Oversight / NHS	
FHWA REGION VIII OVERSIGHT?	■ NO □ YES
NATIONAL HIGHWAY SYSTEM?	□ NO ■ YES

DEPARTMENT OF TRANSPORTATION
STATE OF COLORADO

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED
COLORADO PROJECT NO. STA 0503-089
US HIGHWAY NO. 50 / STATE HIGHWAY NO. 9
FREMONT COUNTY
CONSTRUCTION PROJECT CODE NO. 21255

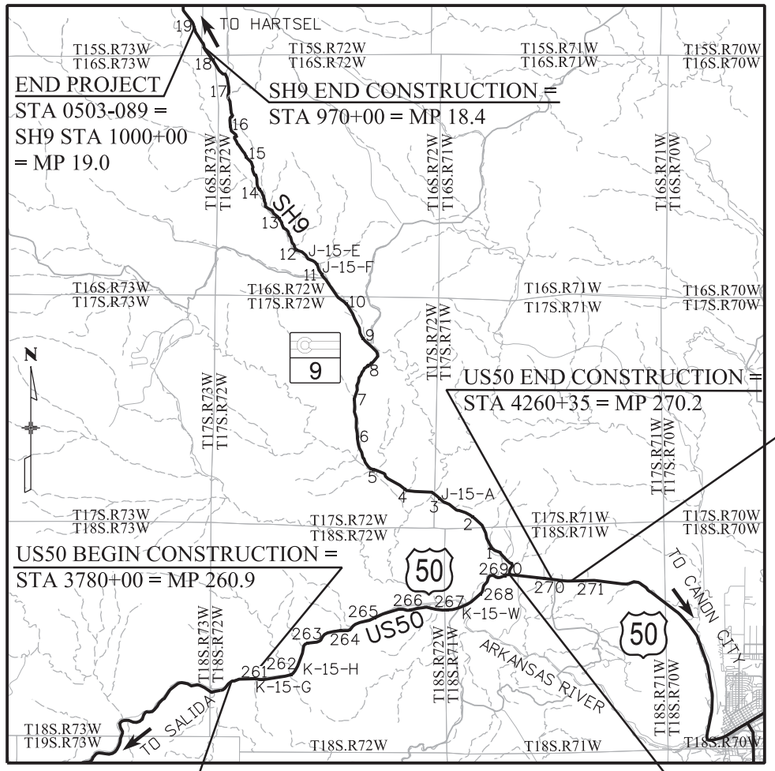
Related Projects:
P. E. UNDER PROJECT:
Project Number STM R200-231
Project Code: 21393

R.O.W. Projects:
R.O.W. Project Description

TABULATION OF LENGTH & DESIGN DATA

STATION	FEET ROADWAY SH 9	FEET ROADWAY US 50	FEET MAJOR STR.
BEGIN PROJECT/BEGIN CONSTRUCTION STA 0503-089 =			
SH 9 STA 0+00 = M.P. 0.0			
SH 9 STA 0+00 TO 165+11	16,511		
SH 9 STA 165+11 TO 166+09 - STR J-15-A			98
SH 9 STA 166+09 TO 594+84	42,875		
SH 9 STA 594+84 TO 596+16 - STR J-15-F			132
SH 9 STA 596+16 TO 635+88	3,972		
SH 9 STA 635+88 TO 636+12 - STR J-15-E			24
SH 9 STA 636+12 TO 970+00	33,388		
END CONSTRUCTION =			
SH 9 STA 970+00 = M.P. 18.4			
SH 9 STA 970+00 TO 1000+00 = NO WORK	3,000		
END PROJECT STA 0503-089 =			
SH 9 STA 1000+00 = M.P. 19.0			
BEGIN PROJECT STA 0503-089 =			
US 50 STA 3750+00, M.P. 260.3			
US 50 STA 3750+00 TO 3780+00 = NO WORK		3,000	
BEGIN CONSTRUCTION =			
US 50 STA 3780+00 = M.P. 260.9			
US 50 STA 3780+00 TO 3781+85		185	
US 50 STA 3781+85 TO 3782+28 - STR K-15-G			43
US 50 STA 3782+28 TO 3830+29		4,801	
US 50 STA 3830+29 TO 3830+62 - STR K-15-H			33
US 50 STA 3830+62 TO 4114+84		28,422	
US 50 STA 4114+84 TO 4117+24 - STR K-15-W			240
US 50 STA 4117+24 TO 4260+35		14,311	
END CONSTRUCTION =			
US 50 STA 4260+35, M.P. 270.2			
US 50 STA 4260+35 TO 4291+00 = NO WORK		3,065	
END PROJECT STA 0503-089 =			
US 50 STA 4291+00 = M.P. 270.8			
TOTAL	99,746	53,784	570
SUMMARY OF PROJECT LENGTH	FEET		MILES
MAJOR STRUCTURE	570		0.11
PROJECT GROSS LENGTH	154,100		29.19
PROJECT NET LENGTH	145,035		27.47

DESIGN DATA	SH 9	US 50
MAXIMUM RADIUS OF CURVE	N/A	N/A
MAXIMUM GRADE	N/A	N/A
MINIMUM S.S.D. HORIZONTAL	N/A	N/A
MINIMUM S.S.D. VERTICAL	N/A	N/A
MAXIMUM DESIGN SPEED	N/A	N/A
2037 DESIGN TRAFFIC	DHV = 368 ADT = 2300	DHV = 702 ADT = 5400
DHV TRUCK %	8.60%	10.20%
CLEAR ZONE DISTANCE (TANGENT)	N/A	N/A
CLEAR ZONE DISTANCE (CURVE)	N/A	N/A
CONSTRUCTION CLEAR ZONE (MIN 18')	18'	18'



PROJECT LOCATION MAP

INDEX OF SHEETS

Print Date: 2/1/2017
File Name: 21255DES_TitleSht.dgn
Horiz. Scale: 1:21120 Vert. Scale: N/A

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Sheet Revisions		
Date:	Comments	Init.

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Phone: 719-634-2323 FAX: 719-227-3298
Region 2 DW

As Constructed	
No Revisions:	
Revised:	
Void:	

Contract Information	
Contractor:	
Resident Engineer:	
Project Engineer:	
PROJECT STARTED: / /	ACCEPTED: / /
Comments:	

Project No./Code	
STA 0503-089	
21255	
Sheet Number	1

jason.bonini 2:05:38 PM pw:\\617479-PWINT.aecomonline.local:AECOM_DS01_NA\Documents\60505397-US50 Royal Gorge West_SH9 Jct North\900 Work\910 CAD\02 SHEETS\02_Roadway\21255DES_TitleSht.dgn

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER
M-100-1		STANDARD SYMBOLS (3 SHEETS)	1-3
M-100-2		ACRONYMS AND ABBREVIATIONS (4 SHEETS)	4-7
M-203-1	■	APPROACH ROADS (REVISED ON JULY 08, 2013)	~~8~~
M-203-2		DITCH TYPES	9
M-203-11		SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS)	10-12
M-203-12		SUPERELEVATION STREETS (2 SHEETS)	13-14
M-206-1		EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	15-16
M-206-2		EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS)	17-18
M-208-1	■	TEMPORARY EROSION CONTROL (11 SHEETS) (REVISED ON MARCH 29, 2016)	~~19-30~~
M-210-1		MAILBOX SUPPORTS (2 SHEETS)	31-32
M-214-1		PLANTING DETAILS	33
M-216-1	☐	SOIL RETENTION COVERING (2 SHEETS) (NEW ON JULY 16, 2015)	
M-412-1	☐	CONCRETE PAVEMENT JOINTS (5 SHEETS) (REVISED ON JULY 24, 2012)	~~34-38~~
M-510-1		STRUCTURAL PLATE PIPE H-20 LOADING	39
M-601-1	☐	SINGLE CONCRETE BOX CULVERT (2 SHEETS) (REVISED ON NOVEMBER 25, 2015)	~~40-41~~
M-601-2	☐	DOUBLE CONCRETE BOX CULVERT (2 SHEETS) (REVISED ON NOVEMBER 25, 2015)	~~42-43~~
M-601-3	☐	TRIPLE CONCRETE BOX CULVERT (2 SHEETS) (REVISED ON NOVEMBER 25, 2015)	~~44-45~~
M-601-10		HEADWALL FOR PIPES	46
M-601-11		TYPE "S" SADDLE HEADWALLS FOR PIPE	47
M-601-12		HEADWALLS AND PIPE OUTLET PAVING	48
M-601-20		WINGWALLS FOR PIPE OR BOX CULVERTS	49
M-603-1	■	METAL PIPE (4 SHEETS). (REVISED ON OCTOBER 02, 2014)	~~50-53~~
M-603-2	☐	REINFORCED CONCRETE PIPE. (REVISED ON OCTOBER 02, 2014)	~~54~~
M-603-3		PRECAST CONCRETE BOX CULVERT	55
M-603-4	☐	CORRUGATED POLYETHYLENE PIPE (AASHTO M294) (REVISED ON OCT. 02, 2014).	~~56~~
M-603-5	☐	POLYVINYL CHLORIDE (PVC) PIPE (AASHTO M304). (REVISED ON OCT. 02, 2014).	~~57~~
M-603-6	☐	STEEL REINFORCED POLYETHYLENE RIBBED PIPE (AASHTO MP 20) (NEW ON APRIL 30, 2015)	
M-603-10		CONCRETE AND METAL END SECTIONS (2 SHEETS)	58-59
M-604-10		INLET, TYPE C	60
M-604-11		INLET, TYPE D	61
M-604-12		CURB INLET TYPE R (2 SHEETS)	62-63
M-604-13		CONCRETE INLET TYPE 13	64
M-604-20		MANHOLES (3 SHEETS)	65-67
M-604-25		VANE GRATE INLET (5 SHEETS)	68-72
M-605-1		SUBSURFACE DRAINS	73
M-606-1	☐	GUARDRAIL TYPE 3 W-BEAM (20 SHEETS) (REVISED ON OCTOBER 27, 2014)	~~74-92~~
M-606-1	■	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES (20 SHEETS) (REVISED ON DECEMBER 29, 2015)	
M-606-13	☐	GUARDRAIL TYPE 7 F-SHAPE BARRIER (4 SHEETS) (REVISED ON AUGUST 30, 2013)	~~93-96~~
M-606-14		PRECAST TYPE 7 CONCRETE BARRIER (3 SHEETS)	97-99

PLAN NUMBER	NEW OR REVISED	M STANDARD TITLE	PAGE NUMBER
M-607-1		WIRE FENCES AND GATES (3 SHEETS)	100-102
M-607-2		CHAIN LINK FENCE (3 SHEETS)	103-105
M-607-3		BARRIER FENCE	106
M-607-4	☐	DEER FENCE, GATES, AND GAME RAMPS (5 SHEETS) (REVISED ON APRIL 30, 2015)	~~107-109~~
M-607-10		PICKET SNOW FENCE	110
M-607-15		ROAD CLOSURE GATE (9 SHEETS)	111-119
M-608-1	☐	CURB RAMPS (7 SHEETS) (REVISED ON JUNE 16, 2014)	~~120-125~~
M-609-1	■	CURBS, GUTTERS, AND SIDEWALKS (4 SHEETS) (REVISED ON JULY 24, 2012).	~~126-129~~
M-611-1		CATTLE GUARD (2 SHEETS)	130-131
M-611-2	☐	DEER GUARD (2 SHEETS) (NEW ON APRIL 30, 2015)	
M-613-1		ROADWAY LIGHTING (4 SHEETS)	132-135
M-614-1		RUMBLE STRIPS (3 SHEETS)	136-138
M-614-2		SAND BARREL ARRAYS (2 SHEETS)	139-140
M-615-1		EMBANKMENT PROTECTOR TYPE 3	141
M-615-2		EMBANKMENT PROTECTOR TYPE 5	142
M-616-1		INVERTED SIPHON	143
M-620-1		FIELD LABORATORY CLASS 1	144
M-620-2		FIELD LABORATORY CLASS 2 (2 SHEETS)	145-146
M-620-11		FIELD OFFICE CLASS 1	147
M-620-12		FIELD OFFICE CLASS 2	148
M-629-1		SURVEY MONUMENTS (2 SHEETS)	149-150

COLORADO
DEPARTMENT OF TRANSPORTATION

M&S STANDARDS PLANS LIST

July 04, 2012

Revised on December 1, 2016

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

NEW OR REVISED STANDARD PLAN SHEETS APPLICABLE TO THIS PROJECT, INDICATED BY A MARKED BOX ■, WILL BE ATTACHED TO THE PLANS.

