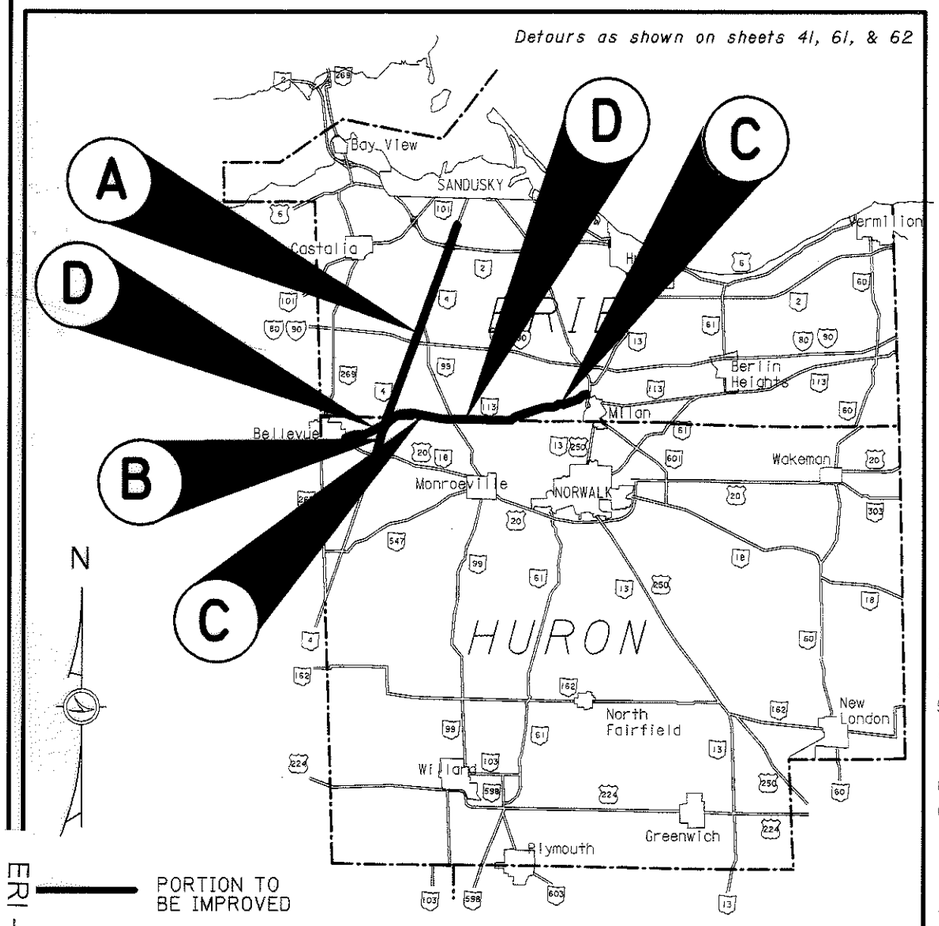
STATE OF OHIO DEPARTMENT OF TRANSPORTATION

LOCATION MAP



LATITUDE: N 41° 17′ 20″

LONGITUDE: W 82° 47′ 2″

Design Designation Information is shown on Straight Line Diagram Sheet

ERI - SR 4-0.00/Various (City of Bellevu

040073 PID - 18640

Dist 3 1/21/2004

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ERI - 4 - 0.00

PART	COUNTY	ROUTE	PROJECT TERMINI (STRAIGT LINE MILEAGE) BEGIN	END	NET LENGTH (MILES)	CITY
A	ERIE	SR 4	0.00	9.72	9.72	
B	HURON	SR 4	6.66	8.38	1.72	
C	ERIE	SR 113	0.00	6.08	6.08	
D	HURON	SR 113	0.97	6.74	5.77	BELLEVUE

PROJECT DESCRIPTION:

THIS PROJECT WILL INCLUDE PAVEMENT PLANING, PAVEMENT REPAIR, RESURFACING WITH ASPHALT CONCRETE, ADJUSTMENT OF CASTINGS WHERE NECESSARY, GUARDRAIL, BRIDGE MAINTENANCE, CULVERT, REPLACEMENT AND PAVEMENT MARKINGS AS DETAILED IN THE PLANS.

Project Earth Disturbed Area = 1.6 acres
Estimated Contractor Earth Disturbed Area = 1.1 acres
Notice of Intent Earth Disturbed Area = 4.9 acres

CONVERSION OF METRIC STANDARD DRAWINGS

THE METRIC STANDARD DRAWINGS REFERENCED IN THIS PLAN SHALL BE CONVERTED TO ENGLISH UNITS USING THE SI (METRIC) TO ENGLISH CONVERSION FACTORS PROVIDED IN SECTION 109.02 OF THE 2002 CONSTRUCTION AND MATERIAL SPECIFICATIONS. CONVERSIONS SHALL BE APPROXIMATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

2002 SPECIFICATIONS

THE STANDARD 2002 SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND THE PROPOSAL SHALL GOVERN THESE IMPROVEMENTS

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THESE IMPROVEMENTS WILL REQUIRE THE CLOSING OF THE HIGHWAY (s shown on sheets 41, 61, & 62 AND PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS INDICATED IN THE PLAN AND PROPOSAL.

10-24-03 APPROVED DATE — Thomas M. O'Leary AG — DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

11-17-03 APPROVED DATE — Gordon Proctor — DIRECTOR, DEPARTMENT OF TRANSPORTATION

ENGINEER'S SEAL — STRUCTURAL

STATE OF OHIO — DAVID C. MOLLENSHOTT — E-50210 — REGISTERED PROFESSIONAL ENGINEER

SIGNED: David C. Mollenshott
DATE: 10/24/03

ENGINEER'S SEAL — ROADWAY

STATE OF OHIO — MICHAEL JOSEPH SCHAFRATH — 57843 — REGISTERED PROFESSIONAL ENGINEER

SIGNED: Michael J Schafrath
DATE: 10-24-03

TWO WORKING DAYS BEFORE YOU DIG
Call- 800-362-2764
TOLL FREE
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS MUST BE CALLED DIRECTLY

DISTRICT THREE — PRODUCTION DEPARTMENT

STANDARD DRAWINGS

						SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	07-28-00	DM-1.1	07-18-03	TC-41.20	01-19-01	802	07-19-02
BP-4.1	07-28-00	DM-1.4	07-19-02	TC-65.10	10-19-01	832	02-12-03
		DM-4.3	07-19-02	TC-65.12	10-19-01	833	02-12-03
GR-1.1	04-18-03	DM-4.4	07-19-02	TC-71.10	04-19-02	841	04-19-02
GR-2.1	04-18-03			TC-73.10	01-19-01	846	04-19-02
GR-2.2	04-18-03	MT-35.10	04-20-01	TC-82.10	04-19-02	848	02-08-02
GR-3.1	04-18-03	MT-95.31	04-19-02			864	07-11-00
GR-3.4	04-18-03	MT-95.32	04-19-02			908	04-18-03
GR-4.1	04-18-03	MT-96.10	04-19-02			954	09-09-97
GR-4.2	10-17-03	MT-96.20	04-19-02				
GR-5.3	04-18-03	MT-97.10	04-19-02				
		MT-97.11	04-19-02				
RM-1.1	04-18-03	MT-99.20M	01-30-95				
		MT-101.60	10-18-02				
CB-1.2	07-19-02	MT-105.10	10-18-02				
		MT-105.11	10-18-02				
SBR-1-99	07-19-02						

SPECIAL PROVISIONS
WATERWAY PERMIT
NWP # 3 11-21-03

FEDERAL PROJECT NO. STATE

PID NO. 18640

CONSTRUCTION PROJECT NO. ERI-4-0.00

RAILROAD INVOLVEMENT NONE

100% State																ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REF. SHT.
6	7	8	9	10	10A	11		23		33	34		42		63						
																				ROADWAY ITEMS	
													LUMP			201	11000	LUMP		CLEARING AND GRUBBING	
													LUMP			202	11000	LUMP		STRUCTURE REMOVED	
													154			202	23000	154	square yard	PAVEMENT REMOVED	
													111			202	23900	111	square yard	CONCRETE BASE REMOVED	
				44												202	30000	44	square foot	WALK REMOVED	
				8												202	32000	8	foot	CURB REMOVED	
													81			202	35100	81	ft.	PIPE REMOVED, 24" AND UNDER	
								2008								202	38000	2008	foot	GUARDRAIL REMOVED	
								24								202	42000	24	each	ANCHOR ASSEMBLY REMOVED, TYPE A	
								1								202	42600	1	each	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE A	
										2167						202	54100	2167	each	RAISED PAVEMENT MARKER REMOVED FOR STORAGE	
													104			203	10000	104	cu.yd.	EXCAVATION	
													163			203	20000	163	cu.yd.	EMBANKMENT	
								952								203	20001	952	cubic yard	EMBANKMENT, AS PER PLAN	12
													170			204	10000	170	square yard	SUBGRADE COMPACTION	
								4862.5								209	15060	4862.5	foot	RESHAPING UNDER GUARDRAIL	
						189										209	80000	189	each	GRADING MAILBOX APPROACHES	
													4			604	38500	4	each	MONUMENT ASSEMBLY	
5	4															604	39500	9	each	MONUMENT BOX ADJUSTED TO GRADE	
								2475								606	13000	2475	foot	GUARDRAIL, TYPE 5	
								100								606	13010	100	foot	GUARDRAIL, TYPE 5 WITH TUBULAR BACKUP	
								11								606	17900	11	each	GUARDRAIL POST	
								25								606	18500	25	each	GUARDRAIL POST, 9 FEET	
								9								606	22010	9	each	ANCHOR ASSEMBLY, TYPE E-98	
								14								606	25000	14	each	ANCHOR ASSEMBLY, TYPE A	
								3								606	26500	3	each	ANCHOR ASSEMBLY, TYPE T	
								1								606	27800	1	each	ANCHOR ASSEMBLY REBUILT, TYPE A	
								4								606	35000	4	each	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
								12								606	35140	12	each	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
								1375								606	98100	1375	each	GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL	12A
				44												608	52001	44	square foot	CURB RAMP, AS PER PLAN	35-37
		55934														617	20000	55934	square yard	SHOULDER PREPARATION	
		2332				252										617	10101	2584	cubic yard	COMPACTED AGGREGATE, TYPE A, AS PER PLAN	9
				60												630	02100	60	foot	GROUND MOUNTED SUPPORT, NO. 2 POST	
				8												630	85100	8	each	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
						19										SPECIAL	69050100	19	each	MAILBOX SUPPORT SYSTEM, SINGLE	11
						38										SPECIAL	69050200	38	each	MAILBOX SUPPORT SYSTEM, DOUBLE	11
																				MAILBOX SUPPORT SYSTEM, DOUBLE	
																				DRAINAGE ITEMS	
													LUMP			503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING	
													LUMP			503	21330	LUMP		UNCLASSIFIED EXCAVATION INCLUDING ROCK AND/OR SHALE	
													6669			509	10000	6669	pound	EPOXY COATED REINFORCING STEEL	
													64			511	46201	64	cu. yd.	CLASS C CONCRETE, AS PER PLAN (RET WALL/WINGWALL-INCL. FTG.)	55
													LUMP			518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC	
													78			603	02000	78	ft.	8" CONDUIT, TYPE C	
													14			603	04600	14	ft.	12" CONDUIT TYPE C	
													82			603	19200	82	ft.	42" CONDUIT TYPE A. 706.02	
													1			604	04900	1	each	CATCH BASIN, NO. 2-3	
2																604	34500	2	each	MANHOLE ADJUSTED TO GRADE	
													52			864	10100	52	sq. yd.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
																				EROSION CONTROL	
													7			601	32104	7	cu. yd.	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
													285			659	00300	285	cu. yd.	TOPSOIL	
													2566			659	10000	2566	square yard	SEEDING AND MULCHING	
													0.35			659	20000	0.35	ton	COMMERCIAL FERTILIZER	
													0.53			659	31000	0.53	acre	LIME	
													14			659	35000	14	m. gal	WATER	
													1			832	10000	1	each	STORM WATER POLLUTION PREVENTION PLAN	
													LUMP			832	20000	LUMP		EROSION CONTROL	

CALC BY CJW
CHK'D BY MGS

GENERAL SUMMARY

ERI-4-0.00

								100% State														
6	7	8	9	10	10A	11		23		33	34		42		63		ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	REF. SHT.
																					PAVEMENT ITEMS	
			645														253	02000	645	cubic yard	PAVEMENT REPAIR	
149761	169040														2706		254	01000	321507	square yard	PAVEMENT PLANING, ASPHALT CONCRETE	
7488	8452																254	01600	15940	square yard	PATCHING PLANED SURFACE	
1400																	255	10000	1400	square yard	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C	
520																	255	10100	520	square yard	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS	
676																	255	20000	676	foot	FULL DEPTH PAVEMENT SAWING	
													35				301	46000	35	cu. yd.	ASPHALT CONCRETE BASE, PG 64-22	
													68				304	20000	68	cu. yd.	AGGREGATE BASE	
16265	14673												13				407	10000	30951	gallon	TACK COAT	
6100	5503																407	14000	11603	gallon	TACK COAT FOR INTERMEDIATE COURSE	
		18505															408	10000	18505	gallon	PRIME COAT	
7059	6370																446	47020	13429	cubic yard	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22	
5650	5094												13				448	46020	10757	cubic yard	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22	
				500													SPECIAL	69098700	500	cubic yard	MISC. : ASPHALT GRINDINGS	10
																					MAINTENANCE OF TRAFFIC ITEMS	
				140													614	12460	140	each	WORK ZONE MARKING SIGN	
			50														614	13000	50	cubic yard	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	
										3.48							614	20500	3.48	mile	WORK ZONE LANE LINE, CLASS II, 642 PAINT	
										66.22							614	21500	66.22	mile	WORK ZONE CENTER LINE, CLASS II, 642 PAINT	
										4546							614	23200	4546	foot	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT	
																					TRAFFIC CONTROL ITEMS	
											2167						621	00200	2167	each	RPM, INSTALLATION ONLY	
								69									626	00100	69	each	BARRIER REFLECTOR, TYPE A	
					20												632	26500	20	each	DETECTOR LOOP	
										46.5							642	00102	46.5	mile	EDGE LINE, TYPE 2	
										2.06							642	00202	2.06	mile	LANE LINE, TYPE 2	
										23.49							642	00302	23.46	mile	CENTER LINE, TYPE 2	
										2273							644	00400	2273	foot	CHANNELIZING LINE	
										1068							644	00500	1068.0	foot	STOP LINE	
										56							644	00600	56	foot	CROSSWALK LINE	
										1100							644	00700	1100	foot	TRANSVERSE LINE	
										12							644	01300	12	each	LANE ARROW	
										5							644	01410	5	each	WORD ON PAVEMENT, 96" "ONLY"	
																	614	11000	LUMP		MAINTAINING TRAFFIC	
																	619	16010	7	month	FIELD OFFICE, TYPE B	
																	623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
																	624	10000	LUMP		MOBILIZATION	

CALC BY CVH
CHK'D By MJS

GENERAL SUMMARY

ERI-4-0.00

ERI-4-0.00-9.72

DESIGN DESIGNATION (ENGLISH UNITS)

	0.00-4.39	4.39-9.72
CURRENT ADT (2004)	7690	11990
DESIGN YEAR ADT (2016)	10690	15940
DESIGN HOURLY VOLUME (2015)	1069	1594
DIRECTIONAL DISTRIBUTION	60%	60%
TRUCKS (24 HOUR B&C)	12%	12%
DESIGN SPEED	3R PROJECT	
LEGAL SPEED		
SLM 0.00-8.86	55 MPH	
SLM 8.86-9.72	50 MPH	

DESIGN FUNCTIONAL CLASSIFICATION: RURAL MINOR ARTERIAL

NHS PROJECT: NO

HUR-4-6.66-8.38

DESIGN DESIGNATION (ENGLISH UNITS)

	6.66-8.02	8.02-8.38
CURRENT ADT (2004)	3620	6500
DESIGN YEAR ADT (2016)	4660	8920
DESIGN HOURLY VOLUME (2015)	466	892
DIRECTIONAL DISTRIBUTION	60%	60%
TRUCKS (24 HOUR B&C)	28%	14%
DESIGN SPEED	3R PROJECT	
LEGAL SPEED		
SLM 6.66-8.38	55 MPH	

DESIGN FUNCTIONAL CLASSIFICATION: RURAL MINOR ARTERIAL

NHS PROJECT: NO

HUR-I-3-0.97-6.74

DESIGN DESIGNATION (ENGLISH UNITS)

	0.97-6.74
CURRENT ADT (2004)	2320
DESIGN YEAR ADT (2016)	2690
DESIGN HOURLY VOLUME (2015)	296
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	13.5%
DESIGN SPEED	3R PROJECT
LEGAL SPEED	
SLM 0.97-1.52	45 MPH
SLM 1.52-6.74	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION: RURAL MAJOR COLLECTOR

NHS PROJECT: NO

ERI-I-3-0.00-6.08

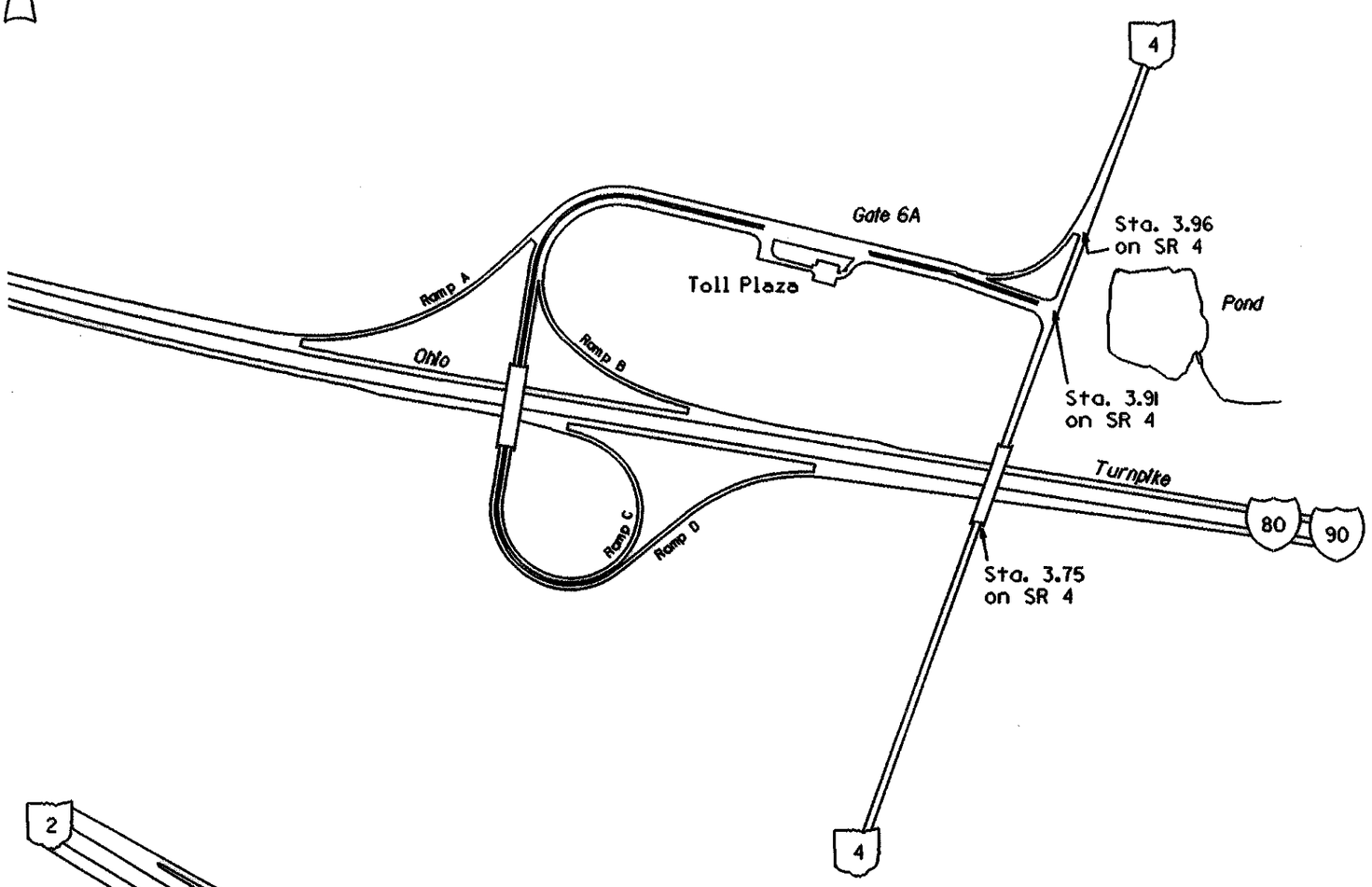
DESIGN DESIGNATION (ENGLISH UNITS)

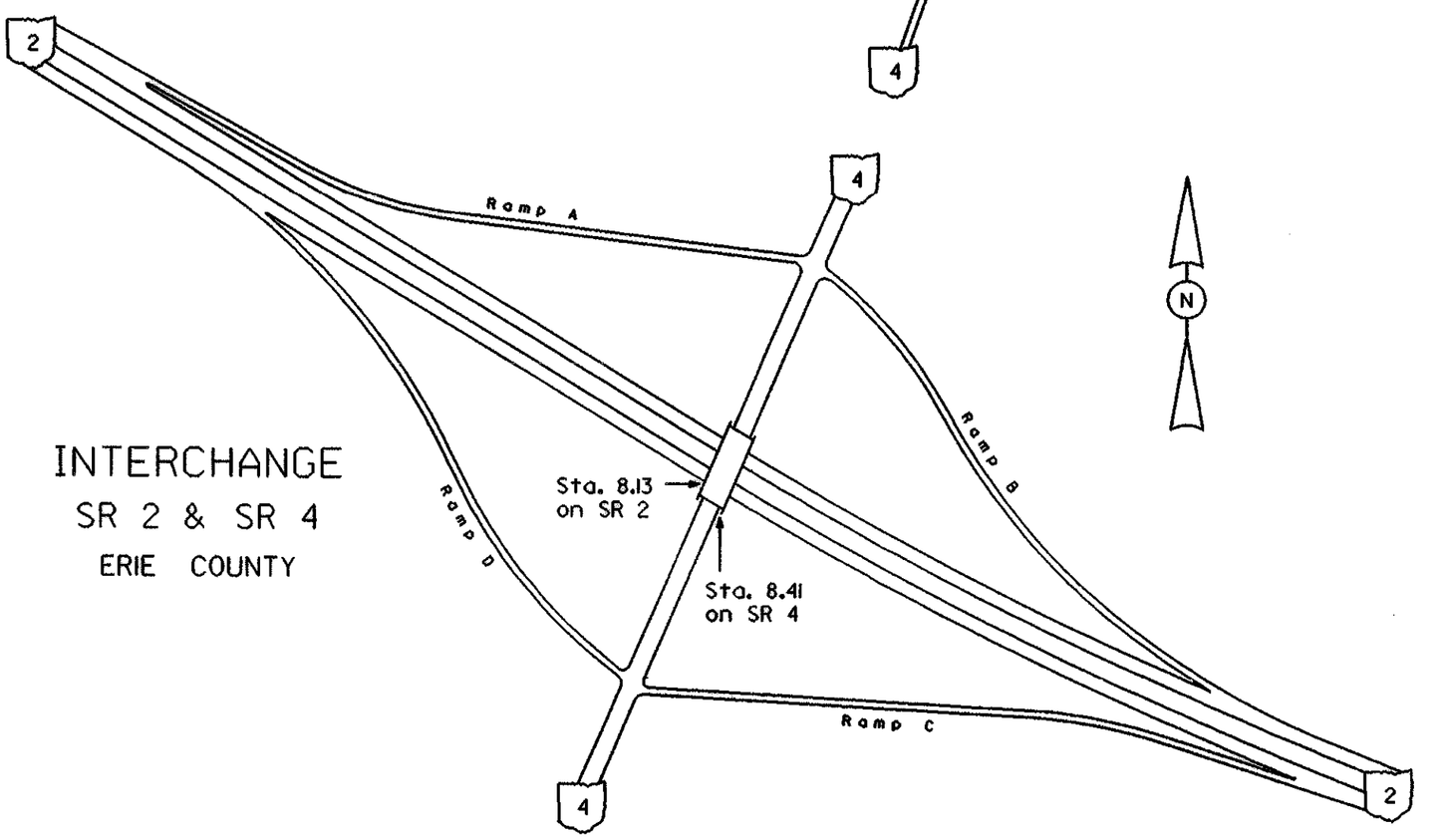
	0.00-6.08
CURRENT ADT (2004)	2190
DESIGN YEAR ADT (2016)	2250
DESIGN HOURLY VOLUME (2015)	270
DIRECTIONAL DISTRIBUTION	55%
TRUCKS (24 HOUR B&C)	17%
DESIGN SPEED	3R PROJECT
LEGAL SPEED	
SLM 0.00-6.08	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION: RURAL MAJOR COLLECTOR

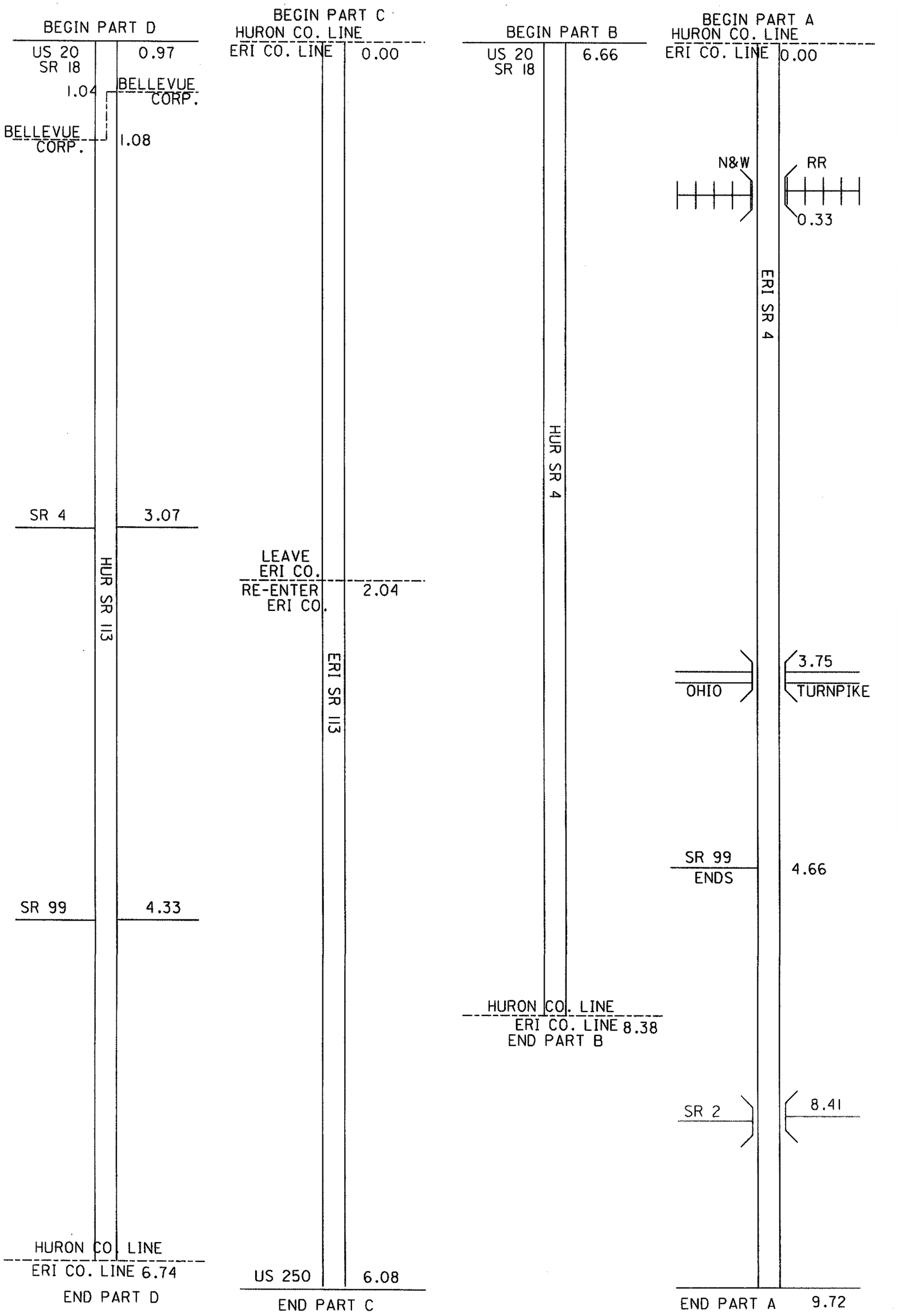
NHS PROJECT: NO

INTERCHANGE
SR 4 & Ohio Turnpike
(IR's 80 & 90)
ERIE COUNTY





INTERCHANGE
SR 2 & SR 4
ERIE COUNTY



ERI-4-0.00

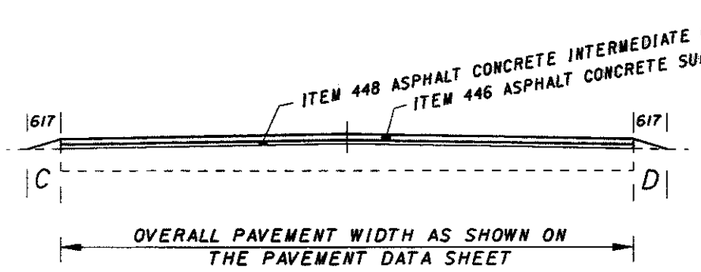
STRAIGHT LINE DIAGRAM

calculated

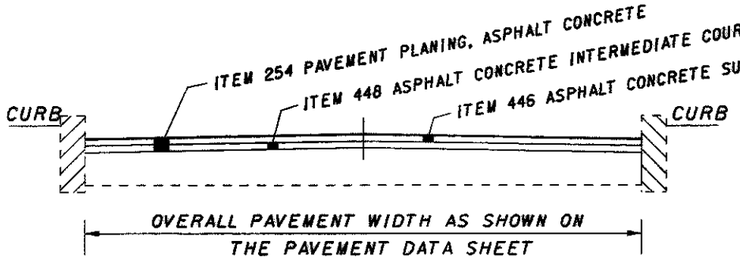
checked

calculated CVH checked MJS

TYPICAL 1



TYPICAL 2



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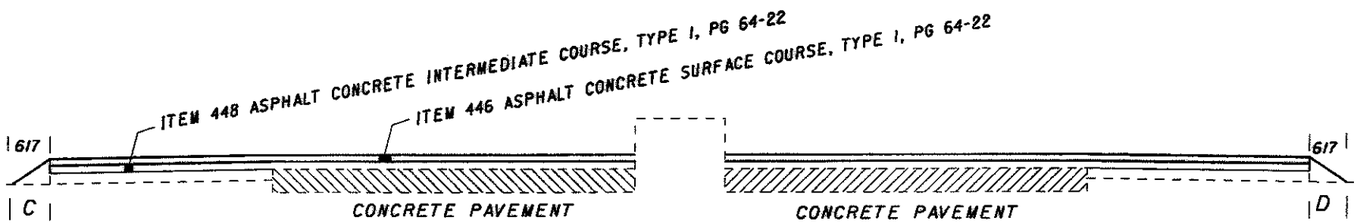
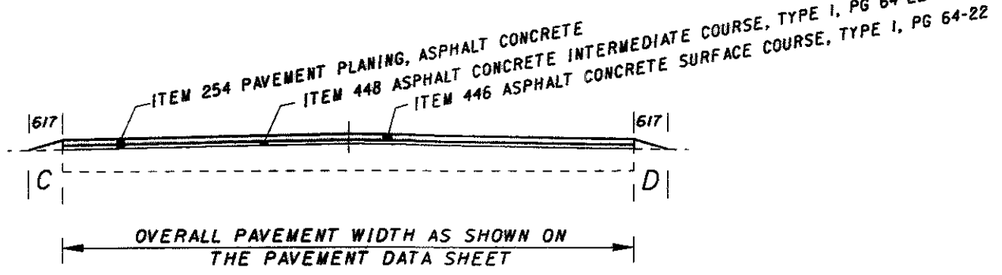
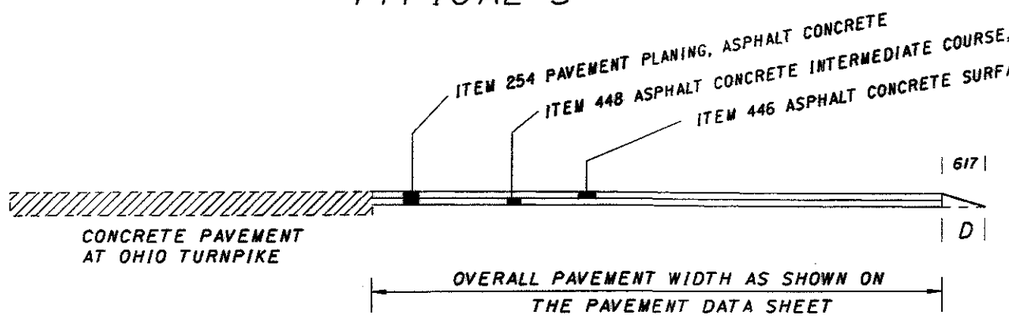


TYPICAL 4



TYPICAL 5



ITEM 254 PAVEMENT PLANING ASPHALT CONCRETE
ITEM 446 ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG 64-22

TYPICALS

ERI-4-0.00

* - FOR TYPICALS, SEE SHEET 5

PART	ROUTE	LOG POINT TO LOG POINT (STRAIGHT LINE MILEAGE)		LENGTH MILE	LENGTH FEET	WIDTH FEET AVG.	* TYPICAL	EXISTING PAVEMENT TYPE	PAVEMENT AREA SQUARE YARDS	407 TACK COAT @ 0.08 GAL/SY GALLON	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 PG 64-22 THICK AVG. INCH	448 CU.YD.	446 ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG 64-22 THICK AVG. INCH	446 CU.YD.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.03 GAL/SY GALLON	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ.YD	254 PATCHING PLANED SURFACES SQ.YD	604 MANHOLE ADJUSTED TO GRADE EACH		604 MONUMENT BOX ADJUSTED TO GRADE EACH		255 FULL DEPTH PAVEMENT SAWING FT	255 FULL DEPTH PAVEMENT REMOVAL AND RIDGID REPLACEMENT, CLASS C SQ.YD	255 FULL DEPTH PAVEMENT REMOVAL AND RIDGID REPLACEMENT, CLASS FS SQ.YD
A	ERI SR 4	0.00	0.16	0.16	845	32	4	404	3004	240	1.00	83	1.25	104	90	3004	150							
		0.16	0.18	0.02	106	60	4	404	704	56	1.00	20	1.25	24	21	704	35							
		0.18	0.33	0.15	792	60	2	404	5280	422	1.00	147	1.25	183	158	5280	264							
		0.33	0.45	CONCRETE BRIDGE																				
		0.45	0.64	0.19	1003	73	2	404	8137	651	1.00	226	1.25	283	244	8137	407							
		0.64	0.66	0.02	106	60	4	404	704	56	1.00	20	1.25	24	21	704	35							
		0.66	0.72	0.06	317	60	4	404	2112	169	1.00	59	1.25	73	63	2112	106							
		0.72	0.81	0.09	475	43	4	404	2270	182	1.00	63	1.25	79	68	2270	114							
		0.81	2.03	1.22	6442	26	4	404	18609	1489	1.00	517	1.25	646	558	18609	930							
		2.03	2.56	0.53	2798	26	1	404	8084	647	1.00	225	1.25	281	243									
		2.56	2.58	CONCRETE BRIDGE																				
		2.58	2.63	0.05	264	26	1	404	763	61	1.00	21	1.25	26	23									
		2.63	3.04	0.41	2165	29	1	404	6975	558	1.00	194	1.25	242	209									
		3.04	3.07	0.03	158	33	1	404	581	46	1.00	16	1.25	20	17									
		3.07	3.08	0.01	53	36	1	404	211	17	1.00	6	1.25	7	6									
		3.08	3.10	0.02	106	30	1	404	352	28	1.00	10	1.25	12	11									
		3.10	3.68	0.58	3062	30	1	404	10208	817	1.00	284	1.25	354	306									
		3.68	3.74	0.06	317	44	1	404	1549	124	1.00	43	1.25	54	46									
		3.74	3.75	0.01	53	50	1	404	293	23	1.00	8	1.25	10	9									
		3.75	3.80	CONCRETE BRIDGE																				
		3.80	3.81	0.01	53	50	1	404	293	23	1.00	8	1.25	10	9									
		3.81	3.89	0.08	422	52	1	404	2441	195	1.00	68	1.25	85	73									
		3.89	3.92	0.03	158	45	5	404	792	63	1.00	22	1.25	28	24	792	40							
		3.92	3.96	0.04	211	51	1	404	1197	96	1.00	33	1.25	42	36									
		3.96	4.06	0.10	528	56	1	404	3285	263	1.00	91	1.25	114	99									
		4.06	4.62	0.56	2957	29	1	404	9527	762	1.00	265	1.25	331	286									
		4.62	8.24	3.62	19114	29	4	404	61588	4927	1.00	1711	1.25	2138	1848	61588	3079							
		8.24	8.38	0.14	739	43	4	404	3532	283	1.00	98	1.25	123	106	3532	177							
		8.38	8.46	0.08	422	64	3	CONCRETE	3004	240	1.00	83	1.25	104	90							338	700	260
		8.46	8.52	CONCRETE BRIDGE																				
		8.52	8.60	0.08	422	43	3	CONCRETE	2018	161	1.00	56	1.25	70	61							338	700	260
		8.60	9.72	1.12	5914	24	4	404	15770	1262	1.00	438	1.25	548	473	15770	789							
	EXTRA AREA FOR INTERS., DRIVES, + M.B.								4490	359	1.00	125	1.25	156	135	2000	100							
	PART A TOTAL								**177773**	**14220**		**4940**		**6171**	**5333**	**124502**	**6225**	**2**		**5**		**676**	**1400**	**520**
B	HUR SR 4	6.66	8.00	1.34	7075	24	4	404	18867	1509	1.00	524	1.25	655	566	18867	943							
		8.00	8.38	0.38	2006	28	4	404	6242	499	1.00	173	1.25	217	187	6242	312							
	EXTRA AREA FOR INTERS., DRIVES, + M.B.								462	37	1.00	13	1.25	16	14	150	8							
	PART B TOTAL								**25571**	**2045**		**710**		**888**	**767**	**25259**	**1263**							
	PART A & B TOTAL CARRIED TO GENERAL SUMMARY								**203344**	**16265**		**5650**		**7059**	**6100**	**149761**	**7488**	**2**		**5**		**676**	**1400**	**520**

CALC BY: CVH
CHK'D BY: MJS

PAVEMENT DATA

ERI-4-0.00

* - FOR TYPICALS, SEE SHEET 5

PART	ROUTE	LOG POINT TO LOG POINT (STRAIGHT LINE MILEAGE)		LENGTH MILE	LENGTH FEET	WIDTH FEET AVG.	* TYPICAL	EXISTING PAVEMENT TYPE	PAVEMENT AREA SQUARE YARDS	407 TACK COAT @ 0.08 GAL/SY GALLON	448 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1 PG 64-22 THICK AVG. INCH	448 CU.YD.	446 ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG 64-22 THICK AVG. INCH	446 CU.YD.	407 TACK COAT FOR INTERMEDIATE COURSE @ 0.03 GAL/SY GALLON	254 PAVEMENT PLANING, ASPHALT CONCRETE SQ.YD	254 PATCHING PLANED SURFACES SQ.YD	604 MANHOLE ADJUSTED TO GRADE EACH		604 MONUMENT BOX ADJUSTED TO GRADE EACH					
C	ERI SR 113	0.00	5.58	5.58	29462	25	4	404	81840	6547	1.00	2273	1.25	2842	2455	81840	4092									
		5.58	5.62	0.04	211	25	1	404	587	47	1.00	16	1.25	20	18											
		5.62	5.70	0.08	422	33	1	404	1549	124	1.00	43	1.25	54	46											
		5.70	6.08	0.38	2006	52	1	404	11593	927	1.00	322	1.25	403	348											
	EXTRA AREA FOR INTERS., DRIVES, + M.B.								1696	136	1.00	47	1.25	59	51	700	35									
	PART C TOTAL								**97265**	**7781**		**2701**		**3378**	**2918**	**82540**	**4127**			**4**						
D	HUR SR 113	0.97	1.04	0.07	370	27	2	404	1109	89	1.00	31	1.25	39	33	1109	55									
	ONE WAY RAMP	0.00	0.08	0.08	422	18	2	404	845	68	1.00	23	1.25	29	25	845	42									
	CONNECTOR	0.00	0.01	0.01	53	22	2	404	129	10	1.00	4	1.25	4	4	129	6									
		1.04	2.98	1.94	10243	25	4	404	28453	2276	1.00	790	1.25	988	854	28453	1423									
		2.98	3.08	0.10	528	27	4	404	1584	127	1.00	44	1.25	55	48	1584	79									
		3.08	3.63	0.55	2904	25	4	404	8067	645	1.00	224	1.25	280	242	8067	403									
		3.63	6.74	3.11	16421	25	4	404	45613	3649	1.00	1267	1.25	1584	1368	45613	2281									
	EXTRA AREA FOR INTERS., DRIVES, + M.B.								2440	195	1.00	68	1.25	85	73	700	35									
	PART D TOTAL								**86157**	**6892**		**2393**		**2992**	**2585**	**86500**	**4325**									
PART C & D TOTALS									**183422**	**14673**		**5094**		**6370**	**5503**	**169040**	**8452**			**4**						

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PAVEMENT DATA

ERI-4-0.00

* - FOR TYPICALS, SEE SHEET 5

PART	ROUTE	LOG POINT TO LOG POINT (STRAIGHT LINE MILEAGE)		LENGTH MILE	LENGTH FEET	TYPICAL	PAVED SHOULDER PROPOSED WIDTH FEET (AVG.) A	PAVED SHOULDER PROPOSED WIDTH FEET (AVG.) B	PAVED SHOULDER AREA SQUARE YARDS	203 LINEAR GRADING DEPTH INCH	203 LINEAR GRADING DEPTH FEET	301 ASPHALT CONCRETE BASE, PG 64-22 AVG. THICK. INCH	301 ASPHALT CONCRETE BASE, PG 64-22 CU.YD.			AGGREGATE SHOULDER PROPOSED WIDTH FEET (AVG.) C	AGGREGATE SHOULDER PROPOSED WIDTH FEET (AVG.) D	AGGREGATE SHOULDER AREA SQUARE YARDS	617 SHOULDER PREPARATION SQ.YD.	617 COMPACTED AGGREGATE TYPE A AS PER PLAN 1.50 IN. AVG. THICKNESS CU. YD.			408 PRIME COAT @ 0.40 GAL/SY GALLON	
A	SR 4	0.00	0.18	0.18	950	4										2.0	2.0	422	422	18			169	
		0.64	2.03	1.39	7339	4										2.0	2.0	3262	3262	136				
		2.03	2.56	0.53	2798	1										2.0	2.0	1244	1244	52				
		2.58	3.75	1.17	6178	1										2.0	2.0	2746	2746	114			1098	
		3.80	3.89	0.09	475	1										2.0	2.0	211	211	9			84	
		3.89	3.92	0.03	158	5											8.0	141	141	6				
		3.92	4.62	0.70	3696	1										2.0	2.0	1643	1643	68			657	
		4.62	8.30	3.68	19430	4										2.0	2.0	8636	8636	360			3454	
		8.30	8.38	0.08	422	4										8.0	8.0	751	751	31				
		8.38	8.46	0.08	422	3										2.0	2.0	188	188	8			75	
		8.52	8.60	0.08	422	3										2.0	2.0	188	188	8				
		8.60	8.64	0.04	211	4										8.0	8.0	375	375	16				
		8.64	9.72	1.08	5702	4										2.0	2.0	2534	2534	106				
																				0				
	EXTRA AREA FOR UNPAVED DRIVES																	792	792	33			317	
	PART A TOTAL																	**23133**	**23133**	**965**			**5854**	
B	SR 4	6.66	8.38	1.72	9082	4										2.0	2.0	4036	4036	168			1614	
	EXTRA AREA FOR UNPAVED DRIVES																	90	90	4			36	
	PART B TOTAL																	**4126**	**4126**	**172**			**1650**	
C	SR 113	0.00	5.58	5.58	29462	4										2.0	2.0	13094	13094	546			5238	
		5.58	6.08	0.50	2640	1										2.0	2.0	1173	1173	49				
	EXTRA AREA FOR UNPAVED DRIVES																	504	504	21			202	
	PART C TOTAL																	**14771**	**14771**	**616**			**5440**	
D	SR 113	1.04	6.74	5.70	30096	4										2.0	2.0	13376	13376	557			5350	
	EXTRA AREA FOR UNPAVED DRIVES																	528	528	22			211	
	PART D TOTAL																	**13904**	**13904**	**579**			**5561**	
	TOTAL TO BE CARRIED TO GENERAL SUMMARY																	**55934**	**55934**	**2332**			**18505**	

CALC BY: CVH
CHK'D BY: MJS

SHOULDER DATA

ERI-4-0.00

calculated CVH checked MJS

ROUTINE MAINTENANCE:

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

PROGRESSION OF WORK:

GUARDRAIL SHALL BE REMOVED PRIOR TO ANY EMBANKMENT WORK AT THE GUARDRAIL RUN. GUARDRAIL WORK SHALL BE DONE AFTER RESURFACING, EMBANKMENT AND BERM WORK SO AS TO ESTABLISH PROPER GRADES FROM WHICH TO CONSTRUCT THE GUARDRAIL.

PAVEMENT CONTROL:

AN AUTOMATIC SCREED CONTROL, HAVING A 20 FT. MINIMUM SKI-ARM, SHALL BE USED FOR PLACING THE INTERMEDIATE COURSE AND SURFACE COURSE ON EXISTING PAVEMENT WIDTHS OF 20 FT. AND OVER.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPER-ELEVATED CURVES. THE SUPER-ELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE INTO ALL CATCH BASINS AND INLETS.

BUTT JOINTS

BUTT JOINTS SHALL NOT BE CUT AND LEFT OPEN TO TRAFFIC. THEY SHALL BE FILLED IN WITH A TEMPORARY ASPHALT CONCRETE WEDGE, OF SUFFICIENT LENGTH, AS DIRECTED BY THE ENGINEER.

CONSTRUCTION "BUMP" (OW-62) AND "ADVISORY SPEED" (OW-143) SIGNS SHALL BE ERECTED AND MAINTAINED DURING THIS TIME PERIOD.

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT.

INTERSECTIONS AND DRIVES:

RURAL-INTERSECTIONS SHALL BE PAVED TO THE END OF THE RADII OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS)

URBAN-INTERSECTIONS SHALL BE PAVED TO THE BACK OF CROSSWALKS OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS)

EXISTING PAVED DRIVES SHALL BE PAVED SO AS TO PROVIDE A SMOOTH TRANSITION BETWEEN THE HIGHWAY AND THE DRIVE, (DISTANCE FROM EDGE OF ROADWAY MAY VARY - AT EACH DRIVE) AS DIRECTED BY THE ENGINEER.

EXISTING AGGREGATE DRIVES SHALL BE PAVED WITH AN APRON THE WIDTH OF THE 617 BERM OR 2.0 FT. MINIMUM. THE SLOPE OF THIS APRON SHALL BE THE SAME AS THE ADJACENT PAVEMENT SLOPE OR AS DIRECTED BY THE ENGINEER. ITEM 617 AGGREGATE SHALL BE PLACED ADJACENT TO THIS APRON TO PROVIDE A SMOOTH TRANSITION FROM THE APRON TO THE EXISTING DRIVE, (WIDTH OF THIS 617 APPLICATION MAY VARY.) AS DIRECTED BY THE ENGINEER. AN ADDITIONAL QUANTITY HAS BEEN ESTIMATED TO COMPLETE THIS WORK AND IS SHOWN ON THE "SHOULDER DATA" SHEET.

ANY HAZARD OR UNSAFE CONDITION RESULTING FROM THE ABOVE WORK MUST BE CORRECTED IMMEDIATELY, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR IS REMINDED OF SECTIONS 105.01, 107.07 & 614.02A.

PLACEMENT OF ASPHALT CONCRETE

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT ONE-WAY TRAFFIC WILL BE PERMITTED IN THE TWO LANE SECTION FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR PROTECTION OF COMPLETED ASPHALT CONCRETE COURSES.

ITEM 407, TACK COAT:
ITEM 407, TACK COAT FOR INTERMEDIATE COURSE:

AS PER 407.06 THE APPLICATION RATES SHALL BE 0.08 GAL. PER SQ.YD. PRIOR TO THE LEVELING COURSE AND AFTER PLANING, AND SHALL BE 0.03 GAL PER SQ.YD. PRIOR TO THE SURFACE COURSE DURING TWO COURSE APPLICATIONS FOR ESTIMATING PURPOSES ONLY.THE RATE OF APPLICATION SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. A COMPLETE PAVEMENT SURFACE COVERAGE SHALL BE REQUIRED. AREAS OF TACK STRIPPED BY CONSTRUCTION EQUIPMENT OR TRAFFIC SHALL BE RECOATED PRIOR TO PLACING ASPHALT CONCRETE. ALL COST AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER GALLON FOR ITEM 407, TACK COAT AND ITEM 407 TACK COAT FOR INTERMEDIATE COURSE.

