



North Carolina Department of Transportation

Highway Stormwater Program
STORMWATER MANAGEMENT PLAN
 FOR NCDOT PROJECTS



(Version 2.08; Released April 2018)

WBS Element: 50205.1.1 TIP No.: R-5709 County(ies): Hoke Moore Page 1 of 3

General Project Information

WBS Element:	50205.1.1	TIP Number:	R-5709	Project Type:	Roadway Widening	Date:	12/14/2020
NCDOT Contact:	Paul Atkinson, PE		Contractor / Designer:	Matthew Cook, PE			
Address:	1202 Birch Ridge Drive Raleigh, NC 27610		Address:	8601 Six Forks Road Forum 1, Suite 700 Raleigh, NC 27615			
Phone:	(919)707-6707		Phone:	(919)653-7350			
Email:	patkinson@ncdot.gov		Email:	mcook@rkk.com			
City/Town:	Aberdeen, Raeford		County(ies):	Hoke	Moore		
River Basin(s):	Lumber		CAMA County?	No	No		
Wetlands within Project Limits?	Yes						

Project Description

Project Length (lin. miles or feet):	15.648 MI.	Surrounding Land Use:	Farmland, Woods, Residential					
	Proposed Project		Existing Site					
Project Built-Upon Area (ac.)	222.7	ac.	63.3	ac.				
Typical Cross Section Description:	A typical cross-section - 178 foot-wide will be used; which will include four 12-foot travel lanes with varying grass medians (23 foot, 30 foot, or 46 foot). It also contains varying exterior shoulder sections where 10-feet is paved, curb and gutter, and open shoulder section.			The existing typical cross-section is 24-feet wide with two 12-foot travel lanes and varying 8 to 10-foot unpaved shoulders.				
Annual Avg Daily Traffic (veh/hr/day):	Design/Future:	16,100 / 22,300	Year:	2022 / 2040	Existing:	10,000	Year:	2001
General Project Narrative: (Description of Minimization of Water Quality Impacts)	<p>R-5709 is a roadway widening project of NC 211 from the existing two lanes to the proposed four lanes in Hoke and Moore Counties. The expansion is 15.648 miles long and begins from US 15-501 in Aberdeen to east of SR 1244 (West Palmer Street) – SR 1311 (Mockingbird Hill Road) in Raeford. Wetlands, perennial streams, and intermittent streams are found within the limits of the project area. The jurisdictional streams within the study area have no impairments and do not provide habitat for any threatened or endangered aquatic species.</p> <p>Design Mitigations for wetlands and streams include:</p> <ol style="list-style-type: none"> 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 mitigated 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. 							

Waterbody Information

Surface Water Body (1):	UT to Devil Gut Branch		NCDWR Stream Index No.:	14-2-11-7			
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C				
	Supplemental Classification:		None				
Other Stream Classification:	None						
Impairments:	None						
Aquatic T&E Species?	No	Comments:					
NRTR Stream ID:	SA, SB, SD		Buffer Rules in Effect:		N/A		
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):		Devil Gut Branch		NCDWR Stream Index No.:		14-2-11-7	
NCDWR Surface Water Classification for Water Body		Primary Classification:		Class C			
		Supplemental Classification:		None			
Other Stream Classification:		None					
Impairments:		None					
Aquatic T&E Species?		No		Comments:			
NRTR Stream ID:		SC		Buffer Rules in Effect:		N/A	
Project Includes Bridge Spanning Water Body?		No		Deck Drains Discharge Over 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)					
Surface Water Body (3):		Quewhiffle Creek		NCDWR Stream Index No.:		14-2-14	
NCDWR Surface Water Classification for Water Body		Primary Classification:		Class C			
		Supplemental Classification:		None			
Other Stream Classification:		None					
Impairments:		None					
Aquatic T&E Species?		No		Comments:			
NRTR Stream ID:		SE		Buffer Rules in Effect:		N/A	
Project Includes Bridge Spanning Water Body?		No		Deck Drains Discharge Over 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)					
Surface Water Body (4):		UT to Quewhiffle Creek		NCDWR Stream Index No.:		14-2-14	
NCDWR Surface Water Classification for Water Body		Primary Classification:		Class C			
		Supplemental Classification:		None			
Other Stream Classification:		None					
Impairments:		None					
Aquatic T&E Species?		No		Comments:			
NRTR Stream ID:		SF, SJ		Buffer Rules in Effect:		N/A	
Project Includes Bridge Spanning Water Body?		No		Deck Drains Discharge Over 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)					
Surface Water Body (5):		UT to Mountain Creek		NCDWR Stream Index No.:		14-2-16-(2)	
NCDWR Surface Water Classification for Water Body		Primary Classification:		Class C			
		Supplemental Classification:		None			
Other Stream Classification:		None					
Impairments:		None					
Aquatic T&E Species?		No		Comments:			
NRTR Stream ID:		SG		Buffer Rules in Effect:		N/A	
Project Includes Bridge Spanning Water Body?		No		Deck Drains Discharge Over 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 (6):	UT to Buffalo Creek		NCDWR Stream Index No.:	14-2.5	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SH		Buffer Rules in Effect:	N/A	
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)					

Surface Water Body (7):	UT to Toneys Creek		NCDWR Stream Index No.:	14-10-1.2	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class C		
	Supplemental Classification:		Swamp Waters (Sw)		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SI, SM		Buffer Rules in Effect:	N/A	
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)					

Surface Water Body (8):	UT to Rockfish Creek		NCDWR Stream Index No.:	18-31-(12)	
NCDWR Surface Water Classification for Water Body	Primary Classification:		Class B		
	Supplemental Classification:		None		
Other Stream Classification:	None				
Impairments:	None				
Aquatic T&E Species?	No	Comments:			
NRTR Stream ID:	SK, SL		Buffer Rules in Effect:	N/A	
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)					

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-5709	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
50205.1.1		PE	
50205.2.1		ROW	
50205.2.2		UTILITIES	
50205.3.1		CONSTRUCTION	

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

MOORE/HOKE COUNTIES

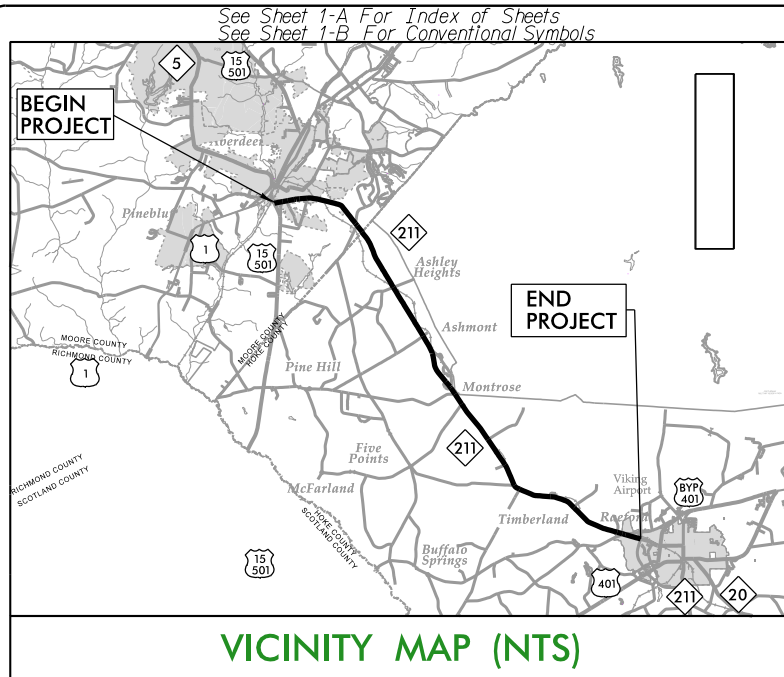
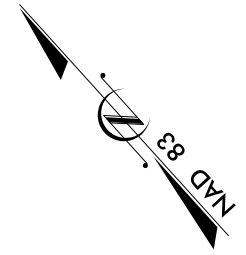
LOCATION: NC 211 FROM US 15/US 501 IN ABERDEEN TO SR 1244
(WEST PALMER ST) /SR 1311 (MOCKINGBIRD HILL RD) IN RAEFORD

TYPE OF WORK: GRADING, DRAINAGE, PAVING, STRUCTURES AND SIGNALS

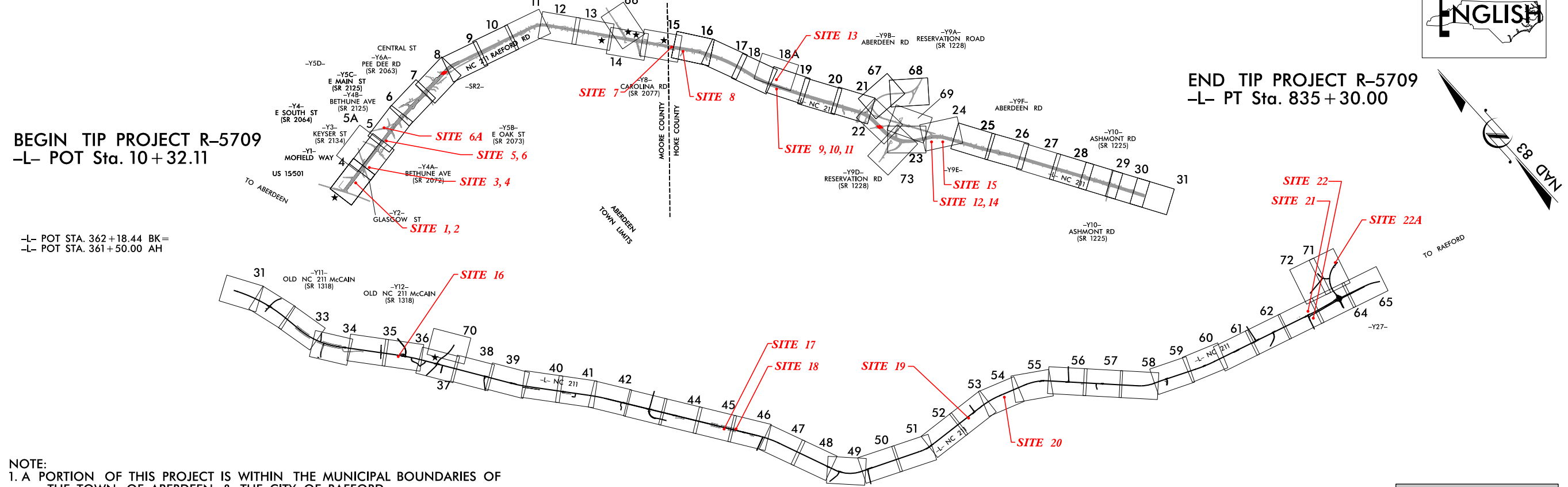
WETLAND AND SURFACE WATER IMPACTS PERMIT DRAWINGS



PERMIT DRAWING
SHEET 1 OF 60



TIP PROJECT: R-5709



BEGIN TIP PROJECT R-5709
-L- POT Sta. 10+32.11

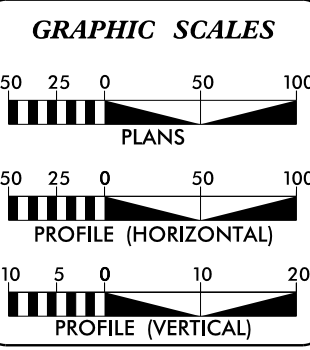
END TIP PROJECT R-5709
-L- PT Sta. 835+30.00

-L- POT STA. 362+18.44 BK=
-L- POT STA. 361+50.00 AH

- NOTE:
1. A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF THE TOWN OF ABERDEEN & THE CITY OF RAEFORD.
 2. CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II & III AS DESCRIBED IN THE GENERAL NOTES.
 3. THIS IS A PARTIAL CONTROLLED ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.

★ PROPOSED SIGNAL

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



DESIGN DATA

ADT 2024 =	16,400
ADT 2044 =	23,400
K =	9%
D =	60%
T =	21% *
**V =	50 MPH/60 MPH
* TTST =	16% DUAL 5%
FUNC CLASS =	MINOR ARTERIAL
REGIONAL TIER	
**DESIGN SPEED CHANGES	AT COUNTY LINE

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-5709.....	15.607 miles
LENGTH STRUCTURE TIP PROJECT R-5709.....	0.031 miles
TOTAL LENGTH OF PROJECT R-5709.....	15.638 miles

NCDOT CONTACT

Elmo E. Vance, Jr.
PROJECT MANAGER

PLANS PREPARED BY:

RK&K
8601 Six Forks Road, Forum 1 Suite 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112
1-888-521-4455 OR 919-878-9560

FOR NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
APRIL 23, 2021

LETTING DATE:
MARCH 19, 2024

Brandon McInnis, PE
PROJECT ENGINEER

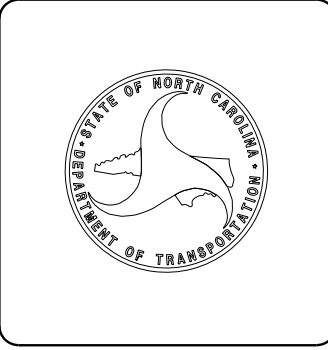
Mary Mays Yahl, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN ENGINEER

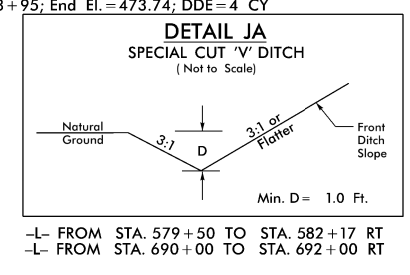
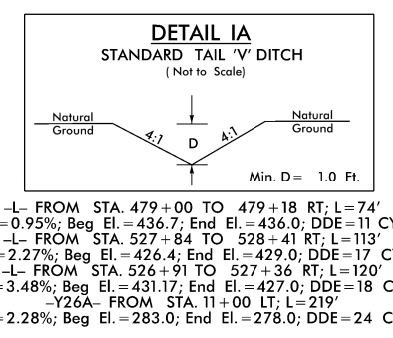
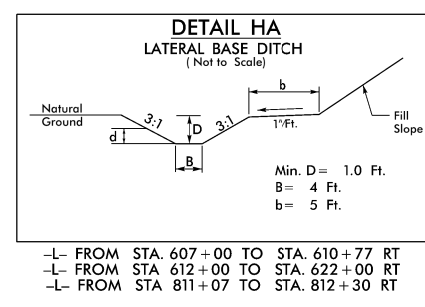
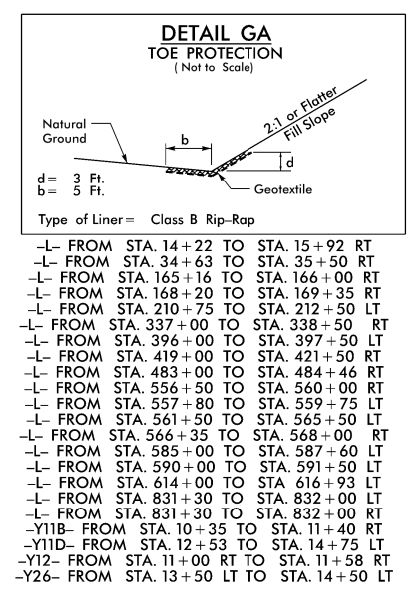
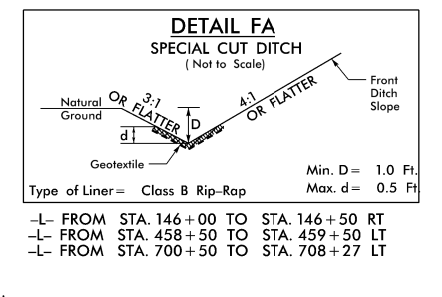
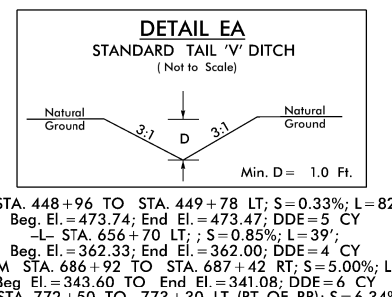
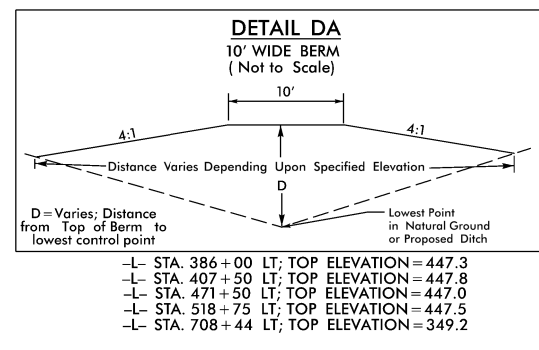
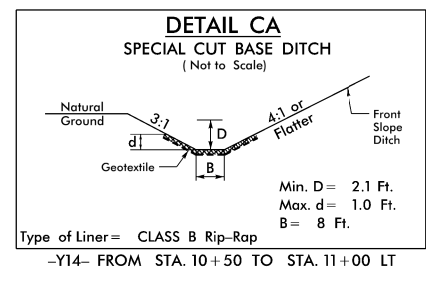
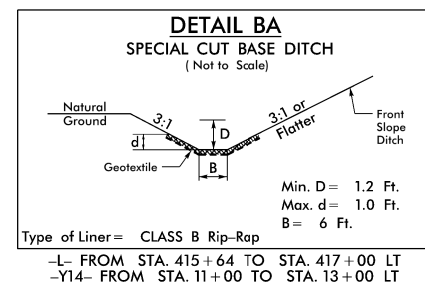
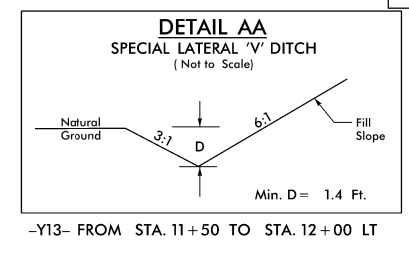
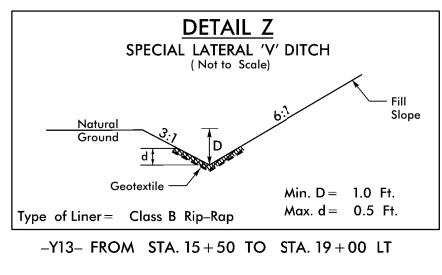
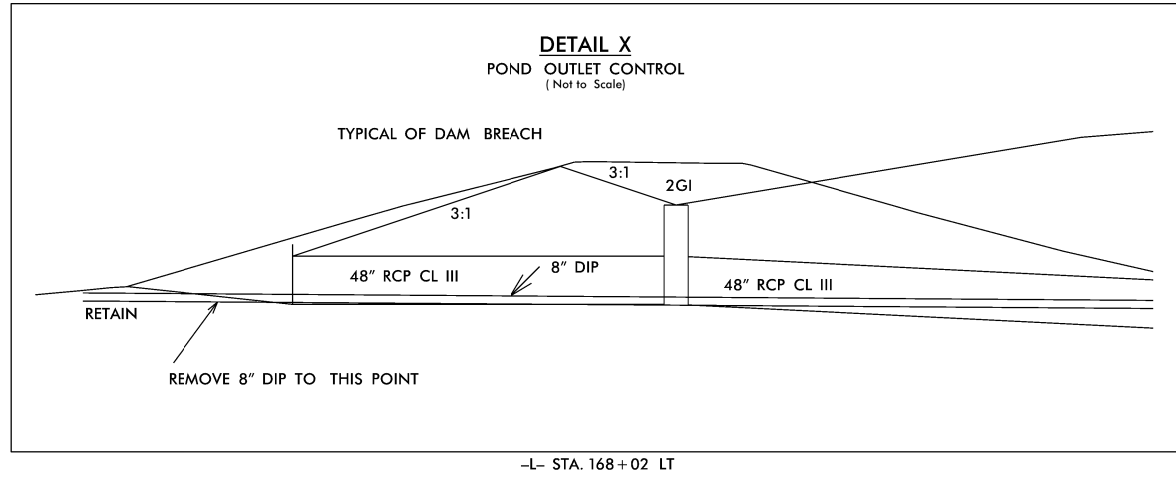
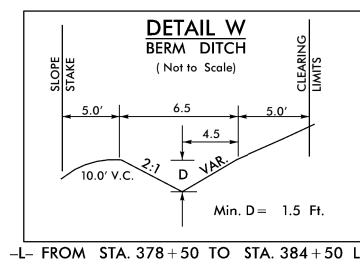
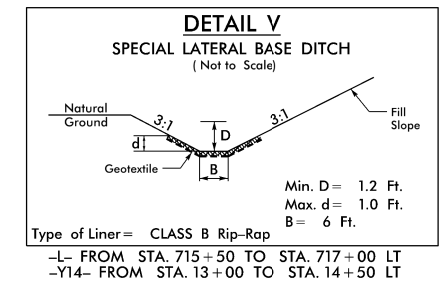
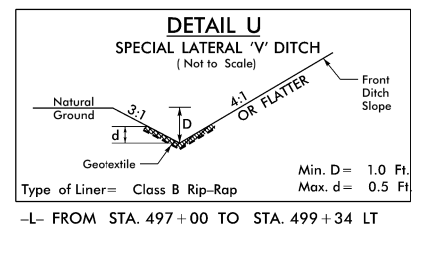
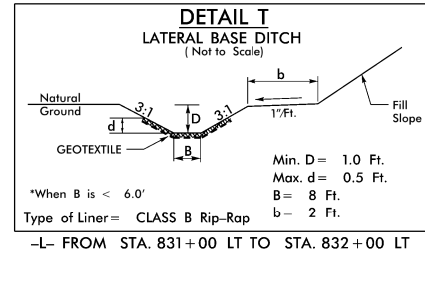
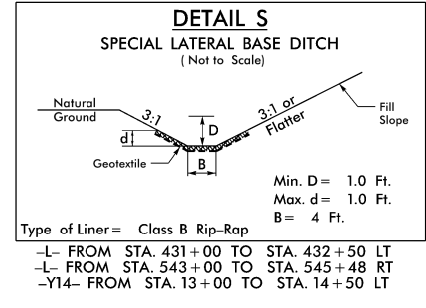
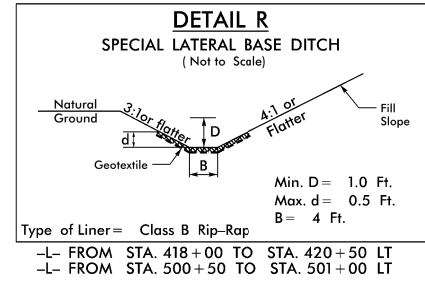
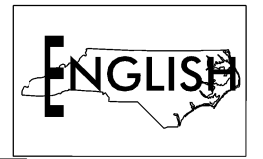
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4/23/2021 R:\Hydraulics\PERMITS_Environmental\Drawings\R5709_Hyd.t sh.dgn

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING SHEET 3 OF 60



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Raleigh, N.C. 27606
License No. F-0377
Bus: 919 851 8077
Fax: 919 851 8107

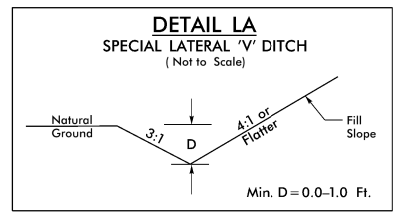
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/SIPS - CONSTRUCTION OBSERVATION

P (919) 876-6691
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112

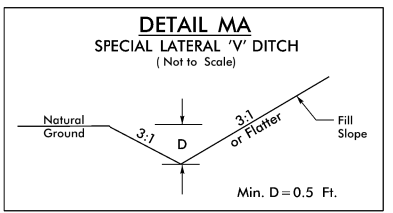
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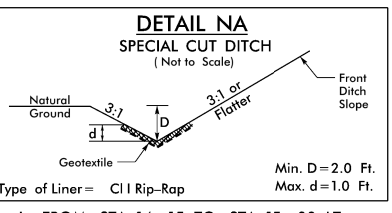
PROJECT REFERENCE NO. R-5709	SHEET NO. 2D-3
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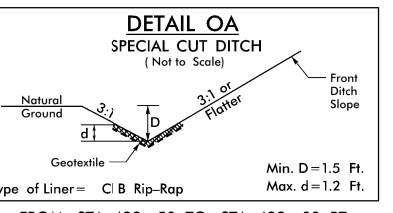
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-L- FROM STA. 274+50 TO STA. 275+50 RT



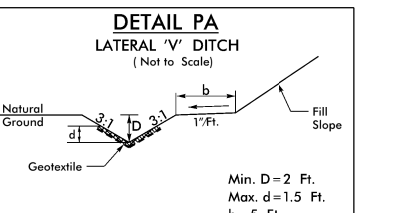
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-Y1- FROM STA. 11+00 TO STA. 12+50 RT
-Y2- FROM STA. 14+50 TO STA. 15+50 RT
-Y2- FROM STA. 19+25 TO STA. 20+50 RT
-Y3- FROM STA. 18+20 TO STA. 18+90 LT
-Y4- FROM STA. 12+00 TO STA. 14+50 RT
-Y4A- FROM STA. 11+00 TO STA. 11+85 RT
-Y4B- FROM STA. 10+50 TO STA. 12+50 LT
-Y5- FROM STA. 11+00 TO STA. 12+00 RT
-Y6- FROM STA. 13+00 TO STA. 14+50 LT
-Y6A- FROM STA. 11+22 TO STA. 11+75 LT
-Y9F- FROM STA. 20+50 TO STA. 21+00 LT



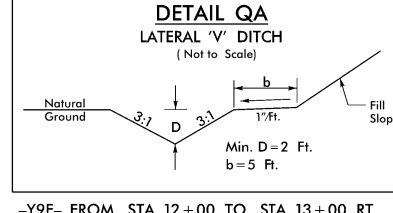
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-L- FROM STA. 38+00 TO STA. 39+40 RT
-Y2- FROM STA. 15+50 TO STA. 16+38 RT
-Y5A- FROM STA. 10+66 TO STA. 12+00 RT



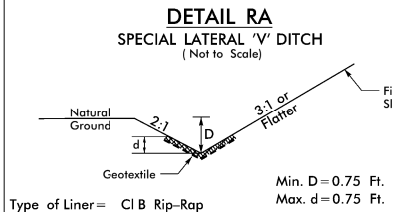
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-L- FROM STA. 496+00 TO STA. 497+00 LT



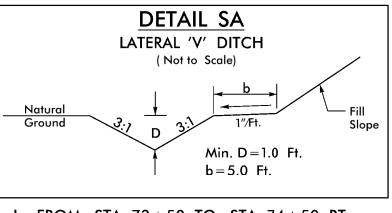
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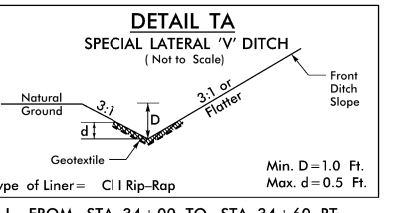
-Y9E- FROM STA. 12+00 TO STA. 13+00 RT
-L- FROM STA. 263+00 TO STA. 264+30 RT
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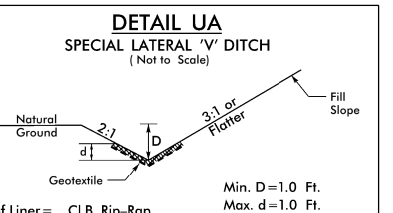
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-Y6- FROM STA. 13+00 TO STA. 15+00 RT



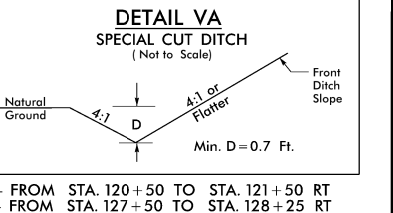
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-Y9A- FROM STA. 11+56.50 TO STA. 12+85 RT



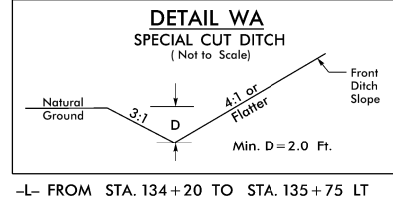
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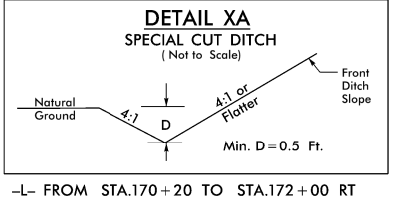
Type of Liner = CI B Rip-Rap
-L- FROM STA. 40+35 TO STA. 44+90 LT



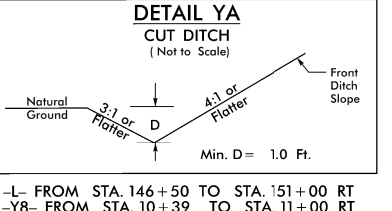
-L- FROM STA. 120+50 TO STA. 121+50 RT
-L- FROM STA. 127+50 TO STA. 128+25 RT



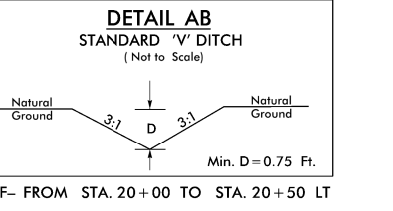
-L- FROM STA. 134+20 TO STA. 135+75 LT



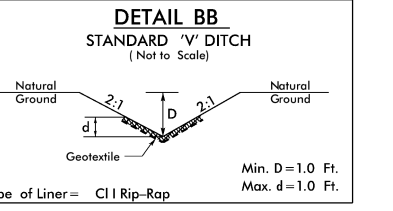
-L- FROM STA. 170+20 TO STA. 172+00 RT



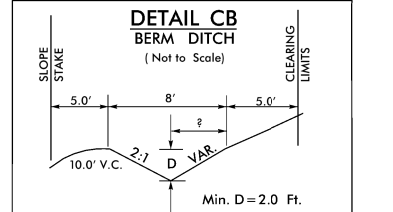
-L- FROM STA. 146+50 TO STA. 151+00 RT
-Y8- FROM STA. 10+39 TO STA. 11+00 RT



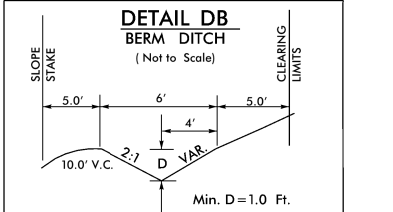
-Y9F- FROM STA. 20+00 TO STA. 20+50 LT



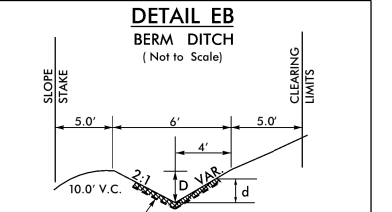
Type of Liner = CI I Rip-Rap
-L- FROM STA. 45+50 TO STA. 45+79 LT



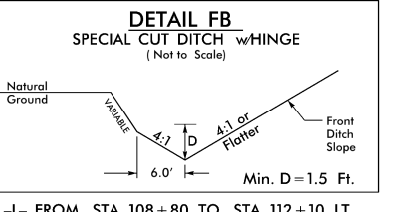
-L- FROM STA. 156+00 TO STA. 157+50 LT



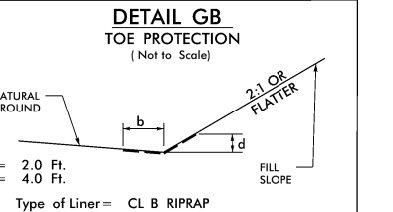
-L- FROM STA. 27+00 TO STA. 30+00 RT
-L- FROM STA. 32+00 TO STA. 33+00 RT
-L- FROM STA. 157+50 TO STA. 160+50 LT
-L- FROM STA. 161+25 TO STA. 163+50 LT



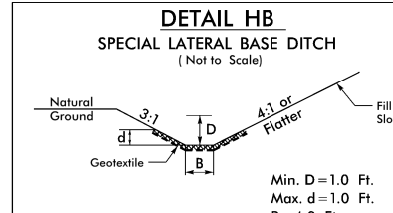
Type of Liner = CI I RR
-L- FROM STA. 24+50 TO STA. 27+00 RT
-L- FROM STA. 33+00 TO STA. 34+00 RT



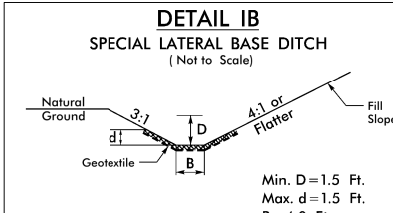
-L- FROM STA. 108+80 TO STA. 112+10 LT
-L- FROM STA. 128+18 TO STA. 131+50 LT
-L- FROM STA. 147+25 TO STA. 148+50 LT



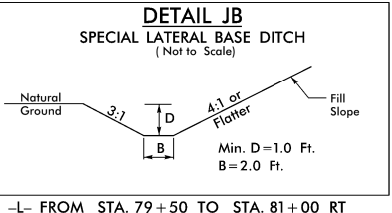
Type of Liner = CL B RIPRAP
-L- FROM STA. 35+45 TO STA. 37+60 LT



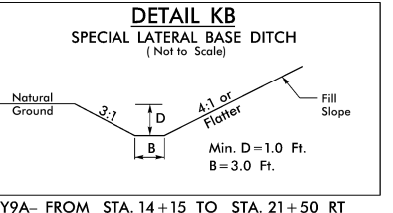
Type of Liner = Class I Rip-Rap
-L- FROM STA. 78+50 TO STA. 79+50 RT
-L- FROM STA. 201+00 TO STA. 201+80 LT



Type of Liner = Class B Rip-Rap
-L- FROM STA. 244+60 TO STA. 244+80 RT
-DR4- FROM STA. 12+50 TO STA. 13+00 RT



-L- FROM STA. 79+50 TO STA. 81+00 RT
-L- FROM STA. 199+50 TO STA. 201+00 LT
-L- FROM STA. 237+50 TO STA. 238+05 RT
-Y9B- FROM STA. 18+50 TO STA. 22+75 RT



-Y9A- FROM STA. 14+15 TO STA. 21+50 RT



**PERMIT DRAWING
SHEET 4 OF 60**

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TRANSPORTATION PLANNING/DESIGN - BRIDGES/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/SIPS - CONSTRUCTION OBSERVATION

