



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

JOSH STEIN
GOVERNOR

J.R. "JOEY" HOPKINS
SECRETARY

May 30, 2025

U.S. Army Corps of Engineers
Regulatory Field Office
3331 Heritage Trade Drive, Suite 105
Wake Forest, NC 27587

N.C. Division of Water Resources
Transportation Permitting Branch
1617 Mail Service Center
Raleigh, NC 27699-1617

ATTN: Mr. Eric Alsmeyer
NCDOT Coordinator

Mr. Rob Ridings
NCDOT Coordinator

Subject: Revised Request for Modification of the Phased Section 404 Individual Permit and Section 401 Individual Water Quality Certification, Neuse River Riparian Buffer Authorization for the construction of the Triangle Expressway Southeast Extension from NC-55 Bypass in Apex to I-40, Wake and Johnston Counties. TIP Nos. R-2721, R-2828, and R-2829. Federal Aid Project No. 0540047.

Reference: USACE Section 404 Authorization SAW-2009-02240, issued October 24, 2019, modified February 4, 2020 (corrected revision issued February 7, 2020), April 29, 2020, January 7, 2021, March 19, 2021, March 3, 2022, July 1, 2022, September 13, 2022, February 17, 2023, June 21, 2023, July 19, 2023, August 4, 2023, August 11, 2023, December 13, 2023, January 22, 2024, May 29, 2024, October 28, 2024, December 13, 2024, and May 19, 2025.

NCDWR Water Quality Certification Number 4179 and Neuse River Riparian Buffer Authorization, issued February 15, 2019, modified January 30, 2020, April 20, 2020 (corrected revision issued April 23, 2020), June 1, 2020, December 29, 2020, March 9, 2021, April 8, 2021, November 1, 2021, May 18, 2022, July 22, 2022, February 15, 2023, July 19, 2023, August 4, 2023, August 11, 2023, June 19, 2023, December 12, 2023, January 22, 2024, May 29, 2024, October 7, 2024, December 10, 2024, and May 15, 2025.

Dear Sirs:

As you are aware, the North Carolina Department of Transportation (NCDOT) applied for a phased Section 404 Individual Permit, Section 401 Individual Water Quality Certification (WQC), Neuse River Riparian Buffer Authorization, Non-404 Jurisdictional Wetlands and Waters Permit for the subject project in September 2018. The project, also known as Complete 540, encompasses three NCDOT Transportation Improvement Program (TIP) projects: R-2721 (NC-55 Bypass to US-401), R-2828 (east of US-401 to I-40 Interchange) and R-2829 (east of I-40/I-42 to US 64/264). The permit and previous modification dates are listed in the reference section above.

We are requesting a modification to the Section 404 Authorization (SAW-2019-02240) and the associated 401 Water Quality Certification (Permit No. 20181249). This request is prompted by ongoing coordination with Duke Energy and MCI/Verizon within the R-2829A project limits. As

a result of utility relocation adjustments, revisions to the proposed alignments have led to changes in impacts to jurisdictional resources.

Details of the revised impacts are outlined below and depicted on the updated permit drawing sheets corresponding to each revision. All utility stream and wetland and utility buffer drawings are being reissued due to renumbering of the utility plan sets. For ease of review, all modified impact areas are shown in bold font in this submittal. Unless otherwise indicated, all information submitted with the September 17, 2024, permit modification remains unchanged.

Summary of Impacts

Revised impacts for final design for R-2829A include: 7.112 acres of permanent wetland (riparian and non-riparian) impacts, 9,326 linear feet of permanent stream impact, 4.422 acres of permanent surface water impacts, and **1,142,521** square feet of Neuse River Riparian Buffer impacts.

Revised Table 5. R-2829A Jurisdictional Resources Impacts

Riparian Wetlands Perm./Temp. (ac)	Non-Riparian Wetlands Perm./Temp. (ac)	Isolated Wetlands (ac)	Ponds (ac)	Isolated Ponds (ac)	Streams (lf)			Mitigable Riparian Buffer Impacts Z1/Z2 (sq ft)
					Perm.	Temp.	Structure Stab.*	
6.702 / 1.675	0.410 / 0.010	n/a	3.49	n/a	8,444	812	1,261	640,683/ 401,246

*Structure stabilization includes pipe, culvert, and bank stabilization.

IMPACTS TO JURISDICTIONAL RESOURCES

Revisions to proposed impacts are summarized below and reflected in the updated Tables 20 and 22, which detail site specific impacts to wetlands and Neuse River Riparian Buffers. The revised permit drawings identify the station number, structure size and type, jurisdictional feature name, and associated impact type for each location. All impacts occur within the Neuse River Basin (HUC 03020201). Detailed revisions are provided below.

Utility Site 29 mitigable buffer impacts

- Buffer Zone 1: 1,811 sqft (previously 1,983)
- Buffer Zone 2: 1,937 sqft (previously 2,013)
- Total: 3,748 sqft (previous 3,996)

Utility Site 29A wetland and mitigable buffer impacts

- Hand clearing: 0.039 ac (previously none)
- Buffer Zone 1: 1,636 sqft (previously none)
- Buffer Zone 2: 1,191 sqft (previously none)

Revised Table 20. R-2829A Wetland Impacts

Permit Drawing Site Number	NRTR Label	Impact Type	Wetland Type	Temporary Wetland Impacts (ac)	Permanent Wetland Impacts (ac)
1	WFG	Fill	Non-Riparian		0.055
2	WFJ	Fill	Non-Riparian		0.098
2	WFJ	Excavation	Non-Riparian		0.023
3	WFN(2)	Fill	Riparian		0.176
3	WFN(2)	Fill	Riparian	0.716	

Revised Table 20. R-2829A Wetland Impacts

Permit Drawing Site Number	NRTR Label	Impact Type	Wetland Type	Temporary Wetland Impacts (ac)	Permanent Wetland Impacts (ac)
3	WFN(2)	Excavation	Riparian		0.018
3	WFN(2)	Mechanized Clearing	Riparian		0.034
3	WFN(2)	Hand Clearing	Riparian	0.660	
3	WFN(1)	Fill	Riparian		0.257
3	WFN(1)	Fill	Riparian	0.049	
3	WFN(1)	Excavation	Riparian		0.001
3	WFN(1)	Mechanized Clearing	Riparian		0.098
3	WFN(1)	Hand Clearing	Riparian	0.037	
4	WFY	Fill	Riparian		0.449
4	WFY	Mechanized Clearing	Riparian		0.034
7	WFZ	Fill	Riparian		0.113
7	WFZ	Excavation	Riparian		0.015
7	WFZ	Mechanized Clearing	Riparian		0.010
8	WGD	Fill	Riparian		0.021
8	WGD	Mechanized Clearing	Riparian		0.001
8	WGC	Fill	Riparian		0.013
8	WGB	Fill	Riparian		0.079
9	WGF	Fill	Riparian		0.016
9	WGG	Fill	Riparian		0.156
9	WAAE	Fill	Riparian		0.092
9	WAAF	Fill	Non-Riparian	0.010	
10	WGJ	Fill	Non-Riparian		0.013
10	WGJ	Mechanized Clearing	Non-Riparian		0.010
11	WGM	Fill	Riparian		0.023
12	WGN	Fill	Riparian		0.001
12	WGN	Mechanized Clearing	Riparian		0.005
13	WGO	Fill	Non-Riparian		0.028
13	WGO	Mechanized Clearing	Non-Riparian		0.004
15	WGR	Fill	Riparian		0.760
15	WGR	Excavation	Riparian		0.061
15	WGR	Mechanized Clearing	Riparian		0.112
16	WGR	Fill	Riparian		1.387
16	WGR	Mechanized Clearing	Riparian		0.088
16	WGT	Excavation	Riparian		0.008
16	WGT	Mechanized Clearing	Riparian		0.018
17	WGS	Fill	Riparian		0.237
17	WGS	Mechanized Clearing	Riparian		0.009
19	WGR	Fill	Riparian		0.202
19	WGR	Mechanized Clearing	Riparian		0.020
20A	WGU(2)	Mechanized Clearing	Riparian		0.001
21	WGY	Fill	Non-Riparian		0.099
22	WGZ	Fill	Non-Riparian		0.059
22	WGZ	Mechanized Clearing	Non-Riparian		0.016
23	WHB	Fill	Riparian		1.178
23	WHB	Excavation	Riparian		0.002
23	WHB	Mechanized Clearing	Riparian		0.061
24*	WHC	Hand Clearing	Riparian	0.020	

Revised Table 20. R-2829A Wetland Impacts

Permit Drawing Site Number	NRTR Label	Impact Type	Wetland Type	Temporary Wetland Impacts (ac)	Permanent Wetland Impacts (ac)
25	WHD(1)	Fill	Riparian		0.255
25	WHD(1)	Excavation	Riparian		0.015
25	WHD(1)	Mechanized Clearing	Riparian		0.027
25	WHD(2)	Fill	Riparian		0.195
25	WHD(2)	Excavation	Riparian		0.009
25	WHD(2)	Mechanized Clearing	Riparian		0.013
27	WHD(2)	Fill	Riparian		0.108
27	WHD(2)	Excavation	Riparian		0.037
27	WHD(2)	Mechanized Clearing	Riparian		0.023
29(A)	WNM	Fill	Riparian		0.021
29(A)	WNM	Mechanized Clearing	Riparian		0.044
29(A)*	WNM	Hand Clearing	Riparian	0.039	
31	WGW	Fill	Riparian		0.023
31	WGW	Excavation	Riparian		0.004
31	WGW	Mechanized Clearing	Riparian		0.019
31*	WGW	Hand Clearing	Riparian	0.034	
31*	WGV(1)	Hand Clearing	Riparian	0.120	
31	WGV(1)	Fill	Riparian		0.055
31	WGV(1)	Excavation	Riparian		0.010
31	WGV(1)	Mechanized Clearing	Riparian		0.021
33	WHD(2)	Excavation	Riparian		0.007
33	WHD(2)	Mechanized Clearing	Riparian		0.014
33	WAAK	Fill	Riparian		0.026
33	WAAK	Mechanized Clearing	Riparian		0.020
36	WFK	Mechanized Clearing	Non-Riparian		0.005
Total Permanent Riparian Impacts HUC 03020201:				6.702	
Total Permanent Non-Riparian Impacts HUC 03020201:				0.410	
Total Riparian Temporary Impacts HUC 03020201:				1.675	
Total Non-Riparian Temporary Impacts HUC 03020201:				0.010	

*Impact due to utilities

Revised Table 22. R-2829A Riparian Buffer Impacts

Buffer Drawing Site Number	NRTR Label	Allowable		Mitigable		Wetlands in Buffer	
		Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)
3	SEW			22,475	18,026	14,933	5,374
3	SEY			7,307	5,956		
5	SFH			28,877	15,537		
6	SFF			35,906	21,030		
7	SFE			46,871	30,603	5,152	
8	SFB			17,618	11,963	1,651	1,085
9	SFA			9,205	7,844	7,356	2,447
9	PAO			47,156	32,542		
11	SFD	3,272	2,607			67	325
12	SFC			30,849	18,794	412	123
14	SFV	28,224	18,386				

Revised Table 22. R-2829A Riparian Buffer Impacts

		Allowable		Mitigable		Wetlands in Buffer	
Buffer Drawing Site Number	NRTR Label	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)	Zone 1 (sq. ft.)	Zone 2 (sq. ft.)
15	SFR			12,233	9,537	8,053	4,017
16	SFN			28,382	20,727	11,578	10,282
18	SFQ			37,277	23,720	13,751	9,196
19	SFS			29,264	19,579	8,191	142
20	SFT			47,166	30,260		
23	SGC			27,372	19,144	18,620	8,475
24	SGD			33,039	20,649		
25	SGE			29,121	15,656	11,692	2,873
26	SGG			38,653	23,438	3,382	98
27	SGF			24,466	15,544	6,569	168
28	SKR			14,200	9,344		
29	SFJ	5,463	3,197				
29A	SFJ	6,983	4,483			1,870	497
30	SHT			13,221	8,303	2,225	576
30	PAO			26,069	1,955		
31	SFY	2,350	2,397			728	547
32	SGA			11,974	7,535		
33	SGA	9,237	4,493			706	863
35	SAAL	297	214				
37	SFX	1,625	1,881			102	
38	SFK	134	1,572				
Utility Site 12	SFC			10,341	5,473		
Utility Site 20	SFT			4,679	2,964		
Utility Site 20	SFT		249				
Utility Site 24	SGD			2,110	1,268	715	
Utility Site 29	SFJ			1,811	1,937		
Utility Site 29(A)	SFJ			1,636	1,191	1,062	238
Utility Site 31	SFY		1,174	590		532	1,174
Utility Site 32	SGA	118	232				
Utility Site 32	SGA		280	815	727		
Utility Site 37	SFX	1,018	706				
HUC 03020201							
Totals		58,721	41,871	640,683	401,246	119,347	48,500
Total Buffer Impacts Requiring Mitigation				524,809	356,152		

Utility Impacts

Changes to proposed jurisdictional impacts necessary for the relocations of multiple utilities are provided above in revised Tables 5, 20, and 22 and are summarized by permit site below.

