

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

**WAR-US22/SR48
-2.80/5.22**

**SOUTH LEBANON & MORROW VILLAGES
HAMILTON, UNION, DEERFIELD & SALEM TOWNSHIPS
WARREN COUNTY**

PROJECT DESCRIPTION
IMPROVEMENT OF APPROXIMATELY 10 MILES OF US 22 AND 5 MILES OF S.R. 48 IN WARREN COUNTY BY PLANING AND RESURFACING, SEALING BRIDGE DECKS, AND UPGRADING GUARDRAIL. PROJECT INCLUDES ADDING RUMBLE STRIPES AND SAFETY EDGE AND REPLACING RAISED PAVEMENT MARKERS AND PAVEMENT MARKINGS.

PROJECT EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE)
NOTICE OF INTENT EARTH DISTURBED AREA: N/A ACRES (MAINTENANCE)

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2016 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

UNDERGROUND UTILITIES
CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection SERVICE
Call Before You Dig
1-800-362-2764
(Non-members must be called directly)

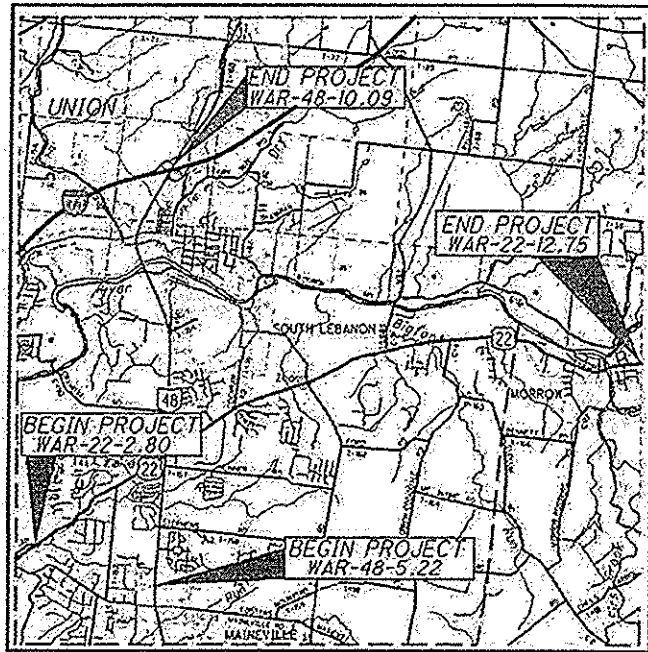
OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE
1-800-925-0988

PLAN PREPARED BY:
THE OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8 ENGINEERING
505 S. SR 741
LEBANON, OHIO 45036

I HEREBY APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED *Tony K Cepell*
DATE 7/21/16 DISTRICT DEPUTY DIRECTOR

APPROVED *Kevin Whayll*
DATE 8-5-16 DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: 39°21'37" LONGITUDE: 84°12'24"

SCALE IN MILES



PORTION TO BE IMPROVED

INTERSTATE HIGHWAY	-----
FEDERAL ROUTES	-----
STATE ROUTES	-----
COUNTY & TOWNSHIP ROADS	-----
OTHER ROADS	-----

DESIGN DESIGNATION	US-22 1.38-5.37	US-22 5.37-12.43	US-22 12.43-12.75	SR-48 4.97-6.63	SR-48 6.63-9.65	SR-48 9.65-11.51
CURRENT ADT (2017)	22,410	11,850	4,170	8,750	17,090	34,320
DESIGN YEAR ADT (2037)	32,000	18,000	6,100	14,000	26,000	47,000
DESIGN HOURLY VOLUME (2017)	2,900	1,800	730	1,400	2,600	4,700
DIRECTIONAL DISTRIBUTION	52%	68%	50%	67%	60%	59%
TRUCKS (24 HOUR B&C)	3.0%	3.0%	5.0%	3.0%	5.0%	3.0%
DESIGN SPEED	45/55	35/45/55	45	35/55	45/55	55
LEGAL SPEED	45/55	35/45/55	45	35/55	45/55	55

DESIGN FUNCTIONAL CLASSIFICATION:
 WAR 22/2.80-5.37.....PRINCIPAL ARTERIAL (URBAN)...NHS
 WAR 22/5.37-12.75.....MAJOR COLLECTOR (URBAN)
 WAR 48/5.22-6.63.....MINOR ARTERIAL (URBAN)
 WAR 48/6.63-10.09.....PRINCIPAL ARTERIAL (URBAN)...NHS

DESIGN EXCEPTIONS.....NO

ENGINEER'S SEAL:

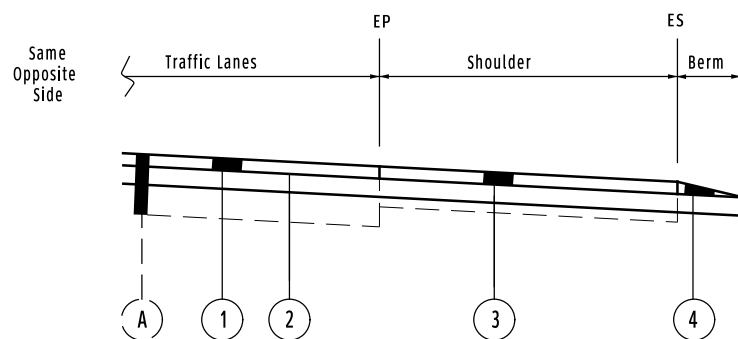
SIGNED: *Tami R. Brehm*
DATE: 7/21/16

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	7/18/14	MT-95.30	7/18/14	SS800	7/15/16
BP-4.1	7/19/13	MT-95.60	7/19/13	SS832	1/17/14
BP-7.1	7/18/14	MT-95.61	7/19/13	SS846	4/17/15
BP-9.1	7/19/13	MT-97.11	7/18/14		
		MT-95.20	7/19/13		
MGS-1.1	7/19/13	MT-105.10	7/19/13		
MGS-2.1	7/19/13				
MGS-2.3	7/18/14	DBR-3-II	7/15/11		
MGS-4.3	1/18/13				
MGS-5.3	7/19/13				
TC-64.10	7/17/15				
TC-65.10	1/17/14				
TC-65.11	7/18/14				
TC-71.10	1/17/14				

WAR - US 22/SR 48-02.80/05.22
 160574 PID - 100553
 Dist 8 11/3/2016
 Contract Proposal Available @ www.Contracts.dot.state.oh.us/home

FEDERAL PROJECT NO. E (160) 317
 PID NO. 100553
 CONSTRUCTION PROJECT NO.
 RAILROAD INVOLVEMENT NONE
 WAR-US22/SR48 2.80/5.22

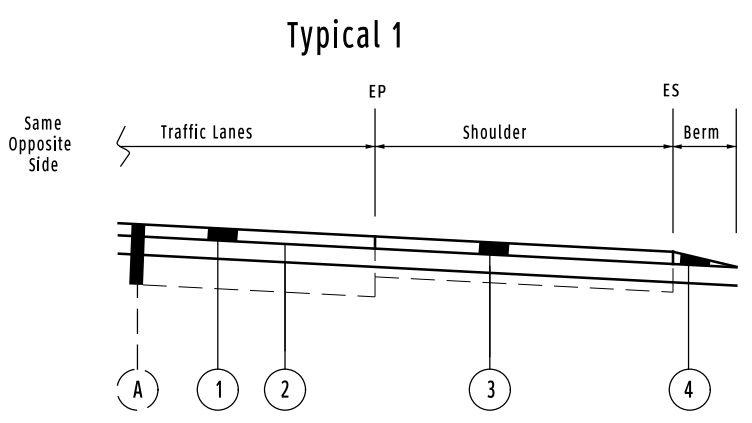
Typical 1



- (A) Existing Asphalt Concrete Pavement
- (1) Item 441 - 1.5" Asphalt Concrete Surface Course, Type 1 (448), PG64-22
- (2) Item 407 - Tack Coat
- (3) Item 254 - 1.25-1.5" Pavement Planing, Asphalt Concrete (SEE TABLE BELOW)
- (4) SAFETY EDGE (SEE SHEET 17/19 FOR DETAILS)

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COUNTY	ROUTE	LOG POINT (MILE)		LENGTH		TYPICAL	TOTAL PAVEMENT WIDTH FT	PAVEMENT AREA SQ YD	407	441		441		617		616	254			NOTES		
		FROM	TO	MILES	FT				TACK COAT @ 0.09 GAL/SQ YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22 (SAFETY EDGE)	COMPACTED AGGREGATE TYPE A, 2.5" MIN. DEPTH	WATER @ 20 GAL/CU YD	PAVEMENT PLANING ASPHALT CONCRETE		PATCHING PLANED SURFACE						
									GAL	AVE. THICK. INCHES	CU YD	REQ'D?	CU YD	MGAL	DEPTH INCHES	SQ YD	SQ YD					
WAR	22	2.80	3.00	0.20	1056	1	28	3286	296	1.50	137		3	YES	13	0.27	1.25	3286	33			
WAR	22	3.31	3.64	0.33	1742	1	28	5421	488	1.50	226		4	YES	23	0.46	1.25	5421	55			
WAR	22	3.83	4.20	0.37	1954	1	28	6078	548	1.50	254		4	YES	26	0.52	1.25	6078	61			
WAR	22	4.84	4.88	0.04	211	1	56	1315	119	1.50	55		1	YES	2	0.05	1.25	1315	14			
WAR	22	4.88	4.95	0.07	370	1	58	2382	215	1.50	100		1	YES	5	0.09	1.25	2382	24			
WAR	22	4.95	5.04	0.09	475	1	48	2535	229	1.50	106		1	YES	6	0.13	1.25	2535	26			
WAR	22	5.04	5.11	0.07	370	1	30	1233	111	1.50	52		1	YES	5	0.09	1.25	1233	13			
WAR	22	5.11	5.23	0.12	634	1	50	3520	317	1.50	147		2	YES	8	0.16	1.25	3520	36			
WAR	22	5.23	5.51	0.28	1478	1	77	12649	1139	1.50	528		3	YES	20	0.40	1.25	12649	127			
WAR	22	5.51	5.67	0.16	845	1	52	4882	440	1.50	204		2	YES	11	0.22	1.25	4882	49			
WAR	22	5.67	5.76	0.09	475	1	28	1479	134	1.50	62		1	YES	6	0.13	1.25	1479	15			
WAR	22	5.76	5.95	0.19	1003	1	40	4459	402	1.50	186		2	YES	13	0.27	1.25	4459	45			
WAR	22	5.95	6.02	0.07	370	1	55	2259	204	1.50	95		1	YES	5	0.09	1.25	2259	23			
WAR	22	6.02	6.12	0.10	528	1	40	2347	212	1.50	98		2	YES	6	0.12	1.25	2347	24			
WAR	22	6.12	6.20	0.08	422	1	30	1408	127	1.50	59		1	YES	6	0.11	1.25	1408	15			
WAR	22	6.20	6.28	0.08	422	1	54	2535	229	1.50	106		1	YES	6	0.11	1.25	2535	26			
WAR	22	6.28	6.51	0.23	1214	1	42	5668	511	1.50	237		3	YES	16	0.31	1.25	5668	57			
WAR	22	6.51	6.68	0.17	898	1	30	2992	270	1.50	125		2	YES	12	0.24	1.25	2992	30			
WAR	22	6.68	6.76	0.08	422	1	50	2347	212	1.50	98		1	YES	6	0.11	1.25	2347	24			
WAR	22	6.76	6.89	0.13	686	1	38	2899	261	1.50	121		2	YES	9	0.17	1.25	2899	29			
WAR	22	6.89	7.97	1.08	5702	1	28	17741	1597	1.50	740		11	YES	77	1.54	1.25	17741	178			
WAR	22	7.97	8.06	0.09	475	1	38	2007	181	1.50	84		1	YES	6	0.13	1.25	2007	21			
WAR	22	8.06	8.26	0.20	1056	1	28	3286	296	1.50	137		3	YES	13	0.27	1.25	3286	33			
WAR	22	8.26	8.85	0.59	3115	1	54	18692	1683	1.50	779		6	YES	42	0.84	1.25	18692	187			
WAR	22	8.85	9.06	0.21	1109	1	28	3450	311	1.50	144		3	YES	14	0.28	1.25	3450	35			
WAR	22	9.06	9.17	0.11	581	1	52	3356	303	1.50	140		2	YES	7	0.14	1.25	3356	34			
WAR	22	9.17	9.30	0.13	686	1	42	3204	289	1.50	134		2	YES	9	0.17	1.25	3204	33			
WAR	22	9.30	9.75	0.45	2376	1	28	7392	666	1.50	308		5	YES	32	0.63	1.25	7392	74			
									11790		5462				71		402	8.05		130822	1321	



