



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN

FOR NCDOT PROJECTS



(Version 2.08; Released April 2018)

WBS Element: 44033.3.3 TIP No.: U-5026/R-5720 County(ies): Nash Page 1 of 4

General Project Information

WBS Element:	44033.3.3	TIP Number:	U-5026/R-5720	Project Type:	Roadway Widening	Date:	3/10/2020
NCDOT Contact:	Rachel Evans		Contractor / Designer:		HDR Engineering / James Rice, P.E.		
	Address:	509 Ward Blvd Wilson, NC 27893			Address:	555 Fayetteville Street, Suite 900 Raleigh, NC 27601	
	Phone:	(252) 640-6434			Phone:	(919) 232-6621	
	Email:	rcevans@ncdot.gov			Email:	james.rice@hdrinc.com	
City/Town:	Nashville/Rocky Mount			County(ies):	Nash		
River Basin(s):	Tar-Pamlico			CAMA County?	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	6.73	Surrounding Land Use:	Agricultural, light industrial					
		Proposed Project	Existing Site					
Project Built-Upon Area (ac.)	62.5	ac.	28.5	ac.				
Typical Cross Section Description:	4 lane divided highway w/ a 22 foot variable median: (2) 12 foot travel lanes w/ 4 foot outside shoulders and raised grass/concrete medians - total width of 78'.			(2) 11 foot lanes w/ 1 foot shoulders from SR 1003 to SR 1603. (2) 12 foot lanes w/ 12 foot two way left turn lane and curb and gutter from SR 1603 to SR 1544.				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	26100	Year:	2040	Existing:	17311	Year:	2019

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

Project Description: The proposed project (U-5026/R-5720) widens Eastern Ave/Sunset Ave from SR 1003 (Red Oak Road) to SR 1544 (North Halifax Road). The project will construct approximately 6 miles of 4-lane divided highway with open shoulder sections from SR 1003 to SR 1603 (North Old Carriage Road) and curb and gutter section from SR 1603 to SR 1544. The project includes seven roundabouts and a new interchange with I-95. Streams located within the project corridor include unnamed tributaries Stony Creek and Maple Creek. There are no FEMA regulated streams within the project limits. Box culverts and circular pipe culverts are used to convey all jurisdictional stream crossings through the project. Wetland and buffer zones are also located throughout the project.

Impact Minimization Efforts: Culverts have been aligned to facilitate off-line construction. Ditches and pipes that outlet adjacent to wetlands have been designed to have non-erosive velocities. Closed drainage systems have been outletted to roadway ditches where possible. 3:1 side slopes were utilized throughout the project to minimize impacts to streams and wetlands.

Stormwater BMP Measures: The project was designed to limit impacts to existing off-site BMP's. Existing detention basins along the project have been utilized to the greatest extent possible. Ditches have been designed to meet grass swale criteria to the maximum extent practical.

Waterbody Information

Surface Water Body (1):	UT to Stony Creek		NCDWR Stream Index No.:	28-68			
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C				
	Supplemental Classification:		Nutrient Sensitive Waters (NSW)				
Other Stream Classification:	None						
Impairments:	Benthos						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	SZ, SA, SB(P), SB(I), SF, SD, SC		Buffer Rules in Effect:		Tar-Pamlico		
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?		N/A	
Deck Drains Discharge Over Water Body?	N/A	(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)							



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Additional Waterbody Information

Surface Water Body (2):	UT to Maple Creek		NCDWR Stream Index No.:	28-66	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Water Supply IV (WS-IV)		
	Supplemental Classification:		Nutrient Sensitive Waters (NSW)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SE		Buffer Rules in Effect:	Tar-Pamlico	
Project Includes Bridge Spanning Water Body?	No	Deck Drains Discharge Over Buffer?	N/A	Dissipator Pads Provided in Buffer?	N/A
Deck Drains Discharge Over Water Body?	N/A	(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)					



