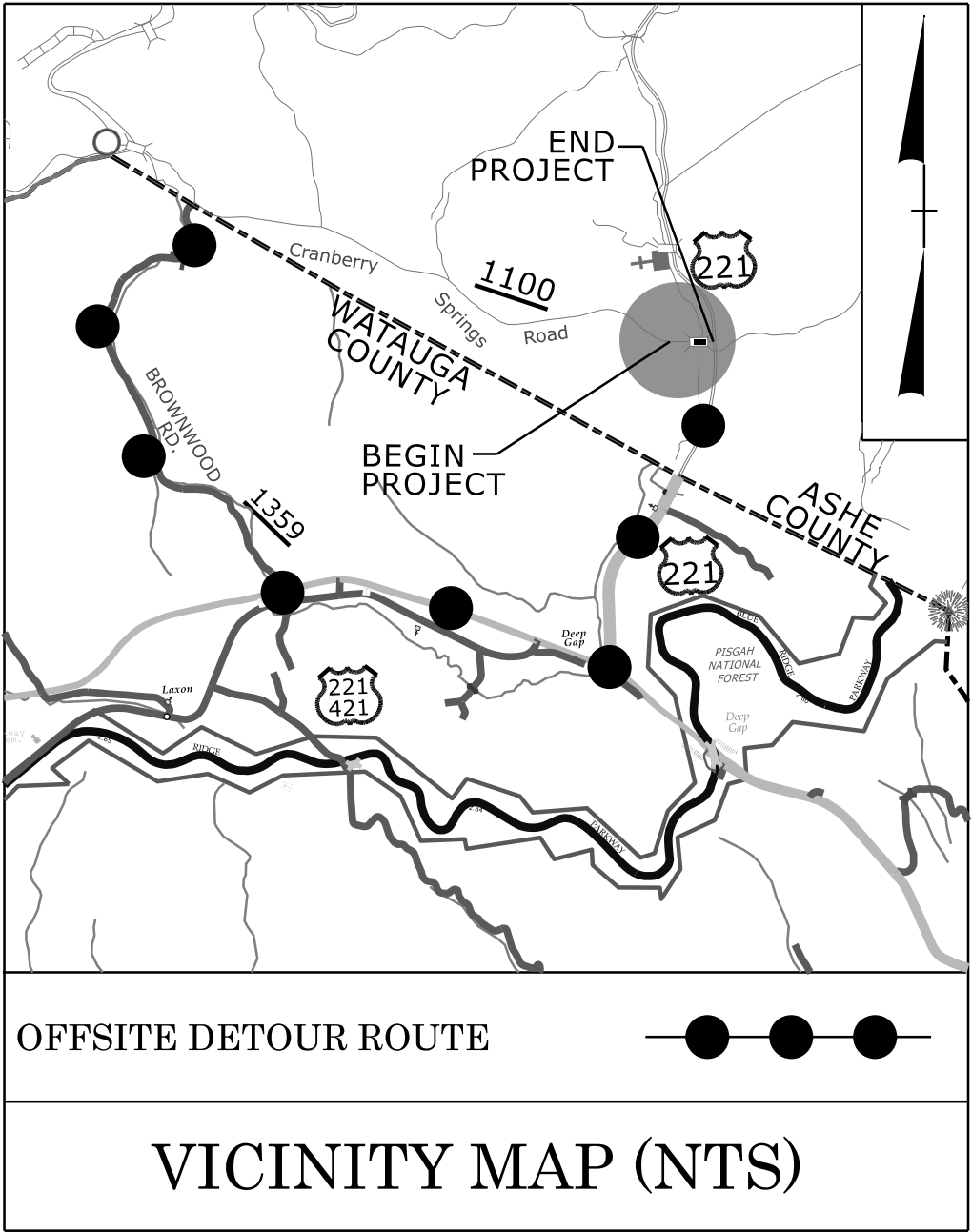


09/08/99

TIP PROJECT: BP11-R016

CONTRACT: DK00426

See Sheet 1A For Index of Sheets
See Sheet 1B For Conventional Plan Sheet Symbols



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

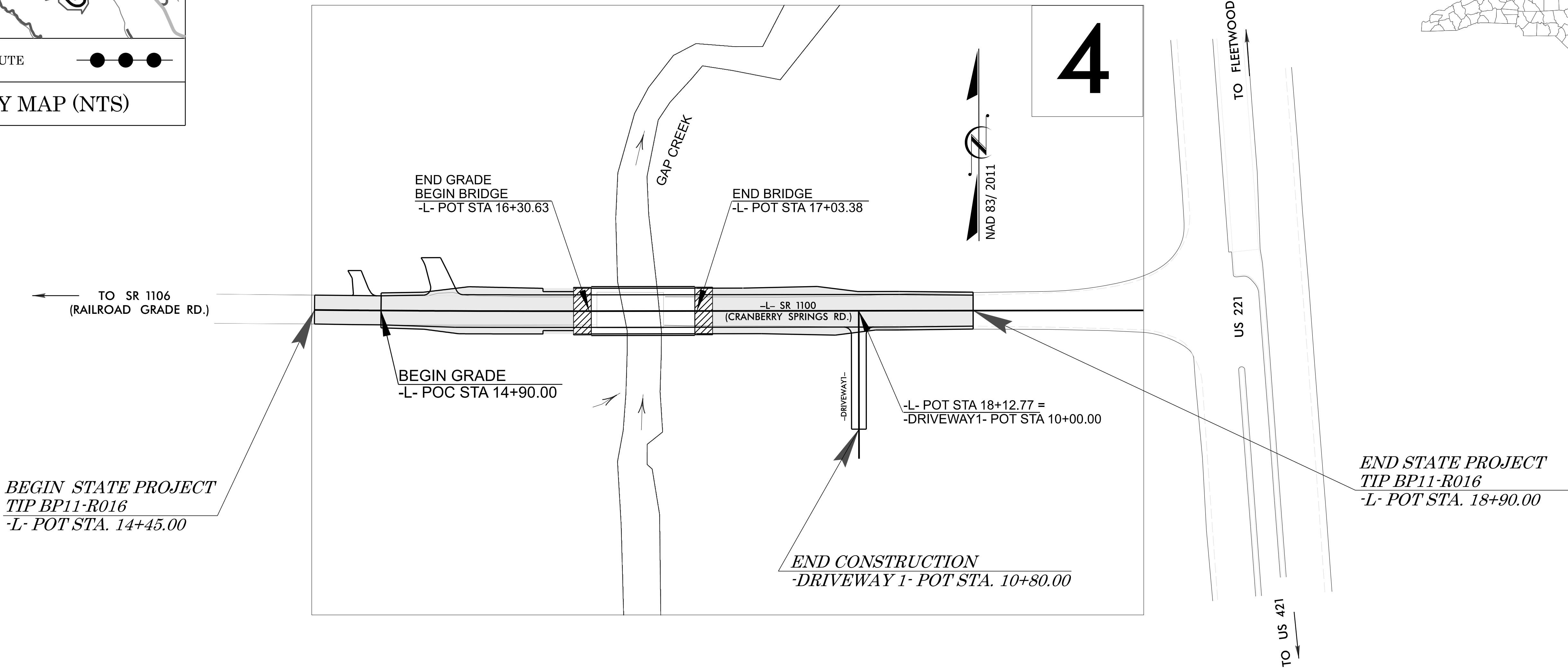
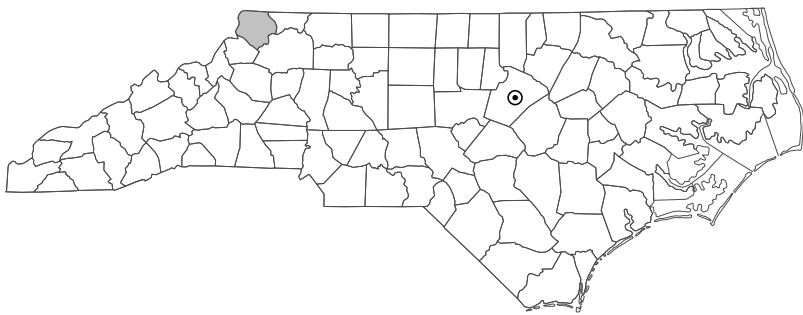
ASHE COUNTY

LOCATION: *BRIDGE NO.040171 ON SR 1100 (CRANBERRY SPRINGS RD.)
OVER GAP CREEK*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11-R016	1	
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
BP11-R016.1			PE
BP11-R016.2			R/W & UTILITY
BP11-R016.3			CONSTRUCTION

FINAL PLANS



THIS IS A NON CONTROLLED ACCESS FACILITY.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES

20 10 0 20 40

PLANS

20 10 0 20 40

PROFILE (HORIZONTAL)

10 5 0 10 20

PROFILE (VERTICAL)

DESIGN DATA

ADT 2025 = 1,220

ADT 2045 = 1,812

V = 50 MPH

* TTST =1% DUAL 2%

FUNC CLASS = LOCAL SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BP11-R016 = 0.070 MILES

LENGTH STRUCTURES TIP PROJECT BP11-R016 = 0.014 MILES

TOTAL LENGTH TIP PROJECT BP11-R016 = 0.084 MILES

NCDOT CONTACT: ROB N. WEISZ, PE
DIVISION 11

801 STATESVILLE RD.
NORTH WILKESBORO, 28659

DIRECT: (336)903-9138
RNWEISZ@NCDOT.GOV

Prepared in the Office of:
STV STV Engineers, Inc.
2151 Hawkins Street, Suite 1400
Charlotte, NC 28203
NC License Number F-0991

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
AUGUST 15, 2024

LETTING DATE:
JUNE 5th, 2025

SARA S. LOUKILI, P.E.
PROJECT ENGINEER

MORGAN STAHL, P.E.
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER
3/28/2025

ROADWAY DESIGN ENGINEER
3/28/2025

Signed by: *Celina G. [Signature]*
SIGNATURE

Signed by: *Sara Loukili*
SIGNATURE

SEAL 056663
CELINA BOCHIS-CHISHU
P.E.

SEAL 057348
SARA S. LOUKILI
P.E.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1	PAVEMENT SCHEDULE AND TYPICAL SECTIONS
3B-1	SUMMARIES SHEET (EARTHWORK, PAVEMENT REMOVAL, GUARDRAIL, DRAINAGE)
3G-1	GEOTECHNICAL SUMMARIES SHEET
3P-1	PARCEL INDEX SHEET
4 THRU 6	PLAN AND PROFILE SHEETS
RW02C-1 THRU RW-4	SURVEY CONTROL AND RIGHT-OF-WAY SHEETS
TMP-1 THRU TMP-2A	TRAFFIC CONTROL PLANS
PMP-1 THRU PMP-2	PAVEMENT MARKING PLANS
EC-1 THRU EC-5	EROSION CONTROL PLANS
UO-1 THRU UO-2	UTILITIES BY OTHERS PLANS
X-1	CROSS-SECTIONS SUMMARY SHEET
X-2 THRU X-10	CROSS-SECTIONS
S-1 THRU S-15	STRUCTURE PLANS

GENERAL NOTES

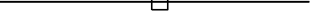
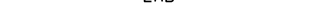
GENERAL NOTES:	2024 SPECIFICATIONS EFFECTIVE: 01-16-2024
GRADING AND SURFACING OR RESURFACING AND WIDENING:	THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.
GRADING:	THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.
CLEARING:	CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.
SUPERELEVATION:	ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.
SHOULDER CONSTRUCTION:	ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01
SIDE ROADS:	THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.
SUBSURFACE DRAINS:	SUBSURFACE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.02 AT LOCATIONS DIRECTED BY THE ENGINEER.
DRIVEWAYS:	DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3 FOOT RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
GUARDRAIL:	THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.
TEMPORARY SHORING:	SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.
SUBSURFACE PLANS:	NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.
END BENTS:	THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.
UTILITIES:	UTILITY OWNERS ON THIS PROJECT ARE POWER - BLUE RIDGE ENERGY COMMUNICATIONS - SKYLINE/ SKYBEST ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

STANDARD DRAWINGS

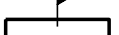
2024 ROADWAY ENGLISH STANDARD DRAWINGS	EFF. 01-16-2024
The following Roadway Standards as appear in "Roadway Standard Drawings" Contracts Standards and Development Unit - N. C. Department of Transportation - Raleigh, N. C., Dated January 16, 2024 are applicable to this project and by reference hereby are considered a part of these plans:	
STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
240.01	Guide for Berm Ditch Construction
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation (Use Details in Lieu of Standards for Sheets 1 and 2 of 2)
310.10	Driveway Pipe Construction
DIVISION 4 - MAJOR STRUCTURES	
423.01	Bridge Approach Fills - Type 1 Approach Fill for Bridge Abutment
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 8 - INCIDENTALS	
815.02	Subsurface Drain
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.29	Frames and Narrow Slot Flat Grates
840.35	Traffic Bearing Grated Drop Inlet - for Cast Iron Double Frame and Grates
846.01	Concrete Curb, Gutter and Curb & Gutter
846.04	Drop Inlet Installation in Shoulder Berm Gutter
848.02	Driveway Turnout - Radius Type
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
876.01	Rip Rap in Channels and Ditches
876.02	Guide for Rip Rap at Pipe Outlets
876.04	Drainage Ditches with Class 'B' Rip Rap

Note: Not to Scale

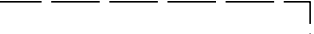
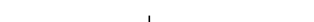
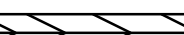
BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin (EIP)	
Computed Property Corner	
Existing Concrete Monument (ECM)	
Parcel / Sequence Number	
Existing Fence Line	
Proposed Woven Wire Fence	
Proposed Chain Link Fence	
Proposed Barbed Wire Fence	
Existing Wetland Boundary	
Proposed Wetland Boundary	
Existing Endangered Animal Boundary	
Existing Endangered Plant Boundary	
Existing Historic Property Boundary	
Known Contamination Area: Soil	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
Contaminated Site: Known or Potential	

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	
Sign	
Well	
Small Mine	
Foundation	
Area Outline	
Cemetery	
Building	
School	
Church	
Dam	

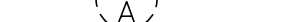
HYDROLOGY:

Stream or Body of Water	
Hydro, Pool or Reservoir	
Jurisdictional Stream	
Buffer Zone 1	
Buffer Zone 2	
Flow Arrow	
Disappearing Stream	
Spring	
Wetland	
Proposed Lateral, Tail, Head Ditch	
False Sump	

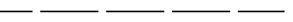
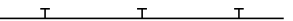
RAILROADS:

Standard Gauge	
RR Signal Milepost	
Switch	
RR Abandoned	
RR Dismantled	

RIGHT OF WAY & PROJECT CONTROL:

Primary Horiz Control Point	
Primary Horiz and Vert Control Point	
Secondary Horiz and Vert Control Point	
Vertical Benchmark	
Existing Right of Way Monument	
Proposed Right of Way Monument (Rebar and Cap)	
Proposed Right of Way Monument (Concrete)	
Existing Permanent Easement Monument	
Proposed Permanent Easement Monument (Rebar and Cap)	
Existing C/A Monument	
Proposed C/A Monument (Rebar and Cap)	
Proposed C/A Monument (Concrete)	
Existing Right of Way Line	
Proposed Right of Way Line	
Existing Control of Access Line	
Proposed Control of Access Line	
Proposed ROW and CA Line	
Existing Easement Line	
Proposed Temporary Construction Easement	
Proposed Temporary Drainage Easement	
Proposed Permanent Drainage Easement	
Proposed Permanent Drainage/Utility Easement	
Proposed Permanent Utility Easement	
Proposed Temporary Utility Easement	
Proposed Aerial Utility Easement	

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	
Existing Curb	
Proposed Slope Stakes Cut	
Proposed Slope Stakes Fill	
Proposed Curb Ramp	
Existing Metal Guardrail	
Proposed Guardrail	
Existing Cable Guiderail	
Proposed Cable Guiderail	
Equality Symbol	
Pavement Removal	
VEGETATION:	
Single Tree	
Single Shrub	
Hedge	

Woods Line	
Orchard	
Vineyard	

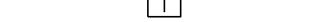
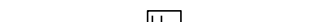
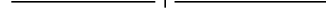
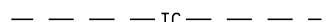
EXISTING STRUCTURES:

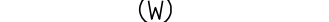
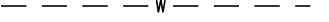
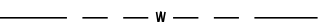
MAJOR:	
Bridge, Tunnel or Box Culvert	
Bridge Wing Wall, Head Wall and End Wall	
MINOR:	
Head and End Wall	
Pipe Culvert	
Footbridge	
Drainage Box: Catch Basin, DI or JB	
Paved Ditch Gutter	
Storm Sewer Manhole	
Storm Sewer	

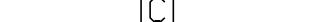
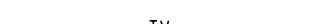
UTILITIES:

* SUE - Subsurface Utility Engineering
LOS - Level of Service - A,B,C or D (Accuracy)

POWER:	
Existing Power Pole	
Proposed Power Pole	
Existing Joint Use Pole	
Proposed Joint Use Pole	
Power Manhole	
Power Line Tower	
Power Transformer	
U/G Power Cable Hand Hole	
H-Frame Pole	
U/G Power Line Test Hole (SUE - LOS A)*	
U/G Power Line (SUE - LOS B)*	
U/G Power Line (SUE - LOS C)*	
U/G Power Line (SUE - LOS D)*	

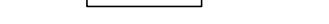
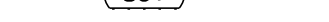
TELEPHONE:	
Existing Telephone Pole	
Proposed Telephone Pole	
Telephone Manhole	
Telephone Pedestal	
Telephone Cell Tower	
U/G Telephone Cable Hand Hole	
U/G Telephone Test Hole (SUE - LOS A)*	
U/G Telephone Cable (SUE - LOS B)*	
U/G Telephone Cable (SUE - LOS C)*	
U/G Telephone Cable (SUE - LOS D)*	
U/G Telephone Conduit (SUE - LOS B)*	
U/G Telephone Conduit (SUE - LOS C)*	
U/G Telephone Conduit (SUE - LOS D)*	
U/G Fiber Optics Cable (SUE - LOS B)*	
U/G Fiber Optics Cable (SUE - LOS C)*	
U/G Fiber Optics Cable (SUE - LOS D)*	

WATER:	
Water Manhole	
Water Meter	
Water Valve	
Water Hydrant	
U/G Water Line Test Hole (SUE - LOS A)*	
U/G Water Line (SUE - LOS B)*	
U/G Water Line (SUE - LOS C)*	
U/G Water Line (SUE - LOS D)*	
Above Ground Water Line	

TV:	
TV Pedestal	
TV Tower	
U/G TV Cable Hand Hole	
U/G TV Test Hole (SUE - LOS A)*	
U/G TV Cable (SUE - LOS B)*	
U/G TV Cable (SUE - LOS C)*	
U/G TV Cable (SUE - LOS D)*	
U/G Fiber Optic Cable (SUE - LOS B)*	
U/G Fiber Optic Cable (SUE - LOS C)*	
U/G Fiber Optic Cable (SUE - LOS D)*	

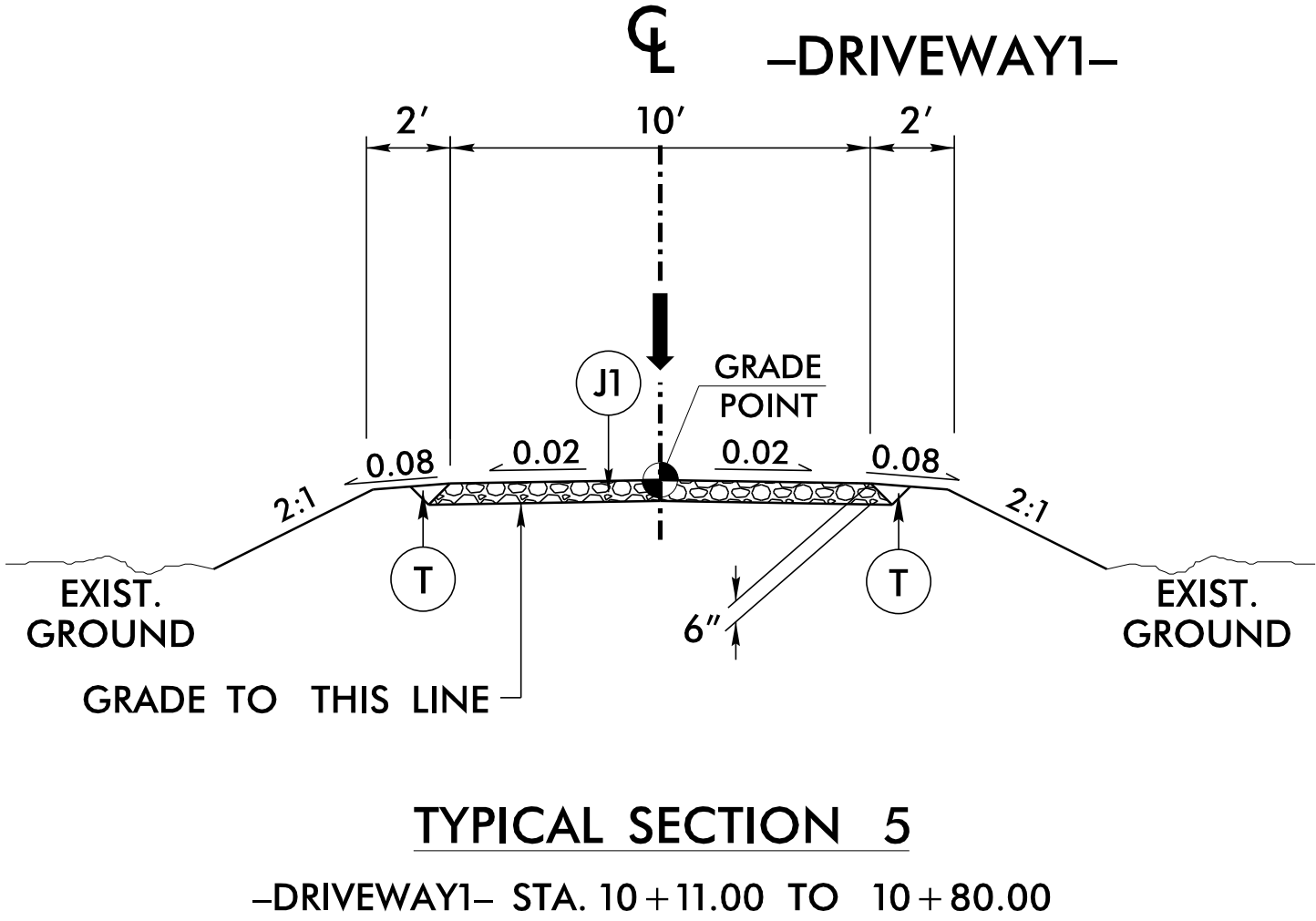
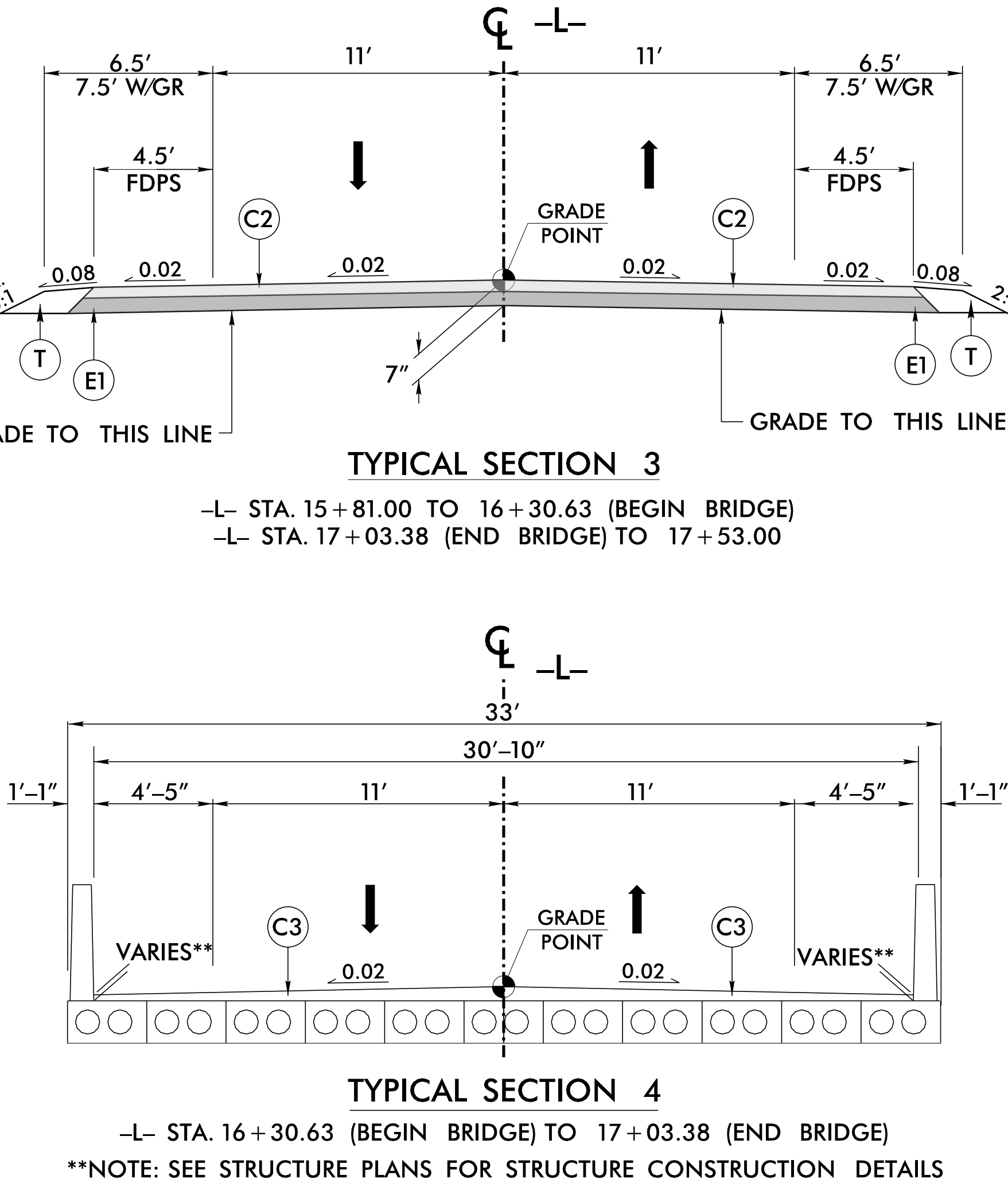
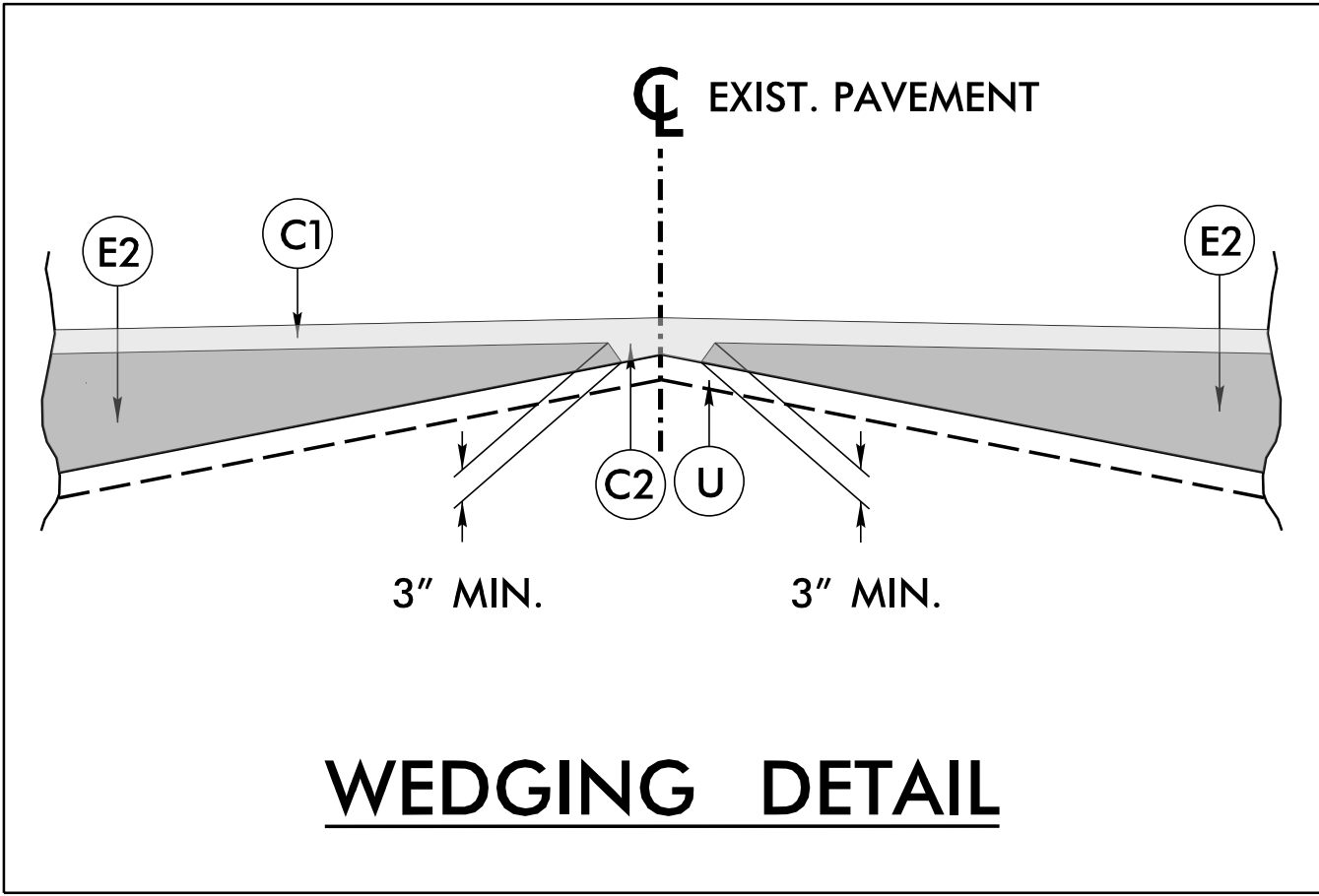
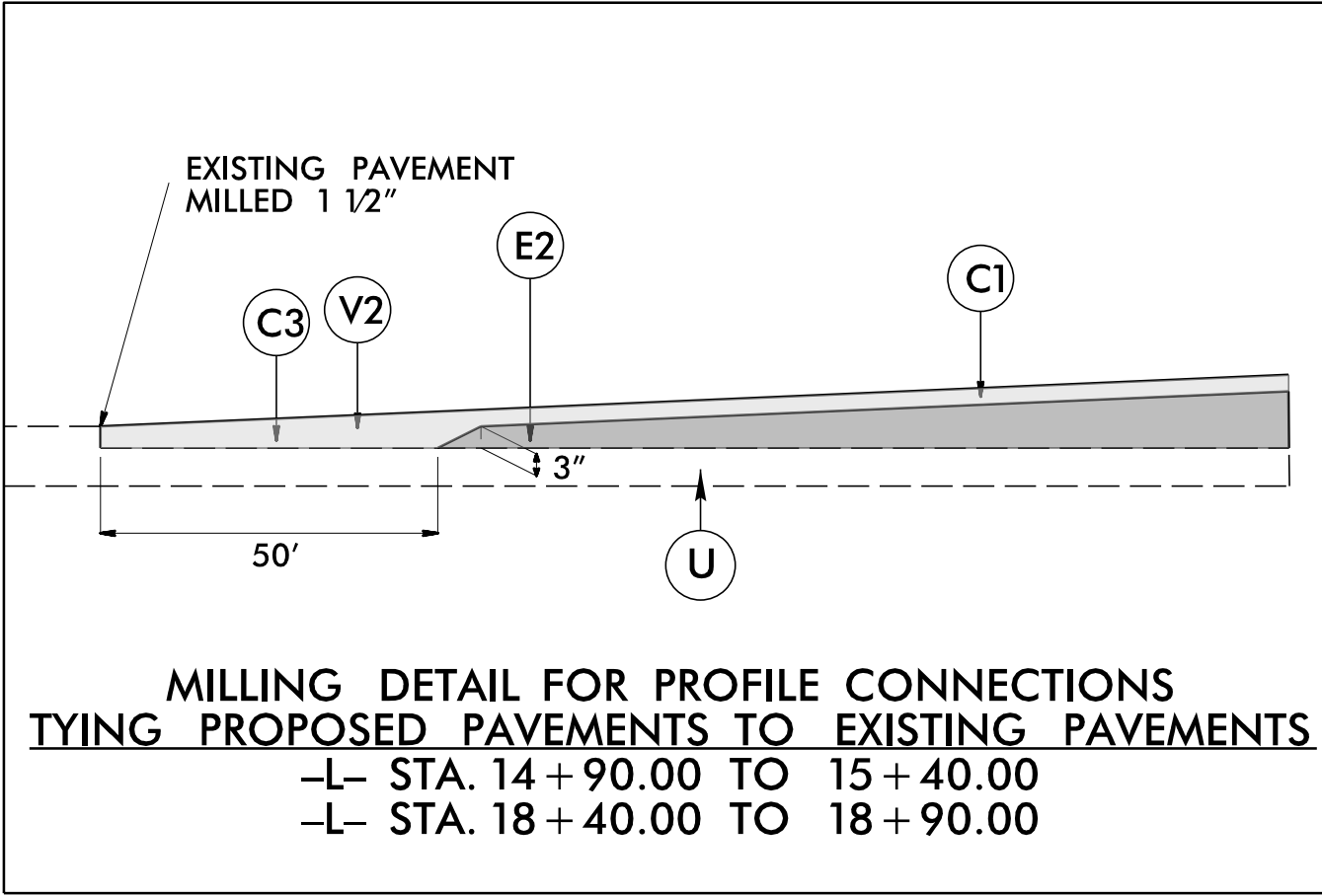
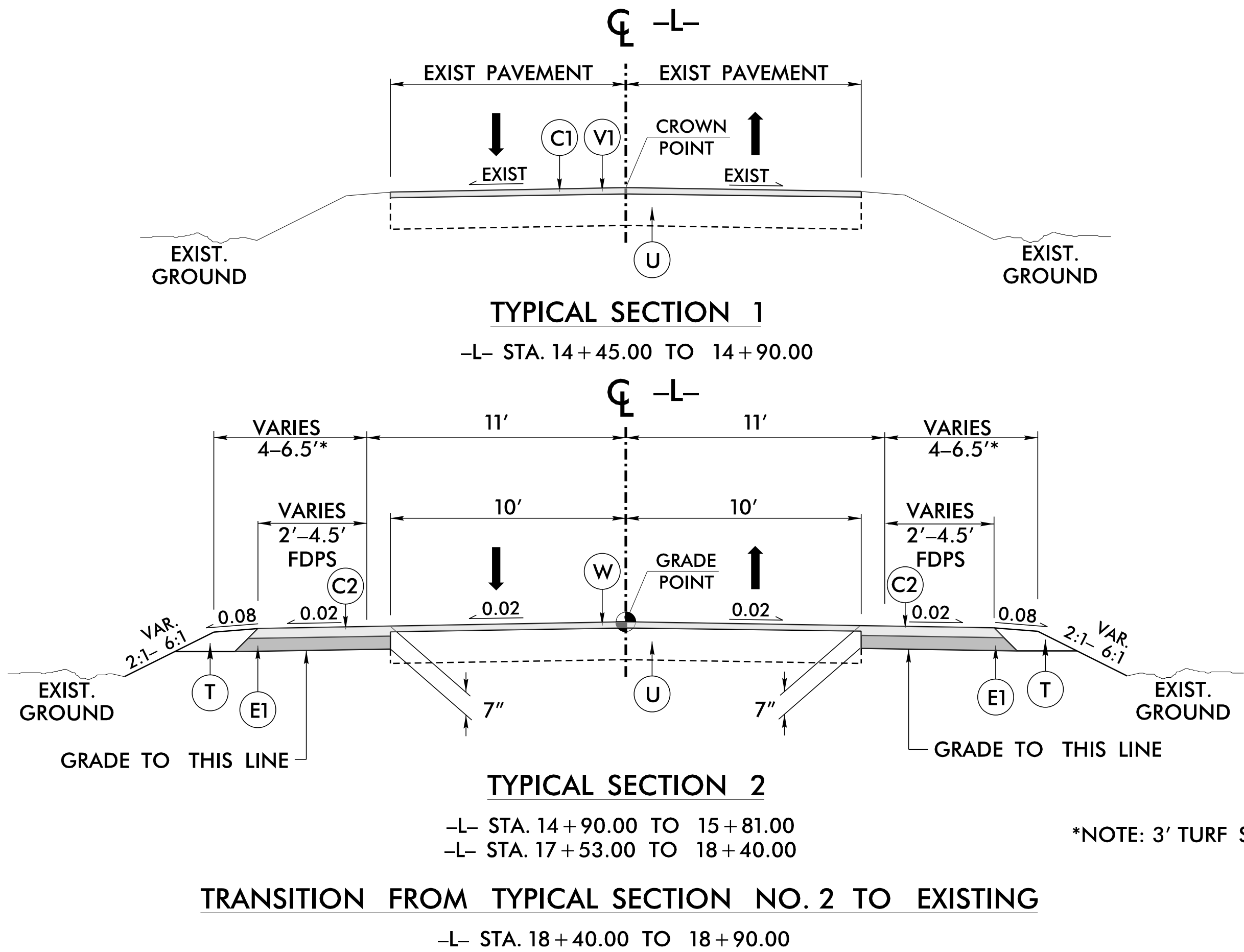
GAS:	
Gas Valve	
Gas Meter	
U/G Gas Line Test Hole (SUE - LOS A)*	
U/G Gas Line (SUE - LOS B)*	
U/G Gas Line (SUE - LOS C)*	
U/G Gas Line (SUE - LOS D)*	
Above Ground Gas Line	

SANITARY SEWER:	
Sanitary Sewer Manhole	
Sanitary Sewer Cleanout	
U/G Sanitary Sewer Line	
Above Ground Sanitary Sewer	
SS Force Main Line Test Hole (SUE - LOS A)*	
SS Force Main Line (SUE - LOS B)*	
SS Force Main Line (SUE - LOS C)*	
SS Force Main Line (SUE - LOS D)*	

MISCELLANEOUS:	
Utility Pole	
Utility Pole with Base	
Utility Located Object	
Utility Traffic Signal Box	
Utility Unknown U/G Line (SUE - LOS B)*	
U/G Tank; Water, Gas, Oil	
Underground Storage Tank, Approx. Loc.	
A/G Tank; Water, Gas, Oil	
Geoenvironmental Boring	
Abandoned According to Utility Records	
End of Information	

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 1.5" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3.0" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 1.5" IN DEPTH OR GREATER THAN 2.0" IN DEPTH.
E1	PROP. APPROX. 4.0" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3.0" IN DEPTH OR GREATER THAN 5.5" IN DEPTH.
J1	6" AGGREGATE BASE COURSE
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V1	MILLING, 1.5" DEPTH
V2	INCIDENTAL MILLING (0" TO 1.5" DEPTH)
W	PAVEMENT WEDGING (SEE WEDGING DETAIL THIS SHEET)

ALL PAVEMENT SLOPES ARE 1:1 UNLESS OTHERWISE INDICATED.



REVISIONS

BP11-R016

02A-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHE COUNTY

ROADWAY DESIGN UNIT
ROADWAY DESIGN
ENGINEER

Professional Engineer Seal for Sara S. Loukili, No. 00448, expires 3/28/2026.

SARA S. LOUKILI, P.E.

Professional Engineer Seal for Ramie A. Shaw, No. 00061, expires 3/28/2026.

RAMIE A. SHAW, P.E.

PREPARED BY

STV

STV Engineers, Inc.
2121 Haining Street, Suite 1400
Charlotte, NC 28203
NC License Number E-0991

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

COMPUTED BY: _____ MAS _____	DATE: 2/05/25
CHECKED BY: _____ TLS _____	DATE: 2/10/25

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

EARTHWORK SUMMARY (IN CUBIC YARDS)

CHAIN	FROM STATION	TO STATION	SIDE	UNCL. EXCAVATION	UNDERCUT	EMBT + %	BORROW	WASTE
—L—	14 + 90.00	16 + 30.63 (BR)	LT & RT	36		78	42	
—L—	17 + 03.38 (BR)	18 + 90.00	LT & RT	39		282	243	
—Driveway 1—	10 + 11.00	10 + 80.00	LT & RT	0		90	90	
TOTAL				75		450	375	
PROJECT TOTAL				75		450	375	
ESTIMATE 5% FOR TOPSOIL ON BORROW PITS							19	
GRAND TOTAL				75			393	
SAY				80			400	

EST. DDE = 440 CUBIC YARDS
TOTAL SHALLOW UNDERCUT = 100 CUBIC YARDS
CLASS IV SUBGRADE STABILIZATION = 200 TONS
PER GEOTECH RECOMMENDATION, ESTIMATED 450 CUBIC YARDS OF UNDERCUT TO BE USED IN THE DISCRETION OF THE RESIDENT ENGINEER

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

STATION	LOCATION (L,T,RT, OR CL)	STRUCTURE NO.		TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	% MINIMUM REQUIRED SLOPE	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, PVC, OR PP PIPE)								CLASS IV R.C. PIPE								CLASS III R.C. PIPE								15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS		QUANTITIES FOR DRAINAGE STRUCTURES * TOTAL LF. FOR PAY QUANTITY SHALL BE COL. "A" + (1.3 X COL."B")	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03				D.I. STD. 840.14 OR STD. 840.15				D.I. FRAME WITH TWO GRATES STD. 840.16				G.D.I. TYPE "A" STD. 840.17 OR 840.26				G.D.I. TYPE "B" STD. 840.18 OR 840.27				G.D.I. TYPE "D" STD. 840.19 OR 840.28				T.B.D.I. STD. 840.35				G.D.I. FRAME WITH GRATE STD. 840.20				G.D.I. FRAME WITH TWO GRATES STD. 840.20				G.D.I. (N.S.) FRAME WITH GRATE STD. 840.29				G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24				J.B. STD. 840.31 OR 840.32				15" C.S. ELBOW	CONC. COLLARS CL. "B" C.Y. STD. 840.72				CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71				PIPE REMOVAL LIN.FT.	ABBREVIATIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		R.C.P.	C.S.P.					PER EACH (0" THRU 5.0')	5.0' THRU 10.0'	10.0' AND ABOVE	LIN. "FT."	A	B	E	F	G	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				16	17																																																													18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207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* W = MEASURED FROM "N" AT THE BEGINNING OF THE ANCHOR TO "N" AT THE END OF THE ANCHOR.
 "N" = DISTANCE FROM EDGE OF LANE TO FACE OF GUARDRAIL.
 TOTAL SHOULDER WIDTH = DISTANCE FROM EDGE OF TRAVEL LANE TO SHOULDER BREAK POINT.
 FLARE LENGTH = DISTANCE FROM LAST SECTION OF PARALLEL GUARDRAIL TO END OF GUARDRAIL.
 W = TOTAL WIDTH OF FLARE FROM BEGINNING OF TAPER TO END OF GUARDRAIL.
 NG = GATING IMPACT ATTENUATOR TYPE 350
 NG = NON-GATING IMPACT ATTENUATOR TYPE 350

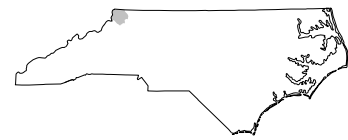
GUARDRAIL SUMMARY

SURVEY LINE	BEG. STA.	END STA.	LOCATION	LENGTH			WARRANT POINT		"N" DIST. FROM E.O.L.	TOTAL SHOUL. WIDTH	FLARE LENGTH		W*		ANCHORS									IMPACT ATTENUATOR TYPE 350	SINGLE FACED GUARDRAIL	REMOVE EXISTING GUARDRAIL	REMOVE AND STOCKPILE EXISTING GUARDRAIL	REMARKS		
				STRAIGHT	SHOP CURVED	DOUBLE FACED	APPROACH END	TRAILING END			APPROACH END	TRAILING END	APPROACH END	TRAILING END	XI MOD	B-77	GREU TL-3	M-350	TYPE III	CAT-1	VI MOD	BIC	AT-1							
																													EA	G
-L-	15 + 49.38	16 + 30.63 (BR)	LT	81.25				16 + 30.63	4.5 – 5.5	7.5 – 8.5		50		1			1		1											
-L-	14 + 49.38	16 + 30.63 (BR)	RT	181.25			16 + 30.63		4.2 – 4.5	7.2 – 7.5	50		1				1		1											
-L-	17 + 03.38 (BR)	17 + 84.63	LT	81.25			17 + 03.38		4.5 – 5.5	7.5 – 8.5	50		1				1		1											
-L-	17 + 03.38 (BR)	17 + 97.13	RT	93.75				17 + 03.38	4.5 – 5.5	7.5 – 8.5		50		1			1		1											
-L-	18 + 27.50	18 + 90.00	RT	62.50				18 + 30.00	10.3' – 10.8'	13.3'-13.8'		50		1			1													
-L-	18 + 40.00	18 + 90.00	LT	50.00			18 + 90.00		9.5' – 10'	12.5' – 13'	50		1				1													
TOTAL:				550													6 EA		4 EA											
TOTAL ANCHOR LENGTH:				375															4											
TOTAL GUARDRAIL LENGTH:				175			5 ADDITIONAL GUARDRAIL POSTS																							
SAY:				175 LF																										

BP11-R016

03B-1

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHE COUNTY



ROADWAY DESIGN UNIT

PREPARED BY _____



STV Engineers, Inc.
2151 Hawkins Street, Suite 1400
Charlotte, NC 28203
NC License Number F-0991

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

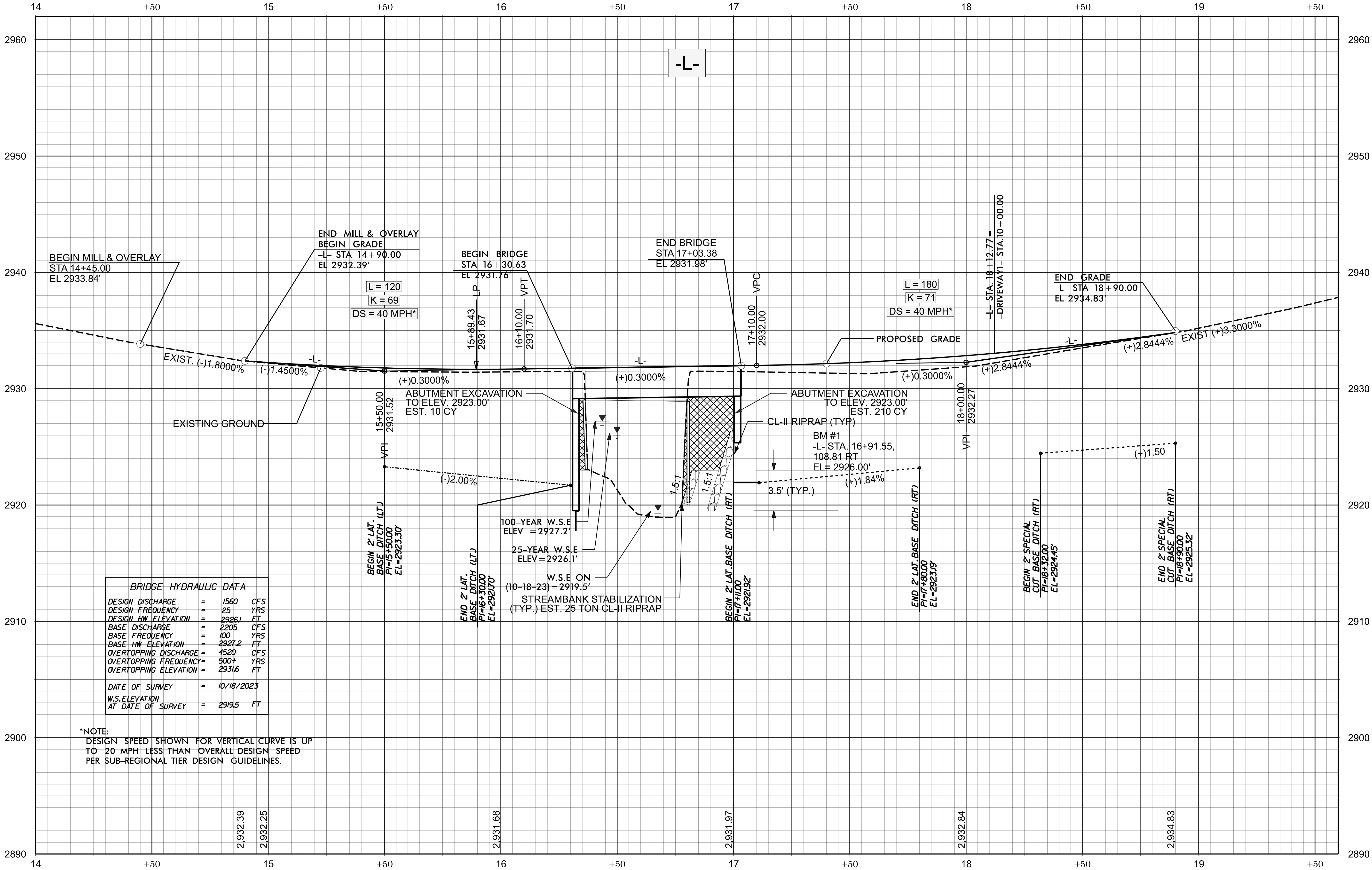
REVISIONS

COMPUTED BY: __CRYSTAL D. JOHNSON__ DATE: __06/07/2024__ CHECKED BY: __SHANE C. CLARK__ DATE: __06/07/2024__		(2-3-23)				PROJECT NO. BP11-R016		SHEET NO. 3G-1							
STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS															
SUMMARY OF SUBSURFACE DRAINAGE						SUMMARY OF AGGREGATE SUBGRADE/STABILIZATION									
LINE	Station	Station	Location LT/RT/CL	Drain Type* UD/BD/SD	LF	LINE	Station	Station	Aggregate Type* ASU(1/2)/ AST	Aggregate Thickness INCHES [8" for ASU(2)]	Shallow Undercut CY	Class IV Subgrade Stabilization TONS	Geotextile for Subgrade Stabilization SY	Stabilizer Aggregate TONS	Class IV Aggregate Stabilization TONS
			CONTINGENCY	SD	200										
				TOTAL LF:	200				TOTAL CY/TONS/SY:		100	200	300	0	0
*UD = Underdrain *BD = Blind Drain *SD = Subsurface Drain						*ASU(1/2) = Aggregate Subgrade (Type 1 or 2) *AST = Aggregate Stabilization **Total tons of "Class IV Subgrade Stabilization" and total square yards of "Geotextile for Subgrade Stabilization" are only the estimated quantities for ASU(1/2)/AST and may only represent a portion of the subgrade stabilization and geotextile quantities shown in the Item Sheets of the Proposal.									

