2-meter) Environmentally Sensitive Areas, the following shall apply:
 - The Contractor may perform clearing operations, but not grubbing operations until immediately prior to beginning grading operations.
 - Once grading operations begin in identified Environmentally Sensitive Areas, work shall progress in a continuous manner until complete.
 - Erosion control devices shall be installed immediately following the clearing operation.
 - “Seeding and Mulching” shall be performed on the areas disturbed by construction immediately following final grade establishment.
 - Seeding and mulching shall be done in stages on cut and fill slopes that are greater than 20 feet (6.1 meters) in height measured along the slope, or greater than 2 acres (0.81 hectare) in area, whichever is less.

- All sedimentation and erosion control measures, throughout the project limits, must be cleaned out when half-full of sediment, to ensure proper function of the measures.
- USFWS, FHWA, USACE, NCDWR and NCWRC will be invited to the preconstruction meeting and any preconstruction meetings associated with installation of structures within 0.25 mile of Swift Creek.
- Borrow/waste site locations, staging areas, equipment storage areas, and refueling areas shall not be within 0.25 mile of Swift Creek without further coordination between NCDOT and the USFWS during the approval process.
- Design Standards in Sensitive Watersheds will be used throughout the project.

NCDOT Environmental Analysis Unit

Prior to commencing construction on the Swift Creek bridge, NCDOT, in collaboration with the USFWS and NCWRC, will develop and implement a Mussel Relocation Plan to remove mussels from a salvage area (to be determined in the Mussel Relocation Plan).

NCDOT Design Build Section and Environmental Analysis Unit

Five of the noise walls were found to meet NCDOT's criteria for feasibility and reasonableness, and a more detailed analysis will be completed once final design plans are available.

- NSA 2: Abatement in the form of a noise wall, approximately 1,293 feet long, was found to be feasible and reasonable, and therefore, is qualified for further consideration and possible inclusion in the project.
- NSA 5: Abatement in the form of a noise wall, approximately 2,500 feet long, was found to be feasible and reasonable, and therefore, is qualified for further consideration and possible inclusion in the project.
- NSA 6: Abatement in the form of a noise wall, approximately 3,900 feet long, was found to be feasible and reasonable, and therefore, is qualified for further consideration and possible inclusion in the project.
- NSA 11: Abatement in the form of a noise wall, approximately 3,550 feet long, was found to be feasible and reasonable, and therefore, is qualified for further consideration and possible inclusion in the project.
- NSA 12: Abatement in the form of a noise wall, approximately 2,454 feet long, was found to be feasible and reasonable, and therefore, is qualified for further consideration and possible inclusion in the project.

I. Categorical Exclusion Approval

STIP Project No.	<u>I-5111</u>
WBS Element	<u>42346.1.1</u>
Federal Project No.	<u>IMNHF-040-4(139)301</u>

Prepared By:

6/06/18
Date




Jeffrey Dayton, PE, Project Manager
HDR Engineering, Inc. of the Carolinas

Prepared For:

Project Management Unit
North Carolina Department of Transportation
Division of Highways

Reviewed By:


6/06/18
Date



Robert Deaton, AICP-CTP, Senior Project Manager
Central Project Management Unit
North Carolina Department of Transportation

NCDOT certifies that the proposed action qualifies as a Type III Categorical Exclusion.


