



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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SECRETARY

October 28, 2025

U.S. Army Corps of Engineers
Water Resources Development Act (WRDA)
Transportation Permitting Branch

NC Division of Water Resources
Transportation Permitting Branch

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 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, May 19, 2025, June 6, 2025, August 26, 2025, October 8, 2025, and October 27, 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, May 16, 2025, June 2, 2025, August 20, 2025, October 2, 2025, and October 24, 2025.

Dear NCDOT Coordinators:

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 necessary due

to design revisions along the toe of slope near the bridge end bent over Bushy Branch and the outlet of the box culvert C100. The addition of rock required changes to the approved plans, which in turn altered the proposed impacts to jurisdictional resources. In addition, coordination with Duke Energy, Spectrum, AT&T, and MCI/Verizon on utility relocations within the R-2829A project limits has resulted in further plan revisions modifying the proposed 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 drawings are being reissued due to renumbering of the utility plan set. For ease of review, all modified impact areas are shown in bold font in this submittal. Unless otherwise indicated, all information submitted with the previous permit modifications remain unchanged.

Summary of Impacts

Revised impacts for final design for R-2829A include: **7.133ac** (previously 7.112 ac) of permanent wetland (riparian and non-riparian) impacts, **9351** linear feet of permanent stream impact, 3.49 acres of permanent surface water impacts (ponds), 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.*	
6.713 / 1.671	0.420 / 0.032	n/a	3.49	n/a	8,444	1,183	1,286	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 streams. 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.

Roadway Site 3 wetland impacts

- Permanent wetland fill: 0.284 ac (previously 0.257 ac, increase of 0.027 ac)
- Mechanized clearing in wetlands: 0.071 ac (previously 0.098 ac, decrease of 0.027 acre)

Roadway Site 5 stream impacts

- Permanent bank stabilization: 25 LF (previously 0 LF, increase of 25 LF)
- Temporary stream fill: 71 LF (previously 96 LF, decrease of 25 LF)

Roadway Site 9 wetland impacts (*impact revisions due to correction in impact type in table 20*)

- Mechanized clearing in wetlands: 0.010 ac (previously 0.000 ac, increase of 0.010 ac)
- Temporary wetland fill: 0.010 ac (previously 0.000 ac, decrease of 0.010 acre)

Utility Site 12 wetland and stream impacts

- Hand clearing in wetlands: 0.006 ac (previously 0.000 ac, increase of 0.006 ac)
- Temporary stream fill: 65 LF (previously 48 LF, increase of 17 LF)

Utility Site 13 wetland impacts

- Hand clearing in wetlands: 0.032 ac (previously 0.000 ac, increase of 0.032 ac)

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		0.184
3	WFN(2)	Fill	Riparian	0.706	
3	WFN(2)	Excavation	Riparian		0.018
3	WFN(2)	Mechanized Clearing	Riparian		0.037
3	WFN(2)	Hand Clearing	Riparian	0.660	
3	WFN(1)	Fill	Riparian		0.284
3	WFN(1)	Fill	Riparian	0.049	
3	WFN(1)	Excavation	Riparian		0.001
3	WFN(1)	Mechanized Clearing	Riparian		0.071
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	Mechanized Clearing	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
12*	WGN	Hand Clearing	Riparian	0.006	
13	WGO	Fill	Non-Riparian		0.028
13	WGO	Mechanized Clearing	Non-Riparian		0.004
13*	WGO	Hand Clearing	Non-Riparian	0.032	
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

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)
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	
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:			6.713	
	Total Permanent Non-Riparian Impacts HUC 03020201:			0.420	
	Total Riparian Temporary Impacts HUC 03020201:			1.671	
	Total Non-Riparian Temporary Impacts HUC 03020201:			0.032	

*Impact due to utilities

Revised Table 21. R-2829A Surface Waters Impacts

Permit Drawing Site Number	NRTR Label	Impact Type	Permanent Surface Water Impacts (Ponds) (ac)	Permanent Surface Water Impacts (Stream) (lf)	Temporary Surface Water Impacts (Stream) (lf)	Stream Flow
3	SEW	Fill		319		Intermittent
3	SEY	Fill		15	174	Intermittent
5	SFH	RCBC		384	71	Perennial
5	SFH	Structure Stabilization		63		Perennial
5	SFH	Bank Stabilization		25		Perennial
6	SFF	RCBC		533	60	Perennial
6	SFF	Structure Stabilization		86		Perennial
7	SFE	Fill		759	21	Perennial
8	SFB	RCP		222		Intermittent
8	SFB	Structure Stabilization		24	10	Intermittent
9	SFA	RCP		124		Intermittent
9	PAD	Pond Drainage (RCP)	2.695			Pond
11	SFD	Fill		71		Intermittent
12	SFC	RCP		479		Intermittent
12	SFC	Structure Stabilization		22	12	Intermittent
12*	SFC	Fill			65	Intermittent
14	SFV	Bank Stabilization		70	185	Perennial
15	SFR	RCBC		164	19	Perennial
15	SFR	Structure Stabilization		5		Perennial
16	SFN	RCBC		413		Intermittent
18	SFQ	Fill		571	8	Perennial
18	SFQ	Structure Stabilization		34		Perennial
19	SFS	RCP		445		Intermittent
19	SFS	Structure Stabilization		21	10	Intermittent
20	SFT	RCP/CAAP		757		Intermittent
20	SFT	Structure Stabilization		47	25	Intermittent
20*	SFT	Fill			76	Intermittent
23	SGC	RCBC		398	25	Intermittent
23	SGC	Structure Stabilization		20		Intermittent
24	SGD	RCP/CAAP		387		Intermittent
24	SGD	Structure Stabilization		92	25	Intermittent
24	SGD	Bank Stabilization		71		Intermittent
24*	SGD	Fill			36	Intermittent
25	SGE	RCBC		443	23	Intermittent
25	SGE	Structure Stabilization		46	33	Intermittent
26	SGG	Fill		723	11	Intermittent
26	SGG	Structure Stabilization		21		Intermittent
27	SGF	Fill		309	40	Perennial
27	SGF	Structure Stabilization		37		Perennial
28	SKR	RCBC		117	44	Perennial
28	SKR	Structure Stabilization		75		Perennial

Revised Table 21. R-2829A Surface Waters Impacts

Permit Drawing Site Number	NRTR Label	Impact Type	Permanent Surface Water Impacts (Ponds) (ac)	Permanent Surface Water Impacts (Stream) (lf)	Temporary Surface Water Impacts (Stream) (lf)	Stream Flow
29	SFJ	RCP		64		Intermittent
29	SFJ	Structure Stabilization		20	10	Intermittent
29A	SFJ	RCP		78	12	Intermittent
29A	SFJ	Structure Stabilization		24	10	Intermittent
30	SHT	RCP		225		Intermittent
30	PAO	Pond Drainage (RCP)	0.792			Pond
31	SFY	RCBC/WSP		6		Perennial
31	SFY	Structure Stabilization		34	10	Perennial
31*	SFY	Fill			68	Perennial
31*	SFZ	Fill			12	Intermittent
32	SGA	RCBC/WSP		270	7	Perennial
32	SGA	Structure Stabilization		30	12	Perennial
33	SGA	RCBC		137	11	Perennial
33	SGA	Structure Stabilization		40	37	Perennial
34	SAAK	RCBC		31	11	Perennial
35	SAAL	RCBC			10	Perennial
	Total Impacts:		3.49	9351	1183	
	Total Bank/Structure Stabilization:			907	379	
	Total Requiring Mitigation:			8444		

Proposed Impacts

Changes to proposed jurisdictional impacts necessary for recent roadway construction revisions and the relocations of multiple utilities are provided above in revised Tables 5, 20, and 21 and are summarized by permit site below.

Roadway Site 3

Stream SEY comes onto the project and stops at the Bushy Branch wetlands and bridge end bent on -L- RT. This stream is a low, flat area and is undefined as it travels into the wetlands. Per recent field reviews, it was determined that additional toe protection rock shall be installed along the new bridge end bent toe of slope for stabilization of this low-lying area. This rock installation required the mechanized clearing limits surrounding the toe of slope to be revised to permanent fill in wetland impacts.

Roadway Site 5

Per the construction sequencing for the box culvert C100 conveying stream SFH, a temporary channel change was built to the left of the RCBC work zone. There was an existing tree near this temporary channel outlet tie that mother nature took down in a storm this past summer. Due to the bends in the stream and the concerns for stabilization where the temporary channel tied, additional riprap has been added on banks for approximately 25 feet downstream. This resulted in revising the stream impacts in this rock stabilized area from temporary fill within stream to permanent fill (bank stabilization) within stream. The limits of the total impacts did not change.

Roadway Site 9

Previous permit modification identified 0.010 ac of temporary wetland impact to WAAF in Table 20. This has been updated to 0.010 ac of mechanized clearing.

Utility Site 12

Duke Energy (overhead) power lines will be relocated within an easement that will be shared with Spectrum (overhead) and AT&T (overhead) and MCI/Verizon (overhead), requiring hand clearing within wetland WGN, resulting in unavoidable impacts. Additionally, 65 linear feet of temporary fill within stream SFC will be needed for installation of the utilities to support construction access. No additional impacts to streams or riparian buffers will occur at this location.

Utility Site 13

Duke Energy (overhead) power lines will be relocated within an easement that will be shared with Spectrum (overhead) and AT&T (overhead) and MCI/Verizon (overhead), requiring hand clearing within wetland WGO, resulting in wetland impacts. No additional impacts to streams or riparian buffers will occur at this location.

MITIGATION OPTIONS

The avoidance and minimization efforts incorporated into the final design resulted in a reduction of 1.54 acre of permanent wetland impact, 797 LF 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	9,351**	-797
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	7.133	-1.537
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 unavoidable additional non-riparian wetland impacts for R-2829A will be provided by the NC Division of Mitigation Services (NCDMS). Included in this permit modification request is the acceptance letter for NCDMS Mitigation. A summary of the proposed impacts is provided below.

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)	6.713	0.420	8,444	524,809	356,152	880,961

NCDOT has requested additional mitigation of 0.010 ac from DMS to cover the revised total of 0.420 ac (previously 0.410 ac) in Hydrological Unit 03020201 of non-riparian wetland impacts. The additional mitigation is required due to the revision of impacts at Roadway Site 9 to accurately represent 0.01 acre of permanent wetland impact previously identified as temporary.

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

We are requesting a modification to the WQC Permit Number 4179 Section 401 Individual WQC.

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:

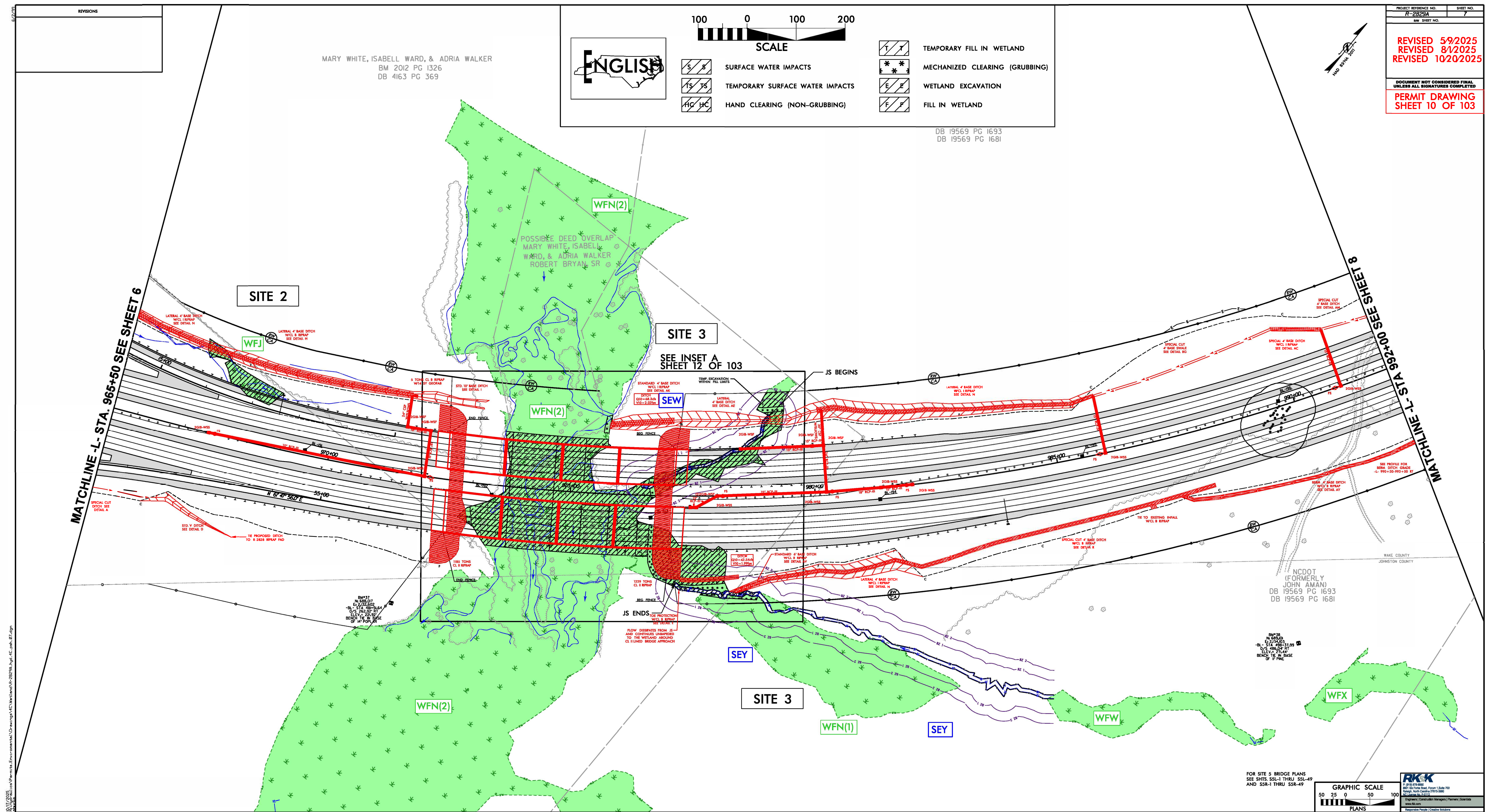
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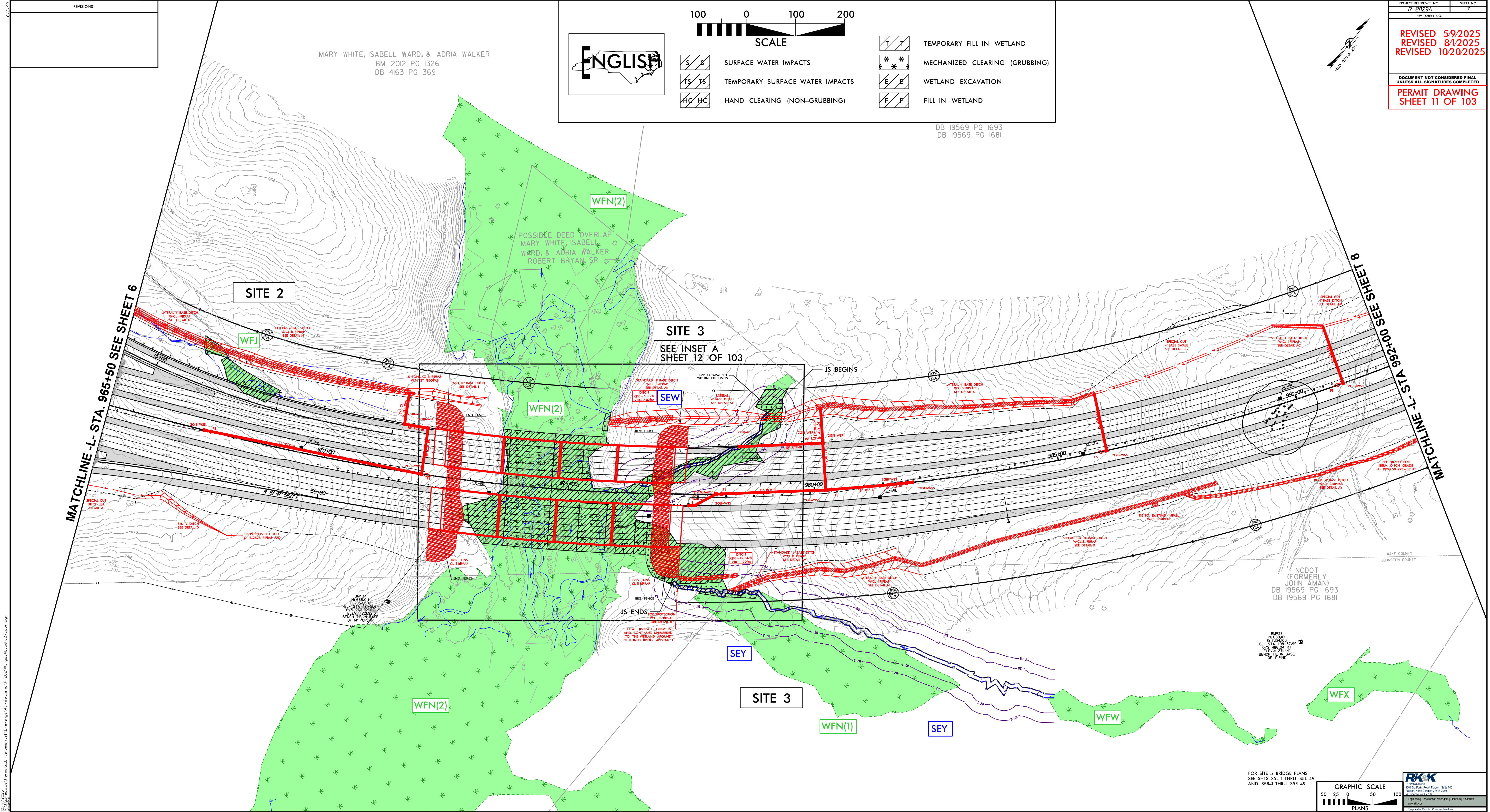
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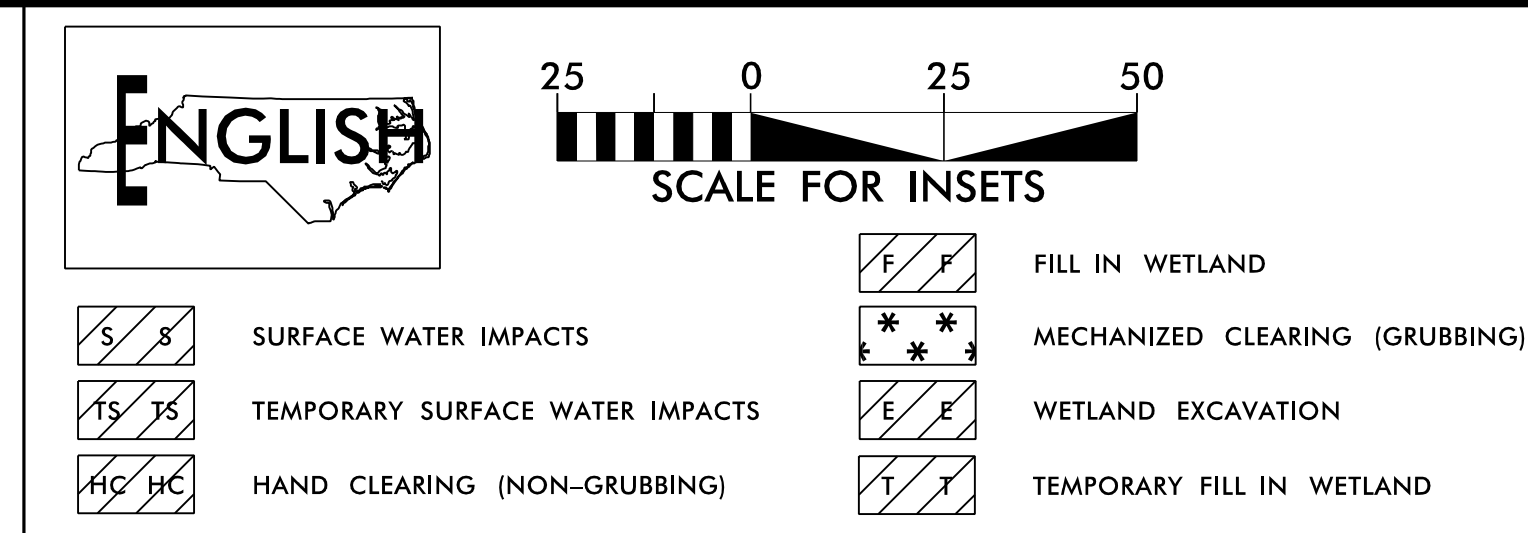
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North Carolina Turnpike Authority

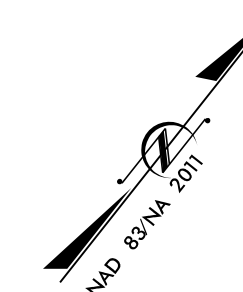
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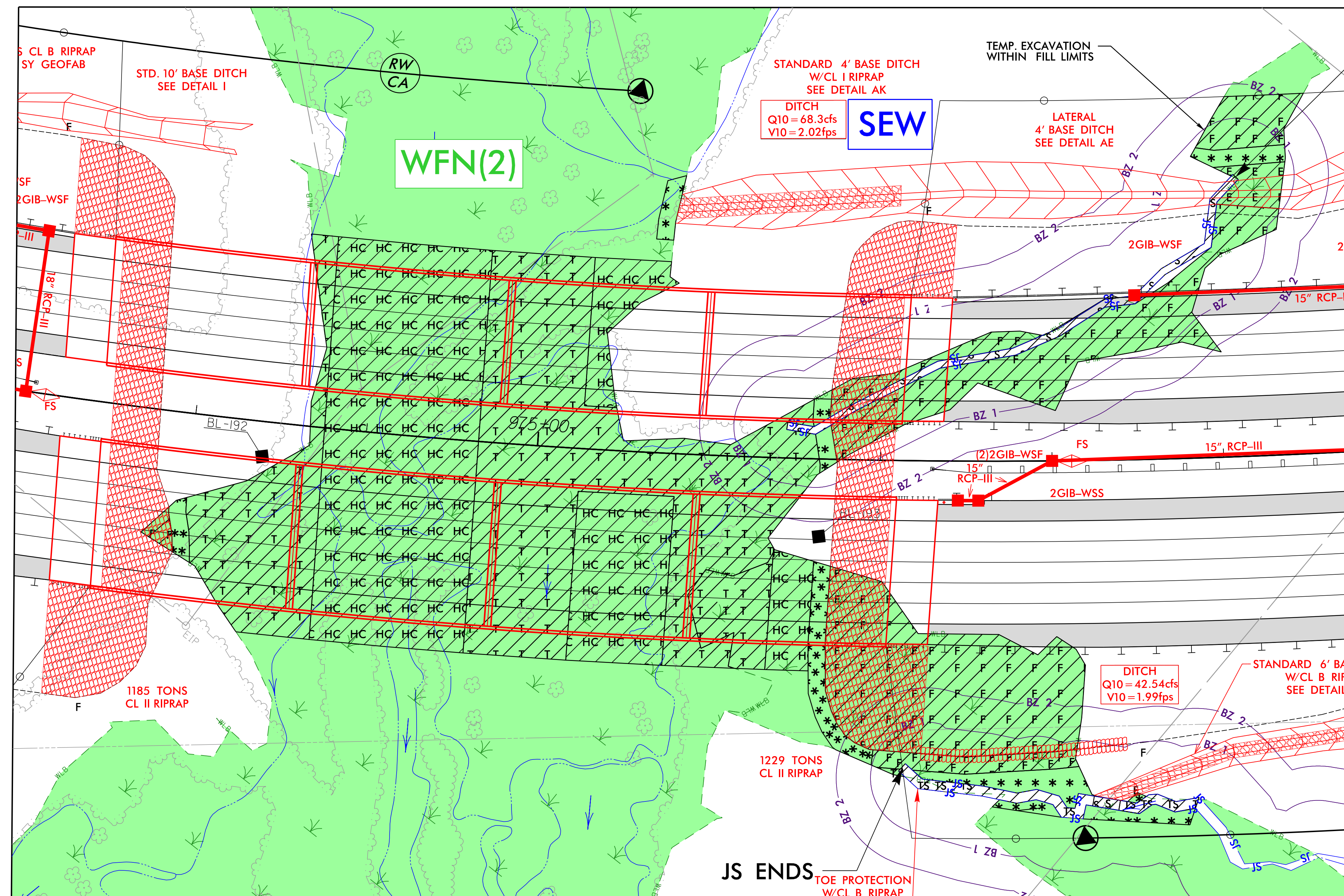