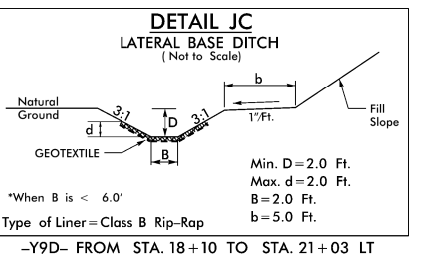
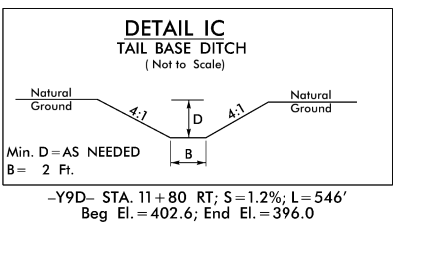
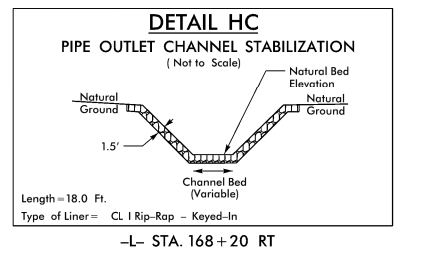
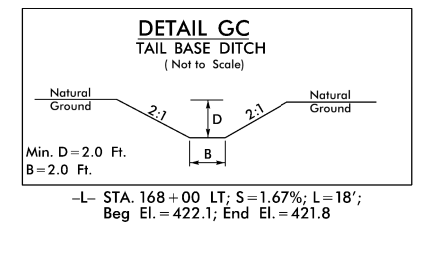
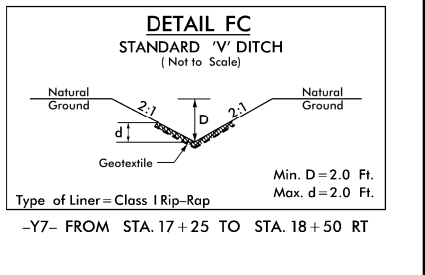
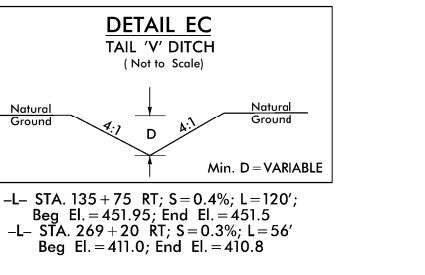
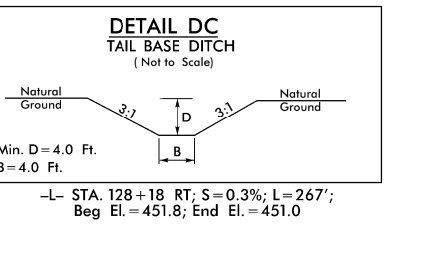
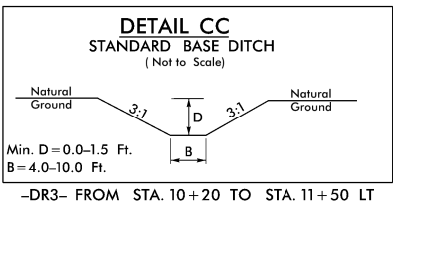
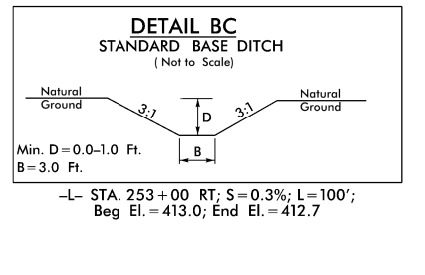
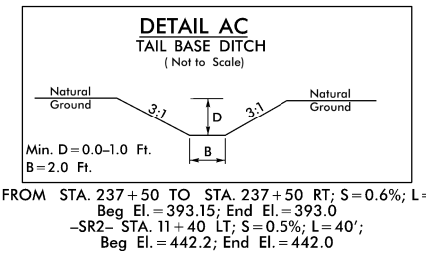
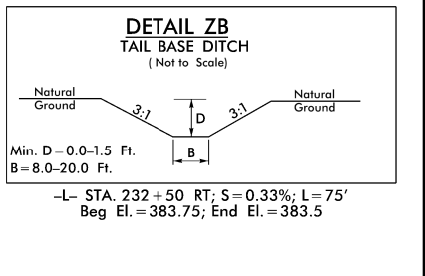
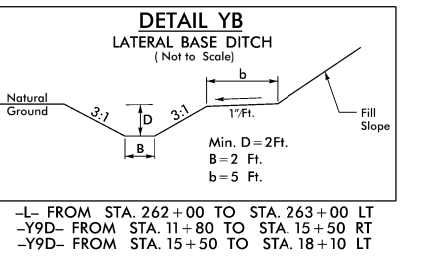
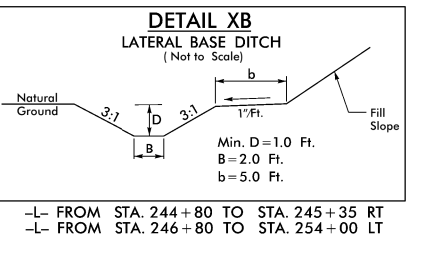
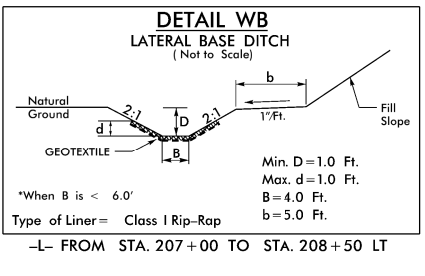
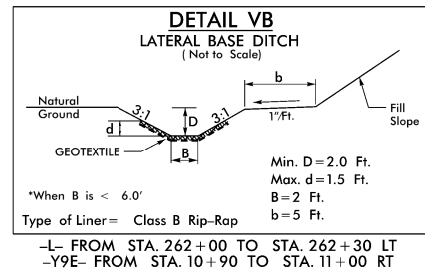
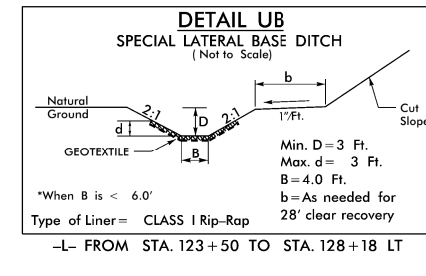
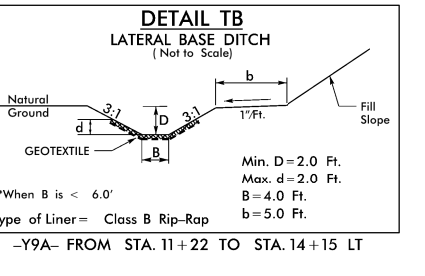
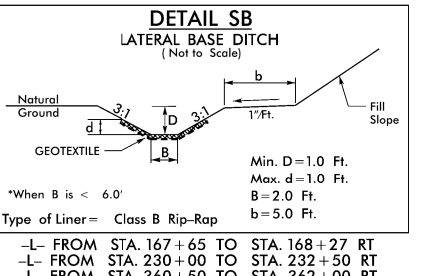
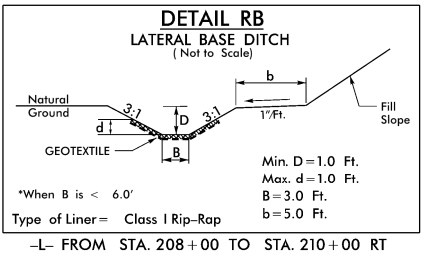
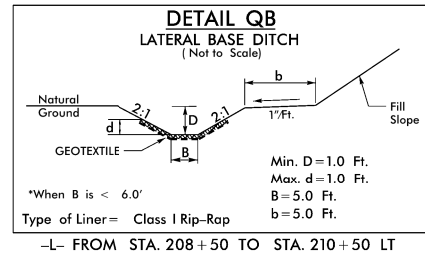
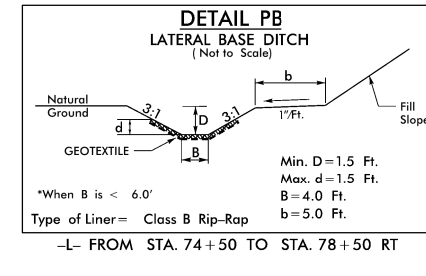
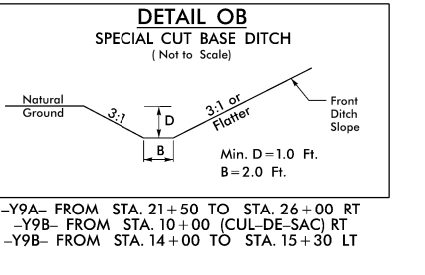
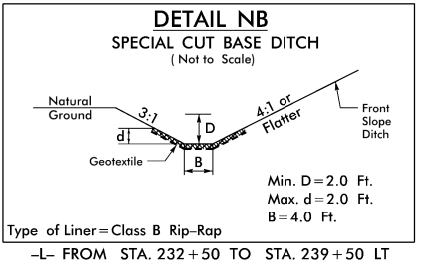
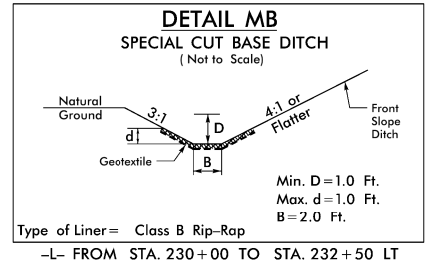
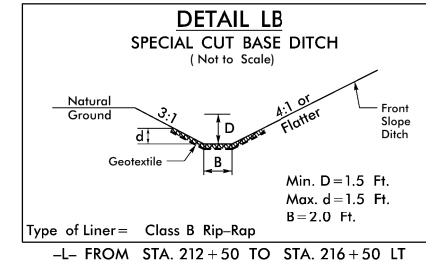
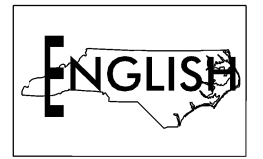
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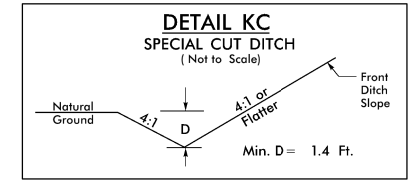
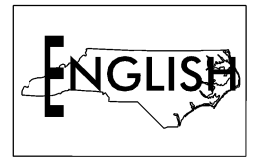
**PERMIT DRAWING
SHEET 5 OF 60**



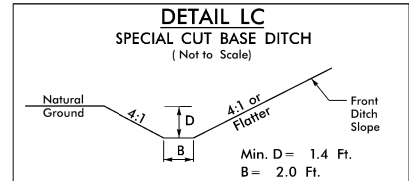
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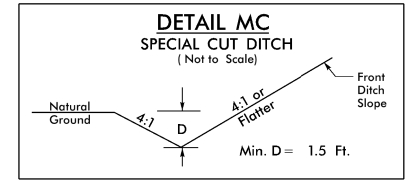
PERMIT DRAWING SHEET 6 OF 60



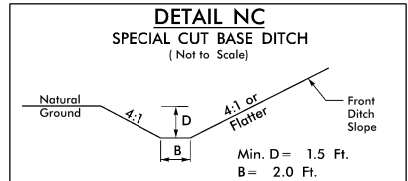
-L- FROM STA. 281+50 TO STA. 282+50 LT



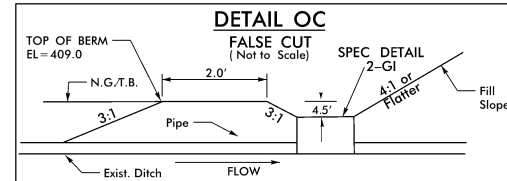
-L- FROM STA. 273+00 TO STA. 275+25 LT
-L- FROM STA. 276+10 TO STA. 281+50 LT



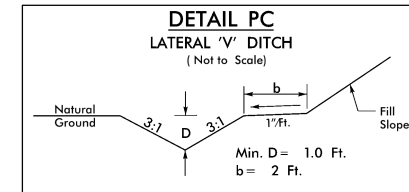
-L- FROM STA. 283+50 TO STA. 284+40 LT
-L- FROM STA. 286+60 TO STA. 295+00 LT
-L- FROM STA. 315+00 TO STA. 329+50 LT
-L- FROM STA. 336+00 TO STA. 339+00 LT
-L- FROM STA. 348+50 TO STA. 352+00 RT
-L- FROM STA. 358+00 TO STA. 358+88 RT
-L- FROM STA. 359+50 TO STA. 360+50 LT
-Y10- FROM STA. 15+00 TO STA. 15+85 RT
-Y10- FROM STA. 18+00 TO STA. 19+50 RT



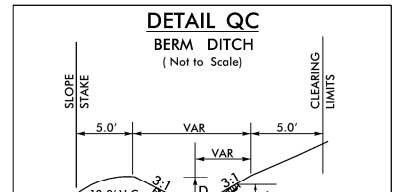
-L- FROM STA. 284+40 TO STA. 285+00 LT



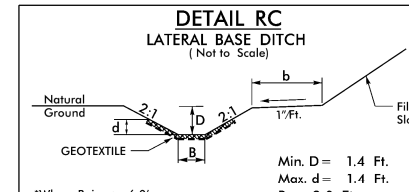
-L- STA. 302+59 TO STA. 303+86 LT



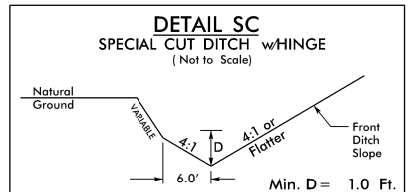
-L- FROM STA. 302+50 TO STA. 303+00 LT



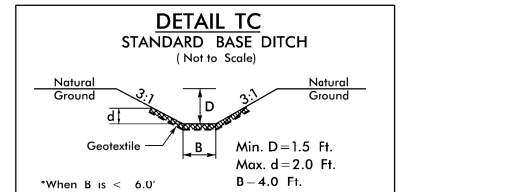
Type of Liner = Class I Rip-Rap
-L- FROM STA. 310+00 TO STA. 311+50 LT



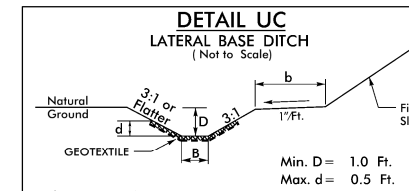
*When B is < 6.0'
Type of Liner = Class B Rip-Rap
-L- FROM STA. 313+25 TO STA. 314+50 LT



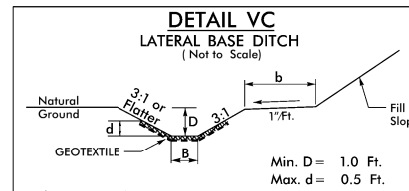
-L- FROM STA. 330+50 TO STA. 333+50 LT
-L- FROM STA. 352+50 TO STA. 359+50 LT



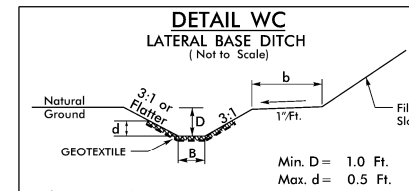
Type of Liner = Class B Rip-Rap
-L- STA. 208+50 LT; S = 6.0%; L = 25';
Beg. El. = 373.4; End El. = 371.9
-L- STA. 644+46 LT; S = 0.33%; L = 60';
Beg. El. = 364.00; End El. = 362.00



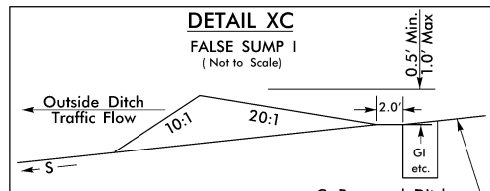
*When B is < 6.0'
Type of Liner = Class B Rip-Rap
-L- FROM STA. 402+50 TO STA. 407+50 LT
-L- FROM STA. 557+00 TO STA. 557+75 LT
-L- FROM STA. 737+93 TO STA. 741+34 RT
-Y11E- FROM STA. 10+64 TO STA. 11+50 RT



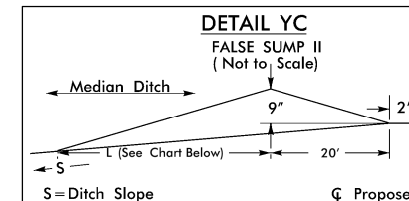
*When B is < 6.0'
Type of Liner = Class I Rip-Rap
-L- FROM STA. 389+50 TO STA. 393+00 LT
-DR3- FROM STA. 11+50 TO STA. 12+50 LT



*When B is < 6.0'
Type of Liner = Class II Rip-Rap
-Y11C- FROM STA. 10+67 TO STA. 11+28 RT

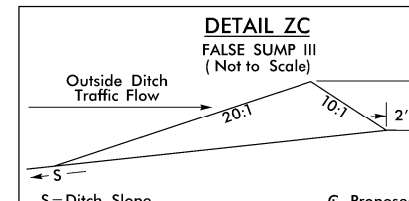


-L- STA. 113+00 TO STA. 120+00 LT
-L- STA. 135+89 LT
-L- STA. 201+20 RT
-L- STA. 299+30 RT
-L- STA. 311+30 LT
-L- STA. 314+80 LT
-L- STA. 320+80 LT
-L- STA. 339+30 LT
-L- STA. 361+05 LT
-L- STA. 378+00 LT
-L- STA. 390+00 RT
-L- STA. 397+31 LT
-L- STA. 402+00 LT
-L- STA. 421+88 LT
-L- STA. 529+00 LT
-L- STA. 555+80 LT
-Y9B- STA. 10+00 RT
-Y11A- STA. 11+39 LT

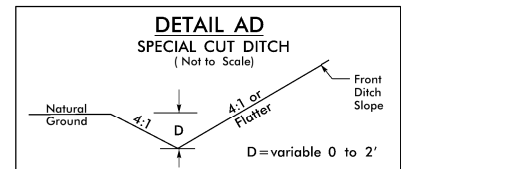


Ditch Grade	L	Ditch Grade	L
0.0% To 2.0%	20'	Over 4.0% To 6.0%	40'
Over 2.0% To 4.0%	30'	Over 6.0%	50'

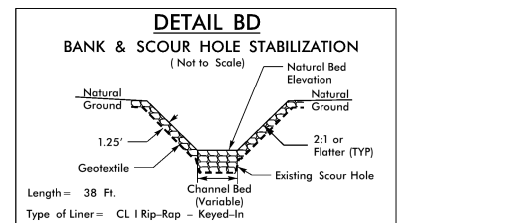
-L- STA. 173+19 MEDIAN
-L- STA. 264+30 TO 269+12 MEDIAN
-L- STA. 185+20 MEDIAN
-L- STA. 195+85 MEDIAN
-L- STA. 201+20 MEDIAN
-L- STA. 207+20 MEDIAN
-L- STA. 284+00 MEDIAN
-L- STA. 286+30 MEDIAN
-L- STA. 311+80 MEDIAN
-L- STA. 314+30 MEDIAN
-L- STA. 320+80 MEDIAN
-L- STA. 359+23 MEDIAN
-L- STA. 361+05 MEDIAN
-L- STA. 376+31 MEDIAN
-L- STA. 387+14 MEDIAN
-L- STA. 400+78 MEDIAN
-L- STA. 401+63 MEDIAN
-L- STA. 407+62 MEDIAN
-L- STA. 413+00 MEDIAN
-L- STA. 426+00 MEDIAN
-L- STA. 453+00 MEDIAN
-L- STA. 489+00 MEDIAN
-L- STA. 507+00 MEDIAN
-L- STA. 528+69 MEDIAN
-L- STA. 555+63 MEDIAN
-L- STA. 607+35 MEDIAN
-L- STA. 633+64 MEDIAN
-L- STA. 650+39 MEDIAN
-L- STA. 699+57 MEDIAN
-L- STA. 708+43 MEDIAN
-L- STA. 731+49 MEDIAN
-L- STA. 740+50 MEDIAN
-L- STA. 758+00 MEDIAN
-L- STA. 782+69 MEDIAN



-L- STA. 157+50 TO 165+10 LT
-L- STA. 97+40 LT
-L- STA. 195+75 LT
-L- STA. 303+50 LT
-L- STA. 314+30 RT
-L- STA. 385+12 RT
-L- STA. 422+00 RT
-L- STA. 555+63 RT
-L- STA. 569+00 RT
-L- STA. 644+63 LT



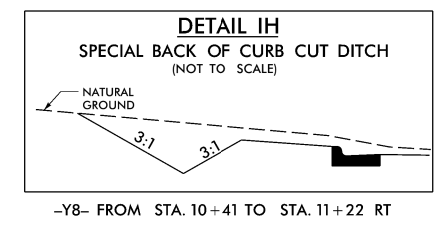
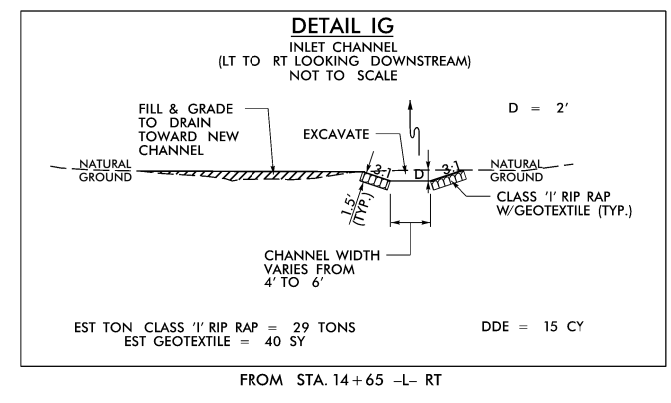
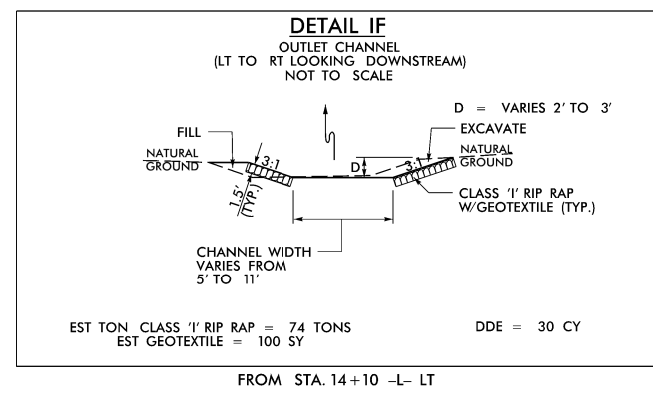
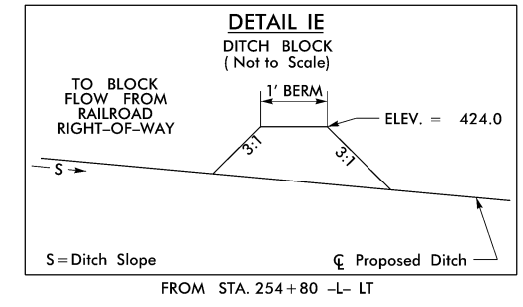
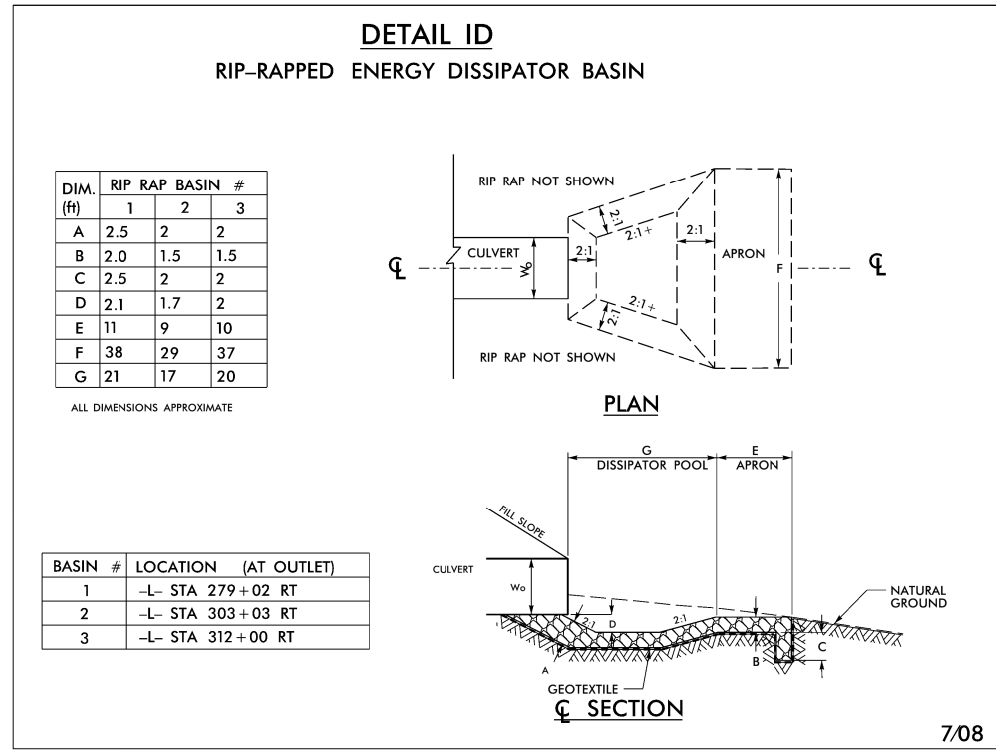
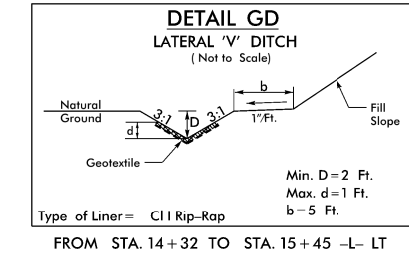
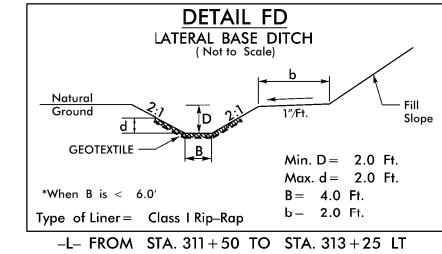
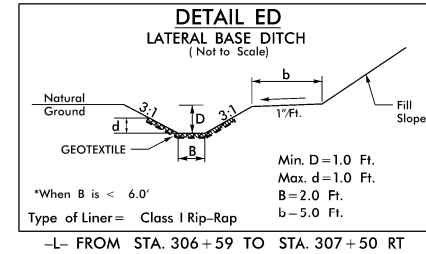
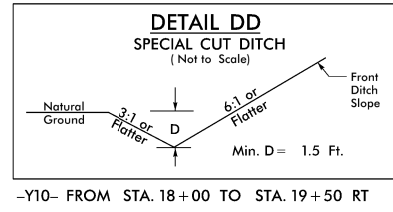
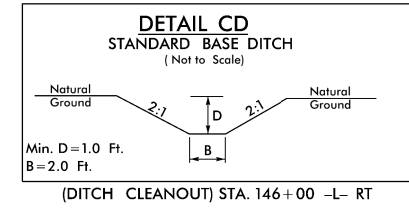
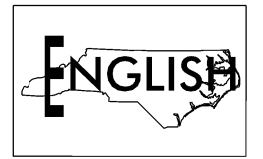
FROM STA. 172+75 TO STA. 173+17 -L- RT



-L- STA. 14+62 LT; Length = 38 Ft.
-L- STA. 34+64 LT; Length = 26 Ft.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

PERMIT DRAWING
SHEET 7 OF 60

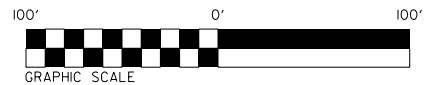


6/23/2021
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CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6"C+G	-L-	10+16.82	14+70.74	LT
2'-6"C+G	-Y1-	10+41.00	11+40.08	LT
2'-6"C+G	-Y1-	10+41.00	11+38.45	RT
2'-6"C+G	-L-	17+06.40	22+96.82	LT
1'-6"C+G	-L-	10+72.04	23+38.59	MEDIAN
2'-6"C+G	-L-	10+79.48	22+66.57	RT

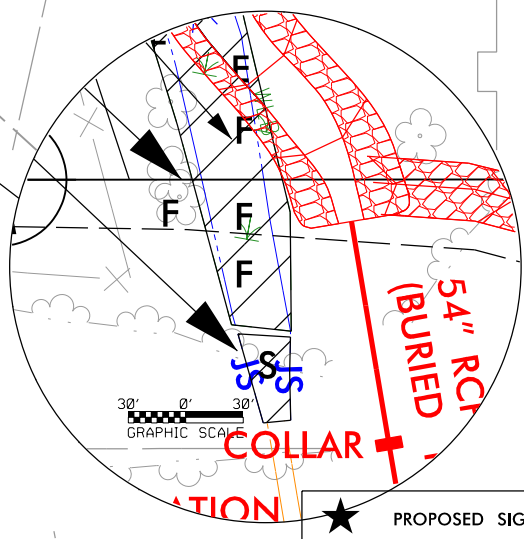
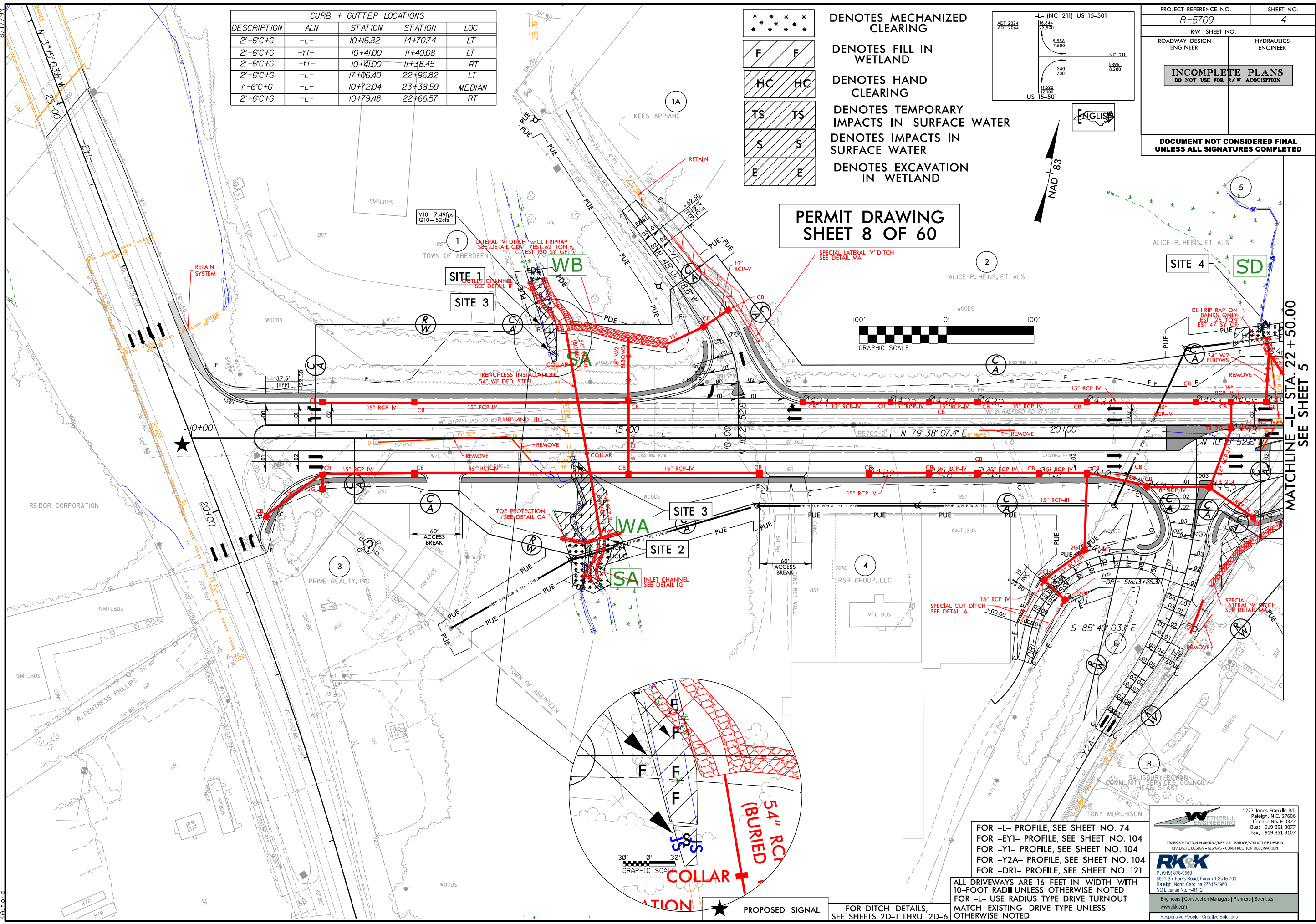
* * * * *
 * * * * *
 F F DENOTES FILL IN WETLAND
 HC HC DENOTES HAND CLEARING
 TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
 S S DENOTES IMPACTS IN SURFACE WATER
 E E DENOTES EXCAVATION IN WETLAND

PERMIT DRAWING SHEET 8 OF 60



REVISIONS

8/17/93
 4/26/2021
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 Kalland



FOR -L- PROFILE, SEE SHEET NO. 74
 FOR -Y1- PROFILE, SEE SHEET NO. 104
 FOR -Y2A- PROFILE, SEE SHEET NO. 104
 FOR -DR1- PROFILE, SEE SHEET NO. 121

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
 FOR -L- USE RADIUS TYPE DRIVE TURNOUT MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

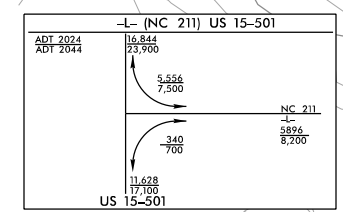
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MATCHLINE -L- STA. 22 + 50.00
 SEE SHEET 5

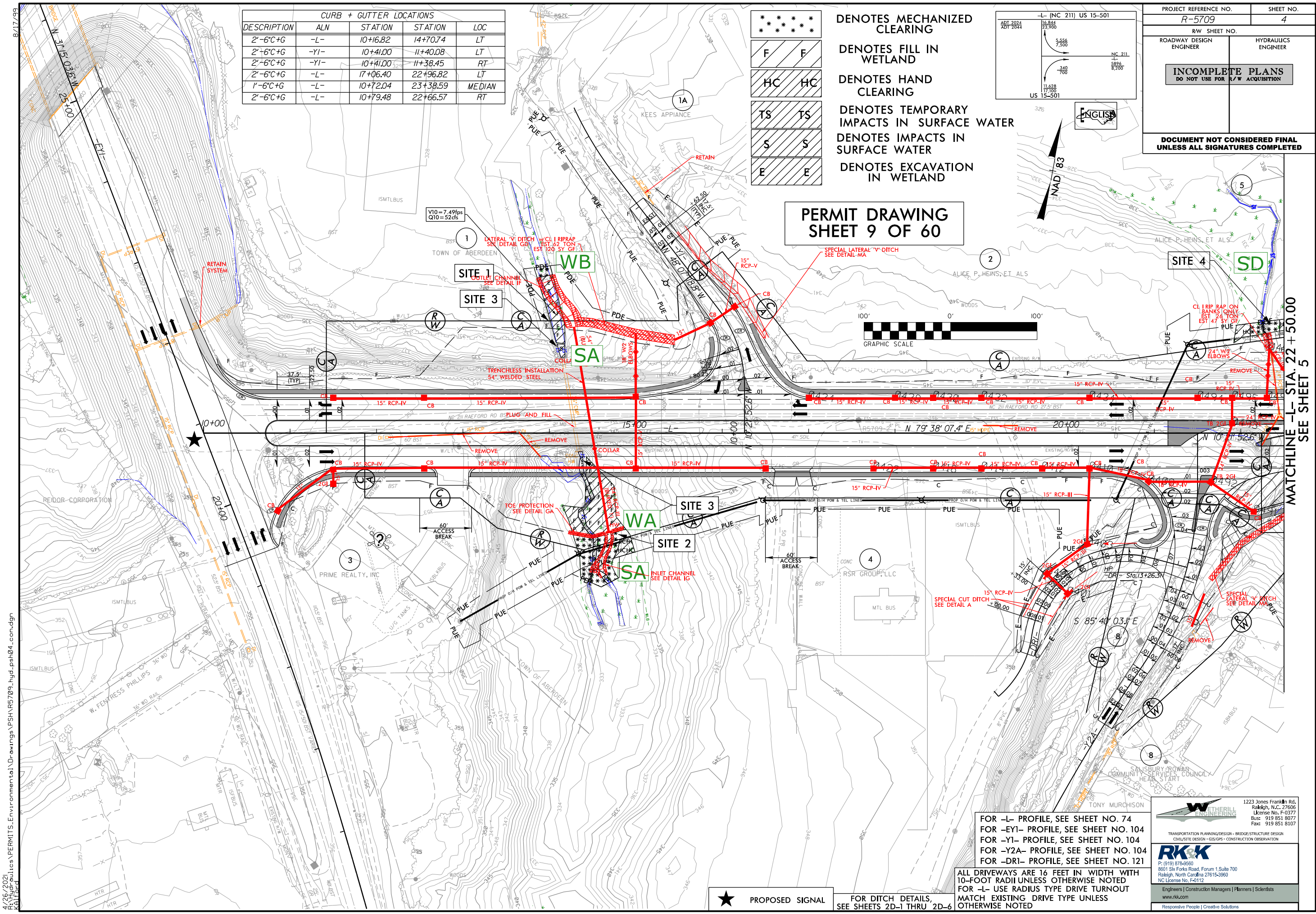
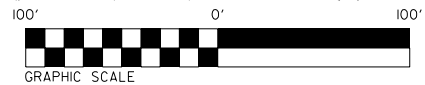
CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6"C+G	-L-	10+16.82	14+70.74	LT
2'-6"C+G	-Y1-	10+41.00	11+40.08	LT
2'-6"C+G	-Y1-	10+41.00	11+38.45	RT
2'-6"C+G	-L-	17+06.40	22+96.82	LT
1'-6"C+G	-L-	10+72.04	23+38.59	MEDIAN
2'-6"C+G	-L-	10+79.48	22+66.57	RT