6/06/18
Date



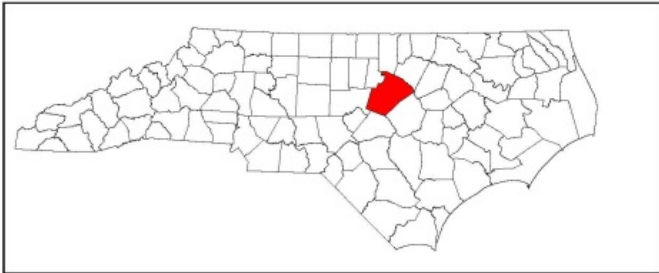
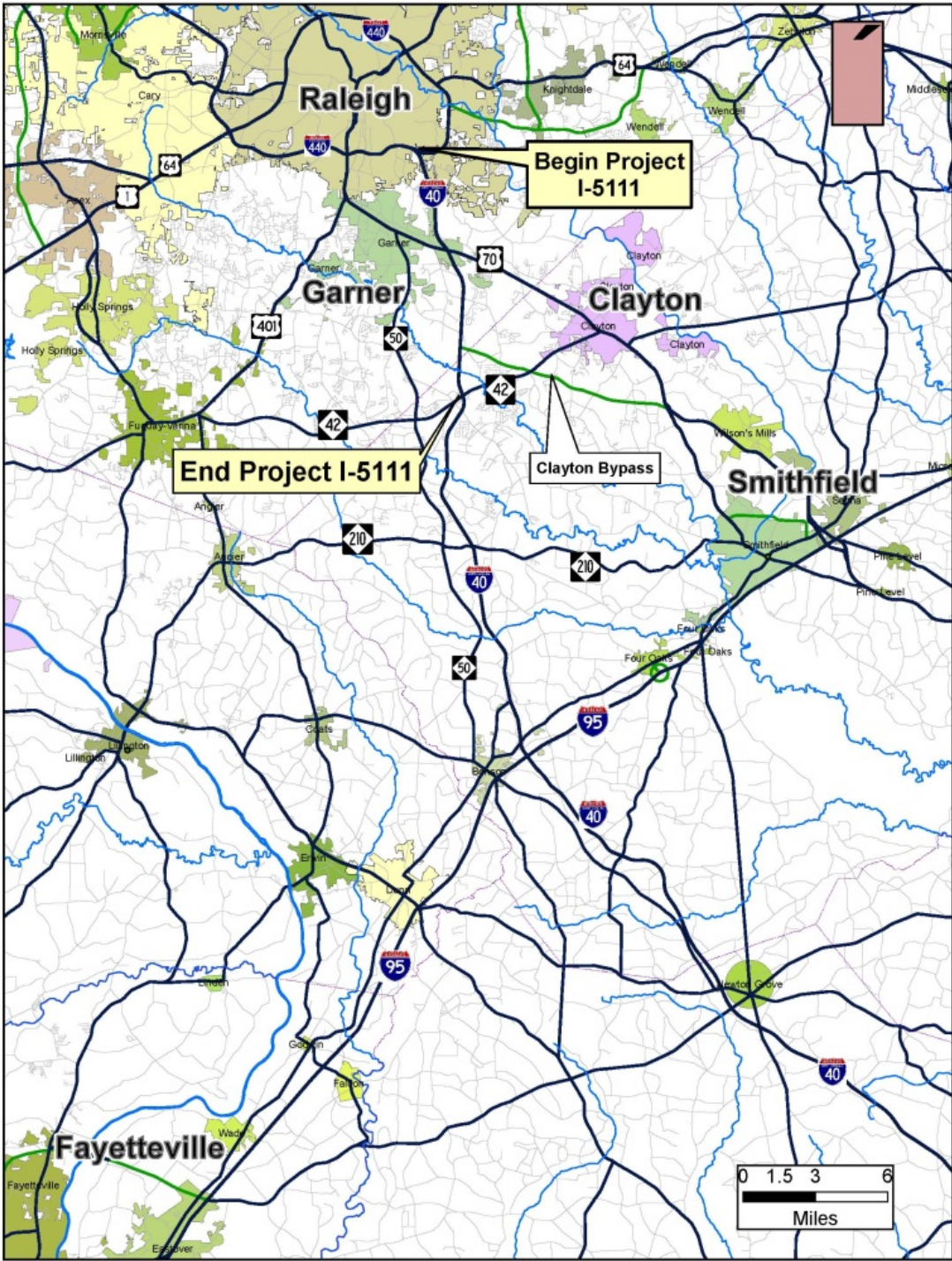
Derrick Weaver, PE
Environmental Policy Unit Head
North Carolina Department of Transportation


FHWA Approval:

6/7/18
Date

for 

John F. Sullivan, III, PE, Division Administrator
Federal Highway Administration



	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH
	<p align="center"> TIP I-511 I-40 Widening (Exit 301) to NC 42 (Exit 312) Project Vicinity Map Wake & Johnston Counties </p>
Figure 1	

