



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

August 08, 2022

Regulatory Division

Action ID. SAW-2009-00556
NC DOT TIP No.: I-5111/I-4739

Philip S. Harris III, P.E., C.P.M.
Environmental Analysis Unit Head
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Harris:

Reference the Department of the Army (DA) permit issued to the North Carolina Department of Transportation (NCDOT) on December 23, 2019, and subsequently modified on February 11, 2020, June 11, 2020, October 1, 2020, and March 23, 2022. The permit authorizes the discharge of fill material into waters of the United States, for construction of the I-40 improvements, TIPs I-5111 and I-4739, from I-440/US 64 in Raleigh, to SR 1010 (Cleveland Road) in Clayton, Wake and Johnston Counties, North Carolina.

Also, please reference your July 6, 2022, request/letter, submitting a modification request for the following permit sites/impacts:

Site 14A: Additional bank stabilization is needed due to site conditions.

- 15 linear feet increase in permanent stream impacts (bank stabilization)

Site 14B: Additional bank stabilization is needed due to site conditions.

- 12 linear feet increase in permanent stream impacts (bank stabilization)
- 12 linear feet decrease in temporary stream impacts (bank stabilization)

Site 55: Due to repeating erosion events and the general instability of the channel below the outlet, rip rap would be added to the flow line to match the length of the previously permitted bank stabilization.

- 40 linear feet decrease in bank stabilization impacts
- 40 linear feet increase in permanent stream impacts

Site#	stream permanent	stream permanent (BS)	stream temporary	mitigation?	rational
14A		15		No	Riprap on banks only
14B		12	-12	No	Riprap on banks only
55	40	-40		Yes 2:1	Rip rap in channel
Totals	40	-13	-12	80 If	

The Corps has completed the evaluation of your request and has determined that it is appropriate and reasonable, and a public notice is not required for this modification. Furthermore, we have determined the proposed project modifications described above are not contrary to the public interest and are consistent with the 404 (B) (1) guidelines and therefore, the DA permit is hereby modified.

The authorized work shall be completed in accordance with the attached revised permit drawings sheets 17 and 49 of 125 submitted on July 6, 2022, and the Wetland and Surface Water Impact Summary Sheets 122 and 125 of 125 submitted on July 6, 2022. As there are an additional 40 linear feet of permanent stream impacts, compensatory mitigation is required at a 2:1 ratio for the permanent stream impacts associated with this modification. As proposed in the modification request, compensatory mitigation must be completed by debiting an additional 80 linear feet of compensatory stream mitigation credits from the official ledger for NCDOT's Marks Creek Mitigation Site in Wake County.

Special Condition 1 is modified, and Special Condition 17 is added, 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, May 28, 2020, July 2020, August 2020, January 2022, and July 6, 2022), 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.

17. Additional Compensatory Mitigation: The permittee shall debit an additional 80 linear feet of compensatory stream mitigation credits from the official ledger for NCDOT's Marks Creek Mitigation Site in Wake County.

All other conditions of the original permit and previous modifications remain applicable, and the expiration date is unchanged.

This approved modification should be attached to the original permit and will be utilized for future compliance reviews of the project. If you have questions, please contact Andrew Williams of the Regulatory Field Office, at telephone (919) 554-4884 ex 26 or email andrew.e.williams2@usace.army.mil.

FOR THE COMMANDER

Monte Matthews Date: 2022.08.08
08:25:51 -04'00'

Monte Matthews
Lead Project Manager
Wilmington District

Enclosures

Copies Furnished (by email):

Amy Chapman, NCDEQ
Clarence Coleman, FHWA
Heather Montague, NCDOT

ROY COOPER

Governor

ELIZABETH S. BISER

Secretary

RICHARD E. ROGERS, JR.

Director



NORTH CAROLINA
Environmental Quality

July 7, 2022

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 7.

Dear Mr. Harris:

Attached hereto is a copy of Certification No. 4196 issued to The North Carolina Department of Transportation (NCDOT) originally dated July 10, 2019 and modified September 4, 2019, January 22, 2020, June 3, 2020, September 16, 2020, January 26, 2022 and July 7, 2022.

This approval is for the purpose and design described in your application. The plans and specifications for this project are incorporated by reference as part of this Water Quality Certification. If you change your project, you must notify the Division and you may be required to submit a new application package with the appropriate fee. If the property is sold, the new owner must be given a copy of this Certification and is responsible for complying with all conditions. [15A NCAC 02H .0507(d)(2)]. This Certification does not relieve the permittee of the responsibility to obtain all other required Federal, State, or Local approvals before proceeding with the project, including those required by, but not limited to, Sediment and Erosion Control, Non-Discharge, Water Supply Watershed, and Trout Buffer regulations.

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

Sincerely,

DocuSigned by:

Amy Chapman

9C9886312DCD474...

Richard E. Rogers Jr, Director
Division of Water Resources

Attachments

Electronic copy only distribution:

Andy Williams, US Army Corps of Engineers, Raleigh Field Office
Heather Montague, Division 5 Environmental Officer
Chris Rivenbark, NC Department of Transportation
File Copy



North Carolina Department of Environmental Quality | Division of Water Resources
512 North Salisbury Street | 1611 Mail Service Center | Raleigh, North Carolina 27699-1611
919.707.9000

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.0714. This certification authorizes the NCDOT to impact 1.16 acres of jurisdictional wetlands, 9273 linear feet of jurisdictional streams and 645171 square feet of protected riparian buffers in Wake & Johnston Counties. The project shall be constructed pursuant to the modification request received June 21, 2022 and revised July 6, 2022. The authorized Revised Impact Sites are as described below:

Site 14A:

- **+15 linear feet Stabilization permanent impact to Intermittent Stream**
 - **+400 square feet Zone 1 Buffer Mitigable Impact**
 - **+186 square feet Zone 2 Buffer Mitigable Impact**
- *Site 14A revised totals in application plan sheets July 6, 2022: 20 linear feet Permanent Stream Impact. 20 linear feet Temporary Stream Impact. 0 ac wetland impact. 2058 square feet Zone 1 Mitigable Buffer Impact. 1132 square feet Zone 2 Mitigable Buffer Impact.*

Site 14B:

- **+12 linear feet Stabilization permanent impact to Intermittent Stream**
 - **-12 linear feet (decrease) Temporary intermittent stream impact**
- *Site 14B revised totals in application plan sheets July 6, 2022: 20 linear feet Permanent Stream Impact. 31 linear feet Temporary Stream Impact. 0 ac wetland impact. 1824 square feet Zone 1 Mitigable Buffer Impact. 1680 square feet Zone 2 Mitigable Buffer Impact.*

Site 55:

- **+40 linear feet Stabilization permanent impact to Perennial Stream**
 - **-40 linear feet (decrease) Temporary Perennial Stream impact**
- *Site 55 revised totals in application plan sheets July 6, 2022: 118 linear feet Permanent Stream Impact. 10 linear feet Temporary impact. 0.01 ac wetland impact. No buffer impact.*

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 application revision dated received July 6, 2022. 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.0611(b)(2).