- ***** DENOTES MECHANIZED CLEARING
- F F DENOTES FILL IN WETLAND
- HC HC DENOTES HAND CLEARING
- TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- S S DENOTES IMPACTS IN SURFACE WATER
- E E DENOTES EXCAVATION IN WETLAND



PROJECT REFERENCE NO. R-5709	SHEET NO. 4
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

**PERMIT DRAWING
SHEET 9 OF 60**



MATCHLINE -L- STA. 22 + 50.00
SEE SHEET 5

FOR -L- PROFILE, SEE SHEET NO. 74
FOR -Y1- PROFILE, SEE SHEET NO. 104
FOR -Y2- PROFILE, SEE SHEET NO. 104
FOR -DR1- PROFILE, SEE SHEET NO. 121

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADIUS UNLESS OTHERWISE NOTED
FOR -L- USE RADIUS TYPE DRIVE TURNOUT MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

★ PROPOSED SIGNAL

FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-6

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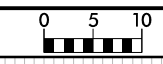
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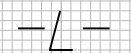
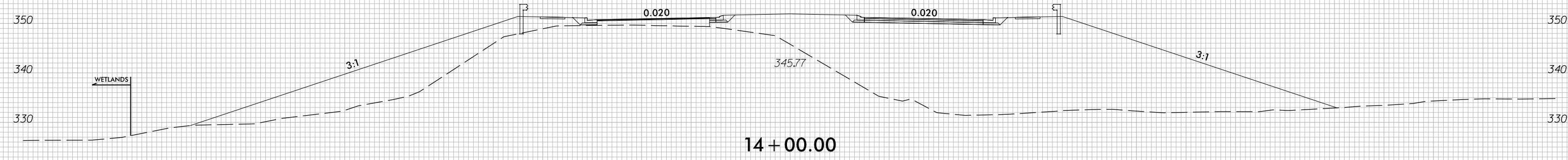
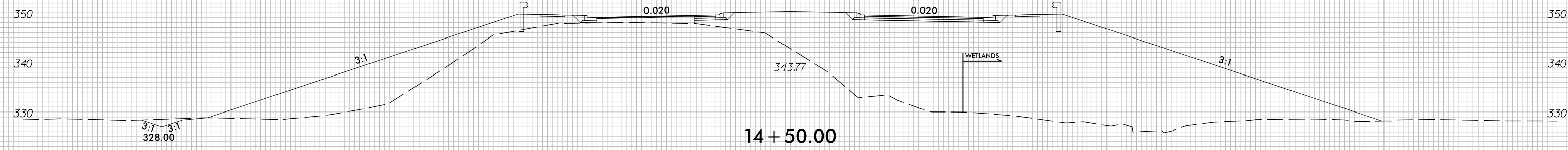
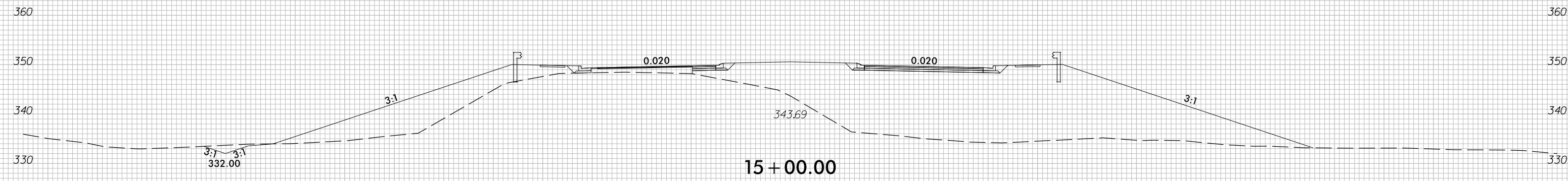
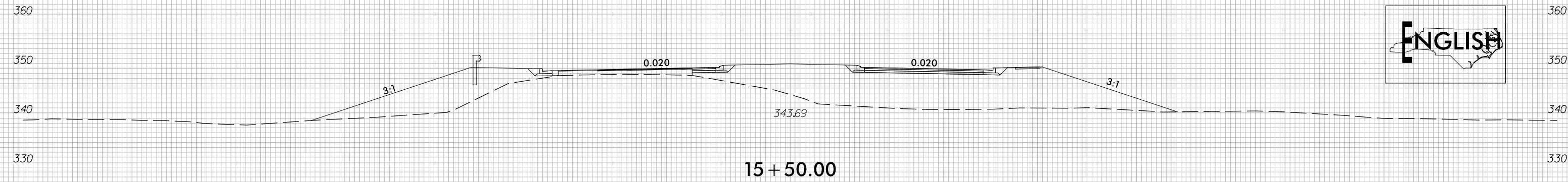
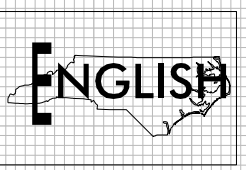
4/25/2021
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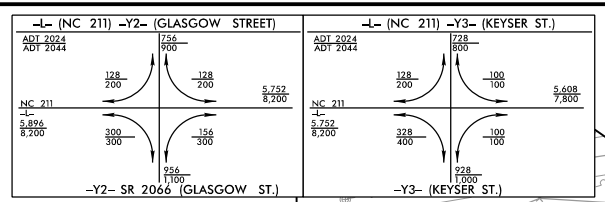
SITE 1

SITE 2

PERMIT DRAWING SHEET 10 OF 60



8/17/99



PROJECT REFERENCE NO. R-5709	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

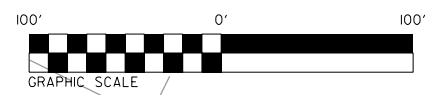
MATCHLINE -L- STA. 22 + 50.00
SEE SHEET 4

MATCHLINE -L- RT. STA. 34 + 00.00
SEE SHEET 6

PERMIT DRAWING SHEET 11 OF 60

CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C+G	-L-	17+06.40	22+96.82	LT
2'-6" C+G	-Y2-	17+67.53	18+50.33	LT
2'-6" C+G	-Y2-	18+05.02	19+12.00	RT
2'-6" C+G	-L-	24+67.45	29+71.18	LT
2'-6" C+G	-Y3-	15+74.58	16+65.22	LT
2'-6" C+G	-Y3-	17+07.87	16+13.07	RT
2'-6" C+G	-L-	16+13.07	38+33.82	LT
1'-6" C+G	-L-	10+72.04	23+38.59	MEDIAN
1'-6" C+G	-L-	24+23.33	26+06.71	MEDIAN
1'-6" C+G	-L-	28+81.52	30+57.97	MEDIAN
1'-6" C+G	-L-	31+53.80	34+91.7	MEDIAN
2'-6" C+G	-L-	10+79.48	22+66.57	RT
2'-6" C+G	-Y2-	14+87.88	16+43.01	LT
2'-6" C+G	-Y2-	16+54.48	17+19.49	RT
2'-6" C+G	-L-	24+42.27	30+10.38	RT
2'-6" C+G	-Y3-	14+12.46	14+99.03	LT
2'-6" C+G	-Y3-	14+54.27	15+41.33	RT
2'-6" C+G	-L-	32+34.66	39+03.71	RT
2'-6" C+G	-DRID-	10+90.67	12+12.38	LT/RT
VALLEY GUTTER	-Y3-	11+00.00	12+50.00	LT

- DENOTES HAND CLEARING
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



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FOR DITCH DETAILS,
 SEE SHEETS 2D-1 THRU 2D-6

PAVEMENT REMOVAL

FOR -L- PROFILE, SEE SHEET NO. 74
 FOR -Y2- PROFILE, SEE SHEET 104
 FOR -Y3- PROFILE, SEE SHEET 105
 FOR -DR1- PROFILE, SEE SHEET 121
 FOR -Y2- & -Y3- DETAILS, SEE SHEET 2E-1
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH
 10-FOOT RADII UNLESS OTHERWISE NOTED
 FOR -L- USE RADIUS TYPE DRIVE TURNOUT
 MATCH EXISTING DRIVE TYPE UNLESS
 OTHERWISE NOTED

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8/17/99

-L- (NC 211) -Y2- (GLASGOW STREET)		-L- (NC 211) -Y3- (KEYSER ST.)	
ADT 2024 128 200	ADT 2024 128 200	ADT 2024 128 200	ADT 2024 128 200
5,926 8,200	5,732 8,200	5,732 8,200	5,408 7,800
-Y2- SR 2066 (GLASGOW ST.)		-Y3- (KEYSER ST.)	

PROJECT REFERENCE NO. R-5709	SHEET NO. 5
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 22 + 50.00
SEE SHEET 4

MATCHLINE -L- RT. STA. 34 + 00.00
SEE SHEET 6

PERMIT DRAWING SHEET 12 OF 60

CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C+G	-L-	17+06.40	22+96.82	LT
2'-6" C+G	-Y2-	17+67.53	18+50.33	LT
2'-6" C+G	-Y2-	18+05.02	19+12.00	RT
2'-6" C+G	-L-	24+67.45	29+71.18	LT
2'-6" C+G	-Y3-	15+74.58	16+65.22	LT
2'-6" C+G	-Y3-	17+07.87	16+13.07	RT
2'-6" C+G	-L-	16+13.07	38+33.82	LT
1'-6" C+G	-L-	10+72.04	23+38.59	MEDIAN
1'-6" C+G	-L-	24+23.33	26+06.71	MEDIAN
1'-6" C+G	-L-	28+81.52	30+57.97	MEDIAN
1'-6" C+G	-L-	31+53.80	34+91.7	MEDIAN
2'-6" C+G	-L-	10+79.48	22+66.57	RT
2'-6" C+G	-Y2-	14+87.88	16+43.01	LT
2'-6" C+G	-Y2-	16+54.48	17+19.49	RT
2'-6" C+G	-L-	24+42.27	30+10.38	RT
2'-6" C+G	-Y3-	14+12.46	14+99.03	LT
2'-6" C+G	-Y3-	14+54.27	15+41.33	RT
2'-6" C+G	-L-	32+34.66	39+03.71	RT
2'-6" C+G	-DRID-	10+90.67	12+12.38	LT/RT
VALLEY GUTTER	-Y3-	11+00.00	12+50.00	LT

- DENOTES HAND CLEARING
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER



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FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-6

FOR -L- PROFILE, SEE SHEET NO. 74
FOR -Y2- PROFILE, SEE SHEET 104
FOR -Y3- PROFILE, SEE SHEET 105
FOR -DR1- PROFILE, SEE SHEET 121
FOR -Y2- & -Y3- DETAILS, SEE SHEET 2E-1

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
FOR -L- USE RADIUS TYPE DRIVE TURNOUT MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

4/16/2021
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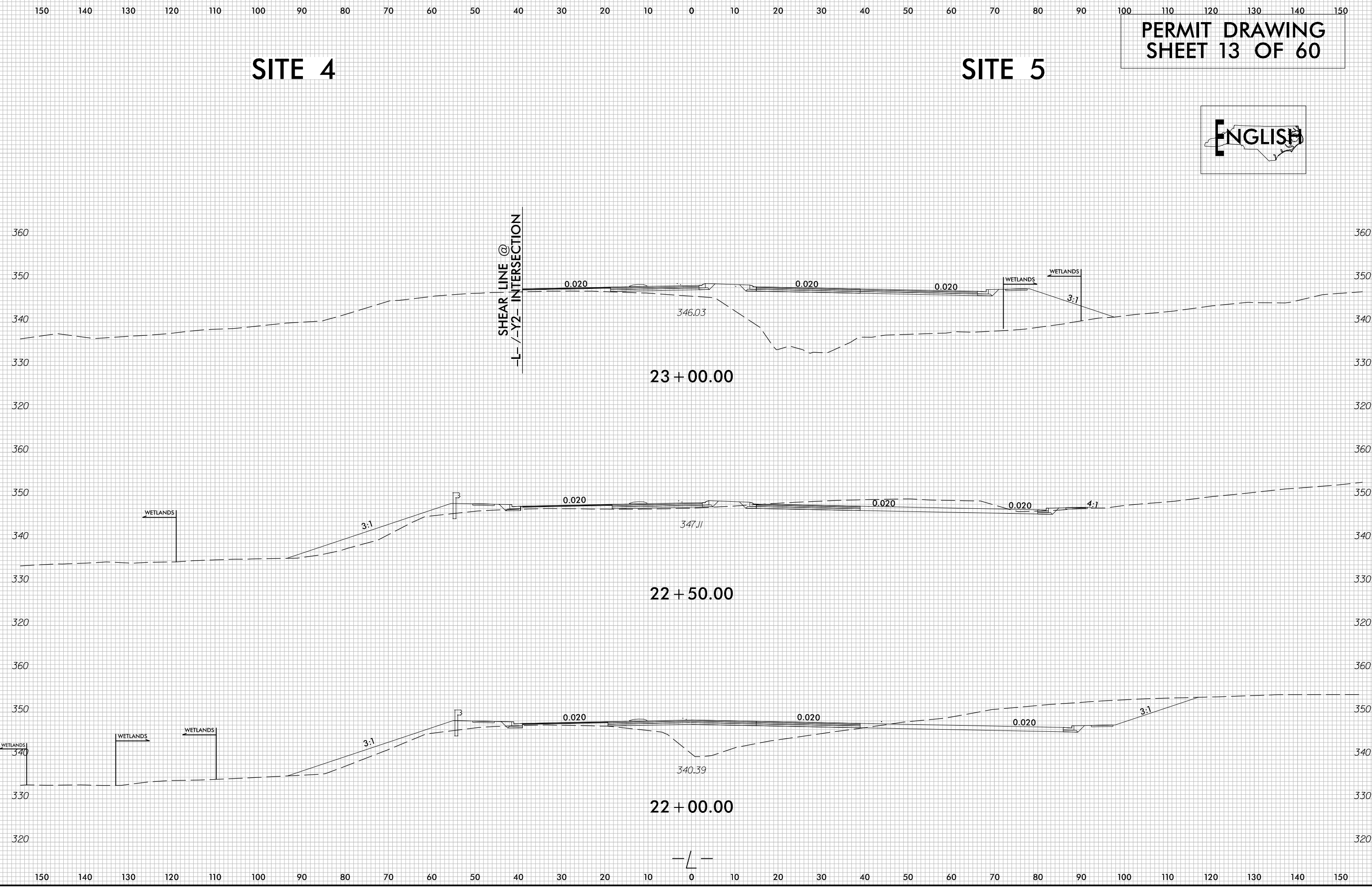
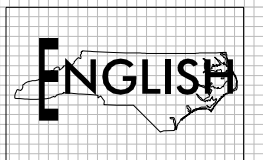
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0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	R-5709	S1 X-7

**PERMIT DRAWING
SHEET 13 OF 60**

SITE 4

SITE 5



4/26/2021
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 SEL: T Brooks

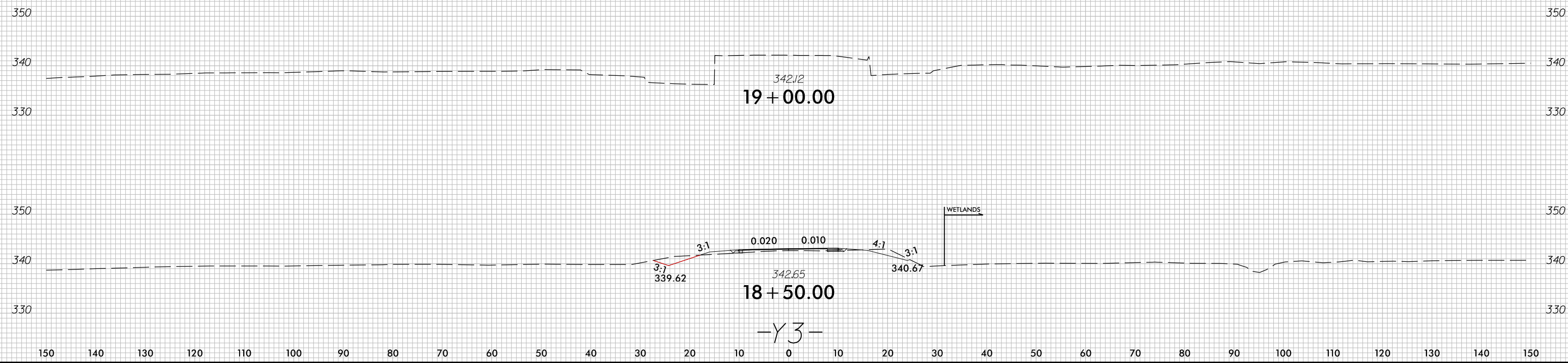
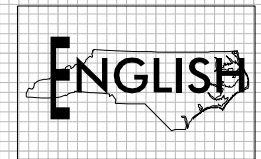
6/23/16

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PERMIT DRAWING
SHEET 14 OF 60

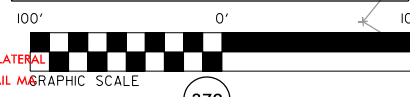
SITE 6



4/26/2021
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User: JF Brooks

CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C+G	-L-	16+13.07	38+33.82	LT
2'-6" C+G	-Y4-	10+41.00	11+16.99	LT
2'-6" C+G	-Y4-	10+52.96	10+70.59	RT
2'-6" C+G	-L-	40+62.28	50+97.53	LT
1'-6" C+G	-L-	31+53.80	34+91.17	MEDIAN
1'-6" C+G	-L-	35+79.63	39+31.87	MEDIAN
1'-6" C+G	-L-	40+30.40	42+23.46	MEDIAN
1'-6" C+G	-L-	42+87.96	47+24.15	MEDIAN
2'-6" C+G	-L-	32+34.66	39+03.71	RT
2'-6" C+G	-Y4A-	10+90.02	13+10.96	LT
2'-6" C+G	-Y4A-	10+90.00	13+11.93	RT
2'-6" C+G	-L-	41+35.19	43+90.61	RT
2'-6" C+G	-Y5A-	11+66.29	11+90.84	LT
2'-6" C+G	-Y5A-	11+59.76	12+00.18	RT
2'-6" C+G	-L-	46+06.52	47+69.30	RT

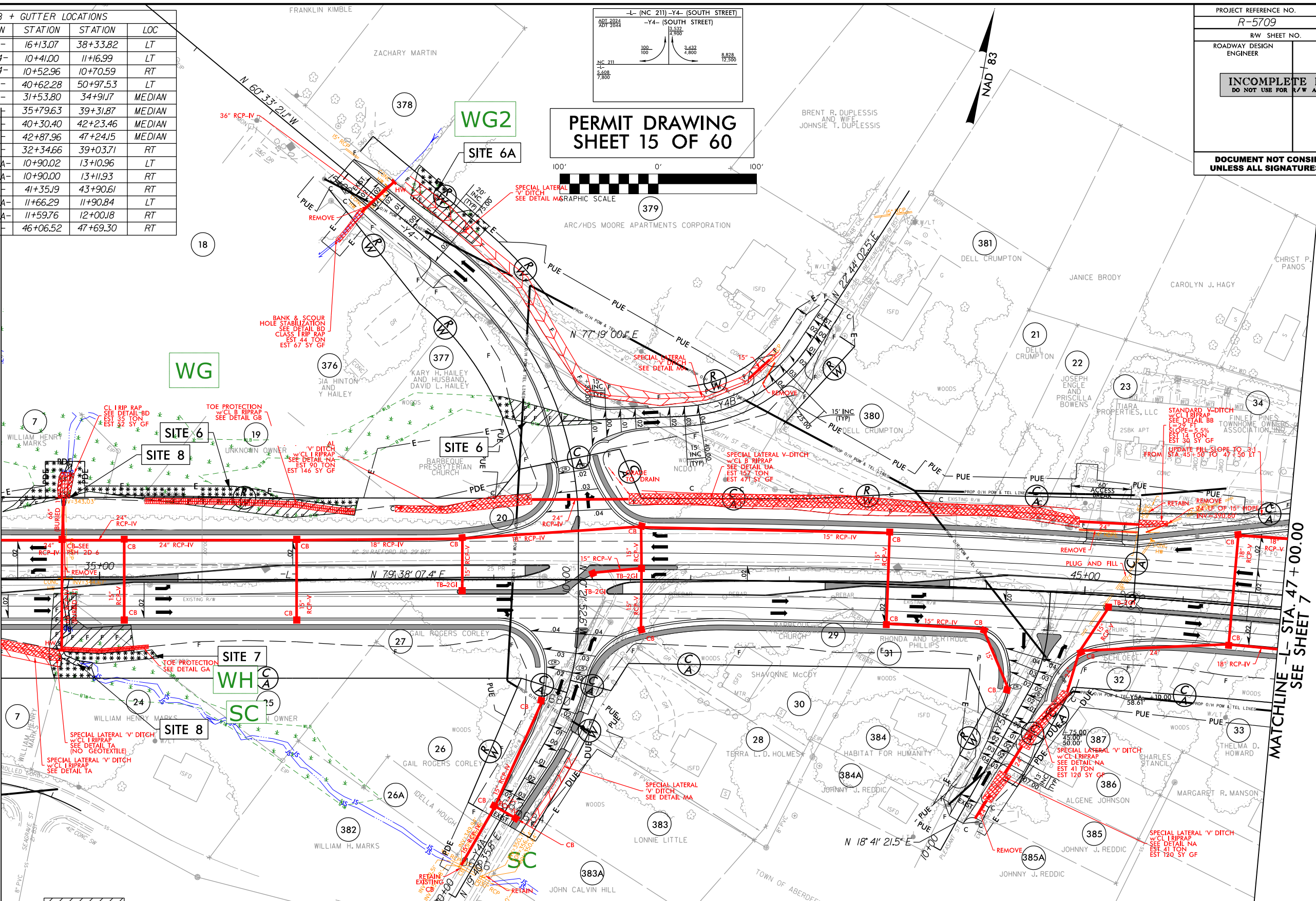
**PERMIT DRAWING
SHEET 15 OF 60**



PROJECT REFERENCE NO. R-5709	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 34 + 00.00
SEE SHEET 5

MATCHLINE -L- STA. 47 + 00.00
SEE SHEET 7



- DENOTES EXCAVATION IN WETLAND
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR -L- PROFILE, SEE SHEET NOS. 74 & 75
 FOR -Y4- PROFILE, SEE SHEET NO. 105
 FOR -Y4A- PROFILE, SEE SHEET NO. 105
 FOR -Y4B- PROFILE, SEE SHEET NO. 106
 FOR -Y5A- PROFILE, SEE SHEET NO. 106
 FOR -Y4-, -Y4A-, -Y4B- & -Y5A- DETAILS, SEE SHEET 2E-2
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
 FOR -L- USE RADIUS TYPE DRIVE TURNOUT
 MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

FOR DITCH DETAILS,
SEE SHEETS 2D-1 THRU 2D-6

PAVEMENT REMOVAL

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 NC License No. F-0112

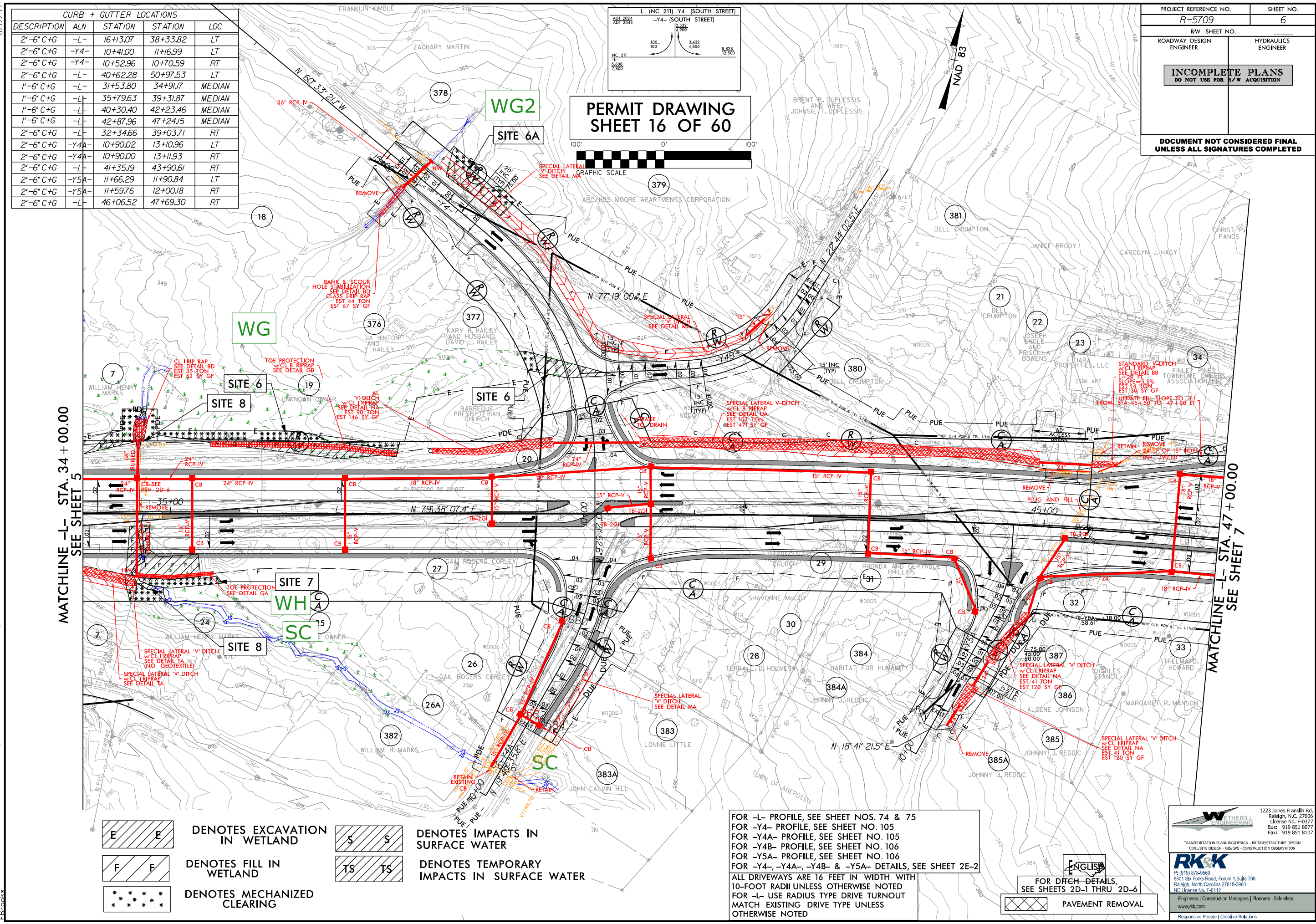
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4/26/2021
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CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
2'-6" C+G	-L-	16+13.07	38+33.82	LT
2'-6" C+G	-Y4-	10+41.00	11+16.99	LT
2'-6" C+G	-Y4-	10+52.96	10+70.59	RT
2'-6" C+G	-L-	40+62.28	50+97.53	LT
1'-6" C+G	-L-	31+53.80	34+91.17	MEDIAN
1'-6" C+G	-L-	35+79.63	39+31.87	MEDIAN
1'-6" C+G	-L-	40+30.40	42+23.46	MEDIAN
1'-6" C+G	-L-	42+87.96	47+24.15	MEDIAN
2'-6" C+G	-L-	32+34.66	39+03.71	RT
2'-6" C+G	-Y4A-	10+90.02	13+10.96	LT
2'-6" C+G	-Y4A-	10+90.00	13+11.93	RT
2'-6" C+G	-L-	41+35.19	43+90.61	RT
2'-6" C+G	-Y5A-	11+66.29	11+90.84	LT
2'-6" C+G	-Y5A-	11+59.76	12+00.18	RT
2'-6" C+G	-L-	46+06.52	47+69.30	RT

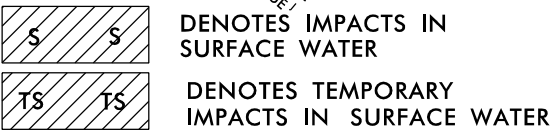
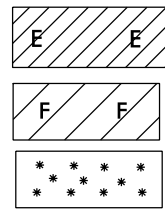
PERMIT DRAWING
SHEET 16 OF 60

PROJECT REFERENCE NO. R-5709	SHEET NO. 6
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 34 + 00.00
SEE SHEET 5

MATCHLINE -L- STA. 47 + 00.00
SEE SHEET 7



FOR -L- PROFILE, SEE SHEET NOS. 74 & 75
 FOR -Y4- PROFILE, SEE SHEET NO. 105
 FOR -Y4B- PROFILE, SEE SHEET NO. 106
 FOR -Y5A- PROFILE, SEE SHEET NO. 106
 FOR -Y4-, -Y4A-, -Y4B- & -Y5A- DETAILS, SEE SHEET 2E-2
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
 FOR -L- USE RADIUS TYPE DRIVE TURNOUT
 MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

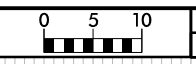
FOR DITCH DETAILS,
 SEE SHEETS 2D-1 THRU 2D-6
 PAVEMENT REMOVAL

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6/23/16



PROJ. REFERENCE NO.
R-5709

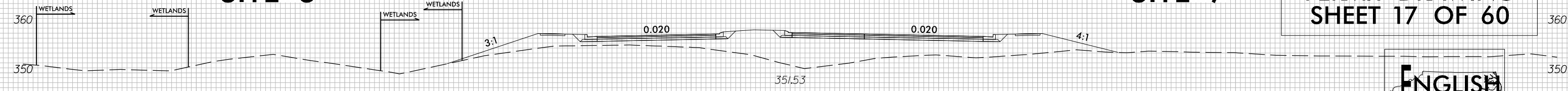
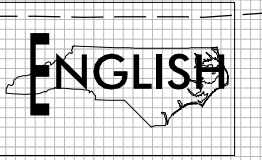
SHEET NO.
S1 X-15

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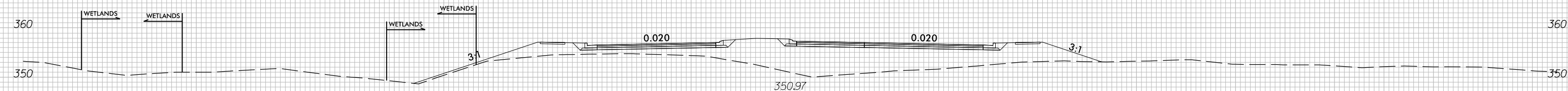
SITE 6

SITE 7

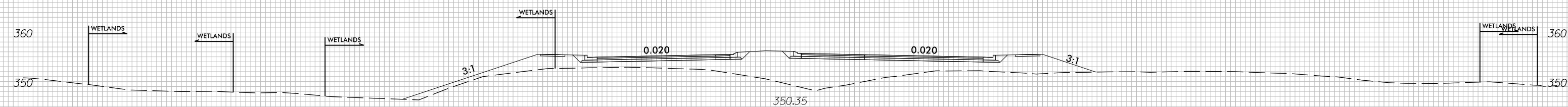
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SHEET 17 OF 60**



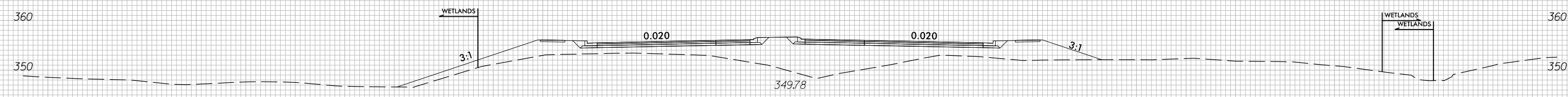
37 + 50.00



37 + 00.00



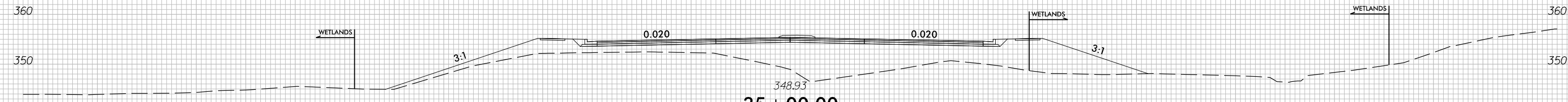
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36 + 00.00



35 + 50.00

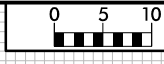


35 + 00.00

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4/26/2021
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JAMES
JAMES

