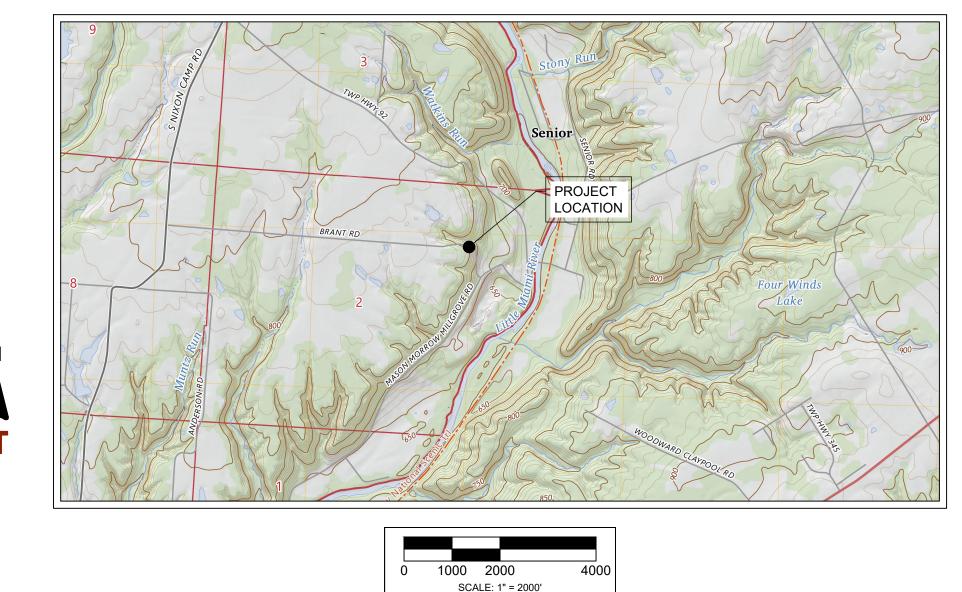
DRILLED SHAFT RETAINING WALL **BRANT ROAD LANDSLIDES** WARREN COUNTY ENGINEER'S OFFICE 210 W MAIN STREET LEBANON, OHIO 45036

SITE VICINITY MAP



SHEET INDEX

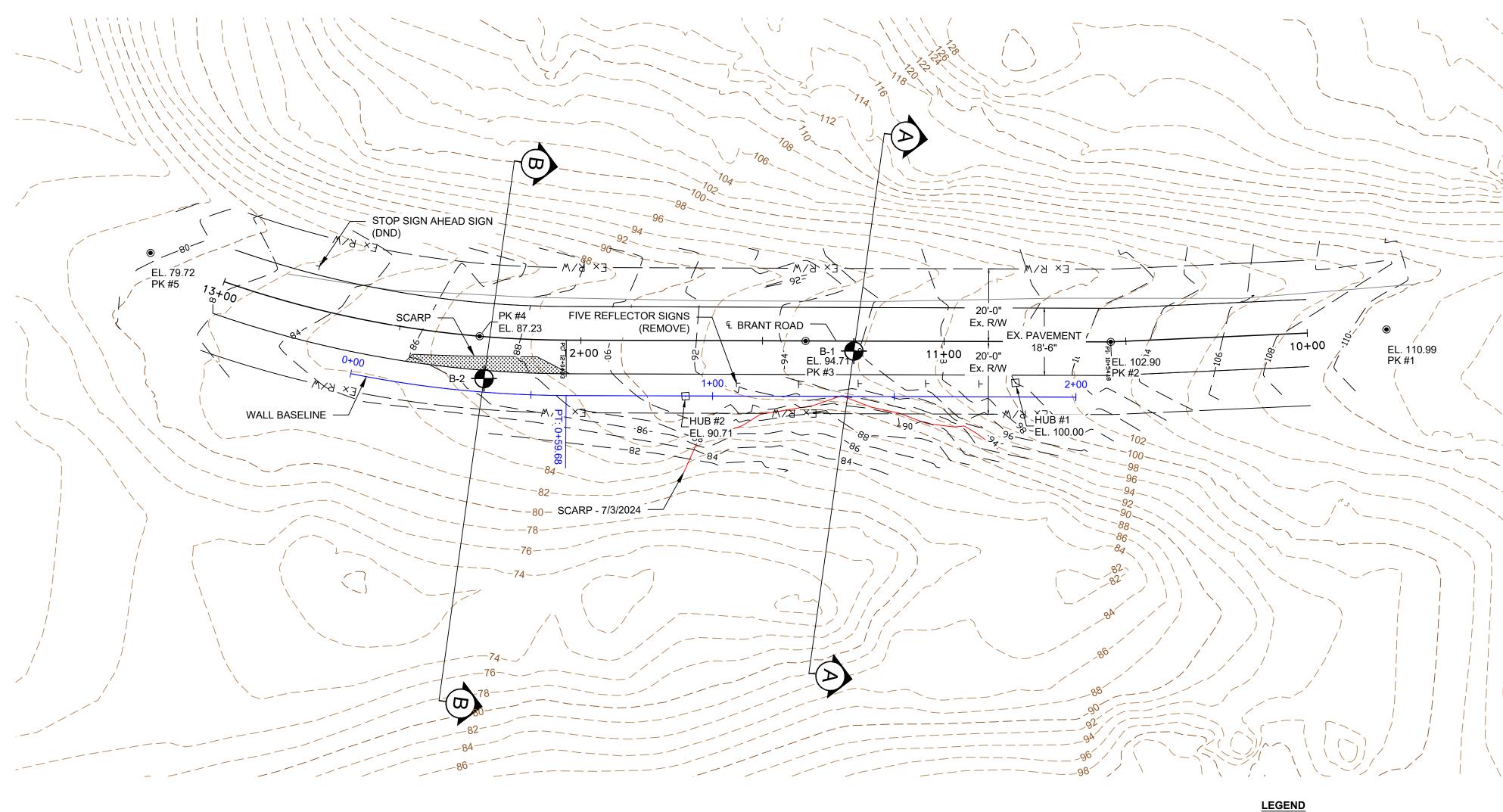
SHEET 1 - COVER AND TITLE SHEET SHEET 2 - SITE PLAN SHEET 3 - CROSS-SECTIONS SHEET 4 - WALL PLAN AND PROFILE SHEET 5 - DETAILS AND SCHEDULES SHEET 6 - DETAILS AND SCHEDULES SHEET 7 - BORING LOGS AND ROCK CORE PHOTOS SHEET 8 - DRILLED SHAFT CONSTRUCTION NOTES SHEET 9 - DETOUR (PREPARED BY WARREN COUNTY ENGINEER'S OFFICE)

DESIG DRAW APPVI SCALE DATE: JOB N SHEE	110 Page 111		COVER AND TITLE SHEET	REV. DATE BY	DESCRIPTION
D. BY: E: O.	RICH BA BA BA BA BA BA BA BA BA BA BA BA BA	lerracon			
F E C A	TER	Explore with us			
T RLB 3CM 0/2 10/2 1					
1 N NOT 3/24 451	4		210 W MAIN STRFFT		
4	N. N	611 LUNKEN PARK DRIVE CINCINNATI OHIO 45226			
9	h		I FBANON, OHIO 45036		

GENERAL DRAWING NOTES

THESE PLANS ARE SIZED FOR 34 INCHES BY 22 INCHES PAPER. THESE PLANS ARE INTENDED TO BE PRINTED IN COLOR.

THE BID DRAWINGS ARE TO AN APPROXIMATE SCALE BASED ON SITE TOPOGRAPHIC MAPPING WHILE REASONABLE ATTEMPTS WERE MADE TO PROVIDE THE BIDDERS WITH ACCURATE SCALED PLANS THAT REFLECT CURRENT CONDITIONS, MINOR ERRORS ARE EVIDENT. THE BIDDERS SHOULD VERIFY QUANTITIES BY PERFORMING A THOROUGH SITE VISIT AND OBTAINING HIS OWN TAKE OFF OF REQUIRED QUANTITIES FOR THE WORK ON THE PROJECT. TERRACON WILL NOT BE RESPONSIBLE FOR ADDITIONAL COSTS RESULTING FROM THE BIDDER NOT PERFORMING A THOROUGH SITE VISIT



PLAN VIEW SCALE: 1" = 20' LEGEND INDICATES TEST BORING LOCATIONS ----90---- LIDAR CONTOURS ----90---- WCEO CONTOURS NOTE: BASEMAP AND CONTROL POINTS PROVIDED BY WARREN COUNTY ENGINEER'S OFFICE (WCEO) ON 8/23/2024. LIDAR GROUND SURFACE DERIVED FROM LIDAR SCAN OF THE PROJECT SITE PERFORMED BY TERRACON ON 7/3/2024. LIDAR SCAN UTILIZED A ROCK R360 RUNNING IN SLAM MODE AND WAS PROCESSED INTO TOPOGRAPHY USING ROCK CLOUD.