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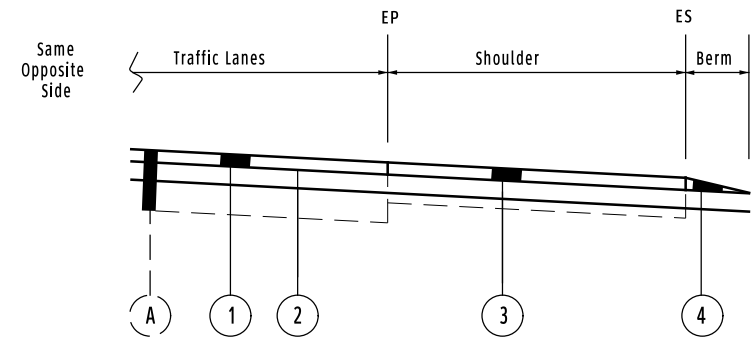
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COUNTY	ROUTE	LOG POINT (MILE)		LENGTH		TYPICAL	TOTAL PAVEMENT WIDTH	PAVEMENT AREA	407		441		441		617		616	254			NOTES
		FROM	TO	MILES	FT				SQ YD	TACK COAT @ 0.09 GAL/SQ YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22		ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22 (SAFETY EDGE)		COMPACTED AGGREGATE TYPE A, 2.5" MIN. DEPTH		WATER @ 20 GAL/CU YD	PAVEMENT PLANING ASPHALT CONCRETE		PATCHING PLANED SURFACE	
											AVE. THICK.	CU YD	CU YD	CU YD	MGAL	DEPTH		SQ YD	SQ YD		
WAR	22	9.75	10.55	0.80	4224	1	36	16896	1521	1.50	704			9		56	1.12	1.25	16896	169	
WAR	22	10.59	10.85	0.26	1373	1	36	5492	495	1.50	229			3		18	0.36	1.25	5492	55	
WAR	22	10.85	11.63	0.78	4118	1	44	20135	1813	1.50	839			8		56	1.11	1.25	20135	202	
WAR	22	11.63	12.75	1.12	5914	1	32	21027	1893	1.50	877			12		79	1.59	1.25	21027	211	
WAR	48	5.22	5.50	0.28	1478	1	28	4600	414	1.50	192			3		20	0.40	1.50	4600	46	
WAR	48	5.50	5.60	0.10	528	1	32	1878	170	1.50	79			2		6	0.12	1.50	1878	19	
WAR	48	5.60	5.64	0.04	211	1	37	869	79	1.50	37			1		2	0.05	1.50	869	9	
WAR	48	5.64	5.70	0.06	317	1	53	1866	168	1.50	78			1		4	0.08	1.50	1866	19	
WAR	48	5.70	5.95	0.25	1320	1	40	5867	529	1.50	245			3		17	0.35	1.50	5867	59	
WAR	48	5.95	6.05	0.10	528	1	36	2112	191	1.50	88			2		6	0.12	1.50	2112	22	
WAR	48	6.05	6.10	0.05	264	1	28	822	74	1.50	35			1		3	0.06	1.50	822	9	Omit Bridge
WAR	48	6.10	6.20	0.10	528	1	30	1761	159	1.50	74			2		6	0.12	1.50	1761	18	
WAR	48	6.20	6.40	0.20	1056	1	42	4928	444	1.50	206			3		13	0.27	1.50	4928	50	
WAR	48	6.40	6.50	0.10	528	1	56	3286	296	1.50	137			2		6	0.12	1.50	3286	33	
WAR	48	6.50	6.65	0.15	792	1	65	5721	515	1.50	239			2		10	0.20	1.50	5721	58	
WAR	48	6.65	6.70	0.05	264	1	62	1819	164	1.50	76			1		3	0.06	1.50	1819	19	
WAR	48	6.70	6.72	0.02	106	1	170	1995	180	1.50	84			1		1	0.01	1.50	1995	20	
WAR	48	6.72	6.76	0.04	211	1	158	3708	334	1.50	155			1		2	0.05	1.50	3708	38	
WAR	48	6.76	6.86	0.10	528	1	70	4107	370	1.50	172			2		6	0.12	1.50	4107	42	
WAR	48	6.86	6.97	0.11	581	1	58	3743	337	1.50	156			2		7	0.14	1.50	3743	38	
WAR	48	6.97	6.99	0.02	106	1	53	622	56	1.50	26			1		1	0.01	1.50	622	7	
WAR	48	6.99	7.02	0.03	158	1	95	1672	151	1.50	70			1		1	0.03	1.50	1672	17	
WAR	48	7.02	7.10	0.08	422	1	58	2723	246	1.50	114			1		6	0.11	1.50	2723	28	
WAR	48	7.10	7.15	0.05	264	1	45	1321	119	1.50	56			1		3	0.06	1.50	1321	14	
WAR	48	7.15	7.20	0.05	264	1	62	1819	164	1.50	76			1		3	0.06	1.50	1819	19	
WAR	48	7.20	7.23	0.03	158	1	100	1761	159	1.50	74			1		1	0.03	1.50	1761	18	
									11041		518			67		338	6.76		122550	1239	

PAVEMENT CALCULATIONS

WAR-US22 / SR48-2.80 / 5.22

Typical 1



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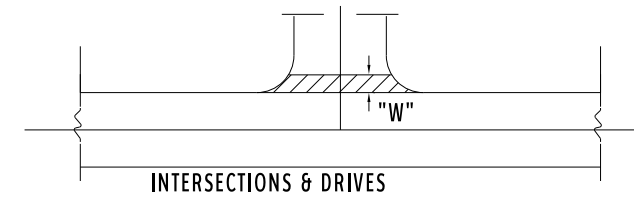
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COUNTY	ROUTE	LOG POINT (MILE)		LENGTH		TYPICAL	TOTAL PAVEMENT WIDTH FT	PAVEMENT AREA SQ YD	407	441		441		617		616	254			NOTES	
		FROM	TO	MILES	FT				TACK COAT @ 0.09 GAL/SQ YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22		ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22 (SAFETY EDGE)		COMPACTED AGGREGATE TYPE A, 2.5" MIN. DEPTH		WATER @ 20 GAL/CU YD	PAVEMENT PLANING ASPHALT CONCRETE		PATCHING PLANED SURFACE		
										AVE. THICK.	CU YD	CU YD	CU YD	MGAL	DEPTH		SQ YD	SQ YD			
WAR	48	7.23	7.29	0.06	317	1	45	1584	143	1.50	66	1	4	0.08	1.50	1584	16				
WAR	48	7.29	7.37	0.08	422	1	58	2723	246	1.50	114	1	6	0.11	1.50	2723	28				
WAR	48	7.37	7.40	0.03	158	1	45	793	72	1.50	34	1	1	0.03	1.50	793	8				
WAR	48	7.40	7.46	0.06	317	1	56	1972	178	1.50	83	1	4	0.08	1.50	1972	20				
WAR	48	7.46	7.50	0.04	211	1	65	1526	138	1.50	64	1	2	0.05	1.50	1526	16				
WAR	48	7.50	7.55	0.05	264	1	46	1350	122	1.50	57	1	3	0.06	1.50	1350	14				
WAR	48	7.55	7.59	0.04	211	1	60	1408	127	1.50	59	1	2	0.05	1.50	1408	15				
WAR	48	7.59	7.62	0.03	158	1	92	1620	146	1.50	68	1	1	0.03	1.50	1620	17				
WAR	48	7.62	7.68	0.06	317	1	56	1972	178	1.50	83	1	4	0.08	1.50	1972	20				
WAR	48	7.68	7.88	0.20	1056	1	46	5398	486	1.50	225	3	13	0.27	1.50	5398	54				
WAR	48	7.88	7.93	0.05	264	1	60	1760	159	1.50	74	1	3	0.06	1.50	1760	18				
WAR	48	7.93	8.10	0.17	898	1	45	4488	404	1.50	187	2	12	0.24	1.50	4488	45				
WAR	48	8.10	8.15	0.05	264	1	60	1761	159	1.50	74	1	3	0.06	1.50	1761	18				
WAR	48	8.15	8.18	0.03	158	1	112	1972	178	1.50	83	1	1	0.03	1.50	1972	20				
WAR	48	8.18	8.23	0.05	264	1	58	1702	154	1.50	71	1	3	0.06	1.50	1702	18				
WAR	48	8.23	8.35	0.12	634	1	44	3098	279	1.50	130	2	8	0.16	1.50	3098	31				
WAR	48	8.35	8.85	0.50	2640	1	32	9387	845	1.50	392	6	35	0.69	1.50	9387	94				
WAR	48	8.85	9.70							1.50					1.50			Omit			
WAR	48	9.70	9.91	0.21	1109	1	40	4929	444	1.50	206	3	14	0.28	1.50	4929	50				
WAR	48	9.85	9.88	0.03	158	1	40	705	64	1.50	30	1	1	0.03	1.50	705	8				
WAR	48	9.88	9.91	0.03	158	1	70	1232	111	1.50	52	1	1	0.03	1.50	1232	13				
WAR	48	9.91	9.93	0.02	106	1	110	1291	117	1.50	54	1	1	0.01	1.50	1291	13				
WAR	48	9.93	10.00	0.07	370	1	48	1972	178	1.50	83	1	5	0.09	1.50	1972	20				
WAR	48	9.93	9.98	0.05	264	1	38	1115	101	1.50	47	1	3	0.06	1.50	1115	12				
WAR	48	10.00	10.07	0.07	370	1	40	1643	148	1.50	69	1	5	0.09	1.50	1643	17				
WAR	48	9.98	10.00	0.02	106	1	68	798	72	1.50	34	1	1	0.01	1.50	798	8				
WAR	48	10.00	10.07	0.07	370	1	64	2629	237	1.50	110	1	5	0.09	1.50	2629	27				
WAR	48	10.07	10.09	0.02	106	1	125	1467	133	1.50	62	1	1	0.01	1.50	1467	15				
									5619		2611			38		142	2.84		62295	635	

PAVEMENT CALCULATIONS

WAR-US22 / SR48-2.80 / 5.22

EXTRA AREA AND DEDUCTIONS



QUANTITIES CARRIED TO THE GENERAL SUMMARY

PAVEMENT DATA

PART	ROUTE	LOG POINT (MILE)	SIDE	DESCRIPTION	LENGTH		WIDTH "W"	AREA	407		441			254		
					MILE	FT			TACK COAT @ 0.9 GAL/SQ YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1 (448), PG64-22	PAVEMENT PLANING, ASPHALT CONCRETE	PATCHING PLANED SURFACE				
									AVE. THICK. INCHES	CU YD	DEPTH INCHES	SQ YD	SQ YD			
	22			DRIVEWAYS & MAILBOXES		2450	3	817	69	1.5	35	1.25	817	45		
	22			SIDE STREETS		360	15	600	51	1.5	25	1.25	600	6		
	48			DRIVEWAYS & MAILBOXES		1545	3	515	44	1.5	22	1.5	515	6		
	48			SIDE STREETS		566	15	944	80	1.5	40	1.5	944	10		
TOTALS CARRIED TO GENERAL SUMMARY									244	X	122	X	2876	67		

CALCULATED
 CHECKED
EXTRA AREAS AND DEDUCTIONS
WAR - 22 / 48 - 2.80 / 5.22
6
19

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CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER UNLESS AUTHORIZED BY THE ENGINEER". THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DIRECTION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THE PROJECT.

PERMANENT PAVEMENT MARKINGS

THE CONTRACTOR SHALL REFERENCE ALL PAVEMENT MARKINGS INCLUDING AUXILIARY PAVEMENT MARKINGS BEFORE THE START OF THE RESURFACING OPERATION. THIS WILL BE NECESSARY ASSURE TO CORRECT PLACEMENT OF MARKINGS IN ORIGINAL LOCATIONS. FOR CENTER LINE MARKINGS, THE CONTRACTOR SHALL INSTALL THE PASSING/NO PASSING ZONE MARKINGS ACCORDING TO THE CURRENT CENTER LINE LOGS AVAILBLE AT THE TIME OF INSTALLATION. THE ENGINEER WILL PROVIDE THE CENTER LINE LOGS AT THE PRECONSTRUCTION MEETING. PAYMENT FOR THIS OPERATION SHALL BE INCLUDED WITH EACH RESPECTIVE PAVEMENT MARKING ITEM.

ITEM 407- TACK COAT

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

0.09 GALLONS PER SQUARE YARD OF TACK COAT.

ITEM 254- PAVEMENT PLANING, ASPHALT CONCRETE

THE PLANING SHALL BE SCHEDULED SO AS TO BE COVERED BY THE SURFACE COURSE PRIOR TO REOPENING THE LANE TO TRAFFIC. THE COST OF THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE RESPECTIVE ITEM. FAILURE TO COMPLY WITH THE ABOVE REQUIREMENTS SHALL RESULT IN LIQUIDATED DAMAGES AS PER 108.07 OF THE SPECIFICATIONS.

CONSTRUCTION NOTIFICATION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF:

- TWENTYONE (21) DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND/OR ROAD CLOSURES.
 - FOURTEEN (14) DAYS PRIOR TO LANE CLOSURES AND/OR SHIFTS IN TRAFFIC PATTERNS.
- THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) EMAIL AT DO8.PIO@DOT.OHIO.GOV
DISTRICT PERMIT SECTION BY PHONE AT (513) 933-6577 OR EMAIL AT CHRISTOPHER.BASS@DOT.OHIO.GOV
CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES, AND ANY OTHER IMPACTED LOCAL PUBLIC AGENCY OF ANY OF THE ABOVE MENTIONED ITEMS, VIA MEDIA SOURCES.