I-5111: Alternative 1

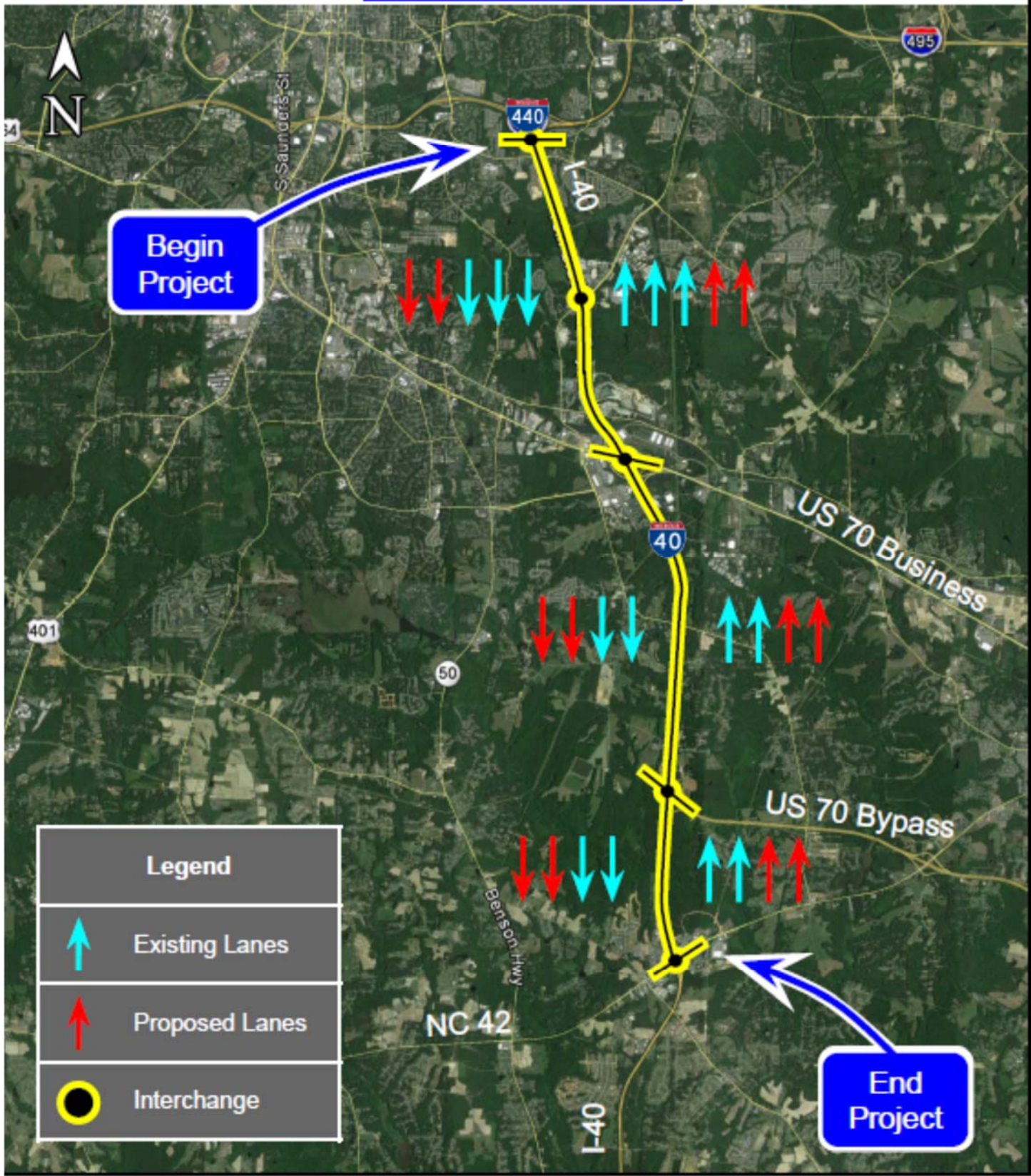


Figure 2. Build Alternative 1

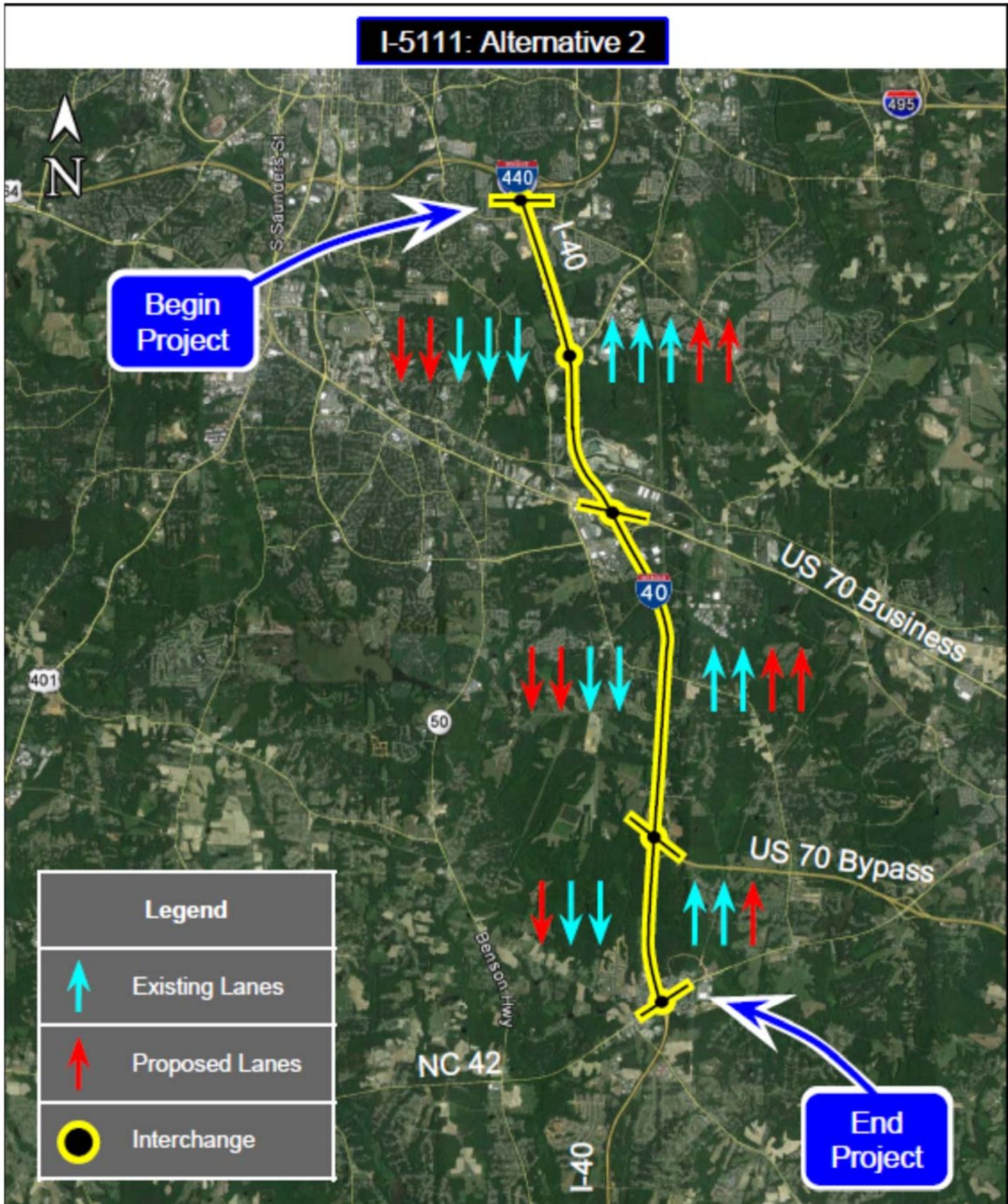


Figure 3. Build Alternative 2