ITEM 448, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22

THIS ITEM SHALL BE USED FOR CORRECTION OF CROWN, PROFILE AND ANY OTHER IRREGULARITIES. THE AVERAGE THICKNESS SHALL BE 1 IN.

BEFORE THE LONGITUDINAL JOINT IS EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL ERECT OWP-171 (UNEVEN PAVEMENT) SIGNS. THESE SIGNS SHALL ONLY REMAIN WHILE THE CONDITION EXISTS.

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (OW-62) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN, AS DIRECTED BY THE ENGINEER. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ITEM 446, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 64-22

IN ADDITION TO ITEM 401.14 AND STANDARD DRAWING BP-3.1, TRANSVERSE, FEATHERED OR BUTT JOINTS SHALL BE SEALED WITH A 6 INCH WIDE BAND OF ASPHALT CEMENT ACROSS THE TOP SURFACE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THIS ITEM.

ITEM 617, COMPACTED AGGREGATE, TYPE A, AS PER PLAN

THIS ITEM OF WORK SHALL CONFORM TO ITEM 617 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS BOOK WITH EXCEPTION OF 617.02 (MATERIALS).

THE MATERIAL ON THIS PROJECT SHALL BE THE ASPHALT CONCRETE GRINDINGS RESULTING FROM ITEM 254. THE GRINDINGS USED FOR THIS WORK ARE TO BE PLACED AND COMPACTED AS DESCRIBED IN 617.05 WITH SPECIAL CARE TO CREATE PROPER COMPACTION. 100% OF THIS MATERIAL SHALL PASS A 1.5 INCH SIEVE AS JUDGED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO MEET THE TYPICAL SECTIONS SHOWN IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER CU. YD. OF ITEM 617 COMPACTED AGGREGATE, TYPE A, AS PER PLAN.

ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE

THE INTENT OF THE PLANING IS TO MILL 1.5 INCHES MINIMUM CENTERLINE AND/OR EDGE OF PAVEMENT AND ¼inch MINIMUM DEPTH IN BOTTOM OF WHEEL RUTS. THE PAVEMENT SLOPE MAY VARY BETWEEN ⅜INCH AND ⅝INCH PER FOOT, CONTINUOUS FOR PAVEMENT WIDTH. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER LINE OR EDGE OF PAVEMENT, TO PRODUCE THE LEAST AMOUNT OF MILLING IN CONFORMANCE WITH ABOVE LIMITS. FIELD WORK NECESSARY FOR PROPER CONTROL WITHIN PLAN INTENT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. AN AUTOMATIC MILLING HEAD PROFILE CONTROL HAVING A MINIMUM 30 ft SKI-ARM SHALL BE USED DURING PLANING OPERATION.

ABOVE CONDITIONS DO NOT APPLY TO PLANING PERFORMED IN AREAS AS DIRECTED BY THE ENGINEER TO ELIMINATE ADVERSE SURFACE DISTORTION, OR TO PROVIDE A SATISFACTORY GRADE AT CASTINGS. THESE AREAS INCLUDE MATERIAL DISPLACED BY RUTTING OR SHOVING ASPHALT, SURFACE PATCHES, CONCRETE PATCHING, TRANSVERSE BUMPS, PAVEMENT AT RAILROADS, CASTINGS, ETC. PLANING OF THESE AREAS SHALL BE PERFORMED THROUGHOUT THE PROJECT PRIOR TO PAVING. AREAS TO BE PLANED WILL BE DESIGNATED BY THE ENGINEER.

THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN TWENTY-ONE (21) CALENDAR DAYS. THE 21 CALENDAR DAYS SHALL BE CONSIDERED AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 21 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES AS PER 108.07. PLANED AREAS WHICH CREATE A LONGITUDINAL JOINT BETWEEN TRAVELED LANES SHALL BE COMPLETED IN SUCH A MANNER SO AS TO REMOVE THE JOINT BEFORE THE END OF EACH DAY'S WORK. BEFORE THIS JOINT IS EXPOSED TO TRAFFIC, THE CONTRACTOR SHALL ERECT OW-171 SIGNS (UNEVEN PAVEMENT). THESE SIGNS SHALL REMAIN ONLY WHEN THE CONDITION EXISTS.

ITEM 254 PATCHING PLANED SURFACE

AN ESTIMATED QUANTITY OF ITEM 254, PATCHING PLANED SURFACE HAS BEEN SET UP ON SHEETS 6 AND 7 TO BE USED AS DIRECTED BY THE ENGINEER AS DESCRIBED IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS MANUAL 254.04. PATCHING DEPTH IS 0 TO 2 IN.

ITEM 253, PAVEMENT REPAIR:

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF THE EXISTING PAVEMENT OR PAVED BERM WHICH MAY BE ASPHALT, BRICK, CONCRETE, OR A COMBINATION OF EACH, IN AREAS OF EXISTING PAVEMENT FAILURE.

THE ENGINEER SHALL DESIGNATE THE LOCATIONS AND LIMITS OF THE AREAS TO BE REPAIRED. PAVEMENT REPAIR SHALL BE PERFORMED AFTER PAVEMENT PLANING. THE REPAIR AREAS SHALL BE ROUGHLY RECTANGULAR IN SHAPE AND CUT OR SAWED TO A NEAT LINE. THE PAVEMENT SHALL BE REMOVED WITHIN THE DESIGNATED AREAS BY METHODS WHICH WILL NOT DAMAGE THE ADJACENT PAVEMENT. THE DEPTH OF REMOVAL, AS DIRECTED BY THE ENGINEER, SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT (ESTIMATED DEPTH MAY VARY FROM 2" to 12"). THE MATERIALS SO REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH 105.16 AND 105.17.

REPLACEMENT MATERIAL SHALL BE ITEM 301 OR ITEM 448, TYPE 2 MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. THE REPAIR AREAS SHALL BE PAINTED WITH ASPHALT MATERIAL (SIDES AND BOTTOM) AT AN APPLICATION RATE OF 0.25 Gal/sq. yd. ALL COMPACTION SHALL BE ACHIEVED BY MECHANICAL METHODS TO THE SATISFACTION OF THE ENGINEER. MAXIMUM LIFT THICKNESS SHALL BE 3".

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER cubic yard, (BY TICKET WEIGHT CONVERSION), OF ITEM 253, PAVEMENT REPAIR.

250 cu. yd. - PART A	175 cu. yd. - PART C
75 cu. yd. - PART B	145 cu. yd. - PART D

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC:

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO CONSTRUCT A TEMPORARY ASPHALT WEDGE FROM THE EXISTING PAVEMENT TO THE PLANED SURFACE AT BUTT JOINTS AND OTHER LOCATIONS THAT RESULT IN A DROP-OFF IN EXCESS OF 1½in, AS DIRECTED BY THE ENGINEER. THIS QUANTITY SHALL ALSO BE USED AT PLANED SURFACES WHERE A TEMPORARY ASPHALT WEDGE IS NEEDED AROUND CASTINGS, AS DIRECTED BY THE ENGINEER.

50 cu. yd. - ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

GENERAL NOTES

ERI-4-0.00

ITEM 604. CASTINGS ADJUSTED TO GRADE:

ANY UNIT OF THIS ITEM MAY BE NONPERFORMED IF SO DIRECTED BY THE ENGINEER AND THE SURFACE SHALL BE FEATHERED TO MEET THE EXISTING CASTING OR INLET IN A MANNER ACCEPTABLE TO THE ENGINEER. ALL ADJUSTING RINGS SHALL HAVE THE ENGINEERS APPROVAL BEFORE USING.

UNDER ITEM 604.03, ADJUSTMENT TO GRADE, PARAGRAPH (A), THE CASTING TO BE ADJUSTED MAY OR MAY NOT HAVE AN EXISTING FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING CASTING OR GRATE TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR IS REMINDED TO FIELD CHECK ALL ADJUSTMENT TO GRADE ITEMS PRIOR TO BIDDING, AS NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR LABOR AND MATERIAL REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT FRAMES.

ITEM 614. WORK ZONE MARKING SIGN

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE MARKING SIGNS PER THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS, 614.04.

PART A

WORK ZONE MARKING SIGN:	(OW-167-36) NO EDGE LINE	-	22 each
WORK ZONE MARKING SIGN:	(R-33-24) DO NOT PASS	-	20 each
WORK ZONE MARKING SIGN:	(R-34-24) PASS WITH CARE	-	27 each
	TOTAL	-	69 each

PART B

WORK ZONE MARKING SIGN:	(OW-167-36) NO EDGE LINE	-	4 each
WORK ZONE MARKING SIGN:	(R-33-24) DO NOT PASS	-	4 each
WORK ZONE MARKING SIGN:	(R-34-24) PASS WITH CARE	-	3 each
	TOTAL	-	11 each

PART C

WORK ZONE MARKING SIGN:	(OW-167-36) NO EDGE LINE	-	6 each
WORK ZONE MARKING SIGN:	(R-33-24) DO NOT PASS	-	12 each
WORK ZONE MARKING SIGN:	(R-34-24) PASS WITH CARE	-	11 each
	TOTAL	-	29 each

PART D

WORK ZONE MARKING SIGN:	(OW-167-36) NO EDGE LINE	-	6 each
WORK ZONE MARKING SIGN:	(R-33-24) DO NOT PASS	-	13 each
WORK ZONE MARKING SIGN:	(R-34-24) PASS WITH CARE	-	12 each
	TOTAL	-	31 each

ITEM SPECIAL - MISC.: ASPHALT GRINDINGS

FROM THE ASPHALT GRINDINGS GENERATED ON THIS PROJECT, 250 CU YDS SHALL BE DELIVERED BY THE CONTRACTOR TO THE ERIE COUNTY ODOT PROPERTY LOCATED AT 165 S. HURON ST., MILAN, OH 44 840. AND THE ERIE COUNTY VERMILION OUTPOST LOCATED AT 14420 KNEISEL RD., VERMILION, OH, 44089

ODOT WILL PROVIDE THE EXACT LOCATION OF THE STORAGE AREA ON THE PROPERTY TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING.

THE GRINDINGS ARE NOT TO BE DELIVERED WET.

THE GRINDINGS ARE TO BE DELIVERED BETWEEN THE HOURS OF 7:30 AND 3:30.

THE MATERIAL IN THIS ITEM WILL BE PAID FOR BY THE CU YD.

ALL ASSOCIATED COSTS TO LOAD AND TO DELIVER TO THE SITE THE ASPHALT GRINDINGS ARE TO BE INCLUDED FOR PAYMENT BY THE CU YD PER ITEM SPECIAL, MISC.: ASPHALT GRINDINGS.

BRIDGE LOCATION MARKER SIGN

THE BRIDGE LOCATION MARKER SIGN INDICATES THE COUNTY, THE ROUTE, AND THE STAIGHT LINE MILEAGE OF THE STRUCTURE. THE CONTRACTOR SHALL REMOVE THE EXISTING BRIDGE LOCATION MARKER SIGNS AND REERECT THE SIGNS IN KIND. IF THERE ARE ANY QUESTIONS ON THE LOCATION, PLEASE CONTACT THE DISTRICT BRIDGE ENGINEER.

ALL COSTS INCLUDING THE SIGN REMOVAL, SIGN REERECTION, POST REMOVAL, AND POST INSTALLATION SHALL BE INCLUDED IN THE FOLLOWING PAY ITEMS:

60 FT., ITEM 630, GROUND MOUNTED SUPPORT, NO. 2 POST
8 EACH, ITEM 630, REMOVAL OF GROUND MOUNTED SIGN AND REERECTION

UTILITIES:

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT. MAPS OF THE LOCATIONS OF UTILITIES CAN BE PROVIDED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING.

AT&T
229 W. 7th STREET,
10th FLOOR
CINCINNATI, OH 45202
513-784-3238

COLUMBIA GAS TRANSMISSION
2385 COTTER ROAD
MANSFIELD, OH 44903
419-521-2846

DOMINION TELECOM
4355 INNSLAKE DR.
GLEN ALLEN, VA. 23060
1-888-854-2138

ERIE COUNTY SANITARY ENGINEER
554 RIVER ROAD
HURON, OH 44839
419-433-7303

MARATHON ASHLAND PIPELINE
539 SOUTH MAIN ST., RM. 193M
FINDLAY, OH 45840
419-421-2211

OHIO EDISON CO.
2508 WEST PERKINS AVENUE.
SANDUSKY, OH 4470
419-627-6890

SBC
130 N. ERIE STREET,
ROOM 206
TOLEDO, OH 43604
419-245-7491

VERIZON
83 TOWNSEND AVENUE
NORWALK, OH 44857
419-744-3609

CITY OF BELLEVUE
3000 SENECA INDUSTRIAL PARKWAY
BELLEVUE, OH 44811
419-483-7720

OXFORD TOWNSHIP IN ERIE CO.

COLUMBIA GAS OF OHIO
7080 FRY RD.
MIDDLEBURG HEIGHTS, OH 44130
440-891-2454

DOMINION EAST OHIO
1000 WEST WILBETH ROAD
AKRON, OH 44314
330-798-7104

ERIE COUNTY ENGINEER
2700 COLUMBUS AVENUE
SANDUSKY, OH 44870
419-627-7713

LEVEL 3 COMMUNICATIONS
1025 ELDORADO BOULEVARD
BROOMFIELD, CO. 80021
720-888-5254

NORTHERN OHIO WATER
P.O. BOX 96
COLLINS,OH 44826
419-668-7213

OWEST COMMUNICATIONS
1860 LINCOLN STREET, SUITE 200
DENVER, CO. 80295
303-837-3926

TIME-WARNER CABLE
1575 LEXINGTON AVENUE
MANSFIELD, OH 44901
419-756-6091 EXT 5109

WILLTEL COMMUNICATIONS

1-888-465-9516

VILLAGE OF MILAN
P.O. BOX 1450
MILAN, OH 44846
419-499-2944

CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS. SECTIONS 105.07 AND 107.16 OF THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS REQUIRE, AMONG OTHER THINGS, THAT THE CONTRACTOR COOPERATE WITH ALL UTILITIES LOCATED WITHIN THE LIMITS OF THIS CONSTRUCTION PROJECT AND TAKE RESPONSIBILITY FOR THE PROTECTION OF THE UTILITY PROPERTY AND SERVICES.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

RPM GENERAL NOTES
MATERIALS SUPPLIED BY THE DEPARTMENT

All materials are to be Contractor furnished, except that the Department shall supply RPM materials in the quantities shown herein to the Contractor. Pay items for the Department supplied materials shall be indicated as "Installation Only". The quantity and type of Department supplied materials are shown on sheet 34 of this plan.

At the Pre-Construction Conference an authorization for pick up form will be furnished by the District Construction Administrator and the Contractor will be informed of the location of the Department Supplied Materials to be picked up.

For some projects having quantities of less than 20 RPMs, the contractor may pick up RPM materials at the District Offices. Quantities over 20 RPMs will be picked up at the Recycler's Warehouse or as arranged with the District. The Contractor shall pick up Department supplied RPM materials at the specified location(s) for transport to the work site or to the Contractor's storage facility. The Recycled Raised Pavement Marker (RPM) Authorization Form is to be signed by the District Construction Engineer and the Department shall then fax a copy of the Contractor shall notify the District and / or the parties listed on the authorization form in writing at least five (5) calendar days prior to pick up of the department supplied materials. The contractor shall store the RPMs without damage or contamination with foreign matter. A deduction in the amount of the actual cost to the Department shall be made for materials damaged by the Contractor or for castings received by the Contractor which were not installed and were not returned to the Department.

RETURN OF NON-PERFORMED RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT

Raised Pavement Marker Materials Supplied by the Department, that are non-performed shall be carefully repacked or packed in the boxes in the same style and quantity as originally received from the Department. Casting styles shall not be mixed within any one container. The Contractor shall clearly mark on the outside of each container, the color of the prismatic retro-reflector, the style of casting. Boxes shall be placed on skids or pallets in the same style (Low Profile or Conventional, reflectorised or non reflectorised) and no more than 420 RPMs (or 21 Boxes) on one skid.

Only use the boxes supplied by the Raised Pavement Marker Recycler. Boxes must be marked with the recycler's part or catalog number and the project number. The recycler's catalog or part numbers may be obtained from the Office of Traffic Engineering in Columbus, Ohio or from the recycler. Boxes not marked with the proper recycler's catalog or part numbers, and the department's project number will not be accepted at the recycler's warehouse

Non Performed Materials will be returned to the location as specified by the District Construction Engineer within 30 Days of the completion of the project.

The above work including all labor, equipment and material needed to perform the work, shall be considered incidental to the respective pay item.

If the department has to repackage the RPMs correctly, the Contractor will be assessed the actual cost for repackaging the Materials by the Department's Forces.

LOADING OF MATERIALS SUPPLIED BY THE DEPARTMENT AT THE RECYCLER'S WAREHOUSE

Trucks shall have a loading height of 48 inches and be able to back up flush to the loading dock.

Trucks shall not have any obstructions or protrusions that prevent the loading by a standard forklift or lift truck. Semi trucks or 20 foot commercial trucks are the most appropriate trucks for loads in excess of 4 pallets (one pallet = 21 boxes = 2100 lbs).

Stake body trucks are appropriate to load less load and the load can be safely secured for transport by chaining or strapping down as needed.

Pickup trucks are appropriate for loads of approximately one pallet, provided the pickup truck is rated for the load and the load can be safely secured for transport.

Dump trucks, tilt bed trucks, and non commercial moving vans will not be loaded

The warehouse supervisor will refuse to load any truck that is unsafe to load or unsuitable for the load being placed on the truck.

DESIGNED CVH
CHECKED MJS

GENERAL NOTES

ERI-4-0.00

COORDINATION OF ASPHALT PLANING/PAVING OPERATIONS WITH LOOP DETECTOR REPLACEMENT

DURING THE COURSE OF THE CONTRACT IT MAY BE NECESSARY FOR THE CONTRACTOR TO REPLACE THE EXISTING LOOP DETECTORS. THE INTENT IS TO REPLACE LOOP DETECTORS DAMAGED OR REMOVED BY ASPHALT PLANING OPERATIONS PRIOR TO RESURFACING COURSES. THE INTERSECTIONS INVOLVED ARE AS FOLLOWS:

SR 4 AND US 20 2- 5'X5' 1- 6'X8'X20'

SR4 AND SR 113 4- 5'X5'

SR 4 AND PORTLAND RD. 4- 5'X5'

SR 4 AND BOGART RD. 2- 5'X5' 2- 6'X8'

SR 4 AND SR 2 WB RAMP 1-6'X20'

SR 4 AND STRUB RD. 4- 5'X5'

PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH OF ITEM 632 DETECTOR LOOP.

ITEM 202 WALK REMOVED

AT THE FOLLOWING LOCATIONS, WALK SHALL BE REMOVED IN ORDER TO INSTALL CURB RAMPS.

N.W. CORNER OF SR 113 AND RIDGE RD.

IN THE CITY OF BELLEVUE

TOTAL	44 SQ.FT.
	44 SQ.FT.

THE REMOVAL OF THE EXISTING WALK SHALL BE PAID FOR UNDER THE UNIT BID PRICE PER SQUARE FEET OF ITEM 202 WALK REMOVED.

PROJECT IN OR NEAR A DRINKING WATER SOURCE

THIS PROJECT IS LOCATED IN OR NEAR THE SOURCE OF A PUBLIC DRINKING WATER SUPPLY. IN ORDER TO MINIMIZE THE POTENTIAL TO CONTAMINATE THIS WATER SUPPLY, PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL IMMEDIATELY TAKE STEPS TO MITIGATE ANY EVENT, SUCH AS A SPILL OF FUELS, OILS, OR CHEMICALS, THAT COULD THREATEN TO CONTAMINATE THE DRINKING WATER SUPPLY. ANY SUCH SPILL OR EVENT SHALL BE REPORTED IMMEDIATELY TO THE EMERGENCY CONTACT PERSON OF THE PUBLIC WATER SYSTEM. THE CONTACT PERSON AND PHONE NUMBER WILL BE PROVIDED AT THE PRECONSTRUCTION MEETING. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT THE LOCAL HAZARDOUS MATERIAL RESPONSE TEAM) FOR CLEAN UP OF THE SPILL. THE CONTACT PERSON AND PHONE NUMBER WILL BE PROVIDED AT THE PRECONSTRUCTION MEETING.

PROJECT OVER THE KARST REGION OF NORTHWEST OHIO

THE UNDERLYING GEOLOGY OF THE PROJECT AREA IS A KARST REGION, WHICH IS HIGHLY SUSCEPTIBLE TO GROUND WATER CONTAMINATION. OHIO EPA HAS ESTABLISHED THIS ENTIRE KARST REGION AS A SOURCE WATER PROTECTION AREA TO PROTECT THE 15 PUBLIC WATER SYSTEMS WHICH USE GROUND WATER IN THE REGION AS THEIR DRINKING WATER SOURCE. IN ORDER TO MINIMIZE THE POTENTIAL TO CONTAMINATE GROUND WATER IN THIS SENSITIVE AREA, ALL PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL BE PERFORMED IN AN ENVIRONMENTALLY RESPONSIBLE MANNER. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUND WATER SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTRACT THE LOCAL HAZARDOUS MATERIAL RESPONSE TEAM FOR CLEAN UP OF THE SPILL. THE CONTACT INFORMATION WILL BE PROVIDED AT THE PRECONSTRUCTION MEETING.

ITEM 202 RAISED PAVEMENT MARKER REMOVED FOR STORAGE

ALL RAISED PAVEMENT MARKERS REMOVED BY THE CONTRACTOR SHALL BE DELIVERED TO THE NEAREST ODOT COUNTY GARAGE.

ITEM 202 CURB REMOVED

AT THE FOLLOWING LOCATIONS, CURB SHALL BE REMOVED IN ORDER TO INSTALL CURB RAMPS.

N.W. CORNER OF SR 113 AND RIDGE RD.
IN THE CITY OF BELLEVUE

TOTAL	8 FT.
	8 FT.

THE REMOVAL OF THE EXISTING CURB SHALL BE PAID FOR UNDER THE UNIT BID PRICE PER FOOT OF ITEM 202 CURB REMOVED.

ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS C

THIS ITEM IS TO BE PERFORMED ON THE EXPOSED CONCRETE SECTION AT THE INTERCHANGE OF SR 4 AND SR 2 AND IT IS TO BE DONE WHILE THE BRIDGE DETOUR IS IN PLACE TO AVOID DISRUPTING TRAFFIC

ITEM 255 FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS

THIS ITEM IS TO BE PERFORMED ON THE EXPOSED CONCRETE PAVEMENT SECTION OF SR 4 TO THE NORTH AND SOUTH OF THE RAMPS AT THE INTERCHANGE OF SR 4 AND SR 2. THIS WILL HAVE TO BE DONE PRIOR TO MAY 21, 2004 OR AFTER SEPTEMBER 7, 2004.

ITEM 608 CURB RAMP, AS PER PLAN

AT THE FOLLOWING LOCATIONS, PERPENDICULAR CURB RAMPS SHALL BE INSTALLED ON

N.W. CORNER OF SR 113 AND RIDGE RD.
IN THE CITY OF BELLEVUE

TOTAL	44 SQ.FT.
	44 SQ.FT.

SEE PLAN INSERT SHEETS FOR CURB RAMP DETAILS AND TRUNCATED DOME DETAILS.

ALL MATERIAL, EQUIPMENT, AND LABOR REQUIRED FOR THE INSTALLATION OF THESE CURB RAMPS WITH TRUNCATED DOMES SHALL BE PAID FOR UNDER THE UNIT BID PRICE PER SQ. FT. OF ITEM 608 CURB RAMP, AS PER PLAN.

703.05 AGGREGATE FOR ASPHALT CONCRETE (INTERMEDIATE AND SURFACE COURSES)

REMOVE THE PHRASE "THAT WILL BE EXPOSED TO TRAFFIC OVER THE WINTER MONTHS" FROM ITEMS b. AND c. OF C. GENERAL REQUIREMENTS FOR COURSE AND FINE AGGREGATE OF 703.05 (PAGE 767 OF THE 2002 CONSTRUCTION AND MATERIAL SPECIFICATIONS).

ITEM SPECIAL, MAILBOX SUPPORT SYSTEM

THIS ITEM OF WORK SHALL CONSIST OF THE REMOVAL OF EXISTING NON-STANDARD MAILBOX SUPPORTS AND FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED HARDWARE IN ACCORDANCE WITH THE DETAILS SHOWN, AND ATTACHING AN OWNER SUPPLIED MAILBOX, AT LOCATIONS DETERMINED BY THE ENGINEER.

IN ABSENCE OF A NEW BOX SUPPLIED BY THE OWNER THE CONTRACTOR SHALL SALVAGE THE EXISTING BOX AND PLACE IT ON THE NEW SUPPORT. DUE CARE SHALL BE EXERCISED IN SUCH AN OPERATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY BOX DAMAGED BY IMPROPER HANDLING, AS JUDGED AND DIRECTED BY THE ENGINEER.

THE BOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL SUPPLY ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS AND WASHERS) AS NECESSARY TO ACCOMODATE THE COMPLETE INSTALLATION. SUPPORT HARDWARE SHALL ACCOMODATE EITHER A SINGLE OR A DOUBLE MAILBOX INSTALLATION, AND NO MORE THAN TWO MAILBOXES MAY BE MOUNTED ON A SINGLE POST. [HARDWARE SHALL BE COMMERCIAL GRADE GALVANIZED STEEL.]

WOOD POSTS SHALL BE NOMINAL 4 IN. x 4 IN. (S4S) OR 4½ IN. DIAMETER ROUND, AND CONFORM TO 710.14. STEEL POSTS SHALL BE NOMINAL PIPE SIZE 2 IN. I.D., AND CONFORM TO AASHTO M 181.

POSTS SHALL BE SET AS PER THE FIRST PARAGRAPH OF 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WORK WITH THE LOCAL POST MASTER AND NOTIFYING THE PROPERTY OWNERS PRIOR TO WORK.

GROUP MAILBOX SUPPORTS SHALL BE PLACED ON 3 FT. CENTERS AND THE TURNOUT LENGTHENED TO ACCOMODATE THE GROUPING.

WHERE GUARDRAIL EXISTS, MAILBOXES AND THEIR SUPPORTS SHALL BE PLACED BEHIND THE GUARDRAIL. SUPPORTS MUST STILL MEET THE BREAKAWAY REQUIREMENTS LISTED ABOVE.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DESCRIBED ABOVE.

ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, SINGLE
PART A - 16 EACH PART C - 1 EACH
PART B - 1 EACH PART D - 1 EACH

ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, DOUBLE
PART A - 35 EACH PART C - 1 EACH
PART B - 1 EACH PART D - 1 EACH

MAILBOXES

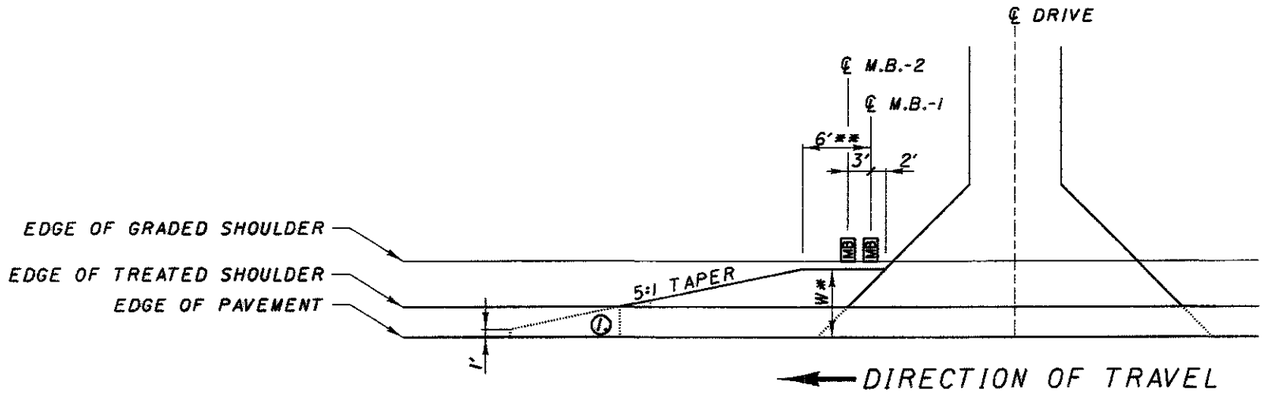
THE EXISTING AGGREGATE MAILBOX APPROACHES SHALL BE PAVED WITH 1 IN. OF ITEM 448 INTERMEDIATE COURSE AND 1¼IN. OF ITEM 446 SURFACE COURSE. THEY SHALL CONFORM AS MUCH AS PRACTICAL TO STANDARD DRAWING BP-4.1 OR AS DIRECTED BY THE ENGINEER.

GRADING SHALL BE PERFORMED IN THESE AREAS TO OBTAIN A BASE WHICH WILL ALLOW THE FINISHED GRADE TO BE FLUSH WITH ADJACENT PAVEMENT. A QUANTITY OF ITEM 617 SHOULDER RECONDITIONING, MISC.: COMPACTED AGGREGATE HAS BEEN PROVIDED FOR AREAS WHERE THE SHOULDER IS LOW PRIOR TO GRADING AND/OR LOW AREAS CAUSED BY THE REMOVAL OF UNSUITABLE MATERIAL. QUANTITIES TO PERFORM THIS WORK HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND ARE ESTIMATED AS FOLLOWS.

ITEM 209, GRADING MAILBOX APPROACHES:
PART A - 82 EACH PART C - 35 EACH
PART B - 14 EACH PART D - 58 EACH

ITEM 617, SHOULDER RECONDITIONING, MISC.: COMPACTED AGGREGATE
PART A - 109 TON PART C - 47 TON
PART B - 19 TON PART D - 77 TON

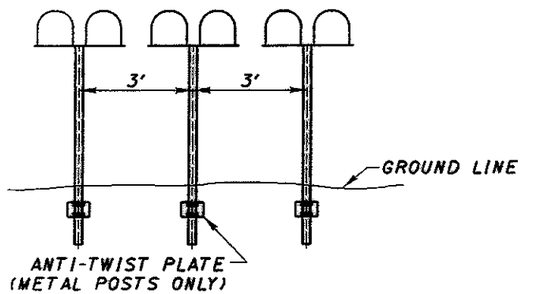
FOR DETAILS NOT SHOWN, SEE STANDARD CONSTRUCTION DRAWING BP-4.1



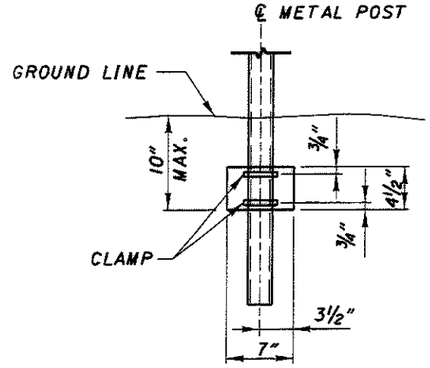
① END MAILBOX TURNOUT AT EDGE OF TREATED SHOULDER OR 1' WHICH EVER IS GREATER.

* WHERE MAILBOX POSTS ARE BEHIND GUARDRAIL, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL. WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT. MINIMUM, EXCEPT WHERE FIELD CONDITIONS WILL NOT PERMIT.

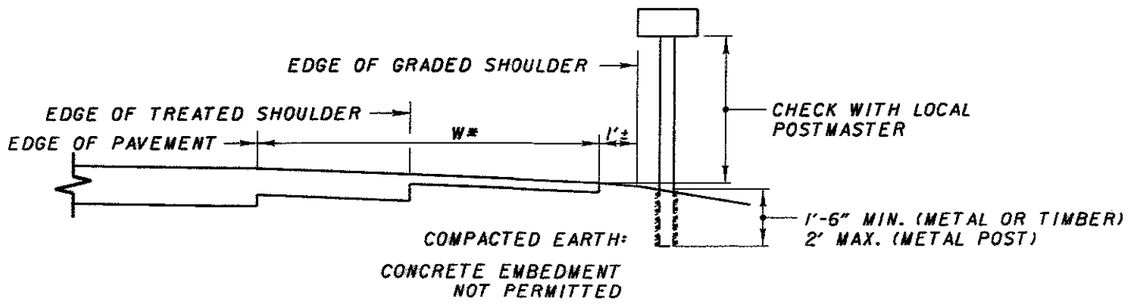
** 6' FOR SINGLE MAILBOX SUPPORT, ADD 3 FT. FOR EACH ADDITIONAL MAILBOX



GROUP MAILBOX INSTALLATION



ANTI-TWIST PLATE



CROSS SECTION / ELEVATION VIEW

CALCULATED CVH CHECKED MJS

MAILBOX FACILITIES

ERI-4-0.00

87

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.2M. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE GUARDRAIL, INSTALL EMBANKMENT, GRADE AND REINSTALL GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED ON THIS PROJECT UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF SAID COMPLIANCE.

LOCATIONS OF GUARDRAIL

THE GUARDRAIL PROTECTION PROVIDED IN THIS PLAN SHALL BE LOCATED IN THE FIELD TO ASSURE THAT THE INSTALLATION WILL AFFORD THE MAXIMUM PROTECTION FOR TRAFFIC. THIS LOCATION SHALL BE POSITIONED AS FAR AS POSSIBLE FROM THE EDGE OF PAVEMENT WHILE MAINTAINING PROPER GRADE IN FRONT OF GUARDRAIL AS PER STANDARD DRAWINGS AND PLAN DETAILS.

ITEM 202 ANCHOR ASSEMBLY REMOVED, TYPE A

THIS ITEM SHALL INCLUDE THE REMOVAL OF THE EXISTING TYPE A, ANCHOR ASSEMBLY INCLUDING ALL POSTS, HARDWARE, RAIL ELEMENTS, AND CONCRETE ANCHORS. ALL ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF.

THE EXISTING CONCRETE ANCHOR AND CONCRETE AT POSTS SHALL BE REMOVED ENTIRELY. ALL HOLES REMAINING AFTER REMOVAL SHALL BE FILLED WITH GRANULAR MATERIAL OR EXCESS MATERIAL RESULTING FROM GUARDRAIL CONSTRUCTION. ALL FILL MATERIAL SHALL BE THOROUGHLY COMPACTED AND LEVELED, AS DIRECTED BY THE ENGINEER.

PAYMENT FOR ALL OF THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE A.

CONNECTING GUARDRAIL TO EXISTING RAIL

IN LOCATIONS WHERE TYPE 5 GUARDRAIL, TERMINAL ASSEMBLIES, ETC. ARE TO BE CONNECTED TO EXISTING RAIL SOME MODIFICATIONS MAY BE REQUIRED, INCLUDING EXTRA POSTS, DRILLING HOLES AND POSSIBLY PARTIAL SECTIONS OF ADDITIONAL RAIL ELEMENTS. THE COST OF THIS ADDITIONAL WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR TYPE 5 GUARDRAIL. IF ADDITIONAL PORTIONS OF RAIL ELEMENT ARE USED THE LINEAL MEASUREMENT OF THIS ADDITIONAL PORTION SHALL BE ADDED FOR PAYMENT.

GUARDRAIL REPAIR AND/OR REPLACEMENT

THE FOLLOWING ITEMS LISTED BELOW SHALL BE USED FOR THE REPAIR AND/OR REPLACEMENT OF DAMAGED GUARDRAIL NOTICED DURING THE COMPLETION OF OTHER WORK INCLUDED ON THIS PLAN. THE ABOVE WORK SHALL BE COMPLETED AS DIRECTED BY THE ENGINNER.

FT. ITEM 202, GUARDRAIL REMOVED
FT. ITEM 606, GUARDRAIL, TYPE 5
EACH ITEM 606, ANCHOR ASSEMBLY, TYPE A
FT. ITEM 209 RESHAPING UNDER GUARDRAIL
EACH ITEM 202, ANCHOR ASSEMBLY REMOVED, TYPE A

ITEM 203, EMBANKMENT, AS PER PLAN

AT SPECIFIED LOCATIONS AND LOCATIONS AS DIRECTED BY THE ENGINEER, EMBANKMENT SHALL BE PLACED AS TO PROVIDE A SUITABLE AREA TO CONSTRUCT GUARDRAIL AND TO PROVIDE FOR THE STRUCTURAL INTEGRITY OF THE ROADWAY SHOULDER.

AREAS WHERE EMBANKMENT MATERIALS ARE TO BE PLACED SHALL BE SCALPED. THE REQUIREMENTS FOR BENCHING SHALL BE WAIVED. THE DEPTH OF LAYERS IN WHICH THE EMBANKMENTS ARE PLACED SHALL BE LIMITED TO EIGHT (8) INCHES IN THICKNESS. THE METHOD OF COMPACTION AND EQUIPMENT USED SHALL BE SUFFICIENT TO PROVIDE A MINIMUM OF 60 PERCENT RELATIVE COMPACTION.

AFTER THE EMBANKMENT HAS BEEN PLACED, THE AREAS SHALL BE FERTILIZED, SEEDED, MULCHED, AND WATERED AS PER ITEM 659. THE COST SHALL BE INCLUDED IN THIS ITEM FOR PAYMENT.

THE METHOD OF MEASUREMENT FOR EMBANKMENT MATERIAL SHALL BE THE NUMBER OF CUBIC YARDS MEASURED BY LOOSE VOLUME IN THE CARRIER AT THE WORK SITE, IN LIEU OF THE REQUIREMENTS OF 203.09, AND PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT BID PRICE PER CUBIC YARD FOR ITEM 203 - EMBANKMENT, AS PER PLAN AND SHALL INCLUDE ALL WORK DESCRIBED ABOVE AND AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

ITEM 209 - RESHAPING UNDER GUARDRAIL:

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLANS.

THIS WORK SHALL BE COMPLETED AS PER CMS 209.05 AND AS DESCRIBED HEREIN, AND SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

THE AREA IN FRONT OF THE GUARDRAIL SHALL BE GRADED AND RESHAPED TO PROVIDE AN AREA THAT HAS A SLOPE OF 10:1 MAX.

EXCESS MATERIAL RESULTING SHALL BE USED ELSEWHERE FOR THIS ITEM IF SO DIRECTED OR DISPOSED OF PROPERLY. IF EXTRA MATERIAL IS REQUIRED IT SHALL BE PAID FOR WITH ITEM 203 - EMBANKMENT, AS PER PLAN. THIS WORK SHALL NOT BE STARTED UNTIL AFTER THE RESURFACING

THE ABOVE WORK SHALL BE PAID FOR PER FT. WITH ITEM 209, RESHAPING UNDER GUARDRAIL, WITH THE EXCEPTION OF ANY EXTRA MATERIAL REQUIRED TO MEET THE SLOPE REQUIREMENTS WHICH SHALL BE PAID BY ITEM 203 - EMBANKMENT, AS PER PLAN.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS.

1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

   THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50 FEET (15.24 m), INCLUSIVE OF TWO 25 FOOT (7.62 m) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SS265M	ET-2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98
SS142	ET-2000 PLUS 50'-0" PLAN, ELEVATION & SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET-2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET-2000 PLUS 50'-0" WITH 12'-6" PANELS & HBA POSTS 1-4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00

2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO 44224 (TELEPHONE: 330-346-0721)

   THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0" (15.24 m), INCLUSIVE OF FOUR 12'-6" (3.81m) LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" x 18" (450mm X 450mm).

THE CONTRACTOR MAY USE A SALVAGED EXTRUDER WHEN ASSEMBLING THE ITEM 606 ANCHOR ASSEMBLY, TYPE E-98. ALL WELDS ON THE EXTERIOR OF THE SALVAGED EXTRUDER SHALL NOT BE DAMAGED AND THE FEEDER SHUTE SHALL NOT BE BENT.

REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES (100mm) ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27 3/4 INCHES (706mm) FROM THE EDGE OF THE SHOULDER.

ON SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES NOT PROJECT MORE THAN 4 INCHES (100mm) ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 606 - GUARDRAIL POST:

THIS ITEM SHALL BE USED IN CONJUNCTION WITH ITEM 606 - GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL, AND AS DIRECTED BY THE ENGINEER. IT SHALL CONSIST OF REPLACING EXISTING GUARDRAIL POSTS DEEMED BY THE ENGINEER TO BE INSUFFICIENT. THE POSTS SHALL BE OF THE SAME TYPE, SIZE, AND SPACING OF THE EXISTING GUARDRAIL RUN. THEY SHALL BE PLACED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-1.1.

ITEM 606 - GUARDRAIL POST, 9 FOOT:

PAYMENT FOR ITEM 606 - GUARDRAIL POST, 9 FEET SHALL INCLUDE COSTS OVER AND ABOVE THE PRICE BID FOR ITEM 606 - GUARDRAIL, TYPE 5 FOR UTILIZING 9 FOOT GUARDRAIL POSTS IN PLACE OF NORMAL LENGTH (6 FEET) POSTS AT LOCATIONS SPECIFIED IN THE PLAN OR AS DIRECTED BY THE ENGINEER. 9 FOOT GUARDRAIL POSTS SHALL BE INSTALLED WITH A MINIMUM EMBEDMENT DEPTH OF 6.40 FEET.

THIS ITEM SHALL ALSO BE USED IN CONJUNCTION WITH ITEM 606 - GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL, AND AS DIRECTED BY THE ENGINEER. IT SHALL CONSIST OF REPLACING EXISTING GUARDRAIL POSTS DEEMED BY THE ENGINEER TO BE INSUFFICIENT. THE POSTS SHALL BE OF THE SAME TYPE, SIZE, AND SPACING OF THE EXISTING GUARDRAIL RUN. THEY SHALL BE PLACED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING GR-1.1, AND THE ABOVE NOTE.

ITEM 606 GUARDRAIL MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL

WHERE DESIGNATED ON THE PLAN, THE EXISTING TYPE 5 GUARDRAIL SHALL BE RAISED OR LOWERED ON THE EXISTING WOOD POSTS AS PER STANDARD DRAWING GR-2.1 SO AS TO OBTAIN THE STANDARD 27.75 IN. HEIGHT. THE RAIL SHALL BE REATTACHED TO THE POSTS USING NEW POST BOLTS. FOR RAIL THAT REQUIRES BEING LOWERED THE POSTS SHALL BE CUT OR TRIMMED AND THE TOPS SHALL BE TREATED.

THE RAIL SHALL BE DISMANTLED ONLY TO THE EXTENT NECESSARY TO FIELD BORE NEW BOLT HOLES IN THE WOOD POSTS, AND TO RECONNECT THE RAIL AND BLOCK TO EXISTING POSTS.

THE EXISTING TYPE "A" ANCHOR ASSEMBLIES THAT ARE TO REMAIN SHALL NOT BE ADJUSTED. THE LAST RAIL ELEMENT SHALL BE TRANSITIONED TO MEET THESE ASSEMBLIES.

THE EXISTING TYPE "E" ANCHOR ASSEMBLIES THAT ARE TO REMAIN SHALL BE ADJUSTED AS DESCRIBED ABOVE. THE EXTRUDER SHALL ALSO BE ADJUSTED ON THE FIRST POST TO MATCH THE NEW RAIL HEIGHT. ALL WORK REQUIRED TO ADJUST EXISTING "E" ANCHORS SHALL BE INLUDED IN THIS ITEM FOR PAYMENT.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR ITEM 606, GUARDRAIL MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL, WHICH WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DESIGNED CVH
CHECKED MJS

GUARDRAIL GENERAL NOTES

ERI-4-0.00

12A
87

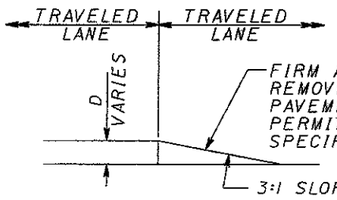
GENERAL NOTES

1. IT IS INTENDED THAT THIS DRAWING BE USED FOR TREATMENT OF DROP-OFFS THAT DEVELOP DURING CONSTRUCTION OPERATONS, AND THAT ARE NOT OTHERWISE PROVIDED FOR IN THE CONSTRUCTION PLANS. THE SUGGESTED TREATMENTS ARE INTENDED FOR HIGH VOLUME PROJECTS THAT WILL LAST AT LEAST SEVEN DAYS AND HAVE AN ACTIVE WORK ZONE 1 MILE (1.6 KM) OR LESS IN LENGTH. FOR GUIDANCE ON THE USE OF THIS SHEET, SEE L&D MANUAL VOLUME ONE, SECTION 500. WHERE THE PLANS DO NOT PROVIDE SPECIFIC ITEMS FOR LABOR, EQUIPMENT, OR MATERIALS TO IMPLEMENT THE DROP-OFF TREATMENTS SPECIFIED HERON, THEY SHALL BE INCLUDED FOR PAYMENT IN THE LUMP SUM BID FOR ITEM 614-MAINTAINING TRAFFIC.
2. WHILE THE NEED FOR CERTAIN ADVISORY SIGNING IS NOTED HERON, IT IS NOT INTENDED THAT THIS BE INDICATIVE OF ALL SIGNING THAT MAY BE REQUIRED TO ADVISE OR WARN MOTORISTS. ALL REQUIREMENTS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) MUST BE FULFILLED.
3. IN URBAN OR OTHERWISE HEAVILY DEVELOPED AREAS WHERE PEDESTRIANS AND/OR BICYCLISTS MAY BE PRESENT IN SIGNIFICANT NUMBERS, ADDITIONAL SIGNING AND PROTECTIVE MEASURES OTHER THAN THOSE SHOWN HEREON MAY BE REQUIRED.
4. THE DROP-OFF TREATMENT SELECTED FOR USE AT ANY GIVEN LOCATION SHALL BE AS APPROPRIATE FOR THE PREVAILING CONDITIONS AT THE SITE.
5. WHERE CONCRETE BARRIER IS SPECIFIED, IT SHALL BE IN ACCORDANCE WITH SCD RM-4.2 AND ITEM 622.
6. WHEN DRUMS ARE SPECIFIED FOR A DROP-OFF CONDITION, A MINIMUM NUMBER OF FOUR DRUMS SHALL BE USED. SPACING SHALL BE AS INDICATED IN THE PLANS OR AS SPECIFIED IN THE OMUTCD.
7. WHEN OW-151 (LOW SHOULDER) SIGNS OR OW-155 (SHOULDER DROP-OFF) SIGNS OR OW-171 (UNEVEN LANES) SIGNS ARE REQUIRED, THEY SHALL BE PLACED 750' (250 M) IN ADVANCE OF THE CONDITION, ON ALL INTERSECTING ENTRANCE RAMPS WITHIN THE LIMITS OF THE CONDITION AND IMMEDIATELY BEYOND ALL INTERSECTING ROADWAYS WITHIN THE LIMITS OF THE CONDITION. WHEN THE DROP-OFF CONDITION EXTENDS MORE THAN 0.5 MILE (800M), ADDITIONAL SIGNS SHOULD BE ERECTED AT INTERVALS OF 1.0 MILE (1600 M) OR LESS.
8. FOR LOCATIONS, SUCH AS AT RAMPS, LANE SHIFTS, LANE CLOSURES, ETC., WHERE TRAFFIC IS REQUIRED TO NEGOTIATE A DIFFERENCE IN ELEVATION BETWEEN PAVEMENTS, A 3:1 SLOPE TREATMENT SIMILAR TO THE OPTIONAL WEDGE TREATMENT SHALL BE PROVIDED.
9. PORTABLE CONCRETE BARRIER SHALL BE PLACED ON THE SAME LEVEL AS THE TRAFFIC SURFACE AND SHALL NOT ENCROACH ON LANE WIDTH(S) DESIGNATED AS THE MINIMUM REQUIRED FOR TRAFFIC USE. WHERE DRUMS ARE USED, AND THEIR PRESENCE WOULD REDUCE TRAVELED LANE WIDTHS TO LESS THAN 10' (3.0M), DRUMS MAY BE PLACED ON THE OPPOSITE LEVEL FROM THAT OF TRAFFIC PROVIDED THE DROP-OFF DEPTH DOES NOT EXCEED 5" (125) AND APPROVAL IS GRANTED BY THE PROJECT ENGINEER.
10. PAVEMENT REPAIRS (OR SIMILAR WORK):
    A. LENGTHS GREATER THAN 60' (18 M) OR LESS-UTILIZE APPROPRIATE TREATMENT FROM CONDITION I.
    B. LENGTHS OF 60' (18 M) OR LESS - REPAIRS SHALL BE EFFECTED IN ACCORDANCE WITH CMS 255.08. DRUMS MAY BE USED AS A SEPARATOR ADJACENT TO THE TRAVELED LANE.