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.

This Water Quality Certification neither grants nor affirms any property right, license, or privilege in any lands or waters, or any right of use in any waters. This Water Quality Certification does not authorize any person to interfere with the riparian rights, littoral rights, or water use rights of any other person and does not create any prescriptive right or any right of priority regarding any usage of water. This Water Quality Certification shall not be interposed as a defense in any action respecting the determination of riparian or littoral rights or other rights to water



use. No consumptive user is deemed by virtue of this Water Quality Certification to possess any prescriptive or other right of priority with respect to any other consumptive user regardless of the quantity of the withdrawal or the date on which the withdrawal was initiated or expanded. Upon the presentation of proper credentials, the Division may inspect the property.

Conditions of Certification:

1. Compensatory mitigation for impacts to 400 square feet of protected riparian buffers in Zone 1 (3:1 ratio) and 186 square feet of protected riparian buffers in Zone 2 (1.5:1 ratio) shall be required. We understand that you have chosen to perform compensatory mitigation for impacts to protected buffers through use of the Marks Creek Mitigation Site. Mitigation for unavoidable impacts to Neuse Riparian Buffers shall be provided via deduction of 1479 square feet of Buffer Restoration Credits at the Marks Creek Mitigation Site in accordance with 15A NCAC 2B.0295, as stated in your application and the included debit ledger.
2. All conditions in previous versions of this Certification dated July 10, 2019, September 4, 2019, January 22, 2020, June 3, 2020, September 16, 2020, and January 26, 2022 still apply.

This approval and its conditions are final and binding unless contested [G.S. 143-215.5]. Please be aware that impacting waters without first applying for and securing the issuance of a 401 Water Quality Certification violates Title 15A of the North Carolina Administrative Code (NCAC) 2H .0500. Title 15A NCAC 2H .0500 requires certifications pursuant to Section 401 of the Clean Water Act whenever construction or operation of facilities will result in a discharge into navigable waters, including wetlands, as described in 33 Code of Federal Regulations (CFR) Part 323. It also states any person desiring issuance of the State certification or coverage under a general certification required by Section 401 of the Federal Water Pollution Control Act shall file with the Director of the North Carolina Division of Water Quality. Pursuant to G.S. 143-215.6A, these violations and any future violations are subject to a civil penalty assessment of up to a maximum of \$25,000.00 per day for each violation.

This Certification can be contested as provided in Chapter 150B of the North Carolina General Statutes by filing a Petition for a Contested Case Hearing (Petition) with the North Carolina Office of Administrative Hearings (OAH) **within sixty (60) calendar days**. Requirements for filing a Petition are set forth in Chapter 150B of the North Carolina General Statutes and Title 26 of the North Carolina Administrative Code. Additional information regarding requirements for filing a Petition and Petition forms may be accessed at <http://www.ncoah.com/> or by calling the OAH Clerk's Office at (919) 431-3000.

A party filing a Petition must serve a copy of the Petition on:
William F. Lane, General Counsel
Department of Environmental Quality
1601 Mail Service Center
Raleigh, NC 27699-1601

If the party filing the Petition is not the permittee, then the party must also serve the recipient of the Certification in accordance with N.C.G.S 150B-23(a).

This the 7th day of July 2022

DIVISION OF WATER RESOURCES

DocuSigned by:
Amy Chapman
9C9886312DCD474...

Richard E. Rogers, Jr, Director

WQC No. 4196

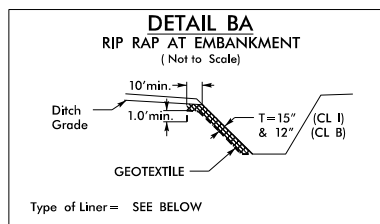
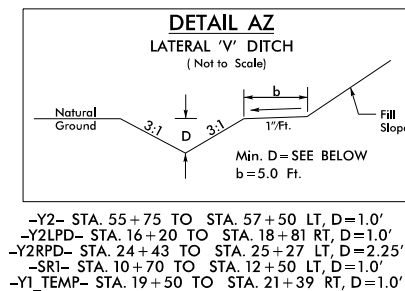
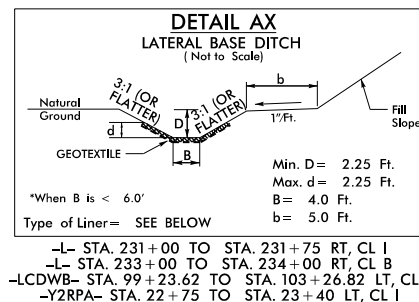
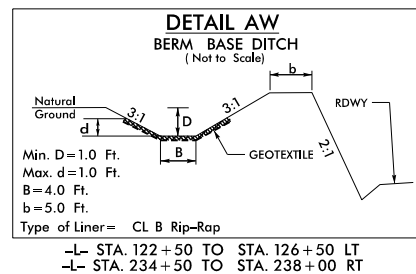
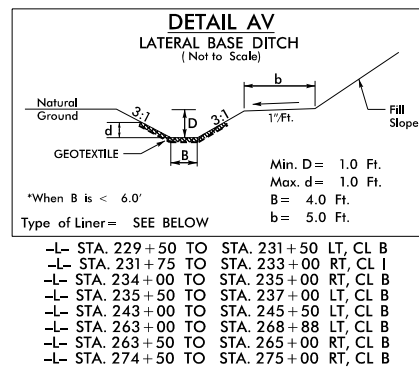
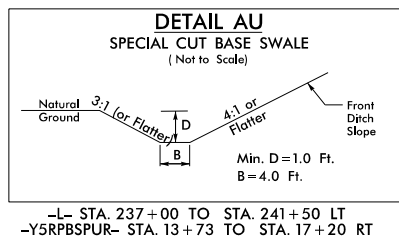
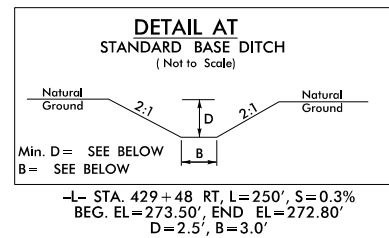
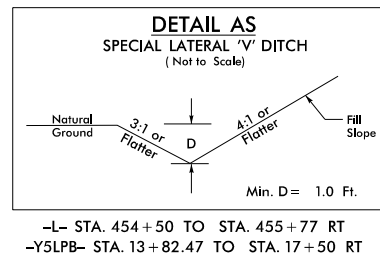
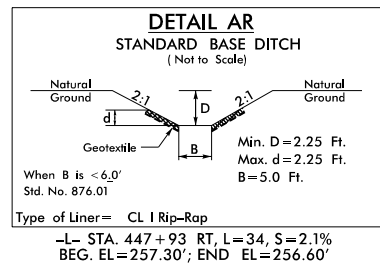
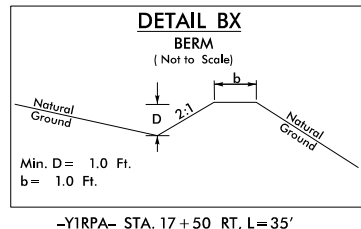