Permit Site 29

Overhead power lines owned by Duke Energy will be relocated within a shared easement that also accommodates overhead utilities from Spectrum, AT&T, and MCI/Verizon. This relocation will result in riparian buffer impacts along stream SFJ. A City of Raleigh underground sewer line will be installed using jack-and-bore methods; however, both bore pits are located outside of stream

SFJ and its associated riparian buffers. Additionally, two utility poles supporting the overhead crossing above SFJ were shifted approximately 30 feet (at Y23R 55+00 LT) and 9 feet (at Y23R 62+00 LT), necessitating a revision to the Public Utility Easement (PUE) and resulting in a net reduction of riparian buffer impacts.

Permit Site 29A

Duke Energy (overhead) power lines will be relocated within an easement requiring riparian buffer impacts along stream SFJ as well as hand clearing in wetland WNM. SDO Investments private (underground) waterline will be relocated via open cut however the trench will occur within the permanent impacts associated with the 54" RCP at this site.

MITIGATION OPTIONS

The avoidance and minimization efforts incorporated into the final design resulted in reduction of 1.55 acre of permanent wetland impact, 822 LF acre of permanent stream impact, **182,538** sq ft of riparian buffer impact, and 0.79 acre of pond impact as detailed in the table below.

Jurisdictional Impacts from Preliminary Design to Current Proposed Design

Category	Preliminary Design*	Revised Design^	Change^^
Streams (lf)	10,148	9,326**	-822
Streams (number)	23	28	5
Buffer Zone 1 (sq ft)	714,081	640,683	-73,398
Buffer Zone 2 (sq ft)	510,386	401,246	-109,140
Wetlands (ac)	8.67	7.12	-1.55
Wetlands (number)	26	34	8
Ponds (ac)	4.28	3.49	-0.79
Ponds (number)	2	2	0

*Preliminary impacts were calculated using proposed slope stakes plus 25 feet. **Includes bank and structure stabilization. ^Current proposed design includes impacts associated with all utilities which were not accounted for in preliminary design. ^^Features added with study area expansion at East Garner Road.

Compensatory Mitigation:

Compensatory mitigation for these additional unavoidable buffer impacts for R-2829A will be provided by the NC Division of Mitigation Services (DMS). Included in this permit modification request is the revised acceptance letter for DMS Mitigation. Below is a summary of the proposed impacts.

Revised Table 28. R-2829A Proposed Compensatory Mitigation

Mitigation Type	Riparian Wetland (ac)	Non-Riparian Wetland (ac)	Stream (lf)	Riparian Buffer (sq. ft.)		Riparian Buffer Total (sq. ft.)
				Zone 1	Zone 2	
Neuse River Basin (HUC 03020201)	6.702	0.410	8,444	524,809	356,152	880,961

NCDOT has requested additional mitigation of 1,279 square feet from DMS to cover the revised total of **880,961** (previously 879,682) square feet of buffer impacts in Hydrological Unit 03020201. There are **524,809** (previously 524,407) square feet of impacts in Buffer Zone 1 and **356,152** (previously 355,275) square feet of impacts in Buffer Zone 2. The proposed impact amounts approved by DMS were multiplied by the appropriate mitigation ratios to calculate the proposed

mitigation amounts (3:1 for Zone 1 riparian buffer impacts, and 1.5:1 for Zone 2 riparian buffer impacts).

REGULATORY APPROVALS

Section 404

We are requesting a modification to the USACE Permit Number SAW-2009-02240 Section 404 Individual Permit for the above-described activities.

Section 401 and Riparian Buffer Authorization

We are requesting a modification to the WQC Permit Number 4179 Section 401 Individual WQC and the Neuse Riparian Buffer Authorization.

The individual permit modification package for the Complete 540 project (STIP Projects R-2721, R-2828, and R-2829) is available at <https://xfer.services.ncdot.gov/pdea/PermApps/>

Thank you for your assistance with this project. If you have any questions or need additional information, please contact Deanna Riffey at driffey@ncdot.gov or 919-707-6151.

Sincerely,

DocuSigned by:

Alan Shapiro

B149124683BD45D
Alan Shapiro, P.E.

Deputy Chief Engineer

North Carolina Turnpike Authority

cc: NCDOT Permit Application Standard Distribution List

JOSH STEIN
Governor
D. REID WILSON
Secretary
MARC RECKTENWALD
Director



May 22, 2025

Mr. Jamie Lancaster, P.E.
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Mr. Lancaster:

Subject: DMS Mitigation Acceptance Letter:

R-2829A, Complete NC 540 from I-40 to South of Rock Quarry Road, Wake and Johnston Counties

References: USACE 404 Individual Permit issued October 28, 2024 (USACE Action ID 2009-02240)

NCDWR 401 Water Quality Certification issued October 7, 2024 (NCDWR ID 2018-1249 v19)

The purpose of this letter is to notify you that the Division of Mitigation Services (DMS) will provide the additional buffer mitigation for the subject project. Based on the information supplied by you on May 21, 2025, the impacts are located in CU 03020201 of the Neuse River basin in the Central Piedmont (CP) and Northern Inner Coastal Plain (NICP) Eco-Regions, and are as follows:

Table 1 – Additional Impacts (feet / acres)

Neuse 03020201 CP / NICP	Stream			Wetlands			Buffer (Sq. Ft.)	
	Cold	Cool	Warm	Riparian	Non-Riparian	Coastal Marsh	Zone 1	Zone 2
Impacts (feet/acres)	0	0	0	0	0	0	402.000	877.000

This additional impact and associated mitigation needs were not projected by the NCDOT in the 2021 impact data. DMS is currently providing wetland and buffer mitigation for the impacts associated with this project located in cataloging unit 03020201 of the Neuse River basin as required by the 404 and 401 permits issued in 2024, as shown in the below table (in mitigation credits):



North Carolina Department of Environmental Quality | Division of Mitigation Services
217 West Jones Street | 1652 Mail Service Center | Raleigh, North Carolina 27699-1652
919.707.8976

Table 2 – Current Permitted Impacts and Associated Mitigation Requirements provided by DMS (based on issued permits) and Revised Anticipated Impacts (based on mitigation request)

Impact Type	Total Permitted Impacts (feet / acre / sq ft)	Mitigation Provided by DMS per Issued Permits (Credits)	Additional Impact (for approval)	Revised Total Impacts
Non-riparian Wetland	0.420	0.840	0.000	0.420
Buffer – Zone 1	524,407.000	1,573,221.000	402.000	524,809.000
Buffer – Zone 2	355,275.000	532,913.000	877.000	356152.000

All buffer mitigation requests and approvals are administrated through the Riparian Restoration Buffer Fund. The NCDOT will be responsible to ensure that appropriate compensation for the buffer mitigation will be provided in the agreed upon method of fund transfer. Upon receipt of the NCDWR's Buffer Authorization Certification, DMS will transfer funds from the NCDOT Fund into the Neuse River Basin Riparian Restoration Buffer Fund. Upon completion of transfer payment, NCDOT will have completed its riparian buffer mitigation responsibility for the additional buffer mitigation required for TIP Number R-2829A. Subsequently, DMS will conduct a review of current NCDOT ILF Program mitigation projects in the river basin to determine if available buffer mitigation credits exist. If there are buffer mitigation credits available, then the Riparian Restoration Buffer Fund will purchase the appropriate amount of buffer mitigation credits from NCDOT ILF Program.

This mitigation acceptance letter replaces the mitigation acceptance letters issued on September 13, 2024, and October 4, 2024. DMS commits to implementing additional sufficient buffer mitigation credits to offset the impacts associated with this project as determined by the regulatory agencies using the delivery timeline listed in Section F.3.c.iii of the In-Lieu Fee Instrument dated July 28, 2010. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from DMS.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-707-8420.

Sincerely,



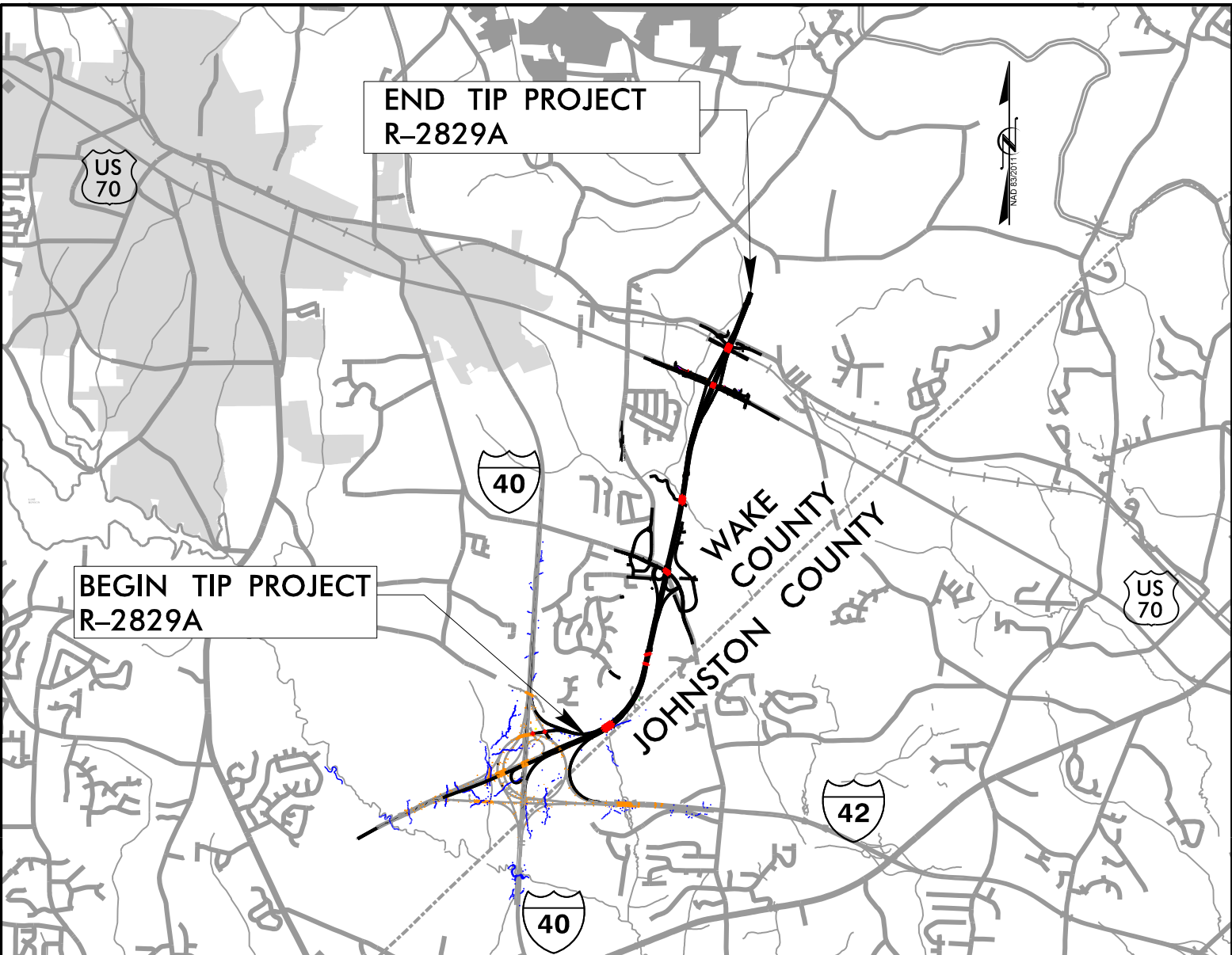
Elizabeth A. Harmon
DMS NCDOT ILF Coordinator

cc: Mr. Scott Jones, USACE – Regulatory Field Office
Mr. Rob Ridings, Division of Water Resources, Wetlands/401 Unit
File: R-2829A_Modification 1



09/08/19

See Sheet 1A for Index of Sheets, General Notes and List of Standards
See Sheet 1B for Symbolology Sheet



