

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

ERI-6-11.25
HUR-547-7.13
VILLAGE OF MONROEVILLE
PERKINS TOWNSHIP
HURON TOWNSHIP
ERIE COUNTY
HURON COUNTY

PROJECT DESCRIPTION

THIS PROJECT IS 5.35 MILES LONG AND WILL INCLUDE PAVEMENT REPAIRS, RESURFACING WITH ASPHALT CONCRETE, GUARDRAIL WORK, PLACEMENT OF PAVEMENT MARKINGS, AND MINOR STRUCTURE MAINTENANCE.

EARTH DISTURBED AREA

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

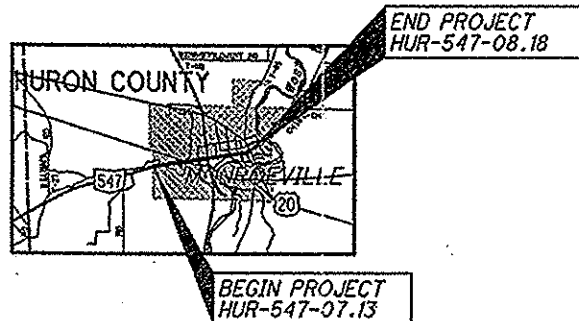
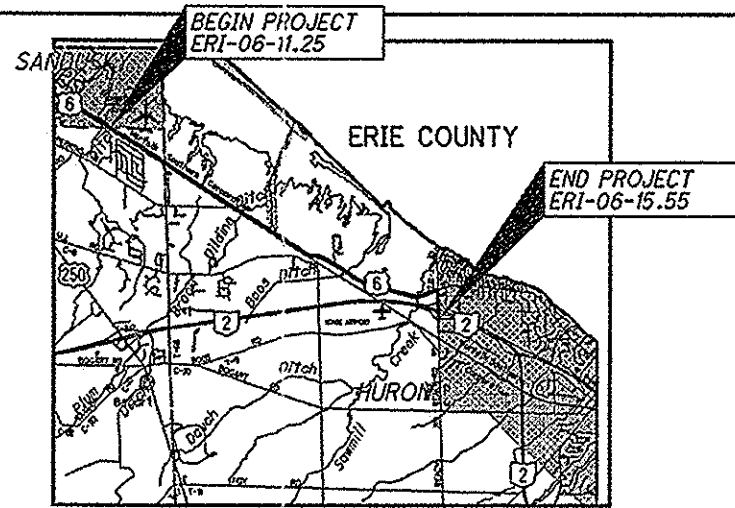
2013 SPECIFICATIONS

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

I HEREBY APPROVE 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 *Jim C. Brund*
DATE 8-28-14 DISTRICT DEPUTY DIRECTOR

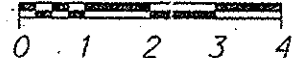
APPROVED *Gregory W. Wright*
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION



LOCATION MAP

LATITUDE: N 41° 24' 56" LONGITUDE: W 82° 37' 24"

SCALE IN MILES



PORTION TO BE IMPROVED _____
INTERSTATE & DIVIDED HIGHWAY _____
UNDIVIDED STATE & FEDERAL ROUTES _____
OTHER ROADS _____

DESIGN DESIGNATION

SEE SHEET NUMBER 2.

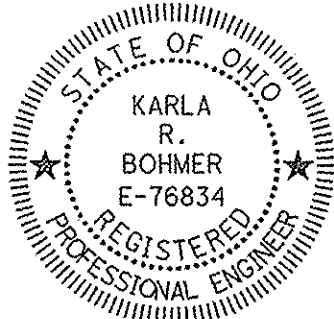
DESIGN EXCEPTIONS

NONE

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ENGINEERS SEAL:



SIGNED: *Karla R. Bohmer*
DATE: 8/28/14

STANDARD CONSTRUCTION DRAWINGS

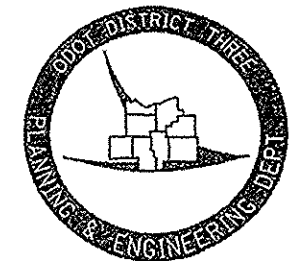
NO.	DATE	DESCRIPTION	DATE	NO.	DATE	DESCRIPTION	DATE
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BP-4.1	7/19/13	MT-96.20	7/19/13				
BP-7.1	7/18/14	MT-96.26	7/19/13				
		MT-97.10	7/18/14				
DM-4.3	7/19/13	MT-97.12	7/18/14				
DM-4.4	7/20/12	MT-98.20	7/19/13				
		MT-101.90	7/18/14				
MGS-1.1	7/19/13	MT-105.10	7/19/13				
MGS-2.1	7/19/13						
MGS-4.2	7/19/13	TC-62.20	7/18/14				
		TC-61.30	7/18/14				
RM-1.1	7/18/14	TC-65.10	7/17/14				
		TC-65.11	7/18/14				
MT-95.31	7/18/14	TC-71.10	7/17/14				
MT-95.32	7/18/14	TC-82.10	10/18/13				
MT-95.50	7/19/13						

SUPPLEMENTAL SPECIFICATIONS

800	10/17/14
832	1/17/14
821	4/20/12
921	4/20/12

SPECIAL PROVISIONS

PLANS PREPARED BY:



UNDERGROUND UTILITIES
CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

FEDERAL PROJECT NO.
E101138

PID NO.
88764

CONSTRUCTION PROJECT NO.

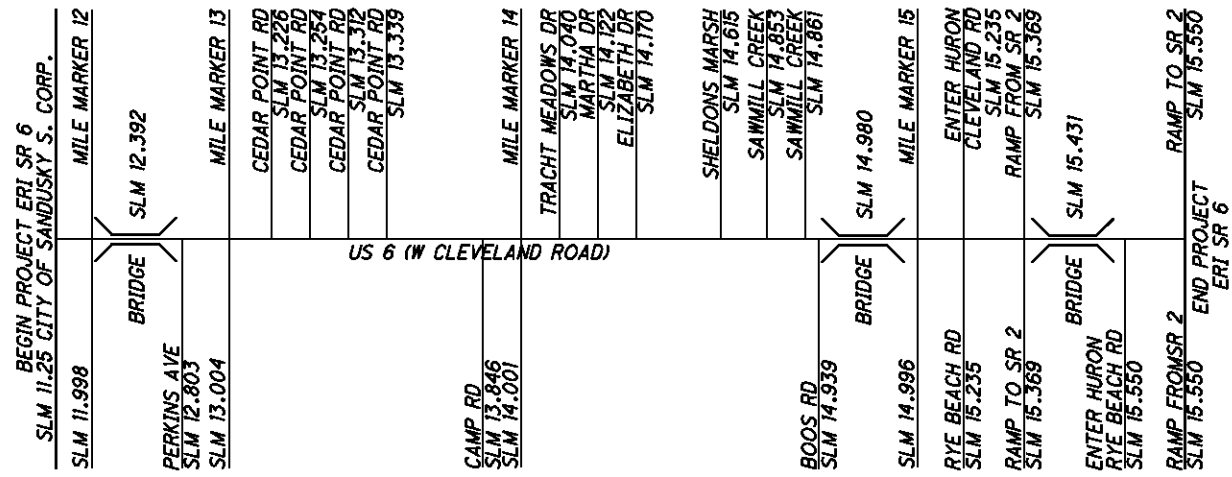
RAILROAD INVOLVEMENT
WHEELING & LAKE ERIE RR

ERI-6-11.25
HUR-547-7.13

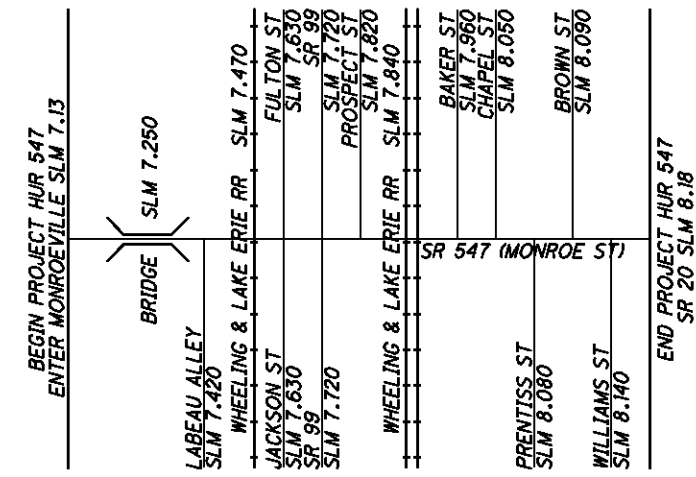
1
33

ERI - US 6-11.25
140557 PID - 88764
Dist 3 11/26/2014

Contract Proposal Available @ www.
Contracts.dot.state.oh.us/home



ERI 6 11.25 TO 15.55



HUR 547 7.13 TO 8.18

DESIGN DESIGNATION (ERI-6 11.25 - 12.80)

CURRENT ADT (2015)	11,000
DESIGN YEAR ADT (2027)	11,000
DESIGN HOURLY VOLUME (2027)	1,100
DIRECTIONAL DISTRIBUTION	0.53
TRUCKS (24 HOUR B&C)	0.04
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
PRINCIPAL ARTERIAL	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

DESIGN DESIGNATION (HUR-547 7.13 - 7.72)

CURRENT ADT (2015)	1,600
DESIGN YEAR ADT (2027)	1,600
DESIGN HOURLY VOLUME (2027)	210
DIRECTIONAL DISTRIBUTION	0.53
TRUCKS (24 HOUR B&C)	0.07
DESIGN SPEED	35 MPH
LEGAL SPEED	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
MAJOR COLLECTOR	
NHS PROJECT	NO

DESIGN EXCEPTIONS

NONE

DESIGN DESIGNATION (ERI-6 12.80 - 15.24)

CURRENT ADT (2015)	13,000
DESIGN YEAR ADT (2027)	14,000
DESIGN HOURLY VOLUME (2027)	1,300
DIRECTIONAL DISTRIBUTION	0.53
TRUCKS (24 HOUR B&C)	0.04
DESIGN SPEED	55-45 MPH
LEGAL SPEED	55-45 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
PRINCIPAL ARTERIAL	
NHS PROJECT	YES

DESIGN EXCEPTIONS

NONE

DESIGN DESIGNATION (HUR-547 7.72 - 8.18)

CURRENT ADT (2015)	2,800
DESIGN YEAR ADT (2027)	2,800
DESIGN HOURLY VOLUME (2027)	340
DIRECTIONAL DISTRIBUTION	0.53
TRUCKS (24 HOUR B&C)	0.03
DESIGN SPEED	35-25 MPH
LEGAL SPEED	35-25 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
MAJOR COLLECTOR	
NHS PROJECT	NO

DESIGN EXCEPTIONS

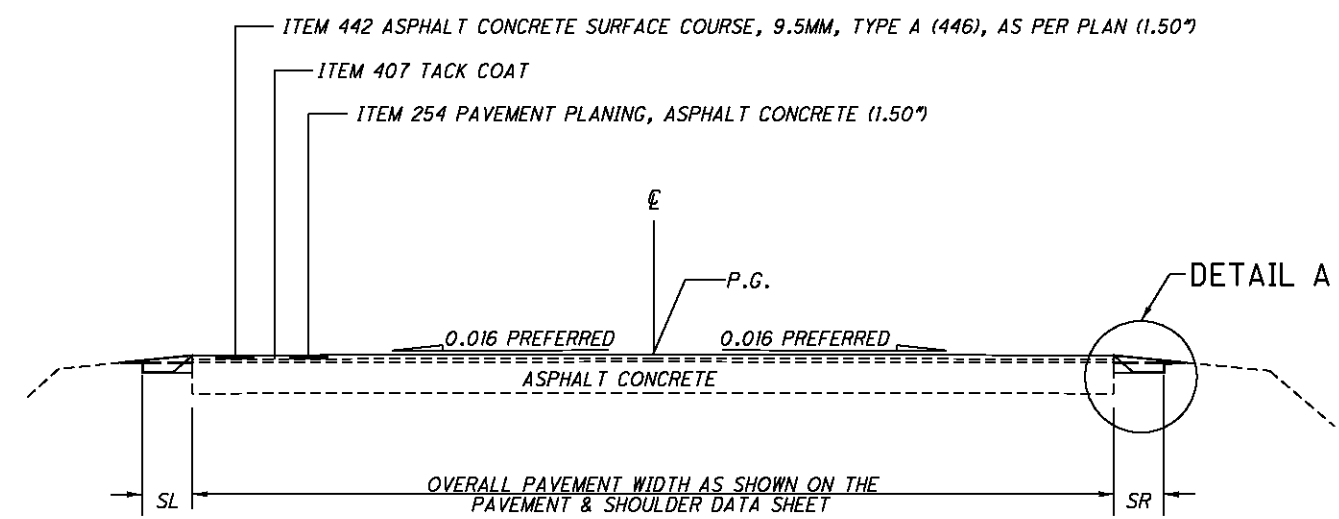
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DESIGN DESIGNATION (ERI-6 15.24 - 15.55)

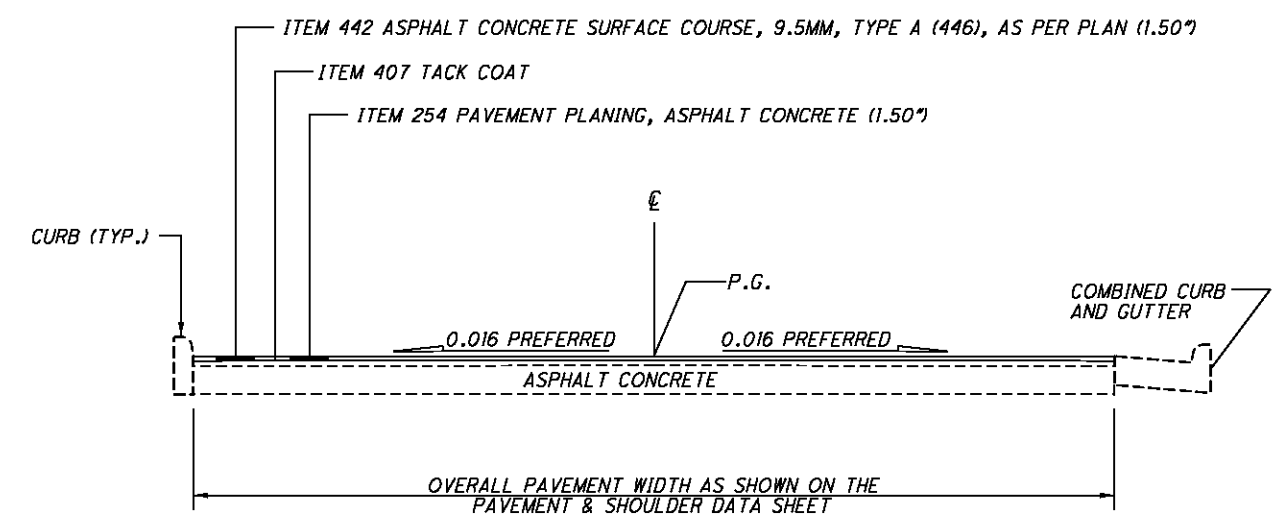
CURRENT ADT (2015)	14,000
DESIGN YEAR ADT (2027)	15,000
DESIGN HOURLY VOLUME (2027)	1,400
DIRECTIONAL DISTRIBUTION	0.53
TRUCKS (24 HOUR B&C)	0.04
DESIGN SPEED	45 MPH
LEGAL SPEED	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	
PRINCIPAL ARTERIAL	
NHS PROJECT	YES

DESIGN EXCEPTIONS

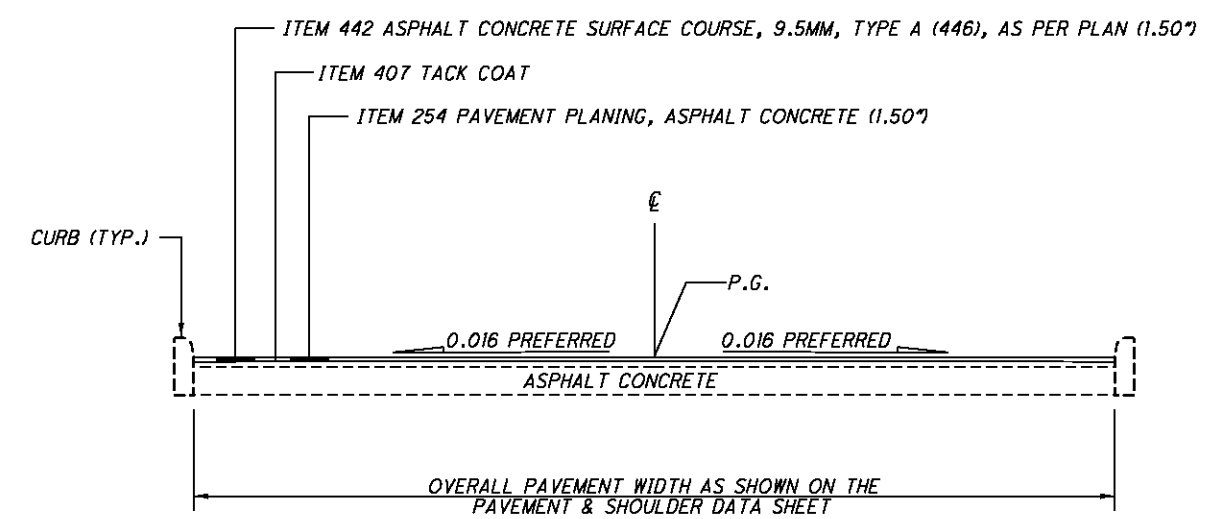
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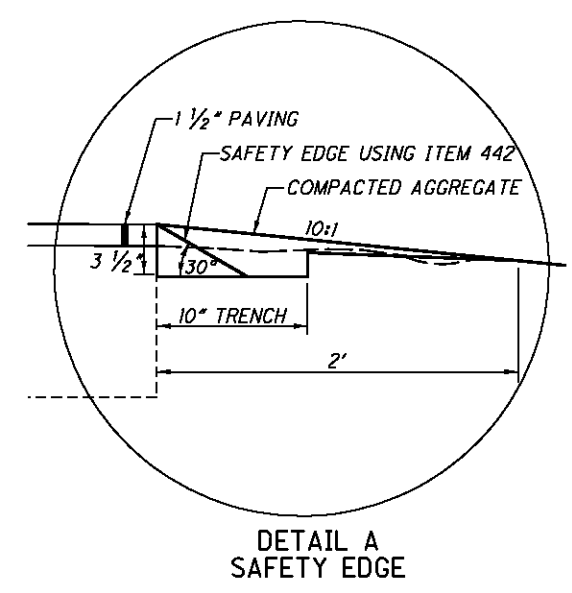
TYPICAL 1
ERI 6 11.25 TO 15.08
ERI 6 15.23 TO 15.55
HUR 547 7.13 TO 7.47 (NO SAFETY EDGE)



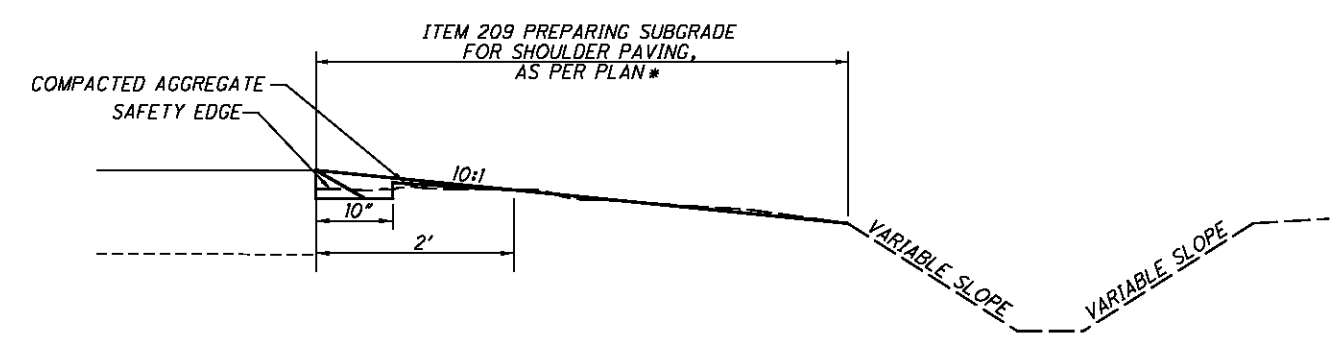
TYPICAL 2
ERI 6 15.08 TO 15.23



TYPICAL 3
HUR 547 7.47 TO 8.18



DETAIL A
SAFETY EDGE



ITEM 209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN

* SEE ITEM 209 PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN NOTE FOR ADDITIONAL DETAILS

DESIGN FILE: \\projects\roadway\sheets\BB764\roadway\sheets\BB764GY001.dgn
WORKSTATION:salay
MODELNAME: Design
DATE: 8/29/2014

GENERAL

UTILITIES

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

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.

AT&T OF OHIO
130 N. ERIE STREET, ROOM 714
TOLEDO, OHIO 43604
419-245-5004

BUCKEYE CABLE SYSTEM
409 EAST MARKET STREET
P.O. BOX 5800
SANDUSKY, OHIO 44870
419-627-1371 EXT 6036

CITY OF HURON
417 MAIN STREET
HURON, OHIO 44839
419-433-5000

COLUMBIA GAS OF OHIO
3101 NORTH RIDGE ROAD E
LORAIN, OHIO 44055
440-240-6107

COLUMBIA GAS TRANSMISSION
589 NORTH STATE ROAD
MEDINA, OHIO 44256
330-721-4163

DOMINION EAST OHIO
4725 SOUTHWAY STREET SW
CANTON, OHIO 44706
330-266-2049

ERIE COUNTY DEPT. OF ENVIRONMENTAL SERVICES
554 RIVER ROAD
P.O. BOX 469
HURON, OHIO 44839
419-433-7303

ERIE COUNTY ENGINEER'S OFFICE
2700 COLUMBUS AVENUE
SANDUSKY, OHIO 44870
419-627-7710

FRONTIER COMMUNICATIONS
6223 NORWALK ROAD
MEDINA, OHIO 44256
330-722-9453

ONE COMMUNITY
800 W. SAINT CLAIR 2ND FLOOR
CLEVELAND, OHIO, 44113
216-923-2200

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

TIME WARNER CABLE
576 TERNES AVENUE
ELYRIA, OH 44035
440-366-0417 EXT 625

OHIO EDISON COMPANY
6326 LAKE AVENUE
ELYRIA, OHIO 44035
440-326-3229

THE AFOREMENTIONED UTILITY COMPANIES AND AGENCIES HAVE VARIOUS FACILITIES IN THE AREA THAT WILL REMAIN IN PLACE DURING CONSTRUCTION.

EXTREME CAUTION SHOULD BE EXERCISED IN AREAS WITH UTILITIES. 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.

CONSTRUCTION NOTIFICATION

THE CONTRACTOR SHALL ADVISE THE PROJECT ENGINEER A MINIMUM OF FOURTEEN (14) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (614) 887-4305 OR EMAIL AT D03.PIO@DOT.STATE.OH.US

DISTRICT PERMIT SECTION BY FAX AT (614) 887-4318 OR EMAIL AT LOUIS.TUMBLIN@DOT.STATE.OH.US

CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.STATE.OH.US

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.

GENERAL

PAVING AT RAILROAD CROSSINGS

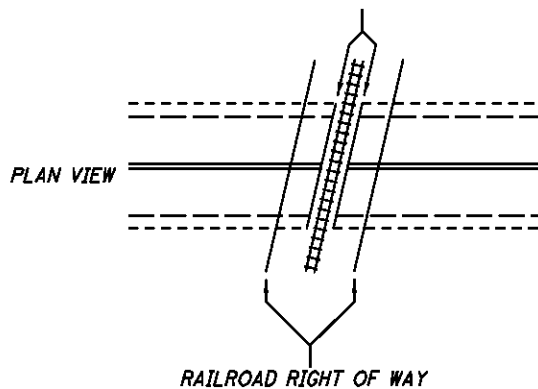
PRIOR TO ANY WORK AT RAILROAD CROSSINGS THE CONTRACTOR SHALL CONTACT THE AFFECTED RAILROAD AUTHORITY SO AS TO MAKE THEM AWARE OF THE PROGRESS AND SCHEDULE OF WORK. THE CONTRACTOR SHALL COOPERATE WITH THE RAILROAD SO AS TO ELIMINATE ANY SAFETY CONCERNS. FLAGGING WILL BE REQUIRED BY THE RAILROAD. ODOT WILL BE RESPONSIBLE FOR PAYING THE RAILROAD FOR ALL FLAGGING COSTS. REFER TO THE RAILROAD SPECIAL CLAUSES IN THE PROPOSAL.

THE CROWN SHALL BE WORKED OUT OF THE RESURFACED PAVEMENT ON EACH SIDE OF THE RAILROAD CROSSING, BEGINNING 50 FEET FROM THE NEAREST RAIL, BY RAISING THE EDGES OF THE RESURFACED PAVEMENT TO MEET THE PLATFORM ELEVATION.

SUSPEND AND RESUME RESURFACING AT THE EDGE OF THE EXISTING CROSSING SURFACE ON BOTH SIDES OF THE TRACK.

DETAIL - PAVING AT RAILROAD CROSSING

BUTT JOINT/BEGIN AND END RESURFACING



- NOTE:
- 1.) DO NOT DISTURB RAILROAD GATES
 - 2.) RE-INSTALL PAVEMENT MARKINGS
 - 3.) RAILROAD MAY DIRECT ENGINEER ON THE LOCATION OF BUTT JOINTS. OTHERWISE OMIT AND RESUME RESURFACING AT THE EDGE OF THE EXISTING CROSSING SURFACE ON BOTH SIDES OF THE TRACK.

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.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

ROADWAY

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

PREPARE THE SHOULDER FOR PAVING A CONSISTENT SAFETY EDGE IN BOTH THICKNESS AND WIDTH.

PRIOR TO PAVING THE SAFETY EDGE, GRADE AN AREA 10 INCHES WIDE, BEGINNING AT THE EDGE OF THE PAVED ROADWAY, 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. THE GRADED SHOULDER BEYOND THE 10 INCH WIDE AREA FOR THE SAFETY EDGE SHALL BE GRADED AT A 10:1 SLOPE.

SAFETY EDGE

IN ADDITION TO THE REQUIREMENTS OF 401.12, ATTACH A DEVICE TO THE SCREED OF THE PAVER 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 EXISTING 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 SAFETSLOPE OR A SIMILAR APPROVED-EQUAL DEVICE 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

ADVANT-EDGE PAVING EQUIPMENT LLC
P.O. BOX 9163
NISKAYUNA, NY 12309-0163
518-280-6090
www.advantedgepaving.com

CARLSON SAFETY EDGE END GATE
18450 50TH AVENUE EAST
TACOMA, WA 98446
253-875-8000

TROXLER ELECTRONICS LABORATORIES INC.
3008 E. CORNWALLIS RD.
RESEARCH TRIANGLE PARK, NC 27709
1-877-TROXLER
www.troxlerlabs.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 AWAY FROM TAPERED EDGE. DO NOT ROLL THE TAPER.

ITEM 623 - MONUMENT BOX ADJUSTED TO GRADE

THE MONUMENT BOX TO BE ADJUSTED MAY OR MAY NOT HAVE AN EXISTING ADJUSTABLE FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING MONUMENT BOX 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 MATERIALS REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT ADJUSTABLE FRAMES.

DESIGN FILE: \\projects\roadway\sheet\BB764\roadway\sheet\BB764\GN001.dgn
WORKSTATION: salay
MODELNAME: Sheet
DATE: 8/29/2014

GTS
CHECKED
KRB

CALCULATED

GENERAL NOTES

ERI-6-11.25
HUR-547-7.13

DRAINAGE

ITEM 611 - CASTINGS ADJUSTED TO GRADE

THE CASTING TO BE ADJUSTED MAY OR MAY NOT HAVE AN EXISTING FRAME. THE WORK SHALL CONSIST OF ADJUSTING THE EXISTING CASTING TO THE SATISFACTION OF THE ENGINEER. IT IS NOT INTENDED TO PLACE NEW FRAMES WHERE NONE CURRENTLY EXIST. 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 MATERIALS REQUIRED TO SATISFACTORILY ADJUST CASTINGS WITHOUT FRAMES.

PAVEMENT

**ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR
ITEM 253 - PAVEMENT REPAIR**

THESE ITEMS 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.

PAVEMENT REPAIR SHALL BE PERFORMED AFTER PAVEMENT PLANING AND BEFORE PLACEMENT OF THE INTERMEDIATE AND/OR SURFACE COURSE. THE DEPTH OF REMOVAL SHALL BE SUFFICIENT TO REMOVE ALL DETERIORATED PAVEMENT WITH A MAXIMUM DEPTH OF 12", BASED ON THE PAVEMENT DESIGN AND AN AVERAGE DEPTH OF 4" FOR ESTIMATING PURPOSES.

THE CONTRACTOR SHALL BE CAPABLE OF PERFORMING PAVEMENT REPAIRS 2 FEET WIDE.

REPLACEMENT MATERIAL SHALL BE ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL AND SHALL BE PLACED AND COMPACTED TO FINISH FLUSH WITH THE ADJACENT PAVEMENT SURFACE. ITEM 301 ASPHALT CONCRETE, PG64-22 CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 3" AND 12" WITH A MAXIMUM PAVEMENT LIFT OF 6". ITEM 448 TYPE 2 OR ITEM 442 19MM CAN BE USED WHEN THE DEPTH OF THE REPAIR IS BETWEEN 1.5" AND 5" WITH A MAXIMUM PAVEMENT LIFT OF 3". THE CONTRACTOR HAS THE OPTION OF USING EITHER ITEM 301, ITEM 448 TYPE 2, OR ITEM 442 19MM MATERIAL WHEN THE PAVEMENT REPAIR IS BETWEEN 3" AND 5" DEEP. ITEM 448 TYPE 2 OR ITEM 442 19MM MATERIAL SHALL BE PG64-22 FOR MEDIUM MIX DESIGN PAVEMENTS AND PG64-28 FOR HEAVY MIX DESIGN PAVEMENTS.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT REPAIR. FOR PAYMENT PURPOSES ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR IS TO BE A MAXIMUM OF 4" DEEP AND ITEM 253 PAVEMENT REPAIR IS FOR DEPTHS GREATER THAN 4". PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER CUBIC YARD, (BY TICKET WEIGHT CONVERSION), OF ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR OR ITEM 253 - PAVEMENT REPAIR. THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

01/NHS/PV:	
US 6 ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR	
WESTBOUND	125 CU.YD.
EASTBOUND	129 CU.YD.
TOTAL =	254 CU.YD.
US 6 ITEM 253 - PAVEMENT REPAIR	
TOTAL =	100 CU.YD.
04/S/2/PV:	
SR 547 ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR	
RIGHT	46.90 CU.YD.
LEFT	28.50 CU.YD.
LEFT/RIGHT	6.00 CU.YD.
TOTAL =	81.00 CU.YD.
SR 547 ITEM 253 - PAVEMENT REPAIR	
TOTAL =	25 CU.YD.