OPTIONAL WEDGE TREATMENT

(MILLING OR RESURFACING)

1. THIS TREATMENT MAY BE USED WHEN PERMITTED FOR CONDTION I ONLY.
2. OW-171 SIGN REQUIRED



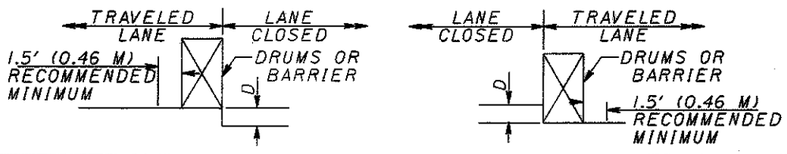
CONDITION I

DROP-OFFS BETWEEN TRAVELED LANES

1. THESE TREATMENTS ARE TO USED FOR RESURFACING, PAVEMENT PLANING, EXCAVATION, ETC. BETWEEN OR WITHIN TRAVELED LANES.

D	TREATMENT
≤1½" (≤40)	ERECT OW-171 SIGN
1½"-3" (40-75)	1. LANE CLOSURE UTILIZING DRUMS* AS SHOWN BELOW OR 2. OPTIONAL WEDGE TREATMENT
>3"-5" (>75-125)	LANE CLOSURE UTILIZING DRUMS AS SHOWN BELOW
>5" (>125)	LANE CLOSURE UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW

* CONES MAY BE USED FOR DAYTIME ONLY CONDITIONS



CONDITION II

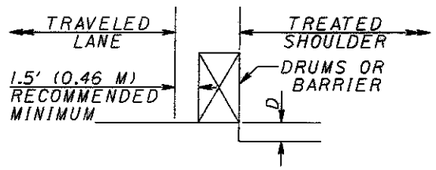
DROP-OFFS WITHIN GRADED SHOULDER AREA

THE TREATMENTS INDICATED BELOW ARE FOR USE IN CONJUNCTION WITH RESURFACING, PLANING, OR EXCAVATIONS WITHIN THE GRADED SHOULDER AREA.

THE GRADED SHOULDER AREA IS THAT FLAT OR GRADUALLY SLOPING AREA BETWEEN THE EDGE OF A NORMALLY TRAVELED LANE AND THE MORE STEEPLY SLOPING DITCH FORESLOPE OR EMBANKMENT SLOPE. ITS SURFACE MAY BE SOIL OR TURF, AND/OR IT MAY BE INCLUSIVE OF A "TREATED" AREA (IMPROVED WITH MAXIMUM WIDTH SHALL BE CONSIDERED TO BE 12' (3.6 M).

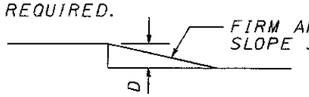
D	TREATMENT
≤1½" (≤40)	ERECT OW-155 SIGNS
>1½"-5" (>40-125)	1. IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILZING DRUMS AS SHOWN BELOW OR 2. IF MINIMUM LANE WIDTH* REQUIREMENTS CANNOT BE MET, CLOSE ADJACENT LANE UTILIZING DRUMS OR 3. OPTIONAL SHOULDER TREATMENT
>5"-12" (>125-305) DAYLIGHT ONLY	IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING DRUMS AS SHOWN BELOW.
>5"-24" (>125-610)	1. IF MINIMUM LANE WIDTH* REQUIREMENTS CAN BE MET, MAINTAIN LANES UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW. OR 2. IF MINIMUM LANE WIDTH* REQUIREMENTS CANNOT BE MET, CLOSE ADJACENT LANE UTILIZING DRUMS.
>5"-24" (>125-610)	LANE CLOSURE UTILIZING PORTABLE CONCRETE BARRIER AS SHOWN BELOW

*MINIMUM LANE WIDTHS SHALL BE 10' (3.0 M) UNLESS OTHERWISE SPECIFIED IN THE PLANS.



OPTIONAL SHOULDER TREATMENT

1. THIS TREATMENT MAY NOT BE USED WITHIN A BITUMUNOS SHOULDER WHERE A HOT LONGITUDINAL JOINT PER CMS 401.15 IS REQUIRED.
2. OW-151 SIGNS REQUIRED.



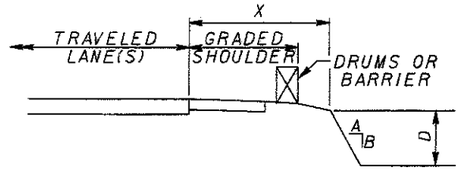
CONDITION III

DROP-OFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. SEE NOTE 2 UNDER CONDTION II.
2. USE CHART A OR B BELOW, AS APPLICABLE.

CHART A

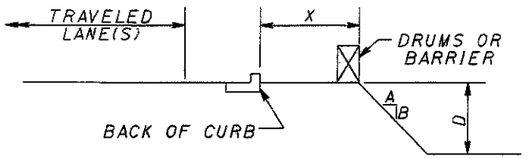
USE FOR: 1. UNCURBED FACILITIES.
2. CURBED FACILITIES, WHERE:
   A. CURBS ARE LESS THAN 6" (150) IN HEIGHT.
   B. CURBS ARE 6" (150) OR GREATER IN HEIGHT AND THE LEGAL SPEED IS GREATER THAN 40 MPH (70 KM/H)



X	D	A/B	Treatment Required	
			Day	Night
0-4' (0-1.2 M)	ANY	ANY	(A)	(A)
4'-30' (1.2 M-9.1 M)	ANY	3:1 OR FLATTER	NONE	NONE
4'-12' (1.2 M-3.6 M)	≤3" (≤75)	STEEPER THAN 3:1	NONE	NONE
4'-12' (1.2 M-3.6 M)	>3"-≤12" (>75-≤305)	STEEPER THAN 3:1	DRUMS	DRUMS
4'-12' (1.2 M-3.6 M)	>12" (>305)	STEEPER THAN 3:1	DRUMS	BARRIER
>12'-20' (>3.6 M-6.1 M)	>12" (>305)	STEEPER THAN 3:1	NONE	NONE
>12'-20' (>3.6 M-6.1 M)	>12"-≤24" (>305-≤610)	STEEPER THAN 3:1	DRUMS	DRUMS
>12'-20' (>3.6 M-6.1 M)	>24" (>610)	STEEPER THAN 3:1	DRUMS	BARRIER
>20'-30' (>6.1 M-9.1 M)	<24" (<610)	STEEPER THAN 3:1	NONE	NONE
>20'-30' (>6.1 M-9.1 M)	>24" (>610)	STEEPER THAN 3:1	DRUMS	BARRIER
>30' (>9.1 M)	ANY	ANY	NONE	NONE
(A) USE TREATMENT SPECIFIED UNDER CONDITION II				

CHART B

USE FOR: CURBED FACILITIES, WHERE THE CURB IS 6" (150) OR GREATER IN HEIGHT AND THE LEGAL SPEED IS 40 MPH (70 KM/H) OR LESS.



X	D	A/B	TREATMENT REQUIRED	
			DAY	NIGHT
0-10' (0-3.0 M)	<12" (<305)	ANY	NONE	DRUMS
0-10' (0-3.0 M)	>12" (>305)	ANY	DRUMS	DRUMS
>10' (>3.0 M)	ANY	ANY	NONE	NONE

NOTE: ALL METRIC DIMENSIONS (IN BRACKETS [ ]) ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

08-07-01

DROP-OFFS IN WORK ZONES

OFFICE OF TRAFFIC ENGINEERING

ERI-4-0.00

13/87

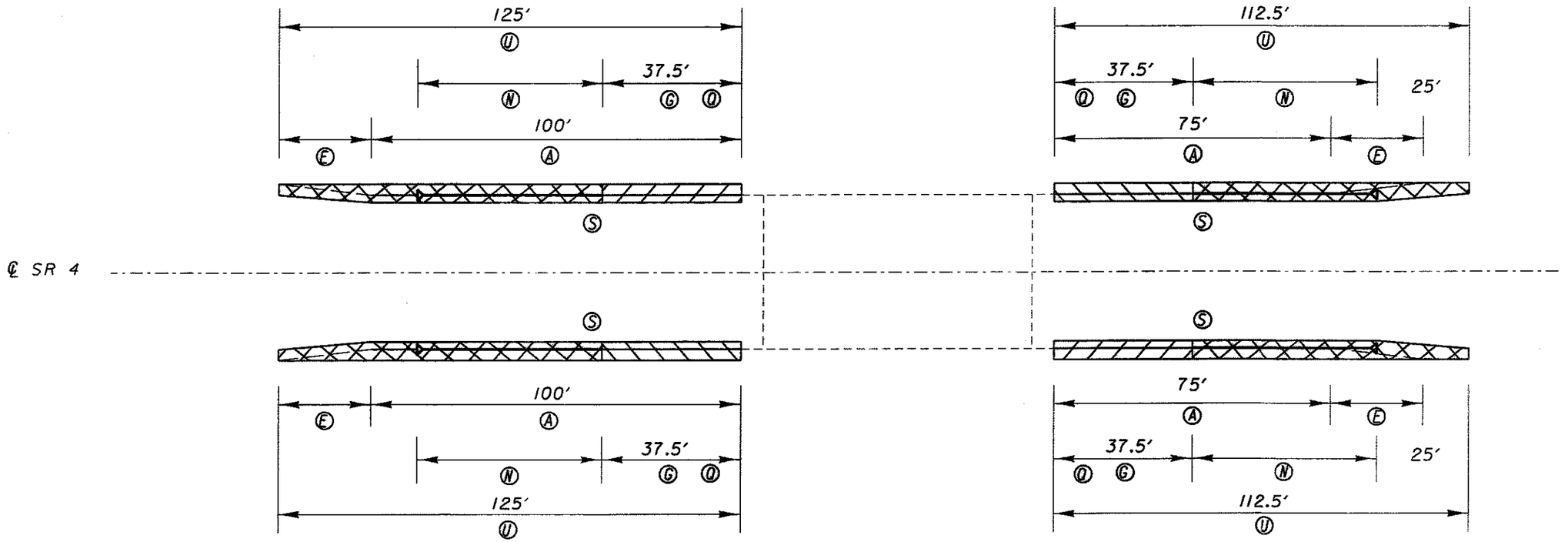
DESIGN FILE: I:\projects\18640\genotes version B.dgn
WORKSTATION: mschafra DATE: 10/24/03

Part	LOCATION	Sheet Number	202 GUARDRAIL REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE A	202 ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE A	203 EMBANKMENT, AS PER PLAN	209 RESHAPING UNDER GUARDRAIL	606 GUARDRAIL POST	606 GUARDRAIL POST, 9 FEET	606 GUARDRAIL, TYPE 5	606 ANCHOR ASSEMBLY, TYPE A	606 ANCHOR ASSEMBLY REBUILT, TYPE A	606 ANCHOR ASSEMBLY, TYPE T	606 ANCHOR ASSEMBLY, TYPE E-98	606 GUARDRAIL, TYPE 5 WITH TUBULAR BACKUP	606 BRIDGE TERMINAL ASSEMBLY, TYPE 4	606 BRIDGE TERMINAL ASSEMBLY, TYPE TST	606 GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL	606 BRIDGE TERMINAL ASSEMBLY, TYPE 1	626 BARRIER REFLECTOR, TYPE A
			foot	each	each	cubic yard	foot	each	each	foot	each	each	each	each	FT	each	each	foot	each	each
A	ERI-4-0256 (2.56 S.L.M.)	24	350	4		63	475			150				4		4				8
A	ERI-4-0307 (3.07 S.L.M.)	25	300	4		68	487.5			237.5			1	3			4			8
A	ER-4-7.95 S.L.M.	26	187.5	1	1	31	450			175	1	1		2						5
A	ERI-4-0841-(8.41 S.L.M.)	None																	4	
D	HUR-113-0601 (6.01 S.L.M.)	27	275	4		150	400			300	4				50	4				8
C	ERI-113-0230 (2.30 S.L.M.)	28	350	4		100	450			350	4				50	4				8
C	ERI-113-3.00 S.L.M.	29	225	2		24	500			225	2							225		6
C	ERI-113-4.57 S.L.M.	30	112.5			368	1075		25	100			1					887.5		13
C	ERI-113-5.69 S.L.M.	31		2		17	325	11		275	2									8
C	ERI-113-5.89 S.L.M.	32	287.5	3		131	700			662.5	1		1					262.5		5
	TOTAL		**2,088**	**24**	**1**	**952**	**4,862.5**	**11.0**	**25**	**2,475**	**14**	**1**	**3**	**9**	**100**	**12**	**4**	**1,375.0**	**4.0**	**69**

CALC BY: CVH
CHK'D By: MJS

GUARDRAIL ESTIMATED QUANTITIES

ERI-4-0.00

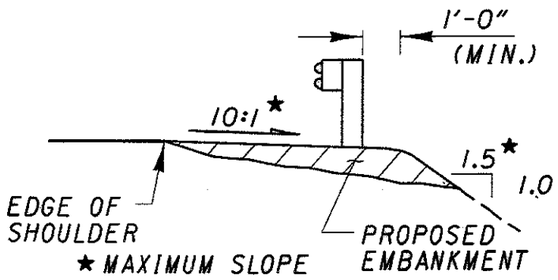


NOTES:

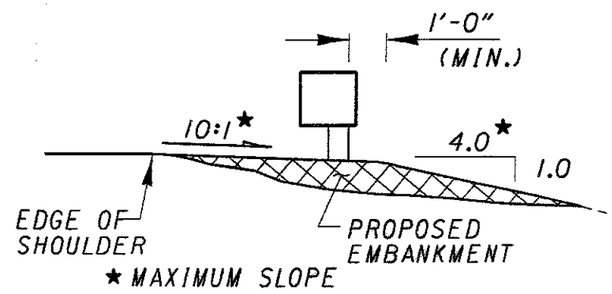
1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT.	175	175	350
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH	2	2	4
▨ ▨	203	EMBANKMENT, AS PER PLAN	CU.YD.	36	27	63
Ⓤ	209	RESHAPING UNDER GUARDRAIL	FT.	237.5	237.5	475
Ⓖ	606	GUARDRAIL, TYPE 5	FT.	75	75	150
Ⓝ	606	ANCHOR ASSEMBLY, TYPE E-98	EACH	2	2	4
Ⓠ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	2	2	4
Ⓢ	626	BARRIER REFLECTOR, TYPE A	EACH	4	4	8

TYPICAL SECTION



TYPICAL SECTION "E-98"

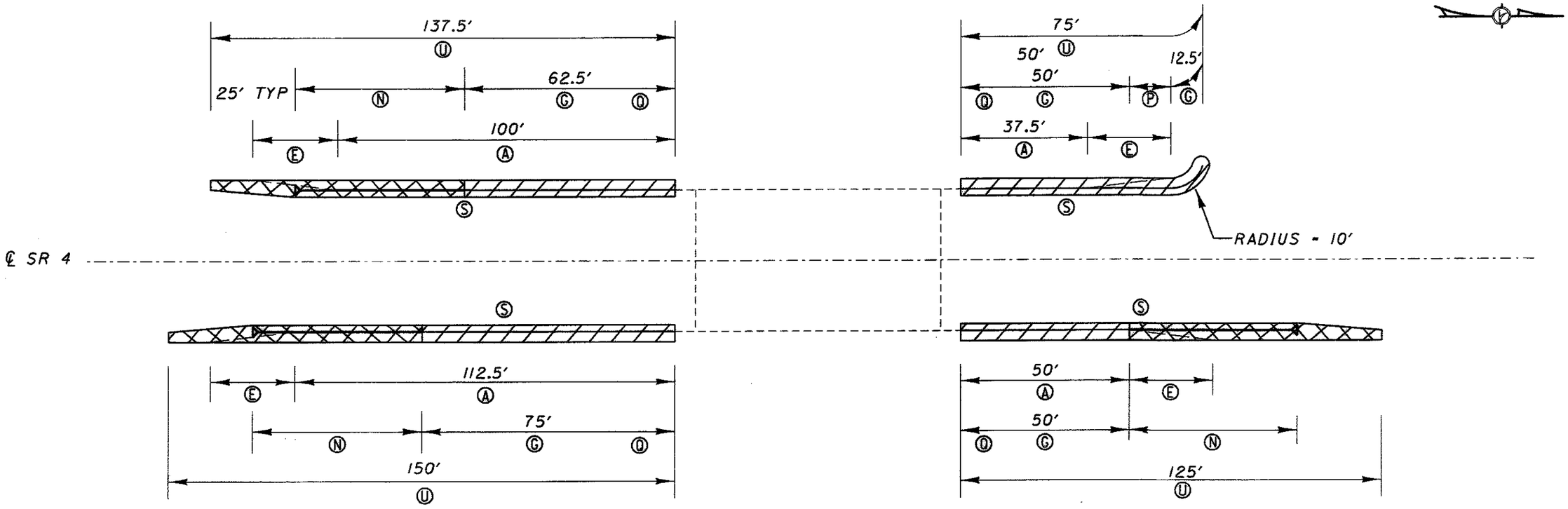


DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

DESIGNED MJS
DRAWN CVH
CHECKED
REVISED
REVIEWED MJS 5/03
DATE
STRUCTURAL FILE NUMBER

GUARDRAIL DETAIL
ERI-4-0256 2.56 S.L.M.

ERI-4-0.00

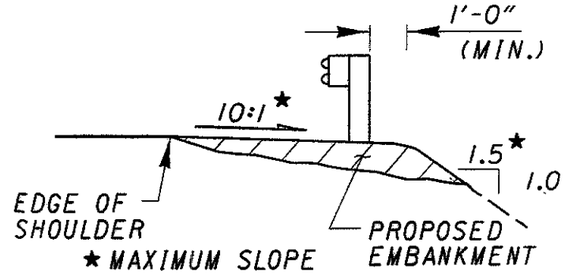


NOTES:

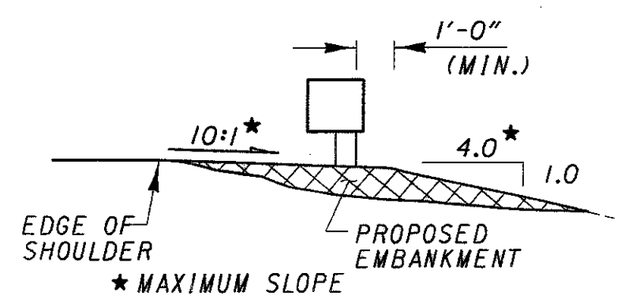
1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT.	137.5	162.5	300
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH	2	2	4
▨ ▨	203	EMBANKMENT, AS PER PLAN	CU.YD.	28	40	68
Ⓤ	209	RESHAPING UNDER GUARDRAIL	FT.	212.5	275	487.5
Ⓖ	606	GUARDRAIL, TYPE 5	FT.	112.5	125	237.5
Ⓝ	606	ANCHOR ASSEMBLY, TYPE E-98	EACH	1	2	3
Ⓟ	606	ANCHOR ASSEMBLY, TYPE T	EACH	1		1
Ⓞ	606	BRIDGE TERMINAL ASSEMBLY, TYPE TST	EACH	2	2	4
Ⓢ	626	BARRIER REFLECTOR, TYPE A	EACH	4	4	8

TYPICAL SECTION



TYPICAL SECTION "E-98"



DESIGN AGENCY: DISTRICT THREE PRODUCTION DEPARTMENT

DATE: 5/03

REVIEWED: MJS — STRUCTURAL FILE NUMBER

DRAWN: CVH — REVISED

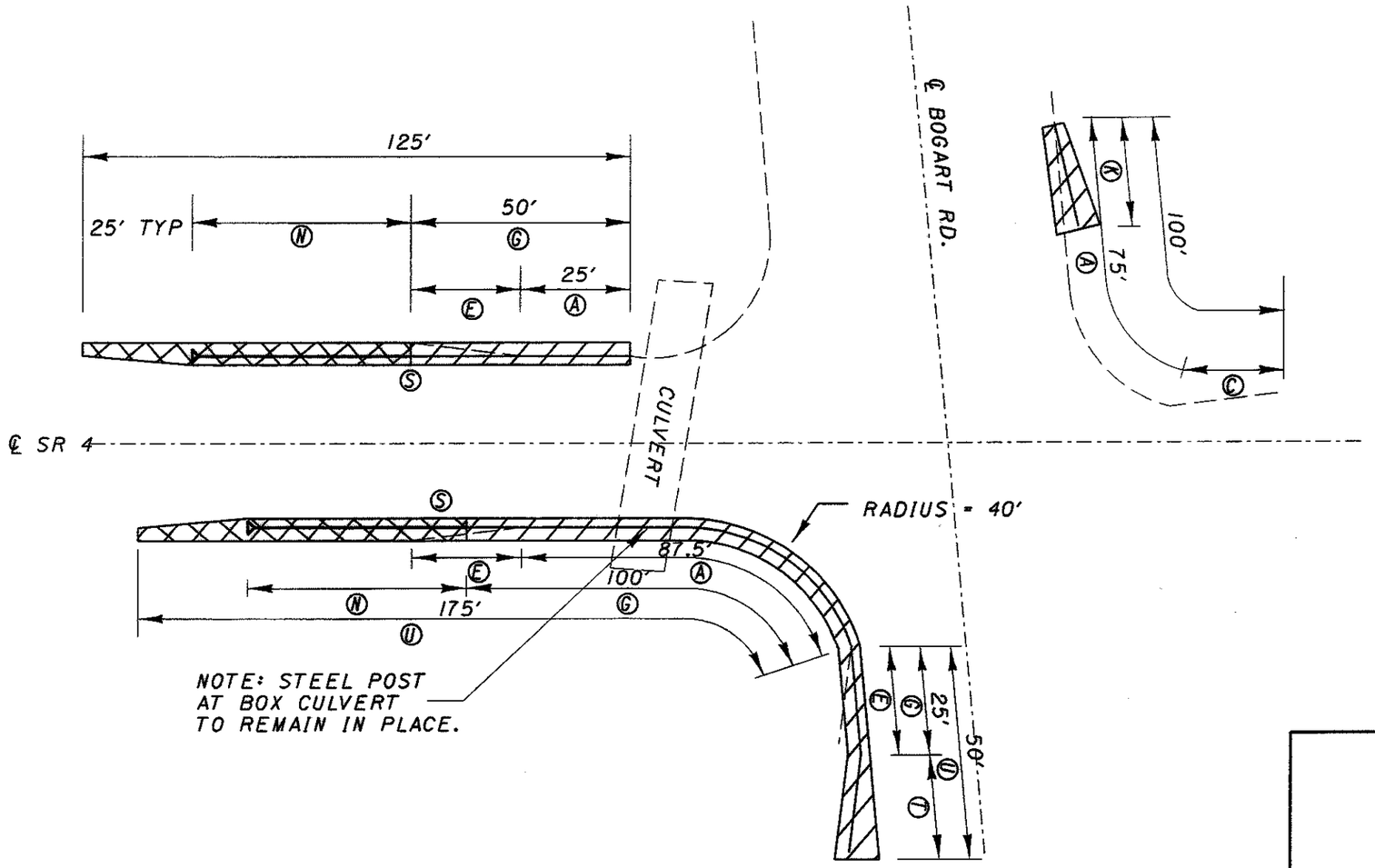
DESIGNED: MJS — CHECKED

GUARDRAIL DETAIL

ERI-4-0307 3.07 S.L.M.

ERI-4-0.00

25
87

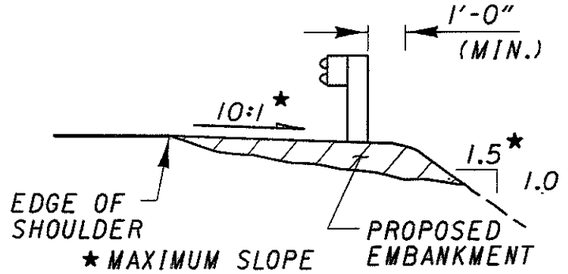


NOTES:

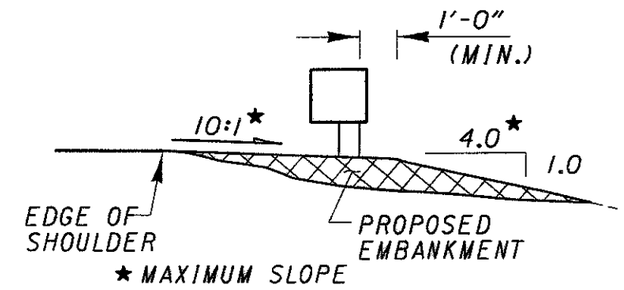
1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
(A)	202	GUARDRAIL REMOVED	FT.	100	87.5	187.5
(C)	202	ANCHOR ASSEMBLY REMOVED FOR REUSE, TYPE A	EACH	1		1
(E)	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH		1	1
▨ ▨	203	EMBANKMENT, AS PER PLAN	CU.YD.	14	17	31
(U)	209	RESHAPING UNDER GUARDRAIL	FT.	225	225	450
(G)	606	GUARDRAIL, TYPE 5	FT.	50	125	175
(K)	606	ANCHOR ASSEMBLY REBUILT, TYPE A	EACH	1		1
(T)	606	ANCHOR ASSEMBLY, TYPE A	EACH		1	1
(N)	606	ANCHOR ASSEMBLY, TYPE E-98	EACH	1	1	2
(S)	626	BARRIER REFLECTOR, TYPE A	EACH	2	3	5

TYPICAL SECTION



TYPICAL SECTION "E-98"



DESIGN AGENCY: DISTRICT THREE PRODUCTION DEPARTMENT
DESIGNED: MJS | DRAWN: CVH | REVIEWED: MJS 5/03 | DATE
CHECKED | REVISED | STRUCTURAL FILE NUMBER

GUARDRAIL DETAIL
ERI-4-7.95 S.L.M.

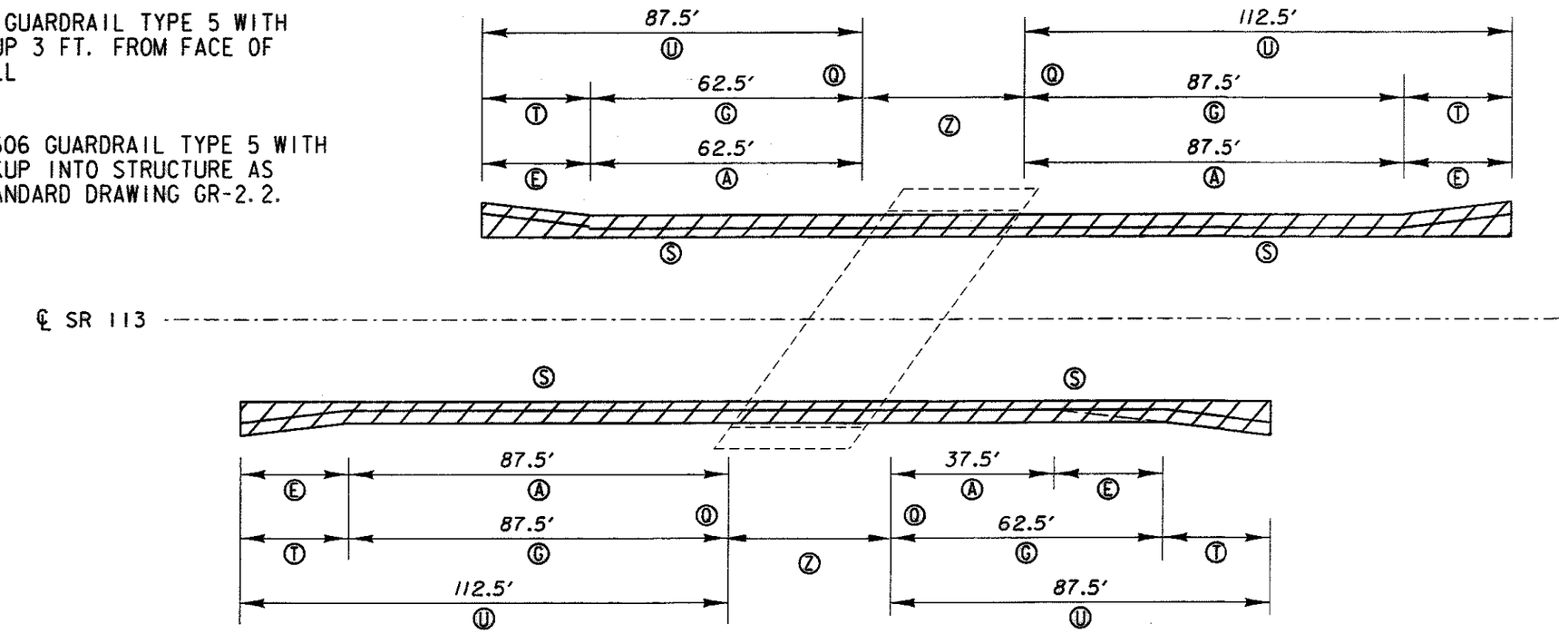
ERI-4-0.00

NOTES:

1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.

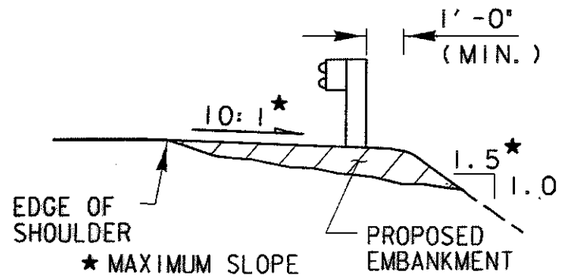
2. PLACE FACE OF GUARDRAIL TYPE 5 WITH TUBULAR BACKUP 3 FT. FROM FACE OF CONCRETE WALL

3. ANCHOR ITEM 606 GUARDRAIL TYPE 5 WITH TUBULAR BACKUP INTO STRUCTURE AS SHOWN ON STANDARD DRAWING GR-2.2.



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT.	150	125	275
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH	2	2	4
//////	203	EMBANKMENT, AS PER PLAN	CU. YD.	75	75	150
Ⓤ	209	RESHAPING UNDER GUARDRAIL	FT.	200	200	400
Ⓖ	606	GUARDRAIL, TYPE 5	FT.	150	150	300
Ⓠ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	2	2	4
Ⓣ	606	ANCHOR ASSEMBLY, TYPE A	EACH	2	2	4
Ⓢ	626	BARRIER REFLECTOR, TYPE A	EACH	4	4	8
Ⓩ	606	GUARDRAIL, TYPE 5 WITH TUBULAR BACKUP	FT.	25	25	50

TYPICAL SECTION



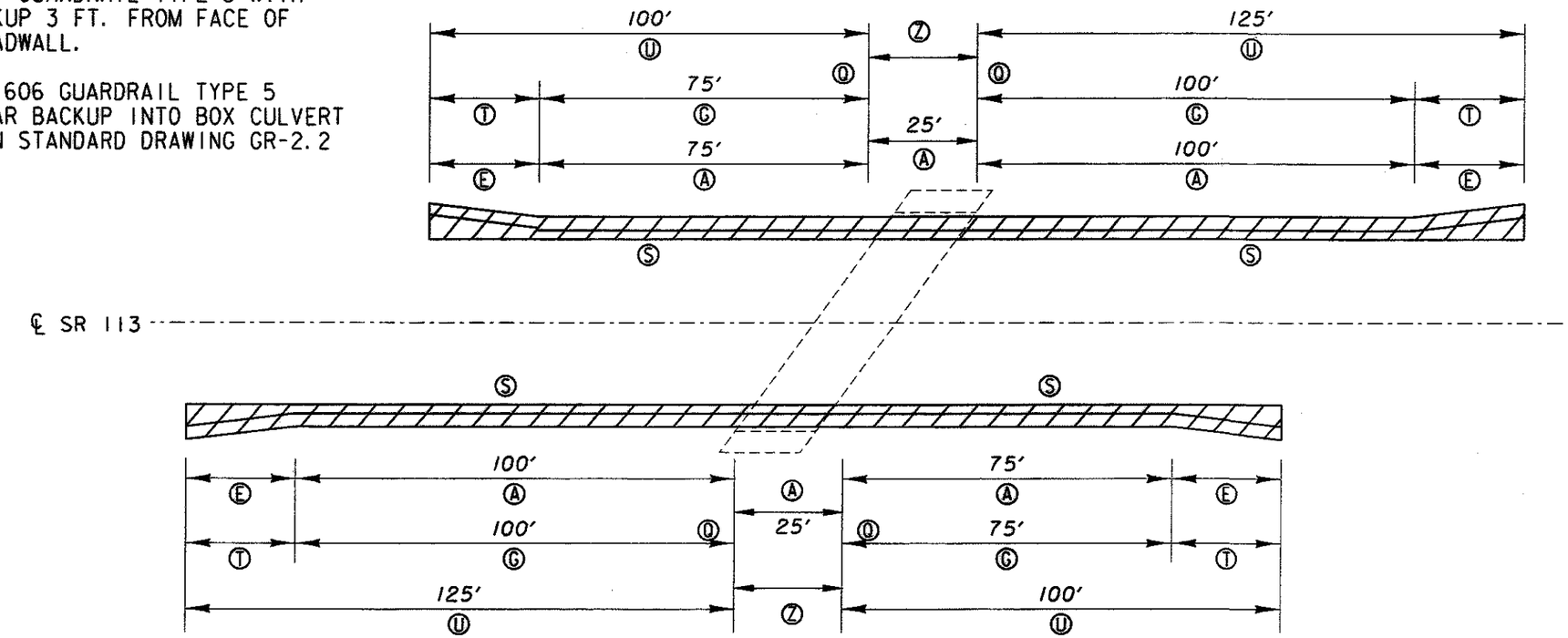
DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURAL FILE NUMBER	

GUARDRAIL DETAIL
HUR-113-0601 6.01
ERI-4-0.00
27/87

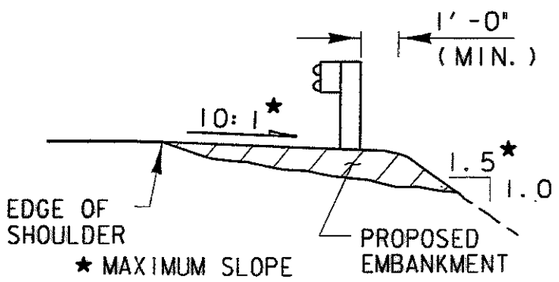
NOTES:

1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.
2. PLACE FACE OF GUARDRAIL TYPE 5 WITH TUBULAR BACKUP 3 FT. FROM FACE OF CONCRETE HEADWALL.
3. ANCHOR ITEM 606 GUARDRAIL TYPE 5 WITH TUBULAR BACKUP INTO BOX CULVERT AS SHOWN ON STANDARD DRAWING GR-2.2



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT.	175	175	350
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH	2	2	4
▨	203	EMBANKMENT, AS PER PLAN	CU. YD.	50	50	100
Ⓤ	209	RESHAPING UNDER GUARDRAIL	FT.	225	225	450
Ⓒ	606	GUARDRAIL, TYPE 5	FT.	175	175	350
Ⓠ	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	2	2	4
Ⓣ	606	ANCHOR ASSEMBLY, TYPE A	EACH	2	2	4
Ⓢ	626	BARRIER REFLECTOR, TYPE A	EACH	4	4	8
Ⓩ	606	GUARDRAIL, TYPE 5 WITH TUBULAR BACKUP	FT.	25	25	50

TYPICAL SECTION

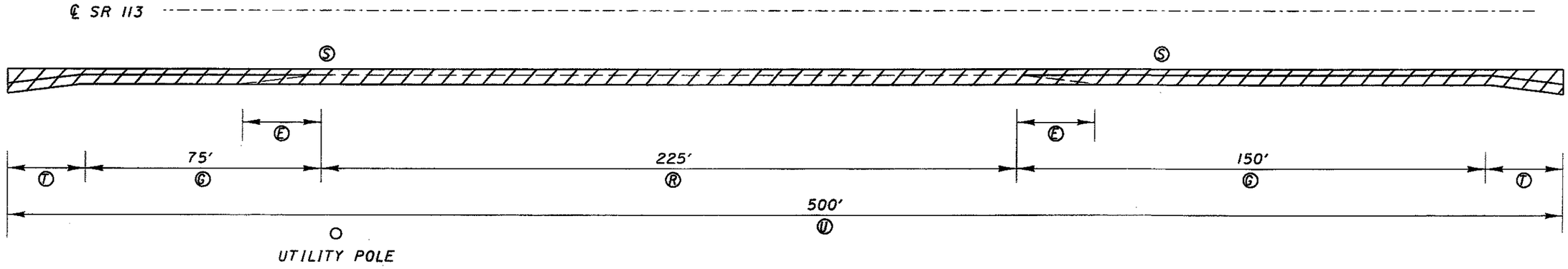


DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
CHECKED	REVISED	STRUCTURAL FILE NUMBER	

GUARDRAIL DETAIL
ERI-113-0230 2.30 S.L.M.

ERI-4-0.00

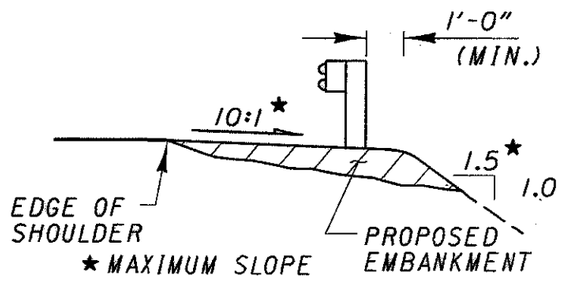


NOTES:

1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT.		225	225
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH		2	2
//////	203	EMBANKMENT, AS PER PLAN	CU.YD.		24	24
Ⓤ	209	RESHAPING UNDER GUARDRAIL	FT.		500	500
Ⓖ	606	GUARDRAIL, TYPE 5	FT.		225	225
Ⓣ	606	ANCHOR ASSEMBLY, TYPE A	EACH		2	2
Ⓡ	606	GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL	FT.		225	225
Ⓢ	626	BARRIER REFLECTOR, TYPE A	EACH		6	6

TYPICAL SECTION

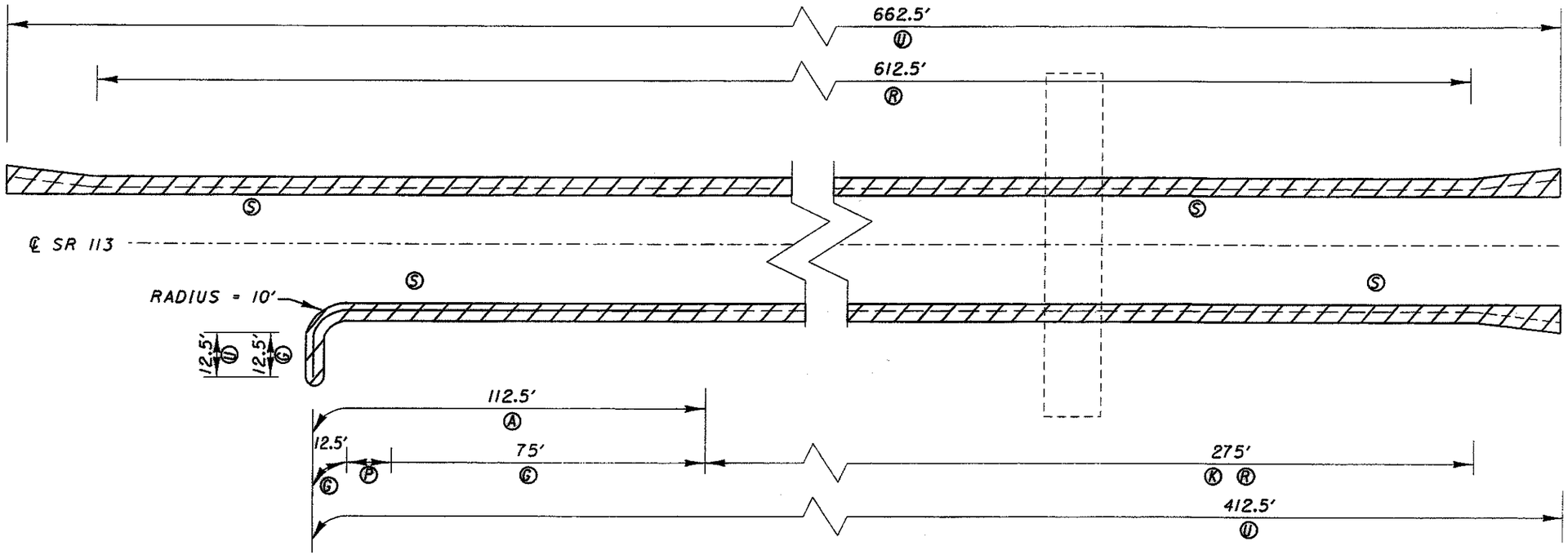


DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

DESIGNED MJS | DRAWN CVH | CHECKED | REVISED | REVIEWED MJS | DATE 5/03 | STRUCTURAL FILE NUMBER

GUARDRAIL DETAIL
ERI-113-3.00 S.L.M.

ERI-4-0.00

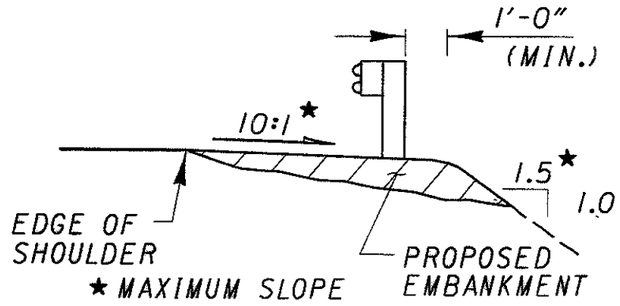


NOTES:

1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT.		112.5	112.5
//////	203	EMBANKMENT, AS PER PLAN	CU.YD.	101	267	368
Ⓤ	209	RESHAPING UNDER GUARDRAIL	FT.	662.5	412.5	1075
Ⓖ	606	GUARDRAIL, TYPE 5	FT.		100	100
Ⓚ	606	GUARDRAIL POST, 9 FOOT	EACH	13	12	25
Ⓟ	606	ANCHOR ASSEMBLY, TYPE T	EACH		1	1
Ⓡ	606	GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL	FT.	612.5	275	887.5
Ⓢ	626	BARRIER REFLECTOR, TYPE A	EACH	8	5	13

TYPICAL SECTION



DESIGN AGENCY: DISTRICT THREE, PRODUCTION DEPARTMENT

DESIGNED MJS | DRAWN CVH | REVIEWED MJS | DATE 5/03

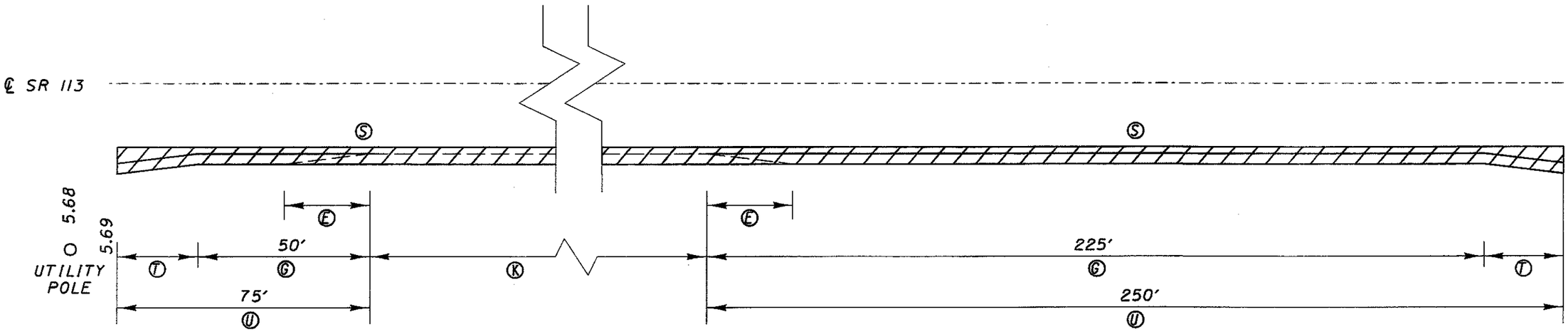
CHECKED | REVISED | STRUCTURAL FILE NUMBER

GUARDRAIL DETAIL

ERI-113-4.57 S.L.M.

ERI-4-0.00

30
87

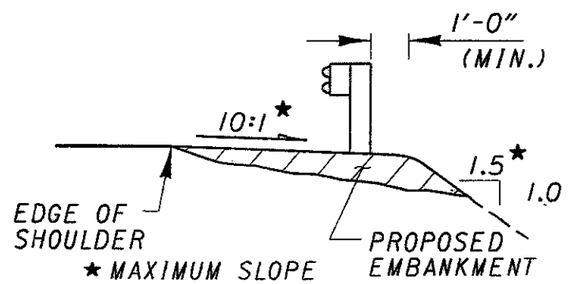


NOTES:

1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH		2	2
//////	203	EMBANKMENT, AS PER PLAN	CU.YD.		17	17
Ⓤ	209	RESHAPING UNDER GUARDRAIL	FT.		325	325
Ⓖ	606	GUARDRAIL, TYPE 5	FT.		275	275
Ⓚ	606	GUARDRAIL POST	EACH		11	11
Ⓣ	606	ANCHOR ASSEMBLY, TYPE A	EACH		2	2
Ⓢ	626	BARRIER REFLECTOR, TYPE A	EACH		8	8

TYPICAL SECTION

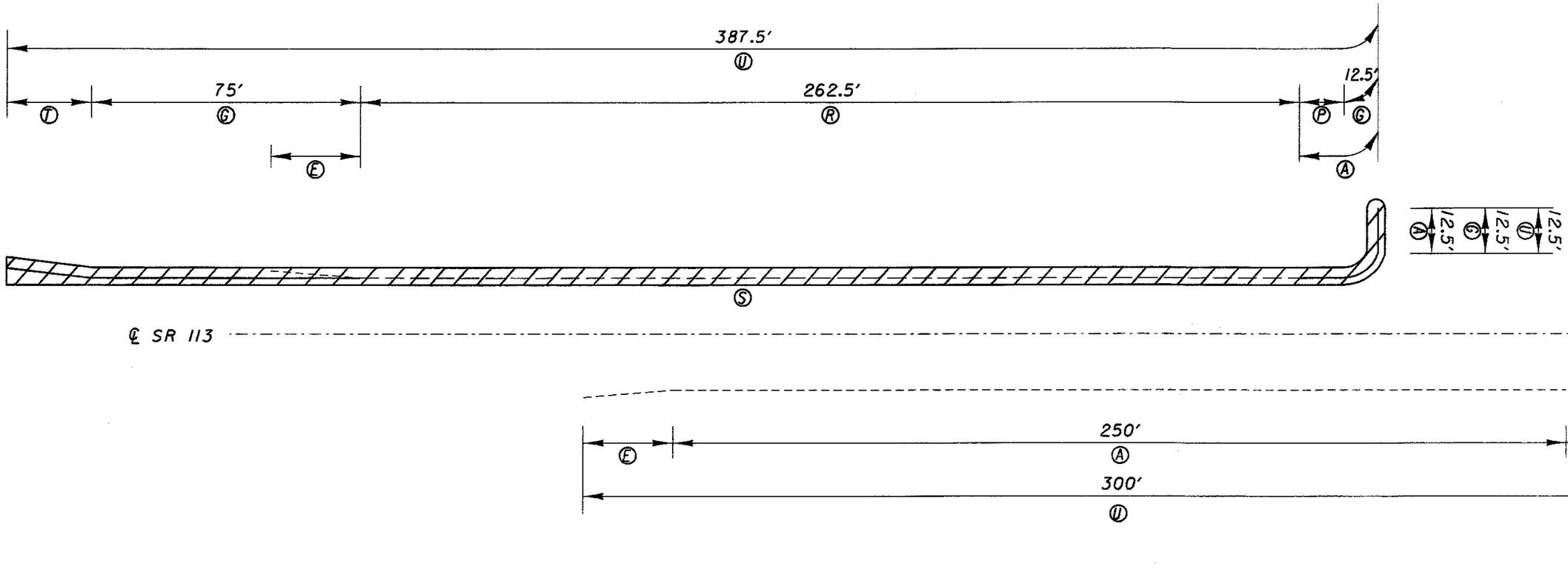


DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
MJS	CVH	MJS	5/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	

GUARDRAIL DETAIL
ERI-113-5.69 S.L.M.

ERI-4-0.00

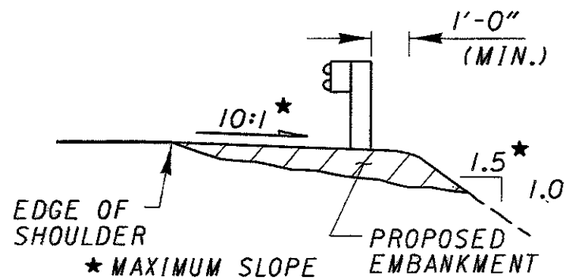


NOTES:

1. ALL QUANTITIES CARRIED TO ESTIMATED QUANTITIES, SHEET NO. 23.

LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL QUANTITY
				LEFT	RIGHT	
Ⓐ	202	GUARDRAIL REMOVED	FT.	37.5	250	287.5
Ⓔ	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH	1	2	3
//////	203	EMBANKMENT, AS PER PLAN	CU.YD.	117	14	131
Ⓤ	209	RESHAPING UNDER GUARDRAIL	FT.	400	300	700
Ⓖ	606	GUARDRAIL, TYPE 5	FT.	325	337.5	662.5
Ⓣ	606	ANCHOR ASSEMBLY, TYPE A	EACH	1		1
Ⓟ	606	ANCHOR ASSEMBLY, TYPE T	EACH	1		1
Ⓡ	606	GUARDRAIL, MISC.: ADJUST HEIGHT, EXISTING TYPE 5 GUARDRAIL	FT.	262.5		262.5
Ⓢ	626	BARRIER REFLECTOR, TYPE A	EACH	5		5

TYPICAL SECTION



DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

DESIGNED	DRAWN	REVIEWED	DATE
MJS	CVH	MJS	5/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	

GUARDRAIL DETAIL

ERI-113-5.89 S.L.M.

