

## DEPARTMENT OF THE ARMY

WILMINGTON DISTRICT, CORPS OF ENGINEERS 69 DARLINGTON AVENUE WILMINGTON, NORTH CAROLINA 28403-1343

February 11, 2020

Regulatory Division

SUBJECT: DA# SAW-2009-00556; I-40; TIP R-5111

North Carolina Department of Transportation (NCDOT) Environmental Analysis Unit Attn: Philip S. Harris, PhD 1548 Mail Service Center Raleigh, North Carolina 27699-1548

Dear Mr. Harris

Reference the Department of the Army permit issued to the North Carolina Department of Transportation (NCDOT) on September 6, 2019, to authorize the discharge of fill material into waters of the United States, for construction of the I-40 improvements, TIPs I-4111 and I-4739, I-440/US 64 in Raleigh, to SR 1010 (Cleveland Road) in Clayton, Wake and Johnston Counties, North Carolina.

Also, please reference your December 20, 2019 letter, requesting modification of the permit to authorize design revisions for Permit Sites 40 and 42, as shown on the submitted revised permit drawings 1, 83, 84, 91, and 92, attached.

The revised design results in the following impact changes:

Site 40 (Swift Creek): Changing 80 linear feet of temporary access impact to permanent impact for riprap bank stabilization.

Site 42 (Wetland): Changing .05 acre of mechanized clearing impact to permanent fill impact.

We have reviewed the requested modification, and determined that it is appropriate and reasonable. We have also determined that no public notice is required for this modification, since the revised impacts are minor, and do not add any permanent loss of aquatic resources. Therefore, the permit is hereby modified to include the changes listed in the December 20, 2019 revision submittal. The revised total impacts are as follows: permanent impacts to 1.01 acres of wetlands, 7,636 linear feet

of stream, and 0.58 acre of ponds, and temporary impacts to 0.14 acre of wetlands, and 1,611 linear feet of stream. There is no net change to total permanent wetland impacts, or stream impacts with more than minimal aquatic function; therefore, the required compensatory mitigation has not changed.

Special Condition 1 is modified as follows:

1. Work Limits: All work authorized by this permit shall be performed in strict compliance with the original and revised permit drawings (original submitted on May 7, 2019, and mod drawings last revised on December 12, 2019), which are a part of this permit. The Permittee shall ensure that the construction design plans for this project do not deviate from the permit plans attached to this authorization. Any modification to the attached permit plans must be approved by the U.S. Army Corps of Engineers (Corps) prior to any active construction in waters or wetlands.

All other conditions of the permit, including mitigation requirements and the permit expiration date of December 31, 2024, remain applicable.

Should you have any questions, please call Mr. Eric Alsmeyer at (919) 554-4884, extension 23.

FOR THE COMMANDER

Monte Matthews Lead Project Manager Wilmington District

**Enclosures** 

Copies Furnished (by email):

Ms. Amy Chapman Division of Water Quality North Carolina Department of Environment and Natural Resources 1650 Mail Service Center Raleigh, NC 27699-1650 Mr. Clarence Coleman Federal Highway Administration 310 New Bern Ave., Rm 410 Raleigh, North Carolina 27601-1442

Mr. Chris Rivenbark North Carolina Department of Transportation Division of Highways 1598 Mail Service Center Raleigh, North Carolina 27699-1598 ROY COOPER Governor MICHAEL S. REGAN Secretary LINDA CULPEPPER Director



January 22, 2020

Mr. Philip S. Harris, III, P.E., CPM Natural Environment Section Head Project Development and Environmental Analysis North Carolina Department of Transportation 1598 Mail Service Center Raleigh, North Carolina, 27699-1598

Subject: MODIFICATION of 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and NEUSE BUFFER RULES, with ADDITIONAL CONDITIONS for Proposed widening of I-40 from I-440 to SR 1525 plus improvements to NC 42 and SR 1010 in Wake and Johnston Counties; Federal Aid Project No. IMNHF-040-4(139)301; State Project No. 42346.3.1; TIP Nos. I-5111 & I-4739. NCDWR Project No. 20190593 ver 3.

Dear Mr. Harris:

Attached hereto is a modification of Certification No. 4196 issued to The North Carolina Department of Transportation (NCDOT) originally dated July 10, 2019 and modified September 4, 2019.