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Swales															
Sheet No.	Station & Coordinates (Road and Non Road Projects)	Surface Water Body	Base Width (ft)	Front Slope (H:1)	Back Slope (H:1)	Drainage Area (ac)	Recommended Treatm't Length (ft)	Actual Length (ft)	Longitudinal Slope (%)	Q2 (cfs)	V2 (fps)	Q10 (cfs)	V10 (fps)	Rock Checks Used	BMP Associated w/ Buffer Rules?
4	14+50 -Y1- RT (35.97195171/-77.9387990)	(1)UT to Stony Creek	0.0	6.0	4.0	0.6	59	250	0.89%	1.4	1.2	1.6	1.2		
4	12+00 -Y1- LT (35.9723465/-77.9379630)	(1)UT to Stony Creek	0.0	4.0	6.0	1.5	151	300	1.89%	2.8	1.9	3.3	2.0		
4	10+79 -Y1RPC- RT (35.9723465/-77.9379630)	(1)UT to Stony Creek	0.0	6.0	4.0	1.2	117	120	1.13%	2.2	1.8	2.6	1.8		
4	17+00 -Y1- RT (35.9713221/-77.9392100)	(1)UT to Stony Creek	0.0	6.0	6.0	0.2	20	50	1.70%	0.6	1.5	0.8	1.5		
6	40+00 -L- LT (35.9709828/-77.9321869)	(1)UT to Stony Creek	0.0	6.0	6.0	0.2	16	100	0.34%	0.4	0.7	0.5	0.8		
6	49+00 -L- RT (35.9704968/-77.9291540)	(1)UT to Stony Creek	0.0	6.0	6.0	0.7	67	400	1.57%	1.5	1.8	1.8	1.8		
7	55+00 -L- LT (35.9709168/-77.9271456)	(1)UT to Stony Creek	0.0	6.0	6.0	0.2	16	200	0.41%	0.4	0.8	0.5	0.8		
7	58+25 -L- LT (35.9709150/-77.9260393)	(1)UT to Stony Creek	0.0	4.0	6.0	1.1	112	325	1.14%	2.1	1.8	2.5	1.8		
7	61+00 -L- RT (35.9705633/-77.9251178)	(1)UT to Stony Creek	0.0	6.0	6.0	1.3	131	700	1.09%	2.4	1.7	2.9	1.8		
8	68+50 -L- RT (35.9704813/-77.9225912)	(1)UT to Stony Creek	0.0	6.0	6.0	0.9	93	450	0.30%	2.1	1.0	2.6	1.1		
9	83+50 -L- RT (35.9702961/-77.9175264)	(1)UT to Stony Creek	0.0	6.0	6.0	1.2	124	200	1.01%	2.3	1.6	2.7	1.7		
9	83+50 -L- RT (35.9702961/-77.9175264)	(1)UT to Stony Creek	0.0	6.0	6.0	2.8	284	550	1.05%	5.2	1.7	6.2	1.8		
9	83+00 -L- LT (35.9706641/-77.9177429)	(1)UT to Stony Creek	0.0	6.0	6.0	0.8	83	100	0.83%	1.9	1.5	2.3	1.5		
9	85+00 -L- LT (35.9706763/-77.9170591)	(1)UT to Stony Creek	0.0	6.0	6.0	0.4	41	300	0.88%	0.7	1.2	0.9	1.2		
9	89+50 -L- LT (35.9707385/-77.9155299)	(1)UT to Stony Creek	0.0	6.0	6.0	0.3	28	157	0.38%	0.8	0.9	1.0	0.9		
10	95+00 -L- LT (35.9707582/-77.9136612)	(1)UT to Stony Creek	0.0	6.0	6.0	0.7	67	350	0.78%	1.9	1.4	2.3	1.5		
10	95+00 -L- RT (35.9703731/-77.9136707)	(1)UT to Stony Creek	0.0	6.0	6.0	2.5	250	250	0.77%	4.6	1.8	5.5	1.8		
10	105+50 -L- RT (35.9701713/-77.9101557)	(1)UT to Stony Creek	0.0	6.0	6.0	2.4	237	600	0.82%	3.8	1.7	4.6	1.8		