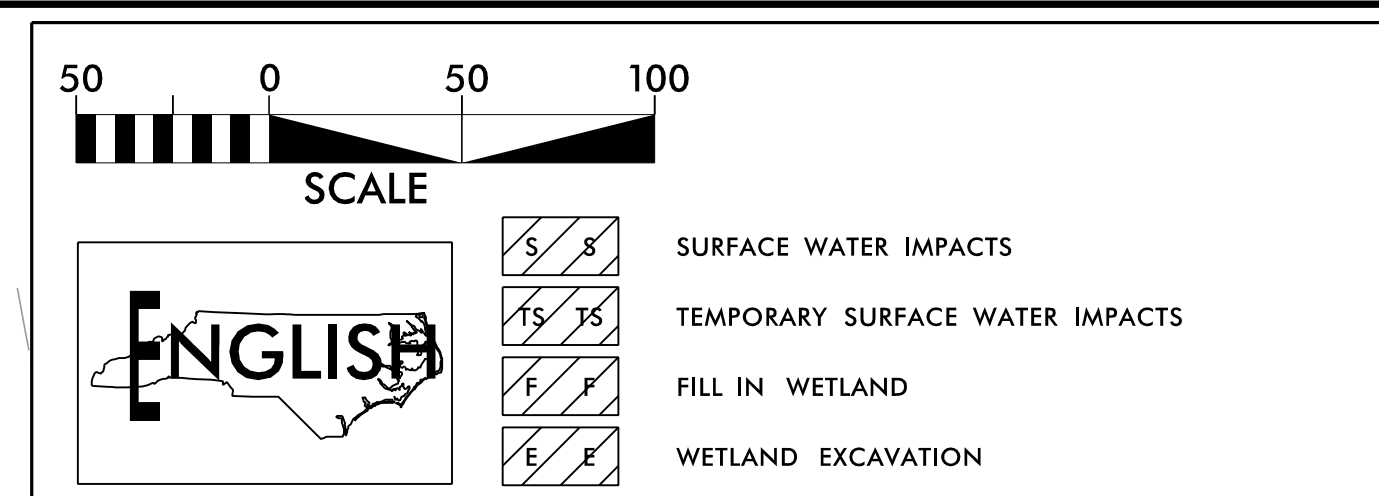
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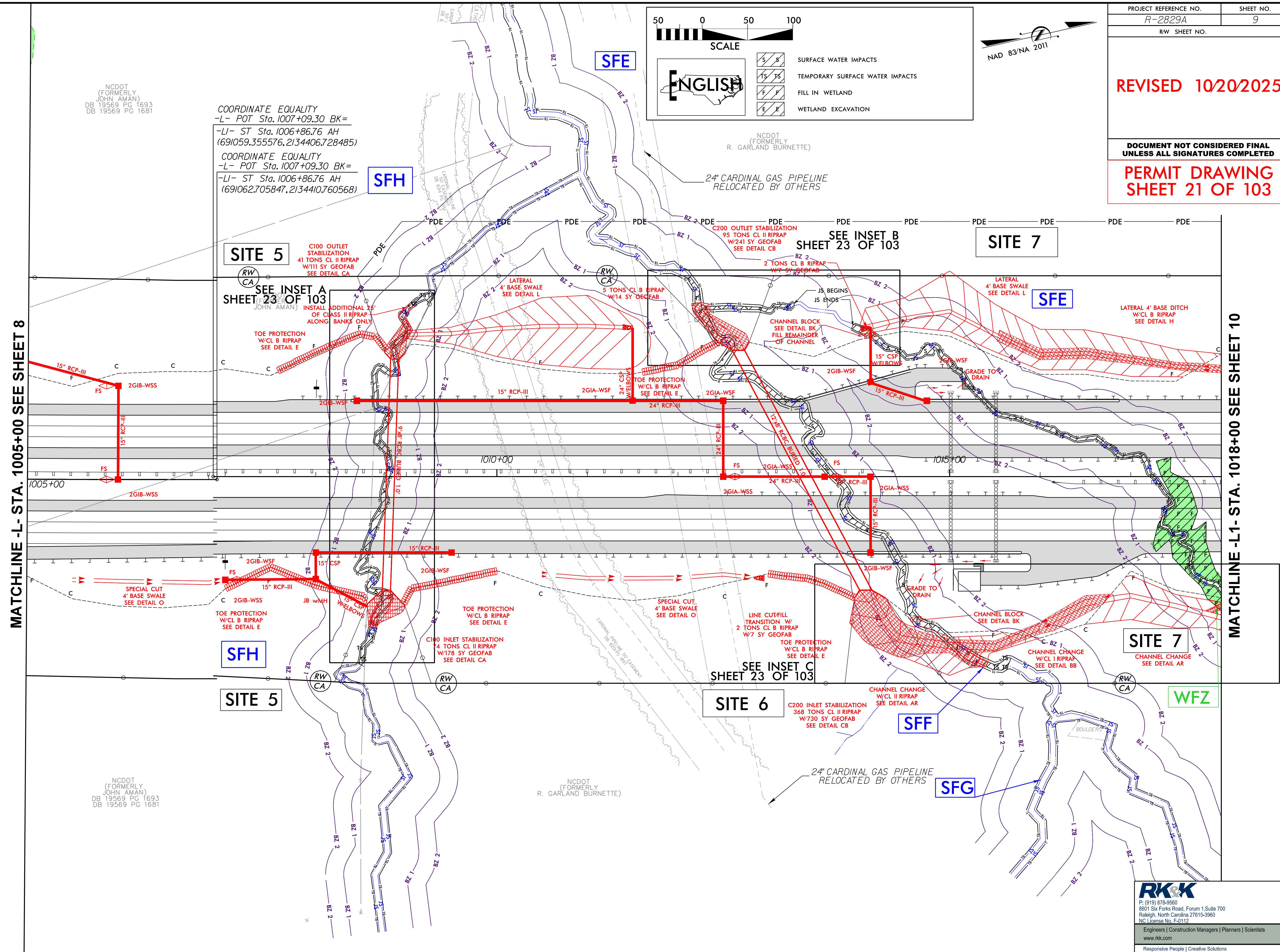
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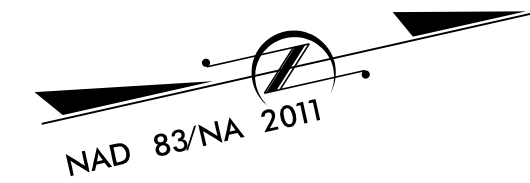
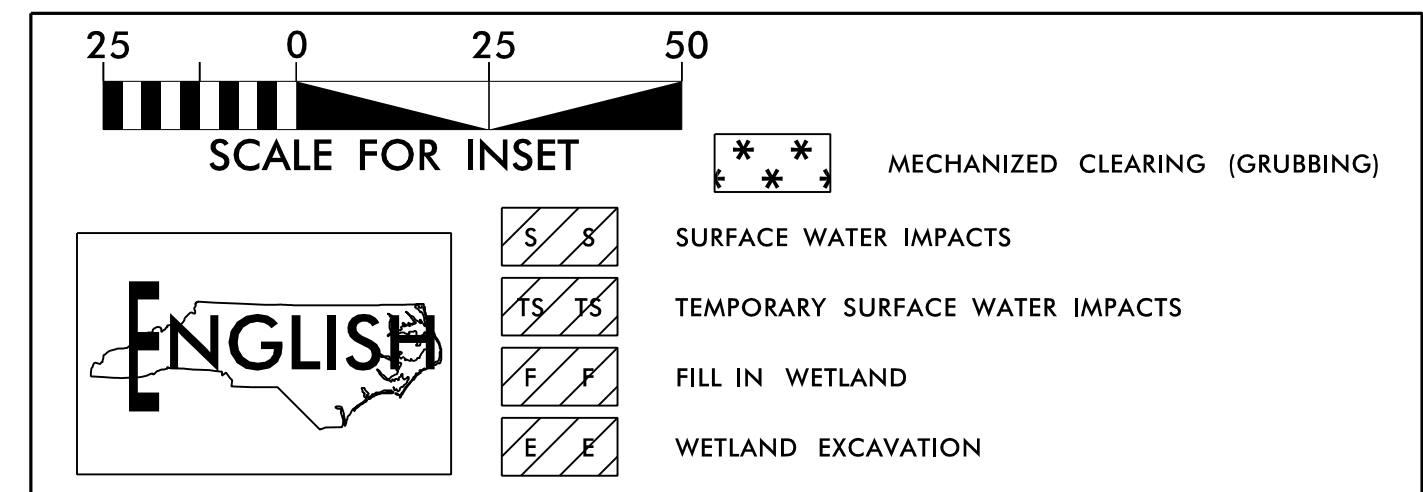
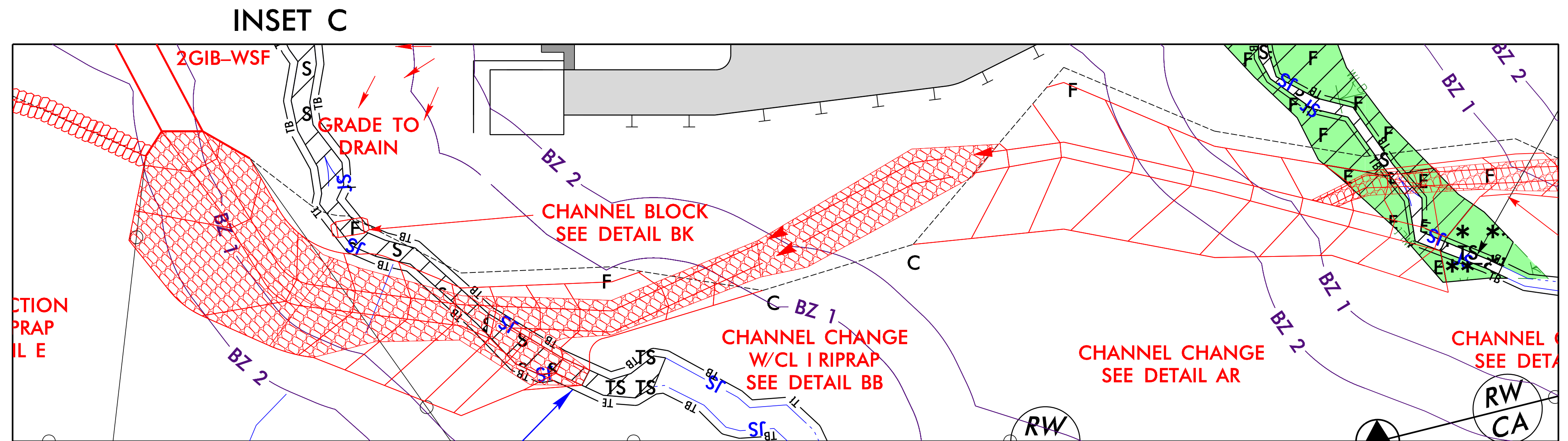
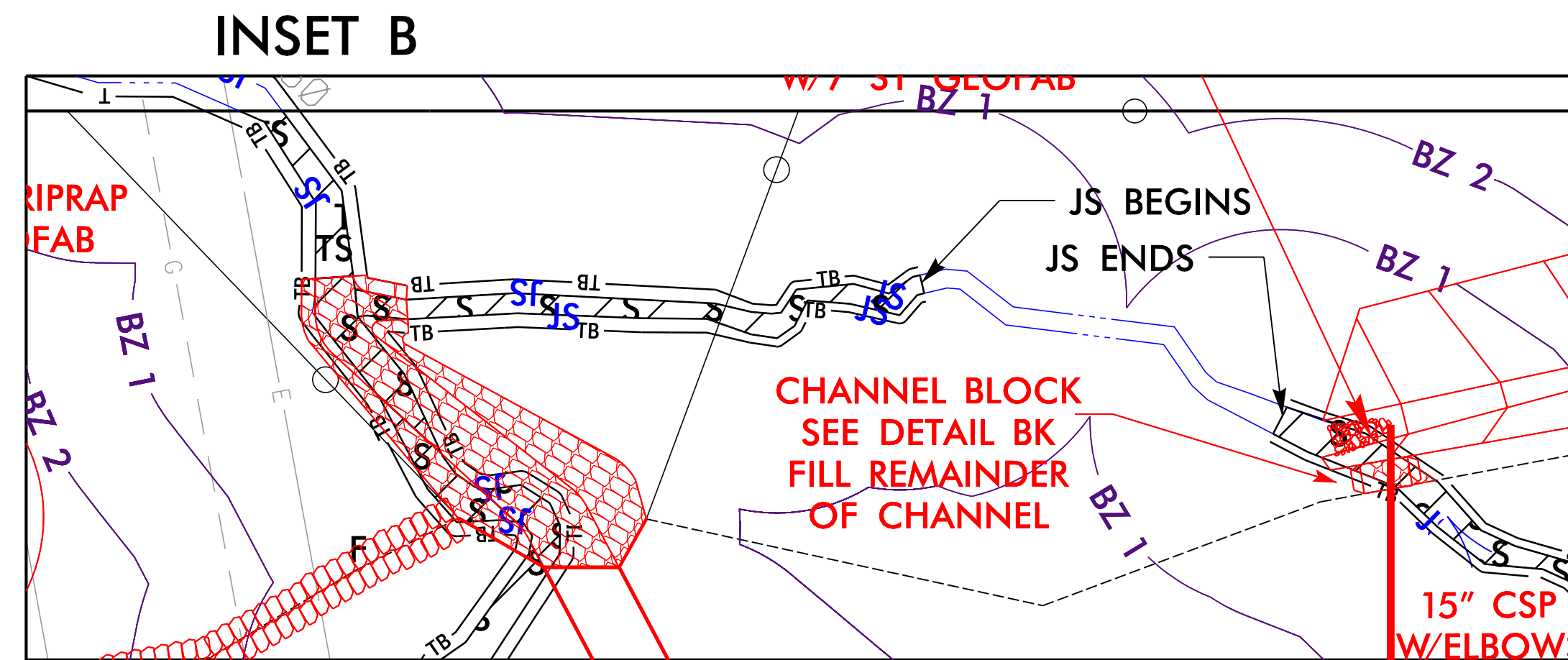
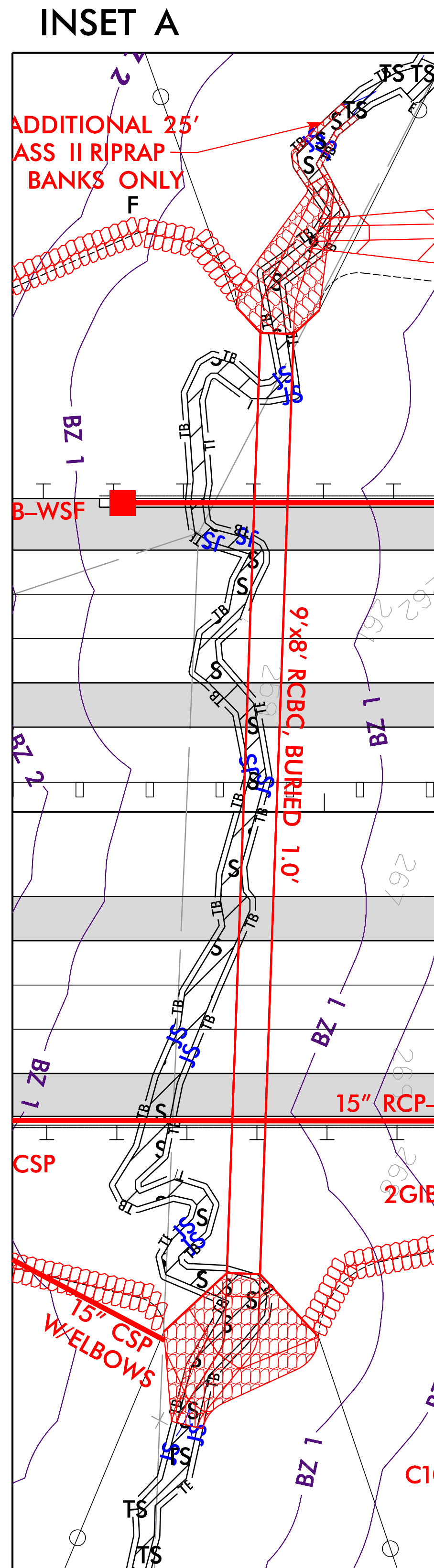
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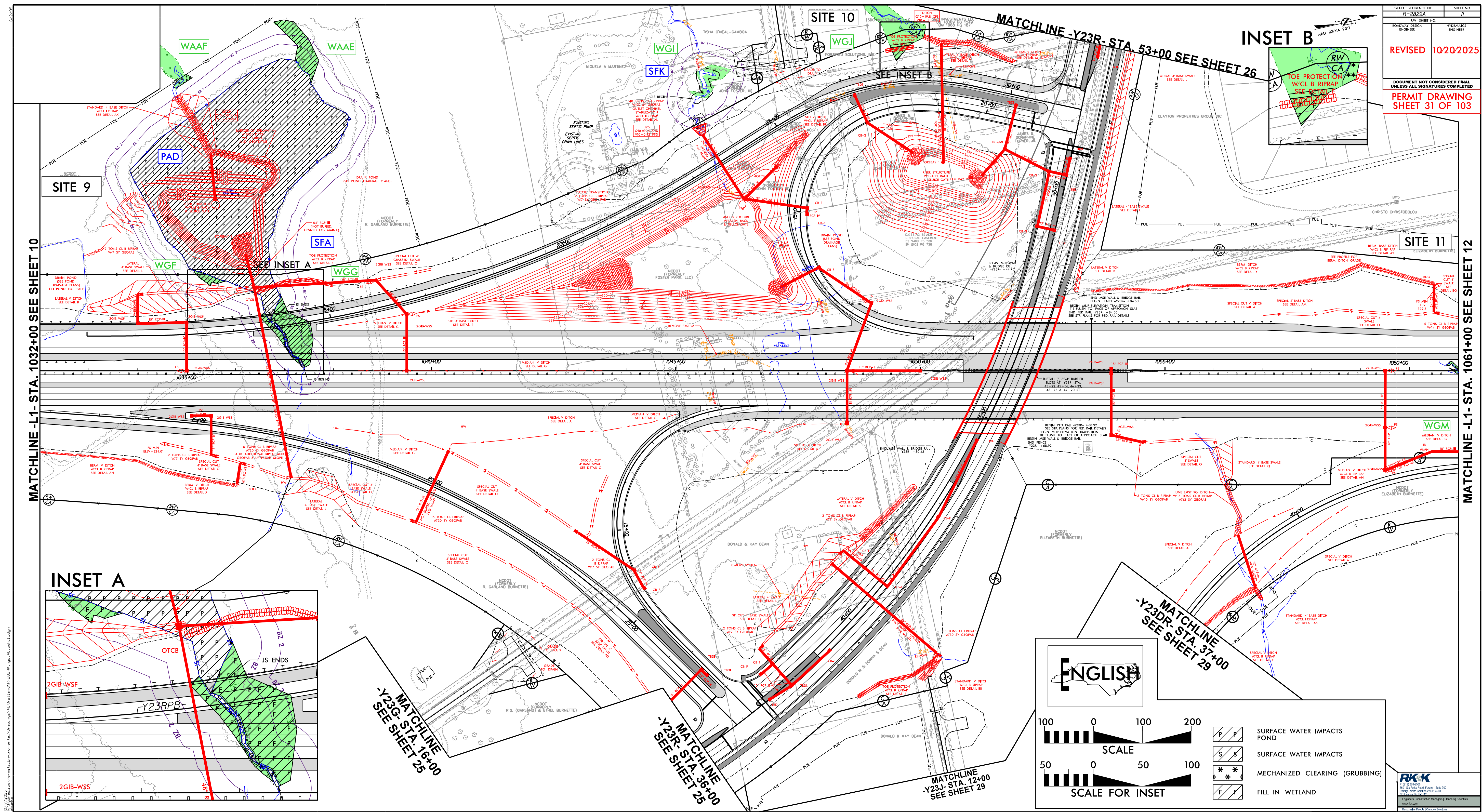
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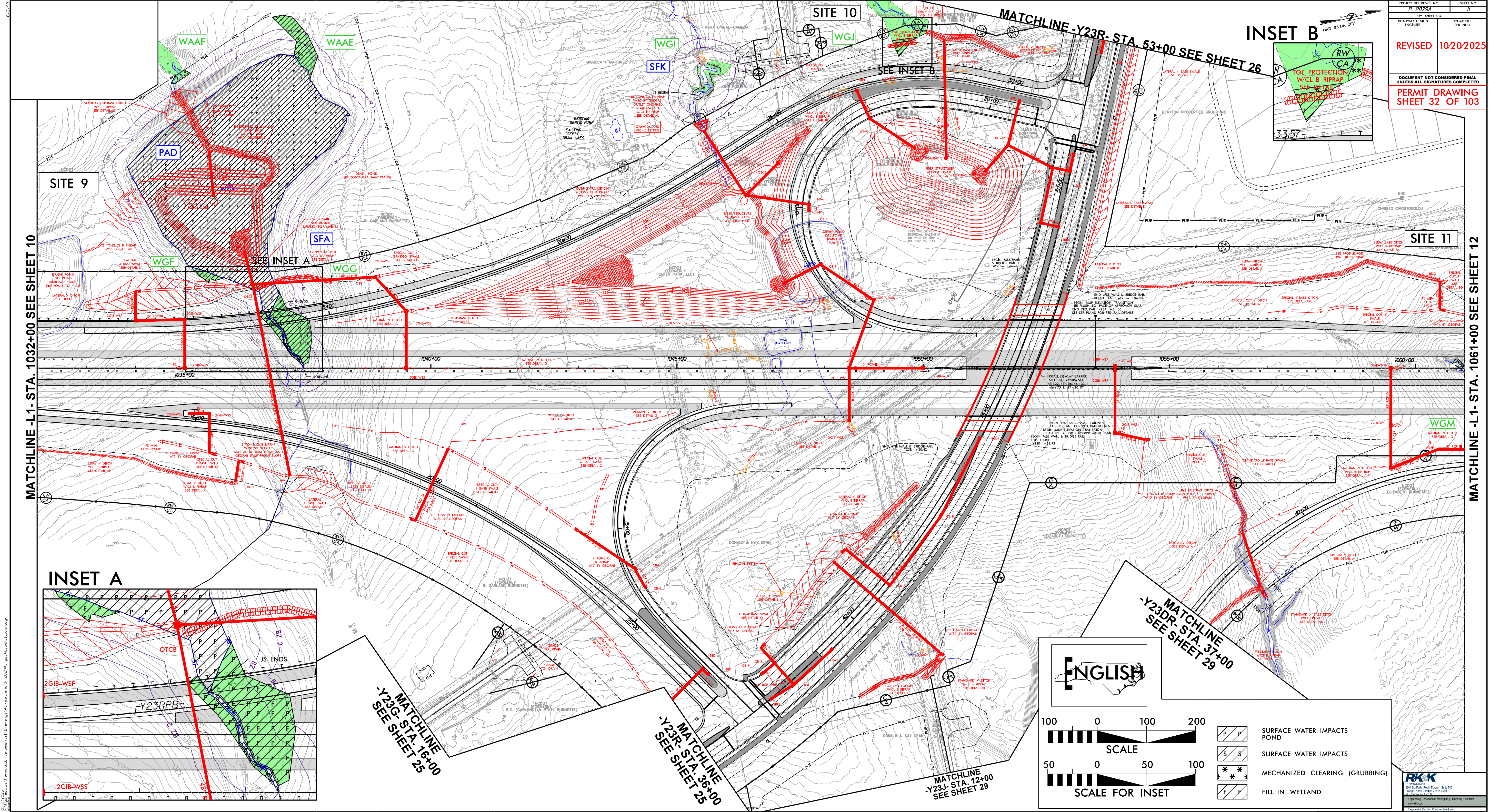
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WETLAND AND SURFACE WATER IMPACTS SUMMARY												
Site No.	Station (From/To)	Structure Size / Type	WETLAND IMPACTS					SURFACE WATER IMPACTS				
			Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized 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	-Y22RPAFLY_REV- 28+00 - 29+58 LT	Roadway Fill: WFG	0.055									