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

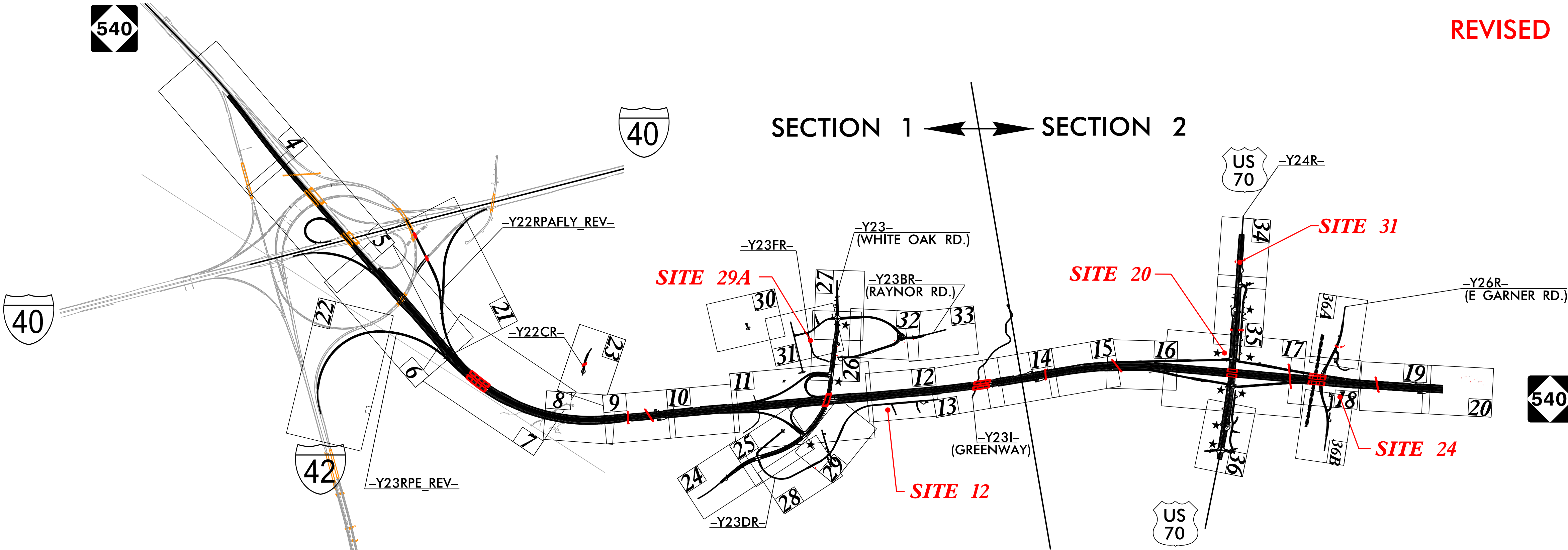
LOCATION: TRIANGLE EXPRESSWAY SOUTHEAST EXTENSION
FROM I-40 TO SOUTH OF SR 2542 (ROCK QUARRY RD.)

TYPE OF WORK: GRADING, DRAINAGE, PAVING, LIGHTING,
SIGNING, ITS, CULVERTS & STRUCTURES

SAFETEA-LU SECTION 6002
HYDRAULIC DESIGN MEETING PLANS

UTILITY PERMIT DRAWING
SHEET 1 OF 9

REVISED 5/9/2025

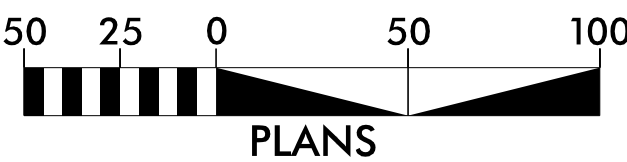


NOTES:
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

★ PROPOSED TRAFFIC SIGNAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2023 = 15,440
ADT 2043 = 22,040
K = 12%
D = 65%
T = 10%
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 4% + DUALS 6%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2829A.....3.922 MILES
LENGTH STRUCTURE TIP PROJECT R-2829A.....0.242 MILES
TOTAL LENGTH TIP PROJECT R-2829A.....4.164 MILES

NCTA CONTACT

Ron McCollum, PE
DEPUTY CHIEF ENGINEER for PRECONSTRUCTION
TURNPIKE AUTHORITY

PLANS PREPARED BY:

RK&K RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA
TURNPIKE AUTHORITY

2018 STANDARD SPECIFICATIONS

LETTING DATE:
October 17, 2023

C. Byron Holden, PE
PROJECT ENGINEER

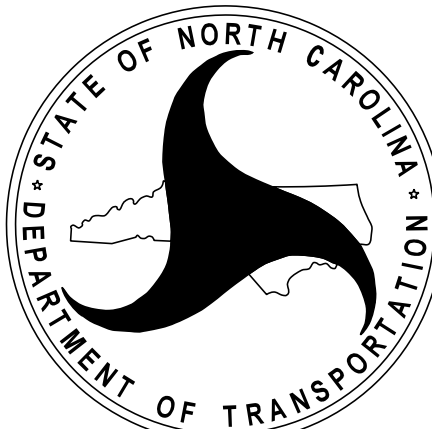
Anthony A. Houser, PE
PROJECT DESIGN ENGINEER

HYDRAULICS
ENGINEER

SIGNATURE: P.E.

ROADWAY
DESIGN
ENGINEER

SIGNATURE: P.E.



5/9/2025
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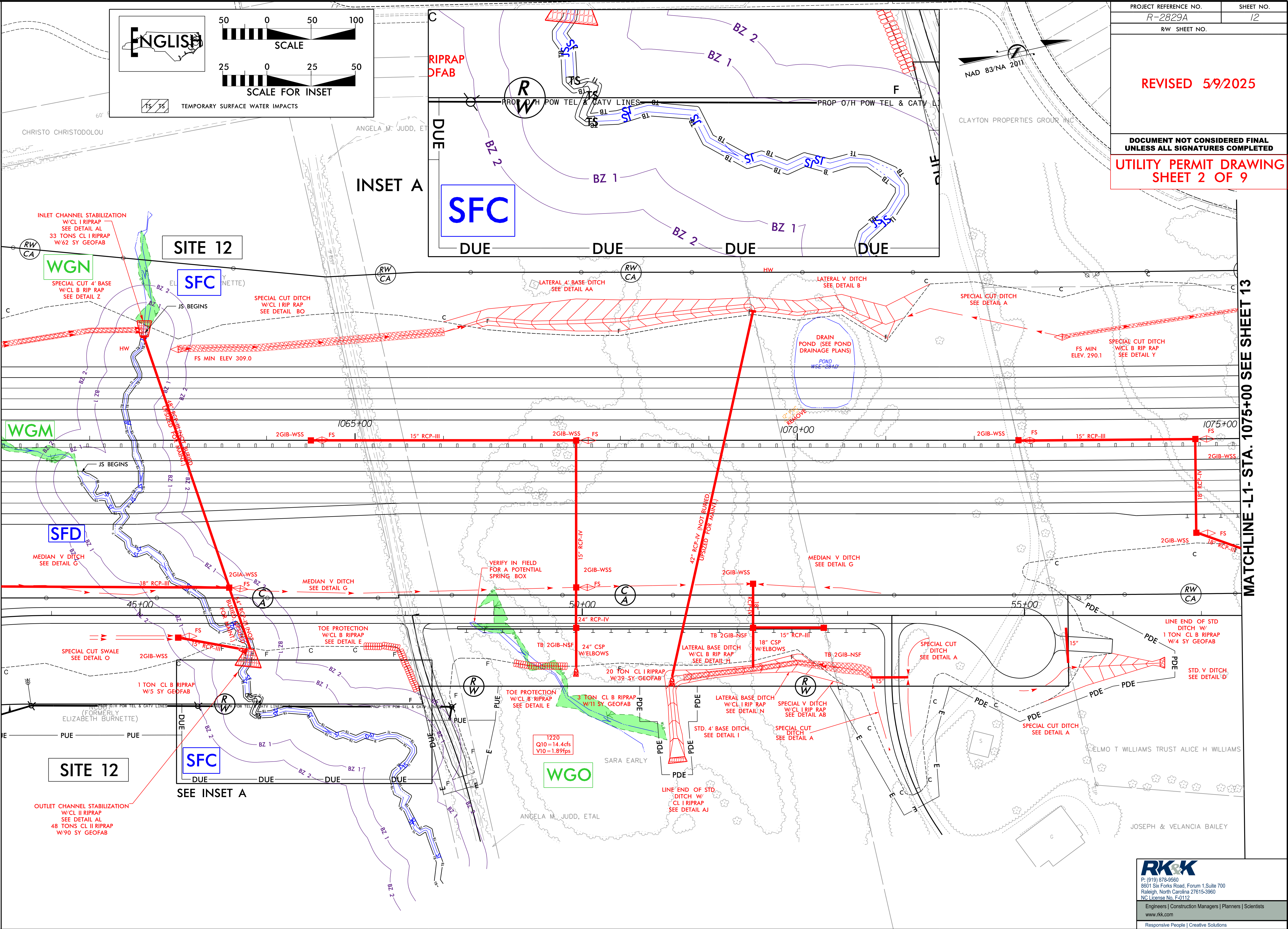
TIP PROJECT: R-2829A

CONTRACT: C204824

8/17/99

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8/9/2025
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Revised Submittal May 30, 2025

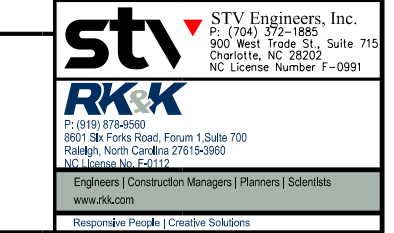


PROJECT REFERENCE NO.	SHEET NO.
R-2829A	12
RW SHEET NO.	
REVISED 5/9/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
UTILITY PERMIT DRAWING SHEET 2 OF 9	

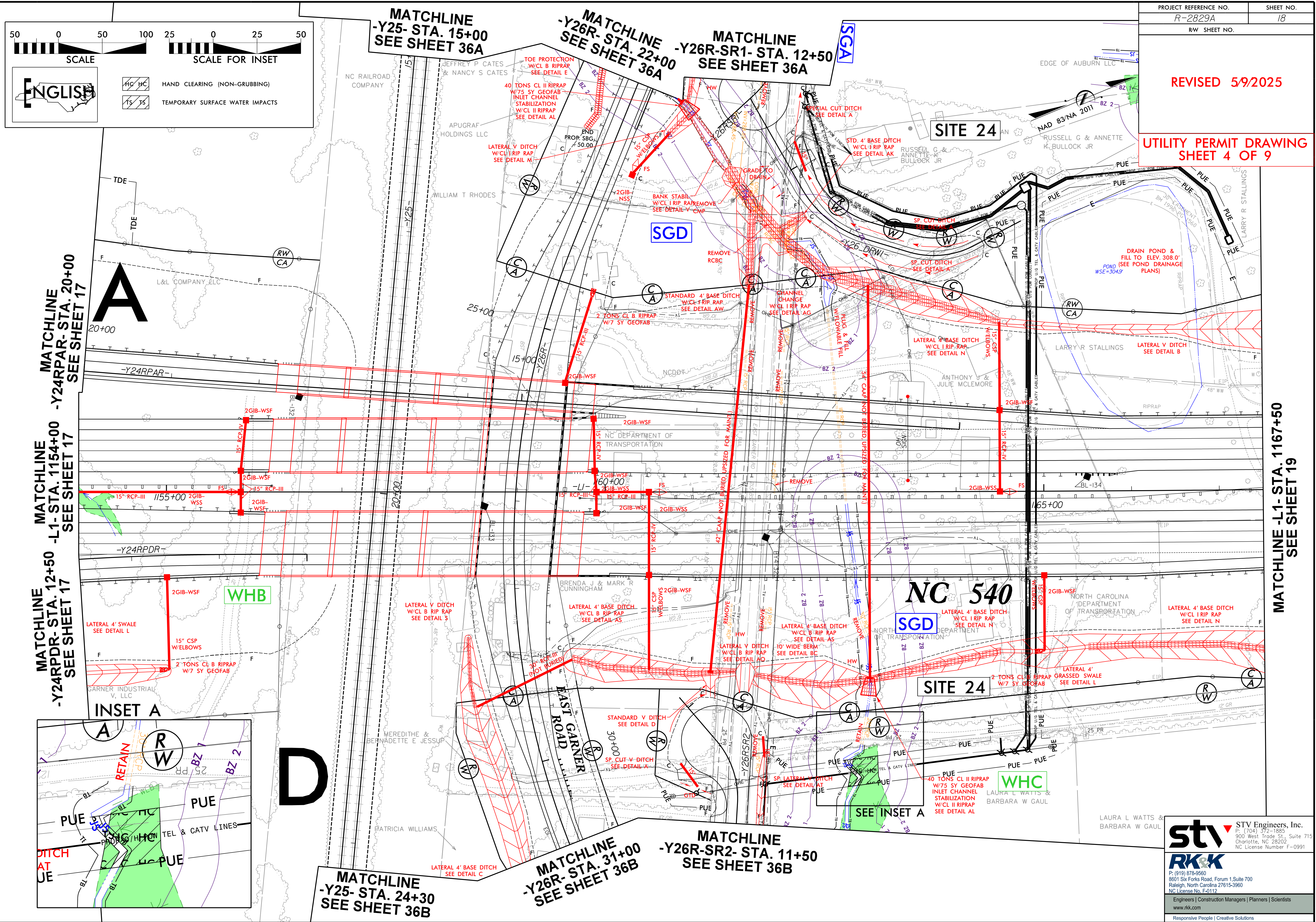
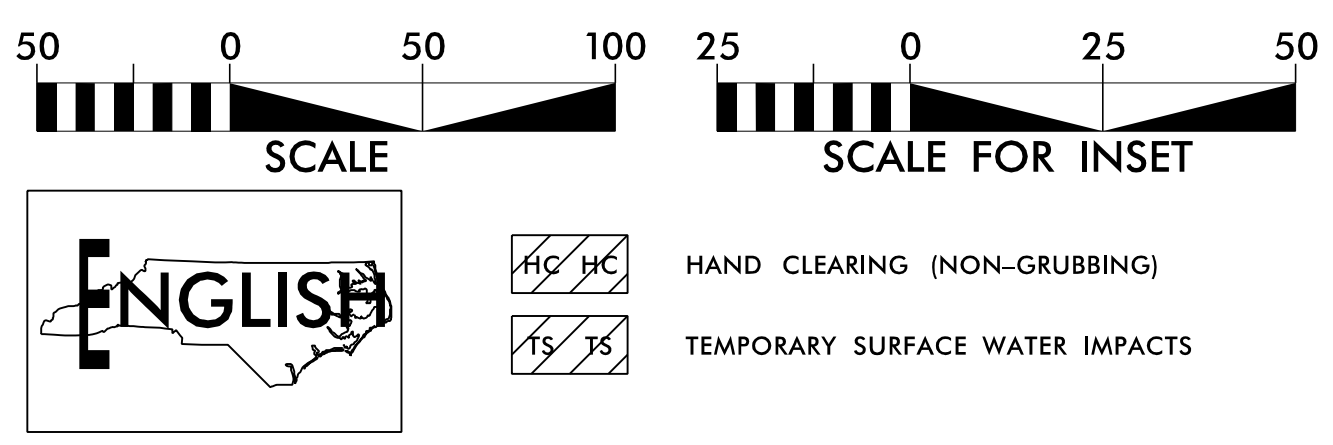