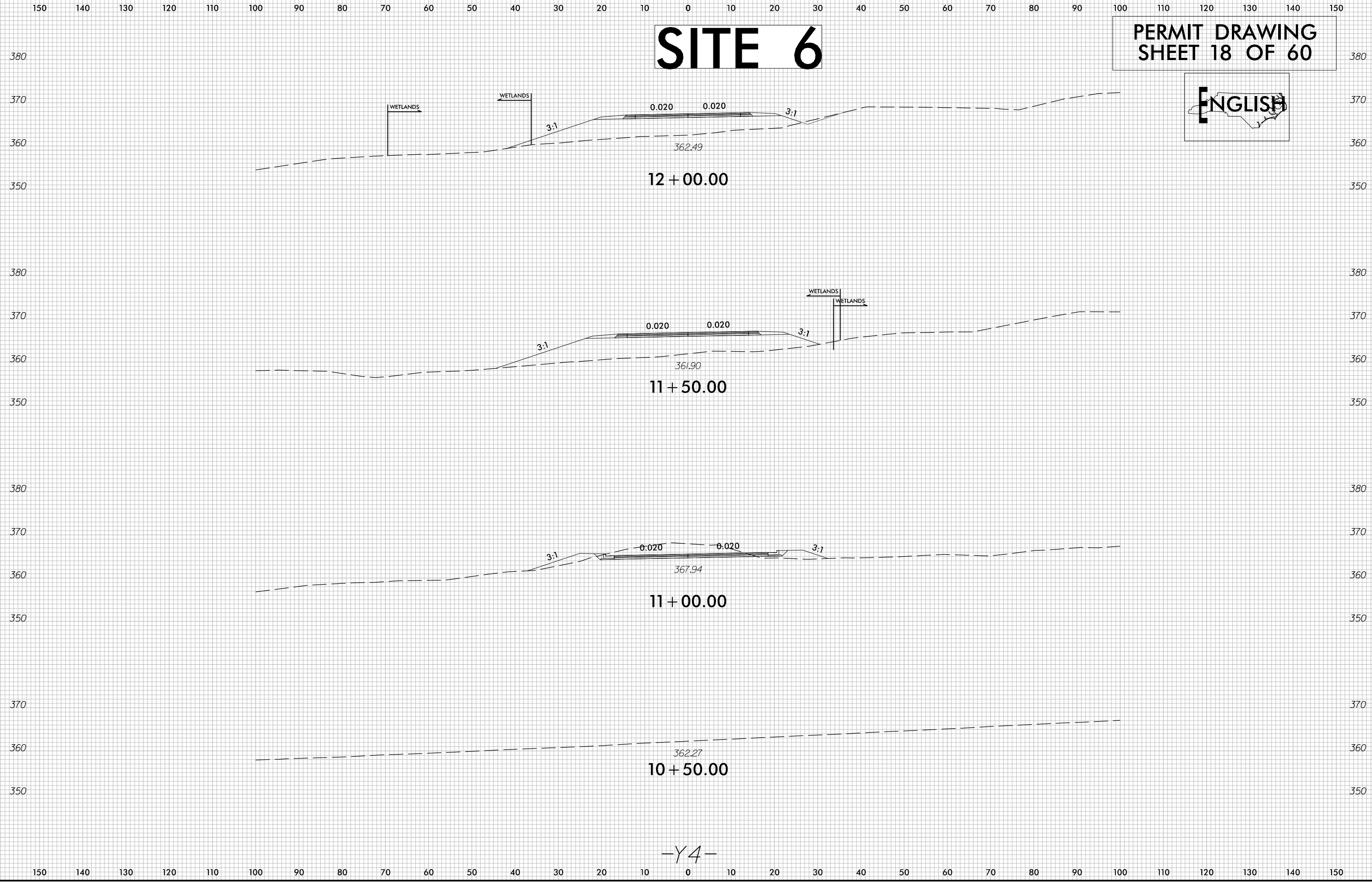
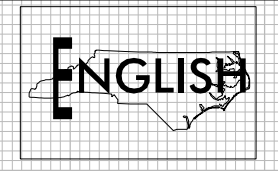
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PROJ. REFERENCE NO.	SHEET NO.
R-5709	S1 X-167

SITE 6

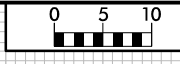
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-Y4-

4/26/2021
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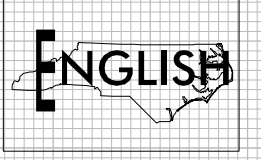
6/23/16



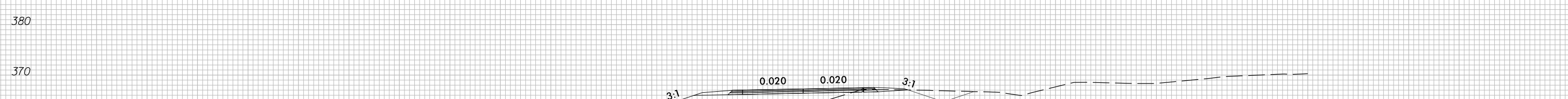
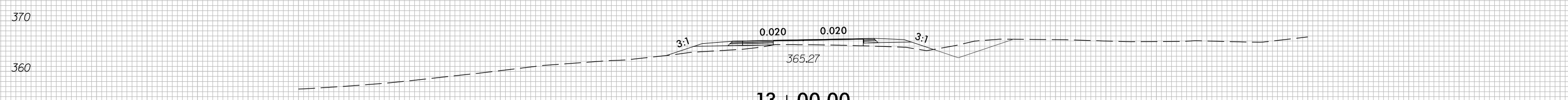
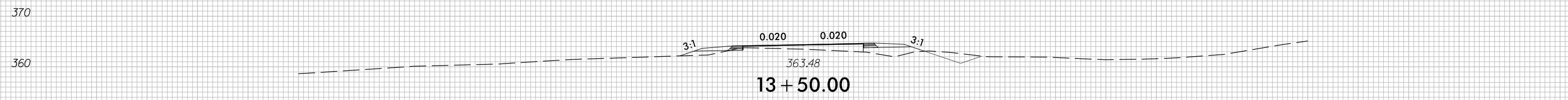
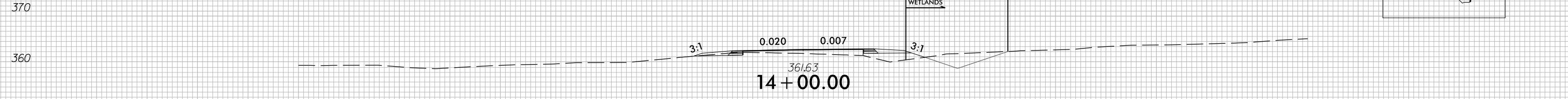
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R-5709	S1 X-168

SITE 6A

PERMIT DRAWING SHEET 19 OF 60



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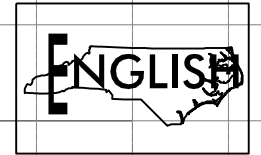
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-Y4-

4/26/2021
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USER: jbr

SITE 8 -L- STA. 34 + 62

PERMIT DRAWING
SHEET 20 OF 60



355

3:1 (skewed 88.4*)

EXISTING ROADWAY

350

66" RCP-IV (BURIED 1')
(length = 152')

345

NWS = 344.9'

PROPOSED ELEVATION
= 345.20'

2.21%

NATURAL GROUND

PROPOSED ELEVATION
= 341.85'

340

-100

CL

100

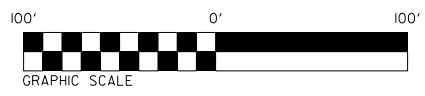
8/17/99

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4/25/2021

CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
1'-6" C+G	-L-	155+04.61	160+29.61	MEDIAN
1'-6" C+G	-L-	161+18.55	163+93.98	MED.LT
1'-6" C+G	-L-	161+18.55	163+93.98	MED.RT
SBG	-L-	165+23.91	169+57.10	RT

PERMIT DRAWING SHEET 21 OF 60



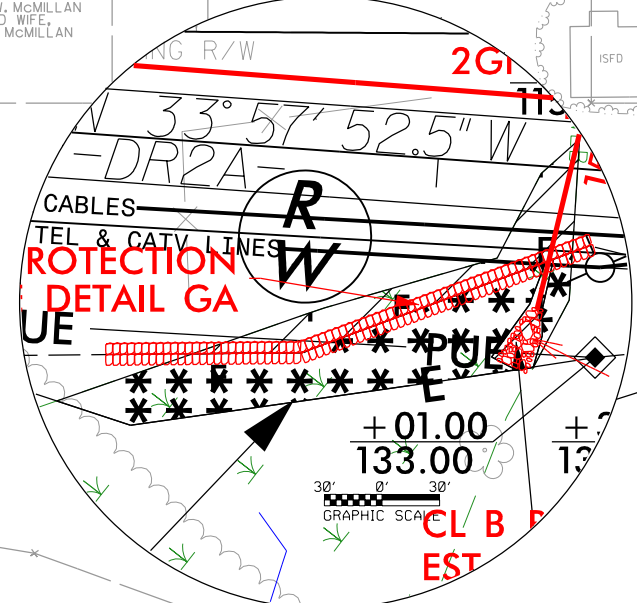
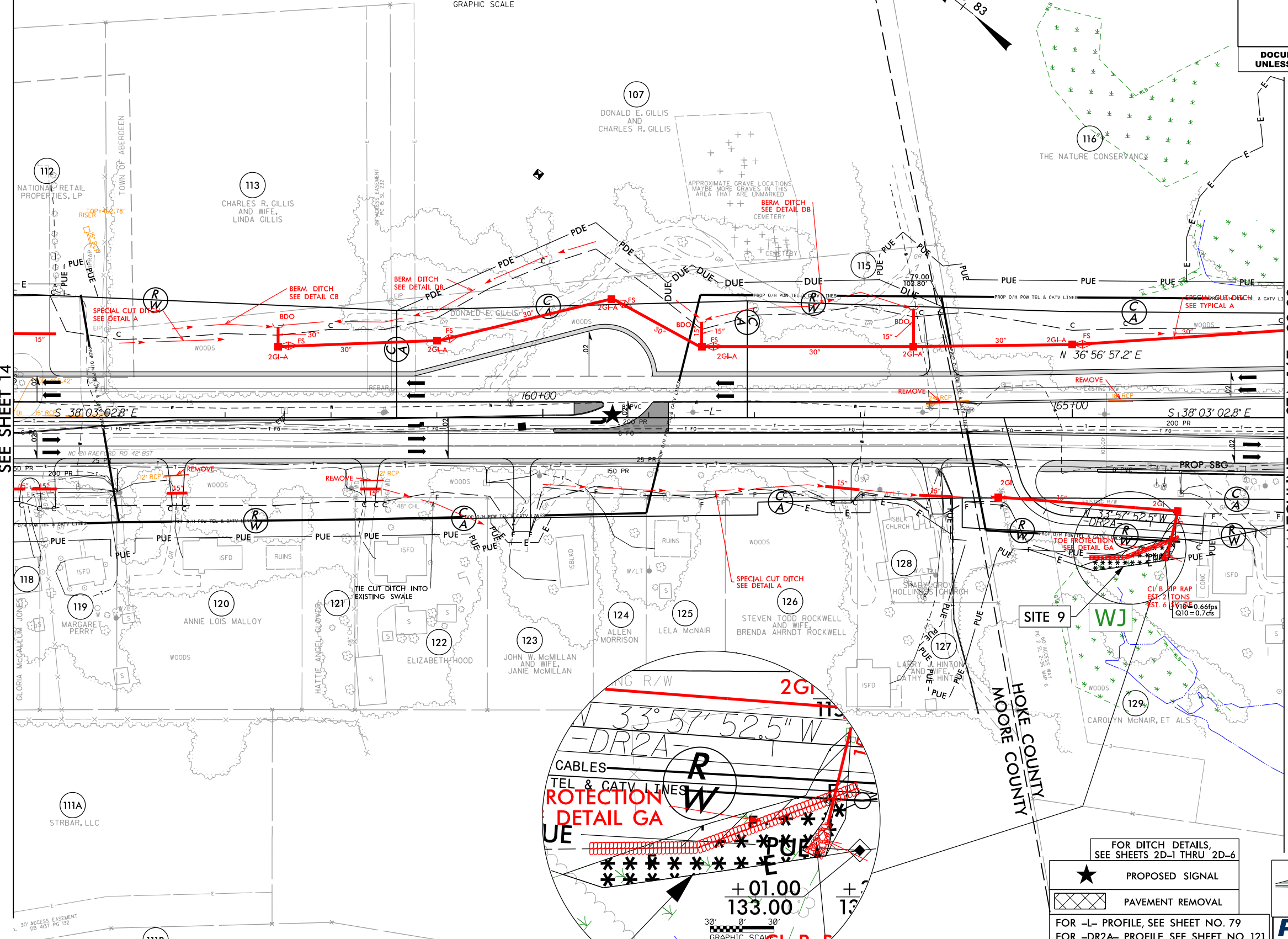
***** DENOTES MECHANIZED CLEARING

F F DENOTES FILL IN WETLAND

PROJECT REFERENCE NO. R-5709	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 155 + 00.00
SEE SHEET 14

MATCHLINE -L- STA. 167 + 00.00
SEE SHEET 16



FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-6

★ PROPOSED SIGNAL

PAVEMENT REMOVAL

FOR -L- PROFILE, SEE SHEET NO. 79
FOR -DR2A- PROFILE, SEE SHEET NO. 121

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

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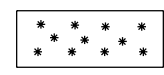
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CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
1'-6" C+G	-L-	155+04.61	160+29.61	MEDIAN
1'-6" C+G	-L-	161+18.55	163+93.98	MED.LT
1'-6" C+G	-L-	161+18.55	163+93.98	MED.RT
SBG	-L-	165+23.91	169+57.10	RT

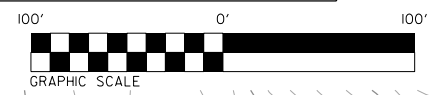
PERMIT DRAWING SHEET 22 OF 60



DENOTES MECHANIZED CLEARING



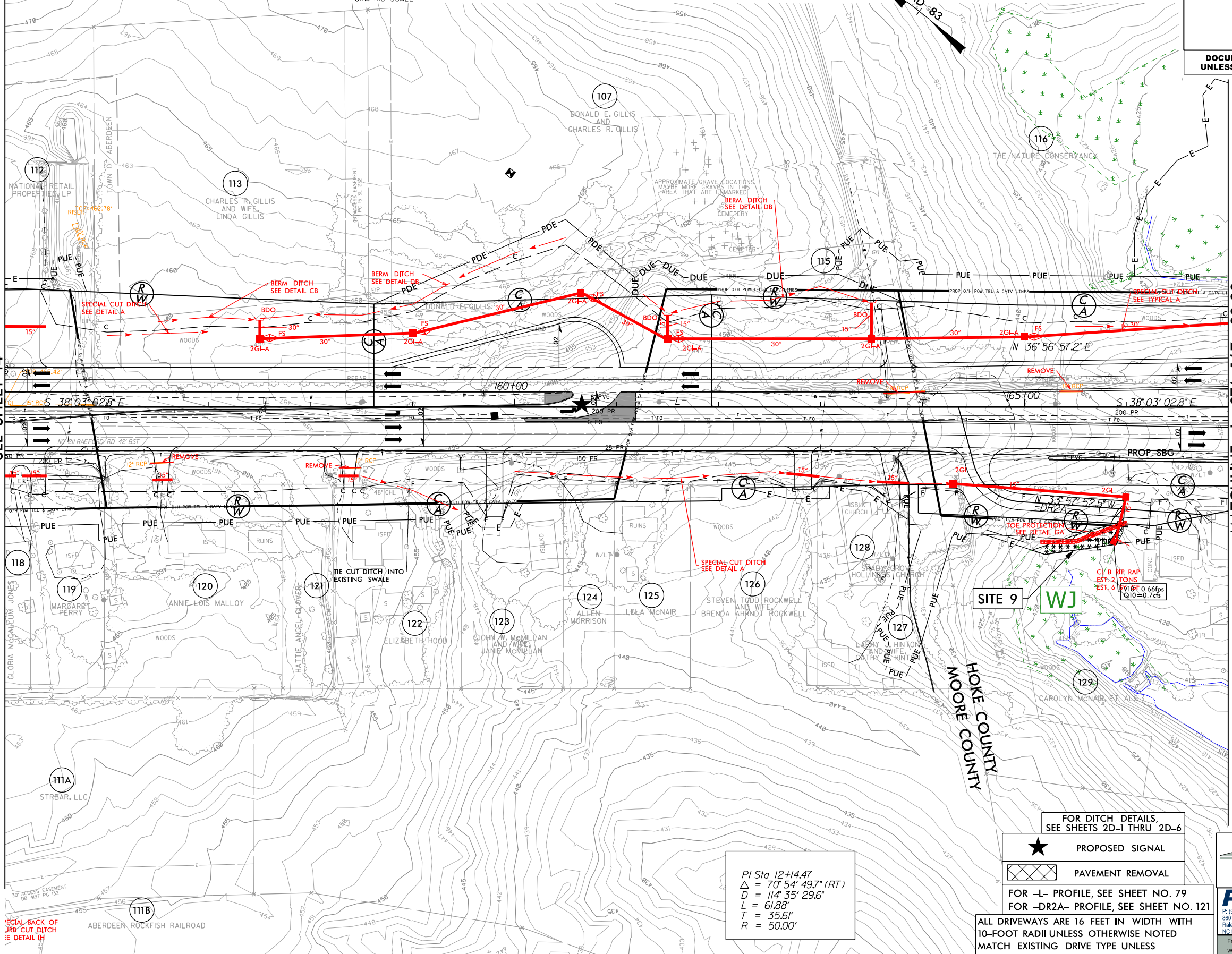
DENOTES FILL IN WETLAND



PROJECT REFERENCE NO. R-5709	SHEET NO. 15
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -L- STA. 155 + 00.00
SEE SHEET 14

MATCHLINE -L- STA. 167 + 00.00
SEE SHEET 16



$PI\ Sta\ 12+14.47$
 $\Delta = 70^\circ 54' 49.7" (RT)$
 $D = 114' 35" 29.6"$
 $L = 61.88'$
 $T = 35.61'$
 $R = 50.00'$

- PROPOSED SIGNAL
- PAVEMENT REMOVAL
- FOR -L- PROFILE, SEE SHEET NO. 79
- FOR -DR2A- PROFILE, SEE SHEET NO. 121

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

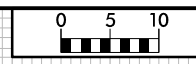
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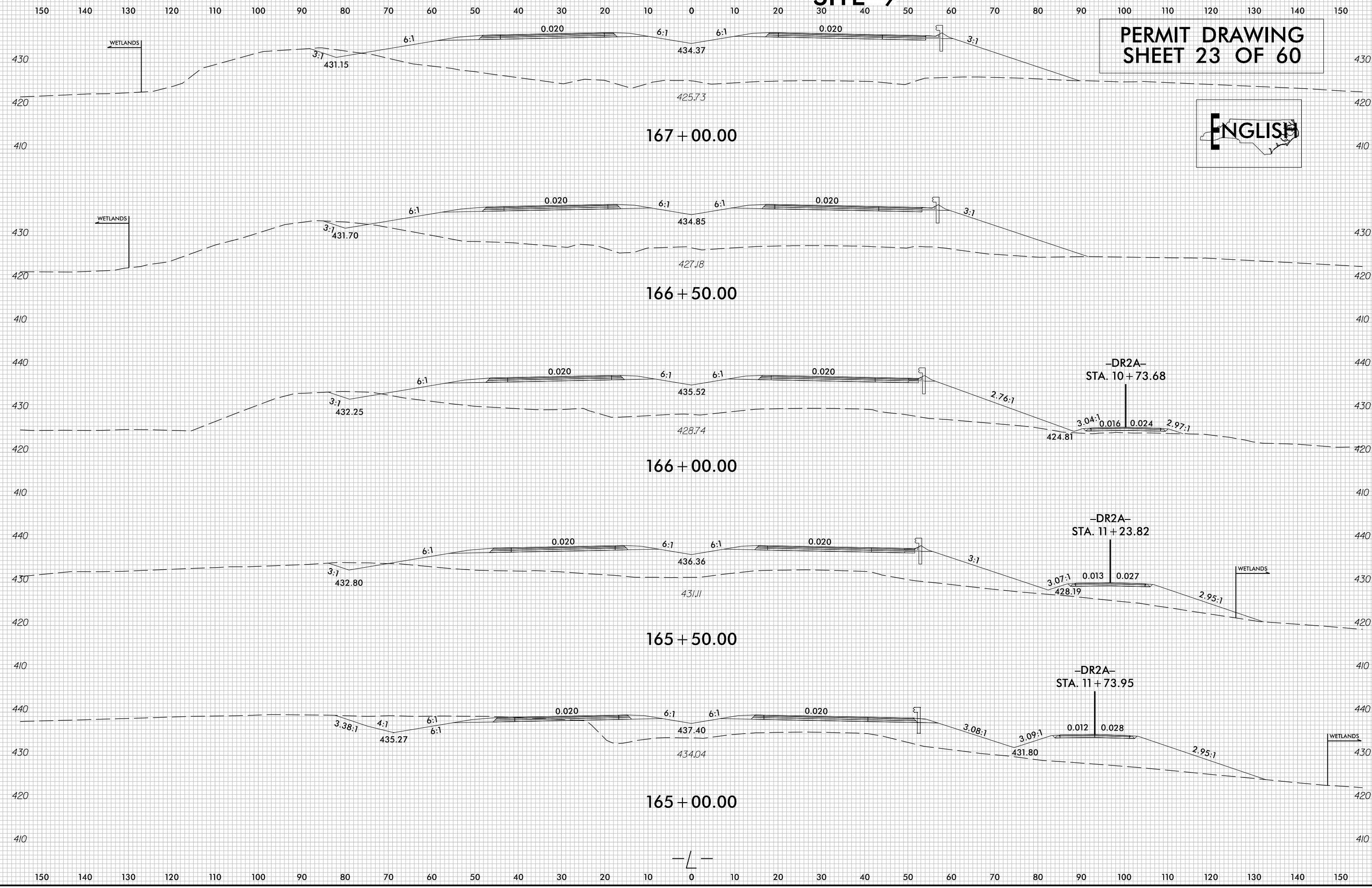
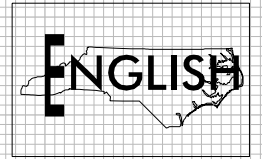
6/23/16

SITE 9



PROJ. REFERENCE NO.	SHEET NO.
R-5709	S1 X-79

**PERMIT DRAWING
SHEET 23 OF 60**



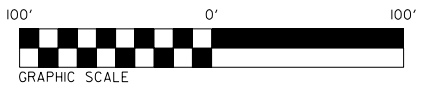
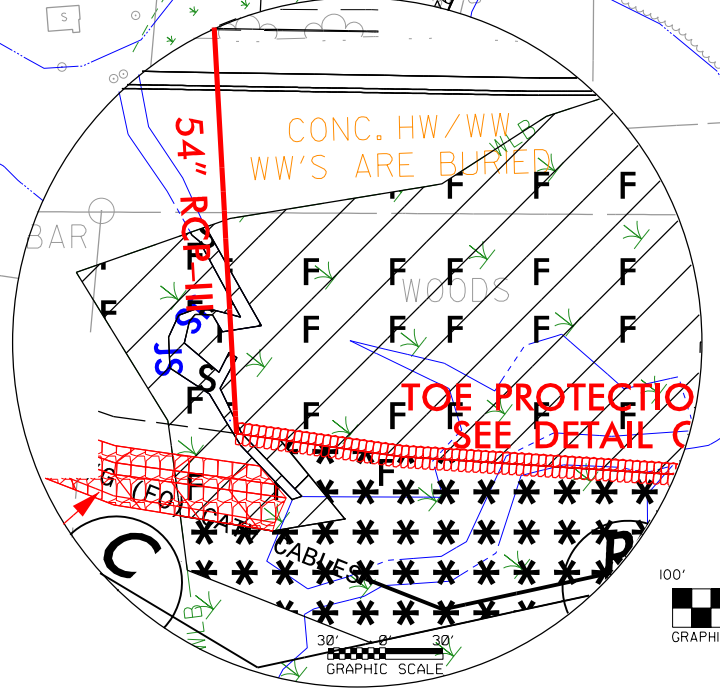
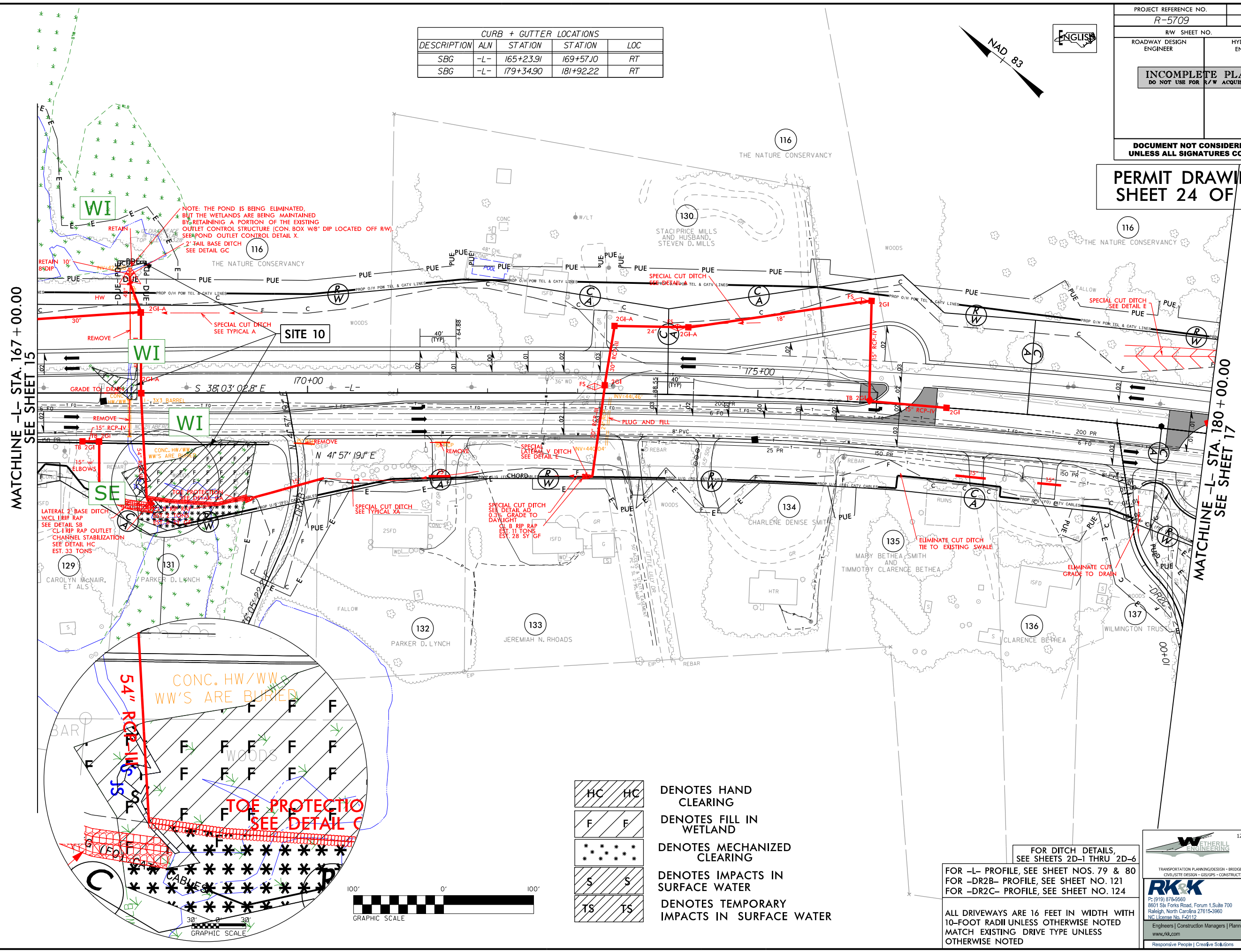
4/26/2021
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 JAMES B. BROOKS

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4/25/2021
R:\14\p\col\lics\PERMITS\Environmental\Drawings\PSH\PS709_hyd_pah16.dgn

CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	165+23.91	169+57.10	RT
SBG	-L-	179+34.90	181+92.22	RT

PROJECT REFERENCE NO. R-5709	SHEET NO. 16
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

PERMIT DRAWING
SHEET 24 OF 60



- HC HC DENOTES HAND CLEARING
- F F DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- S S DENOTES IMPACTS IN SURFACE WATER
- TS TS DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR DITCH DETAILS,
SEE SHEETS 2D-1 THRU 2D-6

FOR -L- PROFILE, SEE SHEET NOS. 79 & 80
FOR -DR2B- PROFILE, SEE SHEET NO. 121
FOR -DR2C- PROFILE, SEE SHEET NO. 124

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH
10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS
OTHERWISE NOTED

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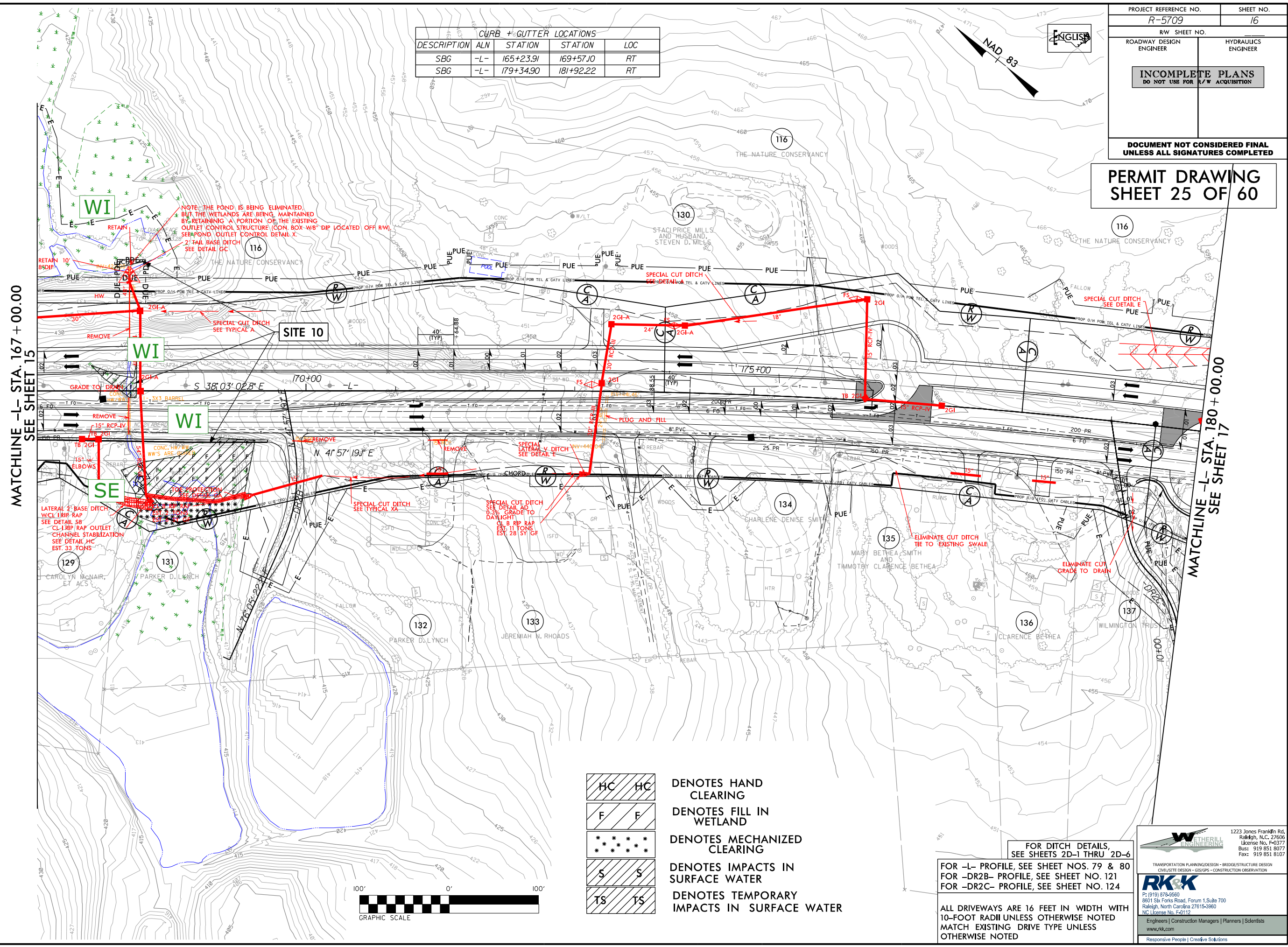
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CURB + GUTTER LOCATIONS				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	165+23.91	169+57.10	RT
SBG	-L-	179+34.90	181+92.22	RT

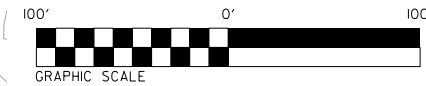
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SEE SHEET 15

MATCHLINE -L- STA. 180 + 00.00
SEE SHEET 17



NOTE: THE POND IS BEING ELIMINATED, BUT THE WETLANDS ARE BEING MAINTAINED BY RETAINING A PORTION OF THE EXISTING OUTLET CONTROL STRUCTURE (CON. BOX-W8" DIP LOCATED OFF RW). SEE POND OUTLET CONTROL DETAIL X.
2' TAIL BASE DITCH SEE DETAIL GC

LATERAL 2' BASE DITCH W/CL RIP-RAP SEE DETAIL SB
CL RIP-RAP OUTLET CHANNEL STABILIZATION SEE DETAIL HC EST. 33 TONS



- DENOTES HAND CLEARING
- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-6
FOR -L- PROFILE, SEE SHEET NOS. 79 & 80
FOR -DR2B- PROFILE, SEE SHEET NO. 121
FOR -DR2C- PROFILE, SEE SHEET NO. 124

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

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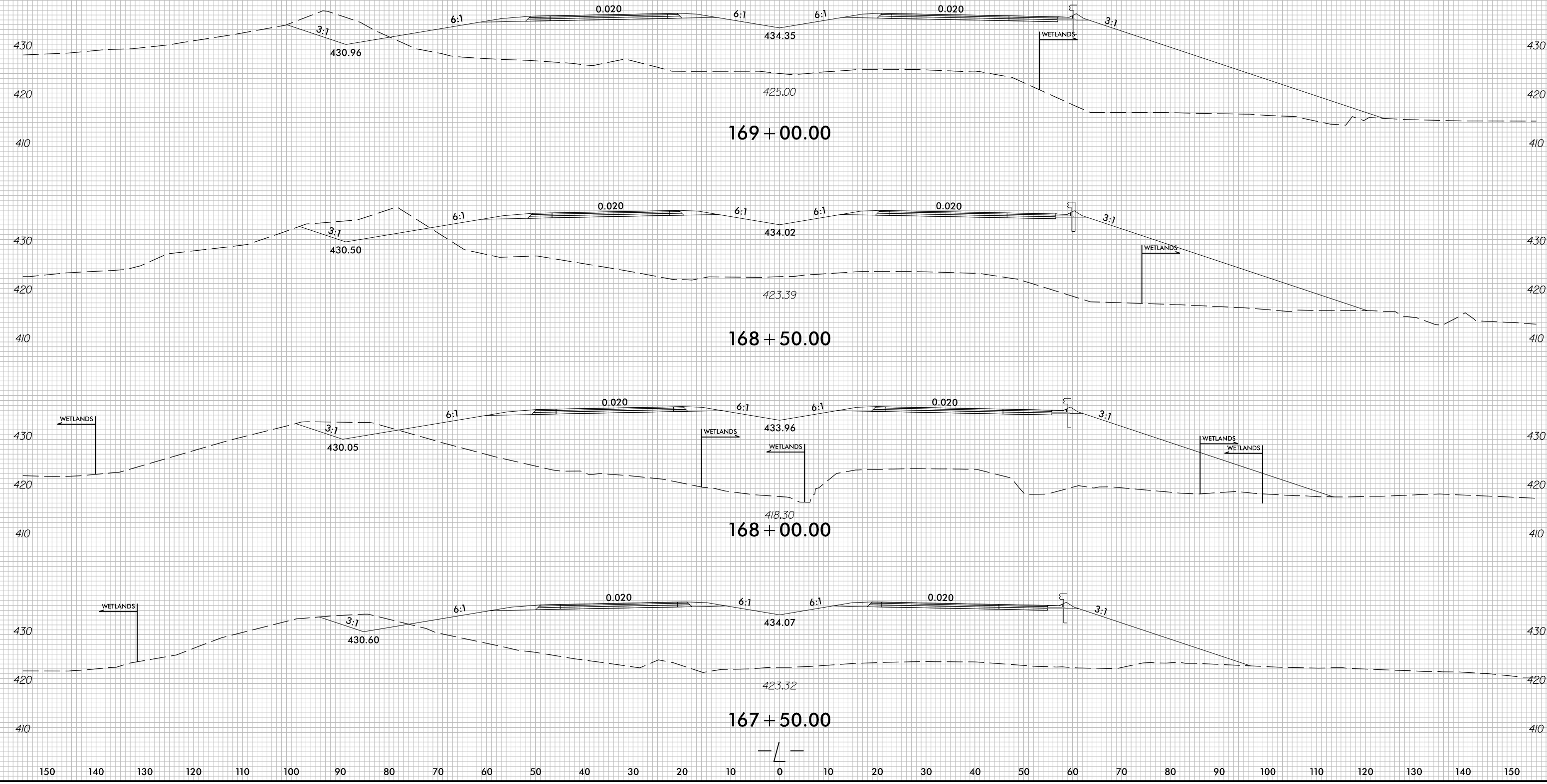
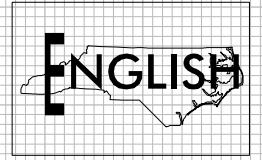
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6/23/16