2	-L- 967+04 - 968+83 LT	Roadway Fill: WFJ	0.098		0.023							
3	-L- 972+77 - 979+44 LT	Bridge: SEW WFN(2)	0.184	0.706	0.018	0.037	0.660	0.031		319		
	-L- 976+61 - 978+80 RT	Roadway Fill: SEY WFN(1)	0.284	0.049	0.001	0.071	0.037	0.002	0.023	15	174	
4	-L- 1001+92 - 1004+65 RT	48" RCP: WFY	0.449			0.034						
5	-L1- 1008+79	9'x8' RCBC, SFH Bank Stabilization						0.042	0.008	384	71	
		Structure Stabilization						0.007		63		
6	-L1- 1013+72	12'x8' RCBC, SFF						0.070	0.009	533	60	
		Structure Stabilization						0.012		86		
7	-L1- 1012+26 LT - 1018+49 RT	Roadway Fill: SFE						0.060	0.002	759	21	
		WFZ	0.113		0.015	0.010						
8	-L1- 1022+67 LT - 1025+03 RT	42" RCP: SFB						0.017		222		
		Structure Stabilization						0.001	0.001	24	10	
		WGD	0.021			0.001						
		WGC	0.013									
		WGB	0.079									
SHEET TOTALS*:			1.296	0.755	0.057	0.153	0.697	0.244	0.043	2430	336	0