Control Point	Northing (ft.)	Easting (ft.)	Elevation (ft.)
HUB #1	5000.00	5000.00	100.00
HUB #2	5023.05	5087.94	90.71
PK #1	4963.77	4903.40	110.99
PK #2	4983.38	4976.82	102.90
PK #3	5001.13	5058.91	94.71
PK #4	5019.08	5146.84	87.23
PK #5	5016.07	5240.26	79.72

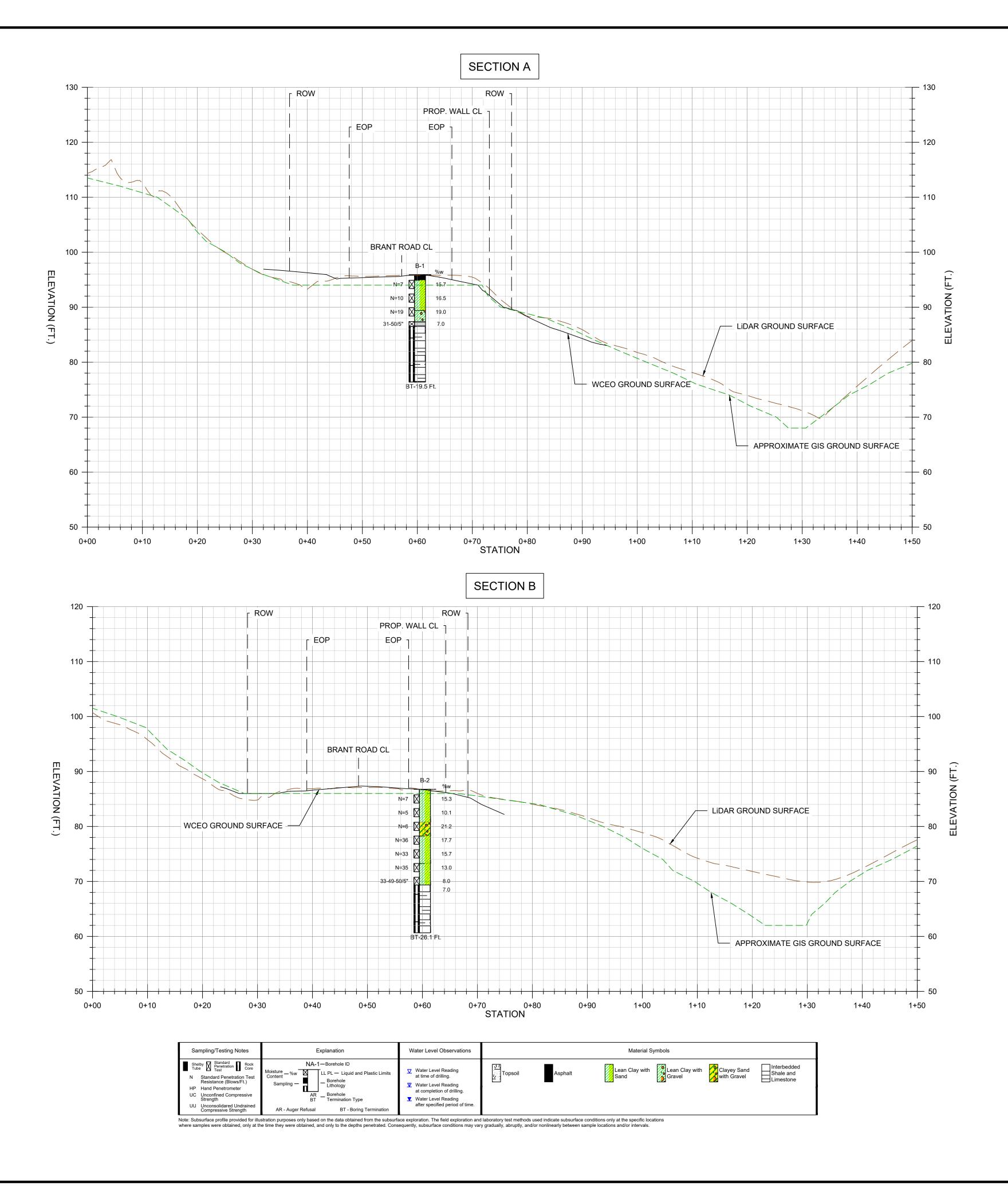
Control points established and provided by WCEO.

WALL BASELINE CURVE DATA LENGTH OF ARC = 59.68 FT RADIUS = 304.69

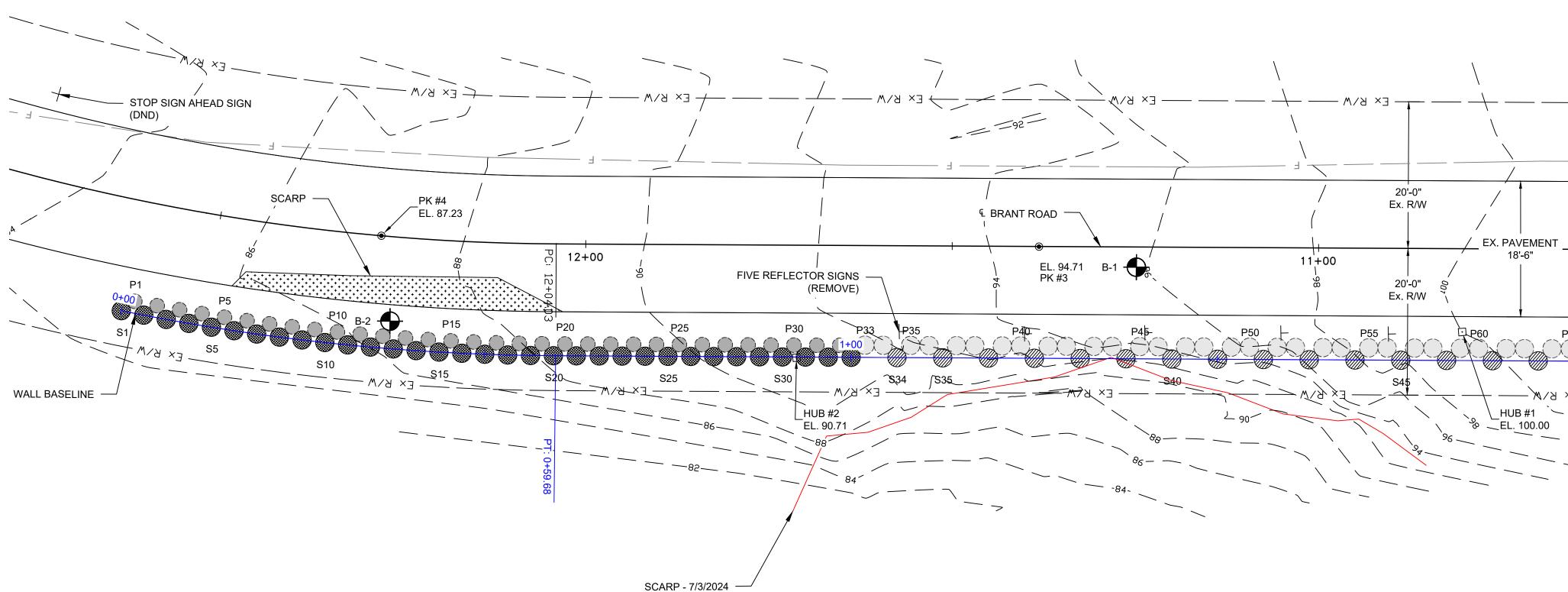
RADIUS = 304.69 CENTRAL ANGLE = 11.22 DEGREES TANGENT LENGTH = 29.93 FT

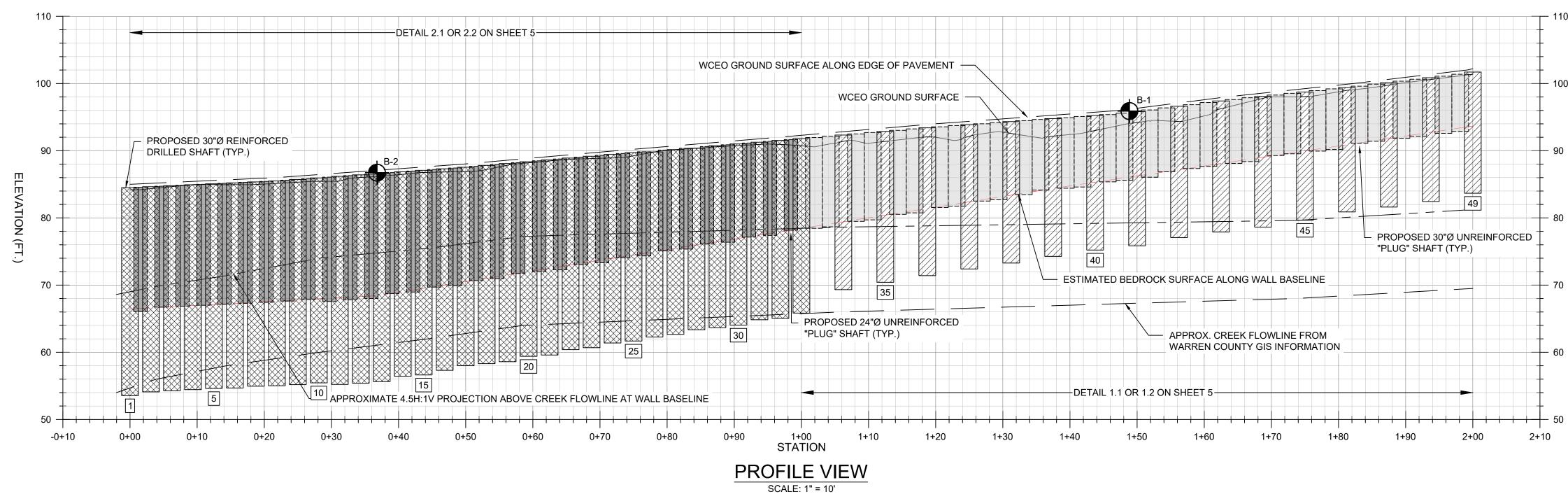
	REV. DATE BY DESCRIF		
.)	SITE PLAN	BRANT ROAD LANDSLIDES WARREN COUNTY ENGINEER'S OFFICE	210 W MAIN STREET LEBANON, OHIO 45036
		Explore with us	611 LUNKEN PARK DRIVE CINCINNATI, OHIO 45226 PH. (513) 321-5816 FAX. (513) 321-4540
		RICHARD BACH 86025 Man L SSIONAL 10/23/202	
	DESIG DRAW APPVE SCALE DATE: JOB NO SHEET	D. BY: DW :: 1" 10/2 D. N12	3 M