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8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
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UTILITY PERMIT DRAWING
SHEET 4 OF 9



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6/23/16

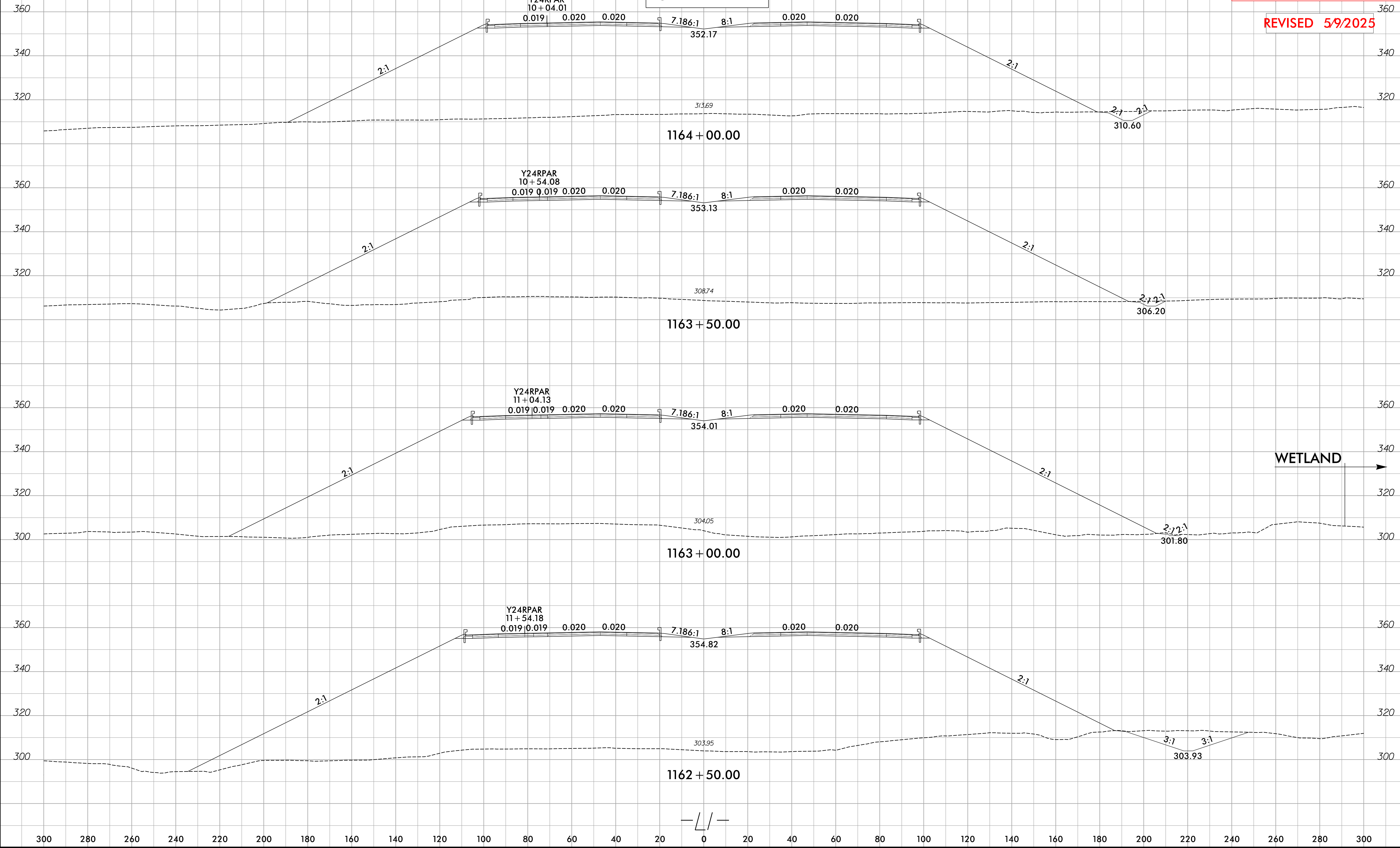
Revised Submittal May 30, 2025

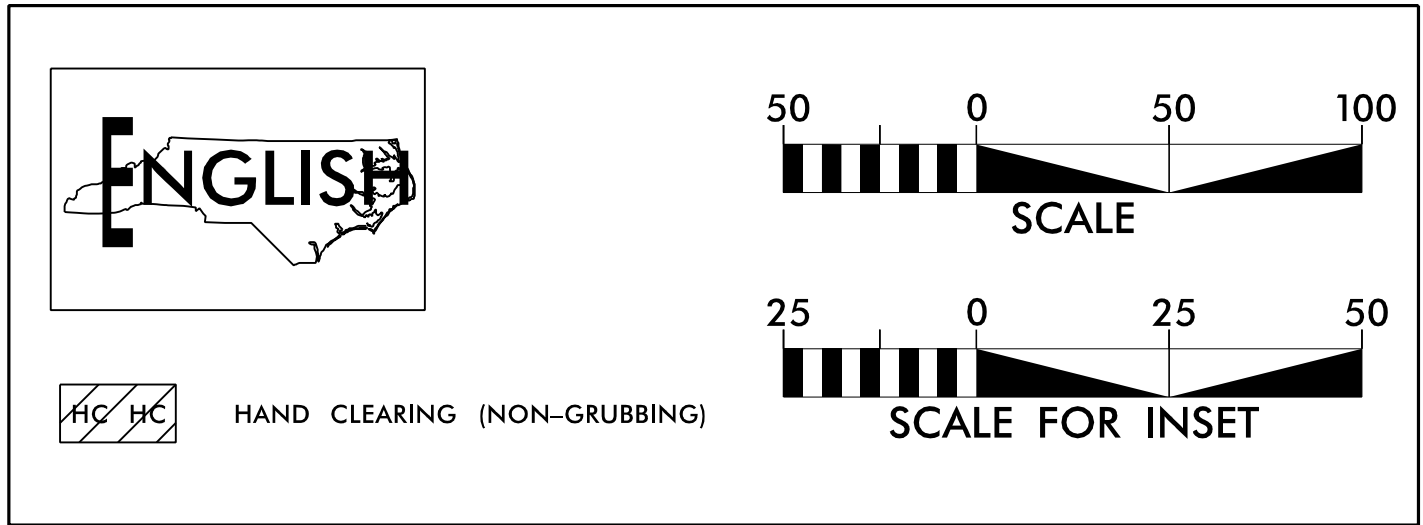
0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	R-2829A	S2 X-28