*Rounded totals are sum of actual impacts

NOTES:

Site 3: 4 interior bents with 4 @ 3.5' diameter columns per bent= total 154.4sq ft (0.004ac) permanent wetland impact (included above)

Site 3: WFN(1) piece above SEW is a total take in summary above; hatching outside construction impacts is not shown.

Temporary Excavation (~0.01ac) within the permanently impacted wetland footprint limits due to an erosion control clean water diversion channel

Site 7: WFZ is a total take in summary above; hatching outside construction impacts is not shown

Revised 5/9/2025, 8/1/2025, 10/20/2025

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
9/4/2024
Wake County
R-2829A

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)
9	-L1- 1035+14 - 1037+70 LT	48" RCP: SFA						0.008		124		
		WGF	0.016									
		WGG	0.156									
		WAAE	0.092									
		WAAF				0.010						
	-L1- 1033+83 - 1038+36 LT	PAD						2.695				
10	-Y23RPB- 27+59 - 28+23 LT	Roadway Fill: WGJ	0.013			0.010						
11	-L1- 1060+75 - 1062+35 CL	Roadway Fill: SFD						0.009		71		
		WGM	0.023									
12	-L1- 1062+62 LT - 1063+75 RT	Roadway Fill: SFC						0.038		479		
		Structure Stabilization						0.002	0.001	22	12	
		WGN	0.001			0.005						
13	-L1- 1066+33 - 1067+40 RT	Roadway Fill: WGO	0.028			0.004						
14	-L1- 1084+46 RT - 1086+92 LT	Bank Stabilization: Ditches; SFV (White Oak Creek)						0.017	0.080	70	185	
15	-L1- 1098+69 - 1104+74 LT	8'x7' RCBC, SFR						0.014	0.002	164	19	
		Structure Stabilization						0.001		5		
		WGR	0.760		0.061	0.112						
SHEET TOTALS*:			1.089	0.000	0.061	0.141	0.000	2.784	0.083	935	216	0

*Rounded totals are sum of actual impacts

NOTES:
 Site 15: WGR is a total take in summary above; hatching outside construction impacts is not shown
 Site 15: Temporary Excavation (~0.01ac) shown within the mechanized clearing limits due to an erosion control temporary construction channel

Revised 5/9/2025

NC DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 9/4/2024
 Wake County
 R-2829A

Revised 2018 Feb

SHEET 100 OF 103

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)
16	-L1- 1110+56 LT - 1116+24 RT	Roadway Fill, 7'x7' RCBC: SFN						0.041		413		
		WGR	1.387			0.088						
		WGT			0.008	0.018						
17	-L1- 1113+08 - 1114+68 RT	Roadway Fill: WGS	0.237			0.009						
18	-L1- 1114+82 LT - 1119+07 RT	Roadway Fill: SFQ						0.048	0.001	571	8	
		Structure Stabilization						0.002		34		
19	-L1- 1124+16 LT - 1126+26 RT	60" RCP: SFS						0.031		445		
		Structure Stabilization						0.003	0.002	21	10	
		WGR	0.202			0.020						
20	-L1- 1137+84 LT - 1142+30 RT	54" RCP/WSP/CAAP: SFT						0.054		757		
		Structure Stabilization						0.004	0.002	47	25	
20A	-Y24R- 36+70 RT	Ditch: WGU(2)				0.001						
21	-L1- 1148+27 LT - 1149+37 RT	Roadway Fill: WGY	0.099									
22	-L1- 1148+75 - 1149+39 RT	Roadway Fill: WGZ	0.059			0.016						
23	-L1- 1151+32 LT - 1154+50 RT	6'x8' RCBC, SGC						0.026	0.002	398	25	
		Structure Stabilization						0.001		20		
		WHB	1.178		0.002	0.061						
SHEET TOTALS*:			3.162	0.000	0.010	0.213	0.000	0.210	0.007	2706	68	0

*Rounded totals are sum of actual impacts

NOTES:

Site 23: Temporary Excavation (~0.032ac) shown within the mechanized clearing limits due to an erosion control temporary construction channel

Revised 5/9/2025

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
9/4/2024
Wake County
R-2829A

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)
24	-L1- 1159+88 LT - 1162+99 RT	54" CAAP / 60" RCP: SGD						0.034		387		
		Structure Stabilization						0.007	0.003	92	25	
	-L1- 1161+00 - 1161+40 LT	Bank Stabilization						0.010		71		
25	-L1- 1169+38 LT - 1172+22 RT	11'x8' RCBC: SGE						0.036	0.002	443	23	
		Structure Stabilization						0.003	0.002	46	33	
		WHD(1)	0.255		0.015	0.027						
		WHD(2)	0.195		0.009	0.013						
26	-L1- 1171+28 LT - 1178+18 RT	Roadway Fill: SGG						0.084	0.001	723	11	
		Structure Stabilization						0.002		21		
27	-L1- 1174+66 - 1179+63 LT	Roadway Fill: SGF						0.030	0.004	309	40	
		Structure Stabilization						0.003		37		
		WHD(2)	0.108		0.037	0.023						
28	-Y22CR- 13+50 LT - 14+26 RT	2 @ 12'x8' RCBC: SKR						0.036	0.011	117	44	
		Structure Stabilization						0.016		75		
29	-Y23R- 61+16 LT	36" RCP: SFJ						0.008		64		
		Structure Stabilization						0.002	0.001	20	10	
29A	-Y23FR- 11+07 - 12+01 LT	54" RCP: SFJ						0.007	0.001	78	12	
		Structure Stabilization						0.003	0.001	24	10	
		WNM	0.021			0.044						
SHEET TOTALS*:			0.579	0.000	0.061	0.107	0.000	0.281	0.026	2507	208	0

*Rounded totals are sum of actual impacts

NOTES:

Site 25: Temporary Excavation (~0.007ac) shown within the mechanized clearing limits due to an erosion control temporary construction channel

Site 29A: Temporary Excavation (~0.005ac) shown within the mechanized clearing limits due to an erosion control temporary construction channel

Revised 5/9/2025

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
9/4/2024
Wake County
R-2829A

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)
30	-Y23DR- 23+90 LT - 25+00 RT	42" RCP: SHT						0.011		225		
	-Y23DR- 23+59 - 25+53 LT	PAO						0.792				
31	-Y24R- 19+06 LT - 21+74 RT	5'x6' RCBC Ext / 72" WSP: SFY						0.001		6		
		Structure Stabilization						0.005	0.002	34	10	
		WGW	0.023		0.004	0.019						
		WGV(1)	0.055		0.010	0.021						
32	-Y24R- 34+65 CT	6'x8'9" RCBC Ext / 72" WSP: SGA						0.064	0.001	270	7	
		Structure Stabilization						0.007	0.003	30	12	
33	-Y26R- 18+73 CT	10'x9' RCBC: SGA						0.016	0.001	137	11	
		Structure Stabilization						0.007	0.006	40	37	
		WHD(2)			0.007	0.014						
		WAAK	0.026			0.020						
34	-Y26R- 18+50 LT	10'x9' RCBC: SAAK						0.002	0.001	31	11	
35	-Y26R- 18+35 LT	10'x9' RCBC: SAAL							0.001		10	
36	-Y22RPE_REV- 45+95 - 46+14 RT	Ditch: WFK				0.005						
SHEET TOTALS*:			0.104	0.000	0.021	0.079	0.000	0.905	0.015	773	98	0
PROJECT TOTALS*:			6.230	0.755	0.210	0.693	0.697	4.424	0.174	9351	926	0

*Rounded totals are sum of actual impacts

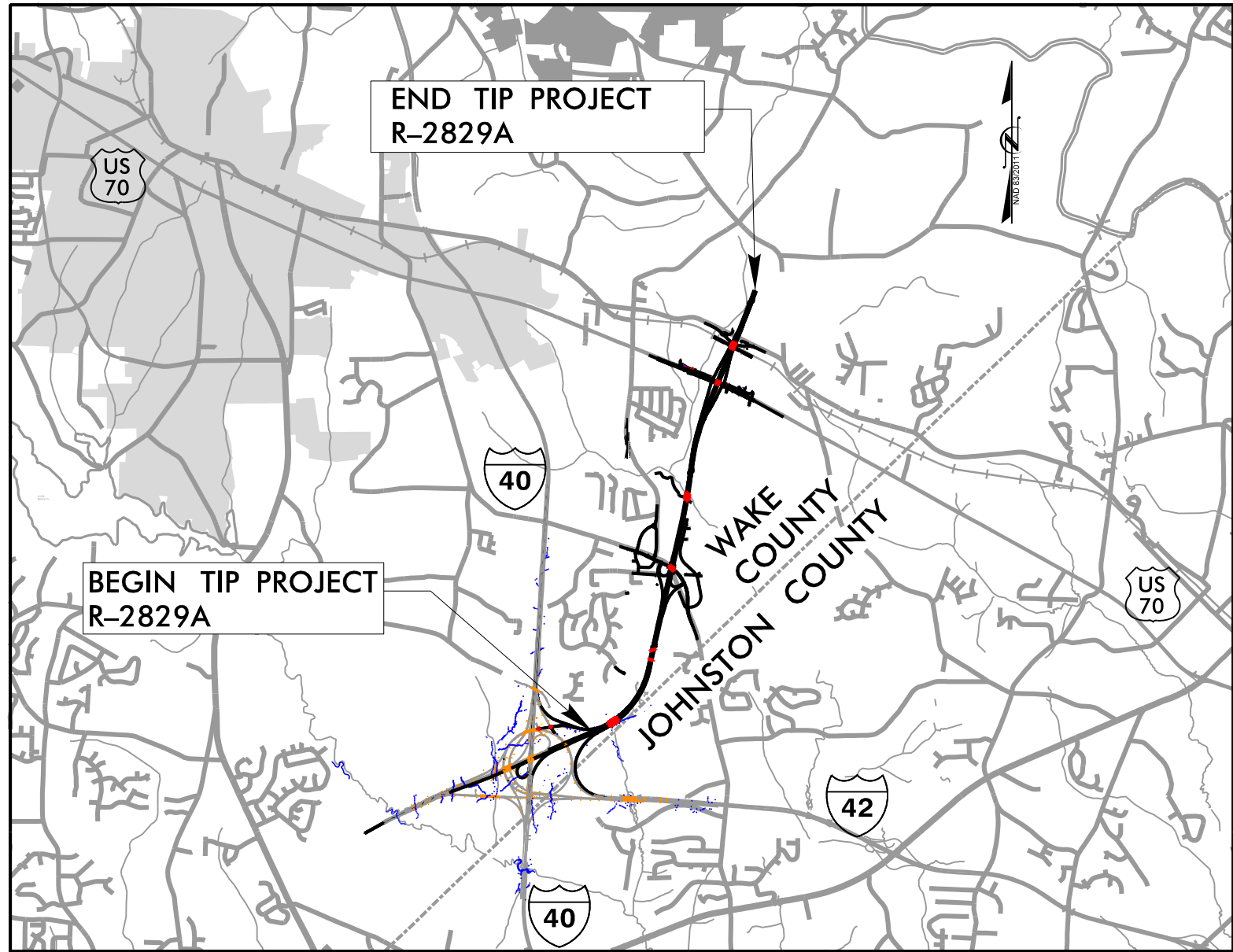
NOTES:

Site 33: Temporary Excavation (~0.001ac) shown within the mechanized clearing limits due to an erosion control temporary construction channel

Revised 5/9/2025, 8/1/2025, **10/20/2025**

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
9/4/2024
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

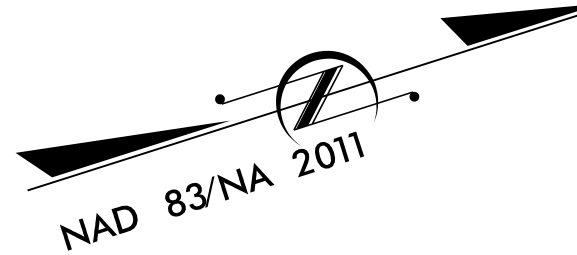
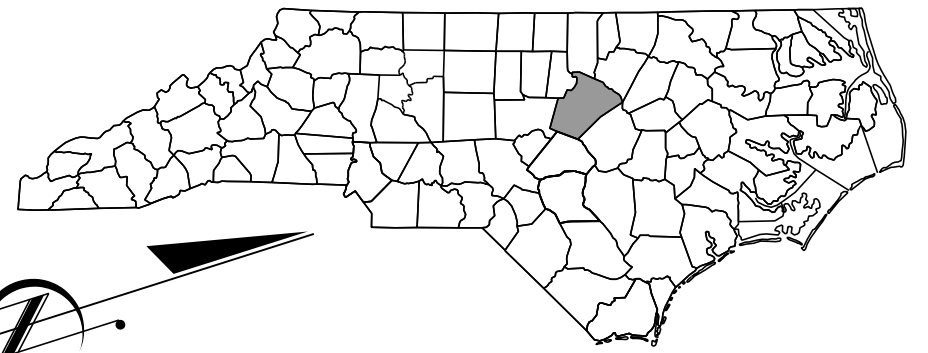
WAKE COUNTY