PLAN NUMBER	NEW OR REVISED	S STANDARD TITLE	PAGE NUMBER
S-612-1	■	DELINEATOR INSTALLATIONS (7 SHEETS) (REVISED ON DECEMBER 1, 2016)	151-157
S-614-1	■	GROUND SIGN PLACEMENT (2 SHEETS) (REVISED ON DECEMBER 12, 2014).	~~158-159~~
S-614-2	■	CLASS I SIGNS (REVISED ON JUNE 24, 2016)	~~160~~
S-614-3		CLASS II SIGNS	161
S-614-4	☐	CLASS III SIGNS (3 SHEETS) (REVISED ON DECEMBER 17, 2014)	~~162-164~~
S-614-5		BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	165-166
S-614-6	☐	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS) (REVISED ON SEPTEMBER 16, 2013)	~~167-168~~
S-614-8	■	TUBULAR STEEL SIGN SUPPORT DETAILS (6 SHEETS) (REVISED ON DECEMBER 1, 2016)	~~169-173~~
S-614-9	☐	PEDESTRIAN PUSH BUTTON POST ASSEMBLY (REVISED ON MAY 24, 2016)	~~174~~
S-614-10		MARKER ASSEMBLY INSTALLATIONS	175
S-614-11		MILEPOST SIGN DETAIL FOR HIGH SNOW AREAS	176
S-614-12		STRUCTURE NUMBER INSTALLATION	177
S-614-14		FLASHING BEACON AND SIGN INSTALLATIONS (3 SHEETS)	178-180
S-614-20		TYPICAL POLE MOUNT SIGN INSTALLATIONS	181
S-614-21	☐	CONCRETE BARRIER SIGN POST INSTALLATIONS (REVISED ON MAY 24, 2016)	~~182~~
S-614-22		TYPICAL MULTI-SIGN INSTALLATIONS	183
S-614-40	☐	TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS) (REVISED ON JUNE 17, 2016)	~~184-188~~
S-614-40A	☐	ALTERNATIVE TRAFFIC SIGNAL INSTALLATION DETAILS (4 SHEETS) (REVISED ON JUNE 17, 2016)	~~189-192~~
S-614-41	☐	TEMPORARY SPAN WIRE SIGNALS (REVISED ON APRIL 2, 2015)	~~193~~
S-614-42		CABINET FOUNDATION DETAIL (4 SHEETS)	194-197
S-614-43		TRAFFIC LOOP AND MISCELLANEOUS SIGNAL DETAILS (10 SHEETS)	198-207
S-614-44	☐	PEDESTAL POLE SIGNALS (2 SHEETS) (REVISED ON JUNE 17, 2016)	
S-614-50	☐	STATIC SIGN MONOTUBE STRUCTURES (12 SHEETS) (REVISED ON JUNE 17, 2016)	~~208-219~~
S-614-60	☐	DYNAMIC SIGN MONOTUBE STRUCTURES (14 SHEETS) (REVISED ON JUNE 17, 2016)	~~220-233~~
S-627-1	■	PAVEMENT MARKINGS (5 SHEETS) (REVISED ON JUNE 10, 2014).	~~234-238~~
S-630-1	■	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (24 SHEETS) (REVISED ON JUNE 23, 2016)	~~239-258~~
S-630-2	■	BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP). AND VERTICAL PANELS (REVISED ON JUNE 23, 2016)	~~259~~
S-630-3		FLASHING BEACON (PORTABLE) DETAILS	260
S-630-4		STEEL SIGN SUPPORT (TEMPORARY) INSTALLATION. DETAILS (2 SHEETS)	261-262
S-630-5	☐	PORTABLE RUMBLE STRIPS (TEMPORARY) (2 SHEETS) (REVISED ON AUGUST 13, 2015)	~~263-264~~
S-630-6		EMERGENCY PULL-OFF AREA (TEMPORARY)	265
S-630-7		ROLLING ROADBLOCKS FOR TRAFFIC CONTROL (3 SHEETS)	266-268

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File Name: 21255DES_StdPlans.dgn
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Revised:
Void:

STANDARD PLANS LIST

Designer: JAB
Detailer: LMB
Subset: STDPLANS
Structure Numbers:
Subset Sheets: 1 of 1

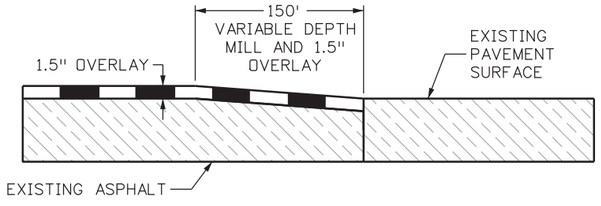
Project No./Code
STA 0503-089
21255
Sheet Number 2

LEGEND:

- ⬢ MATCH EXISTING CROSS SLOPE
- ϕ GRADING LOCATIONS SHALL BE DETERMINED BY THE ENGINEER. PAID AS ABC (SHOULDER MATERIAL)
- ✳ WHERE POSSIBLE GRADE THIS AREA FLAT AS DETERMINED BY THE ENGINEER
- RS RUMBLE STRIP: OMIT AT APPROACHES, CONTINUE THROUGH PASSING ZONES. USE INTERMITTENT RUMBLE STRIP ON SHOULDERS PER M-614-1

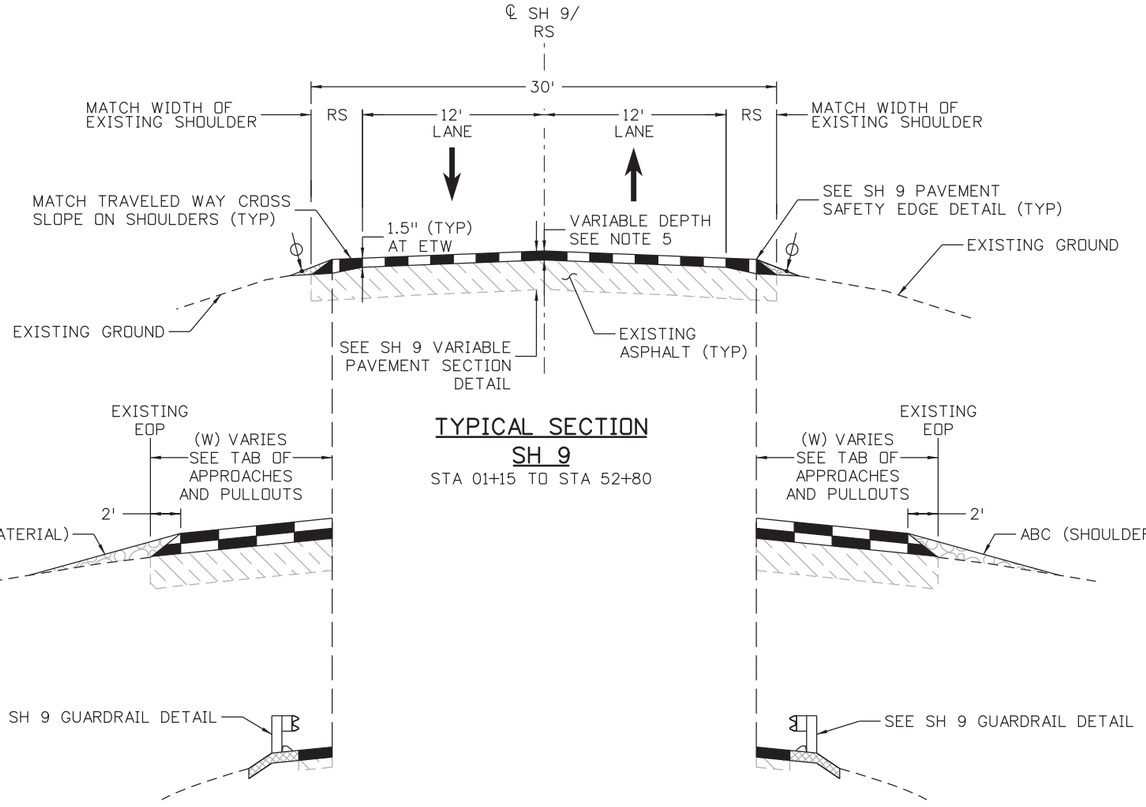
NOTES:

1) CURB TYPE 6, WHERE SPECIFIED IN THE TABULATION OF GUARDRAIL, SHALL BE PLACED DIRECTLY IN FRONT OF GUARDRAIL POSTS.
2) TYPICAL SECTION DATA IS BASED ON THE BEST AVAILABLE INFORMATION. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY EACH SECTION.
3) SAFETY EDGE SHALL BE CONSTRUCTED IN ALL AREAS WITHOUT GUARDRAIL. (SEE DETAIL)
4) STA 0+00 TO STA 1+15: SH9/US50 JUNCTION. SEE TABULATION OF SURFACING MATERIALS.
5) CORRECT PROFILE DEFICIENCIES. SEE ROADWAY DETAIL SH9 MP 0.0 TO MP 1.0 FOR EXISTING PROFILE.
6) SEE NEXT SHEET FOR SH9 PAVEMENT STABILIZATION DATA.

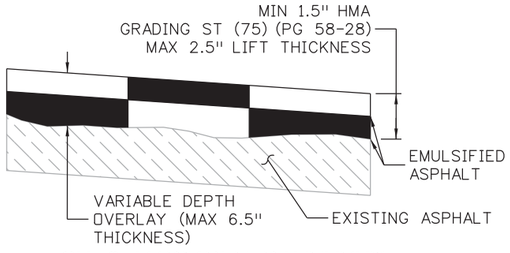


ASPHALT MILL TRANSITION DETAIL

SEE TABULATION OF SURFACING MATERIALS FOR LOCATIONS

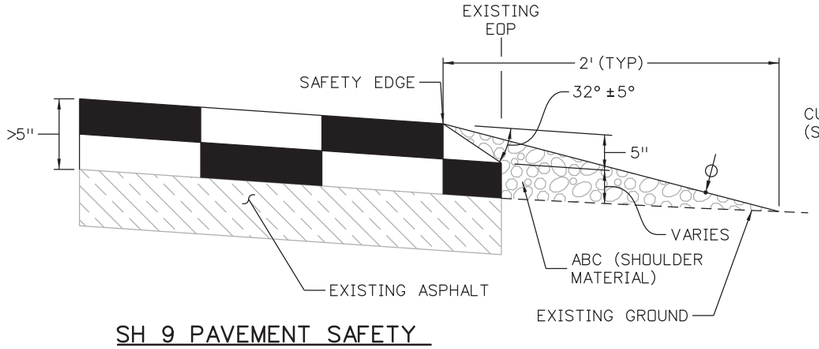


TYPICAL SECTION
SH 9
STA 01+15 TO STA 52+80

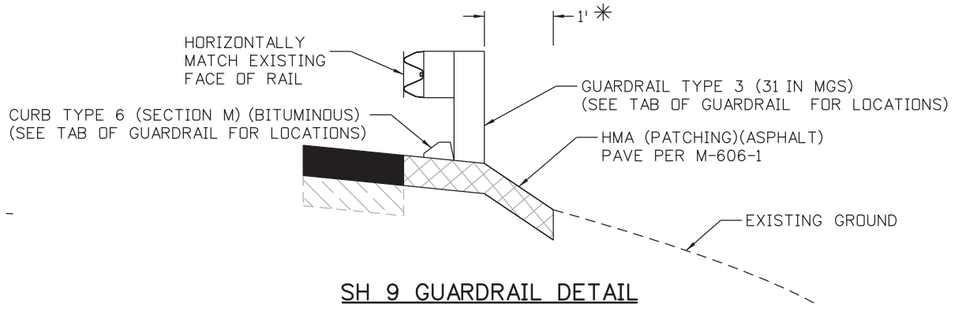


SH 9 VARIABLE PAVEMENT SECTION DETAIL

STA 01+15 TO STA 52+80



SH 9 PAVEMENT SAFETY EDGE DETAIL



SH 9 GUARDRAIL DETAIL

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Horiz. Scale: 1:10 Vert. Scale: N/A		Region 2 DW	Revised:
TRANSPORTATION AECOM Technical Services, Inc. 2315 Briargate Parkway, Suite 150 Colorado Springs, CO 80920 T 719.531.0001 www.aecom.com			Void:

SH 9 TYPICAL SECTION			Project No./Code
Designer: JAB	Structure Numbers		STA 0503-089
Detailer: LMB			21255
Subset: TYPICAL	Subset Sheets: 1 of 3		Sheet Number 3

LEGEND:

- ⬢ MATCH EXISTING CROSS SLOPE
- ϕ GRADING LOCATIONS SHALL BE DETERMINED BY THE ENGINEER. PAID AS ABC (SHOULDER MATERIAL)
- ✳ WHERE POSSIBLE GRADE THIS AREA FLAT AS DETERMINED BY THE ENGINEER
- RS RUMBLE STRIP: OMIT AT APPROACHES, CONTINUE THROUGH PASSING ZONES. USE INTERMITTENT RUMBLE STRIP ON SHOULDERS PER M-614-1

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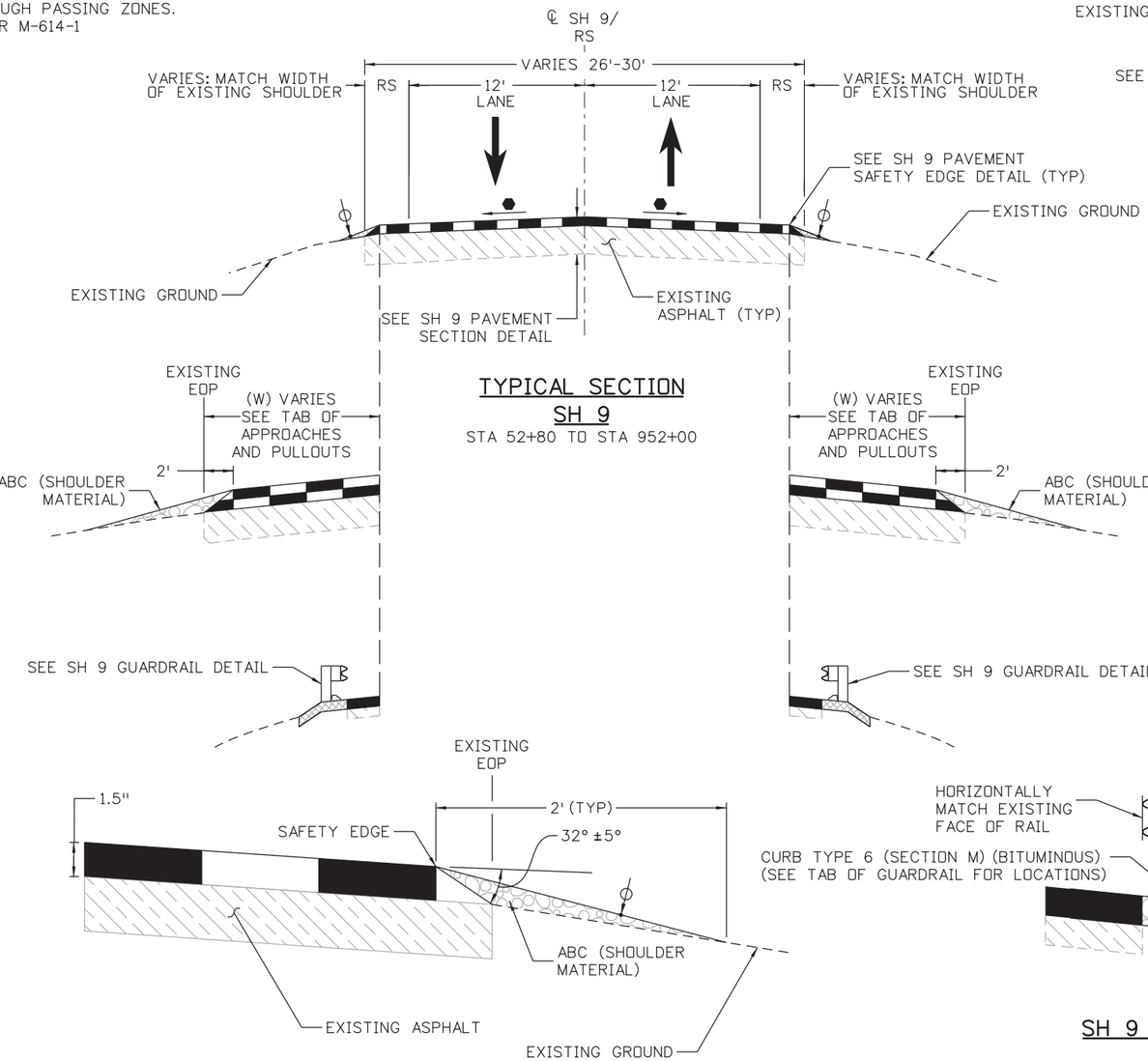
2) TYPICAL SECTION DATA IS BASED ON THE BEST AVAILABLE INFORMATION. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY EACH SECTION.
3) SAFETY EDGE SHALL BE CONSTRUCTED IN ALL AREAS WITHOUT GUARDRAIL. (SEE DETAIL)
4) STA 952+00 TO STA 970+00: NO RESURFACING WORK IN THIS AREA. SEE TABULATIONS FOR ANY ADDITIONAL WORK.

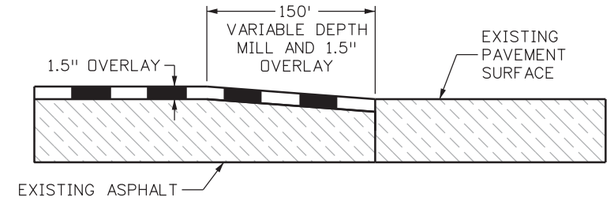
NH 0503-089 (21255)		
Design Parameters		
	1 1/2" Overlay	Widening Section
Design Life (Years)	10	20
18-Kip ESALS:	266,153	1,925,000
Heavy Trucks (Cumulative):	351,723	2,708,780
Operational Speed (MPH):	55	55
Effective Binder Content (%):	11.2	11.3
Voids (%):	5.1	6.7
Widening Pavement Thickness (in):	----	6
ABC Class 6 Thickness (in):	----	12
Milling Thickness (in):	0	----
Overlay Thickness (in):	1.5	----
HMA Grading:	ST	SX
HMA Design Gyrations:	75	100
HMA Grading (top lift)	PG 58-28	PG 58-28
HMA Grading (bottom lifts)	----	PG 58-28

Distress Prediction Summary				
	Target	Predicted	Target	Predicted
Terminal IRI (in/mile):	200	92.66	200	130.2
Reliability (%):	90	100	90	99.99
Permanent Deformation (in):	0.65	0.08	0.65	0.18
Reliability (%):	90	100	90	100
AC Total Fatigue Cracking(%)	35	7.9	----	----
Reliability (%):	90	100	----	----
AC Total Transverse Cracking (ft/mile):	2500	82.93	----	----
Reliability (%):	90	100	----	----
Permanent Deformation - AC Only (in):	0.5	0.08	0.5	0.08
Reliability (%):	90	100	90	100
AC Bottom-Up Fatigue Cracking (%)	25	0	25	7.39
Reliability (%):	90	100	90	100
AC Thermal Cracking (ft/mile)	1500	0.09	1500	145.96
Reliability (%):	90	100	90	100
AC Top-Down Fatigue Cracking (ft/mile):	2500	296.38	2500	624.97
Reliability (%):	90	100	90	100



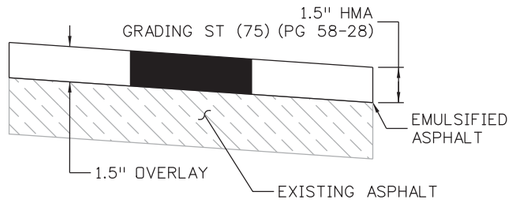
TYPICAL SECTION SH 9

STA 52+80 TO STA 952+00



ASPHALT MILL TRANSITION DETAIL

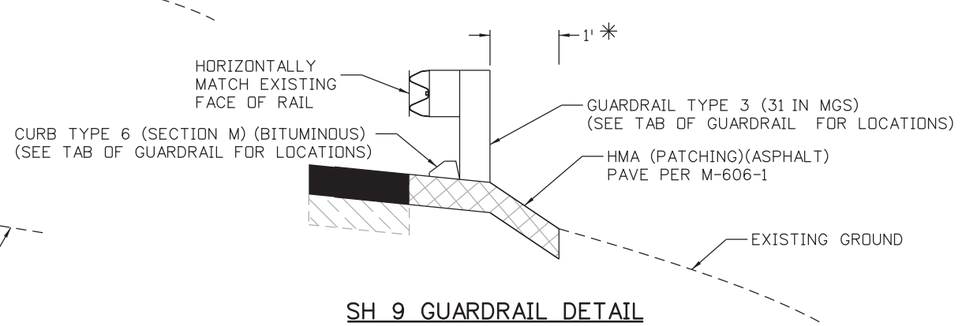
SEE TABULATION OF SURFACING MATERIALS FOR LOCATIONS