SITE 24

UTILITY PERMIT DRAWING
SHEET 5 OF 9

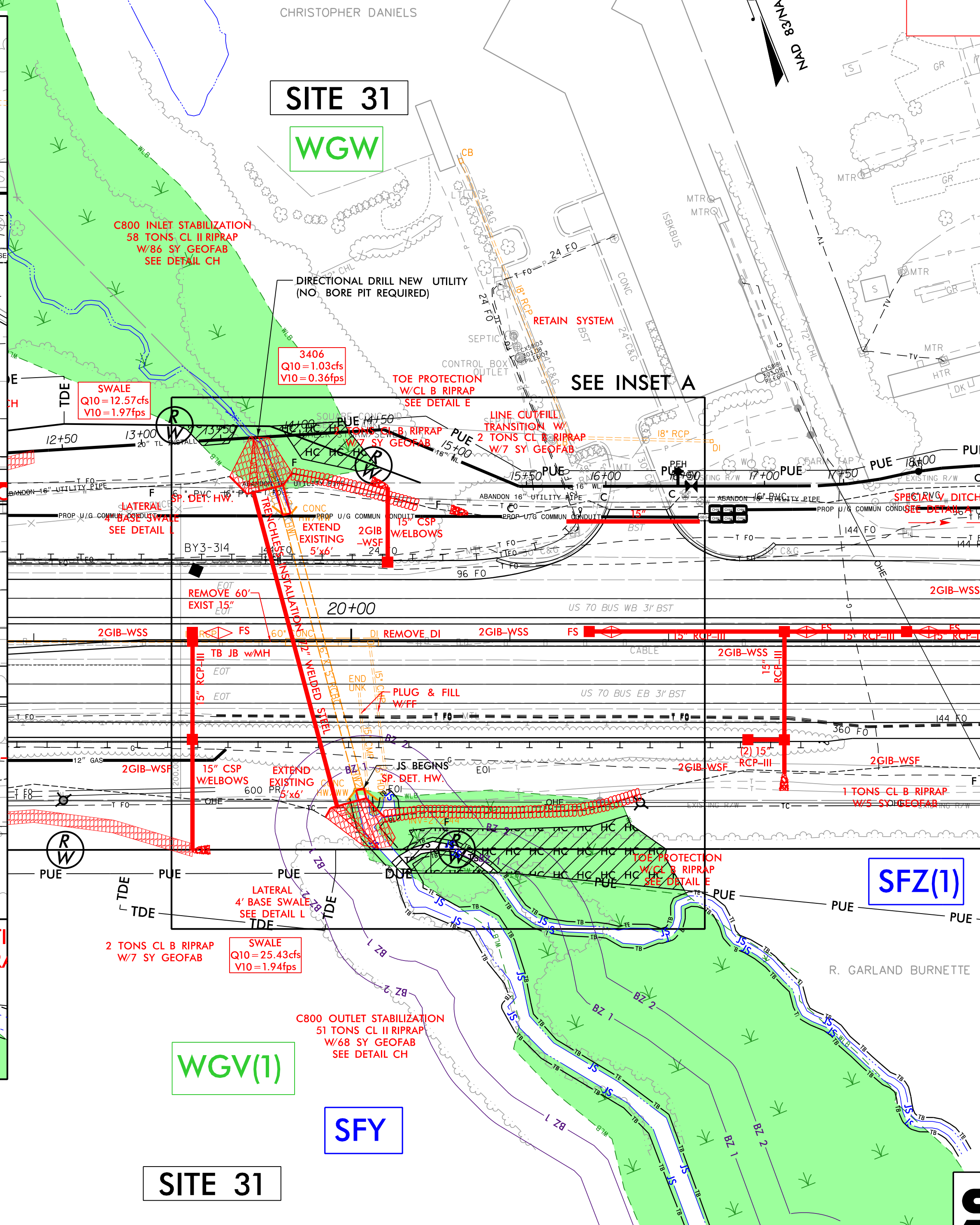
REVISED 5/9/2025





REVISÉ 5/9/2025

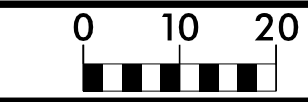
UTILITY PERMIT DRAWING
SHEET 7 OF 9



**MATCHLINE -Y24R- STA. 24+00
SEE SHEET 35**

6/23/16

Revised Submittal May 30, 2025

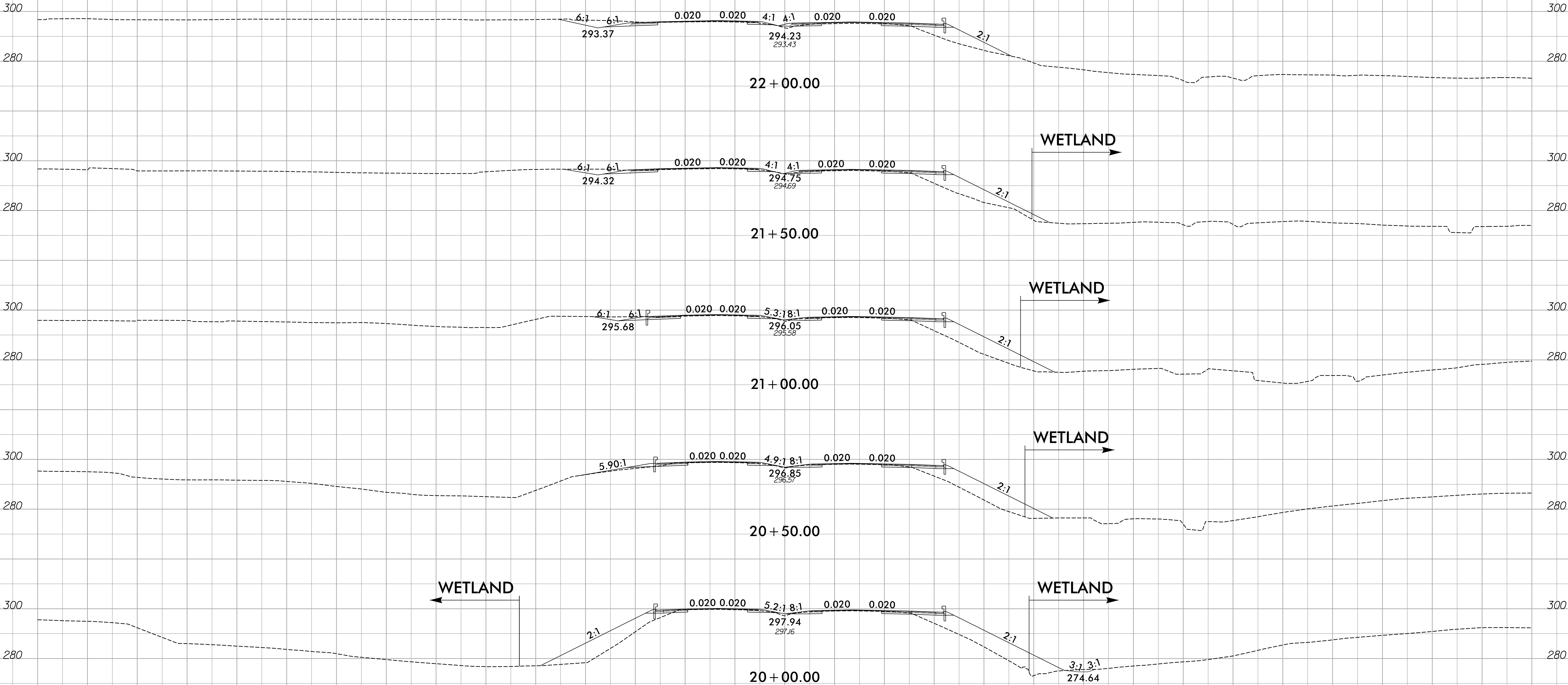


PROJ. REFERENCE NO.	SHEET NO.
R-2829A	S2 X-40

SITE 31

UTILITY PERMIT DRAWING
SHEET 8 OF 9

REVISED 5/9/2025



-Y24R-

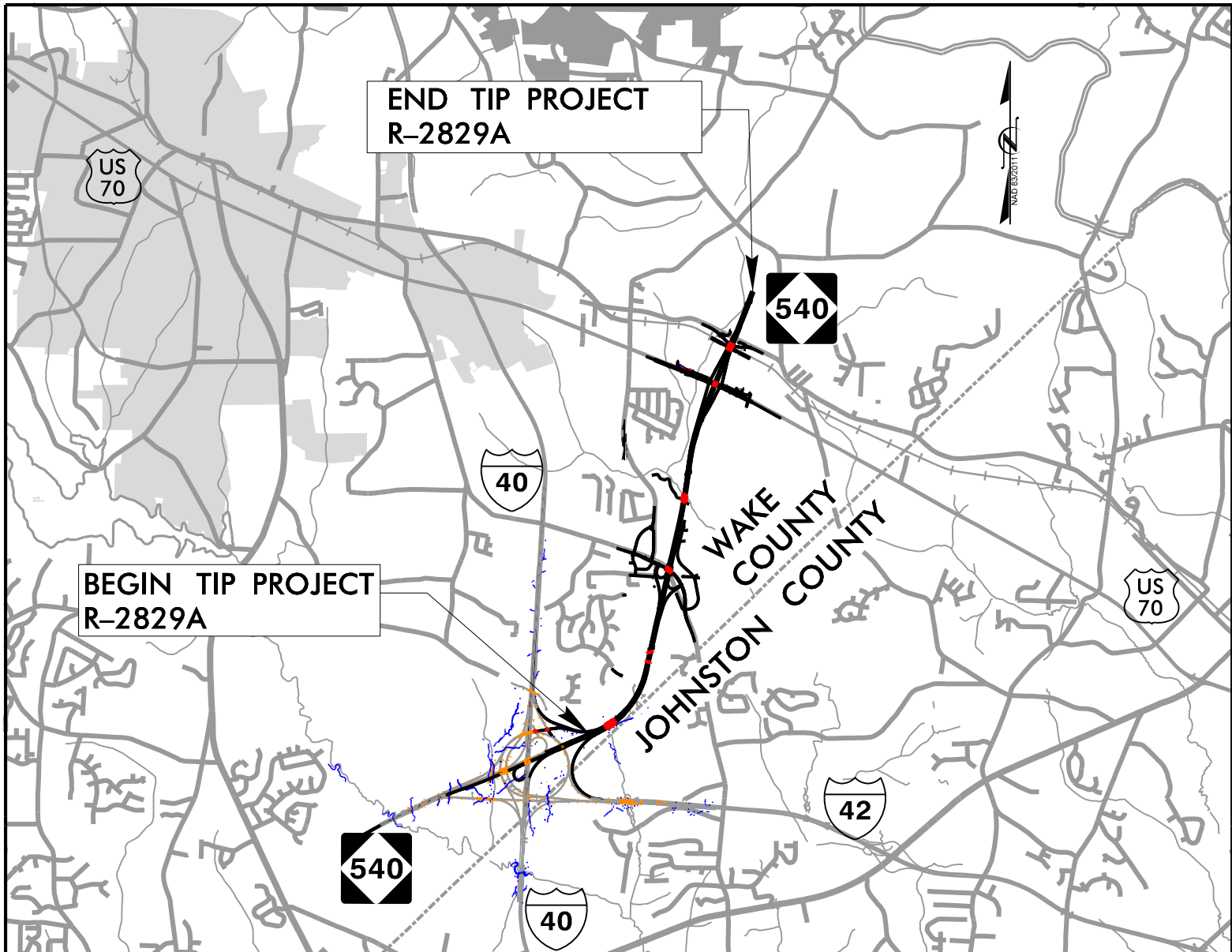
WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
12	-Y23DR- 46+82 - 47+18 RT	Overhead Power: SFC							0.003		48	
20	-L1- 1137+51 - 1137+85 LT	Overhead Power, UG Gas & Telephone: SFT							0.006		76	
24	-L1- 1162+71 - 1163+11 RT	Overhead Power: SGD							0.003		36	
		WHC					0.020					
29A	-Y23FR- 11+07 - 12+01 LT	Overhead Power: SFJ, WNM					0.039					
31	-Y24R- 18+90 - 20+18 LT	UG Waterline: WGW					0.034					
	-Y24R-20+37 - 22+10 RT	Overhead Power & Anticipated Utility Line: SFY							0.007		68	
		WGV(1)					0.120					
	-Y24R- 20+25 - 20+38 RT	SFZ(1)							0.002		12	
PROJECT TOTALS*:			0.000	0.000	0.000	0.000	0.213	0.000	0.021	0	240	0

*Rounded totals are sum of actual impacts

NOTES:

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5/9/2025
Wake County
R-2829A

See Sheet 1A for Index of Sheets, General Notes and List of Standards
See Sheet 1B for Symbolology Sheet



VICINITY MAP (NTS)

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

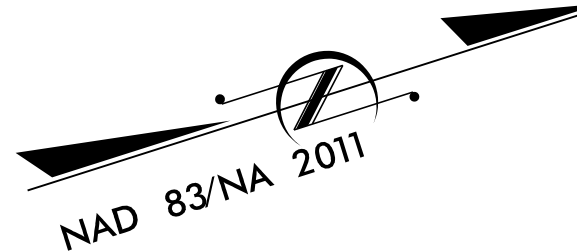
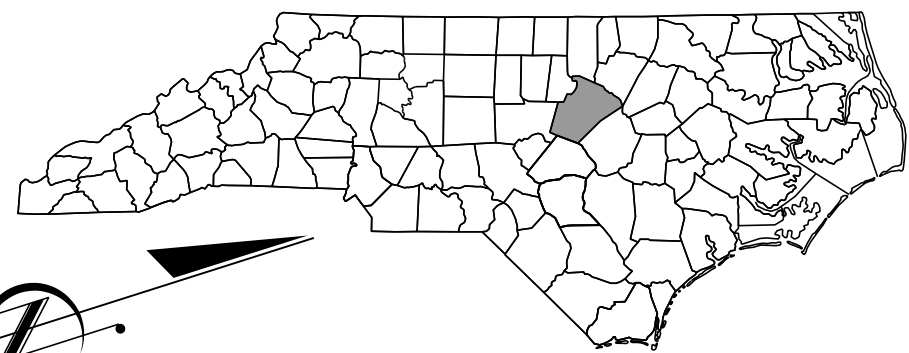
WAKE COUNTY

**LOCATION: TRIANGLE EXPRESSWAY SOUTHEAST EXTENSION
FROM I-40 TO SOUTH OF SR 2542 (ROCK QUARRY RD.)**

**TYPE OF WORK: GRADING, DRAINAGE, PAVING, LIGHTING,
SIGNING, ITS, CULVERTS & STRUCTURES**

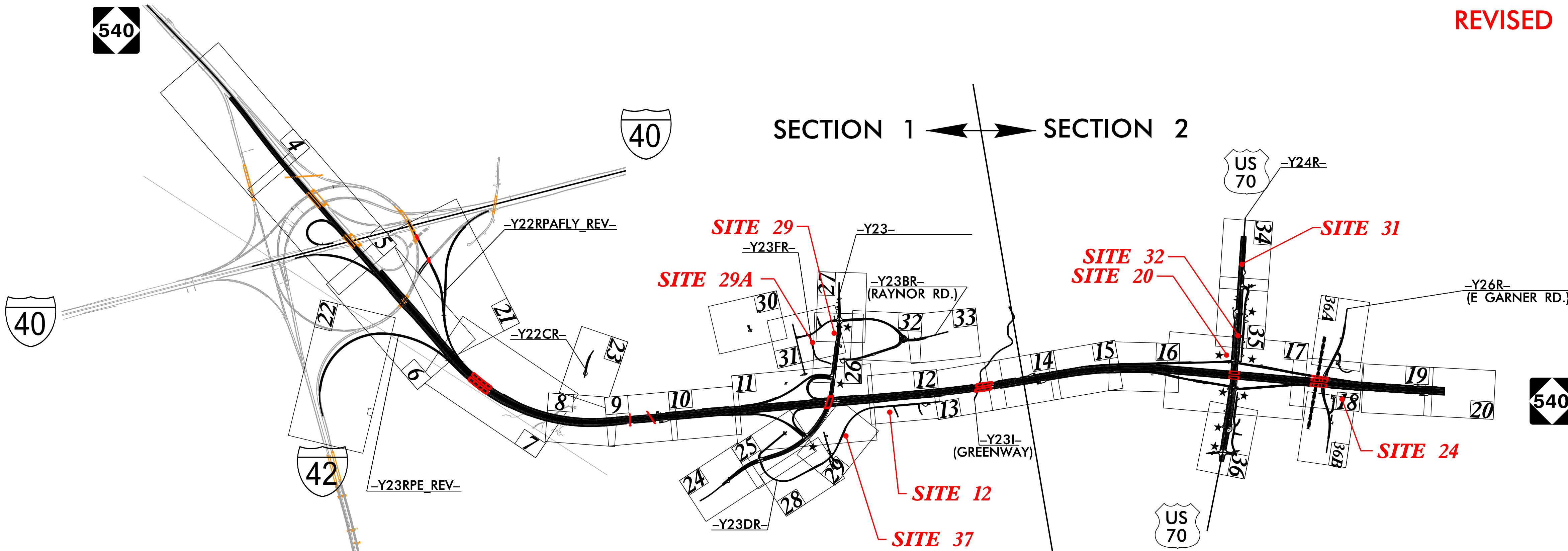
**SAFETEA-LU SECTION 6002
HYDRAULIC DESIGN MEETING PLANS**