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919.707.9000

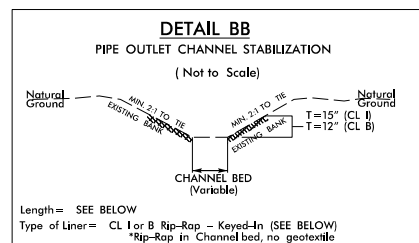
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1-5111/1-4739	2D-6
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PERMIT DRAWING
SHEET 7 OF 125

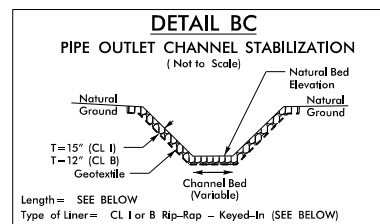
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REVISED 07/13/2021
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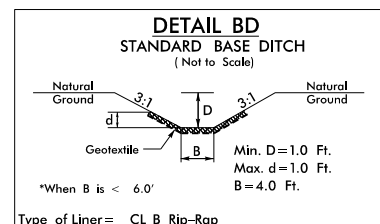
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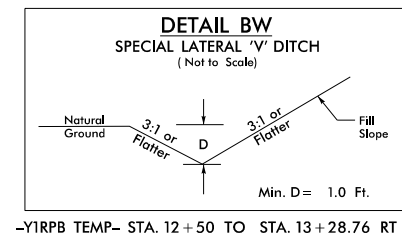
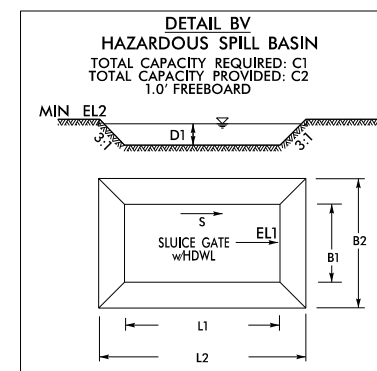
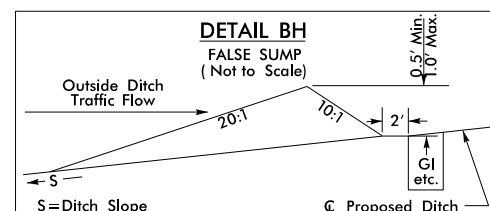
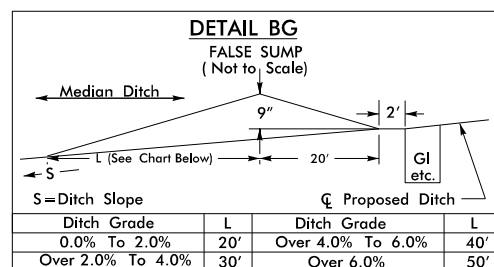
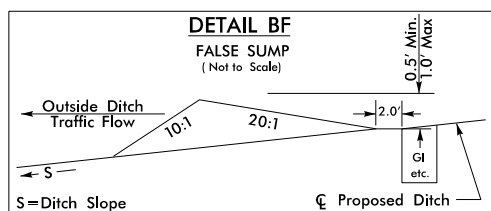
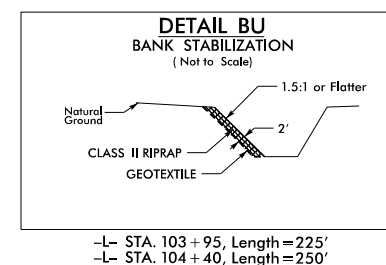
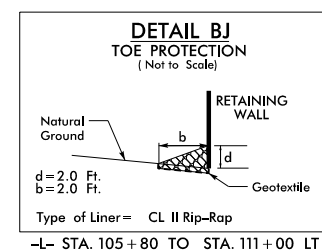
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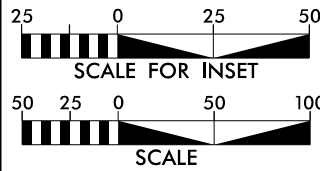


RK&K

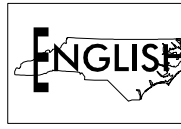
P: (919) 878-9560
8601 Sk Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

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8/17/99



PERMIT DRAWING
SHEET 31 OF 125



REVISED 6/27/2022

SS DENOTES IMPACTS IN
SURFACE WATER

TS DENOTES TEMPORARY
IMPACTS IN SURFACE WATER

MARTIN MARIETTA MATERIAL INC.
MAPPED PER WAKE CO. G.I.S.