If we can be of further assistance, do not hesitate to contact us.

Sincerely,

Docusigned by:

Omy Chapman

909886312DCD474...

Linda Culpepper, Director

Division of Water Resources

## Attachments

Electronic copy only distribution:

Eric Alsmeyer, US Army Corps of Engineers, Raleigh Field Office Heather Montague, Division 5 Environmental Officer Chris Rivenbark, NC Department of Transportation Gary Jordan, US Fish and Wildlife Service Travis Wilson, NC Wildlife Resources Commission Beth Harmon, Division of Mitigation Services File Copy



## MODIFICATION of 401 Water Quality Certification Pursuant to Section 401 of the Federal Clean Water Act and NEUSE BUFFER RULES, with ADDITIONAL CONDITIONS

**THIS CERTIFICATION** is issued in conformity with the requirements of Section 401 Public Laws 92-500 and 95-217 of the United States and subject to the North Carolina Division of Water Resources (NCDWR) Regulations in 15 NCAC 2H .0500 and 15A NCAC 2B.0233. This certification authorizes the NCDOT to impact 1.15 acres of jurisdictional wetlands, 9248 linear feet of jurisdictional streams and 644091 square feet of protected riparian buffers in Wake & Johnston Counties. The project shall be constructed pursuant to the modification request received December 23, 2019 and additional information received January 22, 2020. The authorized modifieed impacts are as described below:

Stream Impacts in the Neuse River Basin

Site	Permanent Fill in Perennial Stream (linear ft)	Riprap in Perennial Stream (linear ft)	Temporary Impact to Perennial Stream (linear ft)
40 Previous Impact	0	254	90
40 Revised Impact	0	334	10
+/- Change	0	+ 80	- 80

Wetland Impacts in the Neuse River Basin

Site	Permanent Fill (ac)	Temporary Fill (ac)	Mechanized Clearing (ac)
42 Previous Impact	0.23	0.01	0.10
42 Revised Impact	0.29	0.01	0.05
+/- Change	+ 0.06	0	- 0.05

Neuse Rinarian Ruffer Impacts

Site	Previous Zone 1 Impact (sq ft)	Revised Zone 1 Impact (sq ft)	Additional Impact (sq ft)	Additional Zone 1 Buffer Mitigation Required (using 3:1 ratio)	Previous Zone 2 Impact (sq ft)	Revised Zone 2 Impact (sq ft)	Additional Impact (sq ft)	Additional Zone 2 Buffer Mitigation Required (using 1.5:1 ratio)
23A	8260	10192	+ 1932	5796	2082	2082	0	0
23B	635	1037	+ 402	1206	0	0	0	0
26A	233	422	+ 189	567	0	0	0	0

Total Additional Zone 1 Buffer Impact: 2523 sq ft

Total Additional Zone 1 Buffer Mitigation Required: 7569 sq ft

The application provides adequate assurance that the discharge of fill material into the waters of the Neuse River Basin in conjunction with the proposed development will not result in a violation of applicable Water Quality Standards and discharge guidelines. Therefore, the State of North Carolina certifies that this activity will not violate the applicable portions of Sections 301, 302, 303, 306, 307 of PL 92-500 and PL 95-217 if conducted in accordance with the application and conditions hereinafter set forth.

This approval is only valid for the purpose and design that you submitted in your modification request received December 23, 2019. Should your project change, you are required to notify the NCDWR and submit a new application. If the property is sold, the new owner must be given a copy of this Certification and approval letter, and is thereby responsible for complying with all the conditions. If any additional wetland impacts, or stream impacts, for this project (now or in the future) exceed one acre or 150 linear feet, respectively, additional compensatory mitigation may be required as described in 15A NCAC 2H .0506 (h) (6) and (7). Additional buffer impacts may require compensatory mitigation as described in 15A NCAC 2B.0243. For this approval to remain valid, you are required to comply with all the conditions listed below. In addition, you should obtain all other federal, state or local permits before proceeding with your project including (but not limited to) Sediment and Erosion control, Coastal Stormwater, Non-discharge and Water Supply watershed regulations. This Certification shall expire on the same day as the expiration date of the corresponding Corps of Engineers Permit.