0 10 20 SCALE: 1" = 20'

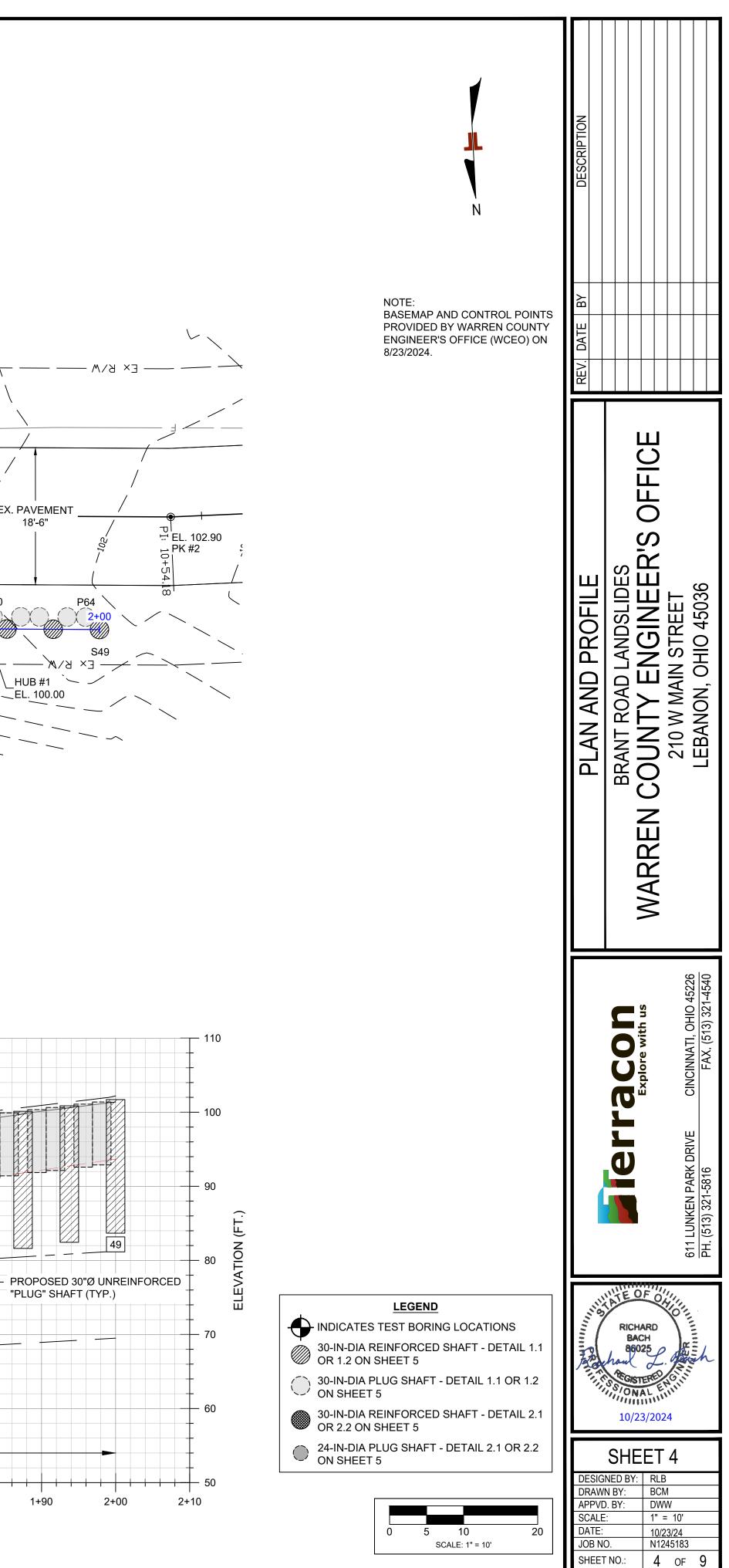


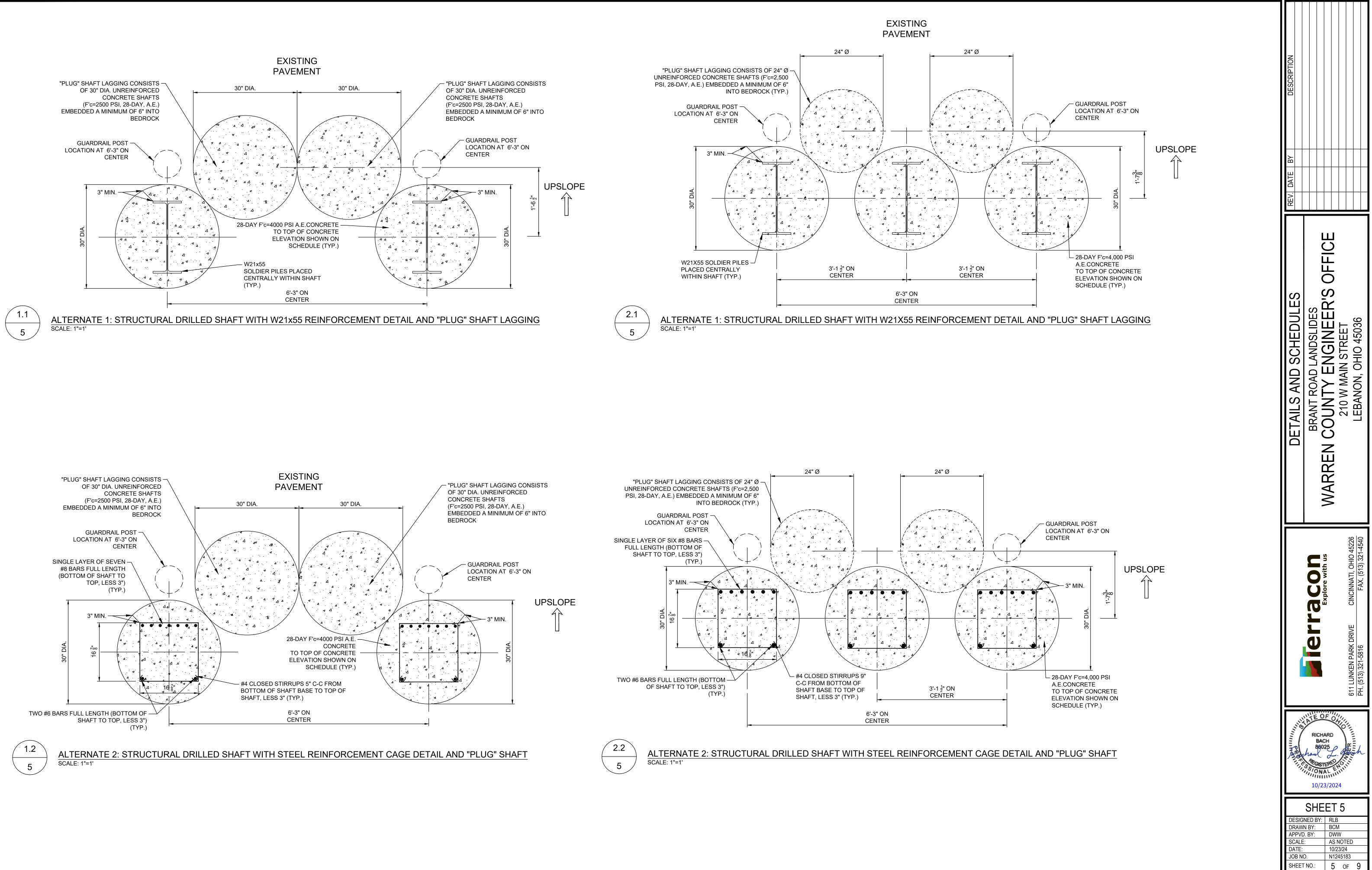
REV. DATE BY DESCRIPTION		
CROSS-SECTIONS	BRANT ROAD LANDSLIDES WARREN COUNTY ENGINEER'S OFFICE	210 W MAIN STREET LEBANON, OHIO 45036
	Explore with us	611 LUNKEN PARK DRIVE CINCINNATI, OHIO 45226 PH. (513) 321-5816 FAX. (513) 321-4540
	han 2 SSTEPE 10/23/202 SHEET NED BY: RLB NBY: BCM BY: DWM : 1" = 10/2	4 3 1 N 10'