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SITE 10

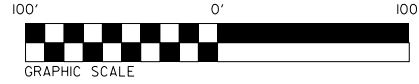
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JAMES BROWN

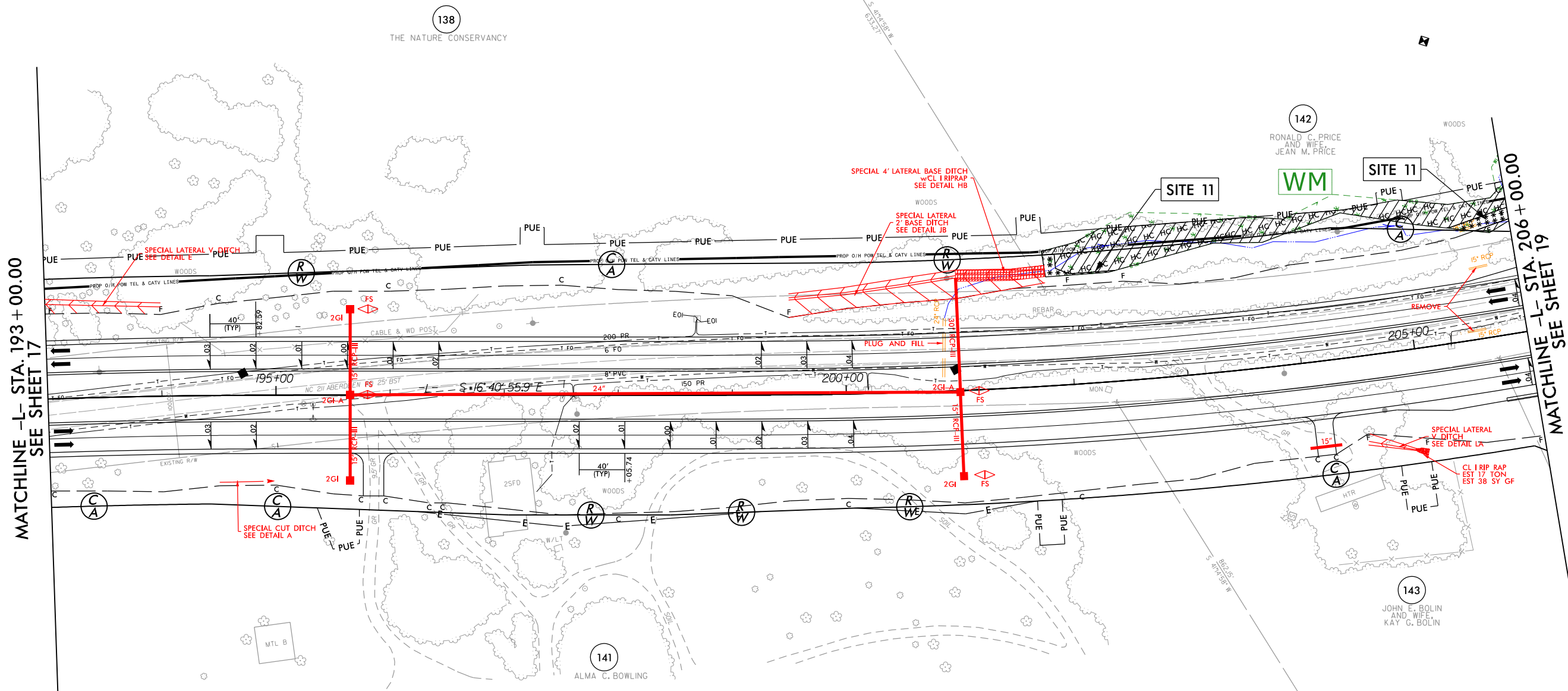
B.17/99
 4/26/2021
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 ER

PERMIT DRAWING SHEET 27 OF 60



- DENOTES FILL IN WETLAND
- DENOTES MECHANIZED CLEARING
- DENOTES HAND CLEARING

PROJECT REFERENCE NO. R-5709	SHEET NO. 18
RW SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 193 + 00.00
SEE SHEET 17

MATCHLINE -L- STA. 206 + 00.00
SEE SHEET 19

CURB + GUTTER LOCATION				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	205+73.14	206+00.00	RT

FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-6

FOR -L- PROFILE, SEE SHEET NOS. 80 & 81

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED

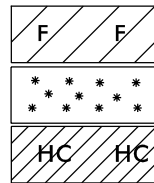
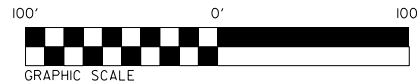
MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

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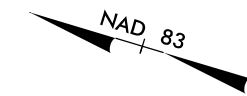
B.17/99

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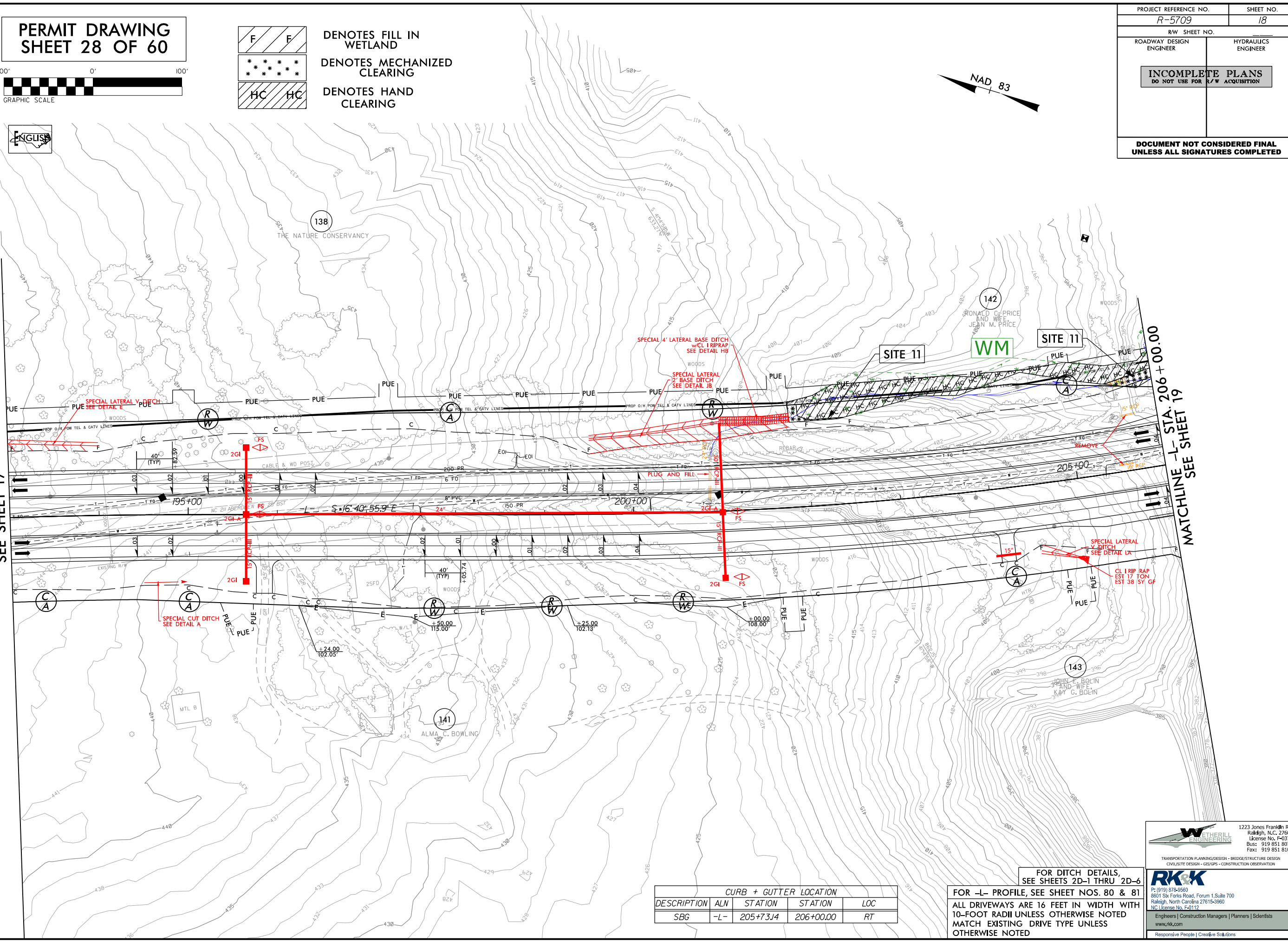
F DENOTES FILL IN WETLAND
HC DENOTES HAND CLEARING
 * * * * * DENOTES MECHANIZED CLEARING

PROJECT REFERENCE NO. R-5709	SHEET NO. 18
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR A/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 193 + 00.00
SEE SHEET 17

MATCHLINE -L- STA. 206 + 00.00
SEE SHEET 19



CURB + GUTTER LOCATION				
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	205+73.14	206+00.00	RT

FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-6
 FOR -L- PROFILE, SEE SHEET NOS. 80 & 81
 ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
 MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

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 Bus: 919 851 8077
 Fax: 919 851 8107

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 CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

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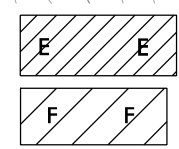
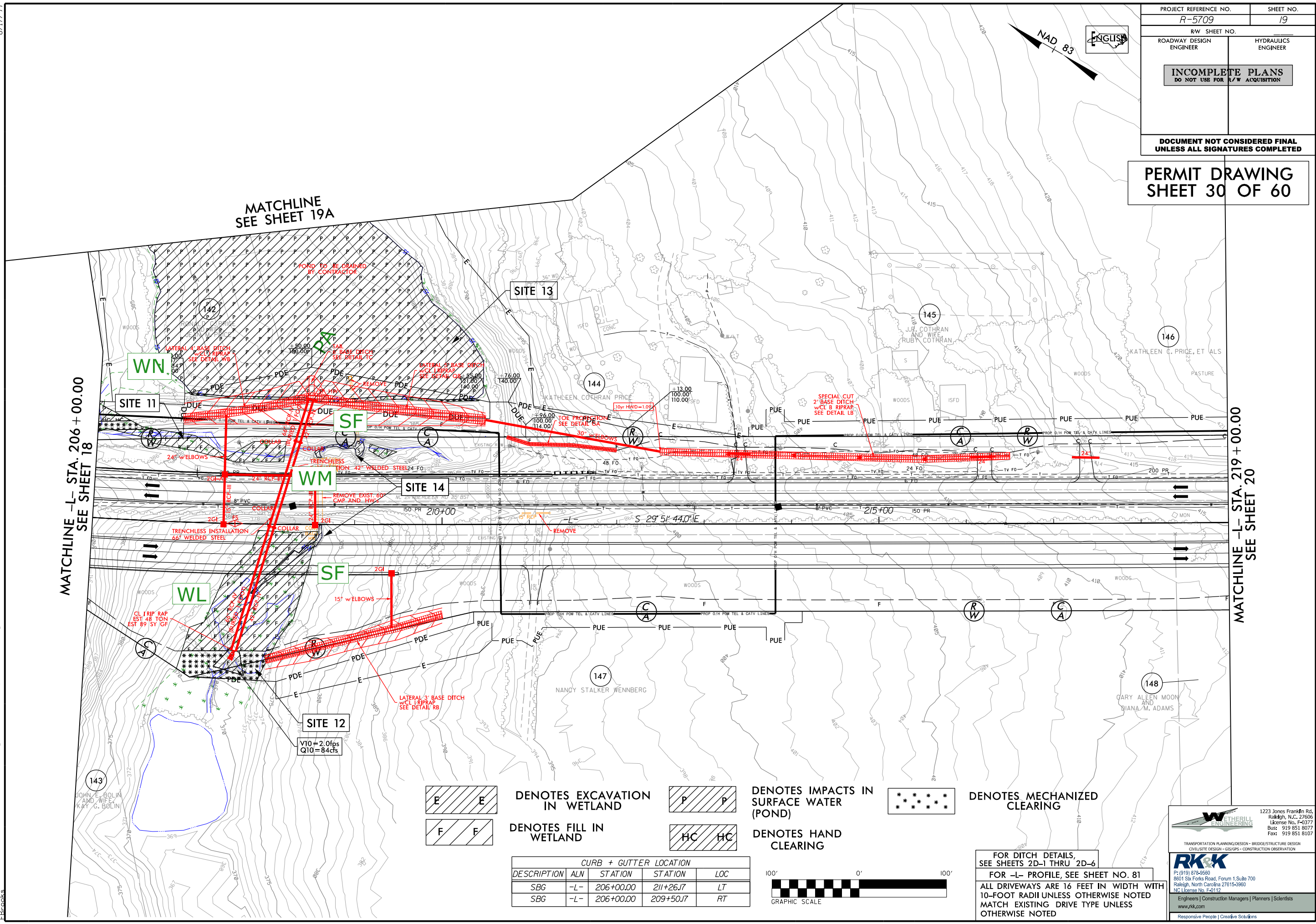
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PERMIT DRAWING
SHEET 30 OF 60

8.17/99
4/26/2021
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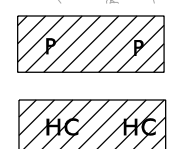
MATCHLINE -L- STA. 206 + 00.00
SEE SHEET 18

MATCHLINE -L- STA. 219 + 00.00
SEE SHEET 20



E DENOTES EXCAVATION IN WETLAND

F DENOTES FILL IN WETLAND



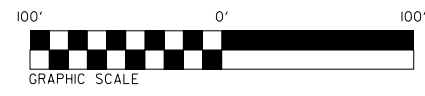
P DENOTES IMPACTS IN SURFACE WATER (POND)

HC DENOTES HAND CLEARING



********* DENOTES MECHANIZED CLEARING

	CURB + GUTTER LOCATION			
DESCRIPTION	ALN	STATION	STATION	LOC
SBG	-L-	206+00.00	211+26.17	LT
SBG	-L-	206+00.00	209+50.17	RT



FOR DITCH DETAILS, SEE SHEETS 2D-1 THRU 2D-6
FOR -L- PROFILE, SEE SHEET NO. 81
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH 10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS OTHERWISE NOTED

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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

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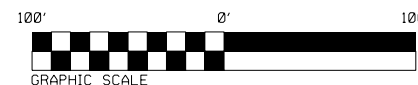
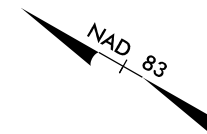
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DENOTES IMPACTS IN SURFACE WATER (POND)

PERMIT DRAWING SHEET 31 OF 60



PROJECT REFERENCE NO. R-5709	SHEET NO. 19A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

N 32°23'36" W
489.81'

N 32°23'36" W
976.83'

142
RONALD C. PRICE
AND WIFE
JEAN M. PRICE
DB 410 PG 776

144
KATHLEEN COTHRAN PRICE
DB 200 PG 65

MATCHLINE
SEE SHEET 18

MATCHLINE
SEE SHEET 19

MATCHLINE
SEE SHEET 18

MATCHLINE
SEE SHEET 19

PODS TO BE OBTAINED BY CONTRACTOR

4/26/2021
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EP

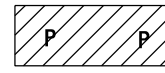
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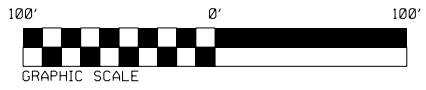
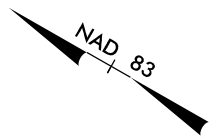
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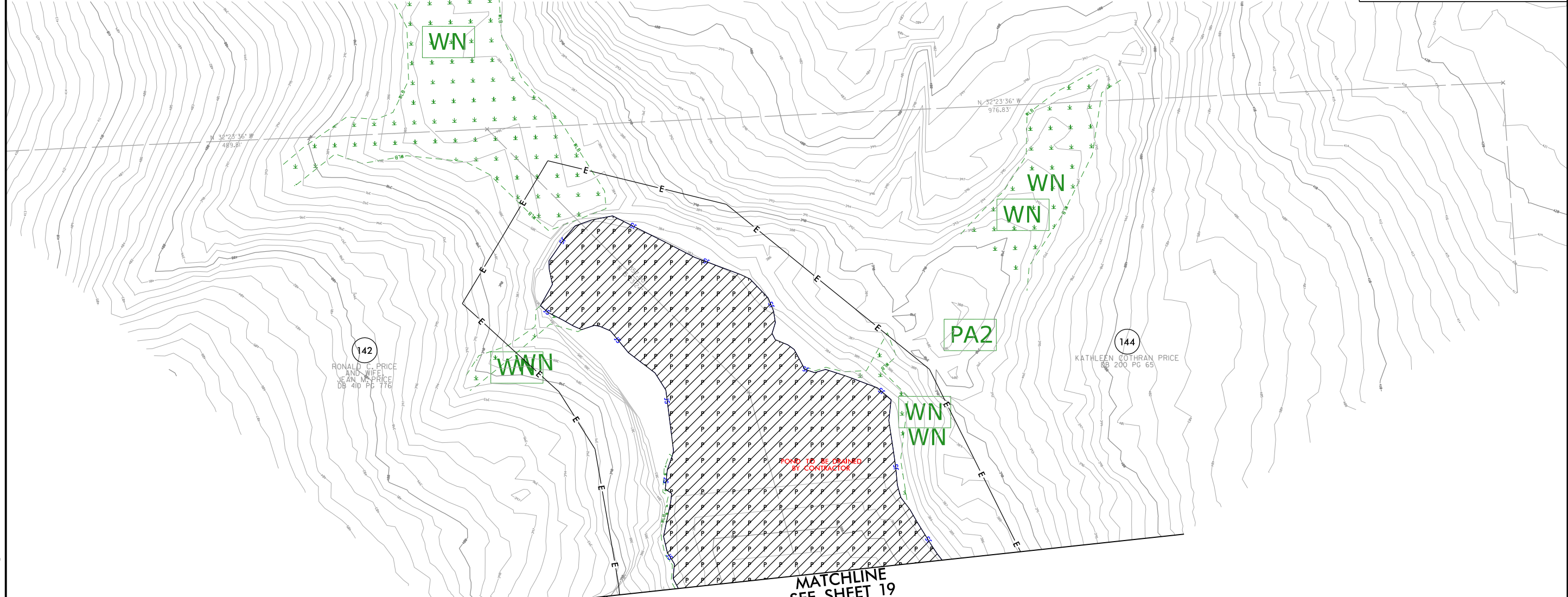


DENOTES IMPACTS IN
SURFACE WATER
(POND)

PERMIT DRAWING SHEET 32 OF 60



PROJECT REFERENCE NO. R-5709	SHEET NO. 19A
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



142
RONALD C. PRICE
AND WIFE
JEAN M. PRICE
DB 410 PG 776

144
KATHLEEN GOTHAN PRICE
DB 200 PG 65

MATCHLINE
SEE SHEET 19

MATCHLINE
SEE SHEET 18

MATCHLINE
SEE SHEET 18

MATCHLINE
SEE SHEET 19

4/26/2021
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EP:rook



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TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION



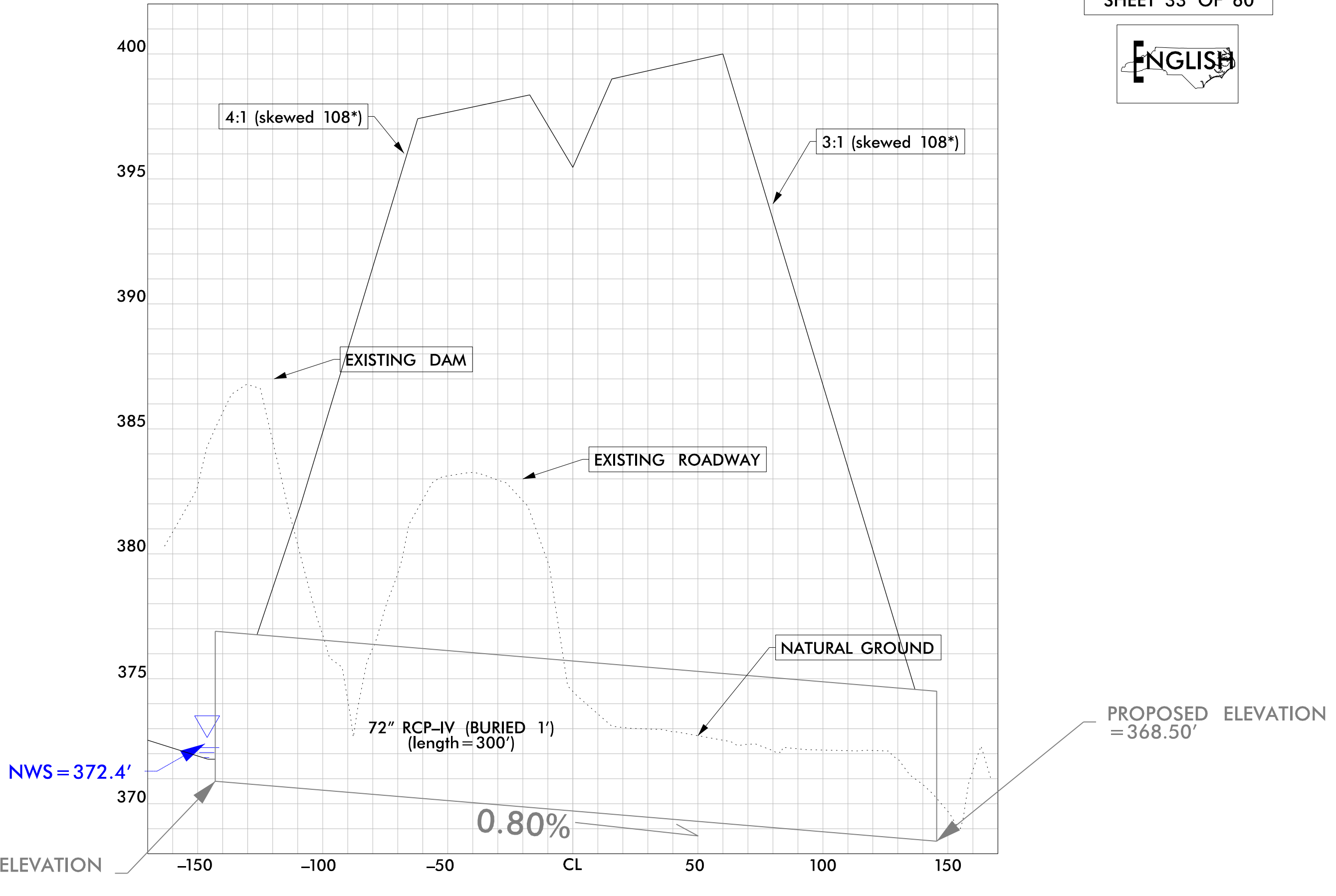
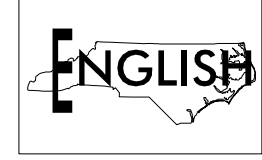
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SITE 14
-L- STA. 208+07

PERMIT DRAWING
SHEET 33 OF 60



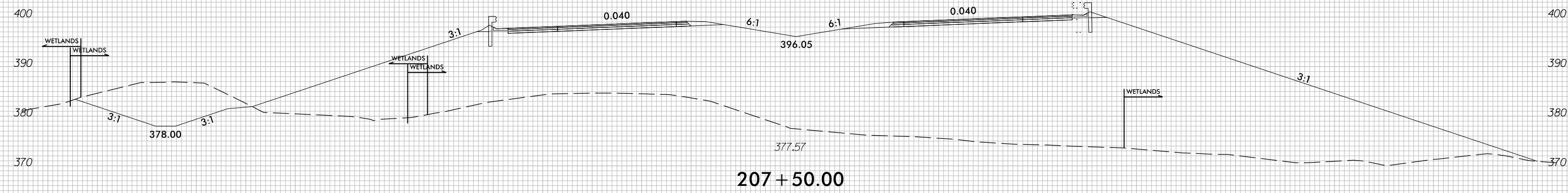
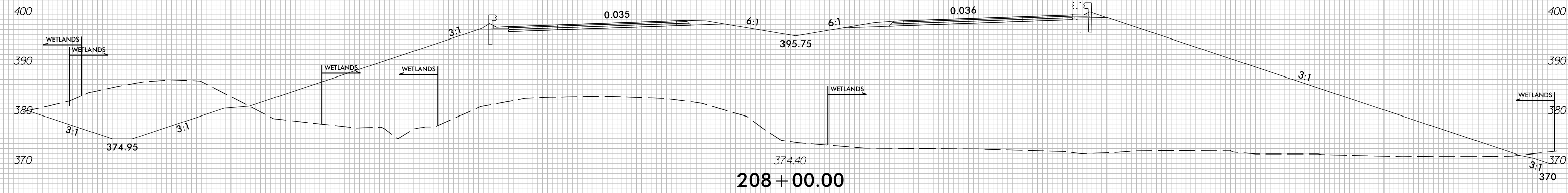
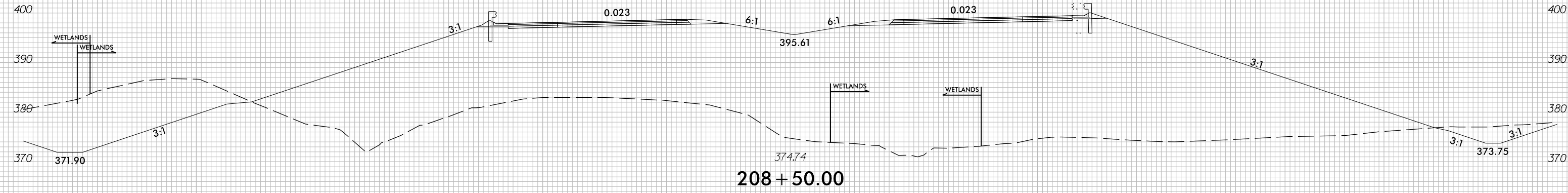
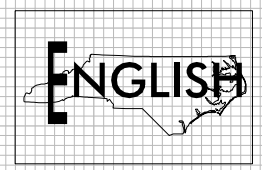
6/23/16

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SITES 11, 13

SITES 12

**PERMIT DRAWING
SHEET 34 OF 60**



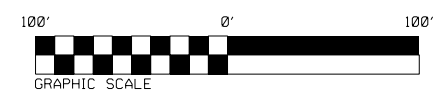
4/26/2021
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JAMES BROWN

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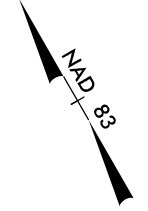
8/17/99

PROJECT REFERENCE NO. R-5709		SHEET NO. 24	
ROADWAY DESIGN ENGINEER		HYDRAULICS ENGINEER	
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

PERMIT DRAWING SHEET 35 OF 60



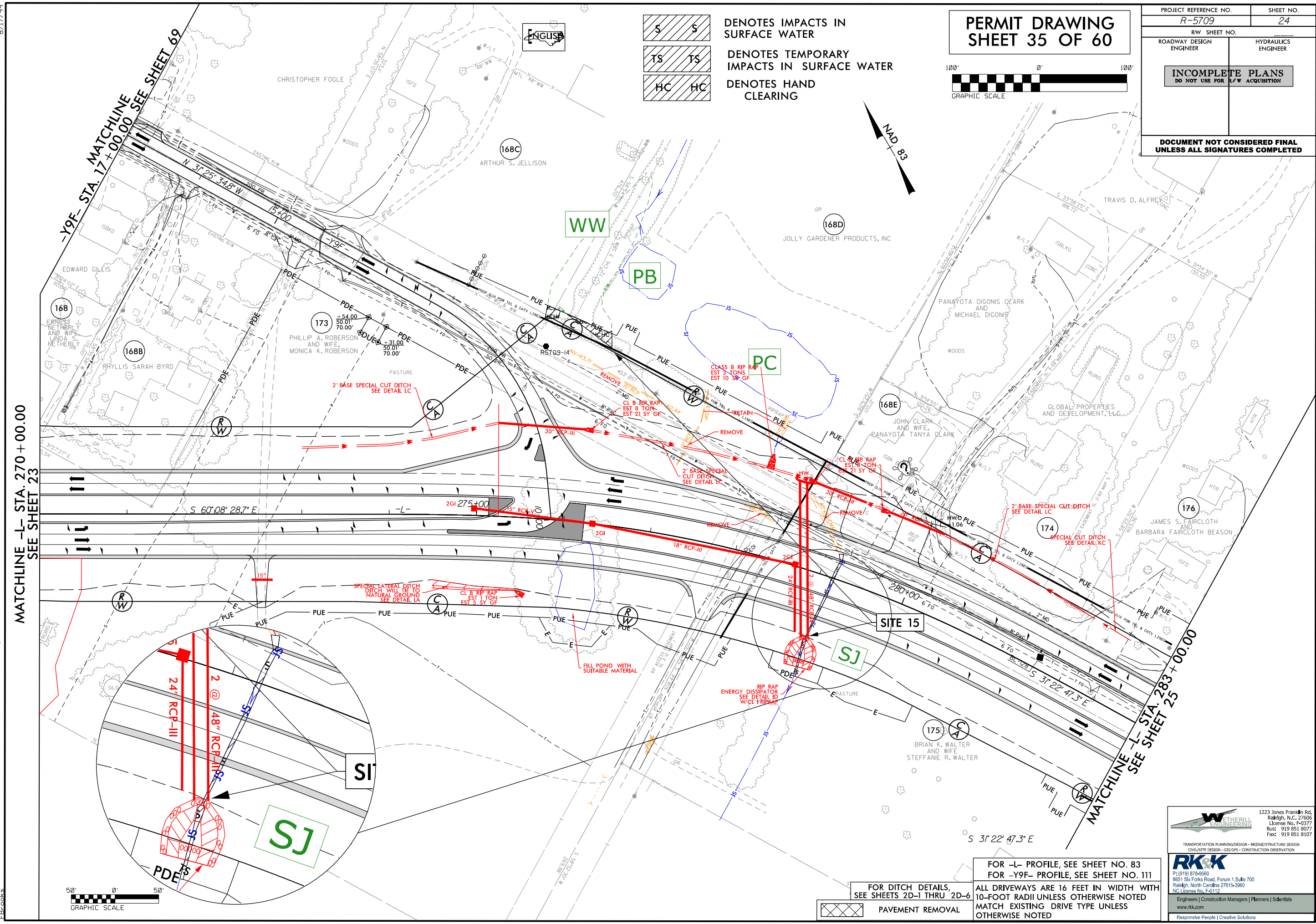
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES HAND CLEARING



MATCHLINE -L- STA. 270 + 00.00
SEE SHEET 23

MATCHLINE -L- STA. 283 + 00.00
SEE SHEET 25

4/26/2021 R:\Drawings\PERMITS\Environmental\Drawings\PSH\5709_hyd_psh24.dgn



FOR DITCH DETAILS,
SEE SHEETS 2D-1 THRU 2D-6

FOR -L- PROFILE, SEE SHEET NO. 83
FOR -Y9F- PROFILE, SEE SHEET NO. 111
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH
10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS
OTHERWISE NOTED

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CIVIL/SITE DESIGN - GIS/GIS - CONSTRUCTION OBSERVATION

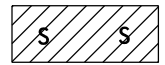
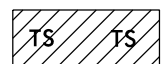
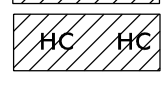
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NC License No. F-0112

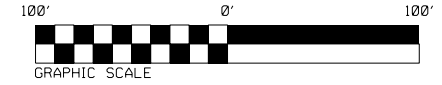
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PERMIT DRAWING SHEET 36 OF 60

PROJECT REFERENCE NO. R-5709	SHEET NO. 24
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

