

North Carolina Department of Transportation

NEPA/SEPA Consultation Form

STIP Project No.	R-2829A and R-2829B
WBS Element	R-2829A - 35517.3.TA1, 35517.3.TAGV1 R-2829B - 35517.3.TA2, 35517.3.TAGV2
Federal Aid Project No.	R-2829A – 0540047 R-2829B – 0540048

A. Project Description, Location, and Purpose:

This consultation is being prepared for a portion (STIP Projects R-2829A and R-2829B) of the Complete 540/Triangle Expressway Southeast Extension Project. The Complete 540/Triangle Expressway Southeast Extension Project is comprised of five (5) separate projects as programmed in the North Carolina Department of Transportation (NCDOT) 2020-2029 Current State Transportation Improvement Program (STIP) and are shown in **Exhibit 1**.

- STIP project R-2721A: from NC 55 Bypass to east of Holly Springs Road;
- STIP Project R-2721B: from east of Holly Springs Road to east of US 401;
- STIP project R-2828: from east of US 401 to I-40;
- STIP project R-2829A: from I-40 to south of Rock Quarry Road; and
- STIP project R-2829B: from south of Rock Quarry Road to I-87/US 64/US 264.

Complete 540 is a greenfield project that will link the towns of Apex, Cary, Clayton, Garner, Fuquay-Varina, Holly Springs, Knightdale, and Raleigh and is located predominately in Wake County (NCDOT Division 5), and a small portion is in Johnston County (NCDOT Division 4). In addition to connecting these towns and cities, the project is anticipated to ease congestion on area roadways, including I-440, I-40, I-42, NC 42, NC 55, and Ten Ten Road. Complete 540 is the extension of the existing Triangle Expressway (Toll NC 540) and will provide the final segments of the 540 Outer Loop around the greater Raleigh area, from the southern terminus of Triangle Expressway to the I-540/I-87/US 64/US 264 interchange in Knightdale. The new facility is planned as a six-lane, controlled-access toll facility with a 70-foot wide median and a posted speed limit of 70 miles per hour. Tolls will be collected by an electronic toll collection (ETC) system.

Exhibit 1: Complete 540 STIP Projects



Phase 1 of Complete 540 is comprised of STIP Projects R-2721A, R-2721B and R-2828. These projects are currently under construction. Phase 2 of Complete 540 includes STIP Projects R-2829A and R-2829B and is located within Wake County. The southern terminus of Complete 540 Phase 2 is I-40, and extends approximately 10.2 miles north to the I-87/US 64/US 264 interchange in Knightdale. These projects are programmed in the NCDOT 2020-2029 Current STIP (April 2023) for right of way, utilities and construction funding beginning in fiscal year (FY) 2023. The limits of Complete 540 Phase 2 are shown in **Exhibit 2**.

Exhibit 2: Complete 540 Phase 2



Project Purpose and Need

Need #1 – Mobility for the Movement of People and Goods

Need #2 – Limited Transportation Options to Provide Sufficient Capacity for Efficient, High-Speed Local and Through Travel between Rapidly-Growing Communities South and East of Raleigh and Major Employment and Activity Centers along the 540 Outer Loop and Along Roadways Connecting to the Outer Loop, such as I-40, NC 147, and US 1/64

Need #3 – Existing and Projected Poor Levels of Service (LOS)

- To improve transportation mobility for trips within, or traveling through, the project study area during the peak travel period; and
- To reduce forecast congestion on the existing roadway network within the project study area.

The Final Environmental Impact Statement (FEIS) states:

“Much of the growth that has occurred in the Triangle Region over the past decades has been in developments that include mostly low-density, single-family residences. One outcome of this kind of land use is the heavy burden it places on local roads. These developments often have few connection points to the area’s larger roadway network, meaning that the traffic they generate is all funneled onto the same limited number of roads. The traffic congestion this creates becomes worse when residential areas are far removed from major employment locations, with several of these developments all needing to access the same roadways. The result is a need to improve mobility by providing additional route choices for those who live or work in, or travel through, the study area.