SH 9 PAVEMENT SECTION DETAIL

STA 52+80 TO STA 952+00

SH 9 PAVEMENT SAFETY EDGE DETAIL



SH 9 GUARDRAIL DETAIL

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File Name: 21255DES_TyplSect02.dgn		Date:	Comments	Init.	1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298
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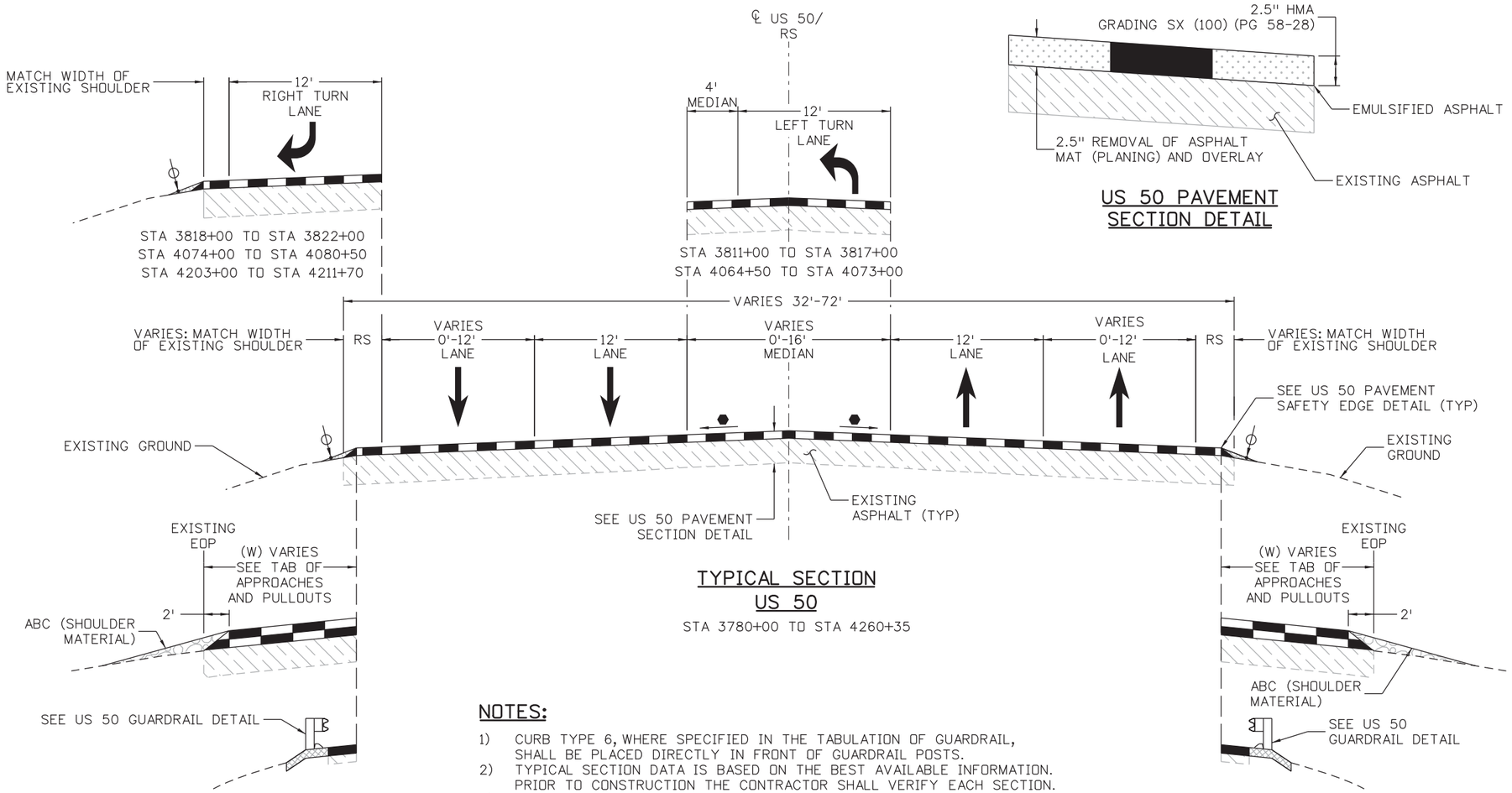
As Constructed	SH 9 TYPICAL SECTION			Project No./Code
No Revisions:				STA 0503-089
Revised:	Designer: JAB	Structure Numbers		21255
Void:	Detailer: LMB			
	Subset: TYPICAL	Subset Sheets: 2 of 3		Sheet Number 4



TYPICAL SECTION
US 50
STA 3780+00 TO STA 4260+35

US 50 PAVEMENT SECTION DETAIL

NH 0503-089 (21255)

Design Parameters

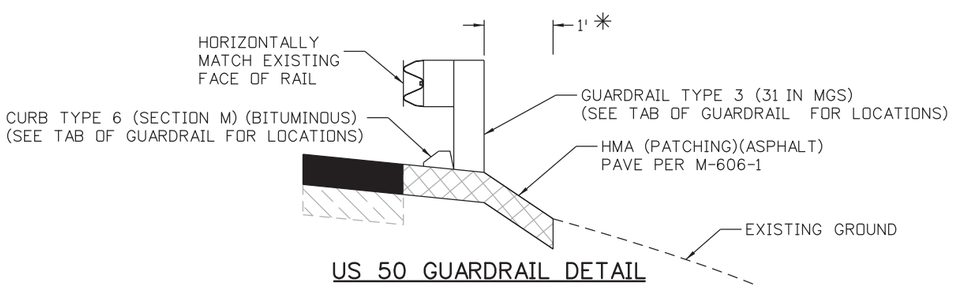
	2 1/2" Mill/Fill	Widening Section
Design Life (Years)	10	20
18-Kip ESALS:	880,000	1,925,000
Heavy Trucks (Cumulative):	1,155,660	2,708,780
Operational Speed (MPH):	55	55
Effective Binder Content (%):	11.2	11.3
Voids (%):	5.1	6.7
Widening Pavement Thickness (in):	----	6
ABC Class 6 Thickness (in):	----	12
Milling Thickness (in):	2.5	----
Overlay Thickness (in):	2.5	----
HMA Grading:	SX	SX
HMA Design Gyrations:	100	100
HMA Grading (top lift)	PG 58-28	PG 58-28
HMA Grading (bottom lifts)	----	PG 58-28

Distress Prediction Summary

	Target	Predicted	Target	Predicted
Terminal IRI (in/mile):	200	93.39	200	130.2
Reliability (%):	90	100	90	99.99
Permanent Deformation (in):	0.65	0.11	0.65	0.18
Reliability (%):	90	100	90	100
AC Total Fatigue Cracking(%)	35	7.45	----	----
Reliability (%):	90	100	----	----
AC Total Transverse Cracking (ft/mile):	2500	70.47	----	----
Reliability (%):	90	100	----	----
Permanent Deformation - AC Only (in):	0.5	0.11	0.5	0.08
Reliability (%):	90	100	90	100
AC Bottom-Up Fatigue Cracking (%)	25	0	25	7.39
Reliability (%):	90	100	90	100
AC Thermal Cracking (ft/mile)	1500	0.03	1500	145.96
Reliability (%):	90	100	90	100
AC Top-Down Fatigue Cracking (ft/mile):	2500	261.1	2500	624.97
Reliability (%):	90	100	90	100

NOTES:

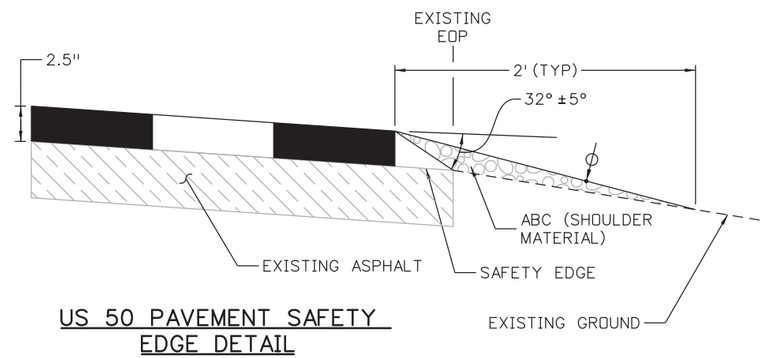
1) CURB TYPE 6, WHERE SPECIFIED IN THE TABULATION OF GUARDRAIL, SHALL BE PLACED DIRECTLY IN FRONT OF GUARDRAIL POSTS.
2) TYPICAL SECTION DATA IS BASED ON THE BEST AVAILABLE INFORMATION. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY EACH SECTION.
3) SAFETY EDGE SHALL BE CONSTRUCTED IN ALL AREAS WITHOUT GUARDRAIL. (SEE DETAIL)



US 50 GUARDRAIL DETAIL

LEGEND:

- ⬢ MATCH EXISTING CROSS SLOPE
- ϕ GRADING LOCATIONS SHALL BE DETERMINED BY THE ENGINEER AND PAID AS ABC (SHOULDER MATERIAL)
- ✳ WHERE POSSIBLE GRADE THIS AREA FLAT AS DETERMINED BY THE ENGINEER
- RS RUMBLE STRIP: OMIT AT APPROACHES, CONTINUE THROUGH PASSING ZONES. USE INTERMITTENT RUMBLE STRIP ON SHOULDERS PER M-614-1



US 50 PAVEMENT SAFETY EDGE DETAIL

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File Name: 21255DES_TyplSect03.dgn	Date:	Comments	Init.	1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298	No Revisions:
Horiz. Scale: 1:10 Vert. Scale: N/A				Region 2 DW	Revised:
TRANSPORTATION AECOM Technical Services, Inc. 2315 Briargate Parkway, Suite 150 Colorado Springs, CO 80920 T 719.531.0001 www.aecom.com					Void:

US 50 TYPICAL SECTION				Project No./Code
				STA 0503-089
Designer: JAB	Structure Numbers			21255
Detailer: LMB				
Subset: TYPICAL	Subset Sheets: 3 of 3			Sheet Number 5

1. FOR PRELIMINARY PLAN QUANTITIES OF MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:

   TACK COAT DILUTED EMULSIFIED ASPHALT.....@ 0.05 GALS./SQ. YD.(UNDILUTED)
   HOT MIX ASPHALT.....@ 110 LBS./SQ. YD./INCH
   AGGREGATE BASE COURSE CLASS-6.....@ 133 LBS./CU. FT.
   AGGREGATE BASE COURSE (SPECIAL).....@ 125 LBS./CU. FT.
   AGGREGATE BASE COURSE (SHOULDERING MATERIAL).....@ 125 LBS./CU. FT.
   MODIFIED EPOXY PAVEMENT MARKING (INLAID).....@ 80 SF./GAL.

2. DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER.

3. WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS DIRECTED BY THE ENGINEER. WATER SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF WORK.

4. THE FOLLOWING SHALL BE FURNISHED WITH EACH BITUMINOUS PAVER:

   A. A SKI TYPE DEVICE AT LEAST 30 FEET IN LENGTH.
   B. SHORT SKI OR SHOE.
   C. 500 FEET OF CONTROL LINE AND STAKES.

5. ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

6. ASPHALT JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 401.16 OF THE 2011 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

7. TRAVEL LANES ON US 50 ARE SUBJECT TO SMOOTHNESS INCENTIVE/DISINCENTIVE PAYMENTS. US 50 PAVEMENT SMOOTHNESS SHALL BE MRI CATEGORY I. TRAVEL LANES ON SH 9 WILL NOT BE SUBJECT TO SMOOTHNESS INCENTIVE. SH 9 PAVEMENT SMOOTHNESS SHALL BE MRI CATEGORY IV.

8. ROAD APPROACHES WHICH REQUIRE BITUMINOUS PAVEMENT SHALL BE PRIMED AND PAVED AS SPECIFIED IN THE TABULATION OF APPROACHES AND PULLOUTS, OR AS FOLLOWS:

   PUBLIC APPROACHES SHALL BE PAVED 50 FEET OUT FROM THE EDGE OF SHOULDER OR TO THE RIGHT-OF-WAY LINE, WHICHEVER IS LESS. RESIDENTIAL OR FIELD ENTRANCES SHALL BE PAVED 4 FEET OUT FROM THE EDGE OF SHOULDER. THREE OR MORE RESIDENCES OR COMMERCIAL PROPERTIES SHALL BE PAVED 20 FEET OUT FROM THE EDGE OF SHOULDER OR TO THE RIGHT-OF-WAY LINE, WHICHEVER IS LESS. IF EXISTING APPROACH PAVEMENT IS LESS THAN DETAILED ABOVE, THEN THE PROJECT SHALL OVERLAY ONLY TO THE EDGE OF EXISTING PAVEMENT.

9. THE CONTRACTOR SHALL NOT PARK ANY VEHICLES OR EQUIPMENT IN, OR DISTURB ANY AREAS NOT APPROVED BY THE ENGINEER.

10. MILLINGS SHALL BECOME THE PROPERTY OF THE STATE, EXCEPT AS DETAILED IN THE PROJECT SPECIAL PROVISIONS.

11. PRIOR TO PLACING BITUMINOUS PAVEMENT, THE PAVED SURFACE SHALL BE SWEPT AND CLEANED. THIS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE HOT MIX ASPHALT PAVEMENT ITEM.

12. OVERLAY OF PLANED AREAS SHALL COMMENCE WITHIN 5 WORKING DAYS FOLLOWING THE PLANING UNLESS OTHERWISE APPROVED BY THE ENGINEER.