PROJECT IN DRINKING WATER SOURCES

THE PROJECT IS LOCATED NEAR THE WARREN COUNTY RICHARD RENNEKER PWS DRINKING WATER SOURCE AREA. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED FROM WAR SR-48 SLM 8.64 TO 9.80. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO THE DRINKING WATER SOURCE AREA SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT UNION TOWNSHIP FIRE RESCUE, (513) 494-2566 FOR CLEANUP OF THE SPILL.

THE PROJECT IS LOCATED NEAR THE MORROW VILLAGE PWS DRINKING WATER SOURCE AREA. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED FROM WAR US-22 SLM 10.86 TO 11.10. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO THE DRINKING WATER SOURCE AREA SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT CHIEF FRED LAFOLLETTE OF SALEM/MARROW FIRE DEPARTMENT, (513) 899-2222 FOR CLEANUP OF THE SPILL.

FOR ANY SPILL OF REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT THE OHIO EPA S SPILLS HOTLINE 1-800-282-9378

PROJECT LOCATED OVER A SOLE SOURCE AQUIFER

THE PROJECT AREA IS LOCATED OVER THE BURIED VALLEY AQUIFER SYSTEM, A DESIGNATED SOLE SOURCE AQUIFER. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, ALL PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED FROM WAR US-22 SLM 3.05 TO SLM 3.13. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT FIRE CHIEF OTTO HUBER OF LOVELAND-SYMMES FIRE DEPARTMENT, (513) 583-3001 FOR CLEAN UP OF THE SPILL.

THE PROJECT AREA IS LOCATED OVER THE BURIED VALLEY AQUIFER SYSTEM, A DESIGNATED SOLE SOURCE AQUIFER. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, ALL PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED FROM WAR US-22 SLM 8.60 TO SLM 9.61. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT CHIEF BRIAN REESE OF HAMILTON TOWNSHIP FIRE RESCUE, (513) 683-1622 FOR CLEAN UP OF THE SPILL.

THE PROJECT AREA IS LOCATED OVER THE BURIED VALLEY AQUIFER SYSTEM, A DESIGNATED SOLE SOURCE AQUIFER. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, ALL PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED FROM WAR US-22 SLM 10.52 TO SLM 10.92. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT CHIEF FRED LAFOLLETTE OF SALEM/MORROW FIRE DEPARTMENT, (513) 899-2222 FOR CLEAN UP OF THE SPILL.

THE PROJECT AREA IS LOCATED OVER THE BURIED VALLEY AQUIFER SYSTEM, A DESIGNATED SOLE SOURCE AQUIFER. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, ALL PROJECT RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED FROM WAR SR-48 SLM 8.67 TO SLM 9.64. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT UNION TOWNSHIP FIRE RESCUE, (513) 494-2566 FOR CLEAN UP OF THE SPILL.

SCENIC RIVER MAINTENANCE PLAN NOTE

NO TOXIC OR HAZARDOUS MATERIALS SUCH AS SEALANTS, PAINT, SOLVENTS, CLEANING AGENTS, EARTHEN MATERIALS, WASTE-WATER, FUELS OR DEBRIS OF ANY KIND SHALL BE DISCHARGED TO THE LITTLE MIAMI SCENIC RIVER OR ANY OF ITS TRIBUTARY WATER SOURCES. ALL ASPHALT OR CONCRETE GRINDINGS, EXCESS ASPHALIC OR CONCRETE MATERIALS OR ANY OTHER DEBRIS GENERATED DURING RESURFACING OR OTHER SIMILAR ACTIVITIES SHALL BE REMOVED IMMEDIATELY FROM WITHIN 1,00 FEET OF A SCENIC RIVER AND DISPOSED OF AT AN APPROPRIATE FACILITY ABOVE THE FEMA 100 YEAR FLOOD ELEVATION AND NOT WITHIN 1,000 FEET OF THE LITTLE MIAMI SCENIC RIVER.

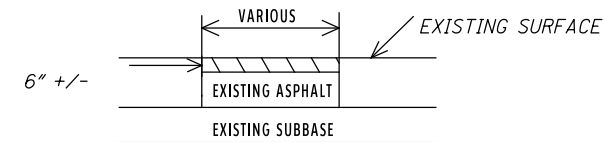
IF PAINTING, WELDING, SAND AND/OR WATER BLASTING (CLEANING) IS INCORPORATED AS PART OF THE PROJECT AT OR OVER THE LITTLE MIAMI SCENIC RIVER AND/OR ITS TRIBUTARIES, THEN APPROPRIATE APRONS SHALL BE UTILIZED TO PROVIDE FOR COMPLETE CONTAINMENT OF ALL PAINT, WELDING SLAG AND/OR SEALANT OVER SPRAY AND OTHER DEBRIS.

BE UTILIZED ON ALL DECK REPLACEMENT PROJECTS TO PREVENT APRONS, APPROPRIATE FALSEWORK OR OTHER BARRIERS SHALL TO THE LITTLE MIAMI SCENIC RIVER AND/OR ITS TRIBUTARIES. THE DISCHARGE OF CONCRETE, ASPHALT, OR OTHER DEBRIS

15 CALENDAR DAYS PRIOR TO THE COMMENCEMENT OF WORK ON THE PROPOSED PROJECT, THE CONTRACTOR SHALL NOTIFY MELISSA CLARK, SW OHIO ASST. REGIONAL SCENIC RIVER MANAGER, 513-897-3055, AND ANDREW FLUEGEMANN, P.E., ODOT DISTRICT 8 DEC, 513-933-6597.

ITEM 253- PAVEMENT REPAIR

AN ESTIMATED QUANTITY OF 526 CU. YD. OF ITEM 251- PARTIAL DEPTH PAVEMENT REPAIR HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.



EXISTING DETERIORATED ASPHALT SHALL BE REMOVED TO A MAXIMUM DEPTH OF 6" INCHES, OR AS DIRECTED BY THE ENGINEER, AND REPLACED WITH ITEM-301, ASPHALT CONCRETE BASE. ITEM-301 SHALL BE COMPACTED AS PER 401.15 AND IN APPROXIMATELY EQUAL LAYERS. THE LOCATIONS AND SIZE OF THE REPAIRS SHALL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:
ITEM 253- PAVEMENT REPAIR 526 CU. YD.

SAFETY EDGE

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAYER THAT CONFINES THE MATERIAL AT THE END GATE AND EXTRUDES THE ASPHALT MATERIAL IN SUCH A WAY THAT RESULTS IN A COMPACTED WEDGE SHAPE PAVEMENT EDGE OF APPROXIMATELY 30 DEGREES (NOT STEEPER THAN 40 DEGREES). ENSURE THE DEVICE MAINTAINS CONTACT WITH THE SURFACE, AND ALLOW FOR AUTOMATIC TRANSITION TO CROSS ROADS, DRIVEWAYS AND OBSTRUCTIONS. DO NOT USE CONVENTIONAL SINGLE PLATE STRIKE OFF.

CONSTRUCTION OF SAFETY EDGE CAN BE OMITTED AT LOCATIONS WHERE EXISTING WIDTH OF GRADED SHOULDER OR BERM IS LESS THAN 12". PROJECTS WITH VARYING CONDITIONS SHOULD USE SAFETY EDGE WHERE POSSIBLE. PLAN PREPARATION HAS MADE EVERY REASONABLE ATTEMPT TO IDENTIFY POSSIBLE SAFETY EDGE LOCATIONS.

USE THE TRANSTECH SHOULDER WEDGE MAKER, THE CARLSON SAFETY EDGE END GATE, THE ADVANT-EDGER, THE TROXLER SAFETYTSLOPE OR SIMILAR APPROVED- EQUAL DEVISE THAT PRODUCES THE SAME WEDGE CONSOLIDATION RESULTS. CONTACT INFORMATION FOR THESE WEDGE SHAPE COMPACTION

DEVICES IS THE FOLLOWING:
TRANSTECH SYSTEMS, INC.
1594 STATE STREET
SCHENECTADY, NY 12304
1-800-724-6306
www.transtechsys.com

CARLSON SAFETY EDGE END GATE
18425 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

ADVANT- EDGEPAVING EQUIPMENT LLC
P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
www.advantaedgepaving.com

IF ELECTING TO USE A SIMILAR DEVICE, PROVIDE PROOF THAT THE DEVICE HAS BEEN USED ON PREVIOUS PROJECTS WITH ACCEPTABLE RESULTS OR CONSTRUCT A TEST SECTION PRIOR TO THE BEGINNING OF WORK AND DEMONSTRATE WEDGE COMPACTION TO THE SATISFACTION OF THE ENGINEER. SHORT SECTIONS OF HANDWORK WILL BE ALLOWED WHEN NECESSARY FOR TRANSITIONS AND TURNOUTS OR OTHERWISE AUTHORIZED BY THE ENGINEER.

IN ADDITION TO THE REQUIREMENTS OF 401.16, MAKE THE FIRST ROLLER PASS 8 TO 12 INCHES (200 TO 300 mm) AWAY FROM THE TAPERED EDGE. DO NOT ROLL THE TAPER.

ITEM 632- DETECTOR LOOP, AS PER PLAN

PRIOR TO THE PLANING OPERATION, THE LOCATION OF THE EXISTING LOOP DETECTORS SHALL BE REFERENCED SO THAT THE REPLACEMENT LOOPS CAN BE REINSTALLED AT THE PROPER LOCATIONS. THE NEW LOOP DETECTORS SHALL BE CONNECTED TO THE LEAD-IN CABLE WITH PROPER CONNECTION KITS AND TESTED TO MAKE CERTIAN THAT THEY ARE OPERATIONAL.

ALL STOP LINE INDUCTANCE DETECTOR LOOPS SHOWN IN THE PLANS SHALL BE THE POWERHEAD CONFIGURATION SHOWN ON TC-82.10. THE WIDTH SHALL BE AS SPECIFIED ON TC-82.10 AND THE LENGTH SHALL BE AS DIRECTED BY THE PROJECT ENGINEER. THE STOP LINE DETECTOR LOOPS SHALL NOT BE WIRED TO ANY OTHER LOOPS AND SHALL HAVE ITS OWN DETECTOR CHANNEL. THE LOCATION OF THESE LOOPS SHALL BE SUCH THAT THE POWERHEAD IS LOCATED AT THE STOP LINE, NOT PAST IT.

ALL DILEMMA ZONE INDUCTANCE DETECTOR LOOPS CALLED FOR IN THE PLANS SHALL BE ANGULAR DESIGN DETECTION (ADD) LOOP AS SHOWN ON TC-82.10. DIMENSIONS SHALL BE AS SPECIFIED ON TC-82.10.

SYSTEM LOOPS SHALL BE AS DEPICTED IN THE PLANS.

ALL STOP LINE DETECTOR ZONES SHALL BE TESTED FOR A BICYCLE TARGET AND ALL DILEMMA DETECTION ZONE SHALL BE TESTED FOR A MOTORCYCLE TARGET.

THE CONTRACTOR SHALL NOTIFY THE ODOT DISTRICT 8 TRAFFIC DEPARTMENT A MINIMUM OF 3 DAYS IN ADVANCE OF ANY LOOP DETECTOR INSTALLATIONS TO PERMIT TIME FOR LOOP LOCATION ADJUSTMENTS AND SPECIFY THE LENGTH OF THE LOOPS IF NEEDED.

THE FOLLOWING QUANTITIES OF DETECTOR LOOPS AND LOOP DETECTOR TIE-INS HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 632- EACH DETECTOR LOOP, AS PER PLAN 103 EACH
ITEM 632- EACH LOOP DETECTOR TIE-IN, AS PER PLAN 103 EACH

ITEM 202 - GUARDRAIL REMOVED

AT DESIGNATED LOCATIONS WHERE TYPE A ANCHOR ASSEMBLIES ARE BEING REMOVED, AN ADDITIONAL 37.5' OF GUARDRAIL, INCLUDING POSTS AND MISCELLANEOUS HARDWARE, SHALL BE REMOVED. ALL GUARDRAIL, POSTS, AND MISCELLANEOUS HARDWARE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE DISPOSED OF PROPERLY. PAYMENT SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO PERFORM THE WORK AS INDICATED ABOVE. PAYMENT SHALL BE AT THE UNIT BID PRICE.

