North Carolina Department of Transportation

Highway Stormwater Program

STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS

(Version 3.00; Released August 2021)

WBS Element: 35517.3.TA1 **TIP/Proj No:** R-2829A **County(ies):** Wake

General Project Information

WBS Element:	35517.3.TA1	**TIP Number:**	R-2829A	**Project Type:**	New Location	**Date:**	4/10/2024
NCDOT Contact:	NCTA	**Contractor / Designer:**		RK&K: Alexis Burke, PE			
Address:				**Address:**	8601 Six Fork Rd Forum 1, Suite 700 Raleigh, NC 27615		
Phone:				**Phone:**	919-878-9560		
Email:				**Email:**	aburke@rkk.com		
City/Town:	Raleigh			**County(ies):**	Wake		
River Basin(s):	Neuse			**CAMA County?**	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	4.16	**Surrounding Land Use:**	Commericial / Industrial / Residential				
	Proposed Project			**Existing Site**			
Project Built-Upon Area (ac.)		ac.			ac.		
Typical Cross Section Description:	A typical cross-section includes 3 12-foot lanes in either direction with a 70-foot grassed median designed to accommodate a future through-lane in either direction. Outside shoulders are 12-14 feet.						
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	22,040	Year: 2043	Existing:	15,440	Year:	2023

General Project Narrative: (Description of Minimization of Water Quality Impacts)

The design-build project, R-2829A, is the extension of the Triangle Expressway from I-40 to south of SR 2542 (Rock Quarry Road) in Wake County. The project will construct a 70 mph six-lane facility with two new interchanges and completion of the Toll NC 540/I-40/I-42 interchange.

Design Minimizations for wetlands and streams include:

1. Steepening of roadway fill slopes within jurisdictional areas.
2. Stormwater was designed to avoid direct discharge into jurisdictional features to the maximum extent practicable.
3. Stormwater design velocities entering jurisdictional features have been reduced to be non-erosive (less than 2 fps).
4. Open shoulder sections were maximized to promote sheet flow from the roadway.
5. Diffuse flow provided at outlets that do not have a well defined outfall.
6. RCBCs built offline. This provides faster construction in the dry, less time in / around the jurisdictional features, and a safer work area for the traveling public and construction crews.
7. Buffer swales have been designed where practicable to provide filtration prior to water entering jurisdictional streams.
8. Energy dissipator basin provided to reduce the risk of erosion where outfall analyses dictated.

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General Project Information

Waterbody Information

Surface Water Body (1):	White Oak Creek		**NCDWR Stream Index No.:**	27-43-11		
NCDWR Surface Water Classification for Water Body		**Primary Classification:**	Class C			
		Supplemental Classification:	Nutrient Sensitive Waters (NSW)			
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:	SFV			**Buffer Rules in Effect:**	Neuse	
Project Includes Bridge Spanning Water Body?	Yes	**Deck Drains Discharge Over Buffer?**	No	**Dissipator Pads Provided in Buffer?**	No	
Deck Drains Discharge Over Water Body?	No	(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (2):			**NCDWR Stream Index No.:**			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**				
		Supplemental Classification:				
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**		
Project Includes Bridge Spanning Water Body?		**Deck Drains Discharge Over Buffer?**		**Dissipator Pads Provided in Buffer?**		
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						

Surface Water Body (3):			**NCDWR Stream Index No.:**			
NCDWR Surface Water Classification for Water Body		**Primary Classification:**				
		Supplemental Classification:				
Other Stream Classification:						
Impairments:						
Aquatic T&E Species?		Comments:				
NRTR Stream ID:				**Buffer Rules in Effect:**		
Project Includes Bridge Spanning Water Body?		**Deck Drains Discharge Over Buffer?**		**Dissipator Pads Provided in Buffer?**		
Deck Drains Discharge Over Water Body?		(If yes, provide justification in the General Project Narrative)		(If yes, describe in the General Project Narrative; if no, justify in the General Project Narrative)		
(If yes, provide justification in the General Project Narrative)						