PAVEMENT CORING INFORMATION

Coring Data MAY 2013					KEY:					A	B	C	O	LWP	RWP	SH	
County:	ERI	Route:	6	Section:	11.25-15.55	Asphalt:	Brick:	Concrete:	Other Subbase:	Left Wheel Path:	Right Wheel Path:	Shoulder:	Date:	6/7/2013	Direction:	EB and WB	
SLM	Core Number	Position on Road	Surface Type	Depth (in.)	Subbase 1 Type	Depth (in.)	Subbase 2 Type	Depth (in.)	General Comments								
11.27	1	LWP	A	16"	A	16"	C	6"	CONCRETE FELL APART								
11.27	2	RWP	A	16"	A	16"			BOTTOM 4" WOULD NOT COME OUT OF HOLE								
11.27	3	SHOULDER	A	6"	A	6"											
11.27		THREE PIC															
12.35	4	LWP	A	17"	A	16"	C	7"	CONCRETE CRUMBLED INSIDE HOLE								
12.35	5	RWP	A	17"	A	17"			BOTTOM 5" LOOKED LIKE GRAVEL								
12.35	6	SHOULDER	A	4"	A	4"			BOTTOM 2" FELL APART								
12.35		THREE PIC															
13.51	7	LWP	A	17"	A	16"	C	7"	17" TOTAL; CONCRETE FELL APART								
13.51	8	RWP	A	16"	A	16"			FRII. FODDEPTH OF BIT, COULD NOT MAKE IT THROUGH CORP WOULD NOT COME OUT								
13.51	9	SHOULDER	A	7"	A	7"			BOTTOM 1 1/2" FELL APART								
13.51		THREE PIC															
14.52	10	LWP	A	17"	A	17"			BOTTOM 10 1/2" LOOKED LIKE GRAVEL								
14.52	11	RWP	A	12"	A	12"			BOTTOM 5" FELL APART								
14.52	12	SHOULDER	A	7"	A	7"											
14.52		THREE PIC															
15.31	13	EB CURB LWP	A	12"	A	12"			BOTTOM 2" FELL APART								
15.31	14	OD CURB RWP	A	9"	A	9"			BOTTOM 3" FELL APART								
15.31		TWO PIC															
15.31	15	WB CURB LWP	A	14"	A	14"											
15.31	16	WE CURB RWP	A	9"	A	9"											
15.31		TWO PIC															
4 MISC CORES AT TYPICAL CRACKS AND TO FIND WIDTH OF SHOULDER																	
14.4 WB	17	CRACK	A	11"	A	11"											
13.4 WB	18	CRACK	A	4"	A	4"											
12.2 WB	19	CRACK	A	6"	A	6"											
11.2 WB	20	CRACK	A	6"	A	6"			COMPLETELY FELL APART								

Coring Data MAY 2013					KEY:					A	B	C	O	LWP	RWP	SH	
County:	HUR	Route:	547	Section:	7.13-8.13	Asphalt:	Brick:	Concrete:	Other Subbase:	Left Wheel Path:	Right Wheel Path:	Shoulder:	Date:	5/22/2013	Direction:		
SLM	Core Number	Position on Road	Surface Type	Depth (in.)	Subbase 1 Type	Depth (in.)	Subbase 2 Type	Depth (in.)	General Comments								
7.21	1	LWP	A	16"	C	7"		9"									
7.21	2	RWP	A	14"	C	7"		7"									
7.21	3	SHOULDER	A	6"				6"	SHOULDER WIDTH 8'								
7.21		THREE PIC															
7.59	1	LWP	A	13"	C	4"		9"									
7.59	3	RWP	A	13"				13"									
7.59		SHOULDER	NA						NO SHOULDER CURB ONLY								
7.59		THREE PIC															
8	5	LWP	A	13"	C	4"		3"	CONCRETE UNDER ASPHALT FELL APART								
8	7	RWP	A	13"	C	6"		4"	CONCRETE UNDER ASPHALT FELL APART								
8	3	SHOULDER	A	10"				10"	PARKING LANE 10' WIDE								
8		THREE PIC															
4 MISC CORES AT TYPICAL CRACKS AND TO FIND WIDTH OF SHOULDER																	
8.18	NA	CRACK							NO SHOULDER, CURB ONLY								
7.8	NA	CRACK							NO SHOULDER, CURB ONLY								
7.4	NA	CRACK							NO SHOULDER, CURB ONLY								
7.13	2	CRACK	A	8"				8"									

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MODELNAME: Sheet
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GENERAL NOTES

ERI-6-11.25
HUR-547-7.13

PAVEMENT

BUTT JOINTS

BUTT JOINTS SHALL NOT BE CUT AND LEFT OPEN TO TRAFFIC. THEY SHALL BE FILLED IN WITH A TEMPORARY ASPHALT CONCRETE WEDGE USING ITEM 614 ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

CONSTRUCTION "BUMP" (W8-1-36) AND "ADVISORY SPEED" (W13-1-24) SIGNS SHALL BE ERECTED AND MAINTAINED DURING THE PERIOD THE BUTT JOINT IS LEFT OPEN. THESE SIGNS SHALL BE PAID FOR UNDER THE LUMP SUM ITEM FOR ITEM 614 MAINTAINING TRAFFIC.

ITEM 254 - PATCHING PLANED SURFACE

AN ESTIMATED QUANTITY OF ITEM 254 - PATCHING PLANED SURFACE HAS BEEN SET UP TO BE USED AS DIRECTED BY THE ENGINEER AS DESCRIBED IN CMS 254.04. THE LIMIT OF THE PATCHING DEPTH IS 0 TO 2 IN.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (446), AS PER PLAN (SAFETY EDGE)

THE SAFETY EDGE SHALL BE INSTALLED AT THE SAME TIME AS THE SURFACE COURSE IS TO BE PLACED. THE SAFETY EDGE WILL NOT REQUIRE ANY DENSITY TESTING.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN

ALL OPEN TRANSVERSE JOINTS SHALL BE TAPERED TO MEET EXISTING PAVEMENT BEFORE INTRODUCING TRAFFIC. A "BUMP" SIGN (W8-1-36) SHALL BE ERECTED ON EACH SIDE OF TRANSVERSE JOINTS LEFT OPEN OVER NIGHT, INCLUDING A SPEED ADVISORY SIGN. THESE SIGNS SHALL BE REMOVED IMMEDIATELY AFTER JOINT HAS BEEN CLOSED. PLACEMENT OF SIGNS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

CARE SHALL BE TAKEN TO MATCH EXISTING PAVEMENT ELEVATIONS AT EXISTING PAVED BERMS, DRIVES, INTERSECTIONS, ETC.

REQUIREMENTS OF 442 APPLY EXCEPT AS FOLLOWS:
 MIX DESIGN: FOR N_{des} USE 50 GYRATIONS, FOR N_{max} USE 75 GYRATIONS.
 MINIMUM TOTAL PG BINDER CONTENT IS 6.0 PERCENT.
 USE A PG 64-22 BINDER.
 MAXIMUM RECLAIMED ASPHALT CONCRETE PAVEMENT IS 20 PERCENT.
 WHEN AN AGGREGATE SOURCE IS SPECIALLY DESIGNATED WITH AN SR ON THE AGGREGATE GRAVITY LIST DO NOT USE THE AGGREGATE EXCEPT AS ALLOWED FOR MEDIUM TRAFFIC IN THE GUIDELINES FOR MAINTAINING ADEQUATE PAVEMENT FRICTION IN SURFACE PAVEMENT.
 QUALITY CONTROL: DO NOT PERFORM N_{max} IN QUALITY CONTROL TESTING. DO NOT TAKE EXTRA ASPHALT BINDER SAMPLES AS OUTLINED IN CMS 442.05.

ROLLER REQUIREMENTS WITHIN THE VILLAGE CORP LIMITS

WITHIN THE CORPORATION LIMITS OF THE VILLAGE OF MONROEVILLE, THE CONTRACTOR SHALL NOT USE A VIBRATORY ROLLER TO COMPACT THE ASPHALT CONCRETE.

INTERSECTIONS AND DRIVES

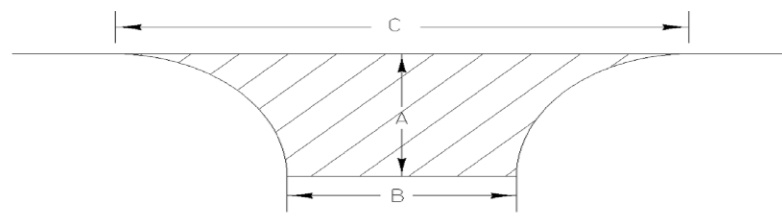
RURAL-INTERSECTIONS SHALL BE PLANED AND PAVED TO THE END OF THE RADII OR AS DIRECTED BY THE ENGINEER. (TO PROVIDE A SMOOTH TRANSITION BETWEEN THE TWO HIGHWAYS, AND TO ELIMINATE WATER POCKETS).

URBAN-INTERSECTIONS SHALL BE PLANED AND 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 AN AVERAGE WIDTH OF 4 FT. THE SLOPE OF THIS APRON SHALL BE THE SAME AS THE ADJACENT PAVEMENT SLOPE OR AS DIRECTED BY THE ENGINEER. ANY GRADING NEEDED TO PAVE THE APRON SHALL BE INCLUDED IN THE RELATED ASPHALT ITEM FOR PAYMENT. ITEM 617 COMPACTED 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 OF ITEM 617 HAS BEEN ESTIMATED TO COMPLETE THIS WORK AND IS SHOWN AS AN EXTRA AREA ON THE PAVEMENT & SHOULDER DATA SHEET.

ANY HAZARD OR UNSAFE CONDITION RESULTING FROM THE ABOVE WORK MUST BE CORRECTED IMMEDIATELY. THE CONTRACTOR IS REMINDED OF SECTIONS 105.01, 107.07 & 614.02A OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS.



Intersection Name	A (ft.)	B (ft.)	C (ft.)	Area (sq)	COMMENTS
ERI-6-11.25 TO 15.50					
PERKINS AVE (RT)	34	58	132	312	
CEDAR POINT RD (LT)	14	16	52	44	
CEDAR POINT RD (LT)	8	14	30	17	
CEDAR POINT RD (LT)	10	14	36	24	
CEDAR POINT RD (LT)	20	16	56	65	
CAMP RD (RT)	32	36	120	228	
TRACHT MEADOWS DR (LT)	16	55	100	124	
MARTHA DR (LT)	8	34	56	37	
ELIZABETH DR (LT)	9	22	48	31	
SHELDONS MARSH (LT)	18	32	80	96	
SHELDONS MARSH (LT)	10	14	40	25	
SAWMILL CREEK (LT)	6	78	98	56	
BOOS RD (RT)				0	
RYE BEACH RD (LT)	19	40	80	113	
CLEVELAND RD (LT)	38	47	105	280	
Total Intersection Areas				1452	

Intersection Name	A (ft.)	B (ft.)	C (ft.)	Area (sq)	COMMENTS
HUR 547 7.13 TO 8.18					
LABEAR ALLEY (RT)	14	23.5	49	50	
JACKSON ST (RT)	13	22	49	45	
FULTON ST (RT)	27.5	19.5	45	86	10.5' STOP BAR
SR 99 (LT)	21.5	28.5	75	105	15' STOP BAR
SR 99 (RT)	21.5	28.5	75	105	13' STOP BAR
PROSPECT ST (LT)	17	22	39	52	
BAKER ST (LT)	23.5	21	39	70	10' STOP BAR
CHAPEL ST. (LT)	26	22	43	84	12' STOP BAR
PRENTISS ST (RT)	16	20.5	24	39	
BROWN ST (LT)	29	21	39	87	13' STOP BAR
Total Intersection Areas				723	

ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE (CURBED SECTION)

THE INTENT OF THE PLANING IS TO MILL THE SPECIFIED DEPTH ALONG THE CURB CONTINGENT ON THE FOLLOWING: THE MAXIMUM CROSS SLOPE SHALL BE 0.02 WHILE THE MINIMUM CROSS SLOPE SHALL BE 0.01. THE PAVEMENT SLOPE SHALL BE CONTINUOUS BETWEEN THE CROWN AND THE CURB WHILE TRYING TO ACHIEVE THE TYPICAL CROSS SLOPE OF 0.016. THE CROWN OF THE PAVEMENT SHALL BE LOCATED BETWEEN THE TRAVELED LANES, OR AS DIRECTED BY THE ENGINEER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CURB, TO PRODUCE A CROSS SLOPE IN CONFORMANCE WITH THE ABOVE GUIDELINES.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPERELEVATED CURVES. THE SUPERELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER. IF THERE IS NO INFORMATION IN THE PLANS TO CHANGE THE SUPERELEVATION, THE INTENT IS TO MAINTAIN THE EXISTING SUPERELEVATION.

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

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 FOURTEEN (14) CALENDAR DAYS. THE 14 CALENDAR DAYS SHALL BE CONSIDERED AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 14 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1000 PER DAY.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT PLANING, ASPHALT CONCRETE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF PAVEMENT PLANING, ASPHALT CONCRETE.

ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (NON-CURBED SECTION)

THE INTENT OF THE PLANING IS TO MILL 1.5 INCHES AT THE CENTER OF PAVEMENT AT NON-CURBED AREAS. THE PAVEMENT SLOPE SHALL BE 0.010 MINIMUM AND 0.016 PREFERRED, CONTINUOUS BETWEEN THE CROWN AND THE PROPOSED EDGELINE/SHOULDER. THE MILLING DEPTH SHALL BE CONTROLLED FROM THE CENTER OF PAVEMENT IN CONFORMANCE WITH THE ABOVE GUIDELINES.

SPECIAL ATTENTION SHALL BE GIVEN TO SUPERELEVATED CURVES. THE SUPERELEVATION SHALL BE MAINTAINED AND/OR RESTORED, IF NECESSARY, AS DIRECTED BY THE ENGINEER. IF THERE IS NO INFORMATION IN THE PLANS TO CHANGE THE SUPERELEVATION, THE INTENT IS TO MAINTAIN THE EXISTING SUPERELEVATION.

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

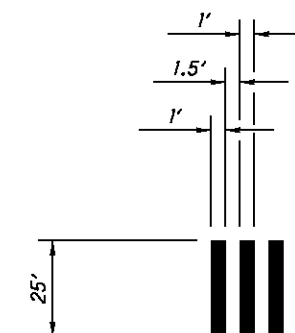
THE PROGRESSION OF THE PLANING SHALL PROCEED IN SUCH A MANNER THAT NORMAL TRAFFIC WILL NOT BE REQUIRED TO RUN OVER THE PLANED ROADWAY SURFACE MORE THAN FOURTEEN (14) CALENDAR DAYS. FOR EACH CALENDAR DAY BEYOND THE 14 DAYS THAT THE ROADWAY REMAINS EXPOSED TO THE PLANED SURFACE, THE CONTRACTOR WILL BE ASSESSED A DISINCENTIVE FEE OF \$1000 PER DAY.

PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO COMPLETE THE PAVEMENT PLANING, ASPHALT CONCRETE. PAYMENT WILL BE MADE AT THE UNIT BID PRICE PER SQUARE YARD OF ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE.

TRAFFIC CONTROL

ITEM 644 - CROSSWALK LINE, AS PER PLAN

THE MARKING DETAIL SHOWN BELOW SHALL ONLY BE APPLIED TO THE BIKE PATH CROSSING ON SR 547 TO IMPROVE DRIVER AWARENESS OF THE CROSSING.



MAINTENANCE OF TRAFFIC

ITEM 614 - MAINTAINING TRAFFIC

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 614 AND OTHER APPLICABLE PROVISIONS OF THE SPECIFICATIONS, PLAN DETAILS, STANDARD DRAWINGS, AND AS OUTLINED IN THE CONSTRUCTION AND MAINTENANCE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES CURRENT EDITION WITH THE LATEST REVISIONS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED ON THIS PLAN.

THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:
THE CONTRACTOR SHALL SUBMIT, IN WRITING, A SCHEDULE OF OPERATIONS TO THE ENGINEER AND RECEIVE APPROVAL BEFORE WORK IS STARTED ON THE PROJECT. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL COORDINATE THE MAINTENANCE OF TRAFFIC OPERATIONS WITH THE LOCAL STATE HIGHWAY PATROL.

ITEM 614 - MAINTAINING TRAFFIC

ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHEN THEY ARE NOT APPLICABLE, WITH THE APPROVAL OF THE ENGINEER.

IF THE CONTRACTOR FAILS TO COMPLY WITH THE PROVISIONS FOR TRAFFIC CONTROL AS SET FORTH IN THESE PLANS OR WITH PROVISIONS OF THE OMUTCD, AND SUCH FAILURE RESULTS IN A CONDITION AT THE WORK SITE WHICH IS UNSAFE FOR TRAFFIC, THE ENGINEER SHALL SUSPEND WORK UNTIL THE CONTRACTOR COMPLIES WITH THE NECESSARY REQUIREMENTS.

ALL MAINTENANCE OF TRAFFIC SIGNS ARE PAID UNDER ITEM 614 - MAINTAINING TRAFFIC.

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.

01/NHS/PV(ERI-6)
WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 12 EACH
WORK ZONE MARKING SIGN: (R4-I-24) DO NOT PASS = 9 EACH
WORK ZONE MARKING SIGN: PASS WITH CARE = 7 EACH

TOTAL = 28 EACH

04/S<2/PV(HUR-547)
WORK ZONE MARKING SIGN: (R4-I-24) DO NOT PASS = 6 EACH
WORK ZONE MARKING SIGN: (W8-H12A-36) NO EDGE LINE = 2 EACH

TOTAL = 8 EACH

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 PLANNED SURFACE AT BUTT JOINTS AND OTHER LOCATIONS THAT RESULT IN A DROP-OFF. THIS QUANTITY SHALL ALSO BE USED AT PLANNED SURFACES WHERE A TEMPORARY ASPHALT WEDGE IS NEEDED AROUND CASTINGS. BEFORE RESURFACING OF THE PAVEMENT, THE TEMPORARY WEDGE SHALL BE REMOVED AND THE COST SHALL BE CONSIDERED INCIDENTAL TO ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC.

ITEM 614 - ASPHALT CONCRETE FOR MAINTAINING TRAFFIC
01/NHS/PV (ERI-6) 28 CU YD
04/S<2/PV (HUR-547) 18 CU YD

PLACEMENT OF ASPHALT CONCRETE

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

446 DENSITY ACCEPTANCE WITH FLAGGER CLOSING OF A 2-LANE HIGHWAY FOR PAVING OPERATIONS

THIS PLAN NOTE APPLIES ONLY TO A FLAGGER CLOSURE OF ONE LANE OF A 2-LANE HIGHWAY DURING PAVING OPERATIONS WHEN USING STANDARD CONSTRUCTION DRAWING MT-97.11 OR MT-97.12, AND ALLOWS A PAVING OPERATION TO PROCEED CONCURRENTLY WITH THE MARKING AND CUTTING OF CORES REQUIRED FOR 446 DENSITY ACCEPTANCE.

IN ALL CASES THE CONTRACTOR SHOULD LENGTHEN THEIR LANE CLOSURES TO THE MAXIMUM PERMISSIBLE LENGTH DETAILED IN THE ABOVE REFERENCED STANDARD CONSTRUCTION DRAWINGS TO ALLOW THE ENGINEER ADEQUATE TIME TO MARK THE REQUIRED CORE LOCATIONS AND FOR CORE CUTTING OPERATIONS.

THE CONTRACTOR WILL PROVIDE TO THE ENGINEER THE PLANNED QUANTITY THAT WILL BE PLACED FOR THE DAY'S PRODUCTION. EACH DAY'S PRODUCTION WILL BE CONSIDERED ONE LOT AND INCLUDES SHOULDERS. TEN CORES WILL BE OBTAINED BY THE CONTRACTOR FOR EACH LOT AT RANDOM LOCATIONS DETERMINED BY THE ENGINEER. THE ENGINEER WILL DIVIDE A LOT INTO FIVE EQUAL SUBLOTS AND CALCULATE TWO RANDOM CORE LOCATIONS IN EACH SUBLOT AS DESCRIBED IN C&MS 446.05.

THE ENGINEER WILL MARK THE CORE LOCATIONS AFTER THE PAVING OPERATION (INCLUDING THE FINISH ROLLER) HAS COMPLETELY PASSED THE RANDOMLY SELECTED CORE LOCATION. THE CONTRACTOR SHOULD DETERMINE WHEN IT IS APPROPRIATE TO START THE CORE DRILL OPERATION AND BEGIN CUTTING CORES WHEN THE NEWLY PLACED PAVEMENT SURFACE TEMPERATURE IS LESS THAN 140°F. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LANE CLOSURE DURING ALL PAVING, CORE MARKING, AND CORING OPERATIONS PER THE REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWING USED FOR THE PAVING OPERATION.

ITEM 614 - MAINTAINING TRAFFIC (LANES OPEN DURING HOLIDAYS OR SPECIAL EVENTS ON US 6)

NO WORK SHALL BE PERFORMED AND ALL EXISTING LANES ON US 6 SHALL BE OPEN TO TRAFFIC DURING THE FOLLOWING DESIGNATED HOLIDAYS OR EVENTS:

CHRISTMAS	FOURTH OF JULY
NEW YEARS	LABOR DAY
MEMORIAL DAY	THANKSGIVING

THE PERIOD OF TIME THAT THE LANES ARE TO BE OPEN DEPENDS ON THE DAY OF THE WEEK ON WHICH THE HOLIDAY OR EVENT FALLS. THE FOLLOWING SCHEDULE SHALL BE USED TO DETERMINE THIS PERIOD:

DAY OF THE WEEK	TIME ALL LANES MUST BE OPEN TO TRAFFIC
SUNDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY
MONDAY	12:00N FRIDAY THROUGH 6:00 AM TUESDAY
TUESDAY	12:00N MONDAY THROUGH 6:00 AM WEDNESDAY
WEDNESDAY	12:00N TUESDAY THROUGH 6:00 AM THURSDAY
THURSDAY	12:00N WEDNESDAY THROUGH 6:00 AM MONDAY
FRIDAY	12:00N THURSDAY THROUGH 6:00 AM MONDAY
SATURDAY	12:00N FRIDAY THROUGH 6:00 AM MONDAY

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED A DISINCENTIVE FEE OF \$1000 PER DAY.

GENERAL LANE CLOSURE LIMITATIONS FOR US 6

THE INTENT OF THE LANE CLOSURE LIMITATIONS IN THIS PLAN NOTE IS TO SUPPLEMENT OTHER TIME LIMITATIONS WHICH APPEAR IN THIS CONTRACT.

THE FOLLOWING LANE CLOSURE RESTRICTIONS APPLY:
1. NO WORK SHALL BE DONE ON ANY WEEKENDS ON US 6.

FAILURE OF THE CONTRACTOR TO MEET ANY OF THE ABOVE REQUIREMENTS ARE SUBJECT TO LIQUIDATED DAMAGES AS PER CMS 108.07.

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

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE LATEST EDITION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), A UNIFORMED LAW ENFORCEMENT OFFICER (AND OFFICIAL PATROL CAR WITH MOUNTED EMERGENCY FLASHING LIGHTS) SHALL BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS AS DIRECTED 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.

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

DURING A TRAFFIC SIGNAL INSTALLATION.

LAW ENFORCEMENT OFFICERS (LEO'S) SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED. THE LEO'S ARE CONSIDERED TO BE EMPLOYED BY THE CONTRACTOR AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR ACTIONS. ALTHOUGH THEY ARE EMPLOYED BY THE CONTRACTOR, THE PROJECT ENGINEER SHALL HAVE CONTROL OVER THEIR PLACEMENT. THE OFFICIAL PATROL CAR SHALL BE A PUBLIC SAFETY VEHICLE AS REQUIRED BY THE OHIO REVISED CODE. 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.

LEO'S 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 CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES AND PROVIDE 72 HOURS ADVANCE NOTICE AS REQUIRED BY THE HIGHWAY PATROL LISTED BELOW:

STATE HIGHWAY PATROL
511 Fremont Ave,
Sandusky, OH 44870
Phone:(419) 625-6565

LAW ENFORCEMENT OFFICERS 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 QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE
(01/NHS/PV) TOTAL = 120 HOURS
(03/S<2/BR) TOTAL = 40 HOURS

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

IF THE CONTRACTOR WISHES TO UTILIZE LEO'S FOR FLAGGING AND TRAFFIC CONTROL OTHER THAN FOR THAT REQUIRED IN THESE PLANS, THEY MAY DO SO AT THEIR OWN EXPENSE.

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MAINTENANCE OF TRAFFIC

ERI-6-11.25
HUR-547-7.13

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 ACCOMMODATE THE COMPLETE INSTALLATION. SUPPORT HARDWARE SHALL ACCOMMODATE 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 4 1/2 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 ACCOMMODATE 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.

01/NHS/PV
ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, SINGLE
US 6 7 EACH

01/NHS/PV
ITEM SPECIAL-MAILBOX SUPPORT SYSTEM, DOUBLE
US 6 4 EACH

MAILBOX APPROACHES

THE MAILBOX APPROACHES SHALL BE PAVED WITH 1.50" ITEM 442 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 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.

04/SK2/PV
ITEM 209 - GRADING MAILBOX APPROACHES:
HUR 547 3 EACH

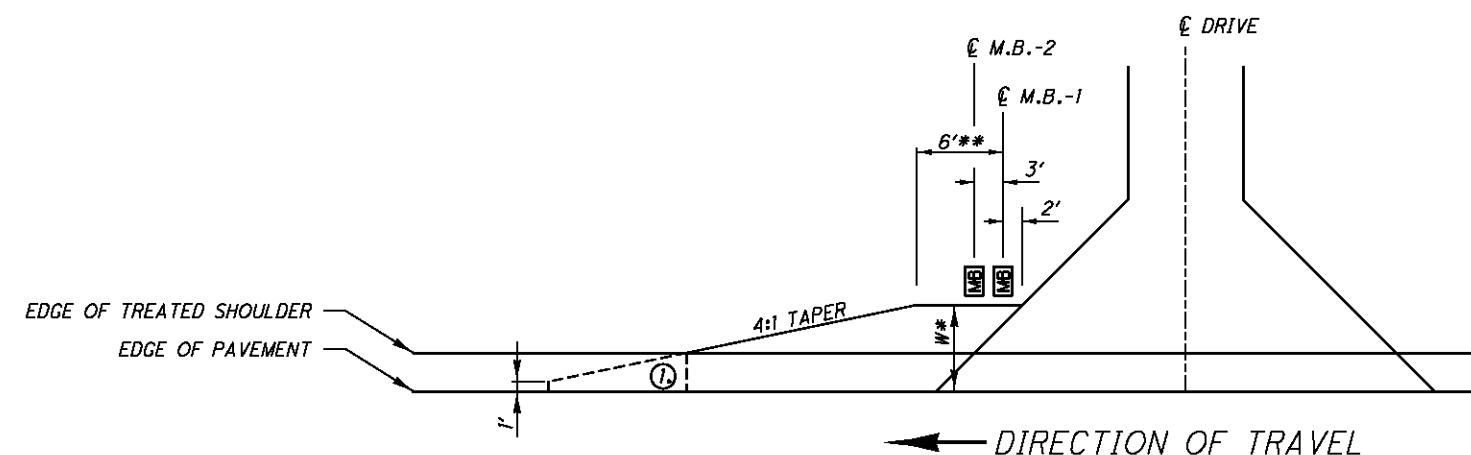
04/SK2/PV
ITEM 617 - COMPACTED AGGREGATE
HUR 547 6 CU YD

LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED

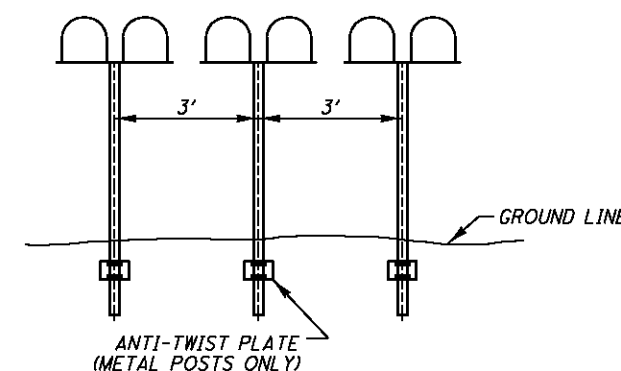
ADDRESSES AND/OR LOCATIONS OF MAILBOX SUPPORT SYSTEM TO BE REPLACED:

ERI 6 11.25 TO 15.55			
SLM	HOUSE #	SIDE	COMMENT
12.76	4409	LT	SINGLE
14.36	3017	LT	SINGLE
14.38			8 STACKED
14.44	2920	LT	
14.59	2808	LT	SINGLE
14.61	2804	LT	SINGLE
14.95	2408	LT	SINGLE
15.38		LT	SINGLE

FOR DETAILS NOT SHOWN SEE STANDARD DRAWING BP-4.1



① END MAILBOX TURNOUT AT EDGE OF ASPHALT CONCRETE SHOULDER OR 1' FROM EDGE OF PAVEMENT IF TREATED SHOULDER IS AGGREGATE.



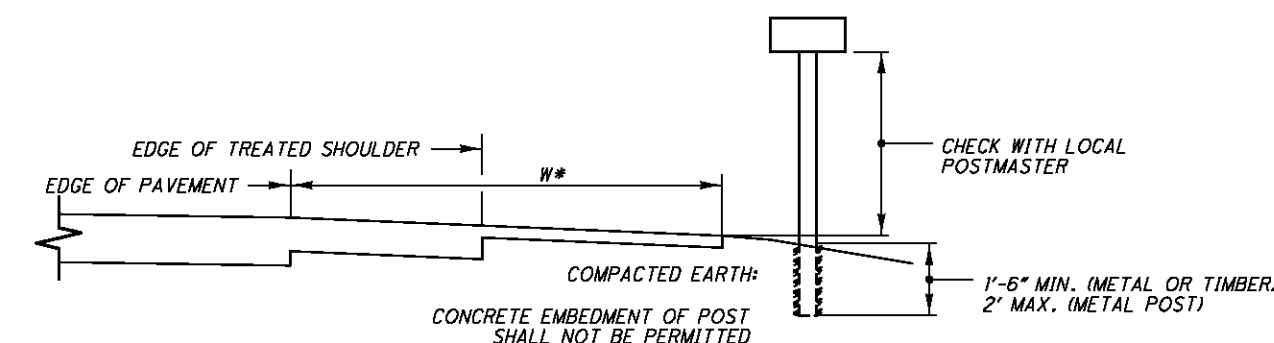
GROUP MAILBOX INSTALLATION

W* NOTES

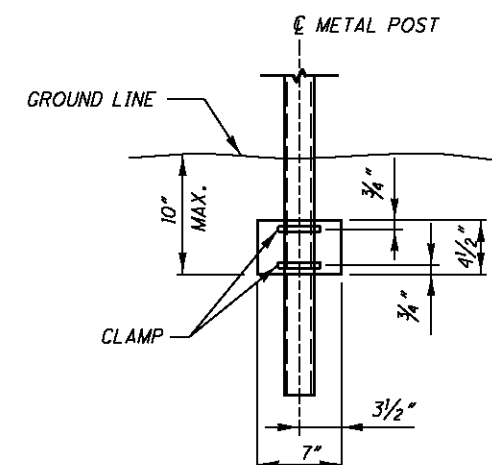
- 1) WHERE EXISTING STANDARD MAILBOX POSTS ARE BEHIND GUARDRAIL AND ARE TO REMAIN IN PLACE, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL.
- 2) WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT MAXIMUM OR TO FACE OF EXISTING STANDARD MAILBOX IF IT IS LESS THAN 6 FT.
- 3) IF THE MAILBOX SUPPORT IS SPECIFIED TO BE REMOVED AND REERECTED OR REPLACED, WHERE GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL EXTEND TO FACE OF GUARDRAIL AND MAILBOX SHALL BE INSTALLED BEHIND THE GUARDRAIL.
- 4) IF THE MAILBOX SUPPORT IS SPECIFIED TO BE REMOVED AND REERECTED OR REPLACED, WHERE NO GUARDRAIL IS REQUIRED, TURNOUT WIDTH SHALL BE 6 FT. MAXIMUM.

**** NOTE**

- 1) 6 FT FOR ONE MAILBOX SUPPORT, ADD 3 FT. FOR EACH ADDITIONAL MAILBOX SUPPORT.