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GENERAL NOTES

WAR-US22 / SR48
2.80 / 5.22

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ITEM 202 - ANCHOR ASSEMBLY REMOVED. TYPE A

WHERE DESIGNATED, EXISTING ANCHOR ASSEMBLIES INCLUDING ALL POST AND HARDWARE SHALL BE REMOVED. THIS ITEM SHALL ALSO INCLUDE THE REMOVAL OF THE ENTIRE CONCRETE ANCHOR AND CONCRETE ENCASEMENT. ALL HOLES LEFT AFTER REMOVAL OF ASSEMBLIES AND POSTS SHALL BE FILLED WITH GRANULAR MATERIAL AS DIRECTED BY THE ENGINEER. PAYMENT SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO PERFORM THE INDICATED ABOVE.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL THE NEW GUARDRAIL/BARRIER IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL/BARRIER SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL/BARRIER 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 UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

ITEM 606 - ANCHOR ASSEMBLY. MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS 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 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 31 INCHES 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 PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, 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 - ANCHOR ASSEMBLY. TYPE E

TYPE E ANCHOR ASSEMBLIES SHALL BE INSTALLED AT ALL LOCATIONS AS SHOWN IN THE PLANS, INCLUDING WHERE THE TYPE A ANCHOR ASSEMBLIES AND THE ADDITIONAL 37.5' OF GUARDRAIL HAVE BEEN DESIGNATED FOR REMOVAL. THIS ITEM SHALL INCLUDE ALL NECESSARY GRADING TO INSTALL THE ANCHOR ASSEMBLY PER SCD GR-5.3.

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19.

REFER TO THE MANUFACTURER'S INSTRUCTIONS 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 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 27.75 INCHES 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 PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, 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-BRIDGE TERMINAL ASSEMBLY. TYPE 4 AS PER PLAN

THIS PAY ITEM SHALL INCLUDE THE COST TO FURNISH AND INSTALL ALL GUARDRAIL COMPONENTS (NORMAL AND EXTRA) OF THE 25' LONG BRIDGE TERMINAL ASSEMBLY TYPE 4 AS SEEN ON SHEET 15/19. GUARDRAIL SHALL MEET MGS STANDARDS EXCEPT HEIGHT PER THE FOLLOWING:

MATCH THE EXISTING DEEP BEAM BRIDGE RAILING HEIGHT AND TAPER UP A MAXIMUM 2" PER 25' ALONG THE LENGTH OF THE BTA. CONTINUE THE TAPER, IF NECESSARY, BEYOND THE BTA LIMITS UNTIL MEETING THE STANDARD MGS GUARDRAIL HEIGHT.

ITEM 618- EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)

INSTALL EDGE LINE RUMBLE STRIPES PER C&MS 618 & SCD TC-64.10. THE FOLLOWING QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY:

ITEM 618- EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE):

19.9 MILE (US 22 FROM THE 2.80 TO THE 12.75)

9.74 MILE (SR 48 FROM THE 5.22 TO THE 10.09)

ITEM 209- PREPARING SUBGRADE FOR SHOULDER PAVING. AS PER PLAN

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH. IN ADDITION TO THE REQUIREMENTS OF C&MS PRIOR 209.06 PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA OF 10" TO PROVIDE A LEVEL SURFACE FREE OF VEGETATION FOR CONSTRUCTION OF THE SAFETY EDGE. IF NECESSARY, EXCAVATE THE GRADED AREA TO THE DEPTH NECESSARY TO CONSTRUCT THE SAFETY EDGE. COMPACT THE GRADED SHOULDER ACCORDING TO 617.05, OR AS DIRECTED BY THE ENGINEER.

PREPARING SUBGRADE FOR SHOULDER PAVING ON WAR-22 FROM THE 2.80 TO THE 12.75 MILE MARKER

PREPARING SUBGRADE FOR SHOULDER PAVING ON WAR-48 FROM THE 5.22 TO THE 10.09 MILE MARKER

A QUANTITY OF 29.64 MILES HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR ITEM 209- PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN.

CALCULATED
CHECKED

GENERAL NOTES

WAR-US22/SR48
2.80/5.22

ITEM 846-POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

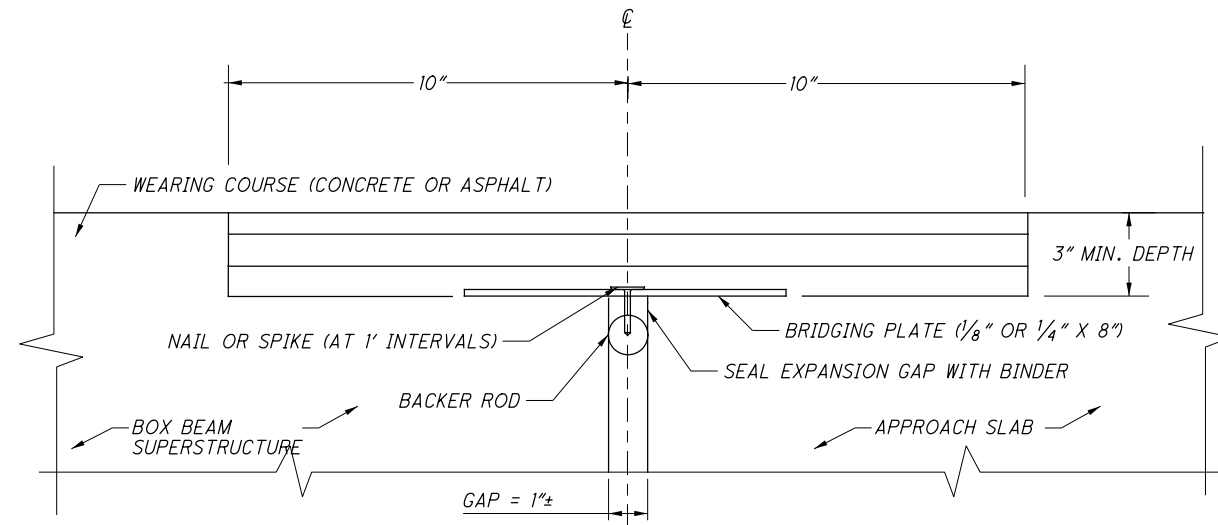
THE REPLACEMENT POLYMER MODIFIED ASPHALT (PMA) EXPANSION JOINT SHALL EXTEND 0.25' MINIMUM DEEPER IN DEPTH THAN THE EXISTING PMA JOINT.

THE DETAIL BELOW WAS USED AS A BASIS TO ESTIMATE A QUANTITY FOR ITEM 846.

WIDTH = 1.67 FT
 DEPTH = 0.25 FT
 LENGTH = SEE TABLE BELOW

VOLUME = (WIDTH)*(DEPTH)*(LENGTH)

POLYMER MODIFIED ASPHALT (PMA) EXPANSION JOINT			
BRIDGE LOCATION	# OF JOINTS	PMA EXPANSION JOINT LENGTHS (FT)	VOLUME (CU FT)
WAR-48-0608	2	32.00	13.33
		32.00	13.33
WAR-22-0357	2	38.00	15.83
		38.00	15.83
WAR-22-0800	2	38.00	15.83
		38.00	15.83
WAR-22-0848	2	36.00	15.00
		36.00	15.00
TOTAL			120.00



TYPICAL POLYMER MODIFIED ASPHALT EXPANSION JOINT FOR CONCRETE SLAB

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 OBSERVATIONS 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 C&S SECTIONS 102.05 AND 105.02.

**STRUCTURE WAR-22-0357 PROPOSED WORK
 (STRUCTURAL FILE NUMBER: SFN 8300062)**

- MILL/FILL SURFACE COURSE OF ASPHALT ON THE BRIDGE DECK AND APPROACH SLABS, SAME DEPTH AND MATERIAL AS ROADWAY.
- REPLACE THE POLYMER MODIFIED ASPHALT EXPANSION JOINTS PER THE DETAIL & NOTES ON THIS SHEET.
- RETROFIT THE GUARDRAIL PER THE DBR-3-II STANDARD DRAWING AS DETAILED ON SHEET 14/19.

**STRUCTURE WAR-22-0800 PROPOSED WORK
 (STRUCTURAL FILE NUMBER: SFN 8300143)**

- MILL/FILL SURFACE COURSE OF ASPHALT ON THE BRIDGE DECK AND APPROACH SLABS, SAME DEPTH AND MATERIAL AS ROADWAY.
- REPLACE THE POLYMER MODIFIED ASPHALT EXPANSION JOINTS PER THE DETAIL & NOTES ON THIS SHEET.
- RETROFIT THE GUARDRAIL PER THE DBR-3-II STANDARD DRAWING AS DETAILED ON SHEET 14/19.

**STRUCTURE WAR-22-0848 PROPOSED WORK
 (STRUCTURAL FILE NUMBER: SFN 8300186)**

- MILL/FILL SURFACE COURSE OF ASPHALT ON THE BRIDGE DECK AND APPROACH SLABS, SAME DEPTH AND MATERIAL AS ROADWAY.
- REPLACE THE POLYMER MODIFIED ASPHALT EXPANSION JOINTS PER THE DETAIL & NOTES ON THIS SHEET.
- RETROFIT THE GUARDRAIL PER THE DBR-3-II STANDARD DRAWING AS DETAILED ON SHEET 14/19.

**STRUCTURE WAR-48-0608 PROPOSED WORK
 (STRUCTURAL FILE NUMBER: SFN 8301018)**

- PATCH THE VISUALLY DETERIORATED PORTIONS OF THE APPROACH SLAB PER PROPOSAL NOTE 512 INCLUDING ANY CONTIGUOUS UNSOUND AREAS. (NOTE: IT IS NOT THE INTENTION TO PATCH AREAS OF THE DECK OR APPROACH SLABS THAT ARE ONLY DELAMINATED (UNBOUND) AND NOT SPALLED, FILLED WITH ASPHALT, OR SEVERELY CRACKED.)
- SEAL THE WEARING SURFACE OF THE DECK AND APPROACH SLABS WITH GRAVITY FED RESIN.
- INSTALL POLYMER MODIFIED ASPHALT EXPANSION JOINTS BETWEEN THE DECK AND APPROACH SLABS AT EACH END OF THE DECK PER DETAIL & NOTES ON THIS PAGE.
- RETROFIT THE GUARDRAIL PER THE DBR-3-II STANDARD DRAWING AS DETAILED ON SHEET 14/19.

ITEM 519- PATCHING CONCRETE BRIDGE DECK- TYPE B 8 S.Y.

ITEM 512-TREATING OF CONCRETE BRIDGE DECK WITH GRAVITY FED RESIN 192 S.Y.

**STRUCTURE WAR-48-0898 PROPOSED WORK
 (STRUCTURAL FILE NUMBER: SFN 8301115)**

ITEM 512-TREATING OF CONCRETE BRIDGE DECK WITH SRS

SEAL THE CONCRETE BRIDGE DECK (EDGE TO EDGE OF DECK) AND APPROACH SLABS WITH SOLUBLE REACTIVE SILICATE (SRS) ON STRUCTURE WAR-48-0898 PER 512 SPECIFICATIONS. THIS STRUCTURE IS OVER THE LITTLE MIAMI RIVER WHICH IS CLASSIFIED AS A SCENIC RIVER. FOLLOW ALL REQUIREMENTS IN THE SCENIC RIVER MAINTENANCE PLAN NOTE IN THE GENERAL NOTES.

THE FOLLOWING IS AN ESTIMATED QUANTITY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE ABOVE WORK:

ITEM 512-TREATING OF CONCRETE BRIDGE DECK WITH SRS 980 S.Y.

CALCULATED
 CHECKED

GENERAL NOTES

WAR-US22/SR48
 2.80/5.22

ITEM 614- MAINTAINING TRAFFIC

IT IS THE INTENTION OF THESE PLANS TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO AND THE MAXIMUM SAFETY OF, THE CONTRACTOR AND THE TRAVELING PUBLIC. THE REQUIREMENTS FOR MAINTAINING TRAFFIC SHALL BE AS INDICATED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION. THE PROPOSAL, THE SPECIFICATION AND THE PLANS. ANY VARIANCE FROM THESE REQUIREMENTS SHALL BE APPROVED BY THE DIRECTOR IN WRITING.

BEFORE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAME AND TELEPHONE NUMBER OF THE PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THESE PERSONS SHALL BE RESPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES TO MAINTAIN THE TRAVELED PAVEMENT SAFETY.

TRAFFIC SHALL BE MAINTAINED AT ALL INTERSECTIONS AND DRIVES AT ALL TIMES AND SHALL BE CONTROLLED WITH FLAGGERS AND TRAFFIC CONTROL DEVICES AS REQUIRED AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.

TWO-LANE TWO-WAY ROADWAYS: MAINTAIN A MINIMUM OF ONE-LANE TWO-WAY TRAFFIC IN ACCORDANCE WITH THE LANE VALUE CONTRACT TABLE BY USE OF THE EXISTING OR COMPLETED PAVEMENT. FOUR-LANE DIVIDED ROADWAYS: MAINTAIN A MINIMUM OF ONE LANE IN EACH DIRECTION IN ACCORDANCE WITH THE LANE VALUE CONTRACT TABLE BY USE OF THE EXISTING OR COMPLETED PAVEMENT.

SHORT TERM LANE CLOSURES SHALL ONLY BE IMPLEMENTED WHEN WORK IS BEING CONTINUOUSLY PERFORMED IN THE LANE. THE CLOSURE SHALL BE REMOVED AS SOON AS POSSIBLE AFTER WORK HAS STOPPED. PERMITTED LANE CLOSURES SHALL ONLY BE ALLOWED DURING THE TIMES SPECIFIED IN THE LANE VALUE CONTRACT TABLE INCLUDED IN THESE PLANS. NO LANE OR SHOULDER CLOSURE SHALL BE IN PLACE WHEN NO WORK IS BEING PERFORMED.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 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 ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLANS.