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2829A	1	
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
35517.3.TA1	N/A, 0540047	DESIGN-BUILD	
35517.3.TAGV1	N/A, 0540047	DESIGN-BUILD	
35517.2.TA1	N/A, 0540047	DESIGN-BUILD	



**UTILITY BUFFER DRAWING
SHEET 1 OF 11**

REVISED 5/9/2025

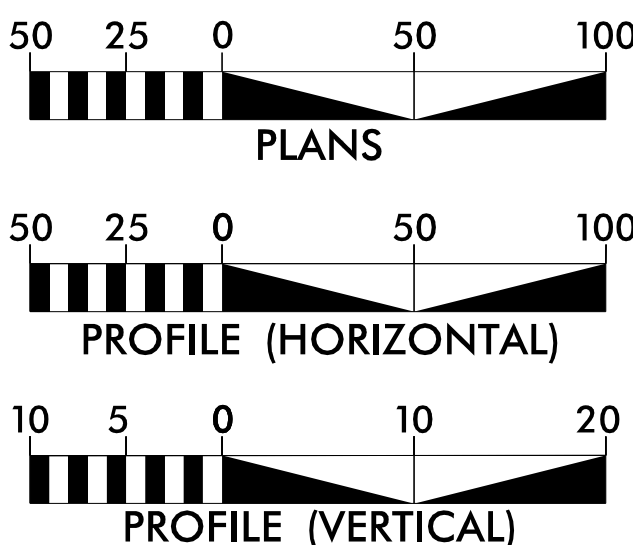


NOTES:
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

★ PROPOSED TRAFFIC SIGNAL

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

ADT 2023 = 15,440
ADT 2043 = 22,040
K = 12%
D = 65%
T = 10%
V = 75 MPH

FUNC CLASS: INTERSTATE
* (TTST 4% + DUALS 6%)

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT R-2829A.....3.922 MILES
LENGTH STRUCTURE TIP PROJECT R-2829A.....0.242 MILES
TOTAL LENGTH TIP PROJECT R-2829A.....4.164 MILES

NCTA CONTACT

Ron McCollum, PE
DEPUTY CHIEF ENGINEER for PRECONSTRUCTION
TURNPIKE AUTHORITY

PLANS PREPARED BY:

RK&K RUMMEL, KLEPPER & KAHL, LLP
8601 SIX FORKS ROAD, FORUM 1, SUITE 700
RALEIGH, NORTH CAROLINA 27615-3960
NC LICENSE NO. F-0112

FOR NORTH CAROLINA
TURNPIKE AUTHORITY

2018 STANDARD SPECIFICATIONS

LETTING DATE:
October 17, 2023

C. Byron Holden, PE
PROJECT ENGINEER

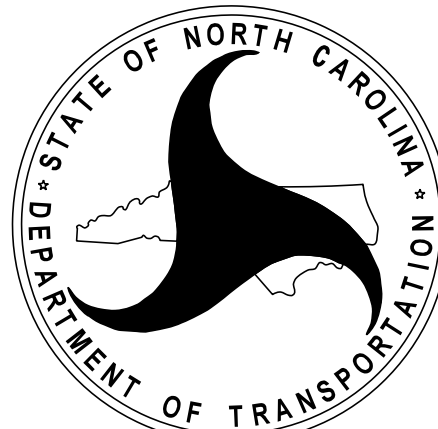
Anthony A. Houser, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY
DESIGN
ENGINEER

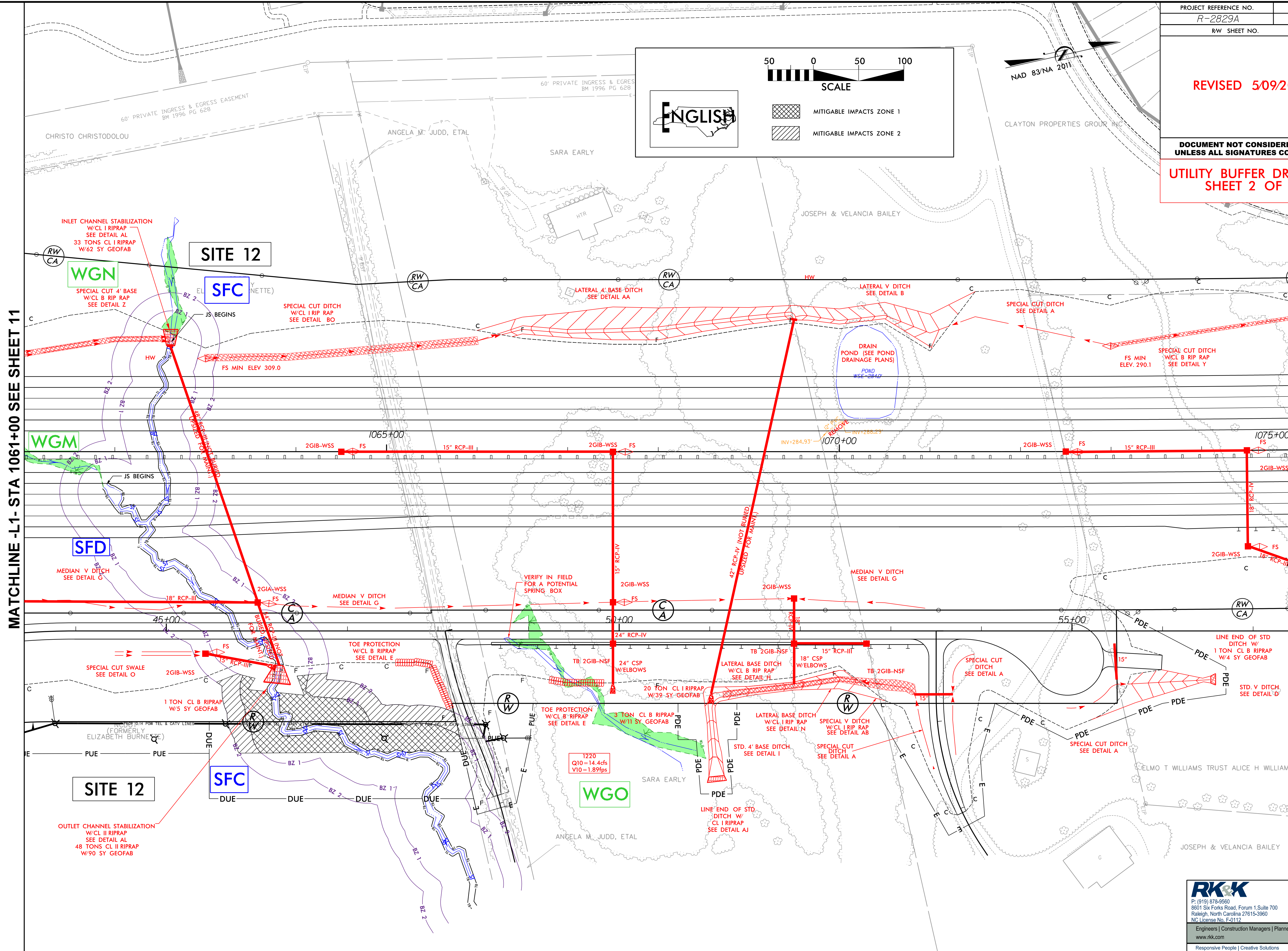
SIGNATURE: _____ P.E.



REVISÉ 5/09/2025

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UTILITY BUFFER DRAWING
SHEET 2 OF 11