ERI-4-0.00

AUXILIARY & LONG LINE MARKINGS

PART	COUNTY	ROUTE	FROM SLM	FROM	TO SLM	TO	202 RAISED PAVEMENT MARKER REMOVED FOR STORAGE each	LANE WIDTH ft	642, TYPE 2 WHITE EDGE LINE HIGHWAY Miles mi	WHITE EDGE LINE TOTAL (PAY QUANT.) mi	YELLOW EDGE LINE HIGHWAY Miles mi	YELLOW EDGE LINE TOTAL (PAY QUANT.) mi	LANE LINE mi	CENTER LINE SOLID LINE EQUIVALENT mi	CENTER LINE TOTAL (PAY QUANT.) mi	644 AUXILIARY MARKINGS (740.04) CHANNELIZING LINE 8 in ft	STOP LINE 24 in ft	CROSSWALK LINE 12 in ft	TRANSVERSE LINE 24 in ft	RAILROAD SYMBOL MARKING each	SCHOOL SYMBOL MARKING 72 in each	SCHOOL SYMBOL MARKING 96 in each	PARKING LOT STALL MARKING ft	LANE ARROW TURN LEFT each	LANE ARROW TURN RIGHT each	LANE ARROW THRU each	LANE ARROW COMBINATION each	WORD ON PAVEMENT "ONLY" 72 in each	WORD ON PAVEMENT "ONLY" 96 in each	HANDICAP SYMBOL MARKING each	614 WORK ZONE CENTER LINE, CLASS II, 642 PAINT mi	WORK ZONE LANE LINE, CLASS II, 642 PAINT mi	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT ft
A	ERIE	SR 4	0.00	HURON CO. LINE	9.72	BUTT JOINT	971	•	9.72	19.44	0.35	0.70	0.96	7.07	9.84	2273	572		1100					8	4				5		25.86	1.92	4546
B	HURON	SR 4	6.66	US 20	8.38	ERIE CO. LINE	110	•	1.72	3.44				1.58	1.72		84													5.04		
C	ERIE	SR 113	0.00	HURON CO. LINE	6.08	US 250	672	•	6.08	12.16			0.78	7.46	6.08		180													17.74	1.56	
D	HURON	SR 113	0.97	US 20/ SR 18	6.74	ERIE CO. LINE	414	•	5.73	11.46	0.08	0.08		4.65	5.85		256	56												17.58		
							2167			46.50		0.78	2.06		23.49	2273	1068	56	1100					8	4				5		66.22	3.48	4546

* SEE PAVEMENT MARKING DETAIL SHEETS SUPPLIED AT THE PRECONSTRUCTION MEETING

calculated CVH checked MJS

PAVEMENT MARKING INFORMATION

ERI-4-0.00

RAISED PAVEMENT MARKERS

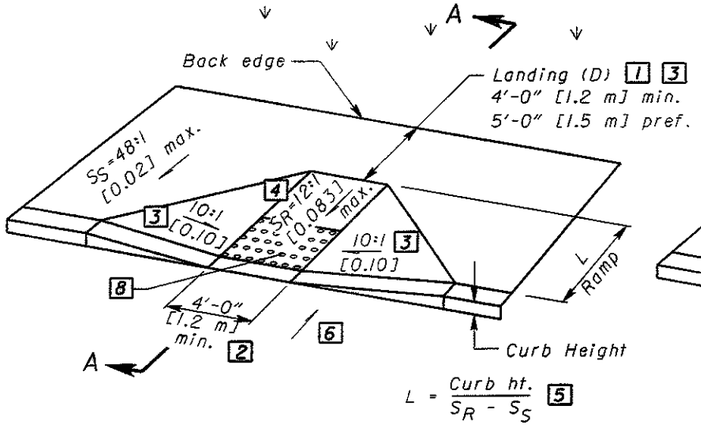
LOCATION					DETAIL	621 RPM, INSTALLATION ONLY each	PRISMATIC RETRO-REFLECTOR TYPES				REMARKS
PART	COUNTY	ROUTE	SLM SECTION FROM	SLM SECTION TO			ONE - WAY WHITE	TWO - WAY YELLOW/YELLOW	TWO - WAY WHITE/RED	TWO - WAY YELLOW/RED	
A	ERIE	SR 4	0.00	0.16	GAP	11		11			CONTINUOUS ROUTE TREATMENT
			0.16	0.82	11	135		42	93		2-4 LANE TRANSITION & 4-LANE OVER R.R.
			0.82	4.50	GAP	243		243			CONTINUOUS ROUTE TREATMENT
			4.49	4.83	8	22		22			THRU APPROACHES @ SR 99
			4.83	7.75	GAP	193		193			CONTINUOUS ROUTE TREATMENT
			7.75	8.15	6	54	32	22			STOP APPROACHES @ BOGART RD.
			8.15	8.77	11	250		98	152		2-4 LANE TRANSITIONS @ SR 2
			8.77	9.72	GAP	63		63			CONTINUOUS ROUTE TREATMENT
B	HURON	SR 4	6.66	6.86	6	27	16	11			STOP APPROACH @ US 20
			6.86	7.82	GAP	63		63			CONTINUOUS ROUTE TREATMENT
			7.82	8.22	6	54	32	22			STOP APPROACHES @ SR 113
			8.22	8.38	GAP	9		9			CONTINUOUS ROUTE TREATMENT
C	ERIE	SR 113	0.00	0.17	GAP	10		10			CONTINUOUS ROUTE TREATMENT
			0.17	0.49	15	41		41			CURVE
			0.49	0.80	GAP	21		21			CONTINUOUS ROUTE TREATMENT
			0.80	1.07	15	38		38			CURVE
			1.07	1.92	GAP	53		53			CONTINUOUS ROUTE TREATMENT
			1.92	2.04	15	20		20			PART OF CURVE (COMPLETE IN HURON COUNTY)
			2.04	2.59	15	69		69			REVERSE CURVES
			2.59	5.63	GAP	191		191			CONTINUOUS ROUTE TREATMENT
			5.63	6.08	17	186	16	60	110		CURVE, STOP APPROACH AND CLIMBING LANE @ US 250
D	HURON	SR 113	1.01	2.87	GAP	119		119			CONTINUOUS ROUTE TREATMENT
			2.87	3.27	6	54	32	22			STOP APPROACH @ SR 4
			3.27	3.63	GAP	22		22			CONTINUOUS ROUTE TREATMENT
			3.63	3.73	15	15		15			PART OF CURVE (CONTINUED FROM ERIE CO.)
			3.73	4.16	GAP	28		28			CONTINUOUS ROUTE TREATMENT
			4.16	4.50	8	22		22			THRU APPROACHES @ SR 99
			4.50	6.64	GAP	139		139			CONTINUOUS ROUTE TREATMENT
			6.64	6.74	15	15		15			PART OF CURVE (COMPLETE IN ERIE CO.)
					TOTAL	2167	128	1684	355		

DETAIL	
1	MULTILANE UNDIVIDED
1	TYPICAL SPACING
2	TAPERED ACCEL LANE
3	DECELERATION LANE
4	PARALLEL ACEL LANE
5	MULTILANE DIVIDED/ EXPRESSWAY
6	STOP APPROACH
7	1 LANE APPR. W/LT. TURN LANE
8	THRU APPROACH
9	2 LANE APPR. W/LT TURN LANE
10	4 LANE DIVIDED TO 2 LANE TRANSITION
11	4 LANE UNDIVIDED TO 2 LANE TRANSITION
12	TWO LANE NARROW BRIDGE
13	TWO WAY LEFT TURN LANE
14	ONE LANE BRIDGE
15	HORIZONTAL CURVE
16	HORIZONTAL CURVE ALT.
17	STOP APPROACH ALT.
GAP	CENTER LINE AT 80 FT. TYP.

calculated CVH checked MJS

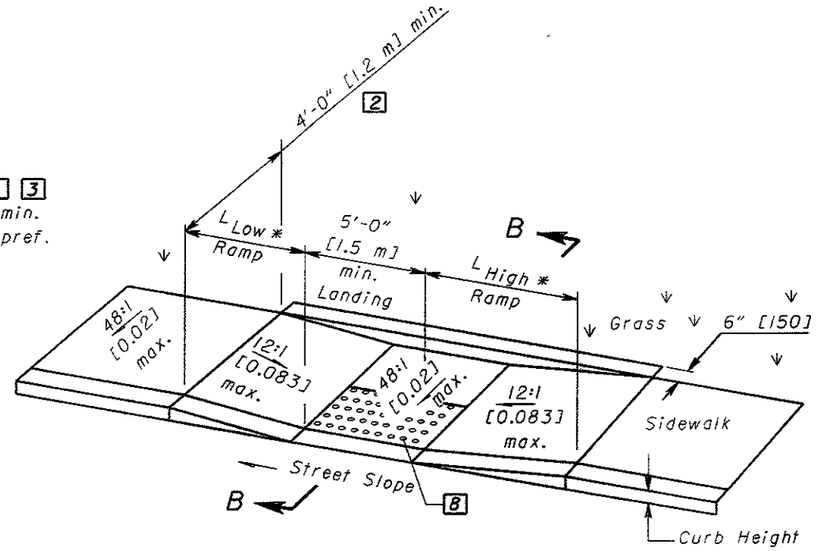
RAISED PAVEMENT MARKERS

ERIE-4-0.00



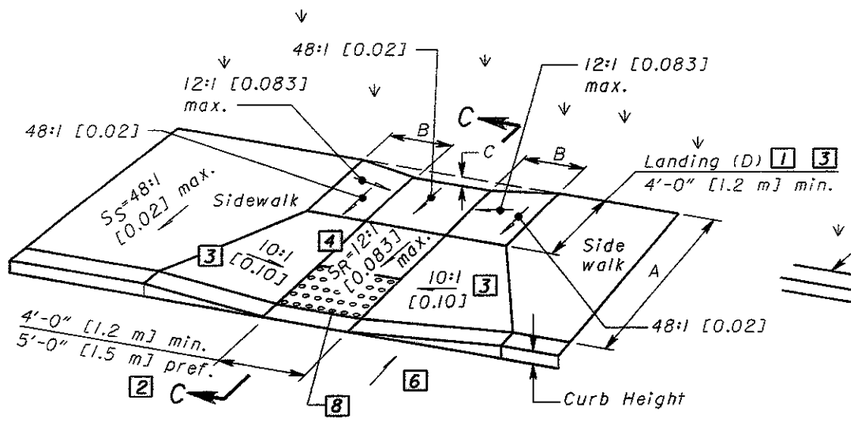
See Sht. 3/3 for SECTION A-A

PERPENDICULAR CURB RAMP DETAIL



See Sht. 3/3 for SECTION B-B

PARALLEL CURB RAMP DETAIL (DOUBLE)

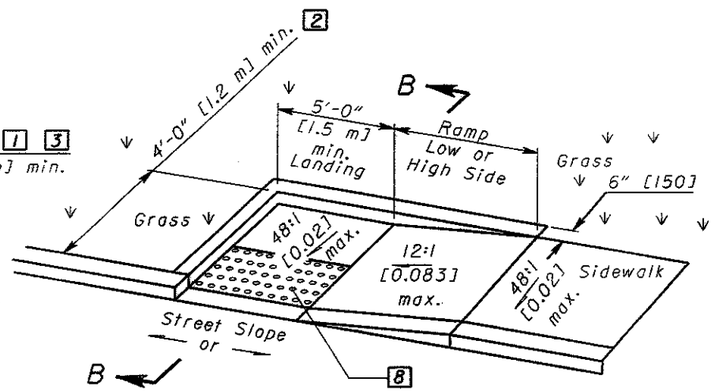


See Sht. 3/3 for SECTION C-C

COMBINED CURB RAMP DETAIL

$B = C / 0.083$

$C = [\text{Curb ht.} + A(S_S)] - [(A-D)S_R + D(0.02)]$



See Sht. 3/3 for SECTION B-B

PARALLEL CURB RAMP DETAIL (SINGLE)

Street Slope	Ramp Length @ 1"/ft [0.083]	
	$L_{LOW\ SIDE}$ *	$L_{HIGH\ SIDE}$ *
0.01	5'-5" [1.6 m]	6'-10" [2.1 m]
0.02	4'-10" [1.5 m]	7'-11" [2.4 m]
0.03	4'-5" [1.3 m]	9'-5" [2.9 m]
0.04	4'-1" [1.2 m]	11'-8" [3.6 m]
0.05	3'-9" [1.1 m]	15'-2" [4.6 m]

* Measured along the back of a 6" [150] high curb.

$$L_{HIGH} = \frac{\text{Curb ht.}}{0.083 - \text{Street Slope}}$$ 7

$$L_{LOW} = \frac{\text{Curb ht.}}{0.083 + \text{Street Slope}}$$ 7

LEGEND

1. May be reduced to 3'-0" [915] in existing sidewalks if the landing is unconstrained along the back edge.
2. May be reduced to 3'-4" [1.02 m] in existing sidewalks to better fit the walk configuration or where site conditions are restricted by narrow walks, pole foundations, drainage inlets, etc. The width may be tapered.
3. Where landing width (D) has been reduced to 3'-0" [915] the flared sides shall have a maximum slope of 12:1 [0.083].

   Flared sides are not required where the edges of a curb ramp are protected by landscaping or other barriers to travel by wheel chair users or pedestrians across the edge of the curb ramp. However, if the flared sides are used in these areas, they may be of any slope.
4. The slope of the ramp toward the curb is preferred to be 12:1 [0.083] or flatter related to the horizontal, but the maximum slope shall be 12:1 [0.083] relative to the existing or proposed walk slope.

   In existing sidewalks, where the maximum ramp slope (S_R) is not feasible, it may be reduced as follows:

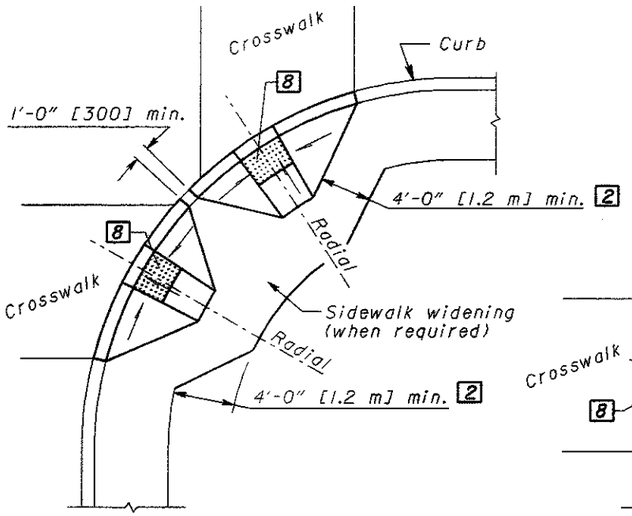
   A) 10:1 [0.10] for a max. rise of 6" [150],
   B) 8:1 [0.125] for a max. rise of 3" [75],
   C) 6:1 [0.167] over a max. run of 2'-0" [610] for historic areas where a flatter slope is not feasible.
5. The minimum length of a perpendicular ramp is 6' [2.0 m] from the back of a 6" [150] curb and may be increased where feasible to obtain a flatter ramp slope or to better blend with the walk configuration.
6. Gutter counter slopes at the foot of perpendicular curb ramps should not exceed 20:1 [0.05] over a distance of 2'-0" [610] from the curb.
7. Dimensions derived by equation are nominal. Construct ramps to meet required slopes and existing conditions.
8. Detectable Warnings (truncated domes) are to be installed in the location shown. Dimensions of the domes are 24" [610] from the back of the curb by the width of the ramp. See NOTES on sheet 3.

PLAN INSERT SHEET

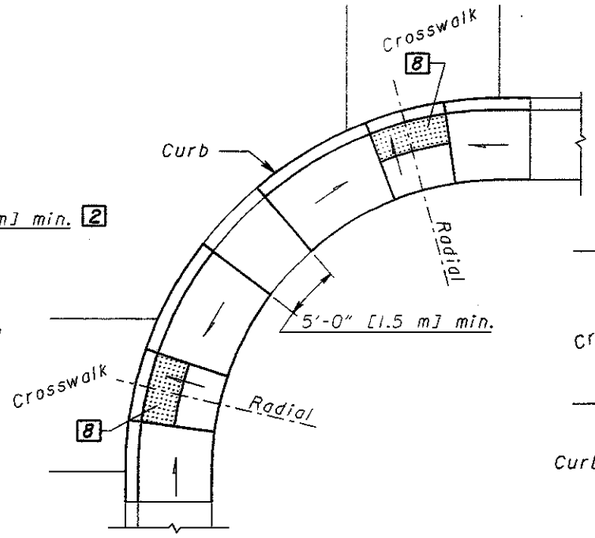
7-12-02

CURB RAMPS WITH TRUNCATED DOMES

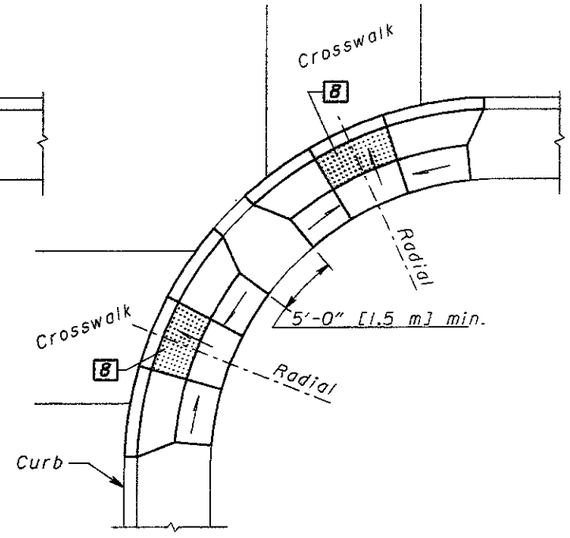
ERI-4-0.00



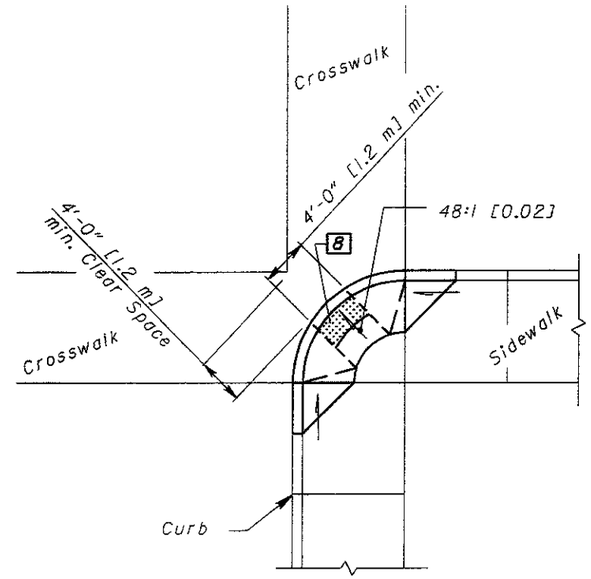
DESIGN A
PERPENDICULAR RAMP



DESIGN B
PARALLEL RAMP



DESIGN C
COMBINATION RAMP



DESIGN D
DIAGONAL RAMP

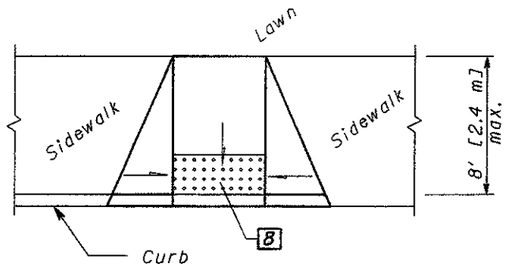
Use in existing walks only and when site constraints prohibit other designs. The diagonal ramp may be perpendcular, parallel or combination.

Avoid using where curb radii are less than 20'-0" [6.0 m].

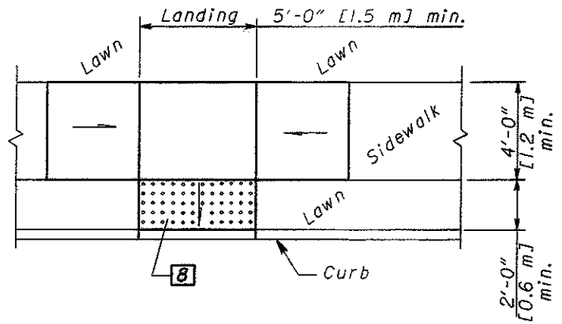
CORNER CURB RAMP DESIGNS

(See Curb Ramp Details on Sht. 1/3 for additional requirements.)

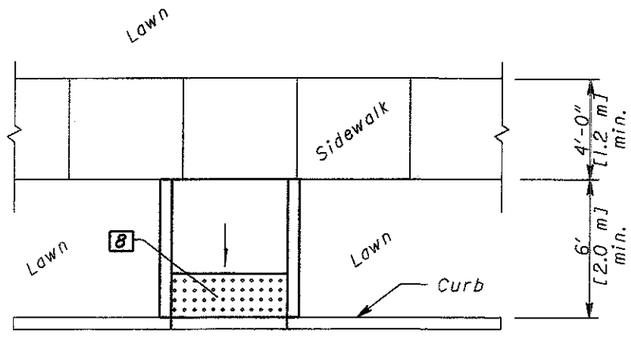
For LEGEND, See sheet 1.



DESIGN E
PERPENDICULAR RAMP



DESIGN F
PARALLEL RAMP



DESIGN G
PERPENDICULAR RAMPS
w/o FLARES

MID BLOCK CURB RAMP DESIGNS

(See Curb Ramp Details on Sht. 1/3 for additional requirements.)

7-12-02

CURB RAMPS WITH TRUNCATED DOMES

ERI-4-0.00

PLAN INSERT SHEET

NOTES

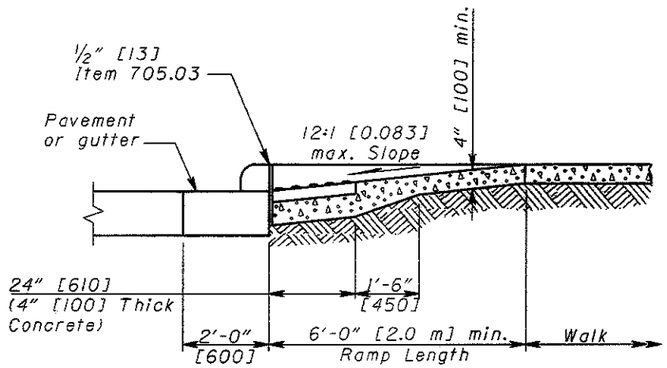
SURFACE TEXTURE: Texture of concrete surfaces shall be obtained by coarse brooming transverse to the ramp slopes and shall be rougher than adjacent walk.

TRUNCATED DOMES: Install detectable warnings (truncated domes) for a distance of 24" [610] from the back of the curb for the entire width of the ramp opening as shown on details on Sheet 1.

Pavers will meet ASTM C 902 Class SX, Type I, or C 936, or C 1272 Type R.

Acceptable manufacturers and products are:

1) Whitacre-Greer Fireproofing Company,
   1400 S. Mahoning Ave, Alliance, OH, 44601, (800) WG PAVER
   ADA Paver, 4"x8"x2-1/4", Clear Red (Rustic) #30.



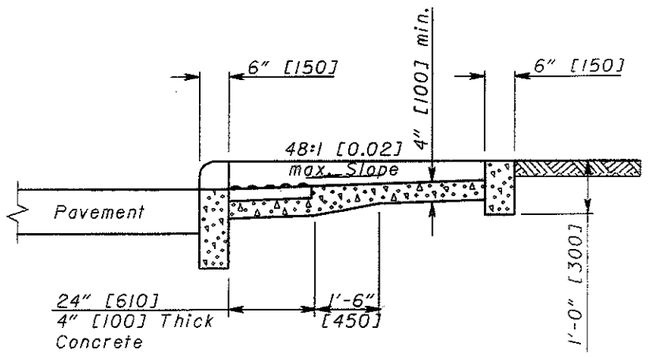
SECTION A-A
NORMAL DETAIL
See Sheet 1 of 3.
(Gutter shown)

2) Hanover Architectural Products,
   240 Bender Rd., Hanover, PA. 17331, (717) 637-0500
   Detectable Warning Paver, 12"x12"x2", or 24"x24"x2",
   Red or Quarry Red.

3) Endicott Clay Products,
   PO Box 17, Fairbury, NE, 68352, (402) 729-5804
   Handicap Detectable Warning Paver,
   4"x8"x2-1/4", Red Blend.

Pavers will laid on top of a 4" [100] unreinforced concrete base. Setting bed and joints to be mortared in accordance with manufacturer's instruction, or with a maximum 1/2" [13] thick bed of latex modified cement mortar. Mortar joints to a width not greater than 5/32" [4] and not less than 1/16" [1.5]. Pavers shall not be directly touching each other unless they have spacing bars.

Mortared joints are to be flush with top surface and struck so as to give a smooth surface. Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and brick to concrete surface.

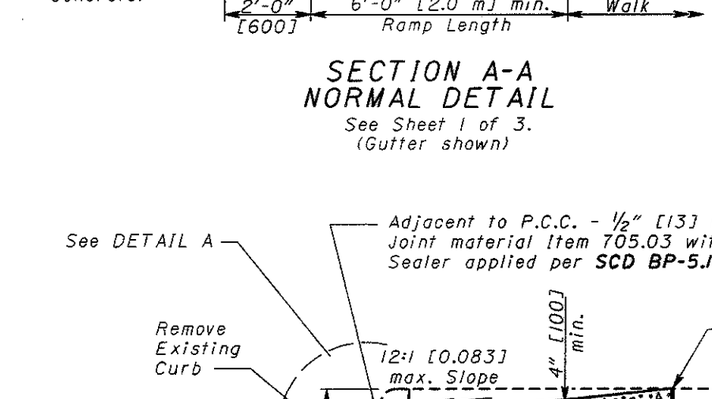


SECTION B-B
See Sheet 1 of 3.

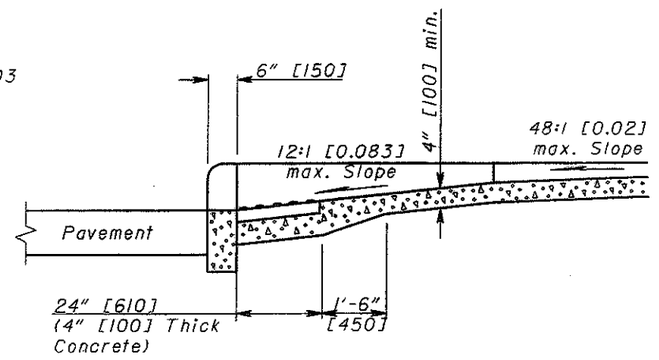
The surface of any two adjacent units should not differ by more than 1/8" [3] in height. Bricks shall be placed in a running bond pattern. Face of all brick shall be clean of cement and protected so as to avoid chipping during constructionn.

EXPANSION JOINTS: shall be provided in the curb ramp as extensions of walk joints and consistent with Item 608.03 requirements for a new concrete walk. A 1/2" [13] Item 705.03 expansion joint filler shall be provided around the edge of ramps built in existing concrete walk. Lines shown on this drawing indicate the ramp edge and slope changes and are not necessarily joint lines.

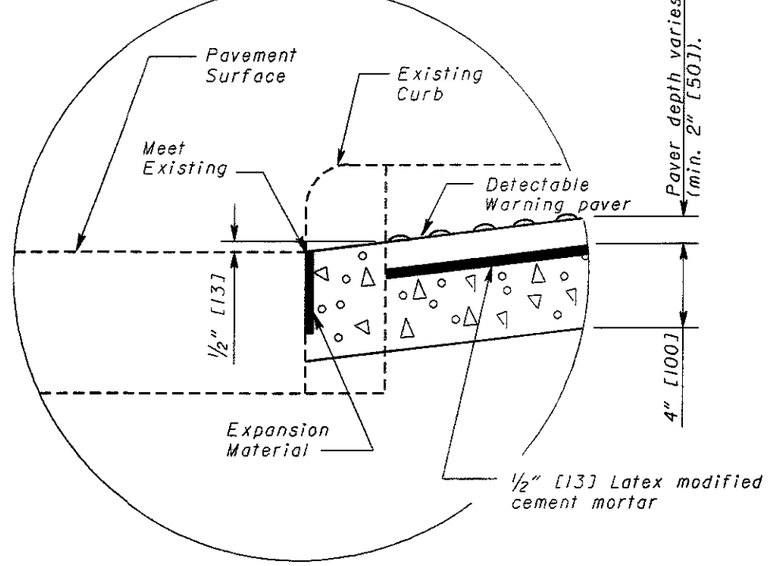
PAYMENT: Walk and curb, Items 608 and 609, shall be measured through the curb ramp area paid for under their respective Items. **Item 608 - Curb Ramp, As Per Plan, Each** constructed in new curb and walk shall include the cost of any additional materials and installation (including truncated domes), grading, forming and finishing. **Item 608 - Curb Ramp, As Per Plan, Square Foot [Meter],** constructed in existing curb and walk shall include the cost of furnishing and installing all materials (including truncated domes), grading, forming, and finishing of the curb and walk of the curb ramp. Removal of existing curb and walk shall be paid for under Item 202.



SECTION A-A
EXISTING WALK DETAIL
See Sheet 1 of 3.



SECTION C-C
See Sheet 1 of 3.



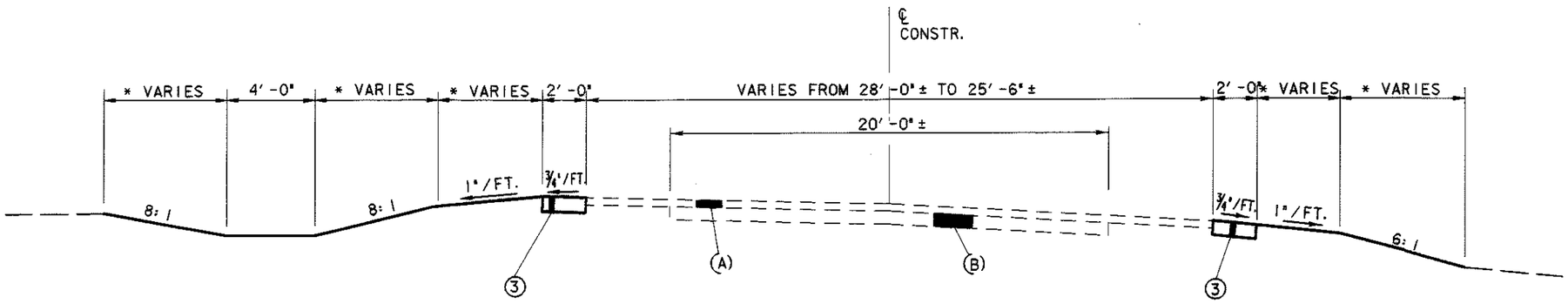
DETAIL A

7-12-02

CURB RAMPS WITH TRUNCATED DOMES

ERI-4-0.00

PLAN INSERT SHEET



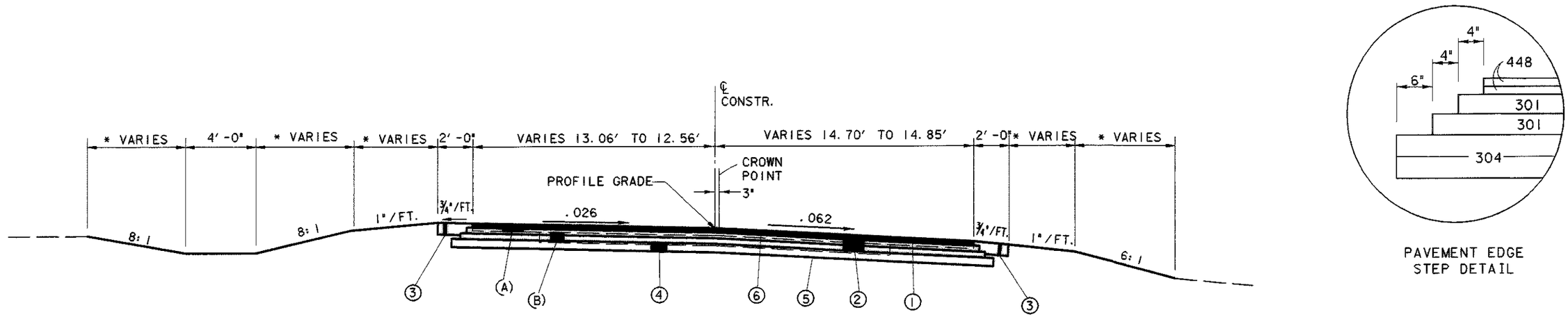
SHOULDER SECTION

LEFT SIDE

STA. 160+65 TO STA. 161+25 = 60 LIN. FT.
STA. 161+75 TO STA. 164+00 = 225 LIN. FT.
TOTAL = 285 LIN. FT.

RIGHT SIDE

STA. 160+38 TO STA. 161+25 = 87 LIN. FT.
STA. 161+75 TO STA. 165+00 = 325 LIN. FT.
TOTAL = 412 LIN. FT.



NORMAL SECTION

STA. 161+25 TO STA. 161+75 = 50 LIN. FT.
TOTAL = 50 LIN. FT.

PAVEMENT EDGE STEP DETAIL

ALL INFORMATION ON TYPICAL SECTIONS ARE PRIOR TO RESURFACING.

LEGEND

**VARIES - SEE CROSS SECTIONS*

(A) EXISTING 5"± ASPHALT PAVEMENT
(B) EXISTING 7"± CONCRETE BASE
(1) 448 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG 64-22 (2-LIFTS REQUIRED)
(2) 301 8" ASPHALT CONCRETE BASE, PG 64-22
(3) 304 8" AGGREGATE BASE
(4) 304 6" AGGREGATE BASE
(5) 204 SUBGRADE COMPACTION
(6) 407 TACK COAT (SEE GENERAL NOTE)

CALCULATED DCM
CHECKED RDN

TYPICAL SECTION AT CULVERT ERI-113-2.51

ERI-4-0.00

DESIGN FILE: I:\projects\18640\Struct\typ.dgn
WORKSTATION: daughre DATE: 10/24/03

GENERAL NOTES

ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS-SECTIONS EVEN THOUGH OTHERWISE SHOWN.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

UNDERGROUND UTILITIES

THE LOCATIONS OF UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

UTILITIES OWNERSHIP

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

ELECTRIC:

OHIO EDISON COMPANY
2508 WEST PERKINS AVE.
SANDUSKY, OHIO 44870
419-627-6890

TELEPHONE:

VERIZON
83 TOWNSEND AVENUE
NORWALK, OHIO 44857
419-744-3619

WATER:

ERIE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
554 RIVER ROAD
HURON, OHIO 44839
419-433-7303

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

EROSION CONTROL

ITEMS 601 IS PROVIDED IN THE PLAN FOR EROSION CONTROL. ROCK OF A STABLE NATURE SHALL NOT BE REMOVED IN ORDER TO PLACE THIS ITEM, THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES OF THIS ITEM WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION. IN ADDITION, THIS ITEM SHALL MEET THE REQUIREMENT OF 108.04.

CLEARING AND GRUBBING

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED UNDER THE LUMP SUM BID FOR ITEM 201, CLEARING AND GRUBBING. THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	0	0	0
30"	2	0	2
48"	0	1	1
60"	0	0	0

ITEM 407, TACK COAT

THE RATE OF APPLICATION OF THE 407 TACK COAT SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. FOR ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE RATE OF:

407, TACK COAT .08 GAL./SY.

ITEM 603, 8" CONDUIT, TYPE C

THE CONDUIT SHALL BE SMOOTH LINED

ITEM 659, SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659,	SEEDING AND MULCHING	2566 SQ. YD.	(QUANTITY ON SHEET 43)
659,	TOPSOIL	285 CU. YD.	
659,	COMMERCIAL FERTILIZER	.35 TON	
659,	LIME	.53 ACRE	
659,	WATER	14 M. GAL.	

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CALCULATED DCM CHECKED RDN

CULVERT GENERAL NOTES SHEET

ERI-4-0.00

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DESIGN FILE: i:\projects\18640\Struct\gennotes.dgn
WORKSTATION: claughre DATE: 10/24/03

GENERAL NOTES

ENVIRONMENTAL COMMITMENTS

1) THERE WILL BE NO CHANNEL WIDENING, DEEPENING OR RELOCATION AND THE PLACEMENT OF ROCK CHANNEL PROTECTION WILL BE LIMITED TO NO MORE THAN 25' FROM THE ENDS OF THE NEW CULVERT.

2) SHOULD IN-STREAM BLASTING BECOME NECESSARY, WRITTEN PERMISSION MUST BE OBTAINED FROM THE CHIEF OF ODNR'S DIVISION OF WILDLIFE.

3) AREAS THAT WILL BE CLEARED FOR CONSTRUCTION ARE TO BE SEEDED AND MULCHED AS PER ODOT'S CONSTRUCTION AND MATERIALS SPECIFICATION MANUAL.

TREE REMOVAL RESTRICTIONS

THIS PROJECT IS WITHIN THE KNOWN SUMMER BREEDING RANGE OF THE FEDERAL ENDANGERED INDIANA BROWN BAT AND MAY IMPACT THAT SPECIES HABITAT. THE SUMMER ROOSTING AND BROOD REARING HABITAT OF THIS SPECIES IS IN LIVING OR STANDING DEAD TREES OR SNAGS WITH EXFOLIATING, PEELING, OR LOOSE BARK, SPLIT TRUNKS AND/OR BRANCHES, OR CAVITIES. TREE REMOVAL WILL ONLY BE DONE BETWEEN SEPTEMBER 16 AND APRIL 14 WHEN THIS SPECIES IN NOT USING SUCH HABITAT.

SURVEY DISC ON STRUCTURE

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF POURING THE CONCRETE FOR COMPLETION OF THE ABUTMENT. THE ENGINEER WILL PROVIDETHE CONTRACTOR ONE (1) SURVEY DISC FOR EACH STRUCTURE (OBTAINED FROM THE DISTRICT SURVEYOR) WHICH THE CONTRACTOR SHALL PLACE IN THE SURFACE OF THE FRESH CONCRETE. THE LOCATION OF THE DISC SHALL BE ON THE HEADWALL AND ON A FLAT, HORIZONTAL SURFACE. THE BENCHMARK SHALL BE ACCESSIBLE TO A SURVEYOR'S ROD WITHOUT ANY OBSTRUCTIONS. COST OF THIS WORK IS CONSIDERED INCIDENTAL TO ITEM 511 BID ITEM.

703.05 AGGREGATE FOR ASPHALT CONCRETE (SOUNDNESS REQUIREMENTS)

IN ADDITION TO THE COARSE AGGREGATE REQUIREMENTS OF 703.05, EACH INDIVIDUAL SIEVE FRACTION SOUNDNESS LOSS WILL BE CALCULATED AND NO FRACTIONAL SIZE SHALL EXCEED THE FOLLOWING:

a. 13.0 PERCENT FOR ALL SURFACE COURSES AND ANY ASPHALT CONCRETE COURSE DIRECTLY BELOW AN OPEN GRADED FRICTION COURSE.

b. 13.0 PERCENT FOR NO. 8 AGGREGATE FRACTIONS USED IN INTERMEDIATE COURSES.

c. 15.0 PERCENT FOR ALL OTHER COARSE AGGREGATE USED IN INTERMEDIATE COURSES.

STATISTICAL EVALUATION OF DATA WILL BE PER GROUP LIST PROCEDURES.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 603, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

ASBESTOS CERTIFICATION

DUE TO THE SIZE OF THE EXISTING STRUCTURES, THE CONTRACTOR AND THE STATE ARE NOT REQUIRED TO COMPLETE AN ASBESTOS CERTIFICATION FORM FOR THIS PROJECT.

PROJECT DETOUR LIMITATIONS

THE ROADWAY SHALL NOT BE CLOSED TO TRAFFIC FOR THE REMOVAL OR MODIFICATION OF THE EXISTING STRUCTURE OR CONDUIT UNTIL ALL PRECAST CULVERT MATERIAL, NECESSARY TO PLACE THE ROADWAY BACK INTO SERVICE HAVE BEEN TESTED, APPROVED AND ARE READY FOR DELIVERY TO THE PROJECT SITE.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07 OF THE CMS.

MONUMENTS

MONUMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS AS SHOWN ON THE STANDARD CONSTRUCTION DRAWINGS AND AT THE LOCATIONS SHOWN ON SHEET NO. 84.

CALCULATED DCM
CHECKED RDN

CULVERT GENERAL NOTES SHEET

ERI-4-0.00

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DESIGN FILE: h:\projects\18640\Struct\gennotes.dgn
WORKSTATION: claughre DATE: 10/24/03

MAINTENANCE OF TRAFFIC NOTES

ITEM 614 MAINTAINING TRAFFIC

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 21 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON THIS SHEET.

THE CONTRACTOR SHALL NOTIFY THE O.D.O.T. DISTRICT THREE ROADWAY SERVICES MANAGER, IN WRITING, A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF THE DATE THE DETOUR IS NEEDED. THE STATE OF OHIO WILL INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE APPROXIMATE WORK LIMITS OF THE PROJECT, AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60.

THE 21 CONSECUTIVE CALENDAR DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 21 DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, AS PER SECTION 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

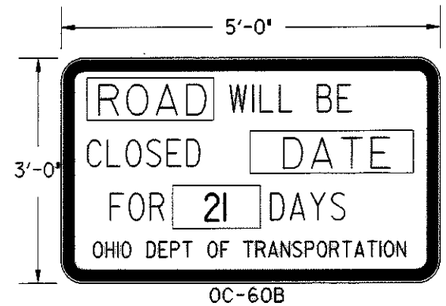
ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES AS PER 614.02 (a).

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

NOTICE OF CLOSURE SIGNS

THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE LOCATED IN THE FIELD SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS. ON THIS PROJECT THEY SHOULD BE ERECTING AT THE POINT OF CLOSURE.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.



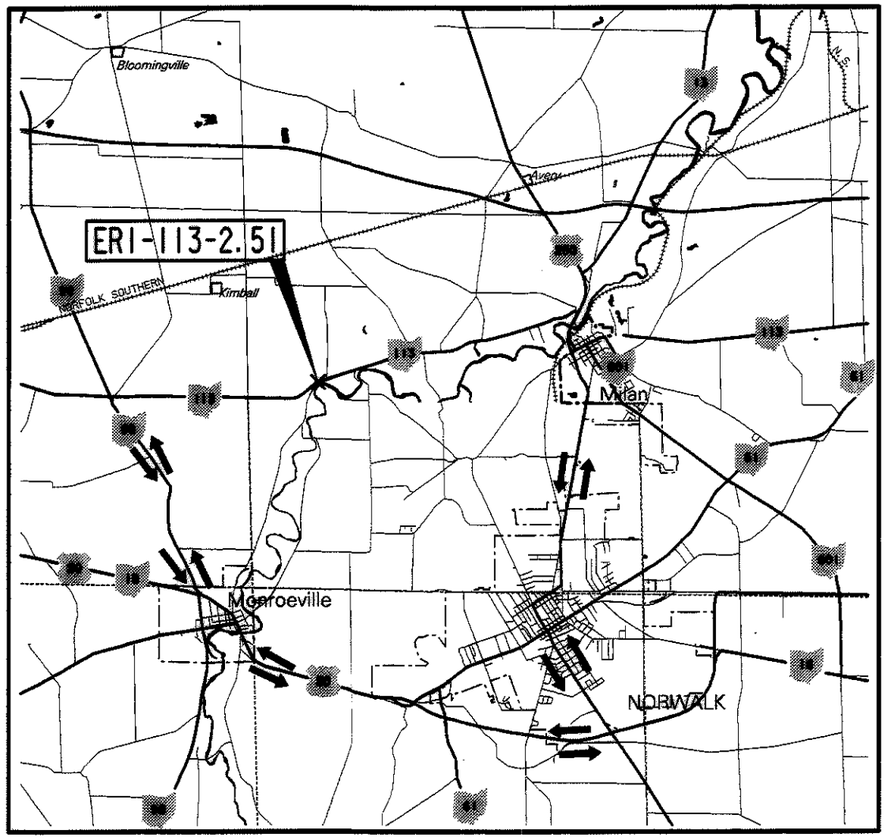
OC-60B

MAINTENANCE OF LOCAL DETOUR ROUTE

A LOCAL DETOUR ROUTE, OTHER THAN THE OFFICIAL ODOT DETOUR ROUTE, AS NOTED ON THIS SHEET, WILL BE SELECTED BY AGREEMENT BETWEEN ODOT AND LOCAL GOVERNMENTAL AGENCIES PRIOR TO THE HIGHWAY CLOSURE. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST, AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTED BY THE ENGINEER. THE FOLLOWING ITEMS ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR THE TEMPORARY

MAINTENANCE OF THE LOCAL DETOUR ROUTE:

614	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
411	STABILIZED CRUSHED AGGREGATE
253	PAVEMENT REPAIR



DETOUR MAP

DETOUR ROUTE ⇄

CULVERT MAINTENANCE OF TRAFFIC
ERI-113-2.51
ERI-4-0.00

CALCULATED DCM
CHECKED RDN

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DESIGN FILE: i:\projects\18640\Struct\gennotes.dgn
WORKSTATION: *claughre* DATE: *10/24/03*

CALCULATIONS

LINE	ITEM			QUANTITY
1	202	**CONCRETE BASE REMOVED**		
		50' X 20'± / 9 =	111.1 YD²	
		TOTAL =	111.1 YD²	111 YD²
2	202	**PAVEMENT REMOVED**		
		(27.76' + 27.41')/2 X 50'/ 9 =	153.25 YD²	
		TOTAL =	153.25 YD²	154 YD²
3	204	**SUBGRADE COMPACTION**		
		(30.76' + 30.41')/2 X 50' / 9 =	169.92 YD²	
		TOTAL =	169.92 YD²	170 YD²
4	301	**8" ASPHALT CONCRETE BASE, PG 64-22**		
		(28.43' + 28.08')/2 X 50' X 0.33 / 27 =	17.27 YD³	
		(29.09' + 28.74')/2 X 50' X 0.33 / 27 =	17.67 YD³	
		TOTAL =	34.94 YD³	35 YD³
5	304	**6" AGGREGATE BASE**		
		(30.09' + 29.74')/2 X 50' X 0.5 / 27 =	27.70 YD³	
		TOTAL =	27.70 YD³	28 YD³
6	304	**8" AGGREGATE BASE**		
		2.0' X (335' + 462') X 0.6667' / 27 =	39.36 YD³	
		TOTAL =	39.36 YD³	40 YD³
7	448	**3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG 64-22**		
		(27.76' + 27.41')/2 X 50' X 0.25 / 27 =	12.77 YD³	
		TOTAL =	12.77 YD³	13 YD³
8	407	**TACK COAT**		
		(27.76' + 27.41')/2 X 50'/9 X .08 GAL/SY =	12.26 GAL	
		TOTAL =	12.26 GAL	13 GAL
9	601	**ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER**		
		(12' X 6' X 2'-6")/27 =	6.67 YD³	
		(2' X 2' X 2'-6")/27 =	.37 YD³	
		TOTAL =	7.04 YD³	7 YD³

GENERAL SUMMARY

SHEET NUMBER								ITEM	ITEM EXT.	QUANT.	UNIT	DESCRIPTION	REFERENCE SHEET NO.
39	42	43	44	49	84								
												ROADWAY	
LUMP								201	11000	LUMP		CLEARING AND GRUBBING	
				LUMP				202	11000	LUMP		STRUCTURE REMOVED	
	154							202	23000	154	SQ.YD.	PAVEMENT REMOVED	
	111							202	23900	111	SQ.YD.	CONCRETE BASE REMOVED	
			81					202	35100	81	FT.	PIPE REMOVED, 24" AND UNDER	
		104						203	10000	104	CU.YD.	EXCAVATION	
		163						203	20000	163	CU.YD.	EMBANKMENT	
	170							204	10000	170	SQ.YD.	SUBGRADE COMPACTION	
					4			604	38500	4	EACH	MONUMENT ASSEMBLY	
												EROSION CONTROL	
	7							601	32104	7	CU.YD.	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
285								659	00300	285	CU.YD.	TOPSOIL	
		2566						659	10000	2566	SQ.YD.	SEEDING AND MULCHING	
.35								659	20000	.35	TON	COMMERCIAL FERTILIZER	
.53								659	31000	.53	ACRE	LIME	
14								659	35000	14	M GAL.	WATER	
								832	10000	1	EACH	STORM WATER POLLUTION PREVENTION PLAN	
								832	20000	LUMP		EROSION CONTROL	
												DRAINAGE	
				LUMP				503	11100	LUMP		COFFERDAMS, CRIBS AND SHEETING	
				LUMP				503	21330	LUMP		UNCLASSIFIED EXCAVATION INCLUDING ROCK AND/OR SHALE	
				6669				509	10000	6669	POUND	EPOXY COATED REINFORCING STEEL	
				64				511	46201	64	CU.YD.	CLASS C CONCRETE, AS PER PLAN (RET WALL/WINGWALL-INCL. FTG.)	55
				LUMP				518	21230	LUMP		POROUS BACKFILL WITH FILTER FABRIC	
			78					603	02000	78	FT.	8" CONDUIT, TYPE C	
			14					603	04600	14	FT.	12" CONDUIT, TYPE C	
				82				603	19200	82	FT.	42" CONDUIT, TYPE A, 706.02	
			1					604	04900	1	EACH	CATCH BASIN, NO. 2-3	
				52				864	10100	52	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
												PAVEMENT	
	35							301	46000	35	CU.YD.	ASPHALT CONCRETE BASE, PG 64-22	
	68							304	20000	68	CU.YD.	AGGREGATE BASE	
	13							407	10000	13	GAL.	TACK COAT	
	13							448	46020	13	CU.YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG 64-22	

CALCULATED DCM
CHECKED RDN

CULVERT SUMMARY & CALCULATIONS

ERI-4-0.00

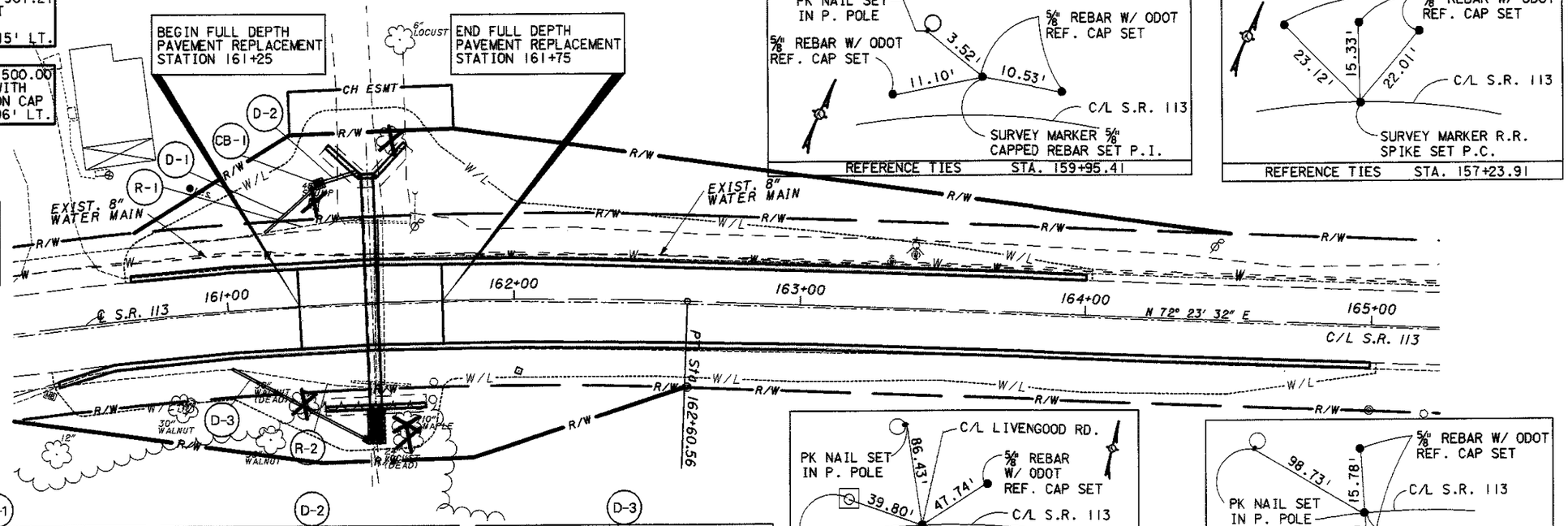
DESIGN FILE: i:\projects\8640\Struct\subsum.dgn
WORKSTATION: *claughre* DATE: *10/24/03*

BENCH MARK: ELEV. 501.21
TOP OF S.E. COR. 1ST STEP TO FRONT PORCH
STA. 160+63.39 51.15' LT.