PARCEL INDEX SHEET			AREA TAKEN			
PARCEL NUMBER	SHEET NUMBER	PROPERTY OWNER NAME	PDE (SF)	PUE (SF)	DUE (SF)	TCE (SF)
1	4	IVA T. MILLER	5736			1927
2	4	PAUL H. CHURCH & MARLENE V. CHURCH		3072	570	
3	4	J. CLINE CHURCH & ELLEN L. CHURCH			7214	636



REVIEWS





006

ROADWAY DESIGN
ENGINEER

ENGINEER



✚ ▼

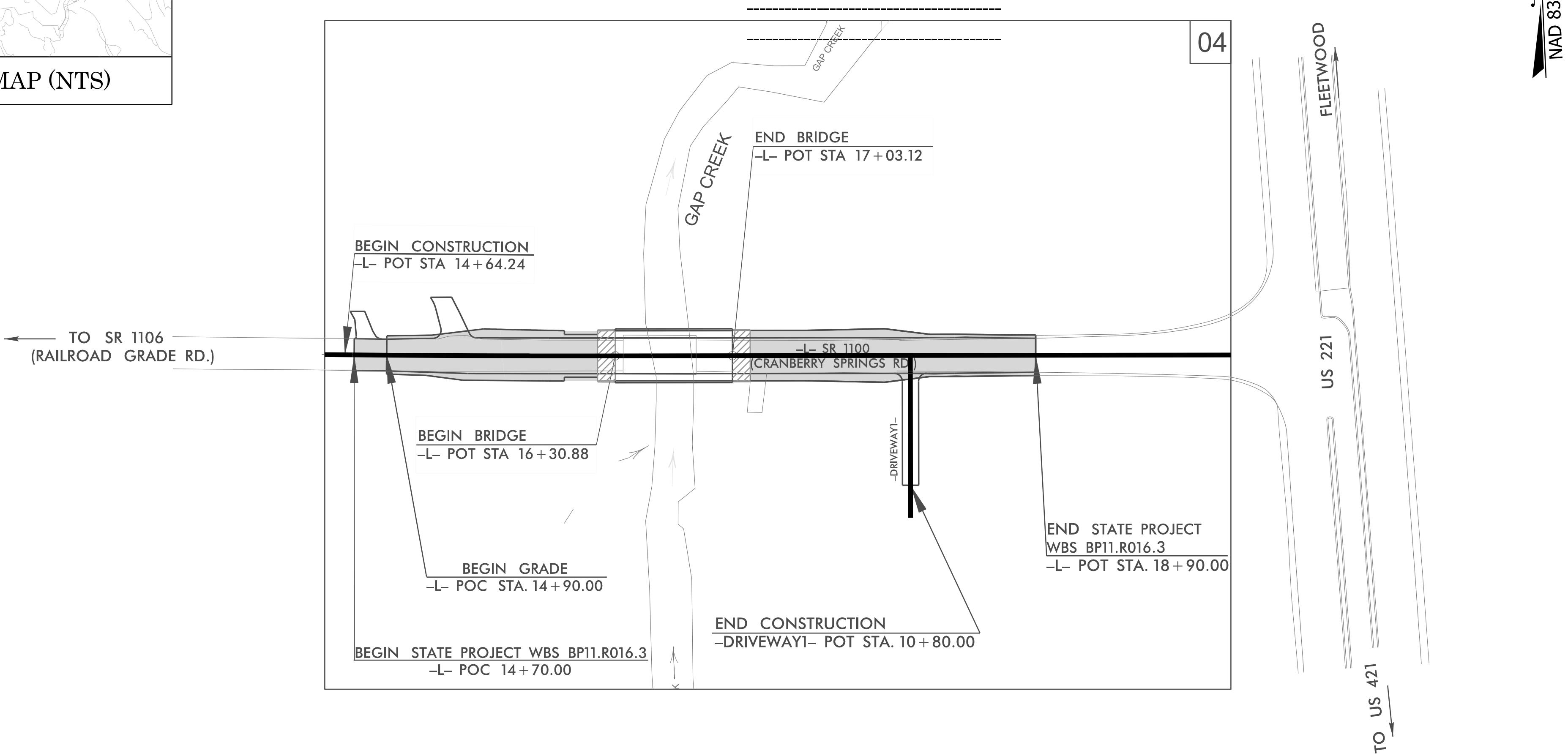
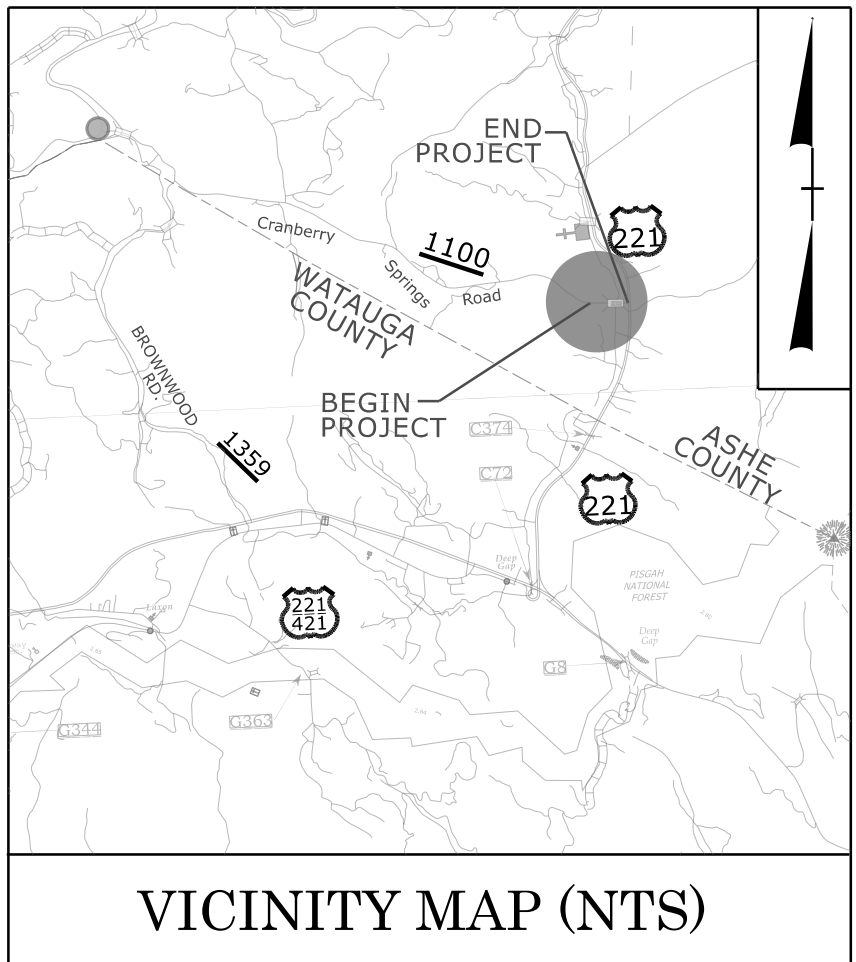
TIP PROJECT: BP11-R016

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11-R.016	R W 01	04

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SURVEY CONTROL, EXISTING CENTERLINES,
RIGHT OF WAY, EASEMENTS AND PROPERTY TIES

ASHE COUNTY



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

GRAPHIC SCALES



DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT
IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY
NCDOT FOR MONUMENT "171-2"
WITH NAD 83 (2011) STATE PLANE GRID COORDINATES OF
NORTHING: 923113.216 US FT EASTING: 1263317.936 US FT
ELEVATION: 2941.01 FT
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT
(GROUND TO GRID) IS: 0.99989192
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

Prepared in the Office of:



Stantec
ONE WEST FOURTH ST., SUITE 820
WINSTON SALEM, N.C. 27101
LICENSE NO.: F-0672
www.stantec.com

2024 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
MAY 29, 2024

LETTING DATE:
JANUARY 16, 2025

*PROFESSIONAL LAND
SURVEYOR*

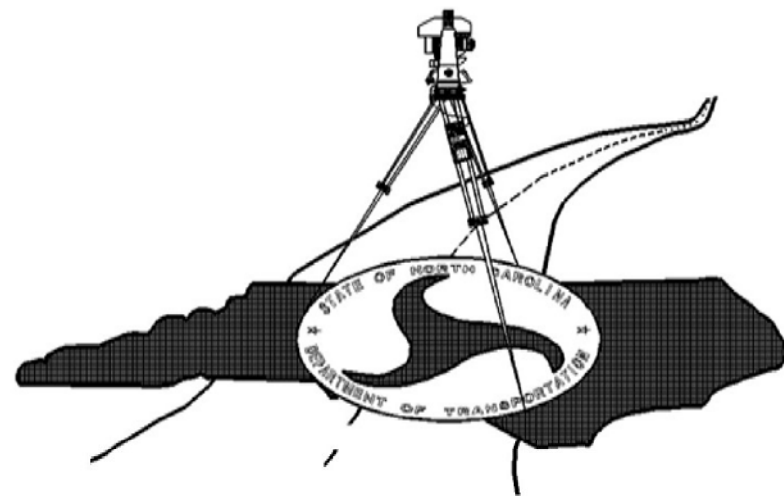


DocuSigned by:
Clinton B. Osborne
0A6F6B085F6449B...

12/02/2024

SIGNATURE:

DATE _____



SURVEY CONTROL SHEET
W/ EXISTING CENTERLINE ALIGNMENTS PRIOR TO CONSTRUCTION

I, R. Landon Wagoner, PLS, certify that the Project Control was performed under my supervision from an actual GPS survey made under my supervision and the following information was used to perform the survey:

Class of survey: AA
Type of GPS field procedure: RTN
Dates of survey: 5/2023
Datum/Epoch: NAD83/2011
Published/Fixed-control use: N/A
Localized around: 171-2
Northing: 923113.216
Easting: 1263317.936
Combined grid factor: 0.99989192
Geoid model: GEOID18
Units: US Survey Feet

I also certify that the Baseline Control for this project was completed under my direct and responsible charge from an actual survey made under my supervision; that all horizontal closures had a minimum ratio of precision of 1:20,000 (Class AA) and Vertical accuracy to Class A. Field work was performed June 2023, and all coordinates are based on NAD 83/2011 and all elevations are based on NAVD 88; that this survey was performed to meet the requirements of 21NCAC 56.1600 as applicable.

This 1st day of April 2025

Signed by:
R. Landon Wagoner
940891377030402

Professional Land Surveyor L-4301

BP11.R016

R/W02C-1

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION

PROFESSIONAL LAND
SURVEYOR

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

2018 STANDARD
SPECIFICATIONS

TIP PROJECT: BP11.R016
County: Ashe

PREPARED FOR

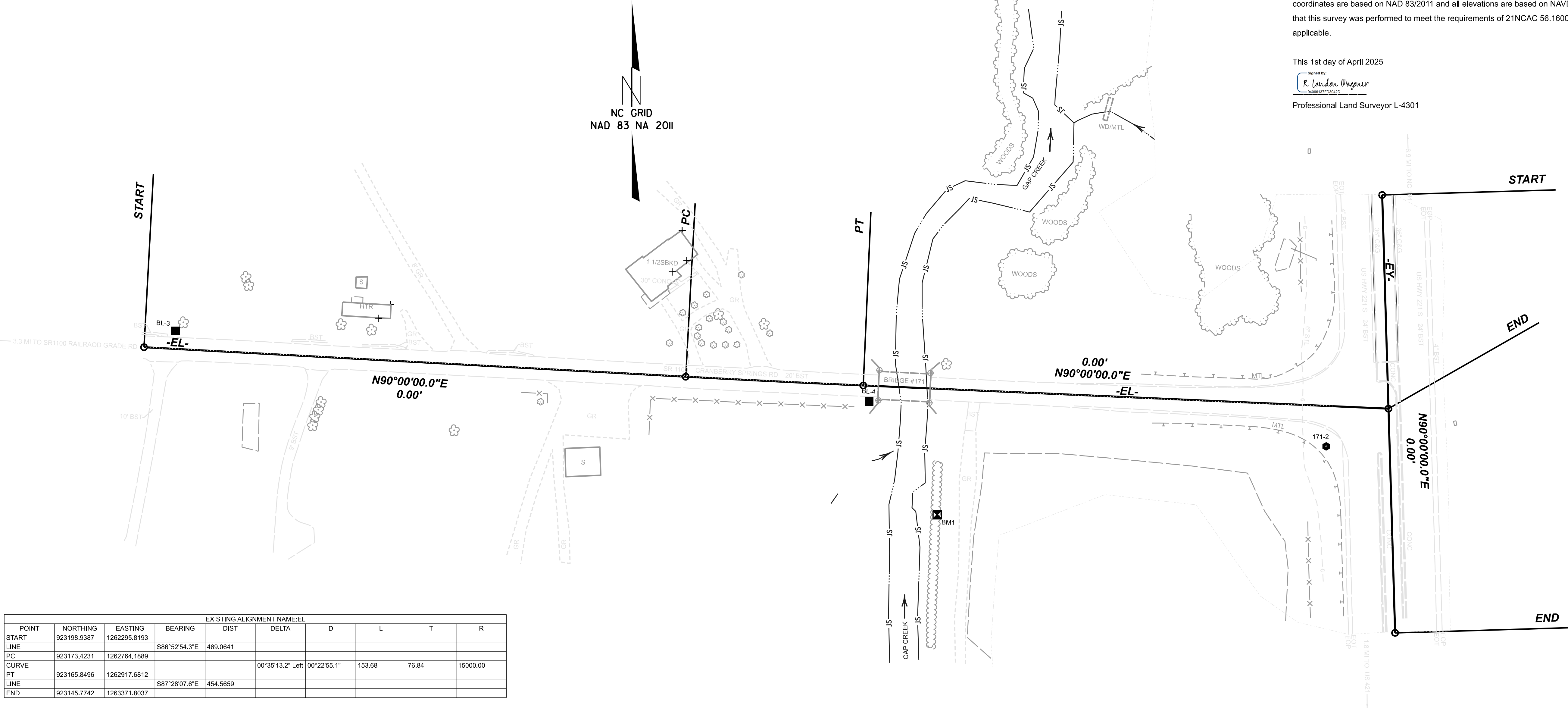
LOCATION AND
SURVEYS UNIT

PREPARED BY

TGS ENGINEERS
201 WEST MARION ST.
SUITE 200
SHELBY, NC 28150
704-476-0003

BASELINE POINTS TABLE				
POINT	DESC	NORTH	EAST	ELEVATION
1	171-1	922088.7350	1263259.3090	2942.2000
2	171-2	923113.2160	1263317.9360	2941.0100
3	BL-3	923213.0192	1262322.8193	2965.4800
4	BL-4	923152.0794	1262922.5949	2930.3000

BENCHMARK TABLE				
BENCHMARK	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM1	923054.1036	1262981.6144	2926.0000	RR SPIKE IN 20' SPRUCE



EXISTING ALIGNMENT NAME:EL									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
START	923198.9387	1262295.8193							
LINE			S86°52'54.3\"E	469.0641					
PC	923173.4231	1262764.1889							
CURVE					00°35'13.2\" Left	00°22'55.1\"	153.68	76.84	15000.00
PT	923165.8496	1262917.6812							
LINE			S87°28'07.6\"E	454.5659					
END	923145.7742	1263371.8037							

EXISTING ALIGNMENT NAME:EY									
POINT	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R
START	923330.5001	1263396.3530							
LINE			S01°41'24.4\"E	378.6811					
END	922951.9837	1263377.5218							

NOTES:

- PROJECT CONTROL WAS ESTABLISHED USING GNSS, THE GLOBAL NAVIGATION SATELLITE SYSTEM.
- THE SURVEY CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

PROPOSED ALIGNMENT CONTROL SHEET

I, CLINTON B. OSBORNE, PLS, CERTIFY THAT THE DATA COMPILED CAME FROM AVAILABLE SURVEYS/MAPPING PERFORMED BY OTHERS AND PROVIDED TO ME BY NCDOT AND DO NOT CERTIFY TO THE ACCURACY OR QUALITY OF THE INDIVIDUAL DATA SOURCES.

THIS 2ND DAY OF DECEMBER, 2024.

DocuSigned by:
Clinton B. Osborne
0A6F6B085F6440B

PROFESSIONAL LAND SURVEYOR L-3834

PROPOSED ALIGNMENT: L												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	923198.9387	1262295.8193	S86°52'54.3"E	469.06							
PC	14+69.06	923173.4231	1262764.1889	S87°10'30.9"E	153.68	00°35'13.2"	00°22'55.1"	153.68	76.84	15000.00		
PT	16+22.74	923165.8496	1262917.6812	S87°28'07.6"E	454.57							
END	20+77.31	923145.7742	1263371.8037									

PROPOSED ALIGNMENT: Y												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	923330.5001	1263366.3530	S01°41'24.4"E	378.68							
END	13+78.68	922951.9837	1263377.5218									

PROPOSED ALIGNMENT: Driveway 1												
POINT	STATION	NORTHING	EASTING	BEARING	DIST	DELTA	D	L	T	R	LT	ST
START	10+00.00	923157.4572	1263107.5250	S02°31'52.429"W	100.00							
END	11+00.00	923057.5548	1263103.1086									

NOTES:

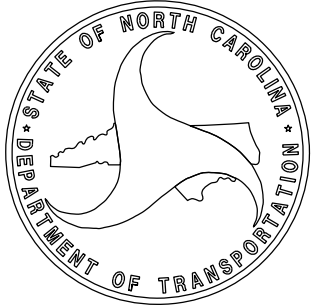
1. THE PROPOSED ALIGNMENT CONTROL DATA FOR THIS PROJECT HAS BEEN COMPILED FROM VARIOUS SOURCES. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

BP11-R016

R/W

02D-1

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR

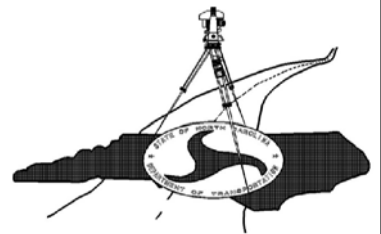


DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP11-R016
County: ASHE

PREPARED FOR



LOCATION AND
SURVEYS UNIT

PREPARED BY



Stantec

ONE WEST FOURTH ST., SUITE 820
WINSTON SALEM, N.C. 27101
LICENSE NO.: F-0672
www.stantec.com

RIGHT OF WAY CONTROL SHEET

I, CLINTON B. OSBORNE , PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 11-25-2024 TO 11-25-2024, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 2ND DAY OF DECEMBER, 2024.

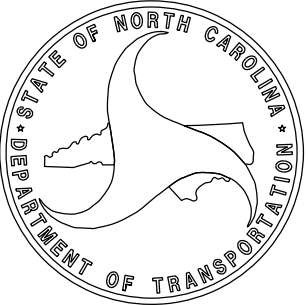
DocuSigned by:
Clinton B. Osborne
0A6F6B05F6449B...

PROFESSIONAL LAND SURVEYOR L-3834

BP11-R016

R/W03E-I

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION



PROFESSIONAL LAND
SURVEYOR



DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

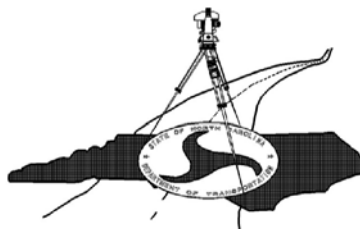
2024 STANDARD
SPECIFICATIONS

PERMANENT EASEMENT MARKER IRON PIN AND CAP: L			
STATION	OFFSET	NORTH	EAST
14+70.00	-30.00	923203.3279	1262766.7533
14+70.00	-45.00	923218.3057	1262767.5684
15+00.00	30.00	923141.8132	1262793.5105
15+00.00	41.00	923130.8283	1262792.9348
15+30.00	-50.00	923220.1686	1262827.5583
15+65.00	-50.00	923218.4532	1262862.3994
15+65.00	-60.00	923228.4417	1262862.8795
16+00.00	55.00	923111.9287	1262892.4480
16+00.00	75.00	923091.9496	1262891.5344
16+15.00	75.00	923091.2685	1262906.5940
16+15.00	57.00	923109.2505	1262907.3983
16+45.00	57.00	923107.9223	1262937.3985
16+45.00	30.00	923134.8960	1262938.5909
16+81.00	-60.00	923223.2183	1262978.5305
17+15.00	-30.00	923191.7460	1263011.1724
17+85.00	68.00	923090.7501	1263076.7761
18+48.00	50.00	923105.9502	1263140.5095
18+48.00	68.00	923087.9678	1263139.7146
18+90.00	30.00	923124.0758	1263183.3518
18+90.00	50.00	923104.0952	1263182.4726

TIP PROJECT: BP11-R016

County: ASHE

PREPARED FOR



LOCATION AND
SURVEYS UNIT

PREPARED BY

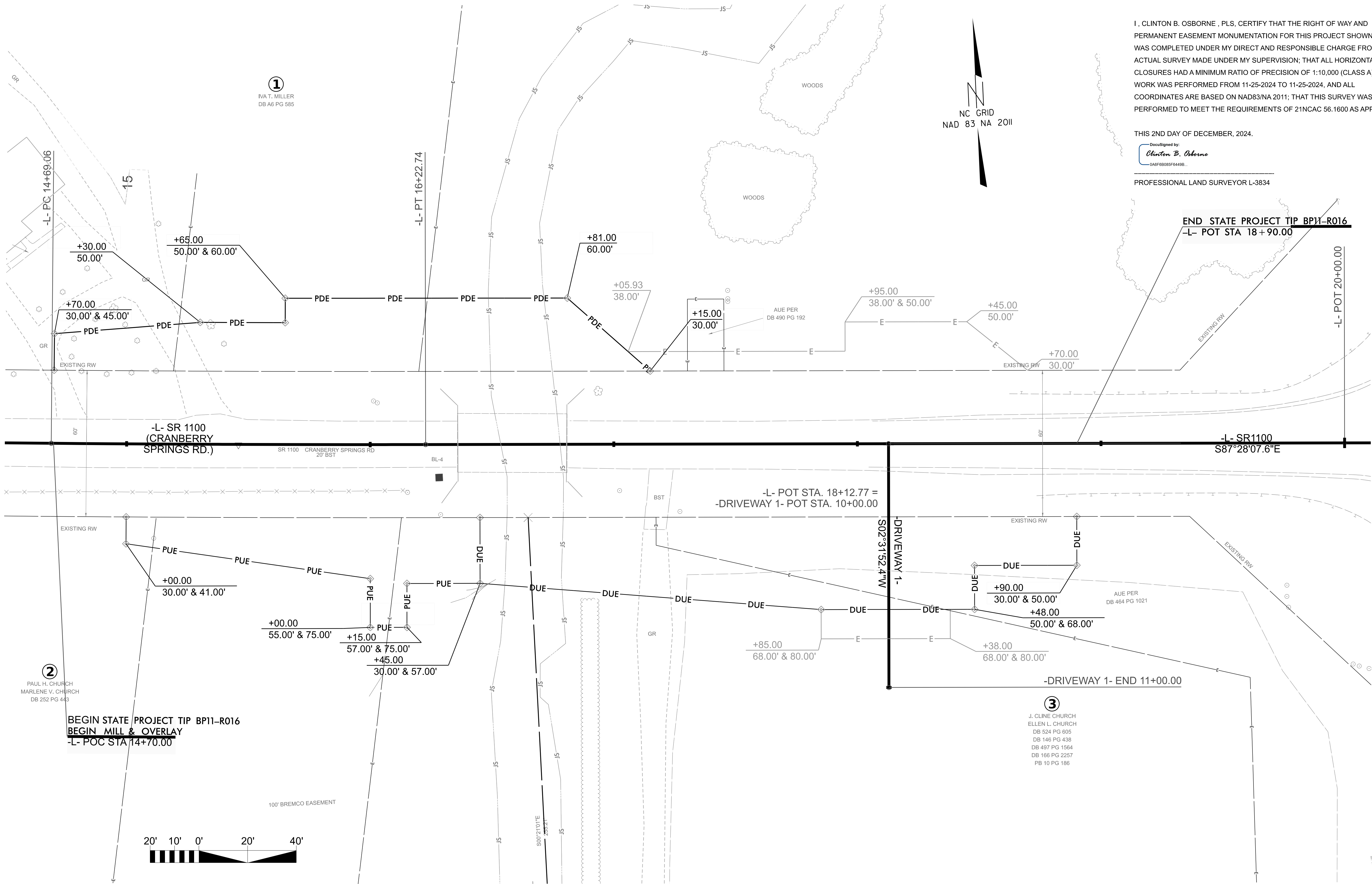


Stantec

ONE WEST FOURTH ST., SUITE 820
WINSTON SALEM, N.C. 27101
LICENSE NO.: F-0672
www.stantec.com

NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.



I, CLINTON B. OSBORNE, PLS, CERTIFY THAT THE RIGHT OF WAY AND PERMANENT EASEMENT MONUMENTATION FOR THIS PROJECT SHOWN HEREIN WAS COMPLETED UNDER MY DIRECT AND RESPONSIBLE CHARGE FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; THAT ALL HORIZONTAL CLOSURES HAD A MINIMUM RATIO OF PRECISION OF 1:10,000 (CLASS A). FIELD WORK WAS PERFORMED FROM 11-25-2024 TO 11-25-2024, AND ALL COORDINATES ARE BASED ON NAD83/NA 2011; THAT THIS SURVEY WAS PERFORMED TO MEET THE REQUIREMENTS OF 21NCAC 56.1600 AS APPLICABLE.

THIS 2ND DAY OF DECEMBER, 2024.

DocuSigned by:
Clinton B. Osborne
0A6FFB085F6449B...

PROFESSIONAL LAND SURVEYOR L-3834

BP11-R016

R/W04

NORTH CAROLINA
DEPARTMENT
OF TRANSPORTATION

PROFESSIONAL LAND
SURVEYOR

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL SIGNATURES
ARE COMPLETED

2024 STANDARD
SPECIFICATIONS

TIP PROJECT: BP11-R016

County: ASHE

PREPARED FOR

LOCATION AND
SURVEYS UNIT

PREPARED BY

Stantec

ONE WEST FOURTH ST., SUITE 820
WINSTON SALEM, N.C. 27101
LICENSE NO.: F-0672
www.stantec.com

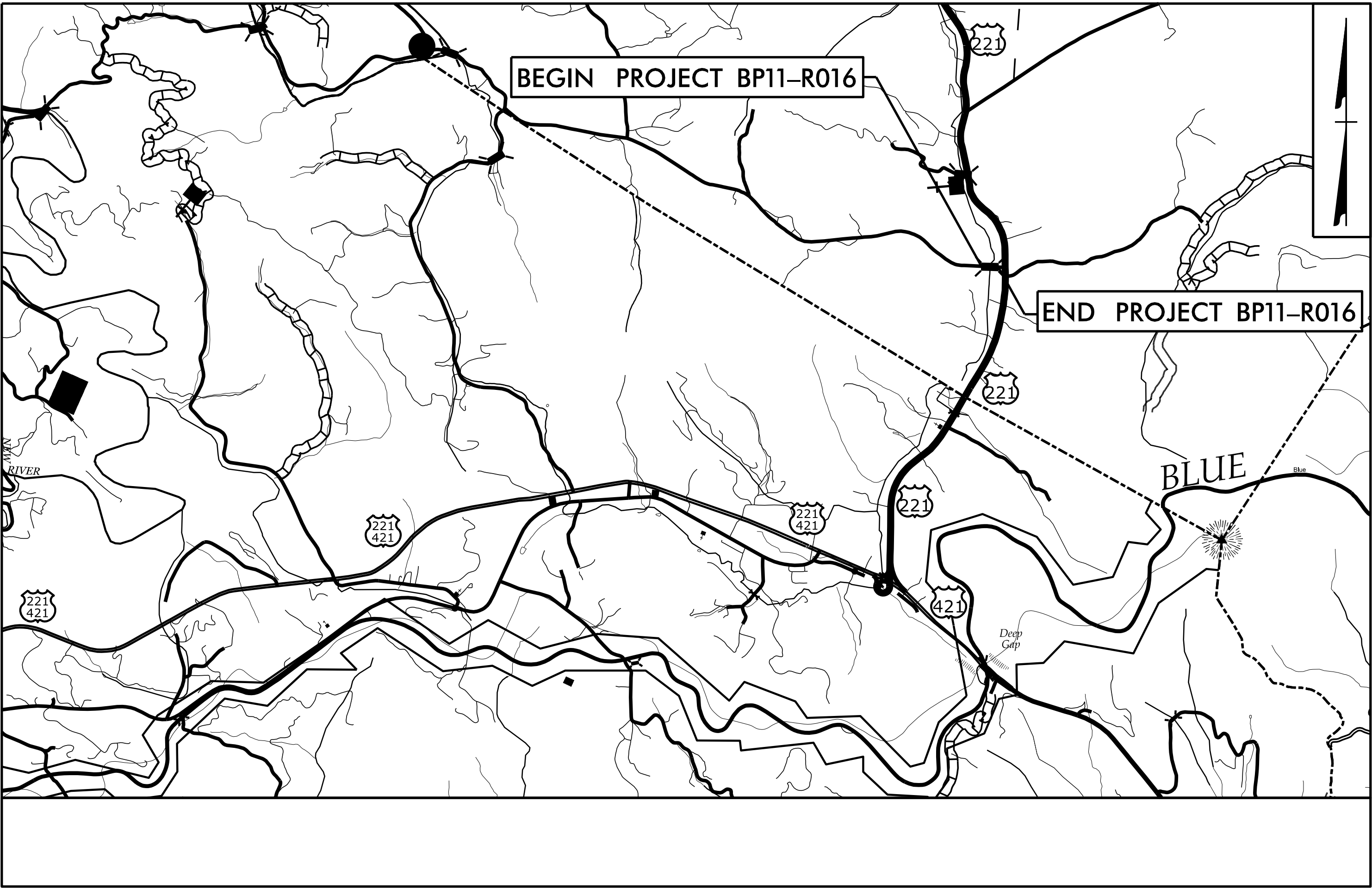
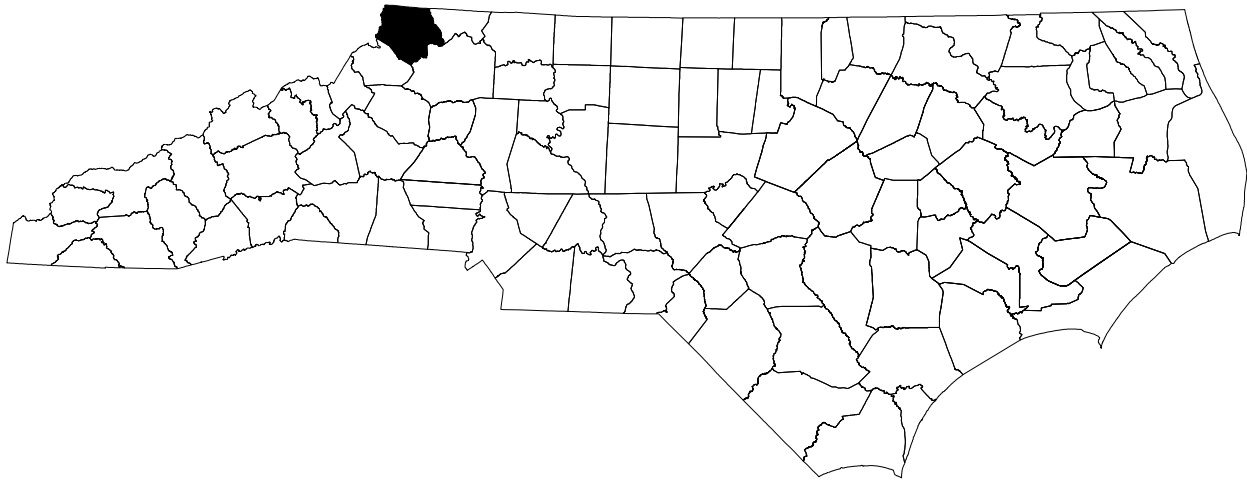
NOTES:

1. IF FURTHER INFORMATION REGARDING PROJECT CONTROL IS NEEDED, PLEASE CONTACT THE LOCATION AND SURVEYS UNIT.

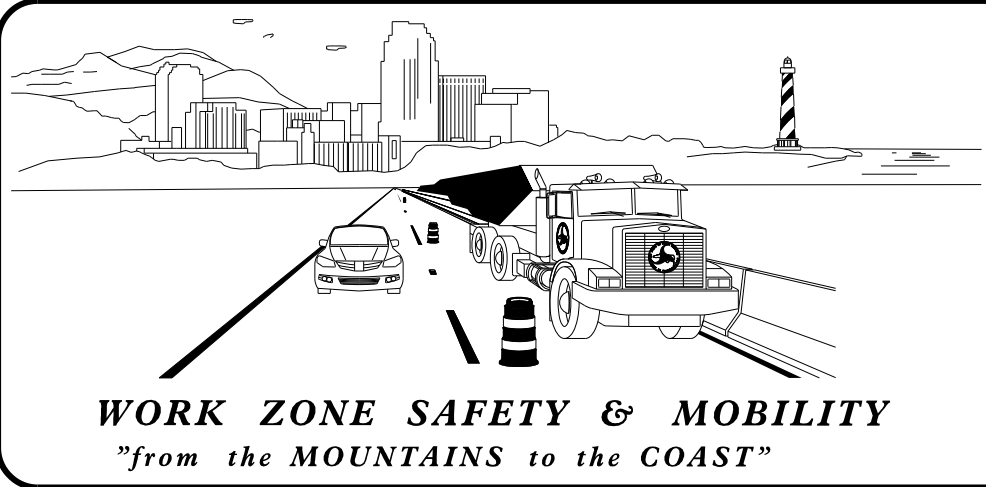
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

TRANSPORTATION MANAGEMENT PLAN

ASHE COUNTY



\$\$\$\$\$SYTIME\$\$\$\$\$
\$\$\$\$\$CDN\$\$\$\$\$
\$\$\$\$\$USERNAME\$\$\$\$\$



PLANS PREPARED BY:

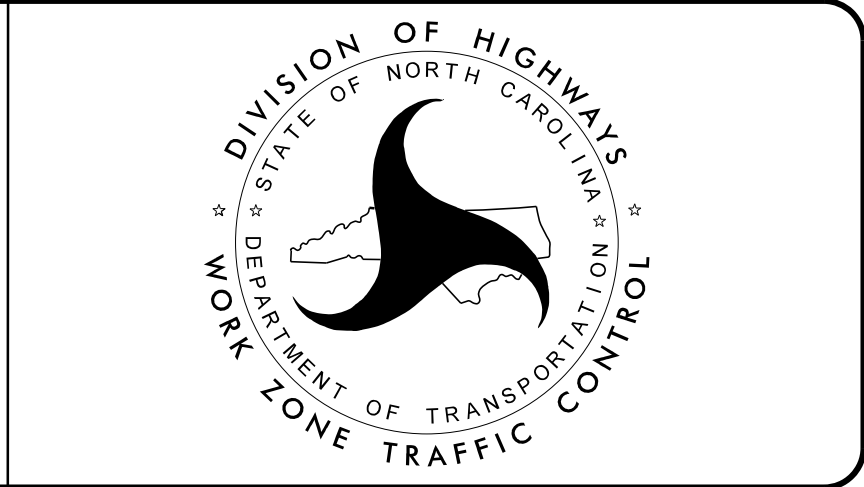
STV Engineers, Inc.
2151 Hawkins Street, Suite 1400
Charlotte, NC 28203
NC License Number F-0991

S. SARA LOUKILI, P.E.
PROJECT ENGINEER

MORGAN STAHL, P.E.
PROJECT DESIGN ENGINEER

NCDOT CONTACTS:

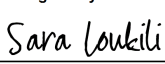
SAROG NAPIT
DIVISION TRAFFIC ENGINEER



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET AND INDEX OF SHEETS
TMP-2	TRANSPORTATION OPERATIONS PLAN
TMP-2A	SPECIAL SIGN DESIGN

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

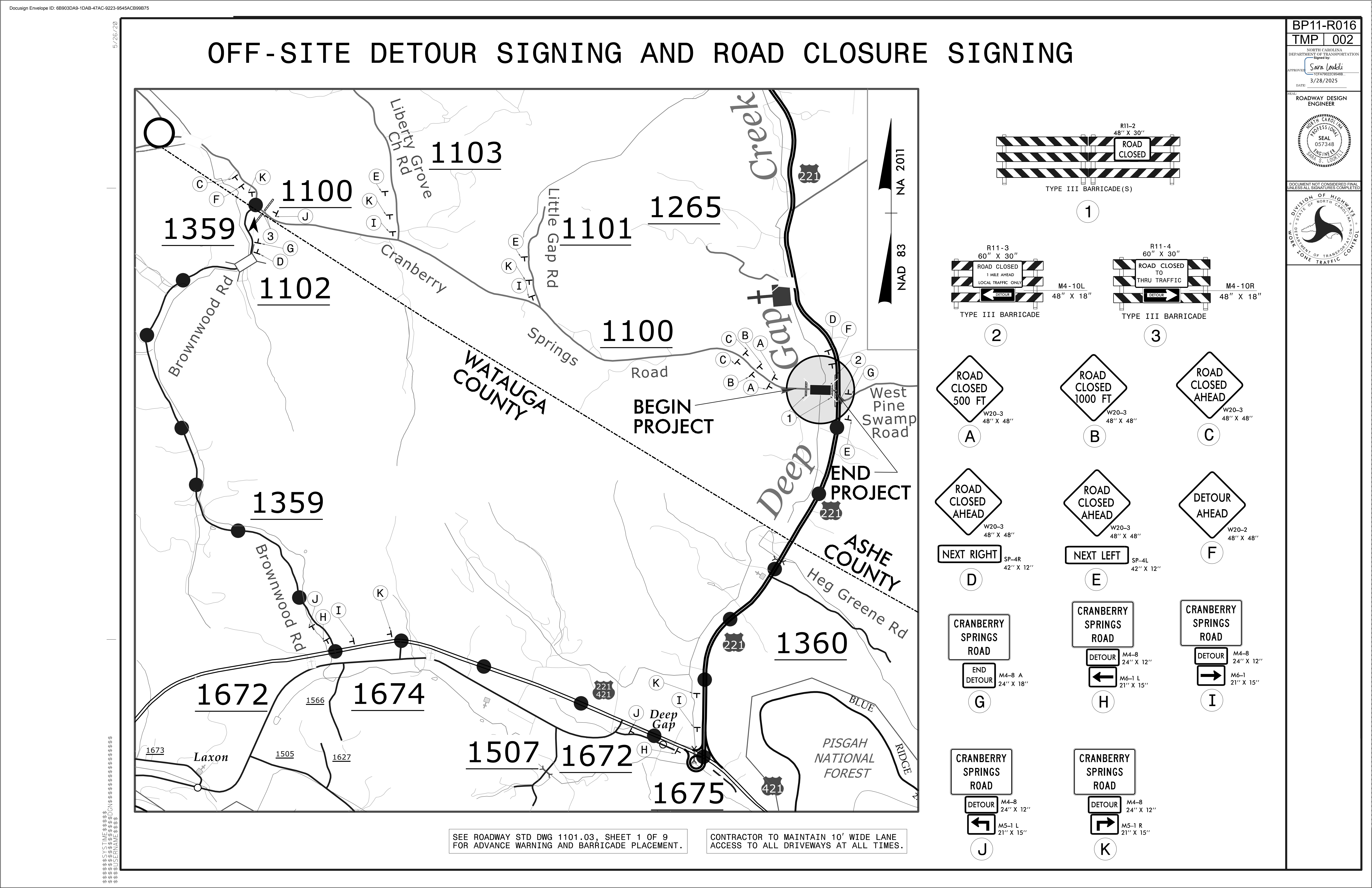
APPROVED: 
DATE: 3/28/2025

SEAL



SHEET NO.
TMP-1

TIP PROJECT: BP11-R016



BP11-R016

TMP02A

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

Signed by
Sara Louili
APPROVED: 1CPA79022C9540B

DATE: 3/28/2025

SEAL
ROADWAY DESIGN
ENGINEER

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

SEAL
057348
ENGINEER
SARA S. LOULI

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS

DEPARTMENT OF TRANSPORTATION

WORK ZONE TRAFFIC CONTROL

BRIDGE *171

SIGN NUMBER: I-1

TYPE: D

QUANTITY: See Plans

SIGN WIDTH: 48"

HEIGHT: 36"

TOTAL AREA: 12.0 Sq.Ft.