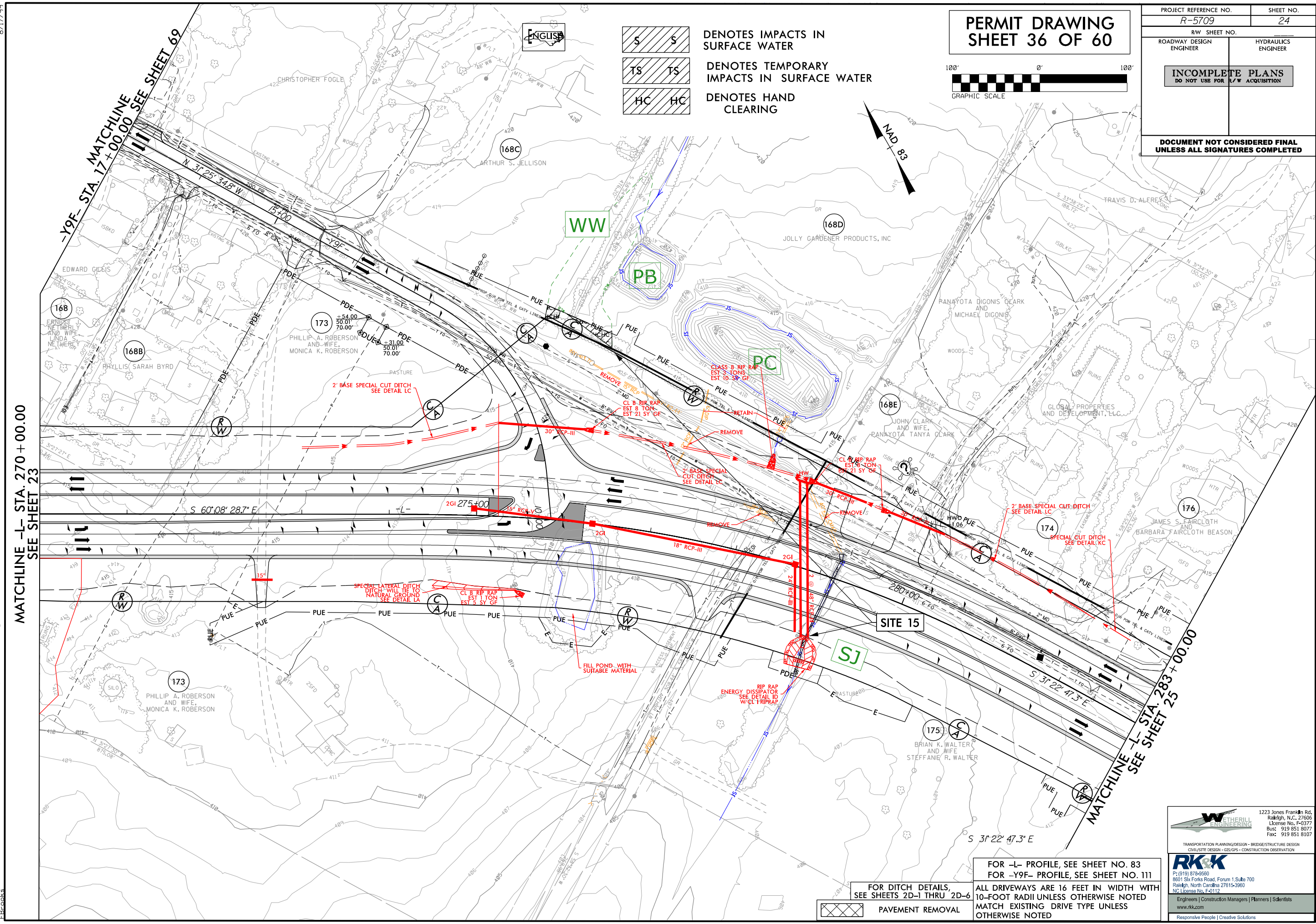
-  DENOTES IMPACTS IN SURFACE WATER
-  DENOTES TEMPORARY IMPACTS IN SURFACE WATER
-  DENOTES HAND CLEARING



MATCHLINE -L- STA. 270 + 00.00
SEE SHEET 23

MATCHLINE -L- STA. 283 + 00.00
SEE SHEET 25

4/26/2021 R:\Hydro\Utilities\PERMITS\Environmental\Drawings\PSHV5709_hyd_psh24.com.dgn



PAVEMENT REMOVAL

FOR DITCH DETAILS,
SEE SHEETS 2D-1 THRU 2D-6

FOR -L- PROFILE, SEE SHEET NO. 83
FOR -Y9F- PROFILE, SEE SHEET NO. 111

ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH
10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS
OTHERWISE NOTED



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CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

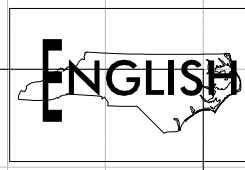


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PERMIT DRAWING
SHEET 37 OF 60

SITE 15
-L- STA. 278 + 80



420

4:1 (skewed 72.5*)

EXISTING ROADWAY

415

NATURAL GROUND

2@48" RCP-III
length = 174'

410

NWS = 410.2'

0.98%

PROPOSED ELEVATION
= 409.40'

PROPOSED ELEVATION
= 407.70'

405

-100

CL

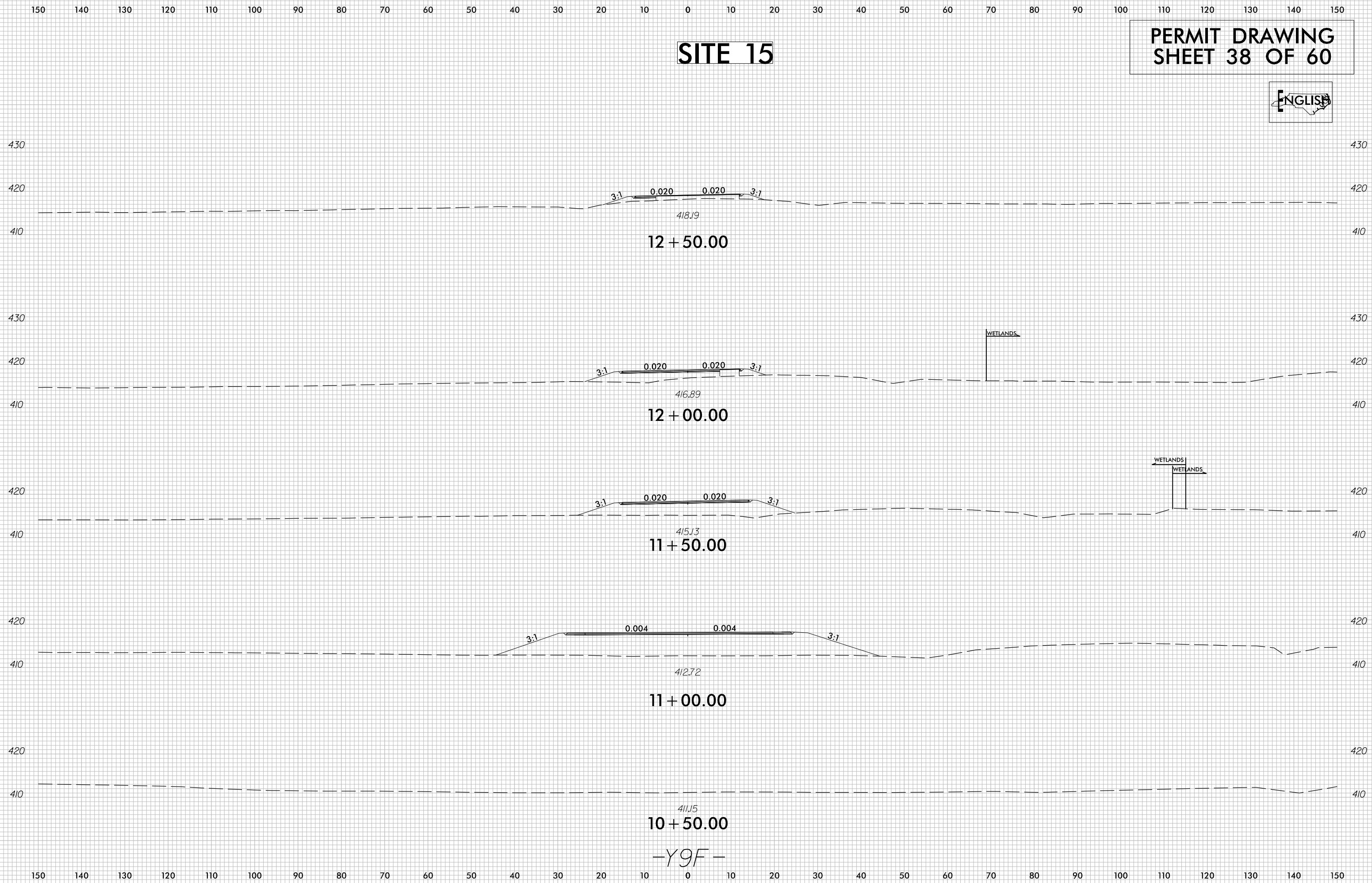
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4/26/2021
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USER: jf-cooks

6/23/16

SITE 15

PERMIT DRAWING SHEET 38 OF 60

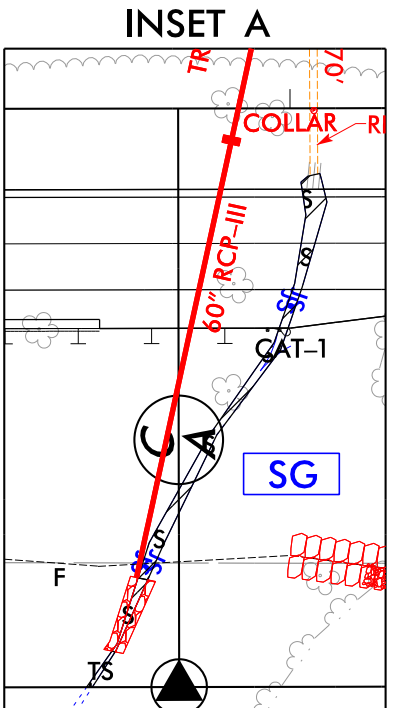
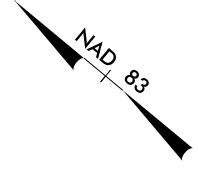


-Y9F-

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USER: EB-cooks

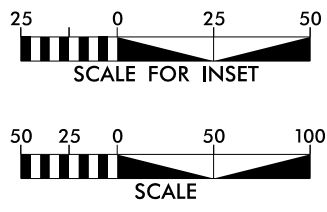
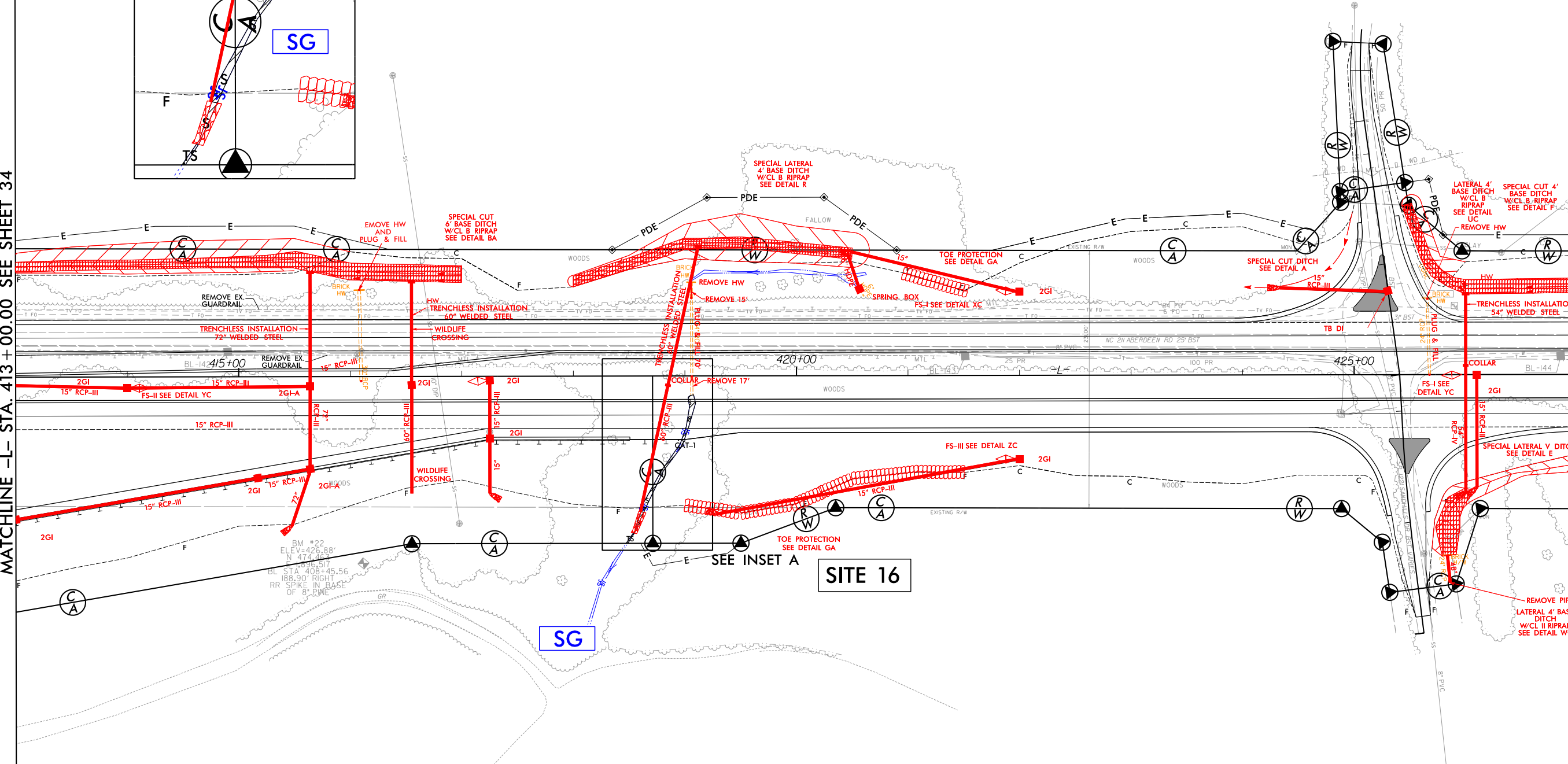
PROJECT REFERENCE NO. R-5709	SHEET NO. 35
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

8/17/09



MATCHLINE -L- STA. 413 + 00.00 SEE SHEET 34

MATCHLINE -L- STA. 427 + 00.00 SEE SHEET 36



PERMIT DRAWING
SHEET 39 OF 60

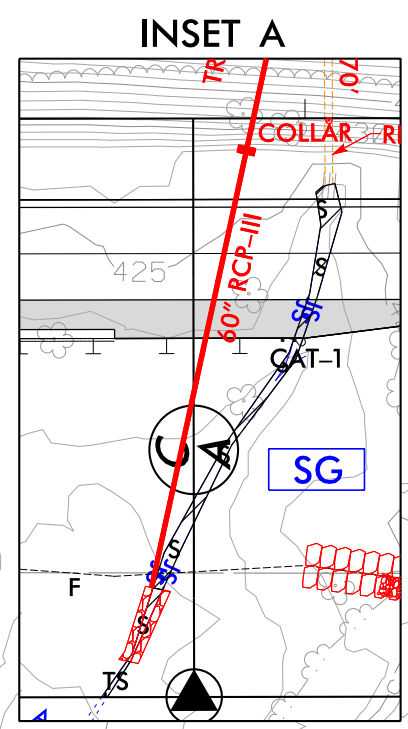
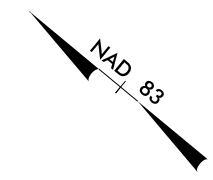
ENGLISH

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

8/23/2021
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 P:\3110\pud\pud\PERMITS_Environmental\Drawings\4C\Section 2\R5709_Hyd_4C_wet.psh35.dgn

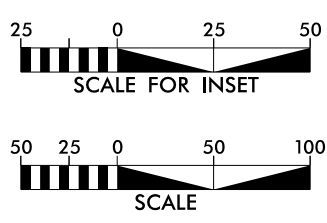
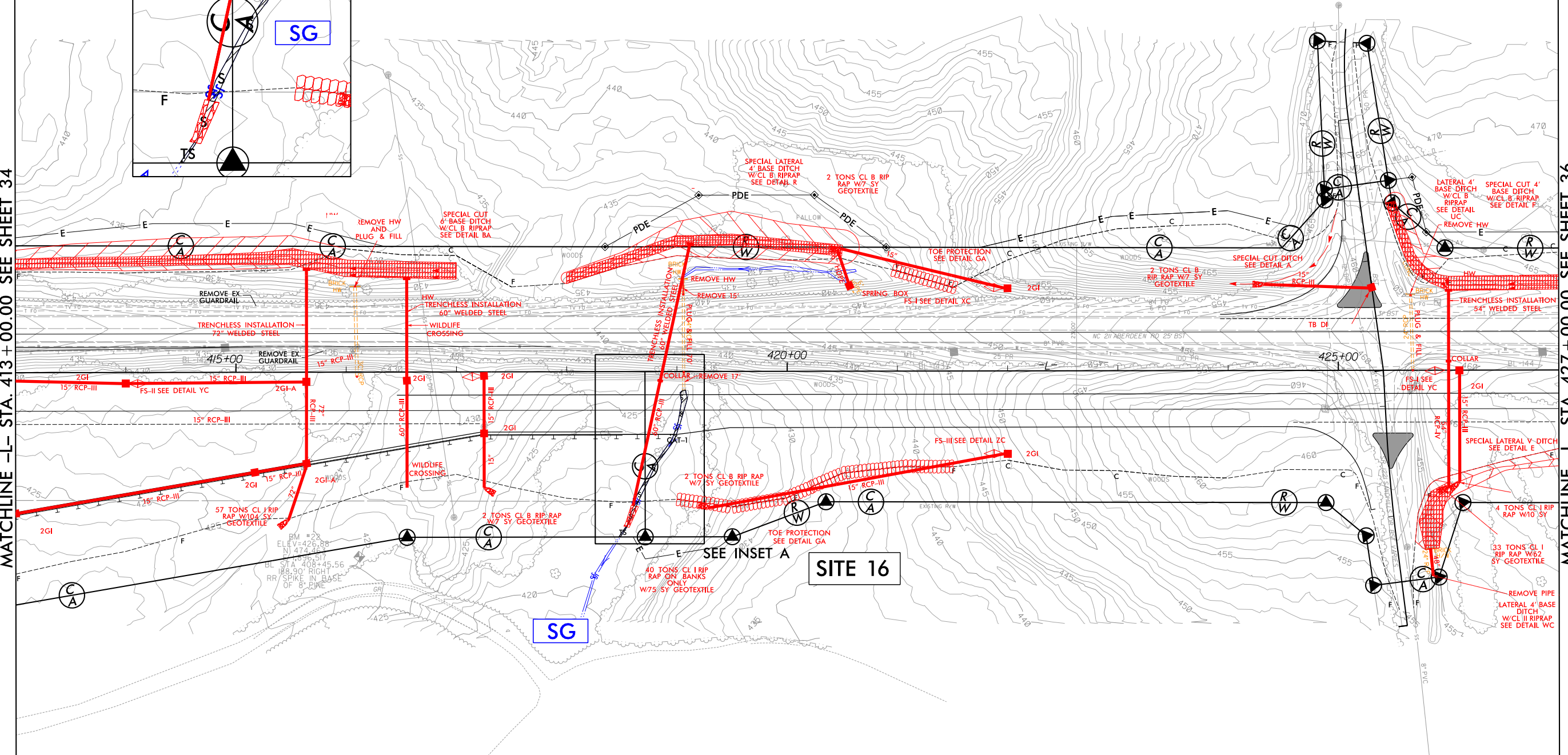
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PROJECT REFERENCE NO. <i>R-5709</i>	SHEET NO. 35
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 413 + 00.00 SEE SHEET 34

MATCHLINE -L- STA. 427 + 00.00 SEE SHEET 36



PERMIT DRAWING
SHEET 40 OF 60

ENGLISH

- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER

8/17/99
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8/23/2021
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PROJECT REFERENCE NO. <i>R-5709</i>	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 16

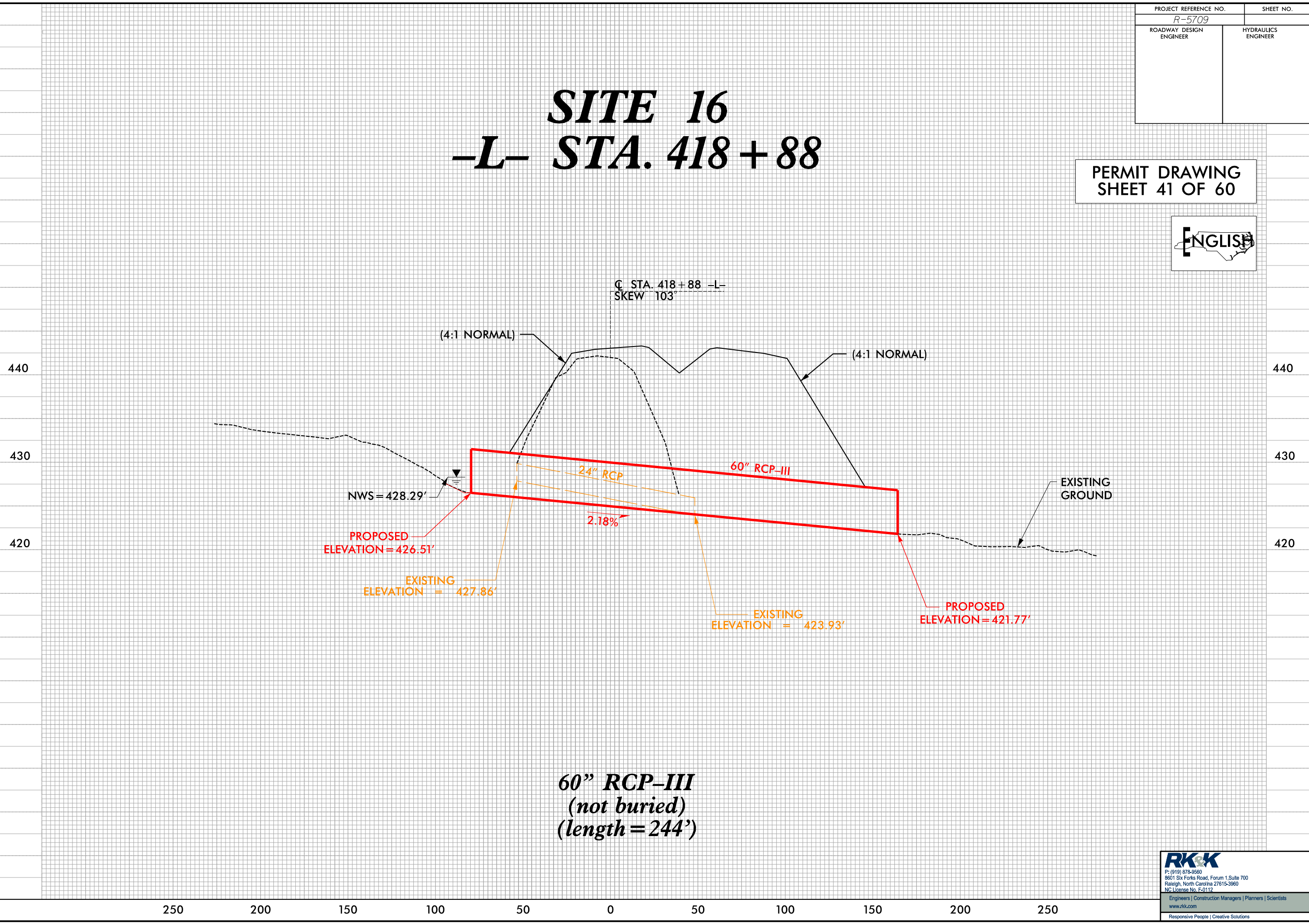
-L- STA. 418+88

PERMIT DRAWING
SHEET 41 OF 60



5/14/99

4/27/2021
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60" RCP-III
(not buried)
(length = 244')

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PROJECT REFERENCE NO. R-5709	SHEET NO. 45
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

SCALE FOR INSET

SCALE

PERMIT DRAWING
SHEET 42 OF 60

ENGLISH

DENOTES FILL IN WETLAND

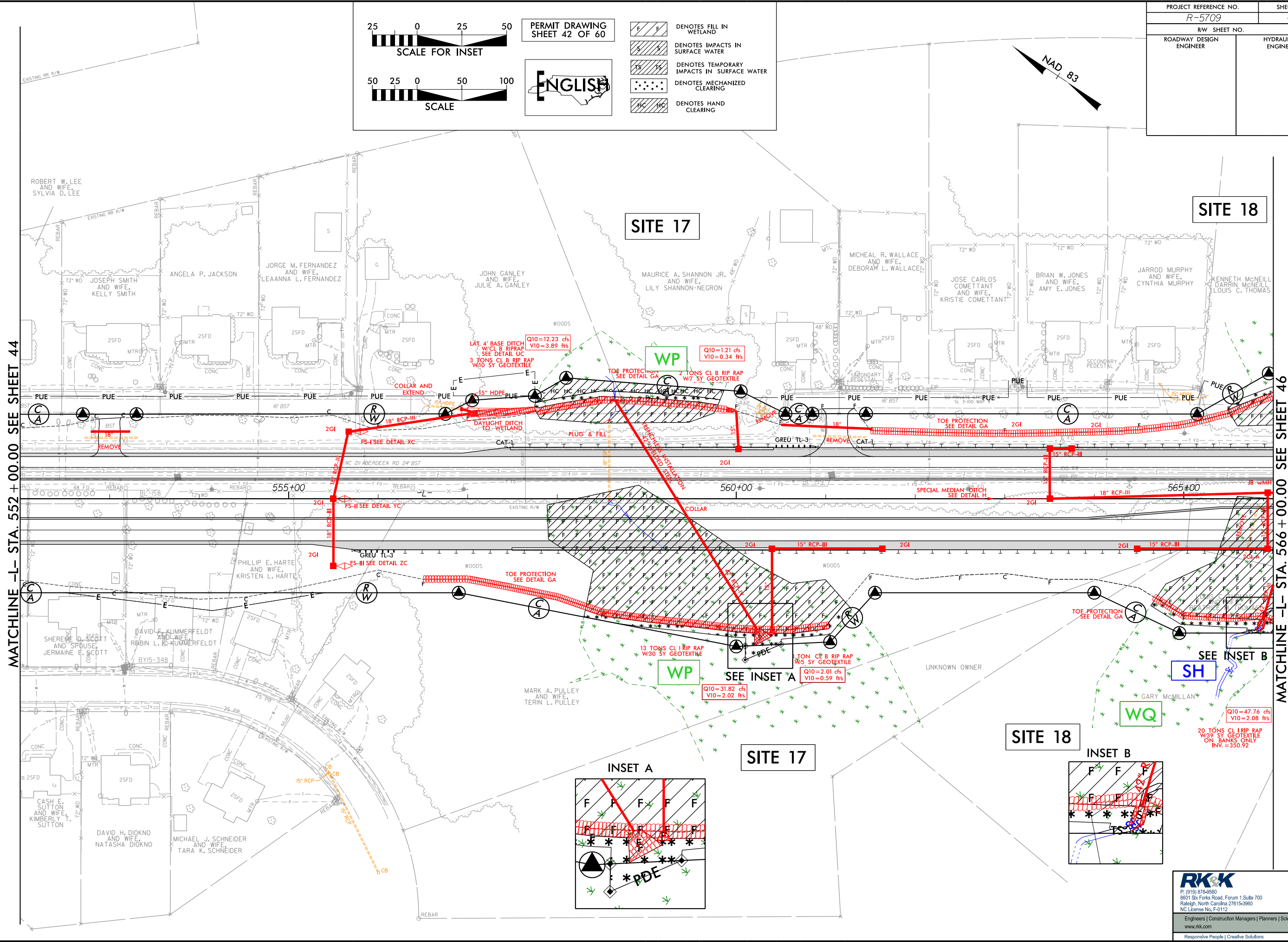
DENOTES IMPACTS IN SURFACE WATER

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES MECHANIZED CLEARING

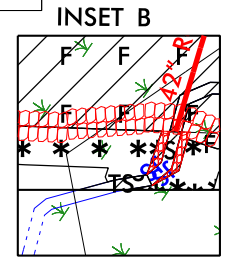
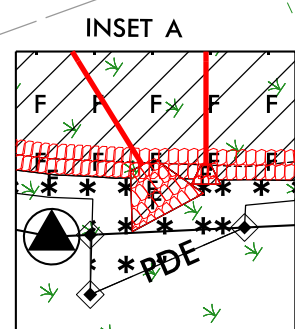
DENOTES HAND CLEARING

8/17/09
4/23/2021
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MATCHLINE -L- STA. 552 + 00.00 SEE SHEET 44

MATCHLINE -L- STA. 566 + 00.00 SEE SHEET 46



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PROJECT REFERENCE NO. R-5709	SHEET NO. 45
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	

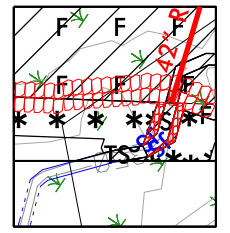
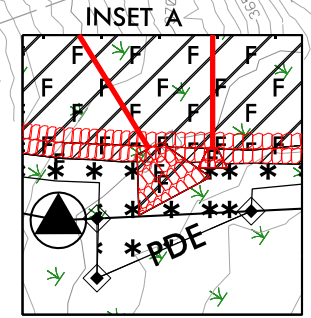
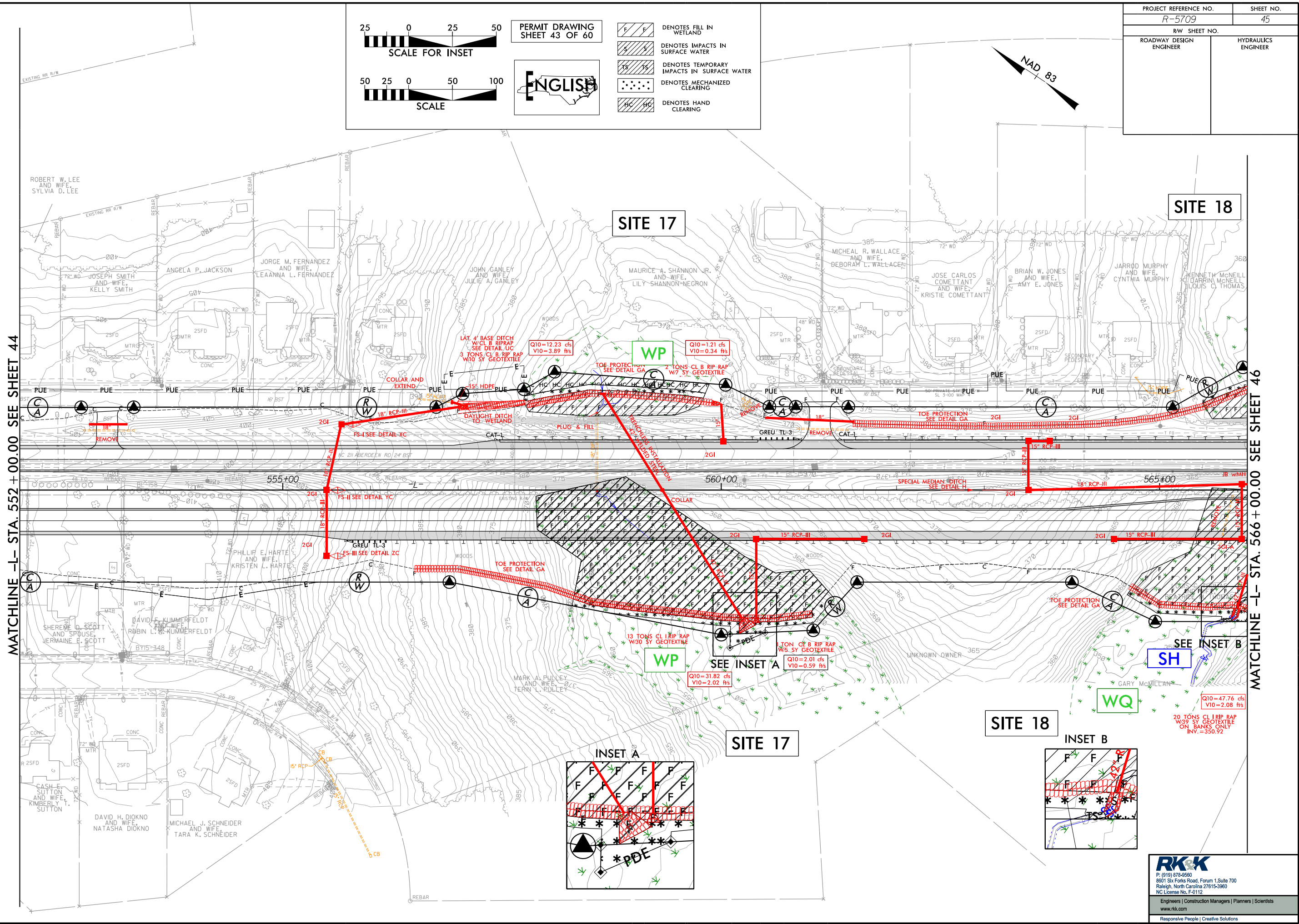
25 0 25 50
SCALE FOR INSET

50 25 0 50 100
SCALE

PERMIT DRAWING SHEET 43 OF 60

ENGLISH

	DENOTES FILL IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING
	DENOTES HAND CLEARING



MATCHLINE -L- STA. 552 + 00.00 SEE SHEET 44

MATCHLINE -L- STA. 566 + 00.00 SEE SHEET 46

8/17/09
4/23/2021
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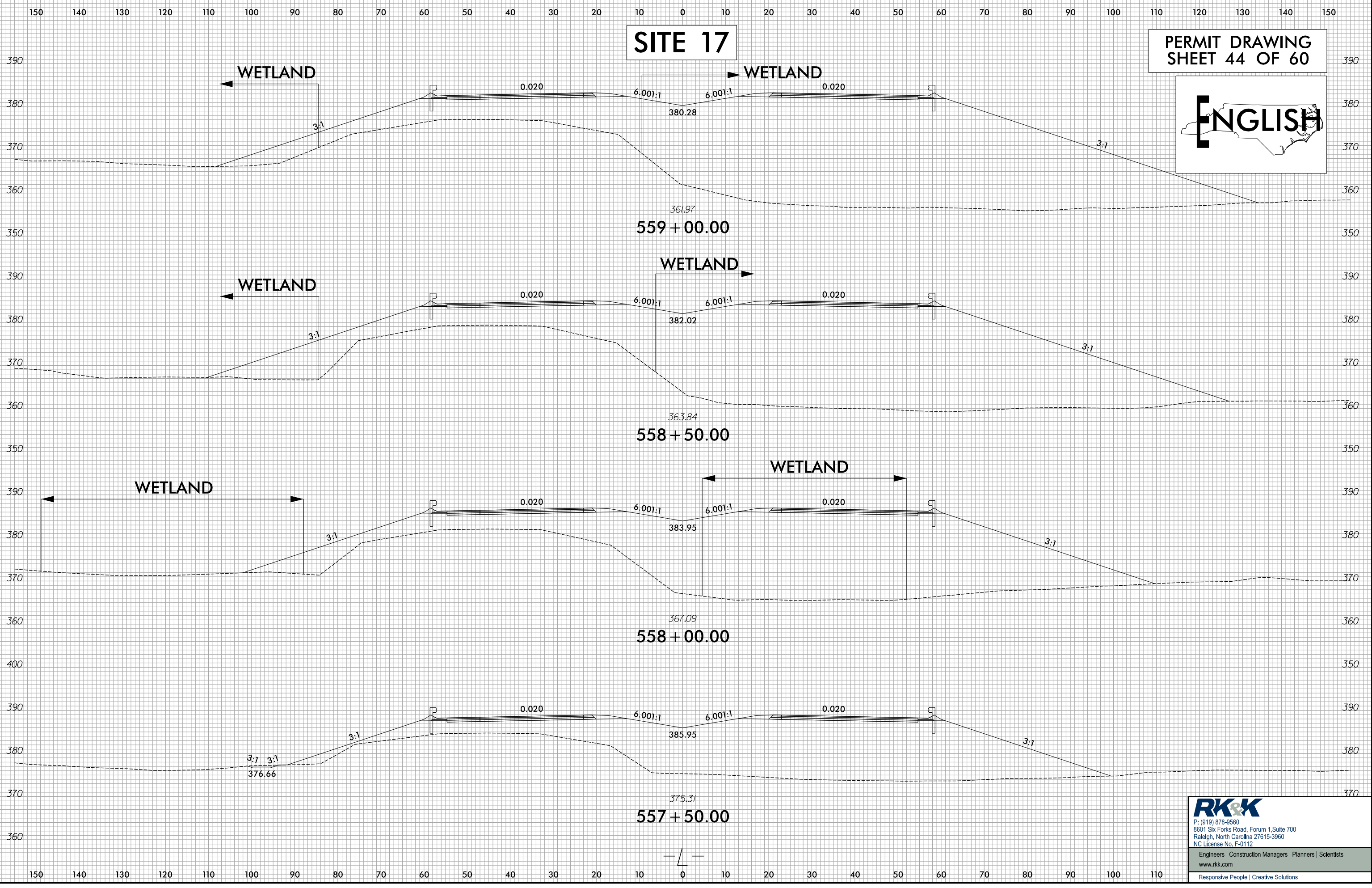
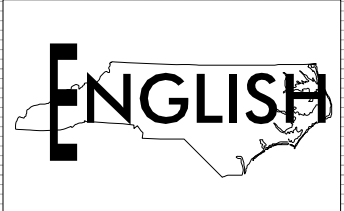
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SITE 17