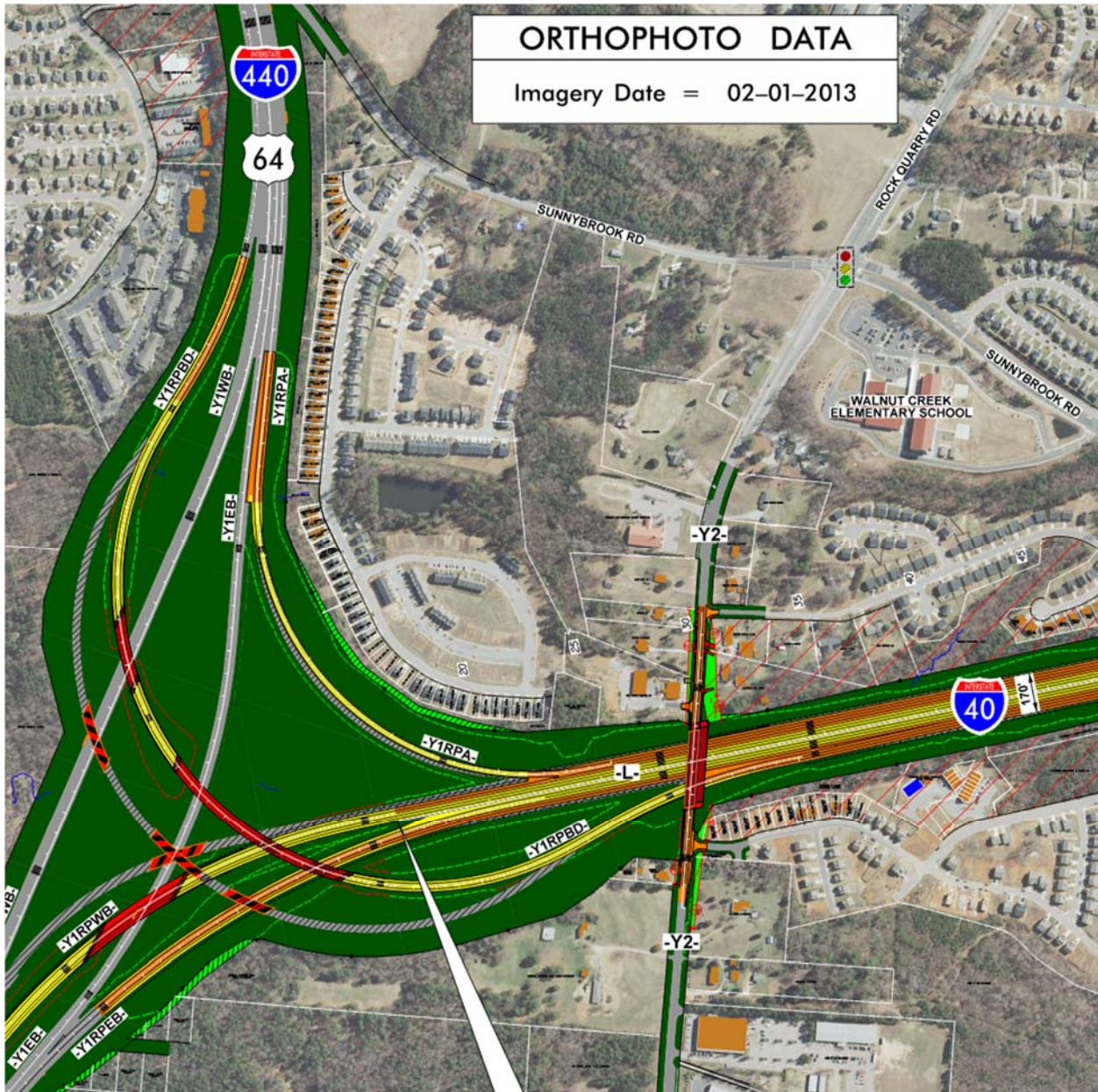


Figure 4. Proposed I-440 Interchange (Ramp Realignment)



Figure 5. Proposed US 70 Business Interchange (Ramp Realignment)