BENCH MARK: ELEV. 500.00
TOP OF 5/8" IRON PIN WITH O.D.O.T. TRAV. PT. ON CAP
STA. 160+90.17 43.96' LT.

BEGIN FULL DEPTH PAVEMENT REPLACEMENT STATION 161+25

END FULL DEPTH PAVEMENT REPLACEMENT STATION 161+75



CB-1

CB 2-3
STA. 161+35
OFFSET 42.50' LT.
T/G ELEV. = 497.70
℄ ELEV. = 491.40

D-1

8" CONDUIT, TYPE C	
INLET	OUTLET
STA. 161+15	STA. 161+35
OFFSET 26.40' LT.	OFFSET 42.50' LT.
ELEV. = 491.60	ELEV. = 491.40

D-2

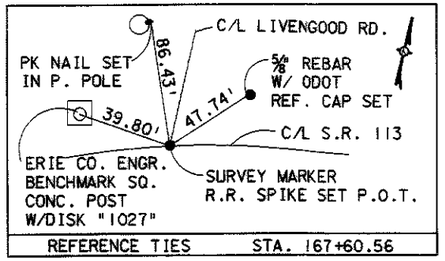
12" CONDUIT, TYPE C	
INLET	OUTLET
STA. 161+35	STA. 161+47
OFFSET 42.50' LT.	OFFSET 47.10' LT.
ELEV. = 491.40	ELEV. = 491.15

D-3

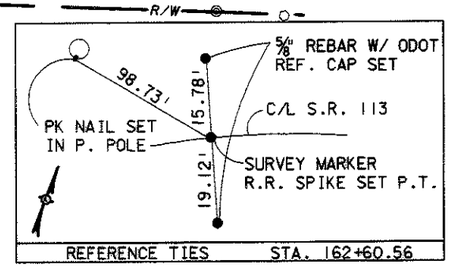
8" CONDUIT, TYPE C	
INLET	OUTLET
STA. 161+00	STA. 161+44
OFFSET 20.00' RT.	OFFSET 47.00' RT.
ELEV. = 491.60	ELEV. = 491.34

REFERENCE TIES STA. 159+95.41

REFERENCE TIES STA. 157+23.91



REFERENCE TIES STA. 167+60.56

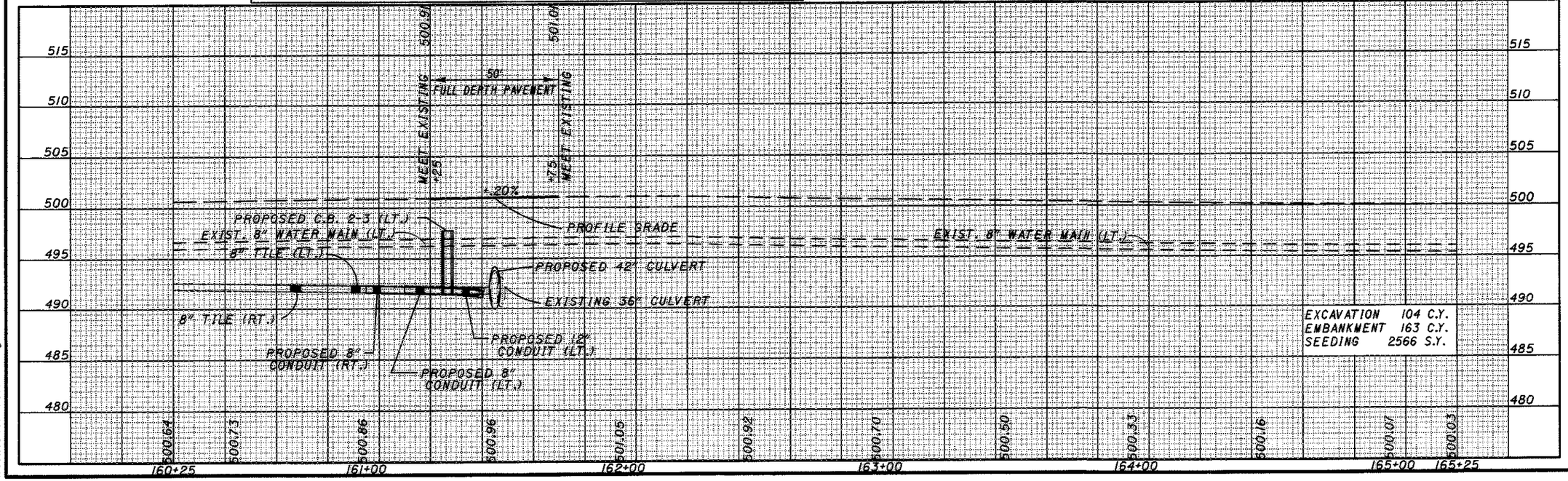


REFERENCE TIES STA. 162+60.56

PROPOSED ELEVATIONS SHOWN ARE PRIOR TO RESURFACING

SEE SHEET 44 FOR QUANTITIES

SEE SHEET 49 FOR CULVERT DETAILS AND QUANTITIES



EXCAVATION 104 C.Y.
EMBANKMENT 163 C.Y.
SEEDING 2566 S.Y.

DESIGN FILE: I:\projects\18640\Struct\elpipr.dgn
WORKSTATION: claughre DATE: 10/24/03

HORIZONTAL SCALE IN FEET

CALCULATED DCM CHECKED RDN

PLAN AND PROFILE
STA. 160+25 TO STA. 165+25
CULVERT NO. ERI-113-2.51

ERI-4-0.00

DESIGN FILE: I:\projects\18640\Struct\estquan.dgn
WORKSTATION: claughre DATE: 10/24/03

REF NO.	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED 24" AND UNDER (FT)	603 8" CONDUIT, TYPE C (FT)	603 12" CONDUIT, TYPE C (FT)	604 CATCH BASIN, NO. 2-3 (EACH)
CB-1	161+35.00		LT				1
D-1	161+15.00	161+35.00	LT				
D-2	161+35.00	161+47.00	LT		26		
D-3	161+00.00	161+44.00	RT		52	14	
R-1	161+15.00	161+47.9	LT	34			
R-2	161+00.00	161+46.00	RT	47			
ALL QUANTITIES FROM PLAN AND PROFILE SHEET NO. 43							
TOTALS CARRIED TO SHEET 42.				81	78	14	1

ERI-4-0.00

CULVERT ESTIMATED QUANTITIES

CALCULATED DCM
CHECKED RDN

SEEDING	
END WIDTH	SQ. YDS.
20	49
0	
	* 49

END AREA		VOLUME	
CUT	FILL	CUT	FILL
2	2		
		2	2
0	0		
		* 2	* 2

CALCULATED DCM
CHECKED RDN

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

505 500 495 490 485

EX R/W

EP

R/W

S

6%

BEGIN EARTHWORK & BERM (RIGHT) 160+38

160+43.83
500.77

160+00
500.57

159+50
500.49

EXIST. 8" TILE (TYP.)

EXIST. 8" WATER MAIN (TYP.)

*TOTAL CARRIED TO SHEET 43

STA. 159+50 TO STA. 160+43.83
ERI-113

ERI-4-0.00

45
87

DESIGN FILE: I:\projects\18640\Struct\dixsec.dgn
WORKSTATION: dlaughre DATE: 10/24/03

SEEDING END WIDTH	SEEDING SQ. YDS.
84	470
85	206
63	350
49	*

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

505 500 495 490

R/W EX R/W S 8:1 6:1 EP

161+75
501.03

505 500 495 490

EX R/W R/W S 8:1 I"/FT. EP 6:1

ADD FOR CULVERT

161+50.23
500.97

505 500 495 490

EX R/W R/W S 8:1 6:1 EP

161+25
500.90

505 500 495 490

EX R/W R/W S 8:1 I"/FT. EP 6:1

EXIST. 8" TILE (TYP.)

EXIST. 8" WATER MAIN (TYP.)

161+00
500.86

8" TILE (TYP.)

BEGIN EARTHWORK AND BERM (LEFT) STA. 160+65

STA. 160+43.83

*TOTAL CARRIED TO SHEET 43

STA. 160+43.83

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

*1026 *65 *105

END AREA	CUT	FILL	VOLUME CUT	VOLUME FILL
AHD	10	16		
BK	24	16		
			49	30
				50
AHD	29	18		
BK	14	18		
			9	13
	5	10		
			7	12
	2	2		

CALCULATED DCM
CHECKED RDN

STA. 161+00 TO STA. 161+75
ERI-113

ERI-4-0.00

46
87

DESIGN FILE: i:\projects\18640\Struct\olxsec.dgn
WORKSTATION: claughre DATE: 10/24/03

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
41	239	3	3	6	5
45	275	3	2	6	6
54	358	3	5	6	18
75	221	10	16	*24	*43
84	*1093				

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

505 500 495 490

EX R/W — R/W — S — 6:1 — EP

163+50
500.50

163+00
500.70

162+50
500.92

162+00
501.05

EXIST. 8" WATER MAIN (TYP.)

*TOTAL CARRIED TO SHEET 43

ST.A. 161+75

DESIGN FILE: I:\projects\18640\Struct\clxsec.dgn
WORKSTATION: claughre DATE: 10/24/03

CALCULATED DCM
CHECKED RDN

STA. 162+00 TO STA. 163+50
ERI-113

ERI-4-0.00

47
87

SEEDING END WIDTH	SEEDING SQ. YDS.
0	42
15	142
36	214
	*398

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		1	0
1	0		
		2	2
1	2		
		4	5
3	3		
		6	6
3	3	*13	*13

CALCULATED DCM
CHECKED RDN

STA. 164+00 TO STA. 165+50
ERI-113

ERI-4-0.00

48
87

DESIGN FILE: I:\projects\18640\Struct\clxsec.dgn
WORKSTATION: claughre
DATE: 10/24/03

60 50 40 30 20 10 ℄ 10 20 30 40 50 60

500 505 500 495 490

EX R/W

165+50
499.99

EX R/W

505 500 495 490

EP

165+00
500.07

END EARTHWORK AND BERM (RIGHT)

R/W

EX R/W

505 500 495 490

S

164+50
500.16

EP

EP

EX R/W

505 500 495 490

R/W

EX R/W

505 500 495 490

S

EP

EP

EX R/W

505 500 495 490

EXIST. 8" WATER MAIN (TYP.)

164+00
500.33

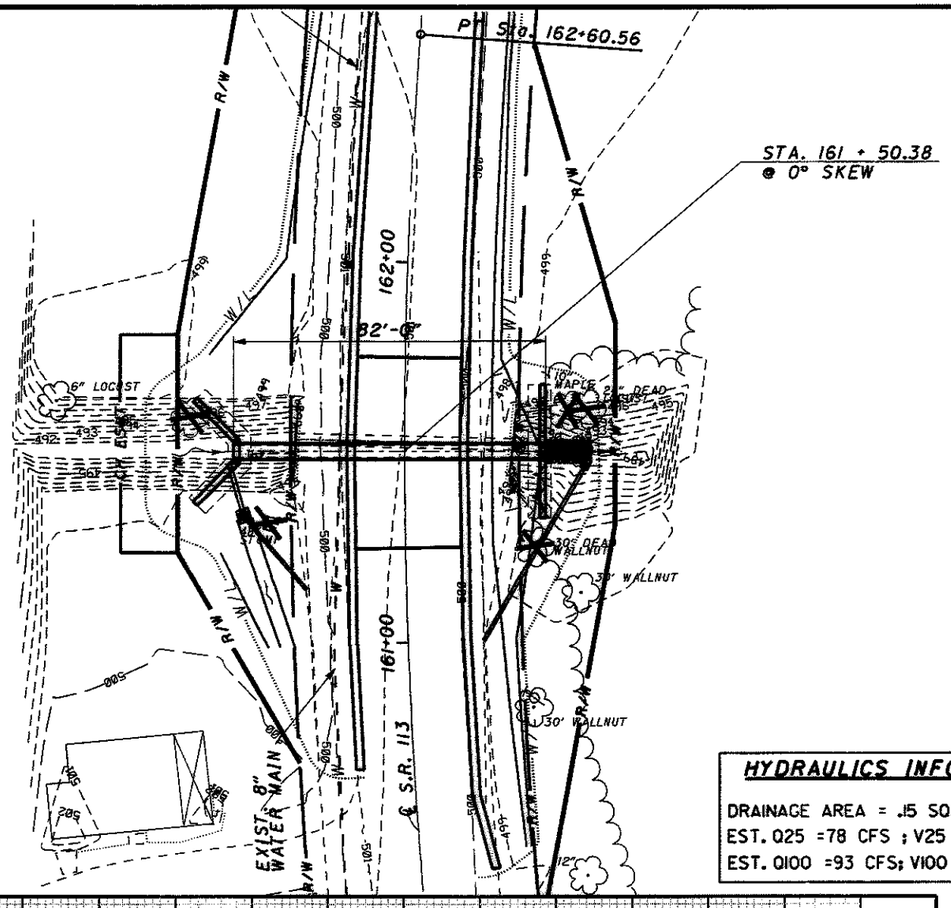
END EARTHWORK AND BERM (LEFT)

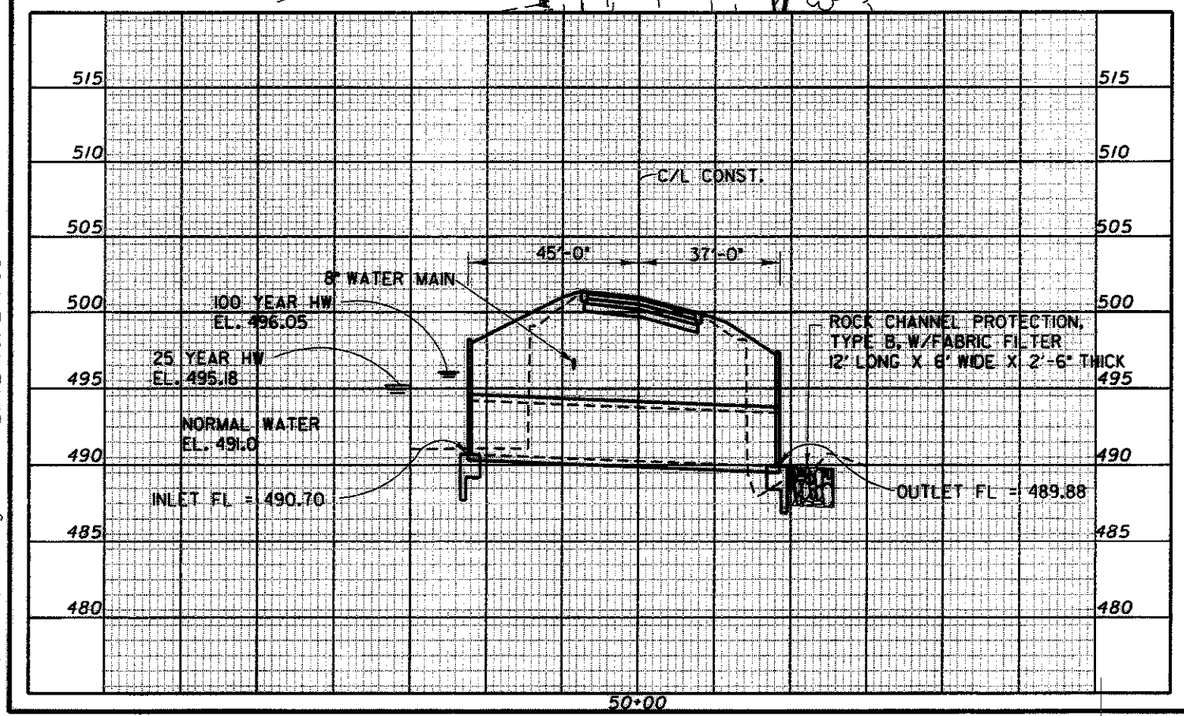
STA. 163+50

*TOTAL CARRIED TO SHEET 43

STA. 163+50

60 50 40 30 20 10 ℄ 10 20 30 40 50 60





HYDRAULICS INFORMATION

DRAINAGE AREA = .15 SQ. MI.
EST. Q25 =78 CFS ; V25 =11.56 FPS
EST. Q100 =93 CFS; V100 =12.11 FPS

EXISTING CULVERT

TYPE: CAST IRON PIPE
SIZE: 36"
ROADWAY: 2 - 12' LANES WITH 1'-9" PAVED SHOULDERS
WEARING SURFACE: BITUMINOUS
SKEW: 1° L.F.
ALIGNMENT: 4° CURVED TO THE RIGHT
CONDITION: POOR
DATE BUILT: UNKNOWN

PROPOSED CULVERT

TYPE: REINFORCED CONCRETE CULVERT
SIZE: 42"
ROADWAY: SEE TYPICAL SECTION
DESIGN LOADING: HS20-44 AND ALTERNATE MILITARY LOADING
SKEW: 0° TO TANGENT
WEARING SURFACE: ASPHALT CONCRETE
ALIGNMENT: 4° CURVED TO THE RIGHT
HYDRAULIC DESIGN YEAR FREQUENCY: 25 YR.

LATITUDE: N 41° 17' 25"
LONGITUDE: W 82° 40' 26"

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION
202	LUMP		STRUCTURE REMOVED
503	LUMP		COFFERDAMS, CRIBS AND SHEETING
503	LUMP		UNCLASSIFIED EXCAVATION, INCLUDING ROCK AND/OR SHALE
509	6669	POUND	EPOXY COATED REINFORCING STEEL
511	64	CU YD	CLASS C CONCRETE, AS PER PLAN (RET WALL/WINGWALL-INCL FTG)
518	LUMP		POROUS BACKFILL WITH FILTER FABRIC
603	82	FT	42" CONDUIT, TYPE A, 706.02
864	52	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO SHEET 42

EXISTING STRUCTURE TO BE REMOVED.
ROAD TO BE CLOSED DURING CONSTRUCTION.
TRAFFIC TO BE DETOURED.

EARTHWORK LIMITS SHOWN APPROXIMATE.
ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.

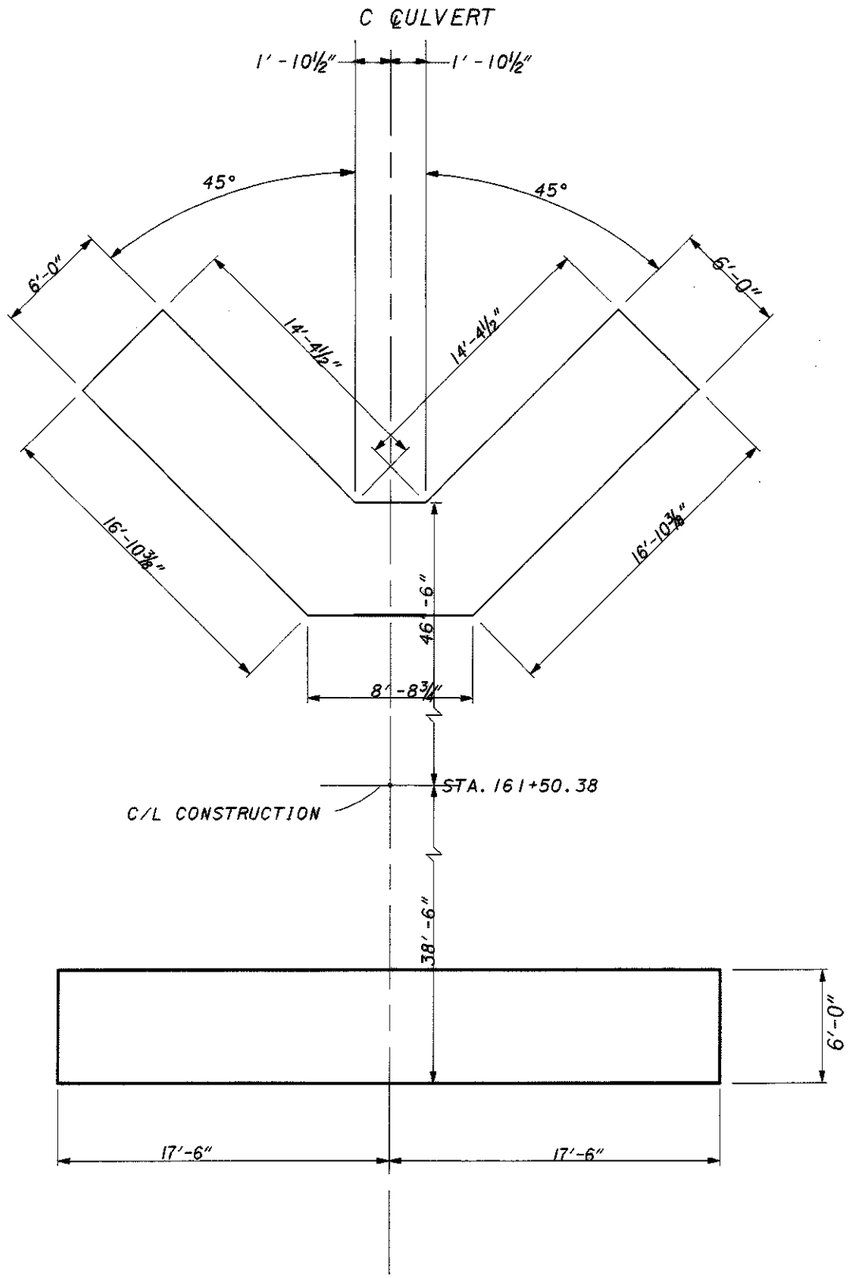
HORIZONTAL
0
CALCULATED DCM
CHECKED CAI

CULVERT DETAIL
ERI-113-2.51
OVER UNNAMED DITCH

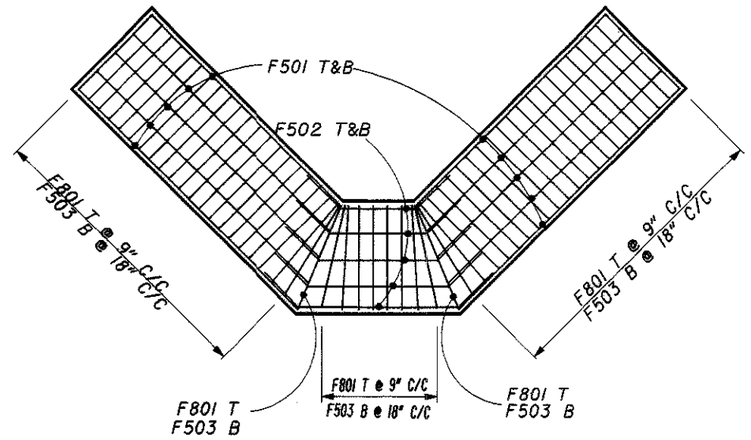
ERI-4-0.00

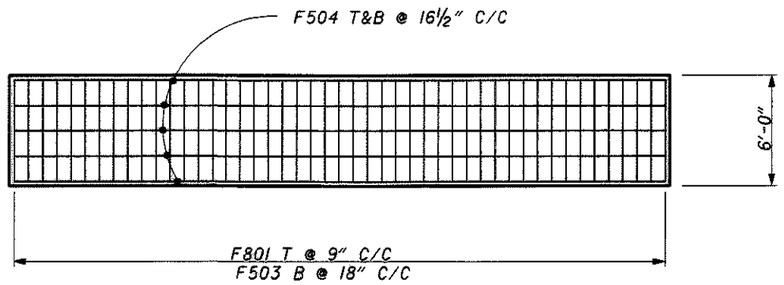
49
87

DESIGN FILE: h:\projects\8640\Struct\bipipr.dgn
WORKSTATION: claughre DATE: 10/24/03

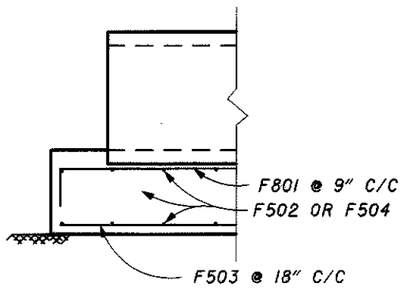


FOOTING LAYOUT





FOOTING REINFORCING LAYOUT



FOOTING REINFORCING DETAIL

LEGEND
T - TOP
B - BOTTOM

TOP OF ROCK

* ESTIMATED TOP OF ROCK ELEVATION IS 488.5 AT STATION 161+63, 12' LT. AND 490.5 AT STATION 161+41, 10' RT.. FOOTING THICKNESS VARIES, SO BOTTOM OF FOOTING BEARS UPON ROCK. MINIMUM FOOTING THICKNESS = 2'-0".

DESIGN AGENCY

DESIGNED	DRAWN	REVISED	DATE
DCM	ADP	CAL	10/03
CHECKED	REVISED		STRUCTURE FILE NUMBER
RDN			

HEADWALL DETAILS
ERI-113-251
OVER UNNAMED DITCH

ERI-4-0.00

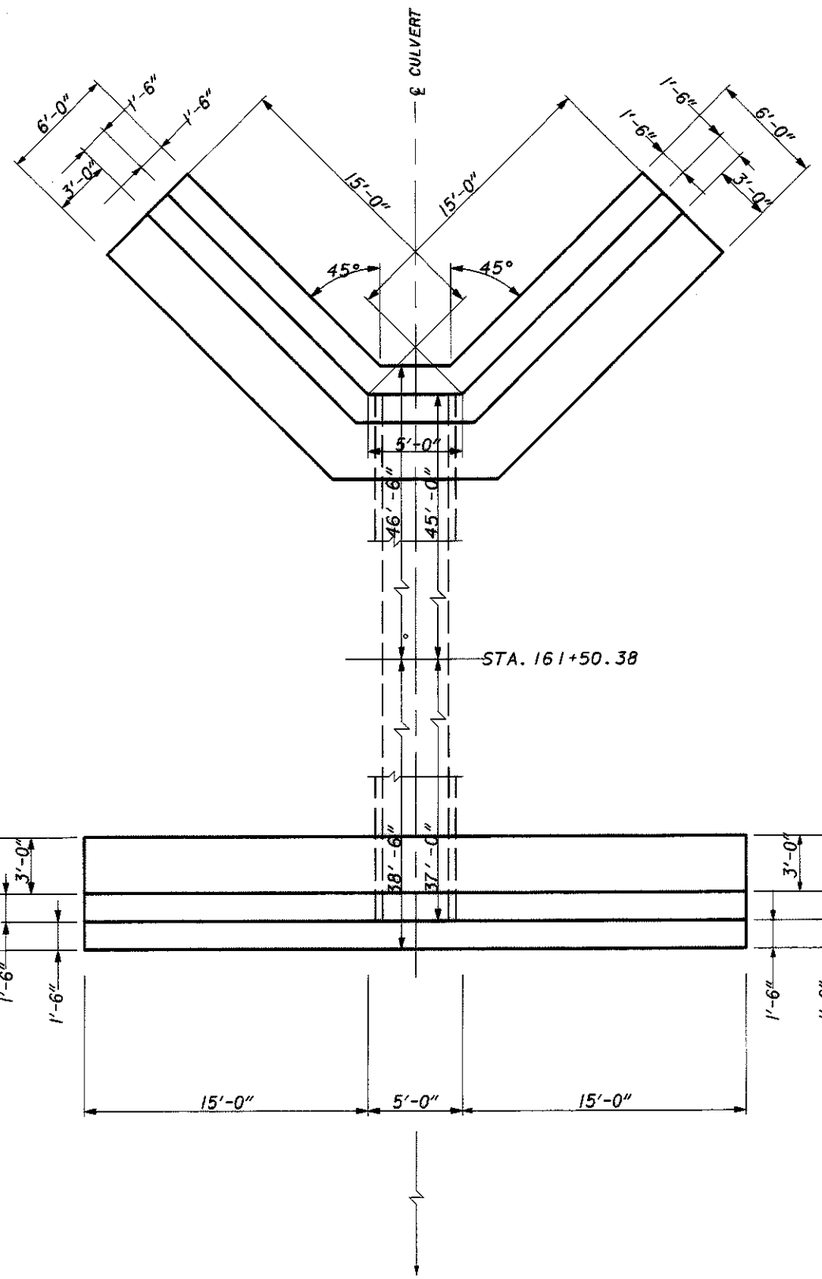
1 / 6

50 / 87

DESIGN FILE: i:\projects\18640\Struct\HEADWALL.DGN
WORKSTATION: *claughre* DATE: *10/24/03*

(WINGWALL 4)

(WINGWALL 1)



(WINGWALL 3)

(WINGWALL 2)

CULVERT & WINGWALL LAYOUT

DESIGN FILE: i:\projects\8640\Struct\HEADWALL.DGN
WORKSTATION: *dlaughre* DATE: *10/24/03*

DESIGN AGENCY

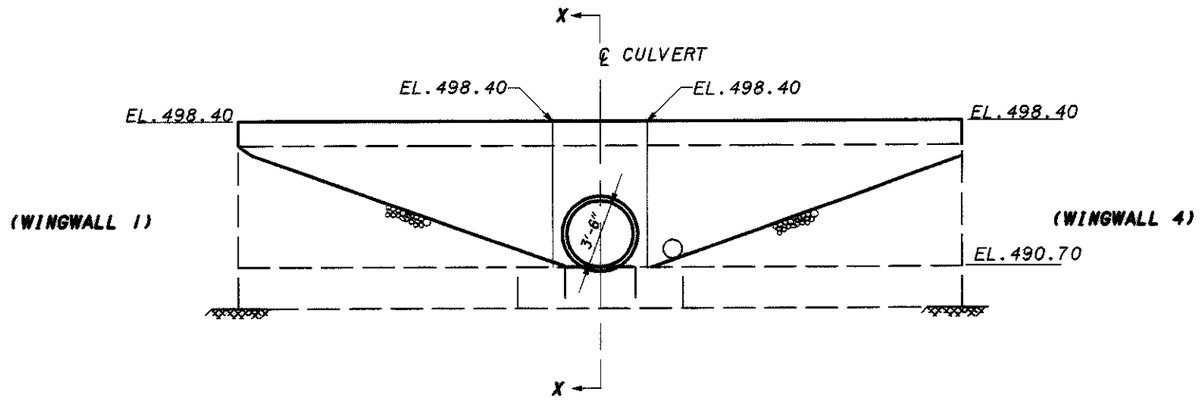
DESIGNED	DRAWN	REVIEWED	DATE
DCM	ADP	CAL	10/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RDW			

HEADWALL DETAILS
ERI-113-251
OVER UNNAMED DITCH

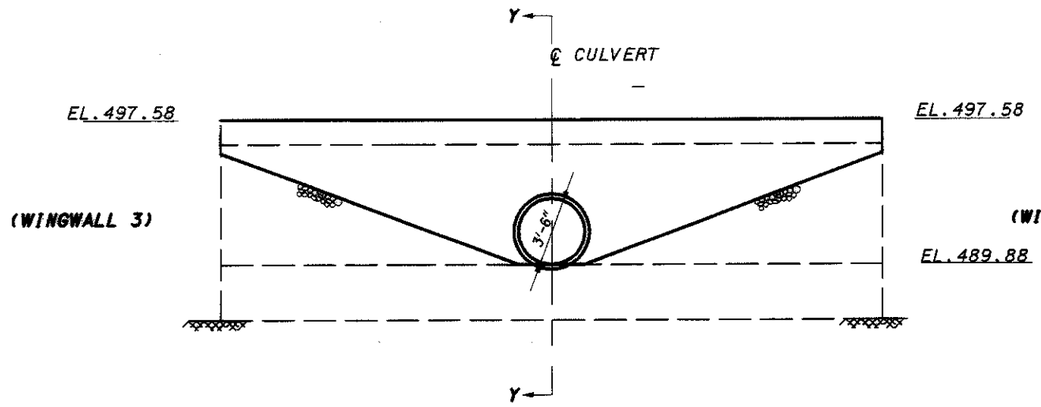
ERI-4-0.00

2 / 6

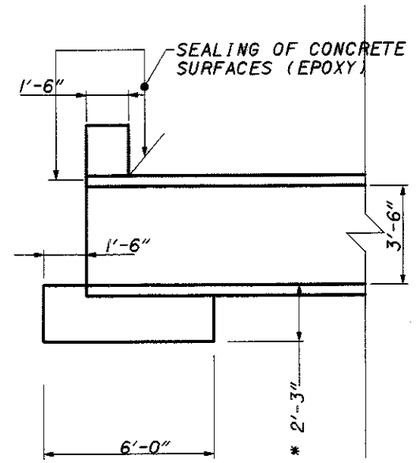
51
87



INLET ELEVATION
FLOWLINE ELEVATION: EL.490.70



OUTLET ELEVATION
FLOWLINE ELEVATION: EL.489.88



SECTION X-X
SECTION Y-Y IS SIMILAR

TOP OF ROCK

* ESTIMATED TOP OF ROCK ELEVATION IS 488.5 AT STATION 161+63, 12' LT. AND 490.5 AT STATION 161+41, 10' RT.. FOOTING THICKNESS VARIES, SO BOTTOM OF FOOTING BEARS UPON ROCK. MINIMUM FOOTING THICKNESS = 2'-0".

DESIGN AGENCY

DESIGNED	DRAWN	REVIEWED	DATE
DCM	ADP	CAL	10/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RDN			

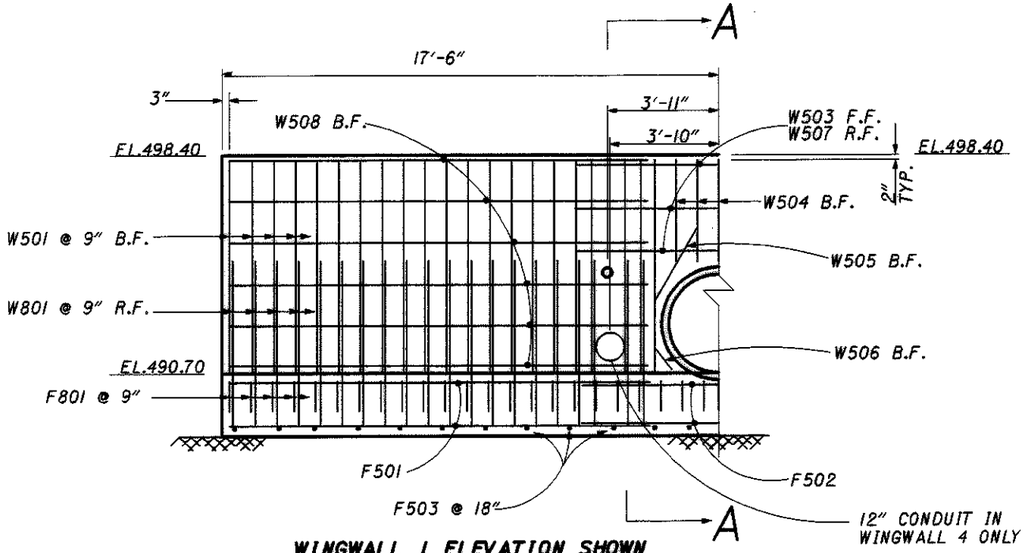
HEADWALL DETAILS
ERI-113-251
OVER UNNAMED DITCH

ERI-4-0.00

3 / 6

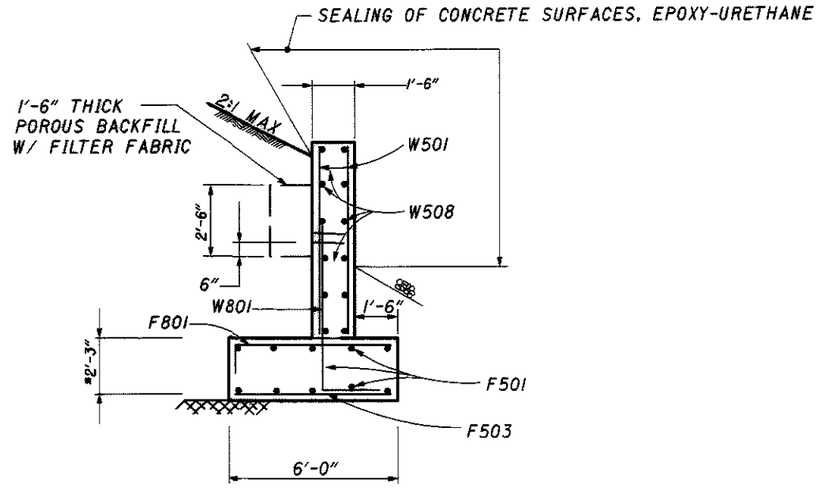
52
87

DESIGN FILE: I:\projects\18640\Struct\HEADWALL.DGN
WORKSTATION: *dlaughre* DATE: *10/24/03*



WINGWALL 1 ELEVATION SHOWN
WINGWALL 4 ELEVATION SIMILAR

NOTE: 4" DIA. WEEPHOLE
ELEV. = 494.90



SECTION A-A

LEGEND

F.F. - FRONT FACE
R.F. - REAR FACE
B.F. - BOTH FACES

NOTE:

TOP OF ROCK

* ESTIMATED TOP OF ROCK ELEVATION IS 488.5 AT STATION 161+63, 12' LT. AND 490.5 AT STATION 161+41, 10' RT.. FOOTING THICKNESS VARIES, SO BOTTOM OF FOOTING BEARS UPON ROCK. MINIMUM FOOTING THICKNESS = 2'-0".

ITEM 518, POROUS BACKFILL WITH FILTER FABRIC, 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6".

DESIGN AGENCY

DESIGNED	DRAWN	REVIEWED	DATE
DCM	ADP	CAL	10/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
ADW			

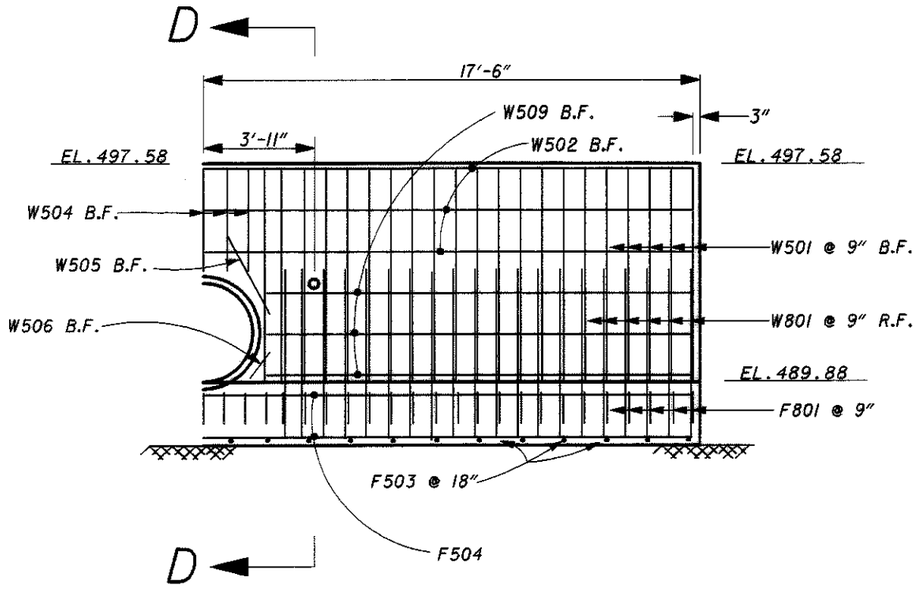
HEADWALL DETAILS
ERI-113-251
OVER UNNAMED DITCH

ERI-4-0.00

4 / 6

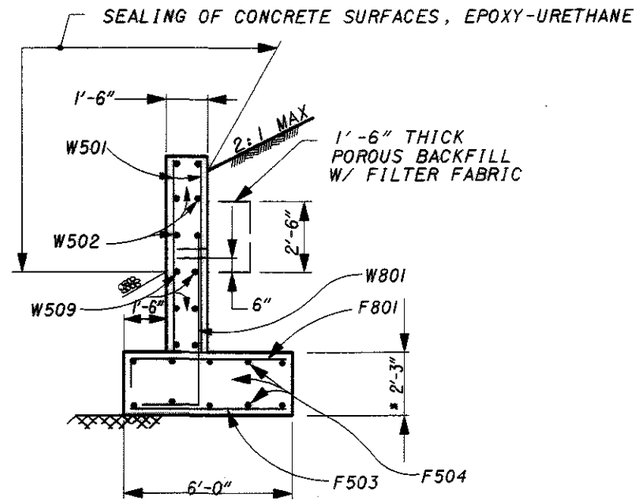
53
87

DESIGN FILE: h:\projects\8640\Struct\HEADWALL.DGN
WORKSTATION: dlaughre DATE: 10/24/03



WINGWALL 2 ELEVATION SHOWN
WINGWALL 3 ELEVATION SAME

NOTE: 4" DIA. WEEPHOLE
ELEV. = 494.00



SECTION D-D

LEGEND

F.F. - FRONT FACE
R.F. - REAR FACE
B.F. - BOTH FACES

NOTE:

TOP OF ROCK

* ESTIMATED TOP OF ROCK ELEVATION IS 488.5 AT STATION 161+63, 12' LT. AND 490.5 AT STATION 161+41, 10' RT.. FOOTING THICKNESS VARIES, SO BOTTOM OF FOOTING BEARS UPON ROCK. MINIMUM FOOTING THICKNESS = 2'-0".

ITEM 518, POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6".

DESIGN AGENCY

DESIGNED	DRAWN	REVIEWED	DATE
DCM	ADP	CAL	10/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
RDN			

HEADWALL DETAILS
ERI-113-251
OVER UNNAMED DITCH

ERI-4-0.00

5 / 6

54 / 87

DESIGN FILE: I:\projects\18640\Struct\HEADWALL.DGN
WORKSTATION: *dlaughre* DATE: *10/24/03*

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN LOADING:
HS20-44 AND THE ALTERNATE MILITARY LOADING.

DESIGN STRESSES:

CAST-IN-PLACE STRUCTURES

CONCRETE CLASS C - f'c = 4,000 psi SUBSTRUCTURE

REINFORCING STEEL - ASTM A615 OR A996, GRADE 60

Fy = 60,000 psi.

PRECAST STRUCTURES: FOR PIPE CULVERTS SEE CMS SECTION 603.

REMOVAL OF EXISTING STRUCTURE:

WHEN NO LONGER NEEDED TO MAINTAIN TRAFFIC, THE EXISTING STRUCTURE SHALL BE REMOVED UPON RECEIVING PERMISSION FROM THE ENGINEER.

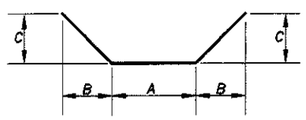
ITEM 503-UNCLASSIFIED EXCAVATION, INCLUDING ROCK AND/OR SHALE:

THIS ITEM INCLUDES ALL EXCAVATION NOT INCLUDED WITH ITEM 202 STRUCTURE REMOVED OR ITEM 603-42" CONDUIT, TYPE A, 706.02

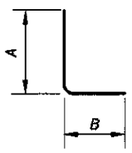
ITEM 518, POROUS BACKFILL WITH FILTER FABRIC

THE POROUS BACKFILL SHALL BE 1'-6" THICK AND BE PLACED BEHIND THE THE WINGWALLS ONLY. GEOTEXTILE FABRIC SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6". GEOTEXTILE FABRIC SHALL CONFORM WITH 712.09, TYPE A. THE POROUS BACKFILL SHALL BE GRAVEL.

ITEM 511- CLASS C CONCRETE, AS PER PLAN (RET WALL/ WINGWALL, INCL. FOOTING.)
THE COARSE AGGREGATE SHALL BE LIMESTONE.