PERMIT DRAWING SHEET 44 OF 60



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6/23/16

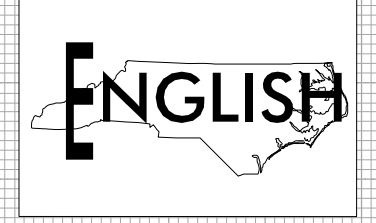
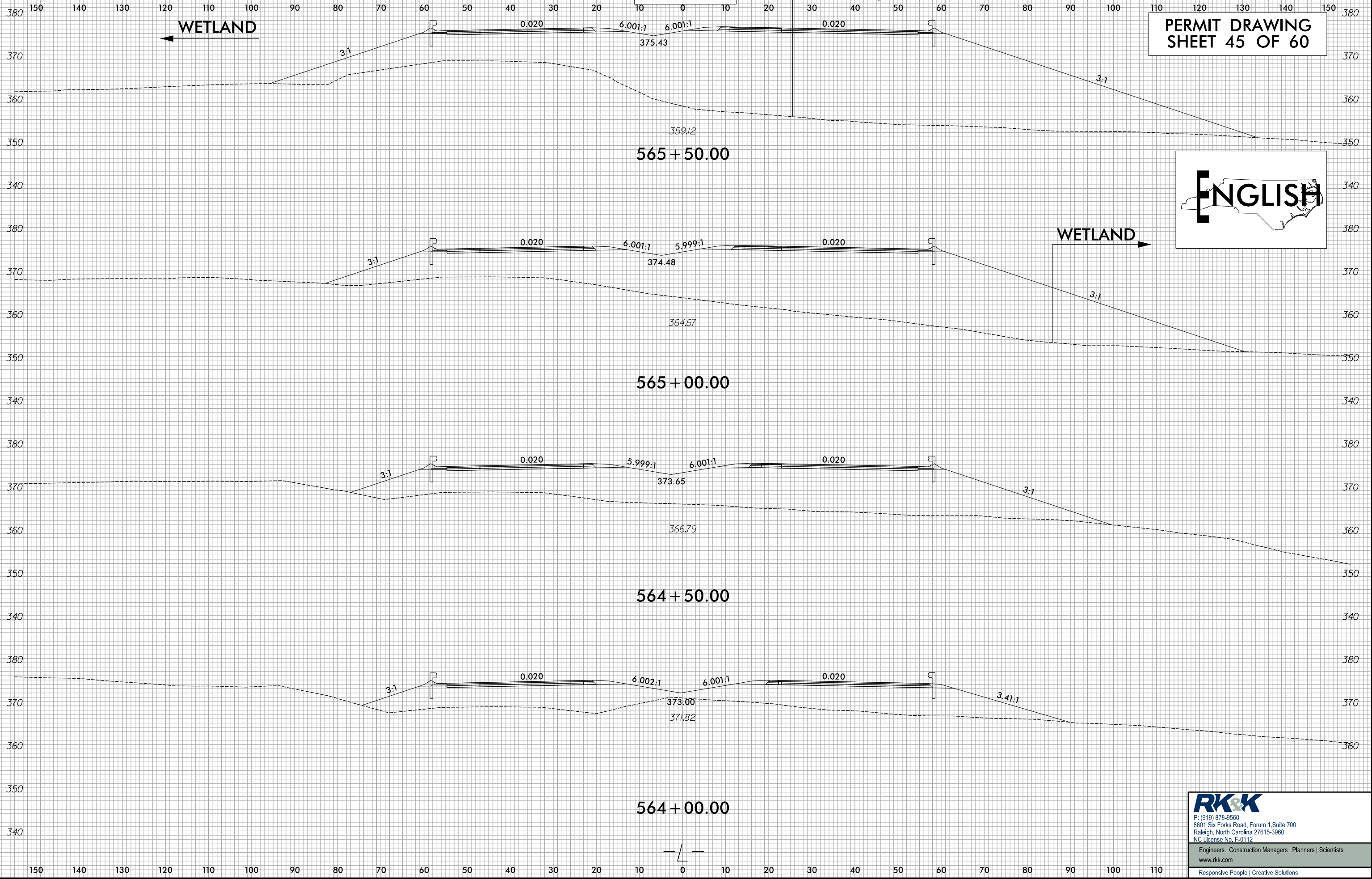
SITE 18

WETLAND



PROJ. REFERENCE NO. R-5709 SHEET NO. S2 X-104

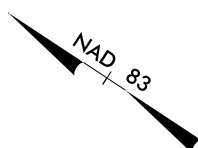
PERMIT DRAWING SHEET 45 OF 60



4/23/2021
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PROJECT REFERENCE NO. R-5709	SHEET NO. 46
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



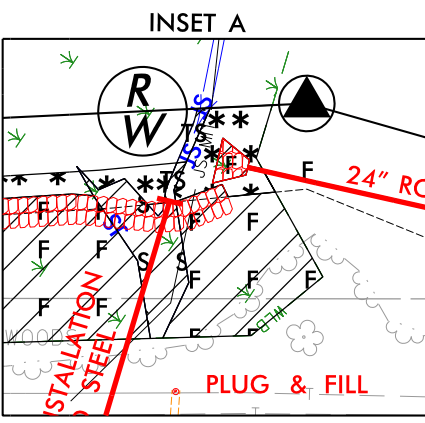
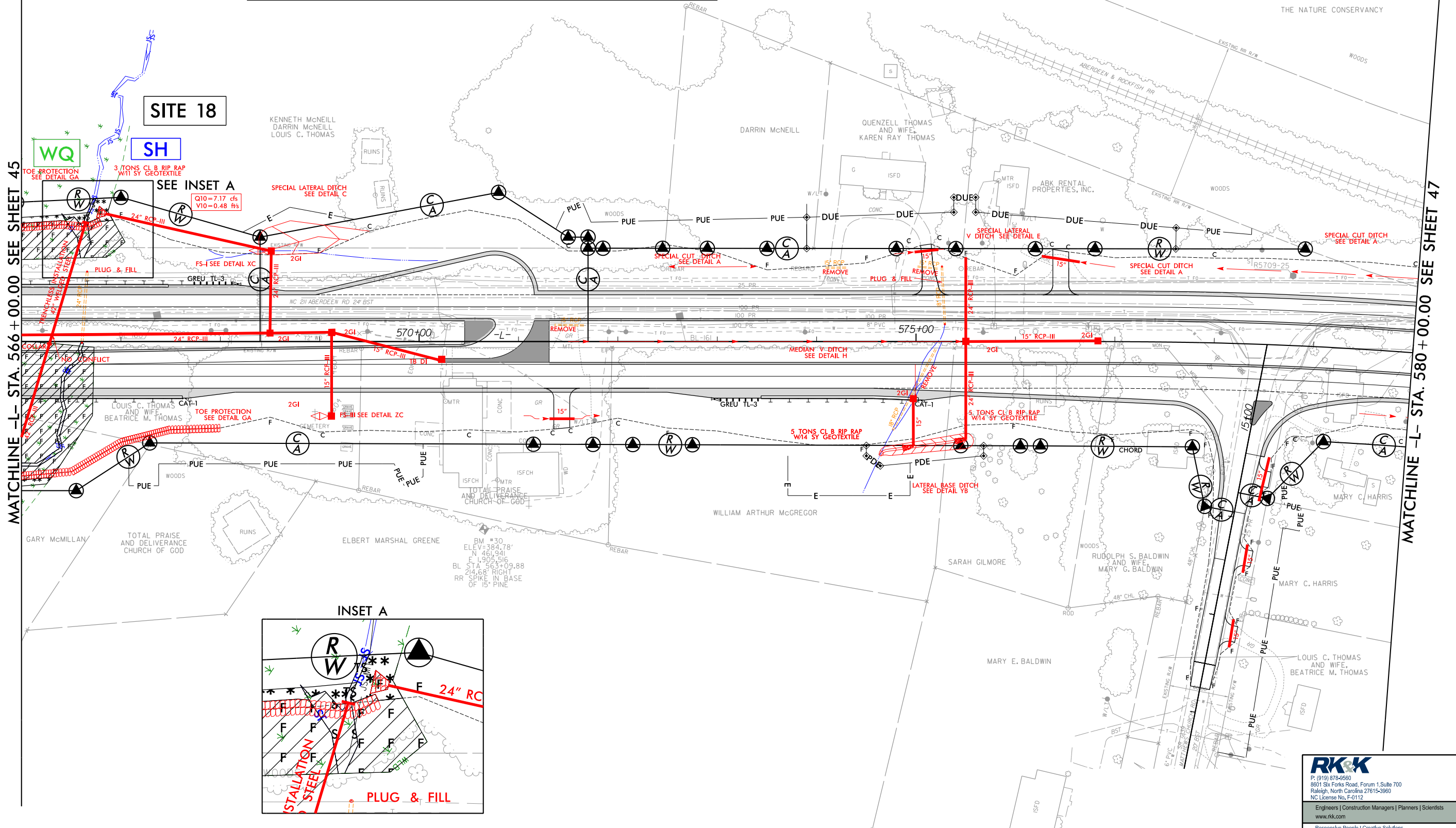
PERMIT DRAWING SHEET 46 OF 60

SCALE FOR INSET: 25 0 25 50

SCALE: 50 25 0 50 100

ENGLISH

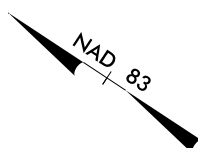
- DENOTES FILL IN WETLAND
- DENOTES IMPACTS IN SURFACE WATER
- DENOTES TEMPORARY IMPACTS IN SURFACE WATER
- DENOTES MECHANIZED CLEARING



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4/23/2021
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25 0 25 50

SCALE FOR INSET

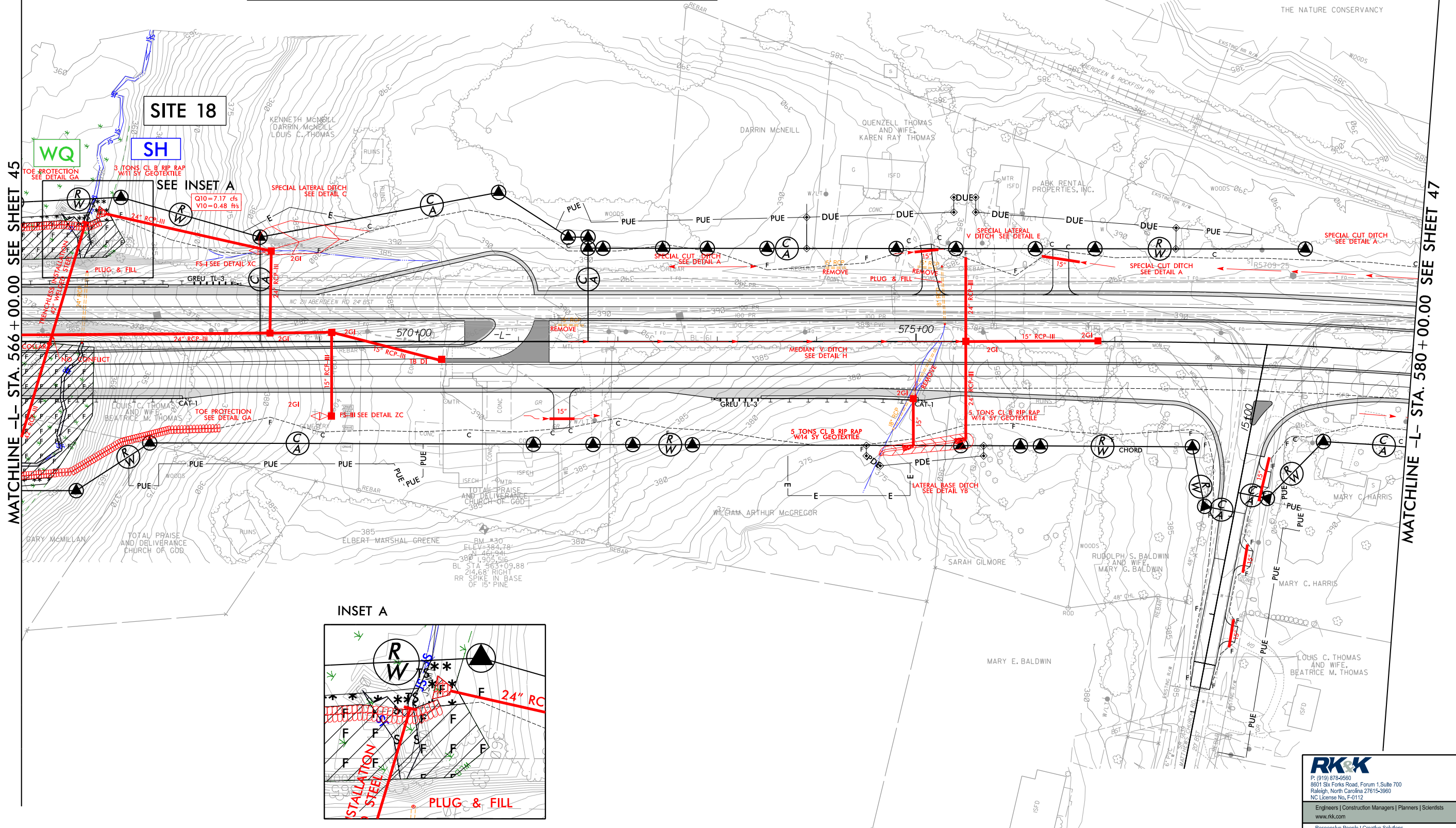
PERMIT DRAWING
SHEET 47 OF 60

ENGLISH

50 25 0 50 100

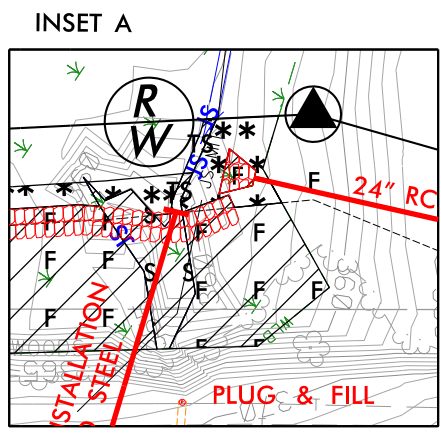
SCALE

	DENOTES FILL IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING



MATCHLINE -L- STA. 566+00.00 SEE SHEET 45

MATCHLINE -L- STA. 580+00.00 SEE SHEET 47



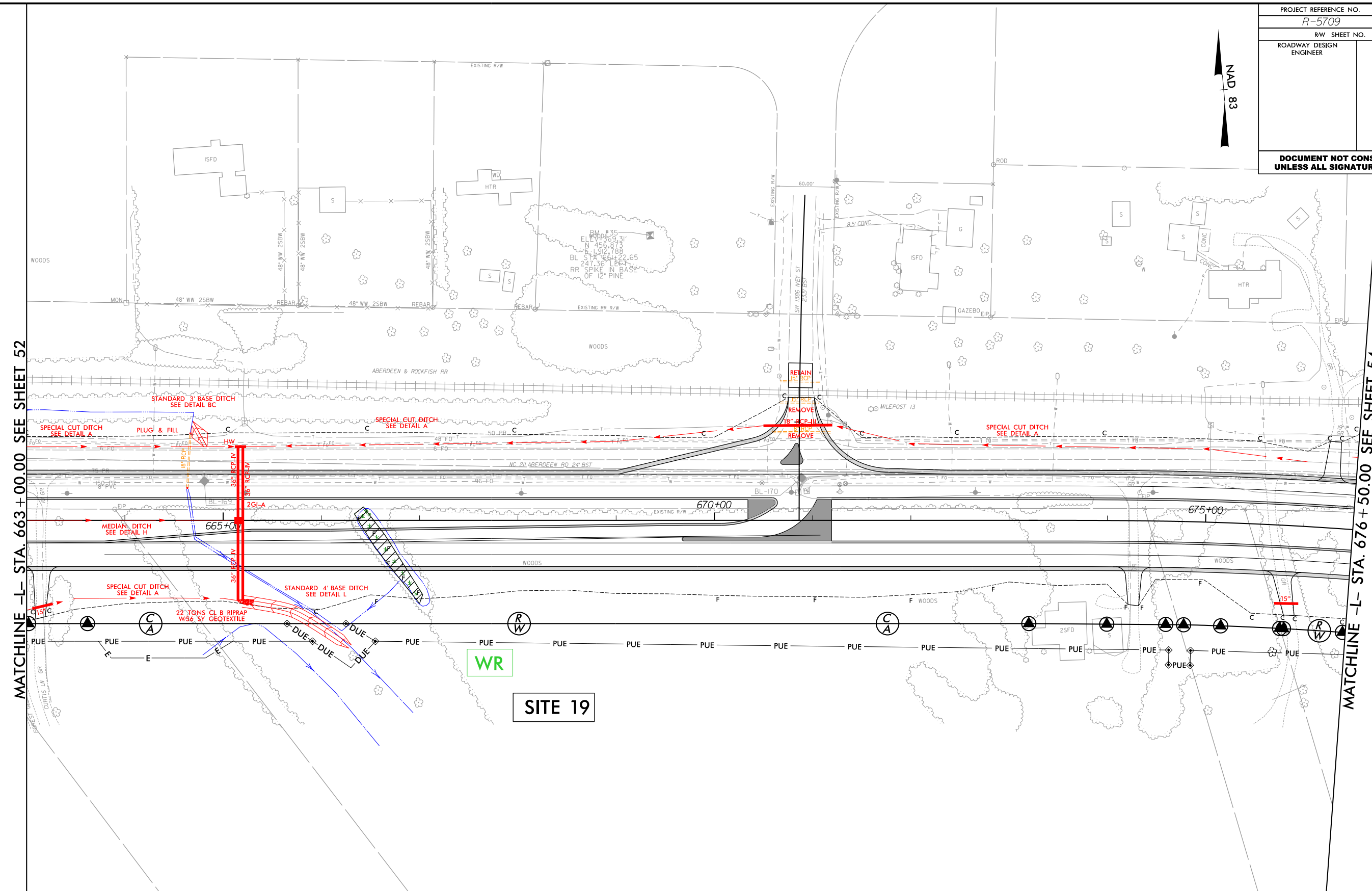
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6/23/2021
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PROJECT REFERENCE NO. R-5709	SHEET NO. 53
RW SHEET NO.	
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

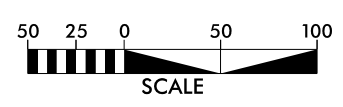


MATCHLINE -L- STA. 663 + 00.00 SEE SHEET 52

MATCHLINE -L- STA. 676 + 50.00 SEE SHEET 54



SITE 19



PERMIT DRAWING
SHEET 48 OF 60

ENGLISH

DENOTES FILL IN WETLAND

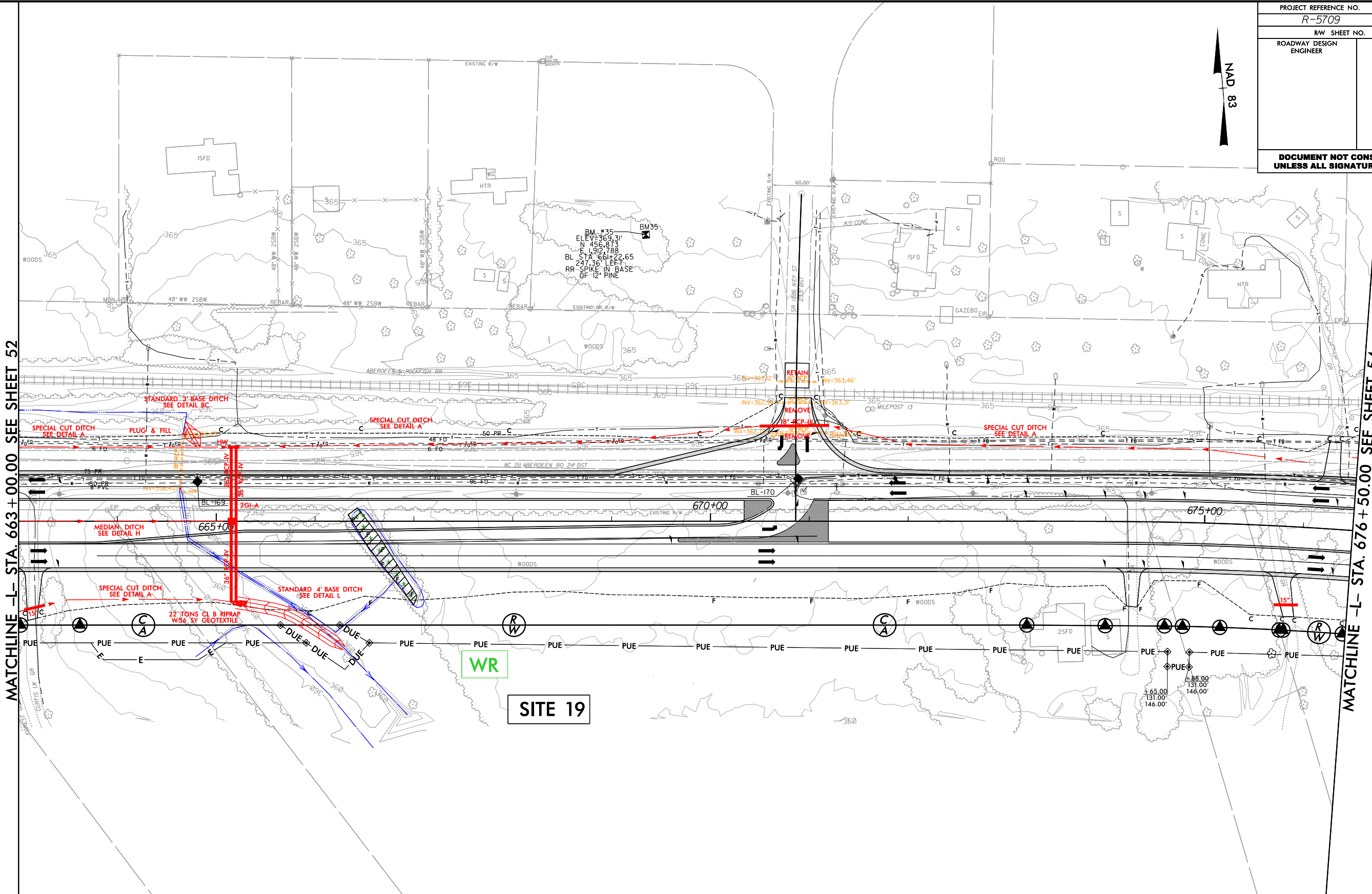
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PROJECT REFERENCE NO. <i>R-5709</i>	SHEET NO. 53
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

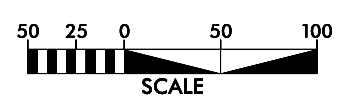


MATCHLINE -L- STA. 663 + 00.00 SEE SHEET 52

MATCHLINE -L- STA. 676 + 50.00 SEE SHEET 54



SITE 19



PERMIT DRAWING
SHEET 49 OF 60

ENGLISH

DENOTES FILL IN WETLAND

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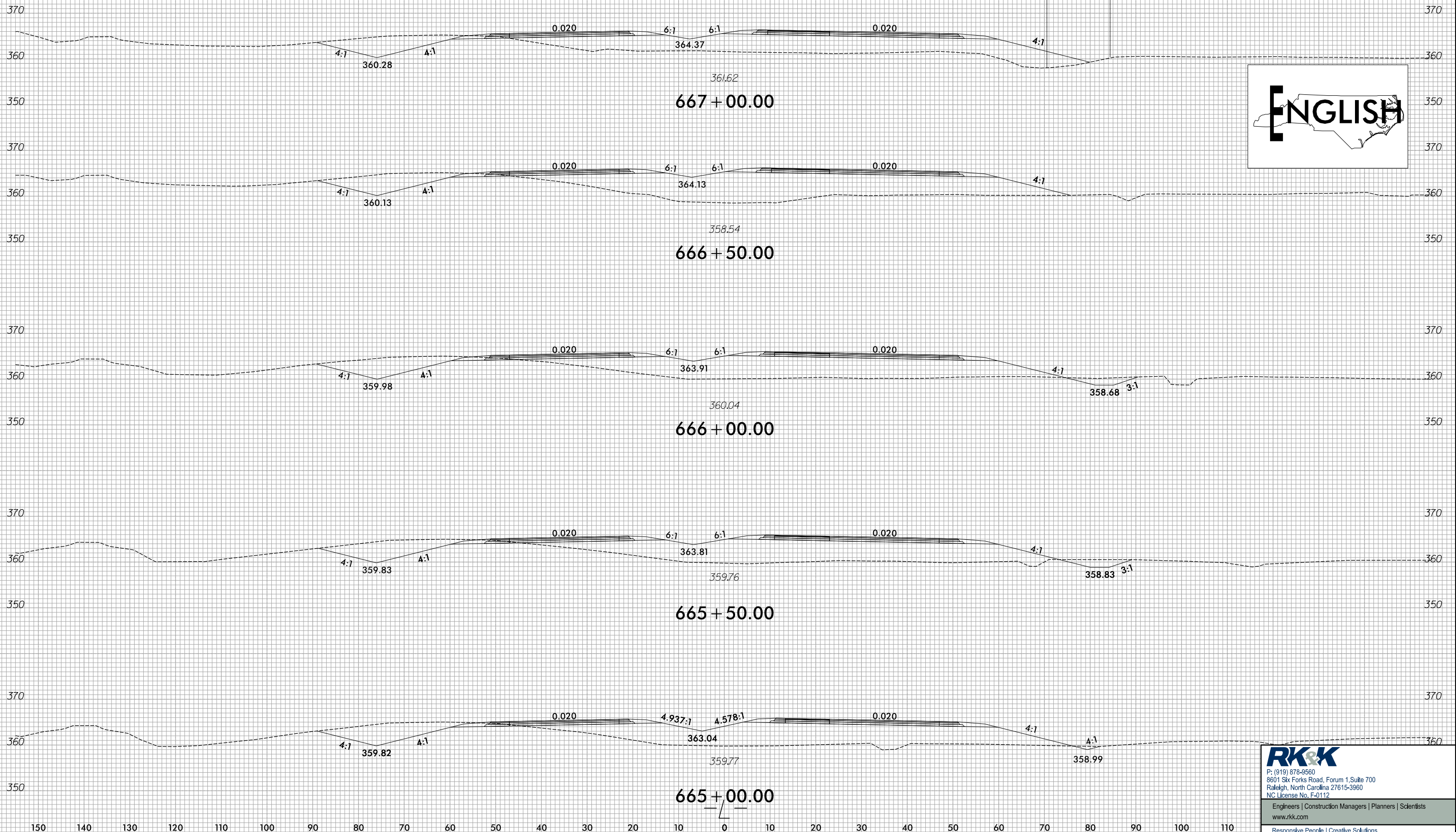
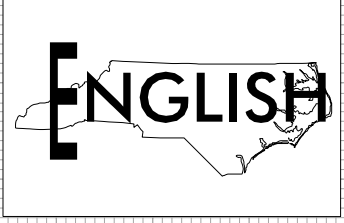
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2/23/2021
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6/23/16

SITE 19

PERMIT DRAWING SHEET 50 OF 60

WETLAND

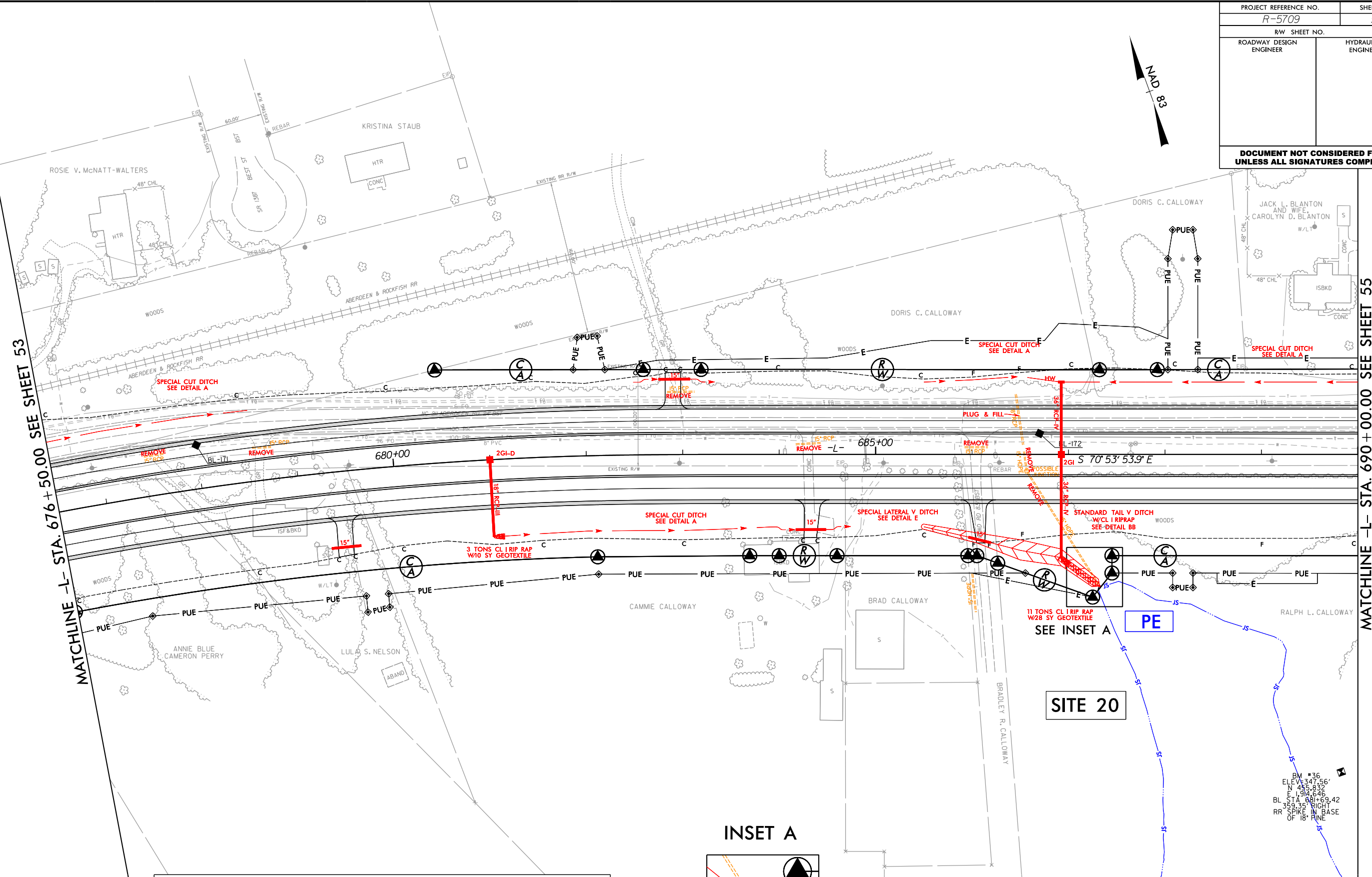
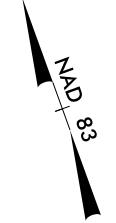


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PROJECT REFERENCE NO. R-5709	SHEET NO. 54
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



MATCHLINE -L- STA. 676 + 50.00 SEE SHEET 53

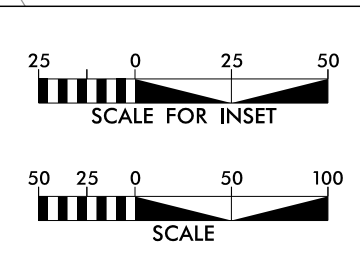
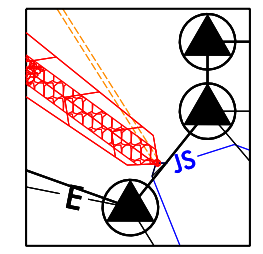
MATCHLINE -L- STA. 690 + 00.00 SEE SHEET 55

PE

SITE 20

BM #36
ELEV=347.56'
N 455.832'
E 194.646'
BL STA. 681+63.42
359.35' RIGHT
RR SPIKE IN BASE
OF 18" PINE

INSET A



PERMIT DRAWING
SHEET 51 OF 60



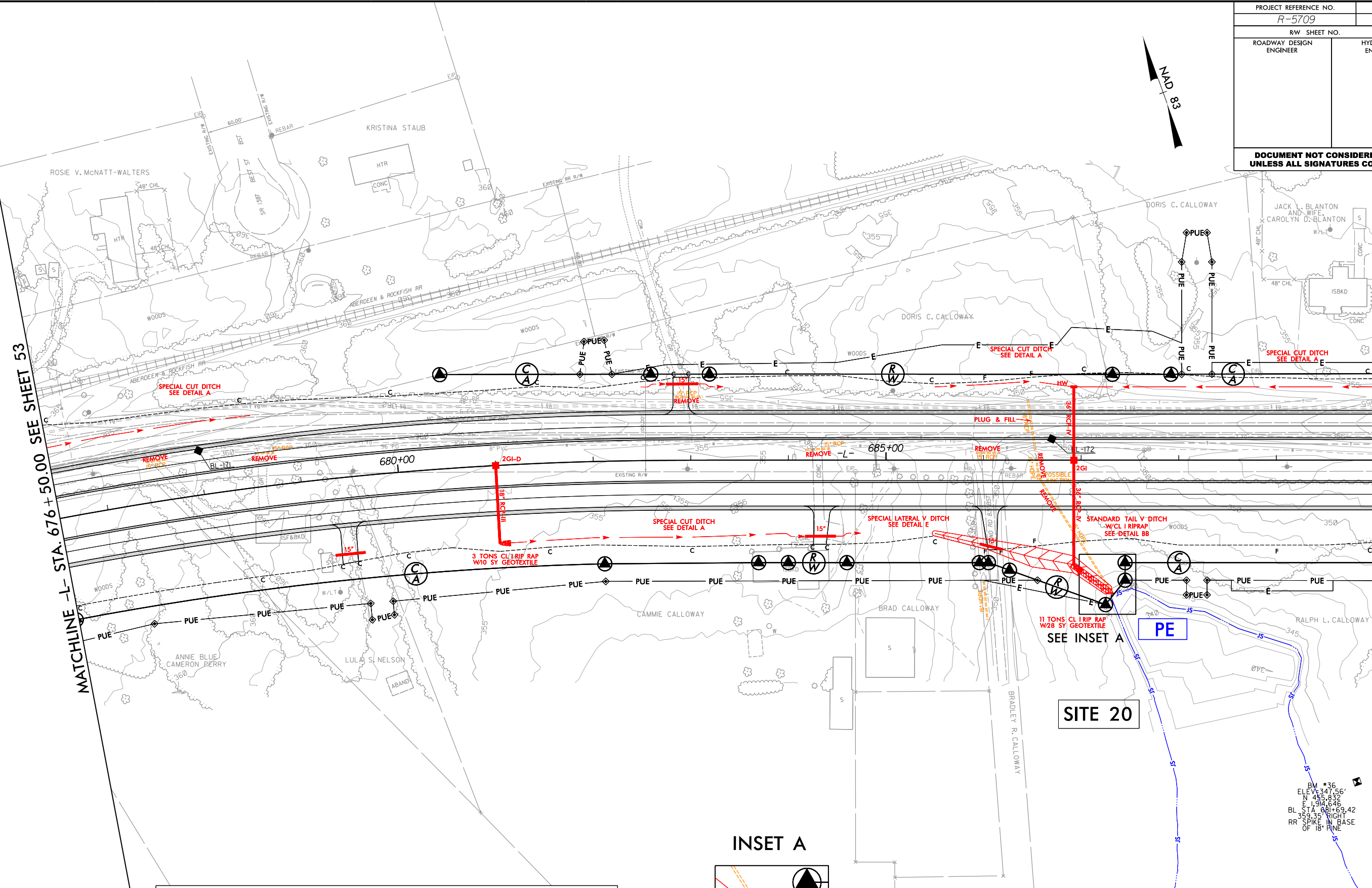
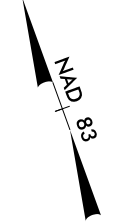
/// DENOTES IMPACTS IN
SURFACE WATER
(POND)