ITEM 614- WORK ZONE MARKINGS AND SIGNS

THE CONTRACTOR SHALL PLACE THE ASPHALT SURFACE COURSE AND WORK ZONE PAVEMENT MARKINGS OR PERMANENT PAVEMENT MARKINGS PRIOR TO OPENING THE ROADWAY TO TRAFFIC.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS AND SIGNS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

- ITEM 614-WORK ZONE CENTER LINE, CLASS III, 642 PAINT - 12.7 MILES
- ITEM 614-WORK ZONE LANE LINE, CLASS III, 642 PAINT - 1.73 MILES
- ITEM 614-WORK ZONE STOP LINE, CLASS III, 642 PAINT - 1611 FT
- ITEM 614-WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT - 15071 FT
- ITEM 614-WORK ZONE MARKING SIGN W8-H13 (NO EDGE LINE) - 20 EA

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION OR AT THE POINT OF ROAD CLOSURE, AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE

ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 200 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

ADVANCE WARNING SIGNS

THE ROAD WORK NEXT XXMILES (G20-1) SIGN AND END ROAD WORK (G20-2) SIGN SHALL BE INSTALLED AT THE PROJECT LIMITS. THE DISTANCE DISPLAYED ON THE ROAD WORK NEXT XXMILES SIGN SHALL BE STATED TO THE NEAREST WHOLE MILE.

LANE VALUE CONTRACT TABLE

DESCRIPTION OF CRITICAL LANE/RAMP TO BE MAINTAINED	RESTRICTED TIME PERIOD	TIME UNIT	DISINCENTIVE \$ PER TIME UNIT
US 22; 2.8 MM TO 8.5 MM: ALL LANES OPEN TO TRAFFIC	6:30 AM TO 8:30 AM AND 2:00 PM TO 7:00 PM	15 MINUTE PERIOD	\$750
US 22; 8.5 MM TO 12.75 MM: ALL LANES OPEN TO TRAFFIC	NO RESTRICTION	N/A	N/A
SR 48: ALL LANES OPEN TO TRAFFIC	6:00 AM TO 8:00 PM	15 MINUTE PERIOD	\$750

NOTE: ALL LEGS OF THE SR 48 AND US 22 INTERSECTION ARE TO BE PERFORMED ACCORDING TO THE SR 48 TIME RESTRICTIONS.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

WAR-US22 / 48-2.80 / 5.22

PART	COUNTY	ROUTE	LOG POINT (MILE)		646								REMARKS	
					CENTER LINE									
					TOTAL	DASHED	SOLID							
FROM	TO	MILE	MILE	MILE										
	WAR	22	2.80	3.00	0.2		0.2							
	WAR	22	3.31	3.64	0.33		0.33							
	WAR	22	3.83	4.20	0.37		0.37							
	WAR	22	4.84	10.54	5.7	0.31	5.39							
	WAR	22	10.59	12.75	2.16	0.63	1.53							
	WAR	48	5.22	8.80	3.58	0.36	3.22							
TOTALS CARRIED TO GENERAL SUMMARY					12.7	1.3	11.04							

PART	COUNTY	ROUTE	LOG POINT (MILE)		646								REMARKS	
					EDGE LINE 6"									
					TOTAL	WHITE	YELLOW							
FROM	TO	MILE	MILE											
	WAR	22	2.80	3.00	0.4	0.4								
	WAR	22	3.31	3.64	0.66	0.66								
	WAR	22	3.83	4.20	0.74	0.74								
	WAR	22	4.84	10.54	11.4	11.4								
	WAR	22	10.59	12.75	4.32	4.32								
	WAR	48	5.22	8.80	7.16	7.16								
	WAR	48	9.70	10.09	0.78	0.78	0.78							
TOTALS CARRIED TO GENERAL SUMMARY					26.24	25.46	0.78							

PART	COUNTY	ROUTE	LOG POINT (MILE)		646								REMARKS	
					LANE LINE 6"									
					TOTAL	DOTTED								
FROM	TO	MILE	MILE											
	WAR	22	10.89	11.84	0.95	0.95								
	WAR	48	9.7	10.09	0.78	0.78								
TOTALS CARRIED TO GENERAL SUMMARY					1.73	1.73								

PART	COUNTY	ROUTE	LOG POINT (MILE)		646										REMARKS		
					24" TRANSVERSE LINES		STOP LINE	WORD ON PAVEMENT		CROSSWALK		LANE ARROWS				ISLAND MARKING	8" CHANNELIZING LINE
					WHITE	YELLOW	24"	ONLY		24"		TURN				WHITE	
					FT	FT	FT	96" EACH	24" FT		LEFT EACH	RIGHT EACH		SQ FT		FT	
	WAR	22	2.80	12.75	525	1705	816	14	112		27	28		315	7149	OMIT BETWEEN 3.0-3.31, 3.64-3.83, 4.20-4.84 MM	
	WAR	48	5.22	10.09	120	1594	795	17	245		61	32		224	7922	OMIT BETWEEN 8.8-9.7 MM	
TOTALS CARRIED TO GENERAL SUMMARY					645	3299	1611	31	357		88	60		539	15071		

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CALCULATED CHECKED
PAVEMENT MARKINGS
WAR-22 / 48-2.8-5.22
11
19

LOCATION SUB-SUMMARY

DETAIL	TC-65.10
1	MIANLINE UNDEVIDED TYPICAL SPACING
2	LANE LINE TYPICAL SPACING
2A	CHANNELIZING TYPICAL

DETAIL	TC-65.11
3	ACCELERATION LANE
4	DECELERATION LANE
5	MULTILANE DIVIDED- CONTROL ACCESS
6	4 LANE DIVIDED TO 2 LANE TRANSITION
7	4 LANE UNDIVIDED TO 2 LANE TRANSITION

DETAIL	TC-65.11
8	ONE LANE BRIDGE
9	STOP APPROACH
10	TWO WAY LEFT TURN
11	HORIZONTAL CURVE
12	APPROACH W/ LEFT TURN LANE

QUANTITIES CARRIED TO THE GENERAL SUMMARY

PART	LOCATION				DETAIL	621			PRISMATIC RETRO-REFLECTOR COLORS					REMARKS	
	COUNTY	ROUTE	S.L.M. SECTION			RPM				ONE-WAY		TWO-WAY			
			FROM	TO			EACH	EACH	EACH	WHITE	YELLOW	YELLOW/ WHITE	YELLOW/ YELLOW		WHITE/ RED
	WAR	22	2.80	12.75	1,2,2A,9,10,11,12	1179			224			702	253	OMIT 3.0-3.31,3.64-3.83,4.2-4.84	
	WAR	48	5.22	10.09	1,2,2A,3,4,5,9,10,12	765			176			344	245	OMIT 8.8-9.7	
PAGE TOTALS						1944			400			1046	498		

ITEM 621- RAISED PAVEMENT MARKERS REMOVED
 AN ESTIMATED QUANTITY OF 1944 EA ITEM 621 RAISED PAVEMENT MARKERS REMOVED HAS BEEN PROVIDED.

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RPM

WAR-22/48-2.80/5.22

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COUNTY	ROUTE	LOGPOINT OR INTERSECTING STREETNAME	FOR INFORMATION ONLY								608		646	646	ADDITIONAL NOTES
			CURB RAMP TYPE PER BP-7.1								CURB RAMP	DETECTABLE WARNING	CROSSWALK LINE	REMOVAL OF PAVEMENT MARKING	
			TYPE A1	TYPE A2	TYPE B1	TYPE B2	TYPE B3	TYPE C1	TYPE C2	DETECTABLE WARNING					
ONE EACH PER COMPASS DESCRIBED LOCATION								SQ FT	SQ FT	FEET	FEET				
WAR	22	HOUSTON AVENUE								SW, SE		16			
WAR	22	WELCH ROAD				NW, SW1				SW2, SE	120	16	175	120	
WAR	22	MIRANDA STREET								NW, SW, SE		24	84		
WAR	22	FRONT STREET				NW				NE, SW, SE	60	24	160		
WAR	22	SLM 10.59 AT MUNICIPAL BUILDING				SW, NW					80		60		
WAR	22	1ST STREET		SW, SE		NW					260				
WAR	22	S.R. 123 / MILL STREET	NW, NE, SW								300		130		
WAR	22	2ND STREET	SW	SE							140				
WAR	22	LINCOLN STREET	NW, NE								200				
TOTALS CARRIED TO GENERAL SUMMARY											1160	80	609	120	

NOTES: 1. NW MEANS NORTHWEST, NE MEANS NORTHEAST, SW MEANS SOUTHWEST, SE MEANS SOUTHEAST
 2. COMPASS DIRECTIONS ARE APPROXIMATE
 3. CROSSWALK LINES SHALL BE APPLIED ON US OR STATE ROUTES ONLY, UNLESS SPECIFIED IN THE ADDITIOANAL NOTES