Reducing Congestion on the existing roadway network—Many of the roads south and east of

Raleigh are moderately to severely congested during the morning and evening peak travel times. CAMPO (the Capital Area Metropolitan Planning Organization) predicts that congestion in this area will worsen over the next several years, meaning an increasing number of roadway segments and intersections will provide unacceptably low levels of service. CAMPO's 2040 Metropolitan Transportation Plan identifies several future transportation projects that would help ease this increase in traffic congestion. One of those is the proposed Complete 540 project."

Based on the aforementioned needs, the following purposes for the project have been identified:

- To improve transportation mobility for trips within, or traveling through, the project study area during the peak travel period; and
- To reduce forecasted congestion on the existing roadway network within the project study area.

Based on state and local plans, an outcome of the project will be to improve system linkage in the roadway network in the project study area. As included in state and local plans, the proposed action would be the final link in the 540 Outer Loop completing a controlled-access, high-speed circumferential facility around the outskirts of Raleigh. The facility would benefit not only the local commuters living south and east of Raleigh, but also longer distance motorists and trucks that are passing through the Triangle Region to and from points south and east.

B. Consultation Phase: (Check one)

- Right-of-Way
- Construction
- Other: Identify the trigger – (e.g., design change, change in impacts)

C. NEPA/SEPA Class of Action Initially Approved as: (Check one)

- FHWA Class I (EIS/ROD) Documents completed for
R-2721, R-2828, R-2829:
FHWA Draft EIS - November 2015
FHWA Final EIS - December 2017
FHWA ROD - June 2018

Additional Notes: Consultation completed in December 2019 prior to construction activity beginning on R-2721A, R-2721B, R-2828.

D. Changes in Proposed Action & Environmental Consequences:

Two separate Design-Build contracts are being procured in parallel on a staggered schedule, separated by approximately two months for R-2829A and R-2829B. The scheduled let dates are July 2023 for the R-2829B project and September 2023 for the R-2829A project. Both contracts will include design, right-of-way acquisition, traffic management, site investigations, permitting, utility coordination and relocation, as well as construction of the facility. The preconstruction activities will be performed in parallel by a team of contractors and multi-disciplinary private engineering firms to expedite project delivery. Once Design-Build Teams are selected, they are responsible for completing the final design for the project. Once the final design is completed, and prior to construction, a construction consultation will be prepared to describe any changes in the proposed action and environmental consequences based on the final design. The permit modification packages will also be prepared by the Design-Build Teams for NCDOT/NCTA submittal to the environmental agencies for approval. Currently, the proposed action and environmental consequences for R-2829A and R-2829B remain the same as documented in the June 2018 Record of Decision (ROD).

E. Conclusion:

The above NEPA documentation has been re-evaluated (as required by 23 CFR 771). It has been determined that the current proposed action is essentially the same as the original proposed action. Proposed changes, if any, are noted in Section D. It has been determined that anticipated social, economic, and environmental impacts were accurately described in the above referenced document(s) unless noted otherwise herein. Therefore, the original Administration Action remains valid.

F. Coordination

NCDOT personnel have discussed the current project parameters with qualified NCDOT representatives and FHWA (where applicable). The NCTA Interim Chief Engineer, Dennis Jernigan, hereby verifies the involvement of the following staff and the incorporation of their technical input:

Lochner Design Engineer:	Brian Eason, P.E.	5/9/2023
Environmental Specialist:	Deanna Riffey	5/9/2023
FHWA (if applicable):	Donnie Brew	5/9/2023
Other:	Name	Date

G. Consultation Approval for NCDOT Project R-2829A and R-2829B

Prepared By:

5/9/2023

Date

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Jennifer Harris, P.E., General Engineering Consultant
For NCDOT, North Carolina Turnpike Authority

Prepared For:

DocuSigned by:



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Ron McCollum, P.E., Deputy Chief Engineer for Preconstruction
NCDOT, North Carolina Turnpike Authority

Reviewed By:

5/10/2023

Date

DocuSigned by:



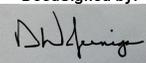
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Colin Mellor, Eastern Region Team Lead (Div. 1-6 & 8)
NCDOT, Environmental Policy Unit

- Approved** In adherence with 23 CFR 771 (NEPA) or NC General Statute Chapter 113A Article 1 (SEPA), NCDOT approves this Consultation.
- or
- Certified** NCDOT staff certifies if FHWA signature was previously required or where changes have resulted in FHWA signature being required.