TYPE 1



TYPE 2

BENDING DIAGRAMS

EPOXY COATED REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C
F501	20	**	320	STR			
F502	10	***	116	1	****	1'-9"	1'-9"
F503	52	5'-6"	298	STR			
F504	10	34'-6"	360	STR			
F801	99	6'-4"	1673	2	5'-6"	1'-1/2"	
W501	168	7'-5"	1300	STR			
W502	6	34'-6"	216	STR			
W503	3	10'-0"	31	1	5'-1"	1'-9"	1'-9"
W504	20	3'-7"	75	STR			
W505	8	3'-0"	25	STR			
W506	8	1'-0"	8	STR			
W507	3	11'-0"	34	1	6'-1"	1'-9"	1'-9"
W508	24	14'-9"	369	STR			
W509	12	15'-0"	188	STR			
				STR			
W801	80	7'-9"	1656	2	6'-0"	2'-0"	
TOTAL			*6669				

*QUANTITY CARRIED TO SHEET 49

** VARIES FROM 14'-2" TO 16'-6" AT 7" INCREMENTS

*** VARIES FROM 8'-11" TO 13'-5" AT 13½" INCREMENTS

**** VARIES FROM 4'-0" TO 8'-6" AT 13½" INCREMENTS

DESIGN AGENCY

DESIGNED DC·M | DRAWN ADP | REVIEWED CAL | DATE 10/03

CHECKED ADN | REVISED | STRUCTURE FILE NUMBER

HEADWALL DETAILS
ERI-113-251
OVER UNNAMED DITCH

ERI-4-0.00

6 6

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87

DESIGN FILE: I:\projects\8640\Struct\HEADWALL.DGN
WORKSTATION: slaughre DATE: 10/24/03

BRIDGE NUMBER ERI-4-0033 SFN 2201232

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
202	11300	2.9	CU.YD.	PORTIONS OF STRUCTURE REMOVED
202	98200	636	FT.	REMOVAL MISC: ELASTOMERIC COMPRESSION SEAL
511	45701	2.9	CU.YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
514	00100	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL
514	00200	LUMP		FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT
514	00300	LUMP		FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT
514	00400	LUMP		FIELD PAINTING STRUCTURAL STEEL, FINISH COAT
516	10900	636	FT.	ELASTOMERIC COMPRESSION SEAL
516	45305	16	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
516	47001	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN
519	11101	140	SQ.FT.	PATCHING CONCRETE STRUCTURE, AS PER PLAN
614	22000	1.5	MILE	WORK ZONE EDGE LINE, CLASS I
864	10100	996	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

BRIDGE NUMBER ERI-4-0256 SFN 2201259

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
864	10100	42	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

BRIDGE NUMBER ERI-4-0307 SFN 2201291

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
614	12800	284	EACH	WORK ZONE RAISED PAVEMENT MARKER
614	13202	10	EACH	BARRIER REFLECTOR, TYPE A2
614	21000	.06	MILE	WORK ZONE CENTER LINE, CLASS I (SOLID DOUBLE)
614	22000	.04	MILE	WORK ZONE EDGE LINE, CLASS I (WHITE)
614	26000	24	FT.	WORK ZONE STOP LINE, CLASS I
848	10001	191	SQ. YD.	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2 INCH THICK)
848	20000	191	SQ. YD.	SURFACE PREPARATION USING HYDRODEMOLITION
848	30001	4	CU. YD.	MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
848	50000	6	SQ. YD.	HAND CHIPPING
848	50100	LUMP		TEST SLAB
848	50200	1	CU. YD.	FULL - DEPTH REPAIR
848	50300	191	SQ. YD.	WEARING COURSE REMOVED, ASPHALT
864	10100	89	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

DESIGN FILE: h:\projects\18640\Struct\ERI-4-0.33\strsum.dgn
WORKSTATION: gschlett DATE: 10/23/03

DESIGN AGENCY: DISTRICT THREE
DESIGNED: CAL
DRAWN: CAL
CHECKED: DCM
REVIEWED: RDN DATE: 10/03
REVISED
STRUCTURAL FILE NUMBER

STRUCTURE SUMMARY

ERI-4-0.00

BRIDGE NUMBER ERI-4-0841 SFN 2201356

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION
202	11300	7	CU. YD.	PORTIONS OF STRUCTURE REMOVED (ABUTMENT)
202	11300	7	CU. YD.	PORTIONS OF STRUCTURE REMOVED (DECK)
202	11300	104	CU. YD.	PORTIONS OF STRUCTURE REMOVED (PARAPET)
509	10000	16,160	POUND	EPOXY COATED REINFORCING STEEL
510	10000	1252	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
511	31505	7	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (DECK)
511	31505	99.4	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET)
511	34450	2	CU. YD.	CLASS S CONCRETE, MISC: SCUPPERS
511	45701	9	CU. YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
516	10900	283	FT.	ELASTOMERIC COMPRESSION SEAL
516	11210	128	FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL
848	10001	1871	SQ. YD.	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (3 INCH THICK)
848	20000	1845	SQ. YD.	SURFACE PREPARATION USING HYDRODEMOLITION
848	30001	30	CU. YD.	MICRO SILICA MODIFIED CONCRETE OVERLAY(VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
848	50000	100	SQ. YD.	HAND CHIPPING
848	50100	lump		TEST SLAB
848	50200	1	CU. YD.	FULL-DEPTH REPAIR
864	10100	934	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

DESIGN FILE: I:\projects\18640\Struct\ERI-4-0.33\strsum.dgn
WORKSTATION: gschleff DATE: 10/23/03

DESIGN AGENCY: DISTRICT THREE

DESIGNED	DRAWN	REVIEWED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM			

STRUCTURE SUMMARY

ERI-4-0.00

REFERENCES SHALL BE MADE TO STANDARD DRAWINGS:

BP-3.1	DATED	7/28/00
SBR-1-99	DATED	7/19/02
MT-35.10	DATED	4/20/01
MT-95.31	DATED	4/19/02
MT-95.32	DATED	4/19/02
MT-96.10	DATED	4/19/02
MT-96.20	DATED	4/19/02
MT-101.60	DATED	10/18/02

AND TO SUPPLEMENTAL SPECIFICATIONS:

841	DATED	4/19/02	954	DATED	9/09/97
846	DATED	4/19/02			
848	DATED	2/08/02			
864	DATED	7/11/00			

EXISTING STRUCTURE VERIFICATION:

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURES HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURES AND FROM FIELD OBSERVATION AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURES AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05, 105.02 AND 513.02. THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OHIO.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PRE-BID EXAMINATION OF THE EXISTING STRUCTURES BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED ON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002 AND THE ODOT BRIDGE DESIGN MANUAL.

PLACING ASPHALT CONCRETE FEATHERING ON APPROACHES TO BRIDGES:

SPECIAL CARE SHALL BE TAKEN, WHEN PLACING THE ASPHALT CONCRETE FEATHERING TO EFFECT A SMOOTH TRANSITION FROM THE EXISTING APPROACH PAVEMENT TO THE BRIDGE DECK OR APPROACH SLAB. THE CONTRACTOR'S ATTENTION IS CALLED TO STANDARD DRAWING BP-3.1 FOR REQUIRED TOLERANCES.

DESIGN DATA:

CONCRETE CLASS C - COMPRESSIVE STRENGTH 4000 PSI

CONCRETE CLASS FS - COMPRESSIVE STRENGTH 4500 PSI

CONCRETE CLASS S - COMPRESSIVE STRENGTH 4500 PSI

STRUCTUAL STEEL - ASTM A709 GRADE 50 OR 50W

REINFORCING STEEL - ASTM A615, A616 OR A617, GRADE 60, FY=60,000 PSI

STRUCTURE PROTECTION:

THE EXPANSION JOINT SEAL AT THE ENDS OF BRIDGES SHALL BE PROTECTED FROM ALL SEALERS. NO SEALERS SHALL BE ALLOWED TO COME INTO CONTACT WITH THE EXPANSION JOINT SEAL. IF ANY SEALER COMES INTO CONTACT WITH THE EXPANSION JOINT SEAL THE CONTRACTOR SHALL REPLACE THE EXPANSION JOINT TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE STATE.

ITEM 202 - REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL:

THIS ITEM SHALL BE USED TO REMOVE THE EXISTING ELASTOMERIC COMPRESSION SEAL IN THE EXISTING EXPANSION JOINT AT LOCATIONS INDICATED IN THE PLAN.

CARE SHALL BE TAKEN NOT TO DAMAGE THE PORTION OF STRUCTURE TO REMAIN.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT FOR ITEM 202 - REMOVAL MISC.: ELASTOMERIC COMPRESSION SEAL WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DESIGN FILE: i:\projects\18640\Struct\STRUCTNOTES.dgn
WORKSTATION: dmullens DATE: 10/24/03

DESIGN AGENCY: DISTRICT THREE

DESIGNED	DRAWN	REVISED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM			

STRUCTURE GENERAL NOTES

ERI-4-0.00

ITEM 516 - JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

GENERAL:

THIS WORK CONSISTS OF RAISING OR RE-POSITIONING EXISTING STRUCTURES TO THE DIMENSIONS AND REQUIREMENTS DEFINED IN THE PROJECT PLANS.

SUBMITTAL REQUIREMENTS:

AN OHIO REGISTERED ENGINEER SHALL PREPARE, SEAL AND DATE PLANS FOR A JACKING SYSTEM, INCLUDING ANY TEMPORARY OR PERMANENT SUPPORTS, SUFFICIENT TO PERFORM THE WORK DESCRIBED IN THE PLANS. SUBMIT THREE SETS OF THESE PLANS TO THE DIRECTOR FOR APPROVAL AT LEAST THIRTY (30) DAYS BEFORE ACTUAL WORK IS TO BEGIN.

JACKING SUBMITTALS SHALL INCLUDE AT LEAST THE FOLLOWING:

1. THE SIGNATURE AND NUMBER, OR PROFESSIONAL SEAL, OF THE OHIO REGISTERED PROFESSIONAL ENGINEER WHO PREPARED THE SUBMITTAL.
2. CALCULATIONS AND ANALYSES OF THE STRUCTURE TO DETERMINE AND DEFINE THE ACTUAL LOADING APPLIED AT THE JACKING POINTS.
3. A DRAWING SHOWING THE PHYSICAL AND DIMENSIONAL POSITION OF THE JACKS WITH RESPECT TO THE STRUCTURE INCLUDING CLEARANCES AND CENTER OF LIFT.
4. A SCHEMATIC LAYOUT OF JACKS, CHECK VALVES, PUMPS WITH 3 WAY RETRACTOR VALVE, PRESSURE GAGES, FLOW CONTROL VALVES, ETC. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ALL JACKS FOR EACH ABUTMENT OR PIER SHALL BE CONNECTED TOGETHER. ALL JACKS AT EACH ABUTMENT OR PIER SHALL BE THE SAME SIZE.
5. ANALYSIS AND CALCULATIONS OF THE STRESSES INDUCED OR CREATED IN THE STRUCTURE AND ANY TEMPORARY OR PERMANENT SUPPORTS. DESIGN CALCULATIONS FOR ANY TEMPORARY OR PERMANENT SUPPORTS.
6. PHYSICAL DIMENSIONS, MATERIALS, AND FABRICATION DETAILS OF ANY TEMPORARY OR PERMANENT SUPPORTS. HORIZONTAL AND VERTICAL MOVEMENT RESTRAINT SHALL BE PROVIDED.
7. A STEP BY STEP PROCEDURE DETAILING ALL STEPS IN THE JACKING OPERATION.
8. METHOD OF ATTACHMENT TO STRUCTURAL MEMBERS. WELDING TO TENSION AREAS WILL NOT BE PERMITTED.

JACKING SYSTEM REQUIREMENTS:

THE ENTIRE SYSTEM INCLUDING JACKS SHALL HAVE 20% MORE CAPACITY THAN REQUIRED BASED ON CALCULATED LOADS. FOR LIFTS GREATER THAN 1 INCH [25 MM], JACKS SHALL HAVE LOCKING NUTS TO POSITIVELY LOCK AND SUPPORT THE STRUCTURE DURING THE LIFT. JACKS SHALL HAVE A SWIVEL LOAD CAP, A DOMED PISTON HEAD OR SOME OTHER DEVICE TO PROTECT AGAINST THE EFFECTS OF SIDE LOAD ON THE JACK. DO NOT USE JACKS ALONE TO SUPPORT LOADS EXCEPT DURING THE ACTUAL JACKING OPERATION. USE TEMPORARY SUPPORTS, BLOCKING OR OTHER METHODS APPROVED BY THE DIRECTOR. DO NOT USE SINGLE ACTING RAMS WITH NO OVER-TRAVEL PROTECTION SYSTEM. HAVE SPARE EQUIPMENT AVAILABLE ON SITE IN ORDER TO PROCEED WITH THE JACKING IN THE EVENT OF BREAKDOWN. PROVIDE A LIST OF SPARE EQUIPMENT TO THE ENGINEER.

JACKING OPERATION REQUIREMENTS:

AT A MINIMUM, A JACKING OPERATION SHALL LIFT ALL BEAMS AT ANY ONE ABUTMENT OR PIER SIMULTANEOUSLY. THE ONLY EXCEPTION IS THE SITUATION WHERE THE WORK INVOLVES REPLACING OR REHABILITATING INDIVIDUAL BEARINGS; NO PERMANENT SHIMMING IS REQUIRED AND THE HEIGHT OF THE LIFT SHALL NOT EXCEED 1/4 INCH [6 MM]. THE MAXIMUM DIFFERENTIAL JACKING HEIGHT BETWEEN ANY ADJACENT ABUTMENTS OR PIERS SHALL BE 1 INCH [25 MM] OR LESS. IF THIS 1 INCH LIMIT IS TO BE EXCEEDED, PROVIDE CALCULATIONS SHOWING THAT THE SUPERSTRUCTURE COMPONENTS WILL NOT BE TEMPORARILY STRESSED BEYOND ALLOWABLE STRESSES AND THAT NO PERMANENT STRESSES WILL BE INDUCED IN THE COMPONENTS AFTER THEY OBTAIN THEIR FINAL POSITION. IF, DURING THE JACKING OPERATIONS, CRACKING OF THE CONCRETE SUPERSTRUCTURE, SEPARATION OF THE CONCRETE DECK FROM THE STEEL STRINGERS, OR OTHER DAMAGE TO THE STRUCTURE IS VISUALLY OBSERVED, IMMEDIATELY CEASE THE JACKING OPERATION AND INSTALL SUPPORTS TO THE SATISFACTION OF THE ENGINEER. ANALYZE THE DAMAGE AND SUBMIT A METHOD OF CORRECTION TO THE ENGINEER FOR APPROVAL. EPOXY INJECT ALL BEAMS THAT SEPARATE FROM THE DECK FOR THE DISTANCE OF THE SEPARATION IN ACCORDANCE WITH ODOT'S PROPOSAL NOTE "CONCRETE REPAIR BY EPOXY INJECTION". THE DEPARTMENT WILL NOT PAY FOR THE COST OF THIS EPOXY INJECTION OR OTHER REQUIRED REPAIRS. THE BRIDGE BEARINGS SHALL BE FULLY SEATED AT ALLCONTACT AREAS. IF FULL SEATING IS NOT ATTAINED, SUBMIT A REPAIR PLAN TO THE ENGINEER. THE DEPARTMENT WILL NOT PAY FOR THE REPAIR COSTS TO ENSURE FULL SEATING ON BEARINGS.

METHOD OF MEASUREMENT: THE DEPARTMENT WILL MEASURE THIS WORK ON A LUMP SUM BASIS.

BASIS OF PAYMENT: THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES AT THE CONTRACT PRICE FOR ITEM 516, JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN.

ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN

THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO PROPERLY ALIGN BRIDGE BEARINGS AS WELL AS THEIR CLEANING AND PAINTING. INCLUDED SHALL BE THE DISASSEMBLY OF THE BEARINGS, HAND TOOL CLEANING (GRINDING IF NECESSARY), PAINTING ACCORDING TO ITEM 514, REPLACEMENT OF ANY DAMAGED SHEET LEAD WITH PREFORMED BEARING PADS (711.21), INSTALLATION OF ANY NECESSARY STEEL SHIMS OF THE SAME SIZE AS THE BEARINGS TO PROVIDE A SNUG FIT, REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS AND REWELDING SO THAT THE BEARINGS ARE VERTICALLY ALIGNED AT 60°F [15°C], AND REASSEMBLY OF THE BEARINGS. ASSURE ALL BEARINGS ARE SHIMMED ADEQUATELY AND THAT NO BEAMS AND/OR BEARING DEVICES ARE "FLOATING". AT NO ADDITIONAL COST TO THE STATE, THE CONTRACTOR MAY INSTALL NEW BEARINGS OF THE SAME TYPE AS THE EXISTING IN PLACE OF REFURBISHING THE BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR ALL OF THE ABOVE DESCRIBED LABOR AND MATERIALS WILL BE MADE AT THE CONTRACT PRICE BID FOR ITEM 516 - REFURBISH BEARING DEVICES, AS PER PLAN.

DESIGN FILE: I:\projects\18640\Struct\STRUCTNOTES.dgn
WORKSTATION: gschleff DATE: 10/23/03

DESIGN AGENCY
DISTRICT THREE

DESIGNED	DRAWN	REVIEWED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED		
DCM			

STRUCTURE GENERAL NOTES

ERI-4-0.00

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ITEM 511- CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)

ITEM 511- CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (DECK)

ITEM 511- CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET)

THE COARSE AGGREGATE SHALL BE LIMESTONE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER CUBIC YARD FOR EACH OF THE ABOVE ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 519 - PATCHING CONCRETE STRUCTURE, AS PER PLAN

PRIOR TO THE SURFACE CLEANING SPECIFIED IN 519.01 AND WITHIN 24 HOURS OF PLACING PATCHING MATERIAL, BLAST CLEAN ALL SURFACES TO BE PATCHED INCLUDING THE EXPOSED REINFORCING STEEL. ACCEPTABLE METHODS INCLUDE HIGH-PRESSURE WATER BLASTING WITH OR WITHOUT ABRASIVES IN THE WATER, ABRASIVE BLASTING WITH CONTAINMENT, OR VACUUM ABRASIVE BLASTING.

ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2" THICK)

ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (3" THICK)

ITEM 848 - MICRO SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN

THE COARSE AGGREGATE SHALL BE LIMESTONE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID FOR EACH OF THE ABOVE ITEMS WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

DESIGN AGENCY: DISTRICT THREE

DESIGNED: CAL | DRAWN: CAL | REVIEWED: RDN | DATE: 10/03

CHECKED: DCM | REVISED:

STRUCTURE GENERAL NOTES

ERI-4-0.00

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87

DESIGN FILE: h:\projects\18640\Struct\STRUCTNOTES.dgn
WORKSTATION: gschlett DATE: 10/23/03

ITEM 614 - MAINTAINING TRAFFIC

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ROUTINE MAINTENANCE

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED AS DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

SEQUENCE OF CONSTRUCTION

IT IS THE INTENT OF THE FOLLOWING SEQUENCE OF CONSTRUCTION TO PROVIDE A WORK AREA FOR THE CONTRACTOR WHILE ALSO MAINTAINING TRAFFIC IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC; THEREFORE, ALL PHASES SHALL HAVE STRICT ADHERENCE. THE COMPLETION OF EACH PHASE SHALL BE CONSIDERED A SEPARATE, EXCLUSIVE INTERIM COMPLETION DATE AND SHALL BE COMPLETED PRIOR TO ADVANCING CONSTRUCTION TO THE NEXT PHASE.

STRUCTURE ERI-4-0033

THE TOTAL MAINTENANCE OF TRAFFIC FOR THIS STRUCTURE (ALL PHASES) SHALL BE NO LONGER THAN 40 CONSECUTIVE CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 40 CONSECUTIVE CALENDAR DAYS IN WHICH THE PHASING IS NOT COMPLETE THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN ACCORDANCE WITH 108.07.

PHASE A

TRAFFIC SHALL BE MAINTAINED AS PER THE DETAILS IN THE PLAN AND FROM THE FOLLOWING NOTES.

1. The location of the merging taper and the Advance Warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment.
2. The spacing between proposed signs should be adjusted not to conflict with and to provide a minimum of 200 ft (60 m) clearance to existing signs.
3. If the construction operation requires the lane closure for more than one day then the existing conflicting pavement markings and reflectors from the raised pavement markers (RPMs) shall be removed and the appropriate color work zone edge lines shall be applied along the taper. Work zone edge lines which would conflict with final traffic lanes shall be removable (740.06 type I) tape unless the area will be resurfaced in the next work phase. After completion of the work, pavement markings other than 740.06 type I shall be removed in accordance with 641.10. The original markings and raised pavement marker reflectors shall be restored at no additional cost.
4. The protection vehicle, located close to the work, shall be in place and unoccupied whenever workers are in the work area. This vehicle shall be removed from the pavement whenever workers are not in the work area.
   The vehicle shall be equipped with a 360 degree rotating or flashing amber beacon clearly visible a minimum of 1/4mile (400 m). Other protective devices may be used in lieu of the protection vehicle shown when approved by the Engineer.
5. The OC-10 signs are only required for lane closures of more than one day and may be omitted if they fall within the limits of a construction project.
6. OW-134 signs shall be provided on entrance ramps and/or side roads located within the work limits or the Advance Warning sign group. Within the length of closure, provision shall be made to control traffic entering from intersecting streets and driveways. Three drums shall be placed on each side across the closed lane at each intersection and driveway.
7. All material and equipment shall be removed from the closure and the work area when no work is being done.
8. Drums shall not encroach into the through lane.

PHASE B

TRAFFIC SHALL BE MAINTAINED AS PER THE DETAILS IN THE PLAN. SEE STANDARD CONSTRUCTION DRAWING MT-95.32 FOR DETAILS NOT SHOWN IN THE PLAN.

STRUCTURE ERI-4-0841

PROTECTION OF TRAFFIC:

PRIOR TO DEMOLITION OR REMOVAL OF PORTIONS OF THE STRUCTURE, THE CONTRACTOR SHALL SUBMIT PLANS FOR THE PROTECTION OF TRAFFIC UNDER THE STRUCTURE TO THE DIRECTOR FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MIGHT BE NECESSARY TO ENSURE SUCH PROTECTION. EXISTING VERTICAL CLEARANCES SHALL BE MAINTAINED AT ALL TIMES.

ITEM 614 MAINTAINING TRAFFIC FOR SOUTH BOUND TRAFFIC

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 40 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON SHEET 62

THE BRIDGE WORK SHALL BE COMPLETED AND THE STRUCTURE OPEN TO TRAFFIC BY MAY 21, 2004

THE CONTRACTOR SHALL NOTIFY THE O.D.O.T. DISTRICT THREE ROADWAY SERVICES MANAGER, IN WRITING, A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF THE DATE THE DETOUR IS NEEDED. THE STATE OF OHIO WILL INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE APPROXIMATE WORK LIMITS OF THE PROJECT, AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60.

THE 40 CONSECUTIVE CALENDAR DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 40 DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, AS PER SECTION 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

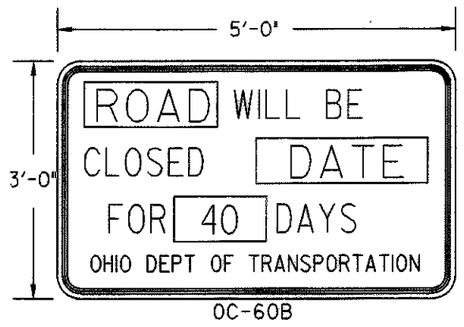
ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES AS PER 614.02 (a).

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

NOTICE OF CLOSURE SIGNS

THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE LOCATED IN THE FIELD SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS. ON THIS PROJECT THEY SHOULD BE ERECTING AT THE POINT OF CLOSURE.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.



OC-60B

CALCULATED CAL CHECKED RDN

MAINTENANCE OF TRAFFIC

ERI-4-0.00

61
87

DESIGN FILE: i:\projects\8640\Struct\STRUCTNOTES.dgn DATE: 10/23/03
WORKSTATION: gschlett

MAINTENANCE OF TRAFFIC NOTES

STRUCTURE ERI-4-0841 (CONTINUED)

ITEM 614 MAINTAINING TRAFFIC FOR NORTH BOUND TRAFFIC

DETOUR LIMITATION AND INTERIM COMPLETION DATE:

TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT FOR A PERIOD NOT TO EXCEED 40 CONSECUTIVE CALENDAR DAYS, THROUGH TRAFFIC WILL BE DETOURED AS SHOWN ON THIS SHEET.

THE BRIDGE SHALL NOT BE CLOSED UNTIL SEPTEMBER 7, 2004

THE CONTRACTOR SHALL NOTIFY THE O.D.O.T. DISTRICT THREE ROADWAY SERVICES MANAGER, IN WRITING, A MINIMUM OF FOURTEEN (14) DAYS IN ADVANCE OF THE DATE THE DETOUR IS NEEDED. THE STATE OF OHIO WILL INSTALL, MAINTAIN AND SUBSEQUENTLY REMOVE THE DETOUR SIGNING.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING THE GATES AND BARRICADES AT THE APPROXIMATE WORK LIMITS OF THE PROJECT, AND THE ADVANCE WARNING SIGNS AS SHOWN ON STANDARD CONSTRUCTION DRAWING MT-101.60.

THE 40 CONSECUTIVE CALENDAR DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 40 DAYS THAT THE ROADWAY REMAINS CLOSED TO TRAFFIC, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES, AS PER SECTION 108.07 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.

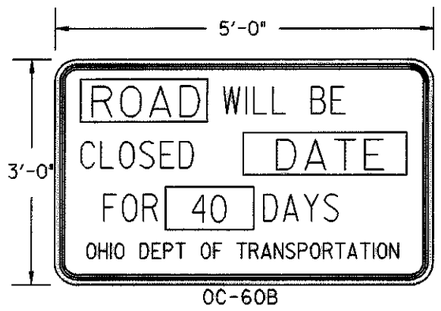
ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES AS PER 614.02 (a).

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

NOTICE OF CLOSURE SIGNS

THESE SIGNS SHALL BE ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE LOCATED IN THE FIELD SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS. ON THIS PROJECT THEY SHOULD BE ERECTING AT THE POINT OF CLOSURE.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING AND REMOVING THE SIGNS INCLUDING SUPPORTS.



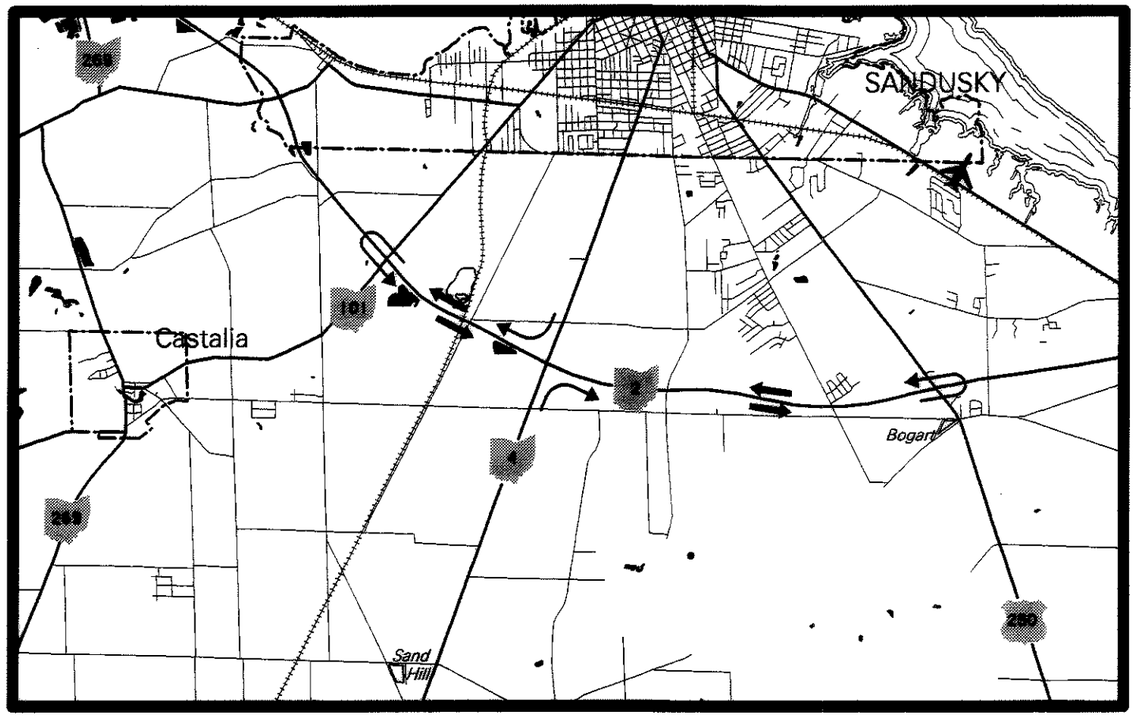
OC-60B

MAINTENANCE OF LOCAL DETOUR ROUTE

A LOCAL DETOUR ROUTE, OTHER THAN THE OFFICIAL ODOT DETOUR ROUTE, AS NOTED ON THIS SHEET, WILL BE SELECTED BY AGREEMENT BETWEEN ODOT AND LOCAL GOVERNMENTAL AGENCIES PRIOR TO THE HIGHWAY CLOSURE. DURING THE TIME THAT TRAFFIC IS DETOURED, THE CONTRACTOR SHALL MAINTAIN THIS ROUTE IN A CONDITION WHICH IS REASONABLY SMOOTH AND FREE FROM HOLES, RUTS, RIDGES, BUMPS, DUST, AND STANDING WATER. ONCE THE DETOUR IS REMOVED AND TRAFFIC RETURNED TO ITS NORMAL PATTERN, THE DESIGNATED LOCAL DETOUR ROUTE SHALL BE RESTORED TO A CONDITION THAT IS EQUIVALENT TO THAT WHICH EXISTED PRIOR TO ITS USE FOR THIS PURPOSE. ALL SUCH WORK SHALL BE PERFORMED WHEN AND AS DIRECTED BY THE ENGINEER. THE FOLLOWING ITEMS ARE TO BE USED AS DIRECTED BY THE ENGINEER FOR THE TEMPORARY

MAINTENANCE OF THE LOCAL DETOUR ROUTE:

614	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
411	STABILIZED CRUSHED AGGREGATE
253	PAVEMENT REPAIR



DETOUR MAP

DETOUR ROUTE

DESIGN FILE: I:\projects\18640\Struct\STRUCTNOTES.dgn
WORKSTATION: gschiert DATE: 10/23/03

CALCULATED DCM CHECKED RDN

MAINTENANCE OF TRAFFIC

ERI-4-0.00

BRIDGE DECK DATA								ROADWAY DATA		
PART	COUNTY, ROUTE, BRIDGE NO.	STRUCTURE TYPE	LENGTH (BRIDGE DECK)	WIDTH	BRIDGE DECK AREA	SKEW	EXISTING WEARING SURFACE	EXISTING PAVEMENT WIDTH	EXISTING APPROACH SLAB WIDTH	EXISTING APPROACH SLAB LENGTH
			LIN.FT.	LIN.FT.	SQ.YD.			LIN.FT.	LIN.FT.	LIN.FT.
A	* ERI-4-0033	STEEL BEAM	636	62.9	4445	35° 23' 24"R.F.	CONCRETE	60	53	25
A	+++ ERI-4-0256	PRESTRESSED CONCRETE BOX BEAM	39.65	40	176	45°-0'-0"L.F.	CONCRETE	26	40	25
A	•• ERI-4-0307	CONCRETE SLAB	39.06	44	191	35°-0'-0"R.F.	CONCRETE	33	24	25
A	• ERI-4-0375	OVER OHIO TURNPIKE	291	50	1617		CONCRETE	50		
A	++ ERI-4-0841	STEEL BEAM	283	2-28' LANES WITH 3' MEDIAN	1761	6°-56' L.F.	CONCRETE	59	53	25
B	** ERI-113-0158	TWIN PIPES					ASPHALT	25		
B	+ ERI-113-0230	CONCRETE SLAB	16	33	59		ASPHALT	25		
B	** ERI-113-0369	CORR. ARCH					ASPHALT	25		
C	+ HUR-113-0601	CONCRETE SLAB	26	38	110		ASPHALT	25		

\+ SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES, SEE ROADWAY PLANS FOR GUARDRAIL DETAILS (NO STRUCTURE WORK)

++ SEE DETAILS IN THE PLAN FOR STRUCTURE WORK. SEE ROADWAY PLANS FOR PAVING QUANTITIES, SEE ROADWAY PLANS FOR GUARDRAIL DETAILS.

+++ PLANE THE ASPHALT ON THE BRIDGE AND APPROACH SLABS FULL WIDTH 1.25 IN. DEEP AND PLANE 80 FT. ON BOTH APPROACHES. PAVE OVER WITH SURFACE COURSE ONLY (1.25 IN. THICK). (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK. SEE ROADWAY PLANS FOR GUARDRAIL WORK.)
ITEM 254 - PAVEMENT PLANING, BITUMINOUS: 861 SQUARE YARDS (CARRIED TO GENERAL SUMMARY, SHEET NO. 2)

* SEE DETAILS IN THE PLAN FOR STRUCTURE WORK. SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES

** SEE ROADWAY PLANS FOR PLANING AND PAVING QUANTITIES (NO STRUCTURE WORK)

• PLANE 100 FT. ON BOTH APPROACHES. OMIT RESURFACING ON THE BRIDGE DECK, BUTT JOINT AT THE APPROACH SLABS. (NO STRUCTURE WORK)
ITEM 254 - PAVEMENT PLANING, BITUMINOUS: 1111 SQUARE YARDS (CARRIED TO GENERAL SUMMARY, SHEET NO. 2)

•• PLANE 100 FT. ON BOTH APPROACHES. OMIT RESURFACING ON THE BRIDGE DECK, BUTT JOINT AT THE BRIDGE DECK. (SEE DETAILS IN THE PLAN FOR STRUCTURE WORK. SEE ROADWAY PLANS FOR GUARDRAIL WORK)
ITEM 254 - PAVEMENT PLANING, BITUMINOUS: 734 SQUARE YARDS (CARRIED TO GENERAL SUMMARY, SHEET NO. 2)

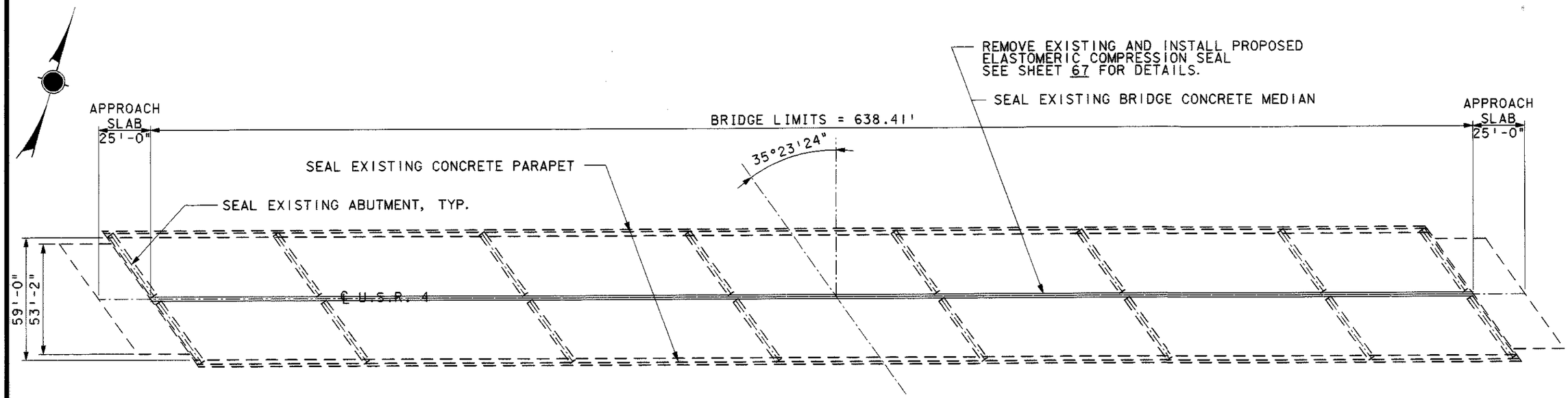
DESIGN AGENCY DISTRICT THREE
DESIGNED CAL DRAWN CAL CHECKED DCM REVISED
REVIEWED RDN DATE 10/03

BRIDGE TREATMENT

ERI-4-0.00

63
87

DESIGN FILE: i:\projects\18640\Struct\brdgtrea.dgn
WORKSTATION: gschleff DATE: 10/23/03



PLAN VIEW

ITEM	QUANTITY	UNIT	DESCRIPTION
202	2.9	CU. YD.	PORTIONS OF STRUCTURE REMOVED
202	636	FT.	REMOVAL, MISC: ELASTOMERIC COMPRESSION SEAL
511	2.9	CU. YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
514	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL
514	LUMP		FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT
514	LUMP		FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT
514	LUMP		FIELD PAINTING STRUCTURAL STEEL, FINISH COAT
516	636	FT.	ELASTOMERIC COMPRESSION SEAL
516	16	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
516	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN
519	140	SQ. FT.	**PATCHING CONCRETE STRUCTURE, AS PER PLAN**
864	996	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO. 56

NOTES:

1) *THE EXISTING BRIDGE RAIL AND GUARDRAIL ARE NOT SHOWN.*
2) *THE ABUTMENTS, BACKWALLS, PARAPETS & MEDIAN SHALL BE SEALED USING ITEM 864- SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) SEE SHEET 67 FOR DETAILS.*
3) *THE ABUTMENT SHALL BE PATCHED & REPAIRED, SEE SHEET 65 FOR DETAILS*
4) *THE TOP OF BACKWALLS SHALL BE REPAIRED, SEE SHEET 66 FOR DETAILS*
5) *THE STRUCTURE SHALL BE PARTIALLY PAINTED, SEE SHEET 68 FOR DETAILS*

DESIGN AGENCY: DISTRICT THREE
DESIGNED CAL | DRAWN CAL | REVIEWED RDN | DATE 10/03
CHECKED DCM | REVISED | STRUCTURAL FILE NUMBER 2201232

PLAN VIEW
ERI-4-0033 OVER N & W RR YARD

ERI-4-0.00

64
87

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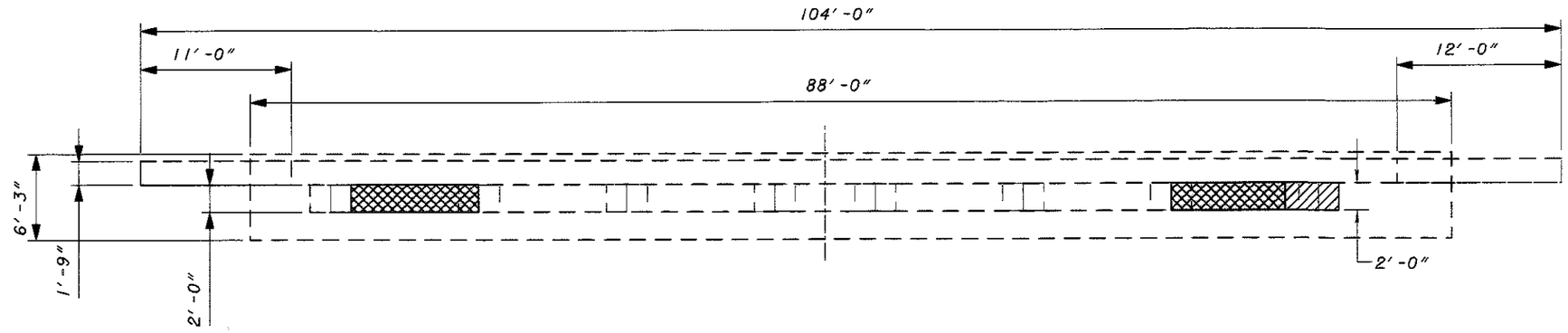
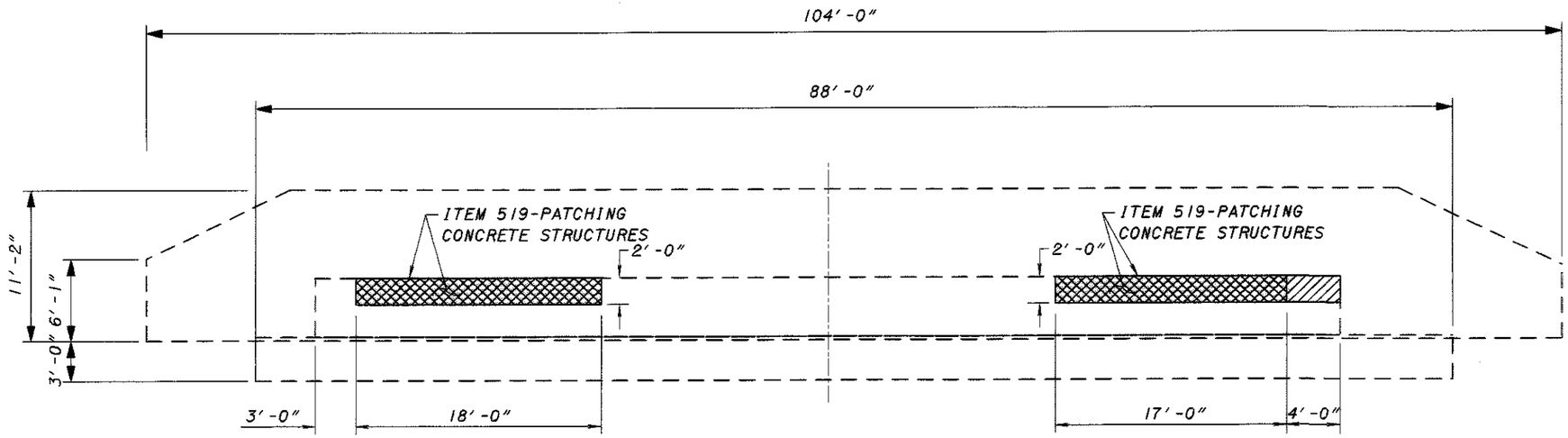
WORKSTATION: gschlett DATE: 10/23/03



ABUTMENT PLAN VIEW



FORWARD ABUTMENT ELEVATION VIEW

— CONCRETE TO BE REMOVED & CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)

— PATCHING USING ITEM 519 - PATCHING CONCRETE STRUCTURES, AS PER PLAN

ITEM	QUANTITY	UNIT	DESCRIPTION
202	0.6	CU.YD.	PORTIONS OF STRUCTURE REMOVED
511	0.6	CU.YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
519	140	SQ.FT.	PATCHING CONCRETE STRUCTURES, AS PER PLAN

ALL QUANTITIES CARRIED TO SHEET NO.64

NOTES:
1) ALL ABUMENT CONCRETE & PATCHING WILL BE PERFORMED ON FORWARD ABUTMENT ONLY.

2) ALL EXISTING REINFORCING STEEL TO BE PRESERVED.

N-FA

DESIGN AGENCY: DISTRICT THREE

DESIGNED: CAL | DRAWN: CAL | CHECKED: DCM | REVISED: | REVIEWED: RDN | DATE: 10/03 | STRUCTURAL FILE NUMBER: 2201232

BEAM SEAT REPAIR DETAIL

ERI-4-033 OVER N & W RR YARDS

ERI-4-0.00

65
87

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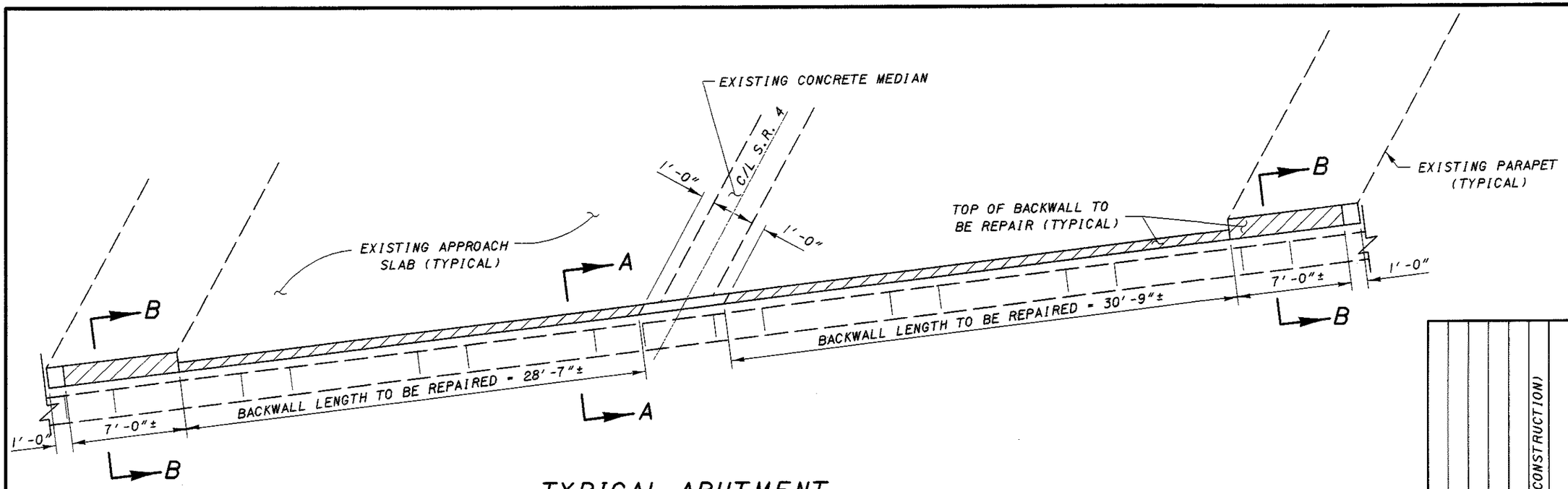
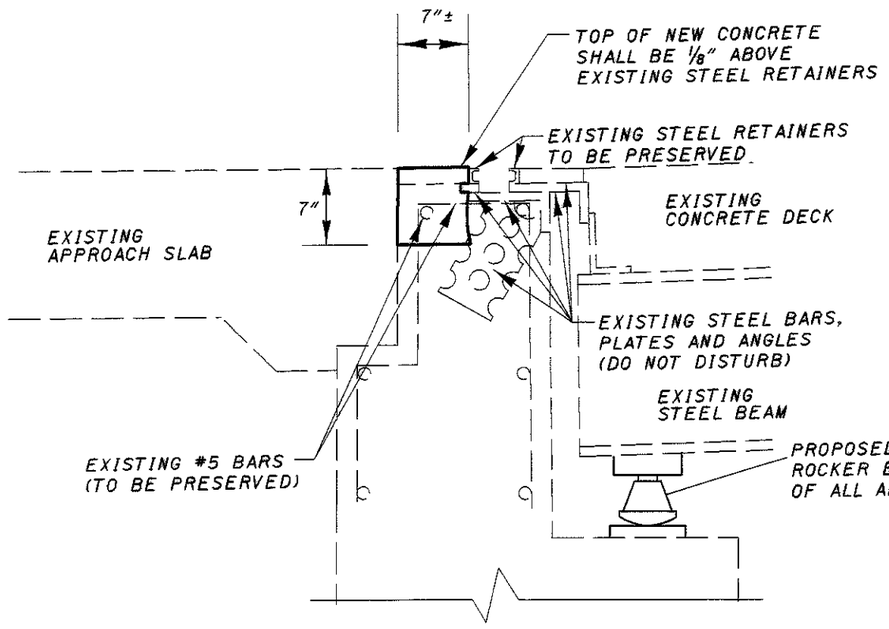
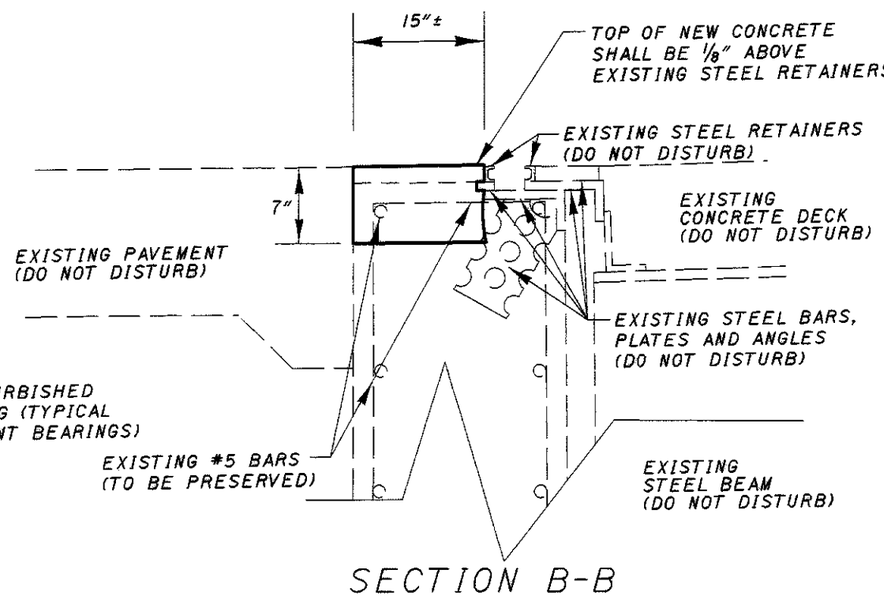
WORKSTATION: *dougfire* DATE: *10/24/03*



TYPICAL ABUTMENT PLAN VIEW



SECTION A-A



SECTION B-B

ITEM	QUANTITY	UNIT	DESCRIPTION
202	2.3	CU. YD.	PORTIONS OF STRUCTURE REMOVED
511	2.3	CU. YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
516	16	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
516	LUMP		JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN

ALL QUANTITIES CARRIED TO SHEET NO. 64

DESIGN AGENCY: DISTRICT THREE PRODUCTION

DESIGNED CAL | DRAWN CAL | CHECKED DCM | REVISED | REVISED RDN | DATE 10/03 | STRUCTURE FILE NUMBER 2201232

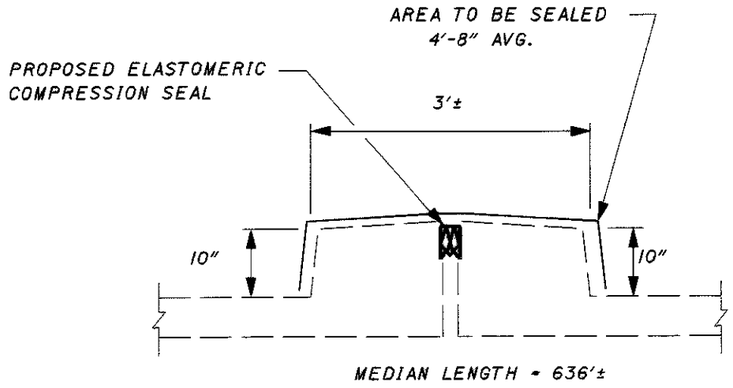
BACKWALL REPAIR & BEARING DETAIL

ERI-4-0033
OVER N & W RAILROAD YARD

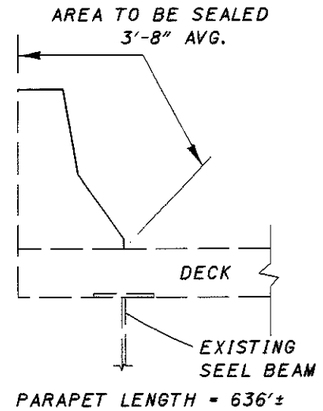
ERI-4-0.00

66
87

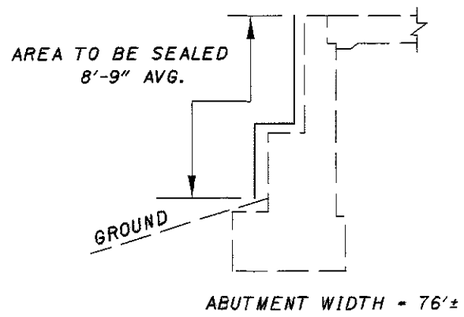
DESIGN FILE: i:\projects\8640\Struct\ERI-4-0.33\misc.dgn
WORKSTATION: gschlett DATE: 10/23/03



EXISTING MEDIAN



TYPICAL PARAPET ON DECK



ABUTMENT END VIEW

ITEM	QUANTITY	UNIT	DESCRIPTION
202	636	FT.	REMOVAL, MISC: ELASTOMERIC COMPRESSION SEAL
516	636	FT.	ELASTOMERIC COMPRESSION SEAL
864	996	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO SHEET NO. 64

NOTES:

1) THE ABUTMENTS, BACKWALLS, PARAPETS & MEDIAN SHALL BE SEALED USING ITEM 864- SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

2) THE ELASTOMERIC COMPRESSION SEAL SHALL BE INSTALLED IN THE EXISTING MEDIAN JOINT AS PER MANUFACTURERS RECOMMENDATIONS.