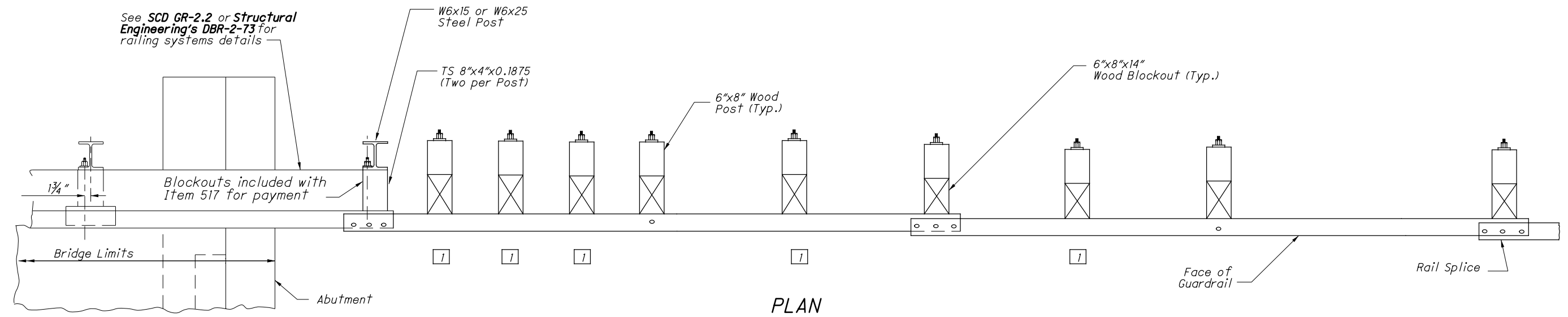
CURB RAMP
WAR-US22 / 48 - 2.80 / 5.22

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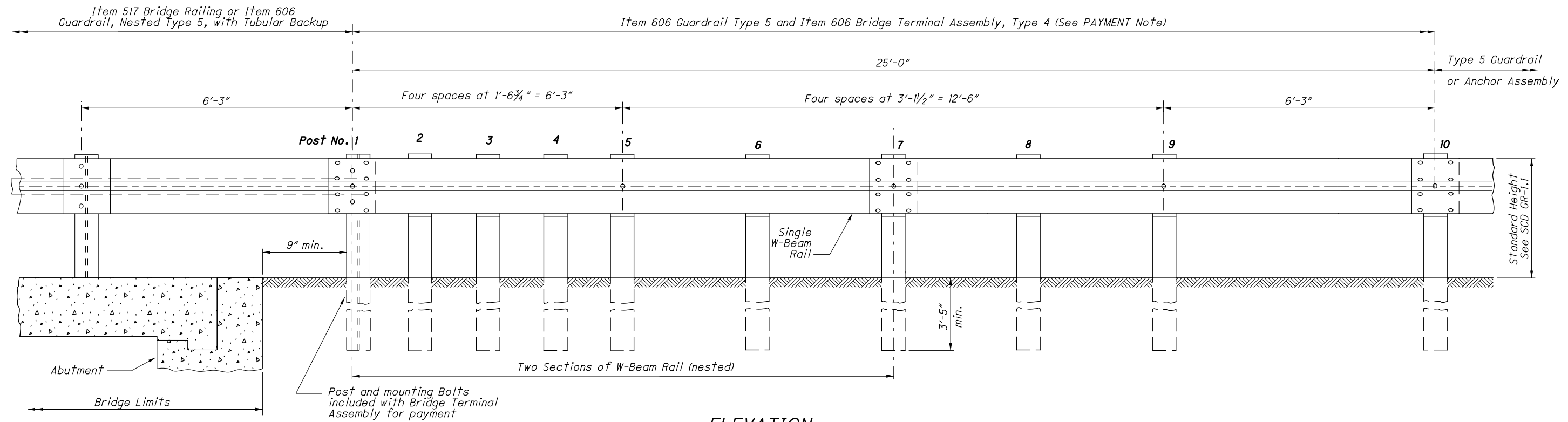
COUNTY	ROUTE	LOG POINT		SIDE	ITEM 202					517	ITEM 606							ITEM 626	COMMENTS AND NOTES
					GUARDRAIL REMOVED	ANCHOR ASSEMBLY REMOVED, TYPE A	ANCHOR ASSEMBLY REMOVED, TYPE E	ANCHOR ASSEMBLY REMOVED, TYPE T	BRIDGE TERMINAL ASSEMBLY REMOVED	RAILING (DEEP BEAM BRIDGE RETROFIT RAILING)	GUARDRAIL, TYPE MGS	GUARDRAIL, TYPE MGS WITH LONG POSTS	BTA, TYPE 4	ANCHOR ASSEMBLY, TYPE E	ANCHOR ASSEMBLY, MGS TYPE E	ANCHOR ASSEMBLY, MGS TYPE T	GUARDRAIL ,MISC.: GR-3 BRIDGE TERMINAL ASSEMBLY, TYPE A	BARRIER REFLECTOR (TYPE A)	
		FROM	TO		FT	EACH	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	
WAR	22	12.270	12.250	LT	112.5	2						100.0			1	1	3	ON EAST END ADD TYPE T & 8' RADIUS BEFOR DRIVE	
WAR	22		11.240	LT	37.50	1								1					
WAR	22	11.140	11.030	LT	462.50		2				462.5				2		9		
WAR	22	8.407	8.480	LT	25.00	1			56.250			2			1			BTA BEFORE & AFTER BRIDGE, RETROFIT ON BRIDGE, 8' RADIUS	
WAR	22	8.417	8.467	RT	212.50		1	1		212.5					1	1	4	8' RADIUS	
WAR	22	8.472	8.547	RT	325.00			2	56.250	275		2			2	2	6	SFN# 8300186, RETROFIT ON BRIDGE, 8' RADIUS	
WAR	22	8.246	8.216	LT	162.50	1		1		137.5					1	1	3	8' RADIUS	
WAR	22	7.975	8.020	LT	162.50	2			37.500	62.5		2			2		4	SFN# 8300143, RETROFIT ON BRIDGE	
WAR	22	7.985	8.020	RT	130.50	1		1	37.500	62.5		2			1	1	4	SFN# 8300143, RETROFIT ON BRIDGE, 8' RADIUS	
WAR	22	7.975	7.965	RT	62.50	1		1		38					1	1	2	8' RADIUS	
WAR	22	7.684	7.714	LT	212.50	2				137.5					2		3		
WAR	22	7.604	7.629	LT	87.50	1	1			62.5					2		3		
WAR	22	7.579	7.594	RT	87.50	1		1			100				1	1	3	8' RADIUS	
WAR	22	7.463	7.498	RT	137.50	2				187.5					2		3		
WAR	22	6.861	6.927	LT	300.00	2				225.0					2		5		
WAR	22	6.882	6.972	RT	187.50	2				112.5					2		3		
WAR	22	5.315	5.355	LT	237.50		1			225.00					2		6		
WAR	22	4.566	4.581	RT	62.50	2					125.0				2	2	3	8' RADIUS	
WAR	22	4.576	4.591	LT	50.00	2					100.0				2		3		
WAR	22	4.041	4.077	RT	212.50	2				237.50					1	1	4	8' RADIUS	
WAR	22	3.847	3.892	RT	175.00	1	1			262.50					2		5		
WAR	22	3.547	3.602	LT	162.50	2			131.000	62.50		2			1	2		CONNECT TO EXISTING ON OLD-3C HWY, RETROFIT ON BRIDGE, 8' RADIUS	
WAR	22	3.562	3.622	RT	137.50	1	1		131.000	100.00		2			2			SFN# 8300062, RETROFIT ON BRIDGE	
WAR	22	3.298	3.488	LT	62.50	1						1	1					REMOVE 25' FOR BTA, REMOVE 37.5' FOR E	
WAR	22	2.983	3.047	RT	250.00	1				225.00					1		4		
WAR	22		3.047	LT											1		1		
WAR	22		3.312	RT											1		1	SFN# 8300038, TRANSITION PER MGS 4.3	
WAR	22		3.312	LT											1		1		
WAR	48	8.567	8.597	RT	50.00		1		1	50.0					1		3		
WAR	48	8.577	8.597	LT	50.00	1			1	25.0					1		2		
WAR	48	8.793	8.843	RT	250.00			1	1	250.0					1	1	4	SFN# 8301085, TRANSITION PER MGS 4.3, 8' RADIUS FOR TYPE T	
WAR	48	8.793	8.802	LT	50.00	1			1	75.0					1		3		
WAR	48	8.006	7.950	RT	225.00	1	1			200.0					2		4		
WAR	48	7.820	7.916	RT	425.00	1	1			400					2		6		
WAR	48	6.718	6.733	RT	37.50			1			162.5				1	1		CONNECT TWO RUNS, 8' RADIUS FOR TYPE T	
WAR	48	6.739	6.748	RT	75.00			1											
WAR	48	6.698	6.739	LT	212.50			2		100.00					1	1		CONNECT TO EXISTING GR AT DRIVE AND SHORTEN RUN, 8' RADIUS	
WAR	48	6.296	6.352	RT	25.00		2		2	18.750	25.00	2			2			SFN# 8301034, RETROFIT ON BRIDGE	
WAR	48	6.125	6.180	RT	225.00	2				31.250	125.00	2			2			SFN# 8301018, RETROFIT ON BRIDGE	
WAR	48	6.125	6.180	LT	225.0	2				31.250	125.00	2			2				
					5905.5	39	12	12	10	530.75	4162.5	887.5	19	2	46	17	8	105	

GUARDRAIL

WAR-US22/48-2.80/5.22



PLAN



ELEVATION

NOTES

GENERAL: For additional details, see SCD GR-1.1.

APPLICATION: The Type 4 Bridge Terminal Assembly shall connect Type 5 Guardrail runs to Type 5 Guardrail with Tubular Backup or to Deep Beam Bridge Guardrail (as shown on Structural Engineering SCD DBR-2-73).

DETAIL INFORMATION: The first post off the bridge shall be steel (W6x15 or W6x25). All holes in the off-structure end of the approach panel rail section spanning the abutment are slotted 3/4"x2 1/2". Tighten the bolts as specified for expansion joints in Item 606.05.

POSTS: Posts may be set in drilled holes or driven to grade. See SCD GR-1.1 for additional Post embedment details. Guardrail is not attached to certain posts (see LEGEND).

WOOD POSTS - Use square sawed pressure treated wood as specified in CMS 710.14 and fabricated with square ends. Bore bolt holes and trim the tops of posts, if required after the posts are set.

STEEL POSTS - are allowed as an alternate. Use W6x9 or W6x8.5 in lieu of the 6"x8" wood post. Use same post material through-out assembly.

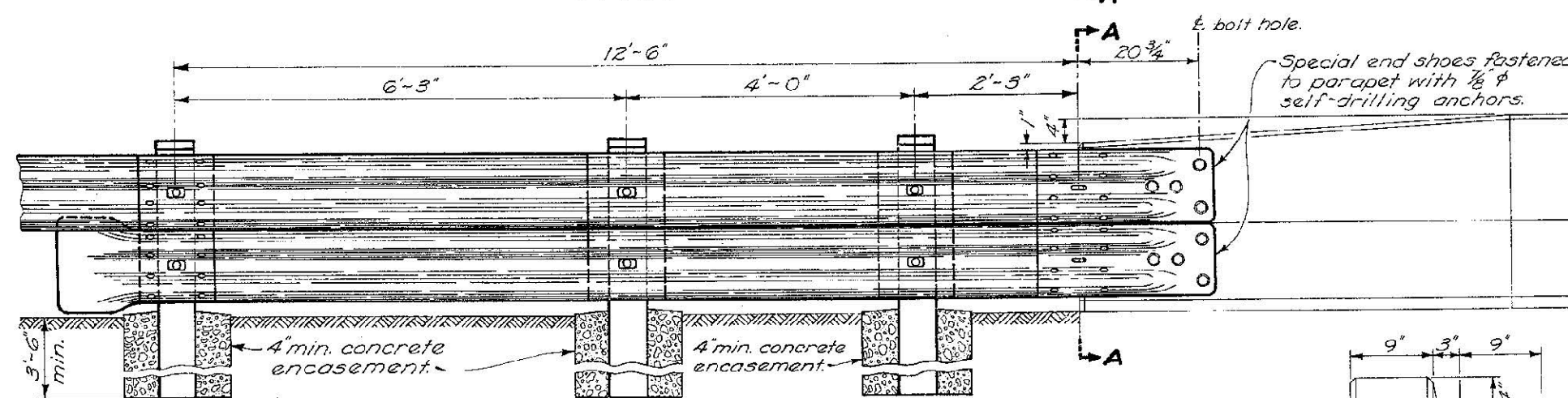
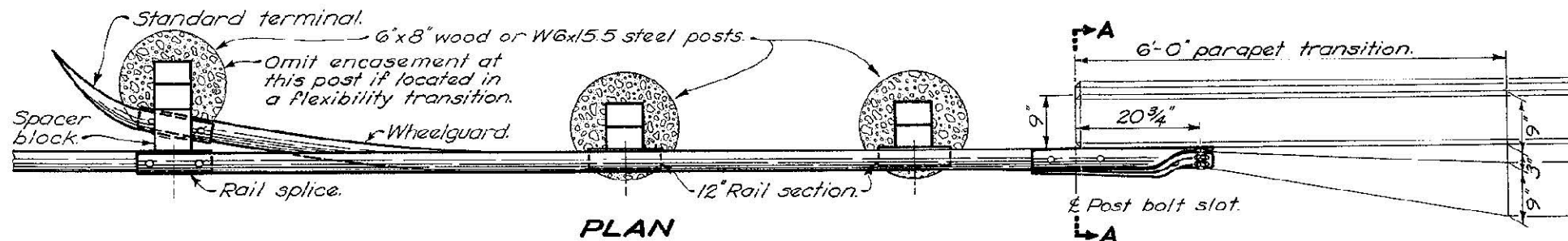
BLOCKOUTS: Use wood blockouts only. Steel or plastic blockouts are not permitted. Notched wood blockouts are used with steel posts.

FLARED GUARDRAIL: Start Standard Guardrail Flares as shown on SCD GR-5.1 at or beyond Post No. 10; however, the flare may begin at Post No. 7.

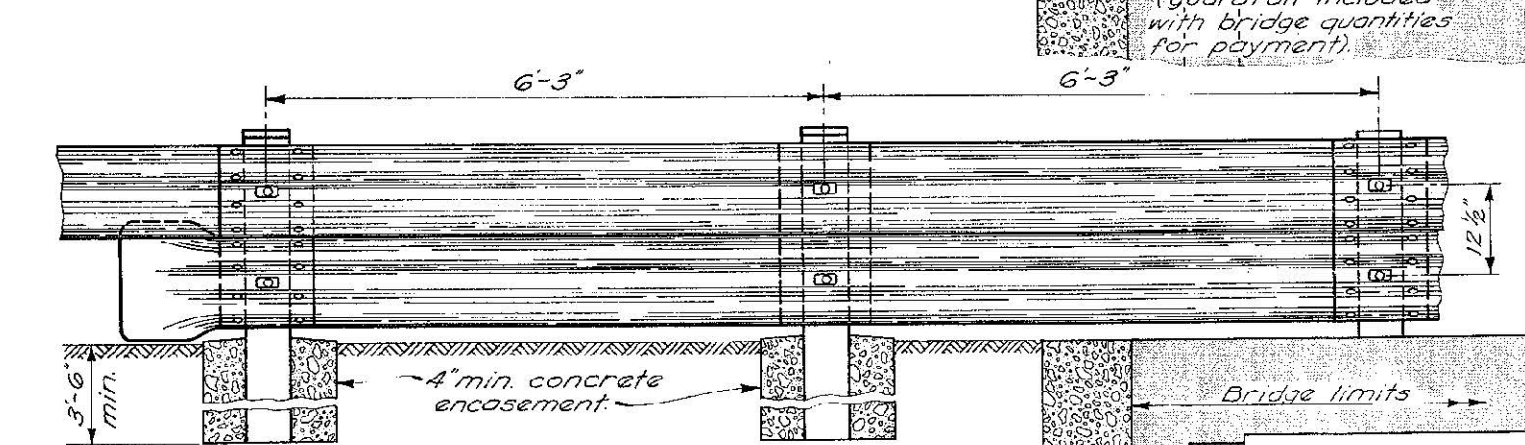
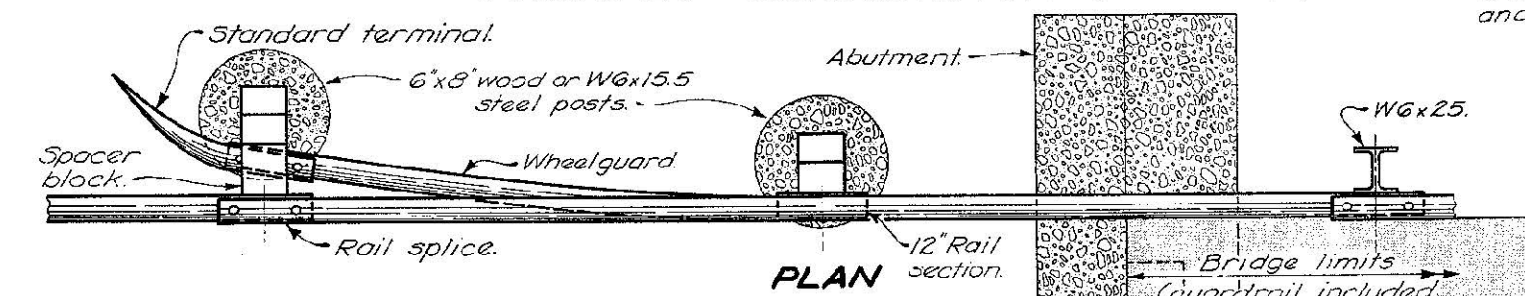
PAYMENT: Item 606 - Bridge Terminal Assembly, Type 4, Each, includes the cost of extra components in excess of normal guardrail, such as additional posts and other hardware. The TS 8"x4" spacers and tubular backup rail extending to the first post off the bridge is included with Item 517 - Railing, or Item 606 - Guardrail, Nested Type 5 with Tubular Backup, for payment.