5/10/2023

Date

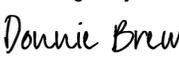
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Dennis Jernigan, P.E., Interim Chief Engineer
NCDOT, North Carolina Turnpike Authority

FHWA Approved: FHWA signature required for Type I(B) CE, Type II(B) CE, Type III CE, FONSI or ROD.

5/10/2023

Date

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for John F. Sullivan, III, P.E., Division Administrator
Federal Highway Administration

H. Project Commitments (as of May 9, 2023)

Wake and Johnston Counties
Complete 540 – Triangle Expressway Southeast Extension
Federal Project No. STP-0540(19), STP-0540(20), and STP-0540(21)
WBS No. 37673.1.TA1, 35516.1.TA1, and 35517.1.TA1
TIP No. R-2721, R-2828, and R-2829

COMMITMENTS FROM PROJECT DEVELOPMENT AND DESIGN

Item	Responsible Party	Resource	Project Commitment	Project Stage / Status	Applicable STIP Project
1	Environmental Analysis Unit, NCTA	Historic Architectural Resources	NCDOT will coordinate with the NC State Historic Preservation Office and the property owner(s) relative to potential retaining wall design to eliminate the need for permanent easement or right-of-way from the Panther Branch School.	Completed	R-2828
2	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will conduct an archaeological survey of the Preferred Alternative and will coordinate the results with the NC State Historic Preservation Office and the NC Office of State Archaeology.	Completed	R-2721, R-2828, and R-2829
3	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will establish a Memorandum of Agreement with the NC State Historic Preservation Office in order to take into account the project's effect on archaeological resources.	Completed	R-2828
4	Environmental Analysis Unit, NCTA	Archaeological Resources	NCDOT will coordinate with the NC Office of State Archaeology relative to data recovery of materials in the one site determined eligible for the National Register of Historic Places based on the information contained at the site.	Final Design and Construction	R-2828
5	NCTA	Community Resources & Section 4(f)	NCDOT will coordinate with the Town of Cary relative to a potential Section 4(f) de minimis use finding for the Middle Creek School Park.	Completed	R-2721
6	NCTA	Community Resources & Section 4(f)	NCDOT will coordinate with the City of Raleigh relative to a potential Section 4(f) de minimis use finding for the Neuse River Trail.	Completed	R-2829
7	Division 5, NCTA	Recreation Facility	During construction, NCDOT will accommodate trail users along the Neuse River Trail through the project construction zone.	Final Design and Construction	R-2829
8	Environmental Analysis Unit, NCTA	Noise	NCDOT will prepare Design Noise Reports for the Selected Alternative during final design. All feasible and reasonable noise abatement measures will be constructed.	Final Design and Construction	R-2721, R-2828, and R-2829