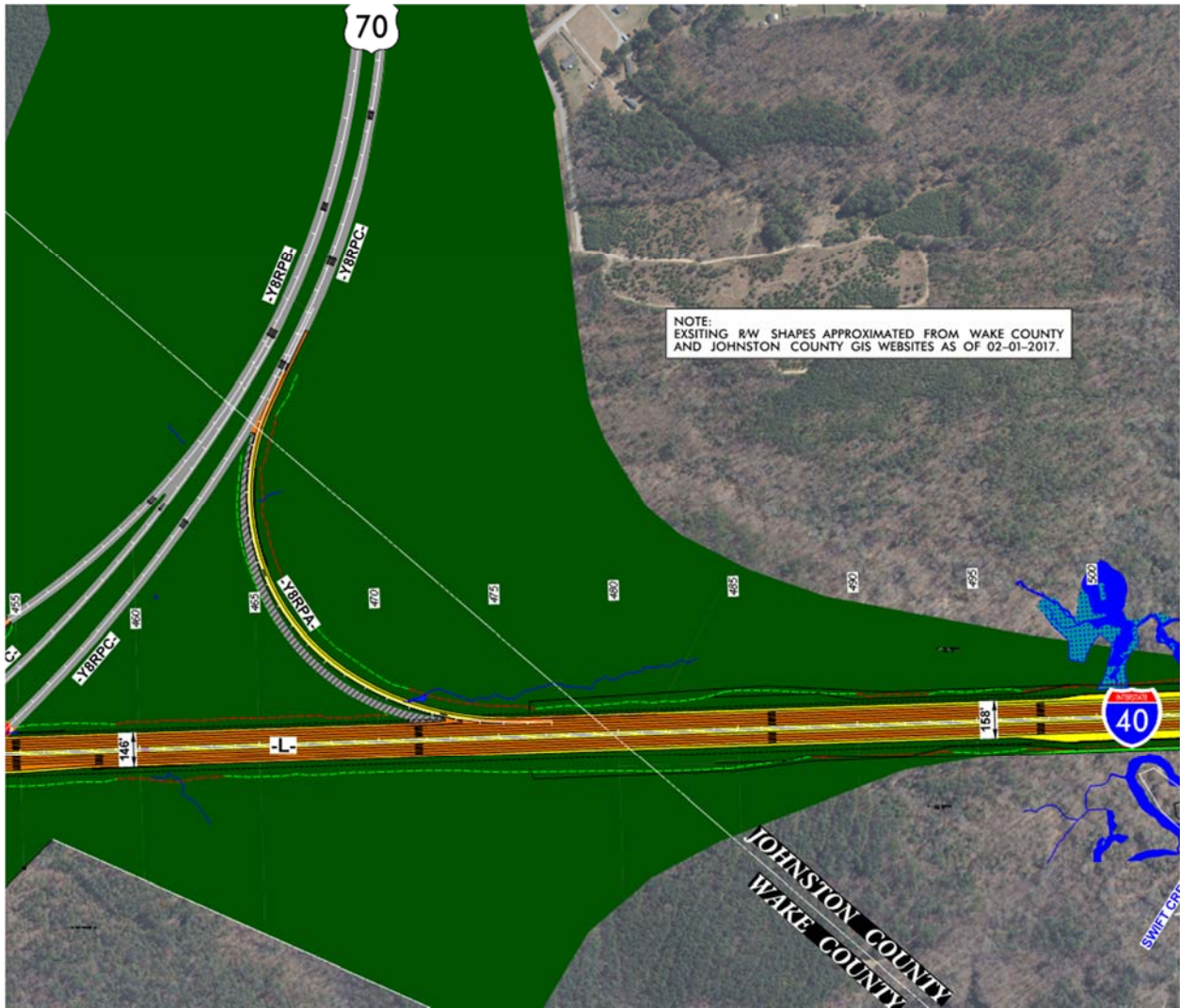


Figure 6. Proposed US 70 Bypass Interchange (Ramp Realignment)

Additional Reports and Documentation

Attached to this Categorical Exclusion are the Meeting Summary for the Merger Team Update Meeting held December 16, 2015, and the Meeting Summary for the Merger Team Concurrence Point 3 and 4a Meeting held July 12, 2017.

The technical reports listed below as well as any additional project documentation can be found at NCDOT's Project Management Unit in the project file.

- Natural Resources Technical Report
- Public Involvement activities
- Community Impact Assessment
- Indirect and Cumulative Effects Screening Report
- Air Quality Analysis
- Historic Properties Survey
- Hazardous Materials
- Capacity Analysis Report
- Traffic Noise Analysis
- Farmland and Prime Soils Analysis
- Biological Assessment



Meeting Summary

Project:	NCDOT I-5111, I-40 Widening from I-440 to NC 42		
Meeting Location:	NCDOT Structures Design Conference Room CCA		
Meeting Subject / Date:	NCDOT I-5111 Merger Team Update Meeting December 16, 2015 @ 3:15 PM		
Notes By:	J. Jamison, J. Dayton	Job No:	219635

Meeting Purpose: This meeting is to update the Merger Team on the project and gather feedback on the current approach.