Additional Comments



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Swales

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16	31+50 -CD2- RT (35.9671539/-77.8821936)	(2)UT to Maple Creek	0.0	6.0	3.0	2.2	221	350	0.30%	6.3	1.4	7.5	1.5		
16	40+00 -CD2- RT (35.9693683/-77.8812072)	(1)UT to Stony Creek	0.0	6.0	3.0	1.1	106	500	0.50%	3.0	1.4	3.6	1.5		
16	26+50 -CD1- LT (35.9675061/-77.8832012)	(2)UT to Maple Creek	0.0	3.0	3.0	0.3	26	160	1.70%	0.8	1.8	1.0	1.9		
16	13+25 -LLPD- RT (35.9679729/-77.8816259)	(2)UT to Maple Creek	0.0	6.0	4.0	0.2	21	125	3.14%	0.3	1.6	0.4	1.7		
16	16+40 -LRPD- LT (35.9671539/-77.8821935)	(2)UT to Maple Creek	0.0	6.0	6.0	0.7	71	360	2.63%	1.1	2.0	1.4	2.1		
22	15+78 -CD1- LT (35.9647419/-77.8844332)	(2)UT to Maple Creek	0.0	3.0	3.0	0.5	54	98	2.62%	1.2	1.9	1.5	2.0		
22	17+00 -LRPC- RT (35.9674990/-77.8835124)	(2)UT to Maple Creek	0.0	4.0	3.0	0.6	56	230	1.03%	1.8	1.8	2.2	1.8		
22	22+00 -CD1- RT (35.9662746/-77.8834515)	(2)UT to Maple Creek	0.0	6.0	6.0	0.3	34	250	0.58%	1.1	1.1	1.3	1.2		
22	22+00 -CD1- RT (35.9662746/-77.8834515)	(2)UT to Maple Creek	0.0	6.0	6.0	1.7	171	1000	0.33%	5.5	1.3	6.6	1.4		
22	24+50 CD2 LT (35.9654114/-77.8832184)	(2)UT to Maple Creek	0.0	4.0	6.0	0.8	77	462	1.40%	2.2	1.9	2.6	2.0		
22	24+50 CD2 LT (35.9654114/-77.8832184)	(2)UT to Maple Creek	0.0	4.0	6.0	0.7	66	400	0.59%	1.9	1.3	2.3	1.4		
23	40+10 -CD2- LT (35.9694444/-77.8814477)	(1)UT to Stony Creek	0.0	6.0	9.0	1.3	127	663	0.49%	3.6	1.3	4.3	1.4		
23	46+73 -CD2- LT (35.9711602/-77.8806859)	(1)UT to Stony Creek	0.0	6.0	9.0	0.3	26	147	0.51%	0.7	0.9	3.6	1.0		
23	48+20 -CD2- LT (35.9715392/-77.8805145)	(1)UT to Stony Creek	0.0	6.0	8.0	1.0	104	630	0.49%	3.0	1.3	0.9	1.3		
23	54+50 -CD2- LT (35.9731667/-77.8797949)	(1)UT to Stony Creek	0.0	6.0	8.0	1.3	131	850	0.48%	3.7	1.4	4.5	1.4		
23	34+85 -CD1- RT (35.9696063/-77.8820086)	(1)UT to Stony Creek	0.0	6.0	8.0	1.3	134	815	0.61%	3.8	1.5	4.6	1.6		
23	43+00 -CD1- RT (35.9717083/-77.8810745)	(1)UT to Stony Creek	0.0	6.0	8.0	2.4	244	500	0.30%	6.7	1.3	8.1	1.4		
23	48+00 -CD1- RT (35.9729999/-77.8804997)	(1)UT to Stony Creek	0.0	6.0	8.0	2.4	244	1050	0.37%	6.7	1.4	8.1	1.5		

Additional Comments

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