Item	Responsible Party	Resource	Project Commitment	Project Stage / Status	Applicable STIP Project
9	Hydraulics Unit, NCTA	Stormwater Management	NCDOT will utilize Design Standards in Sensitive Watersheds in the Swift Creek and in the Lower Middle Creek watersheds.	Construction and *Final Design	R-2721, R-2828, and R-2829*
10	Environmental Analysis Unit, NCTA	Migratory Birds	NCDOT will comply with requirements set forth in the Migratory Bird Treaty Act (MBTA) of 1918. <i>On December 22, 2017, after further analysis of the text, history, and purpose of the MBTA, the US Department of Interior issued Opinion M-37050. Opinion M-37050 permanently withdraws and replaces Opinion M-37041. Opinion 37050 concludes that the MBTA applies to only affirmative actions that have as their purpose to reduce migratory birds by taking or killing of migratory birds, their eggs, or their nest.</i>	Construction	R-2721, R-2828, and R-2829
11	Hydraulics Unit, NCTA	Major Drainage Structures	NCDOT will perform a more detailed hydrologic and hydraulic analysis for each major drainage crossing for the Selected Alternative.	Final Design	R-2721, R-2828, and R-2829
12	Utilities Unit, NCTA	Utilities	NCDOT will coordinate with the appropriate utility owners during design of the Selected Alternative for all utility conflicts, including means to avoid or minimize impacts to utilities.	Final Design	R-2721, R-2828, and R-2829
13	Environmental Analysis Unit, NCTA	Indirect Effects & Cumulative Impacts	NCDOT will prepare a quantitative assessment for indirect and cumulative effects and impacts for the Selected Alternative.	Completed	R-2721, R-2828, and R-2829
14	Environmental Analysis Unit, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the Biological Assessment of Potential Impacts to Federally Listed Species (December 2017) and the USFWS Biological Opinion (April 2018) and as amended.	Construction and *Final Design	R-2721, R-2828, and R-2829*
15	Environmental Analysis Unit, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the Biological Assessment for Atlantic Sturgeon Critical Habitat (December 2017) and the NMFS concurrence letter (May 2018) and as amended.	Final Design and Construction	R-2829
16	Environmental Analysis Unit, Division 5, NCTA	Protected Species	FHWA and NCDOT will update the 2017 Biological Assessment and coordinate with USFWS in accordance with ESA Section 7 for the Neuse River Waterdog, Carolina Madtom, Atlantic Pigtoe, and Atlantic Pigtoe Critical Habitats.	Completed	R-2721, R-2828, and R-2829
17	Environmental Analysis Unit, Division 5, NCTA	Protected Species	NCDOT will carry out all activities for which it has been assigned responsibility in the Revised Biological Assessment of Potential Impacts to Federally Listed Species (July 2019) and the USFWS Revised Biological/Conference Opinion (October 2019).	Construction and *Final Design	R-2721, R-2828, and R-2829*

COMMITMENTS FROM PERMITTING

Item	Responsible Party	Commitment Source	Project Commitment	Project Stage / Status	Applicable STIP Project
18	Division 5, NCTA	Recreation Facility	During construction, NCDOT will accommodate trail users along the Woodcreek Trail through the project construction zone.	Construction	R-2721A
19	Division 5, NCTA	404 Permit Condition 2	NCDOT will protect the Atlantic Sturgeon by not blocking greater than 50% of the Neuse River below the ordinary high-water mark with temporary causeways or work bridges. All causeways and work bridges will be removed at the end of the project.	Construction	R-2829
20	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3	NCDOT will comply with the attached USFWS Biological Opinion-Revised (USFWS BO), dated October 15, 2019.	Construction and *Final Design	R-2721, R-2828, and R-2829*
21	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS Biological Opinion (BO) Section 2.4)	NCDOT will invite representatives of the USFWS NCWRC, and other agency personnel to preconstruction meetings prior to incurring impacts in jurisdictional features, as well as to preconstruction meetings associated with installation of structures within 0.25 mile of the Swift Creek crossing.	Construction	R-2828
22	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 2.4)	NCDOT will not allow any part of the bridging structure for Swift Creek to be within 10 feet of the top of bank on either side of the channel. No permanent structures or temporary structures will be placed in Swift Creek. All permanent and temporary structures will be installed and designed to maintain stability of the stream banks of Swift Creek.	Construction	R-2828
23	Roadside Environmental Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 2.4)	NCDOT will require construction of two permanent hazardous spill basins (HSBs) at the crossing of Swift Creek. Road runoff from approximately 1.3 miles of road facility will be directed to the HSBs prior to discharge into Swift Creek or Swift Creek tributaries. The HSBs will be designed to contain a spill from a typical tanker truck. NCDOT will implement their standard protocols for upkeep and use of these HSBs.	Construction	R-2828