Attendees:

Felix Davila	FHWA	Tony Houser	NCDOT Roadway
Eric Alsmeyer	USACE	Bill Elam	NCDOT Hydraulics
Rob Ridings	NCDWR	Mark Staley	NCDOT REU
Cynthia Van Der Wiele	USEPA	Mack Bailey	NCDOT SMU
Renee Gledhill-Earley	SHPO (via phone)	Gordon Cashin	NCDOT NES
Alex Rickard	CAMPO	Clarence Bunting	NCDOT Congestion
Bret Martin	CAMPO	Herman Huang	NCDOT HES
Wendi Johnson	NCDOT Div 4 (via phone)	Ed Reams	NCDOT Utilities
Mike Stanley	NCDOT STIP	Donna Jackson	NCDOT Utilities
Rob Hanson	NCDOT PDEA	Kirk Stull	HDR
Brian Yamamoto	NCDOT PDEA	John Jamison	HDR
Bob Deaton	NCDOT PDEA	Jeff Dayton	HDR
Nora McCann	NCDOT PDEA	Phillip Rogers	HDR

Summary:

Bob Deaton began the meeting with introductions and a brief history of the project since 2009. He noted that Gary Jordan (USFWS) and Travis Wilson (NCWRC) would be unable to attend today, but a meeting is scheduled with them the following day to garner their input. John Jamison presented a summary of previous Merger discussions, work completed, and anticipated next steps. The following are key discussion topics from the meeting:

- In the presentation, John Jamison noted that the purpose and need statement may need to be updated to reflect the 2040 design year and the LOS threshold. The study area will likely be revised as well to include slightly wider areas at the I-440 interchange and US 70 Business interchange. Bob Deaton also reiterated that the two alternatives agreed upon at CP 2 are still the two alternatives currently under development.
- Cynthia Van Der Wiele asked whether the traffic forecasts included future projects, such as Complete 540. The traffic forecasts do include projects that are fiscally constrained in the Long Range Transportation Plan.

- Alex Rickard asked about the proposed design change at the US 70 Business interchange. Preliminary plans show the removal of the loop in the southeast quadrant, replaced with a two-phase signal for traffic to now go from EB US 70 Business to WB I-40.
- Eric Alsmeyer indicated that previous notes from the CP2a field visit showed that the team preferred to avoid any non-perpendicular crossings of Swift Creek, where possible. The preference was to widen more to the east side, away from the “Swift Creek Minimization Area”. Tony Houser believes that all widening will occur to the outside in this area due to the presence of an existing 46’ median.
- Wendi Johnson asked what the difference in LOS is along I-40 between US 70 Bypass and NC 42. The 2040 traffic analysis generally projects LOS C if I-40 is 8 lanes and LOS E if I-40 is 6 lanes.
- Felix Davila provided comments asking for clarification on the alternatives and the lanes to be added under each alternative. Due to the existing “auxiliary lanes” between US 70 Business and the I-440 interchange, some confusion has arisen based on the past alternative descriptions and typical sections. A clarification of the alternatives will be provided with the revised purpose statement and revised study area map, all of which will be distributed shortly for review and concurrence. FHWA and CAMPO will assist in coordinating the laneage. Mike Stanley noted that the STIP language will be revised to include the number of lanes once a preferred alternative is selected.
- Eric Alsmeyer asked the Team if anyone had issues or concerns with formalizing a new Purpose and Need Statement and Study Area, and distributing changes via email. Others agreed that seemed appropriate. Precoordination will be needed with the group first to get consensus on the language. The new Purpose and Need statement may include a new set of measurables. FHWA and CAMPO will assist in crafting new language, then the documentation will be distributed to the Team for review and signature.
- In summary, Brian Yamamoto noted that NCDOT will make the revisions as discussed and provide the Team updated information for review. The group agreed that since there were no changes to CP 2 and CP2a, the next anticipated Merger meeting would occur at CP 3. With no further discussion or questions, the meeting was adjourned.

Subsequent Meeting with USFWS and NCWRC, December 17 @ 2:30 PM

Meeting Purpose: To update USFWS and NCWRC Team members on the project and gather feedback on the current approach.

Attendees:

Gary Jordan	USFWS
Travis Wilson	NCWRC (via phone)
Brian Yamamoto	NCDOT PDEA
Bob Deaton	NCDOT PDEA
John Jamison	HDR
Jeff Dayton	HDR

Summary:

NCDOT and HDR staff began the meeting with introductions and a brief history of the project since 2009 as well as an overview of the previous day's meeting. The following are key discussion topics from the meeting:

- Gary Jordan stated that, in all likelihood, I-5111 would require formal Section 7 consultation.
- Gary noted the previously 21-mile section of Swift Creek with potential habitat for dwarf wedgemussel had been reduce to 11 miles.
- The Swift Creek minimization area noted in the 2011 field meeting was discussed.
 - Travis noted the sharp meander on the upstream (west) side of I-40 was of primary concern, and that the existing fill slope ran down near the top of bank.
 - Previous discussions had been focused around the potential for bank stabilization or channel relocation to be necessary for the widening of I-40.
- Gary stated there was potential for I-5111 and Complete 540 to be considered cumulatively for impacts, and since 540 would likely begin consultation first that I-5111 may have a “new baseline” to work under, one in which 540's impacts are already included.
- Complete 540 and its proposed formal Section 7 consultation should start next Spring for dwarf wedgemussel, once they select a Preferred Alternative.
- Complete 540 could culminate with a Jeopardy opinion, although good coordination is already occurring that may be able to end with conservation measures sufficient to avoid a Jeopardy biological opinion.
 - Conservation measures may include capture/propagation/augmentation of the existing population in the 11 miles of Swift Creek with documented habitat.
 - Will be based on the outcome of Phase 2 of the species viability study currently underway (see Phase 1 report at https://xfer.services.ncdot.gov/PDEA/Web/Complete540/reports/C540_DWM_PH1_03_14.pdf)
- Other species are currently under study by USFWS and may be listed within the next 1-2 years (may include Atlantic pigtoe, triangle floater, brook floater, yellow lance, Neuse River waterdog, Carolina madtom).
 - Atlantic pigtoe and triangle floater may already have documented occurrences near the I-40 Swift Creek crossing.
- Gary did not know whether critical habitat is under consideration for listing, but it was noted the rulemaking process would give notice (12-month finding notification) to interested parties like NCDOT.