14

SITE 14B

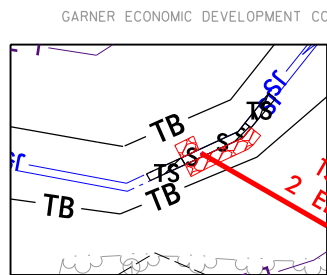
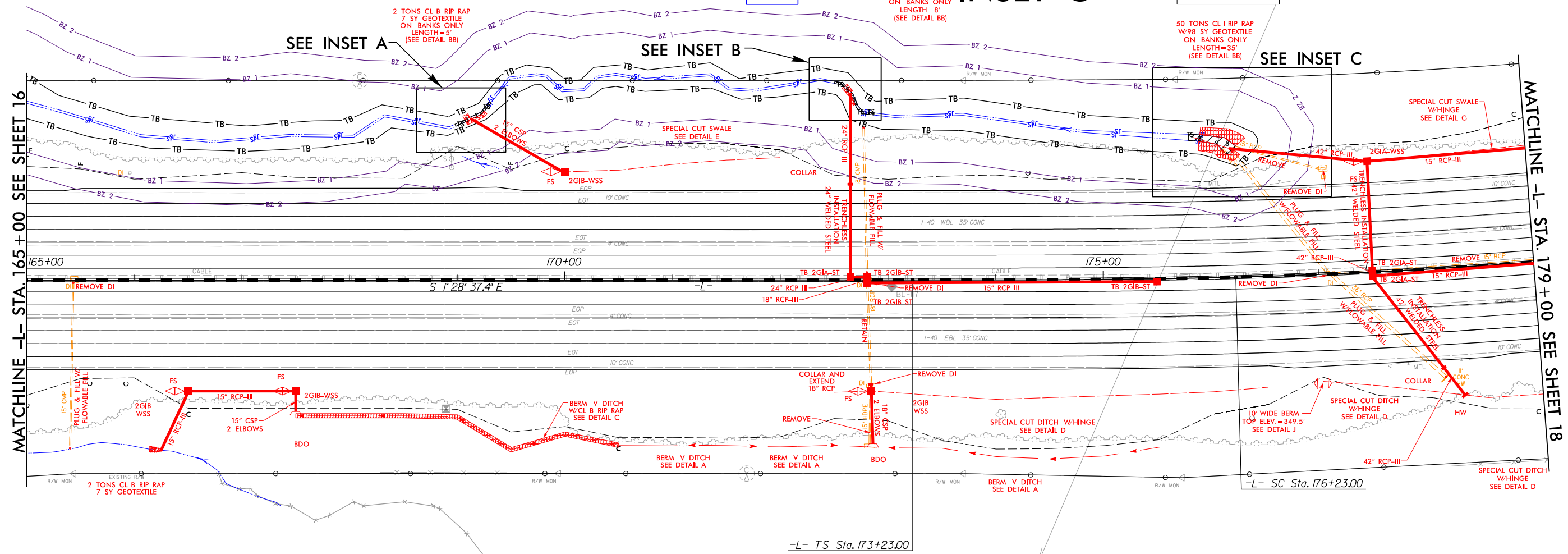
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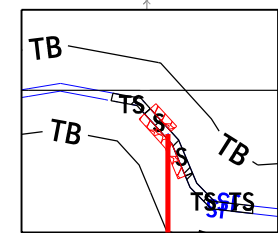
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SITE 14C

PROJECT REFERENCE NO.	SHEET NO.
1-5111/1-4739	17
R/W SHEET NO.	
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INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



INSET A



INSET B

GARNER ECONOMIC DEVELOPMENT CORP.

MARTIN MARIETTA MATERIAL INC.
MAPPED PER WAKE CO. G.I.S.

14

RK&K

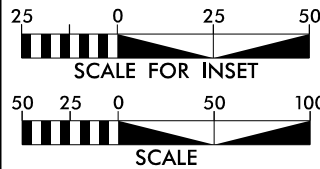
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FOR -L- PROFILE SEE SHT. 85

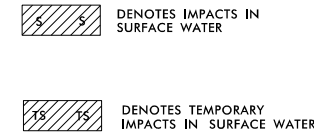
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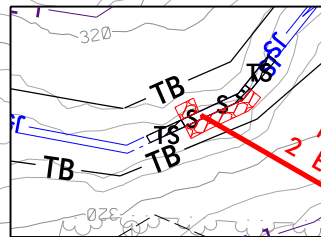
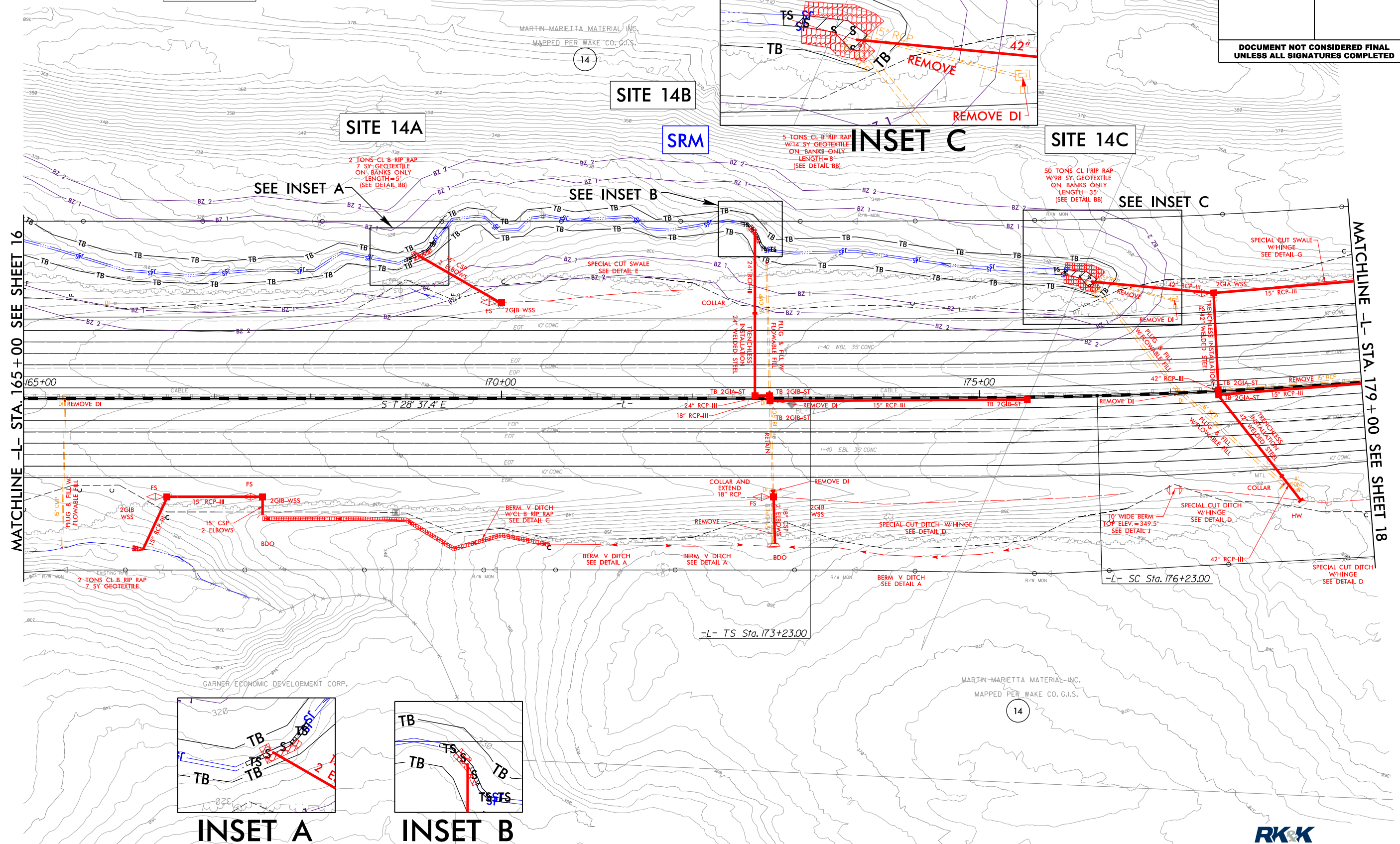
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SHEET 32 OF 125