13. MOISTURE-DENSITY CONTROL WILL BE REQUIRED FOR THE FULL DEPTH OF THOSE EMBANKMENTS ON THIS PROJECT.

14. EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

15. IT IS ESTIMATED THAT 8 REMOVALS OF TREE WILL BE REQUIRED ON THIS PROJECT.

16. IT IS ESTIMATED THAT 20 HOURS OF BLADING WILL BE REQUIRED ON THIS PROJECT.

17. IT IS ESTIMATED THAT 20 HOURS OF HYDRAULIC EXCAVATOR WILL BE REQUIRED ON THIS PROJECT.

18. IT IS ESTIMATED THAT 60 HOURS WILL BE REQUIRED FOR POTHOLING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH THE APPROPRIATE UTILITY REPRESENTATIVES TO BE ONSITE DURING POTHOLING AND SHALL LIKEWISE BE RESPONSIBLE FOR DETERMINING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAYBE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL REFER TO THE UTILITY SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

19. IT IS ESTIMATED THAT 2 ROAD CLOSURE GATES WILL BE REQUIRED ON THIS PROJECT.

20. RUMBLE STRIPS SHALL BE INSTALLED ON THE SOUTHBOUND APPROACH OF SH 9 TO US 50 IN ACCORDANCE WITH CDOT STANDARD M-614-1, FOR “STOP SIGN APPROACH”.

21. IT IS ESTIMATED THAT 271,500 LF OF RUMBLE STRIP WILL BE REQUIRED ON THIS PROJECT. RUMBLE STRIPS SHALL BE INSTALLED IN ACCORDANCE WITH CDOT STANDARD M-614-1.

22. IT IS ESTIMATED THAT 1 FIELD OFFICE (CLASS 2) WILL BE REQUIRED ON THIS PROJECT.

23. IT IS ESTIMATED THAT 1 FIELD LABORATORY (CLASS 2) WILL BE REQUIRED ON THIS PROJECT.

24. IT IS ESTIMATED THAT 1 FIELD LABORATORY (STATE FURNISHED) WILL BE REQUIRED ON THIS PROJECT.

25. IT IS ESTIMATED THAT 2 SANITARY FACILITIES WILL BE REQUIRED ON THIS PROJECT.

26. MOBILIZATION WILL BE REQUIRED ON THIS PROJECT AND PAID FOR AS LUMP SUM.

27. PUBLIC INFORMATION SERVICES (TIER III) WILL BE REQUIRED ON THIS PROJECT AND PAID FOR AS LUMP SUM. SEE SPECIAL PROVISIONS FOR DETAILS.

28. NO RIGHT-OF-WAY ACQUISITION WILL BE NEEDED FOR THIS PROJECT. ALL WORK WILL BE COMPLETED ENTIRELY WITHIN THE EXISTING RIGHT-OF-WAY.

29. WHERE NEW PAVEMENT IS TO ABUT EXISTING PAVEMENT, THE EXISTING PAVEMENT SHALL BE REMOVED TO A NEAT VERTICAL LINE USING A CUTTING SAW OR OTHER METHOD AS APPROVED BY THE ENGINEER. SAW CUTTING ASPHALT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF REMOVAL OF ASPHALT MAT.

30. ALL SURVEYING NECESSARY TO COMPLETE THE PROJECT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

31. THE CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION DESIGNATED TO REMAIN FROM DAMAGE DURING CONSTRUCTION OPERATIONS. ANY MONUMENTS DISTURBED BY THE CONTRACTOR THAT ARE NOT DESIGNATED FOR RELOCATION, SHALL BE RESET AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR AND ENGINEER SHALL NOTE THOSE MONUMENTS IN THE FIELD PRIOR TO CONSTRUCTION.

32. CLEAN CULVERT SHALL BE CONDUCTED IN A MANNER THAT DOES NOT DISCHARGE FLUID OUTSIDE THE WORK AREA.

33. TRANSITION TO EXISTING ASPHALT ASSUMES A PLANING RATE OF ½”:50’ OR 150’ TOTAL.

34. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH 2011 CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, PROJECT SPECIAL PROVISIONS, M&S STANDARDS, STANDARD SPECIAL PROVISIONS, AND THESE DRAWINGS.

35. MILE POST REFERENCES ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR.

36. ALL RANGE POINTS, TIES, BENCH MARKS, OR OTHER SURVEY CONTROL POINTS WHICH MAY BE ENCOUNTERED DURING CONSTRUCTION MUST BE PRESERVED.

37. THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE AND/OR TOES OF SLOPE AS SHOWN ON THE PLANS. ANY DISTURBANCE BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITIONS AT THE CONTRACTOR’S EXPENSE. CONSRUCTION ACTIVITIES, IN ADDITION TO NORMAL CONSTRUCTION PROCEDURES, SHALL INCLUDE THE PARKING OF VEHICLES OR EQUIPMENT, DISPOSAL OF LITTER, AND ANY OTHER ACTION WHICH WOULD ALTER EXISTING CONDITIONS AS APPROVED.

38. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL UTILITIES AND STRUCUTRES AFFECTED BY THE WORK AND ANY DAMAGE SHALL BE REPAIRED AND RESTORED TO THE SATISFACTION OF THE ENGINEER OR APPLICABLE ENTITY.

39. THE CONTRACTOR SHALL MAINTAIN PAVEMENT MARKINGS ON THE ROADWAY DURING ALL PHASES OF CONSTRUCTION IN ACCORDANCE WITH MUTCD AND CDOT STANDARDS.

40. FINAL GRADING OF PAVING SHALL PROVIDE POSITIVE DRAINAGE. WATER POCKETS AND POOLING OF WATER ON THE ROADWAY WILL NOT BE ACCEPTED, AND SHALL BE CORRECTED AT THE CONTRACTOR’S EXPENSE.

41. ALL WORK WITHIN AND ADJACENT TO RAILROAD RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH RAILROAD REQUIREMENTS AND THE PROJECT SPECIFICATIONS. ANY WORK PERFORMED WITHIN 25 FEET OF RAILROAD TRACK CENTERLINE SHALL REQUIRE FLAGGING. COSTS ASSOCIATED WITH ANY REQUIRED FLAGGING SHALL BE PAID UNDER ITEM F/A RAILROAD FLAGGING.

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Void:

GENERAL NOTES

Designer: WRS
Detailer: JAB
Subset: GEN-NOTES
Structure Numbers:
Subset Sheets: 1 of 2

Project No./Code
STA 0503-089
21255
Sheet Number 6

42. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SITE SPECIFIC STAGING PLAN FOR ACCESS TO THE WORK AREAS AND FIELD FACILITIES TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION. ALL COSTS ASSOCIATED WITH THE CONSTRUCTION OF TEMPORARY INGRESS/EGRESS WILL NOT BE PAID FOR SEPARATELY. EARTHWORK, DRAINAGE, AND OTHER ITEMS RELATED TO THE ACCESS SHALL BE SUBSIDIARY TO THE WORK INCLUDING EROSION CONTROL MEAUSRES FOR RESTORATION OF THE SITE TO ORIGINAL CONDITION.

ENVIRONMENTAL NOTES:

1. CONSTRUCTION PERSONNEL SHOULD BE TRAINED TO RECOGNIZE SIGNS OF POSSIBLE CONTAMINATION IN SOIL SUCH AS ODORS AND STAINING, ESPECIALLY WITHIN THE VICINITY OF STRUCTURES AND UTILITIES.

2. OWNERS OF SUBSURFACE UTILITIES SHOULD BE CONTACTED IN AREAS WHERE EXCAVATION IS TO BE CONDUCTED IN ORDER TO ASSESS WHETHER ANY OF THE UTILITIES ARE CONTAINED IN TRANSITE™ ASBESTOS PIPE.

3. PENDING CDOT REVIEW AND RECOMMENDATION, INSPECTIONS FOR ASBESTOS CONTAINING MATERIALS, AND LEAD BASED PAINT SHOULD BE CONDUCTED ON STRUCTURES AND UTILITIES THAT WOULD BE MOVED OR IMPACTED AS A RESULT OF THE PROPOSED PROJECT.

4. FOLLOW CDOT STANDARD SPECIAL SPECIFICATION 250.

5. IF TREE AND SHRUB REMCVAL, GROUND DISTURBING ACTIVITIES, OR WORK ON STRUCTURES OCCURS DURING THE MIGRATORY BIRD BREEDING SEASON (APRIL 1 - AUGUST 31), A FULL NEST SURVEY OF THE PROJECT AREA IS REQUIRED PRIOR TO CONSTRUCTION AS DETAILED IN CDOT SECTION 240 OF THE STANDARD SPECIFICATIONS. THE SURVEY SHALL BE CONDUCTED WITHIN SEVEN DAYS IMMEDIATELY PRIOR TO THE BEGINNING OF WORK. IF AN ACTIVE NEST CONTAINING EGGS OR YOUNG BIRDS IS FOUND, THE TREE OR SHRUB CONTAINING THE ACTIVE NEST SHALL REMAIN UNDISTURBED AND PROTECTED UNTIL THE NEST BECOMES INACTIVE. THE NEST SHALL BE PROTECTED BY PLACING FENCE (PLASTIC) A MINIMUM DISTANCE OF 50 FEET FROM EACH NEST TO BE UNDISTURBED. THIS BUFFER DIMENSION MAY BE CHANGED IF DETERMINED APPROPRIATE BY THE CDOT BIOLOGIST AND APPROVED BY THE ENGINEER. WORK SHALL NOT PROCEED WITHIN THE FENCED BUFFER AREA UNTIL THE YOUNG HAVE FLEDGED OR THE NESTS HAVE BECOME INACTIVE. TO SCHEDULE A FULL NEST SURVEY PLEASE CALL CRAIG CLARK AT 719-227-3252.

6. PALEONTOLOGICAL RESOURCES ARE KNOWN TO EXIST WITHIN THE PROJECT LIMITS, PARTICULARLY ALONG US HIGHWAY 50. THE CONTRACTOR SHALL SUSPEND WORK TO SEEK AND ACQUIRE THE APPROVAL OF CDOT PALEONTOLOGISTS IF THE CONTRACTOR AND ENGINEER DETERMINE THAT IT IS NECESSARY TO DISTURB ROCK OUTSIDE OF THE HIGHWAY OR EXPAND THE LIMITS OF DISTURBANCE BEYOND THE LIMITS OF THE EXISTING HIGHWAY.

7. ALL CONSTRUCTION ACTIVITIES WILL CONFORM WITH CDOT'S BEST MANAGEMENT PRACTICES AND CRITERIA MANUALS AS OUTLINED IN THE STORMWATER MANAGEMENT PLAN.

8. NO PARKING, OR ANY USE OF PARKS OR PUBLICS USE AREAS, INCLUDING BUREAU OF LAND MANAGEMENT AND COLORADO PARKS AND WILDLIFE AREAS SHALL BE ALLOWED.