**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**

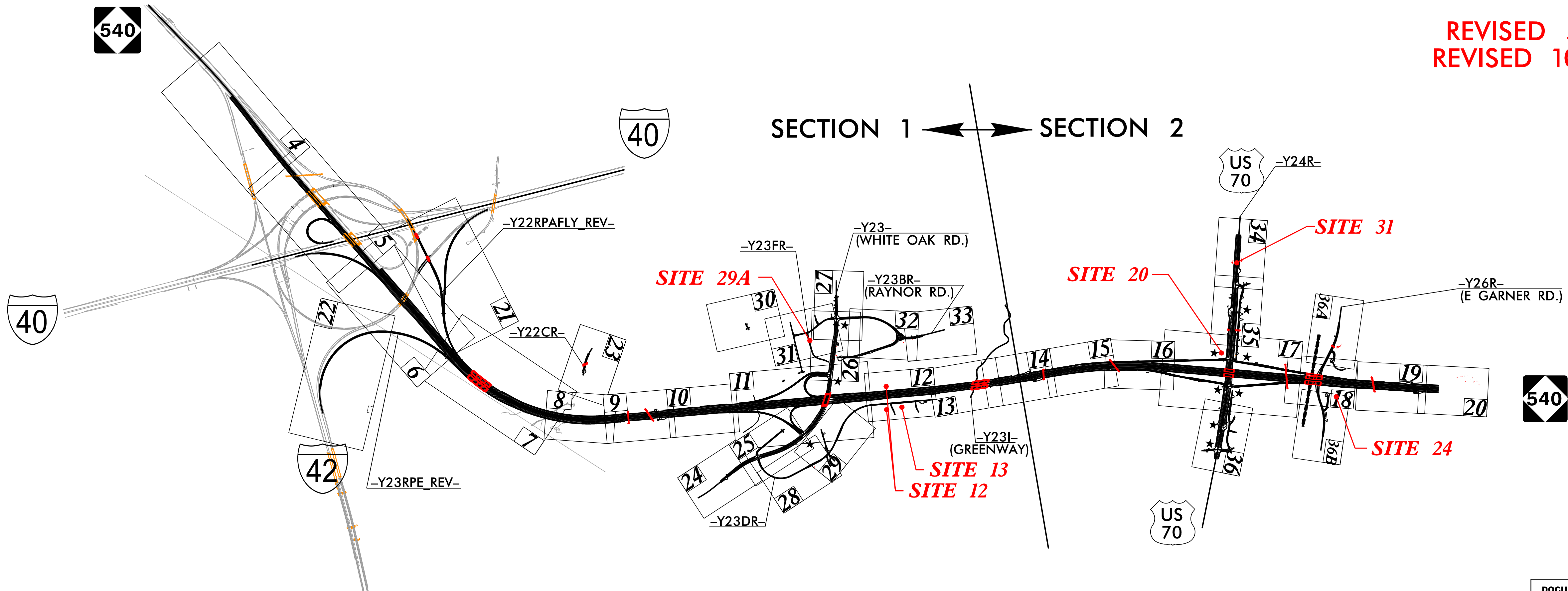
**SAFETEA-LU SECTION 6002
HYDRAULIC DESIGN MEETING PLANS**

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.TAGVI	N/A, 0540047	DESIGN-BUILD	
35517.2.TA1	N/A, 0540047	DESIGN-BUILD	



**UTILITY PERMIT DRAWING
SHEET 1 OF 11**

**REVISED 5/9/2025
REVISED 10/20/2025**

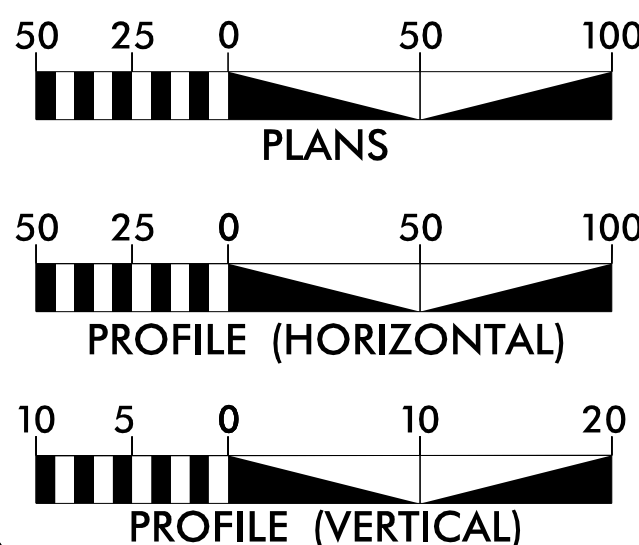


NOTES:
1. THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES.

★ 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 & KAHN, 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.

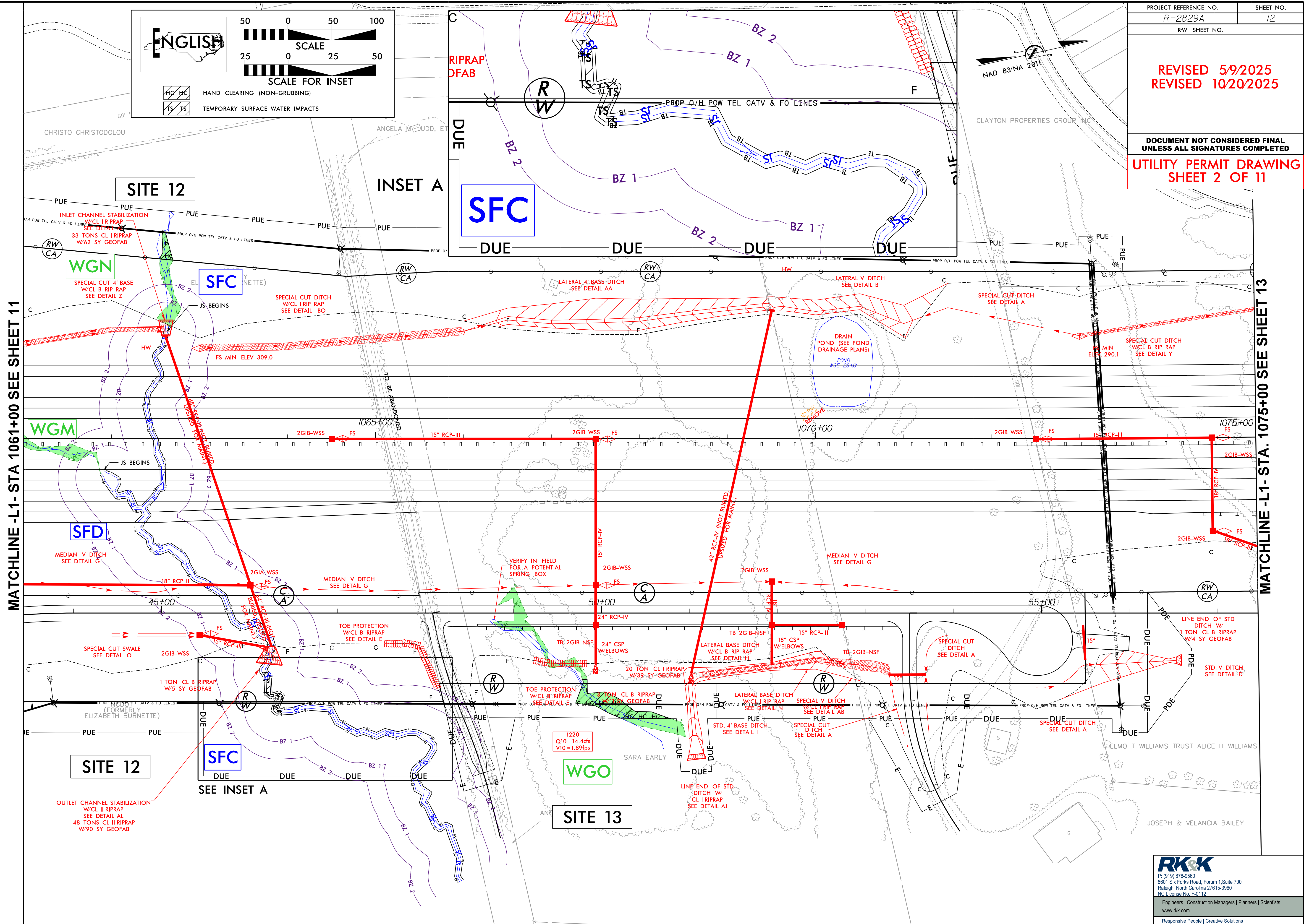
ROADWAY
DESIGN
ENGINEER

SIGNATURE: _____ P.E.



**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

UTILITY PERMIT DRAWING
SHEET 2 OF 11



6/23/16

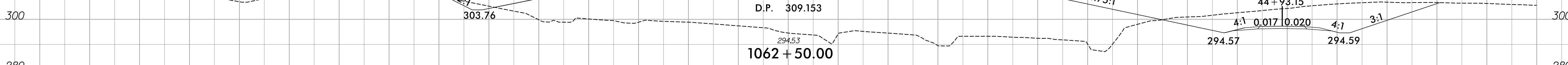
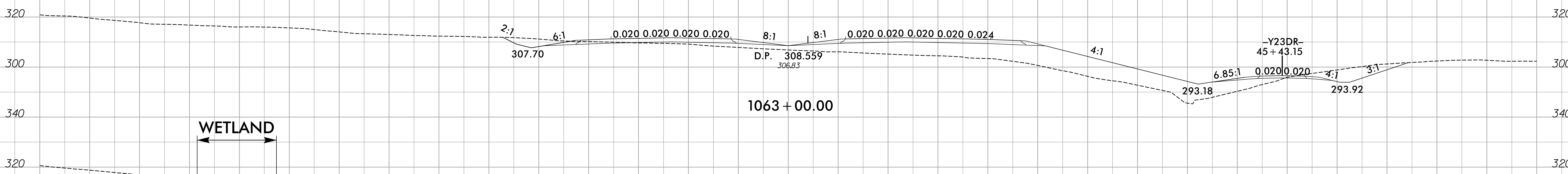
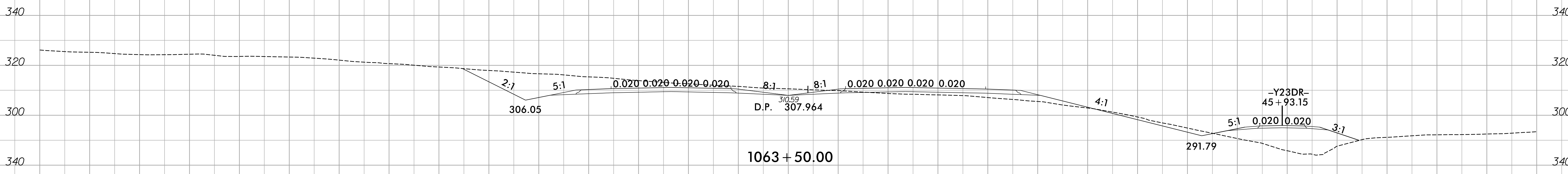
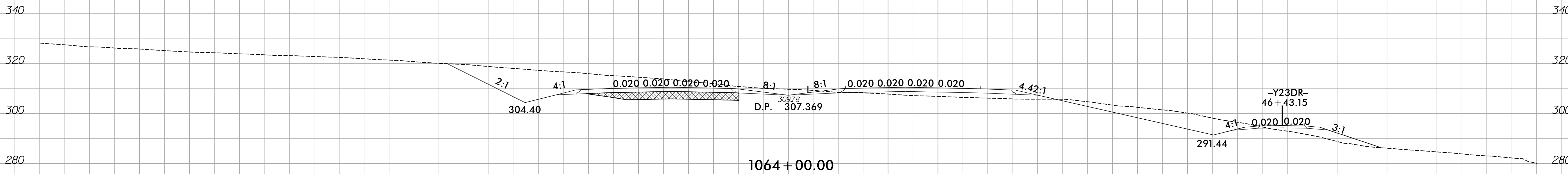
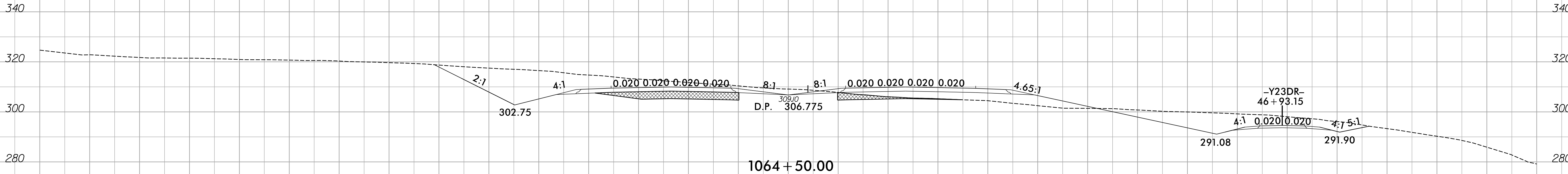
Submitted October 28, 2025