BORDER TYPE: FLUSH

RECESS: 0.47"

WIDTH: 0.63"

RADII: 1.5"

NO. Z BARS:

LENGTH:

BACKG COLOR: Orange

COPY COLOR: Black

SYMBOL	X	Y	WID	HT

MAT'L: 0.080" (2.0 mm) ALUMINUM

DESIGN BY: SLS

PROJECT ID: BP11-R016

CHECKED BY: GHM

DIV: 11

DATE: Oct 21, 2024

48"

36"

BORDER
R=1.5"
TH=0.63"
IN=0.47"

CRANBERRY
SPRINGS
ROAD

4.5"
6"
4.5"
6"
4.5"
6"
4.5"

4.8"
38.4"
4.8"

Spacing Factor is 1 unless specified otherwise

LETTER POSITIONS

Letter positions are to the lower left corners

	C	R	A	N	B	E	R	R	Y																					Series/Size Text Length
	4.8	9.4	13.3	17.9	22.6	27	31.1	35.5	39.4																				C 2000 / 6 38.4	
	S	P	R	I	N	G	S																						C 2000 / 6 27.7	
	R	O	A	D																									C 2000 / 6 16.6	

NORTH CAROLINA D.O.T. SIGN DETAIL

5/26/20

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN
ASHE COUNTY

LOCATION: BRIDGE NO. 040171 ON SR 1100 (CRANBERRY SPRINGS RD.) OVER GAP CREEK

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2024 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.12	PAVEMENT MARKINGS - BRIDGES
1250.01	RAISED PAVEMENT MARKERS - INSTALLATION SPACING
1261.01	GUARDRAIL AND BARRIER DELINEATORS - INSTALLATION SPACING
1261.02	GUARDRAIL AND BARRIER DELINEATORS - TYPES AND MOUNTING
1262.01	GUARDRAIL END DELINEATION

INDEX

SHEET NO.	DESCRIPTION
PMP-1	PAVEMENT MARKING PLAN TITLE SHEET
PMP-2	PAVEMENT MARKING DETAIL

PLAN PREPARED BY: STV ENGINEERS, INC.
2151 HAWKINS STREET, SUITE 1400
CHARLOTTE, NC 28203

SARA S. LOUKILI, PE PROJECT ENGINEER
DANIEL J. OWENS PROJECT DESIGNER

GENERAL NOTES

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) STATE FORCES WILL INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
SR 1100 (CRANBERRY SPRINGS RD.)	POLYUREA	NONCAST IRON SNOWPLOWABLE MARKERS
SR 1100 (CRANBERRY SPRINGS RD.)	THERMOPLASTIC	NONCAST IRON SNOWPLOWABLE MARKERS

B) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS.

E) PASSING ZONES WILL BE DETERMINED IN THE FIELD AND MUST BE APPROVED BY THE ENGINEER.

F) REMOVE ALL RESIDUE AND SURFACE LAITANCE BY ACCEPTABLE METHODS ON CONCRETE BRIDGE DECKS PRIOR TO PLACING (insert marking material) PAVEMENT MARKING MATERIAL.

SUMMARY OF QUANTITIES

ITEM NO.		ITEM DESCRIPTION	QUANTITY	UNIT
DESC. NO.	SECT. NO.			
4685000000-E	1205	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)	1780	LF

BP11-R016

PMP 001

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

APPROVED: SARA LOUKILI

DATE: 5/7/2025

SEAL: ROADWAY DESIGN
ENGINEER

SEAL: 057348

ENGINEER
S. LOUKILI

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DIVISION OF HIGHWAYS

STATE OF NORTH CAROLINA

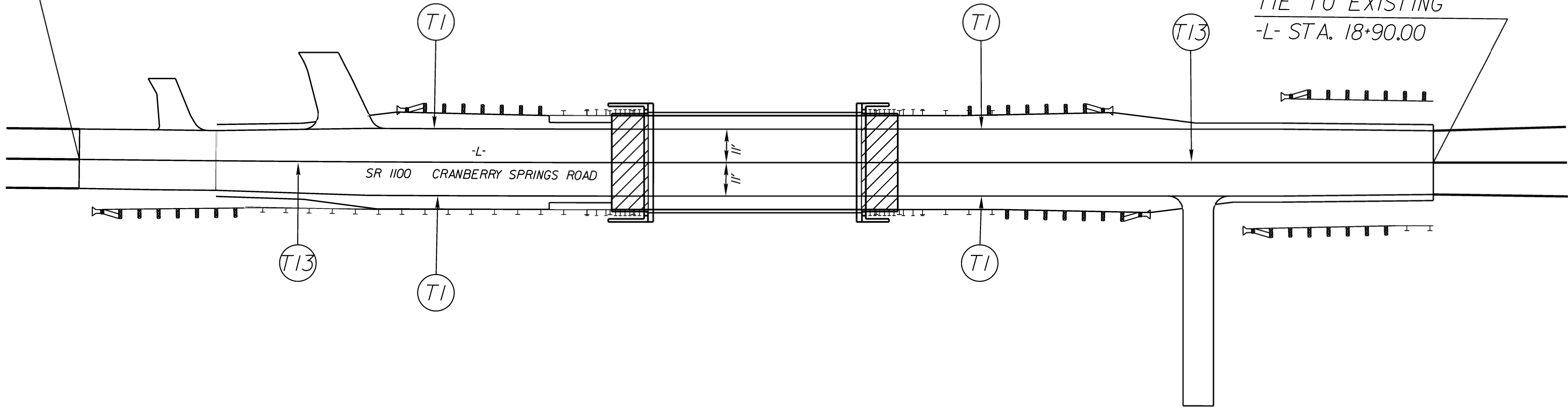
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL

TIP PROJECT: BP11-R016

5/26/20

BEGIN (T1) (T13) MARKINGS
TIE TO EXISTING
-L- STA. 14+45.00



END (T1) (T13) MARKINGS
TIE TO EXISTING
-L- STA. 18+90.00

PAVEMENT MARKING SCHEDULE	
T1 - THERMOPLASTIC (4", 90MIL)	WHITE EDGELINE
T13 - THERMOPLASTIC (4", 90MIL)	YELLOW DOUBLE CENTER LINE

BP11-R016
PMP 002

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

APPROVED: Sara Loukili

DATE: 5/7/2025

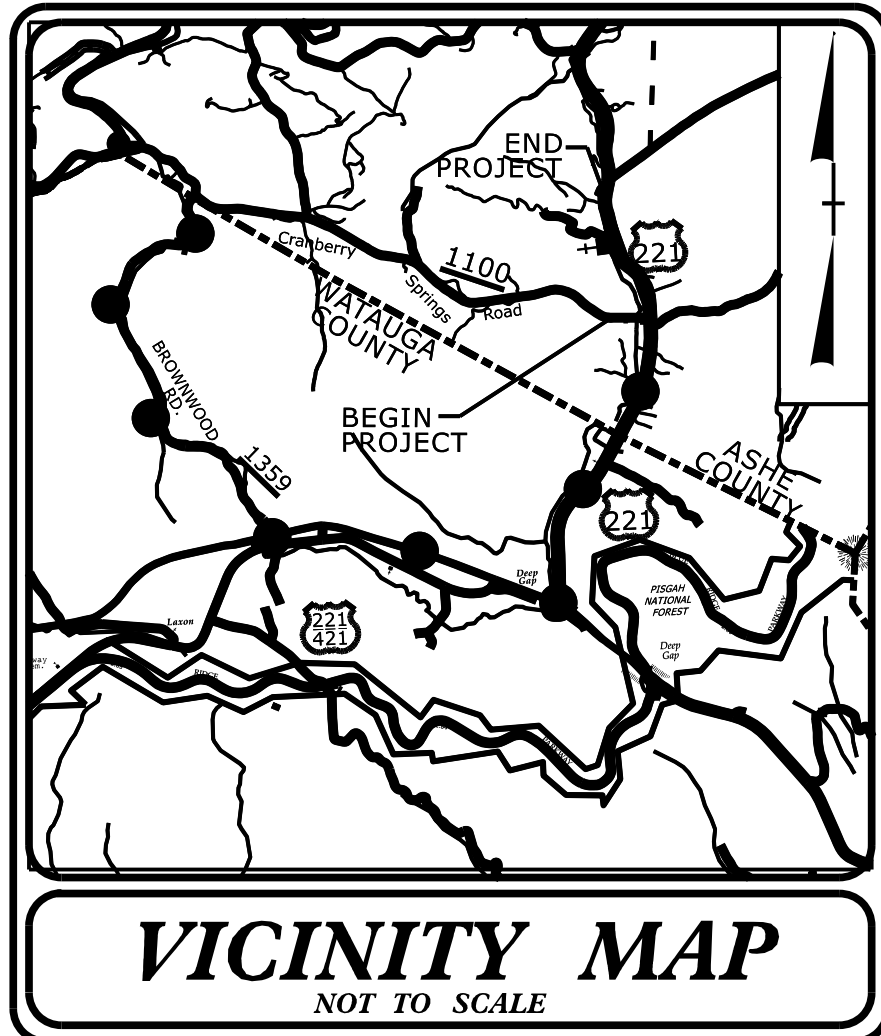
SEAL:



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



TIP PROJECT: BP11-R016

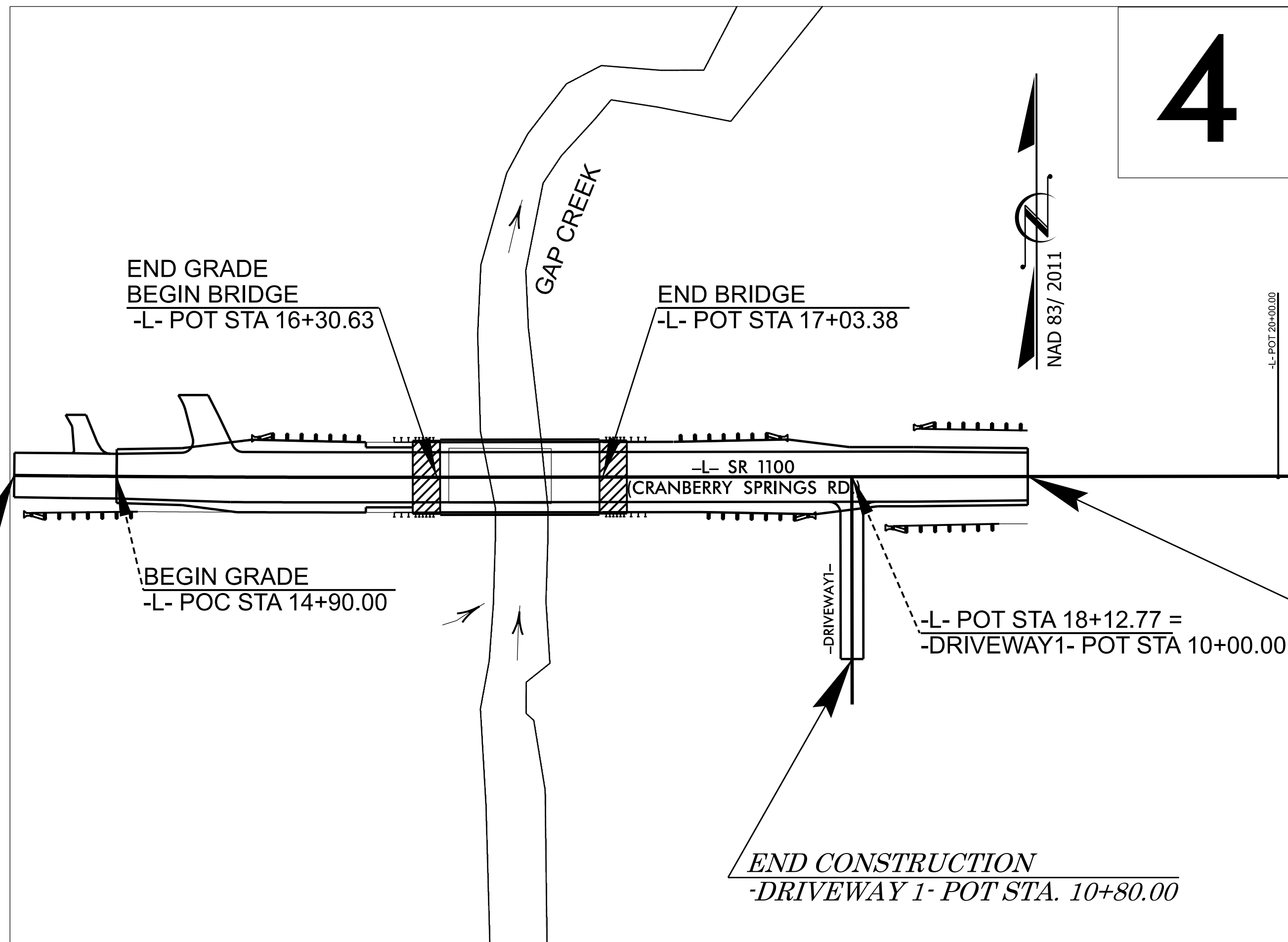


OFFSITE DETOUR ROUTE

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
PLAN FOR PROPOSED
HIGHWAY EROSION CONTROL
ASHE COUNTY

LOCATION: *BRIDGE NO.040171 ON SR 1100 (CRANBERRY SPRINGS RD.)
OVER GAP CREEK*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*



*BEGIN STATE PROJECT
TIP BP11.R016
-L- POT STA. 14+45.00*

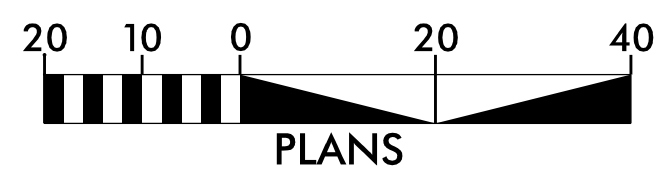
*END STATE PROJECT
TIP BP11.R016
-L- POT STA. 18+90.00*

THIS PROJECT CONTAINS
EROSION CONTROL PLANS
FOR CLEARING AND
GRUBBING PHASE OF
CONSTRUCTION.

ENVIRONMENTALLY
SENSITIVE AREA(S) EXIST
ON THIS PROJECT

*Refer To E. C. Special Provisions
for Special Considerations.*

GRAPHIC SCALE



THESE EROSION AND SEDIMENT CONTROL PLANS COMPLY WITH
THE APPLICABLE REGULATIONS SET FORTH BY THE NCG-010000
GENERAL CONSTRUCTION PERMIT ISSUED BY THE NORTH
CAROLINA DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES.

stv

STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

Prepared in the Office of:
STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203

Designed by:

Haley Smith, EIT
NAME

4688

LEVEL III CERTIFICATION NO.

Roadway Standard Drawings

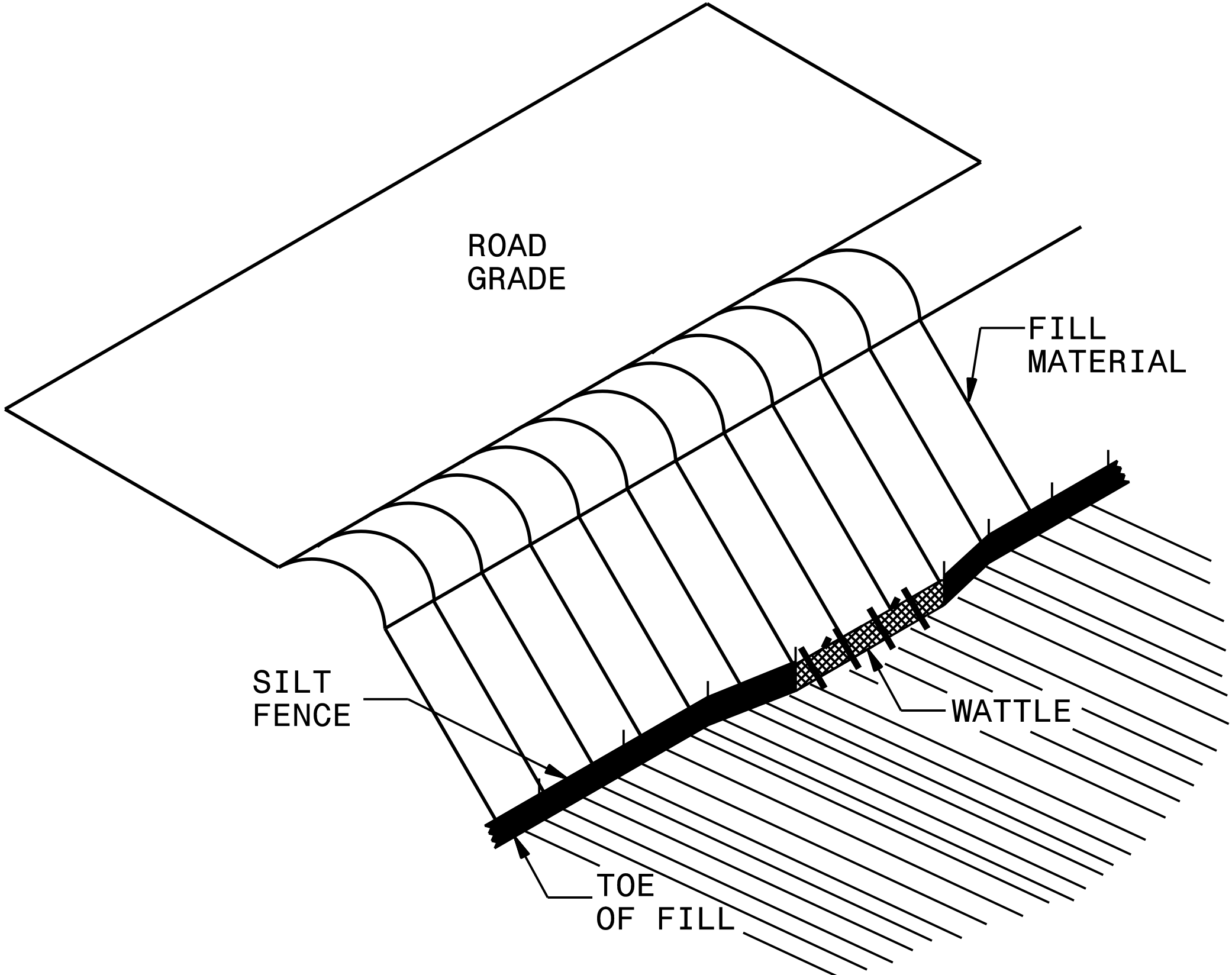
The "Roadway Standard Drawings"- Roadway Design Unit - N. C.
Department of Transportation - Raleigh, N. C., dated January 2024
and the latest revision thereto are applicable to this project and by
reference hereby are considered a part of these plans.

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

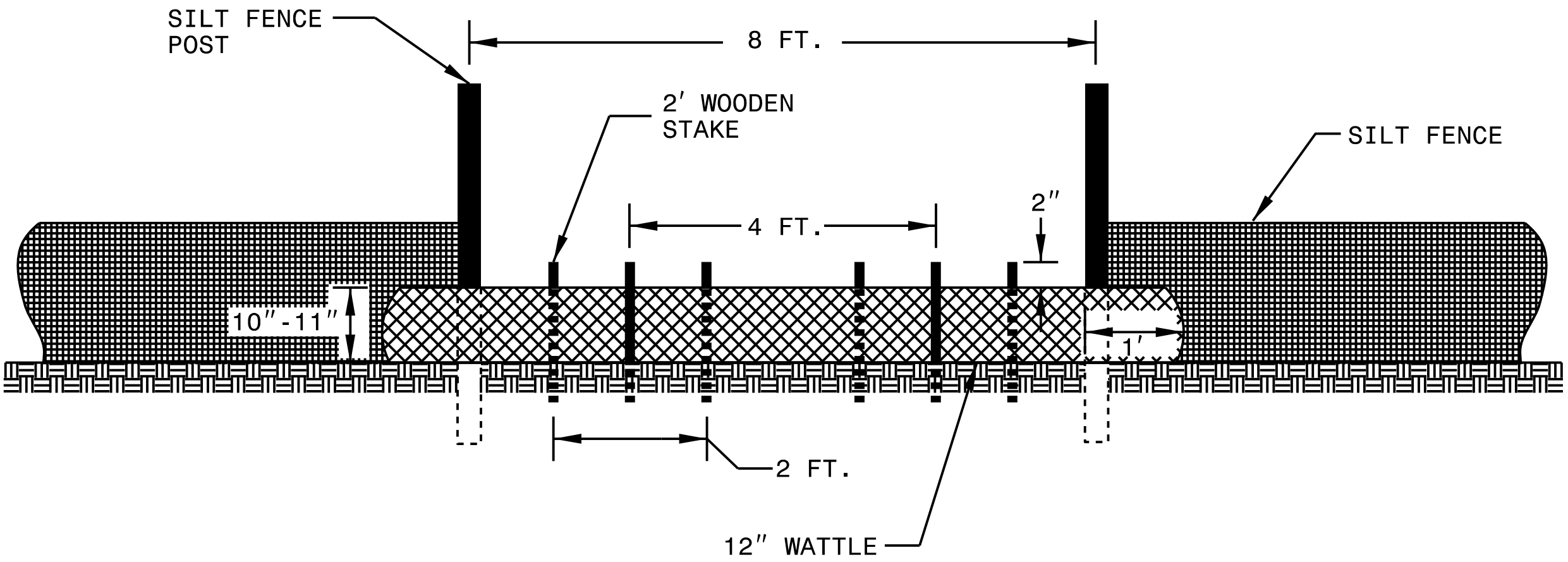
EROSION & SEDIMENT CONTROL LEGEND

Std. #	Description	Symbol	Std. #	Description	Symbol
1605.01	Temporary Silt Fence		1633.01	Temporary Rock Silt Check Type A	
1606.01	Special Sediment Control Fence		1633.02	Temporary Rock Silt Check Type B	
1622.01	Temporary Berms and Slope Drains		1633.03	Temporary Rock Silt Check Type A with Excelsior Matting and Flocculant	
1630.02	Silt Basin Type B		1634.01	Temporary Rock Sediment Dam Type A	
1630.03	Temporary Silt Ditch		1634.02	Temporary Rock Sediment Dam Type B	
1630.04	Stilling Basin		1635.01	Rock Pipe Inlet Sediment Trap Type A	
1630.05	Temporary Diversion		1635.02	Rock Pipe Inlet Sediment Trap Type B	
1630.06	Special Stilling Basin		1636.01	Excelsior Wattle Check	
1630.07	Skimmer Basin		1636.01	Excelsior Wattle Check with Flocculant	
1630.08	Tiered Skimmer Basin		1636.01	Coir Fiber Wattle Check	
1630.09	Earthen Dam with Skimmer		1636.01	Coir Fiber Wattle Check with Flocculant	
	Infiltration Basin		1636.02	Silt Fence Excelsior Wattle Break	
	Rock Inlet Sediment Trap:			Silt Fence Coir Fiber Wattle Break	
1632.01	Type A				
1632.02	Type B		1636.03	Excelsior Wattle Barrier	
1632.03	Type C		1636.03	Coir Fiber Wattle Barrier	

SILT FENCE COIR FIBER WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER COIR FIBER (COCONUT FIBER) WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

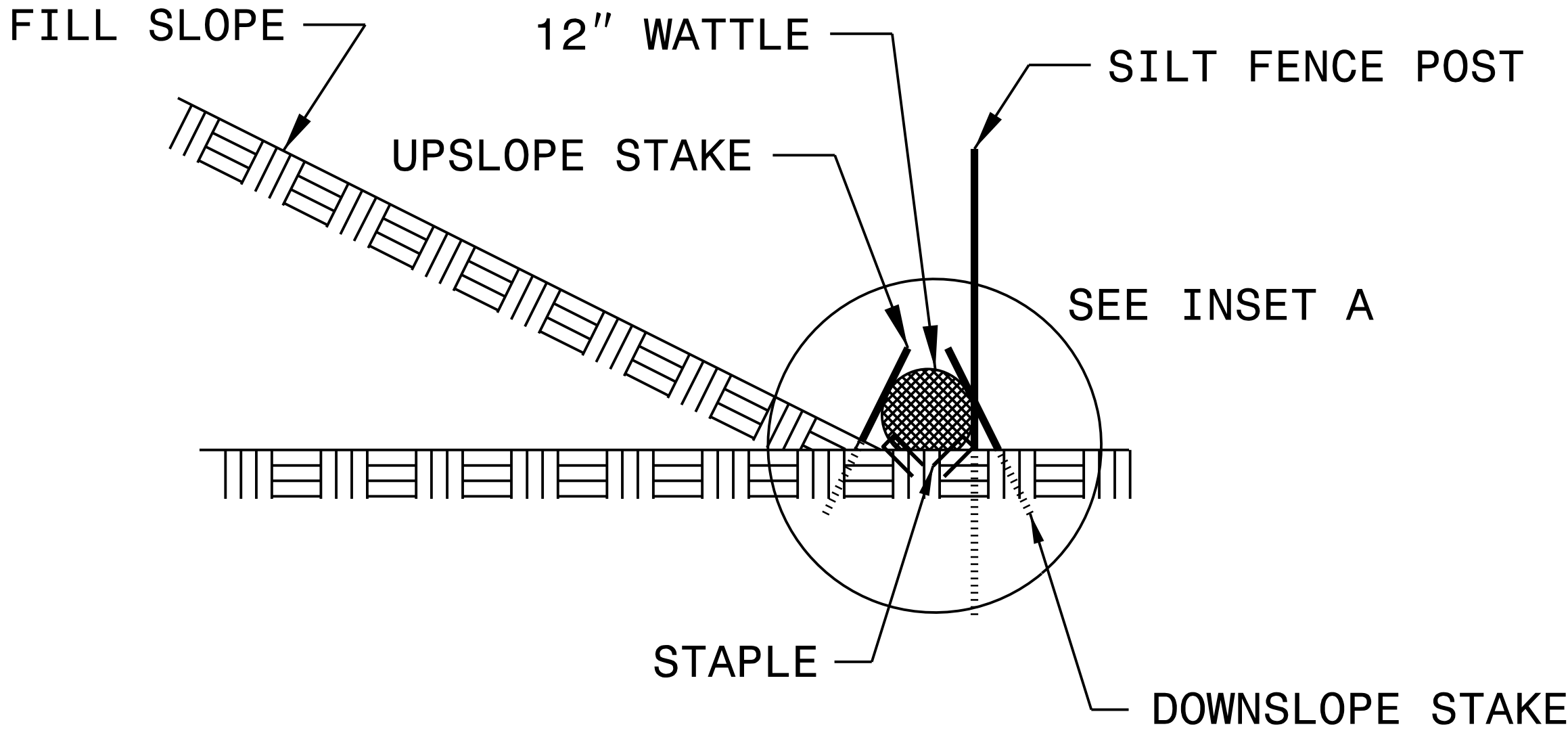
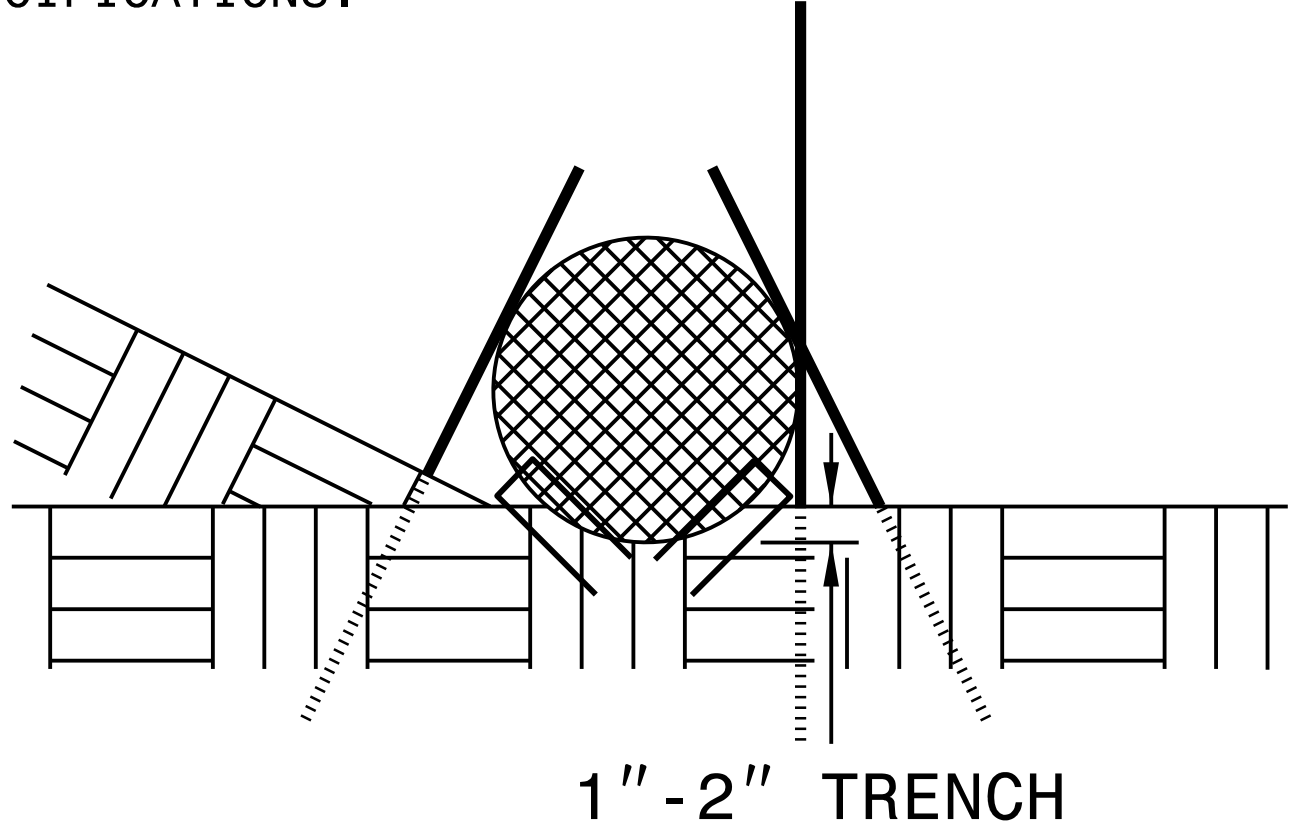
PROVIDE STAPLES MADE OF 11 GAUGE STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 6" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

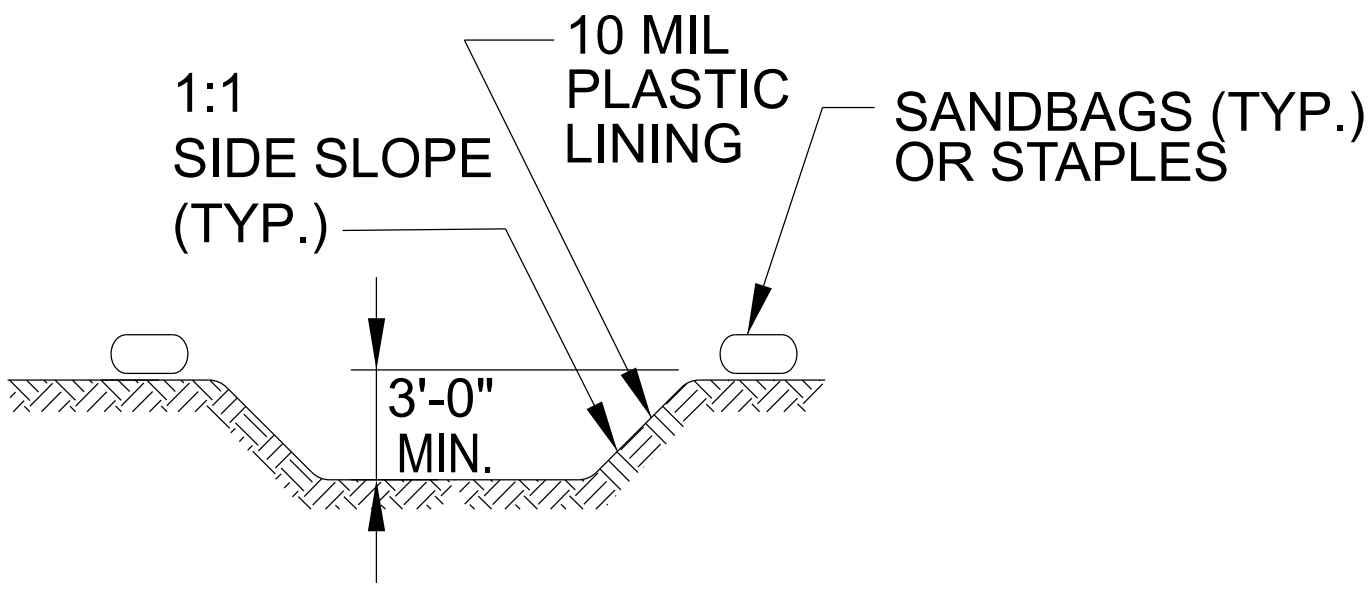
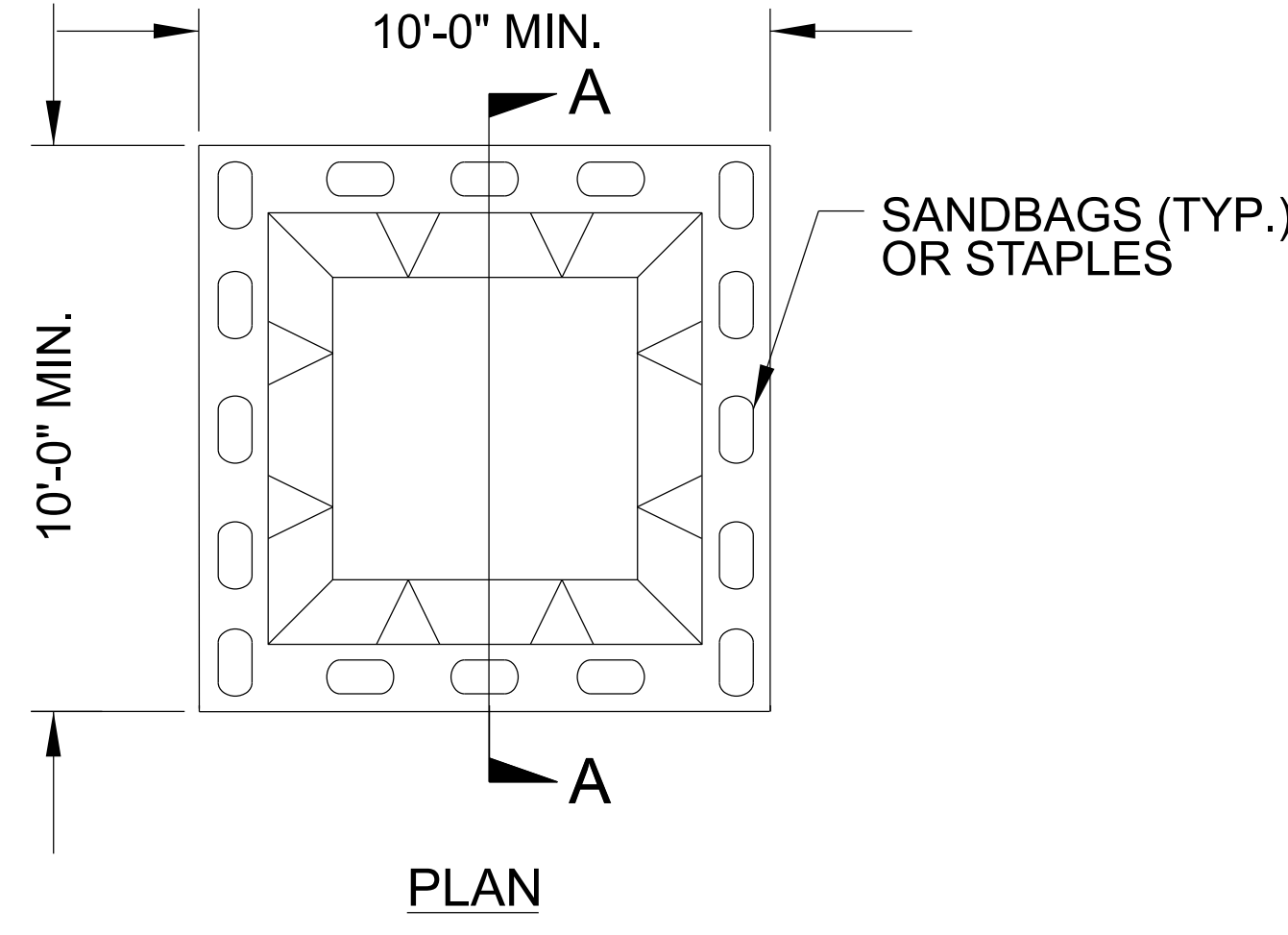
INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.

INSET A

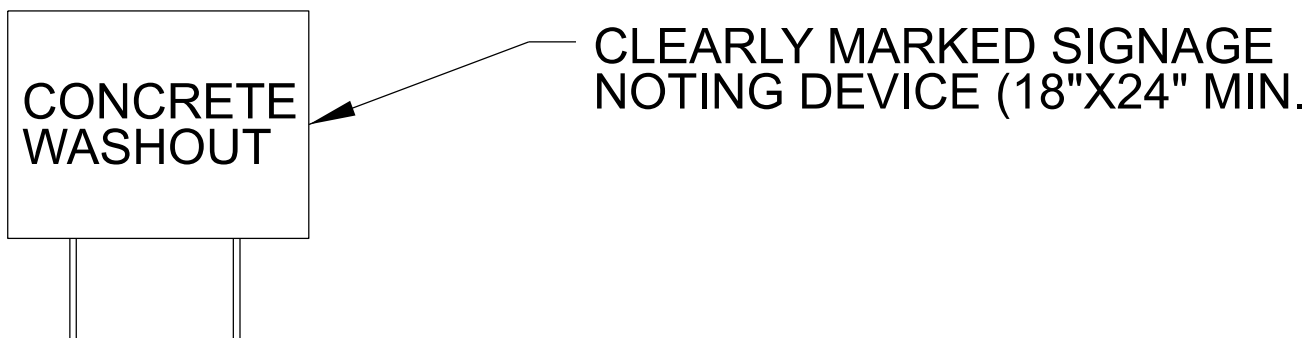


SIDE VIEW

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER

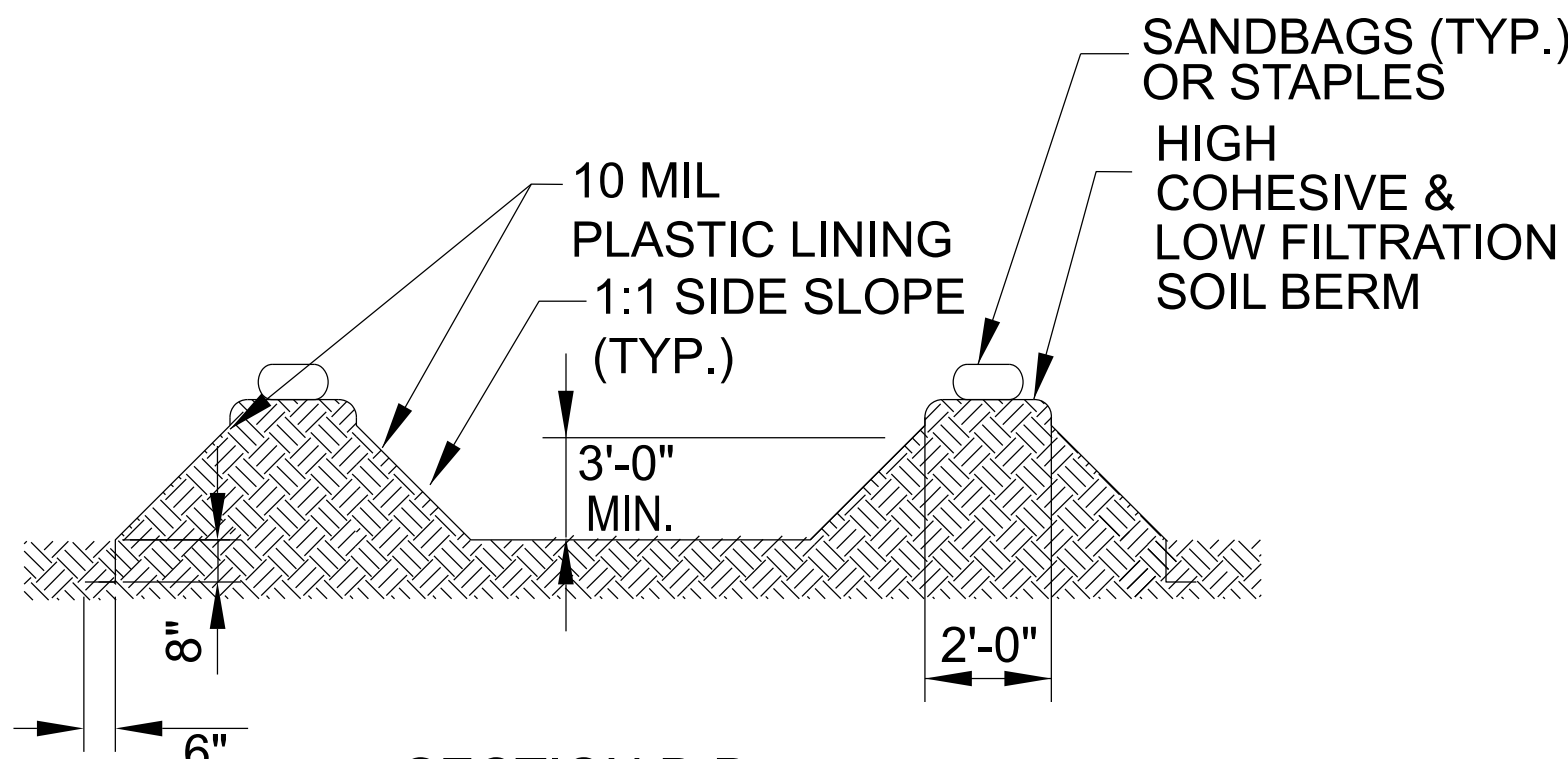
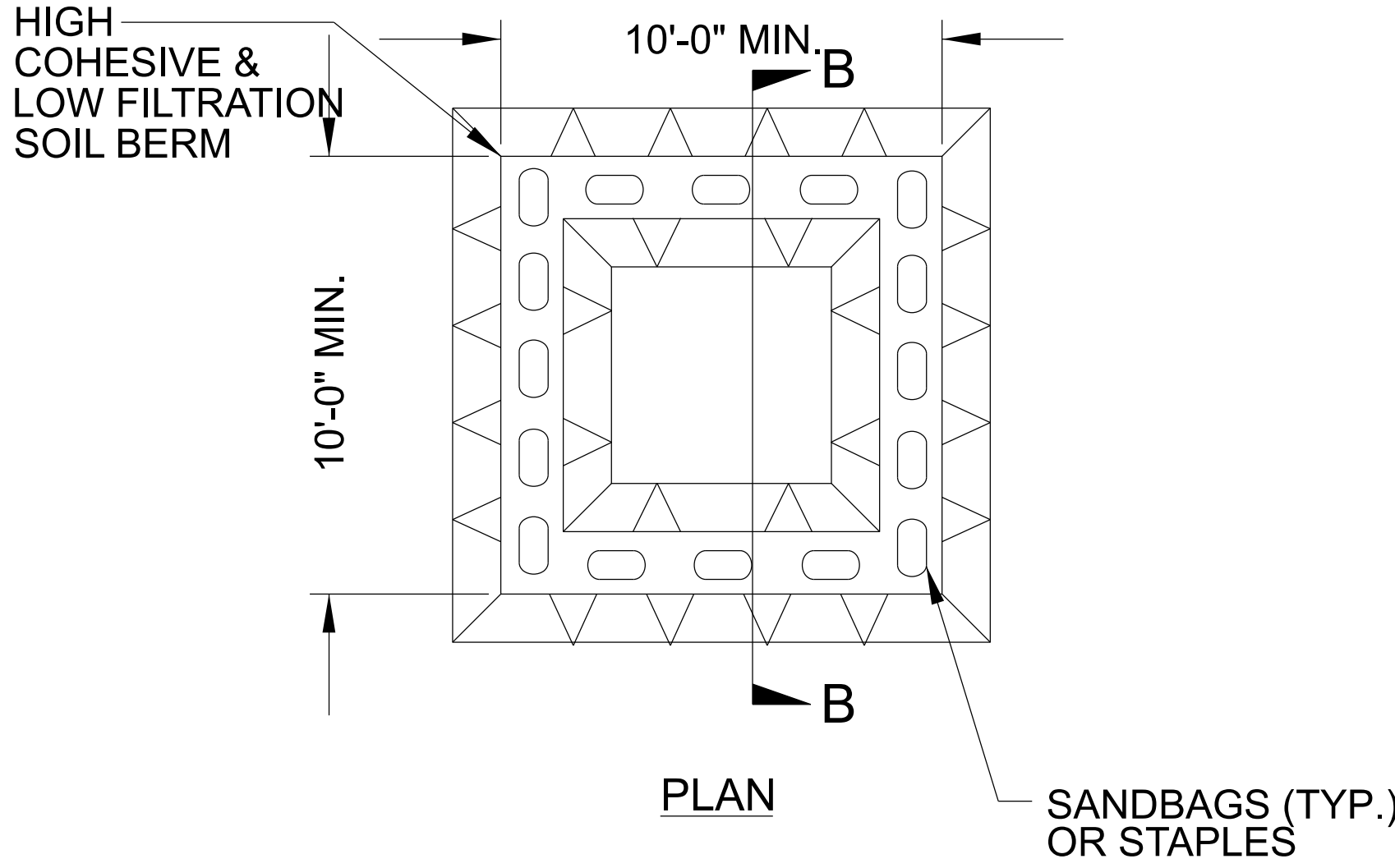


SECTION A-A

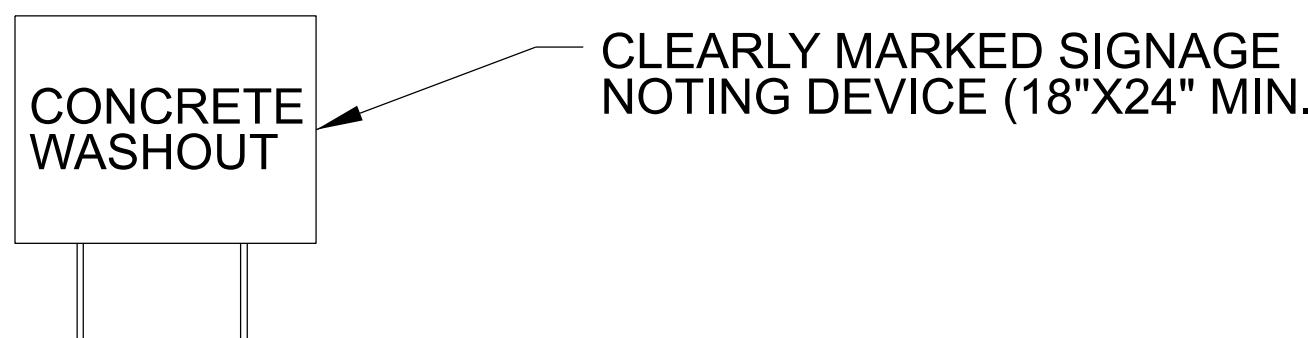


BELOW GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.