## **Conditions of Certification:**

- 1. Compensatory mitigation for impacts to 2523 additional square feet of protected riparian buffers in Zone 1 shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the North Carolina Division of Mitigation Services (DMS) (formerly NCEEP). Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided in the Neuse River Basin and done in accordance with 15A NCAC .02B .0295. The DMS has indicated in a letter dated January 15, 2020 that they will assume responsibility for satisfying the compensatory mitigation requirements for the above-referenced project, in accordance with DMS's Mitigation Banking Instrument signed June 14, 2016.
- 2. All other conditions in the Water Quality Certification for this project dated July 10, 2019 and modified September 4, 2019, still apply.

Violations of any condition herein set forth may result in revocation of this Certification and may result in criminal and/or civil penalties. This Certification shall become null and void unless the above conditions are made conditions of the Federal 404 and/or Coastal Area Management Act Permit. This Certification shall expire upon the expiration of the 404 or CAMA permit.

If you wish to contest any statement in the attached Certification you must file a petition for an administrative hearing. You may obtain the petition form from the office of Administrative hearings. You must file the petition with the office of Administrative Hearings within sixty (60) days of receipt of this notice. A petition is considered filed when it is received in the office of Administrative Hearings during normal office hours. The Office of Administrative Hearings accepts filings Monday through Friday between the hours of 8:00am and 5:00pm, except for official state holidays. The original and one (1) copy of the petition must be filed with the Office of Administrative Hearings.

The petition may be faxed-provided the original and one copy of the document is received by the Office of Administrative Hearings within five (5) business days following the faxed transmission. The mailing address for the Office of Administrative Hearings is:

Office of Administrative Hearings 6714 Mail Service Center Raleigh, NC 27699-6714 Telephone: (919) 431-3000, Facsimile: (919) 431-3100

A copy of the petition must also be served on DEQ as follows:

Mr. Bill F. Lane, General Counsel Department of Environmental Quality 1601 Mail Service Center

This the 22nd day of January 2020 DIVISION OF WATER RESOURCES

Docusigned by:
Omy Chapman
9C9886312DCD474...

Linda Culpepper, Director

WQC No. 4196

ROY COOPER Governor MICHAEL S. REGAN Secretary LINDA CULPEPPER Director



	NCDWR Project No.:	County:
	Applicant:	
	Project Name:	
	Date of Issuance of 401 Water Qu	ality Certification:
any subsequent mo Unit, North Carolin may be returned to	of all work approved within the 401 Wat odifications, the applicant is required to r na Division of Water Resources, 1617 M	er Quality Certification or applicable Buffer Rules, and eturn this certificate to the 401 Transportation Permittin (ail Service Center, Raleigh, NC, 27699-1617. This form is authorized agent, or the project engineer. It is not
Applicant's Certifi	ication	
compliance and int		ate that, to the best of my abilities, due care and diligence e construction was observed to be built within substantia on and Buffer Rules, the approved plans and
Signature:		Date:
Agent's Certificati	ion	
was used in the obscompliance and int	servation of the construction such that th	ate that, to the best of my abilities, due care and diligence e construction was observed to be built within substantia on and Buffer Rules, the approved plans and
Signature:		Date:
Engineer's Certifi	cation	
Partial	Final	
Permittee hereby s construction such t	tate that, to the best of my abilities, due chat the construction was observed to be	ly registered Professional Engineer in the State of North weekly, full time) the construction of the project for the care and diligence was used in the observation of the built within substantial compliance and intent of the 401 I plans and specifications, and other supporting materials
		Registration No
Date		