Meeting Summary

Project:	NCDOT I-5111, I-40 Widening from I-440 to NC 42		
Meeting Location:	NCDOT Structures Design Conference Room CCA		
Meeting Subject / Date:	NCDOT I-5111 Merger Team CP 3/4a Meeting July 12, 2017 @ 3:00 PM		
Notes By:	J. Jamison, J. Dayton	Job No:	219635

Meeting Purpose: This meeting is to update the Merger Team on the project and gain concurrence on Concurrence Point 3 (LEDPA) and 4a (Avoidance & Minimization).

Attendees:

Donnie Brew	FHWA	Ron Cribbs	NCDOT Roadway
Eric Alsmeyer	USACE	Bill Elam	NCDOT Hydraulics
Gary Jordan	USFWS	Mark Staley	NCDOT REU
Rob Ridings	NCDWR	Jared Gray	NCDOT NES
Travis Wilson	NCWRC (via phone)	Gordon Cashin	NCDOT NES
Renee Gledhill-Earley	SHPO (via phone)	John Pilipchuk	NCDOT Geotech (via phone)
Chris Lukasina	CAMPO	James Dunlop	NCDOT Congestion
Kenneth Withrow	CAMPO	Braden Walker	NCDOT Congestion
Richard Hancock	NCDOT Div 5	Herman Huang	NCDOT HES
David Keilson	NCDOT Div 5	Todd Lapham	NCDOT Utilities
Mike Stanley	NCDOT STIP	Michael Wood	Three Oaks
Brian Yamamoto	NCDOT PDEA	Nancy Scott	Three Oaks
Bob Deaton	NCDOT PDEA	John Jamison	HDR
David Hering	NCDOT Design-Build	Casey Harris	HDR
Byron Kyle	NCDOT Design-Build	Jeff Dayton	HDR
Tatia White	NCDOT Roadway		

Summary:

Bob Deaton of NCDOT began the meeting with introductions and a brief history of the project. Jeff Dayton of HDR gave a presentation comparing the alternatives that are under study and the project's anticipated next steps. John Jamison of HDR presented a summary of avoidance efforts to date. The following are key discussion topics from the meeting:

- The presentation summarized the information provided in the meeting packet, and provided additional graphics in support of the alternative selection and avoidance/minimization data.
 - Alternative 1 is widening to accommodate the addition of 2 general purpose lanes in each direction throughout the project limits.
 - Alternative 2 is widening to accommodate the addition of 2 general purpose lanes in each direction, but with only 1 general purpose lane in each direction from south of US 70 Clayton Bypass to NC 42.

- Gary Jordan noted that the yellow lance will likely be listed in April 2018, although no differences in impacts to the yellow lance are expected between Alternatives 1 and 2. John Jamison noted that the Biological Assessment (BA) will have some mitigation measures contained therein. The BA could present different options. It should be general enough to have the impacts from a “worst” case scenario fully covered.
- Bob Deaton reiterated the history and the coordination that has occurred between I-5111, I-4739, and Complete 540 team members. The I-5111 project is expected to incur the majority of direct impacts at Swift Creek because the bridge reconstruction over the creek will include accommodations for auxiliary lanes needed for both the Complete 540 interchange and the NC 42 interchange. The I-5111 project will include all project grading along I-40 for auxiliary lanes.
- Gary Jordan asked about the stream impacts that parallel the I-40 corridor. Most of the streams that are directly adjacent to the corridor are north of the Clayton Bypass interchange and drain to Walnut or White Oak Creeks and are well over a mile away from Swift Creek. The team is continuing to work to minimize potential impacts where possible as the project moves forward into Design-Build.
- Eric Alsmeyer asked if I-5111 will have its own Section 7 consultation. John Jamison responded that Complete 540 has their own Section 7 consultation, in addition to the consultation for I-5111. It is expected that I-4739 will not be in formal consultation.
- Michael Wood wondered if the team was considering one or two bridges over Swift Creek. At this point, the assumption is it will be one single bridge. Jim Dunlop noted that the traffic control design will occur at a later date and may dictate what can be constructed. The I-5111 team continues to consider constructability and impacts in their design efforts.
- Gary Jordan preferred that all disturbance impacts in the Swift Creek bridge vicinity occur simultaneously for all the projects. Eric Alsmeyer agreed as well, and noted the impacts are not very different between Alternative 1 and 2. The team agreed that due to the traffic operations comparison of LOS C under Alternative 1 versus the LOS E under Alternative 2, combined with the minimal differences in impacts (wetlands, streams, ROW in particular) between the alternatives, Alternative 1 is the Least Environmentally Damaging Practicable Alternative (LEDPA). The team’s written concurrence with the LEDPA is attached.
- David Hering provided an update that the I-5111 project is expecting a Design-Build advertisement in October, with a possible let in May 2018. These dates are contingent on whether the I-4739 project is combined with I-5111 in the same Design-Build contract.
- In summary, Bob Deaton noted that NCDOT will provide meeting minute documentation and distribute accordingly. CP 3 and 4a sheets were then distributed for signatures (see attached). With no further discussion or questions, the meeting was adjourned.