SECTION B-B



ABOVE GRADE WASHOUT STRUCTURE
NOT TO SCALE

- NOTES:
1. ACTUAL LOCATION DETERMINED IN FIELD
 2. THE CONCRETE WASHOUT STRUCTURES SHALL BE MAINTAINED WHEN THE LIQUID AND/OR SOLID REACHES 75% OF THE STRUCTURES CAPACITY TO PROVIDE ADEQUATE HOLDING CAPACITY WITH A MINIMUM 12 INCHES OF FREEBOARD.
 3. CONCRETE WASHOUT STRUCTURE NEEDS TO BE CLEARLY MARKED WITH SIGNAGE NOTING DEVICE.

[illegible]

INTERVIEW **REVIEW**

STV STV Engineers, Inc.
2151 Hawkins St., Suite 1400
Charlotte, NC 28203
NC License Number F-0991

STRAW MATTING FOR EROSION CONTROL

[illegible]

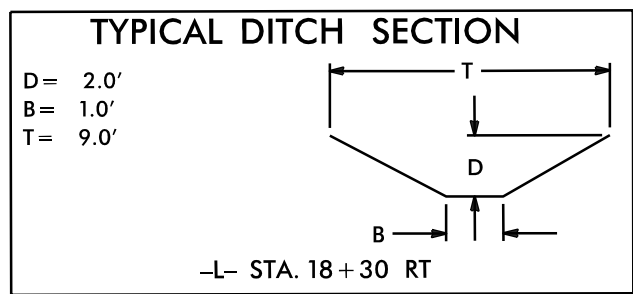
PERMANENT SOIL REINFORCEMENT MAT

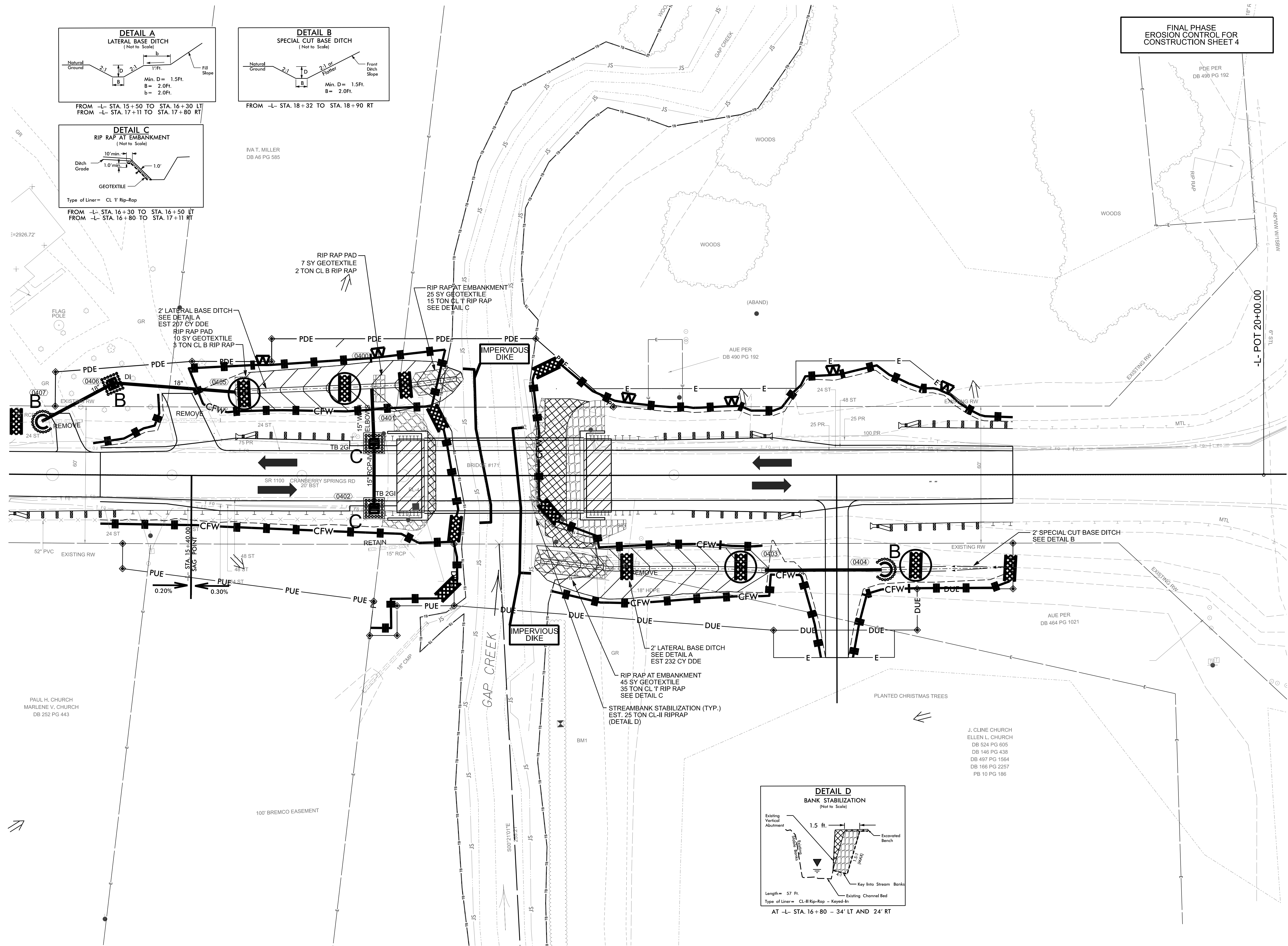
[illegible]

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SOIL STABILIZATION TIMEFRAMES

SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 TO 4:1	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH WITH SLOPES STEEPER THAN 4:1. 7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	7 DAYS FOR PERIMETER DIKES, SWALES, DITCHES PERIMETER SLOPES, AND HQW ZONES





TIP PROJECT: BP11-R016

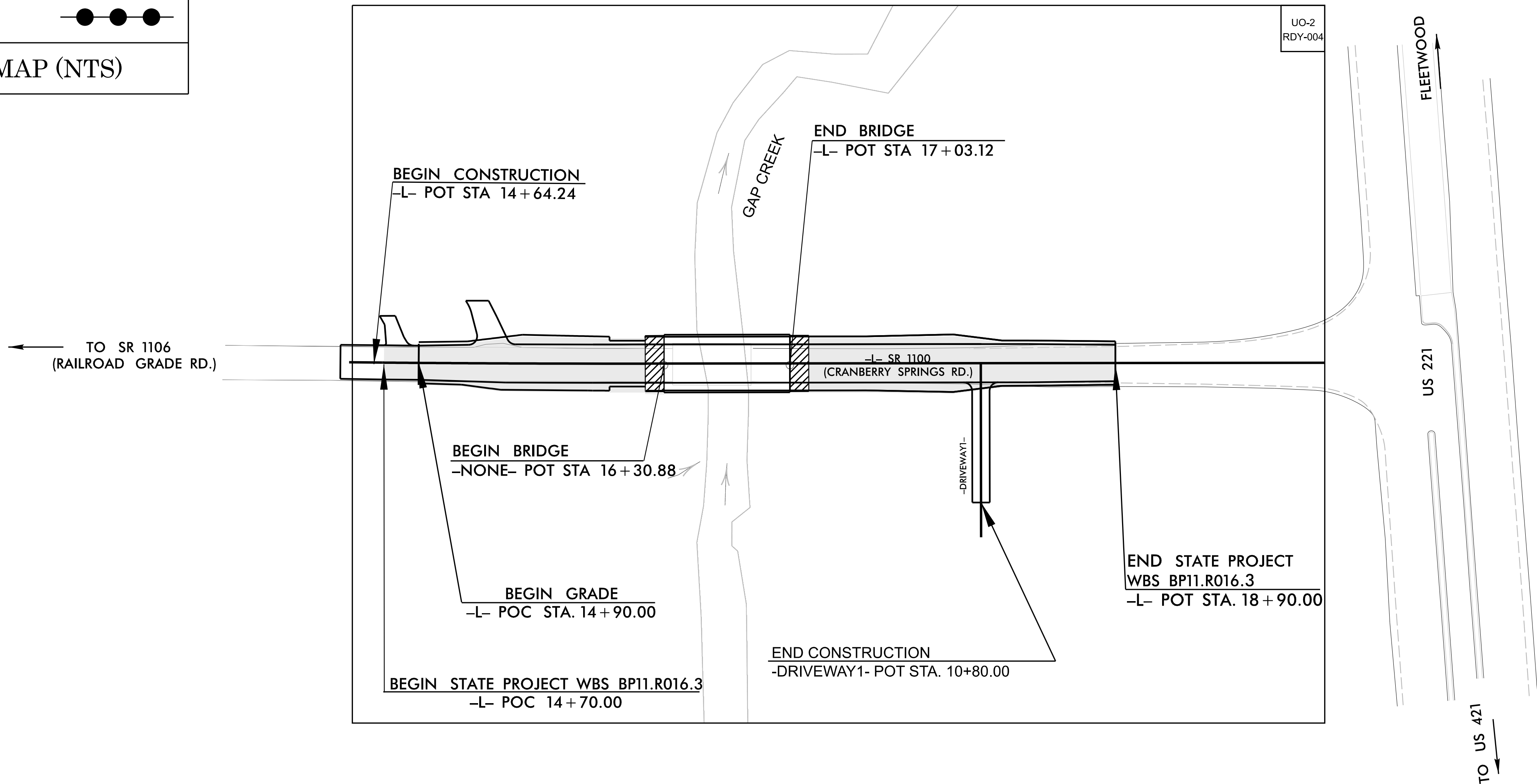
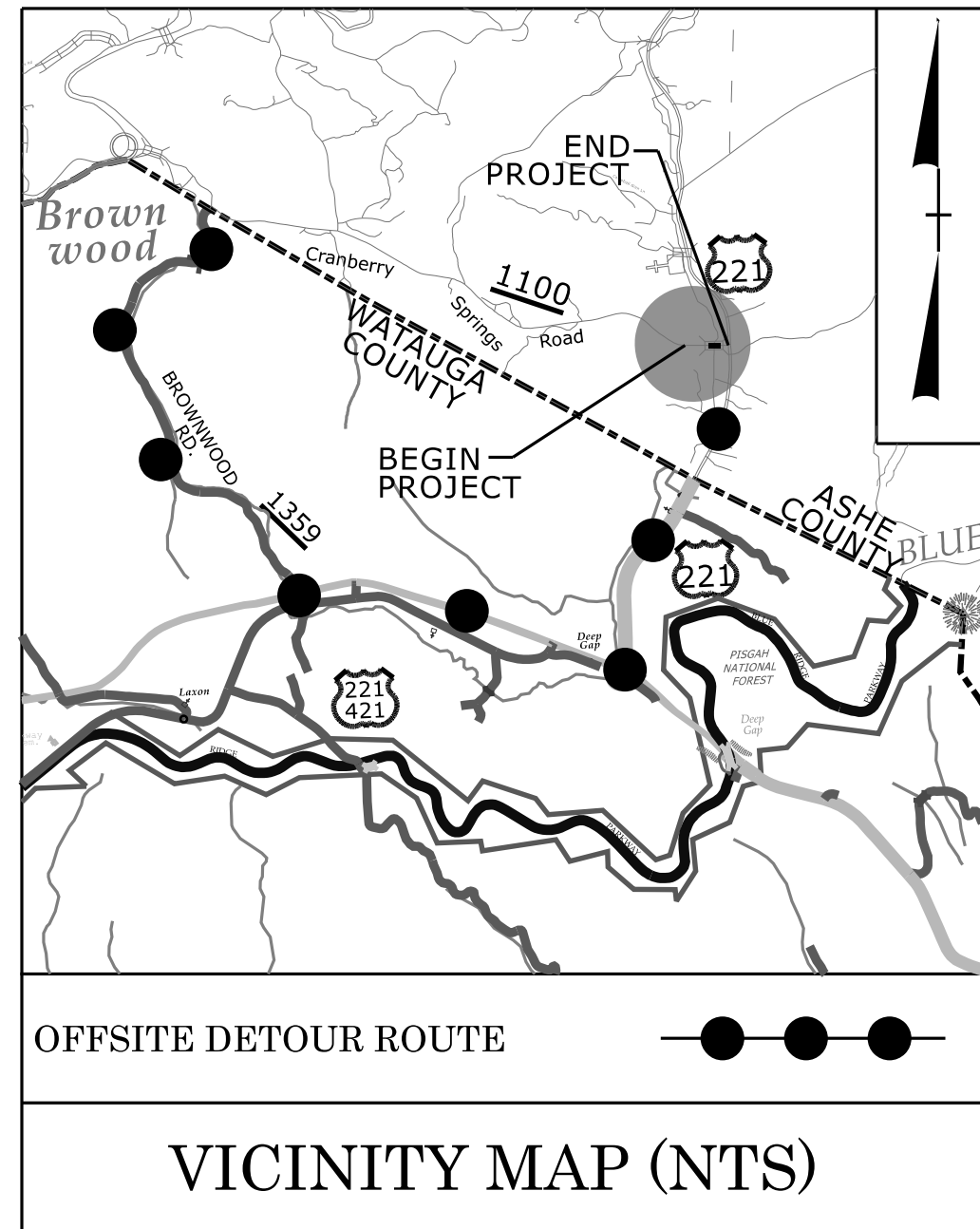
CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

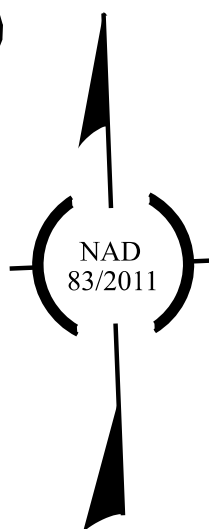
UTILITIES BY OTHERS PLANS
ASHE COUNTY

LOCATION: BRIDGE NO.040171 ON SR 1100 (CRANBERRY SPRINGS RD.)
OVER GAP CREEK

TYPE OF WORK: POWER & COMMUNICATIONS

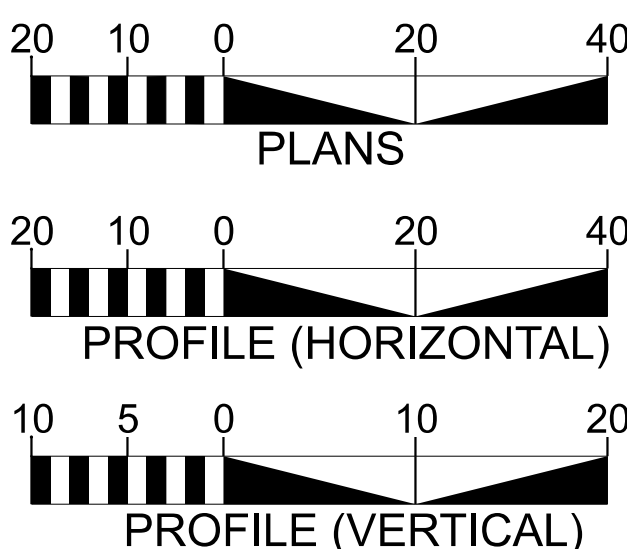


NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.



DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UO-1	TITLE SHEET
UO-2	UBO PLAN SHEET

UTILITY OWNERS WITH CONFLICTS

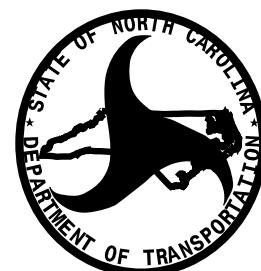
- (A) POWER - BLUE RIDGE ENERGY
(B) COMMUNICATIONS - SKYLINE | SKYBEST

PREPARED IN THE OFFICE OF



STV Engineers, Inc.
2151 Hawkins St.
Charlotte, NC 28203
NC License Number F-0991

Oriana Roumillat, PE UTILITY PROJECT MANAGER
Alex Smith PROJECT UTILITY COORDINATOR
Laura Khin PROJECT UTILITY QA/QC



HIGHWAY DIVISION II

801 STATESVILLE RD
NORTH WILKESBORO NC 28659
PHONE (336) 903-9101
FAX (336) 667-4549

Brandon S. Greer UTILITIES ENGINEER
Rob Weisz, PE BRIDGE PROGRAM MANAGER
Michael L. Poe, PE DIVISION ENGINEER

UTILITIES BY OTHERS

THIS SHEET CORRESPONDS TO RDY-004

BP11-R016

UO-2

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
ASHLEY COUNTY

UTILITY DESIGN UNIT
UTILITY CONSTRUCTION
PLANS ONLY

ALL PROPOSED UTILITY
WORK SHOWN ON THIS
SHEET WILL BE DONE
BY OTHERS. NO PAYMENT
WILL BE MADE TO THE
CONTRACTOR FOR
UTILITY WORK SHOWN ON
THIS SHEET.

DESIGNED BY: Others

DRAWN BY: Alex Smith

CHECKED BY: Laura Khin

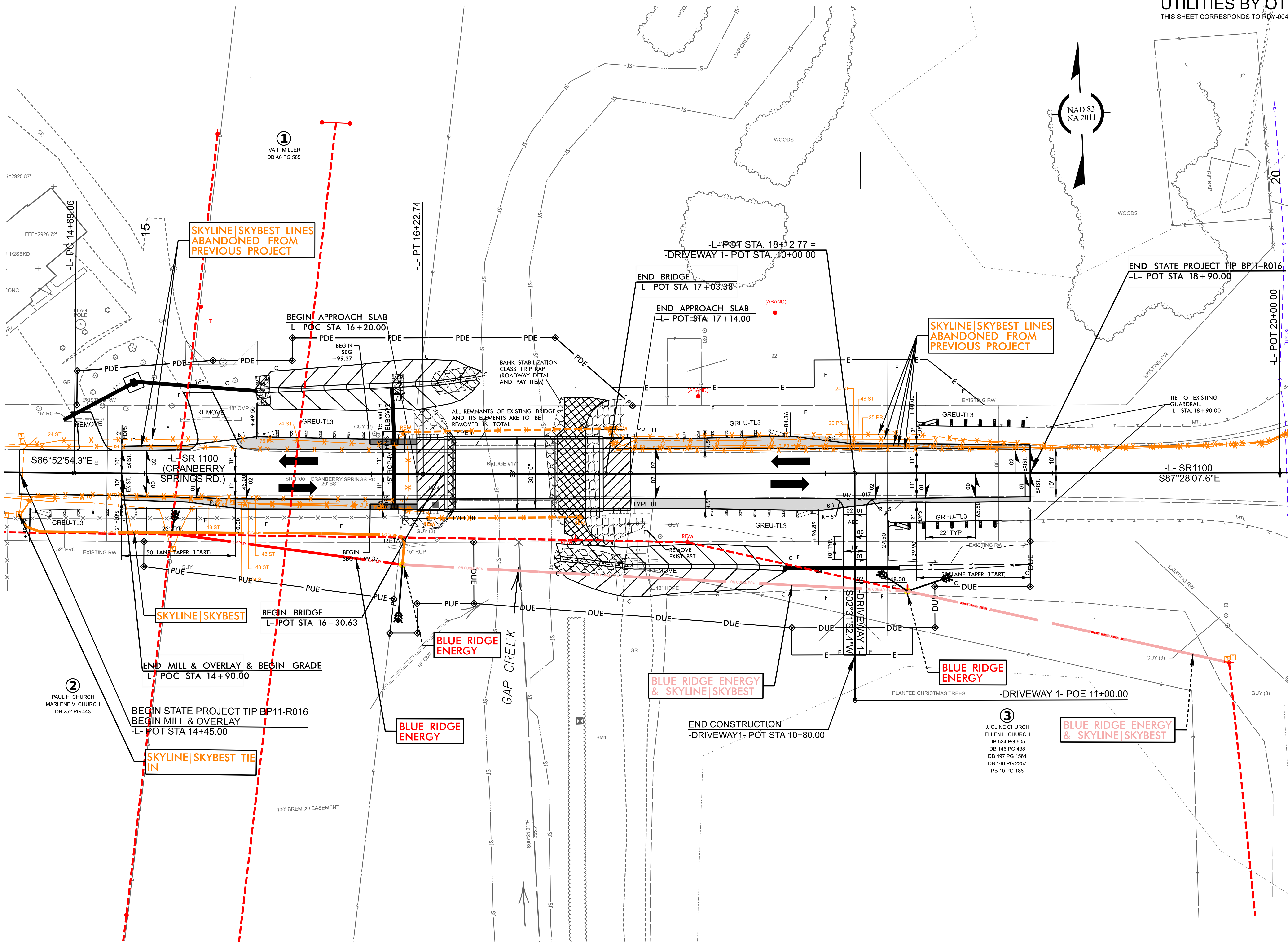
APPROVED BY: Oriana Roumliat, PE

REVISED:
STV ENGINEERS, INC.
PHONE: (800) 257-6334

PREPARED BY



REVISIONS



NAD 83
NA 2011

SKYLINE|SKYBEST LINES
ABANDONED FROM
PREVIOUS PROJECT

SKYLINE|SKYBEST LINES
ABANDONED FROM
PREVIOUS PROJECT

SKYLINE|SKYBEST

BLUE RIDGE
ENERGY

BLUE RIDGE ENERGY
& SKYLINE|SKYBEST

BLUE RIDGE
ENERGY

BLUE RIDGE ENERGY
& SKYLINE|SKYBEST

③
J. CLINE CHURCH
ELLEN L. CHURCH
DB 524 PG 605
DB 146 PG 438
DB 497 PG 1564
DB 166 PG 2257
PB 10 PG 186

BEGIN STATE PROJECT TIP BP11-R016
BEGIN MILL & OVERLAY
-L- POT STA 14+45.00

SKYLINE|SKYBEST TIE
IN

END MILL & OVERLAY & BEGIN GRADE
-L- POC STA 14+90.00

BEGIN BRIDGE
-L- POT STA 16+30.63

END CONSTRUCTION
-DRIVEWAY1- POT STA 10+80.00

END APPROACH SLAB
-L- POT STA 17+14.00

END BRIDGE
-L- POT STA 17+03.38

-L- POT STA 18+12.77 =
-DRIVEWAY 1- POT STA 10+00.00

END STATE PROJECT TIP BP11-R016
-L- POT STA 18+90.00

-L- POT 20+00.00

TIE TO EXISTING
GUARDRAIL
-L- STA. 18+90.00

-L- SR1100
S87°28'07.6"E

-L- PG 14+69.06

①
IVA T. MILLER
DB A6 PG 585

②
PAUL H. CHURCH
MARLENE V. CHURCH
DB 252 PG 443

100' BREMCO EASEMENT

GAP CREEK

BM1

-DRIVEWAY 1- POE 11+00.00

I=2925.87'

FFE=2926.72'

ONC

15" RCP

15" RCP

24 ST

GREU-TL3

52" PVC

EXISTING RW

50' LANE TAPER (LT&RT)

PUE

GUY

18" RCP

15" RCP

15" RCP

15" RCP

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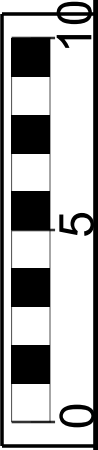
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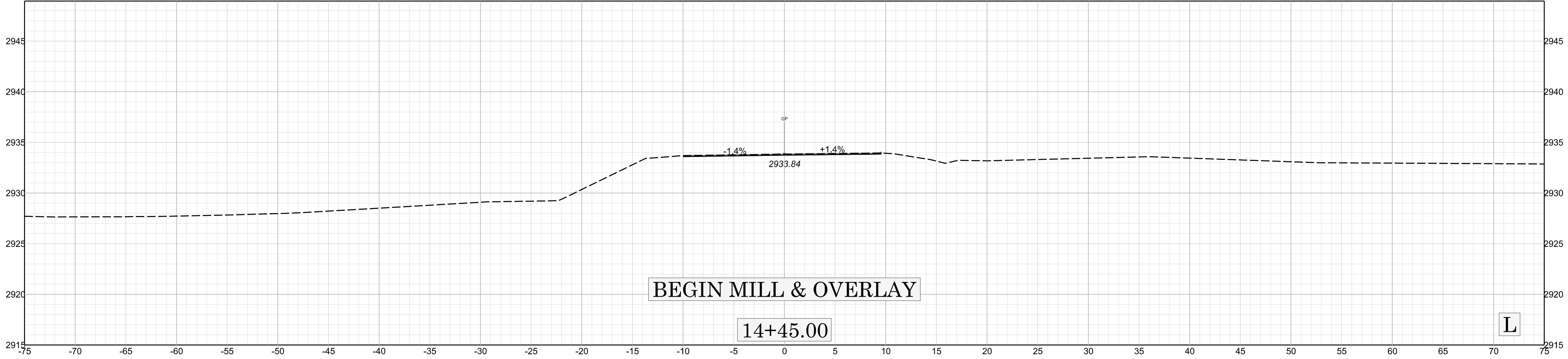
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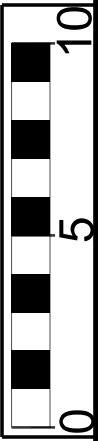
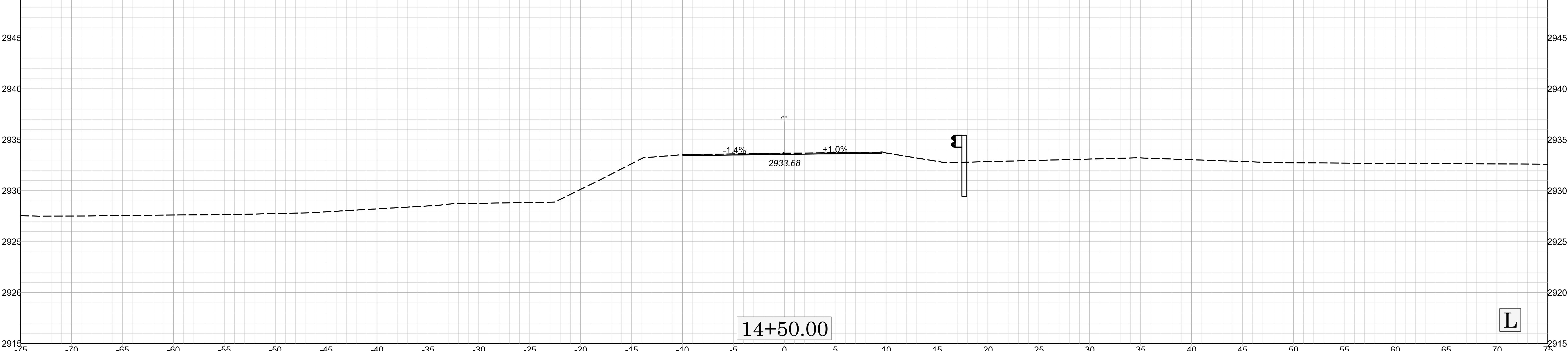
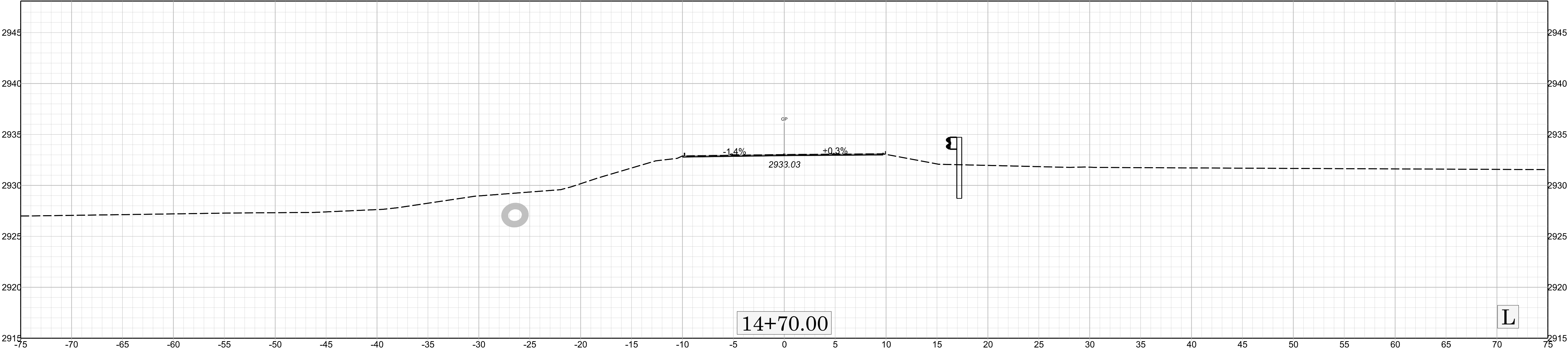
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X 2

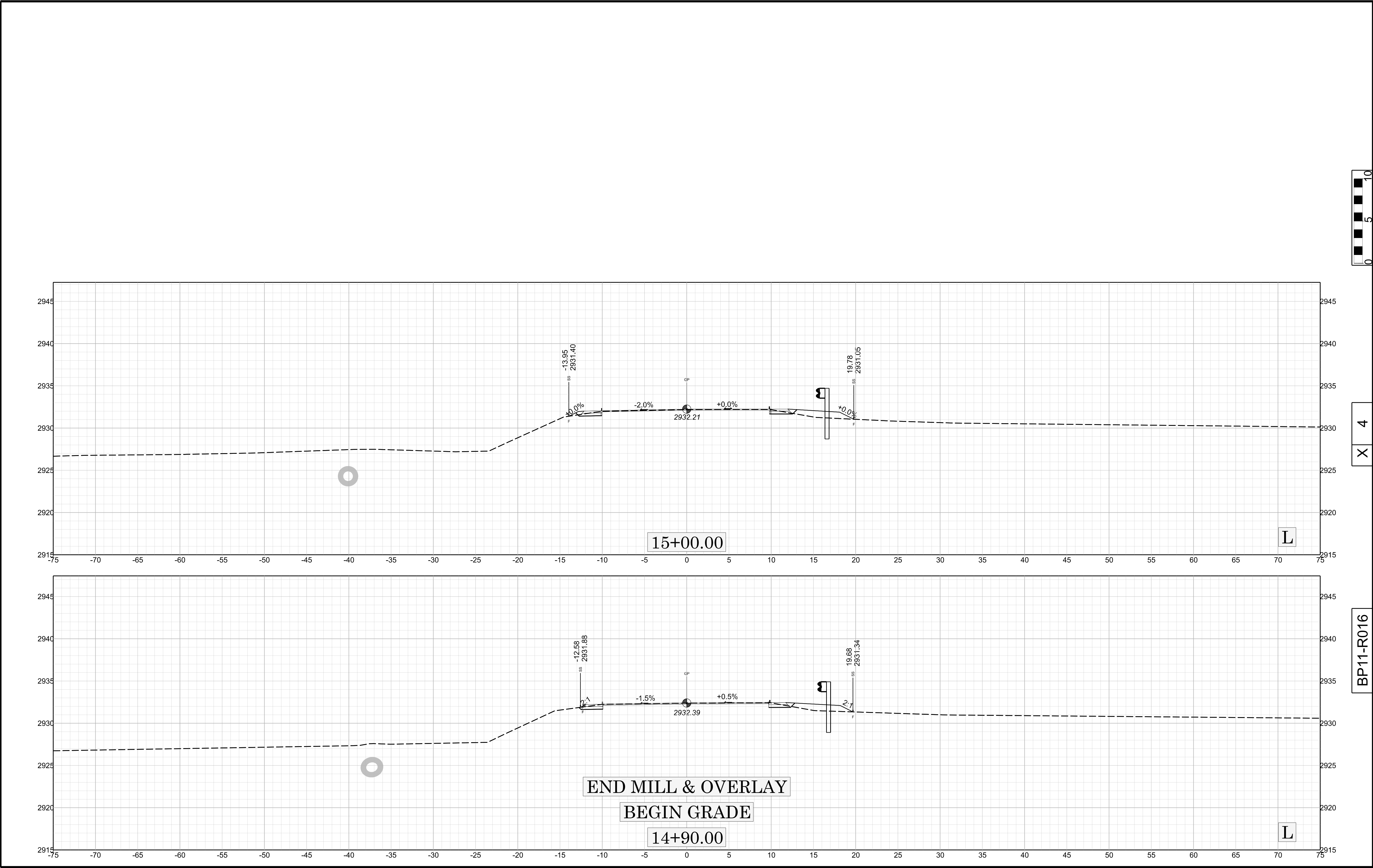
BP11-R016

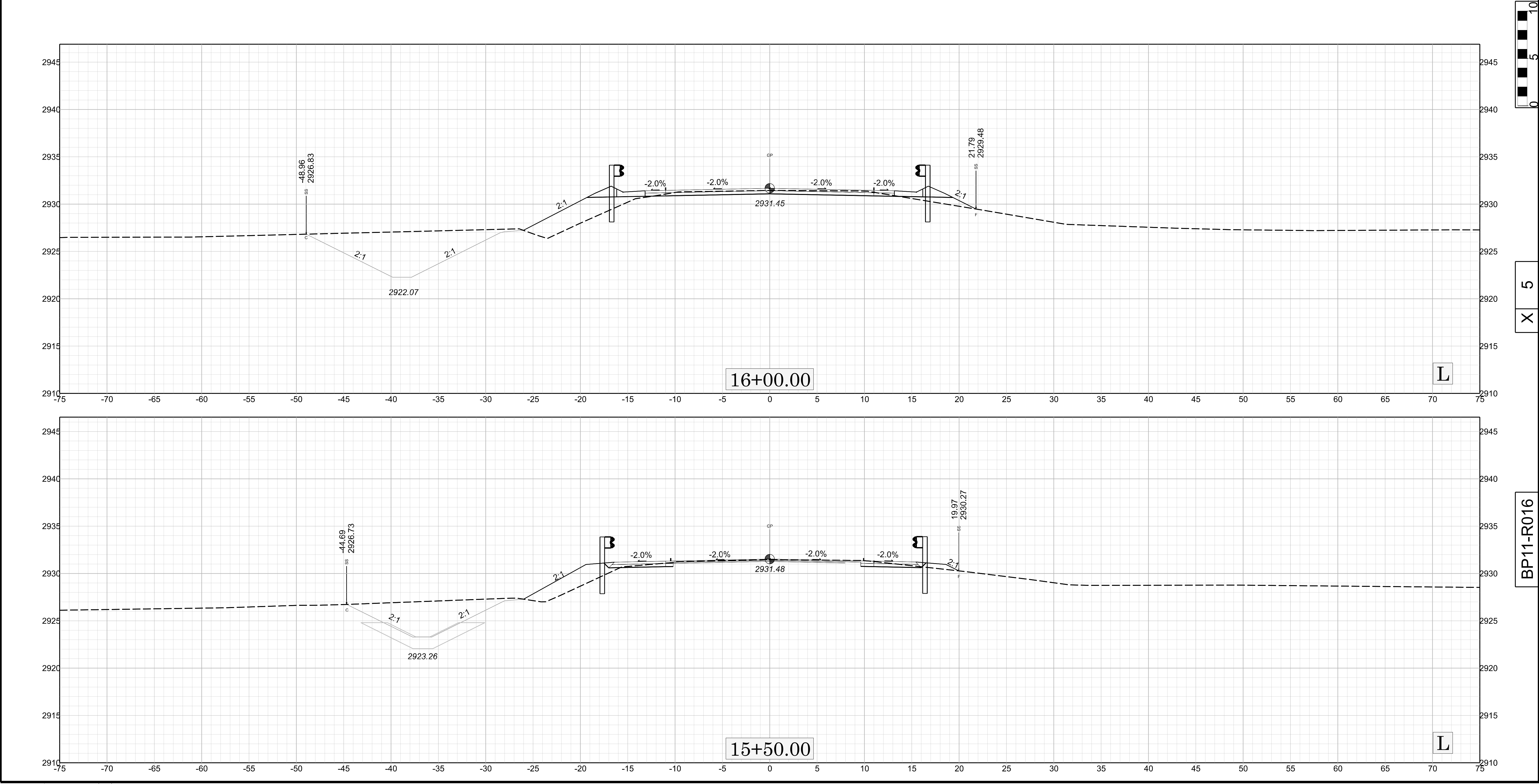


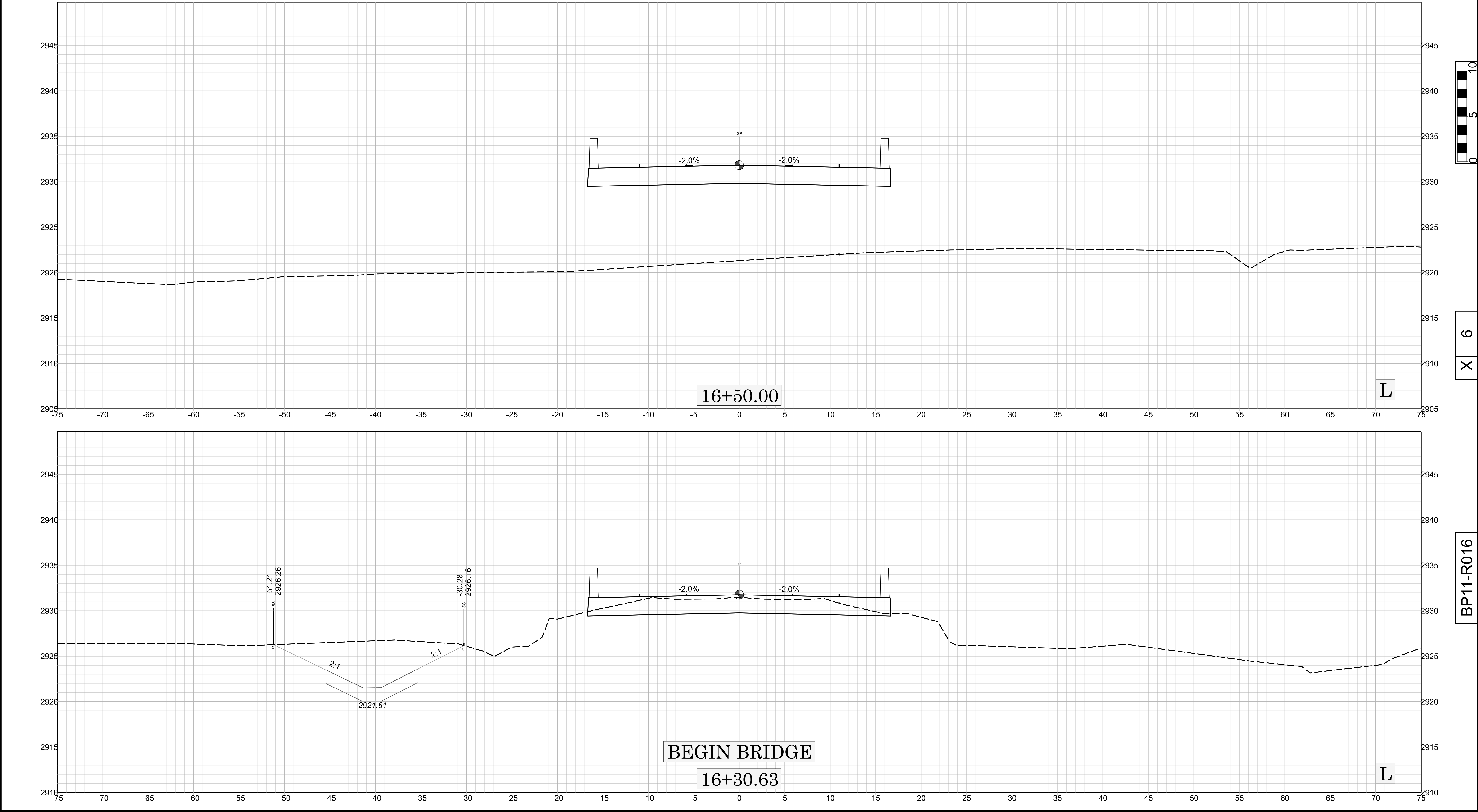


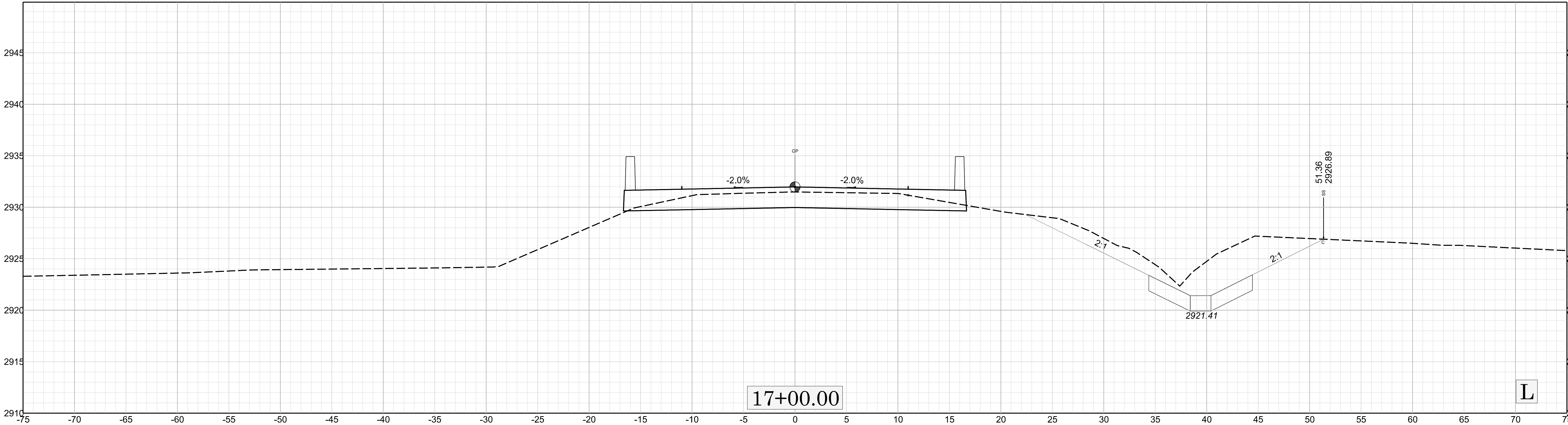
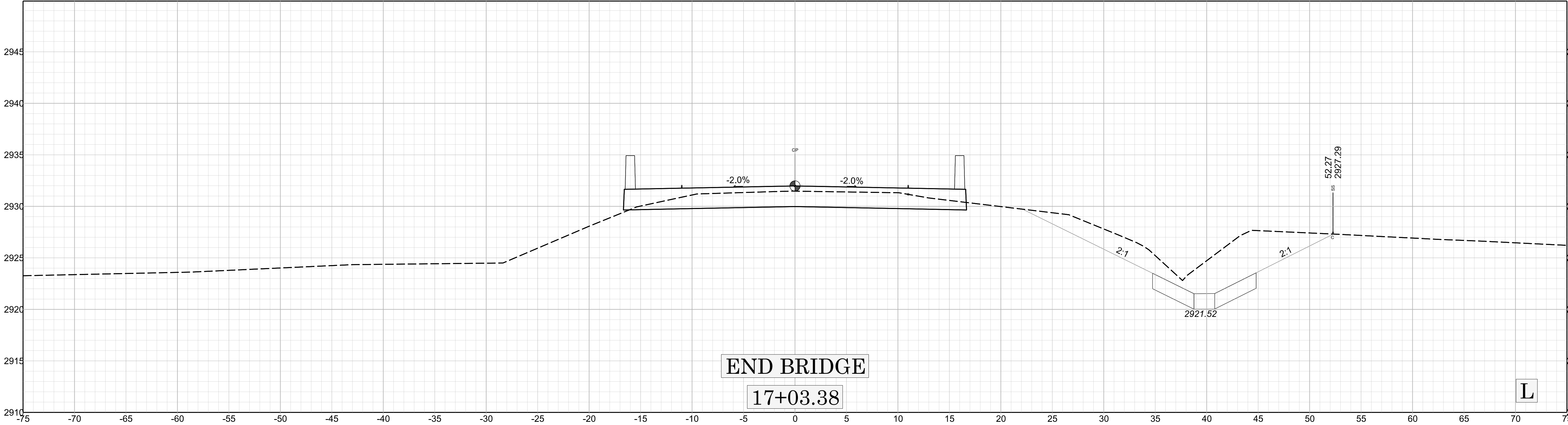
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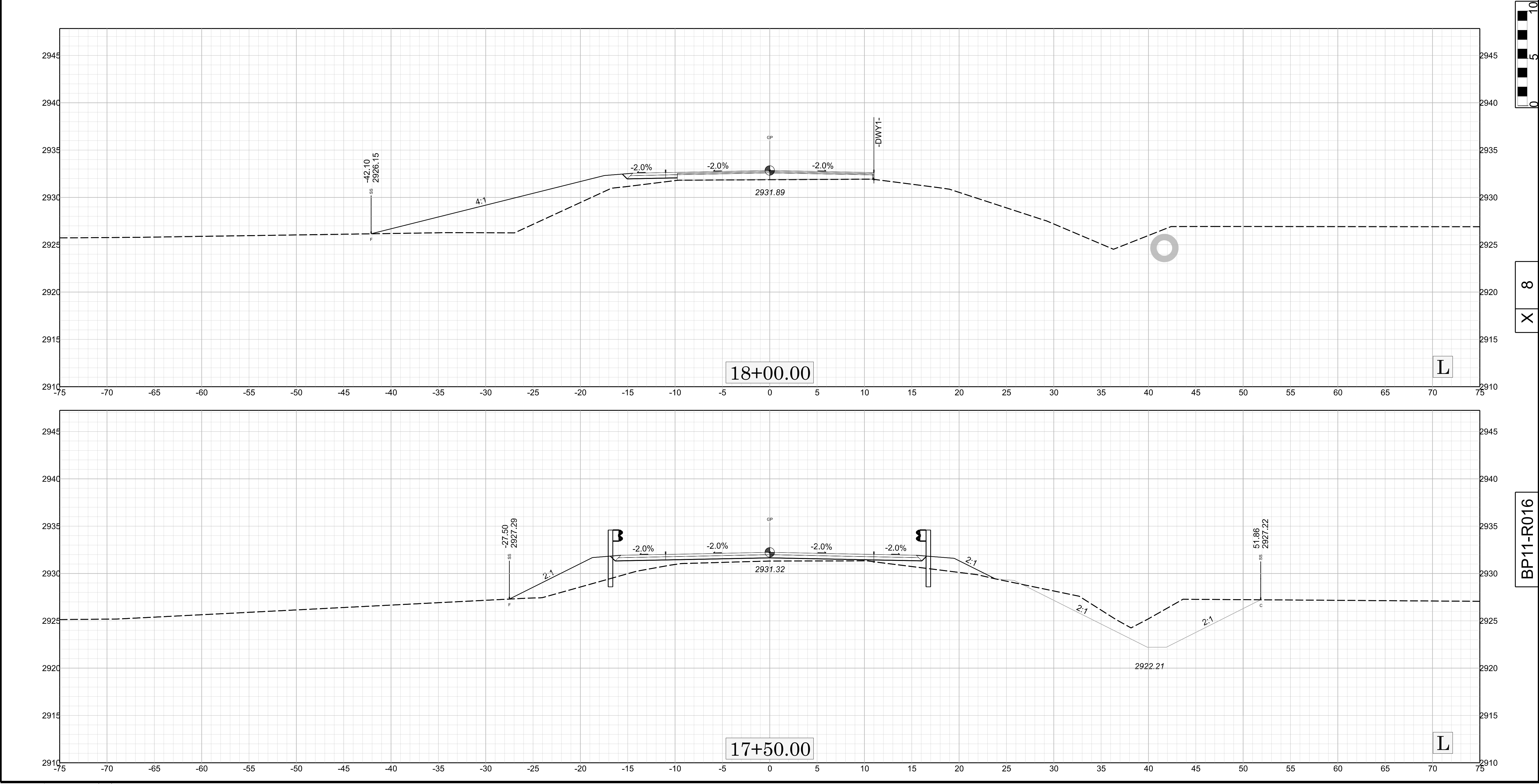
BP11-R016