FOR DITCH DETAILS,
SEE SHEETS 2D-1 THRU 2D-6
FOR -L- PROFILE, SEE SHEET NOS. 97-98
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH
10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS
OTHERWISE NOTED

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PROJECT REFERENCE NO. R-5709	SHEET NO. 54
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



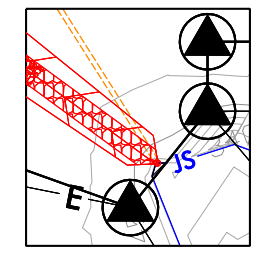
MATCHLINE -L- STA. 676 + 50.00 SEE SHEET 53

MATCHLINE -L- STA. 690 + 00.00 SEE SHEET 55

SITE 20

BM #36
ELEV=347.56'
N 455.832
E 134.6646
BL STA. 681+69.42
359.35' RIGHT
RR SPIKE IN BASE
OF 18" PINE

INSET A



SCALE FOR INSET

PERMIT DRAWING
SHEET 52 OF 60

SCALE

ENGLISH

■ DENOTES IMPACTS IN
SURFACE WATER
(POND)

FOR DITCH DETAILS,
SEE SHEETS 2D-1 THRU 2D-6
FOR -L- PROFILE, SEE SHEET NOS. 97-98
ALL DRIVEWAYS ARE 16 FEET IN WIDTH WITH
10-FOOT RADII UNLESS OTHERWISE NOTED
MATCH EXISTING DRIVE TYPE UNLESS
OTHERWISE NOTED

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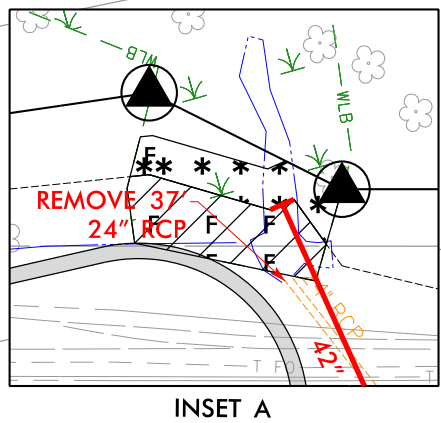
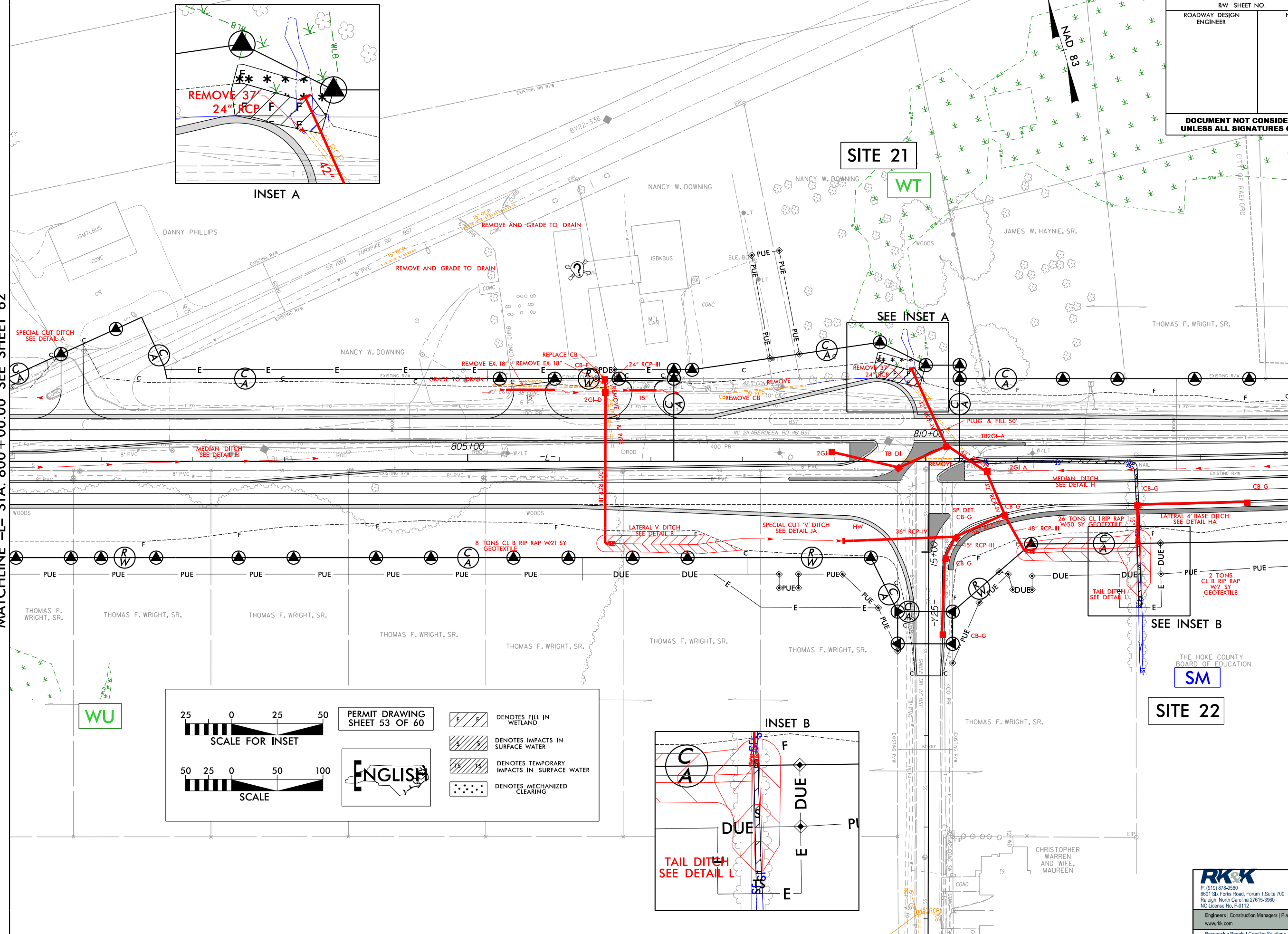
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4/23/2021
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PROJECT REFERENCE NO. R-5709	SHEET NO. 63
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE A SEE INSET A SHEET 72

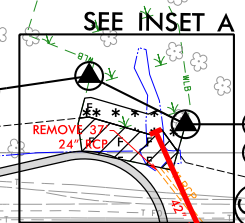
MATCHLINE -L- STA. 800 + 00.00 SEE SHEET 62

MATCHLINE -L- STA. 814 + 00.00 SEE SHEET 64



SITE 21

WT



SEE INSET B

SITE 22

THE HOKE COUNTY BOARD OF EDUCATION
SM

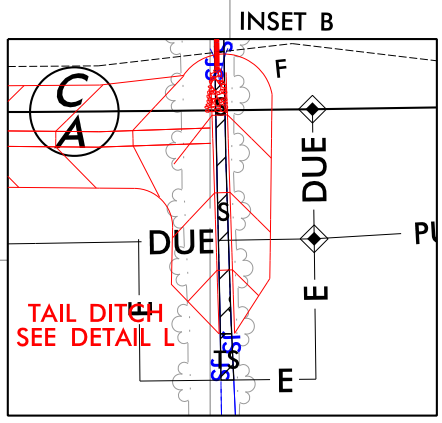
PERMIT DRAWING SHEET 53 OF 60

ENGLISH

	DENOTES FILL IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING

SCALE FOR INSET: 0, 25, 50

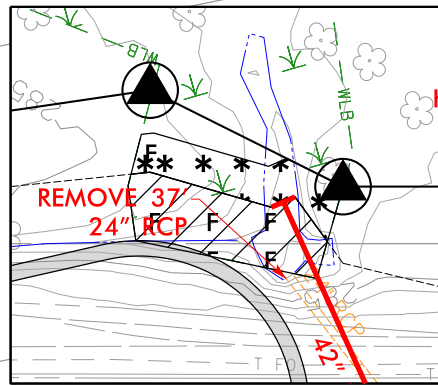
SCALE: 0, 25, 50, 100



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PROJECT REFERENCE NO. R-5709	SHEET NO. 63
R/W SHEET NO. ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE A SEE INSET A SHEET 72



INSET A

SITE 21

WT

SEE INSET A

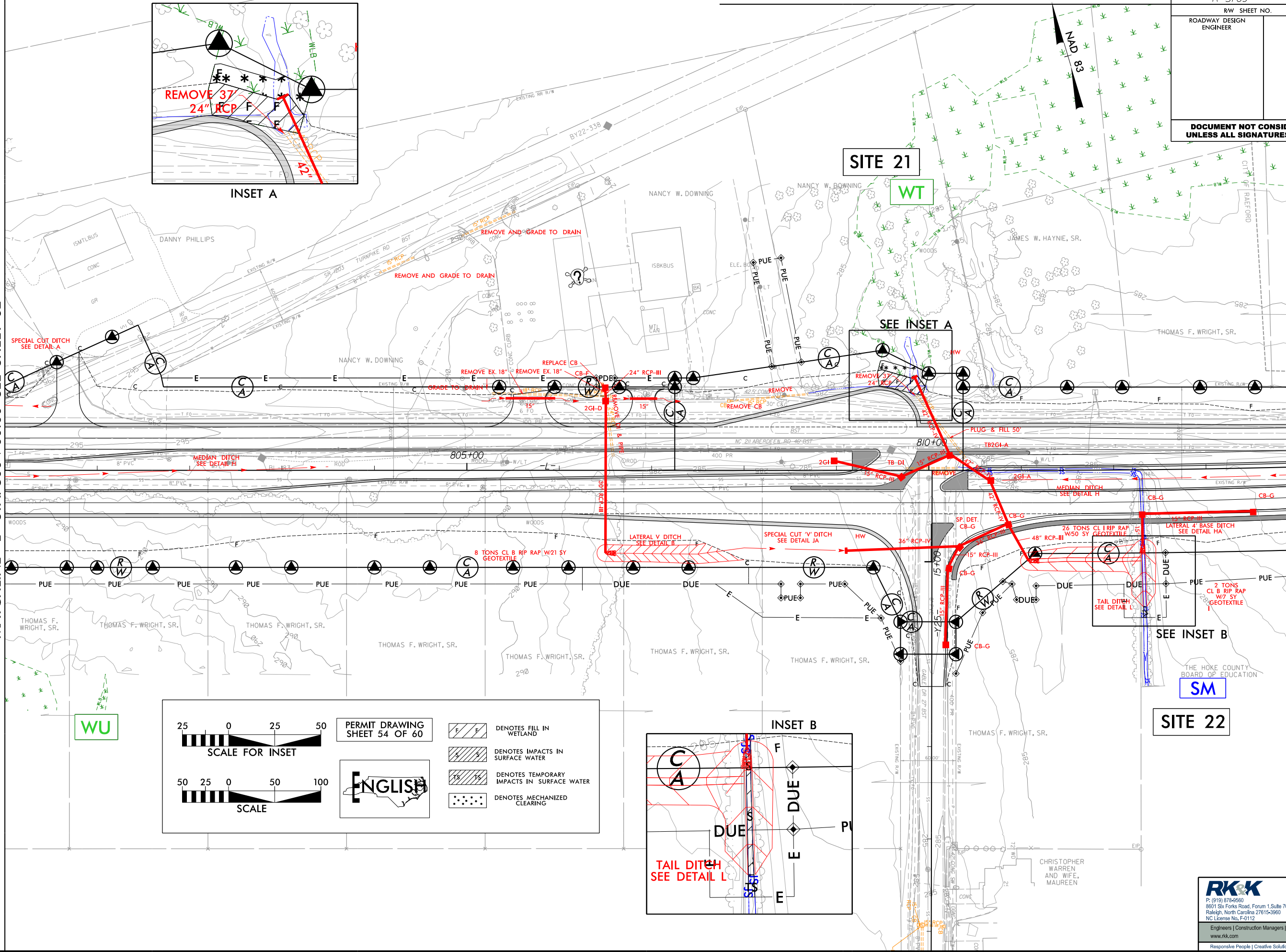
SEE INSET B

SITE 22

SM

MATCHLINE -L- STA. 800 + 00.00 SEE SHEET 62

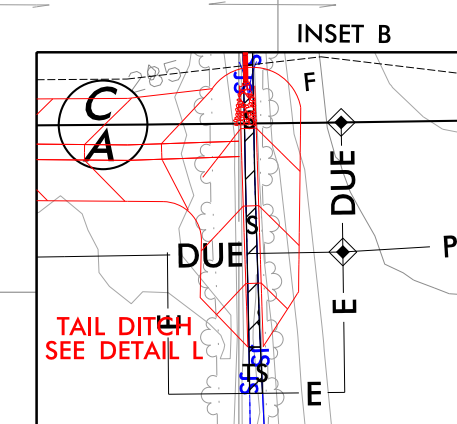
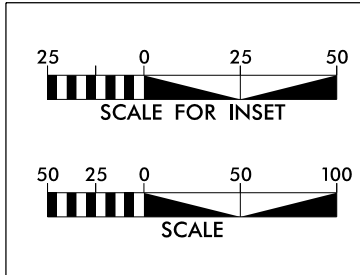
MATCHLINE -L- STA. 814 + 00.00 SEE SHEET 64



PERMIT DRAWING SHEET 54 OF 60

ENGLISH

	DENOTES FILL IN WETLAND
	DENOTES IMPACTS IN SURFACE WATER
	DENOTES TEMPORARY IMPACTS IN SURFACE WATER
	DENOTES MECHANIZED CLEARING



INSET B
TAIL DITCH SEE DETAIL L

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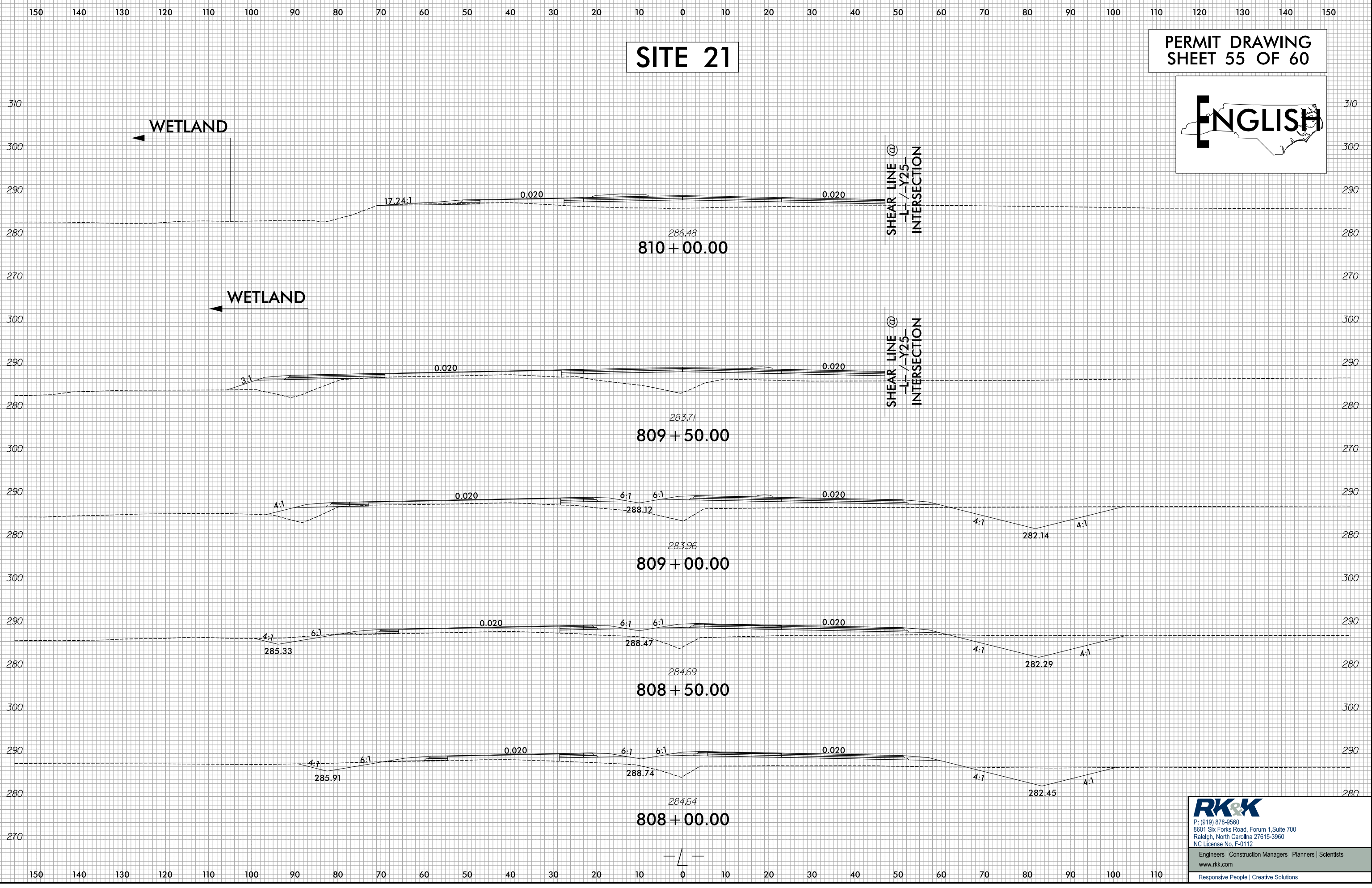
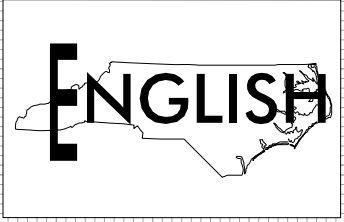
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SITE 21

PERMIT DRAWING SHEET 55 OF 60



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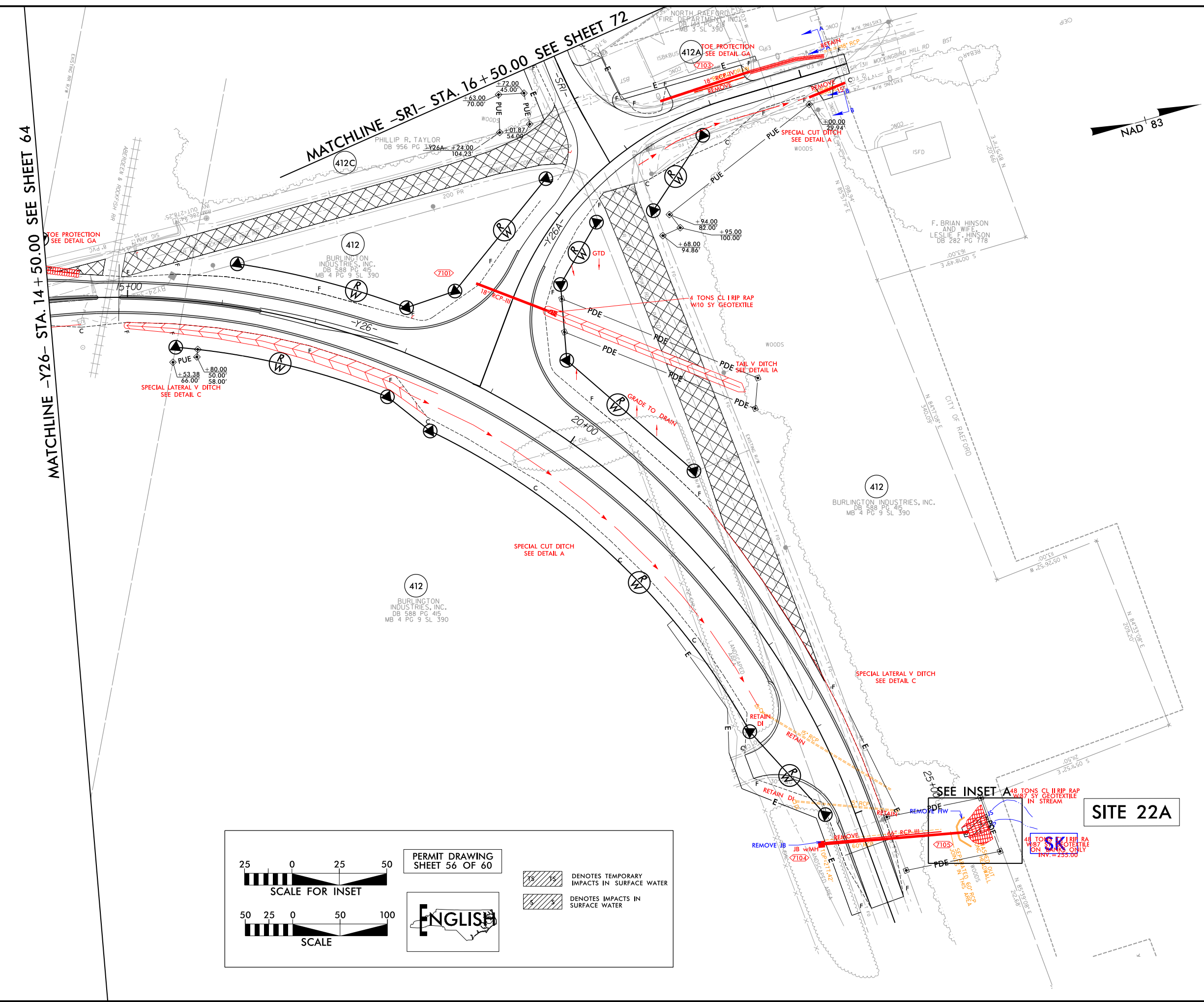
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PROJECT REFERENCE NO. R-5709	SHEET NO. 71
RW SHEET NO.	
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MATCHLINE -Y26- STA. 14 + 50.00 SEE SHEET 64

MATCHLINE -SRI- STA. 16 + 50.00 SEE SHEET 72



25 0 25 50

SCALE FOR INSET

50 25 0 50 100

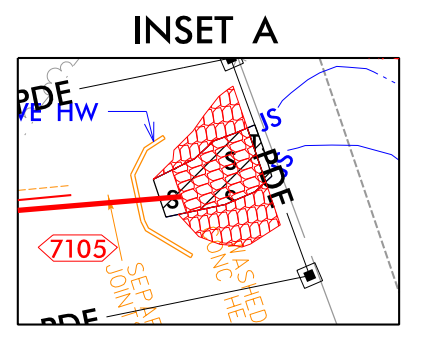
SCALE

PERMIT DRAWING SHEET 56 OF 60

ENGLISH

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER



SITE 22A

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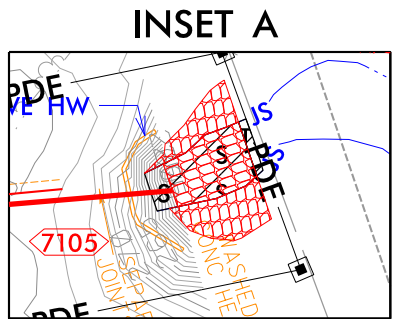
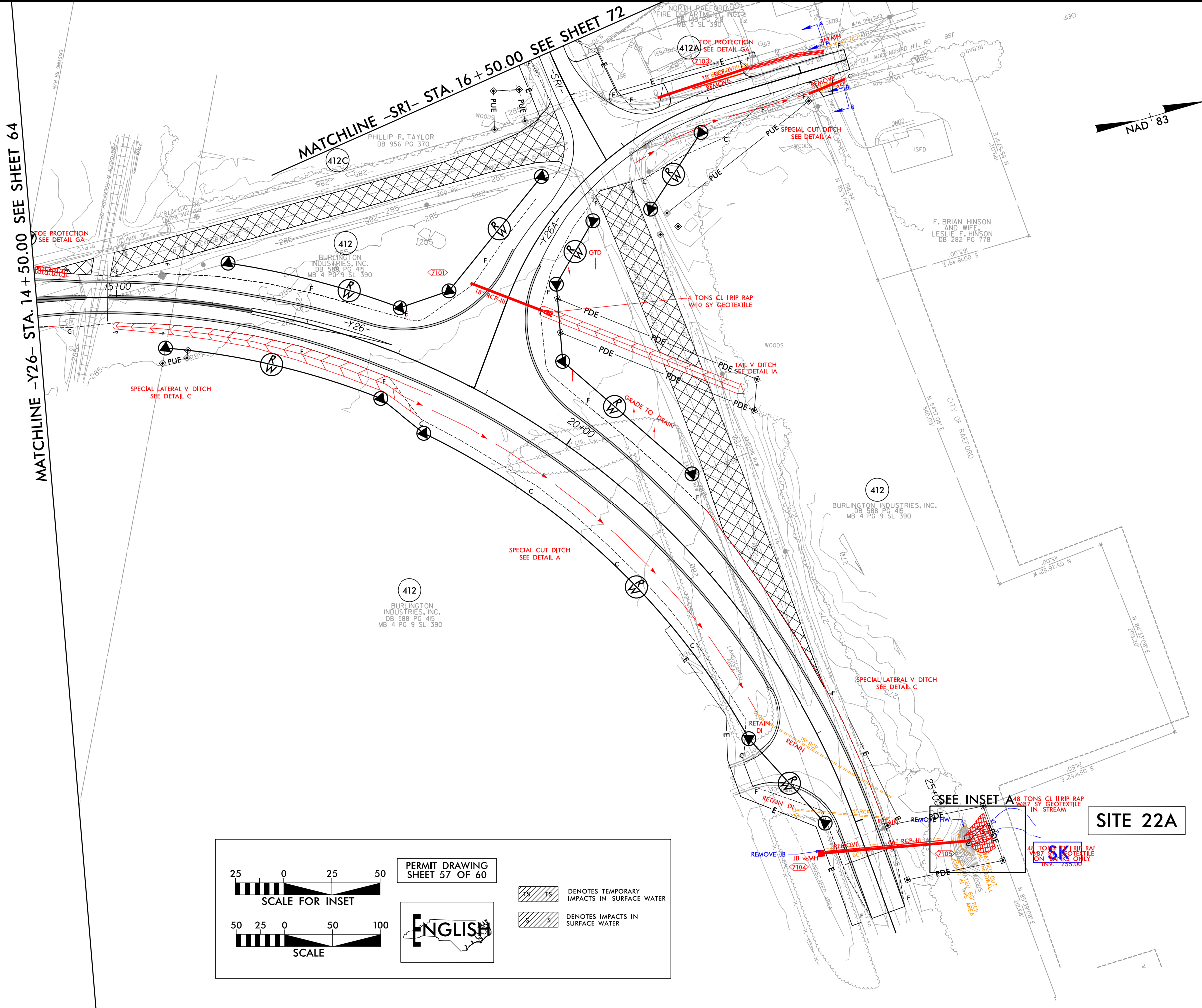
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PROJECT REFERENCE NO.	SHEET NO.
R-5709	71
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER
INCOMPLETE PLANS DO NOT USE FOR R/W ACQUISITION	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

MATCHLINE -Y26- STA. 14 + 50.00 SEE SHEET 64

MATCHLINE -SR1- STA. 16 + 50.00 SEE SHEET 72



25 0 25 50

SCALE FOR INSET

50 25 0 50 100

SCALE

PERMIT DRAWING SHEET 57 OF 60

ENGLISH

DENOTES TEMPORARY IMPACTS IN SURFACE WATER

DENOTES IMPACTS IN SURFACE WATER

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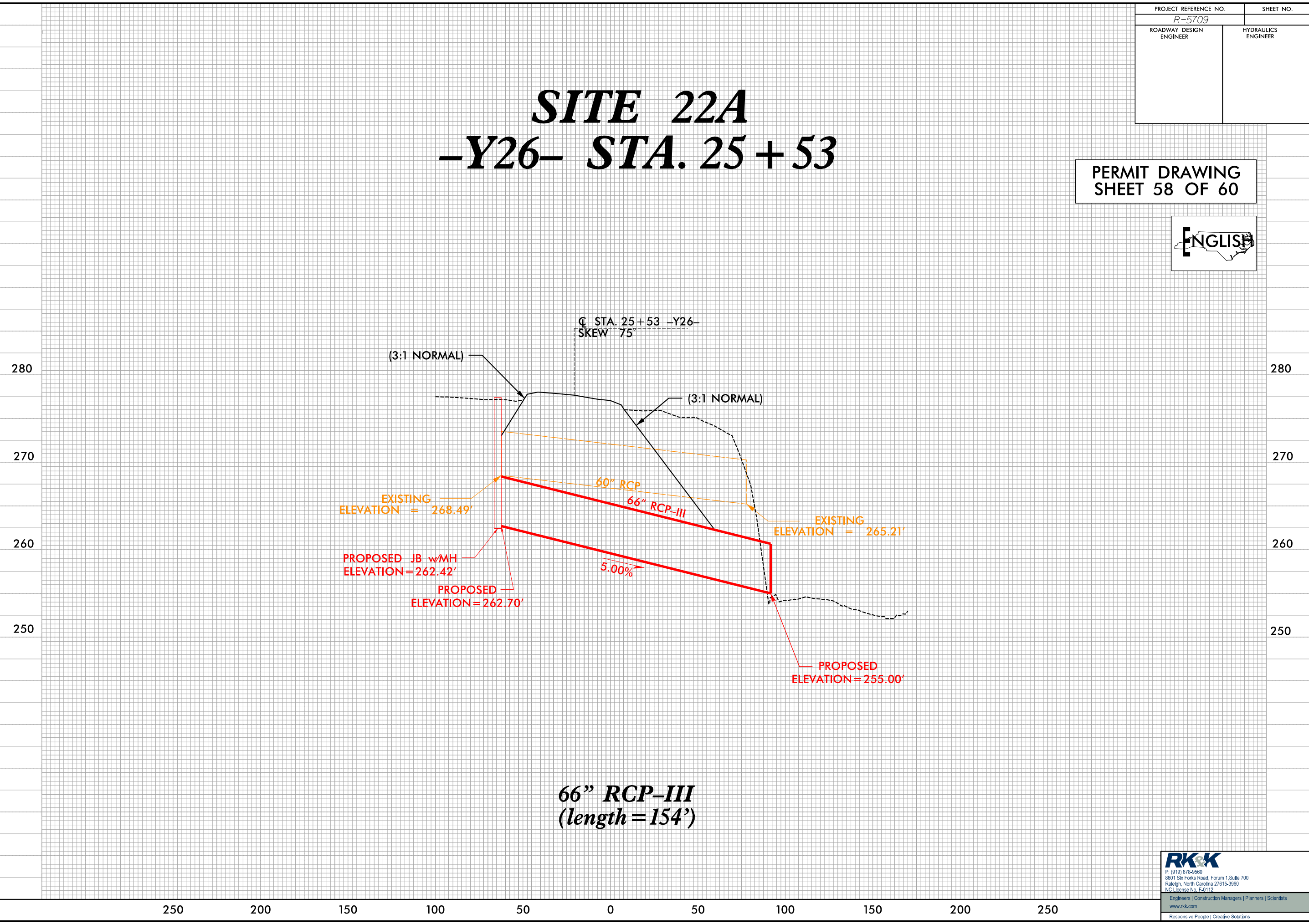
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PROJECT REFERENCE NO. <i>R-5709</i>	SHEET NO.
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

SITE 22A

-Y26- STA. 25+53

PERMIT DRAWING
SHEET 58 OF 60



66" RCP-III
(length = 154')

5/14/99
4/27/2021
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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)
1	14+10 -L- LT	ROADWAY FILL -WB	0.02		< 0.01	< 0.01						
2	14+50 -L- RT	ROADWAY FILL -WA	0.07		< 0.01	0.04						
3	14+30 -L-	54" RCP-III (BURIED 1') -SA						0.02	< 0.01	183	20	
4	22+30 -L- LT	BANK STABILIZATION -SD				0.01		< 0.01	< 0.01	20	12	
		ROADWAY FILL -WF				< 0.01						
		UTILITY IMPACTS					0.03					
5	23+25 -L- RT	-Y2- WF	0.02			< 0.01						
6	20+60 -Y2- RT	UTILITY IMPACTS -WG				< 0.01	< 0.01					
6	18+50 -Y3- RT	ROADWAY FILL -WG				< 0.01	0.01					
6	36+00 -L- LT	ROADWAY FILL -WG	0.07			0.08						
6	39+50 -L- LT	-Y4- WG	0.03			< 0.01						
6A	14+00 -Y4- RT	ROADWAY FILL -WG2	< 0.01		0.03	0.02						
7	35+00 -L- RT	ROADWAY FILL -WH	0.06		< 0.01	0.03						
8	34+65 -L-	66" RCP IV (BURIED 1') -SC						< 0.01	< 0.01	85	53	
		BANK STABILIZATION						< 0.01		26		
9	165+50 -L- RT	ROADWAY FILL -WJ	0.01			0.02						
10	168+00 -L-	ROADWAY FILL -WI	0.19			0.06						
		54" RCP-III -SE						< 0.01		70		
		UTILITY IMPACTS -WI					< 0.01					
11	203+50 -L- LT	ROADWAY FILL -WM	0.07			0.03						
		UTILITY IMPACTS					0.20					
12	207+80 -L- RT	ROADWAY FILL -WL	0.29			0.06						
13	208+50 -L- LT	POND DRAINAGE -WN	0.06		0.02	< 0.01						3
14	208+61 -L-	72" RCP IV (BURIED 1') -SF						0.02		185		
15	279+00 -L-	2@48" RCP III -SJ						< 0.01	< 0.01	140	11	
		UTILITY IMPACTS -WW					0.01					
TOTALS*:			0.89		0.06	0.37	0.27	0.06	< 0.01	709	96	3

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 4-22-2021
 HOKE & MOORE COUNTIES
 R-5709