CROSS SECTION / ELEVATION VIEW



ANTI-TWIST PLATE

DESIGN FILE: \\projects\roadway\sheet\BB764\roadway\sheet\BB764.dgn MODELNAME: Sheet
WORKSTATION: salay DATE: 19/24/2014

DESIGN FILE: \\projects\BB764\roadway\streets\BB764CG001.dgn
 WORKSTATION:salay DATE:9/24/2014 MODELNAME: Design

SHEET NUMBER						PARTICIPATION				ALT (X)	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	8	11	12	15	01/NHS/P V	02/NHS/B R	03/S<2/B R	04/S<2/PV								
														ROADWAY		
				546				546		202	30000	546	SF	WALK REMOVED		
				73				73		202	30001	73	SF	WALK REMOVED, AS PER PLAN	12	
				10				10		202	32000	10	FT	CURB REMOVED		
					1187.5	1187.5				202	38000	1187.5	FT	GUARDRAIL REMOVED		
					6	6				202	42000	6	EACH	ANCHOR ASSEMBLY REMOVED, TYPE A		
					6	6				202	42010	6	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E		
					2	2				202	42040	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE T		
					8	8				202	47000	8	EACH	BRIDGE TERMINAL ASSEMBLY REMOVED		
					110	110				203	20001	110	CY	EMBANKMENT, AS PER PLAN	14	
					19.33	19.33				209	15000	19.33	STA	RESHAPING UNDER GUARDRAIL		
			8.3			8.3				209	72051	8.3	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	4	
		3						3		209	80000	3	EACH	GRADING MAILBOX APPROACHES		
					450	450				606	15050	450	FT	GUARDRAIL, TYPE MGS		
					587.5	587.5				606	15100	587.5	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS		
					50	50				606	17000	50	FT	RAISING TYPE 5 GUARDRAIL		
					2	2				606	26100	2	EACH	ANCHOR ASSEMBLY, TYPE E		
					10	10				606	26150	10	EACH	ANCHOR ASSEMBLY, MGS TYPE E		
					8	8				606	35140	8	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4		
					2	2				606	26550	2	EACH	ANCHOR ASSEMBLY, MGS TYPE T		
					73			73		608	52010	73	SF	CURB RAMP, TYPE A1		
					539			539		608	52020	539	SF	CURB RAMP, TYPE A2		
					16			16		608	53020	16	SF	DETECTABLE WARNING		
			6			6				623	39500	6	EACH	MONUMENT BOX ADJUSTED TO GRADE		
		7				7				SPECIAL	69050100	7	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	8	
		4				4				SPECIAL	69050200	4	EACH	MAILBOX SUPPORT SYSTEM, DOUBLE	8	
														DRAINAGE		
			13					13		611	98630	13	EACH	CATCH BASIN ADJUSTED TO GRADE		
			36			12		24		611	99654	36	EACH	MANHOLE ADJUSTED TO GRADE		
														PAVEMENT		
335						254		81		251	01010	335	CY	PARTIAL DEPTH PAVEMENT REPAIR		
125						100		25		253	02000	125	CY	PAVEMENT REPAIR		
			106599			88633		17966		254	01000	106599	SY	PAVEMENT PLANING, ASPHALT CONCRETE		
			1066			886		180		254	01600	1066	SY	PATCHING PLANED SURFACE		
			8422			7015		1407		407	10000	8422	GAL	TACK COAT		
				3824		3824				442	00201	3824	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN	6	
				1329				1329		442	10501	1329	CY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (448), AS PER PLAN	6	
		6		441		408		39		617	10100	447	CY	COMPACTED AGGREGATE		
				8.3		8.3				618	41000	8.3	MILE	EDGE LINE, RUMBLE STRIPE (ASPHALT CONCRETE)		

CALCULATED GTS CHECKED KRB
GENERAL SUMMARY
 ERI-6-11.25
 HUR-547-7.13
 9
 33

DESIGN FILE: \\projects\BB764\roadway\streets\BB764CG001.dgn
 WORKSTATION:salay DATE:9/24/2014 MODELNAME: Design

SHEET NUMBER							PARTICIPATION				ALT (X)	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	15	20	22	24	31	01/NHS/P V	02/NHS/B R	03/S<2/B R	04/S<2/PV								
				187.5			187.5				202	38603	187.5	FT	STRUCTURE 20 FOOT SPAN AND OVER (ERI-6-1240)		
				310			310				254	01000	310	SY	BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN	25	
				25			25				407	10000	25	GAL	PAVEMENT PLANING, ASPHALT CONCRETE		
				84			84				409	30001	84	FT	TACK COAT		
				13			13				442	00201	13	CY	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, AS PER PLAN	25	
				26			26				512	10100	26	SY	ASPHALT CONCRETE SURFACE COURSE, 9.5 MM, TYPE A (446), AS PER PLAN	6	
				26			26				512	74000	26	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
															REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES		
															STRUCTURE 20 FOOT SPAN AND OVER (ERI-6-1498)		
				247			247				257	10000	247	SY	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT		
				771			771				512	10100	771	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)		
				253			253				512	10300	253	SY	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN		
				725			725				512	74000	725	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES		
				89			89				516	31000	89	FT	JOINT SEALER		
															STRUCTURE 20 FOOT SPAN AND OVER (HUR-547-725)		
				2				2			202	11301	2	CY	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	25	
				1				1			511	32210	1	CY	CLASS QC2 CONCRETE, SUPERSTRUCTURE(REPAIR)		
				1				1			511	53012	1	CY	CLASS QC2 CONCRETE, MISC.:APPROACH SLAB REPAIR		
				84			84				516	31000	84	FT	JOINT SEALER		
											614	11000	LS		MAINTAINING TRAFFIC		
											619	16010	3	MNTH	FIELD OFFICE, TYPE B		
											623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING		
											624	10000	LS		MOBILIZATION		

CALCULATED GTS CHECKED KRB
GENERAL SUMMARY
 ERI-6-11.25
 HUR-547-7.13
 10A
 33

FUNDING	COUNTY	ROUTE	LOG POINT TO LOG POINT		LENGTH		WIDTH FEET AVG.	TYPICAL	PAVEMENT AREA	254		407	442			618	611		623	209	AGGREGATE SHOULDER PROPOSED WIDTH		AGGREGATE SHOULDER AREA		617	
			STRAIGHT LINE MILEAGE	MILE	FEET	SY				GALLON	INCH	CY	CY	INCH	CY	MILE	EACH	FT	SY		CY	SL	SR	1.5	INCHES	AVE. THICKNESS
01/NHS/PV	ERI	6	11.25	11.50	0.25	1320	31.5	1	4,620	4,620	46	370	1.5	193	7.13					0.5	2	2	587	24		
01/NHS/PV			11.50	12.00	0.50	2640	29.5	1	8,653	8,653	87	692	1.5	361	14.26					1.00	2	2	1,173	49		
01/NHS/PV			12.00	12.40	0.40	2112	29.5	1	6,923	6,923	69	554	1.5	288	11.41		12		1	0.8	2	2	939	39		
02/NHS/BR																										
STRUCTURE ERI - 6 - 12.40 (SFN 2201674)(ASPHALT)(REF WORK SHT 27)																										
01/NHS/PV			12.40	12.50	0.10	528	29.5	1	1,731	1,731	17	138	1.5	72	2.85				1	0.2	2	2	235	10		
01/NHS/PV			12.50	13.00	0.50	2640	29.5	1	8,653	8,653	87	692	1.5	361	14.26					1.00	2	2	1,173	49		
01/NHS/PV			13.00	13.25	0.25	1320	29.0	1	4,253	4,253	43	340	1.5	177	7.13					0.5	2	2	587	24		
01/NHS/PV			13.25	13.50	0.25	1320	48.0	1	7,040	7,040	70	563	1.5	293	7.13					0.5	2	2	587	24		
01/NHS/PV			13.50	14.00	0.50	2640	30.5	1	8,947	8,947	89	716	1.5	373	14.26					1.00	2	2	1,173	49		
01/NHS/PV			14.00	14.50	0.50	2640	32.5	1	9,533	9,533	95	763	1.5	397	14.26				2	1.00	2	2	1,173	49		
01/NHS/PV			14.50	14.98	0.48	2534	31.67	1	8,917	8,917	89	713	1.5	372	13.69				1	0.96	2	2	1,126	47		
02/NHS/BR																										
STRUCTURE ERI - 6 - 14.98 (SFN 2201739)(CONCRETE)(REF WORK SHT 28)																										
01/NHS/PV			14.98	15.08	0.10	528	37.0	1	2,171	2,171	22	174	1.5	90	2.85				1	0.2	2	2	235	10		
01/NHS/PV			15.08	15.16	0.08	422	41.0	2	1,922	1,922	19	154	1.5	80	2.28											
01/NHS/PV			15.16	15.23	0.07	370	60.0	2	2,467	2,467	25	197	1.5	103	2.00											
01/NHS/PV			15.23	15.32	0.09	475	85.0	1	4,486	4,486	45	359	1.5	187	2.57					0.18	2	2	211	9		
02/NHS/BR																										
STRUCTURE ERI - 6 - 15.43 (SFN 2201836)(CONCRETE)(NO WORK)																										
01/NHS/PV			15.32	15.55	0.23	1214	60.0	1	8,093	8,093	81	647	1.5	337	6.56					0.46	2	2	540	22		
04/S<2/PV																										
STRUCTURE HUR - 547 - 7.25 (SFN 3904326)(CONCRETE)(REF WORK SHT 30)																										
04/S<2/PV	HUR	547	7.13	7.24	0.11	581	27.25	1	1,759	1,759	18	141			1.5	147						2	2	258	11	
03/S<2/BR																										
RAILROAD CROSSING WHEELING & LAKE ERIE (SLM 7.470)																										
04/S<2/PV			7.24	7.47	0.23	1214	27.25	1	3,676	3,676	37	294			1.5	630						2	2	540	22	
RAILROAD CROSSING WHEELING & LAKE ERIE (SLM 7.840)																										
04/S<2/PV			7.47	7.84	0.37	1954	25.00	3	5,428	5,428	54	434			1.5	226										
04/S<2/PV			7.84	8.00	0.16	845	25.00	3	2,347	2,347	23	188			1.5	98			24	13						
04/S<2/PV			8.00	8.18	0.18	950	37.50	3	3,958	3,958	40	317			1.5	165										
ERI 6 11.25 TO 15.55																										
01/NHS/PV			EXTRA AREA FOR INTERSECTIONS						1452	1452	15	58	1.5	61												
01/NHS/PV			EXTRA AREA FOR PAVED DRIVEWAYS						594	594	6	24	1.5	25												
01/NHS/PV			EXTRA AREA FOR AGGREGATE DRIVEWAYS						171		7	1.5	7									2	2	76	3	
01/NHS/PV			EXTRA AREA FOR EX. & PR. MAILBOX APPROACHS																							
01/NHS/PV			DEDUCT FOR BRG. ERI-6-15.43						-1,822	-1,822	-18	-146	1.5	-76												
HUR 547 7.13 TO 8.18																										
04/S<2/PV			EXTRA AREA FOR INTERSECTIONS						723	723	7	29			1.5	30										
04/S<2/PV			EXTRA AREA FOR PAVED DRIVEWAYS						45	45	0.45	2			1.5	2										
04/S<2/PV			EXTRA AREA FOR AGGREGATE DRIVEWAYS						9		1				1.5							2	2	4	0	
04/S<2/PV			EXTRA AREA FOR EX. & PR. MAILBOX APPROACHS						30	30	0.30	1			1.5	1										
01/NHS/PV																										
SUB-TOTALS																										
04/S<2/PV																										
SUB-TOTALS																										
TOTALS																										

PAVEMENT & SHOULDER DATA

ERI-6-11.25
HUR-547-7.13

LOCATION	202		202		202		608		608		608		608		609	
	WALK REMOVED		WALK REMOVED, AS PER PLAN		CURB REMOVED		4" CONCRETE WALK		CURB RAMP, TYPE A1		CURB RAMP, TYPE A2		DETECTABLE WARNING		CURB, TYPE 6	
	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH	NORTH	SOUTH
	SQ FT		SQ FT		FT		SQ FT		SQ FT		SQ FT		SQ FT		FT	
WHEELING & LAKE ERIE RAILWAY	40	40									45	45				
HURON RIVER JOINT FIRE STATION	73	47									49	51	16			
BAKER STREET	55		40		5						60					
CHAPEL STREET	74				5						77	54				
BROWN/ PRENTISS STREET	77	57	33						42	31	39	30				
FULTON/ JACKSON STREET	46	37									48	41				
TOTAL: (04/S(2/PV)	546		73		10				73		539		16			

NOTES:
 FOR ADDITIONAL DETAILS, SEE SCD BP-7.1, NEW CURB RAMPS.
 AREAS CALCULATED ARE FOR ESTIMATING PURPOSES ONLY. ACTUAL AREAS SHALL BE VERIFIED BY THE PROJECT ENGINEER.
 ALL QUANTITIES CARRIED TO THE GENERAL SUMMARY SHEET.

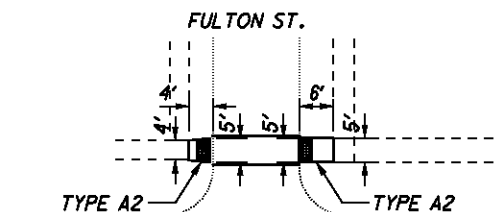
ITEM 202 - WALK REMOVED, AS PER PLAN
 ITEM 202 IS INTENDED TO REMOVE THE EXISTING WALK.
 PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT,
 EMBANKMENT, GRADING, SEEDING, AND MATERIAL
 NECESSARY TO REMOVE AND PERFORM THE ABOVE LISTED
 ITEMS.

DESIGN FILE: \\projects\BB764\roadway\sheets\BB764CM002.dgn
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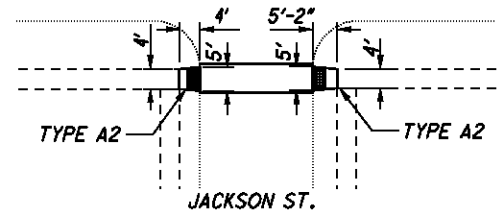
CURB RAMP DETAILS

ERI-6-11.25
 HUR-547-7.13

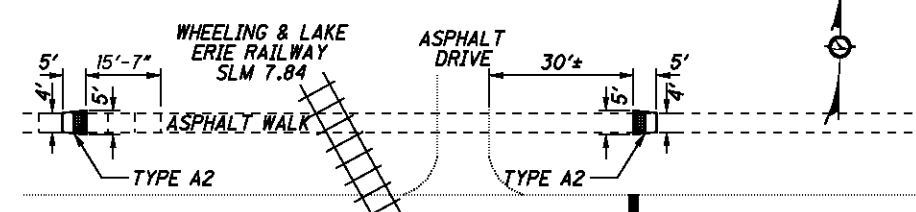
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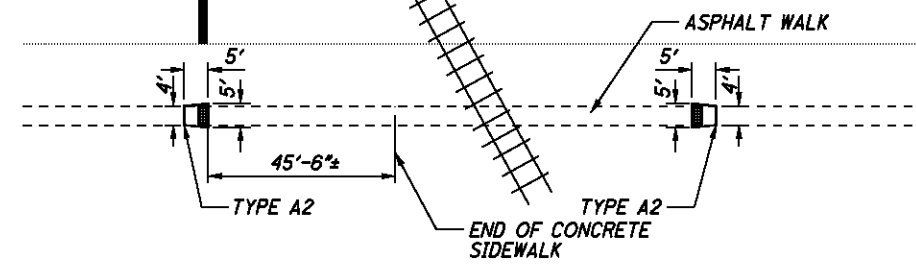
SR 547



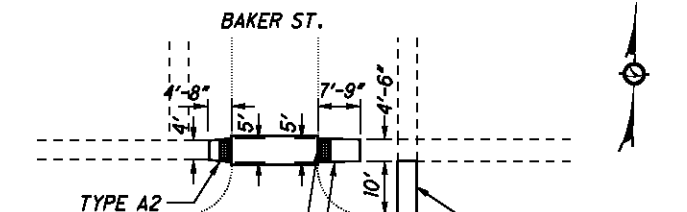
JACKSON ST.



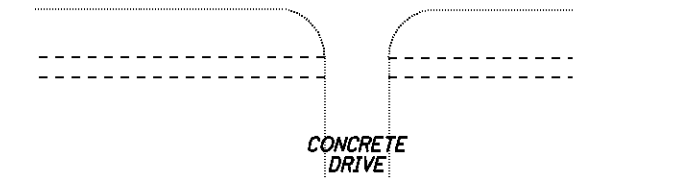
SR 547



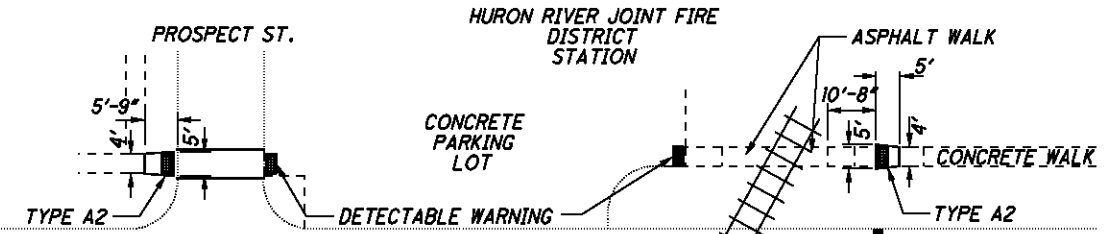
END OF CONCRETE SIDEWALK



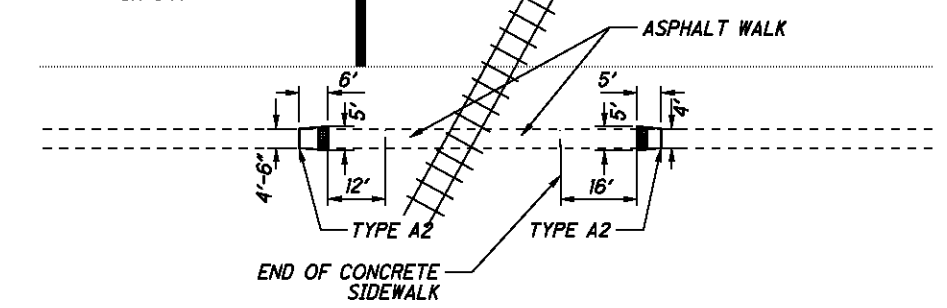
SR 547



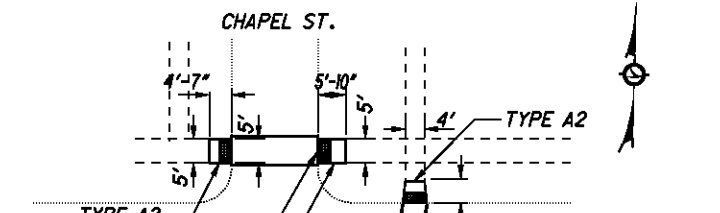
CONCRETE DRIVE



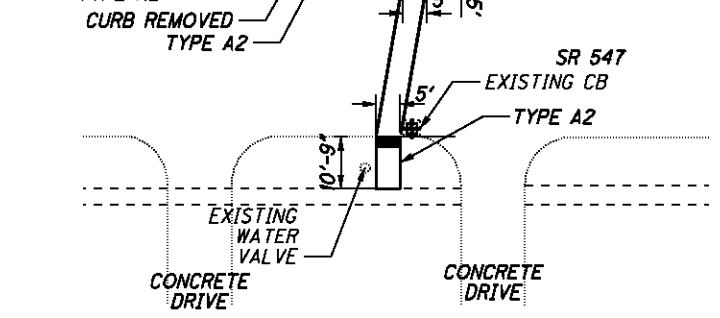
SR 547



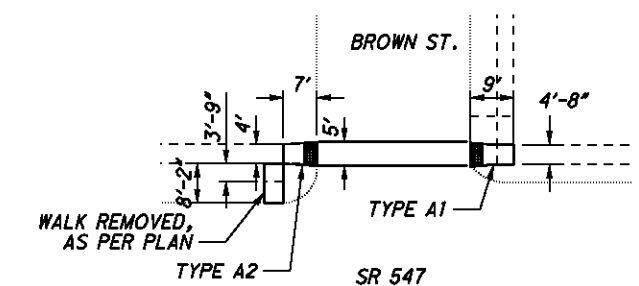
END OF CONCRETE SIDEWALK



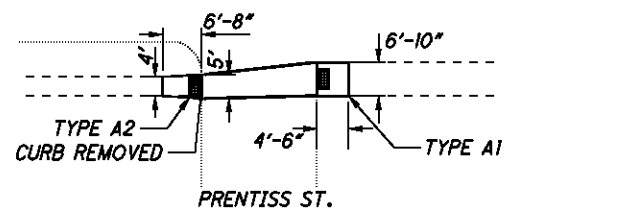
SR 547



EXISTING WATER VALVE



SR 547



PRENTISS ST.

CALCULATED GTS
 CHECKED KRB
 10 HORIZONTAL SCALE IN FEET

CURB RAMP DETAILS

ERI-6-11.25
 HUR-547-7.13

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.

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.

SUGGESTED SEQUENCE OF GUARDRAIL WORK

1. GUARDRAIL WORK IS TO BEGIN AFTER THE 617 MATERIAL IS PLACED.
2. REMOVE THE GUARDRAIL.
3. PERFORM THE RESHAPING UNDER GUARDRAIL INCLUDING COMPLETING THE EMBANKMENT, AS PER PLAN.
4. REBUILD/CONSTRUCT THE GUARDRAIL RUN.
5. INSTALL BARRIER REFLECTORS.

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.

BRIDGE LOCATION MARKER SIGN

THE BRIDGE LOCATION MARKER SIGN INDICATES THE COUNTY, THE ROUTE, AND THE STRAIGHT 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:

- ITEM 630 GROUND MOUNTED SUPPORT, NO. 3 POST
- ITEM 630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
- ITEM 630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL

SEE ROADWAY SUB-SUMMARY SHEET FOR QUANTITIES

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 STRUCTURAL INTEGRITY OF THE ROADWAY SHOULDER.

AREAS WHERE EMBANKMENT MATERIAL IS TO BE PLACED SHALL BE SCALPED. THE REQUIREMENTS FOR BENCHING SHALL BE WAIVED. THE DEPTH OF LAYERS IN WHICH THE EMBANKMENT IS 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 OF 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 BY THE NUMBER OF CUBIC YARDS MEASURED BY LOOSE VOLUME IN THE CARRIER AT THE WORK SITE, IN LIEU OF THE REQUIREMENTS OF 203.09. 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.

ITEM 209 - RESHAPING UNDER GUARDRAIL

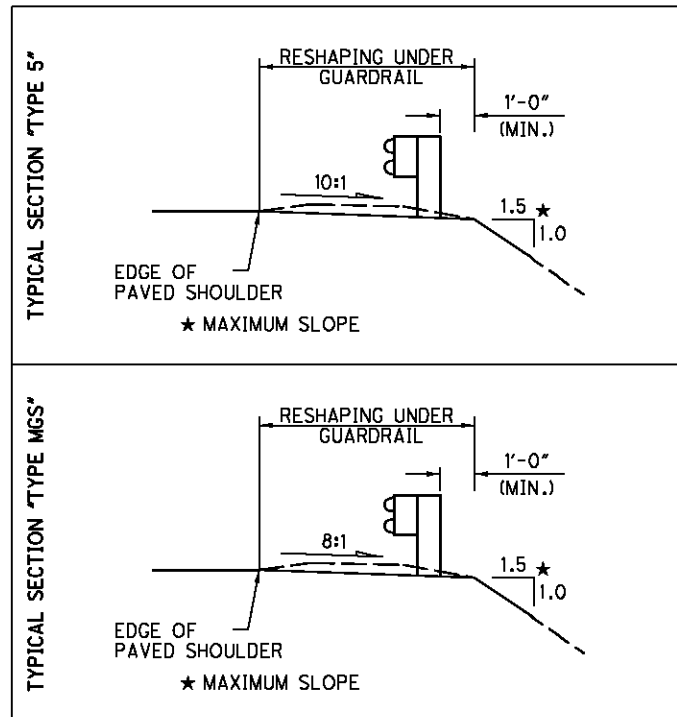
THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLANS.

THIS WORK SHALL BE COMPLETED AT LOCATIONS SPECIFIED FOR WORK AS WELL 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, UNDER, AND BEHIND THE GUARDRAIL SHALL BE GRADED AND RESHAPED TO PROVIDE AN AREA THAT HAS A SLOPE OF 10:1 MAXIMUM (SEE DETAIL BELOW AS WELL AS THE GUARDRAIL DETAIL SHEETS FOR FURTHER DETAILS AND INFORMATION OF THE LIMITS OF THIS WORK).

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 AND BERM WORK HAS BEEN COMPLETED.

THE ABOVE WORK SHALL BE PAID FOR PER STATION 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 - RAISING TYPE 5 GUARDRAIL

WHERE DESIGNATED ON THE PLAN, THE EXISTING TYPE 5 GUARDRAIL SHALL BE RAISED ON THE EXISTING WOOD POSTS AS PER PLAN INSERT SHEET GR-2.1 SO AS TO OBTAIN THE STANDARD 29 IN. HEIGHT. THE RAIL SHALL BE RE-ATTACHED TO THE POSTS USING NEW POST BOLTS.

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 THE 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.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER FOOT OF ITEM 606 - RAISING TYPE 5 GUARDRAIL, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

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.

THE CONTRACTOR MAY USE A SALVAGED EXTRUDER WHEN ASSEMBLING THE ITEM 606 ANCHOR ASSEMBLY, TYPE E. 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 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 3/4 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 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 - ANCHOR ASSEMBLY, MGS TYPE E

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.

THE CONTRACTOR MAY USE A SALVAGED EXTRUDER WHEN ASSEMBLING THE ITEM 606 ANCHOR ASSEMBLY, TYPE E. 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 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 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.

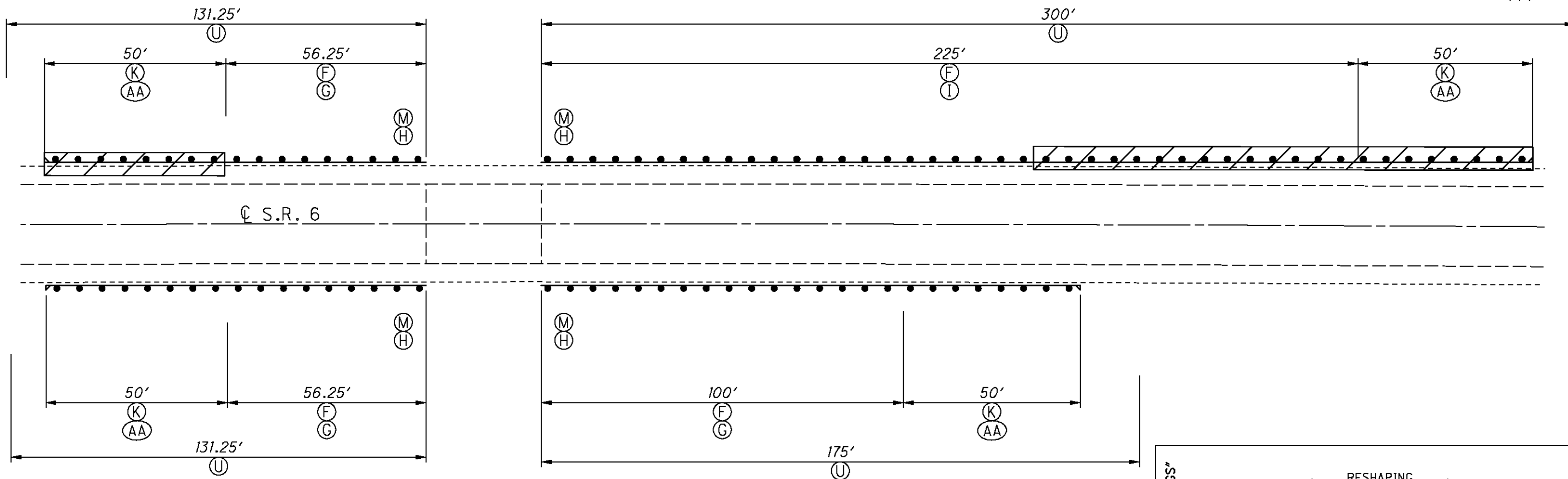
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MODELNAME: Design
DATE: 8/29/2014
WORKSTATION: salay

CALCULATED
GTS
CHECKED
KRB

GUARDRAIL GENERAL NOTES

ERI-6-11.25
HUR-547-7.13

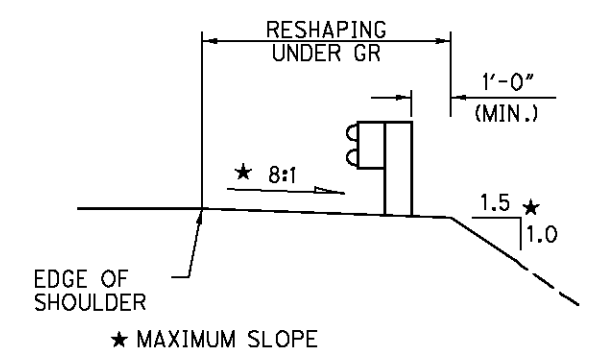
SHEET	LOCATION	202	202	202	202	202	202	202	203	209	606	606	606	606	606	606	606	606	606	606	606	606	626	630	630	630
		GUARDRAIL REMOVED FT	GUARDRAIL REMOVED FOR REUSE FT	GUARDRAIL REMOVED FOR REUSE, AS PER PLAN FT	ANCHOR ASSEMBLY REMOVED, TYPE A EACH	ANCHOR ASSEMBLY REMOVED, TYPE T EACH	ANCHOR ASSEMBLY REMOVED, TYPE E EACH	BRIDGE TERMINAL ASSEMBLY REMOVED EACH	EMBANKMENT, AS PER PLAN CU YD	RESHAPING UNDER GUARDRAIL STATION	GUARDRAIL, TYPE 5 FT	GUARDRAIL, TYPE 5, USING 9' POSTS FT	GUARDRAIL, TYPE MGS FT	GUARDRAIL, TYPE MGS WITH LONG POSTS FT	GUARDRAIL REBUILT, TYPE 5, USING 9 FOOT POSTS FT	GUARDRAIL REBUILT, TYPE 5 FT	BRIDGE TERMINAL ASSEMBLY, TYPE 4 EACH	ANCHOR ASSEMBLY, TYPE A EACH	ANCHOR ASSEMBLY, TYPE E EACH	ANCHOR ASSEMBLY, MGS TYPE E EACH	ANCHOR ASSEMBLY, MGS TYPE T EACH	RAISING TYPE 5 GUARDRAIL FT	BARRIER REFLECTOR EACH	GROUND MOUNTED SUPPORT, NO. 3 POST EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH
16	ERI - 6 - 12.40	437.5				4	4	40	7.37			212.5	225		4				4				13	7	1	1
17	ERI - 6 - 13.75	187.5			2			10	2.88				137.5						2				4			
18	ERI - 6 - 14.21	87.5				2	2		2.33			87.5						2		2	50	6				
19	ERI - 6 - 14.98	475			4		4	60	6.75			150	225		4				4				14	7	1	1
TOTALS CARRIED TO GENERAL SUMMARY (01/NHS/PV)		1187.5			6	2	6	8	110	19.33		450	587.5		8			2	10	2	50	37	14	2	2	



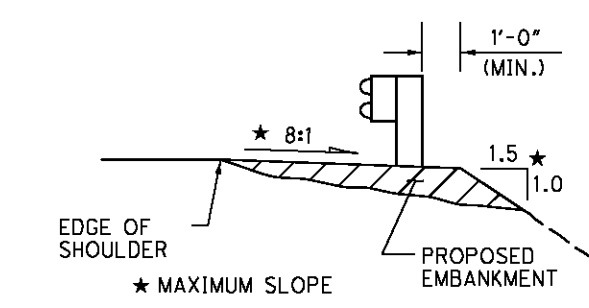
LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
			FT	281.25	156.25	437.5
(F)	202	GUARDRAIL REMOVED	FT	281.25	156.25	437.5
(K)	202	ANCHOR ASSEMBLY REMOVED, TYPE E	EACH	2	2	4
(M)	202	BRIDGE TERMINAL ASSEMBLY REMOVED	EACH	2	2	4
(H)	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	2	2	4
(Hatched)	203	EMBANKMENT, AS PER PLAN	CU YD	40		40
(U)	209	RESHAPING UNDER GUARDRAIL	STA	4.31	3.06	7.37
(G)	606	GUARDRAIL, TYPE MGS	FT	56.25	156.25	212.5
(I)	606	GUARDRAIL, TYPE MGS WITH LONG POSTS	FT	225		225
(AA)	606	ANCHOR ASSEMBLY, MGS TYPE E	EACH	2	2	4
	626	BARRIER REFLECTOR	EACH	7	6	13
	630	GROUND MOUNTED SUPPORT, NO. 3 POST	FT		7	7
	630	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	EACH		1	1
	630	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	EACH		1	1