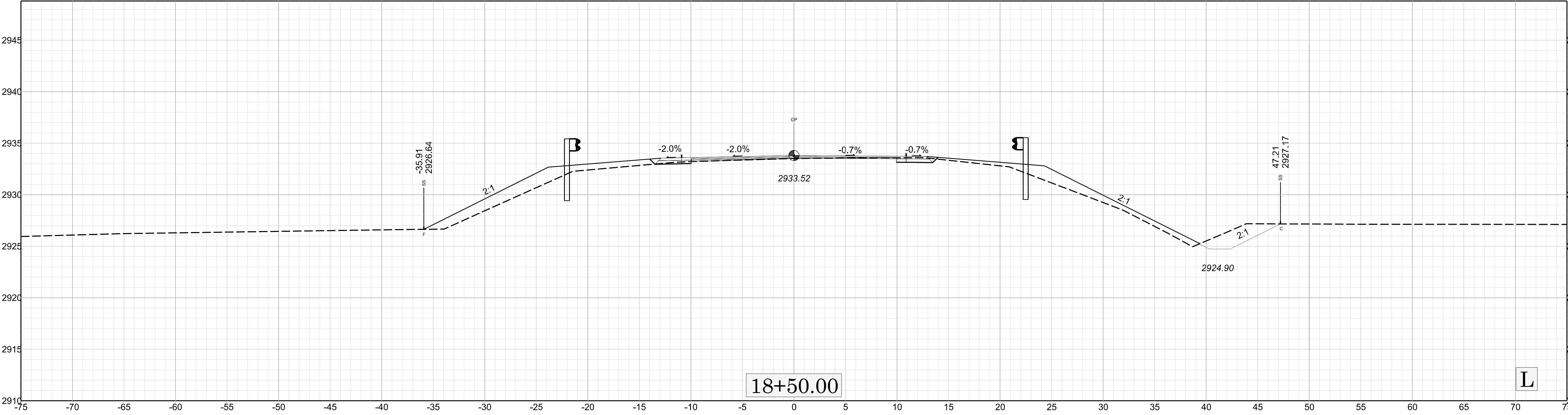
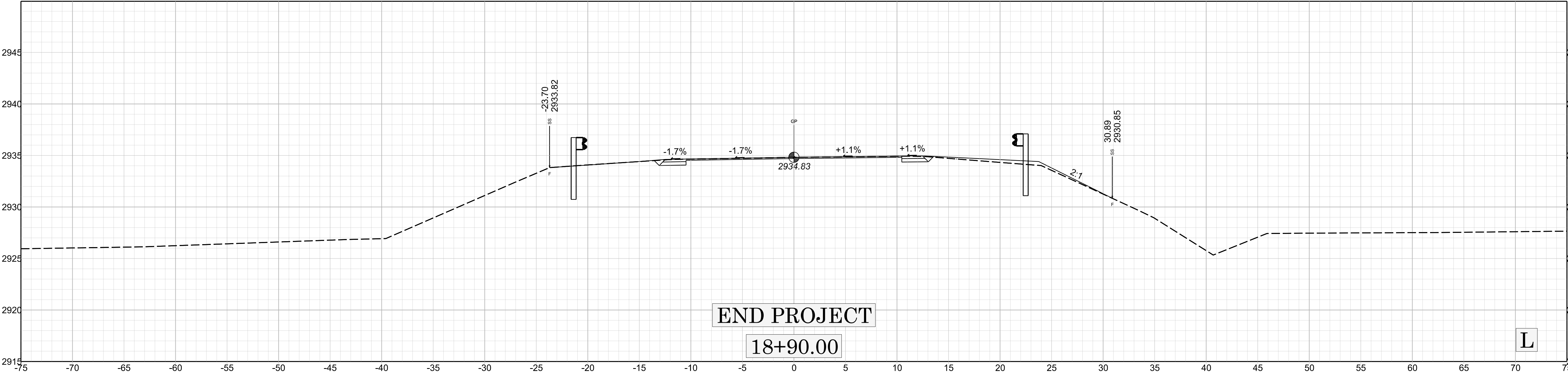


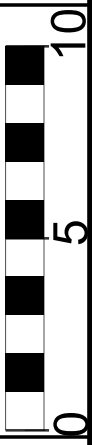




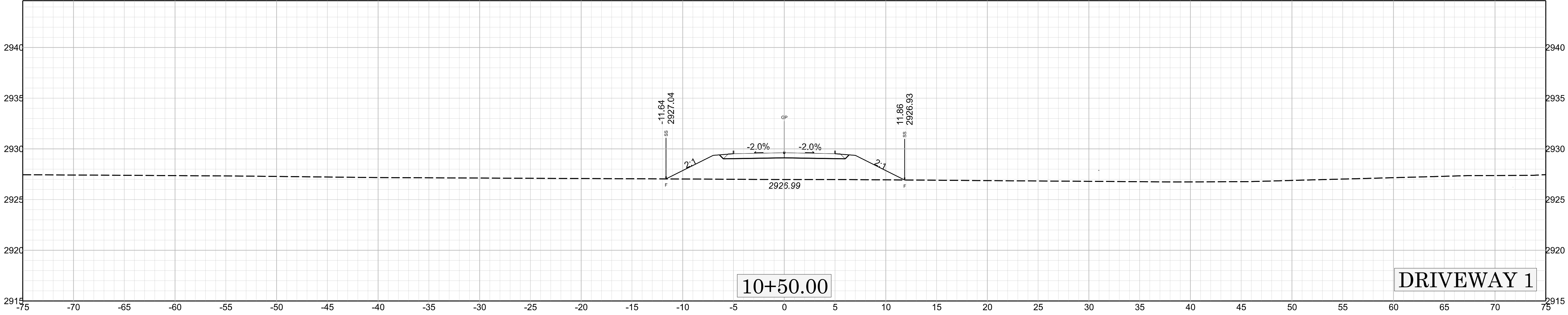








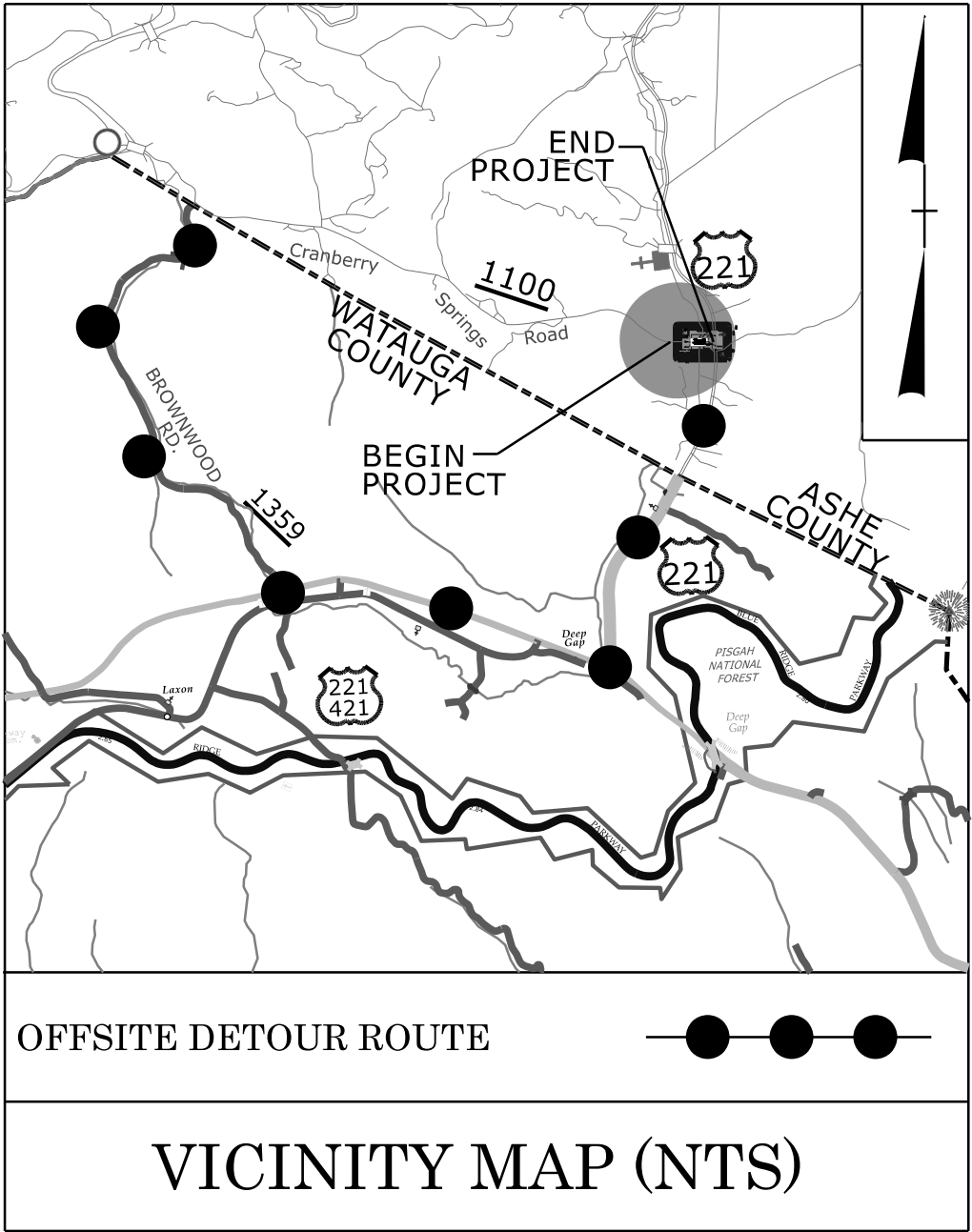
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BP11-R016

TIP PROJECT: BP11-R016

CONTRACT: DK00426



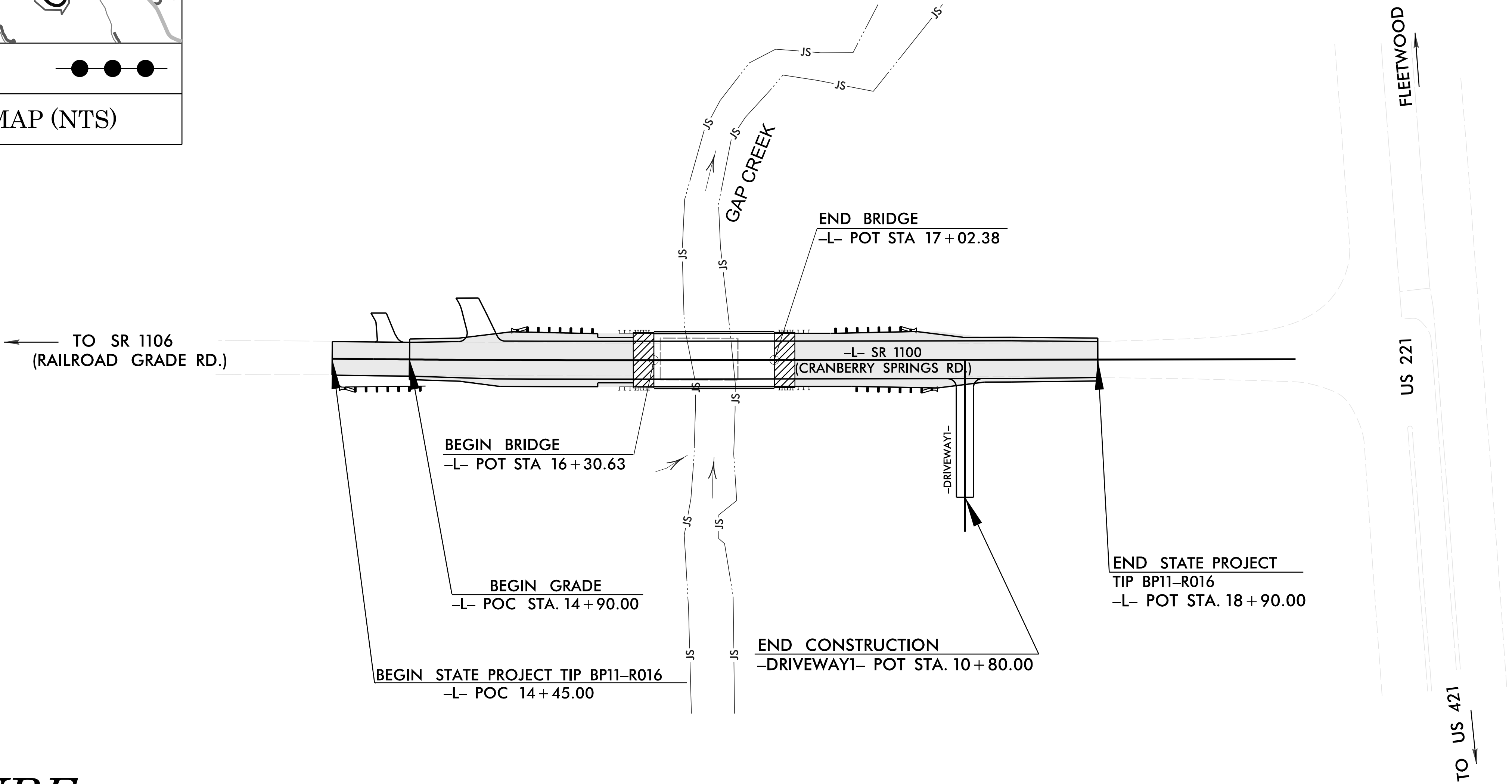
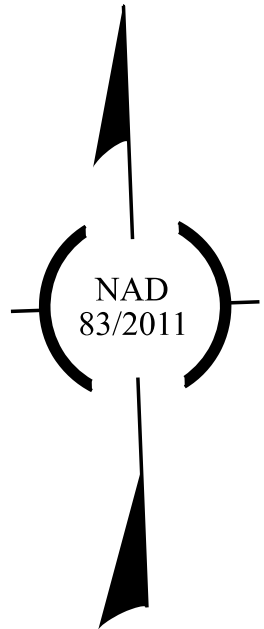
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ASHE COUNTY

LOCATION: *BRIDGE NO.040171 ON SR 1100 (CRANBERRY SPRINGS RD.)
OVER GAP CREEK*

TYPE OF WORK: *GRADING, DRAINAGE, PAVING, AND STRUCTURE*

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	BP11-R016	1	
STATE PROJ. NO.		F. A. PROJ. NO.	DESCRIPTION
BP11-R016.1			PE
BP11-R016.2			R/W & UTILITY
BP11-R016.3			CONSTRUCTION



STRUCTURE

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

DESIGN DATA

ADT 2025 = 1,220
ADT 2045 = 1,812
V = 50 MPH
* TTST =1% DUAL 2%
FUNC CLASS =
LOCAL
SUBREGIONAL TIER

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT BP11-R016 = 0.066 MILES
LENGTH STRUCTURES TIP PROJECT BP11-R016 = 0.014 MILES
TOTAL LENGTH TIP PROJECT BP11-R016 = 0.080 MILES

NCDOT CONTACT: ROB N. WEISZ, PE
DIVISION 11

801 STATESVILLE RD.
NORTH WILKESBORO, 28659

DIRECT: (336)903-9138
RNWEISZ@NCDOT.GOV



Prepared in the Office of:
STV Engineers, Inc.
2151 Hawkins Street, Suite 1400
Charlotte, NC 28203
NC License Number F-0991

2024 STANDARD SPECIFICATIONS

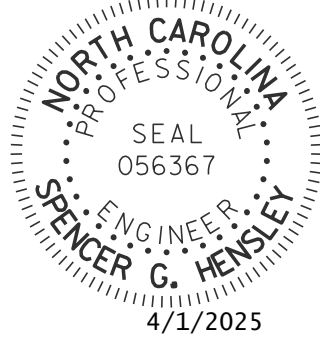
RIGHT OF WAY DATE:
AUGUST 15, 2024

LETTING DATE:
JULY 17, 2025

SPENCER HENSLEY, P.E.
PROJECT ENGINEER

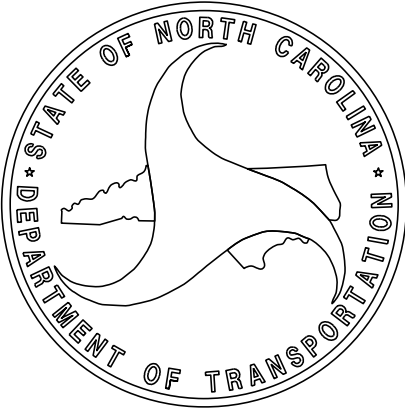
MATTHEW NIFONG, P.E.
PROJECT DESIGN ENGINEER

STRUCTURES ENGINEER



Signed by:
Spencer Hensley
P.E.
SIGNATURE

P.E.



VERTICAL CURVE
DATA -L-

(-)1.4500% (+)0.3000%

PI = 15+50.00
EL = 2931.520
VC = 120'

FILL FACE @ END BENT 1
STA. 16+30.63 -L-
GRADE POINT EL. 2931.76

LOW CHORD
EL. 2929.16

END BENT 1

SPAN A

100 YR. W.S.
EL. 2927.2

25 YR. W.S.
EL. 2926.1

W.S. EL. 2919.5
(10/18/23)

APPROX. EXISTING
GROUNDLINE

UNCLASSIFIED
STRUCTURE
EXCAVATION
(TYP.)

EXISTING
STRUCTURE
(TYP.)

GRADE TO
DRAIN

1'-0" MIN.
EARTH BERM

1'-7" MIN.
BERM

FILL FACE @ END BENT 2
STA. 17+03.38 -L-
GRADE POINT EL. 2931.98

BEGIN FRONT SLOPE
STA. 17+11.20 -L-
GRADE POINT EL. 2932.00

LOW CHORD
EL. 2929.37

HP14 X 73
STEEL PILES
(TYP.)

END BENT 2

SECTION ALONG -L-

VERTICAL CURVE
DATA -L-

(+)0.3000% (+)2.8444%

PI = 18+00.00
EL = 2932.27
VC = 180'

I HEREBY CERTIFY THESE PLANS
ARE THE AS-BUILT PLANS

HYDRAULIC DATA

DESIGN DISCHARGE: 1560 CFS
FREQUENCY OF DESIGN FLOOD: 25 YRS.
DESIGN HIGH WATER ELEVATION: 2926.1
DRAINAGE AREA: 6.59 SQ.MI.
BASE DISCHARGE (Q100): 2205 CFS
BASE HIGH WATER ELEVATION: 2927.2

OVERTOPPING DATA

OVERTOPPING DISCHARGE: 4520 CFS
FREQUENCY OF OVERTOPPING: 500+ YRS.
OVERTOPPING FLOOD ELEVATION: 2931.5*

*ROADWAY SAG -L- 15+40
WS EL. TAKEN @ RIVER STATION 14367

PROJECT NO. BP11-R016

ASHE COUNTY

STATION: 16+67.00 -L-

SHEET 1 OF 3 REPLACES BRIDGE NO. 040171

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
FOR BRIDGE ON SR 1100
(CRANBERRY SPRINGS ROAD)
OVER GAP CREEK BETWEEN SR
1106 AND SR US HWY 221 S

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
					TOTAL SHEETS
					15

DRAWN BY : BLM DATE : 01-25
CHECKED BY : MDN DATE : 01-25
DESIGN ENGINEER OF RECORD : S. HENSLEY DATE : 01-25

PLAN

(STEEL PILES NOT SHOWN FOR CLARITY)

STV Engineers, Inc.
2151 Hawkins St., 14th Floor
Charlotte, NC 28203
NC License Number F-0991

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

ci:\pwworking\stvy-pw-0\cns8574\401_003_BPILR016_SMU_G02_002_04017L.dgn 3/31/2025 12:33:27 PM welif

SUMMARY OF PILE INFORMATION/INSTALLATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Number of Piles per Line	Factored Resistance per Pile KIPS	Pile Cut-Off (Top of Pile) Elevation FT	Estimated Pile Length per Pile FT	Scour Critical Elevation FT	Driven Piles			Predrilling for Piles **			Drilled-In Piles		
						Minimum Pile Tip (Tip No Higher Than) Elevation FT	Required Driving Resistance (RDR)* per pile KIPS	Pile Redrives Quantity EACH	Predrilling Length per Pile LIN FT	Predrilling Elevation (Elevation Not To Predrill Below) FT	Maximum Predrilling Diameter INCHES	Pile Excavation (Bottom of Hole) Elevation FT	Pile Excavation Not In Soil per Pile LIN FT	Pile Excavation In Soil per Pile LIN FT
End Bent 1, Piles 1-3	3	183		35			305							
End Bent 1, Piles 4-7	4	183		40			305							
End Bent 2, Piles 1-3	3	183		45			305							
End Bent 2, Piles 4-7	4	183		55			305							
TOTAL QUANTITY:														

* $RDR = \frac{Factored\ Resistance + Factored\ Drag\ Load + Factored\ Dead\ Load}{Dynamic\ Resistance\ Factor} + Nominal\ Drag\ Load\ Resistance + Nominal\ Resistance\ from\ Scourable\ Material$

** Predrilling for Piles is required for end bents/bents with a predrilling length and at the Contractor's option for end bents/bents with predrilling information but no predrilling length.

SUMMARY OF DPT/PILE ORDER LENGTHS

(Blank entries indicate item is not applicable to structure)

Dynamic Pile Testing (DPT)		
End Bent/ Bent No (e.g., "Bent 1 - Bent 3")	DPT Test Pile Length FT	DPT Testing Quantity EACH
TOTAL QUANTITY:		

Pile Order Lengths for Concrete Piles	
End Bent/ Bent No (e.g., "Bent 1 - Bent 3")	Pile Order Length Basis* EST or DPT

* EST = Pile order lengths from estimated pile lengths; DPT = Pile order lengths based on Dynamic Pile Testing. For groups of end bents/bents with pile order lengths based on DPT testing, the first end bent/bent no. listed for each group is the representative end bent/bent with the DPT.

PILE DESIGN INFORMATION

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Factored Axial Load per Pile KIPS	Factored Drag Load per Pile KIPS	Factored Dead Load * per Pile KIPS	Dynamic Resistance Factor	Nominal Drag Resistance per Pile KIPS	Nominal Scour Resistance per Pile KIPS
End Bent 1, Piles 1-7	183			0.6		
End Bent 2, Piles 1-7	183			0.6		

* Factored Dead Load is factored weight of pile above the ground line.

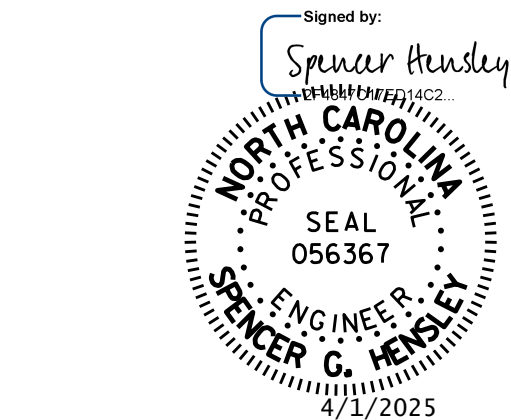
SUMMARY OF PILE ACCESSORIES

(Blank entries indicate item is not applicable to structure)

End Bent / Bent No, Pile(s) #(-#) (e.g., "Bent 1, Piles 1-5")	Pipe Pile Plates EACH	Steel Pile Points		
		Pipe Pile Cutting Shoes EACH	Pipe Pile Conical Points EACH	H-Pile Points EACH
TOTAL QUANTITY:				

NOTES:

1. The Pile Foundation Tables are based on the bridge substructure design and foundation recommendations sealed by a North Carolina Professional Engineer (Shiping Yang, #031361) on 011-26-2024.
2. Total Pile Driving Equipment Setup quantity (not shown in Pile Foundation Tables) equals the number of driven piles, i.e., the number of piles with a Required Driving Resistance.
3. The Engineer may adjust the quantity for DPT Testing and Pipe Pile Plates when necessary.



stvy STV Engineers, Inc.
2151 Hawkins St., 14th Floor
Charlotte, NC 28203
NC License Number F-0991

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

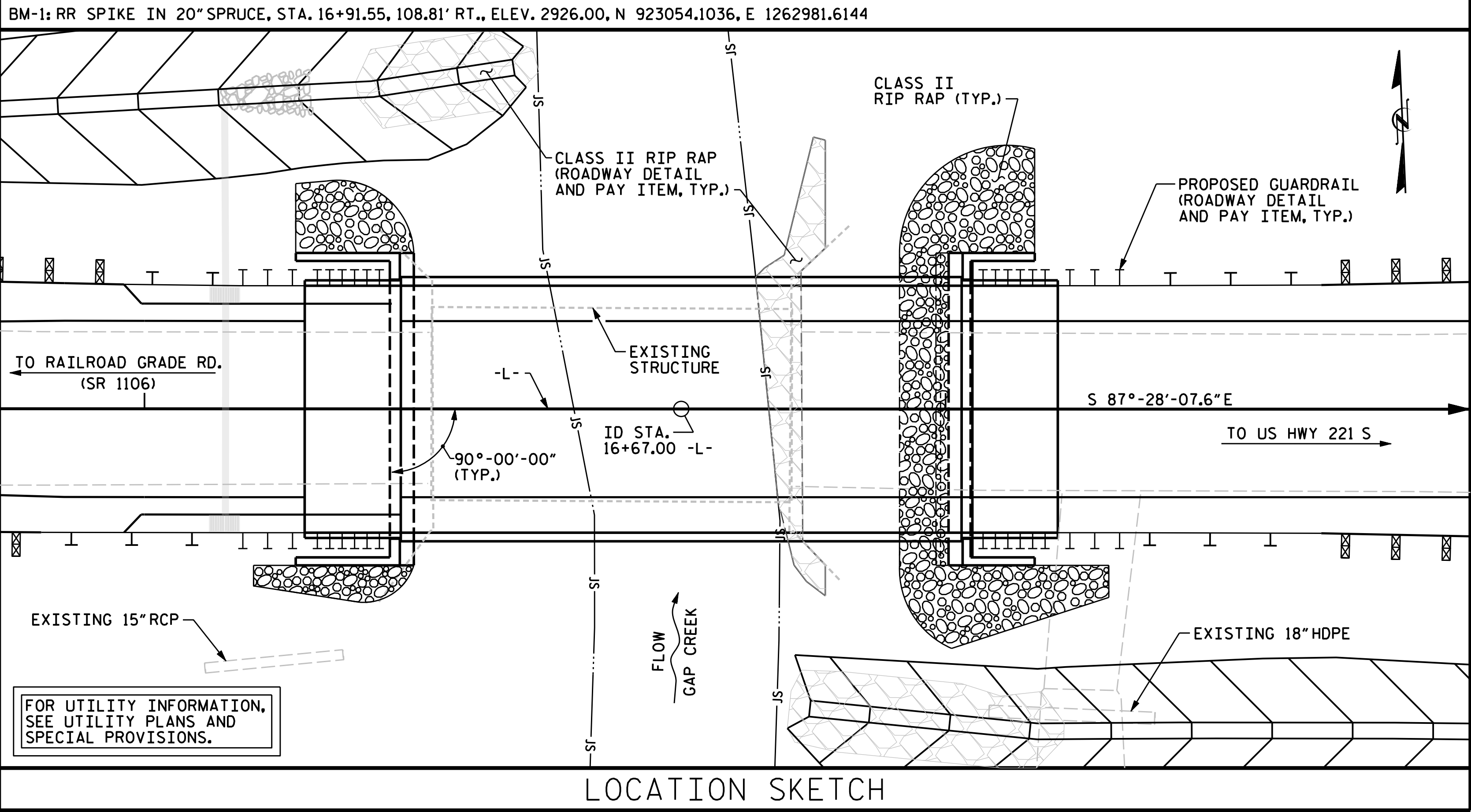
PROJECT NO. BP11-R016

ASHE COUNTY

STATION: 16+67.00 -L-

SHEET 2 OF 3

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					REVISIONS			SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:			S-2
1			3					TOTAL SHEETS
2			4					15



NOTES

ASSUMED LIVE LOAD = HL-93 OR ALTERNATE LOADING.

THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.

FOR OTHER DESIGN DATA AND GENERAL NOTES, SEE "STANDARD NOTES" SHEET.

FOR EROSION CONTROL MEASURES, SEE EROSION CONTROL PLANS.

THE EXISTING STRUCTURE CONSISTING OF (1) 45'-6" WITH STRUCTURAL STEEL BEAMS WITH A CLEAR ROADWAY WIDTH OF 24'-0" SUPPORTED BY TIMBER CAPS AND TIMBER PILES AND LOCATED AT THE PROPOSED STRUCTURE SHALL BE REMOVED. THE EXISTING BRIDGE IS PRESENTLY POSTED FOR LOAD LIMIT. SHOULD THE STRUCTURAL INTEGRITY OF THE BRIDGE DETERIORATE DURING CONSTRUCTION OF THE PROPOSED BRIDGE, A LOAD LIMIT MAY BE POSTED AND MAY BE REDUCED AS FOUND NECESSARY DURING THE LIFE OF THE PROJECT.

REMOVAL OF THE EXISTING BRIDGE SHALL BE PERFORMED SO AS NOT TO ALLOW DEBRIS TO FALL INTO THE WATER. THE CONTRACTOR SHALL SUBMIT DEMOLITION PLANS FOR REVIEW AND REMOVE THE BRIDGE IN ACCORDANCE WITH ARTICLE 402-2 OF THE STANDARD SPECIFICATIONS.

THE MATERIAL SHOWN IN THE CROSS-HATCHED AREA (ON SHEET 1 OF 3) SHALL BE EXCAVATED FOR A DISTANCE FROM THE CENTERLINE OF ROADWAY OF 35'± (LEFT AND RIGHT) AT END BENT 1 AND 35'± (LEFT) AND 30'± (RIGHT) AT END BENT 2 TO EL. 2923±, AS DIRECTED BY THE ENGINEER. THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR UNCLASSIFIED STRUCTURE EXCAVATION. SEE SECTION 412 OF THE STANDARD SPECIFICATIONS.

THE SUBSTRUCTURE OF THE EXISTING BRIDGE INDICATED ON THE PLANS IS FROM THE BEST INFORMATION AVAILABLE. SINCE THIS INFORMATION IS SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE NO CLAIM WHATSOEVER AGAINST THE DEPARTMENT OF TRANSPORTATION FOR ANY DELAYS OR ADDITIONAL COST INCURRED BASED ON DIFFERENCES BETWEEN THE EXISTING BRIDGE SUBSTRUCTURE SHOWN ON THE PLANS AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

AT THE CONTRACTOR'S OPTION, PRESTRESSED CONCRETE END BENT AND BENT CAPS MAY BE SUBSTITUTED IN PLACE OF THE CAST-IN-PLACE CAPS. THE CONTRACTOR SHALL COORDINATE WITH THE RESIDENT ENGINEER TO RECEIVE REVISED PLANS AND DETAILS FROM THE STRUCTURES MANAGEMENT UNIT. THE REDESIGN AND ANY ADDITIONAL MATERIALS NEEDED WILL BE AT NO ADDITIONAL COST TO THE CONTRACTOR.

THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH "HEC 18 - EVALUATING SCOUR AT BRIDGES".

FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.

FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.

FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

ASPHALT WEARING SURFACE IS INCLUDED IN ROADWAY QUANTITY ON ROADWAY PLANS.

FOR ASBESTOS ASSESSMENT FOR BRIDGE DEMOLITION AND RENOVATION ACTIVITIES, SEE SPECIAL PROVISIONS.

TOTAL BILL OF MATERIAL

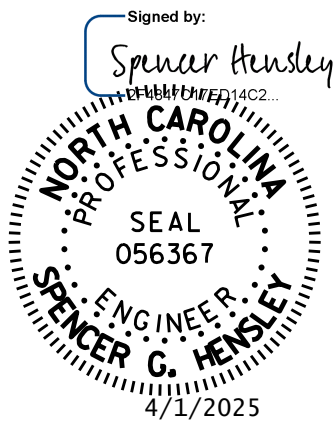
	REMOVAL OF EXISTING STRUCTURE AT STA.16+67.00 -L-	ASBESTOS ASSESSMENT	CLASS A CONCRETE	BRIDGE APPROACH SLABS	REINFORCING STEEL	PILE DRIVING EQUIPMENT SETUP FOR HP 14X73 STEEL PILES	HP 14X73 STEEL PILES		VERTICAL CONCRETE BARRIER RAIL	RIP RAP CLASS II (2'-0" THICK)	GEOTEXTILE FOR DRAINAGE	ELASTOMERIC BEARINGS	3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLABS		UNCLASSIFIED STRUCTURE EXCAVATION
	LUMP SUM	LUMP SUM	CU. YD.	LUMP SUM	LBS.	LBS.	NO.	LIN. FT.	LIN. FT.	TONS	SO. YDS.	LUMP SUM	NO.	LIN. FT.	LUMP SUM
SUPERSTRUCTURE									140.3				11	770.0	
END BENT 1			50.6		5,102	7	7	265		45	50				
END BENT 2			23.4		2,672	7	7	355		110	125				
TOTAL	LUMP SUM	LUMP SUM	74.0	LUMP SUM	7,774	14	14	620	140.3	155	175	LUMP SUM	11	770.0	LUMP SUM

PROJECT NO. BP11-R016

ASHE COUNTY

STATION: 16+67.00 -L-

SHEET 1 OF 3



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Charlotte, NC 28203
NC License Number F-0991

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SIGNATURES COMPLETED

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

FOR BRIDGE ON SR 1100
(CRANBERRY SPRINGS ROAD)
OVER GAP CREEK BETWEEN SR
1106 AND SR US HWY 221 S

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-3
1			3			TOTAL SHEETS
2			4			15

DRAWN BY : BLM DATE : 01-25
CHECKED BY : MDN DATE : 01-25
DESIGN ENGINEER OF RECORD : S. HENSLEY DATE : 01-25

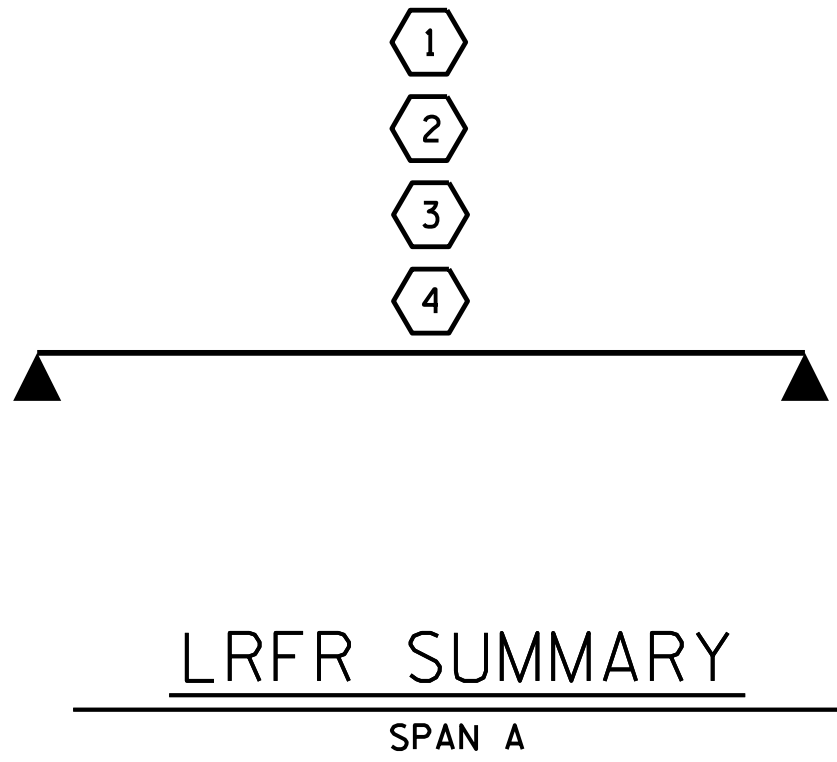
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3/31/2025

wellf

LOAD AND RESISTANCE FACTOR RATING (LRFR) SUMMARY FOR PRESTRESSED CONCRETE GIRDERS																								
LOAD TYPE		VEHICLE	WEIGHT (W) (TONS)	CONTROLLING LOAD RATING	MINIMUM RATING FACTORS (RF)	TONS = W X RF	STRENGTH I LIMIT STATE										SERVICE III LIMIT STATE						COMMENT NUMBER	
							LIVELOAD FACTORS	MOMENT					SHEAR					LIVELOAD FACTORS	MOMENT					
								DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)	DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION	DISTANCE FROM LEFT END OF SPAN (ft)		DISTRIBUTION FACTORS (DF)	RATING FACTOR	SPAN	GIRDER LOCATION		DISTANCE FROM LEFT END OF SPAN (ft)
DESIGN LOAD RATING		HL-93(Inv)	N/A	①	1.006	--	1.75	0.273	1.03	70'	EL	34.5	0.507	1.32	70'	EL	6.9	0.80	0.273	1.01	70'	EL	34.5	
		HL-93(0pr)	N/A		1.341	--	1.35	0.273	1.34	70'	EL	34.5	0.507	1.72	70'	EL	6.9	N/A	--	--	--	--	--	
		HS-20(Inv)	36.000	②	1.306	47.02	1.75	0.273	1.34	70'	EL	34.5	0.507	1.65	70'	EL	6.9	0.80	0.273	1.31	70'	EL	34.5	
		HS-20(0pr)	36.000		1.74	62.64	1.35	0.273	1.74	70'	EL	34.5	0.507	2.14	70'	EL	6.9	N/A	--	--	--	--	--	
LEGAL LOAD	SINGLE VEHICLE (SV)	SNSH	13.500		2.917	39.379	1.4	0.273	3.75	70'	EL	34.5	0.507	4.87	70'	EL	6.9	0.80	0.273	2.92	70'	EL	34.5	
		SNGARBS2	20.000		2.187	43.741	1.4	0.273	2.81	70'	EL	34.5	0.507	3.47	70'	EL	6.9	0.80	0.273	2.19	70'	EL	34.5	
		SNAGRIS2	22.000		2.077	45.69	1.4	0.273	2.67	70'	EL	34.5	0.507	3.23	70'	EL	6.9	0.80	0.273	2.08	70'	EL	34.5	
		SNCOTTS3	27.250		1.452	39.565	1.4	0.273	1.87	70'	EL	34.5	0.507	2.43	70'	EL	6.9	0.80	0.273	1.45	70'	EL	34.5	
		SNAGGRS4	34.925		1.218	42.554	1.4	0.273	1.57	70'	EL	34.5	0.507	2.03	70'	EL	6.9	0.80	0.273	1.22	70'	EL	34.5	
		SNS5A	35.550		1.191	42.346	1.4	0.273	1.53	70'	EL	34.5	0.507	2.06	70'	EL	6.9	0.80	0.273	1.19	70'	EL	34.5	
		SNS6A	39.950		1.095	43.747	1.4	0.273	1.41	70'	EL	34.5	0.507	1.88	70'	EL	6.9	0.80	0.273	1.10	70'	EL	34.5	
		SNS7B	42.000		1.043	43.801	1.4	0.273	1.34	70'	EL	34.5	0.507	1.85	70'	EL	6.9	0.80	0.273	1.04	70'	EL	34.5	
	TRUCK TRACTOR SEMI-TRAILER (TTST)	TNAGRIT3	33.000		1.336	44.087	1.4	0.273	1.72	70'	EL	34.5	0.507	2.23	70'	EL	6.9	0.80	0.273	1.34	70'	EL	34.5	
		TNT4A	33.075		1.342	44.401	1.4	0.273	1.72	70'	EL	34.5	0.507	2.17	70'	EL	6.9	0.80	0.273	1.34	70'	EL	34.5	
		TNT6A	41.600		1.1	45.746	1.4	0.273	1.41	70'	EL	34.5	0.507	1.98	70'	EL	6.9	0.80	0.273	1.10	70'	EL	34.5	
		TNT7A	42.000		1.106	46.462	1.4	0.273	1.42	70'	EL	34.5	0.507	1.94	70'	EL	6.9	0.80	0.273	1.11	70'	EL	34.5	
		TNT7B	42.000		1.147	48.18	1.4	0.273	1.47	70'	EL	34.5	0.507	1.8	70'	EL	6.9	0.80	0.273	1.15	70'	EL	34.5	
		TNAGRIT4	43.000		1.089	46.838	1.4	0.273	1.4	70'	EL	34.5	0.507	1.74	70'	EL	6.9	0.80	0.273	1.09	70'	EL	34.5	
TNAGT5A		45.000		1.026	46.175	1.4	0.273	1.32	70'	EL	34.5	0.507	1.74	70'	EL	6.9	0.80	0.273	1.03	70'	EL	34.5		
TNAGT5B		45.000	③	1.013	45.579	1.4	0.273	1.3	70'	EL	34.5	0.507	1.66	70'	EL	6.9	0.80	0.273	1.01	70'	EL	34.5		
EMERGENCY VEHICLE (EV)	EV2	28.750		1.816	52.212	1.3	0.273	2.11	70'	EL	34.5	0.507	2.59	70'	EL	6.9	0.80	0.273	1.82	70'	EL	34.5		
	EV3	43.000	④	1.188	51.068	1.3	0.273	1.38	70'	EL	34.5	0.507	1.75	70'	EL	6.9	0.80	0.273	1.19	70'	EL	34.5		



DRAWN BY :	BLM	DATE :	01-25
CHECKED BY :	MON	DATE :	01-25
DESIGN ENGINEER OF RECORD :	S. HENSLEY	DATE :	01-25
DRAWN BY:	CVC	6/10	
CHECKED BY:	DNS	6/10	
REV. BY:	BNB/AKP	06/23	

Signed by:

Spencer Hensley

Professional Engineer

SEAL 056367

ENGINEER

SPENCER G. HENSLEY

4/1/2025

stvy

STV Engineers, Inc.