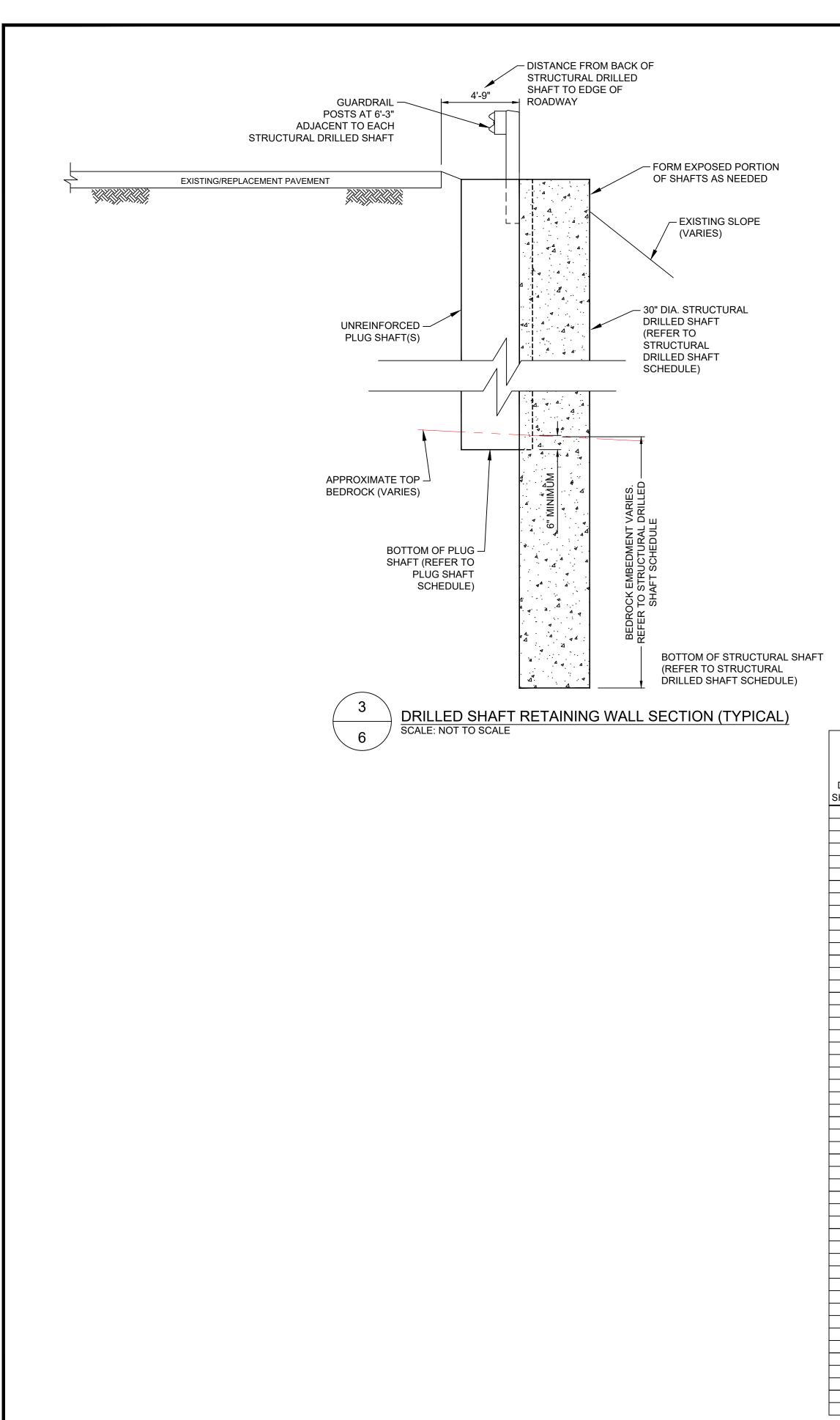












														PLUG	DRILLED SHAFT	APPROX. EXISTING GROUND SURFACE	BEDROCK SURFACE/ BOTTOM OF		APPROX TOTAL SHAFT
															DIAMETER (IN.)		SHAFT EL. (FT.)*	EL. (FT.)	LENGTH (FT.)*
														P1	24	84.2	66.1	84.6	18.5
														P2	24	84.5	66.7	84.7	18.0
														P3	24	84.8	66.9	84.9	18.0
														P4	24	85.0	67.0	85.0	18.0
				С.			LLED SHA							P5 P6	24 24	85.0 84.9	67.1 67.3	85.1 85.3	18.0 18.0
				<u> </u>	moon				DOLL					P0 P7	24 24	85	67.4	85.4	18.0
							<u>г г</u>		1	I				P8	24	85	67.6	85.6	18.0
						APPROX.		MINIMUM	MAXIMUM					P9	24	85	67.8	85.8	18.0
						EXISTING	ESTIMATED	BEDROCK	DEPTH TO	ESTIMATED		APPROX		P10	24	85	67.6	86.1	18.5
	DRILLED			WALL	WALL	GROUND	BEDROCK	SOCKET	BEDROCK	BOTTOM OF	TOP OF	TOTAL SHAFT		P11	24	86	67.8	86.3	18.5
DRILLED	SHAFT	NORTHING	EASTING	BASELINE	BASELINE	SURFACE	SURFACE EL.	LENGTH	FROM TOP OF	SHAFT EL.	CONCRETE	LENGTH	DRILLED	P12	24	86	68.0	86.5	18.5
SHAFT NO.	DIAMETER (IN.)	(FT.)*	(FT.)*	STATION*	OFFSET*	EL. (FT.)	(FT.)**	(FT.)**	SHAFT (FT.)	(FT.)**	EL. (FT.)	(FT.)**	SHAFT NO.	P13 P14	24 24	86 87	68.7 69.0	86.7 87.0	18.0
1	30	5,036.73	5,179.27	0+00.00	0.00'	84.2	66.4	12.5	19	53.5	84.5	31.0	1	P 14 P 15	24 24	87	<u> </u>	87.0	18.0 17.5
2	30	5,036.66	5,176.15	0+03.13	0.00'	84.4	66.6	12.5	19	54.1	84.6	30.5	2	P16	24	87	69.9	87.4	17.5
3	30	5,036.56	5,173.03	0+06.25	0.00'	84.7	66.8	12.5	19	54.3	84.8	30.5	3	P17	24	87	70.7	87.7	17.0
4	30 30	5,036.43 5,036.26	5,169.90 5,166.78	0+09.38 0+12.50	0.00'	85.0 85.0	66.9 67.1	12.5 12.5	19 19	54.4 54.6	84.9 85.1	30.5 30.5	4 5	P18	24	88	70.9	87.9	17.0
5 6	30	5,036.06	5,166.78	0+12.50	0.00	84.9	67.1	12.5	19	54.6 54.7	85.2	30.5	6	P19	24	88	71.7	88.2	16.5
7	30	5,035.84	5,160.55	0+18.75	0.00'	85.0	67.4	12.5	19	54.9	85.4	30.5	7	P20	24	88	72.0	88.5	16.5
8	30	5,035.58	5,157.43	0+21.88	0.00'	85.1	67.6	12.5	19	55.0	85.5	30.5	8	P21	24	88.6	72.3	88.8	16.5
9	30	5,035.28	5,154.32	0+25.00	0.00'	85.3	67.8	12.5	19	55.2	85.7	30.5	9	P22 P23	24 24	88.8 88.9	73.0 73.3	89.0 89.3	16.0 16.0
10	30	5,034.96	5,151.21	0+28.13	0.00'	85.4	68.0	12.5	19	55.5	86.0	30.5	10	P23 P24	24 24	89.0	73.3	89.5 89.6	15.5
11	30	5,034.60	5,148.11	0+31.25	0.00'	85.5	68.1	12.5	19	55.2	86.2	31.0	11	P25	24	89.5	74.3	89.8	15.5
12	30	5,034.22	5,145.01	0+34.38	0.00'	86.0	68.3	12.5	19	55.4	86.4	31.0	12	P26	24	90.0	75.1	90.1	15.0
13 14	30	5,033.80	5,141.91	0+37.50	0.00'	86.2	68.5	12.5 12.5	19	55.6 56.4	86.6 86.9	31.0	13	P27	24	90.3	75.4	90.4	15.0
14	30 30	5,033.34 5,032.86	5,138.82 5,135.73	0+40.63 0+43.75	0.00'	86.5 86.8	69.0 69.5	12.5	19 19	56.6	87.1	30.5 30.5	14 15	P28	24	90.5	76.1	90.6	14.5
16	30	5,032.35	5,132.65	0+46.88	0.00'	86.8	70.0	12.5	19	57.3	87.3	30.0	16	P29	24	90.7	76.4	90.9	14.5
17	30	5,031.80	5,129.57	0+50.00	0.00'	86.9	70.5	12.5	19	58.0	87.5	29.5	17	P30	24	90.9	77.1	91.1	14.0
18	30	5,031.22	5,126.50	0+53.13	0.00'	87.2	71.0	12.5	19	58.3	87.8	29.5	18	P31 P32	24 24	91.0 90.8	77.4 78.2	91.4 91.7	14.0 13.5
19	30	5,030.61	5,123.44	0+56.25	0.00'	87.8	71.5	12.5	19	58.6	88.1	29.5	19	P 32 P 33	30	90.8	78.5	91.7	13.5
20	30	5,029.97	5,120.38	0+59.38	0.00'	88.2	72.0	12.5	19	59.4	88.4	29.0	20	P34	30	91.0	78.7	92.2	13.5
21	30	5,029.31	5,117.32	0+62.50	0.00'	88.5	72.5	12.5	19	59.6	88.6	29.0	21	P35	30	91.4	79.5	92.5	13.0
22	30 30	5,028.65 5,028.00	5,114.27 5,111.21	0+65.63 0+68.75	0.00'	88.7	73.0 73.5	12.5	19 19	60.4 60.7	88.9 89.2	28.5 28.5	22	P36	30	91.2	79.7	92.7	13.0
23 24	30	5,028.00	5,108.16	0+66.75	0.00	88.8 88.9	73.5	12.5 12.5	19	61.4	89.2	28.0	23	P37	30	91.6	80.5	93.0	12.5
25	30	5,026.68	5,105.10	0+75.00	0.00'	89.2	74.5	12.5	19	61.7	89.7	28.0	25	P38	30	91.9	80.7	93.2	12.5
26	30	5,026.02	5,102.05	0+78.13	0.00'	89.8	75.0	12.5	19	62.3	89.8	27.5	26	P39	30	91.9	81.6	93.6	12.0