9. IT IS ESTIMATED THAT 80 HOURS OF REMOVAL OF NESTS WILL BE REQUIRED ON THIS PROJECT.

10. IT IS ESTIMATED THAT 942 SY OF NETTING WILL BE REQUIRED ON THIS PROJECT.

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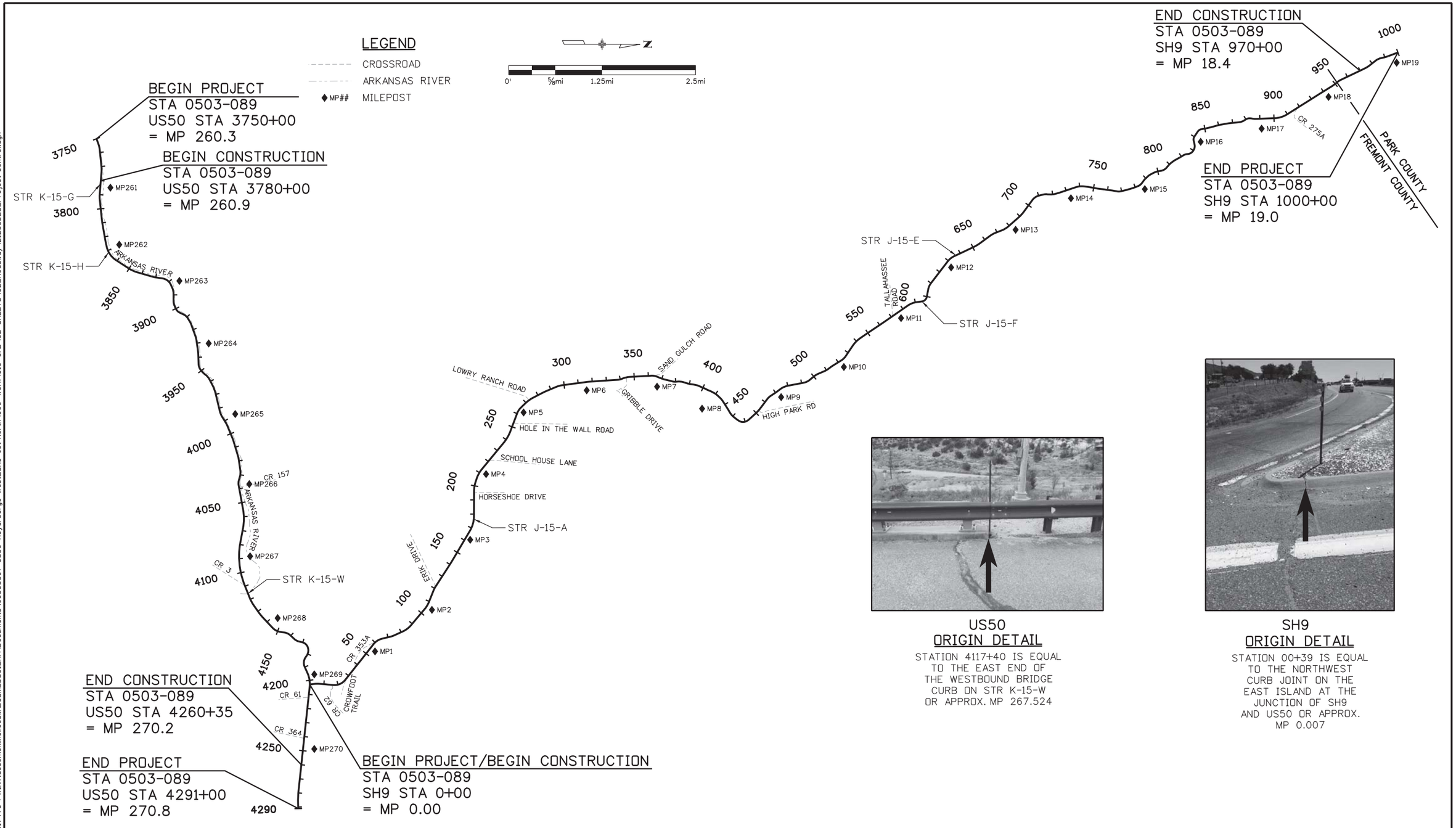
GENERAL NOTES

Designer: WRS
Detailer: JAB
Subset: GEN-NOTES
Structure Numbers:
Subset Sheets: 2 of 2

Project No./Code
STA 0503-089
21255
Sheet Number 7



US50
ORIGIN DETAIL

STATION 4117+40 IS EQUAL TO THE EAST END OF THE WESTBOUND BRIDGE CURB ON STR K-15-W OR APPROX. MP 267.524

SH9
ORIGIN DETAIL

STATION 00+39 IS EQUAL TO THE NORTHWEST CURB JOINT ON THE EAST ISLAND AT THE JUNCTION OF SH9 AND US50 OR APPROX. MP 0.007

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SH 9 / US 50
OVERVIEW AND CONTROL

Designer: JAB
Detailer: JAB
Subset: CONTROL
Structure Numbers:
Subset Sheets: 1 of 1

Project No./Code
STA 0503-089
21255
Sheet Number 8

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY – SH9		ROADWAY – US50		STRUCTURES – SH9 J–15–A		STRUCTURES – US50 K–15–W		STRUCTURES – US50 K–15–H		STRUCTURES – US50 K–15–G								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			202–00010	Removal of Tree	EACH					2		2		2		2								8	
			202–00090	Removal of Delineator	EACH	992		659																1,651	
			202–00201	Removal of Curb	LF	1,963																		1,963	
			202–00226	Removal of Asphalt Mat (Special)	SY					469		1,067		172		144								1,852	
			202–00240	Removal of Asphalt Mat (Planing)	SY	4,373		235,561																239,934	
			202–00425	Removal of Bridge Railing	LF											87								87	
			202–00453	Removal of Portions of Present Structure (Class 2)	SY					47		54		18		29								148	
			202–00460	Removal of Portions of Present Structure (Class 3)	SY					10		22		4		22								58	
			202–00520	Removal of Expansion Joint Material	LF					60														60	
			202–00810	Removal of Ground Sign	EACH	112		57																169	
			202–00821	Removal of Sign Panel	EACH	25		9																34	
			202–01130	Removal of Guardrail Type 3	LF	3,228		89																3,317	
			202–01300	Removal of End Anchorage	EACH	24		47																71	
			202–04002	Clean Culvert	EACH	49		12																61	
			203–00000	Unclassified Excavation	CY	593		810																1,403	
			203–01500	Blading	HOUR	10		10																20	
			203–01510	Backhoe	HOUR	12		8																20	
			203–01565	Hydraulic Excavator	HOUR	10		10																20	
			203–01597	Potholing	HOUR	30		30																60	
			203–01622	Sweeping (With Pickup Broom)	HOUR	48		48																96	
			206–00065	Structure Backfill (Flow–Fill)	CY					6														6	
			208–00002	Erosion Log Type 1 (12 Inch)	LF	100		100																200	

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SUMMARY OF APPROXIMATE QUANTITIES

Designer: JAB
Detailer: WRS
Subset: SAQ
Structure Numbers:
Subset Sheets: 1 of 6

Project No./Code
STA 0503-089
21255
Sheet Number 9

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY – SH9		ROADWAY – US50		STRUCTURES – SH9 J–15–A		STRUCTURES – US50 K–15–W		STRUCTURES – US50 K–15–H		STRUCTURES – US50 K–15–G								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			208–00020	Silt Fence	LF	100		100																200	
			208–00045	Concrete Washout Structure	EACH	3		3																6	
			208–00053	Storm Drain Inlet Protection (Type I)	EACH	5		5																10	
			208–00070	Vehicle Tracking Pad	EACH			2																2	
			208–00103	Removal and Disposal of Sediment (Labor)	HOUR	100		100																200	
			208–00105	Removal and Disposal of Sediment (Equipment)	HOUR	40		40																80	
			208–00106	Sweeping (Sediment Removal)	HOUR	72		72																144	
			208–00107	Removal of Trash	HOUR	10		10																20	
			208–00207	Erosion Control Management	DAY	75		75																150	
			210–00425	Reset Bridge Railing	LF							20												20	
			210–00810	Reset Ground Sign	EACH			3																3	
			210–00815	Reset Sign Panel	EACH			5																5	
			210–01050	Reset Chain Link Fence	LF							13												13	
			210–01200	Reset End Anchorage	EACH			1																1	
			210–04030	Modify Guardrail	LF			10,957																10,957	
			240–00010	Removal of Nests	HOUR					20		20		20		20								80	
			240–00020	Netting	SY					283		533		59		67								942	
			304–06007	Aggregate Base Course (Class 6)	CY	300		540																840	
			304–08002	Aggregate Base Course (Shoulder Material)	CY	970		811																1,781	
			304–09000	Aggregate Base Course (Special)	CY	295		325																620	
			403–00720	Hot Mix Asphalt (Patching) (Asphalt)	TON	274		323																597	
			403–34821	Hot Mix Asphalt (Grading SX) (100) (PG 58–28)	TON			28,182																28,182	

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SUMMARY OF APPROXIMATE QUANTITIES

Designer: JAB
Detailer: WRS
Subset: SAQ
Structure Numbers:
Subset Sheets: 2 of 6

Project No./Code
STA 0503-089
21255
Sheet Number 10

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY – SH9		ROADWAY – US50		STRUCTURES – SH9 J–15–A		STRUCTURES – US50 K–15–W		STRUCTURES – US50 K–15–H		STRUCTURES – US50 K–15–G								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			403–34824	Hot Mix Asphalt (Grading SX)(100)(PG 58–28)(Special)	TON			5,052																5,052	
			403–36721	Hot Mix Asphalt (Grading ST)(75)(PG 58–28)	TON	28,710																		28,710	
			411–10255	Emulsified Asphalt (Slow–Setting)	GAL	16,486		11,712																28,198	
			506–00212	Riprap (12 Inch)	CY	4		6																10	
			515–00120	Waterproofing (Membrane)	SY					469		1,067		172		146								1,854	
			518–01001	Bridge Expansion Joint (Asphaltic Plug)	LF					60														60	
			518–03000	Sawing and Sealing Bridge Joint	LF					60		80		93		67								300	
			601–03040	Concrete Class D (Bridge)	CY											4								4	
			601–03041	Concrete Class D (Bridge) (Special)	CY					8		11		3		8								30	
			601–51005	Galvanic Anodes	EACH					285		380		110		255								1,030	
			602–00000	Reinforcing Steel	LB					200		275		75		325								875	
			602–00020	Reinforcing Steel (Epoxy Coated)	LB											361								361	
			603–10120	12 Inch Corrugated Steel Pipe	LF	40		340																380	
			606–00301	Guardrail Type 3 (6–3 Post Spacing) 31 IN MGS	LF	3,300		875																4,175	
			606–01370	Transition Type 3G 31 IN MGS	EACH			7																7	
			606–01395	Transition Type 3L 31 IN MGS	EACH	4																		4	
			606–02003	End Anchorage (Nonflared) 31 IN MGS	EACH			6																6	
			606–02005	End Anchorage (Flared) 31 IN MGS	EACH	20		34																54	
			606–11010	Bridge Rail Type 10R	LF											87								87	
			607–11525	Fence (Plastic)	LF					50		50		50		50								200	
			607–60620	Road Closure Gate	EACH			2																2	
			609–60011	Curb Type 6 (Section M) BITUMINOUS	LF	3,967		20																3,987	

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SUMMARY OF APPROXIMATE QUANTITIES

Designer: JAB
Detailer: LMB
Subset: SAQ
Structure Numbers:
Subset Sheets: 3 of 6

Project No./Code
STA 0503-089
21255
Sheet Number 11

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY – SH9		ROADWAY – US50		STRUCTURES – SH9 J–15–A		STRUCTURES – US50 K–15–W		STRUCTURES – US50 K–15–H		STRUCTURES – US50 K–15–G								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			612–00001	Delineator (Type I)	EACH	702																		702	
			612–00003	Delineator (Type III)	EACH	290																		290	
			612–00041	Delineator (Flexible) (Type I)	EACH			435																435	
			612–00042	Delineator (Flexible) (Type II)	EACH			27																27	
			612–00043	Delineator (Flexible) (Type III)	EACH			197																197	
			614–00011	Sign Panel (Class I)	SF	378		269																647	
			614–00012	Sign Panel (Class II)	SF	1,331		624																1,955	
			614–01503	Steel Sign Support (2–Inch Round)(Post and Socket)	EACH	58		34																92	
			614–01573	Steel Sign Support (2–1/2 Inch Round NP–40)(Post & Slipbase)	EACH	94		46																140	
			614–80001	Flashing Beacon (Solar Powered)	EACH	2																		2	
			614–80385	Rumble Strip	LF	192,200		79,300																271,500	
			615–00030	Embankment Protector Type 3	EACH	2		3																5	
			620–00002	Field Office (Class 2)	EACH	1																		1	
			620–00012	Field Laboratory (Class 2)	EACH	1																		1	
			620–00015	Field Laboratory (State Furnished)	EACH	1																		1	
			620–00020	Sanitary Facility	EACH	2																		2	
			626–00000	Mobilization	L S			1																1	
			626–01103	Public Information Services (Tier III)	L S			1																1	
			627–00009	Modified Epoxy Pavement Marking(Inlaid)	GAL	1,307		824																2,131	
			627–00011	Pavement Marking Paint (Waterborne)	GAL			2,045																2,045	
			627–30405	Preformed Thermoplastic Pavement Marking (Word–Symbol)	SF			418																418	