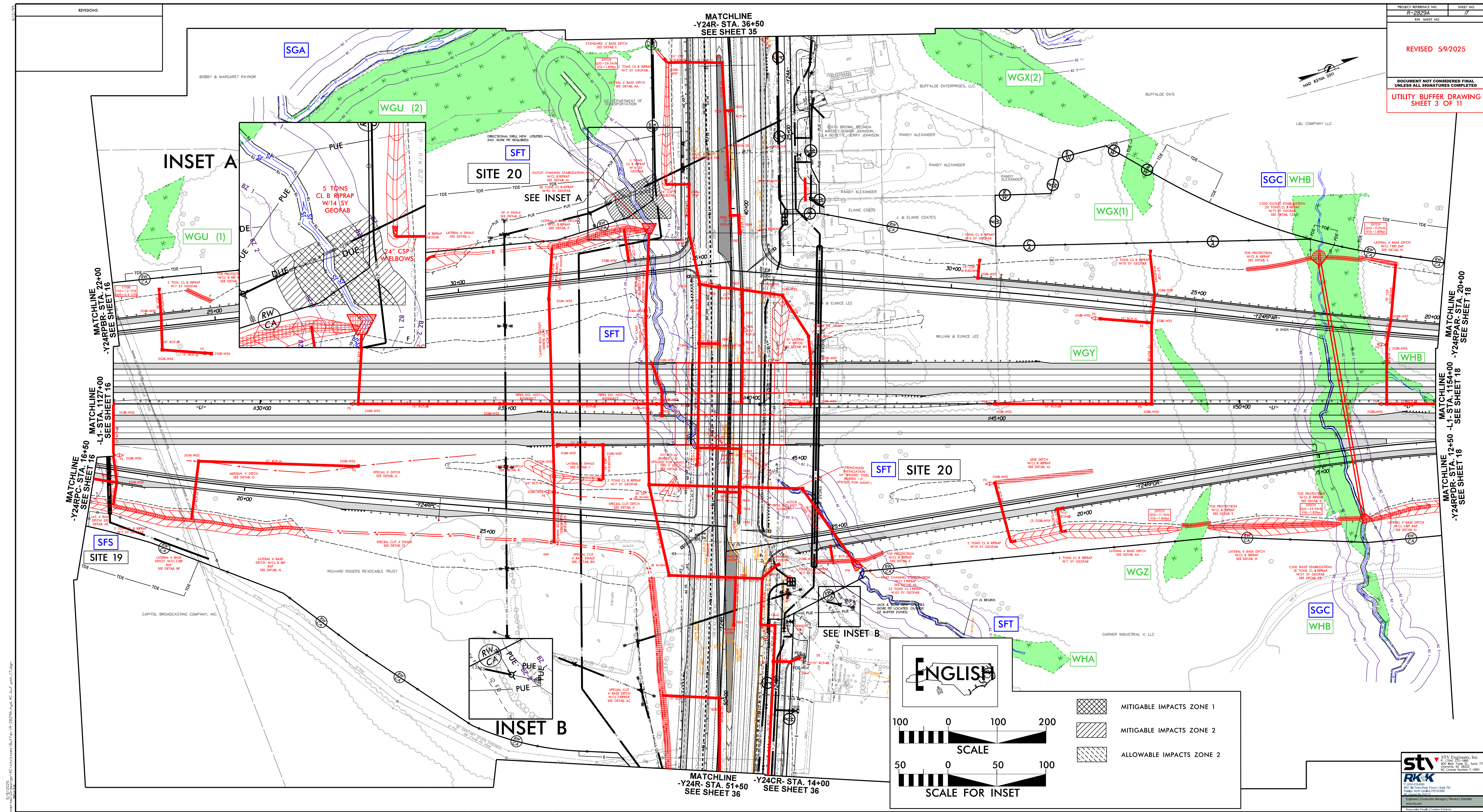


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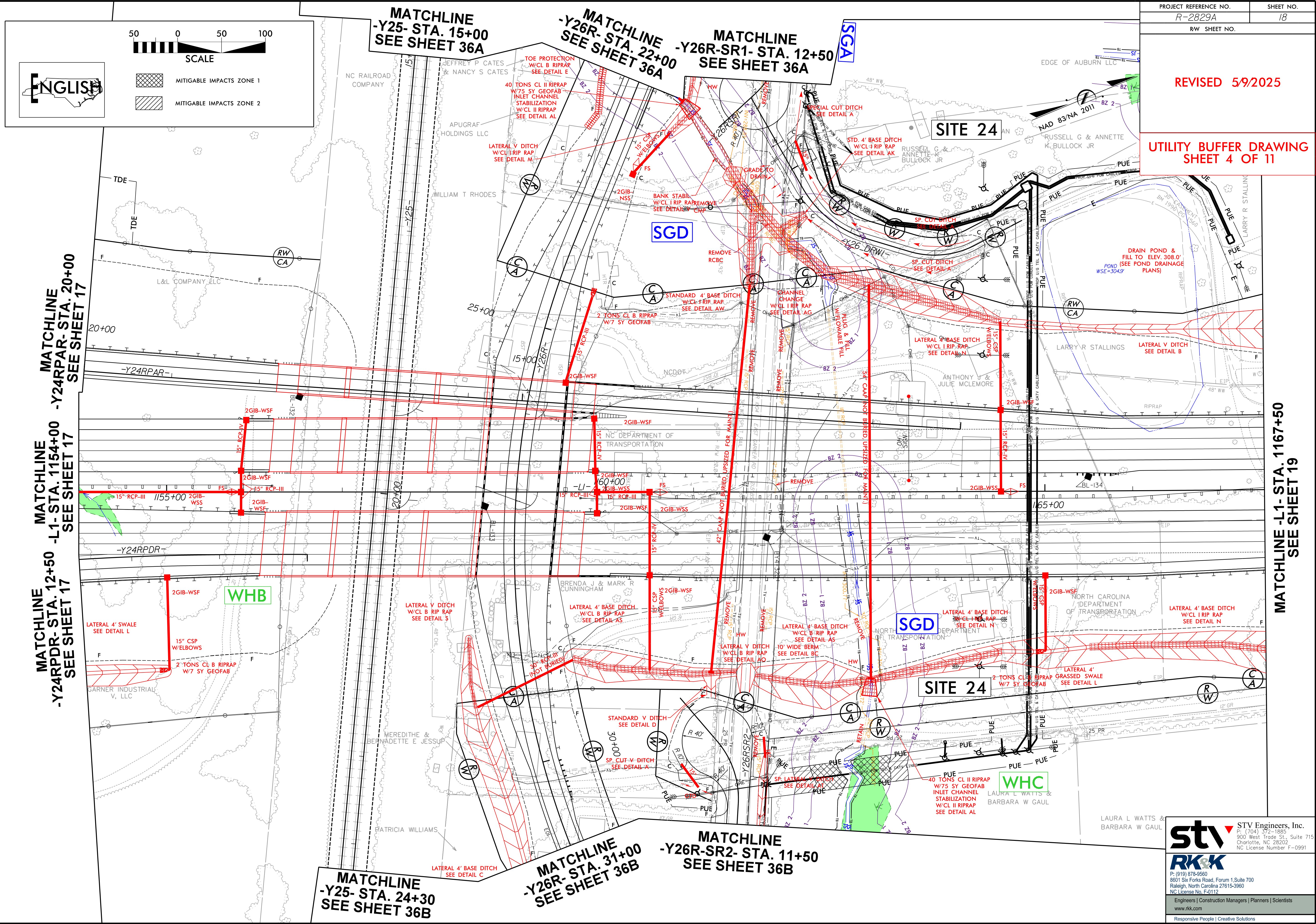
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UTILITY BUFFER DRAWING
SHEET 4 OF 11



**MATCHLINE -L1- STA. 1167+50
SEE SHEET 19**

MATCHLINE
-Y26R-SR2- STA. 11+50
SEE SHEET 36B



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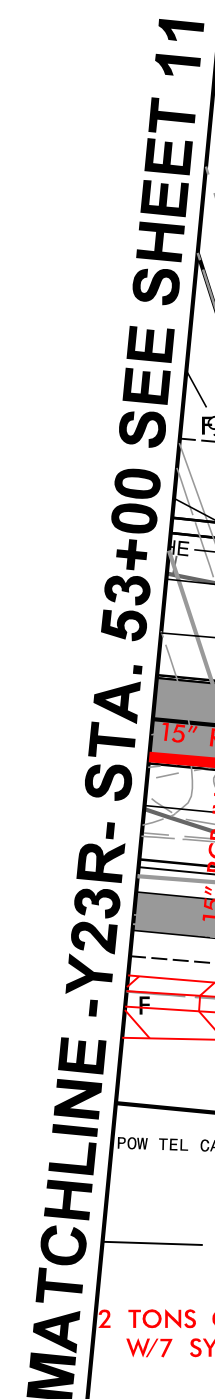
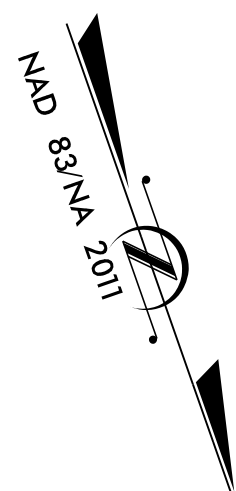
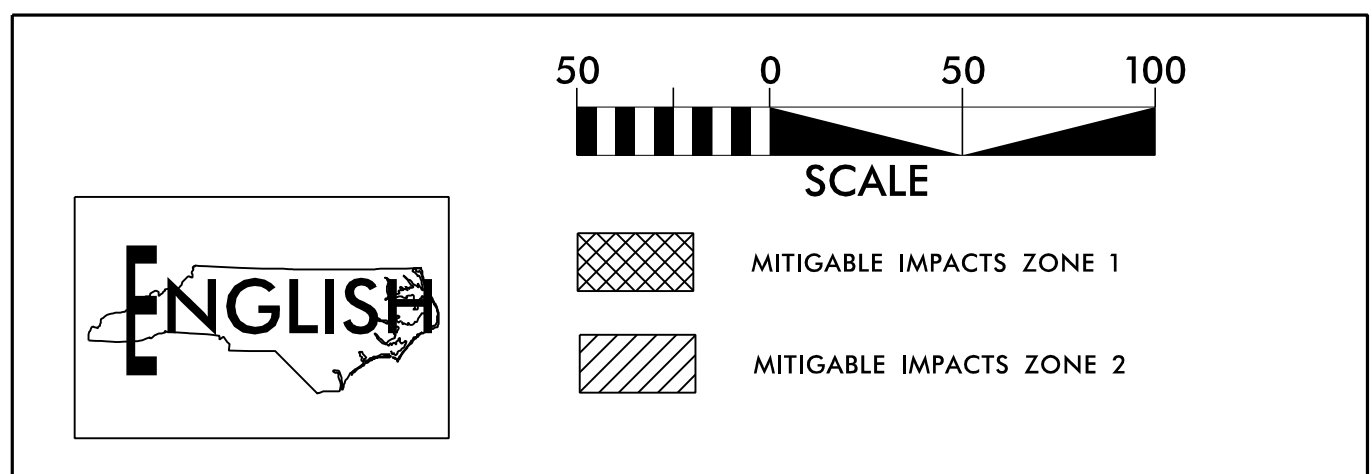
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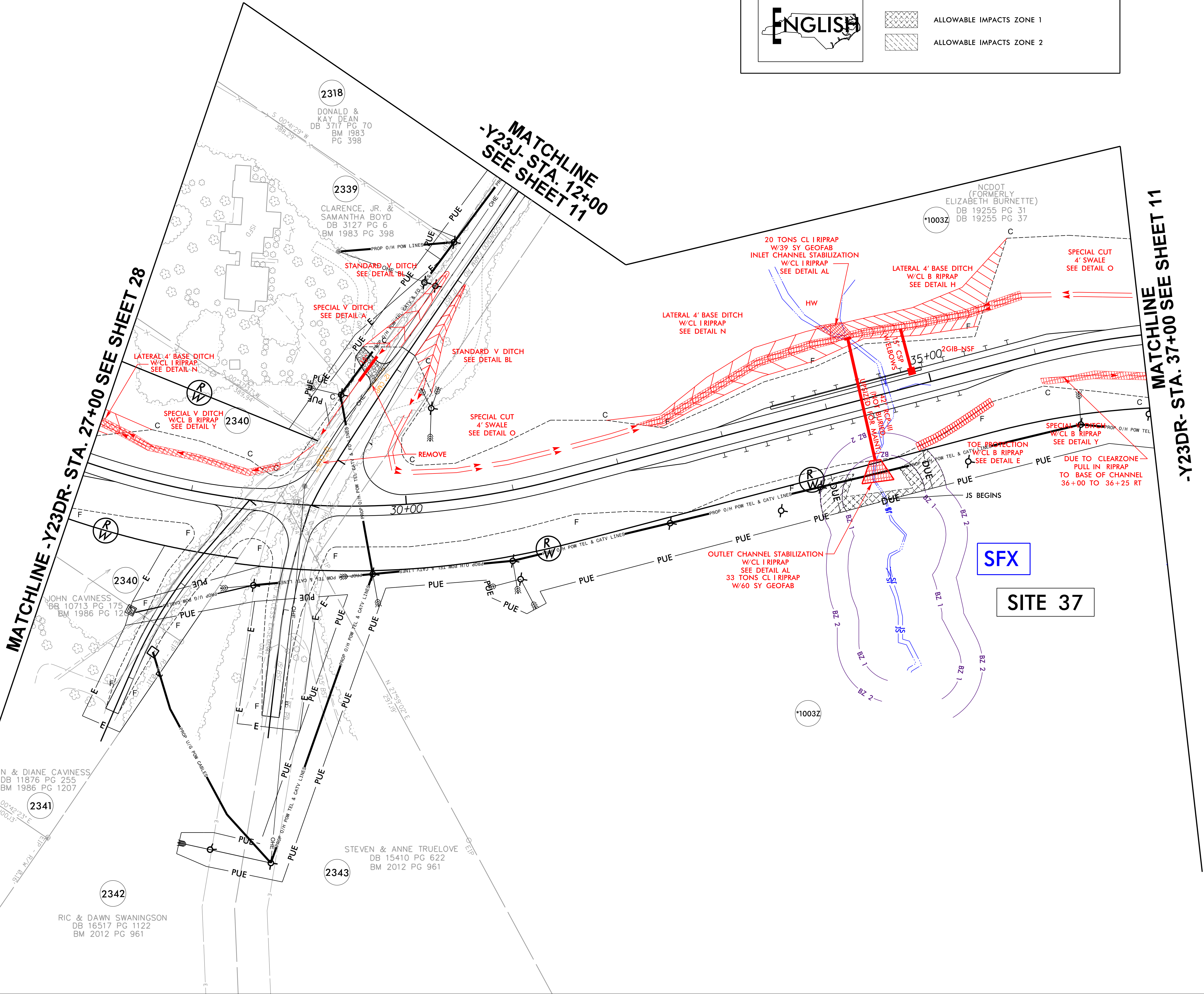
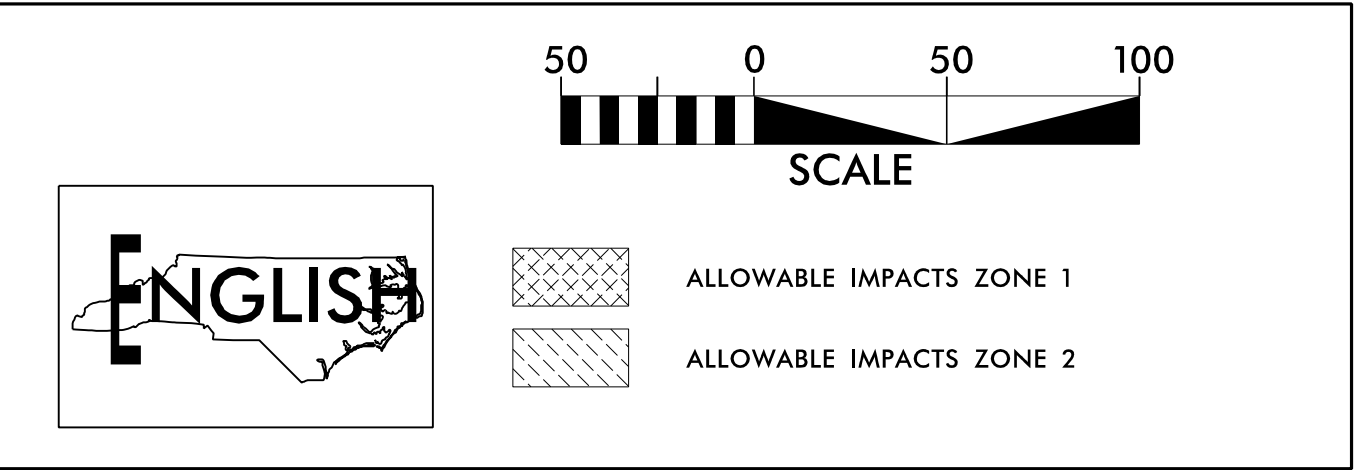
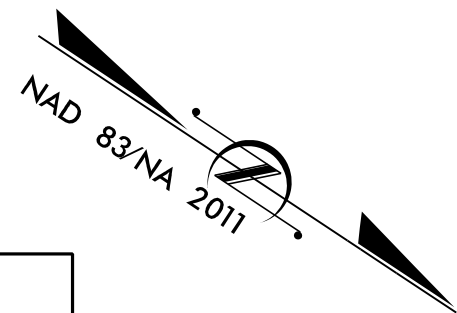
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UTILITY BUFFER DRAWING
SHEET 5 OF 11