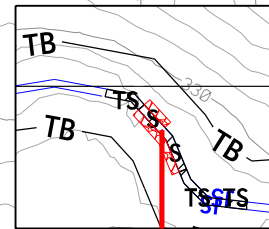
REVISED 6/27/2022



PROJECT REFERENCE NO. 1-5111/1-4739		SHEET NO. 17	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



INSET A



INSET B



P: (919) 878-9560
8601 Six Forks Road, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

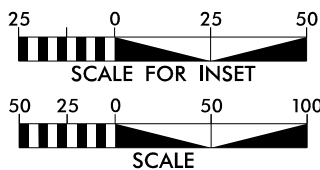
Engineers | Construction Managers | Planners | Scientists
www.rk.com

Responsive People | Creative Solutions

FOR -L- PROFILE SEE SHT. 85

Submitted 7/6/2022

8/17/99

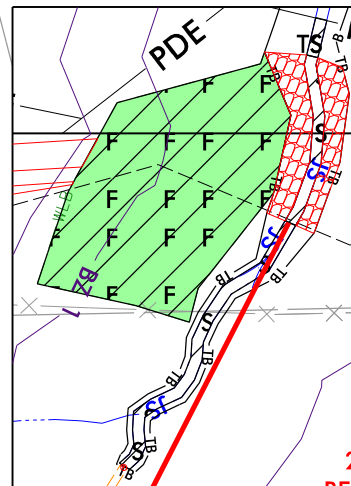


PERMIT DRAWING
SHEET 111 OF 125

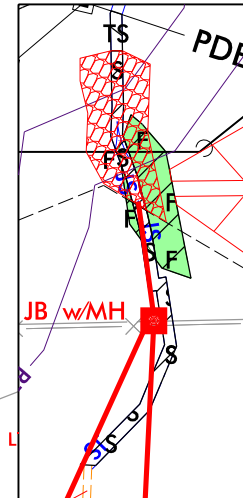


- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

INSET A

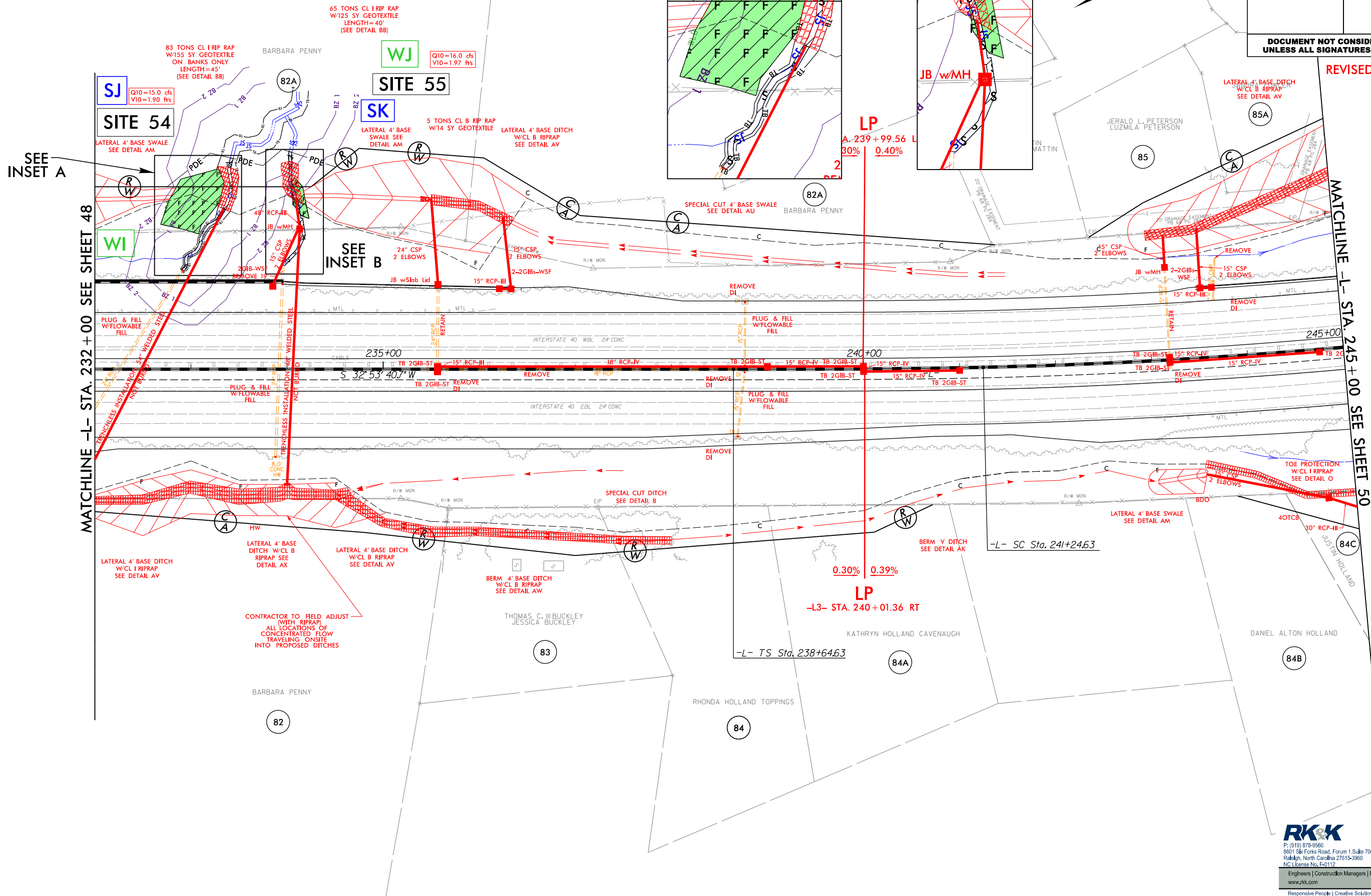


INSET B



PROJECT REFERENCE NO.	SHEET NO.
1-5111/1-4739	49
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
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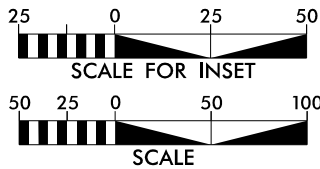
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PERMIT DRAWING
SHEET 112 OF 125



- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

INSET A

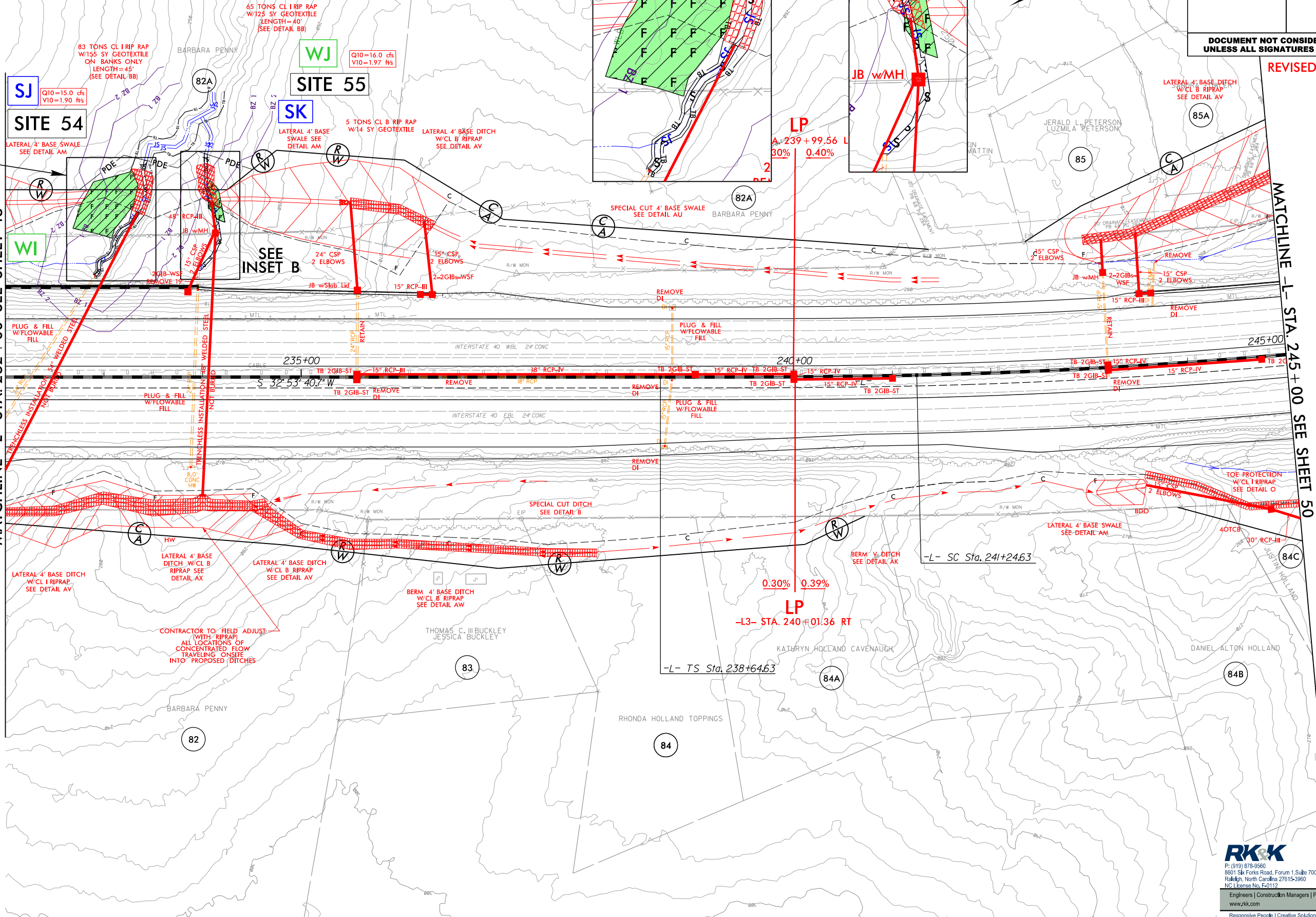
INSET B

PROJECT REFERENCE NO.	SHEET NO.
1-5111/1-4739	49
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