MODIFICATION PERMIT DRAWINGS 1, 83, 84, 91, AND 92 LAST REVISED ON DECEMBER 12, 2019 **ECA** STATE OF NORTH CAROLINA KNIGHTDALE N.C. I-5111 /I-4739 RALEIGH 0 DIVISION OF HIGHWAYS 3 42346.3.1 IMNHF-040-4(139)301 WAKE & JOHNSTON COUNTIES LOCATION: I-40 FROM I-440 /US 64 (EXIT 301) TO JUST NORTH OF SR 1525 (CORNWALLIS ROAD), INCLUDING IMPROVEMENTS TO NC 42 AND CLAYTON SR 1010 (CLEVELAND ROAD). TYPE OF WORK: GRADING, DRAINAGE, PAVING, WIDENING, RESURFACING & STRUCTURES BUS 70 WETLAND AND STREAM IMPACTS Johnston County Airport OIE PERMIT DRAWING **SHEET 1 OF 125** VICINITY MAP (NTS) REVISED 8/28/2019 **REVISED 12/12/2019** -**SITE** 21 SECTION 1 SECTION 2 SITE 2 SITE 9 -SITE 19 SITE 8 SITE 3  $SITE \ 57 \ SITE \ 6$ SITE 7 SITE 107 /SITE 11 -SITE 14 SITE SITE 22 **SITE** 20 SITE 12 SITE 17 SECTION 3 END TIP PROJECT I-5111/I-4739 SITE 16 -L- STA. 292+00.00 BEGIN TIP PROJECT I-5111/I-4739 NAD 83 **SITE** 13 -L- STA. 10+00.00 **□SITE** -SITE 37 SECTION 2 SITE 60 -SITE 51 SITE 45 **SITE** 29 SITE 23 -**SITE** 32 -**SITE** 38 -**SITE** 53 **SITE** 34-*√SITE* 24 -SITE 4 -SITE 54 SITE 55 C204134 **SITE** 31 SITE 44 *SITE* 35 \ \ \ \ \ SITE 33 **SITE** 30 -SITE 43 SITE 46 -L- Sta. 477+22.89 BK = **SITE** 26--L- Sta. 75+39.93 -SITE 27 INCOMPLETE PLANS 1. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE CITIES OF RALEIGH & GARNER.
2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III MODIFIED.
3. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES. DOCUMENT NOT CONSIDERED FINAL
JNLESS ALL SIGNATURES COMPLETED PLANS PREPARED BY: HYDRAULICS **GRAPHIC SCALES** PROJECT LENGTH DESIGN DATA ADT 2018 = 106,200LENGTH ROADWAY TIP PROJECT I-5111 /I-4739 ADT 2040 = 137,200LENGTH STRUCTURE TIP PROJECT I-5111 /I-4739. . 0.094 miles DHV = 65%FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION TOTAL LENGTH OF PROJECT I-5111 /I-4739... . 13.044 miles S.T. WOOTEN 2018 STANDARD SPECIFICATIONS SIGNATURE ROADWAY NCDOT CONTACT V = 70 MPH &Brandon J. McInnis, P.E. DESIGN 75 MPH PROFILE (HORIZONTAL) FUNC CLASS: **ENGINEER** URBAN INTERSTATE K. Zak Hamidi, P.E. Mary E. Yahl, P.E. (TTST 5% + DUAL 4%) LETTING DATE: PROJECT ENGINEER - DESIGN-BUILD UNIT DESIGN SPEED CHANGES JUNE 19, 2018 PROFILE (VERTICAL) AT US 70 BUS SIGNATURI

MODIFICATION PERMIT DRAWINGS 1, 83, 84, 91, AND 92 LAST REVISED ON DECEMBER 12, 2019 ECA PERMIT DRAWING SHEET 83 OF 125 NGLISH DENOTES MECHANIZED CLEARING issued and sealed by Mary E. Yahl, 040878, Natthew L. Cook, 27434 on 09-06-2019. on 09-06-2019 This medium This medium shall not be considere certified document DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED SITE 40 REVISED | 12/12/2019 SDG Q10=4.1 cfs V10=0.68 ft/s WEM SITE 39 2 TONS CL B RIPRAP W/7 SY GEOTEXTILE SEE INSET B SEE INSET A \* \* \* \* \* \* \* \* \* SHEET WEQ ARMOR SLOPES W/ CL || RIPRAP UP TO 100-YR ELEV=201.7 SDN WEN SITE 42 SITE 43 SEO SITE 40 SDG RKK INSET A INSET B

MODIFICATION PERMIT DRAWINGS 1, 83, 84, 91, AND 92 LAST REVISED ON DECEMBER 12, 2019 PERMIT DRAWING SHEET 84 OF 125 NGLISH DENOTES MECHANIZED CLEARING issued and sealed by Mary E. Yahl, 040878, atthew L. Cook, 27434, on 09-06-2019. on 09-06-2019 SET DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED SITE 40 REVISED, 12/12/2019 SDG WEM SITE 39 SEE INSET B SEE INSET A \*\*\*\*\* SHEET WEQ SDN WEN SITE 42 SITE 43 SEO SITE 40 SDG 15" CSP 2 FIROWS INSET B RKK INSET A