3) THE JOINT SHALL NOT BE INSTALLED UNTIL AFTER THE BEARINGS HAVE BEEN RESET AND THE BRIDGE IS LOWERED TO ITS FINAL POSITION.

4) THE ELASTOMERIC COMPRESSION SEAL SHALL BE A WJ-400 BY WATSON, BOWMAN, ACME, 95 PINEVIEW DRIVE, AMHERST, NY 14228 OR AN APPROVED EQUAL.

DESIGN FILE: i:\projects\18640\Struct\ERI-4-0.33\misc.dgn
WORKSTATION: gschleff DATE: 10/23/03

DESIGN AGENCY: DISTRICT THREE

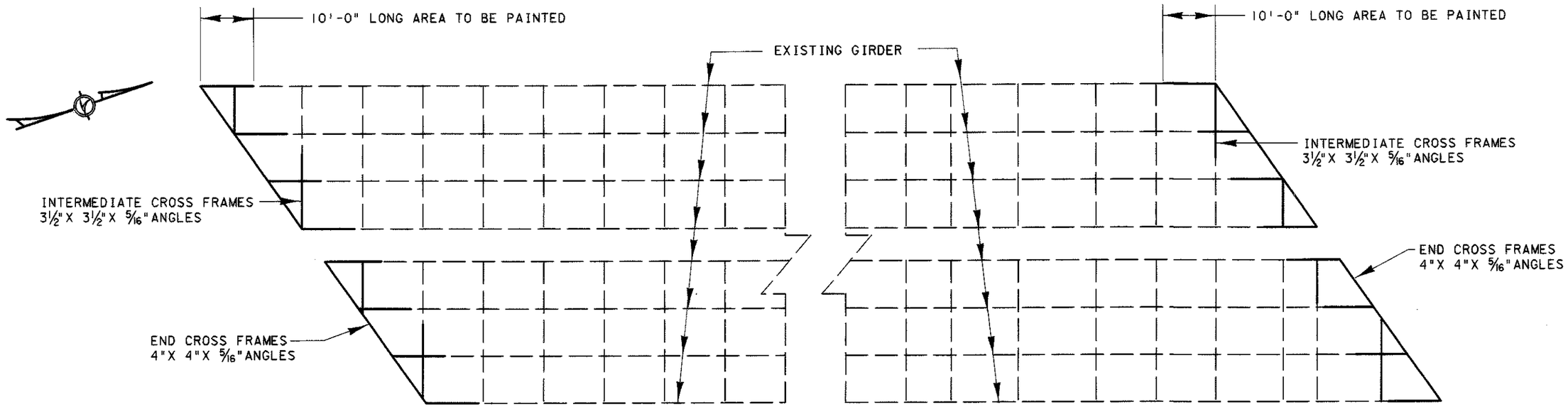
DESIGNED	DRAWN	REVIEWED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM		22012 32	

SEALING & COMPRESSION SEAL DETAILS

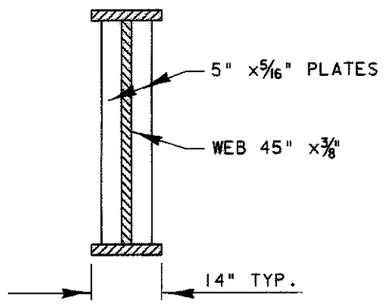
ERI-4-0033 OVER N & W RR YARD

ERI-4-0.00

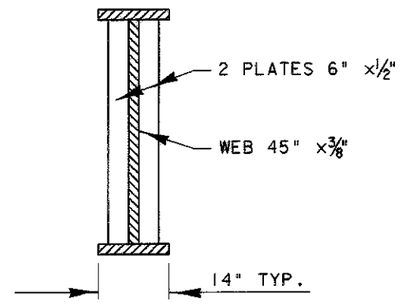
67
87



STEEL FRAMING PLAN VIEW



EXISITING GIRDER
INTERMEDIATE STIFFNERS



EXISITING GIRDER
BEARING STIFFNERS

ITEM	QUANTITY	UNIT	DESCRIPTION
514	LUMP		SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL
514	LUMP		FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT
514	LUMP		FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT
514	LUMP		FIELD PAINTING STRUCTURAL STEEL, FINISH COAT

ALL QUANTITIES CARRIED TO SHEET 64

NOTES:

1) THE STEEL BEAMS AT BOTH ENDS OF THE STRUCTURE FOR 10'-0", INCLUDING END CROSS FRAMES AND THE INTERMEDIATE CROSS FRAMES THAT ARE WITHIN THE 10' LIMIT, SHALL BE PAINTED USING ITEMS-514. SEE ABOVE FOR DETAILS.

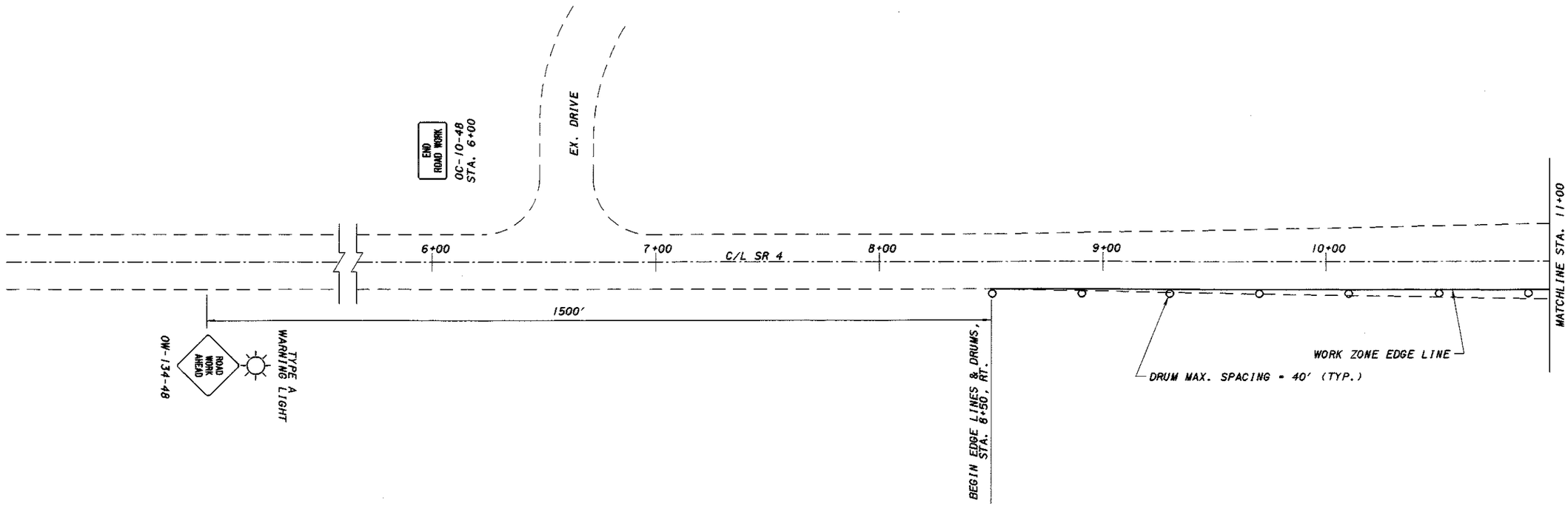
DESIGN AGENCY: DISTRICT THREE
DESIGNED: CAL
DRAWN: CAL
CHECKED: DCM
REVIEWED: RDN
DATE: 10/03
STRUCTURAL FILE NUMBER: 2201232
REVISED:

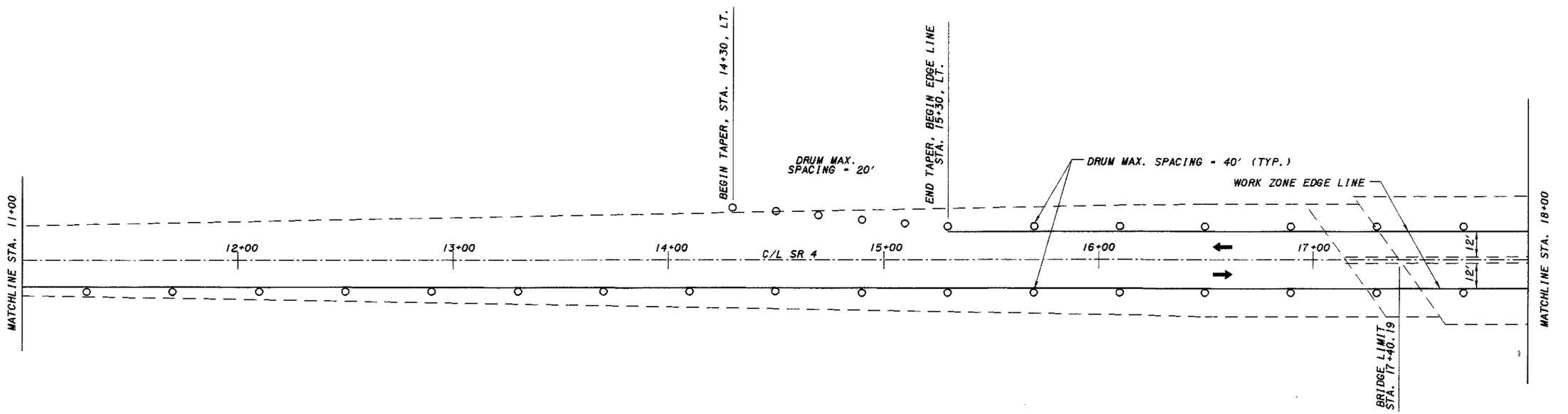
PAINTING PLAN
BRIDGE NO. ERI-4-0.33
OVER N & W RAILROAD YARD

ERI-4-0.00

68
87

DESIGN FILE: I:\projects\0864Q\Struct\ERI-4-0.33\misc.dgn
WORKSTATION: gschleff
DATE: 10/23/03





ITEM	QUANTITY	UNIT	DESCRIPTION
614	0.8	MILE	WORK ZONE EDGE LINE, CLASS I

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET 56.

NOTE:
1. ALL EXISTING ADVANCE WARNING SIGNS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL SHALL BE REMOVED OR COVERED.

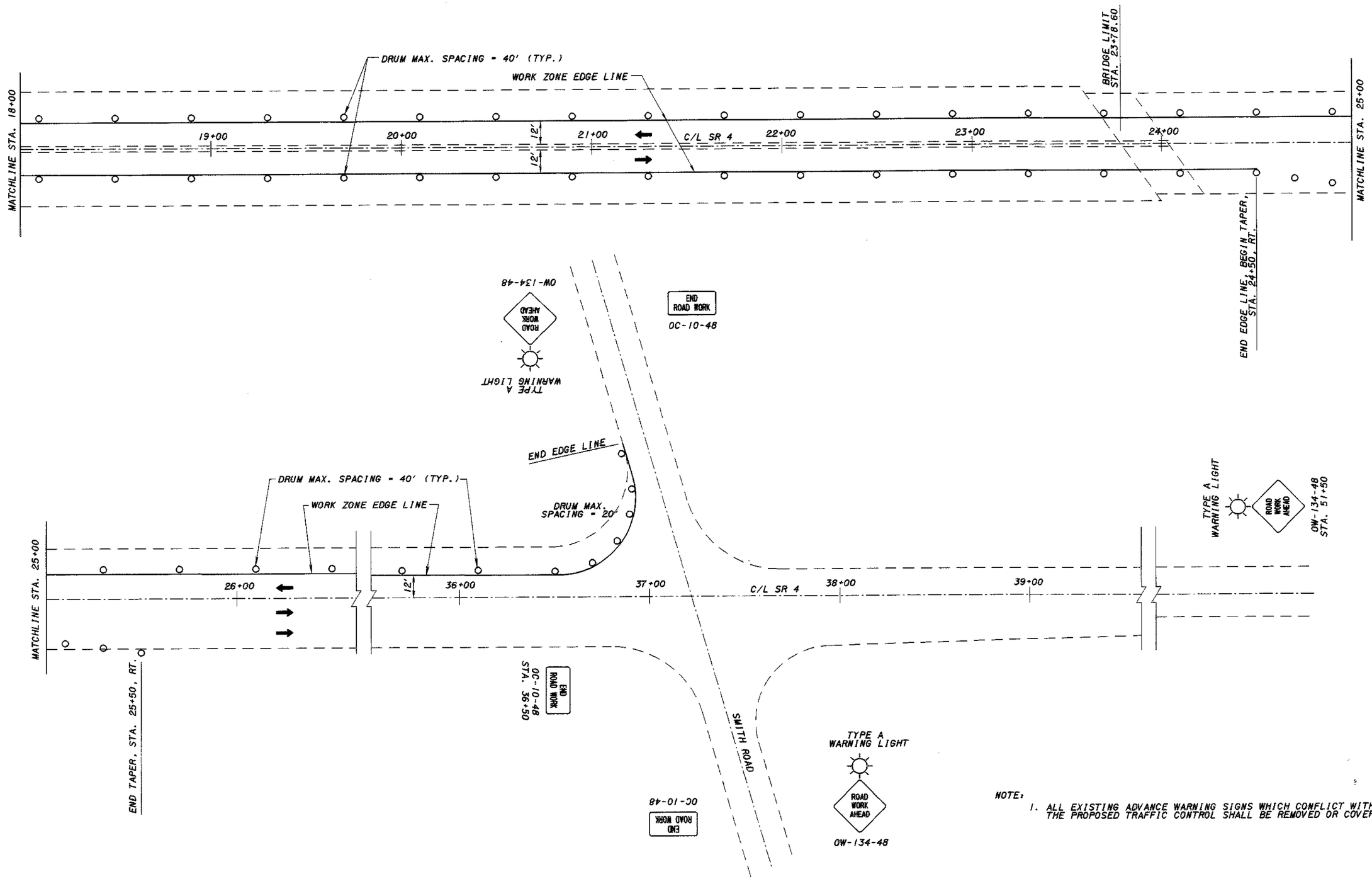
DESIGN FILE: I:\projects\18640\Struct\ERI-4-0.33\Mot.dgn
WORKSTATION: gschleft DATE: 10/23/03

DESIGN AGENCY: DISTRICT THREE

DESIGNED	DRAWN	REVIEWED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM		2201232	

MAINTENANCE OF TRAFFIC
PHASE A
ERI-4-0033 OVER N & W RR YARD

ERI-4-0.00



NOTE:

1. ALL EXISTING ADVANCE WARNING SIGNS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL SHALL BE REMOVED OR COVERED.

DESIGN AGENCY: DISTRICT THREE

DESIGNED	DRAWN	REVIEWED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM		22012 32	

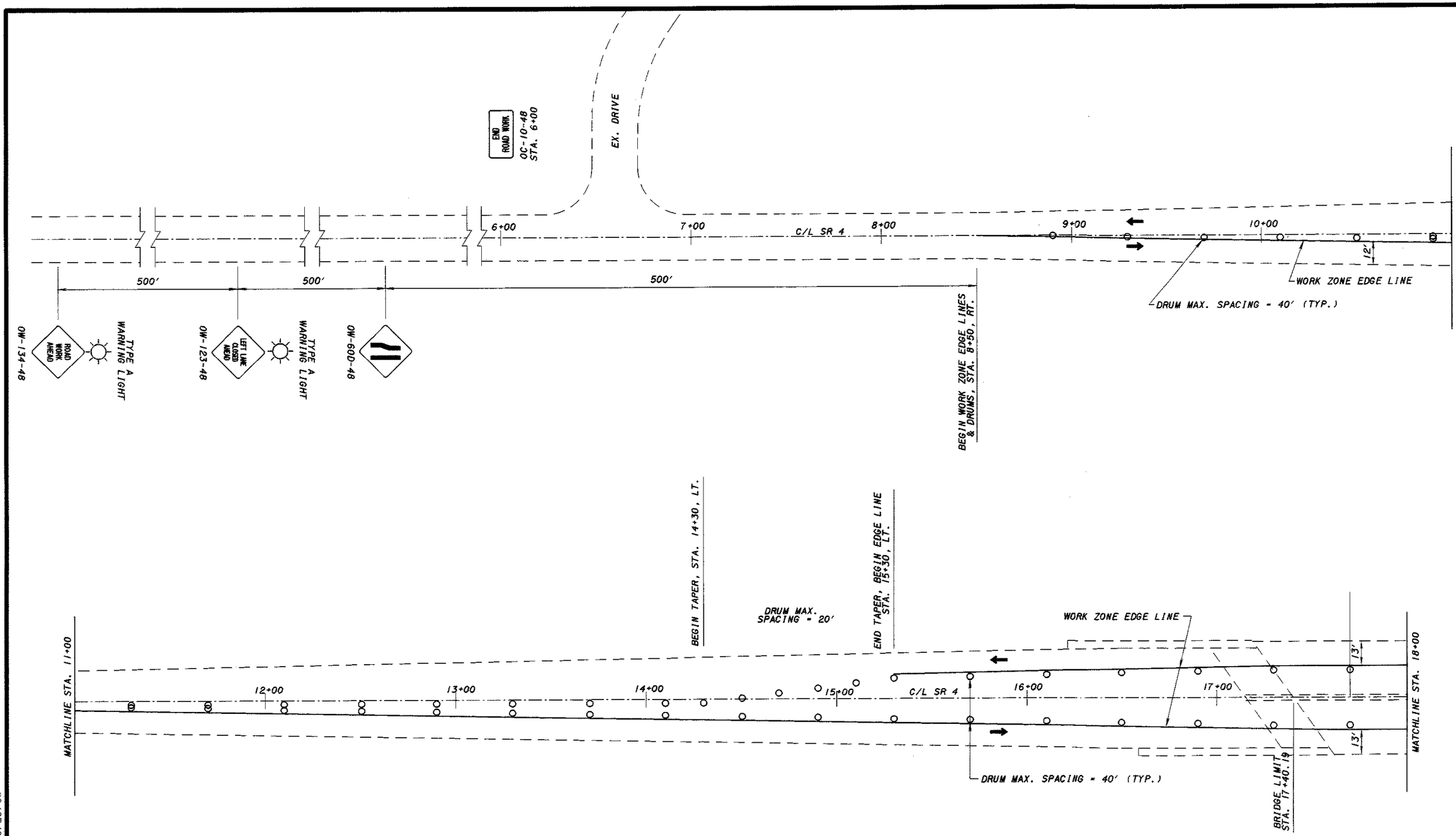
MAINTENANCE OF TRAFFIC PHASE A

ERI-4-0033 OVER N & W RR YARD

ERI-4-0.00

70
87

DESIGN FILE: I:\projects\18640\Struct\ERI-4-0.33\Mot.dgn
WORKSTATION: gschleff DATE: 10/23/03



ITEM	QUANTITY	UNIT	DESCRIPTION
614	0.7	MILE	WORK ZONE EDGE LINE, CLASS I

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET 56.

NOTE:

1. ALL EXISTING ADVANCE WARNING SIGNS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL SHALL BE REMOVED OR COVERED.

DESIGN FILE: I:\projects\18640\Struct\ERI-4-0.33\Mot.dgn
WORKSTATION: gschlett DATE: 10/23/03

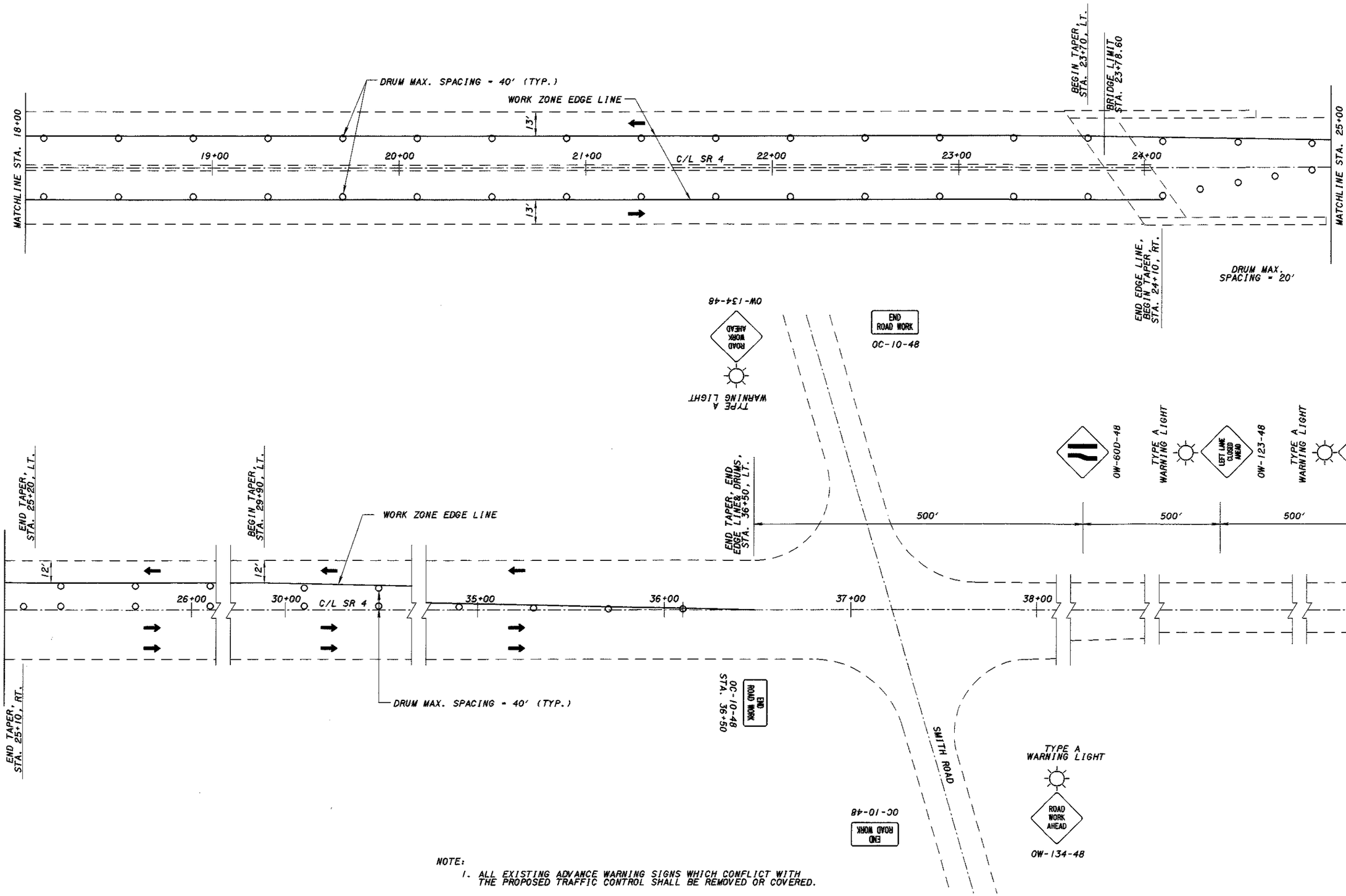
DESIGN AGENCY: DISTRICT THREE

DESIGNED	DRAWN	REVISED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM		2201232	

MAINTENANCE OF TRAFFIC
PHASE B
ERI-4-0033 OVER N & W RR YARD

ERI-4-0.00

71
87



NOTE:
1. ALL EXISTING ADVANCE WARNING SIGNS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL SHALL BE REMOVED OR COVERED.

DESIGN AGENCY: DISTRICT THREE

DESIGNED	DRAWN	REVIEWED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM		2201232	

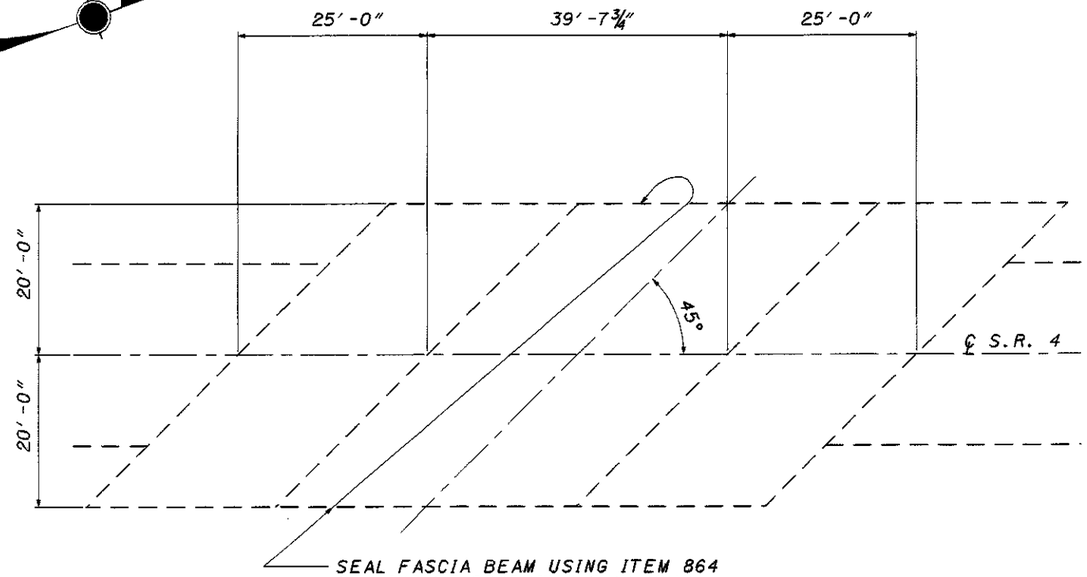
MAINTENANCE OF TRAFFIC PHASE B

ERI-4-0033 OVER N & W RR YARD

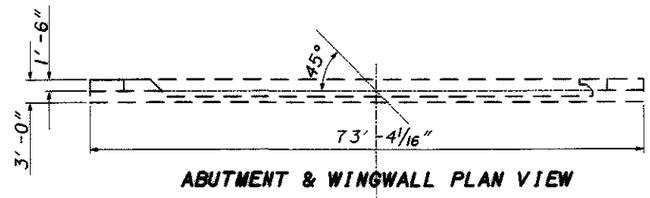
ERI-4-0.00

72
87

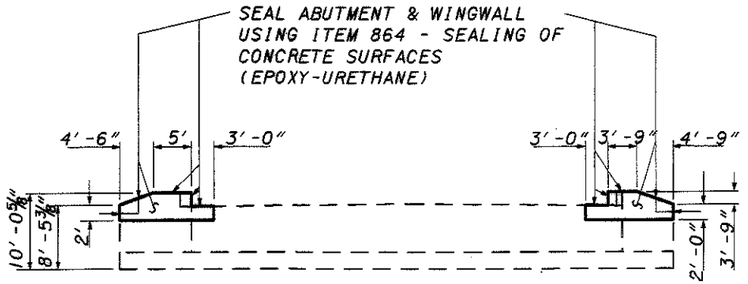
DESIGN FILE: I:\projects\18640\Struct\ERI-4-0.33\Mot.dgn
WORKSTATION: gschleft DATE: 10/23/03

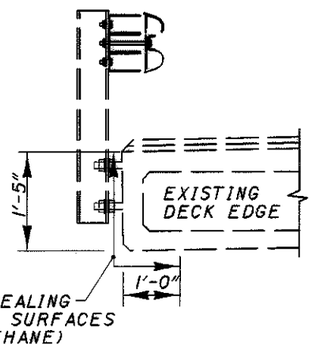


PLAN VIEW



ABUTMENT & WINGWALL PLAN VIEW





TYPICAL BEAM VIEW

ABUTMENT & WINGWALL ELEVATION VIEW
WINGWALLS ARE 1'-6" THICK

ITEM	QUANTITY	UNIT	DESCRIPTION
864	42	sq.yd.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO 56.

NOTES:

1) THE EXISTING BRIDGE RAIL AND GUARDRAIL ARE NOT SHOWN.

2) THE DECK EDGE WINGWALLS AND A 3' PORTION OF THE ABUTMENTS UNDER THE DECK EDGE SHALL BE SEALED USING ITEM 864- SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

DESIGN AGENCY: DISTRICT THREE

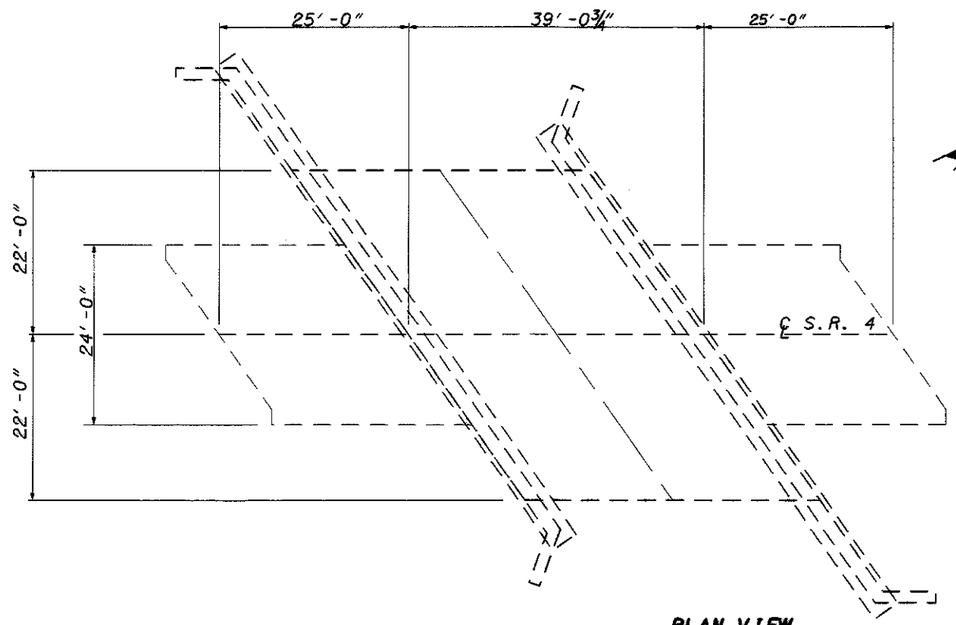
DESIGNED	DRAWN	REVIEWED	DATE
CAL	GTS	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM		2201259	

PLAN VIEW
ERI-4-0256 OVER PIPE CREEK

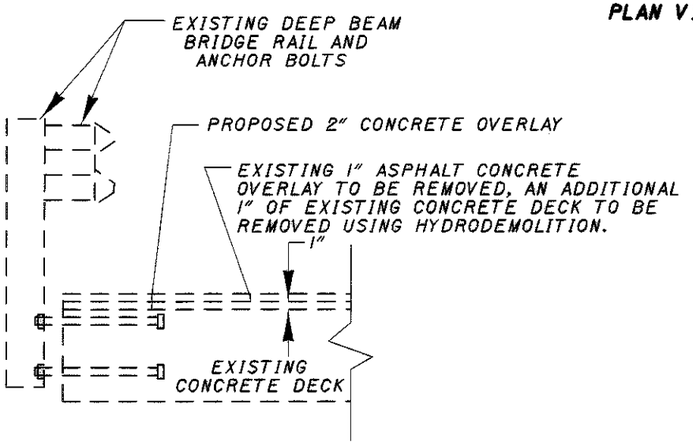
ERI-4-0.00

73
87

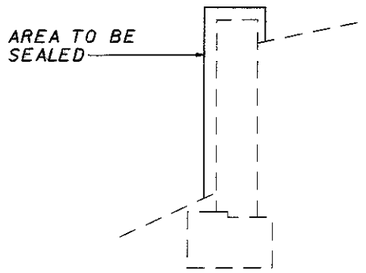
DESIGN FILE: I:\projects\8640\Struct\ERI-4-2.56\vmlsc.dgn
WORKSTATION: geoliett DATE: 10/23/03



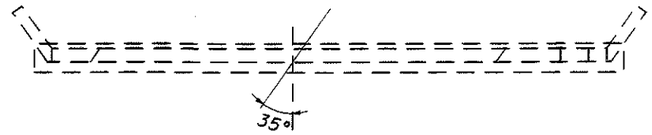
PLAN VIEW



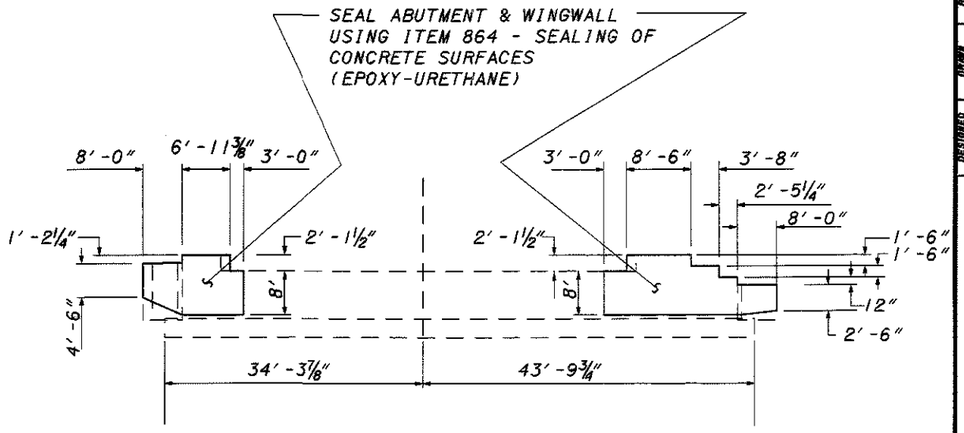
EXISTING TYPICAL SECTION AT DECK EDGE



TYPICAL WINGWALL



ABUTMENT & WINGWALL PLAN VIEW



ABUTMENT & WINGWALL ELEVATION VIEW

ABUTMENT & WINGWALLS ARE 1'-9" THICK

ITEM	QUANTITY	UNIT	DESCRIPTION
848	191	sq.yd.	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (2 INCH THICK)
848	191	sq.yd.	SURFACE PREPARATION USING HYDRODEMOLITION
848	4	cu. yd.	MICRO SILICA MODIFIED CONCRETE OVERLAY(VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
848	6	sq.yd.	HAND CHIPPING
848	lump		TEST SLAB
848	1	cu. yd.	FULL-DEPTH REPAIR
848	191	sq.yd.	WEARING COURSE REMOVED, ASPHALT
864	89	sq.yd.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO 56.

NOTES:

1) THE EXISTING BRIDGE RAIL AND GUARDRAIL ARE NOT SHOWN IN THE PLAN VIEW.

2) THE WINGWALLS AND A 3' PORTION OF THE ABUTMENTS UNDER THE DECK EDGE SHALL BE SEALED USING ITEM 864- SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

3) THE EXISTING ASPHALT CONCRETE ON THE ENTIRE BRIDGE DECK SHALL BE REMOVED USING ITEM 848-WEARING COURSE REMOVED, ASPHALT (1" NOMINAL THICKNESS)

4) THE ENTIRE BRIDGE DECK SHALL BE OVERLAYED USING ITEM 848- MICRO SILICA MODIFIED CONCRETE OVERLAY, USING HYDRODEMOLITION, AS PER PLAN (2" THICK)

DESIGN FILE: i:\projects\1864O\Struct\ERI-4-3.07\misc.dgn
WORKSTATION: gschlett DATE: 10/23/03

DESIGN AGENCY: DISTRICT THREE

DESIGNED	DRAWN	REVIEWED	DATE
CAL	CAL	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
DCM		2201291	

PLAN VIEW

ERI-4-0307 OVER PIPE CREEK

ERI-4-0.00

74
87

SIGNAL TIMING

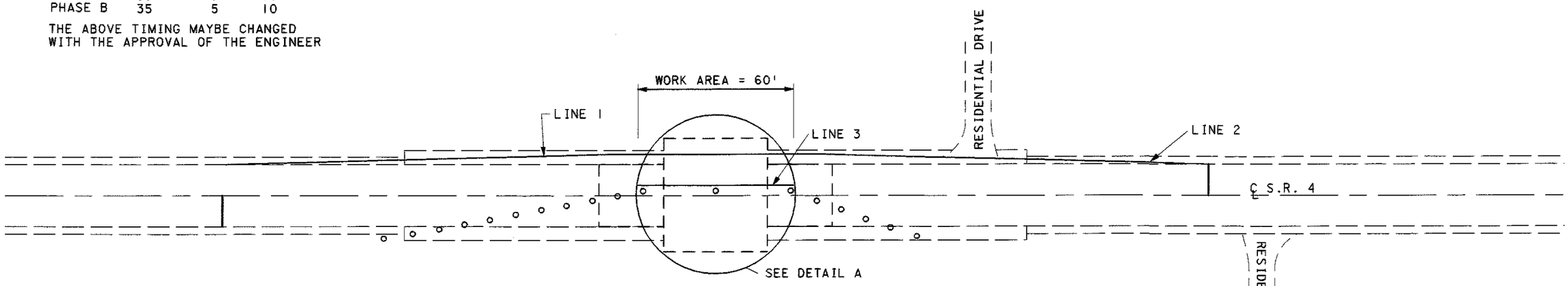
A TWO PHASE CONTROLLER WITH CABINET CAPABLE OF BEING SET WITH THE FOLLOWING SPLITS SHALL BE FURNISHED

CYCLE LENGTH: 100 SECONDS

	GREEN	AMBER	RED
PHASE A	35	5	10
PHASE B	35	5	10

THE ABOVE TIMING MAYBE CHANGED WITH THE APPROVAL OF THE ENGINEER

FOR DETAILS NOT SHOWN SEE STANDARD DRAWINGS
MT-96.10, MT-96.20, MT-96.25, MT-101.20

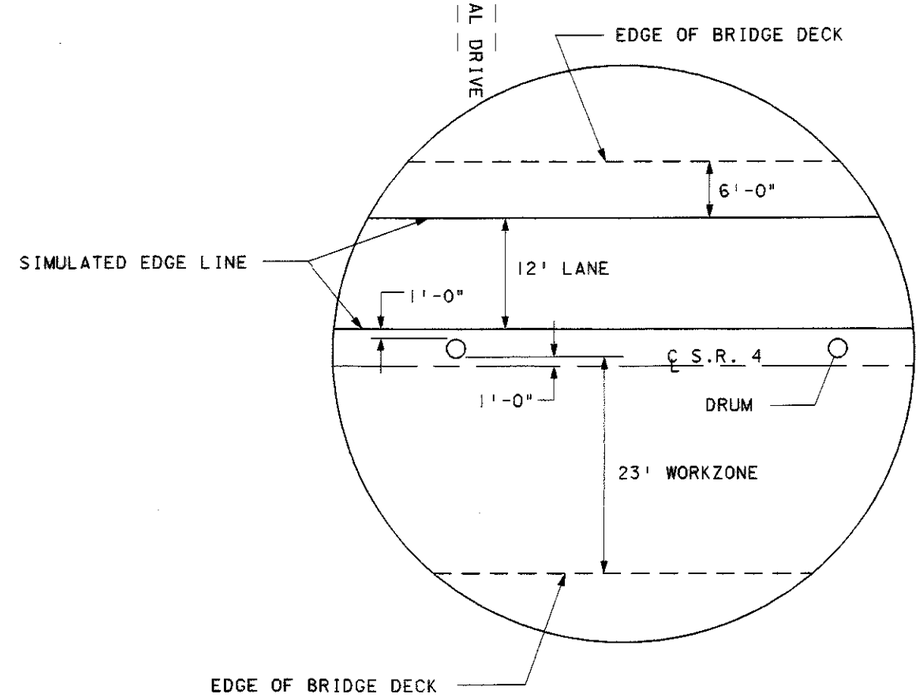


PHASE A SHOWN
PHASE B SIMILAR

WORK ZONE RAISED PAVEMENT MARKERS (TYPE A)				
		SPACING	QTY. (WHITE)	QTY. (YELLOW)
PHASE A	LINE 1= 210'	5'-0"	43	43
	LINE 2= 150'	5'-0"	30	
	LINE 3= 60'	5'-0"	13	13
PHASE B	LINE 1= 210'	5'-0"	43	43
	LINE 2= 150'	5'-0"	30	
	LINE 3= 60'	5'-0"	13	13
		TOTAL	172	112

ITEM	QUANTITY	UNIT	DESCRIPTION
614	284	each	WORK ZONE RAISED PAVEMENT MARKER
614	10	each	BARRIER REFLECTOR, TYPE A2
614	.06	mile	WORK ZONE CENTER LINE, CLASS I (SOLID DOUBLE)
614	.04	mile	WORK ZONE EDGE LINE, CLASS I (WHITE)
614	24	ft	WORK ZONE STOP LINE, CLASS I

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET NO. 56.



DETAIL A

NOTES:

1) THE EXISTING BRIDGE RAILING AND GUARDRAIL ARE NOT SHOWN IN THE PLAN VIEW

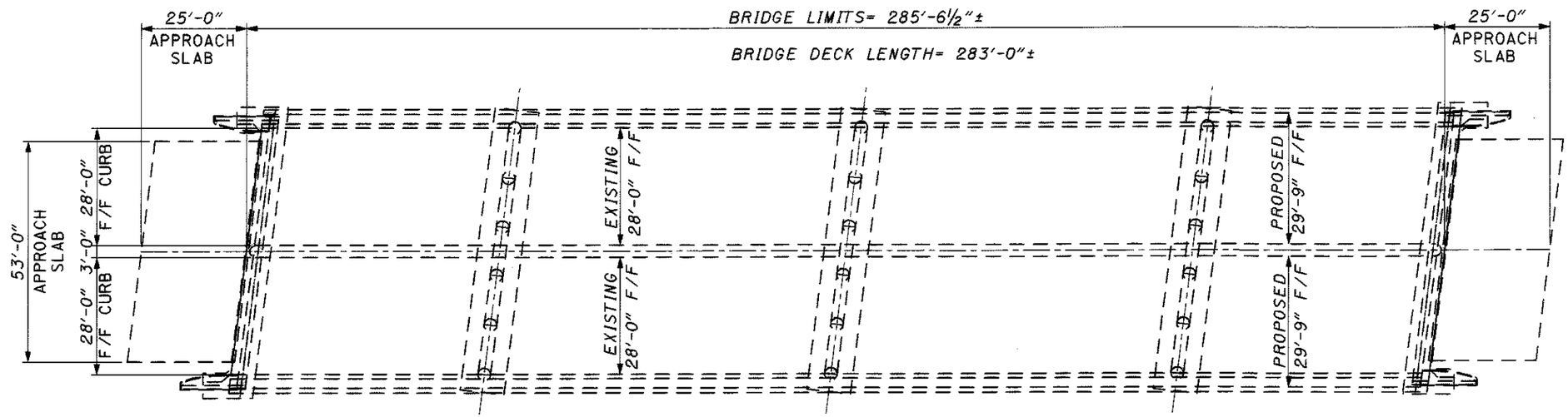
DESIGN FILE: h:\projects\8640\Struct\ERI-4-3.07\BRDGMOT.dgn
WORKSTATION: gschleff DATE: 10/23/03

DESIGN AGENCY: DISTRICT THREE
DESIGNED CAL | DRAWN CAL | CHECKED DCM | REVISED
REVISED RDN | DATE 10/03
STRUCTURAL FILE NUMBER 220129

MAINTENANCE OF TRAFFIC
ERI-4-0307
OVER PIPE CREEK

ERI-4-0.00

75
87



ITEM	QUANTITY	UNIT	DESCRIPTION
202	7	CU. YD.	PORTION OF STRUCTURE REMOVED (ABUTMENT)
202	7	CU. YD.	PORTION OF STRUCTURE REMOVED (DECK)
202	104	CU. YD.	PORTION OF STRUCTURE REMOVED (PARAPET)
509	16,160	POUND	EPOXY COATED REINFORCING STEEL
510	1252	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
511	7	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (DECK)
511	99.4	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET)
511	2	CU. YD.	CLASS S CONCRETE, MISC: SCUPPERS
511	9	CU. YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
516	283	FT.	ELASTOMERIC COMPRESSION SEAL
516	128	FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL
848	1871	SQ. YD.	MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION, AS PER PLAN (3 INCH THICK)
848	1845	SQ. YD.	SURFACE PREPARATION USING HYDRODEMOLITION
848	30	CU. YD.	MICRO SILICA MODIFIED CONCRETE OVERLAY(VARIABLE THICKNESS), MATERIAL ONLY, AS PER PLAN
848	100	SQ. YD.	HAND CHIPPING
848	lump		TEST SLAB
848	1	CU. YD.	FULL-DEPTH REPAIR
864	934	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET, SHEET NO. 57

NOTES:

1) THE EXISTING APPROACH GUARDRAIL IS NOT SHOWN.
2) THE ENTIRE BRIDGE DECK SHALL BE OVERLAYED USING ITEM 848- MICRO SILICA MODIFIED CONCRETE OVERLAY USING HYDRODEMOLITION (3" THICKNESS)
3) THE TOP OF THE PROPOSED OVERLAY SHALL BE 2" HIGHER THAN THE TOP OF THE EXISTING CONCRETE DECK.
4) THE EXISTING PARAPETS SHALL BE REPLACED. SEE SHEETS 77-79 FOR DETAILS.
5) THE EXISTING EXPANSION JOINTS SHALL BE REPLACED. SEE SHEETS 80-81 FOR DETAILS
6) THE EXISTING MEDIAN JOINT SHALL BE FILLED WITH A ELASTOMERIC COMPRESSION SEAL. SEE SHEETS 82 FOR DETAILS
7) SEE SHEET 83 FOR SEALING DETAILS.