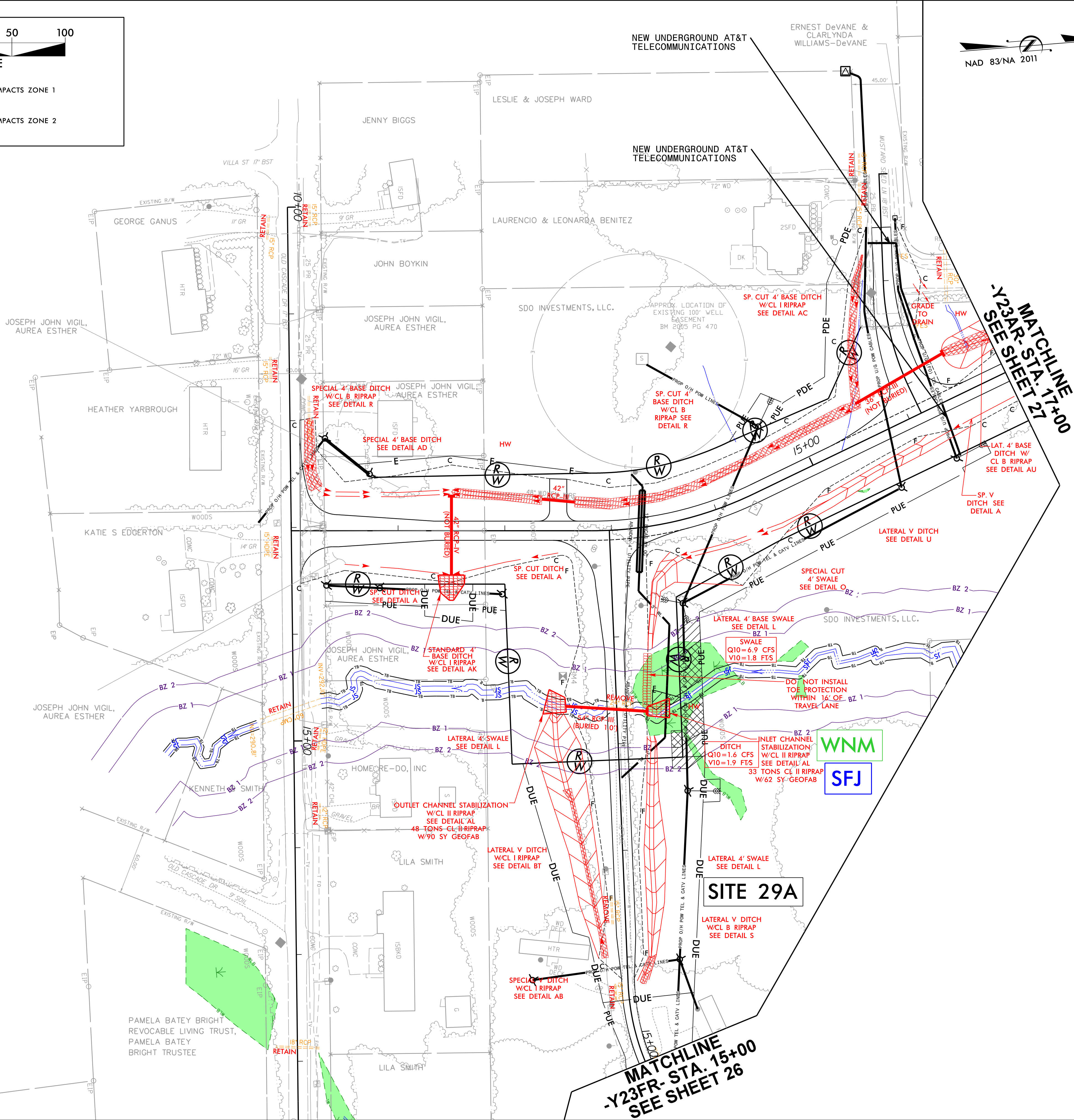
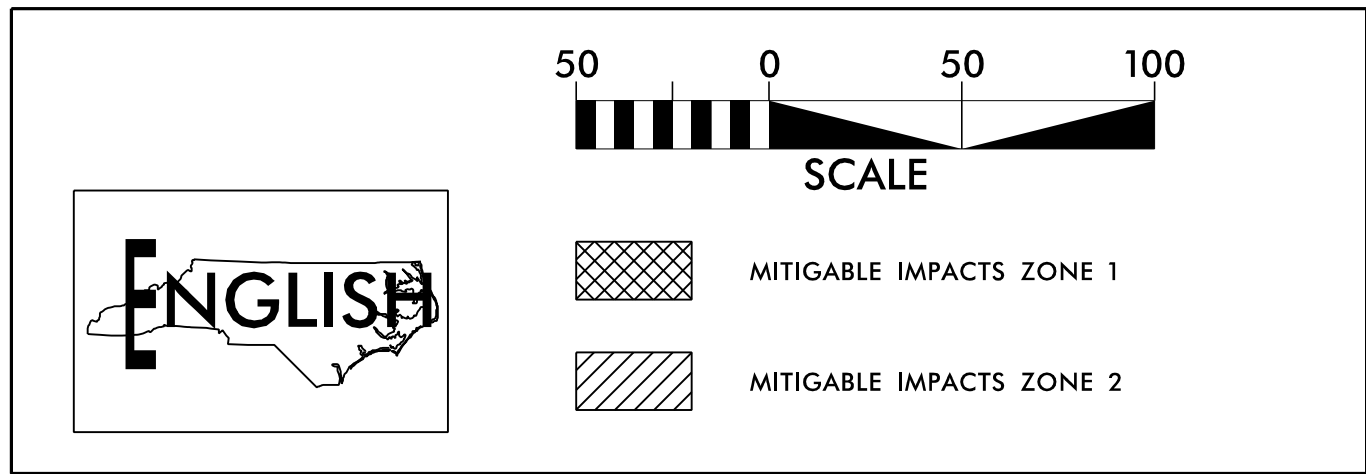


Plan view of a road alignment. The road is shown as a dashed line with stationing markers. A matchline is indicated by a dashed line and the text "MATCHLINE -Y23CR_REV- STA. 14+80 SEE SHEET 32". A blue line represents the proposed alignment, and an orange line represents the existing alignment. A "CEMETERY" is located to the left of the road.

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R-2829A	29
RW SHEET NO.	
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UTILITY BUFFER DRAWING SHEET 6 OF 11	



PROJECT REFERENCE NO.	SHEET NO.
R-2829A	31
R/W SHEET NO.	
REVISED 5/9/2025	
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UTILITY BUFFER DRAWING SHEET 7 OF 11	



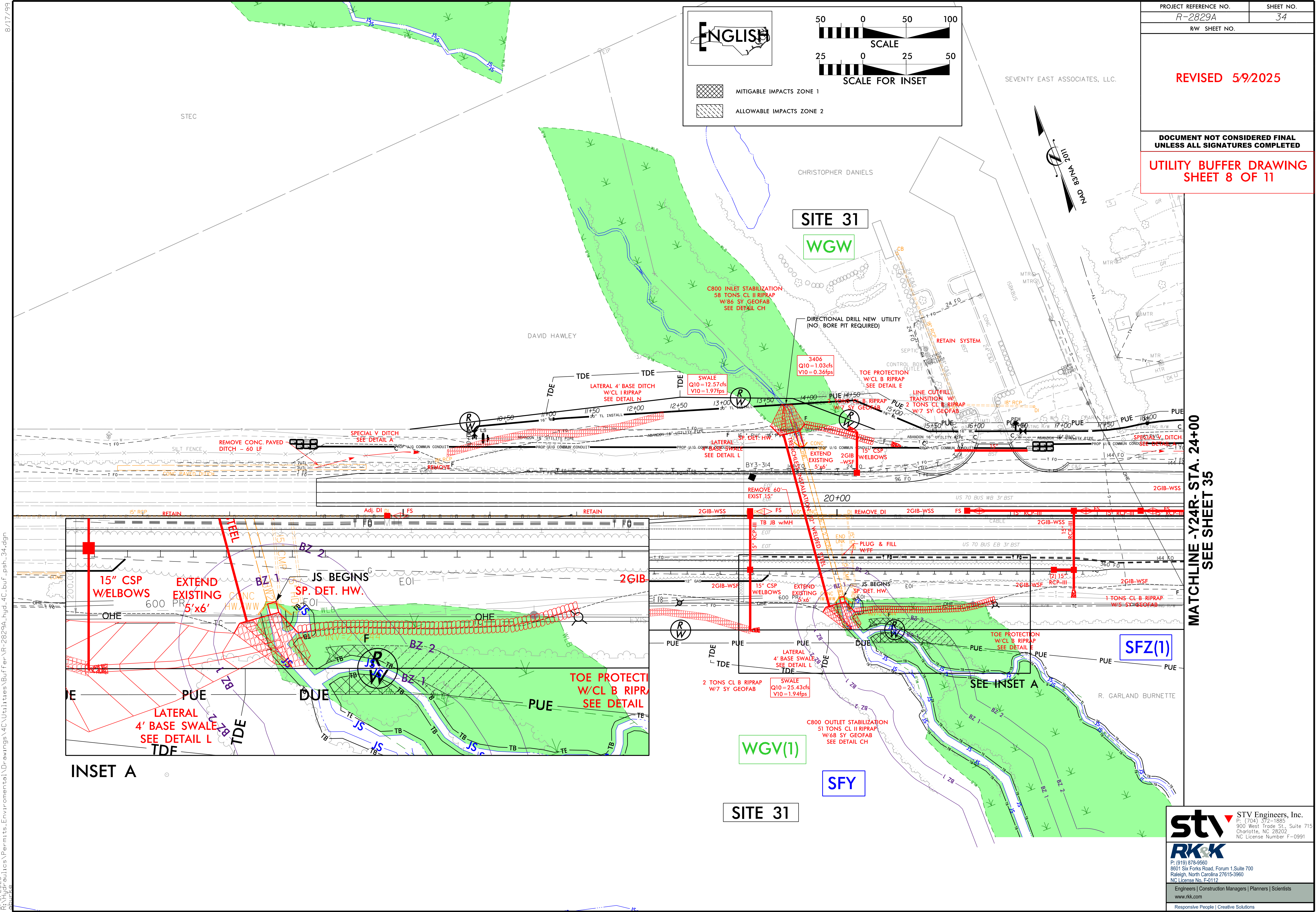
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PROJECT REFERENCE NO.	SHEET NO.
R-2829A	34
RW SHEET NO.	
REVISED 5/9/2025	
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UTILITY BUFFER DRAWING SHEET 8 OF 11	



8/17/99

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8/9/2025

MATCHLINE -Y24R- STA. 24+00
SEE SHEET 35

st
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RIPARIAN BUFFER IMPACTS SUMMARY

Site No.	Station (From/To)	Structure Size / Type	IMPACTS									BUFFER REPLACEMENT	
			TYPE			ALLOWABLE			MITIGABLE			ZONE 1 (ft ²)	ZONE 2 (ft ²)
			ROAD CROSSING	BRIDGE	PARALLEL IMPACT	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)	ZONE 1 (ft ²)	ZONE 2 (ft ²)	TOTAL (ft ²)		
12	-Y23DR- 45+55- 48+40 RT	Overhead Power: SFC	X						10341	5473	15814		
20	-Y24R- 39+28 - 40+20 RT	Overhead Power, UG Gas & Telephone: SFT	X						4679	2964	7643		
	-Y24RPDR- 24+84 - 25+03 LT	Overhead Power: SFT	X				249	249					
24	-L1- 1162+12 - 1163+45 RT	Overhead Power: SGD, WHC	X						2110	1268	3378		
29	-Y23R- 60+10- 61+74 LT	Overhead Power: SFJ	X						1811	1937	3748		
29A	-Y24FR- 10+86 - 12+26 LT	Overhead Power: SFJ, WNM	X						1636	1191	2827		
31	-Y24R- 20+37 - 21+38 RT	UG Gas: SFY, WGV(1)	X				1174	1174	590		590		
32	-Y24R- 34+93 - 35+25 LT	UG Waterline: SGA	X			118	232	350					
	-Y24R- 35+50 - 36+06 RT	UG Gas, UG Telephone & Overhead Power: SGA	X				280	280	815	727	1542		
37	-Y23DR- 33+72 - 34+89 RT	Overhead Power: SFX	X			1018	706	1724					
TOTALS*:						1136	2641	3777	21982	13560	35542	0	0

NOTES:

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 5/9/2025
 Wake County
 R-2829A

SHEET 10 OF 11

WETLANDS IN BUFFER IMPACTS SUMMARY

			WETLANDS IN BUFFERS	
SITE NO.	STATION (FROM/TO)		ZONE 1 (ft ²)	ZONE 2 (ft ²)
24	-L1- 1162+12 RT		715	
29A	-Y23FR- 11+50 LT		1062	238
31	-Y24R- 20+50 RT		532	1174
TOTAL:			2309	1412

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
5/9/2025
Wake County
R-2829A