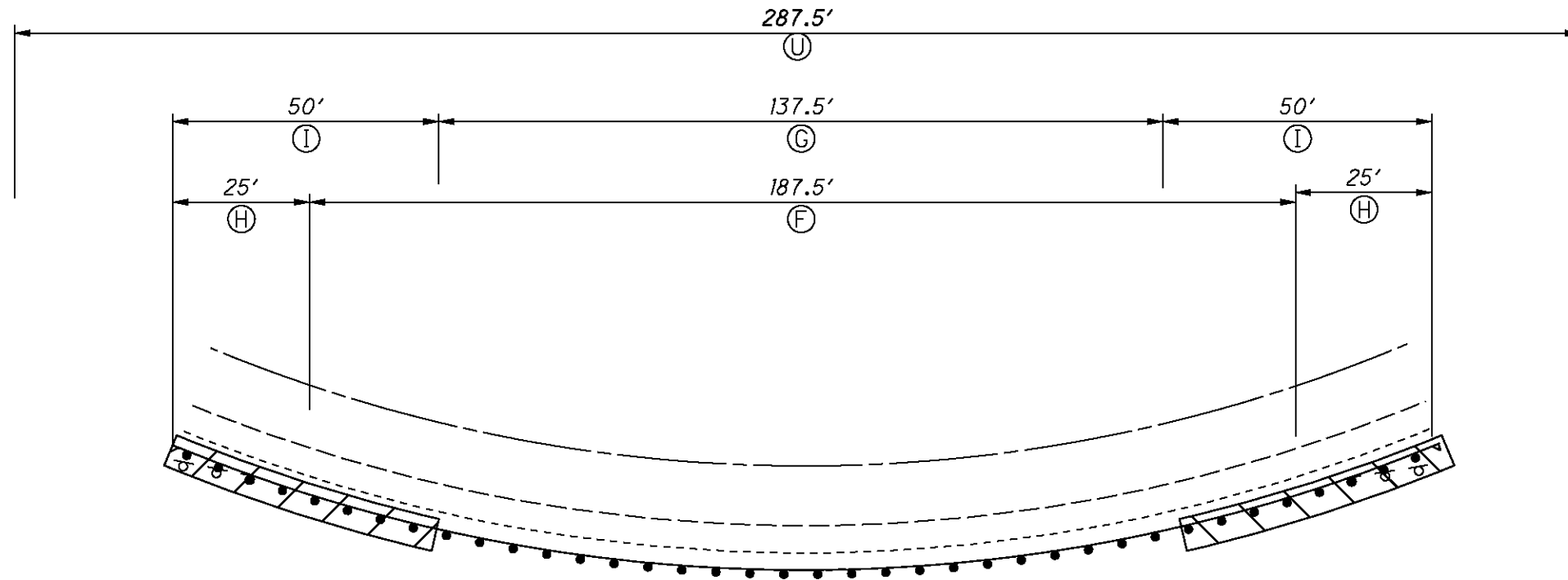
ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY

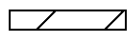
TYPICAL SECTION "TYPE MGS"



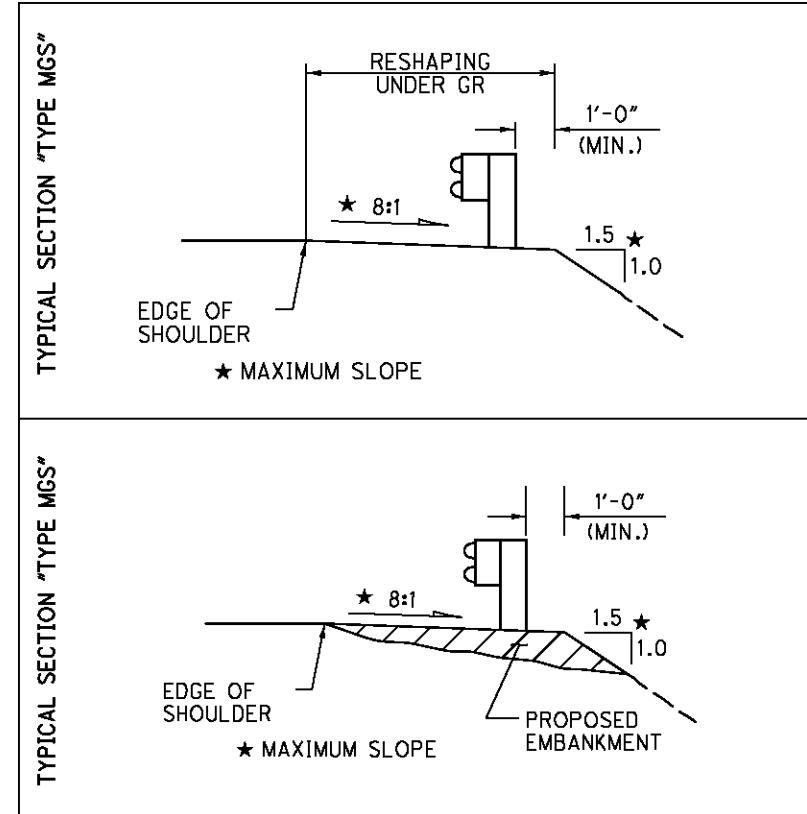
TYPICAL SECTION "TYPE MGS"

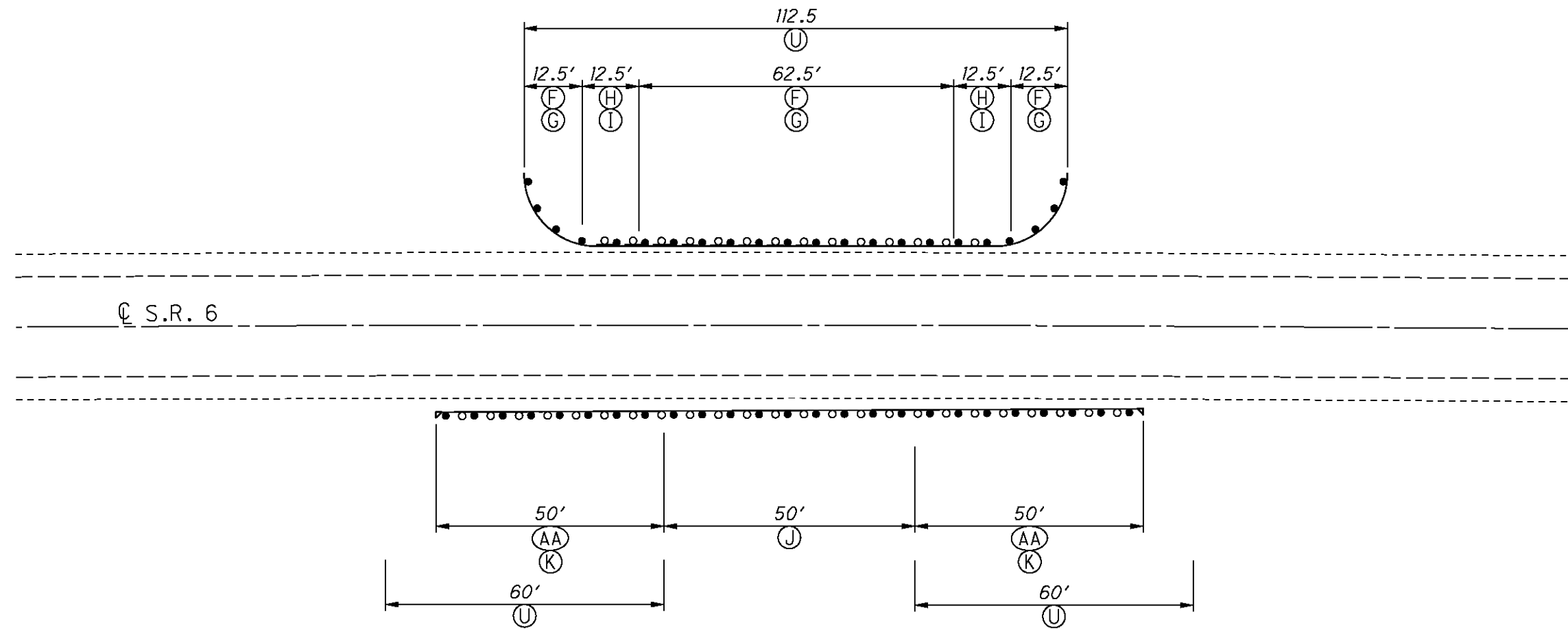




LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
ⓕ	202	GUARDRAIL REMOVED	FT		187.5	187.5
ⓓ	202	ANCHOR ASSEMBLY REMOVED , TYPE A	EACH		2	2
	203	EMBANKMENT, AS PER PLAN	CU YD		10	10
Ⓤ	209	RESHAPING UNDER GUARDRAIL	STA		2.88	2.88
ⓐ	606	GUARDRAIL TYPE, MGS WITH LONG POSTS	FT		137.5	137.5
ⓐ	606	ANCHOR ASSEMBLY, MGS TYPE E	EACH		2	2
ⓐⓐ	626	BARRIER REFLECTOR	EACH		4	4

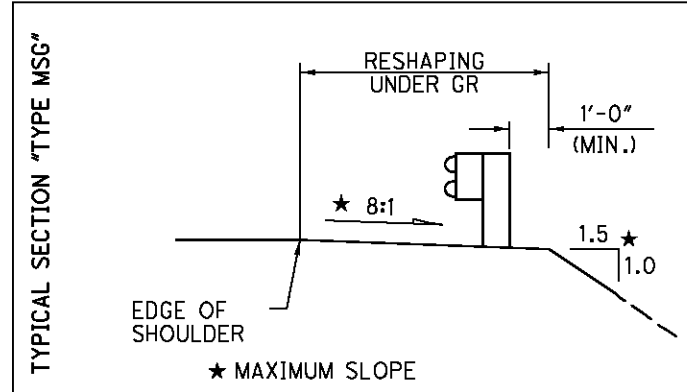
ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY.



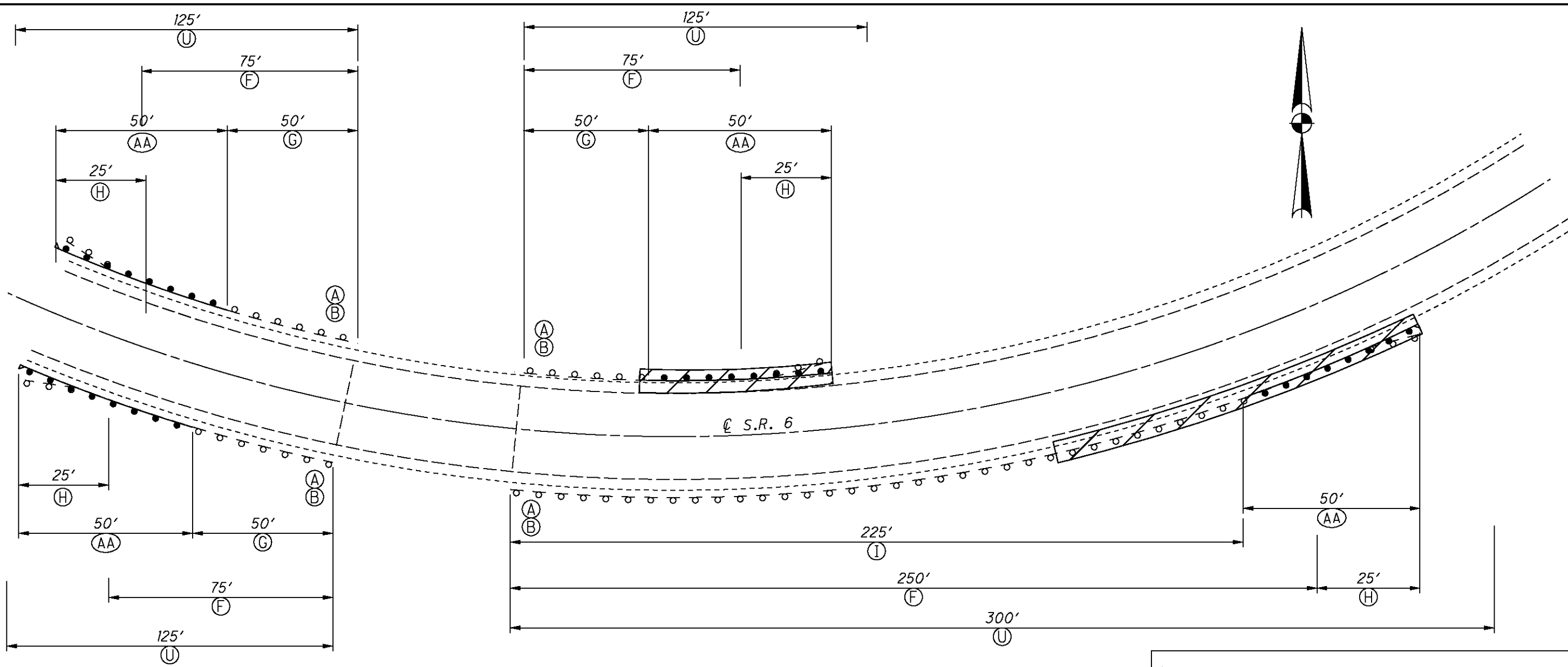


LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
ⓕ	202	GUARDRAIL REMOVED	FT	87.5		87.5
Ⓚ	202	ANCHOR ASSEMBLY REMOVED , TYPE E	EACH		2	2
ⓗ	203	ANCHOR ASSEMBLY REMOVED , TYPE T	EACH	2		2
Ⓤ	209	RESHAPING UNDER GUARDRAIL	STA	1.125	1.20	2.325
ⓐ	606	GUARDRAIL, TYPE MGS	FT	87.5		87.5
Ⓢ	605	ANCHOR ASSEMBLY, MGS TYPE T	EACH	2		2
Ⓜ	606	ANCHOR ASSEMBLY, TYPE E	EACH		2	2
Ⓝ	606	RAISING TYPE 5 GUARDRAIL	FT		50	50
	626	BARRIER REFLECTOR	EACH	3	3	6

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY

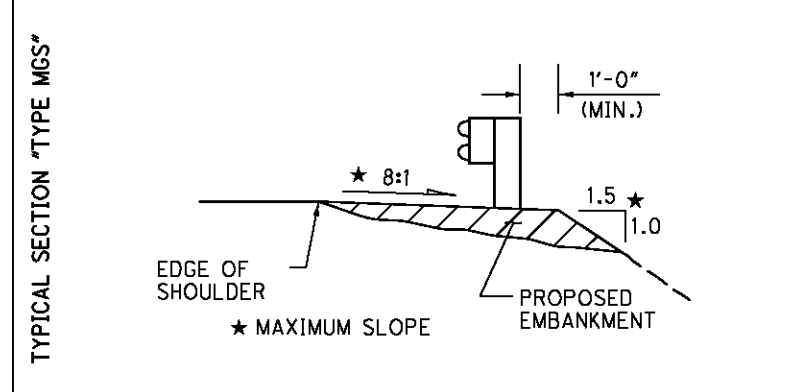
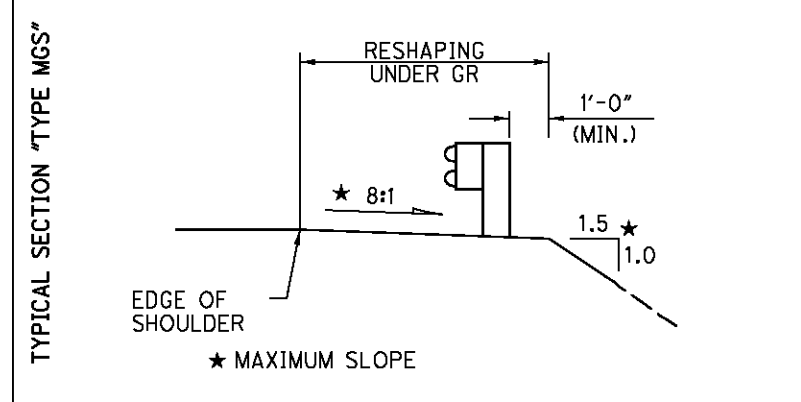


TYPICAL SECTION "TYPE MSG"



LOCATION	ITEM	DESCRIPTION	UNIT	QUANTITY		TOTAL
				LEFT	RIGHT	
(A)	202	BRIDGE TERMINAL ASSEMBLY REMOVED	EACH	2	2	4
(B)	606	BRIDGE TERMINAL ASSEMBLY, TYPE 4	EACH	2	2	4
(F)	202	GUARDRAIL REMOVED	FT	150	325	475
(H)	202	ANCHOR ASSEMBLY REMOVED, TYPE A	EACH	2	2	4
(U)	209	RESHAPING UNDER GUARDRAIL	STA	2.5	4.25	6.75
(G)	606	GUARDRAIL, TYPE MGS	FT	100	50	150
(I)	606	GUARDRAIL, TYPE MGS WITH LONG POSTS	FT		225	225
(AA)	606	ANCHOR ASSEMBLY, MGS TYPE E	EACH	2	2	4
	626	BARRIER REFLECTOR	EACH	6	8	14
	630	GROUND MOUNTED SUPPORT, NO. 3 POST	FT		7	7
	630	REMOVAL OF GROUND MOUNTED SIGH AND REERECTION	EACH		1	1
	630	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	EACH		1	1

ALL QUANTITIES CARRIED TO THE GUARDRAIL SUB-SUMMARY



DESIGN FILE: \\projects\88764\roadway\sheets\88764\CR001.dgn
WORKSTATION: salay
MODELNAME: Design
DATE: 8/29/2014

ROUTE	COUNTY	SLM		HIGHWAY MILES	614				642, TYPE 1				644										646				
					WORK ZONE LANE LINE, CLASS III, 642 PAINT	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	WORK ZONE CHANNELIZING LINE, CLASS III, 642 PAINT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	EDGE LINE		LANE LINE	CENTER LINE		AUXILIARY MARKINGS (740.04)						BIKE CROSSING SYMBOL	RAILROAD SYMBOL MARKING	EDGE LINE, 4"		CENTER LINE		TRANSVERSE/DIAGONAL LINE (WHITE)	TRANSVERSE/DIAGONAL LINE (YELLOW)
									6"	4"		SOLID LINE EQUIVALENT	TOTAL (PAY QUANTITY)	CHANNELIZING LINE	STOP LINE	CROSSWALK LINE	CROSSWALK LINE, AS PER PLAN	TRANSVERSE/DIAGONAL LINE (WHITE)	TRANSVERSE/DIAGONAL LINE (YELLOW)			PARKING LOT STALL MARKING	LANE ARROW				
					9"	24"	12"	LEFT	RIGHT	THROUGH	COMBINATION									SHARED LANE MARKING	MILE		FT				

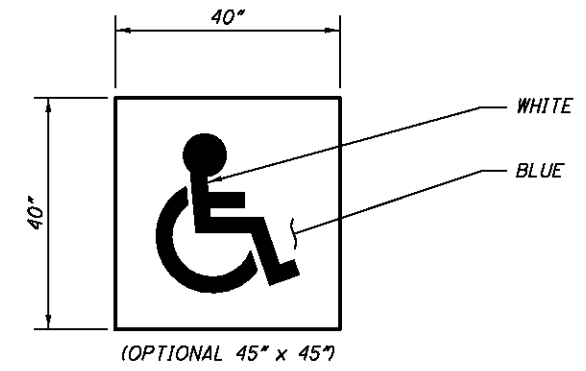
01/NHS/PV																																		
6	ERI	11.25	15.24	3.99		7.98				7.66		5.43	3.99	458	20			1,690		11	5	3		4										
		15.24	15.55	0.31	0.48	0.62	1530	350		0.32	0.24	0.47	0.31	1,029	198	74		1,813	871	5	3	8	5											
ERI-6-1543																										0.14		0.14	0.07	192	132			
04/S<2/PV																																		
547	HUR	7.13	8.18	1.05		2.10				0.68		1.81	1.05		102	627	250								2	4								
TOTAL					0.48	10.70	1,530	350		0.68	7.98	0.24	7.71	5.35	1487	320	701	250	1,813	2,561	752	16	8	11	5	4	2	4	0.14		0.14	0.07	192	132

ROUTE	COUNTY	STATION/SLM		DETAIL	621	621	PRISMATIC RETRO-REFLECTOR TYPES				REMARKS	DETAIL	DESCRIPTION	
					RAISED PAVEMENT MARKER REMOVED	RPM	ONE-WAY	TWO-WAY						
							WHITE	YELLOW / YELLOW	WHITE / RED	YELLOW / RED				BLUE / BLUE
6	ERI	11.22	12.99	8	113	113							1	MULTILANE UNDIVIDED TYPICAL SPACING
		12.99	13.50	15	67	67							2	TAPERED ACCEL. LANE
		13.50	13.63	8	9	9							3	DECELERATION LANE
		13.63	14.01	15	48	48							4	PARALLEL ACCEL LANE
		14.01	14.85	GAP	55	55							5	MULTILANE DIVIDED/EXPRESSWAY
		14.85	14.98	15	16	16							6	STOP APPROACH
		14.98	15.19	GAP	51	51							7	2 LANE APPR. WITH TURN LANE
		15.19	15.39	GAP	32	32							8	THROUGH APPROACH
		15.39	15.52	7	21	21							9	3 LANE APPR. WITH TURN LANE
													10	3 LANE DIVIDED TO 2 LANE TRANSITION
													11	3 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.
													18	FIRE HYDRANT
													GAP	CENTER LINE AT 80 FT. TYP.
														NOTES
														2) WORKZONE STOP BARS SHALL BE PLACED AT THE FOLLOWING INTERSECTIONS: ERI 3 - RYE BEACH RD., CLEVELAND RD. HUR 547 - RIDGE ST.(SR 99), MAIN ST.(SR 20) ALL RR CROSSINGS
01/NHS/PV		TOTAL			412	412								

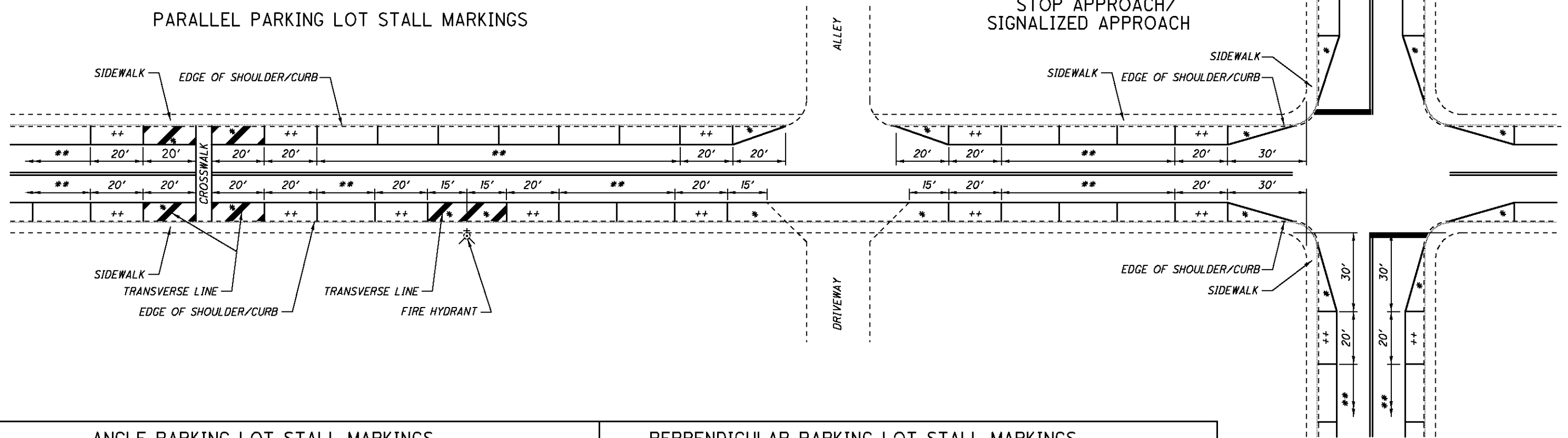
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 WORKSTATION: kslay DATE: 8/29/2014

LEGEND & NOTES

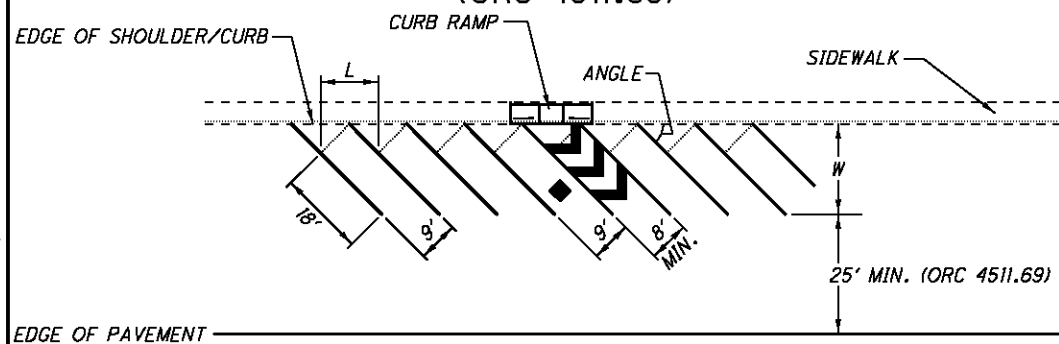
- 1) "**" MINIMUM "NO PARKING ZONE" DISTANCE FROM CROSS STREET, DRIVEWAY, ALLEY, OR FIRE HYDRANT.
- 2) "++" ONE PARKING STALL AT EACH END OF PARALLEL PARKING STALLS SHALL BE 20' IN LENGTH.
- 3) "***" INTERIOR PARKING STALLS, BETWEEN END STALLS, SHALL BE EQUAL IN LENGTH (22' TO 26').
- 4) MAXIMIZE THE NUMBER OF PARKING STALLS DURING INSTALLATION.
- 5) PARALLEL PARKING STALLS SHALL BE 8' WIDE UNLESS OTHERWISE SHOWN.
- 6) WHEEL CHAIR SYMBOL (40" WIDE x 40" HEIGHT), AS SHOWN TO THE RIGHT, SHALL BE MARKED IN ALL DISABILITY PARKING STALLS.
- 7) CURB ALONG "NO PARKING ZONES" SHALL BE PAINTED YELLOW BY CITY OR VILLAGE.



PARALLEL PARKING LOT STALL MARKINGS

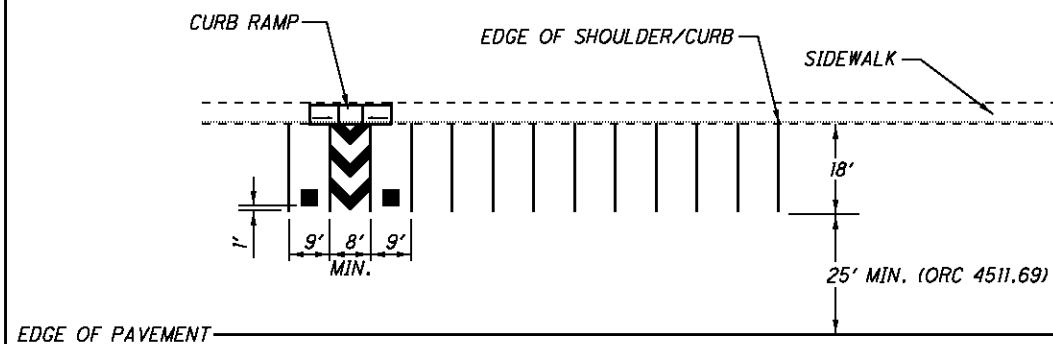


ANGLE PARKING LOT STALL MARKINGS (ORC 4511.69)



30° ANGLE	45° ANGLE	60° ANGLE
L = 17' W = 16.5'	L = 12' W = 18.75'	L = 10' W = 20'

PERPENDICULAR PARKING LOT STALL MARKINGS (ORC 4511.69)



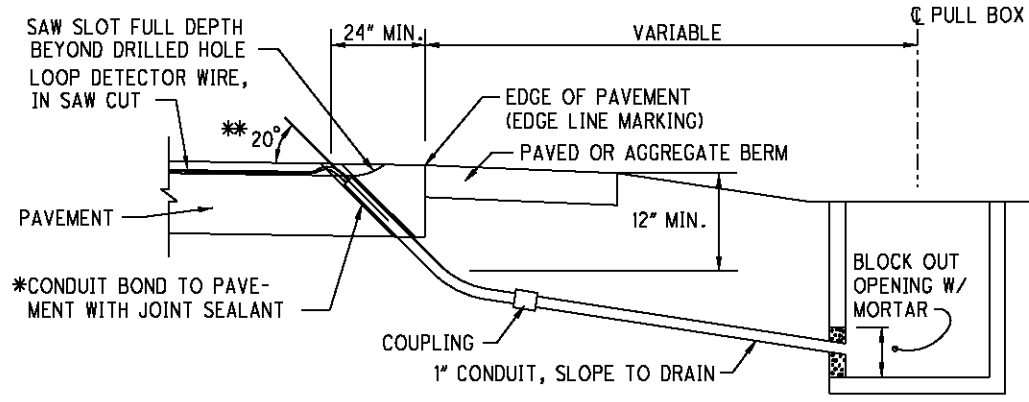
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GTS

CHECKED
KRB

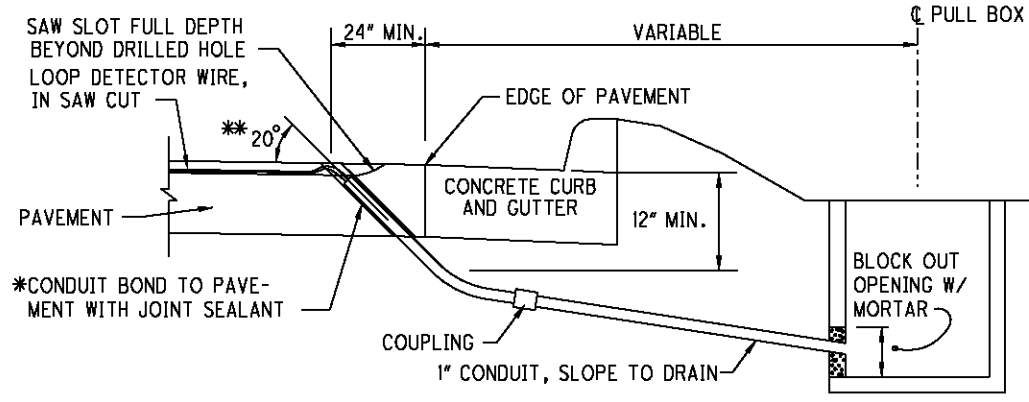
STANDARD PARKING LOT STALL MARKINGS

ERI-6-11.25
HUR-547-7.13

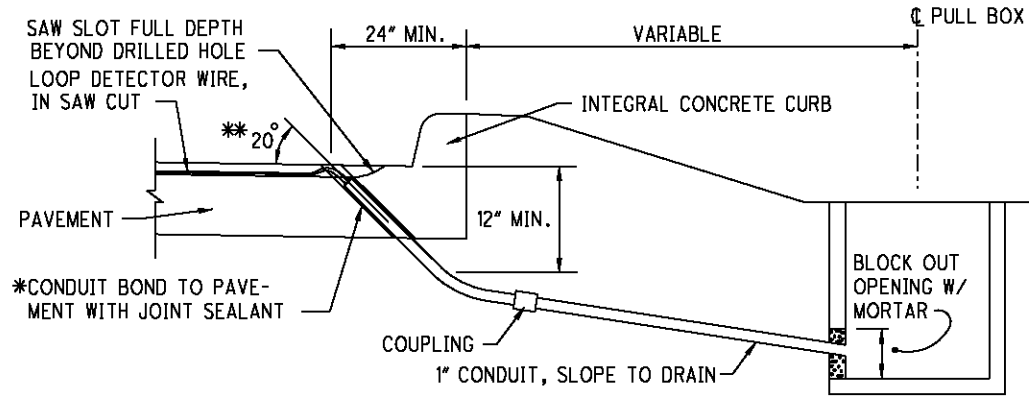
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 WORKSTATION: saicy DATE: 8/29/2014 MODELNAME: Sheet



DRILLED HOLE LOCATION DETAIL WITH PAVED OR AGGREGATE BERM



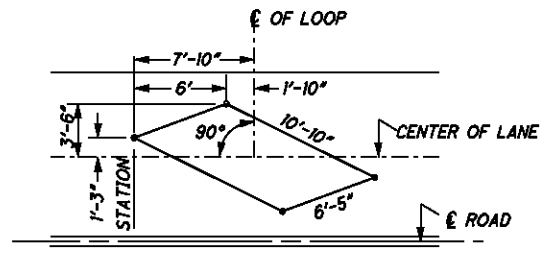
DRILLED HOLE LOCATION DETAIL WITH CONCRETE CURB AND GUTTER



DRILLED HOLE LOCATION DETAIL WITH INTEGRAL CONCRETE CURB

* CONDUIT SHALL BE 1" DIAMETER 725.04.
 ** THE RANGE OF THIS ANGLE SHALL BE FROM 15 TO 30 DEGREES.