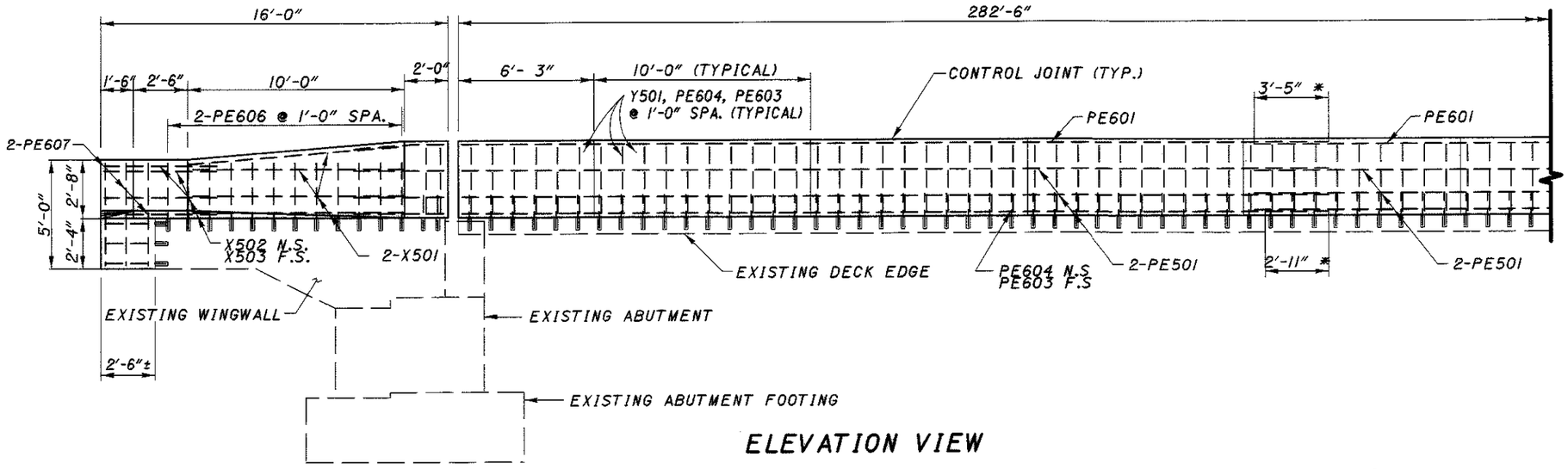
DESIGN AGENCY: DISTRICT THREE
DESIGNED: DCM | DRAWN: GTS | CHECKED: CAL | REVISED:
DATE: 10/03 | REVIEWED: RDN
STRUCTURAL FILE NUMBER: 2201356

PLAN VIEW
ERI-4-0841
OVER S.R. 2

ERI-4-0.00

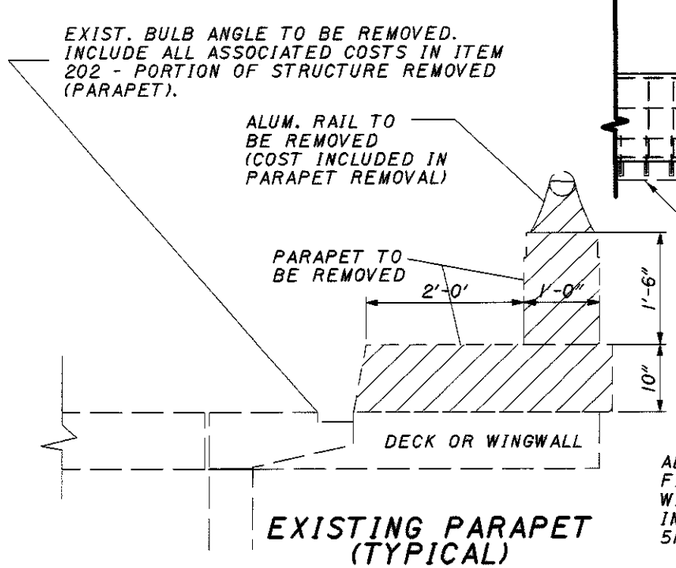
76
87

DESIGN FILE: I:\projects\18640\Struct\ERI-4-8.41\plan.dgn
WORKSTATION: claughre DATE: 10/24/03



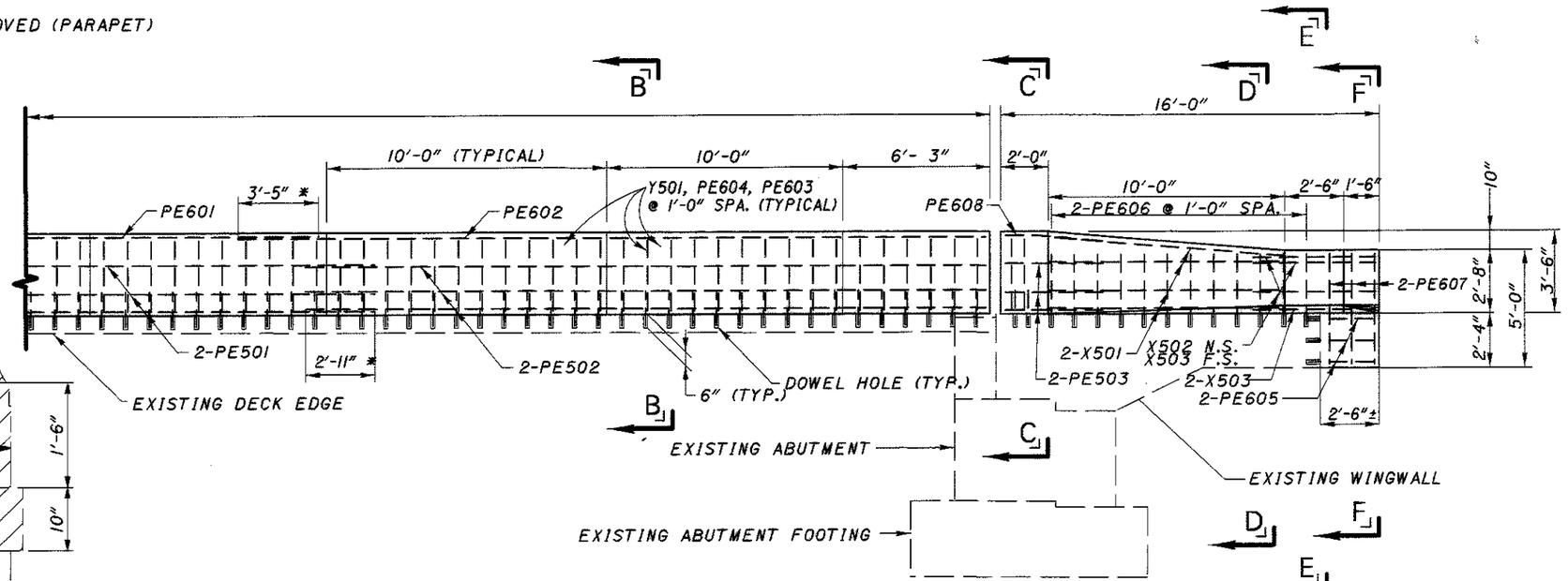
ELEVATION VIEW

ITEM 202- PORTION OF STRUCTURE REMOVED (PARAPET)



EXISTING PARAPET (TYPICAL)

ALL SCUPPERS ARE TO BE PLUGGED AND FILLED TO THE BOTTOM OF THE DECK WITH ITEM 511 CLASS S, CONCRETE. INCLUDE ALL ASSOCIATED COST IN ITEM 511 CLASS S, CONCRETE, MISC: SCUPPERS



ELEVATION VIEW

ITEM	QUANTITY	UNIT	DESCRIPTION
202	104	CUBIC YARD	PORTION OF STRUCTURE REMOVED (PARAPET)
509	13,700	POUND	EPOXY COATED REINFORCING STEEL
510	1252	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT
511	99.4	CUBIC YARD	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (PARAPET)
511	2	CUBIC YARD	CLASS S CONCRETE, MISC: SCUPPERS

ALL QUANTITIES CARRIED TO SHEET NO. 76

NOTES:

1. FOR SECTIONS B-B, C-C, D-D, E-E, AND F-F, SEE SHEET 78.
2. "*" - MINIMUM LAP

DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

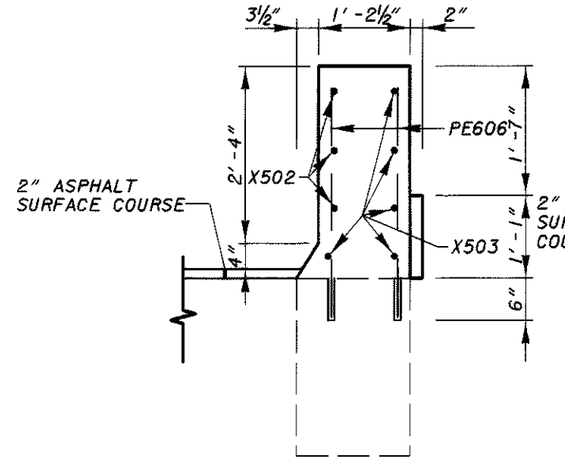
DESIGNED DCM
DRAWN DCM
CHECKED CAL
REVISED
REVIEWED RDN
DATE 10/03
STRUCTURE FILE NUMBER 220356

PARAPET DETAILS
ERI-4-0841
OVER S.R. 2

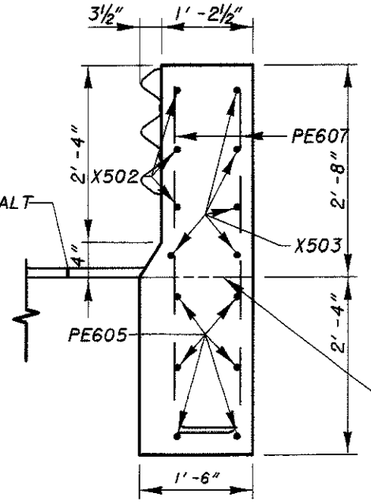
ERI-4-0.00

77
87

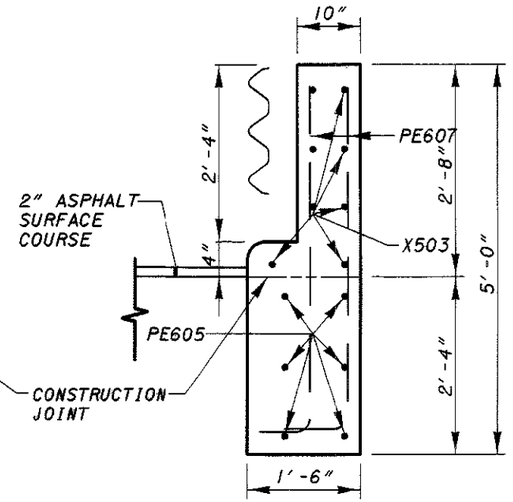
DESIGN FILE: I:\projects\18640\Struct\ERI-4-8.41\parapet.dgn
WORKSTATION: claughre DATE: 10/24/03



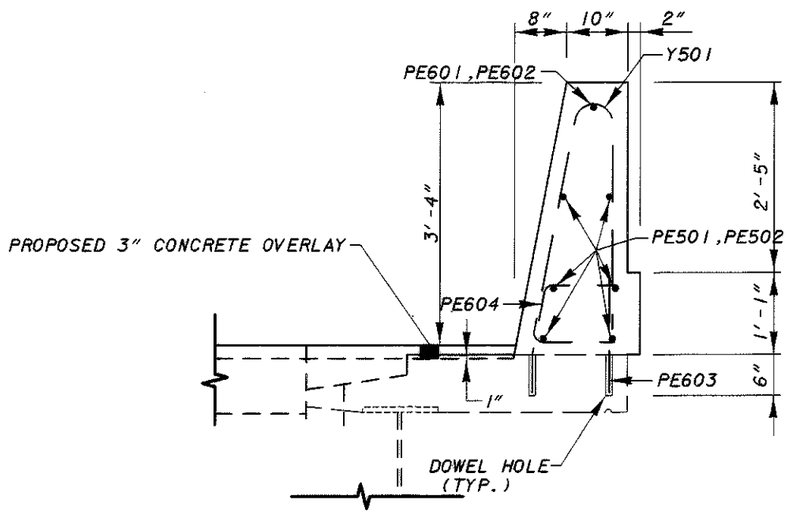
SECTION D-D



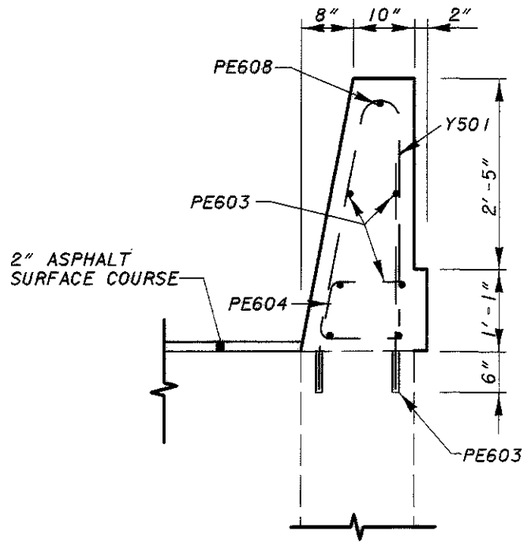
SECTION E-E



SECTION F-F



SECTION B-B



SECTION C-C

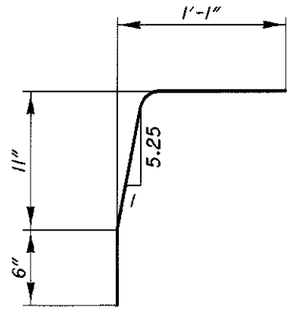
DESIGN FILE: I:\projects\18640\Struct\ERI-4-8.41\parapet2.dgn
WORKSTATION: claughre DATE: 10/24/03

DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

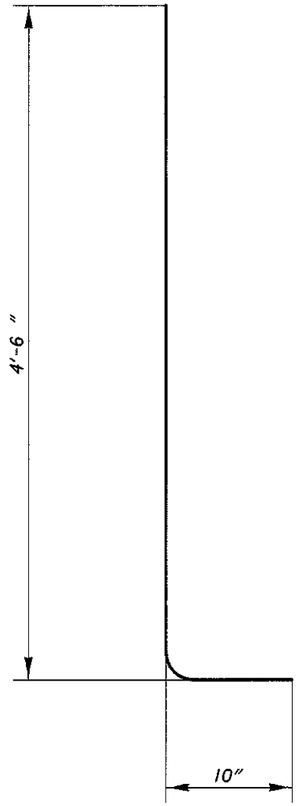
DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	RDN	10/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		2201356	

PARAPET DETAILS
ERI-4-0841
OVER S.R. 2

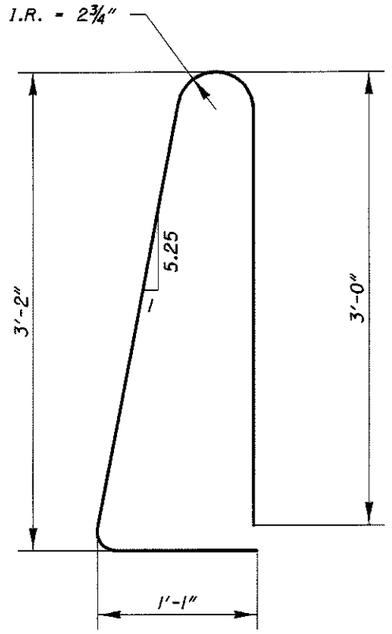
ERI-4-0.00



PE604



PE607

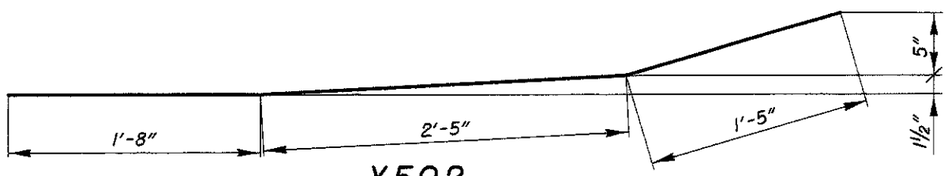


Y501

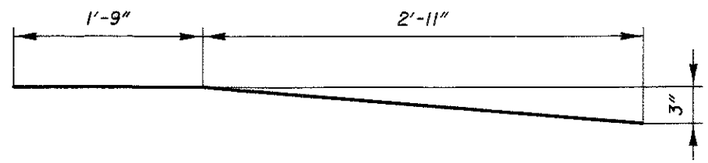
EPOXY COATED REINFORCING STEEL

REINFORCING DATA			QUANTITIES	
MARK	LENGTH	SHAPE	TOTAL	WEIGHT
PE601	40'-0"	STR.	14	841
PE602	25'-11"	STR.	2	78
PE603	1'-6"	STR.	566	1275
PE604	2'-4"	BENT	566	1983
PE605	2'-9"	STR.	24	99
PE606	3'-0"	STR.	96	433
PE607	5'-2"	BENT	24	186
PE608	4'-8"	BENT	4	28
PE501	40'-0"	STR.	84	3504
PE502	22'-5"	STR.	12	281
PE503	3'-10"	STR.	24	96
X501	10'-0"	STR.	32	334
X502	5'-6"	BENT	12	69
X503	5'-6"	STR.	20	115
Y501	7'-5"	BENT	566	4378
			TOTAL	*13,700

*** QUANTITY CARRIED TO SHEET NO. 76**



X502



PE608

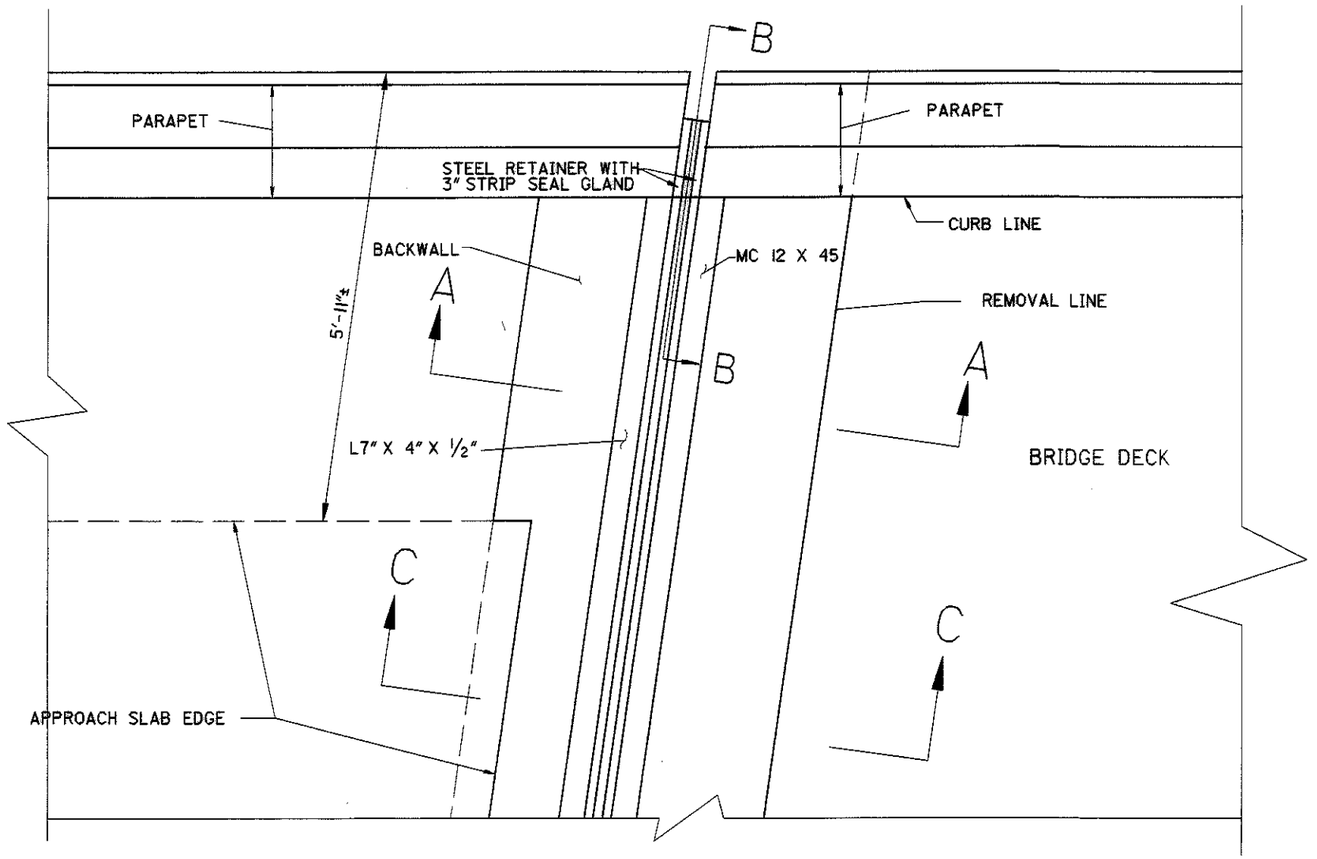
DESIGN FILE: I:\projects\18640\Struct\ERI-4-8.41\parapet2.dgn
WORKSTATION: *claughre* DATE: *10/24/03*

DESIGN AGENCY: DISTRICT THREE PRODUCTION DEPARTMENT
DATE: 10/03
REVISED: RDN
STRUCTURE FILE NUMBER: 220/356
DRAWN: DCM
REVISED:
DESIGNED: DCM
CHECKED: CAL

PARAPET DETAILS
ERI-4-0841
OVER S.R. 2

ERI-4-0.00

79
87



PART PLAN AT ABUTMENT

ABUTMENT WIDTH = 66'-0"±

ITEM	QUANTITY	UNIT	DESCRIPTION
202	7	CU. YD.	PORTION OF STRUCTURE REMOVED (ABUTMENT)
202	7	CU. YD.	PORTION OF STRUCTURE REMOVED (DECK)
509	2460	POUND	EPOXY COATED REINFORCING STEEL
511	9	CU. YD.	CLASS C CONCRETE, ABUTMENT, AS PER PLAN (RECONSTRUCTION)
511	7	CU. YD.	CLASS S CONCRETE, SUPERSTRUCTURE, AS PER PLAN (DECK)
516	128	FT.	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL

ALL QUANTITIES CARRIED TO SHEET NO. 76

NOTES:

1) THE STRIP SEAL GLAND SHALL BE ONE PIECE ACROSS THE TOTAL WIDTH OF THE STRUCTURE.
2) THE STEEL ANGLES AND RETAINERS SHALL HAVE A GAP OF 2" AT CENTERLINE OF STRUCTURE
3) FOR DETAILS NOT SHOWN SEE STD. DRW. EXJ-4-87
4) SEE SHEET 81 FOR SECTION A-A, B-B, C-C

DESIGN FILE: h:\projects\8640\Struct\ERI-4-8.41\exp1t.dgn
WORKSTATION: *claughre* DATE: *10/24/03*

DESIGN AGENCY: DISTRICT THREE
DESIGNED: DCM | DRAWN: DCM | REVIEWED: RDN | DATE: 10/03
CHECKED: CAL | REVISED: | STRUCTURAL FILE NUMBER: 2201356

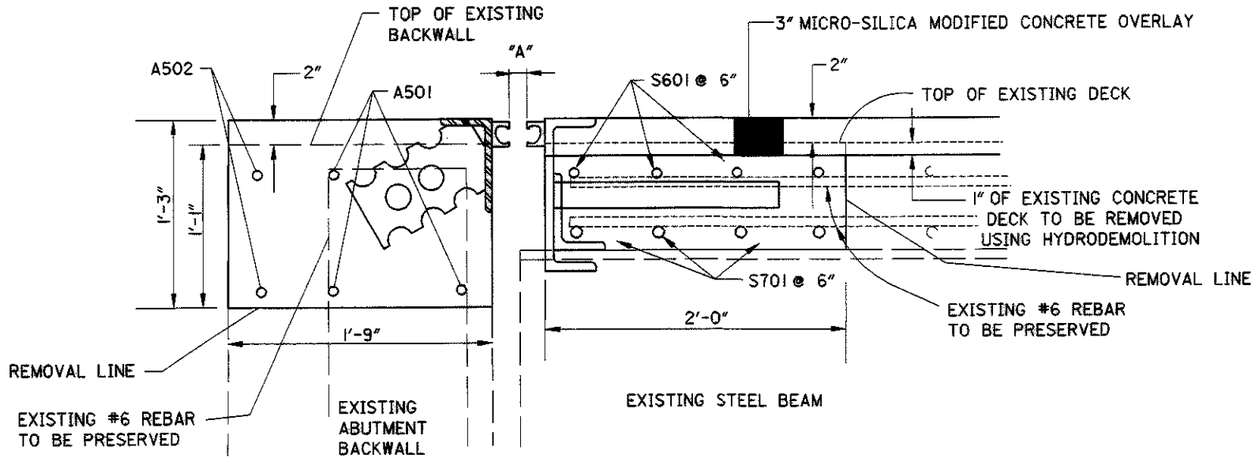
EXPANSION JOINT
ERI-4-0.41
OVER S.R. 2

ERI-4-0.00

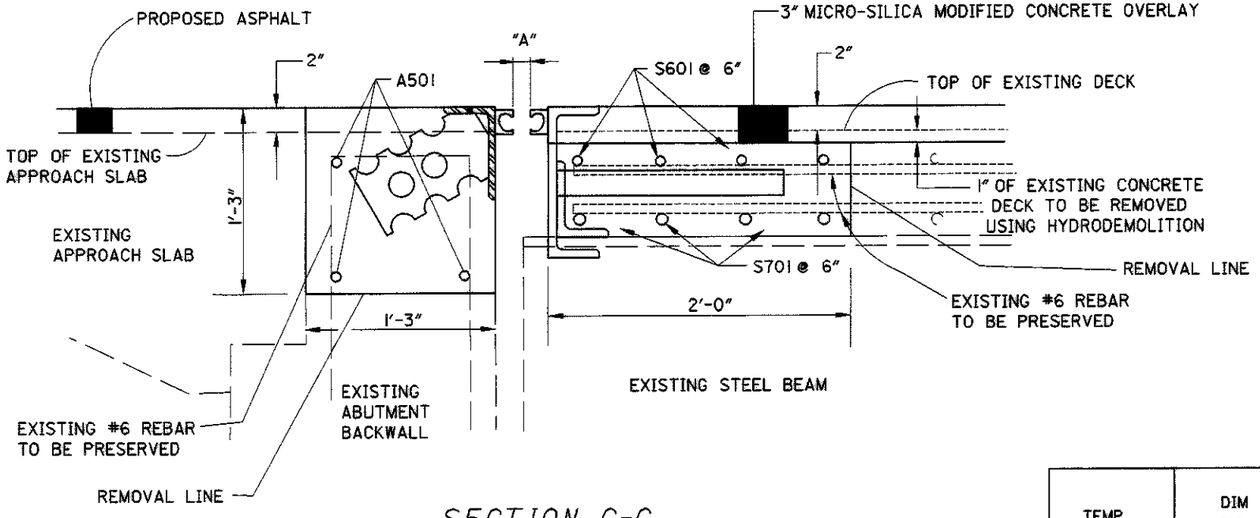
EPOXY COATED REINFORCING TABLE

MARK	NUMBER	LENGTH	TYPE	WEIGHT (LBS)
A501	24	17'-5"	STR.	436
A502	8	5'-9"	STR.	48
S601	32	17'-5"	STR.	837
S701	32	17'-5"	STR.	1139
			TOTAL	*2460

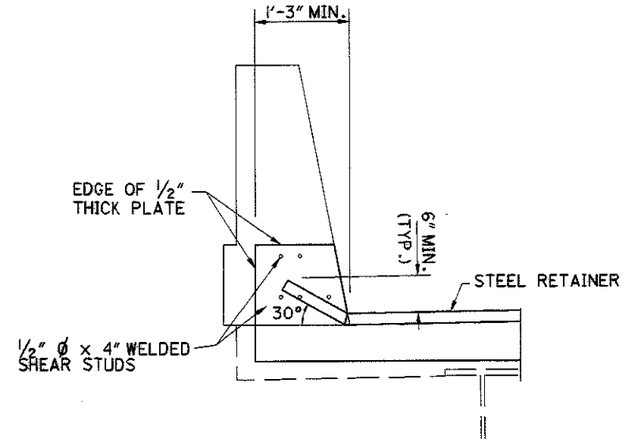
*QUANTITY CARRIED TO SHEET 80



SECTION A-A



SECTION C-C



SECTION B-B

TEMP.	DIM "A"
30°	1 15/16"
40°	1 13/16"
50°	1 11/16"
60°	1 5/8"
70°	1 1/2"
80°	—
90°	—

A501, S601 AND S701 SHALL HAVE A MECHANICAL CONNECTOR AT CENTERLINE OF STRUCTURE

5 BAR SHALL HAVE A MINIMUM LAP LENGTH = 2'-0"

6 BAR SHALL HAVE A MINIMUM LAP LENGTH = 2'-6"

NOTES:

1) THE STRIP SEAL GLAND SHALL BE ONE PIECE ACROSS THE TOTAL WIDTH OF THE STRUCTURE.
2) THE STEEL ANGLES AND RETAINERS SHALL HAVE A 2" GAP AT CENTERLINE OF STRUCTRE
3) FOR DETAILS NOT SHOWN SEE STD. DRW. EXJ-4-87
4) THE TOP OF PROPOSED BACKWALL SHALL BE 2" ABOVE TOP OF EXISTING BACKWALL

DESIGN AGENCY DISTRICT THREE

DESIGNED DCM | DRAWN DCM | CHECKED CAL | REVISED | REVIEWED RDN | DATE 10/03 | STRUCTURAL FILE NUMBER 220356

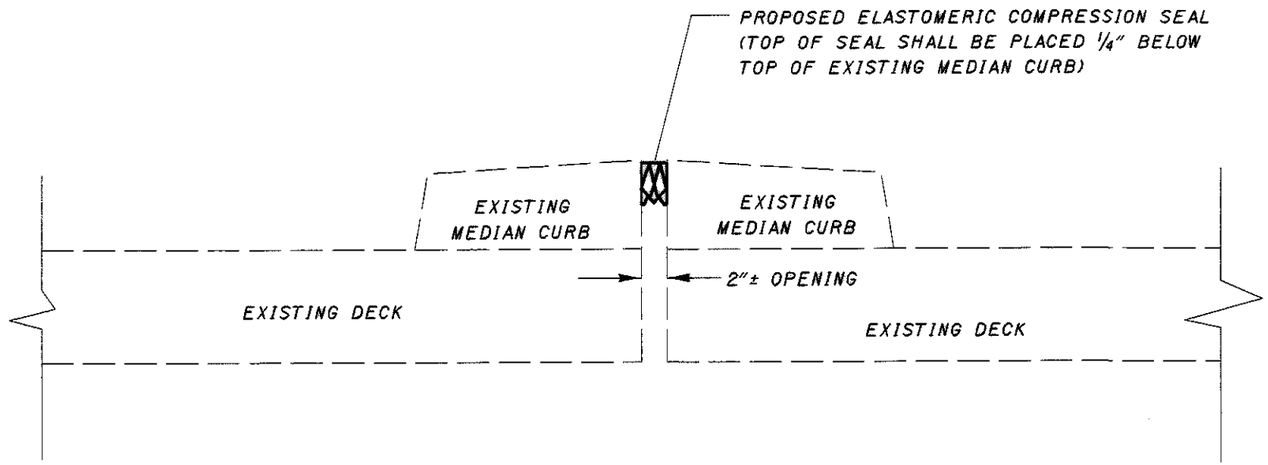
EXPANSION JOINT

ERI-4-0841
OVER S.R. 2

ERI-4-0.00

81
87

DESIGN FILE: i:\projects\18640\Struct\ERI-4-8.41\explt.dgn
WORKSTATION: *daughre* DATE: *10/24/03*



ITEM	QUANTITY	UNIT	DESCRIPTION
516	283	FT.	ELASTOMERIC COMPRESSION SEAL

ALL QUANTITIES CARRIED TO SHEET NO. 76

NOTES:

1) THE ELASTOMERIC COMPRESSION SEAL SHALL BE INSTALLED IN THE EXISTING MEDIAN JOINT AS PER MANUFACTURERS RECOMMENDATIONS.

2) THE JOINT SHALL NOT BE INSTALLED UNTIL AFTER THE BEARINGS HAVE BEEN RESET AND THE BRIDGE IS LOWERED TO ITS FINAL POSITION.

3) THE ELASTOMERIC COMPRESSION SEAL SHALL BE A WJ-350 BY WATSON, BOWMAN, ACME OR CV-3500 BY THE D.S. BROWN COMPANY OR AN APPROVED EQUAL.

DESIGN AGENCY
DISTRICT THREE
PRODUCTION DEPARTMENT

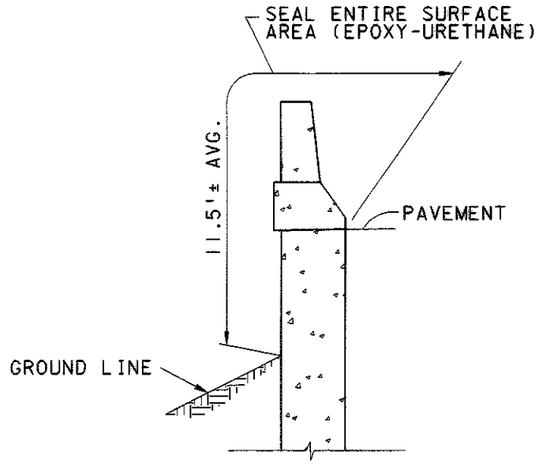
DESIGNED	DRAWN	REVIEWED	DATE
DCM	DCM	RDN	10/03
CHECKED	REVISED	STRUCTURE FILE NUMBER	
CAL		2201356	

MEDIAN JOINT DETAIL
ERI-4-084 I
OVER S.R. 2

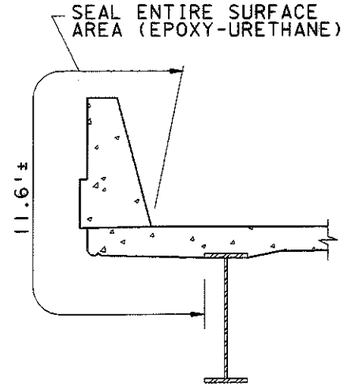
ERI-4-0.00

82
87

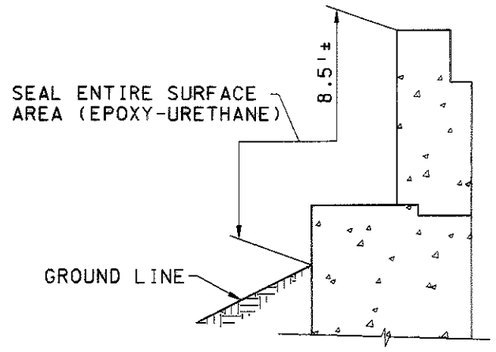
DESIGN FILE: I:\projects\8640\Struct\ERI-4-8.41\medjt.dgn
WORKSTATION: claughre DATE: 10/24/03



WINGWALL LENGTH= 64'± TOTAL



PARAPET ON DECK = 282.5'± PER SIDE



ABUTMENT LENGTH = 65.67'±

WINGWALL *SUPERSTRUCTURE* *ABUTMENT*

ITEM	QUANTITY	UNIT	DESCRIPTION
864	934	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

ALL QUANTITIES CARRIED TO SHEET NO. 76

DESIGN FILE: I:\projects\18640\Struct\ERI-4-8.4\seal.dgn
WORKSTATION: *claughre* DATE: *10/24/03*

DESIGN AGENCY
DISTRICT THREE

DESIGNED	DRAWN	REVIEWED	DATE
DCM	GTS	RDN	10/03
CHECKED	REVISED	STRUCTURAL FILE NUMBER	
CAL		2201356	

SEALING DETAIL
ERI-4-0841
OVER S.R. 2

ERI-4-0.00

MOUMENTS TO BE SET DURING CONSTRUCTION				
STATION	DIST. FROM ℄ OF R/W		℄ MONUMENTS	REFERENCE MONUMENTS
	LEFT	RIGHT		
P.T. 146+77.88	0.00′	0.00′	1	0
P.C. 157+23.89	0.00′	0.00′	1	0
P.T. 162+60.56	0.00′	0.00′	1	0
P.O.T. 167+72.55	0.00′	0.00′	1	0
TOTAL			4	0

THE PROPOSED RIGHT OF WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT OF WAY.

ADJUSTABLE CENTERLINE MONUMENTS, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM 1.1 (REV. 4-29-99) OF THE OHIO DEPARTMENT OF TRANSPORTATION. THE PLACING OF THE MONUMENTS SHALL BE UNDER THE DIRECTION OF A SURVEYOR REGISTERED IN THE STATE OF OHIO AND ARE TO BE SET, AS SHOWN BY THE HIGHWAY CONTRACTOR AT THE TIME OF CONSTRUCTION. ANY ALTERATIONS, WITH PRIOR APPROVAL OF THE OHIO DEPARTMENT OF TRANSPORTATION, SHALL BE NOTED AND O.D.O.T. SHALL BE NOTIFIED OF THE NEW LOCATIONS.

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- P.F. IRON PIPE FOUND
- P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

NOTES:

1. EXISTING CENTERLINES OF RIGHT OF WAY ARE DETERMINED BY THE OHIO DEPARTMENT OF TRANSPORTATION USING DATA FROM A SURVEY BY ODOT FORCES AND EXISTING RIGHT OF WAY PLANS:

   ERIE COUNTY
   S.H. 570 SEC "C"

   ERIE COUNTY
   S.H. 570 SEC D & E

2. STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF RIGHT OF WAY OF S.R. 113.

ERI-113-2.51
ERIE COUNTY
OXFORD TOWNSHIP
SECTION 1
T-5-N, R-22-W

GODDARD 900 ACRE TRACT
LOT 5

BASIS FOR BEARINGS:

ALL BEARINGS SHOWN, ARE FOR PROJECT USE ONLY. THE BEARINGS ARE TO AN ASSUMED MERIDIAN AND ARE TO BE USED TO DELINEATE ANGLES ONLY.

Plat Vol 14 Pg 138

5/8" I.P.F.
N.E COR.
LOT 5

BEGIN PROJECT
STA. 161+25.00
S.L.M. 3.05

END PROJECT
STA. 161+75.00
S.L.M. 3.06

'N 200300391 Page 1 of 1
ERIE COUNTY OHIO RECORDER
Nish Fraley 1P
RECORDING FEE: 33.00
DTR Date 01/08/2003 Time 13:05:59

℄ R/W TWP. RD. 113 (LIVENGOOD RD.)
N 00° 24′ 52″ W
S 00° 24′ 52″ E, 1558.45′

LOT 4

P.I. 167+55.28

P.I. STA. 159+95.41

165+00

N 72° 23′ 32″ E

165+00.13
29.71′

162+61.38
29.87′

P.O.T. 167+72.55

160+00

157+23.81
30.03′

P.I. 159+49.07

P.T. STA. 162+60.56

157+23.97
30.03′

P.C. STA. 157+23.89

155+00

℄ R/W S.R. 113 (MILAN-BELLEVUE RD.)
N 50° 55′ 32″ E

℄ R/W T.R. 45 (PERU CENTER ROAD)
N 30° 26′ 14″ E

P.I. Sta = 159+95.41
Δ = 21° 28′ 00″ (RT)
Dc = 4° 00′ 00″
R = 1,432.41′
T = 271.52′
L = 536.67′
E = 25.51′

LOT 5
LOT LINE
LOT 4

P.T. STA. 146+77.88

146+77.88
29.72′ LT.

150+00

150+00.22
30.29′ RT.

146+77.88
30.00′ RT.

ERIE COUNTY

℄ R/W T.R. 39 (STRONGRIDGE ROAD)
℄ R/W T.R. 248 (COUNTY LINE ROAD)

LOT 5
LOT LINE
COUNTY LINE

HURON COUNTY

I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE BY DISTRICT THREE OF THE OHIO DEPARTMENT OF TRANSPORTATION IN 2002.

THE ESTABLISHMENT OF THE PROPERTY LINES AND EXISTING RIGHT OF WAY LINES SHOWN ON THIS PLAN, AS OF THIS DATE, WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION.

BY James E. Kenyon
JAMES E. KENYON

SURVEYOR NO. 6891 DATE 11-14-2002

RECEIVED _____, 20 ____
RECORDED _____, 20 ____
BOOK _____ PAGE _____

COUNTY RECORDER

STATE OF OHIO
JAMES E. KENYON
6891
PROFESSIONAL SURVEYOR

PID NO. 18640

R/W DESIGNER
R/W REVIEWER JEK

CENTERLINE PLAT

ERI-113-2.51

1 / 1
1 / 4
84
87

DESIGN FILE: P:\projects\18640\RW\cplat.dgn
WORKSTATION: psteyer DATE: 11/14/02

ERI-113-2.51
ERIE COUNTY
OXFORD TOWNSHIP
SECTION 1
T-5-N, R-23-W

HURLBUT 500 ACRE TRACT

GODDARD 900 ACRE TRACT
LOT 5

J. BEATTY 500 ACRE TRACT

GODDARD 900 ACRE TRACT
LOT 4

LOT LINE

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

CONVENTIONAL SIGNS

- County Line
- Township Line
- Section Line
- Corporation Line
- Fence Line (existing) (proposed)
- Center Line
- Trees, Stumps (to be removed)
- Utility Poles: Telephone, Power, Light
- Limited Access (only) LA
- Right of Way (only) R/W
- Limited Access & Right of Way LA-R/W
- Exist. Right of Way R/W
- Temp. Right of Way T ESMT
- Slope Easement SL ESMT
- Utility Easement U ESMT
- Property Line (In existing fence)
- Railroad
- Guardrail (existing) (proposed)
- Construction Limits

SCALE IN FEET: 0, 100, 200, 400

PID NO. 18640

R/W DESIGNER PMS
R/W REVIEWER JEN

UTILITY OWNERS

POWER: OHIO EDISON COMPANY
2508 WEST PERKINS AVENUE
SANDUSKY, OHIO 44870
(419) 627-6890

TELE.: VERIZON
83 TOWNSEND AVENUE
NORWALK, OHIO 44857
(419) 744-3619

WATER: ERIE COUNTY DEPARTMENT
OF ENVIRONMENTAL SERVICES
554 RIVER ROAD
HURON, OHIO 44839
(419) 433-7303

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 O.R.C.

NOTES:

1. *PROPERTY LINES WERE ESTABLISHED USING DATA FROM SURVEYS BY O.D.O.T. IN 2001 AND 2002.*
   PLATS USED FOR THE SURVEY WERE:
   OXFORD TOWNSHIP SEC. 1 PG.45
   A SURVEY FOR A 1.0844 AC. PARCEL
2. *FOR RIGHT OF WAY PLANS USED, SEE SHEETS 1 AND 3 OF 4.*

BEGIN ACQUISITION STA. 159+67.35
END ACQUISITION STA. 167+81.84
BEGIN PROJECT STA. 161+25.00
END PROJECT STA. 161+75.00
BEGIN WORK STA. 160+36
END WORK STA. 165+02

(10) CORNELIUS J. SCHLACHTER
125.12 AC.
2400147000

91.7 AC.
2400148000

42.16 AC.
2300060000

(11) JOHN P. SEAMAN, SR.
AND
HIGBEE ROAD II, LTD.,
A PARTNERSHIP
1.72 AC.
2400155000

JOHN P. SEAMAN, SR.
AND
HIGBEE ROAD II, LTD.,
A PARTNERSHIP
63.29 AC.
2300067000

℄ R/W TWP. RD. 113 (LIVENGOOD RD.)
℄ R/W S.R. 113 (MILAN-BELLEVUE RD.)
℄ R/W T.R. 39 (STRONGRIDGE ROAD)
℄ R/W T.R. 248 (COUNTY LINE ROAD)
165+00 R/W
160+00 R/W
155+00
150+00
R/W

BRANCH OF THE HURON RIVER

LOT 5 LOT LINE LOT 4

ERIE COUNTY

HURON COUNTY

LOT LINE
COUNTY LINE

ERIE COUNTY

HURON COUNTY

REV. BY	DATE	DESCRIPTION
PWS	2-21-03	REPLACED P.P.NOS. W/AUDITOR'S NOS.
DATE COMPLETED:		11-14-02

PROPERTY MAP

ERI-113-2.51

2 / 4

85 / 87

DESIGN FILE: i:\projects\18640\RW\propmap.dgn
WORKSTATION: pengler DATE: 10/22/03

TOTAL NUMBER OF :

2 OWNERSHIPS 0 OWNERSHIPS WITH STRUCTURES INVOLVED
3 PARCELS 0 OWNERSHIPS WITH "P" ITEMS
0 TOTAL TAKES

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF THE STATE OF OHIO UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS AND PERSONALTY	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-9	NOT USED																
10SH	CORNELIUS J. SCHLACHTER	2,4	OR 431	64-73	2400147000	125.12	1.0908	0.1456	-	0.1456	NO	123.8836	-	STATE	LOT 5		
10CH								0.0197	-	0.0197			-		FOR CHANNEL WORK		
					2400148000	91.7	6.2274	-	-	-	NO	85.4726			LOT 5 NO R/W REQUIRED		
					2300060000	42.16	1.6226	-	-	-	NO	40.5374	-		LOT 4 NO R/W REQUIRED		
	TOTAL					258.98	8.9408	0.1456	-	0.1456		249.8936	-				
11WD	JOHN P. SEAMAN, SR. AND	2,4	RN9912531		2400155000	1.72	0.3637	0.4488	0.3637	0.0851	NO	-	1.2712		LOT 5		
	HIGBEE ROAD II, LTD., A PARTNERSHIP																
					2300067000	63.29	1.0538	-	-	-	NO	-	62.2362		LOT 4 NO R/W REQUIRED		
	TOTAL					65.01	1.4175	0.4488	0.3637	0.0851		-	63.5074	STATE			

REV. BY	DATE	DESCRIPTION
PWS	8-27-03	REPLACED PAR. 10WD WITH 10SH
PWS	2-21-03	REPLACED P.P.NOS. W/AUDITOR'S NOS.
DATE COMPLETED:		11-14-02

FEDERAL PROJECT NO.

PID NO. 18640

STATE JOB NO. 431200

R/W DESIGNER PWS
R/W REVIEWER

SUMMARY OF ADDITIONAL RIGHT OF WAY

ERI-113-2.51

3 / 4

86
87

DESIGN FILE: I:\projects\18640\RW\rwsum.dgn
WORKSTATION: pauyler
DATE: 10/22/03

NOTES:

1. THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING:

   ERIE COUNTY
   S.H. 570 SEC. "C"
   RIGHT OF WAY PLAN

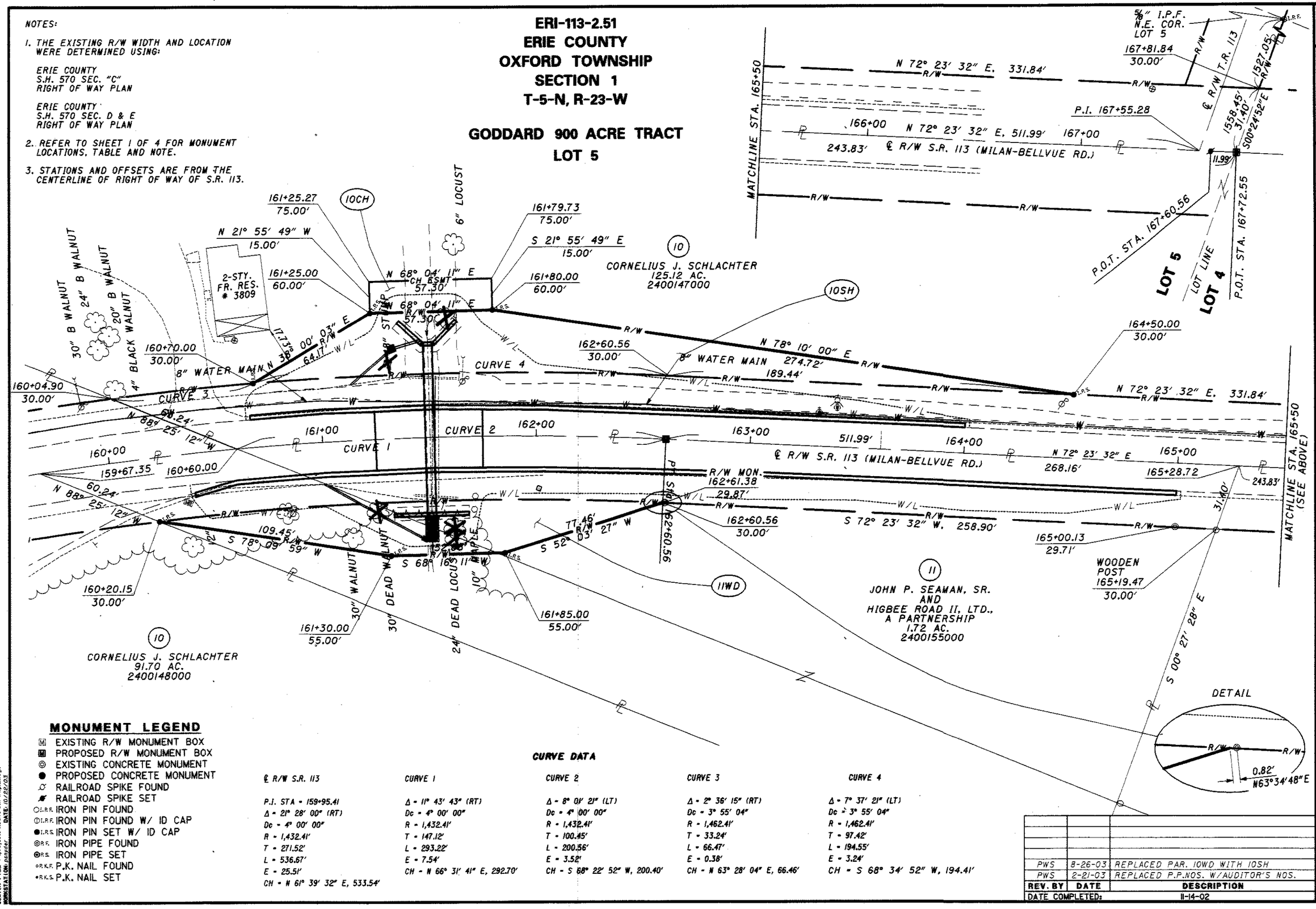
   ERIE COUNTY
   S.H. 570 SEC. D & E
   RIGHT OF WAY PLAN

2. REFER TO SHEET 1 OF 4 FOR MONUMENT LOCATIONS, TABLE AND NOTE.

3. STATIONS AND OFFSETS ARE FROM THE CENTERLINE OF RIGHT OF WAY OF S.R. 113.

ERI-113-2.51
ERIE COUNTY
OXFORD TOWNSHIP
SECTION 1
T-5-N, R-23-W

GODDARD 900 ACRE TRACT
LOT 5



MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- I.P.F. IRON PIN FOUND
- I.P.F. IRON PIN FOUND W/ ID CAP
- I.P.S. IRON PIN SET W/ ID CAP
- I.P.F. IRON PIPE FOUND
- I.P.S. IRON PIPE SET
- P.K.F. P.K. NAIL FOUND
- P.K.S. P.K. NAIL SET

CURVE DATA

℄ R/W S.R. 113	CURVE 1	CURVE 2	CURVE 3	CURVE 4
P.I. STA = 159+95.41	Δ = 11° 43' 43" (RT)	Δ = 8° 01' 21" (LT)	Δ = 2° 36' 15" (RT)	Δ = 7° 37' 21" (LT)
Δ = 21° 28' 00" (RT)	Dc = 4° 00' 00"	Dc = 4° 00' 00"	Dc = 3° 55' 04"	Dc = 3° 55' 04"
Dc = 4° 00' 00"	R = 1,432.41'	R = 1,432.41'	R = 1,462.41'	R = 1,462.41'
R = 1,432.41'	T = 147.12'	T = 100.45'	T = 33.24'	T = 97.42'
T = 271.52'	L = 293.22'	L = 200.56'	L = 66.47'	L = 194.55'
L = 536.67'	E = 7.54'	E = 3.52'	E = 0.38'	E = 3.24'
E = 25.51'	CH = N 66° 31' 41" E, 292.70'	CH = S 68° 22' 52" W, 200.40'	CH = N 63° 28' 04" E, 66.46'	CH = S 68° 34' 52" W, 194.41'
CH = N 61° 39' 32" E, 533.54'				

REV. BY	DATE	DESCRIPTION
PWS	8-26-03	REPLACED PAR. 10WD WITH 10SH
PWS	2-21-03	REPLACED P.P.NOS. W/AUDITOR'S NOS.
DATE COMPLETED:		11-14-02

R/W DESIGNER: PWS
R/W REVIEWER: JEK

PID NO. 18640

SCALE IN FEET (0, 10, 20, 40)

RIGHT OF WAY PLAN
STA 159+65 TO STA 167+65

ERI-113-2.51

4 / 4

87 / 87

DESIGN FILE: I:\projects\18640\RW\rwplan.dgn
NOMINSTATION: pgnyder DATE: 10/22/03