27	30	5,025.36	5,099.00	0+81.25	0.00'	90.2	75.5	12.5	19	62.7	90.2	27.5	27	P40 P41	30 30	91.6 92.5	81.7 82.5	93.7 94.0	12.0 11.5
28	30	5,024.70	5,095.94	0+84.38	0.00'	90.4	76.0	12.5	19	63.4	90.4	27.0	28	P41 P42	30	92.5	<u> </u>	94.0 94.2	11.5
29	30	5,024.04	5,092.89	0+87.50	0.00'	90.6	76.5	12.5	19	63.7	90.7	27.0	29	P43	30	92.3	83.5	94.5	11.0
30	30	5,023.38	5,089.83	0+90.63	0.00'	90.8	76.9	12.5	19	64.0	91.0	27.0	30	P44	30	91.9	84.1	94.6	10.5
31 32	30 30	5,022.72 5,022.06	5,086.78 5,083.72	0+93.75 0+96.88	0.00'	90.9 90.9	77.4 77.9	12.5 12.5	19 19	64.8 65.0	91.3 91.5	26.5 26.5	31 32	P45	30	92.3	84.4	94.9	10.5
32	30	5,022.06	5,083.72	1+00.00	0.00	90.9	77.9	12.5	19	65.8	91.5	26.5	32	P46	30	92.6	84.6	95.1	10.5
34	30	5,020.08	5,074.56	1+06.25	0.00'	91.4	79.4	10.0	13	69.3	92.3	23.0	34	P47	30	93.4	85.4	95.4	10.0
35	30	5,018.76	5,068.45	1+12.50	0.00'	91.4	80.4	10.0	14	70.4	92.9	22.5	35	P48	30	93.9	85.6	95.6	10.0
36	30	5,017.44	5,062.34	1+18.75	0.00'	92.1	81.4	10.0	14	71.4	93.4	22.0	36	P49 P50	30 30	94.4	86.1 86.9	96.1 96.4	10.0 9.5
37	30	5,016.13	5,056.23	1+25.00	0.00'	92.2	82.4	10.0	14	72.4	93.9	21.5	37	P50 P51	30	94.4	87.3	96.4 96.8	9.5
38	30	5,014.81	5,050.12	1+31.25	0.00'	92.6	83.4	10.0	14	73.3	94.3	21.0	38	P52	30	95.3	87.7	97.2	9.5
39	30	5,013.49	5,044.01	1+37.50	0.00'	92.2	84.4	10.0	14	74.3	94.8	20.5	39	P53	30	96.7	88.1	97.6	9.5
40 41	30 30	5,012.17 5,010.85	5,037.90 5,031.79	1+43.75 1+50.00	0.00'	93.0 94.2	85.3 86.2	10.0 10.0	14	75.2 75.8	95.2 95.8	20.0 20.0	40	P54	30	97.3	88.4	97.9	9.5
41	30	5,010.85	5,031.79	1+50.00	0.00	94.2	86.2 87.2	10.0	14	75.8	95.8	20.0	41	P55	30	98.0	89.3	98.3	9.0
42	30	5,009.55	5,025.68	1+56.25	0.00'	96.3	88.1	10.0	14	77.9	90.0	19.5	42	P56	30	98.0	89.5	98.5	9.0
40	30	5,006.89	5,013.47	1+68.75	0.00'	97.8	89.0	10.0	14	78.6	98.1	19.5	44	P57	30	98.2	89.9	98.9	9.0
45	30	5,005.57	5,007.36	1+75.00	0.00'	98.1	90.0	10.0	14	79.7	98.7	19.0	45	P58	30	98.7	90.2	99.2	9.0
46	30	5,004.26	5,001.25	1+81.25	0.00'	99.0	90.9	10.0	14	80.9	99.4	18.5	46	P59 P60	30 30	99.2 99.5	<u>91.1</u> 91.4	99.6 99.9	8.5 8.5
47	30	5,002.94	4,995.14	1+87.50	0.00'	99.8	91.8	10.0	14	81.6	100.1	18.5	47	P60	30	100.1	91.4	100.3	8.5
48	30	5,001.62	4,989.03	1+93.75	0.00'	100.6	92.7	10.0	14	82.4	100.9	18.5	48	P62	30	100.4	92.1	100.6	8.5
49	30	5,000.30	4,982.92	2+00.00	0.00'	101.4	93.7	10.0	14	83.7	101.7	18.0	49	P63	30	100.8	92.6	101.1	8.5
* THE DRILLI	ED SHAFT COOF	NOINATES ARE	E PROVIDED	AS NORTH	INGS AND E	ASTINGS BAS	ED ON THE LOC	AL COORDINA	TE SYSTEM FR	OM THE WCEC		CONTROL POIN	TS AND AS	P64	30	101.1	92.9	101.4	8.5

STATIONING AND OFFSETS ALONG THE PROPOSED WALL BASELINE BASED ON FOLLOWING: STA. 0+00 = 5036.73' N, 5179.27' E, STA. 0+59.68 = 5029.91' N, 5120.08' E, AND STA. 2+00 = 5000.30' N, 4982.92' E. ADDITIONAL BENCHMARKS ARE SHOWN ON SHEET 2.

** THE TOP OF BEDROCK ELEVATIONS AND BEDROCK SOCKET LENGTHS ARE APPROXIMATIONS BASED ON THE SUBSURFACE INFORMATION OBTAINED FROM THE TEST BORINGS. THE MINIMUM BEDROCK SOCKET LENGTHS SHALL DICTATE THE ACTUAL BOTTOM OF SHAFT ELEVATIONS AND TOTAL SHAFT LENGTHS.

REV. DATE BY DESCRIPTION									
DETAILS AND SCHEDULES	BRANT ROAD LANDSLIDES WARREN COUNTY ENGINEER'S OFFICE 210 W MAIN STREET LEBANON, OHIO 45036								
	611 LUNKEN PARK DRIVE CINCINNATI, OHIO 45226 PH. (513) 321-5816 FAX. (513) 321-4540								
110 CONTRACT	RICHARD BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content BACH 86025 Content Content Content Content Content BACH 86025 Content Con								
DESIG DRAWI APPVD SCALE DATE: JOB NO SHEET	BY: DWW : AS NOTED 10/23/24 N1245183								

PLUG SHAFT SCHEDULE

* PLUG SHAFTS ARE TO BE INSTALLED 6 INCHES INTO THE TOP OF BEDROCK. THEREFORE, THE SHAFT BOTTOM ELEVATIONS AND THE TOTAL SHAFT LENGTHS WILL VARY BASED ON THE FIELD-ENCOUNTERED BEDROCK CONDITIONS AT EACH INDIVIDUAL SHAFT LOCATION.