REVISED 6/1/2022

SEE
INSET A

MATCHLINE -L- STA. 232+00 SEE SHEET 48



WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
14A	-L- 168+98-169+22 LT	BANK STABILIZATION - SRM						< 0.01	< 0.01	20	20	
14B	-L- 172+50-172+75 LT	BANK STABILIZATION - SRM						< 0.01	< 0.01	20	31	
14C	-L- 175+91-176+26 LT	BANK STABILIZATION - SRM						< 0.01	< 0.01	34	10	
15	ONLY IN BUFFER SET											
16A	-Y5RPD- 22+19-22+29 RT	EXIST. 24" CMP PLUG - SCF							< 0.01		10	
16B	-Y5RPD- 24+79 RT	EXIST. 15" CMP PLUG - SCF							< 0.01		15	
16C	-Y5RPC- 53+31 LT	60" RCP - SCF, WQF		< 0.01	< 0.01			< 0.01	< 0.01	46	10	
17	-Y5RCP- 54+38-54+68 RT	60" RCP - SOE, WQV		< 0.01				< 0.01	< 0.01	12	21	
	-Y5RCP- 54+68-55+37 RT	BANK STABILIZATION - SOE						< 0.01		84		
	-L- 250+27 LT	60" WSP - SOE						0.01		87		
	-L- 250+27 LT	BANK STABILIZATION - SOE						< 0.01		40		
	-Y5RPA- 22+51-22+93 RT	60" WSP - SOE						< 0.01	< 0.01	49	5	
18	-L- 256+39-257+51 LT & RT	DITCH, 66" WSP- SOI	< 0.01					< 0.01	< 0.01	62	6	
	-L- 256+70 LT	BANK STABILIZATION - SOI, WSD		0.02	0.02			< 0.01	< 0.01	34	11	
19	-L- 272+67-275+51 LT & RT	DITCH, 66" WSP - SNF						0.02	< 0.01	134	14	
20	-L- 281+93-284+50 LT & RT	CHANNEL CHANGE - SNH, WQE		0.01	< 0.01			< 0.01	< 0.01	99	46	
	-L- 284+50 LT	BANK STABILIZATION - SNH						< 0.01	< 0.01	5	10	
	-L- 287+00 LT	FILL SLOPE - WRX				< 0.01						
21	-L- 322+40-323+33 LT & RT	CHANNEL CHANGE, 72" RCP, SNY						0.02	< 0.01	138	19	
22	-L- 323+33-324+31 RT	CHANNEL CHANGE - SOC						0.01	< 0.01	108	22	
23A	-L- 362+54-364+61 LT	CHANNEL CHANGE - SLF / SEM						0.01	< 0.01	204	23	
23B	-L- 368+90-369+15 LT	BANK STABILIZATION - SEM						< 0.01	< 0.01	5	20	
23C	-L- 374+40-379+01 LT	CHANNEL CHANGE - SEM						0.02	< 0.01	455	10	
	-L- 379+01-379+22 LT	BANK STABILIZATION - SEM						< 0.01	< 0.01	12	10	
24	-L- 378+63-379+12 LT	BANK STABILIZATION - SLI, WNQ	0.02					< 0.01	< 0.01	56	15	
TOTALS*:			0.02	0.03	0.02	< 0.01		0.15	0.03	1705	327	0

*Rounded totals are sum of actual impacts

REVISED 6/27/22

NOTES:

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

SHEET 122 OF 125

WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (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	< 0.01	118	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	
TOTALS*:			0.09					0.06	< 0.01	773	76	0
PROJECT TOTALS*:			0.78	0.17	0.11	0.17		1.55	0.21	7771	1483	

NOTES:
*Rounded totals are sum of actual impacts

REVIS
08/28/2019, 12/12/19, 4/22/20, 7/2/20, 8/11/20, 7/13/21, 8/27/21, 11/19/21, 12/6/21, 6/1/22
6/27/2022

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DECEMBER 2021
WAKE AND JOHNSTON
I-5111_I-4739

SHEET 125 OF 125

8/17/99

BUFFER DRAWING
SHEET 15 OF 52

MITIGABLE IMPACTS ZONE 1
MITIGABLE IMPACTS ZONE 2



REVISED 6/27/2022

NAD 83

PROJECT REFERENCE NO.		SHEET NO.	
1-5111/1-4739		17	
R/W SHEET NO.			
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

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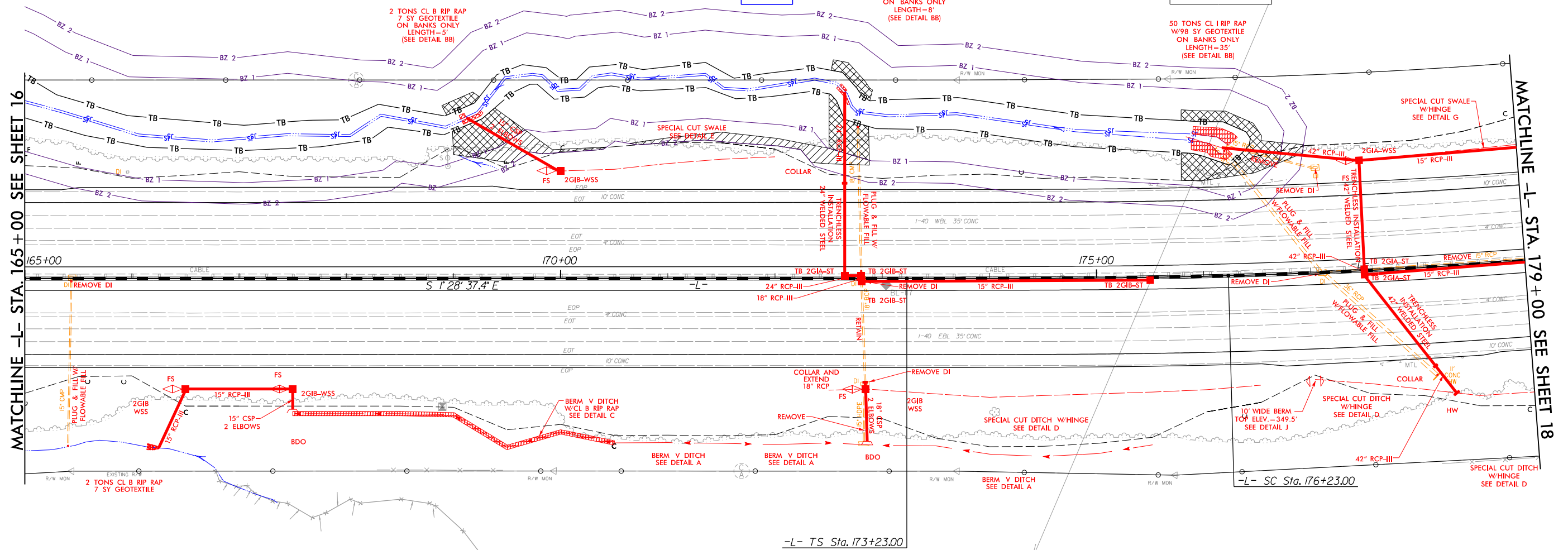
14