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SUMMARY OF APPROXIMATE QUANTITIES

Designer: JAB
Detailer: LMB
Subset: SAQ
Structure Numbers:
Subset Sheets: 4 of 6

Project No./Code
STA 0503-089
21255
Sheet Number 12

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY – SH9		ROADWAY – US50		STRUCTURES – SH9 J–15–A		STRUCTURES – US50 K–15–W		STRUCTURES – US50 K–15–H		STRUCTURES – US50 K–15–G								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			627–30410	Preformed Thermoplastic Pavement Marking (Xwalk–Stop Line)	SF	47																		47	
			630–00000	Flagging	HOUR	2,880		2,880																5,760	
			630–00007	Traffic Control Inspection	DAY	29		29																58	
			630–00012	Traffic Control Management	DAY	60		60																120	
			630–80001	Flashing Beacon (Portable)	EACH	4		4																8	
			630–80341	Construction Traffic Sign (Panel Size A)	EACH	2		2																4	
			630–80342	Construction Traffic Sign (Panel Size B)	EACH	32		32																64	
			630–80350	Vertical Panel	EACH	10		10																20	
			630–80355	Portable Message Sign Panel	EACH	1		2																3	
			630–80360	Drum Channelizing Device	EACH	50		50																100	
			630–80370	Concrete Barrier (Temporary)	LF					50		50		50		50								200	
			630–80380	Traffic Cone	EACH	200		200																400	
			630–80520	Mobile Pavement Marking Zone	DAY	9		5																14	
			630–85011	Impact Attenuator (Temporary)	DAY					11		15		7		25								58	
			630–85041	Mobile Attenuator	DAY	15		15																30	
			700–70010	FORCE ACCOUNT ========== F/A Minor Contract Revisions	F A			200,000																200,000	
			700–70011	F/A Partnering	F A			5,000																5,000	
			700–70016	F/A Fuel Cost Adjustment	F A			70,000																70,000	
			700–70018	F/A Roadway Smoothness Incentive	F A			83,000																83,000	
			700–70019	F/A Asphalt Cement Cost Adjustment	F A			260,000																260,000	
			700–70023	F/A On–The–Job Trainee	F A			3,840																3,840	

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SUMMARY OF APPROXIMATE QUANTITIES

Designer: JAB
Detailer: LMB
Subset: SAQ
Structure Numbers:
Subset Sheets: 5 of 6

Project No./Code
STA 0503-089
21255
Sheet Number 13

INDEX			CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY – SH9		ROADWAY – US50		STRUCTURES – SH9 J–15–A		STRUCTURES – US50 K–15–W		STRUCTURES – US50 K–15–H		STRUCTURES – US50 K–15–G								PROJECT TOTALS	
BOOK	PAGE	SHEET				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.							PLAN	AS CONST.
			700–70025	F/A Quality Incentive Payment	F A			150,000																150,000	
			700–70031	F/A Interim Surface Repair	F A			50,000																50,000	
			700–70042	F/A Railroad Flagging	F A			29,000																29,000	
			700–70190	F/A Electric Service	F A			20,000																20,000	
			700–70380	F/A Erosion Control	F A			10,000																10,000	

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SUMMARY OF APPROXIMATE QUANTITIES

Designer: JAB
Detailer: LMB
Subset: SAQ
Structure Numbers:
Subset Sheets: 6 of 6

Project No./Code
STA 0503-089
21255
Sheet Number 14

TABULATION OF SURFACING MATERIALS (1 OF 2)

LOCATION	APPROX STATION	TO APPROX STATION	LENGTH	DEPTH	WIDTH RANGE		AVERAGE WIDTH	AREA	202-00240 REMOVAL OF ASPHALT MAT (PLANING)	304-08002 AGGREGATE BASE COURSE (SHOULDER MATERIAL)	403-34821 HOT MIX ASPHALT (GRADING SX) (100) (PG 58-28)	403-34824 HOT MIX ASPHALT (GRADING SX) (100) (58-28) (SPECIAL)	403-36721 HOT MIX ASPHALT (GRADING ST) (75) (PG 58-28)	411-10255 EMULSIFIED ASPHALT (SLOW-SETTING)	COMMENTS
			LF	IN	BEGIN	END	FT	SY	SY	CY	TON	TON	TON	GAL	
SH 9	0+00	1+15	115	-	-	-	-		INCLUDED IN US50 QUANTITIES						
SH 9	1+15	2+65	150	1.5"	30	30	30	500	500	1			41	25	TRANSITION TO EXISTING ASPHALT ELEVATION. SEE TYPICAL SECTIONS
SH 9	2+65	52+80	5,015	2.03"	30	30	30	16,717		63			1,866	836	VARIABLE DEPTH OVERLAY: 2.03" AVERAGE DEPTH. SEE TYPICAL SECTIONS AND ROADWAY DETAILS
SH 9	52+80	163+61	11,081	1.5"	30	30	30	36,937		103			3,047	1,847	
SH 9	163+61	165+11	150	1.5"	30	30	30	500	500	1			41	25	TRANSITION TO J-15-A, SEE TYPICAL SECTIONS
SH 9	165+11	166+09	98	-	-	-	-		J-15-A SEE TABULATION OF STRUCTURES						
SH 9	166+09	167+59	150	1.5"	30	30	30	500	500	1			41	25	TRANSITION TO J-15-A, SEE TYPICAL SECTIONS
SH 9	167+59	293+30	12,571	1.5"	30	30	30	41,903		116			3,457	2,095	
SH 9	293+30	294+80	150	1.5"	30	30	30	500	500	1			41	25	TRANSITION TO EXISTING CONCRETE PAVEMENT. SEE TYPICAL SECTIONS
SH 9	294+80	296+90	210	1.5"	30	30	30	700	EXISTING CONCRETE PAVEMENT: NO WORK IN THIS AREA						
SH 9	296+90	298+40	150	1.5"	30	30	30	500	500	1			41	25	TRANSITION TO EXISTING CONCRETE PAVEMENT. SEE TYPICAL SECTIONS
SH 9	298+40	590+50	29,210	1.5"	30	30	30	97,367		270			8,033	4,868	
SH 9	590+50	592+00	150	1.5"	30	30	30	500	500	1			41	25	TRANSITION TO J-15-F. SEE TYPICAL SECTIONS
SH 9	592+00	601+10	910	-	-	-	-		J-15-F: DO NOT RESURFACE THE AREA IN THIS STATION RANGE DUE TO RECENT MILL AND FILL						
SH 9	601+10	602+60	150	1.5"	28	28	28	467	467	1			39	23	TRANSITION TO J-15-F. SEE TYPICAL SECTIONS
SH 9	602+60	635+88	3,328	1.5"	28	28	28	10,354		31			854	518	
SH 9	635+88	636+12	24	-	-	-	-		J-15-E SEE TABULATION OF STRUCTURES						
SH 9	636+12	714+00	7,788	1.5"	28	28	28	24,229		72			1,999	1,211	
SH 9	714+00	715+00	100	1.5"	28	26	27	300		1			25	15	
SH 9	715+00	950+50	23,550	1.5"	26	26	26	68,033		218			5,613	3,402	
SH 9	950+50	952+00	150	1.5"	26	26	26	433	433	1			36	22	TRANSITION TO EXISTING ASPHALT ELEVATION. SEE TYPICAL SECTIONS
US 50	3780+00	3781+85	185	2.5"	32	32	32	658	658	3	90			33	
US 50	3781+85	3782+28	43	-	-	-	-		K-15-G SEE TABULATION OF STRUCTURES						
US 50	3782+28	3796+35	1,407	2.5"	32	32	32	5,003	5,003	22	688			250	
US 50	3796+35	3799+70	335	2.5"	32	44	38	1,414	1,414	5	194			71	
US 50	3799+70	3803+75	405	2.5"	44	44	44	1,980	1,980	6	272			99	
US 50	3803+75	3808+15	440	2.5"	44	53	48.5	2,371	2,371	7	326			119	
US 50	3808+15	3808+65	50	2.5"	53	59	56	311	311	1	43			16	
US 50	3808+65	3811+20	255	2.5"	59	64	61.5	1,743	1,743	4	240			87	
US 50	3811+20	3816+50	530	2.5"	64	64	64	3,769	3,769	8	518			188	
US 50	3816+50	3818+00	150	2.5"	64	72	68	1,133	1,133	2	156			57	
US 50	3818+00	3822+00	400	2.5"	72	56	64	2,844	2,844	6	391			142	
US 50	3822+00	3827+50	550	2.5"	56	44	50	3,056	3,056	8	420			153	
US 50	3827+50	3830+29	279	2.5"	44	44	44	1,364	1,364	4	188			68	
US 50	3830+29	3830+62	33	-	-	-	-		K-15-H SEE TABULATION OF STRUCTURES						
US 50	3830+62	3871+50	4,088	2.5"	44	44	44	19,986	19,986	63	2,748			999	
US 50	3871+50	3872+00	50	2.5"	44	50	47	261	261	1	36			13	
US 50	3872+00	3880+00	800	2.5"	50	50	50	4,444	4,444	12	611			222	
US 50	3880+00	3881+00	100	2.5"	50	46	48	533	533	2	73			27	
US 50	3881+00	3884+00	300	2.5"	46	32	39	1,300	1,300	5	179			65	
US 50	3884+00	4034+00	15,000	2.5"	32	32	32	53,333	53,333	231	7,333			2,667	
US 50	4034+00	4056+00	2,200	2.5"	32	32	32	7,822	7,822	34		1,076		391	
US 50	4056+00	4060+00	400	2.5"	32	36	34	1,511	1,511	6		208		76	
US 50	4060+00	4064+50	450	2.5"	36	64	50	2,500	2,500	7		344		125	
US 50	4064+50	4071+00	650	2.5"	64	64	64	4,622	4,622	10		636		231	
US 50	4071+00	4072+00	100	2.5"	64	60	62	689	689	2		95		34	
US 50	4072+00	4075+00	300	2.5"	60	60	60	2,000	2,000	5		275		100	
								SH 9 SURFACING SUBTOTAL (1 OF 2)	3,900	882	0	0	25,215	14,987	
								US 50 SURFACING SUBTOTAL (1 OF 2)	124,647	454	14,506	2,634	0	6,233	

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TABULATION OF SURFACING MATERIALS

Designer: JAB
Detailer: LMB
Subset: TAB-SURFACE
Structure Numbers:
Subset Sheets: 1 of 2

Project No./Code
STA 0503-089
21255
Sheet Number 15

TABULATION OF SURFACING MATERIALS (2 OF 2)