2151 Hawkins St., 14th Floor

Charlotte, NC 28203

NC License Number F-0991

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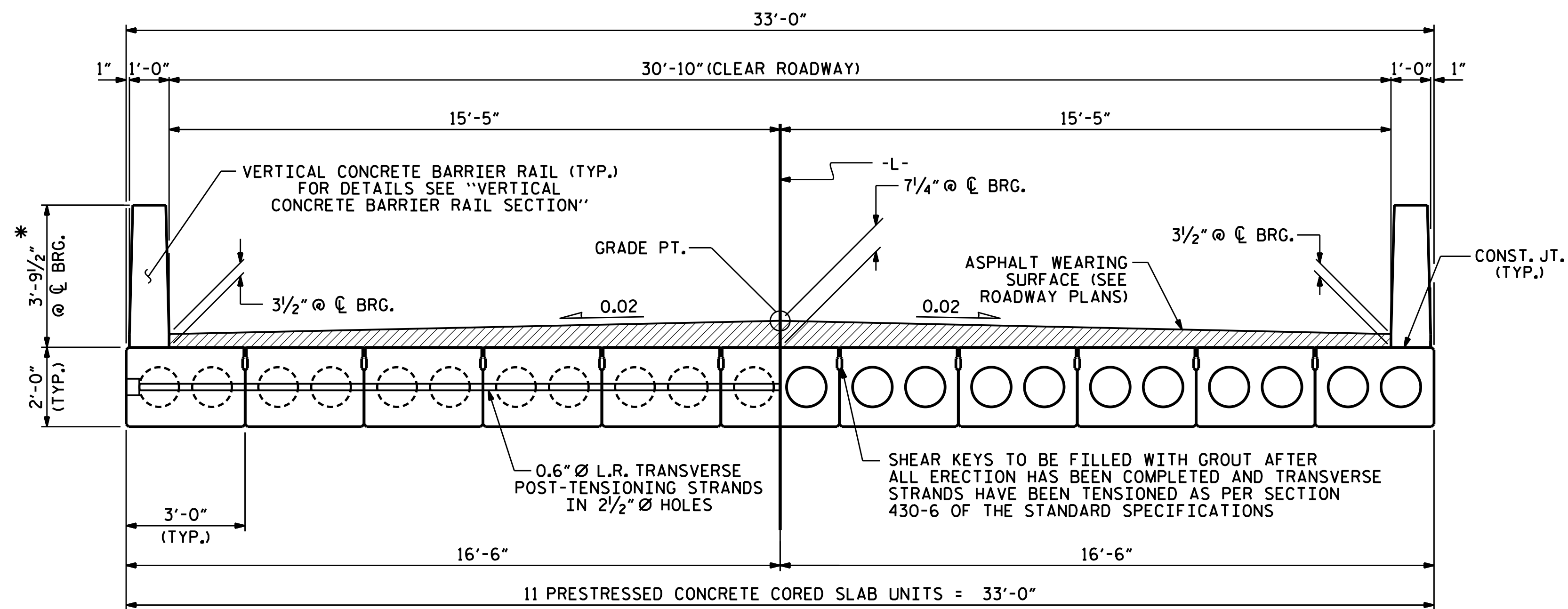
SIGNATURES COMPLETED

PROJECT NO. BP11-R016

ASHE COUNTY

STATION: 16+67.00 -L-

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH						SHEET NO.		
STANDARD LRFR SUMMARY FOR 70' CORED SLAB UNIT 90° SKEW (NON-INTERSTATE TRAFFIC)						S-4		
REVISIONS						TOTAL SHEETS		
NO.	BY:	DATE:	NO.	BY:	DATE:	15		
1			3					
2			4					



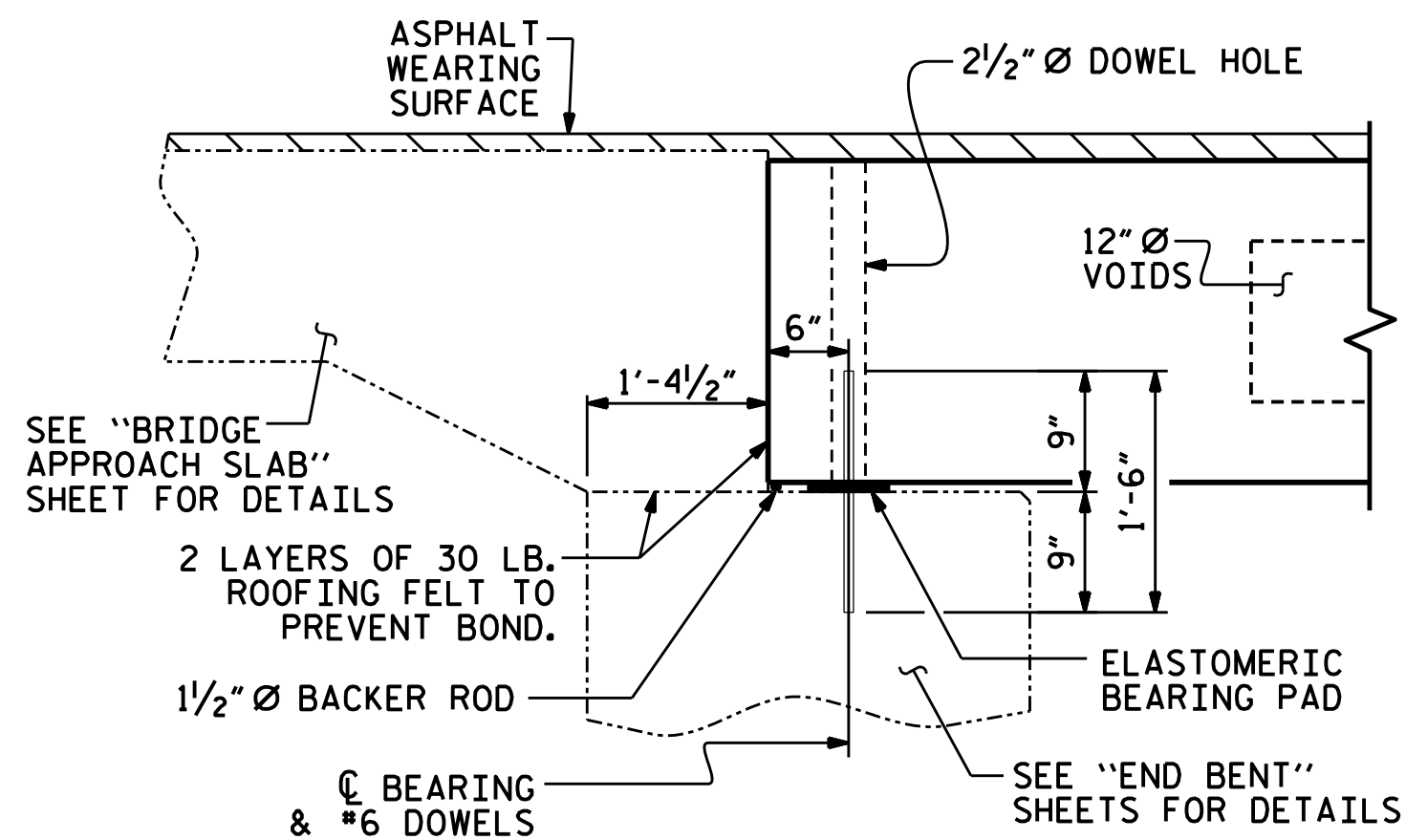
HALF SECTION
AT INTERMEDIATE DIAPHRAGMS

TYPICAL SECTION

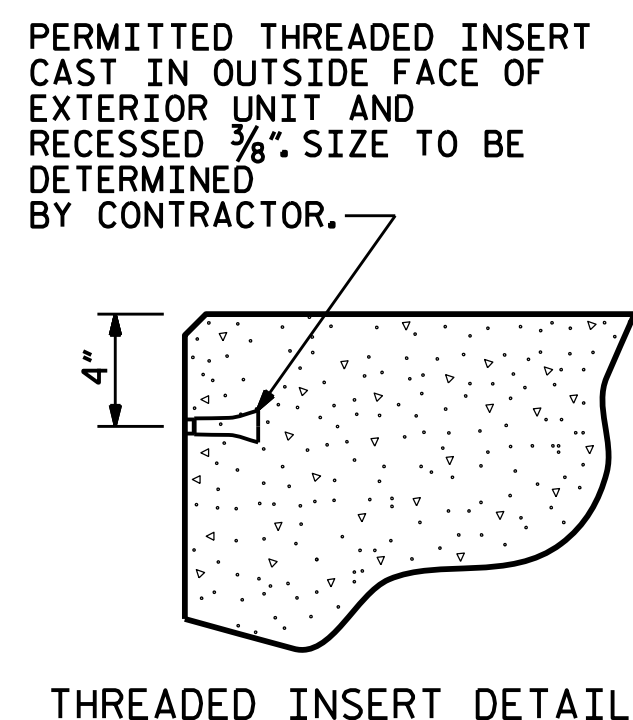
HALF SECTION
THROUGH VOIDS

* - THE MAXIMUM BARRIER RAIL HEIGHT AND ASPHALT THICKNESS IS SHOWN. THE HEIGHT OF THE BARRIER RAIL AND ASPHALT THICKNESS VARIES WHILE THE TOP OF THE BARRIER RAIL FOLLOWS THE PROFILE OF THE GUTTERLINE. FOR RAIL HEIGHT DETAILS AND ASPHALT THICKNESS, SEE THE "VERTICAL CONCRETE BARRIER RAIL SECTION" DETAIL.

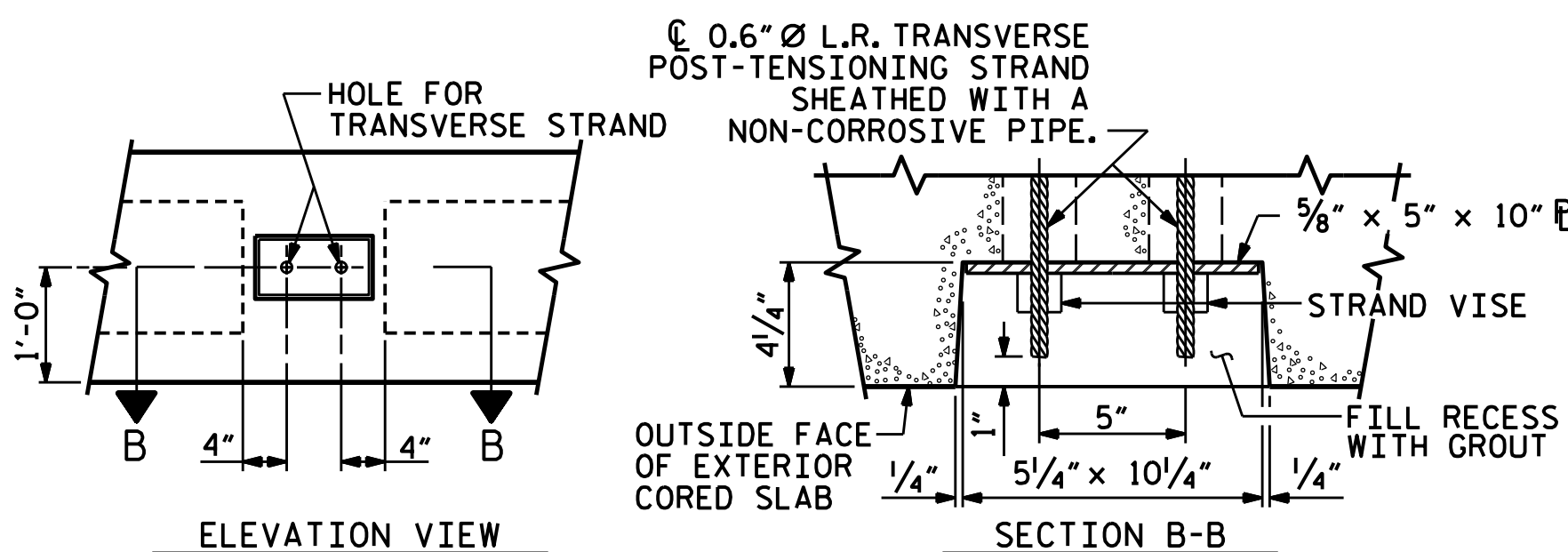
FIXED END



SECTION AT END BENT



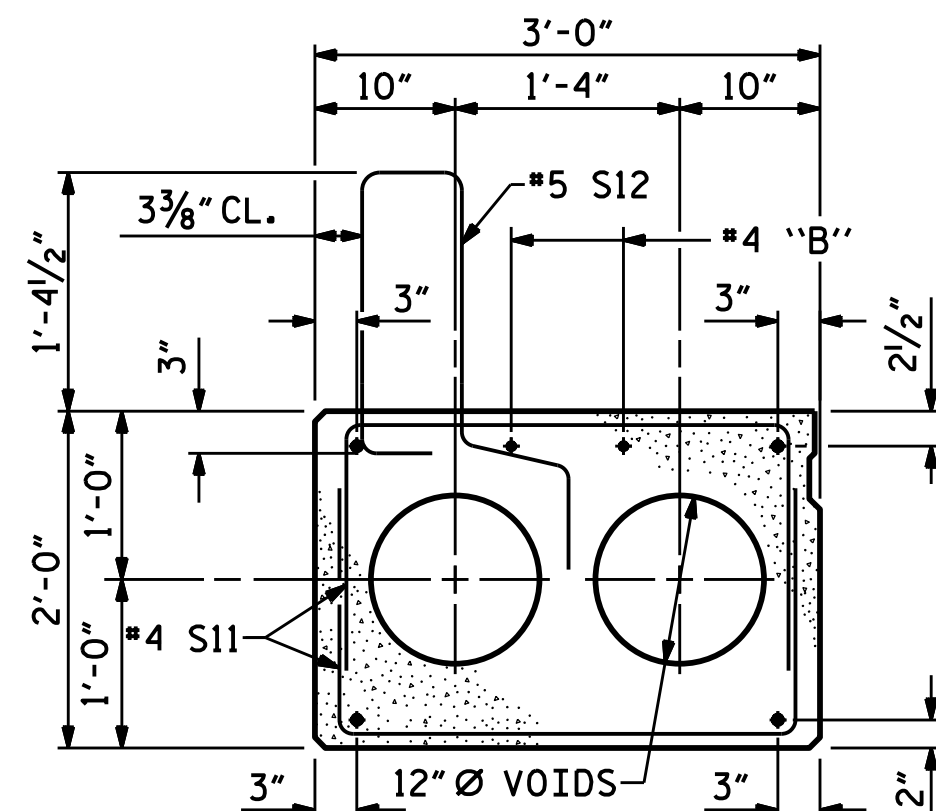
THREADED INSERT DETAIL



ELEVATION VIEW

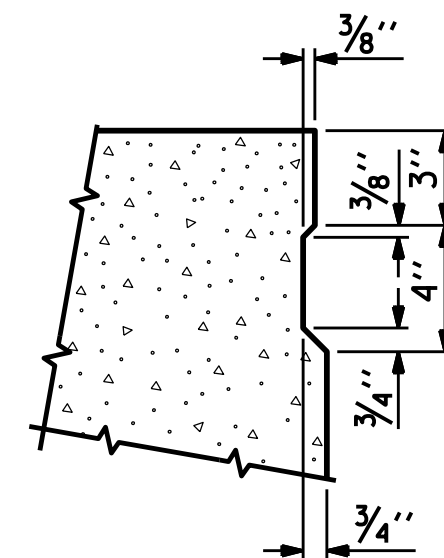
SECTION B-B

GROUTED RECESS AT END OF
POST-TENSIONED STRAND-CORED SLABS



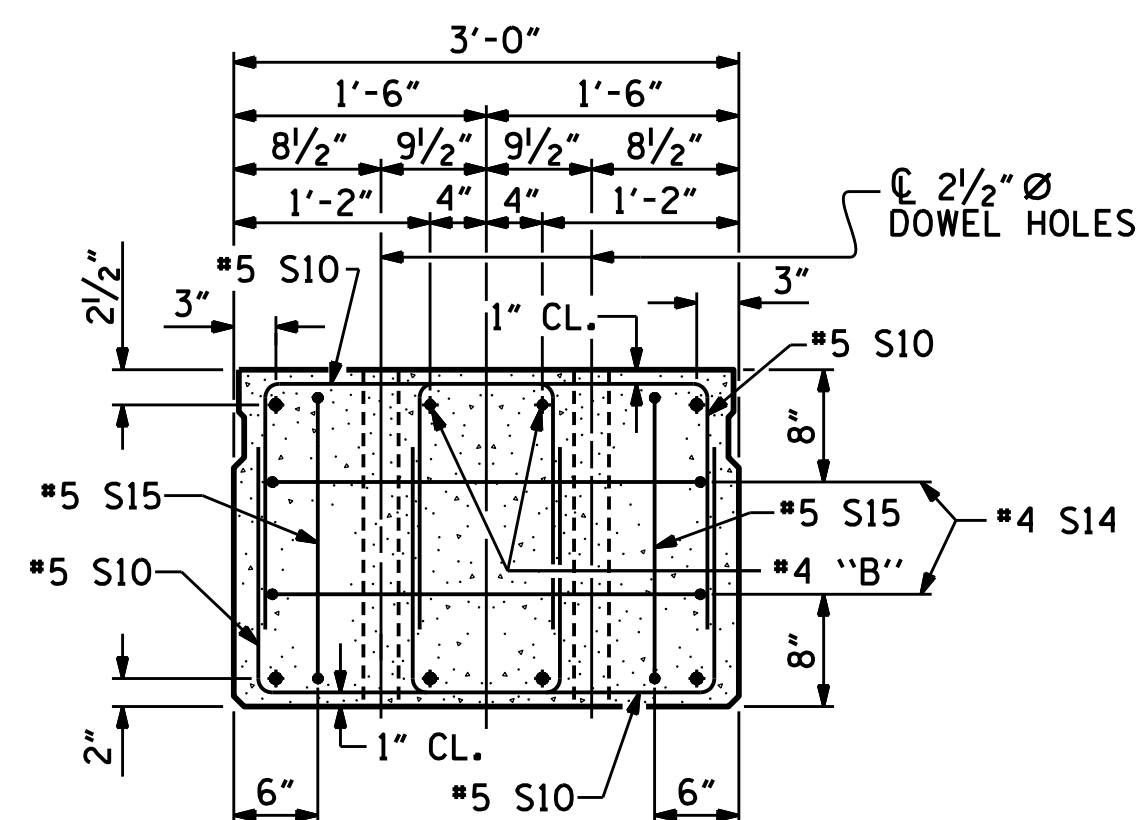
EXTERIOR SLAB SECTION

(FOR PRESTRESSED STRAND LAYOUT, SEE
INTERIOR SLAB SECTION.)



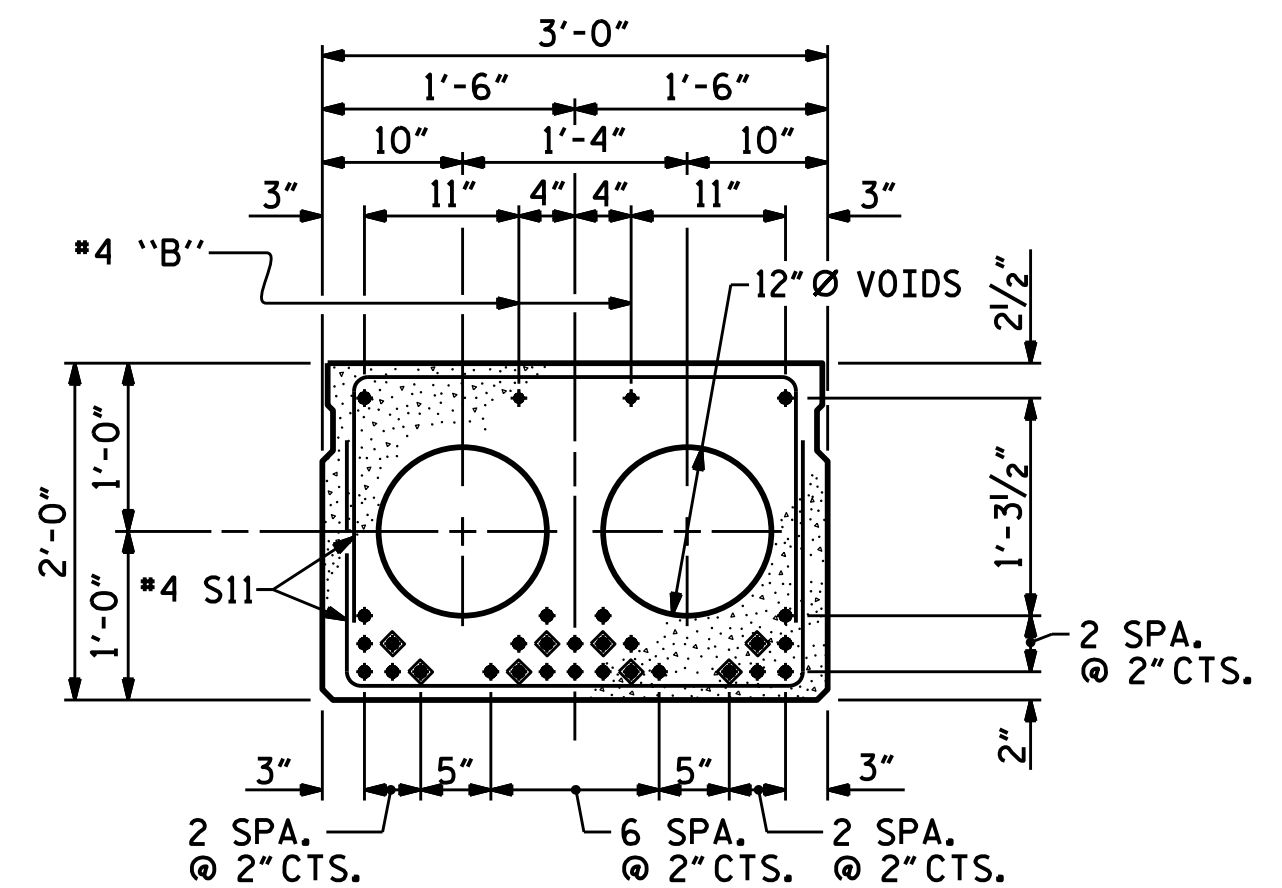
SHEAR KEY DETAIL

NOTE: OMIT SHEAR KEY ON OUTSIDE FACE
OF EXTERIOR CORED SLABS.



END ELEVATION

SHOWING PLACEMENT OF DOUBLE STIRRUPS
AND LOCATION OF DOWEL HOLES.
(STRAND LAYOUT NOT SHOWN.)
INTERIOR SLAB UNIT SHOWN-EXTERIOR SLAB
UNIT SIMILAR EXCEPT SHEAR KEY LOCATION.



INTERIOR SLAB SECTION (70' UNIT)
(28 STRANDS REQUIRED)

0.6" Ø LOW
RELAXATION STRAND LAYOUT

◆ BOND SHALL BE BROKEN ON THESE STRANDS FOR A DISTANCE OF 12'-0" FROM END OF CORED SLAB UNIT. SEE STANDARD SPECIFICATIONS, ARTICLE 1078-7.

DEBONDING LEGEND

PROJECT NO. BP11-R016

ASHE COUNTY

STATION: 16+67.00 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH
STANDARD
3'-0" X 2'-0"
PRESTRESSED CONCRETE
CORED SLAB UNIT
90° SKEW

REVISIONS						SHEET NO. S-5
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 15
2			4			

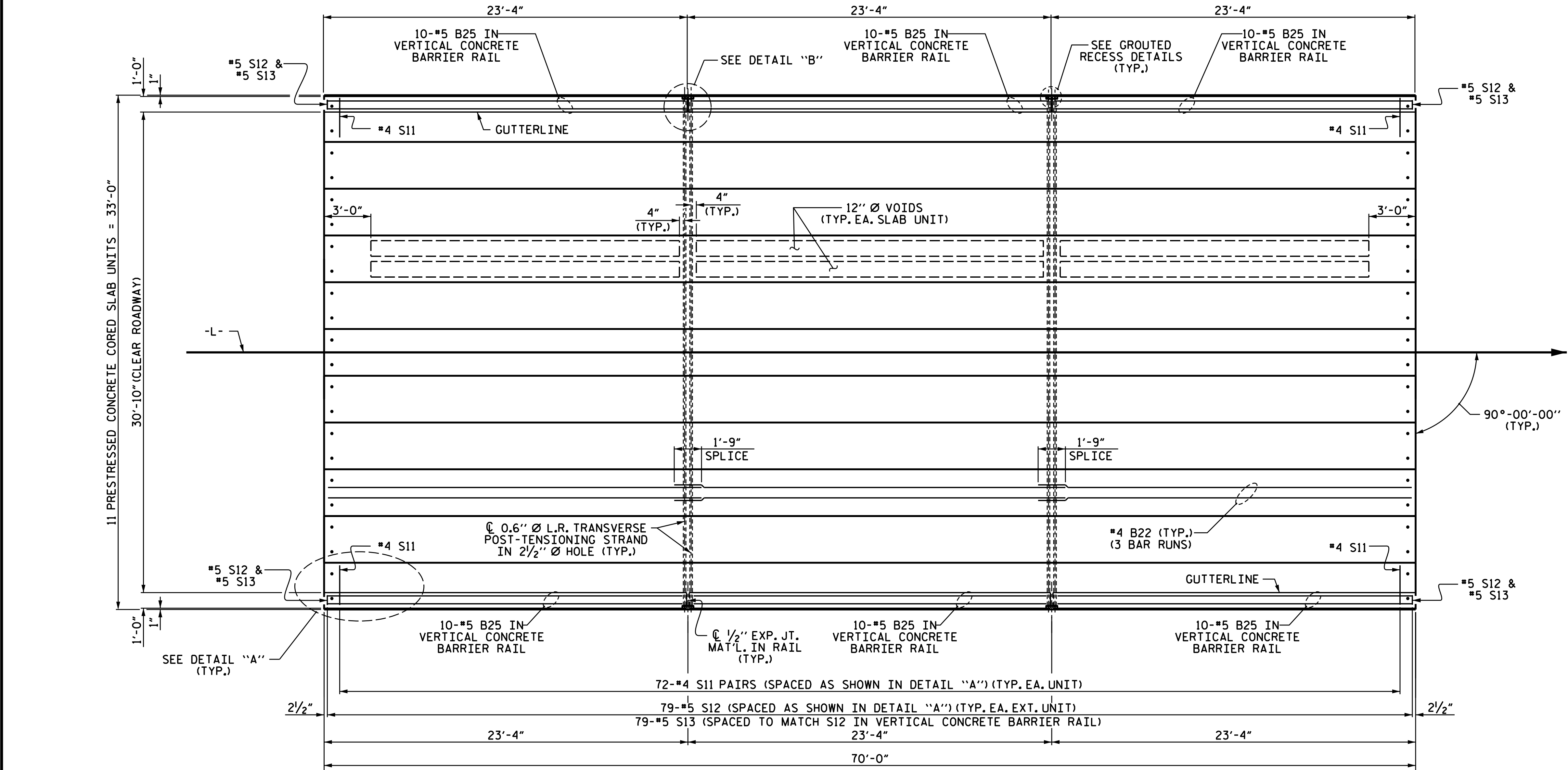
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CHECKED BY : <u>MDN</u>		DATE : <u>01-25</u>	
DESIGN ENGINEER OF RECORD : <u>S. HENSLEY</u>		DATE : <u>01-25</u>	
DRAWN BY : MAA 6/10		REV. 9/14 MAA/TMG	
CHECKED BY : MKT 7/10			

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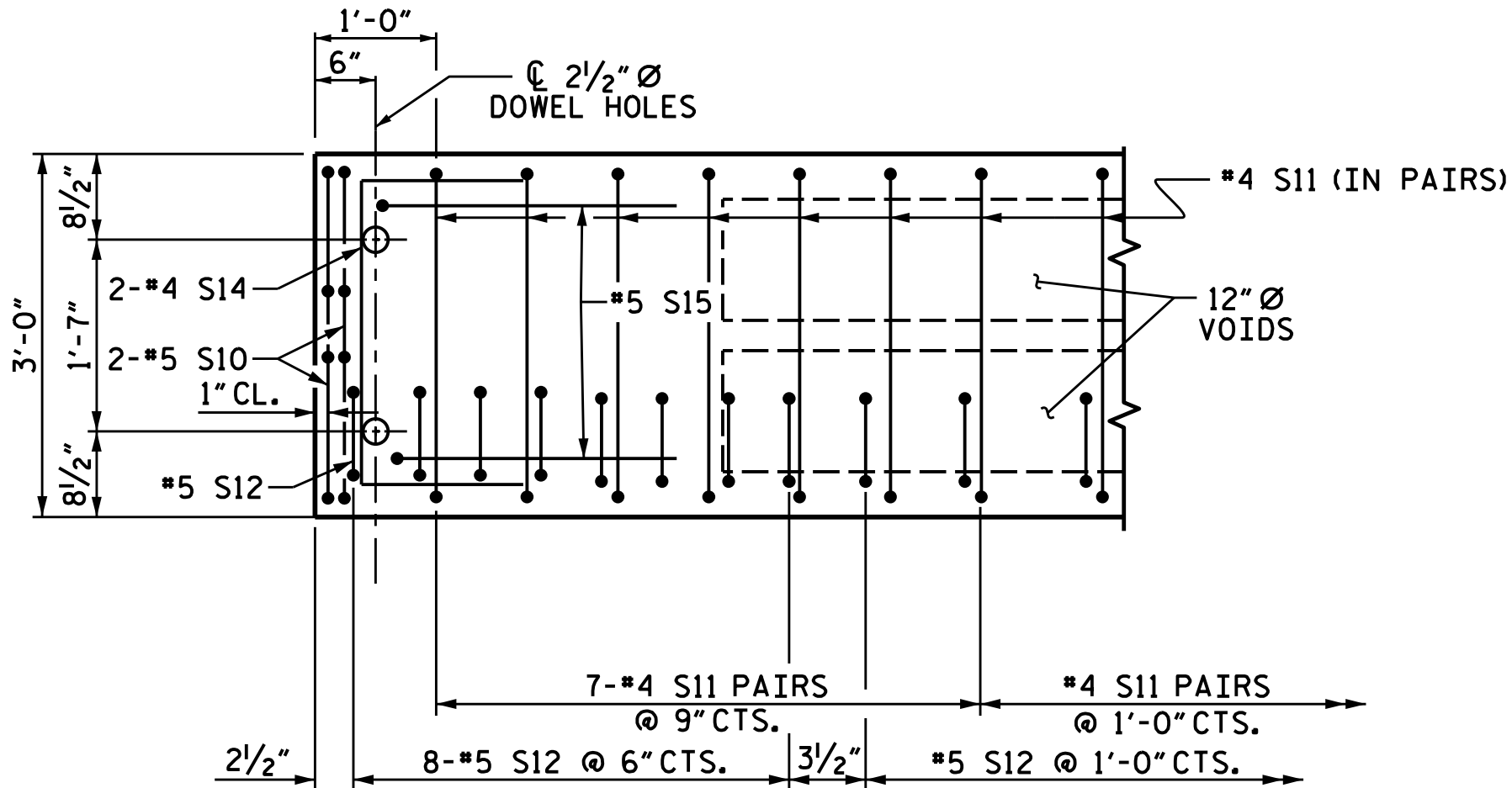
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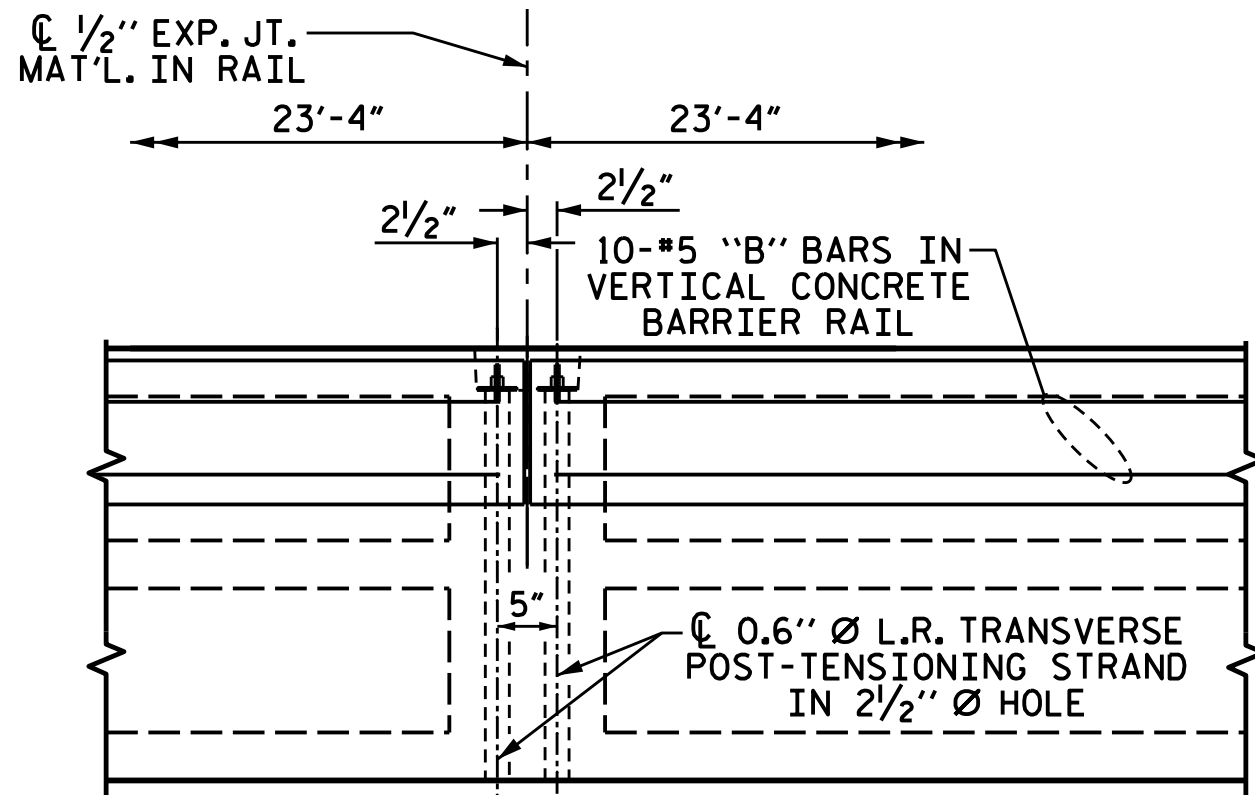


PLAN OF UNIT



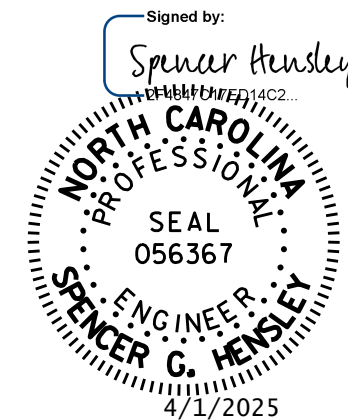
DETAIL "A"

(TYPICAL EACH END OF UNIT)
NOTE: EXTERIOR UNIT SHOWN - INTERIOR
UNIT SIMILAR EXCEPT OMIT #5 S12 BARS.



DETAIL "B"

#4 S11 BARS MAY BE SHIFTED AS NECESSARY
TO MAINTAIN 1" CLEAR TO GROUTED RECESS AND
2 1/2" Ø TRANSVERSE POST-TENSIONING STRAND HOLES



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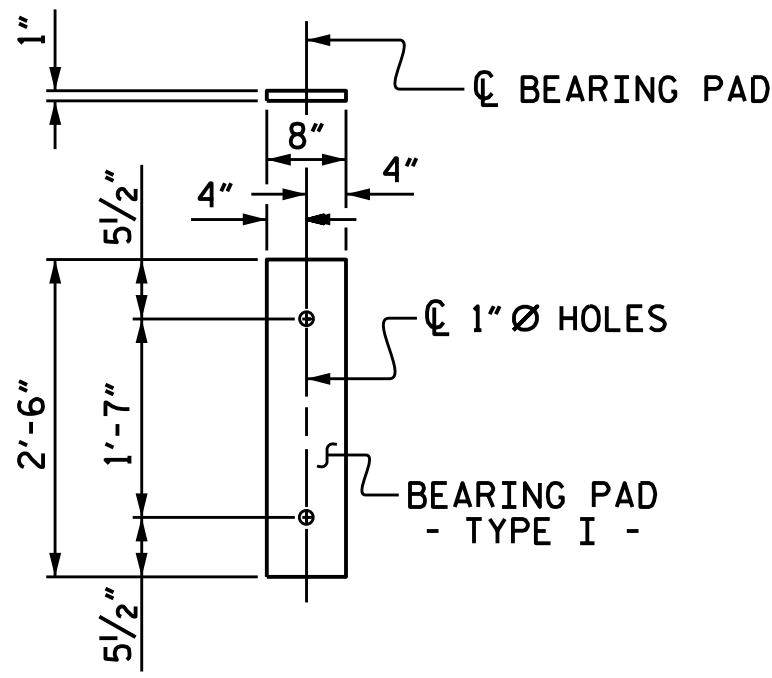
PROJECT NO. **BP11-R016**
ASHE COUNTY
STATION: **16+67.00 -L-**

SHEET 2 OF 3

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-6
1			3			TOTAL SHEETS 15
2			4			

STD. NO. 24PCS_33_90S_70L

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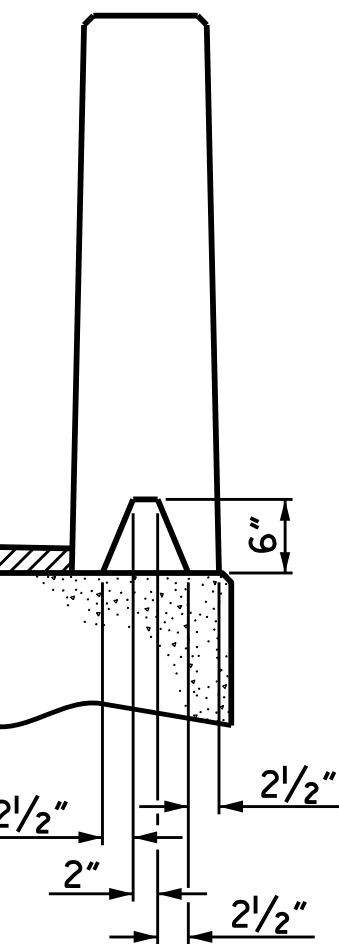
FIXED END
(TYPE I - 22 REQ'D)

ELASTOMERIC BEARING DETAILS

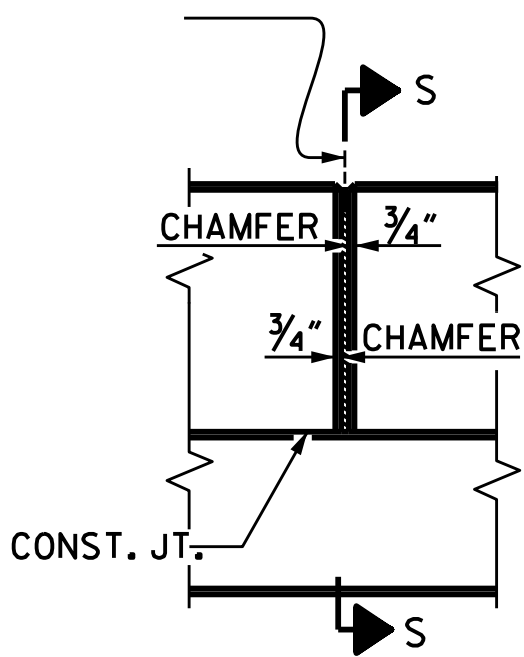
ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

CORED SLABS REQUIRED			
70' UNIT	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.	2	70'-0"	140'-0"
INTERIOR C.S.	9	70'-0"	630'-0"
TOTAL	11	70'-0"	770'-0"

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT		
	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
70' UNITS	2"	3'-8"



SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY
WHEN SLIP FORM IS USED)



ELEVATION AT EXPANSION JOINTS

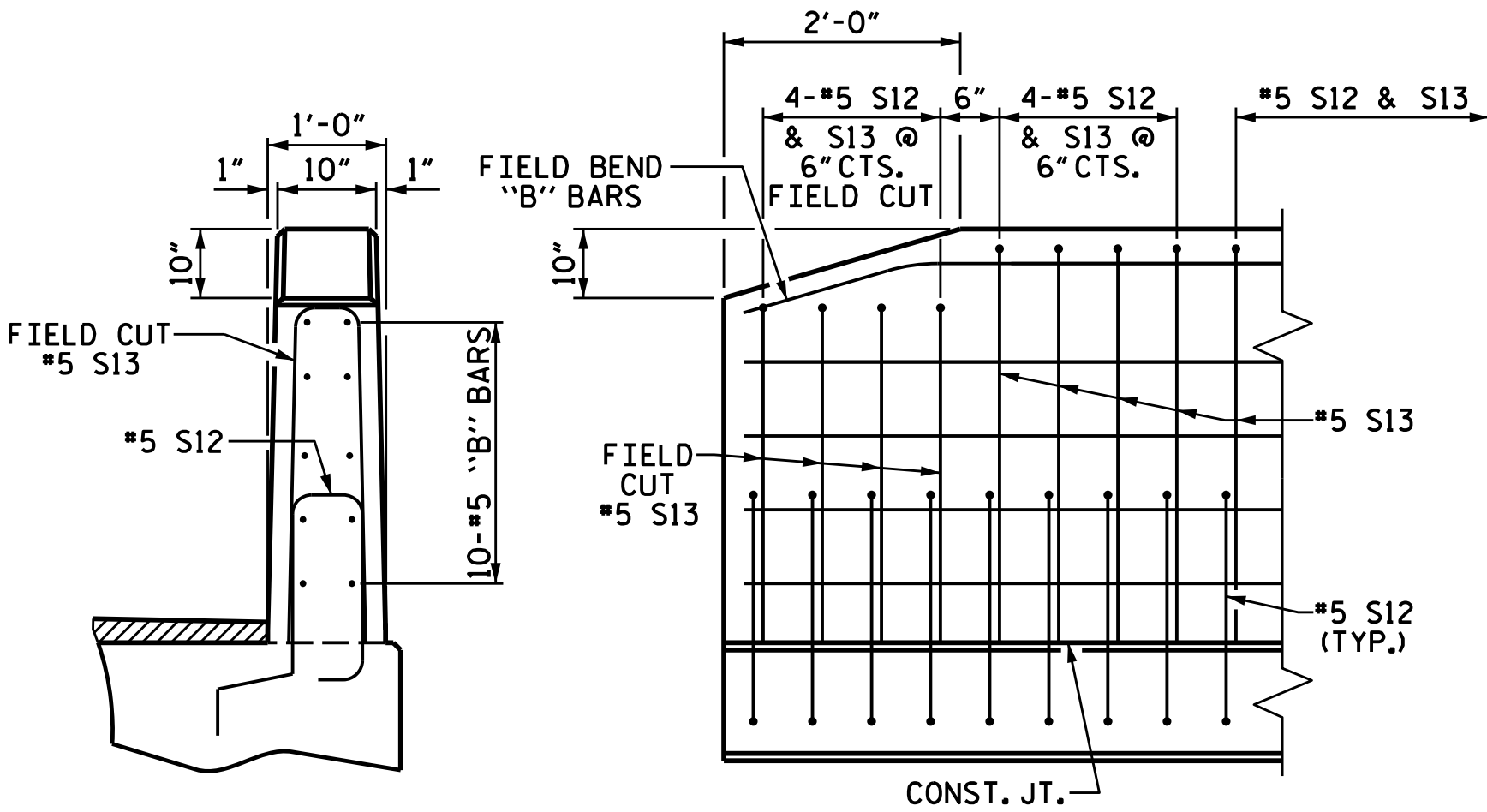
VERTICAL CONCRETE BARRIER RAIL DETAILS

DEAD LOAD DEFLECTION AND CAMBER	
70' CORED SLAB UNIT	3'-0" x 2'-0" 0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	2 1/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	3/4" ↓
FINAL CAMBER	1 1/2" ↑

** INCLUDES FUTURE WEARING SURFACE

GRADE 270 STRANDS	
	0.6" Ø L.R.
AREA (SQUARE INCHES)	0.217
ULTIMATE STRENGTH (LBS. PER STRAND)	58,600
APPLIED PRESTRESS (LBS. PER STRAND)	43,950

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS 70' UNIT	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
*B25	60	60	#5	STR	22'-11"	1434
*S13	158	158	#5	2	7'-2"	1181
*EPOXY COATED REINFORCING STEEL						LBS. 2615
CLASS AA CONCRETE						CU.YDS. 18.1
TOTAL VERTICAL CONCRETE BARRIER RAIL						LN. FT. 140.25

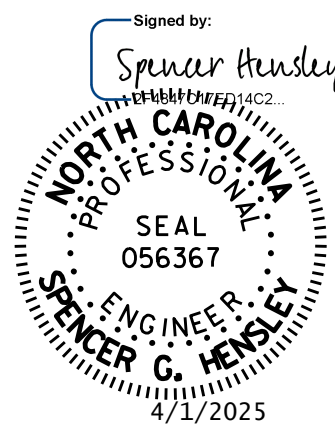


END VIEW

SIDE VIEW

END OF RAIL DETAILS

CONCRETE RELEASE STRENGTH	
UNIT	PSI
70' UNITS	5500



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NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDeways. AT LEAST SIX WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

ALL REINFORCING STEEL IN VERTICAL CONCRETE BARRIER RAILS SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

FLAME CUTTING OF THE TRANSVERSE POST-TENSIONING STRAND IS NOT ALLOWED.