NOTE: SEE STANDARD DRAWING TC-82.10 FOR ADDITIONAL NOTES AND DETAILS



ANGULAR DESIGN DETECTION (ADD) LOOP DETAIL FOR LANE WIDTH 11' & LARGER

ITEM 632- DETECTOR LOOP, AS PER PLAN

AN ESTIMATED QUANTITY OF ITEM 632, DETECTOR LOOP, AS PER PLAN, HAS BEEN PROVIDED FOR THE PURPOSE OF REPLACING DAMAGED DETECTOR LOOPS AND/OR UPGRADING DETECTOR LOOPS TO IMPROVE MOTORCYCLE DETECTION. IT IS IMPERATIVE THAT REPLACEMENT OF DETECTOR LOOPS BE INSTALLED AND FULLY FUNCTIONAL IN THE SHORTEST POSSIBLE TIME. THE CONTRACTOR SHALL HAVE REPLACEMENT DETECTOR LOOPS INSTALLED AND FULLY FUNCTIONAL WITHIN 7 CALENDAR DAYS OF DESTRUCTION OF THE EXISTING DETECTOR LOOPS.

THE CONTRACTOR SHALL NOTIFY MATT BLANKENSHIP, ODOT DISTRICT 3 ROADWAY SERVICES MANAGER, (PHONE 419-207-7045) 5 WORKING DAYS IN ADVANCE OF ANY PLANING OPERATIONS OR PAVEMENT REPAIR WORK. THIS NOTIFICATION IS NEEDED FOR DISTRICT 3 TO SCHEDULE TEMPORARY SIGNAL TIMING MODIFICATIONS FOR THE TIME PERIOD WHEN THE DETECTOR LOOPS ARE OUT OF OPERATION. THE CONTRACTOR SHALL THEN RENOTIFY MR. BLANKENSHIP WITHIN 2 WORKING DAYS AFTER THE NEW DETECTOR LOOPS ARE REPLACED SO THAT HE CAN RESCHEDULE DISTRICT CREWS TO RESTORE SIGNAL TIMINGS TO THE ORIGINAL SETTINGS. IN ADDITION, THE CONTRACTOR SHALL ALSO NOTIFY CRAIG DEVORE, ODOT DISTRICT 3 PLANNING AND ENGINEERING DEPT. (PHONE 419-207-7169) WHEN THE NEW LOOPS ARE INSTALLED.

FAILURE TO COMPLY WITH THE ABOVE STATED REQUIREMENTS WILL RESULT IN THE ASSESSMENT OF A DISINCENTIVE FEE OF \$500.00 PER DAY TO THE CONTRACTOR FOR EACH CALENDAR DAY BEYOND THE SPECIFIED LIMIT.

THE NEW DETECTOR LOOPS SHALL BE PLACED PER THE PLAN DETAILS AFTER THE PLANING AND PAVEMENT REPAIR OPERATIONS ARE COMPLETED WITHIN THE AFFECTED AREAS. THE DETECTOR LOOPS SHALL NOT BE CUT INTO THE SURFACE COURSE.

IN ADDITION TO THE REQUIREMENTS OF CMS 632.11, THE CONTRACTOR SHALL PROVIDE A POSITIVE AND EFFECTIVE MEANS FOR REMOVAL OF SOLID RESIDUE RESULTING FROM THE DRY SAW BLADE CUTTING OF LOOP DETECTOR SLOTS IN THE PAVEMENT. THE RESIDUE SHALL BE REMOVED BY VACUUM OR OTHER EFFECTIVE MEANS, BEFORE IT IS BLOWN BY TRAFFIC ACTION OR WIND. RESIDUE FROM DRY CUTTING SHALL NOT BE REMOVED BY COMPRESSED AIR. AS AN ALTERNATE, THE CONTRACTOR MAY USE WET CUTTING.

LOOP DETECTOR WIRE TO LEAD-IN CABLE SPLICES WITHIN EPOXY ENCAPSULATED SPLICE ENCLOSURES SHALL BE JOINED BY AN APPROVED CONNECTOR AND SOLDERED PER CMS 632.23 & 725.15. ALL COSTS ASSOCIATED WITH THE SOLDERED SPLICE CONNECTION AND EPOXY SPLICE KIT SHALL BE INCLUDED WITH THE DETECTOR LOOP.

IF THE PULL BOX IS NOT SPECIFIED IN THE PLANS, THE SPLICE SHALL BE MADE IN THE FIRST ENTERED POLE OR PEDESTAL, EXCEPT WHERE THE CONTROLLER CABINET IS MOUNTED ON THE POLE OR PEDESTAL, IN WHICH CASE THE LOOP WIRES SHALL BE ROUTED DIRECTLY INTO THE CABINET UNLESS SPECIFIED DIFFERENTLY IN THE PLANS. LOOP DETECTOR WIRE ROUTED THROUGH CONDUIT, PULL BOXES, POLES, AND PEDESTALS SHALL BE TWISTED PER CMS 632.23.

FURNISH ALL MATERIALS ACCORDING TO THE DEPARTMENT'S QUALIFIED PRODUCTS LIST (QPL).

SEE DETAILS ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

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

(01/NHS/PV)
 ITEM 632 - DETECTOR LOOP, AS PER PLAN 6 EACH

CALCULATED
 GTS
 CHECKED
 KRB

DETECTOR LOOP GENERAL NOTES

ERI-6-11.25
 HUR-547-7.13

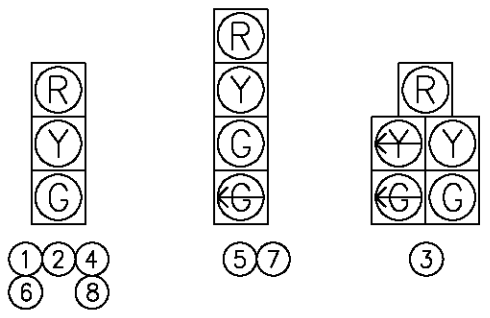
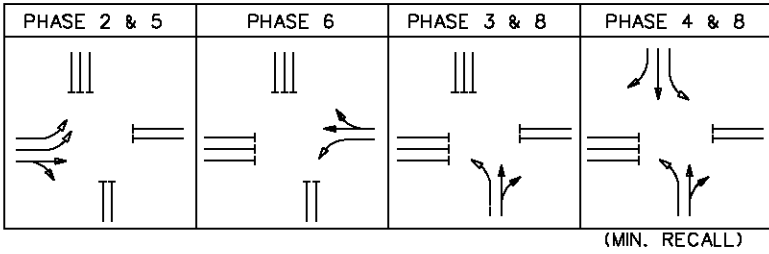
LOOP DETECTOR CHART

LOOP	SIZE (FT.)	NO. OF TURNS	MODE	DELAY (SEC.)	CONNECT TO DETECTOR UNIT NO.	ASSOCIATED CONTROLLER PHASE	COMMENTS
L-1	6X30	2	PRESENCE	3*	1	5	REPLACE LOOP
L-2	6X30	2	PRESENCE	3*	1	5	REPLACE LOOP
L-3	6X30	2	PRESENCE	10*	2	2	REPLACE LOOP
L-4	6X30	2	PRESENCE	10*	3	6	
L-5	6X30	2	PRESENCE	10*	3	6	
L-6	6X20	3	PRESENCE	3*	4	3	
L-7	6X20	3	PRESENCE		5	8	
L-8	6X20	3	PRESENCE		6	4	REPLACE LOOP
L-9	6X20	3	PRESENCE		6	4	REPLACE LOOP
L-10	8X20	3	PRESENCE		6	4	REPLACE LOOP

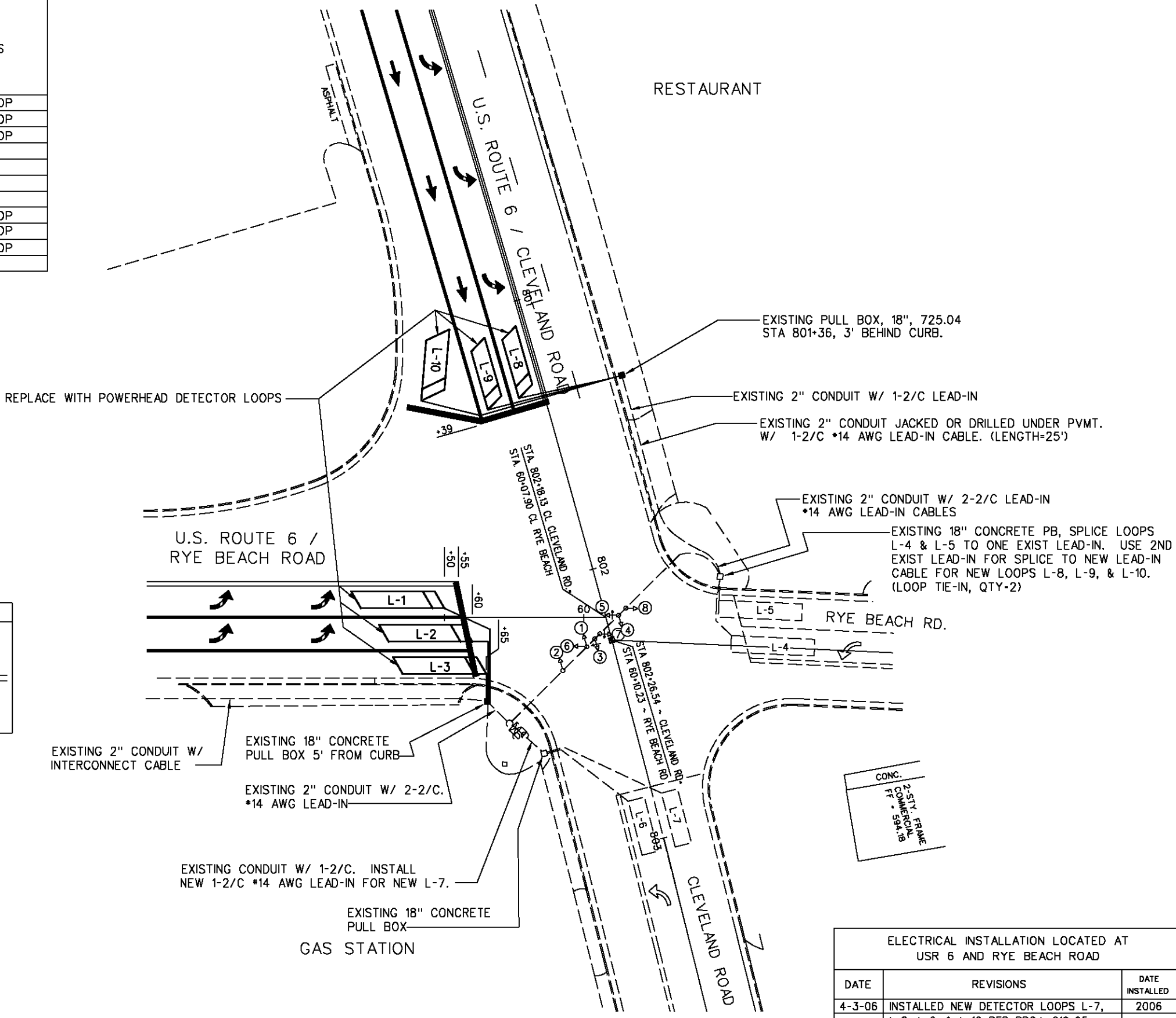
* INHIBIT DELAY DURING ASSOCIATED GREEN PHASE

DETECTOR LOOP DESCRIPTION OF WORK:
INSTALL NEW POWERHEAD DETECTOR LOOPS
L-1, L-2, L-3, L-8, L-9, L-10 TO REPLACE
EXISTING LOOPS.

PHASING DIAGRAM



SIGNAL INDICATIONS
ALUMINUM HEADS
ALL 12" LENSES



ELECTRICAL INSTALLATION LOCATED AT
USR 6 AND RYE BEACH ROAD

DATE	REVISIONS	DATE INSTALLED
4-3-06	INSTALLED NEW DETECTOR LOOPS L-7, L-8, L-9, & L-10 PER PROJ. 219-05	2006
8-28-14	PID 88764 REPLACE EXISTING DETECTOR LOOPS	

DESIGN FILE: \\projects\88764\roadway\sheets\88764CD002.dgn
WORKSTATION: salay
MODELNAME: Sheet
DATE: 8/29/2014

ERI- 6 - 12.40 SFN 2201674 (02/NHS/BR)

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	38603	187.5	FT	BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN	25
254	01000	310	SQ.YD.	PAVEMENT PLANING, ASPHALT CONCRETE (3")	
407	10000	25	GAL.	TACK COAT @ 0.08 GAL/SY	
409	30001	84	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, AS PER PLAN	25
442	00201	13	CU.YD.	ASPHALT CONCRETE SURFACE COURSE, 9.5MM, TYPE A (446), AS PER PLAN (1 1/2")	6
512	10100	26	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	74000	26	SQ.YD.	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	

ERI- 6 - 14.98 SFN 2201739 (02/NHS/BR)

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
257	10000	247	SQ.YD.	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT	
512	10100	771	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	
512	10300	253	SQ.YD.	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN	
512	74000	725	SQ.YD.	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	
516	31000	89	FT	JOINT SEALER	

HUR-547-7.25 SFN 3904326 (03/S<2/BR)

ITEM	EXTENSION	QUANTITY	UNIT	DESCRIPTION	REFERENCE SHEET
202	11301	2	CU.YD.	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN	25
511	34410	1	CU.YD.	CLASS QC2 CONCRETE, SUPERSTRUCTURE (REPAIR)	
511	53012	1	CU.YD.	CLASS QC2 CONCRETE, MISC.:APPROACH SLAB REPAIR	25
516	31000	84	FT	JOINT SEALER	

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 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURES. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK BASED UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATION FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2002, INCLUDING THE 2003, 2004, 2005 AND 2006 SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

DESIGN DATA

CONCRETE CLASS QC2 - COMPRESSIVE STRENGTH 4,500 PSI
CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4,000 PSI

DECK PROTECTION METHOD:

ASPHALT CONCRETE OVERLAY
SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN

UTILITIES

THERE ARE NO UNDERGROUND UTILITIES SHOWN ON THIS PLAN. THE NATURE OF THE WORK REQUIRED BY THIS PROJECT WILL NOT AFFECT ANY KNOWN UNDERGROUND UTILITIES THAT EXIST UNDER OR ADJACENT TO THE WORK AREA.

PLACING ASPHALT CONCRETE ON APPROACHES TO BRIDGES:

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

TEMPORARY TRAFFIC SIGNAL ACTIVATION FOR PARTIAL ROADWAY CLOSURE

THE CONTRACTOR SHALL NOTIFY ODOT DISTRICT 3 PUBLIC INFORMATION OFFICER (PIO) A MINIMUM TEN (10) CALENDAR DAYS ADVANCE NOTICE BEFORE ACTIVATING A TEMPORARY TRAFFIC SIGNAL TO STOP-AND-GO OPERATION FOR PARTIAL ROADWAY CLOSURE.

THE PIO CONTACT INFORMATION IS AS FOLLOWS:

CHRISTINE MYERS
ODOT DISTRICT 3
906 CLARK AVENUE
ASHLAND, OH 44805
PHONE 419-207-7182

ALL COSTS ASSOCIATED WITH THE ABOVE DESCRIBED WORK SHALL BE INCLUDED WITH ITEM 614, MAINTAINING TRAFFIC.

EXISTING PLANS:

THE ORIGINAL CONSTRUCTION PLANS OF THE EXISTING BRIDGES ARE AVAILABLE UPON REQUEST AT THE DISTRICT 3 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, ASHLAND, OH.

STRUCTURE #	PLAN NAME	DATE
ERI-6-12.40	ERI-6-12.31	1990
ERI-6-14.98	ERI-6-14.93	1989
HUR-547-7.25	HUR-547-7.19	1953

ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. THE USE OF EXPLOSIVES, HEADACHE BALLS AND/OR HOE-RAMS WILL NOT BE PERMITTED. THE METHOD OF REMOVAL SHALL BE APPROVED BY THE ENGINEER. PERFORM ALL WORK IN A MANNER THAT WILL NOT CUT, ELONGATE OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NOMINAL 90-POUND CLASS. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID PER CUBIC YARD OF ITEM 202 - PORTIONS OF STRUCTURE REMOVED, AS PER PLAN.

ITEM 511. CLASS QC2 CONCRETE SUPER STRUCTURE (REPAIR)

ITEM 511. CLASS QC2 CONCRETE MISC.: APPROACH SLAB REPAIR

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

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.

ITEM 409 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS. AS PER PLAN

THIS ITEM SHALL BE USED AT LOCATIONS INDICATED IN THE PLAN AND CONSISTS OF SAW CUTTING AND SEALING THE FINISHED SURFACE OF THE ASPHALT CONCRETE PAVEMENT.

PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS, NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ABOVE ITEM.

ITEM 202 - BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN

THIS ITEM SHALL BE USED TO REMOVE AND REINSTALL THE EXISTING BRIDGE RAILING FOR WORK ON STRUCTURE ERI-6-1240. BRIDGE RAILING POSTS ARE TO REMAIN IN PLACE.

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

IN-STREAM WORK RESTRICTION

THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID CONSTRUCTION IN AND/OR LIMIT DEMOLITION DEBRIS FROM ENTERING STREAMS OR WETLANDS. ANY MATERIAL THAT DOES FALL INTO STREAMS OR WETLANDS SHALL BE REMOVED AS SOON AS POSSIBLE.

ALL PROJECTS INVOLVING JURISDICTIONAL WATERS OF THE UNITED STATES (STREAMS, RIVERS, NON-ISOLATED WETLANDS) AND/OR ISOLATED WETLANDS ARE SUBJECT TO REGULATION UNDER SECTIONS 404 AND 401 OF THE CLEAN WATER ACT, AND POSSIBLY OHIO EPA ISOLATED WETLAND LAW. IT IS ANTICIPATED THAT NO IN-STREAM WORK, OR WORK UNDER THE STREAM'S ORDINARY HIGH WATER MARK (OHWM) WILL BE NEEDED. THEREFORE NO WATERWAY PERMITS HAVE BEEN GRANTED FOR THIS PROJECT AND NO IN-STREAM WORK IS ALLOWED.

SHOULD WORK (EITHER TEMPORARY OR PERMANENT) IN THE STREAM IS NEEDED; IT WILL REQUIRE A PERMIT AND AUTHORIZATION BY THE UNITED STATES ARMY CORPS OF ENGINEERS (USACE). THE CONTRACTOR SHALL NOT UTILIZE FILLS BELOW OHWM UNTIL SUCH ACTIVITY IS AUTHORIZED BY THE USACE. DETAILS OF THIS REQUIREMENT ARE DESCRIBED IN ODOT'S SUPPLEMENTAL SPECIFICATION 832.09

USACE DEFINITION OF OHWM - THE ORDINARY HIGH WATER MARK IS THE LINE ON THE SHORES ESTABLISHED BY THE FLUCTUATIONS OF WATER AND INDICATED BY PHYSICAL CHARACTERISTICS SUCH AS A CLEAR, NATURAL LINE IMPRESSED ON THE BANK; SHELVEING; CHANGES IN THE CHARACTER OF THE SOIL; DESTRUCTION OF TERRESTRIAL VEGETATION; THE PRESENCE OF LITTER AND DEBRIS; OR THE APPROPRIATE MEANS THAT CONSIDER THE CHARACTERISTICS OF THE SURROUNDING AREAS.

ITEM 614 - MAINTAINING TRAFFIC: STRUCTURE HUR-547-7.25

TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT THROUGH TRAFFIC ON THIS STRUCTURE SHALL HAVE A SIGNALIZED CLOSURE AS SHOWN ON SHEETS NO. 31 FOR A MAXIMUM OF 20 CONSECUTIVE CALENDAR DAYS (TOTAL BOTH PHASES). THE 40 CONSECUTIVE DAYS SHALL BE CONSIDERED AS AN INTERIM COMPLETION DATE (SECTION 108) AND FOR EACH CALENDAR DAY BEYOND THE 40 CALENDAR DAYS THAT THE HIGHWAY REMAINS IN A SIGNALIZED CLOSURE, THE CONTRACTOR WILL BE ASSESSED LIQUIDATED DAMAGES AS PER 108.07.

THE LOCATION OF THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.

THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS.

NO EQUIPMENT OR MATERIAL SHALL BE LOCATED OTHER THAN BEHIND THE PORTABLE CONCRETE BARRIER.

ITEM 615-PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN:

THIS ITEM SHALL BE AS CMS 615, EXCEPT THAT THE PAVEMENT SHALL BE LEFT IN PLACE.

PAYMENT FOR ALL OF THE ABOVE SHALL BE AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.

ITEM 614 - MAINTAINING TRAFFIC FOR STRUCTURES ERI-6-12.40 AND ERI-6-14.98:

TWO WAY TRAFFIC ON STRUCTURES ERI-6-12.40 AND ERI-6-14.98 SHALL BE MAINTAINED AT ALL TIMES EXCEPT THAT THROUGH TRAFFIC ON THIS STRUCTURE MAY HAVE A LANE CLOSURE DURING NORMAL WORKING HOURS USING FLAGGERS AS SHOWN ON STANDARD DRAWING MT-97.10.

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 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

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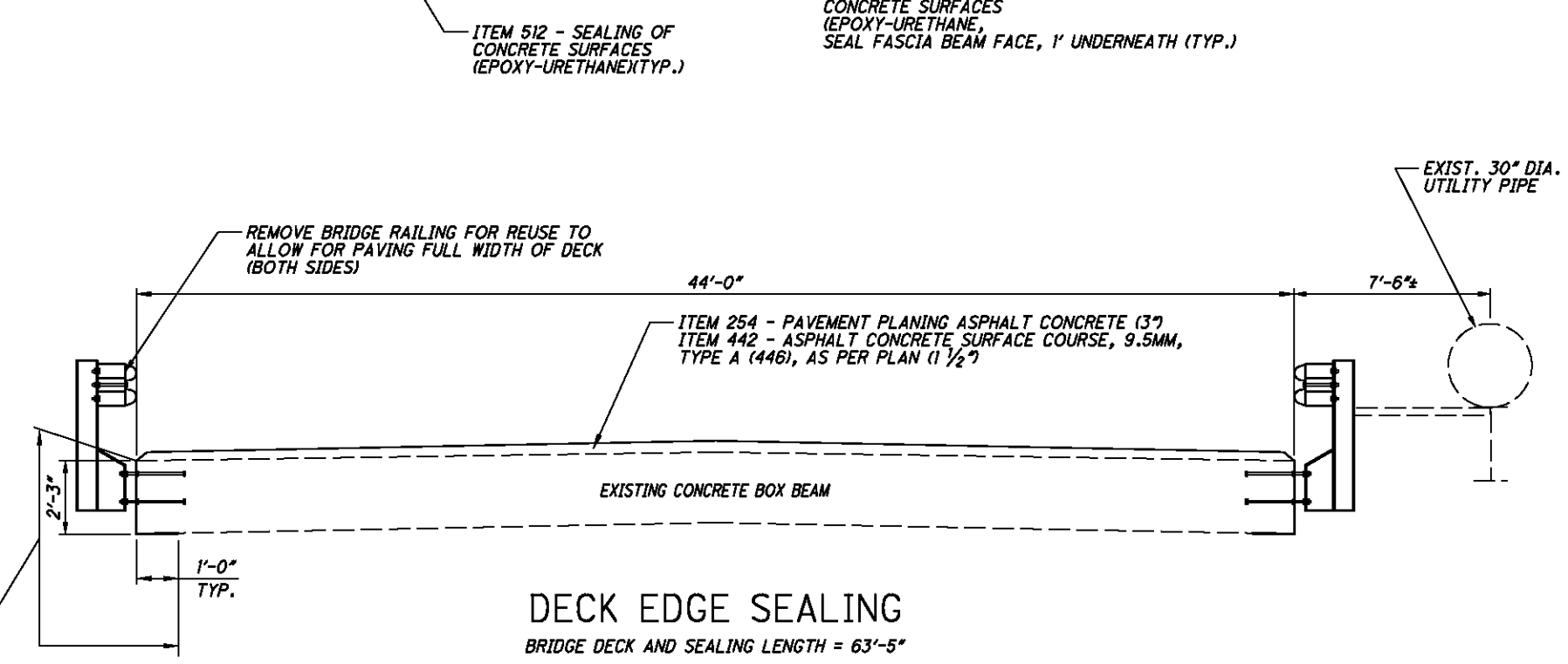
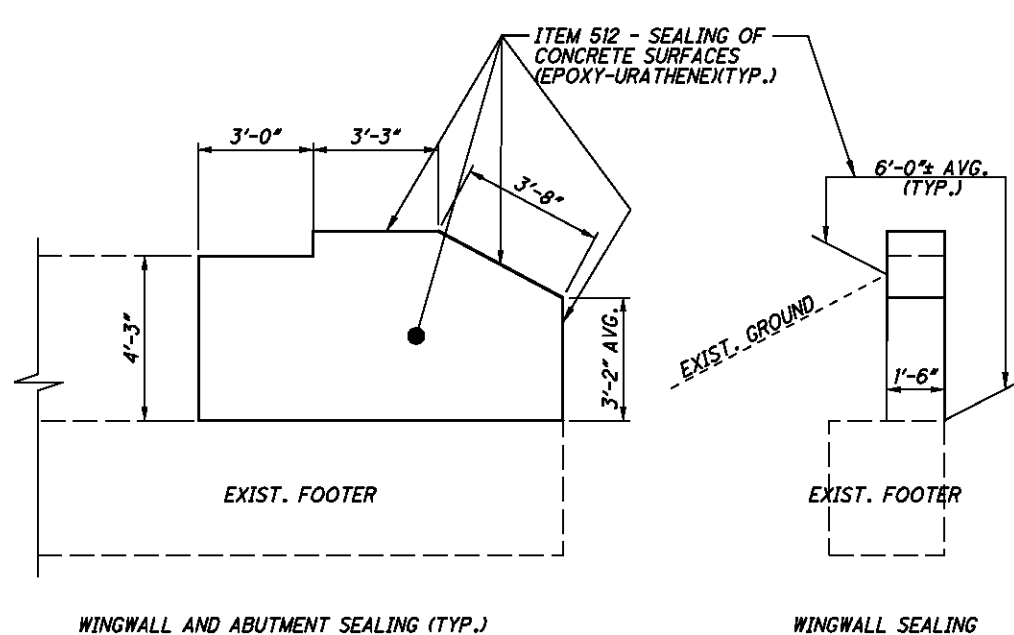
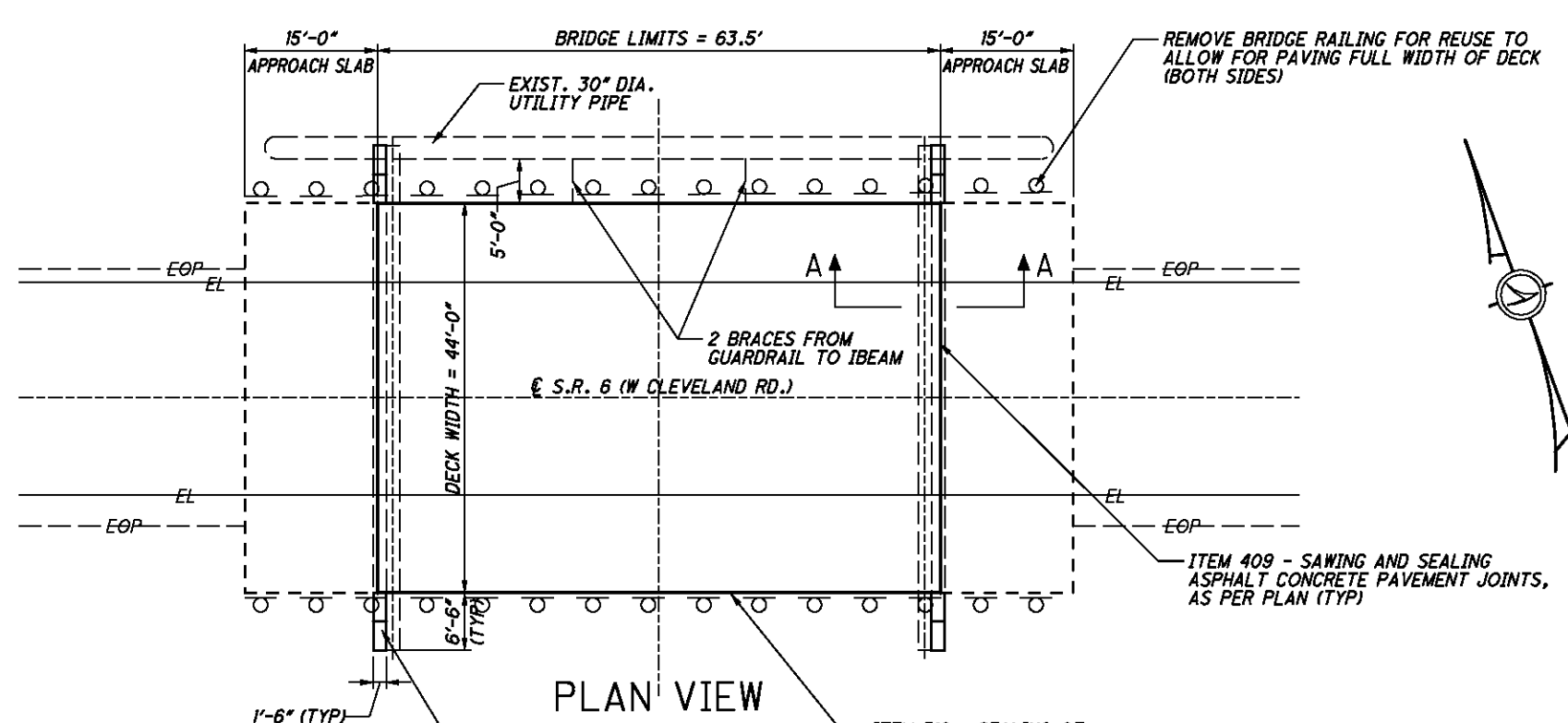
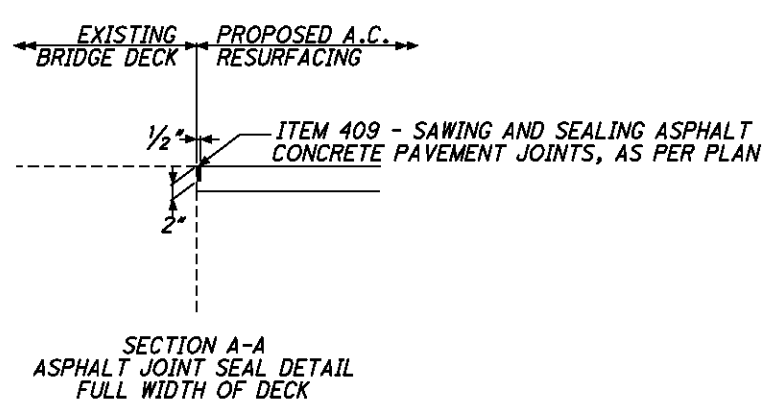
CALCULATED
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KRB

STRUCTURE GENERAL NOTES

ERI-6-11.25
HUR-547-7.13

STRUCTURE FILE NO.	BRIDGE NO.	LOCATION	BRIDGE TYPE	SKEW	BRIDGE LIMITS	DECK WIDTH	PROPOSED WORK
2201674	ERI-6-12.40	OVER PLUM CREEK	CONCRETE BOX BEAM	0°	63.5'	44'	SUBSTURCTURE SEALING, ASPHALT CONCRETE OVERLAY, EXPANSION JOINT REPAIR
2201739	ERI-6-14.98	OVER SAWMILL CREEK	SINGLE SPAN	13°30'	52'	44'	DECK AND SUBSTURCTURE SEALING, EXPANSION JOINT REPAIR
2201836	ERI-6-15.43	OVER ERI-2-15.42	SINGLE SPAN		297'	55.2'	NO WORK
3904326	HUR-547-7.25	TRIP W BR HURON RIVER	SINGLE SPAN	30°	34'	36	DECK AND APPROACH SLAB REPAIR & EXPANSION JOINT REPAIR