577	5 Brant	l Landslides - Retaining Wall Design t Road Morrow, OH roject No. N1245183										61		en Park Dr i, OH	
			Bo	orir	ŋ	Lc) g	No. B-1	L						
iyer	Log	Location: See Exploration Plan		t.)	vel ons	ype	(%)	s	(%)	Ð	ned sive (tsf)	(%)	nit pcf)	Atterberg Limits	
Model Layer	Graphic I	Northing: 5000.99 Easting: 5045.32		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	RQD (%)	HP (tsf)	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	LL-PL-PI	Percent
		Depth (Ft.) Elevation: 95.9 (Ft ASPHALT (11.5 INCHES)													\vdash
		1.0 FILL - LEAN CLAY WITH SAND (CL), trace gravel, yellowish brown or gray	94.9	-	-	X	55	5-4-3 N=7	-			15.7			
1				-	-	\times	100	7-5-5 N=10	-			16.5		35-15-20	7
				5 –											\vdash
3		6.5 <u>LEAN CLAY WITH ROCK</u> <u>FRAGMENTS (CL)</u> , trace sand, yellowish brown and gray, very	89.4	-		X	100	6-5-14 N=19	_	4.5 (HP)		19.0			
		8.5 stiff, (RESIDUUM) WEATHERED SHALE, gray 9.4	87.4 86.5	_		\times	100	31-50/5"	-			7.0			
		INTERBEDDED SHALE AND LIMESTONE, gray, Shale (75%), Very Weak, Unweathered to Slightly Weathered, Laminated,		10-	-		100		0						
		Poor RQD Limestone (25%), Unweathered to Slightly Weathered, Medium Strong to Strong, Thin to Laminated		_	-										
4		Bedding, Poor RQD		-	-		100		60						
				15-											
	╞╧			_	$\mathbf{\nabla}$					1					
				-	-		100		48						
		19.5 Boring Terminated at 19.5 Feet	76.4	_											\vdash
		ation and Testing Procedures for a description of	field and	l labora	tory pr	oced	lures	Water Leve	l Observati	ons				Drill Rig	L
See	Suppo	additional data (If any). r <mark>ting Information</mark> for explanation of symbols and Reference: Elevations were interpolated from a to			olan.			🕎 At cor	npletion of dri	illing				766 Hammer Typ Automatic	e
Not	tes							Advanceme						Driller AWM Logged by	
		inates and elevations are relative to local control n 8/26/2024.	points e	stablish	ed by	WCE	O and	3.25" HSA/						JH Boring Start 07-25-2022	
								Abandonme Boring backt Surface capp	illed with Au	iger Cut	tings			Boring Comp 07-25-2022	olete





ROCK CORE B-1

5775 Bran	d Landslides - Retaining Wall Design t Road Morrow, OH rroject No. N1245183	Der								6:		EFFAC ken Park Dr ti, OH	on	5	rant Road Landslides - Retaini 775 Brant Road Morrow, Ol erracon Project No. N1245183	H
		Bori	ng			No. B-2		1			-	Atterberg				
Layer ic Log	Location: See Exploration Plan	(Ft.)	Level	P Type	ry (%)	Test ults	(%)	tsf)	fined essive	ter ht (%)	Unit (pcf)	Limits	ent es		Sampling	g
Model Layer Graphic Log	Northing: 5030.19 Easting: 5143.16	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	RQD (%)	HP (tsf)	Unconfined Compressive Strength (tef)	Water Content (%)	Dry Unit Weight (pcf)	LL-PL-PI	Percent Fines		Rock Core	Standard Penetration
	Depth (Ft.) Elevation: 86.7 (Ft.	.) +/-		$\left \right $	_											Test
	(CL), brown and gray		-		44	2-3-4	-			15.3	-					
				\vdash	_	N=7	-				-					
1			_		28	2-3-2	-			10.1						
		5	_	\bowtie		N=5	-				-					
	6.0 FILL - CLAYEY SAND WITH GRAVEL (SC), brown and gray	80.7	-		100	4-4-2	-			21.2	_	29-18-11	38			
	<u>CIRATE (BC)</u> , brown and gruy			μ.		N=6	-			21.2		23 10 11	50			
	8.5 LEAN CLAY WITH SAND (CL), brown and gray, very stiff to hard	78.2	_		100	6-24-12	-			17.7						
	brown and gray, very still to hard	10)	μ.		N=36	-				-				Soil classification as noted or	
2			-	H.	100	7-18-15	-			15.7	_			:	consistent with ASTM D2487 Soils (Visual-Manual Procedu	ure)" is also use
			-	\square	100	N=33	-			15.7	-				with ASTM D2487. In additio soils are classified on the ba	
	13.5 LEAN CLAY WITH SAND (CL),	73.2				15-15-20	-				-			1	to methodology in general. I	in some cases,
	trace gravel, olive and brown, hard, (RESIDUUM)	15	5-	\square	100	N=35	-			13.0	-					
3			-	\vdash		22.10.50/58	-				-					
	17.4 INTERBEDDED SHALE AND	69.3	-	\square	94	33-49-50/5"		-		8.0		-			Exploration point locations a	s shown on the
	LIMESTONE, gray, Shale (75%), Very Weak, Unweathered to Slightly Weathered, Laminated,				100		76		20.09	7.0	151			i	approximate. See Exploratio elevation data annotated wit	n and Testing F
	Poor RQD Limestone (25%), Unweathered to Slightly Weathered, Medium Strong	20)												elevation was approximately	
	to Strong, Thin to Laminated Bedding, Poor RQD		_		100		33									
			-		100											
															Relative Density o	
	-	25	-▼		100		72								(More than 50% ret Density determined by St	tained on No. 2 tandard Penetra
	26.1 Boring Terminated at 26.1 Feet	60.6	_	┦┦	_										Deletine Deveite	Standard
															Relative Density	(Bl
															Loose	
															Medium Dense	
See Explo used and	ration and Testing Procedures for a description of additional data (If any).	field and labo	oratory p	rocedu	ires	Water Level	Observati	ions		•		Drill Rig 766			Dense	:
	orting Information for explanation of symbols and Reference: Elevations were interpolated from a to					At com	pletion of dri	illing				Hammer Typ Automatic	be		Very Dense	
												Driller AWM				U
Notes	instant and playations are relative to least as that	pointe estatu	iched b	WCEO) and	Advanceme 3.25" HSA/ N	nt Method					Logged by				
	inates and elevations are relative to local control n 8/26/2024.	points establi	ыней ру	WCEU	and		-					Boring Start	ed		Exploration/field results and,	
						Abandonme Boring backfi	lled with Au	iger Cu	ttings			Boring Comp 07-25-2022			document. Use of such explo	pracion/field res
						Surface capp						echnical Ma				



ROCK CORE B-2

	General Notes		611 Lunken Park Dr Cincinnati, OH
	Water Level		Field Tests
\square	Water Initially Encountered	N	Standard Penetration Test Resistance (Blows/Ft.)
∇	Water Level After a Specified Period of Time	(HP)	Hand Penetrometer
	Water Level After a Specified Period of Time	(T)	Torvane
	Cave In Encountered	(DCP)	Dynamic Cone Penetrometer
	vels indicated on the soil boring logs are the easured in the borehole at the times indicated.	UC	Unconfined Compressive Strength
ow pern	vater level variations will occur over time. In neability soils, accurate determination of	(PID)	Photo-Ionization Detector
	vater levels is not possible with short term vel observations.	(OVA)	Organic Vapor Analyzer

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

		Strength Terms							
(More than 50% retai	Coarse-Grained Soils ined on No. 200 sieve.) ndard Penetration Resistance	Consistency of Fine-Grained Soils (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance							
Relative Density	Standard Penetration or N-Value (Blows/Ft.)	Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)					
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1					
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4					
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8					
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15					
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30					
		Hard	> 4.00	> 30					

Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Facilities | Environmental | Geotechnical | Materials

DESCRIPTION				
REV. DATE BY				
BORING LOGS AND ROCK CORE PHOTOS	BRANT ROAD LANDSLIDES			LEBANON, OHIO 45036
	ELTACON Explore with us		IVE CINCINNATI, OHIO 45226	
	C		611 LUNKEN PARK DRIVE	
1100 PROFESSION	RICHAF BACH BACH BACH BACH BACH BACH BACH BACH	LENG	N SER	h
DESIG DRAWI APPVD SCALE DATE: JOB NO	. BY: :	RLB BCM DWW AS NC 10/23/2 N1245	TED	

IN THE FOLLOWING NOTES. THE ENGINEER SHALL BE HELD TO MEAN THE DESIGN ENGINEER FROM TERRACON CONSULTANTS, INC. (TERRACON). THE OWNER SHALL BE HELD TO MEAN WARREN COUNTY, OHIO. THE PROJECT PLANS SHALL BE HELD TO MEAN THESE PLANS PREPARED BY TERRACON. ODOT CMS SHALL BE HELD TO MEAN THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS, CURRENT EDITION.

THE PURPOSE OF THIS WORK IS TO REMEDIATE LATERAL MOVEMENT ON THE DOWNSLOPE SIDE OF BRANT ROAD; HOWEVER, PLEASE NOTE THAT CONTINUED MOVEMENT OF THE HILLSIDE DOWNSLOPE OF THIS WALL SHOULD BE EXPECTED. OWNER SHALL MONITOR THE WALL AND PROJECT AREA FOR FUTURE MOVEMENT THAT MAY COMPROMISE THE WALL. THE ENGINEER SHOULD BE CONTACTED IN SUCH CASE TO REVIEW.