0 10 20	PROJ. REFERENCE NO.	SHEET NO.
	R-2829A	S1 X-79

SITE 12

UTILITY PERMIT DRAWING
SHEET 3 OF 11

REVISED 10/20/2025



UNDERCUT EXCAVATION

10/17/2025
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Source

10/17/2025
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Source

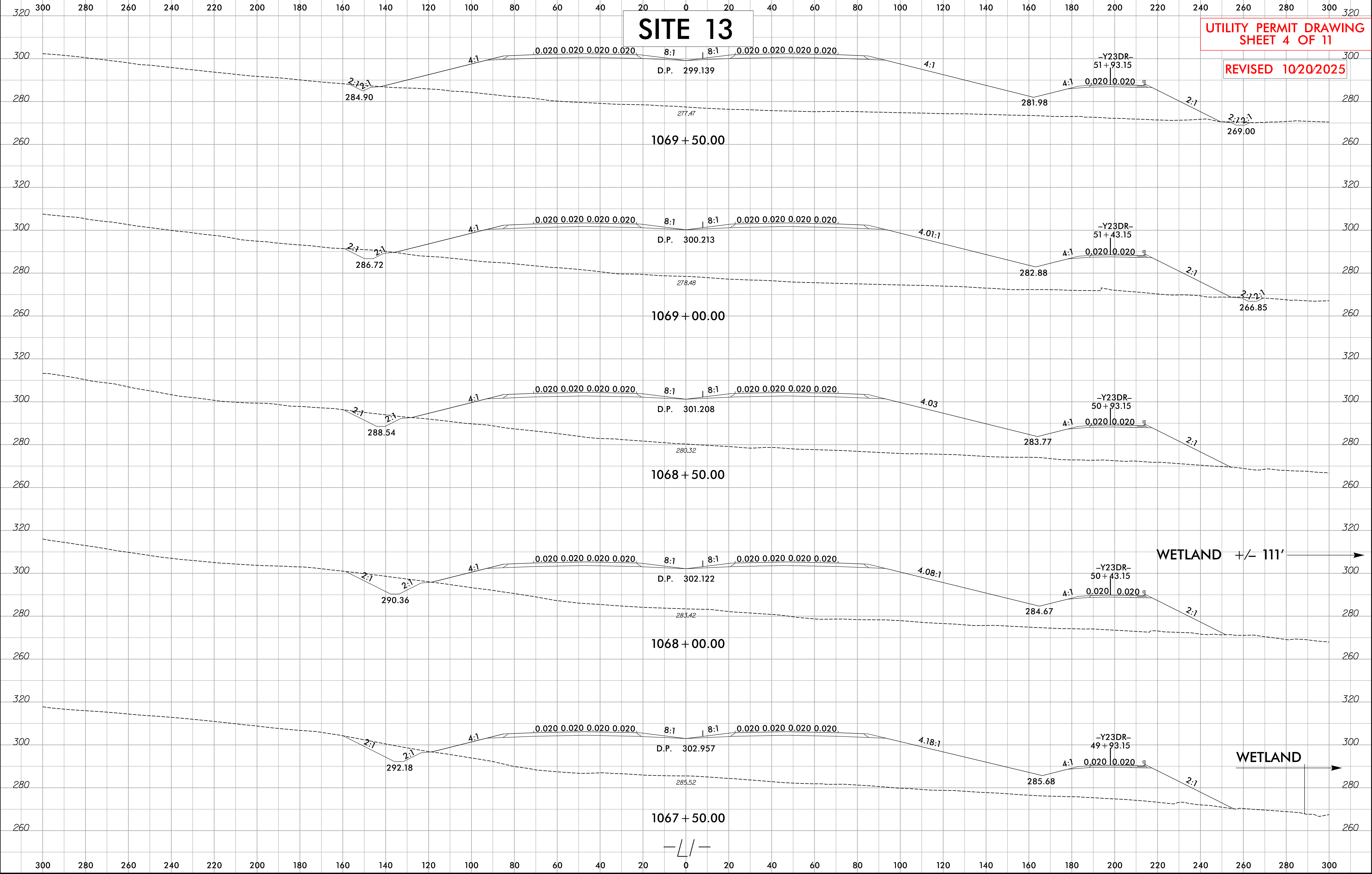
Submitted October 28, 2025

01020	PROJ. REFERENCE NO.	SHEET NO.
	R-2829A	S1 X-81

SITE 13

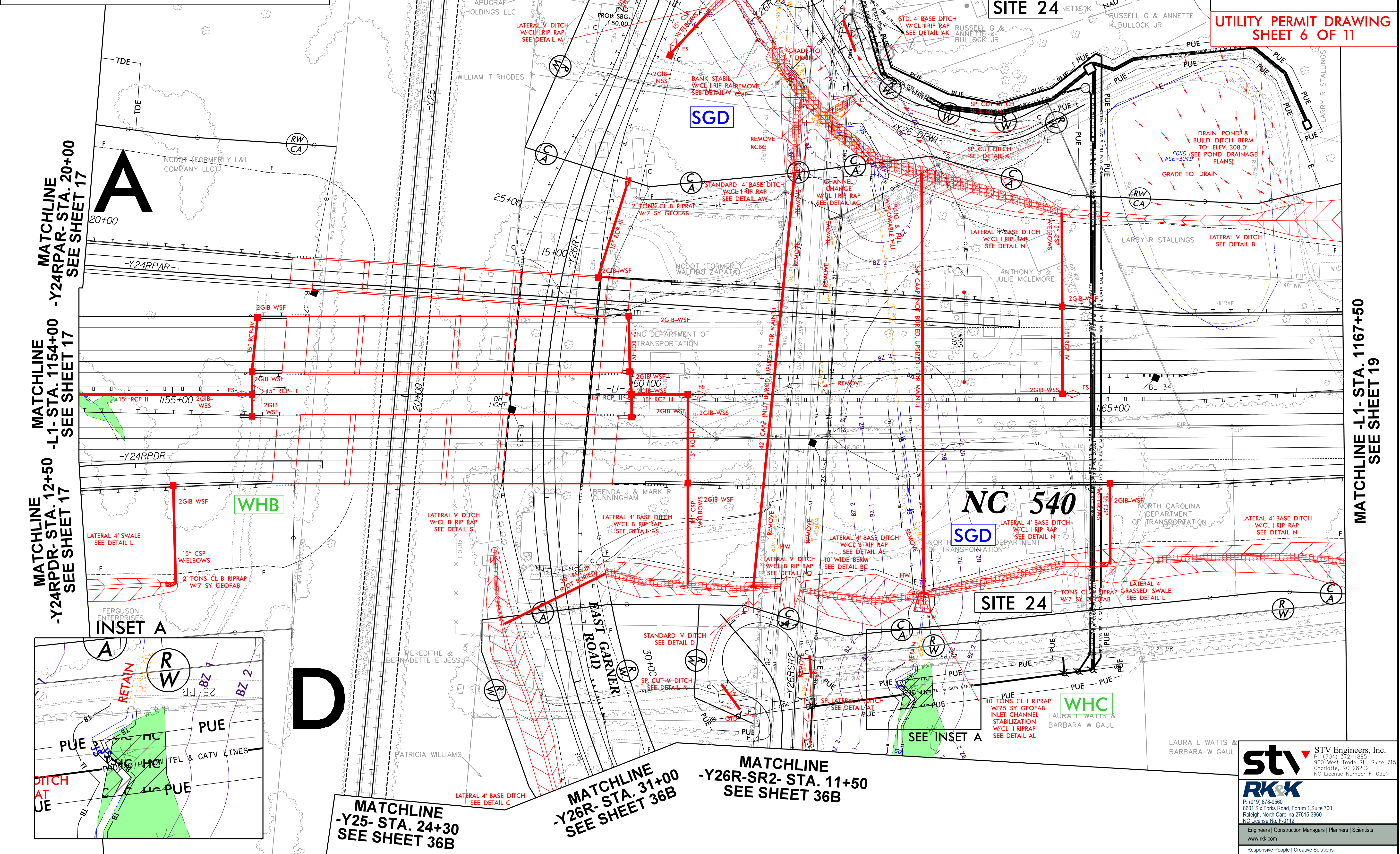
UTILITY PERMIT DRAWING
SHEET 4 OF 11

REVISED 10/20/2025





UTILITY PERMIT DRAWING
SHEET 6 OF 11

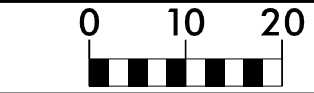


10/11/2025
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Burke

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

6/23/16

Submitted October 28, 2025



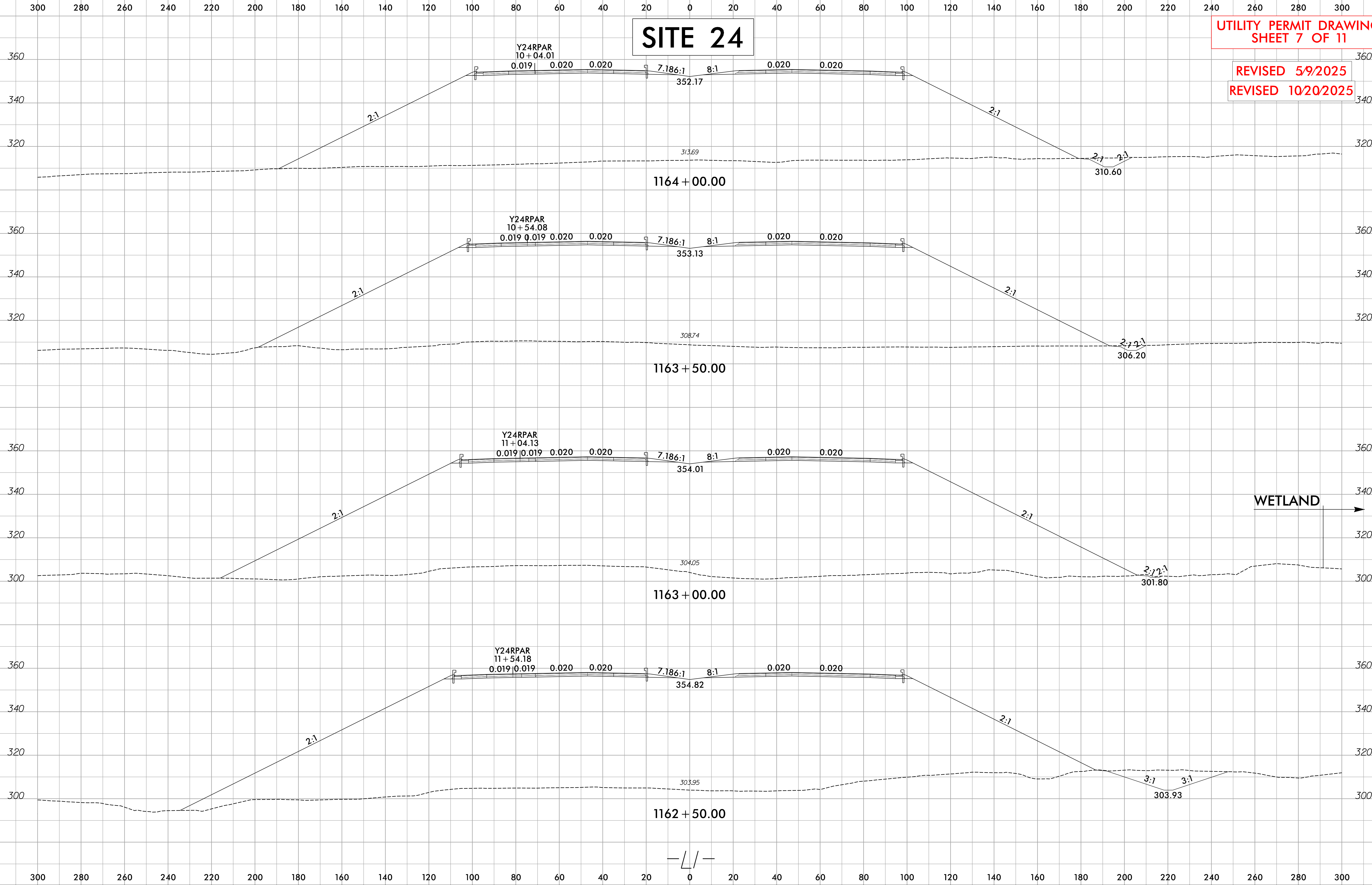
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R-2829A	S2 X-28