LEGEND

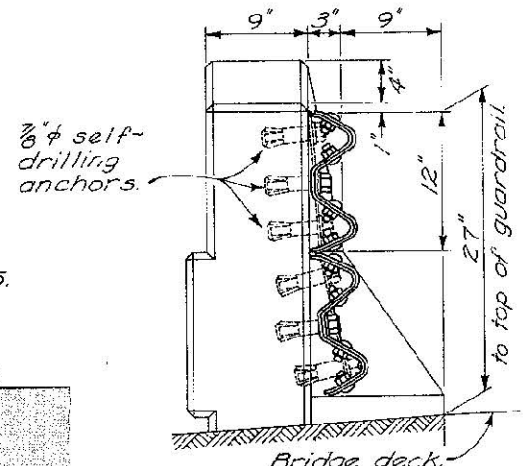
1 Guardrail is not attached to posts at Posts 2, 3, 4, 6, and 8. Blockout is fastened to post with standard Post Bolt.



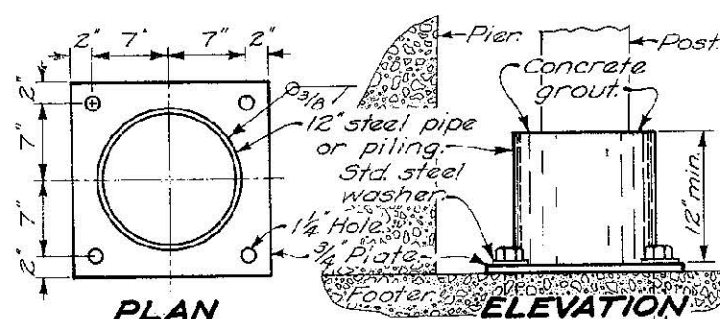
**ELEVATION
PARAPET CONNECTION (TYPE A)**



**ELEVATION
BRIDGE RAIL CONNECTION (TYPE B)**



SECTION A-A



**PLAN
ELEVATION
FOOTING ANCHOR**

NOTES

WHEELGUARD: The wheelguard shall be required on all uncurbed approach connections, and on all uncurbed trailing connections on two-lane highways. Where the wheelguard is omitted at uncurbed trailing end connections on directional roadways, standard Type 5 posts with offset blocks shall be provided in the bridge terminal assemblies.

ANCHORS: Self-drilling anchors with 7/8 x 1 1/2 inch galvanized bolts and washers shall be used to fasten the special end shoes to the concrete parapet.

Self-drilling anchors with 3/4 x 2 inch bolts and washers may be used on the footing anchor. Footing anchor and hardware need not be galvanized.

Self-drilling anchors may be of the snap-off chuck-end type or flush-end type conforming to Federal Specification No. FF-S-325, Group III, Type 1(a) or (c).

TYPE B CONNECTION: Where guardrail is used as bridge railing the approach length on directional roadways and at both ends on two-lane highways shall be not less than 125 feet excluding the anchor assembly. The trailing length on directional roadways shall be not less than 25 feet plus anchor assembly. For special end shoe detail see Standard Drawing GR-4.

PAYMENT: Price bid for bridge terminal assemblies shall include the additional cost, in excess of normal guardrail cost, for steel posts, concrete encasement and wheelguards. Price bid for Type A assemblies shall also include the cost of special end shoes and self-drilling anchors.

Cost of footing anchor shall be included in the unit price bid for guardrail.

BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF HIGHWAYS

**BRIDGE
TERMINAL
ASSEMBLIES**

STANDARD CONSTRUCTION DRAWING GR-3

APPROVED: *K.E. Smith* ENGR, L. & D.

DATE: 1-1-71

Revised 11-9-71

NOTES

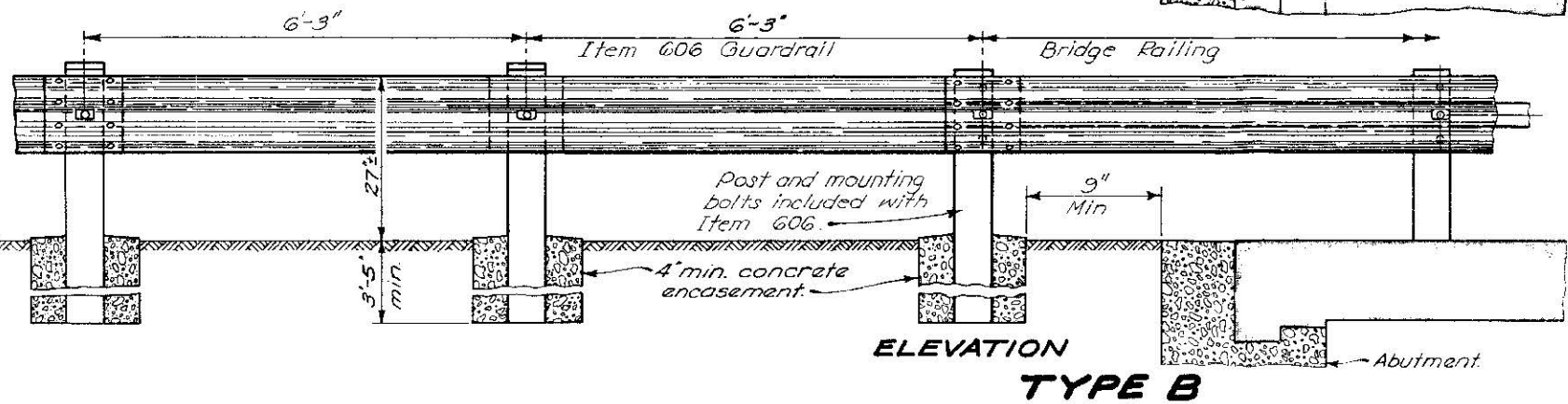
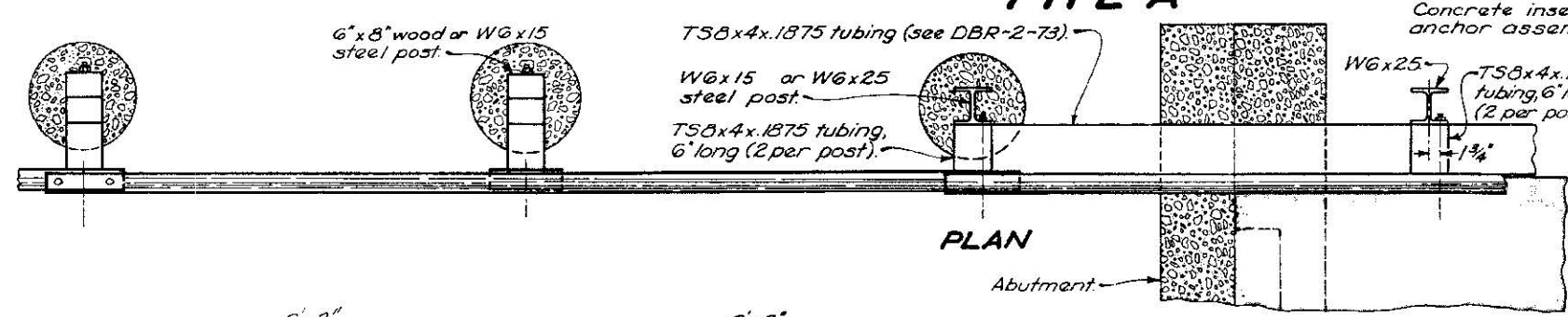
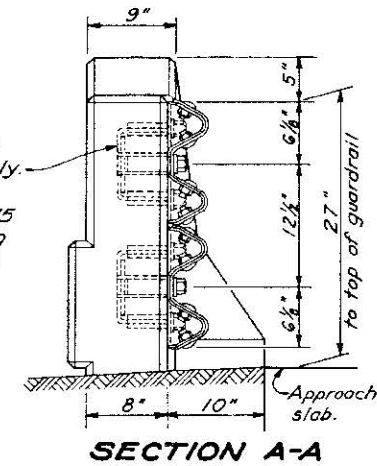
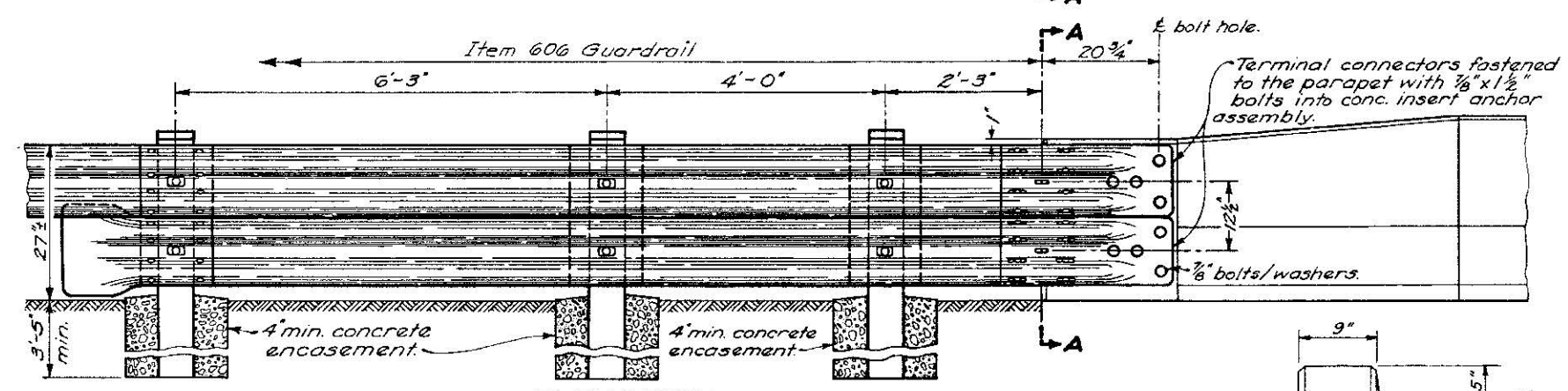
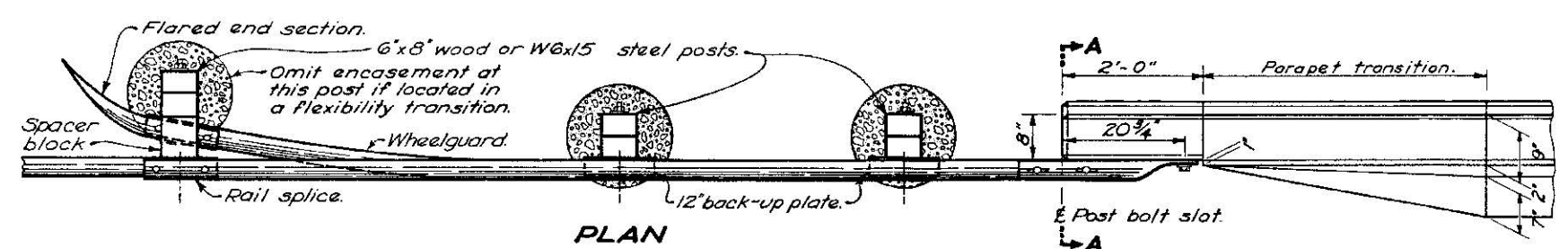
PAYMENT for item 606, each, Bridge terminal assembly, Type —, shall include the additional cost in excess of normal guardrail cost, such as: additional or heavier posts, concrete encasement, wheelguard, terminal connector, and other hardware, payment for bridge railing and parapets shall include the cost of the concrete insert anchor assembly, and the TS 8x4 spacers and tubular back-up rail at and in between the first posts off the bridge.

TYPE A: The wheelguard shall be required on all uncurbed approach connections and on all uncurbed trailing connections on undivided highways. The wheelguard shall be omitted: on all curbed connections, on uncurbed trailing connections on divided or directional roadways, and all three posts shall have spacer blocks and concrete encasement.

TERMINAL CONNECTORS of Type A shall be fastened to existing (safety shape) parapets, not having concrete insert anchor assemblies, with four 1/8" dia. hexhead bolts through the parapet with 3" x 3" x 1/2" plate washers and hex nuts on back of parapet.

POST TYPE shall be the same material type as used on approach guardrail except the first post off the bridge for Type B shall be as shown.