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE PERMITTED THREADED INSERTS ARE DETAILED AS AN OPTION FOR THE CONTRACTOR TO ATTACH FALSEWORK AND FORMWORK DURING CONSTRUCTION.

THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR, SPACED AT 4'-0" CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.

THE PERMITTED THREADED INSERTS SHALL BE GROUTED BY THE CONTRACTOR IMMEDIATELY FOLLOWING REMOVAL OF THE FALSEWORK.

THE COST OF THE PERMITTED THREADED INSERTS SHALL BE INCLUDED IN THE PRICE BID FOR THE PRECAST UNITS.

PROJECT NO. **BP11-R016**

ASHE COUNTY

STATION: **16+67.00 -L-**

SHEET 3 OF 3

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

STANDARD

3'-0" X 2'-0"

PRESTRESSED CONCRETE

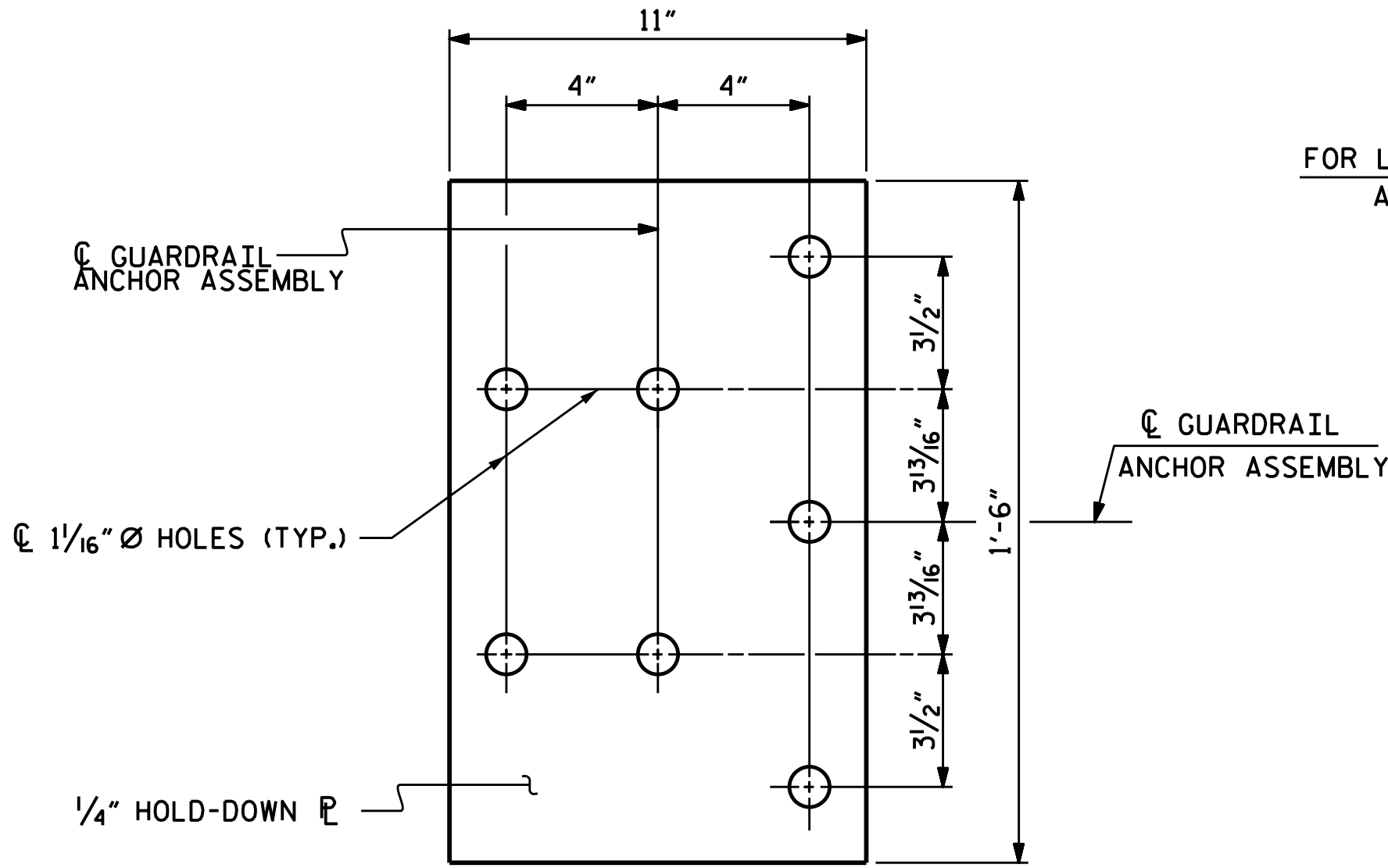
CORED SLAB UNIT

90° SKEW

REVISIONS						SHEET NO. S-7
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS 15
1			3			
2			4			

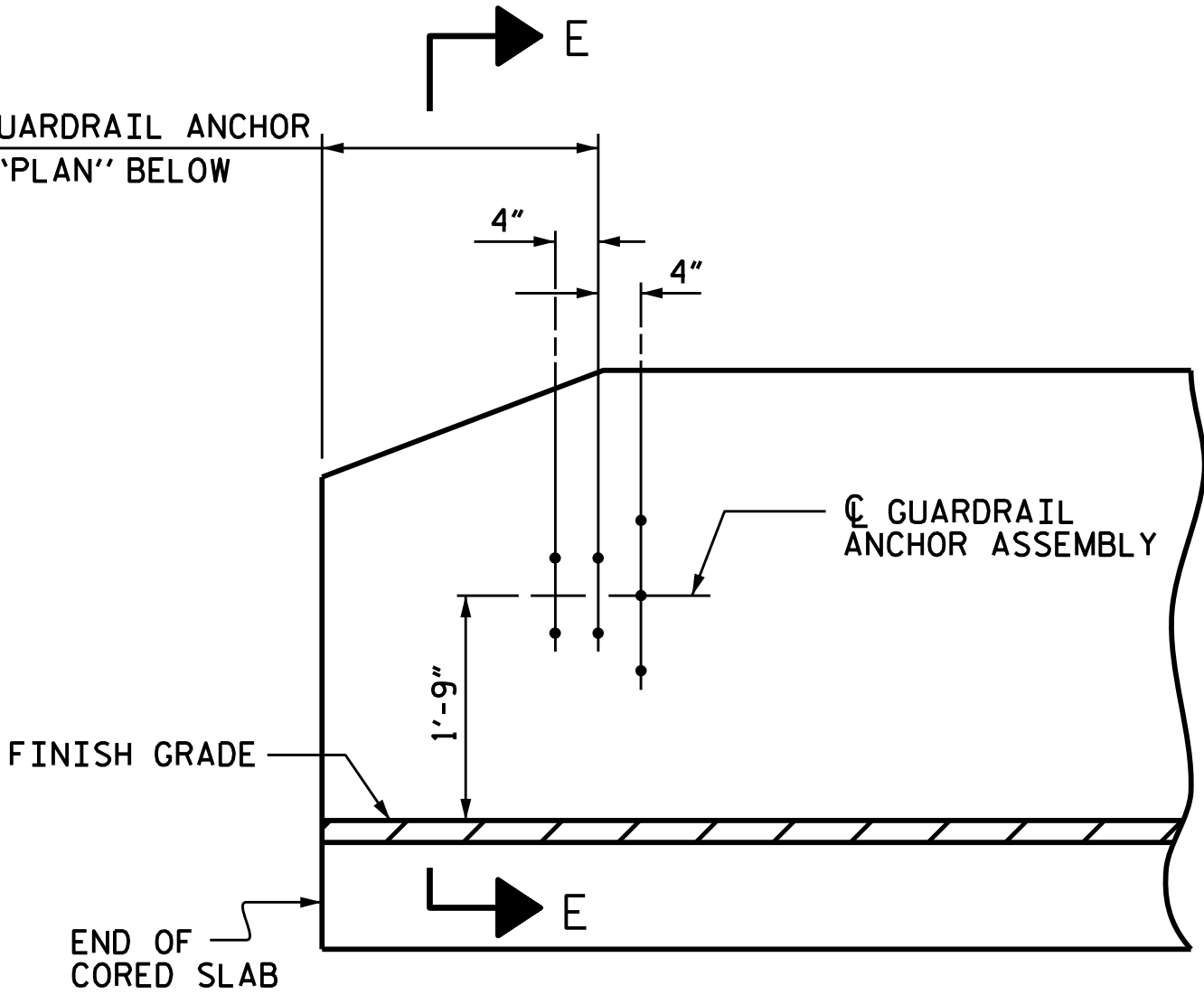
STD. NO. 24PCS3.33.90S

DRAWN BY : BLM	DATE : 01-25
CHECKED BY : MDN	DATE : 01-25
DESIGN ENGINEER OF RECORD : S. HENSLEY	DATE : 01-25
DRAWN BY : MAA	6/10
CHECKED BY : MKT	7/10
REV. 5/18	MAA/THC

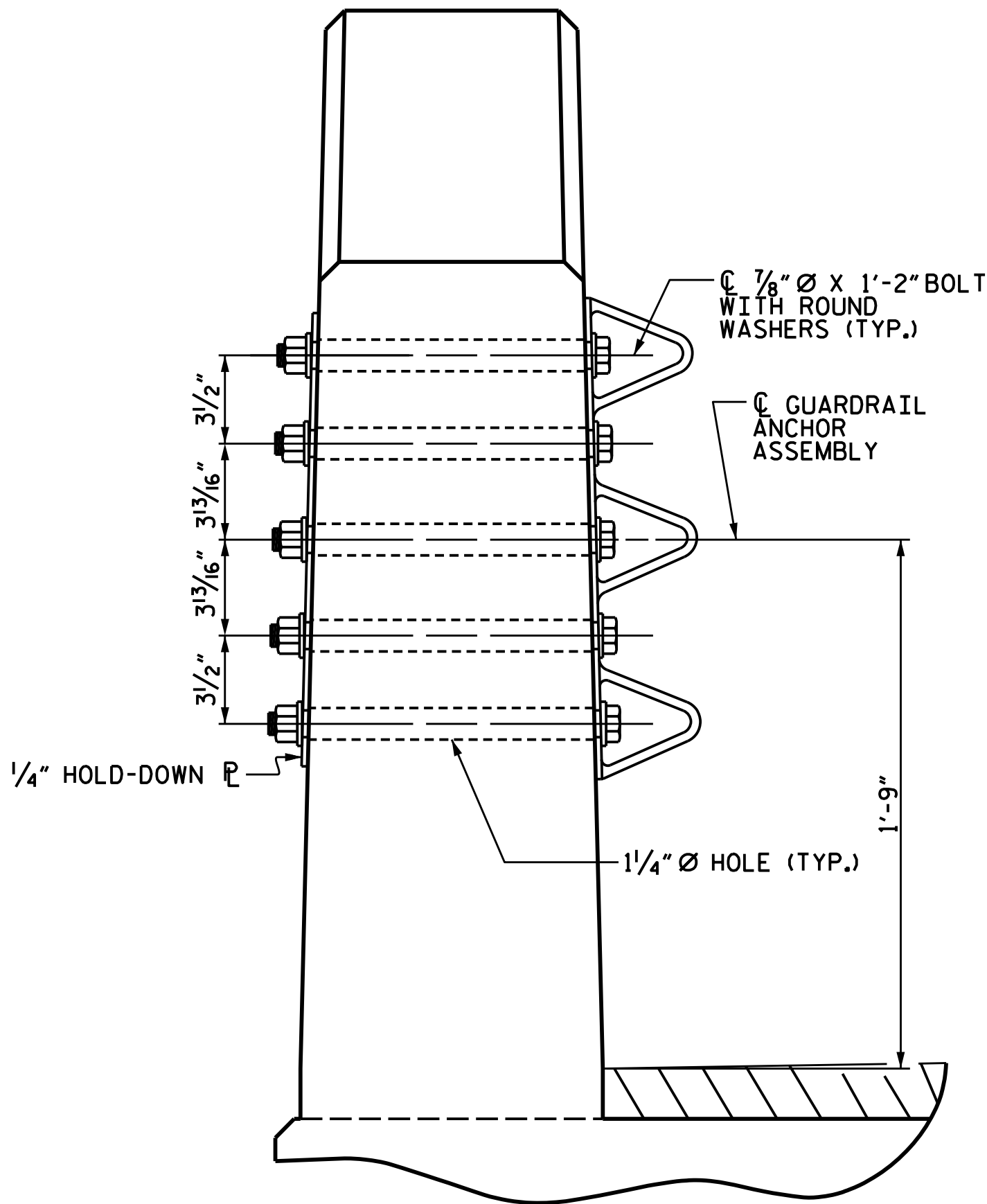


PLAN

FOR LOCATION OF GUARDRAIL ANCHOR ASSEMBLY, SEE "PLAN" BELOW

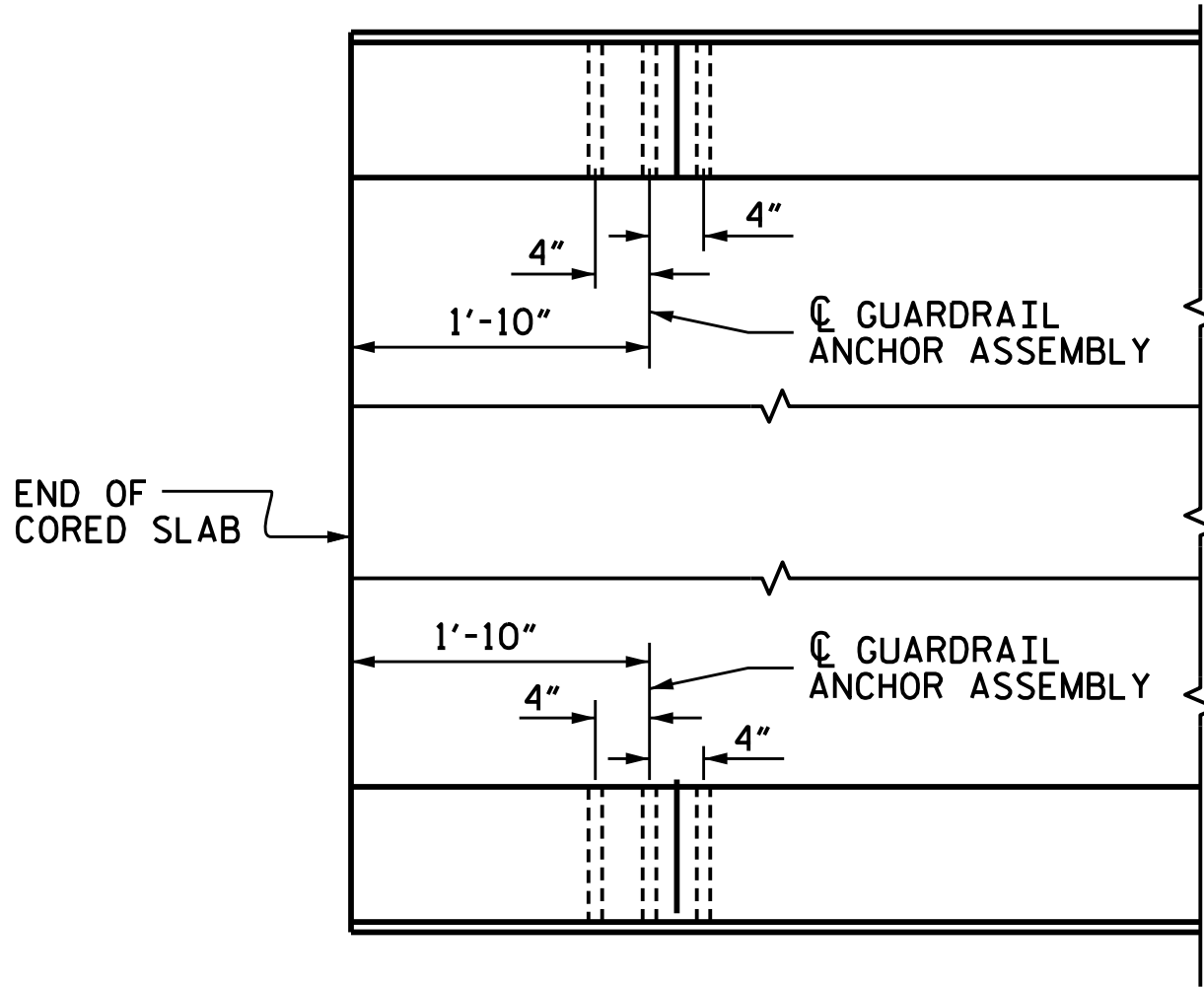


ELEVATION



SECTION E-E

GUARDRAIL ANCHOR ASSEMBLY DETAILS



PLAN

LOCATION OF ANCHORS FOR GUARDRAIL

END BENT #1 SHOWN, END BENT #2 SIMILAR.

NOTES

THE GUARDRAIL ANCHOR ASSEMBLY SHALL CONSIST OF A 1/4" HOLD DOWN PLATE AND 7 - 7/8" Ø BOLTS WITH NUTS AND WASHERS.

THE HOLD-DOWN PLATE SHALL CONFORM TO AASHTO M270 GRADE 36. AFTER FABRICATION, THE HOLD-DOWN PLATE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M111.

BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M291. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLTS, NUTS AND WASHERS MAY BE USED AS AN ALTERNATE FOR THE 7/8" Ø GALVANIZED BOLTS, NUTS AND WASHERS. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)

THE GUARDRAIL ANCHOR ASSEMBLY IS REQUIRED AT ALL POINTS WHERE APPROACH GUARDRAIL IS TO BE ATTACHED TO THE END OF BARRIER RAIL. FOR POINTS OF ATTACHMENT, SEE SKETCH.

AFTER INSTALLATION, THE EXPOSED THREAD OF THE BOLT SHALL BE BURRED WITH A SHARP POINTED TOOL.

THE COST OF THE GUARDRAIL ANCHOR ASSEMBLY SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR VERTICAL CONCRETE BARRIER RAIL.

THE VERTICAL REINFORCING BARS MAY BE SHIFTED SLIGHTLY IN THE VERTICAL CONCRETE BARRIER RAIL TO CLEAR ASSEMBLY BOLTS.

THE 1 1/4" Ø HOLES SHALL BE FORMED OR DRILLED WITH A CORE BIT. IMPACT TOOLS WILL NOT BE PERMITTED. ANY CONCRETE DAMAGED BY THIS WORK SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER.



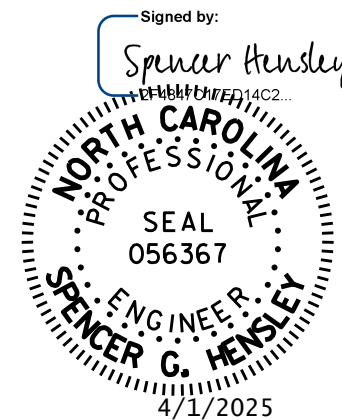
SKETCH SHOWING POINTS OF ATTACHMENT

* DENOTES GUARDRAIL ANCHOR ASSEMBLY

PROJECT NO. **BP11-R016**

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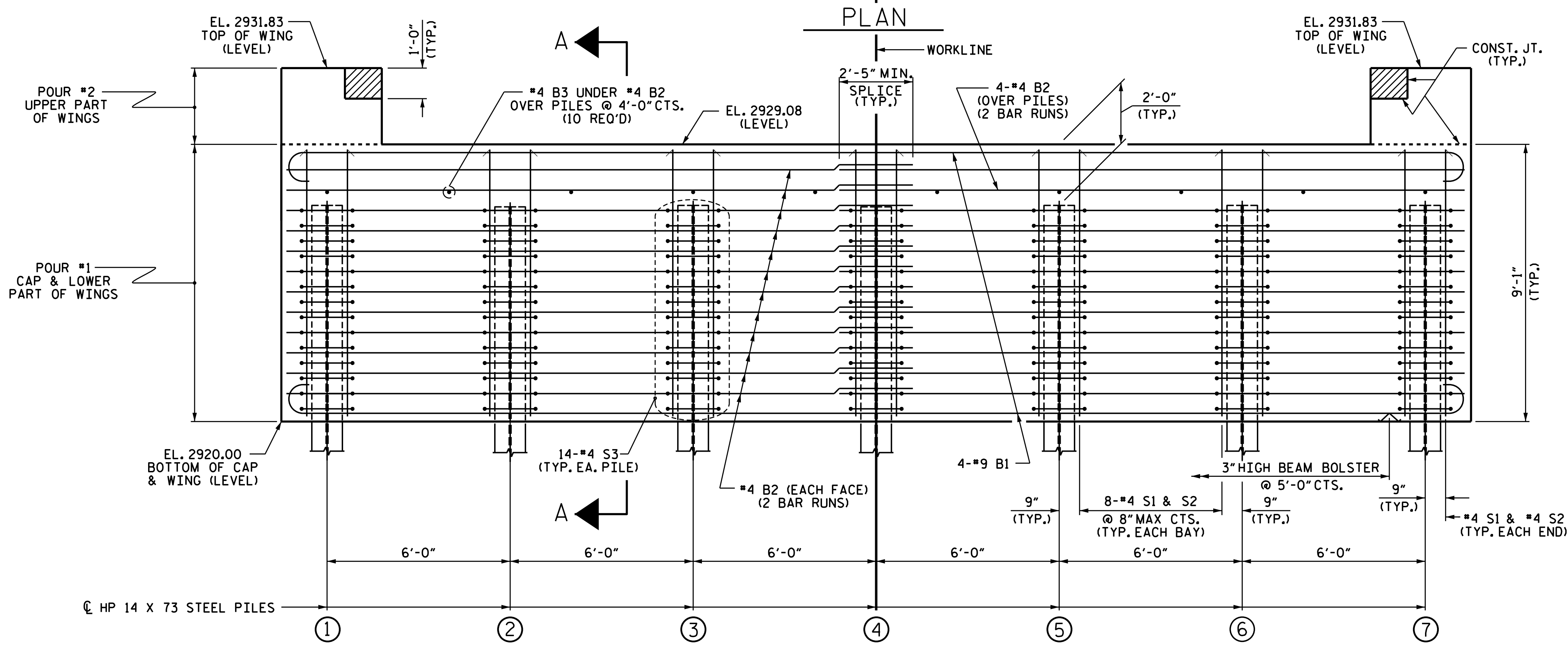
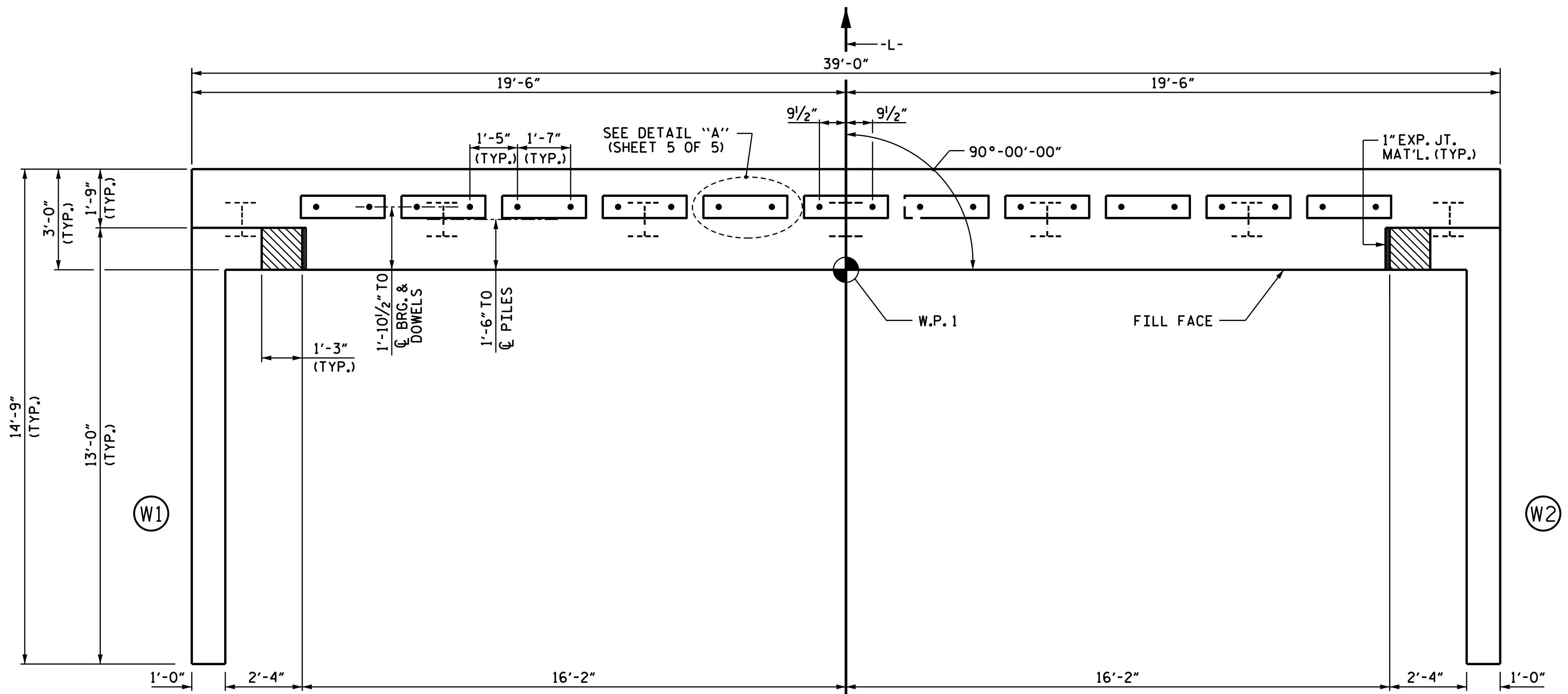
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
GUARDRAIL ANCHORAGE
DETAILS
FOR VERTICAL CONCRETE
BARRIER RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS
2			4			15

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wellf



NOTES

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR DOWELS.

THE CONCRETE IN THE SHADED AREA OF THE WING SHALL BE POURED AFTER THE VERTICAL CONCRETE BARRIER RAIL IS CAST IF SLIP FORMING IS USED.

FOR PILE SPLICE DETAILS, SEE SHEET 5 OF 5.

FOR WING DETAILS, SEE SHEET 2 OF 5.

PROJECT NO. **BP11-R016**
ASHE COUNTY
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SHEET 1 OF 5



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DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT No. 1

REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
				S-9	TOTAL SHEETS 15

DRAWN BY : **BLM** DATE : **01-25**
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DESIGN ENGINEER OF RECORD : **S. HENSLEY** DATE : **01-25**



WING DETAILS



SHEET 2 OF 5

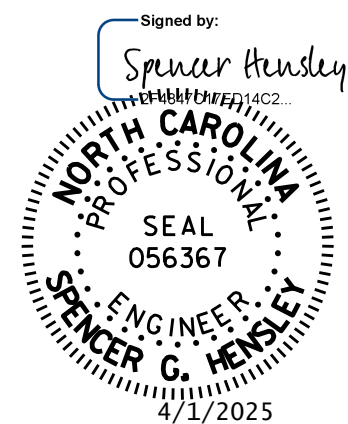
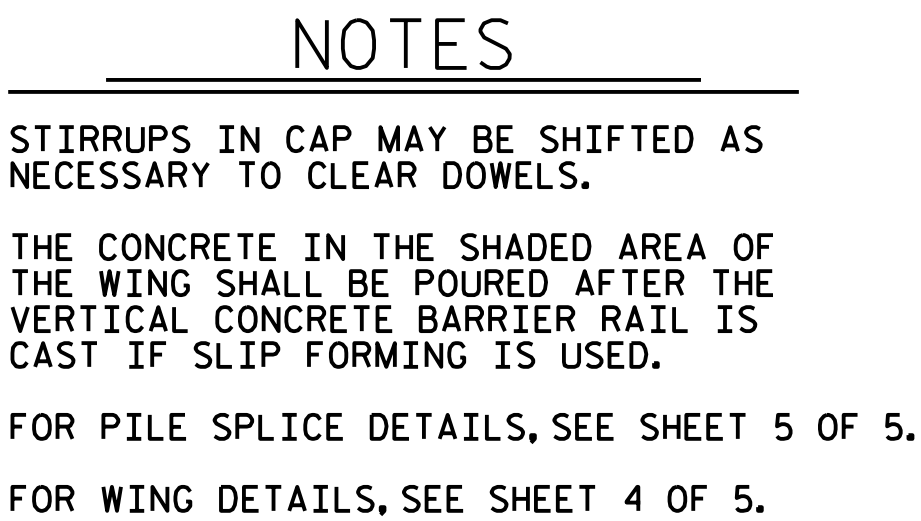
SUBSTRUCTURE
END BENT 1
WING DETAILS

REVISIONS						SHEET NO. S-10
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 15
2			4			

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 CHECKED BY : MDN DATE : 01-25
 DESIGN ENGINEER OF RECORD : S. HENSLEY DATE : 01-25

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WINGS NOT SHOWN FOR CLARITY.
FOR SECTION A-A, SEE SHEET 5 OF 5.
CONCRETE COLLARS FOR STEEL PILES NOT SHOWN IN PLAN AND ELEVATION VIEWS FOR CLARITY.
SEE "CORROSION PROTECTION FOR STEEL PILES DETAIL", SHEET 5 OF 5.

SHEET 3 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

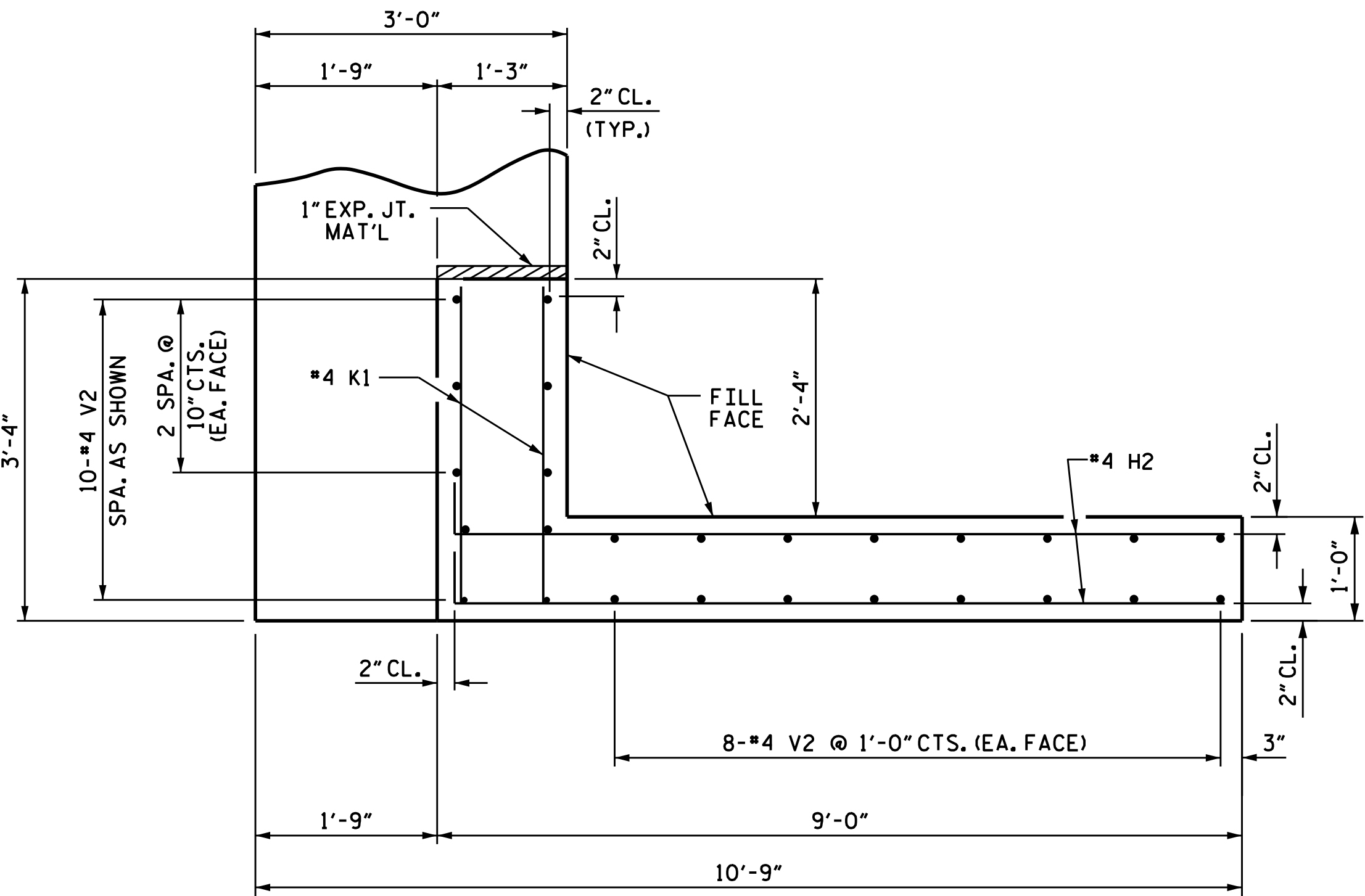
SUBSTRUCTURE

END BENT No. 2

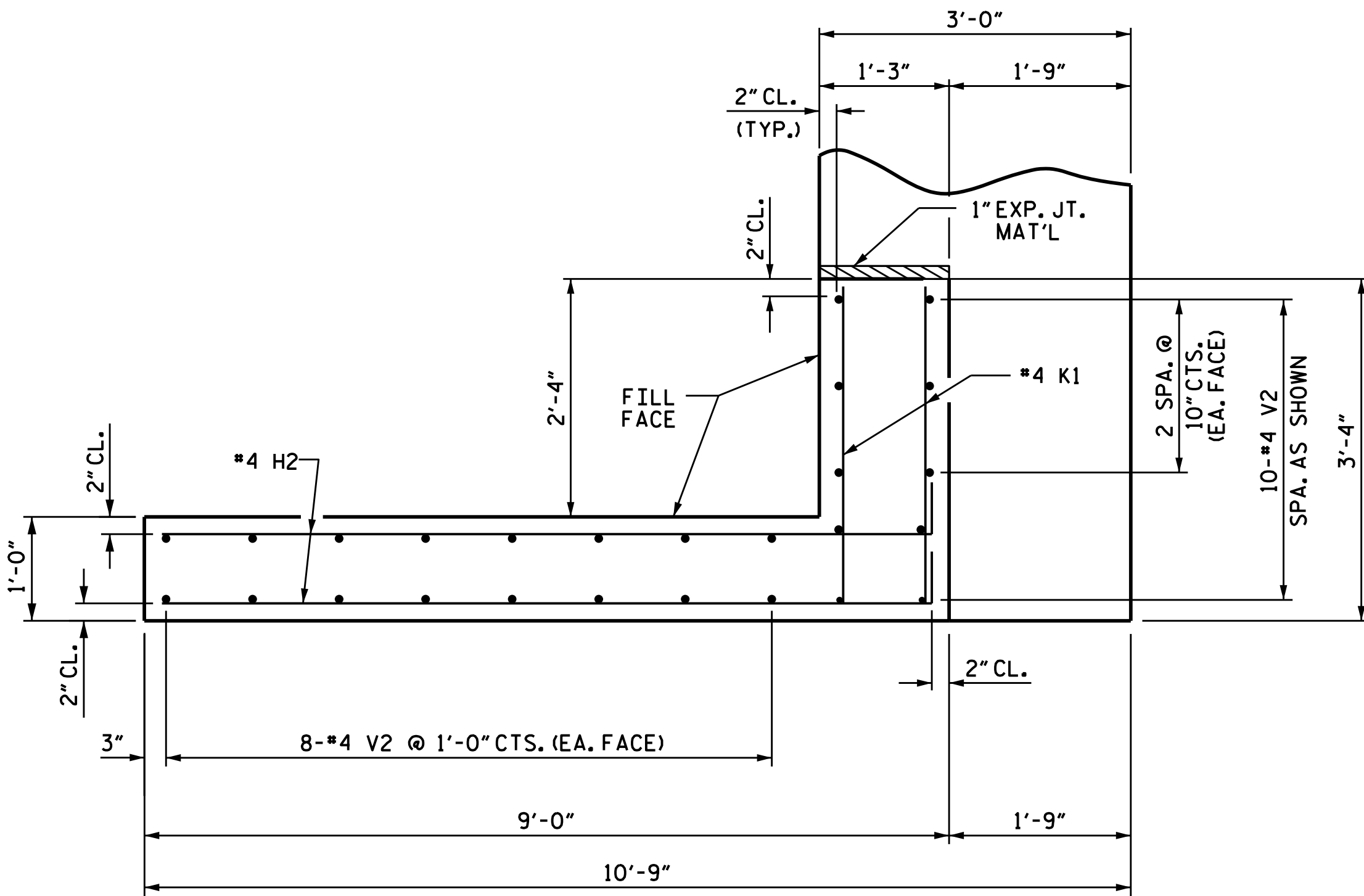
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			15

STD. NO. EB_33_90S4

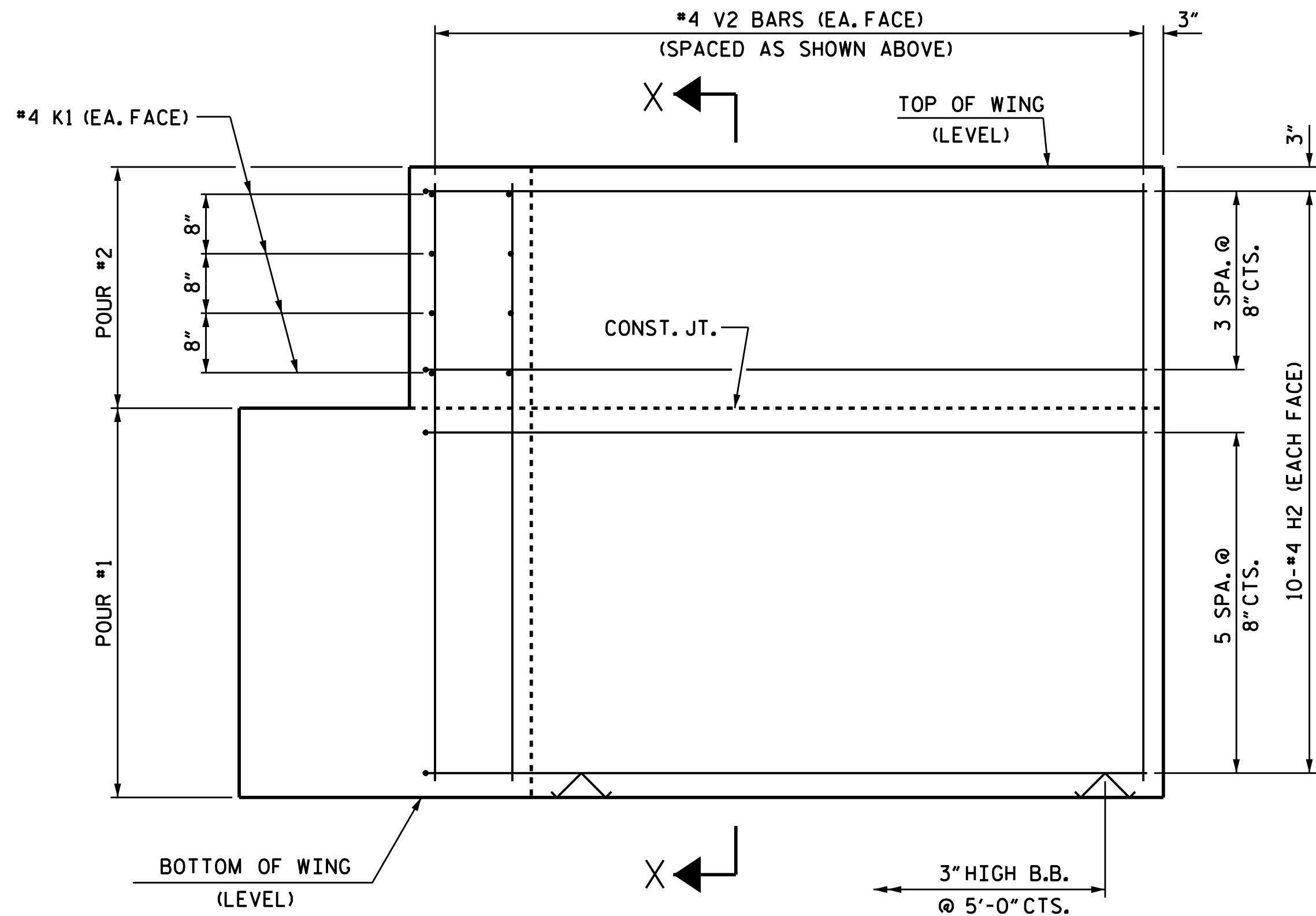
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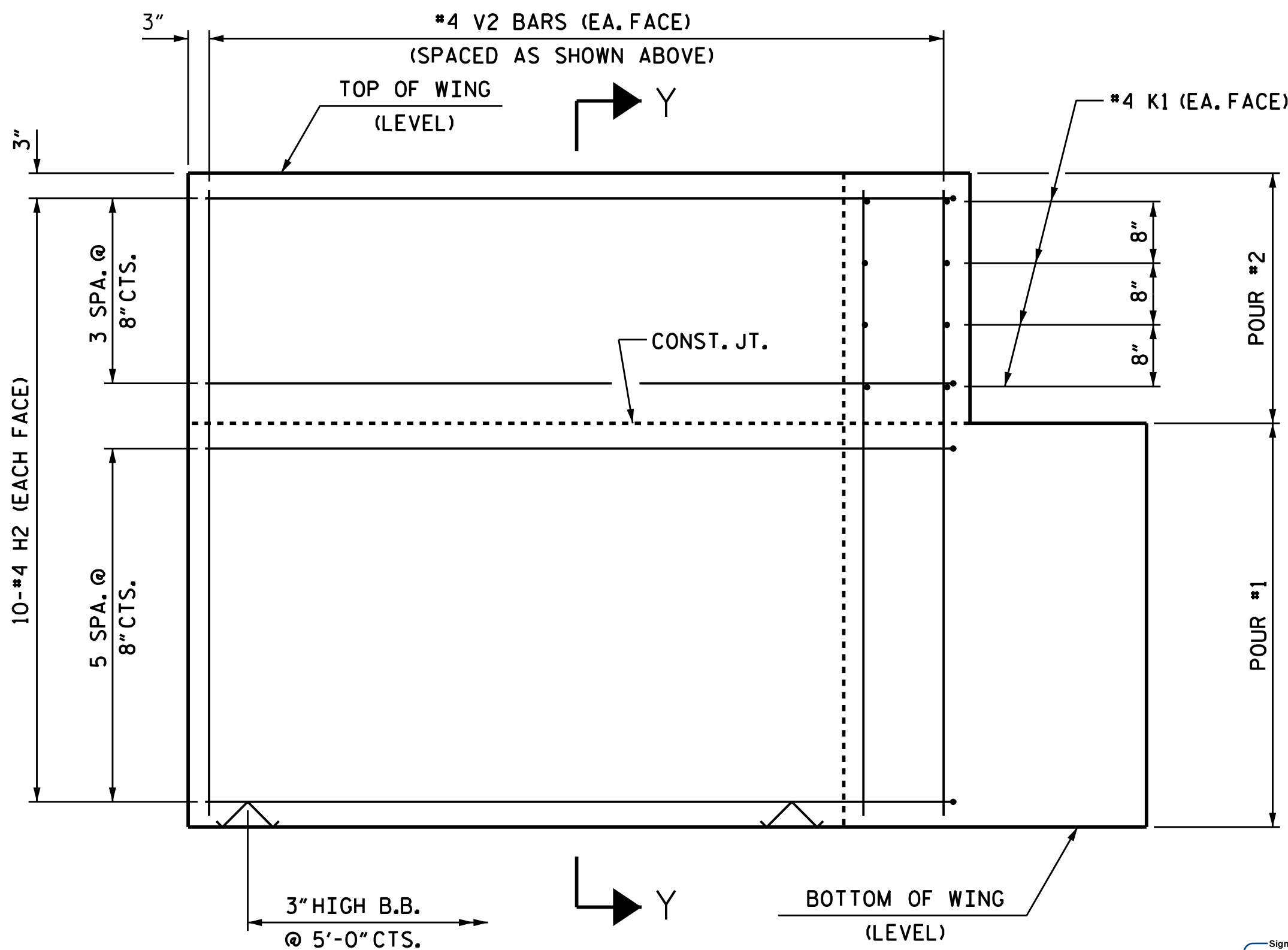
PLAN OF WING (W4)