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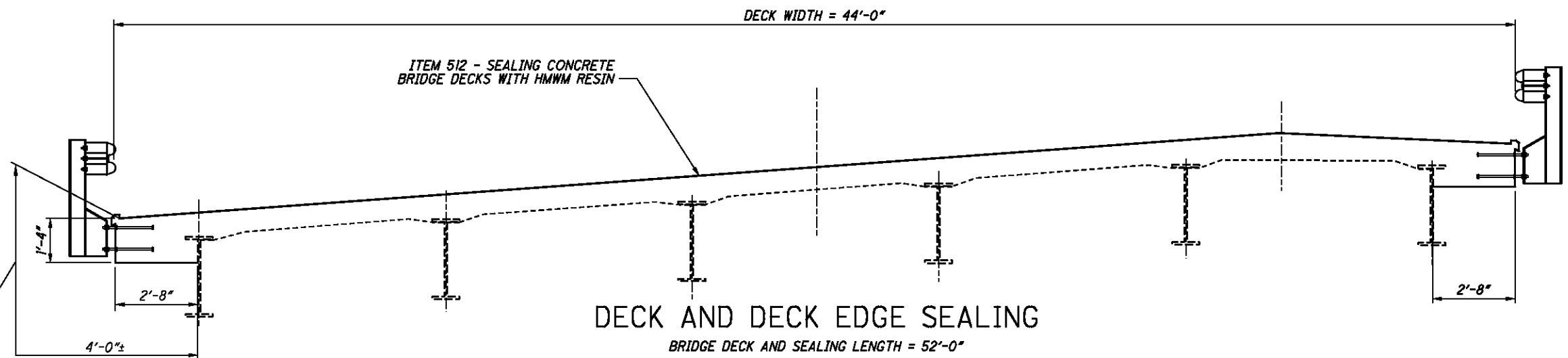
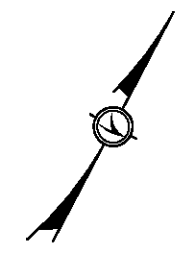
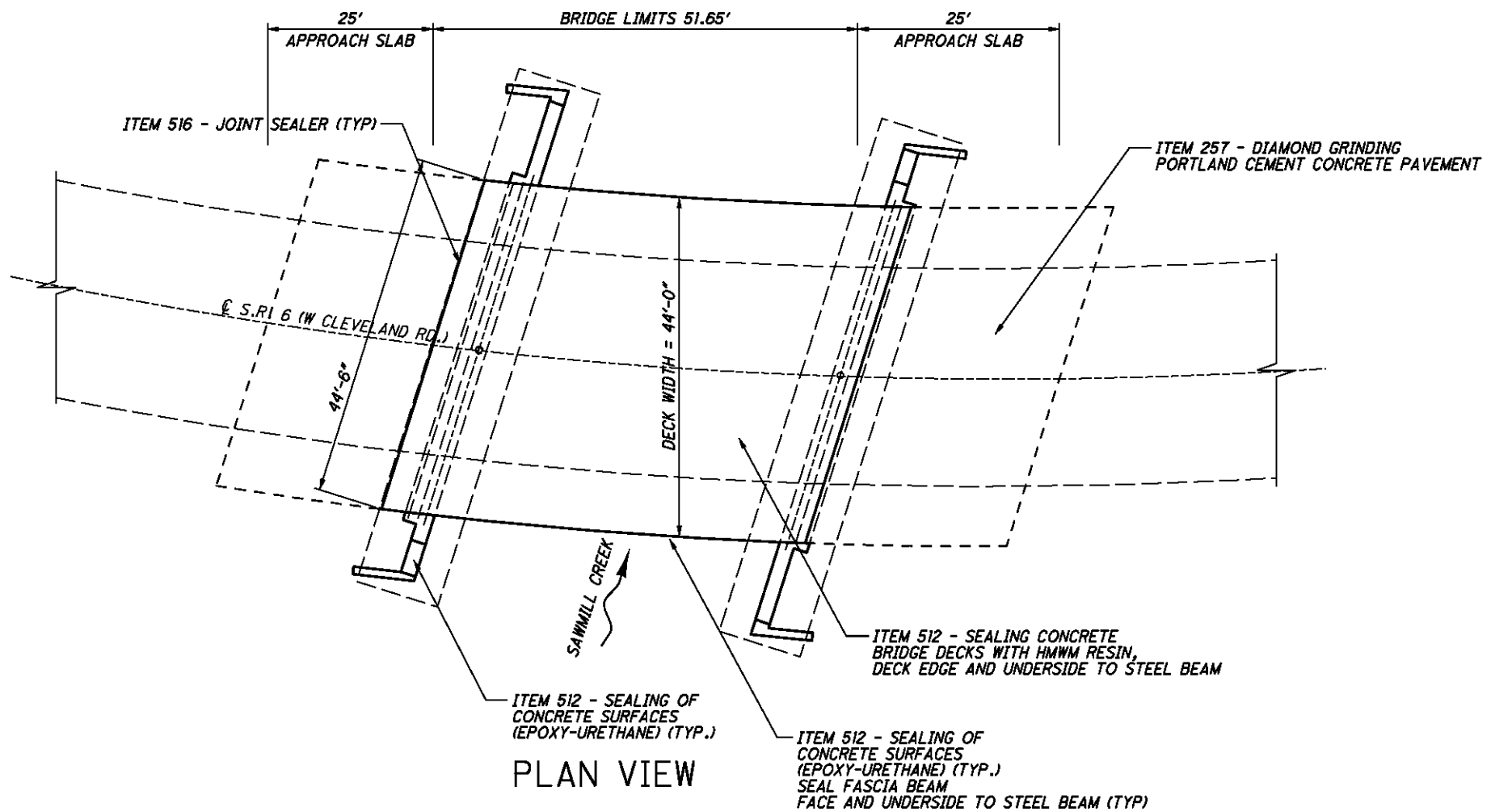


ITEM	QUANTITY	UNIT	DESCRIPTION
202	187.5	FT	BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN
254	310	SQ.YD.	PAVEMENT PLANING, ASPHALT CONCRETE (3")
407	25	GAL	TACK COAT
409	84	FT	SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS, AS PER PLAN
442	13	CU.YD.	ASPHALT SURFACE COURSE, 9.5MM, TYPE A (446), AS PER PLAN (1 1/2")
512	26	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	26	SQ.YD.	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

NOTES:
 1) THE EXISTING RAILING IS SHOWN. ITEM 202 - BRIDGE RAILING REMOVED FOR REUSE, AS PER PLAN.
 2) SEAL FASCIA BEAM FACE, 1' UNDERNEATH, ITEM 512 - SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN.
 3) SEAL ENTIRE WINGWALL AND ABUTMENT FACE 3'-0" UNDERNEATH DECK WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET.

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 DATE: 8/29/2014



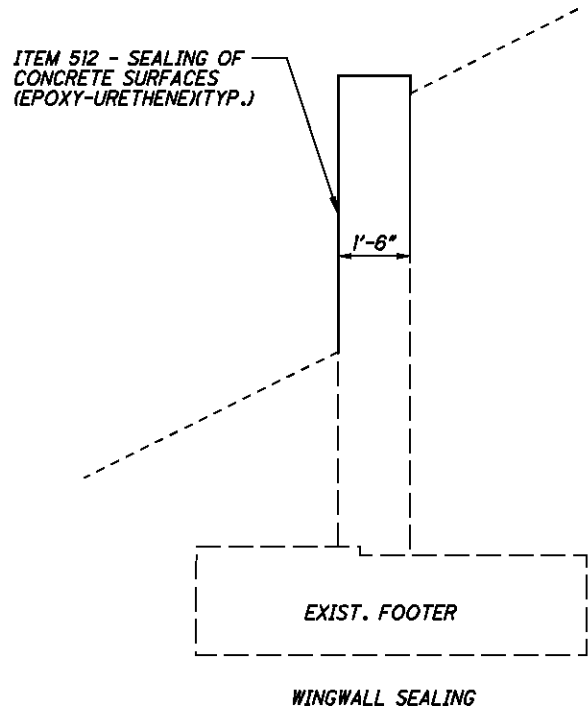
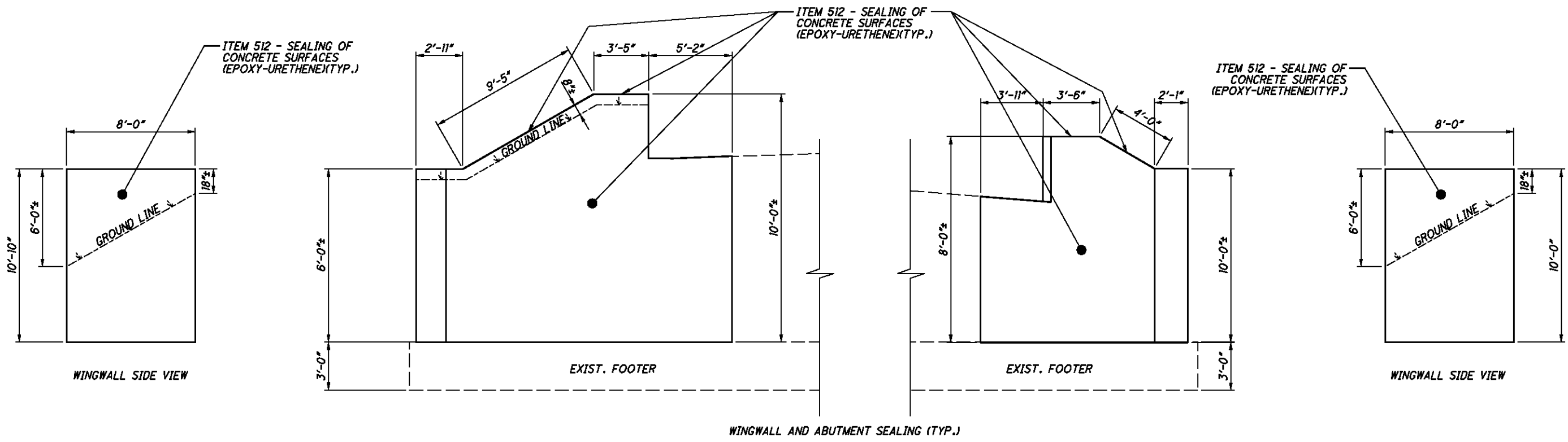
ITEM	QUANTITY	UNIT	DESCRIPTION
257	247	SQ. YD.	DIAMOND GRINDING PORTLAND CEMENT CONCRETE PAVEMENT
512	253	SQ. YD.	SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN
512	46	SQ. YD.	SEALING CONCRETE SURFACES (EPOXY-URETHANE)
516	89	FT	JOINT SEALER

NOTES:
 1) THE EXISTING GUARDRAIL IS NOT SHOWN.
 2) ITEM 512 - SEALING CONCRETE BRIDGE DECKS WITH HMWM RESIN.
 3) ITEM 257 SHALL BE USED TO CREATE A SMOOTH TRANSITION BETWEEN THE APPROACH SLABS AND BRIDGE DECK AND BETWEEN THE APPROACH SLABS AND APPROACH PAVEMENT.

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET.

DESIGN AGENCY: ODOT DISTRICT THREE
 OFFICE OF PLANNING & ENGINEERING
 DATE: 2201739
 STRUCTURE FILE NUMBER: 2201739
 DRAWN: GTS
 CHECKED: KRB
 DESIGNED: GTS
 REVIEWED: GTS
 PLAN VIEW
 PLAN VIEW OVER SAWMILL CREEK
 ERI-6-1498
 ERI-6-11.25
 HUR-547-7.13
 1 / 2
 28 / 33

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 WORKSTATION: salay
 MODELNAME: Sheet
 DATE: 8/29/2014



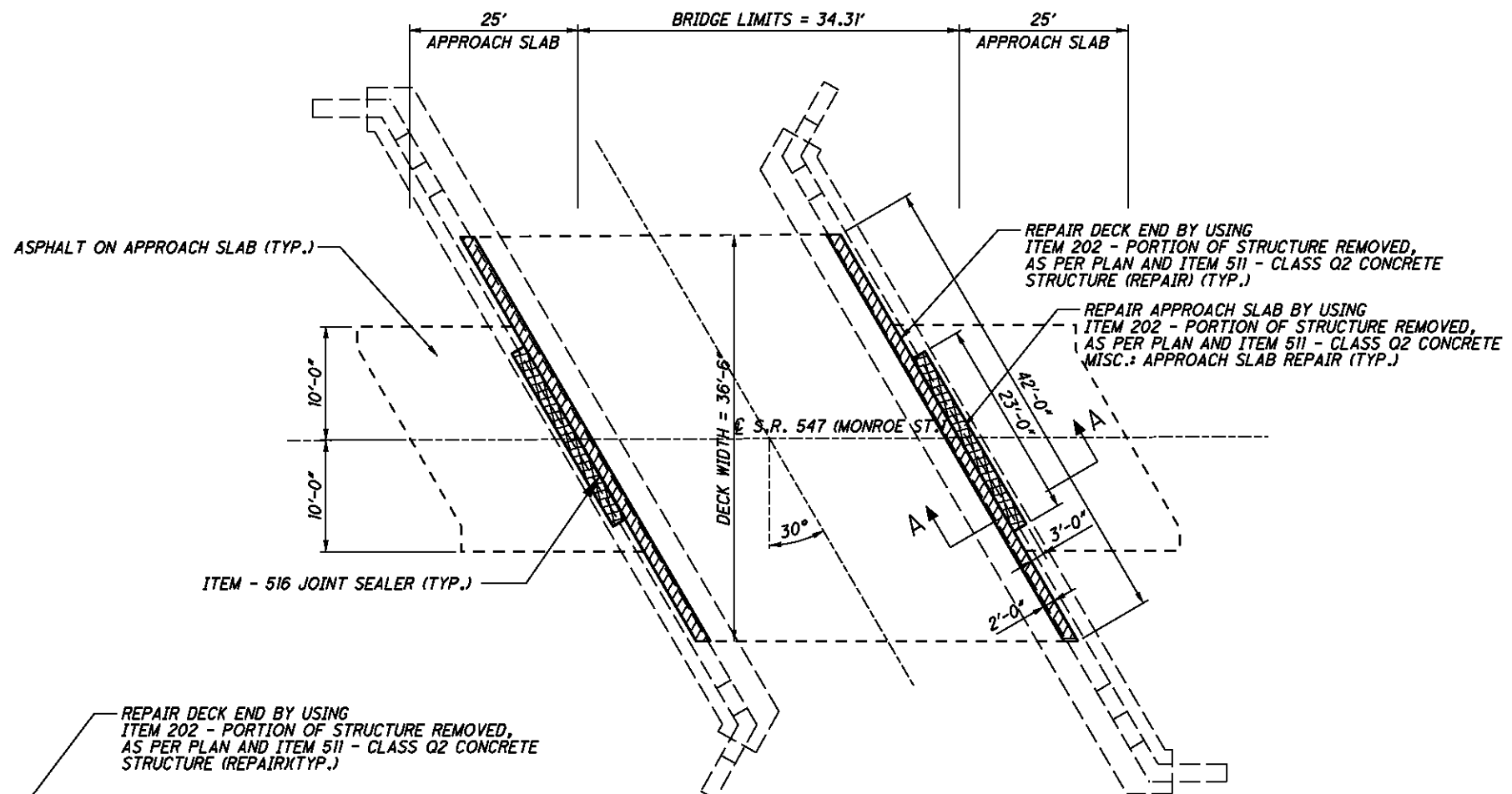
NOTES:
 1) THE EXISTING GUARDRAIL IS NOT SHOWN.
 2) SEAL ENTIRE WINGWALL AND ABUTMENT FACE TO FASCIA BEAM WITH ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE).

ITEM	QUANTITY	UNIT	DESCRIPTION
512	725	SQ.YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	725	SQ.YD.	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES

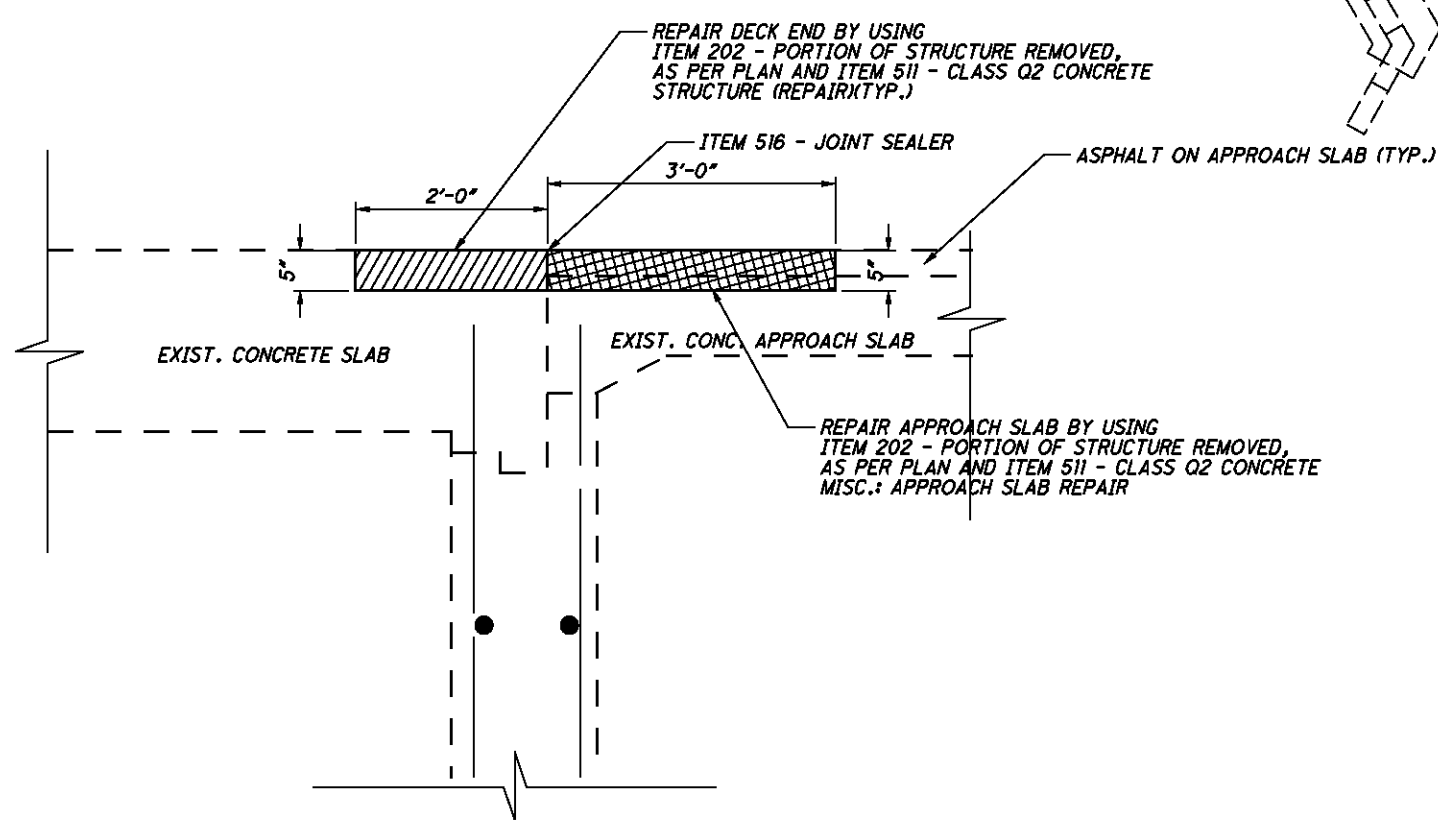
ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET.

DESIGN AGENCY: ODOT DISTRICT THREE
 OFFICE OF PLANNING & ENGINEERING
 DATE: 2201739
 STRUCTURE FILE NUMBER: 2201739
 DRAWN: GTS
 CHECKED: KRB
 DESIGNED: GTS
 REVIEWED: GTS
 PLAN VIEW
 ERI-6-1498 OVER SAWMILL CREEK
 ERI-6-11.25
 HUR-547-7.13
 2 / 2
 29
 33

DESIGN FILE: \\projects\88764\structures\88764\HUR_0725.dgn
 WORKSTATION: salay DATE: 8/29/2014 MODELNAME: Sheet



PLAN VIEW



SECTION A-A

ITEM	QUANTITY	UNIT	DESCRIPTION
202	2	CU.YD.	PORTIONS OF STRUCTURE REMOVED, AS PER PLAN
511	1	CU.YD.	CLASS QC2 CONCRETE, SUPERSTRUCTURE (REPAIR)
511	2	CU.YD.	CLASS QC2 CONCRETE, MISC.: APPROACH SLAB REPAIR
516	84	FT	JOINT SEALER

NOTES:
 1) THE EXISTING GUARDRAIL IS NOT SHOWN.

ALL QUANTITIES CARRIED TO STRUCTURE SUMMARY SHEET.

DESIGN AGENCY
 ODOT DISTRICT THREE
 OFFICE OF PLANNING & ENGINEERING

DATE
 REVIEWED
 STRUCTURE FILE NUMBER
 2201674

DRAWN
 GTS
 REVISION

DESIGNED
 GTS
 CHECKED

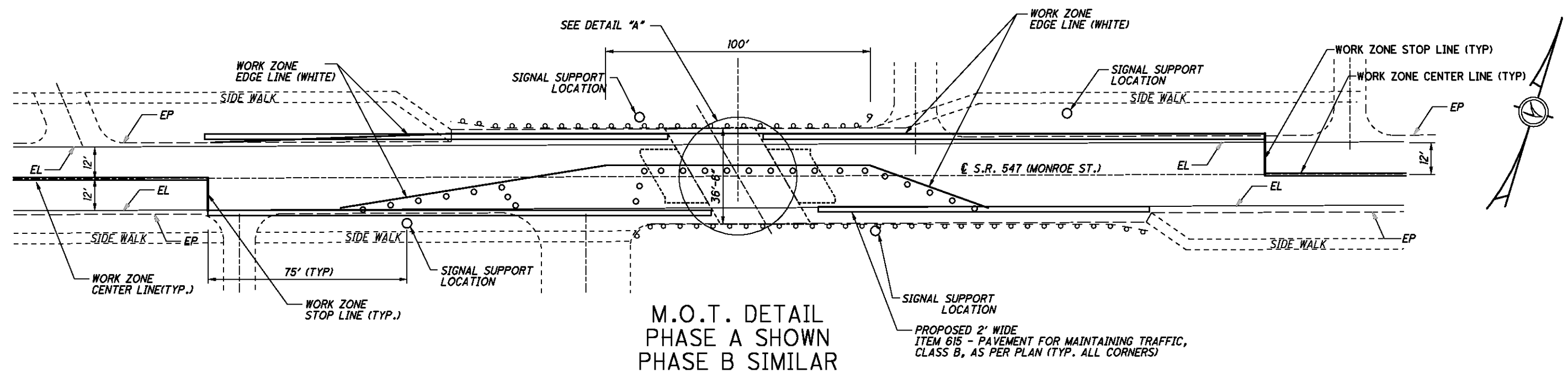
PLAN VIEW
 PLAN VIEW
 HUR-547-0725 OVER HURON RIVER

ERI-6-11.25
 HUR-547-7.13

1 / 2

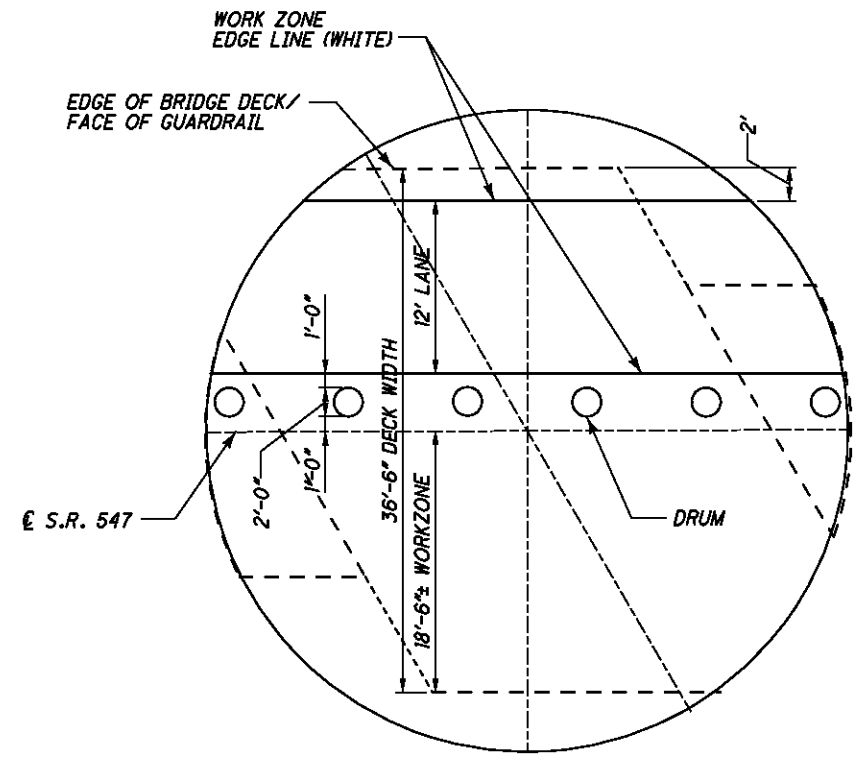
30
 33

DESIGN FILE: \\projects\88764\structures\88764HUR_0725.dgn
 MODELNAME: Sheet
 WORKSTATION: salay
 DATE: 8/29/2014



**M.O.T. DETAIL
 PHASE A SHOWN
 PHASE B SIMILAR**

PROPOSED 2' WIDE
 ITEM 615 - PAVEMENT FOR MAINTAINING TRAFFIC,
 CLASS B, AS PER PLAN (TYP. ALL CORNERS)



DETAIL "A"

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

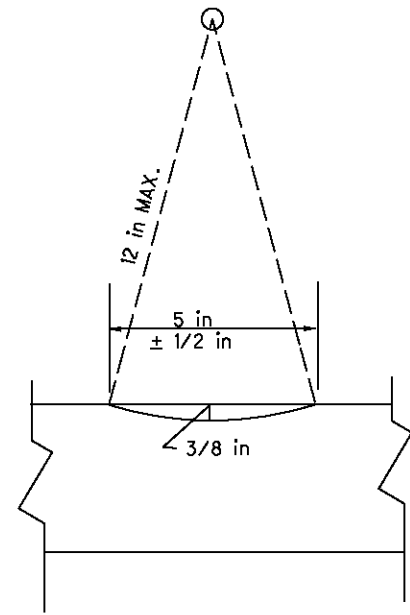
THE ABOVE TIMING MAYBE CHANGED
 WITH THE APPROVAL OF THE ENGINEER

(03/S<2/BR)			
ITEM	QUANTITY	UNIT	DESCRIPTION
614	13	EACH	BARRIER REFLECTOR, TYPE A2
614	0.19	MILE	WORK ZONE CENTER LINE, CLASS I, 740.06, TYPE I
614	0.23	MILE	WORK ZONE EDGE LINE, CLASS I, 740.06, TYPE I
614	24	FT	WORK ZONE STOP LINE, CLASS I, 740.06, TYPE I
615	LUMP		ROADS FOR MAINTAINING TRAFFIC
616	150	SQYD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B, AS PER PLAN

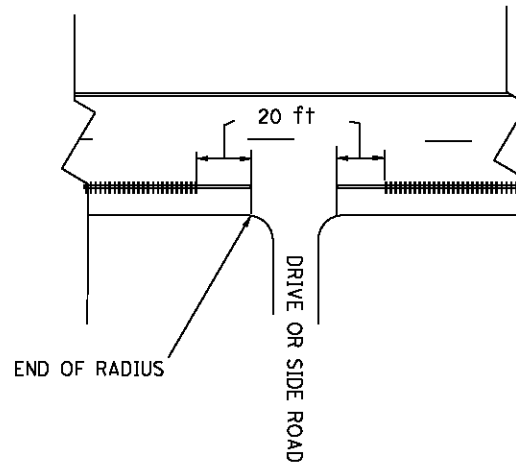
ALL QUANTITIES CARRIED TO GENERAL SUMMARY SHEET.

NOTES:

- 1) STEEL PLATES SHALL BE PLACED OVER THE CONCRETE REPAIR AREAS PRIOR TO CONCRETE CURING.
- 2) FOR ADDITIONAL DETAILS, SEE SCDS MT-96.11, MT-96.20 AND MT-96.26.
- 3) ACCESS TO ALL DRIVES SHALL BE MAINTAINED.



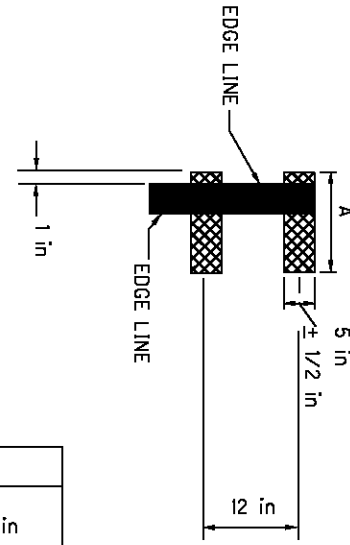
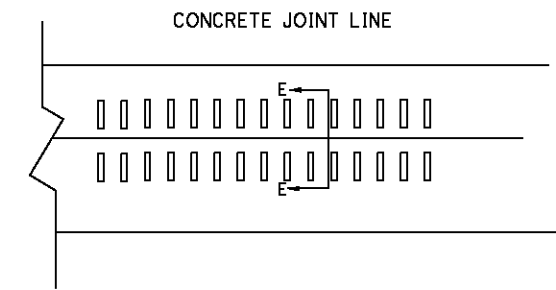
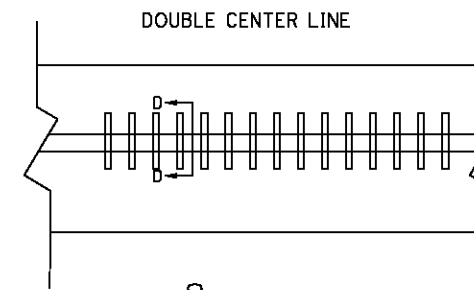
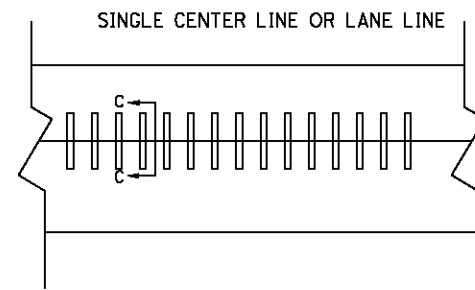
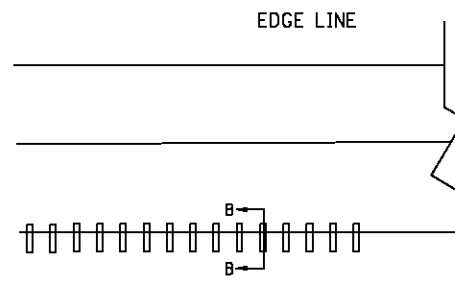
PROFILE



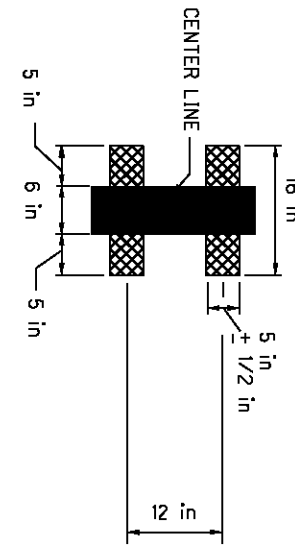
SIDE ROAD AND DRIVE RUMBLE STRIPE INSTALLATION DETAILS

NOTES

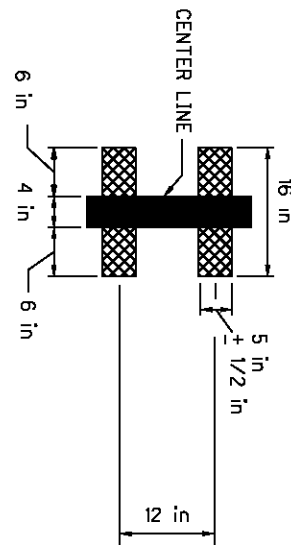
1. Rumble stripes shall be interrupted for driveways and intersections.
2. Rumble stripes shall be paid for in accordance with Item 618.
3. Rumble stripes shall be installed on a 62 foot cycle, i.e. 50 feet rumble stripes followed by a 12 foot gap.
4. Apply final pavement markings after rumble stripes are completed.
5. Location of the construction joint shall be verified in the field.