**Section 404/NEPA Interagency Agreement
Concurrence Point No. 3
Least Environmentally Damaging Practicable Alternative (LEPDA)**

Project Title and Project Number: I-40 Widening from I-440 (Exit 301, I-40/Raleigh Beltline split) to NC 42 (Exit 312), Wake and Johnston Counties; NCDOT STIP Project I-5111.

Project Description: The North Carolina Department of Transportation (NCDOT) proposes to widen I-40 from I-440 (Raleigh Beltline) near Exit 301 where I-40 and I-440 diverge, to near Exit 312 at the interchange of I-40 and NC Highway 42. The proposed project, I-5111, is included in the 2016-2025 North Carolina Transportation Improvement Program (TIP) for planning, design and construction. Funding for construction is currently posted in the TIP as beginning in Fiscal Year 2018. The existing I-40 corridor contains three lanes in each direction between I-440 and US 70 Business, and two lanes in each direction between US 70 Business and NC 42.

Least Environmentally Damaging Practicable Alternative (LEPDA):

Build Alternative 1 Yes No
Build Alternative 2 Yes No

The project team has concurred on the LEDPA for the proposed project as listed above.

Name	Agency	Date
<i>Eric Alsmeyer</i>	USACE	July 12, 2017
<i>Alan A. [Signature]</i>	USEPA	7/25/17
<i>Gary Jordan</i>	USFWS	7/12/2017
<i>Felix [Signature]</i>	FHWA	7/12/17
<i>Rob [Signature]</i>	NCDWR	July 12, 2017
<i>Renee Medkell-Easley</i>	NCHPO	7-25-17
<i>[Signature]</i>	NCWRC	8-8-17
<i>ROBERT DEATON</i>	NCDOT	JULY 12, 2017
<i>Kenneth W. [Signature]</i>	CAMPO	July 13, 2017

Section 404/NEPA Interagency Agreement Concurrence Point No. 4A Avoidance and Minimization

Project Title and Project Number: I-40 Widening from I-440 (Exit 301, I-40/Raleigh Beltline split) to NC 42 (Exit 312), Wake and Johnston Counties; NCDOT STIP Project I-5111.

Avoidance and Minimization

The project alternatives minimize impacts to resources. However, it is not feasible for the proposed project to completely avoid impacts to the natural and human environment and still meet the purpose and need of the project. The following avoidance and minimization efforts have been incorporated into the proposed project:

Section 404 Avoidance and Minimization Measures

- The project was designed to fit within the existing corridor wherever possible.
- Each overpass was closely reviewed to determine whether replacement was necessary. Very little new right-of-way is needed in order to construct the project.
- Typical sections were minimized in order to reduce the fill to the outside shoulder.
- Changes to ramps are focused on safety & traffic flow, with only spot improvements proposed.
- The I-440 ramp reconfiguration utilizes the previously-disturbed highway corridor with no significant community or natural impacts anticipated.
- Section 7 consultation measures at Swift Creek
 - Bridge span is much longer than existing to provide a larger hydraulic opening and to minimize the effects on Swift Creek and its floodplain
 - Bridge bents will not be located in Swift Creek
 - Hazardous spill basin BMP's are being analyzed at the Swift Creek bridge where feasible
 - Impacts from the 3 overlapping projects (I-5111, I-4739 and Complete 540) are being constructed as part of I-5111 to minimize the temporal disturbance impacts
- There has been a significant amount of coordination between the Complete 540, I-4739 and I-5111 project teams to ensure the three projects would be constructible.
- I-5111 provides the widening/replacement of the Swift Creek bridge to address the ultimate buildout for all three projects.
- I-5111 provides full-depth paved shoulder for the bus-on-shoulder system (BOSS) transit service.
- Design of hydraulic crossings takes into account the urbanization of the area and provides larger hydraulic openings.
- Design Standards in Sensitive Watersheds will be used within the Swift Creek portion of the project.
- Retaining walls will be utilized along the eastbound and westbound slopes south of the Swift Creek bridge crossing to avoid and minimize adjacent wetland and stream impacts.

The project team has concurred on the Avoidance and Minimization Measures for the proposed project as listed above.

Name	Agency	Date
<i>Eric Asay</i>	USACE	7/12/2017
<i>Chris P. R.</i>	USEPA	7/25/17
<i>Gary Jordan</i>	USFWS	7/12/2017
<i>Felix D. Ilin</i>	FHWA	7/12/17
<i>Rob Kidding</i>	NCDWR	7/12/17
<i>Renee Hedhill-Easley</i>	NCHPO	7.25.17
<i>S. M. R.</i>	NCWRC	8-8-17
<i>Robert Deato</i>	NCDOT	July 12, 2017
<i>Kenneth W. Withrow</i>	CAMPO	July 12, 2017