MODIFICATION PERMIT DRAWINGS 1, 83, 84, 91, AND 92 LAST REVISED ON DECEMBER 12, 2019 ECA PROJECT REFERENCE NO SHEET NO. NAD 83 PERMIT DRAWING SHEET 91 OF 125 SCALE FOR INSET R/W SHEET NO DENOTES IMPACTS IN SURFACE WATER ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER This document originally NGLISH his document originally DENOTES TEMPORARY
IMPACTS IN SURFACE WATER SCALE issued and sealed by issued and sealed by Mary E. Yahl, 040878, Natthew L. Cook. 27434 DENOTES EXCAVATION IN WETLAND on 09-06-2019. on 09-06-2019 This medium This medium shall not be considered DENOTES FILL IN WETLAND hall not be considered certified document. certified document DENOTES MECHANIZED CLEARING DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED **WEP(1)** REVISED 12/12/2019 Lid; JB-w/Stab SITE 44 INSET A SEQ \_SEE INSET A BERM 4' BASE DİTCH W/CL B RIPRAP SEE DETAİL AW SEQ SITE 44 INSET B SEE INSET B GLENN MILLER WEO(1) \*RIPRAP ON SLOPES TURNED OFF FOR CLARITY SEP WEO(2) WEN 4092 PG 377 66 PG 176 JB veSlab Lid BEGIN PENCE 5 20.55, 141.61 SEO 41 SITE 43 GLENN MILLER DB 4092 PG 377 PB 66 PG 176 RKK

MODIFICATION PERMIT DRAWINGS 1, 83, 84, 91, AND 92 LAST REVISED ON DECEMBER 12, 2019 ECA PROJECT REFERENCE NO SHEET NO. NAD 83 PERMIT DRAWING SHEET 92 OF 125 SCALE FOR INSET R/W SHEET NO DENOTES IMPACTS IN SURFACE WATER ROADWAY DESIGN ENGINEER HYDRAULICS ENGINEER This document originally 50 25 0 NGLISH his document originally issued and sealed by issued and sealed by SCALE Mary E. Yahl, 040878, Natthew L. Cook. 27434 DENOTES EXCAVATION IN WETLAND on 09-06-2019 on 09-06-2019 This medium This medium shall not be considered DENOTES FILL IN WETLAND hall not be considered certified document. certified document DENOTES MECHANIZED CLEARING DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED **WEP(1)** REVISED 12/12/2019 SITE 44 INSET A SEQ SEE INSET A SEQ SITE 44 INSET B SEE INSET B WEO(1) \*RIPRAP ON SLOPES TURNED OFF FOR CLARITY SEP WEO(2) WEN 4092 PG 37-JB veSlab Lid BEGIN FENCE 5 # 20.55, 141.61 SEO (41) SITE 43 GLENN MILLER DB 4092 PC 377 PB 66 PC 176 RKK