PLAN OF WING (W3)

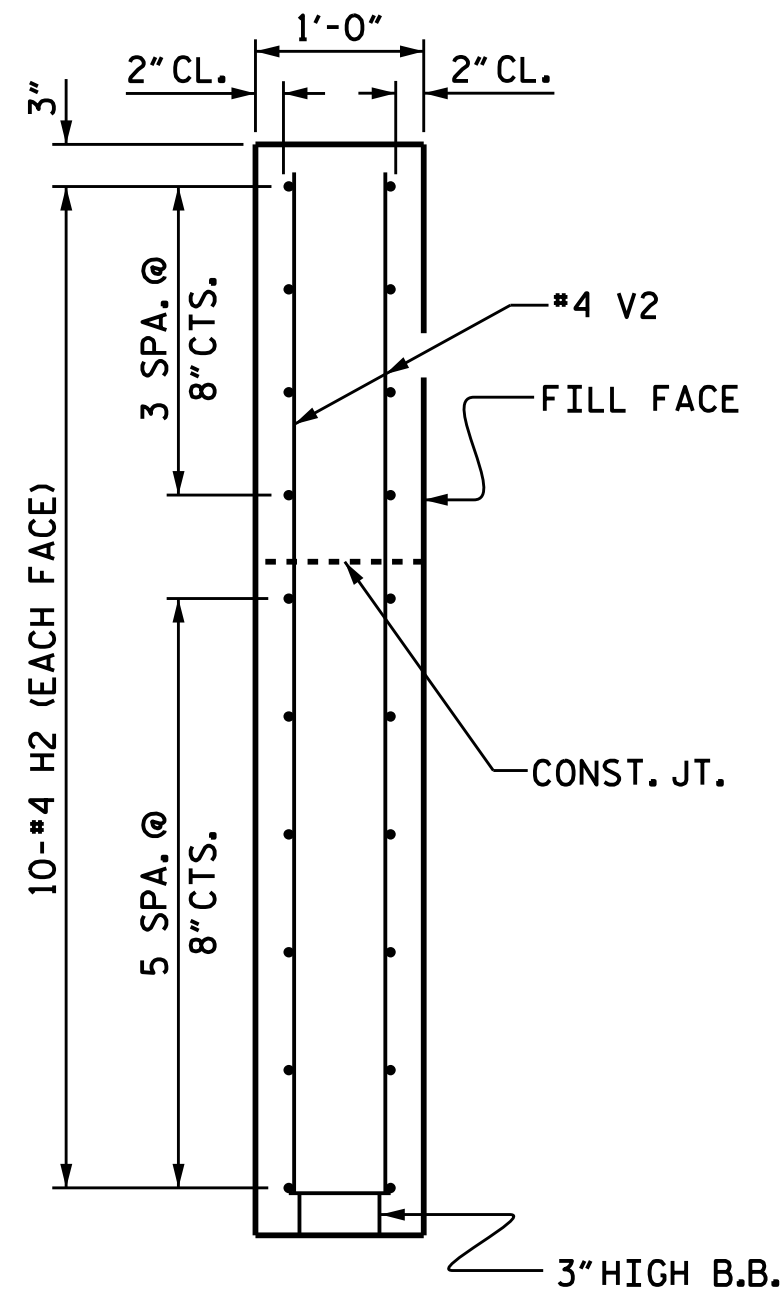


ELEVATION OF WING (W4)

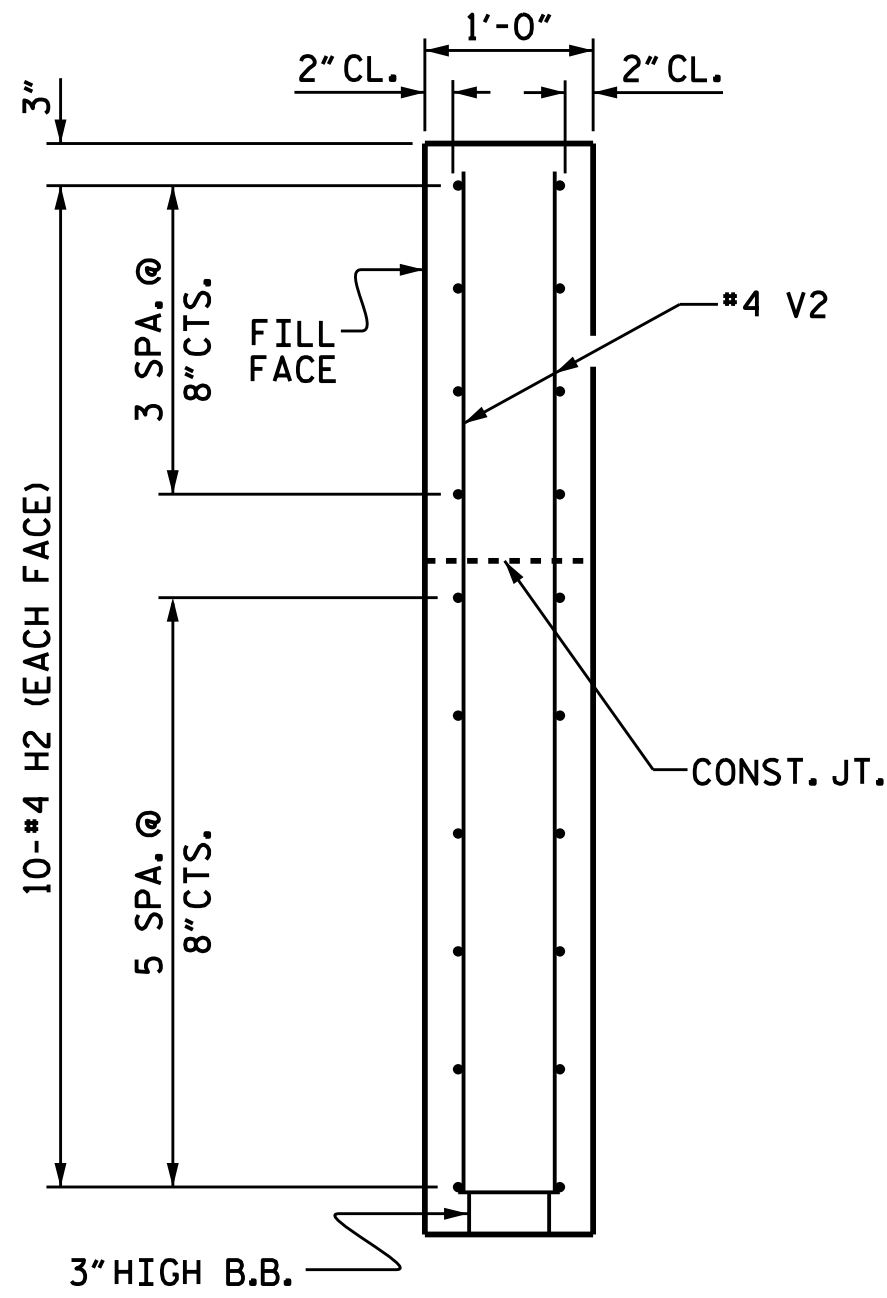


ELEVATION OF WING (W3)

WING DETAILS



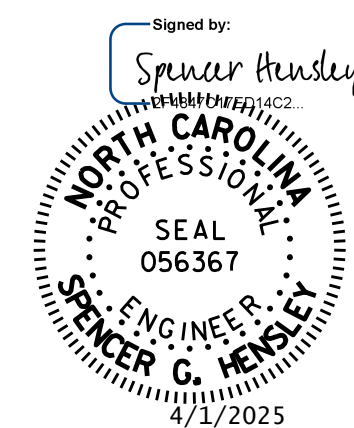
SECTION X-X



SECTION Y-Y

PROJECT NO. **BP11-R016**
ASHE COUNTY
STATION: **16+67.00 -L-**

SHEET 4 OF 5

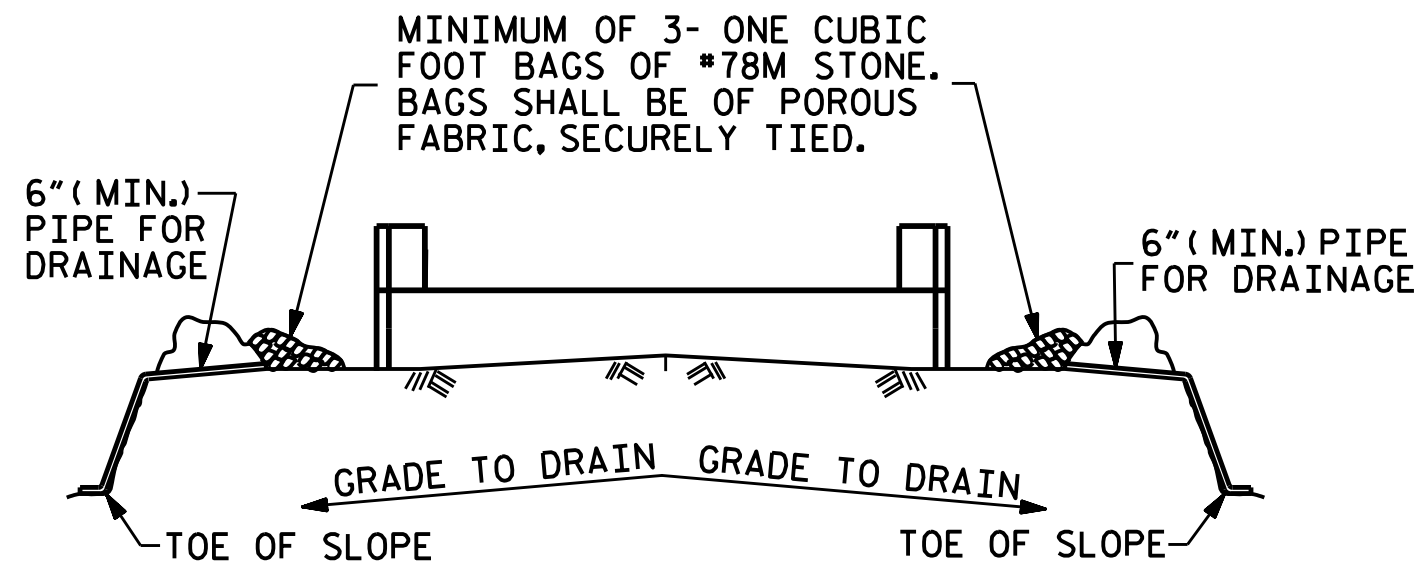


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DESIGN ENGINEER OF RECORD :	S. HENSLEY	DATE :	1-25
DRAWN BY :	WJH	12/11	
CHECKED BY :	AAC	12/11	
REV.	4/15	MAA/TMG	

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12	
1			3			TOTAL SHEETS	
2			4			15	

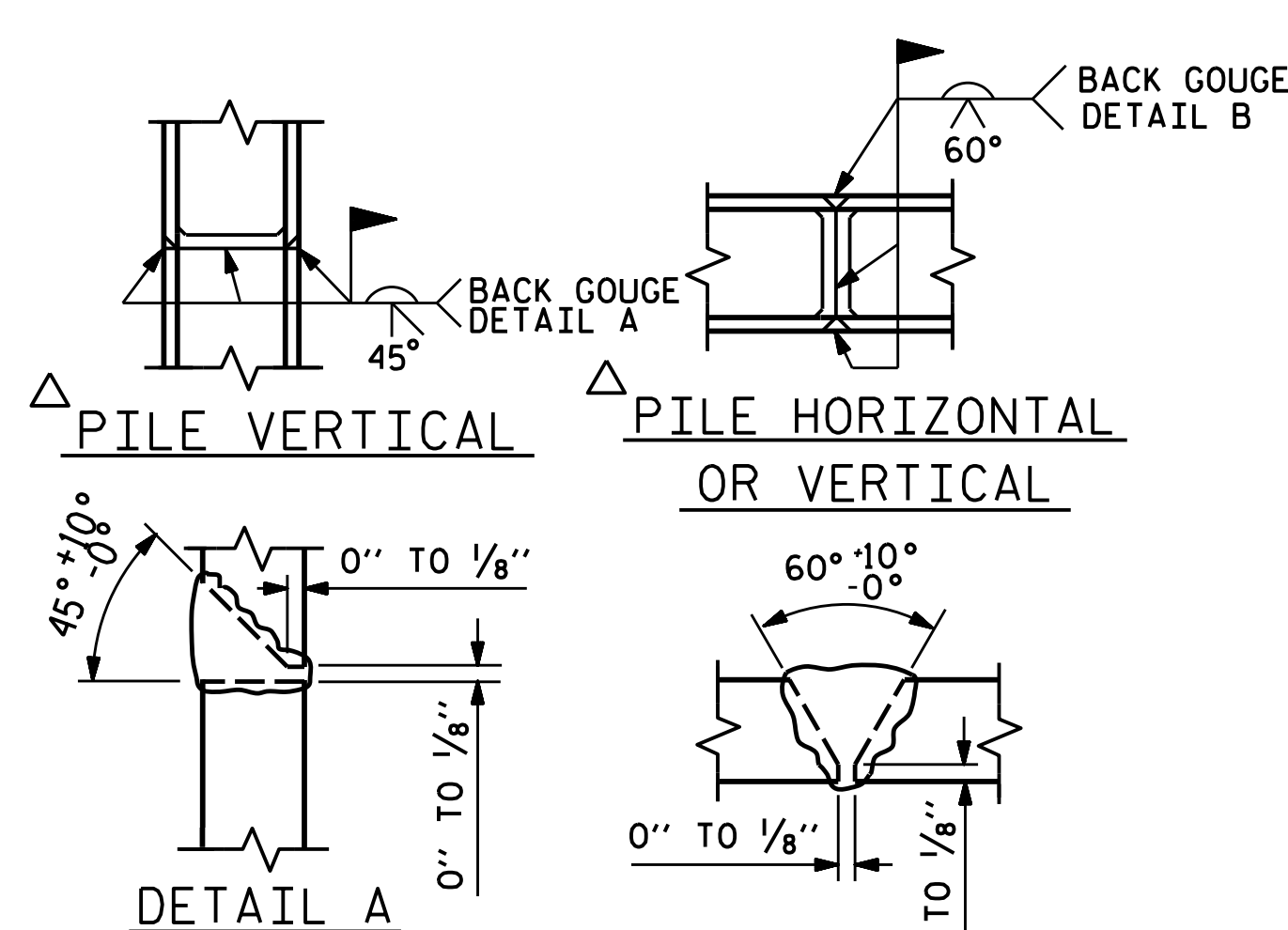


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

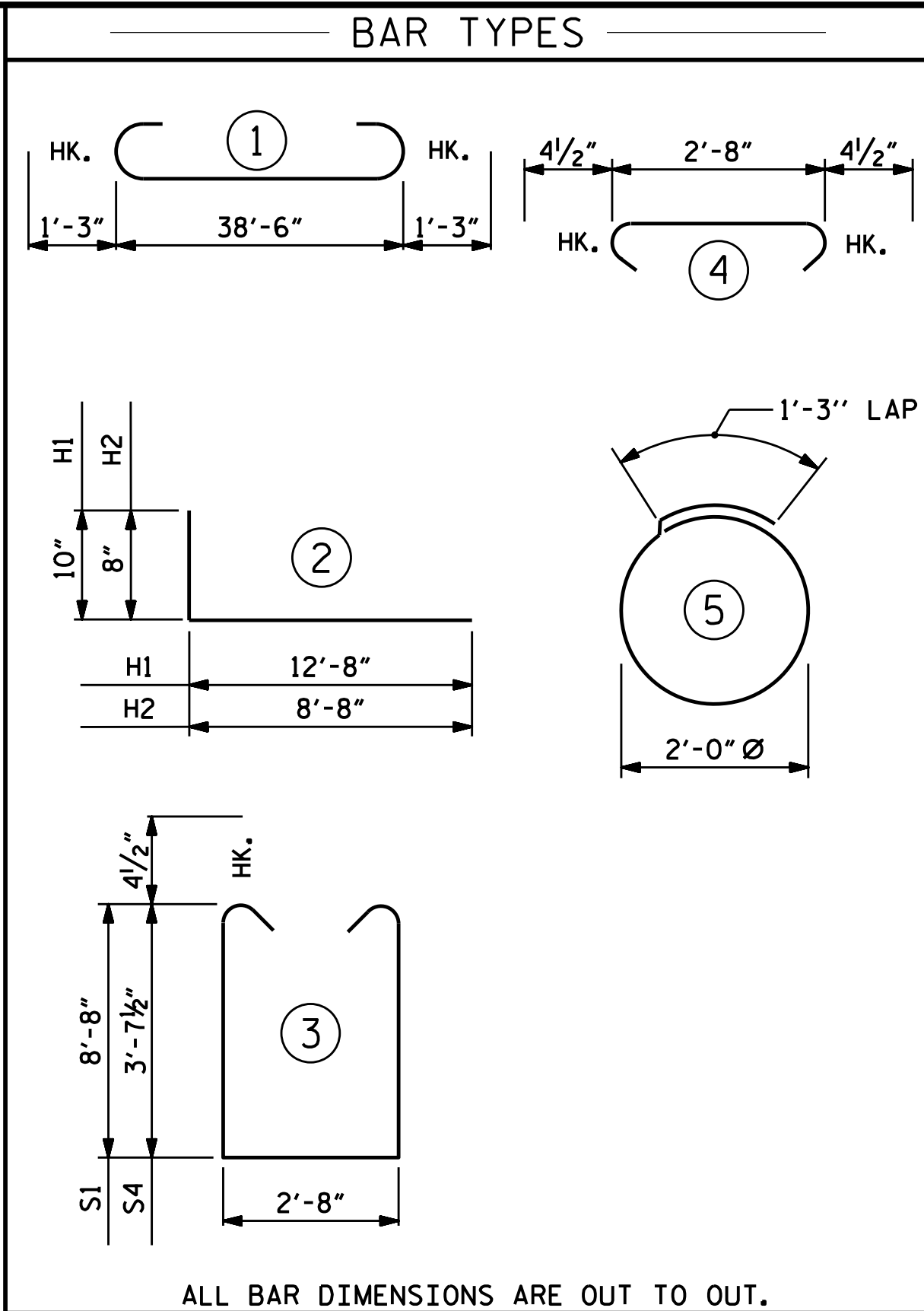
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

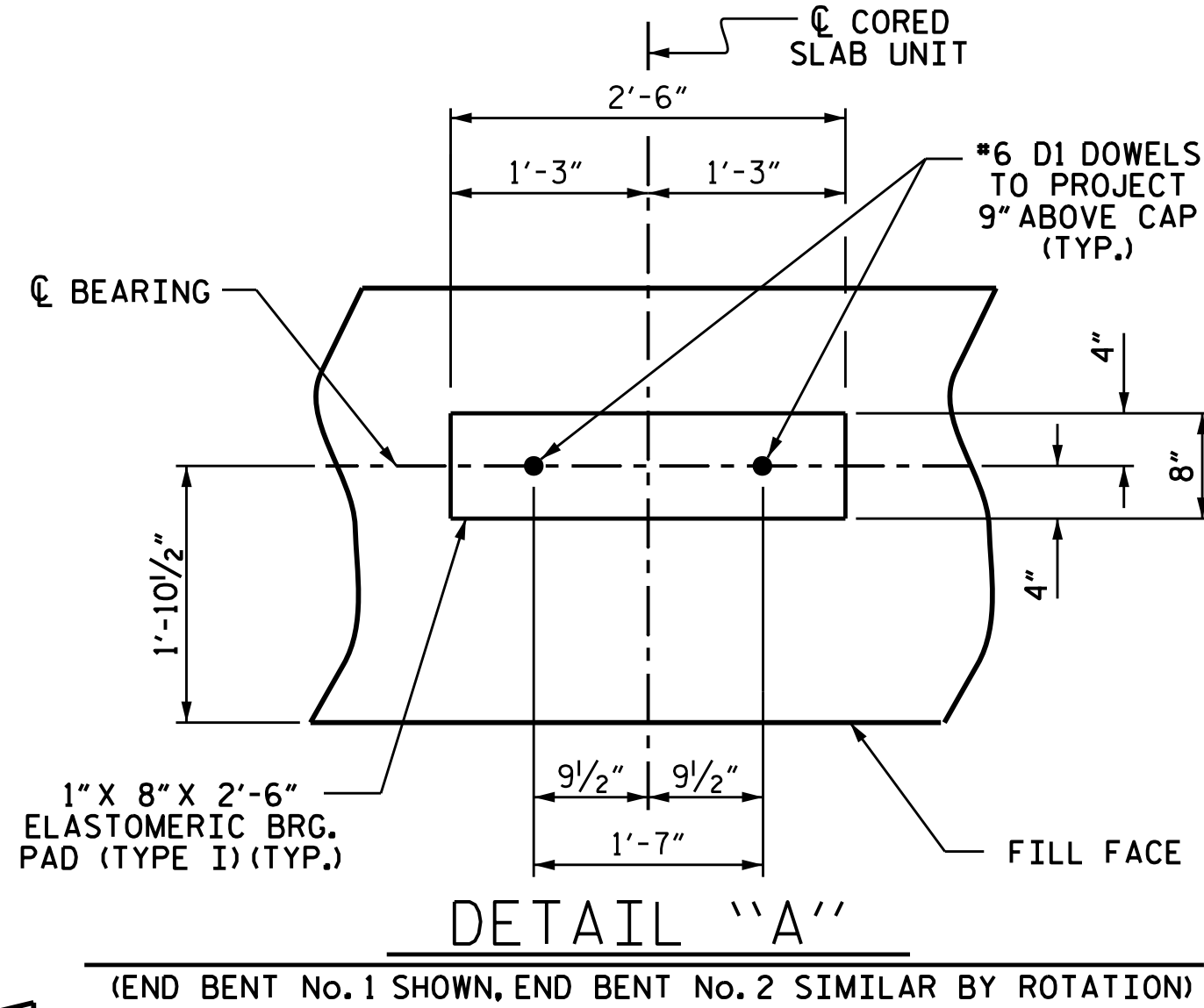
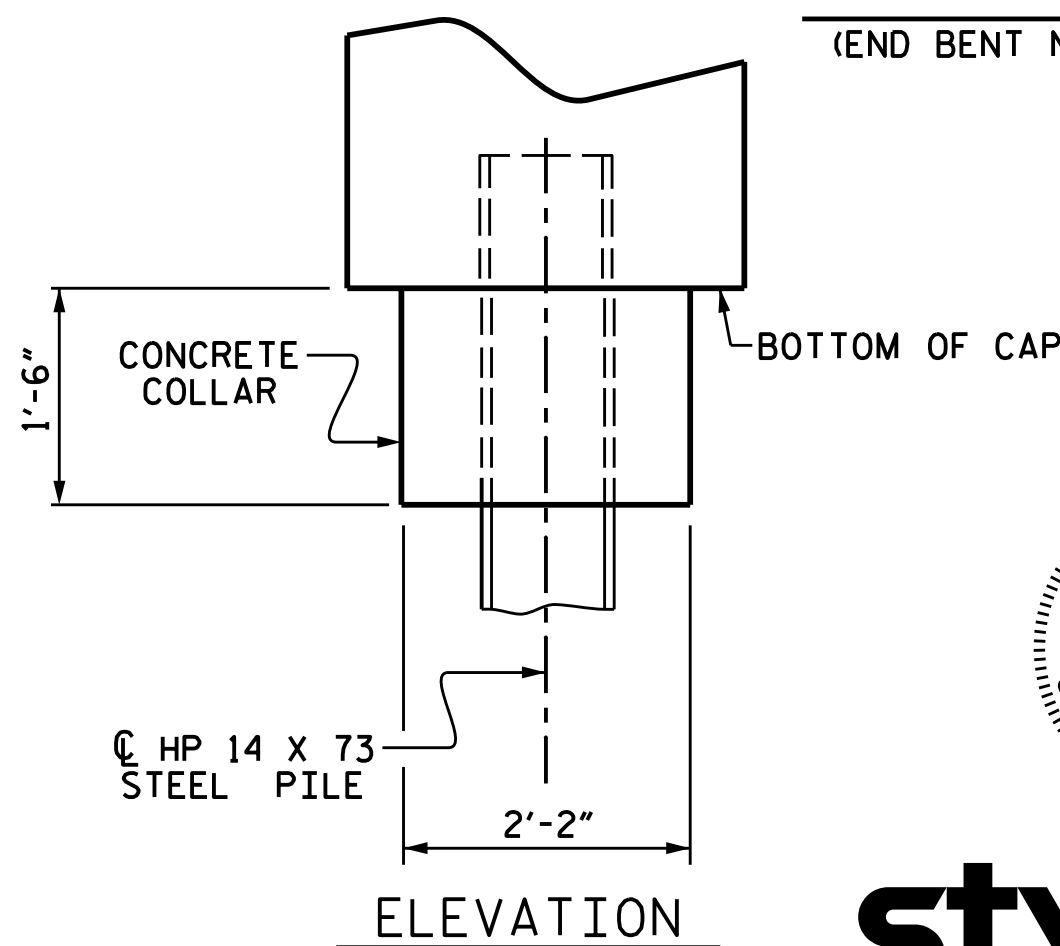
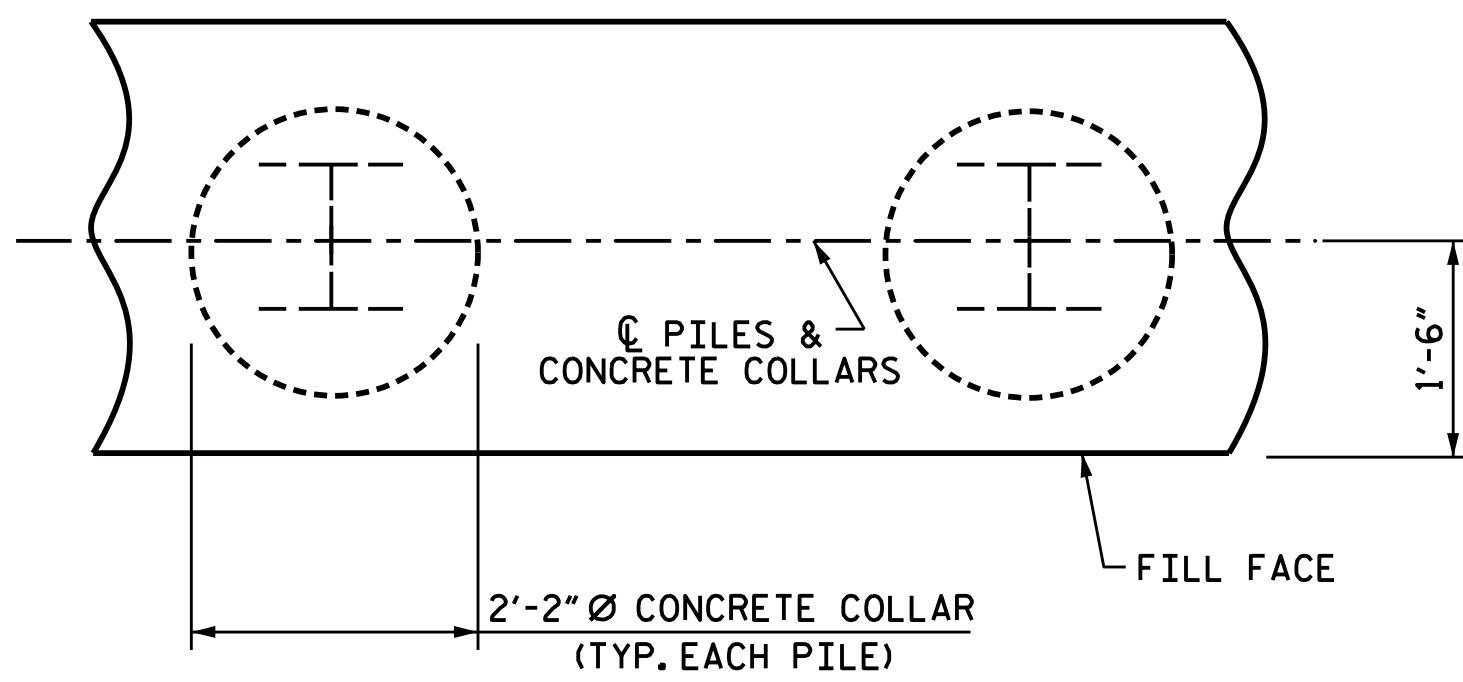
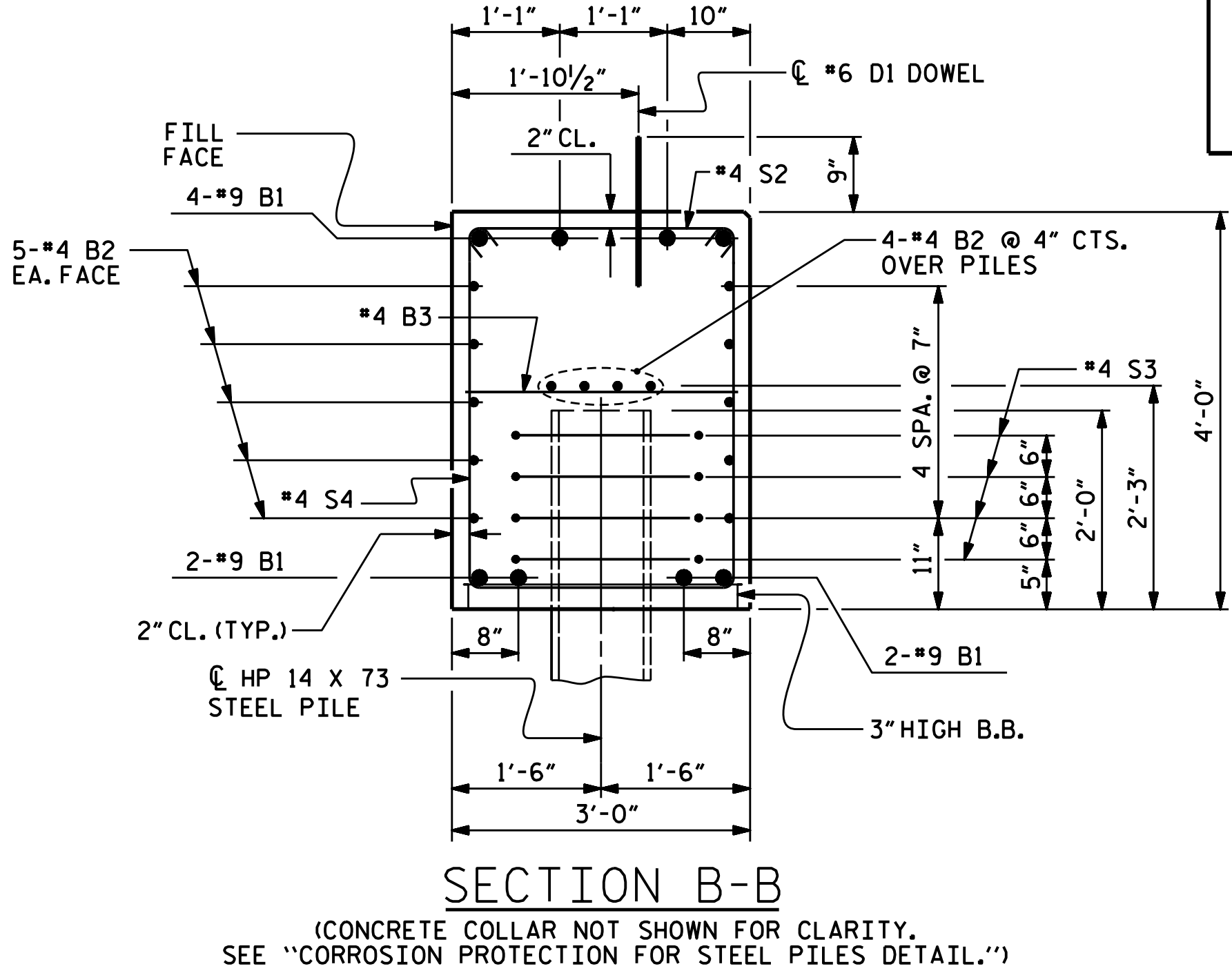
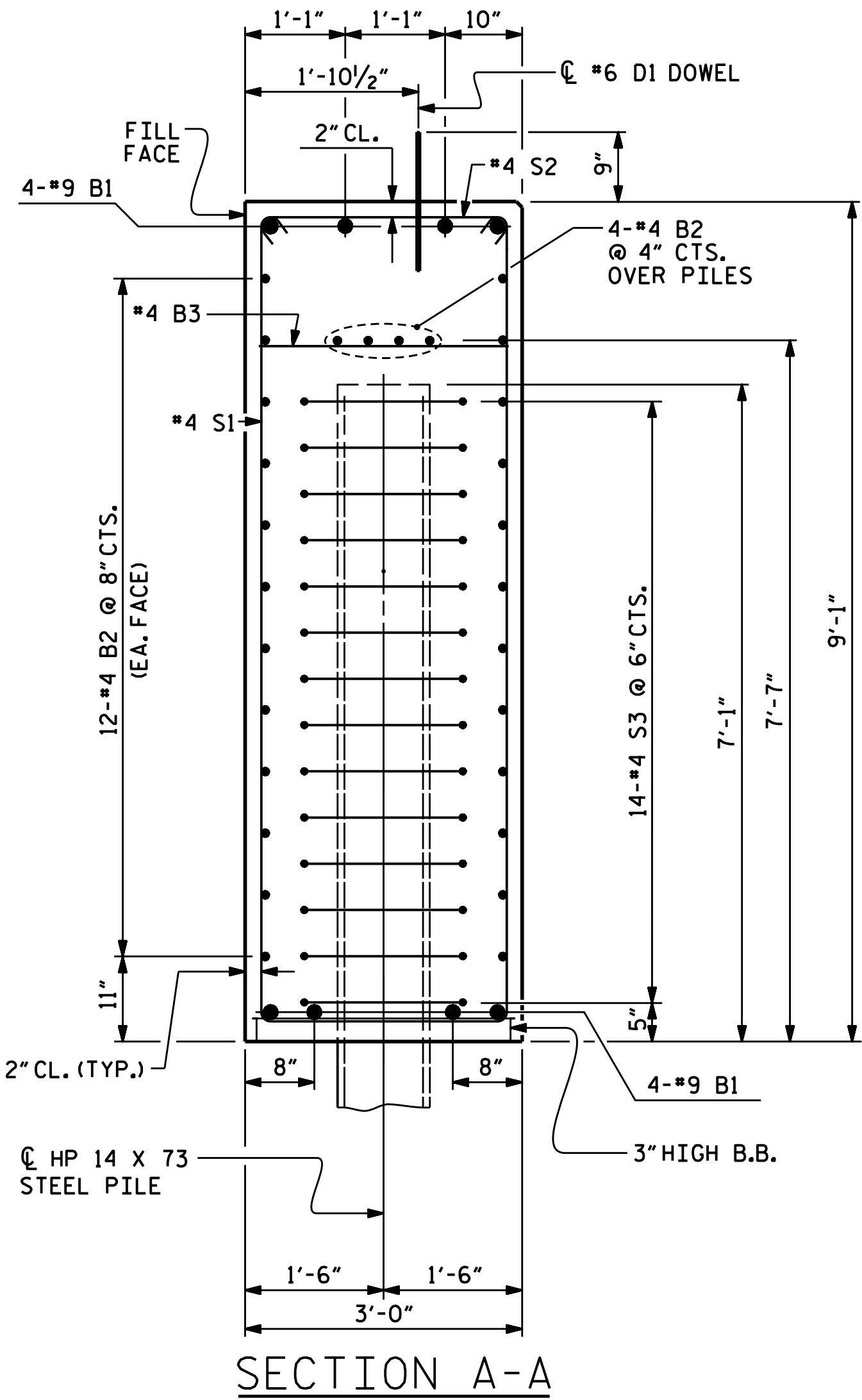


POSITION OF PILE DURING WELDING.

PILE SPLICE DETAILS



BILL OF MATERIAL						BILL OF MATERIAL					
END BENT 1						END BENT 2					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9	1	41'-0"	1,115	B1	8	#9	1	41'-0"	1115
B2	56	#4	STR	20'-7"	770	B2	28	#4	STR	20'-7"	385
B3	10	#4	STR	2'-5"	16	B3	10	#4	STR	2'-5"	16
D1	22	#6	STR	1'-6"	50	D1	22	#6	STR	1'-6"	50
H1	92	#5	2	13'-6"	1,295	H2	40	#4	2	9'-4"	249
K1	16	#4	STR	2'-11"	31	K1	16	#4	STR	2'-11"	31
S1	50	#4	3	20'-9"	693	S4	50	#4	3	10'-8"	356
S2	50	#4	4	3'-5"	114	S2	50	#4	4	3'-5"	114
S3	98	#4	5	7'-7"	496	S3	28	#4	5	7'-7"	142
V1	68	#4	STR	11'-6"	522	V2	52	#4	STR	6'-2"	214
REINFORCING STEEL (FOR END BENT 1)						REINFORCING STEEL (FOR END BENT 2)					
CLASS A CONCRETE BREAKDOWN (FOR END BENT 1)						CLASS A CONCRETE BREAKDOWN (FOR END BENT 2)					
POUR #1 CAP & LOWER PART OF WINGS						POUR #1 CAP, LOWER PART OF WINGS & COLLARS					
POUR #2 UPPER PART OF WINGS						POUR #2 UPPER PART OF WINGS					
TOTAL CLASS A CONCRETE						TOTAL CLASS A CONCRETE					
5,102 LBS.						2,672 LBS.					
47.3 C.Y.						21.0 C.Y.					
3.3 C.Y.						2.4 C.Y.					
50.6 C.Y.						23.4 C.Y.					



PROJECT NO. **BP11-R016**

ASHE COUNTY

STATION: **16+67.00 -L-**

SHEET 5 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE

END BENT No. 1 & 2
DETAILS

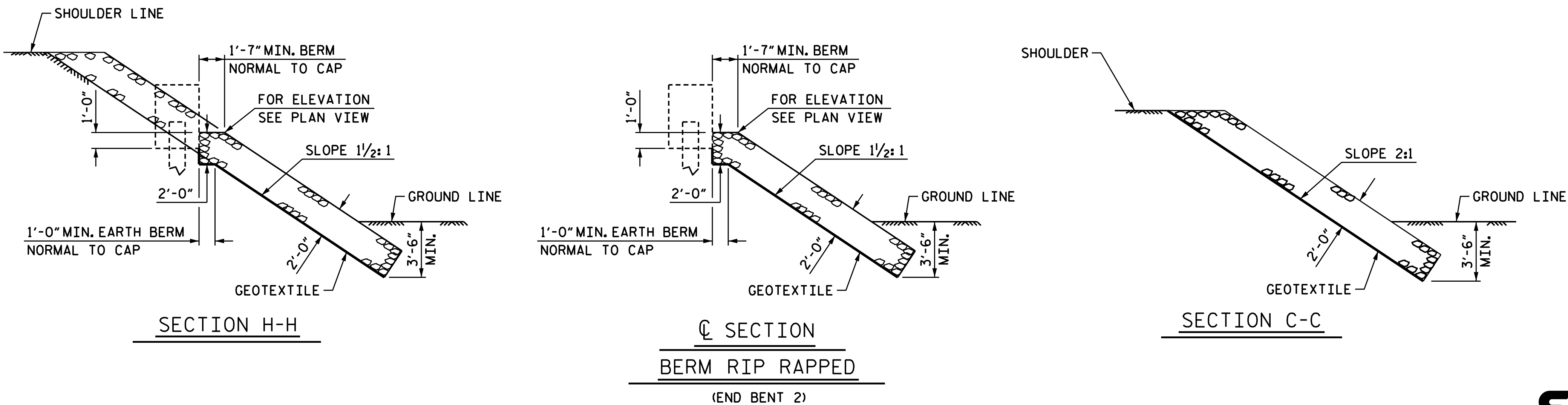
REVISIONS				SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		
				TOTAL SHEETS	15

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CHECKED BY : **MDN** DATE : **01-25**
DESIGN ENGINEER OF RECORD : **S. HENSLEY** DATE : **01-25**

PROJECT NO. BP11-R016
ASHE COUNTY
 STATION: 16+67.00 -L-



Signed by: Spencer Hensley
2F4847G111191172

**NORTH CAROLINA
PROFESSIONAL
SEAL
056367
ENGINEER
SPENCER G. HENSLEY**

4/2/2025

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Charlotte, NC 28203
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STD. NO. RR1



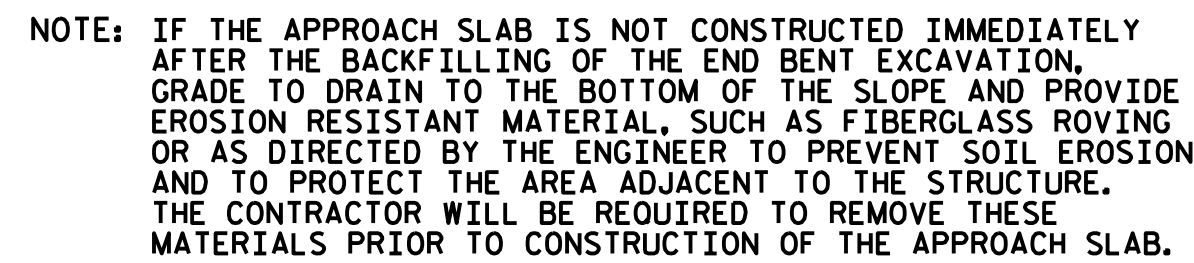
BAR SIZE	EPOXY COATED	UNCOATED
#4	1'-11"	1'-7"
#5	2'-5"	2'-0"
#6	3'-7"	2'-5"



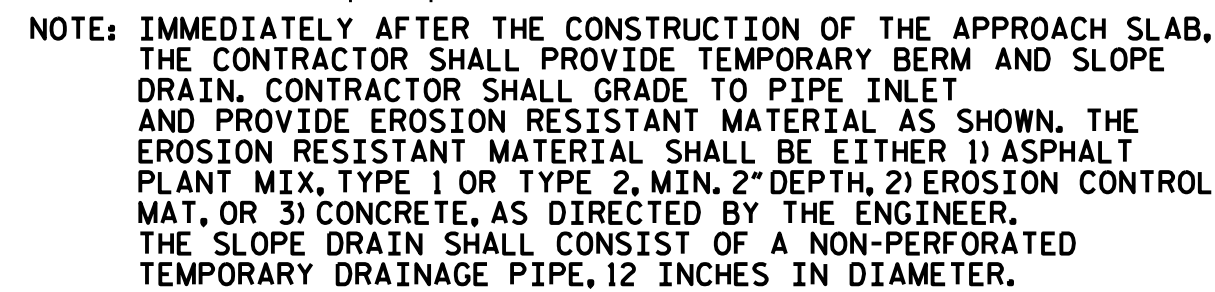
CURB DETAILS

FOR BRIDGE APPROACH FILL, SEE ROADWAY PLANS.

APPROACH SLAB GROOVING IS NOT REQUIRED.



TEMPORARY DRAINAGE DETAIL



PLAN VIEW

TEMPORARY BERM AND SLOPE DRAIN DETAILS

(TO BE USED WHEN SHOULDER BERM GUTTER IS REQUIRED)

PROJECT NO. BP11-R016

ASHE

STATION: 16+67.00 -L-

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
BRIDGE APPROACH SLAB
FOR PRESTRESSED CONCRETE
CORED SLAB UNIT
(SUB-REGIONAL TIER)
90° SKEW

REVISIONS						SHEET NO. S-15
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 15
2			4			

STD. NO. BAS_33_90S

stv

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Charlotte, NC 28203
NC License Number F-0991

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STANDARD NOTES

DESIGN DATA:

SPECIFICATIONS	-----	AASHTO (CURRENT)
LIVE LOAD	-----	SEE PLANS
IMPACT ALLOWANCE	-----	SEE AASHTO
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	-----	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	---	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	-----	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	-----	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	-----	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	-----	SEE AASHTO
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	-----	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	-----	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	-----	30 LBS. PER CU. FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2024 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED ¾" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1½" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A ¼" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A ¼" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE ⅞" Ø SHEAR STUDS FOR THE ¾" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - ⅞" Ø STUDS FOR 4 - ¾" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF ⅞" Ø STUDS ALONG THE BEAM AS SHOWN FOR ¾" Ø STUDS BASED ON THE RATIO OF 3 - ⅞"Ø STUDS FOR 4 - ¾" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST ⅝" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY ⅛" OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINIS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.