- THE CONTRACTOR SHALL REFER TO THE PROJECT PLANS AND THESE CONSTRUCTION NOTES, AND SHALL SATISFY THE REQUIREMENTS OF BOTH. ANY DISCREPANCIES BETWEEN THE PROJECT PLANS AND THESE CONSTRUCTION NOTES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING. THE RESOLUTION OF ANY DISCREPANCY SHALL BE AT THE SOLE DISCRETION OF THE ENGINEER.
- 2. THE CONTRACTOR SHALL OBTAIN ANY NECESSARY PERMITS THAT ARE REQUIRED FOR THIS WORK PRIOR TO PERFORMANCE OF THIS WORK.
- THE CONTRACTOR SHALL COORDINATE A STAGING AREA. ACCEPTABLE TO THE ENGINEER AND 3. OWNER, FOR STOCKPILING MATERIALS, INCLUDING DRILLING AND EXCAVATION SPOILS.
- 4. THE CONTRACTOR SHALL DEVELOP A MAINTENANCE OF TRAFFIC CONTROL (MOT) PLAN AND ESTABLISH THE WORK ZONE WITHIN THE LIMITS OF THE ROADWAY IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). THESE SHALL BE COORDINATED WITH THE OWNER PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE WITH THE OWNER, OH 811 (FORMERLY OHIO UTILITY 5. PROTECTION SERVICES), AND ALL UTILITY COMPANIES TO CHECK FOR UNDERGROUND UTILITIES WITHIN THE WORK AREA BEFORE THE SHAFTS ARE DRILLED. THE ENGINEER SHALL BE NOTIFIED OF ANY EXISTING UTILITIES, STRUCTURES, OR OTHER INFRASTRUCTURE WITHIN THE PROPOSED DRILLED SHAFT LOCATIONS THAT DEVIATE FROM THE LOCATIONS SHOWN ON THE PROJECT PLANS OR ARE NOT SHOWN ON THE PROJECT PLANS BEFORE WORK BEGINS. SHOULD THE PRESENCE OF UNDERGROUND FEATURES NEGATIVELY IMPACT THE DESIGN OF THE DRILLED SHAFT WALL, A REASONABLE ALLOTMENT OF TIME SHALL BE PROVIDED IN THE CONSTRUCTION SCHEDULE TO MAKE DESIGN REVISIONS WHERE APPROPRIATE.
- OVERHEAD UTILITIES SHALL BE PROTECTED AND/OR RELOCATED AS NECESSARY FOR 6 CONSTRUCTION.
- 7. THE CONTRACTOR SHALL COORDINATE THE PROJECT PLANS AND THE FIELD CONDITIONS. THE ENGINEER SHALL APPROVE OF ADJUSTMENTS AND ADJUST THE REINFORCING STEEL DESIGN AND/OR BEDROCK SOCKET LENGTH, IF NECESSARY.
- STAKING OF THE DRILLED SHAFTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE SHAFTS SHALL BE LOCATED WITHIN 3 INCHES OF THE PLANNED LOCATION.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ACCESS FOR EQUIPMENT AND PERSONNEL
- 10. ALL DRILLED SHAFT EXCAVATIONS SHALL BE REVIEWED BY THE ENGINEER, OR A REPRESENTATIVE THEREOF, AT THE EXPENSE OF THE OWNER DURING DRILLING AND PRIOR TO PLACING REINFORCING STEEL AND CONCRETE. FINAL INTERPRETATION OF THE DRILLED SHAFT WALL PLANS AND THESE DRILLED SHAFT WALL CONSTRUCTION NOTES SHALL BE AT THE DISCRETION OF THE ENGINEER. THE CONTRACTOR SHALL BE FAMILIAR WITH THE REQUIRED SPECIAL INSPECTIONS AND THEIR FREQUENCY, SHALL SCHEDULE THE ENGINEER, OR A REPRESENTATIVE THEREOF, AND SHALL PROVIDE SAFE ACCESS FOR THE REQUIRED TESTING AND REVIEWS.
- 11. THE DRILLED SHAFTS SHALL BE DRILLED WITH DRY DRILLING METHODS AND SHALL BE DRILLED SO THAT THEY DO NOT COLLAPSE DURING DRILLING. PLACEMENT OF REINFORCING STEEL. AND/OR CONCRETING. CASING OF THE DRILLED SHAFTS SHALL BE PROVIDED, AS NECESSARY, TO CONTROL CAVING SOILS AND/OR EXCESSIVE GROUNDWATER SEEPAGE.
- 12. THE DRILLED SHAFTS SHALL BE EXCAVATED PLUMB. AND THE BOTTOMS SHALL BE RELATIVELY LEVEL AND REASONABLY FREE OF LOOSE AND DISTURBED MATERIAL PRIOR TO PLACING CONCRETE. THE OUT-OF-PLUMB TOLERANCE SHALL BE 1.5 PERCENT OF THE SHAFT LENGTH. THE DRILLED SHAFT EXCAVATIONS WILL EXTEND INTO THE INTERBEDDED SHALE AND LIMESTONE BEDROCK, AND THE CONTRACTOR SHALL BE PREPARED TO DRILL THROUGH THE BEDROCK WITH THE PROPER EQUIPMENT.
- 13. DRILLED SHAFTS SHALL BE EXTENDED TO THE MINIMUM EMBEDMENT INTO BEDROCK INDICATED IN THE STRUCTURAL DRILLED SHAFT AND PLUG SHAFT SCHEDULES. IF BEDROCK IS ENCOUNTERED MORE THAN 1.0 FT. BELOW THE ANTICIPATED BEDROCK SURFACE ELEVATIONS. THE ENGINEER SHALL BE NOTIFICED IMMEDIATELY TO REVIEW AND PROVIDE ADDITIONAL RECOMENTAIONS. LONGER OR ADDITIONAL REINFORCING MAY BE REQUIRED IN THIS CASE.
- 14. THE DRILLED SHAFTS SHALL BE REINFORCED AND FILLED WITH CONCRETE THE SAME DAY THAT THE ENTIRE BEDROCK SOCKET (TOP TO BOTTOM) IS DRILLED. IF CONCRETE CANNOT BE PLACED THE SAME DAY AS THE BEDROCK SOCKET IS DRILLED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR DIRECTION. WHICH MAY INVOLVE EXTENDING THE DRILLED SHAFT DEEPER AND/OR REDRILLING THE SHAFT WITH A LARGER DIAMETER AUGER, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COSTS ASSOCIATED WITH NOT FILLING THE DRILLED SHAFT WITH CONCRETE THE SAME DAY THAT THE BEDROCK SOCKET IS DRILLED.
- 15. SPOILS FROM THE DRILLED SHAFT EXCAVATIONS SHALL BE SPREAD AND COMPACTED ALONG THE DOWNSLOPE EDGE OF THE ROAD WITHIN THE WORK AREA TO RECONSTRUCT THE

DRILLED SHAFT CONSTRUCTION NOTES

SHOULDER. THE FILL SOILS PLACED ALONG THE SHOULDER SHALL BE PLACED IN LEVEL, LOOSE LIFTS (8 TO 10 INCHES THICK) AND COMPACTED TO AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698). EXCESS SPOILS SHALL BE WASTED OFF SITE. DISTURBED AREAS SHALL BE RESTORED WITH SEED AND STRAW AND SHALL BE COVERED WITH A TEMPORARY EROSION CONTROL BLANKET/MAT THAT IS INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. FOLLOWING WALL INSTALLATION AND FINAL GRADING. EXCESS SHAFT SPOILS SHALL BE REMOVED FROM THE SITE (NOT WASTED ON THE HILLSIDE BELOW THE WALL). NO FILL PLACEMENT SHOULD BE ALLOWED DOWNSLOPE OF THE WALL FACE

16. CONCRETE:

- A. CONCRETE FOR THE DRILLED SHAFTS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH (F'/C) OF 4,000 PSI, SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 1.5 INCHES, AIR ENTRAINED BETWEEN 5% AND 8%, AND SHALL BE PLACED AT A SLUMP OF 5 TO 7 INCHES, EXCEPT 2,500 PSI CONCRETE MAY BE USED FOR THE UNREINFORCED PLUG SHAFTS.
- CONCRETE SHALL NOT BE PLACED THROUGH MORE THAN 3 INCHES OF STANDING WATER THAT MAY ACCUMULATE AT THE BOTTOM OF ANY DRILLED SHAFT EXCAVATION. DURING CONCRETE PLACEMENT FOR THE DRILLED SHAFTS, THE CONCRETE SHALL BE DIRECTED SO AS NOT TO STRIKE THE REINFORCEMENT DURING FREEFALL AND TO AVOID CAUSING SEGREGATION OF THE CONCRETE. CONCRETE PLACEMENT FOR ANY GIVEN DRILLED SHAFT SHALL BE CONTINUOUS.
- C. IF TEMPORARY CASING IS REQUIRED DURING THE DRILLED SHAFT EXCAVATIONS, THE TEMPORARY CASING SHALL BE EXTRACTED AT SUCH A RATE AND IN SUCH A MANNER THAT THE OVERBURDEN SOILS DO NOT CAVE INTO THE SHAFT DURING CONCRETE PLACEMENT AND THAT POCKETS OF AIR AND SOIL ARE NOT INTRODUCED INTO THE CONCRETE.
- D. THE TOP 6 FEET OF CONCRETE IN THE DRILLED SHAFTS SHALL BE VIBRATED WITH A CONCRETE VIBRATOR.
- WHERE NECESSARY, TEMPORARY CYLINDRICAL FORMS SHALL BE USED FOR FORMING THE CONCRETE ABOVE EXISTING GRADES.
- F. COLD JOINTS SHALL NOT BE USED IN THE DRILLED SHAFTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER. IF COLD JOINTS ARE USED, THEY SHALL BE CLEANED AND PREPARED PER ACI 301 SPECIFICATIONS.
- G. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES WITHIN ACI 301, "STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE," AND, WHEN NECESSARY, SHALL IMPLEMENT THE PRACTICES OUTLINED WITHIN ACI 305, "HOT WEATHER CONCRETING," OR ACI 306, "COLD WEATHER CONCRETING."