SITE 14B

SITE 14A

SRM

SITE 14C



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14



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MATCHLINE -L- STA. 232+00 SEE SHEET 48

REVISÉ 6/1/2022

RIPARIAN BUFFER IMPACTS SUMMARY													
			IMPACTS									BUFFER REPLACEMENT	
Site No.	Station (From/To)	Structure Size / Type	TYPE			ALLOWABLE			MITIGABLE				
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)
14A	-L- 168+89-169+89 LT	BANK STABILIZATION - SRM			X				2058	1132	3190		
14B	-L- 172+50-172+88 LT	BANK STABILIZATION - SRM			X				1824	1680	3504		
14C	-L- 175+81-176+98 LT	BANK STABILIZATION - SRM			X				2795	277	3071		
15	-L- 186+18-188+55 LT	ROADWAY FILL - SRJ			X				0	90	90		
16A	-Y5RPD- 22+19-22+50 RT	EXIST. 24" CMP PLUG			X				2032	2231	4263		
16B	-Y5RPD- 24+79 RT	EXIST. 15" CMP PLUG			X				613	306	918		
16C	-Y5RPC- 53+20 LT	60" RCP - SCF, WQF	X			1489	0	1489					
17	-Y5RPC- 54+38-55+47 RT, -L- 250+27 LT, -Y5RPA- 21+91-23+05 RT	BANK STABILIZATION - SOE, WQV	X						12732	5068	17800		
18	-L- 256+39-257+51 LT & RT	DITCH, 66" WSP- SOI, WSD	X			6922	3626	10548					
19	-L- 272+67-275+51 LT & RT	DITCH, 66" WSP - SNF	X			8722	5049	13771					
20	-L- 281+93-284+50 LT & RT	CHANNEL CHANGE - SNH, WQE,WRX	X			3953	956	4909					
21	-L- 322+40-323+33 LT & RT	CHANNEL CHANGE, 72" RCP, SNY	X			8579	4452	13031					
22	-L- 323+52-325+32 RT	CHANNEL CHANGE - SOC			X				3438	1054	4493		
23A	-L- 361+15-364+65 LT	CHANNEL CHANGE - SLF / SEM			X				10192	2082	12274		
23B	-L- 368+90-369+15 LT	BANK STABILIZATION - SEM			X				1037	0	1037		
23C	-L- 374+40-378+99 LT	CHANNEL CHANGE - SEM			X				11509	228	11738		
24	-L- 378+63-379+21 LT	BANK STABILIZATION - SLI			X				1108	0	1108		
25	-L- 373+59-374+08 RT	ROADWAY FILL/ DITCH - SNM			X				61	775	836		
26A	-L- 381+90 RT	BANK STABILIZATION - SNK			X				422	0	422		
26B	-L- 385+01-385+81 RT	ROADWAY FILL - SNK			X				1025	0	1025		
	-L- 385+80-386+06 RT	BANK STABILIZATION - SNK			X				712	0	712		
27	-L- 386+06-386+88 RT	BANK STABILIZATION - SNO	X			1765	1079	2844					
28	-L- 387+14-387+47 LT	60" WSP - SEM			X				1116	0	1116		
TOTALS*:						31431	15161	46592	52673	14924	67597	0	0

NOTES:

REVISED 12/12/2019
8/3/2020
6/27/2022

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
AUGUST 2020
WAKE / JOHNSTON
I-5111 / I-4739
42346.3.1
SHEET 47 OF 52

RIPARIAN BUFFER IMPACTS SUMMARY													
			IMPACTS									BUFFER REPLACEMENT	
Site No.	Station (From/To)	Structure Size / Type	TYPE			ALLOWABLE			MITIGABLE				
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)
39	ONLY IN PERMIT SET												
40	-L- 99+00-107+44 LT & RT	BRIDGE		X		14449	7030	21479	1104	2993	4097		
41	ONLY IN PERMIT SET												
42	-L- 106+42-107+44 RT	ROADWAY FILL - SDN, WEN			X				7169	5126	12295		
43	-L- 109+63-114+04 RT	ROADWAY FILL - SEO			X				7471	4557	12028		
44	-L- 110+99-115+29 LT & RT	60" RCP- SEQ, WEO(1) ¹	X						12849	6826	19675		
45	-L- 143+25-145+12 LT	48" CSP - SEU	X						11384	6539	17923		
46	-L- 164+25-164+78 RT	30" CSP / 36" RCP - SEA, WOE	X						10987	7345	18332		
47	-Y1RPA- 16+15-17+72 RT	54" CSP - SLV	X			5620	2993	8613					
48	ONLY IN PERMIT SET												
49	-L- 170+95-175+40 LT & RT	66" WSP / 66" RCP - SLU, WC, WOB	X						20163	9924	30087		
50	-L- 178+00-184+97 LT&RT	60" CSP, CHANNEL CHANGE - SLS,WOA	X						38684	25634	64318		
51	-L- 199+51-205+31	ROADWAY FILL, 66" RCP - SLR, WNZ	X						17316	9930	27247		
52	ONLY IN PERMIT SET												
53	-L- 209+51-217+29 LT & RT	54" RCP / 66" RCP - MILL BRANCH	X						27804	17778	45582		
54	-L- 232+37-234+37 LT	54" WSP - SJ, WI, WJ	X			8694	5213	13907					
55	ONLY IN PERMIT SET												
56	ONLY IN PERMIT SET												
57	-L- 246+11-248+25 LT & RT	60" WSP - SDD, WFF	X						15680	9394	25074		
58	-L- 269+75-270+63 LT	36" WSP - SQ	X						10972	7749	18721		
TOTALS*:						28762	15236	43999	181583	113795	295378	0	0

PROJECT TOTALS*:	115552	55966	171518	302860	169677	472537	0	0
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NOTES:

1. SEQ under fill slope RT is a total take, 765sf of Mitigable BZ2 Impacts accounted for in totals but not hatched in plan view due to location outside PDE

REVISED 8/28/20198/27/2021

12/12/201911/19/2021

7/2/20201/6/2022

8/11/20206/27/2022

7/13/2021

8/11/2021

NC DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

JANUARY 2022

WAKE / JOHNSTON

I-5111 / I-4739

42346.3.1

SHEET51OF52