SITE 24

UTILITY PERMIT DRAWING
SHEET 7 OF 11

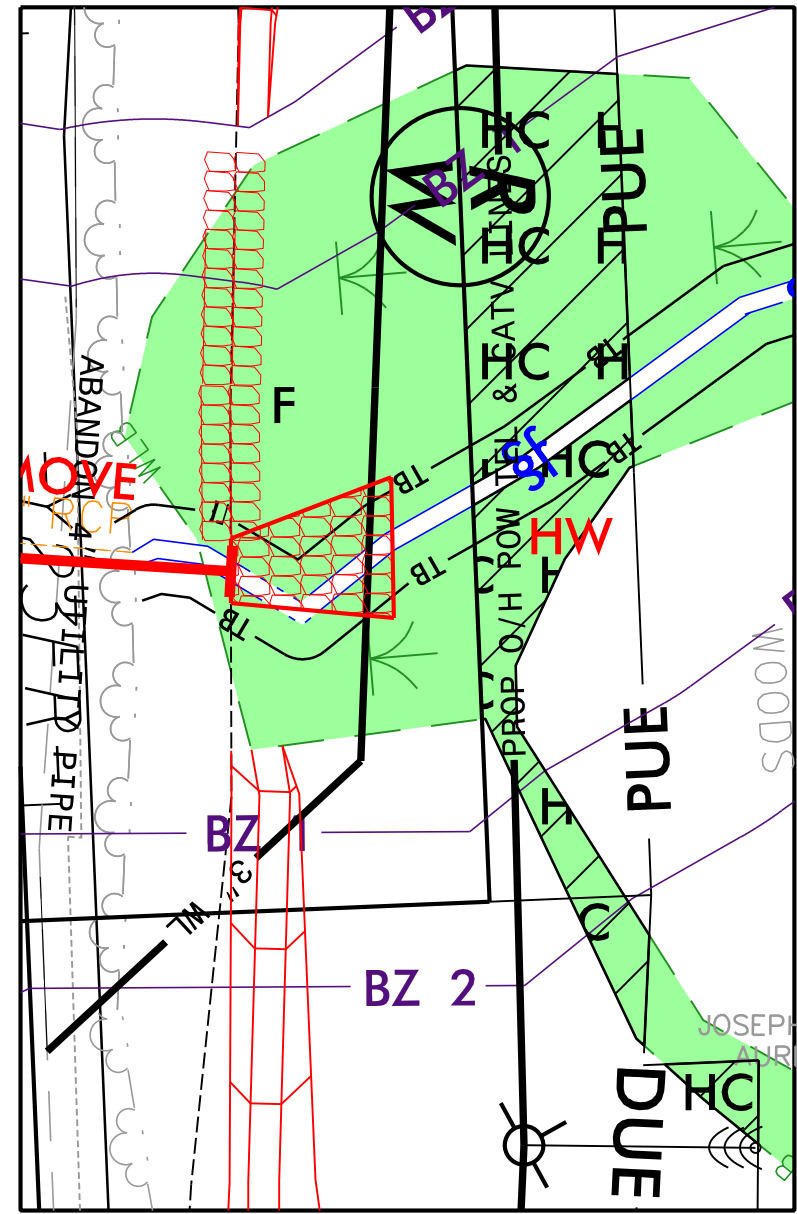
REVISED 5/9/2025

REVISED 10/20/2025

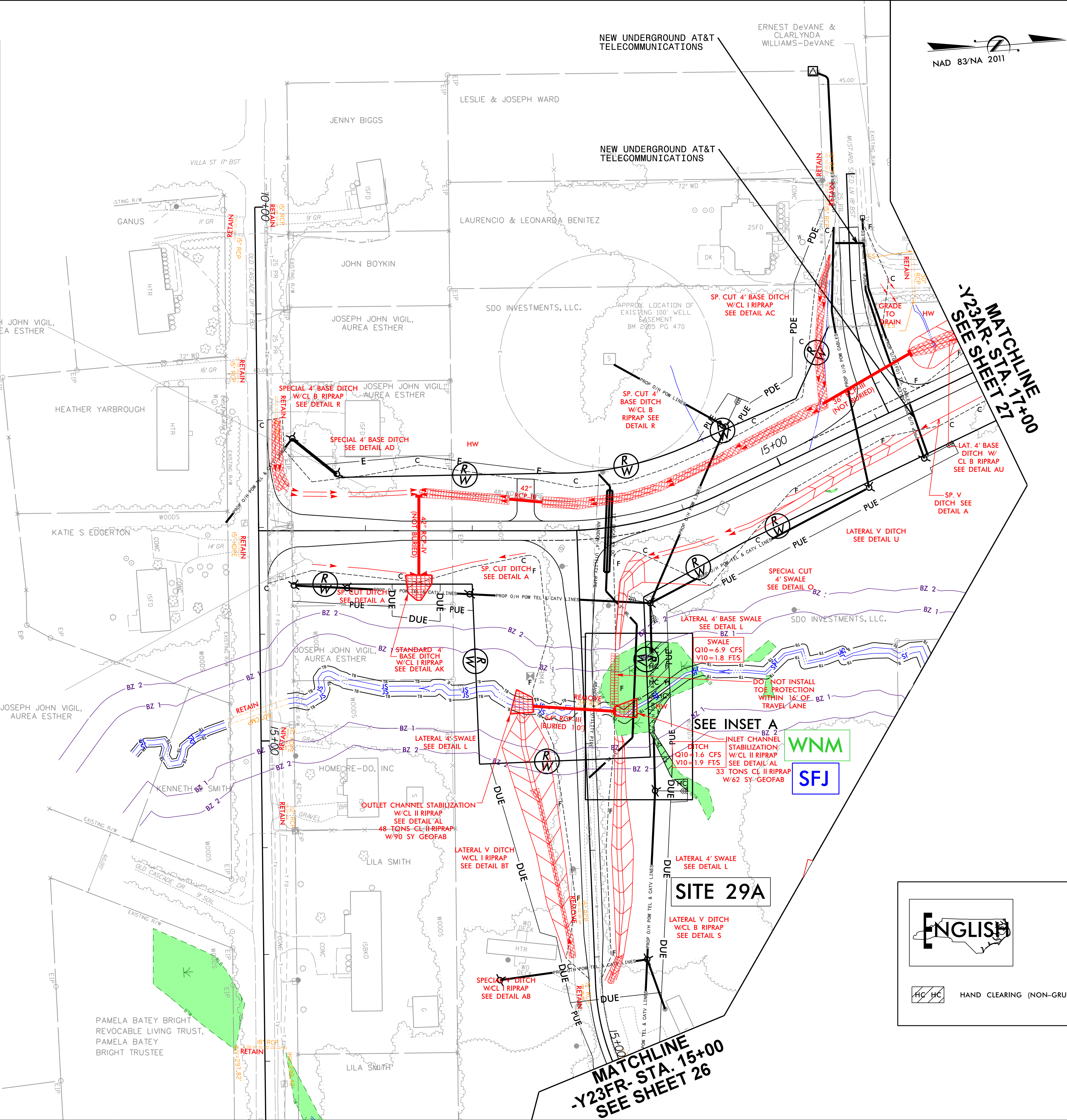


10/17/2025
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Source

PROJECT REFERENCE NO.	SHEET NO.
R-2829A	31
R/W SHEET NO.	
REVISED 5/9/2025 REVISED 10/20/2025	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
UTILITY PERMIT DRAWING SHEET 8 OF 11	



INSET A



RK&K
P: (919) 878-9560
8601 Six Forks Road, Forum 1, Suite 700
Raleigh, North Carolina 27615-3960
NC License No. F-0112
Engineers | Construction Managers | Planners | Scientists
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Responsive People | Creative Solutions



REVISED 5/9/2025
REVISED 10/20/2025

UTILITY PERMIT DRAWING
SHEET 9 OF 11



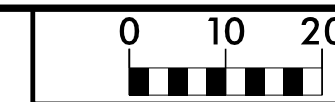
AN | SFY



Engineers | Construction Managers | Planners | Scientists

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Responsive People | Creative Solutions



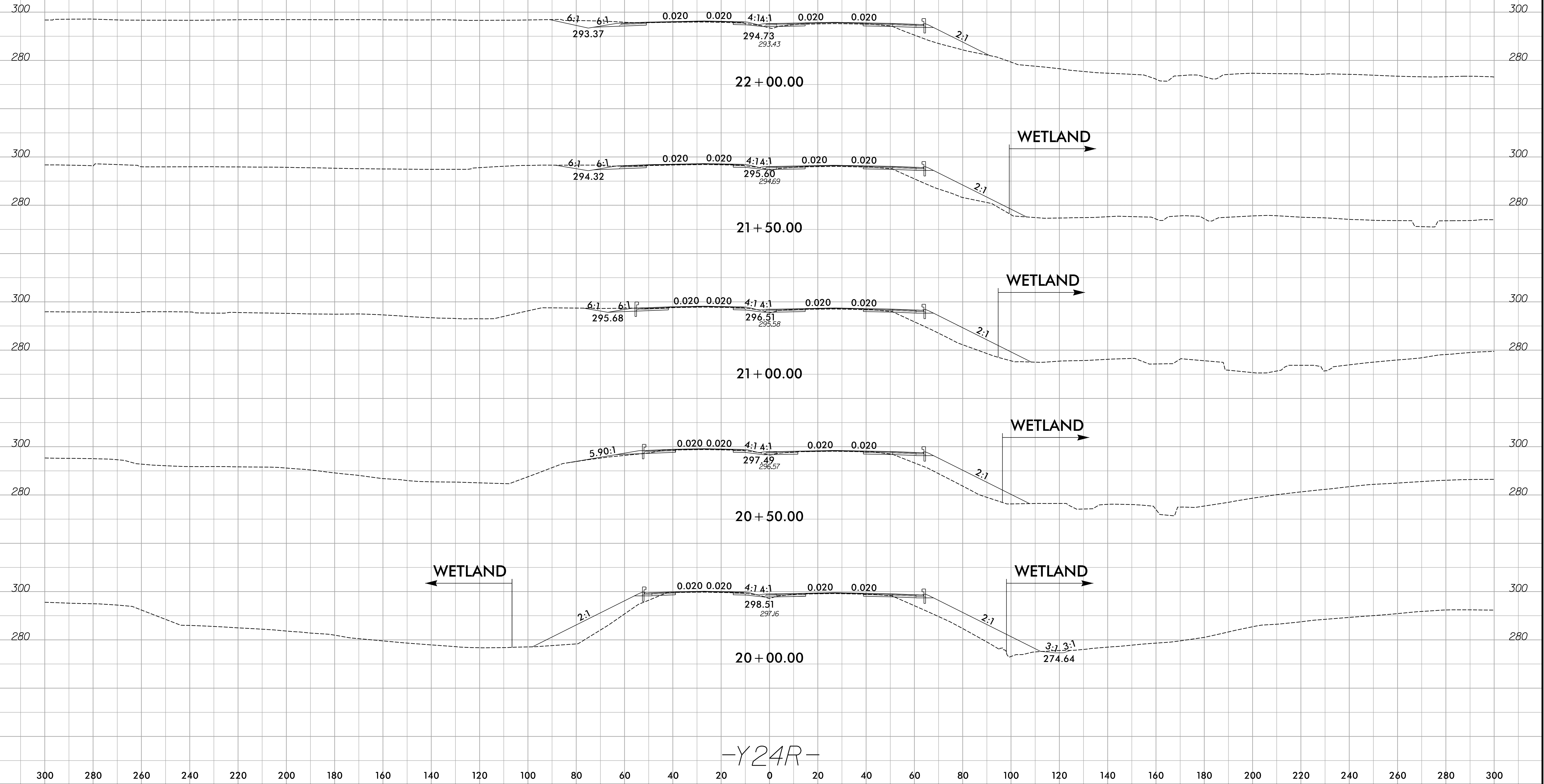
PROJ. REFERENCE NO.	SHEET NO.
R-2829A	S2 X-40

SITE 31

UTILITY PERMIT DRAWING
SHEET 10 OF 11

REVISÉ 5/9/2025

REVISÉ 10/20/2025



10/17/2025
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aburke

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							0.006		65	
	-L1- 1062+50 - 1062+70 LT	Overhead Power: WGN					0.006					
13	Y23DR- 49+70-50+65 RT	Overhead Power: WGO					0.032					
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	0.251	0.000	0.024	0	257	0

*Rounded totals are sum of actual impacts

NOTES:

Revised 5/9/2025 **Revised 10/20/2025**

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
9/4/2024
Wake County
R-2829A

JOSH STEIN
Governor
D. REID WILSON
Secretary
MARC RECKTENWALD
Director



October 27, 2025

Ms. Deanna Riffey
Environmental Analysis Unit
North Carolina Department of Transportation
1598 Mail Service Center
Raleigh, North Carolina 27699-1598

Dear Ms. Riffey:

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, and June 2, 2025 (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 wetland mitigation for the subject project. Based on the information supplied by you on October 23, 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	0.010	0	0	0

This additional impact and associated mitigation needs were not projected by the NCDOT in the 2025 impact projection dataset. 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 and 2025, 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	0.010	0.430
Buffer – Zone 1	525,868.000	1,577,604.000	0.000	525,868.000
Buffer – Zone 2	356,390.000	534,585.000	0.000	356,390.000

This mitigation acceptance letter replaces the mitigation acceptance letters issued on September 13, 2024, October 4, 2024, and May 23, 2025. DMS commits to implementing additional sufficient wetland 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 2