17. REINFORCEMENT:

- REINFORCEMENT FOR THE STRUCTURAL SHAFTS SHALL CONSIST OF EITHER: (A) ROLLED STEEL SECTIONS CONFORMING TO ASTM A992, GRADE 50 (F/Y = 50 KSI), OR (B) A CAGE OF REINFORCING STEEL BARS CONFORMING TO ASTM A615, GRADE 60 (F/Y = 60 KSI) AND EPOXY COATED IN ACCORDANCE WITH ASTM A775.
- PROVIDE PILES FREE OF CAMBER OR TWIST THAT WOULD AFFECT THEIR STRUCTURAL CAPACITY. SPLICING OF THE SOLDIER PILES SHALL NOT BE PERMITTED WITHOUT REVIEW AND WRITTEN PERMISSION BY THE ENGINEER
- C. ALL REINFORCING STEEL CONSTRUCTION AND PLACEMENT SHALL BE IN CONFORMANCE WITH ACI 318-19. ALL REINFORCING STEEL SHALL BE RELATIVELY CLEAN OF RUST. SOIL. AND OTHER DEBRIS IMMEDIATELY PRIOR TO THE PLACEMENT OF CONCRETE.
- D. UNLESS NOTED OTHERWISE. ALL REINFORCING STEEL SHALL HAVE MINIMUM CLEAR COVER OF 3 INCHES WHERE THE CONCRETE IS CAST AGAINST SOIL OR BEDROCK PLASTIC BOTTOM BOLSTERS AND SPACERS SHALL BE PROVIDED TO MAINTAIN THE PROPER CLEAR COVER IN THE DRILLED SHAFTS.
- E. LAP SPLICES SHALL NOT BE USED TO SPLICE NO. 11 OR LARGER STEEL BARS. IF SPLICING IS NECESSARY, MECHANICAL COUPLERS SHALL BE PROVIDED THAT ARE CAPABLE OF DEVELOPING AT LEAST 1.25F/Y. THE LOCATIONS OF THE COUPLERS SHALL BE COORDINATED WITH PROJECT GEOTECHNICAL ENGINEER. LAP SPLICES MAY BE USED FOR THE NO. 10 AND SMALLER BARS.

18. DISTURBED AREAS SHALL BE SEEDED AND COVERED WITH A TEMPORARY EROSION CONTROL MAT, CONFORMING TO ODOT CMS ITEM 712.11.

19. IF DIRECTED BY OWNER, CONSTRUCTION OF A GUARDRAIL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE GUARDRAIL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ODOT CMS ITEMS 606 AND 710.15. GUIDANCE ON THE LOCATION AND EXTENT OF NEW GUARDRAIL TO BE PROVIDED BY OWNER.

20. PAVEMENTS DAMAGED DUE TO CONSTRUCTION OF THE WALL SHALL BE RESTORED IN KIND. PAVEMENT RESTORATION, INCLUDING SUBGRADE PREPARATION, SHALL BE COMPLETED IN ACCORDANCE WITH ODOT CMS ITEMS 204 (SUBGRADE COMPACTION AND PROOF ROLLING), 301 (ASPHALT CONCRETE BASE), 407 (TACK COAT), AND 441 (ASPHALT CONCRETE SURFACE & INTERMEDIATE COURSES).

21. REFER TO THE BORING LOGS ON SHEET 7 OF THESE PROJECT PLANS FOR SUBSURFACE INFORMATION.

22. TERRACON HAS DESIGNED THE DRILLED SHAFTS TO SUPPORT THE LATERAL EARTH PRESSURES FOR THE PROPOSED GRADES SHOWN ON THE PLANS INCLUDING A TRAFFIC SURCHARGE OF 250 PSF. TERRACON ASSUMES NO RESPONSIBILITY FOR, BUT NOT LIMITED TO, THE FOLLOWING ITEMS:

- LOCATION PROTECTION OF EXISTING UNDERGROUND OR ABOVE GROUND UTILITIES.
- COORDINATION AND VERIFICATION OF DIMENSIONS AND DETAILS WITH EXISTING ON-SITE

CONDITIONS.

- CONSTRUCTION.
- WALL

FIELD QUALITY CONTROL

C. CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF PERSONS AND PROPERTY DURING D. TRAFFIC CONTROL E. SLOPE MOVEMENT DOWNSLOPE AND BEYOND THE LIMITS OF THE PROPOSED RETAINING OWNER WILL COORDINATE FIELD CONSTRUCTION INSPECTION AND REPORTING THROUGH IN-HOUSE PERSONNEL OR TERRACON. DOCUMENTATION SHALL INCLUDE THE FOLLOWING AT EACH SHAFT 1. GROUND ELEVATION AS-BUILT SHAFT DIAMETER TOP AND BOTTOM OF SHAFT ELEVATIONS TOP OF BEDROCK ELEVATION 5. DESCRIPTION OF ENCOUNTERED SOIL AND BEDROCK MATERIALS \bigcirc 6. DESCRIPTION. LOCATION. AND DIMENSION OF ANY OBSTRUCTIONS 7. FINAL TOP CENTERLINE LOCATION AND DEVIATION FROM REQUIREMENTS 8. VARIATION OF SHAFT FROM PLUMB \mathbf{O} 9. DRILLED SHAFT EXCAVATING METHOD NO 10. LENGTH OF ROCK SOCKET INTO BEDROCK 11. LEVELNESS OF SHAFT BOTTOM AND ADEQUACY OF CLEANOUT ⊆ш 12. GROUNWATER CONDITIONS AND WATER INFILTRATION RATE, DEPTH, AND PUMPING RU 13. DESCRIPTION, DIAMETER, AND TOP AND BOTTOM ELEVATIONS OF TEMPORARY OR PERMANENT C CASINGS 14. DESCRIPTION OF SOIL OR WATER MOVEMENTS, SIDEWALL STABILITY, LOSS OF GROUND, AND ωШ MEANS OF CONTROL 15. DATE AND TIME OF STARTING AND COMPLETING DRILLED SHAFT EXCAVATION 16. TYPE, NUMBER, AND POSITION OF REINFORCING STEEL ANT UN 210 EBA **AH** 17. CONCRETE PLACEMENT METHOD, INCLUDING DELAYS 0 ELEVATION OF CONCRETE DURING REMOVAL OF CASINGS S \bigcirc 19. LOCATION OF CONSTRUCTION JOINTS, IF ANY Ζ ш 20. REMARKS, UNUSUAL CONDITIONS ENCOUNTERED, AND DEVIATIONS FROM REQUIREMENTS Ш С CONCRETE: SAMPLING AND TESTING OF CONCRETE FOR QUALITY CONTROL SHALL INCLUDE THE AR FOLLOWING: \Box SAMPLING FRESH CONCRETE: ASTM c172, EXCEPT MODIFIED FOR SLUMP TO COMPLY WITH ASTM C 94/ C94M. a. SLUMP: ASTM C143/C143M; ONE TEST AT POINT OF PLACEMENT FOR EACH SET OF COMPRESSIVE STRENGTH TEST SPECIMENS b. CONCRETE TEMPERATURE: ASTM C1064; ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 F (4.4 C) AND BELOW AND WHEN 80 F (27 C) AND ABOVE, AND ONE TEST FOR EACH SET OF COMPRESSIVE STRENGTH SPECIMENS. c. COMPRESSION TEST SPECIMENS: ASTM C31/C31M; ONE SET OF FIVE STANDARD CYLINDERS FOR EACH COMPRESSIVE STRENGTH TEST, UNLESS OTHERWISE INDICATED. MOLD AND STORE CYLINDERS FOR LABORATORY CURED TEST SPECIMENS. σ d. COMPRESIVE STRENGTH TESTS: ASTM C39; ONE SET OF FIVE CYLINDERS FOR EACH 100 CY OF CONCRETE PLACED, OR A MINIMUM OF ONE SET PER DAY, ONE SPECIMEN WILL BE TESTED AT 7 DAYS. TWO SPECIMENS WILL BE TESTED AT 28 DAYS. AND TWO SPECIMENS WILL BE RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED. THE LOCATION OF THE CONCRETE TEST SPECIMEN SHALL BE NOTED (SHAFT NUMBER). NKEN 3) 321 e. CONCRETE AIR CONTENT: ASTM C231: ONE TEST FOR EACH SET OF COMPRESSIVE STRENGTH TEST SPECIMENS. 2. STRENGTH LEVEL OF CONCRETE WILL BE CONSIDERED SATISFACTORY IF AVERAGES OF THREE SETS OF CONSECUTIVE STRENGTH TEST RESULTS EQUAL OR EXCEED SPECIFIED COMRPESSIVE STRENGTH AND NO INDIVIDUAL STRENGTH TEST RESULT FALLS BELOW SPECIFIED COMPRESSIVE TE OF O STRENGTH BY MORE THAN 500 PSI AND SLUMP OF 6±1 INCHES. RICHARD BACH 86025 0 10/23/2024 SHEET 8 DESIGNED BY: RLB DRAWN BY: BCM APPVD. BY: DWW SCALE: NO SCALE

10/23/24

N1245183

SHEET NO.: 8 OF 9

JOB NO.