Item	Responsible Party	Commitment Source	Project Commitment	Project Stage / Status	Applicable STIP Project
24	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Sections: 2.4, 8.2 & 8.3)	NCDOT will conduct a preconstruction survey (just prior to construction) at the Swift Creek crossing and remove mussels from a defined salvage area and relocate them to appropriate habitat within Swift Creek outside of the salvage area (relocation site) or if deemed appropriate, after coordination with the USFWS and NCWRC, Dwarf Wedgemussel and Yellow Lance individuals may be taken into captivity to use as brood stock for propagation efforts. The preconstruction survey will be incorporated into a Mussel Relocation Plan, which will identify the salvage area and relocation site, and be developed in coordination with USFWS/NCWRC.	Construction	R-2828
25	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Sections: 2.4, 8.2 & 8.3)	NCDOT will provide funding to Wake County and NCWRC, after receiving the Section 404 Permit, to be utilized for the retrofit and upgrade of the existing research facility in the A.E. Finley Center, at the Historic Yates Mill County Park for the purpose of research and propagation of aquatic species.	Final Design	R-2721, R-2828, and R-2829
26	Division 5, NCTA	404 Permit Condition 3 (Attachment: USFWS BO Section 8.4)	NCDOT will monitor the Action area for evidence of sediment loss. The USFWS will be contacted if project related sedimentation is occurring beyond 400 meters from the Action area.	Construction	R-2828
27	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 17	NCDOT will implement the Memorandum of Agreement (MOA) between the USACE and SHPO dated March 11, 2018 and adhere to the specific Stipulations provided in the MOA attachment.	Final Design and Construction	R-2721, R-2828, and R-2829
28	Roadside Environmental Unit, Division 5, NCTA	404 Permit Condition 23	NCDOT will segregate topsoil (6-12") in wetland areas where pipelines will be installed via trenching. The topsoil will be used to backfill the trench.	Construction	R-2828
29	Environmental Analysis Unit, Division 5, NCTA	404 Permit Condition 27	NCDOT will only complete construction activities on TIPs R-2721A and B under the Section 404 Permit dated October 24, 2019 and R-2828 dated February 3,2020. No work will commence for TIP R-2829 without further USACE coordination.	Construction	R-2721, R-2828, and R-2829

Item	Responsible Party	Commitment Source	Project Commitment	Project Stage / Status	Applicable STIP Project
30	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 3)	NCDOT will stop in-water construction activities if a sturgeon is spotted within 50 feet of operations. (See Attached NMFS Consultation)	Construction	R-2829
31	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 3)	NCDOT will observe an in-water work moratorium of February 15-October 31. This includes installation/removal of causeways and temporary bridges. This will cover the WRC moratorium of February 15-September 30.	Construction	R-2829
32	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 4)	NCDOT will not blast within 50 feet of the Neuse River.	Construction	R-2829
33	Division 5, NCTA	National Marine Fisheries Service Consultation (Page 4)	NCDOT will adhere to shoreline stabilization Project Design Criteria (PDCs) when installing new bridges and piers.	Construction	R-2829
34	Division 5, NCTA	National Marine Fisheries Service Consultation (Attachment 1)	NCDOT will follow the PDCs outlined in Attachment 1 of the NMFS Consultation	Construction	R-2829
35	Division 5	401 Modification Condition 1 (February 15, 2023)	All protective measures as described in the application received January 11, 2023 and additional information provided February 13, 2023, shall be required as a condition of this certification, including practices described in the bridge demolition plans. Measures stated included the use of geotextile fabric, straw bales and crane mats at the locations of jurisdictional impacts for the bridge demolitions, in order to prevent demolition materials from entering the stream. Once all non-native materials and demolition debris has been removed the sites will be matted, seeded, and revegetated as stated in the application. As stated in the application, in the event that too much demolition material accumulates on the mats and potential for rubble to spread into jurisdictional areas, the process will be paused to clear concrete from the mats.	Construction	R-2828

Commitments derived from final permitting for R-2829 will be added to the list above.