FOR DETAILS not shown, see GR-1 and other Standard Construction Drawings pertaining to design of specific guardrail type.

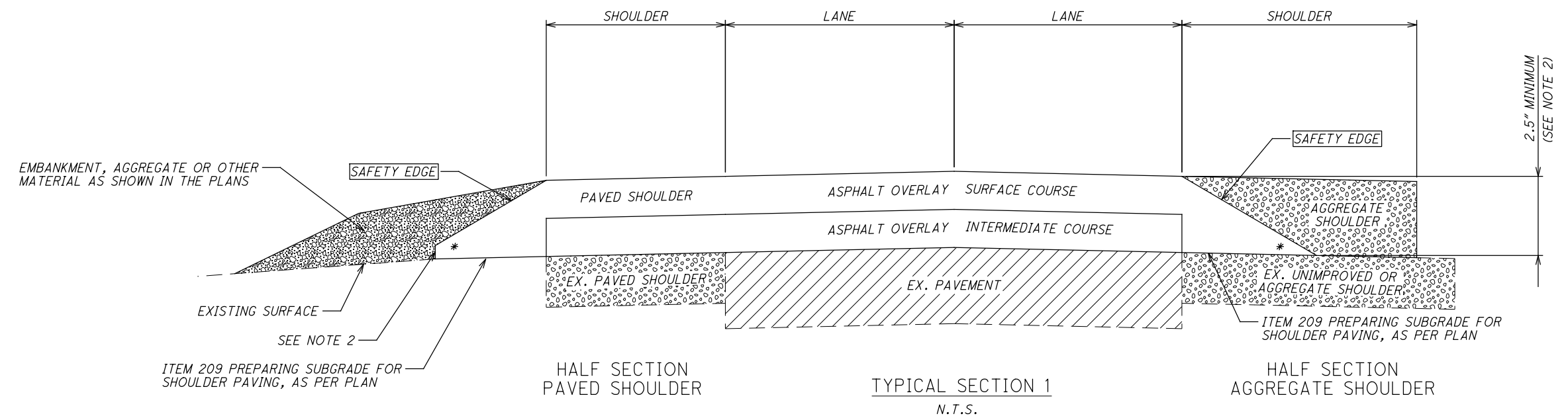


BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

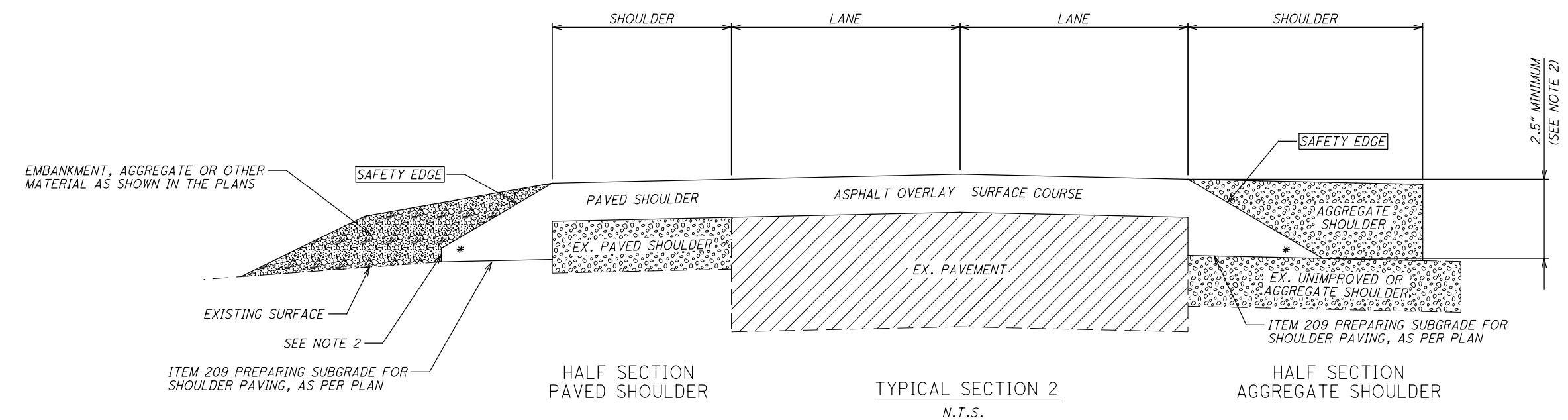
BRIDGE TERMINAL ASSEMBLIES

DATE
1-1-71
11-9-71
12-6-76
2-5-82
1-21-85

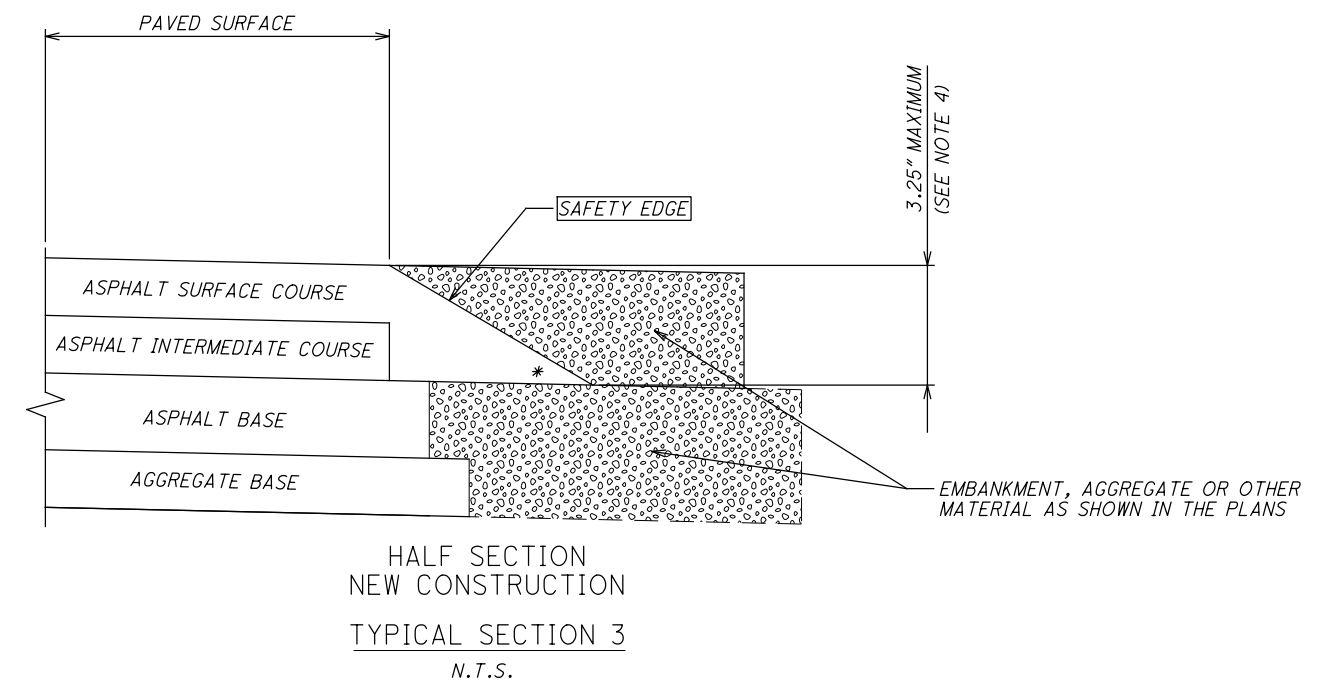
STANDARD CONSTRUCTION DRAWING
APPROVED *[Signature]* ENGR., L. & D. GR-3



HALF SECTION PAVED SHOULDER
TYPICAL SECTION 1
N.T.S.
HALF SECTION AGGREGATE SHOULDER



HALF SECTION PAVED SHOULDER
TYPICAL SECTION 2
N.T.S.
HALF SECTION AGGREGATE SHOULDER



HALF SECTION NEW CONSTRUCTION
TYPICAL SECTION 3
N.T.S.

NOTES:

- 1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).
 - 2.) CONSTRUCT THE SAFETY EDGE THE FULL ASPHALT CONCRETE OVERLAY THICKNESS OR 2.5" (63MM) WHICHEVER IS GREATER, NOT TO EXCEED THE MAXIMUM SAFETY EDGE THICKNESS OF 6" (150MM). CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE FOR THICKNESS GREATER THAN 6" (150 MM).
 - 3.) BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETY EDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.
 - 4.) FOR NEW PAVEMENT CONSTRUCT THE SAFETY EDGE THE FULL THICKNESS OF THE SURFACE AND INTERMEDIATE COURSES, NOT TO EXCEED 3.25" (82 MM).
- * 40° MAX

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SHEET NUM.											PART.					ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	4	5	6	7	8	9	11	12	13	14	01/S>2/PV	02/NHS/PV	03/S>2/BR	04/NHS/BR	05/NHS/OT						
ROADWAY																					
										5,912.5	4,087.5	1,825				202	38000	5,912.5	FT	GUARDRAIL REMOVED	
										39	23				16	202	42000	39	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A	
										12	7	5				202	42010	12	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
										12	10	2				202	42040	12	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T	
										10			6	4		202	47000	10	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED	
					29.64											209	72051	29.64	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	8
										530.75			187.5	343.25		517	72710	530.75	FT	RAILING (DEEP BEAM BRIDGE RETROFIT RAILING)	
										4,162.5	2,675	1,487.5				606	15050	4,162.5	FT	GUARDRAIL, TYPE MGS	
										887.5	662.5	225				606	15100	887.5	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS	
										2	1	1				606	26100	2	EACH	ANCHOR ASSEMBLY, TYPE E	
										46	28	2			16	606	26150	46	EACH	ANCHOR ASSEMBLY, MGS TYPE E	
										17	11	6				606	26550	17	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
										19			8	11		606	35140	19	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
										8			4	4		606	98100	8	EACH	GUARDRAIL, MISC.:GR-3 BRIDGE TERMINAL ASSEMBLY, TYPE A	14
									1,160							608	52000	1,160	SF	CURB RAMP	
									80							608	53020	80	SF	DETECTABLE WARNING	
										105	77	28				626	00100	105	EACH	BARRIER REFLECTOR	
PAVEMENT																					
				526							263	263				253	02000	526	CY	PAVEMENT REPAIR	7
130,822	122,550	62,295	2,876								190,591	127,178	510	264		254	01000	318,543	SY	PAVEMENT PLANING, ASPHALT CONCRETE 1.25"-1.5"	
1,321	1,239	635	67								1,957	1,296	6	3		254	01600	3,262	SY	PATCHING PLANED SURFACE	
11,790	11,041	5,619	244								17,158	11,466	46	24		407	10000	28,694	GAL	TACK COAT	
5,533	5,182	2,649	122								8,591	4,854	27	14		441	50000	13,486	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
8.05	6.76	2.84									11.96	5.69				616	10000	17.65	MGAL	WATER	
402	338	142									598	284				617	10100	882	CY	COMPACTED AGGREGATE	
					29.64						17.6	12.04				618	41000	29.64	MILE	EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)	8
TRAFFIC CONTROL																					
									1,944							621	00100	1,944	EACH	RPM	
									1,944							621	54000	1,944	EACH	RAISED PAVEMENT MARKER REMOVED	
							26.24				17.58	8.66				646	10010	26.24	MILE	EDGE LINE, 6"	
							1.73				1	0.73				646	10110	1.73	MILE	LANE LINE, 6"	
							12.7				8.79	3.91				646	10200	12.7	MILE	CENTER LINE	
							15,071				9,536	5,535				646	10300	15,071	FT	CHANNELIZING LINE, 8"	
							1,611				1,006	605				646	10400	1,611	FT	STOP LINE	
							357		609		709	257				646	10500	966	FT	CROSSWALK LINE	
							3,944				2,472	1,472				646	10600	3,944	FT	TRANSVERSE/DIAGONAL LINE	
							539				339	200				646	10800	539	SF	ISLAND MARKING	
							148				84	64				646	20300	148	EACH	LANE ARROW	
							31				20	11				646	20410	31	EACH	WORD ON PAVEMENT, 96"	
									120		120					642	30000	120	FT	REMOVAL OF PAVEMENT MARKING	
TRAFFIC SIGNALS																					
				103							51	52				632	26501	103	EACH	DETECTOR LOOP, AS PER PLAN	7
				103							51	52				632	27201	103	EACH	LOOP DETECTOR TIE IN, AS PER PLAN	7
STRUCTURE REPAIR (WAR-48-0608)																					
							192						192			512	73500	192	SY	TREATING CONCRETE BRIDGE DECKS WITH GRAVITY FED RESIN	9
							8						8			519	12300	8	SY	PATCHING CONCRETE BRIDGE DECK - TYPE B	9
							26.66						26.66			846	00110	26.66	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	9
STRUCTURE REPAIR (WAR-48-0898)																					
							980							980		512	10400	980	SY	TREATING OF CONCRETE BRIDGE DECK WITH SRS	9
STRUCTURE REPAIR (WAR-22-0357)																					
							31.66							31.66		846	00110	31.66	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM	9

CALCULATED
 CHECKED
GENERAL SUMMARY
WAR-US22 / 48-2.80 / 5.22
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