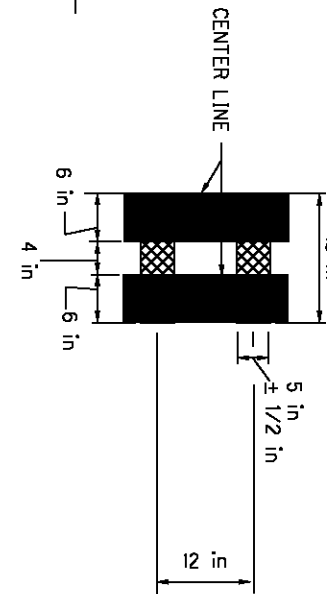
SECTION B-B
EDGE LINE RUMBLE STRIPE



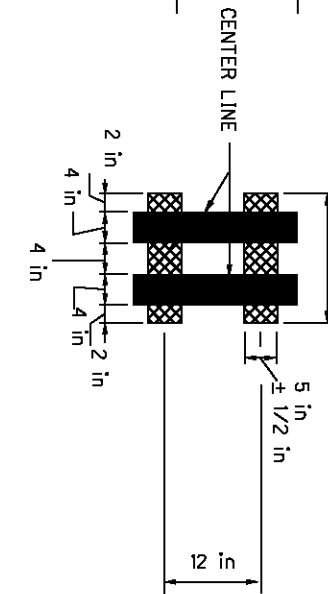
SECTION C-C
6" CENTER LINE OR LANE LINE
RUMBLE STRIPE



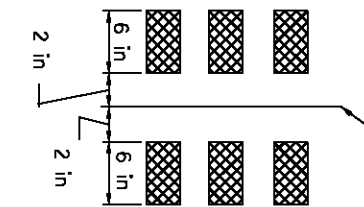
SECTION C-C
4" CENTER LINE OR LANE LINE
RUMBLE STRIPE



SECTION D-D
6" CENTER LINE RUMBLE STRIPE



SECTION D-D
4" CENTER LINE RUMBLE STRIPE



SECTION E-E
PORTLAND CEMENT CONCRETE
JOINT CENTER LINE RUMBLE STRIPE

SHOULDER WIDTH	A
2-5 ft	6 in
5 ft-1 in - 8 ft	10 in
≥ 8 ft- 1 in	16 in

NOTES

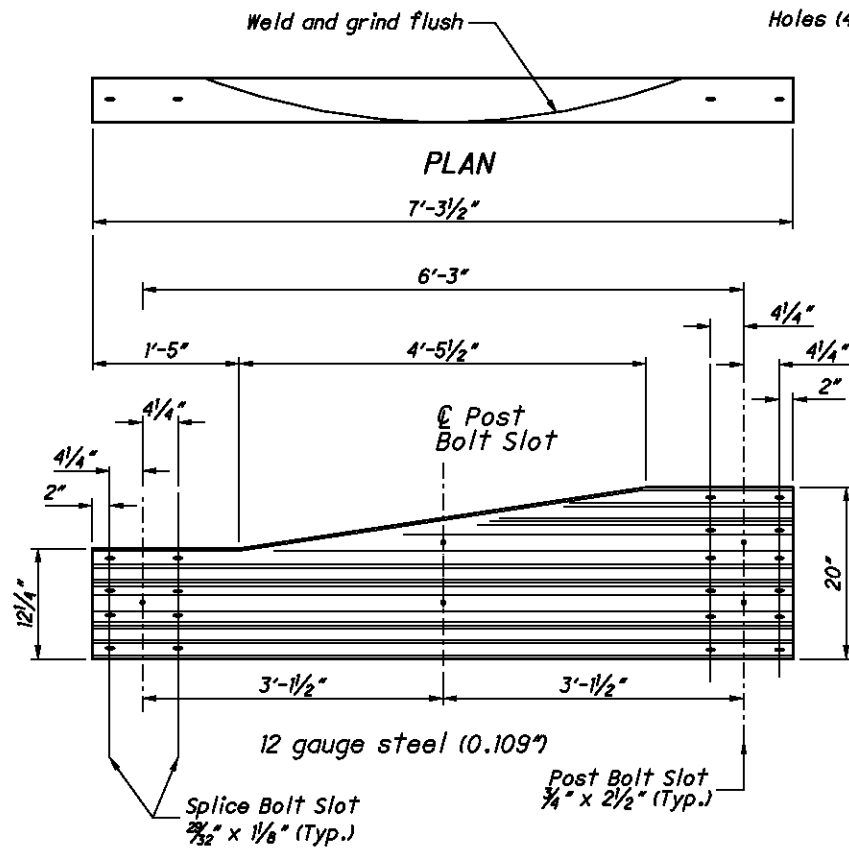
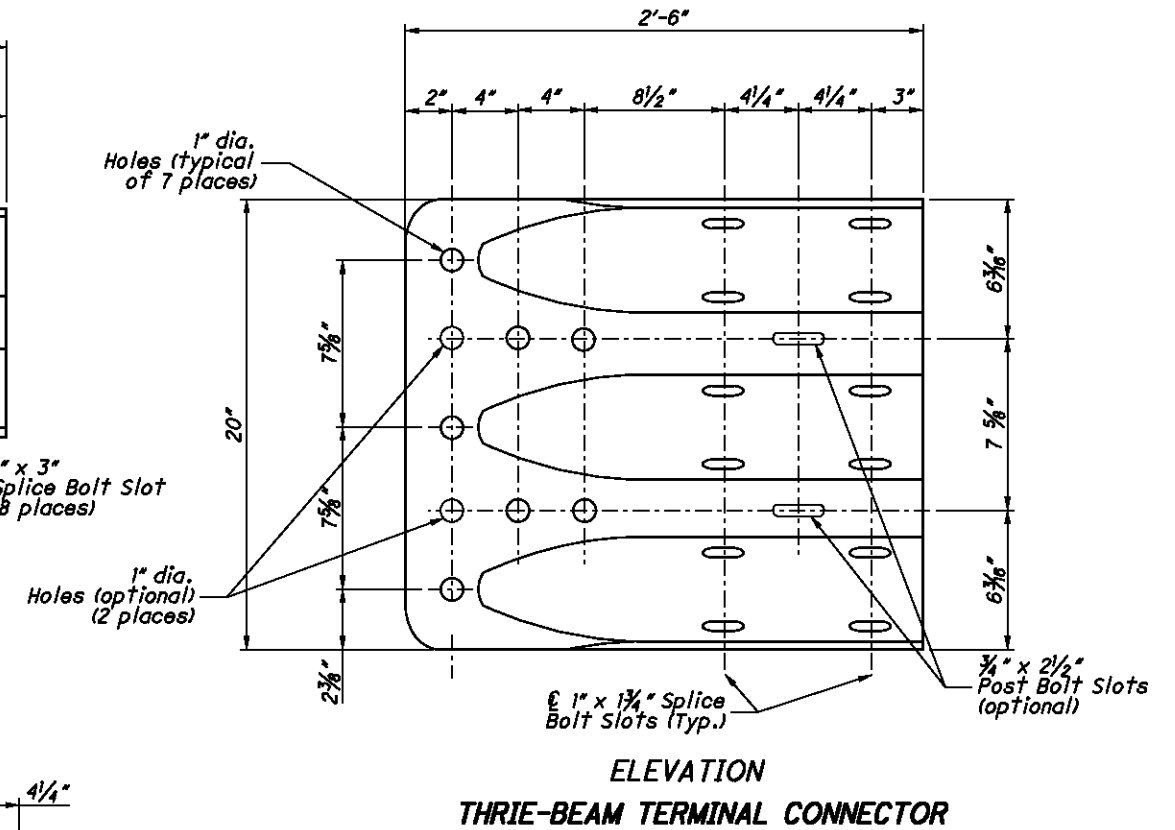
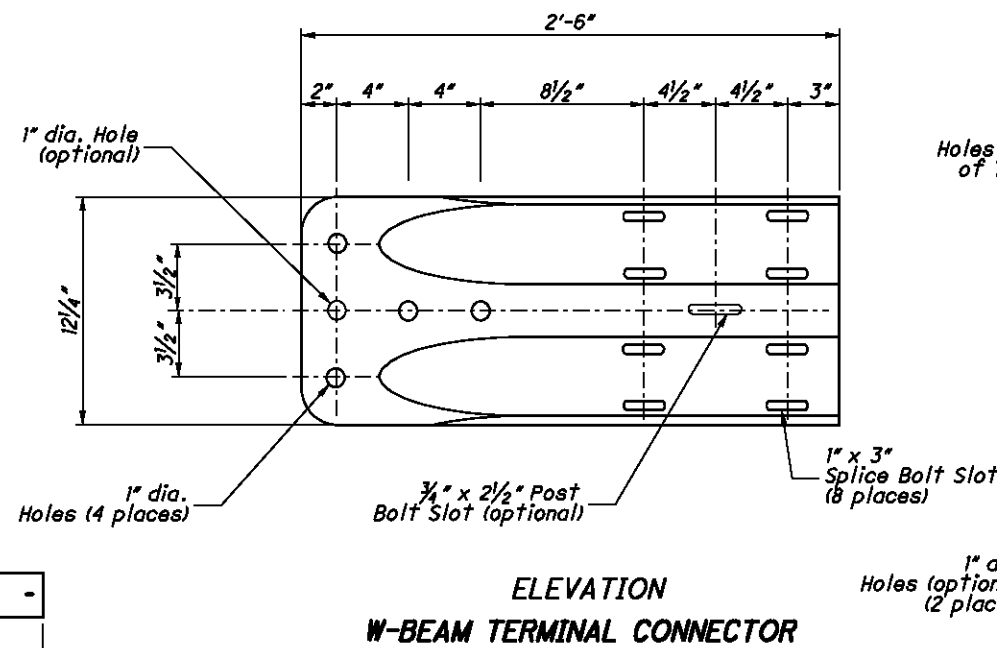
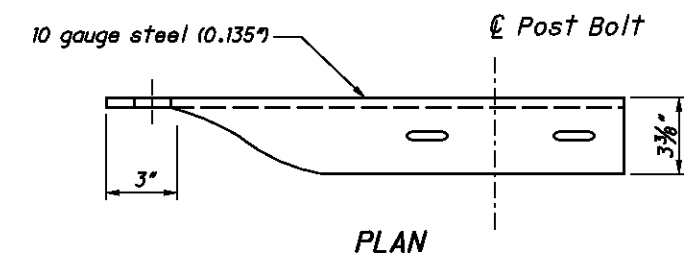
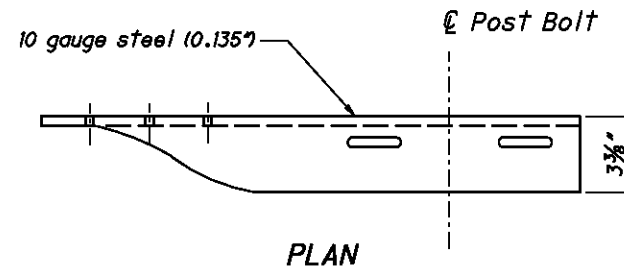
GENERAL: Components shown on this drawing are used in a variety of guardrail systems. See individual guardrail drawing for specific applications.

See CMS 606 for guardrail specifications not covered on these drawings.

Refer to AASHTO M 180 for dimensional details of W-Beam and Thrie-Beam rail elements, related buffer and end sections, beam splices, post and splice bolts, nuts, and Type 1 W-Beam to Thrie-Beam Transition sections.

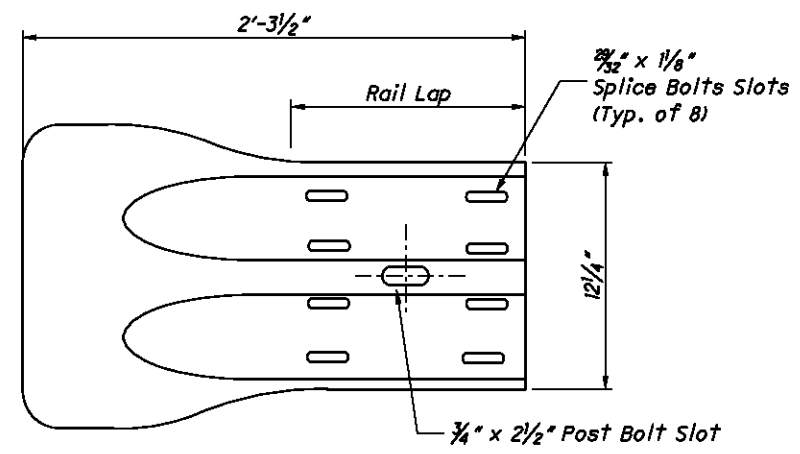
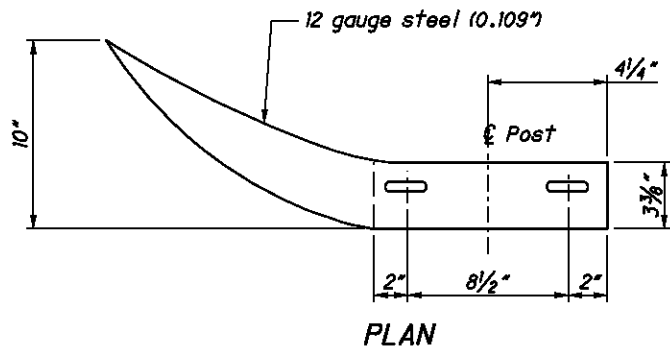
RAIL ELEMENTS: W-Beam Rail has an effective length of 12'-6" unless otherwise specified, with $\frac{3}{4}$ " x $2\frac{1}{2}$ " post bolt slots on 6'-3" centers regardless of post spacing. Field punch or drill bolt holes or slots for irregularly spaced posts as specified in CMS 606.04.

RAIL SPLICES: Lap splices between two rail elements or between a rail and terminal connector in the direction of traffic. Lap the buffer or flared end sections in the direction of traffic.

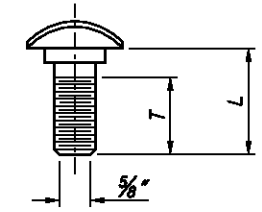


**ELEVATION
TYPE 2 TRANSITION SECTION
(Asymmetric W to Thrie-Beam)**

For details of Type 1 Transition Section (Symmetric), refer to AASHTO M 180, Figure 4.



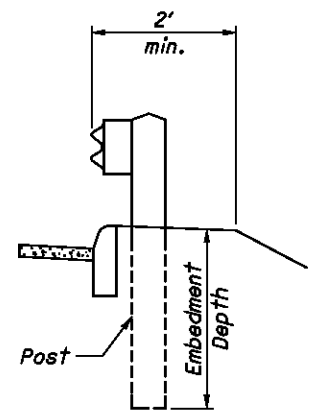
**ELEVATION
W-BEAM FLARED END SECTION**



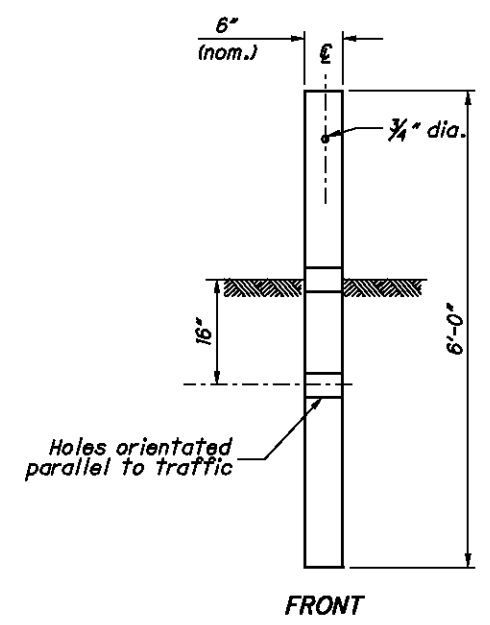
GUARDRAIL BOLT (For Post and Splice Bolts)		
L	T min.	Bolt Use
18" (Standard Rail)	4"	Type 5: WP/WB, PB
26" (Barrier Rail)		
10"	4"	Type 5: SP/WB, PB
1 1/4"	1 1/8"	Splice Bolt

WP = Wood Post WB = Wood Blockout
SP = Steel Post PB = Plastic Blockout

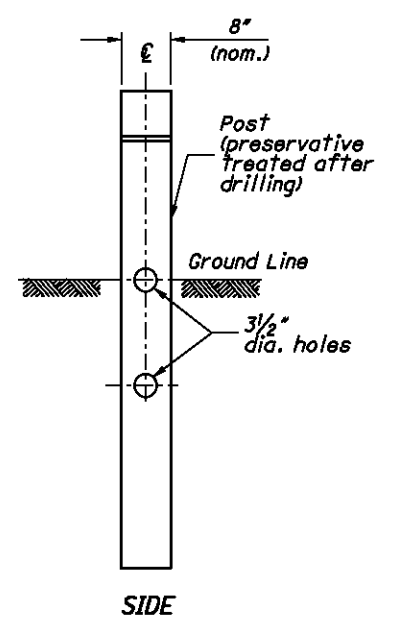
Longer Bolt may be needed for round Wood Post larger than 8" dia.



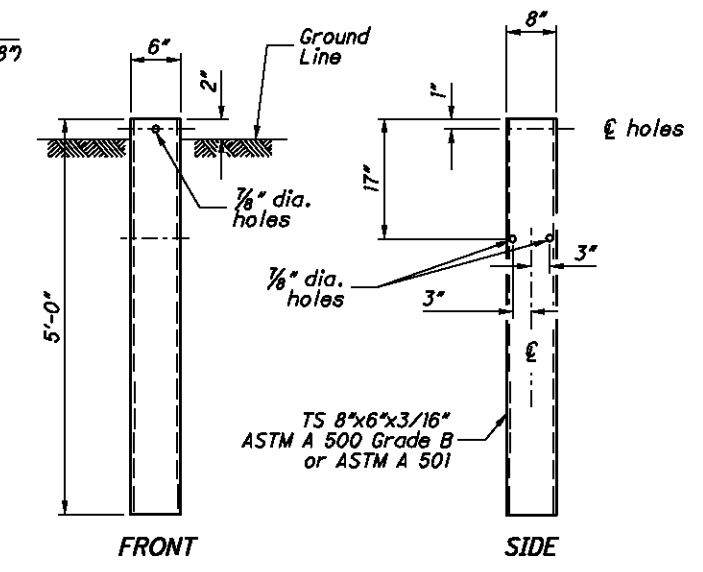
DETAIL A
See POST EMBEDMENT DEPTH Note



TYPE 1 BREAKAWAY CRT POST



TYPE 2 BREAKAWAY CRT POST



STEEL GROUND TUBE

NOTES

GUARDRAIL HEIGHT: For initial installation, construct the guardrail within $\pm 1"$ of the standard height, h , or 29" to the top of W-Beam rail. (See MEASURING GUARDRAIL HEIGHT Detail.)
 When subsequent projects, such as resurfacings, affect the height of existing guardrail, the finished height is to be within $\pm 2.5"$ of the standard height.

POST EMBEDMENT DEPTH: Standard embedment is 3'-5" min. Where less than 2' of graded shoulder width (10:1 or flatter) exists, measured from the face of the guardrail (see DETAIL "A"), use longer posts so that a minimum of 5'-5" embedment depth is provided. Payment for the longer posts will be made at the unit price bid for ITEM 606 - GUARDRAIL POST, 9', Each.

SPECIAL POST MOUNTINGS: Install posts located over a drainage inlet or structure as shown in the FOOTING ANCHOR Detail, or anchor per the details shown on SCD GR-2.2.

Install posts located over a footing with a cover of less than 2'-6" with a footing anchor as detailed here. (A plate, as detailed on SECTION B-B of SCD GR-2.2, may be used as an alternative attachment method.) Where the cover is between 2'-6" and 3'-5", the footing anchor may be omitted and the post encased instead with 4" (min.) of concrete.

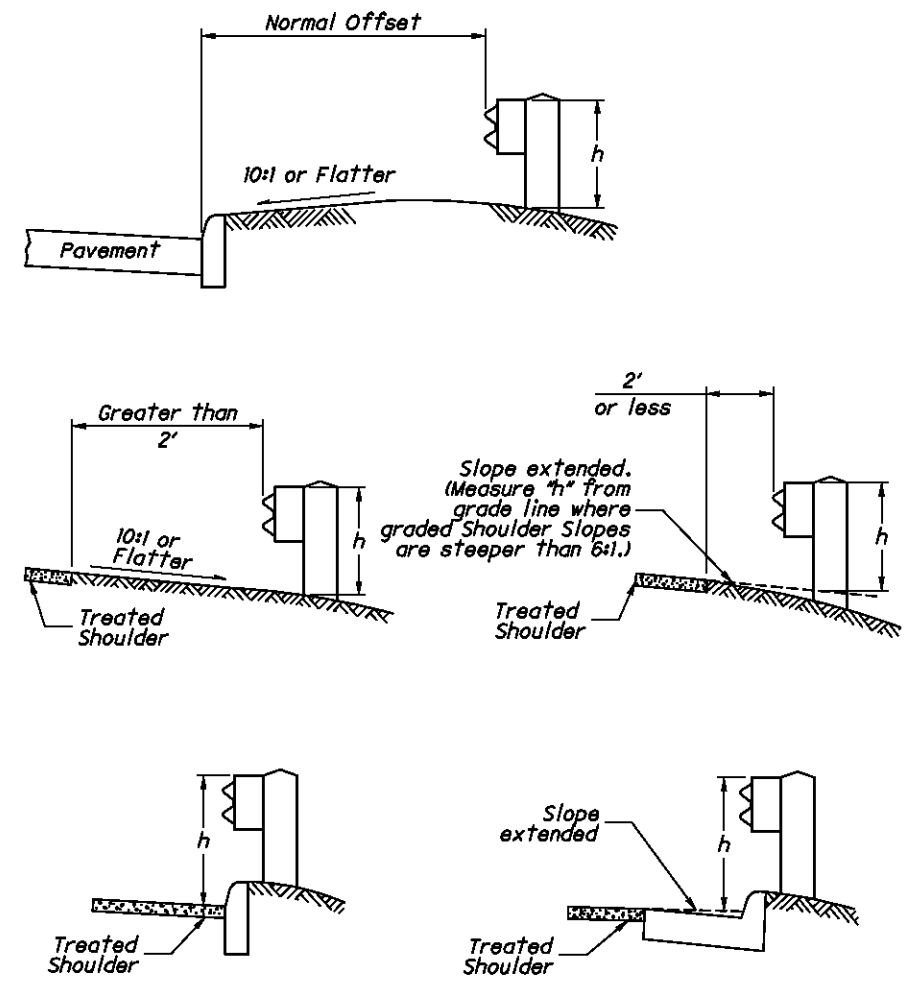
Do not drive posts located over a culvert with less than 4'-3" of cover; instead set in drilled or dug holes. Where the available post embedment depth is less than 3'-5", encase the post with a minimum of 4" concrete.

All costs associated with special post mountings are included in the unit price bid of Item 606 Guardrail of the type specified in the plans.

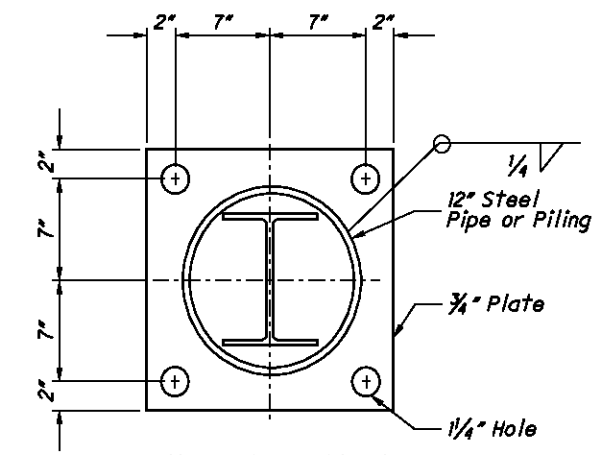
ANCHORS: Holes and grouting shall comply with CMS 510. Use either cement or non-shrink, nonmetallic grout.

Expansion shield anchors as specified in CMS 712.01 may be substituted except where concrete deterioration has occurred, as determined by the Engineer. Where self-drilling anchors are used, drill the holes with the expansion shield (not by a drill bit) and install the shield flush with the concrete surface.

PROTECTIVE COATING: In lieu of the complying with CMS 710.06, coat expansion shields, anchors and concrete insert anchor assemblies embedded in concrete in accordance with ASTM A 153 or be of stainless steel. Any bolts screwed into these devices shall meet CMS 710.06. (See sheet 3 for Concrete Insert Anchor Assembly Detail.)

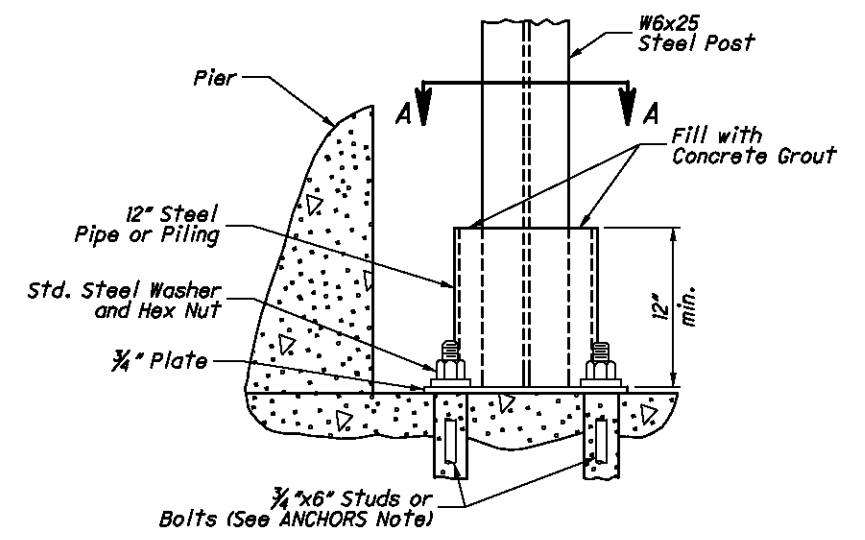


h = Standard Height (See GUARDRAIL HEIGHT Note)
MEASURING GUARDRAIL HEIGHT



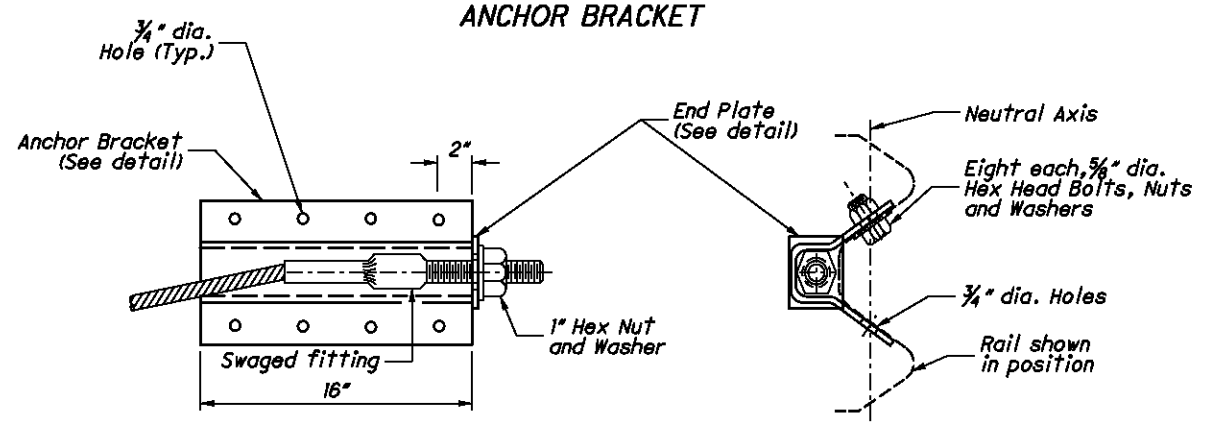
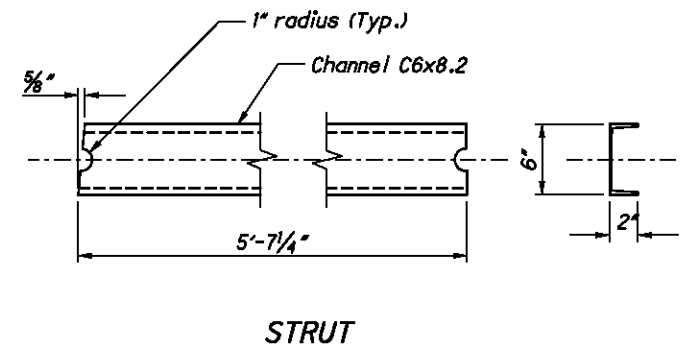
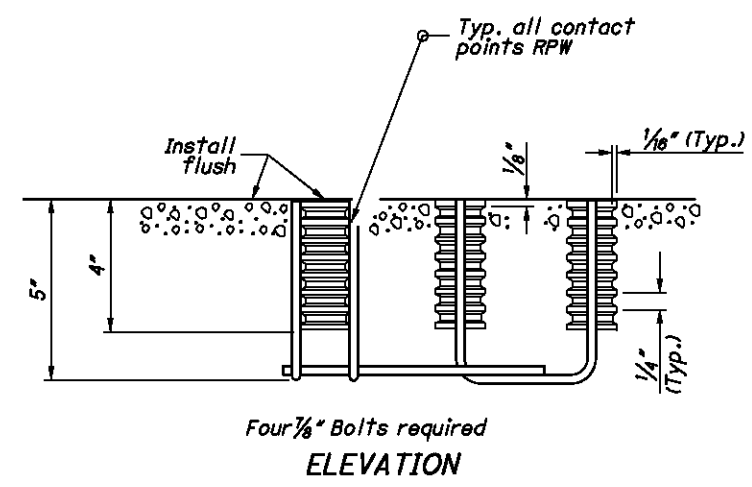
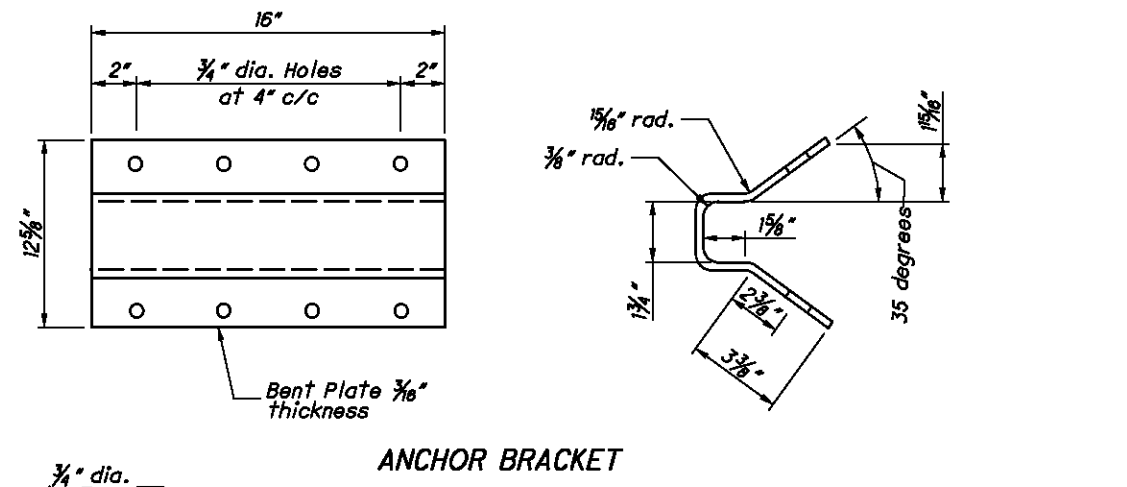
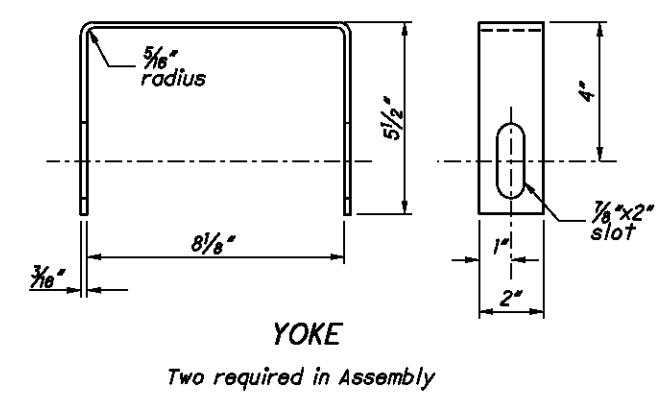
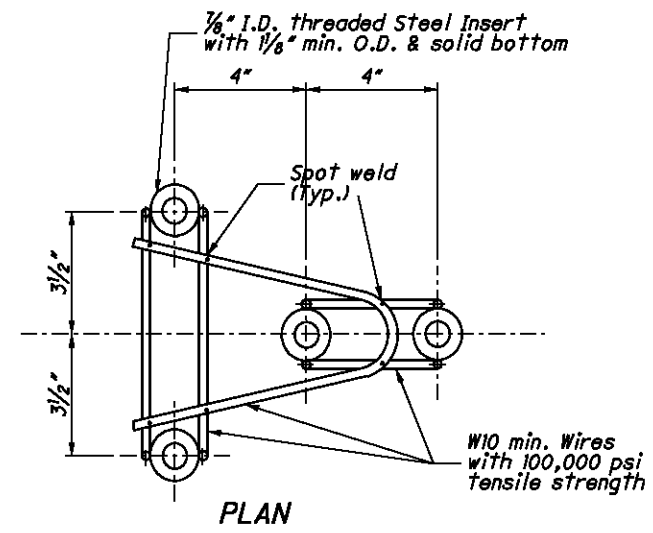
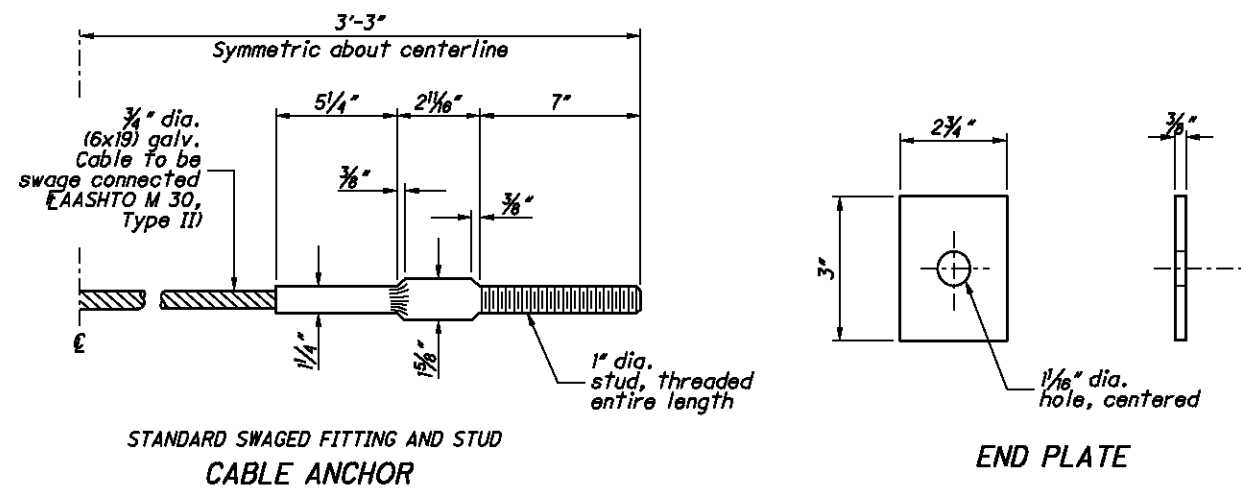
Footing Anchor and hardware need not be galvanized