			WETLAND IMPACTS						SURFACE WATER IMPACTS					
Site	Station	Structure	Permanent Fill In	Temp. Fill In	Excavation in	Mechanized Clearing	Hand Clearing in	Permanent SW	Temp. SW	Existing Channel Impacts	Existing Channel Impacts	Natural Stream		
No.	(From/To)	Size / Type	Wetlands (ac)	Wetlands (ac)	Wetlands (ac)	in Wetlands (ac)	Wetlands (ac)	impacts (ac)	impacts (ac)	Permanent (ft)	Temp. (ft)	Design (ft)		
39A	-L- 98+30-99+62 LT	ROADWAY FILL - WEM	0.07			0.02								
39B	-L- 101+93-102+66 LT	ROADWAY FILL - WEM	0.01			0.01								
40	-L- 103+59-104+95 LT & RT	BANK STABILIZATION - SDG						0.14	< 0.01	334	10			
41	-L- 107+69-109+35 LT	ROADWAY FILL - WEP(1)				0.02								
42	-L- 104+95-108+09 RT	ROADWAY FILL - SDN, WEN	0.29	0.01		0.05		0.02		200				
43	-L- 110+24-110+66 RT	ROADWAY FILL - SEO							< 0.01		40			
44	-L- 111+78-114+64 LT & RT	60" RCP, ROADWAY FILL, DITCH - SEQ, WEO(1)			0.04			0.02		269				
	-L- 111+58-111+85 LT	BANK STABILIZATION - SEQ						< 0.01	< 0.01	16	11			
45	-L- 144+01-144+56 LT	48" CSP - SEU						0.01		154				
	-L- 143+75-144+08 LT	BANK STABILIZATION - SEU						< 0.01	< 0.01	40	11			
46	-L- 164+25-164+78 RT	30" CSP / 36" RCP - SEA, WOE	0.02					0.01		168				
47	-Y1RPA- 16+63-17+14 RT	54" CSP - SLV						< 0.01		62				
	-Y1RPA- 16+58-16+65 RT	BANK STABILIZATION - SLV						< 0.01	< 0.01	45	11			
48	-Y1RPA- 16+66-17+11 RT	ROADWAY FILL, RIPRAP - SLW						< 0.01	< 0.01	14	51			
49	-L- 171+49-174+67 LT & RT	66" WSP / 66" RCP - SLU, WC, WOB	0.06					0.03		284				
	-L- 171+40-174+63 LT & RT	BANK STABILIZATION - SLU						< 0.01	< 0.01	64	30			
50	-LCDWB- 64+67-68+61 LT & RT	60" CSP, CHANNEL CHANGE - SLS,WOA	0.05	0.02				0.06	< 0.01	588	57			
51	-Y2RPA3- 23+20-23+82 LT	ROADWAY FILL - WNZ	0.02											
	-Y2RPA3- 20+23-23+20	ROADWAY FILL - PBL						0.58						
	-L- 199+51-205+31	ROADWAY FILL, 66" RCP - SLR						0.02		230				
	-Y2RPD3- 15+76-16+19 LT	BANK STABILIZATION- SLR						< 0.01	< 0.01	55	15			
52	-Y2RPD3- 23+65-24+43 LT	DITCH, ROADWAY FILL - WGG		0.01		0.02								
53	-L- 210+53-215+65 LT	54" RCP / 66" RCP - MILL BRANCH						0.06	< 0.01	401	7			
	-L- 210+21-210+61 RT	BANK STABILIZATION - MILL BRANCH						< 0.01	< 0.01	29	17			
TOTALS*:			0.51	0.05	0.04	0.13		0.98	0.03	2953	260	0		

\*Rounded totals are sum of actual impacts

NOTES:

REVISED 08/28/2019, 12/12/19

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
APRIL 2019
WAKE AND JOHNSTON
I-5111\_I-4739

SHEET 124 OF 125

			WETLAND IMPACTS						SURFACE WATER IMPACTS				
			Permanent	Temp.	Excavation	Mechanized	Hand Clearing	Permanent	Temp.	Existing Channel	Existing Channel	Natura	
Site	Station	Structure	Fill In	Fill İn	in	Clearing	in	SW	SW	Impacts	Impacts	Strea	
No.	(From/To)	Size / Type	Wetlands	Wetlands		in Wetlands			impacts	Permanent	Temp.	Desig	
			(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ft)	(ft)	(ft)	
54	-L- 232+69-233+35 LT	54" WSP - SJ, WI	0.06					< 0.01		82			
	-L- 233+33-233+44 LT	BANK STABILIZATION - SJ						< 0.01	< 0.01	45	10		
55	-L- 233+94-234+19 LT	48" RCP - SK, WJ	< 0.01					< 0.01		78			
	-L- 234+02-234+11 LT	BANK STABILIZATION - SK						< 0.01	< 0.01	40	10		
56	-L- 246+22-246+77 RT	CHANNEL CHANGE - SEE						< 0.01	< 0.01	102	10		
57	-L- 246+73-247+65	60" WSP - SDD, WFF	0.01					0.02	< 0.01	238	10		
	-L- 247+59-247+78 LT	BANK STABILIZATION - SDD						< 0.01	< 0.01	55	9		
58	-L- 269+75-270+63 LT	36" WSP - SQ						< 0.01		100			
	-L- 270+58-270+85 LT	BANK STABILIZATION - SQ						< 0.01	< 0.01	33	27		
OTALS*:			0.09					0.06	< 0.01	773	76	0	

NOTES:

\*Rounded totals are sum of actual impacts

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
APRIL 2019
WAKE AND JOHNSTON
I-5111\_I-4739

SHEET 125 OF 125