SECTION A-A



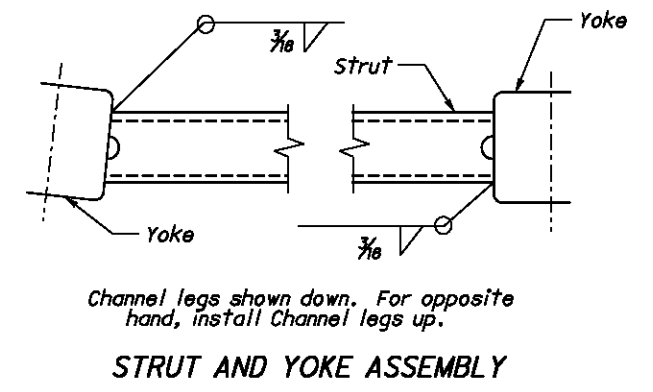
ELEVATION FOOTING ANCHOR

See SPECIAL POST MOUNTINGS Note.

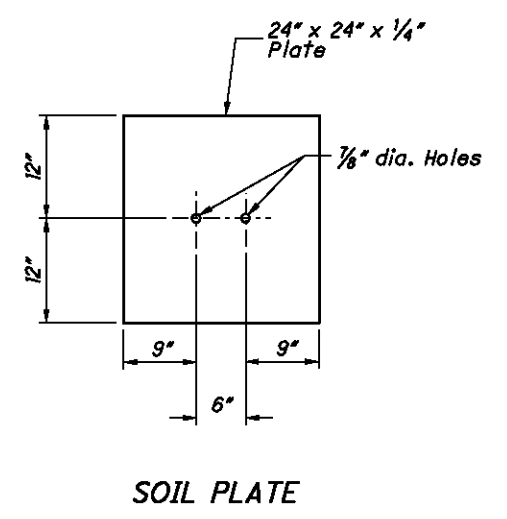
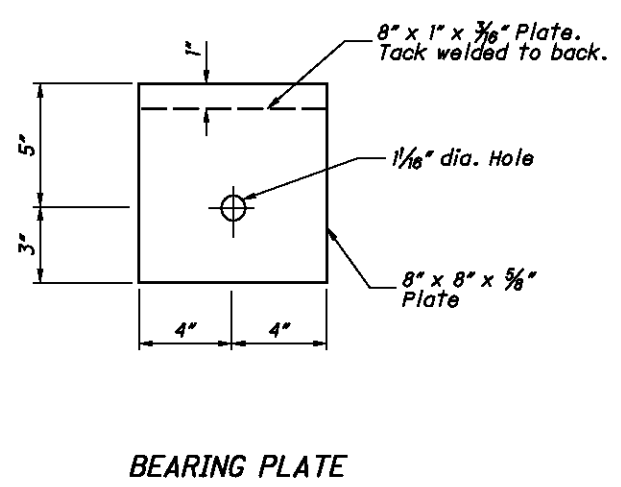
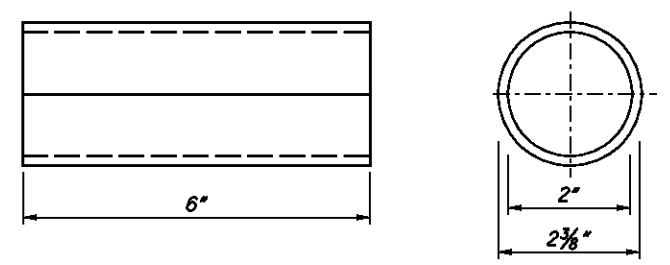


CONCRETE INSERT ANCHOR ASSEMBLY (W-BEAM ONLY)

See ANCHORS and PROTECTIVE COATINGS Notes on Sheet 2



ANCHOR BRACKET ASSEMBLY DETAILS



NOTES

RAIL: Use W-Beam rail meeting AASHTO M 180 Type II Class A, as specified in CMS 606.

POSTS: Posts may be constructed of wood or steel. Wood posts may be round or 6"x8" square-sawed.

Use round wood posts on runs of single-sided rail. The round posts shall be 8"± in diameter at the top and not more than 3" larger at the butt with a uniform taper.

Fabricated wood posts with square ends. Posts shall be pressure-treated as per CMS 710.14. Bore bolt holes and, if required, trim the tops of posts after the posts are set.

Steel posts are to be W6x9 or W6x8.5 galvanized steel. Use the same type of post throughout the length of the project unless otherwise specified in the plans or permitted by the Engineer.

All posts are 6'-0" long unless specified otherwise in the Contract Document. Posts may be set in drilled holes or may be driven to grade.

WELDED BEAM POSTS: Welded beam guardrail posts may be used for Item 606, Guardrail, provided the web and flange sizes are as shown here. Welding of the web to the flanges must comply with ASTM A 769, Class 1, using Grade 36 steel [250 MPa yield point] with the following exceptions:

- Sec. 7.2 Test reports of tensile properties for each lot shall accompany each shipment.
- Sec. 12 Beams that have imperfections repaired by welding shall not be accepted for use in Item 606.
- Sec. 13 Random samples shall be tested by the Department from materials delivered to the project site, or other locations designated by the Laboratory.

ALTERNATE POSTS: Engineered guardrail posts having met NCHRP 350 criteria, and listed on the Office of Materials Management's Approved List are permitted as an equal alternate when installed according to the Manufacturer's instructions and within the limitations shown on the Approved List.

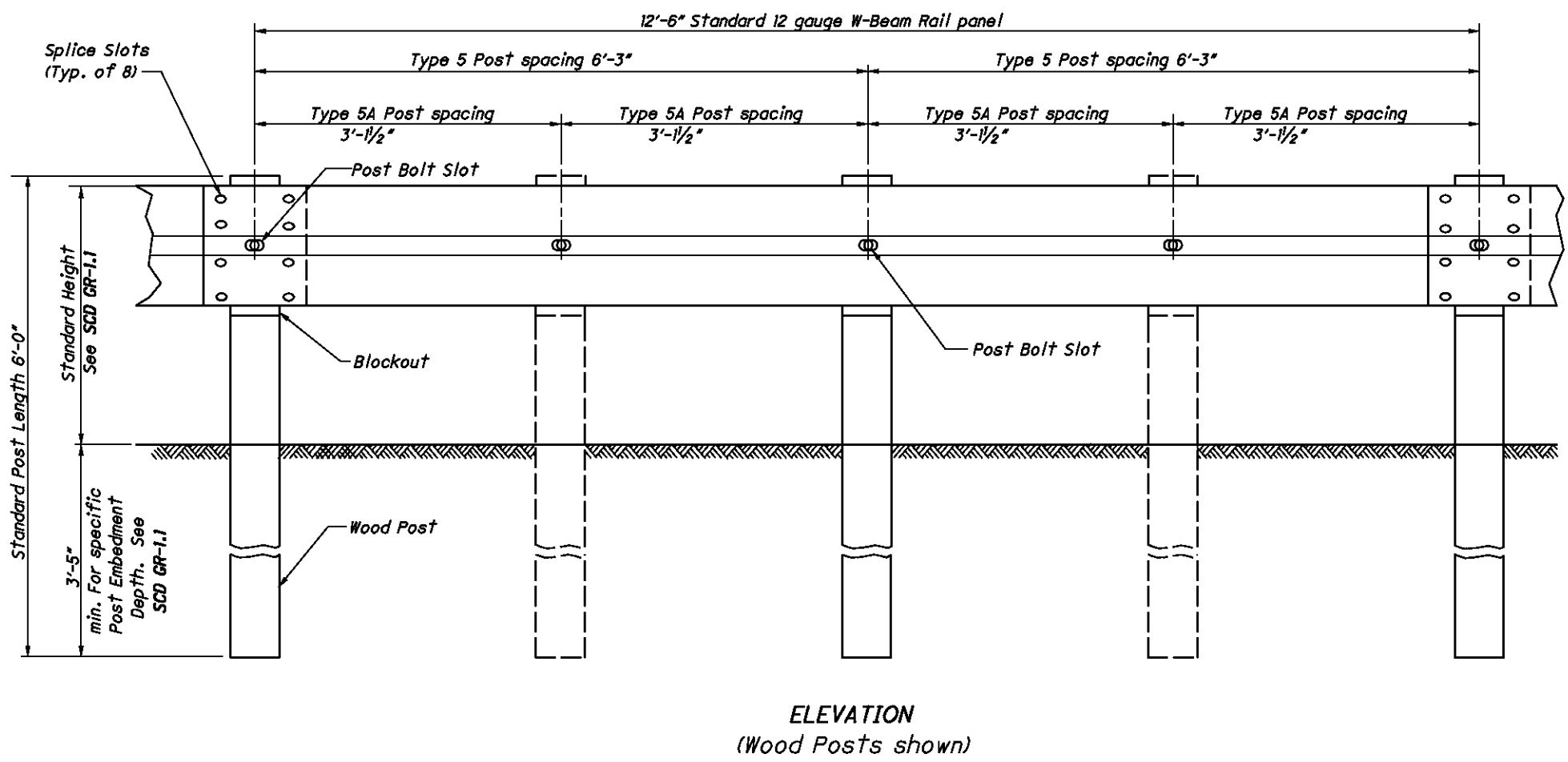
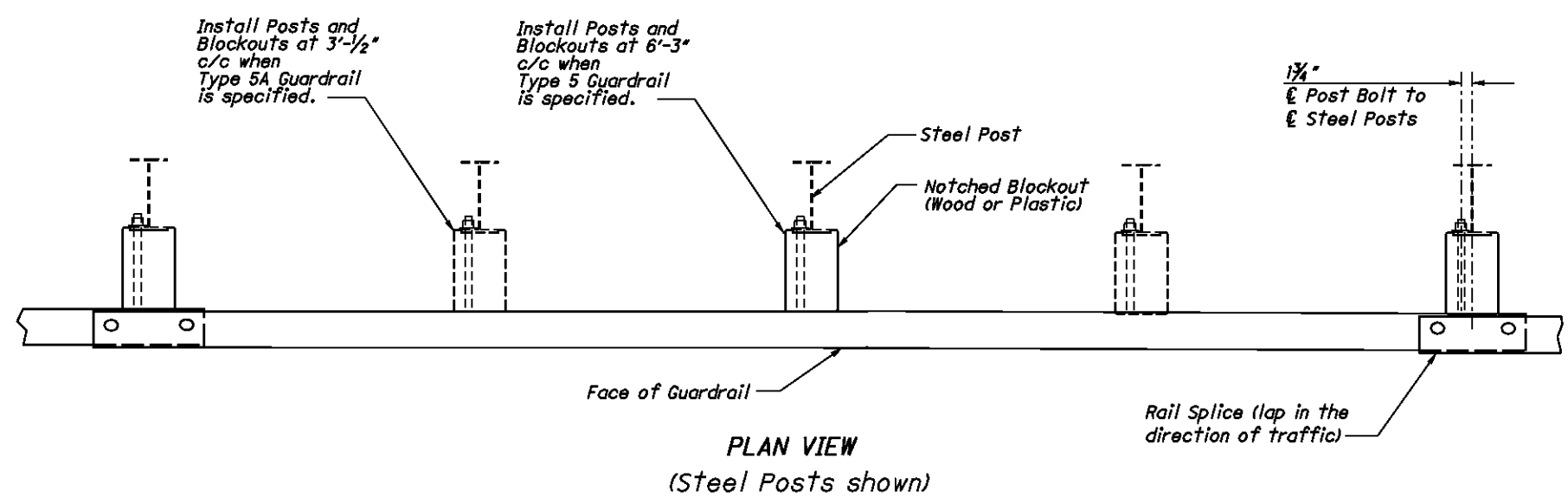
BLOCKOUTS: Blockout dimensions are dependent on post used. Wood Blockouts are to be pressure treated as specified in CMS 710.14. Bore bolt holes. Approved alternate blockouts may be used in lieu of the wood blockouts shown. The approved list is maintained by the Office of Roadway Engineering.

WASHERS: Install appropriate sized standard galvanized steel washers on the nut side of bolts installed on wood posts.

DELINEATION: For barrier reflectors, see CMS 626.

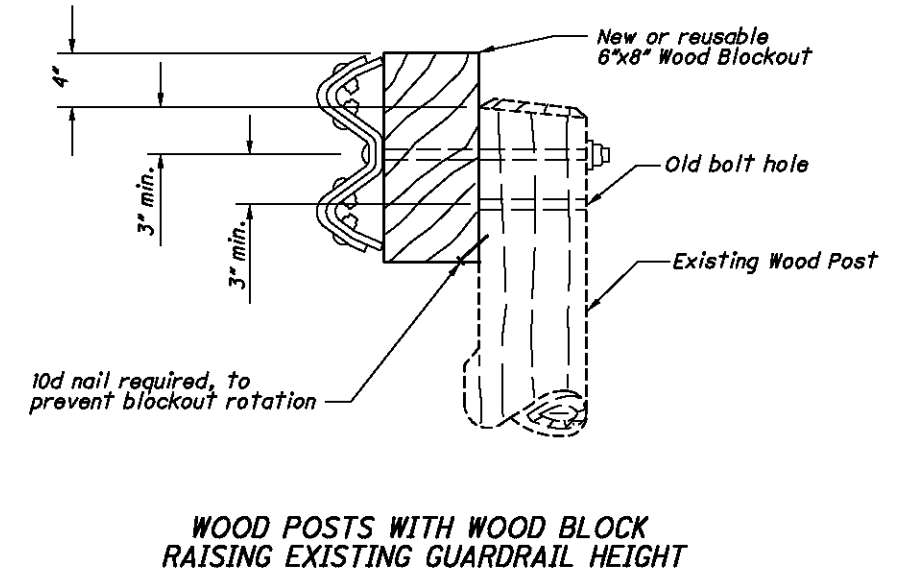
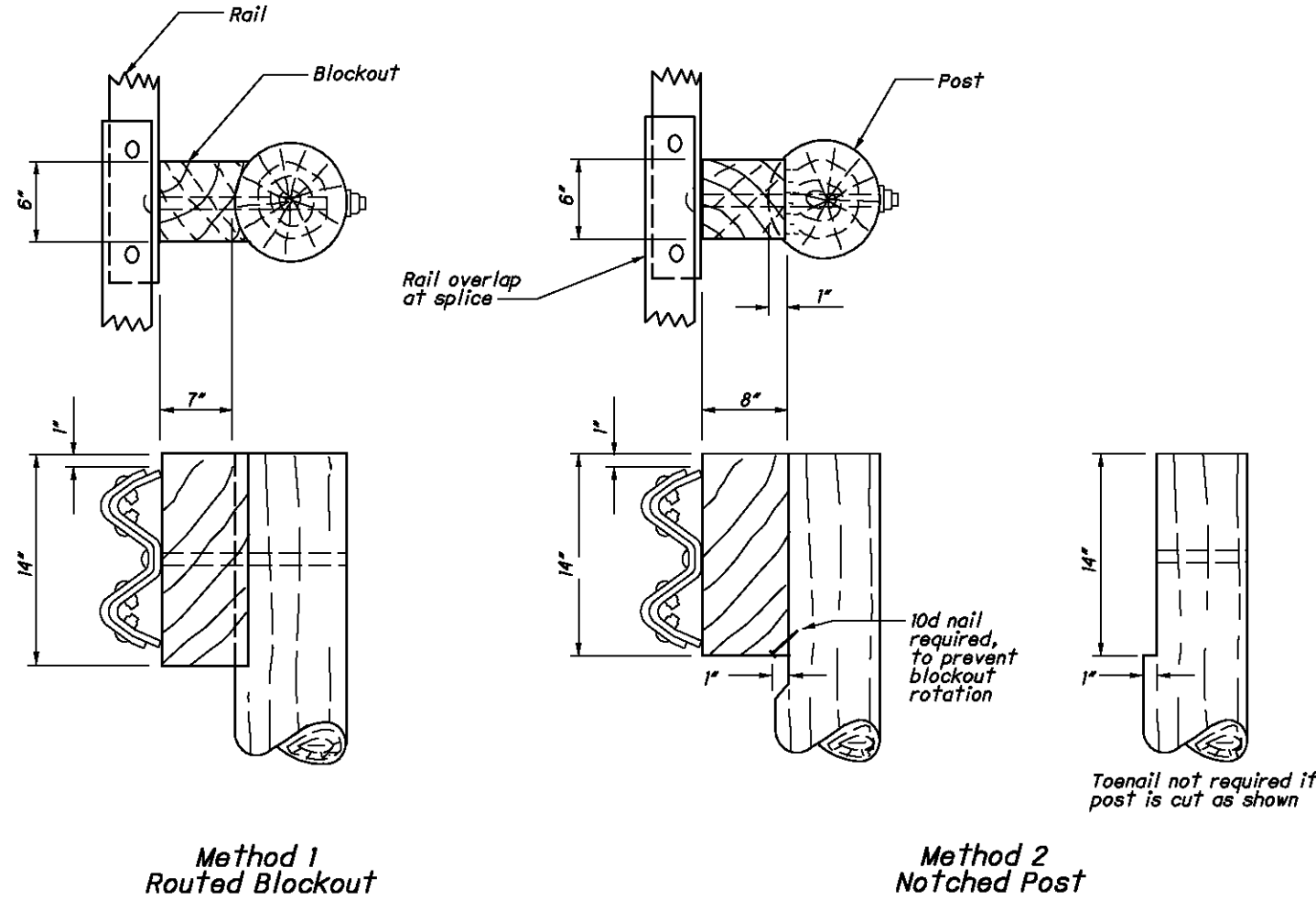
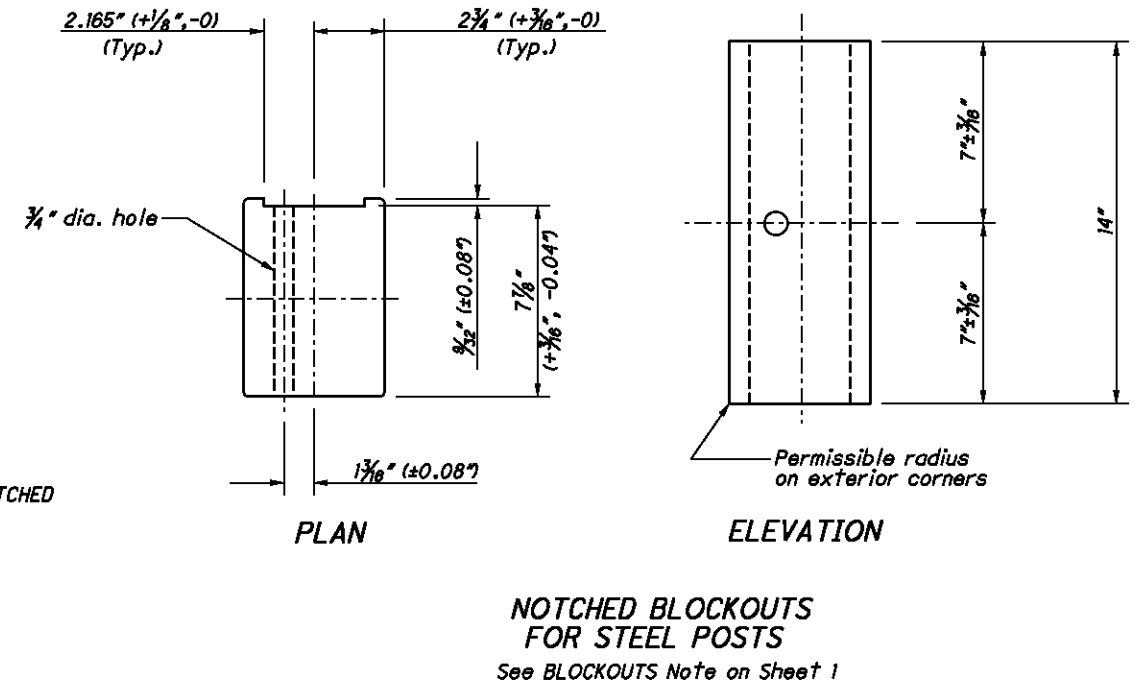
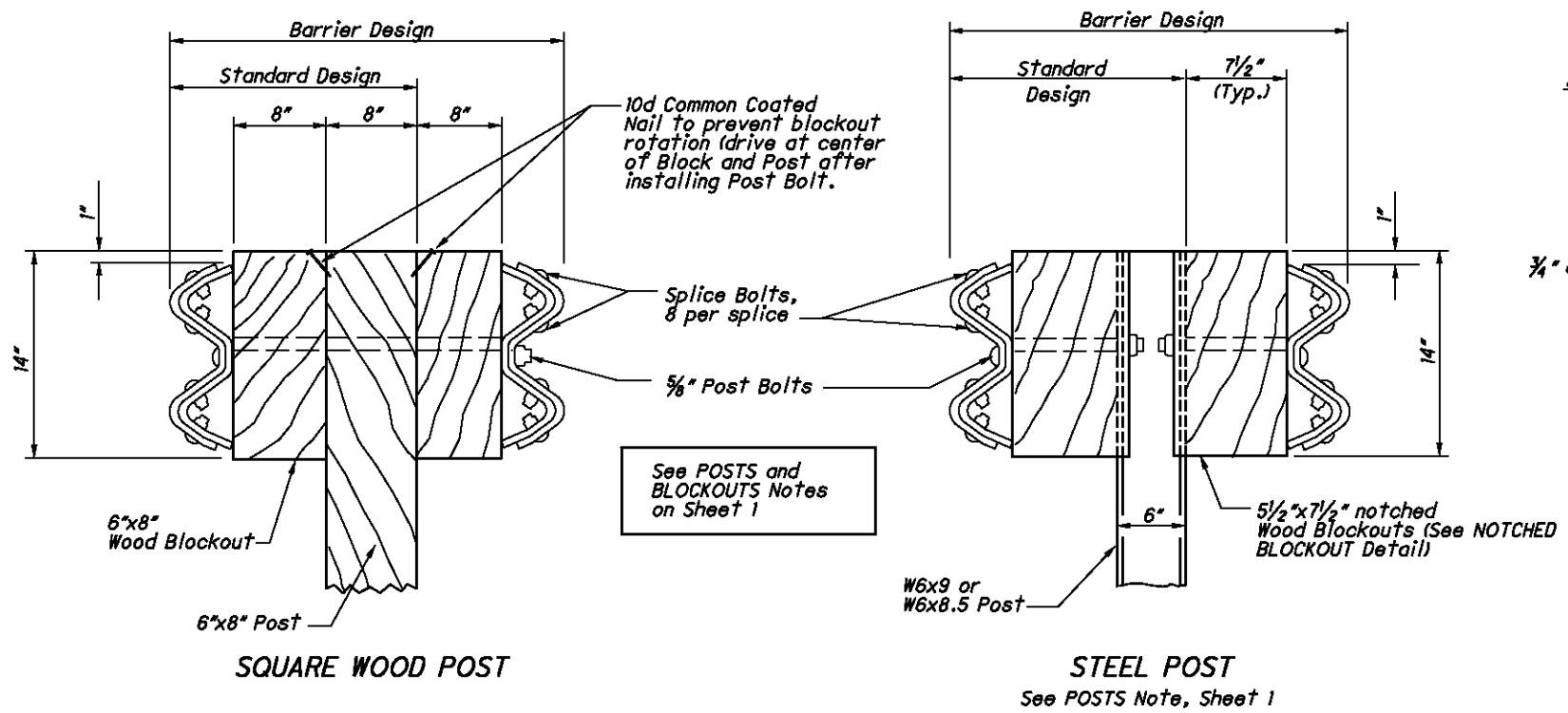
MISCELLANEOUS: For other guardrail details, see SCD GR-1.1.

STEEL BEAM POSTS (English)				
Size	Beam depth	Flange width	Flange thickness	Web thickness
Rolled W6x8.5	5.8"	3.94"	0.193"	0.170"
Rolled W6x9	5.9"	3.94"	0.215"	0.170"
Welded 6x8.5	6.0"	3.94"	0.193"	0.170"
Welded 6x9	6.0"	3.94"	0.215"	0.170"



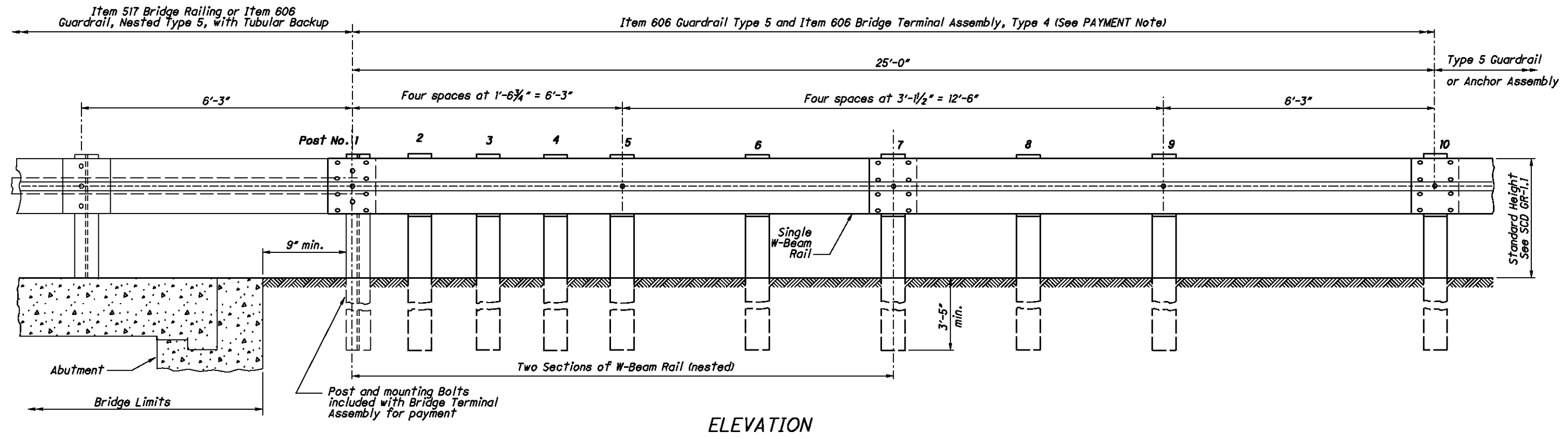
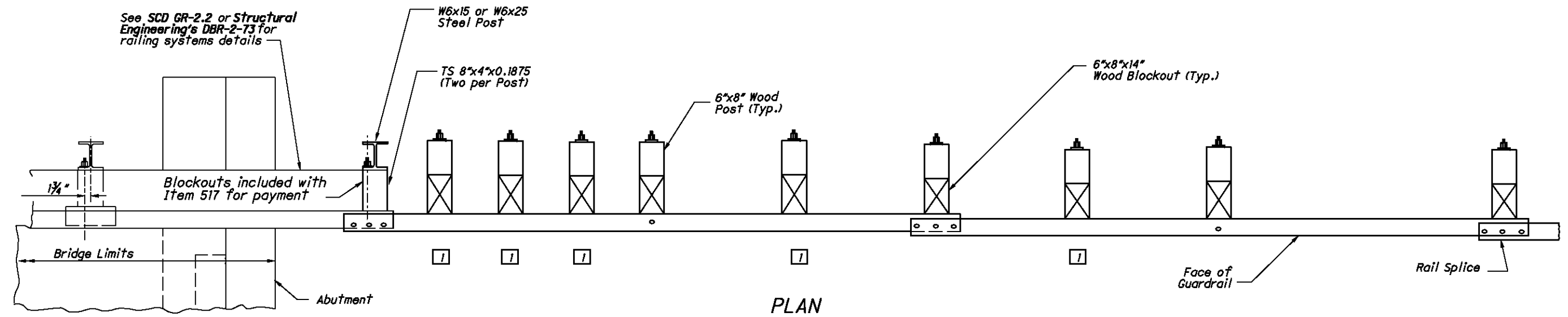
ELEVATION
(Wood Posts shown)

DESIGNED	REVISION DATE
	CHECKED
PIS NUMBER	



Alternate methods of placing the Blockouts on round Posts may be submitted for consideration and approved by the Engineer.

ROUND WOOD POSTS
Single Sided runs only (Standard Design)



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 1/4"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.