LOCATION	APPROX STATION	TO APPROX STATION	LENGTH	DEPTH	WIDTH RANGE		AVERAGE WIDTH	AREA	202-00240 REMOVAL OF ASPHALT MAT (PLANING)	304-08002 AGGREGATE BASE COURSE (SHOULDER MATERIAL)	403-34821 HOT MIX ASPHALT (GRADING SX) (100) (PG 58-28)	403-34824 HOT MIX ASPHALT (GRADING SX) (100) (58-28) (SPECIAL)	403-36721 HOT MIX ASPHALT (GRADING ST) (75) (PG 58-28)	411-10255 EMULSIFIED ASPHALT (SLOW-SETTING)	COMMENTS
			LF	IN	BEGIN	END	FT	SY	SY	CY	TON	TON	TON	GAL	
US 50	4075+00	4078+75	375	2.5"	60	55	57.5	2,396	2,396	6		329		120	
US 50	4078+75	4080+50	175	2.5"	55	36	45.5	885	885	3		122		44	
US 50	4080+50	4088+00	750	2.5"	36	36	36	3,000	3,000	12		413		150	
US 50	4088+00	4090+00	200	2.5"	36	32	34	756	756	3		104		38	
US 50	4090+00	4107+00	1,700	2.5"	32	32	32	6,044	6,044	26		831		302	
US 50	4107+00	4109+00	200	2.5"	32	36	34	756	756	3		104		38	
US 50	4109+00	4110+00	100	2.5"	36	36	36	400	400	2		55		20	
US 50	4110+00	4111+50	150	2.5"	36	40	38	633	633	2	87			32	
US 50	4111+50	4114+84	334	2.5"	40	40	40	1,484	1,484	5	204			74	
US 50	4114+84	4117+24	240	-	-	-	-		**K-15-W SEE TABULATION OF STRUCTURES**						
US 50	4117+24	4119+00	176	2.5"	40	40	40	782	782	3	108			39	
US 50	4119+00	4124+35	535	2.5"	40	50	45	2,675	2,675	8	368			134	
US 50	4124+35	4195+00	7,065	2.5"	50	50	50	39,250	39,250	109	5,397			1,963	
US 50	4195+00	4200+00	500	2.5"	50	56	53	2,944	2,944	8	405			147	
US 50	4200+00	4201+00	100	2.5"	56	56	56	622	622	2	86			31	
US 50	4201+00	4204+50	350	2.5"	US50 / SH 9 INTERSECTION			2,678	2,678	5	368			134	
US 50	4204+50	4208+50	400	2.5"	56	56	56	2,489	2,489	6	342			124	
US 50	4208+50	4211+70	320	2.5"	56	32	44	1,564	1,564	5	215			78	
US 50	4211+70	4253+00	4,130	2.5"	32	32	32	14,684	14,684	64	2,019			734	
US 50	4253+00	4260+35	735	2.5"	32	72	52	4,247	4,247	11	584			212	MATCH LOCATION OF RECENTLY CONSTRUCTED PAVEMENT
								SH 9 SURFACING SUBTOTAL (2 OF 2)	0	0	0	0	0	0	
								US 50 SURFACING SUBTOTAL (2 OF 2)	83,289	283	10,183	1,958	0	4,414	

	202-00240 REMOVAL OF ASPHALT MAT (PLANING)	304-08002 AGGREGATE BASE COURSE (SHOULDER MATERIAL)	403-34821 HOT MIX ASPHALT (GRADING SX) (100) (PG 58-28)	403-34824 HOT MIX ASPHALT (GRADING SX) (100) (58-28) (SPECIAL)	403-36721 HOT MIX ASPHALT (GRADING ST) (75) (PG 58-28)	411-10255 EMULSIFIED ASPHALT (SLOW-SETTING)
	SY	CY	TON	TON	TON	GAL
SH 9 SURFACING SUBTOTAL (1 OF 2)	3,900	882			25,215	14,987
US 50 SURFACING SUBTOTAL (1 OF 2)	124,647	454	14,506	2,634		6,233
SH 9 SURFACING SUBTOTAL (2 OF 2)						
US 50 SURFACING SUBTOTAL (2 OF 2)	83,289	283	10,183	1,958		4,414
TABULATION OF APPROACHES AND PULLOUTS - SH 9 APPROACH SUBTOTAL					801	
TABULATION OF APPROACHES AND PULLOUTS - US 50 APPROACH SUBTOTAL	1,210		706			
TABULATION OF STRUCTURES - SH 9 SUBTOTAL	75				83	
TABULATION OF STRUCTURES - US 50 SUBTOTAL			225			
SH 9 SURFACING SUBTOTAL	3,975	882	0	0	26,099	14,987
US 50 SURFACING SUBTOTAL	214,146	737	25,620	4,592	0	10,647
IRREGULARITIES (10%)	21,813	162	2,562	460	2,611	2,564
PROJECT TOTAL	**239,934**	**1,781**	**28,182**	**5,052**	**28,710**	**28,198**

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TABULATION OF SURFACING MATERIALS

Designer: JAB
Detailer: LMB
Subset: TAB-SURFACE
Structure Numbers:
Subset Sheets: 2 of 2

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21255
Sheet Number 16

TABULATION OF APPROACHES AND PULLOUTS (1 OF 4)

NAME	LOCATION	APPROX STATION	SIDE	PROP AREA	WIDTH (W)	DEPTH	202-00240 REMOVAL OF ASPHALT MAT (PLANING)	203-00000 UNCLASSIFIED EXCAVATION	304-06007 AGGREGATE BASE COURSE (CLASS 6)	304-09000 AGGREGATE BASE COURSE (SPECIAL)	403-34821 HOT MIX ASPHALT (GRADING SX) (100) (PG 58-28)	403-36721 HOT MIX ASPHALT (GRADING ST) (75) (PG 58-28)	COMMENTS
				SY	FT	IN	SY	CY	CY	CY	TON	TON	
	SH 9	00+30	RT	61		SEE COMMENTS		31	20			20	EAST ISLAND. SEE ROADWAY DETAILS
	SH 9	01+06	RT	358		1.0"				10			UNPAVED PULLOUT
001	SH 9	01+50	LT	16	4	1.5"						1	APPROACH FOR PRIVATE PROPERTY
005	SH 9	05+90	LT	14		1.5"						1	APPROACH FOR PRIVATE PROPERTY
CR62	SH 9	15+80	RT	72	20	1.5"						6	APPROACH FOR CR 62
015	SH 9	15+80	LT	13	4	1.5"						1	APPROACH FOR PRIVATE PROPERTY
017	SH 9	17+89	RT	72	20	1.5"						6	APPROACH FOR MULTIPLE PRIVATE PROPERTIES
	SH 9	20+50	LT	2716		1.0"				75			UNPAVED PULLOUT WITH MILLINGS
026	SH 9	26+46	RT										APPROACH FOR CROWFOOT TRAIL
CR353A-S	SH 9	38+00	LT										SOUTHERN APPROACH FOR CR 353A
46RT	SH 9	46+00	RT	14	4	1.5"						1	APPROACH FOR PRIVATE PROPERTY
46LT	SH 9	46+40	LT	52	20	1.5"						4	APPROACH FOR MULTIPLE PRIVATE PROPERTIES
CR353A-N	SH 9	59+75	LT										NORTHERN APPROACH FOR CR 353A
076	SH 9	76+75	LT	18	4	1.5"						1	APPROACH FOR PRIVATE PROPERTY
083	SH 9	83+50	RT	62	20	1.5"						5	APPROACH FOR MULTIPLE PRIVATE PROPERTIES
086	SH 9	86+60	LT										APPROACH FOR MULTIPLE PRIVATE PROPERTIES
108	SH 9	108+20	RT	24	4	1.5"						2	APPROACH FOR PRIVATE PROPERTY
ERIK DR	SH 9	120+50	LT										APPROACH FOR ERIK DR
123	SH 9	123+30	RT										APPROACH FOR PRIVATE PROPERTY
134	SH 9	134+30	RT	26	4	1.5"						2	APPROACH FOR PRIVATE PROPERTY
146	SH 9	146+00	RT										APPROACH FOR PRIVATE PROPERTY
152	SH 9	152+65	RT	19	4	1.5"						2	APPROACH FOR PRIVATE PROPERTY
156	SH 9	156+75	LT	15	4	1.5"						1	APPROACH FOR PRIVATE PROPERTY
172	SH 9	172+30	RT										APPROACH FOR PRIVATE PROPERTY
192	SH 9	192+75	LT	36	4	1.5"						3	APPROACH FOR PRIVATE PROPERTY
193	SH 9	193+80	RT										APPROACH FOR HORSESHOE DRIVE
221	SH 9	221+70	RT										APPROACH FOR SCHOOL HOUSE LANE
238	SH 9	238+40	RT										APPROACH FOR PRIVATE PROPERTY
244	SH 9	244+00	RT										APPROACH FOR PRIVATE PROPERTY
253	SH 9	253+10	RT										APPROACH FOR HOLE IN THE WALL ROAD
255	SH 9	255+75	LT	110	20	1.5"						9	APPROACH FOR MULTIPLE PRIVATE PROPERTIES
272	SH 9	272+80	LT	89	20	1.5"						7	APPROACH FOR LOWRY RANCH ROAD
288	SH 9	288+50	LT	138	20	1.5"						11	APPROACH FOR MULTIPLE PRIVATE PROPERTIES
	SH 9	296+75	LT	836		1.0"				23			UNPAVED PULLOUT
	SH 9	296+75	RT	156		1.0"				4			UNPAVED PULLOUT
311	SH 9	311+00	LT										APPROACH FOR PRIVATE PROPERTY
	SH 9	318+75	RT	144		1.0"				4			UNPAVED PULLOUT
	SH 9	318+90	LT	32		1.0"				1			UNPAVED PULLOUT
320	SH 9	320+60	LT										APPROACH FOR PRIVATE PROPERTY
344RT	SH 9	344+40	RT										APPROACH FOR GRIBBLE DRIVE
						SH 9 APPROACH SUBTOTAL (1 OF 4)	0	31	20	117	0	83	
						US 50 APPROACH SUBTOTAL (1 OF 4)	0	0	0	0	0	0	

NOTES:

1) WIDTHS ARE MEASURED FROM EOP AS SHOWN ON THE APPROACH DETAIL ON TABULATION OF APPROACHES SHEET 5 OF 5.
2) INSTALL AGGREGATE BASE COURSE (SPECIAL) TO 5' FROM EDGE OF PULLOUT FOR AREAS ALONG A WATERWAY SUCH AS THE ARKANSAS RIVER. SEE PULLOUT DETAIL ON TABULATION OF APPROACHES SHEET 5 OF 5.

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TABULATION OF APPROACHES AND PULLOUTS

Designer: JAB
Detailer: LMB
Subset: TAB-APPROACH
Structure Numbers:
Subset Sheets: 1 of 5

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STA 0503-089
21255
Sheet Number 17

TABULATION OF APPROACHES AND PULLOUTS (2 OF 4)

NAME	LOCATION	APPROX STATION	SIDE	PROP AREA	WIDTH (W)	DEPTH	202-00240 REMOVAL OF ASPHALT MAT (PLANING)	203-00000 UNCLASSIFIED EXCAVATION	304-06007 AGGREGATE BASE COURSE (CLASS 6)	304-09000 AGGREGATE BASE COURSE (SPECIAL)	403-34821 HOT MIX ASPHALT (GRADING SX) (100) (PG 58-28)	403-36721 HOT MIX ASPHALT (GRADING ST) (75) (PG 58-28)	COMMENTS
				SY	FT	IN	SY	CY	CY	CY	TON	TON	
344LT	SH 9	344+75	LT										APPROACH FOR PRIVATE PROPERTY
	SH 9	360+00	RT	1070		SEE COMMENTS		357	178			353	PAVE PULLOUT FOR SNOW PLOW TURNAROUND. SEE ROADWAY DETAILS
365	SH 9	365+25	LT										APPROACH TO SAND GULCH ROAD
	SH 9	387+00	RT	240		1.0"				7			UNPAVED PULLOUT
	SH 9	401+30	RT	1182		1.0"				33			UNPAVED PULLOUT WITH MILLINGS
	SH 9	414+10	RT	286		1.0"				8			UNPAVED PULLOUT WITH MILLINGS
	SH 9	426+40	RT	161		1.0"				4			UNPAVED PULLOUT
	SH 9	438+50	LT	828		1.0"				23			UNPAVED PULLOUT
	SH 9	449+00	RT	114		SEE COMMENTS		38	19			38	PAVE PULLOUT FOR SNOW PLOW TURNAROUND. SEE ROADWAY DETAILS
	SH 9	450+00	LT	303		SEE COMMENTS		101	50			100	PAVE PULLOUT FOR SNOW PLOW TURNAROUND. SEE ROADWAY DETAILS
452	SH 9	452+50	RT	303	50	1.5"						25	APPROACH FOR HIGH PARK ROAD
	SH 9	466+80	RT	338		1.0"				9			UNPAVED PULLOUT
499	SH 9	499+30	RT	20	4	1.5"						2	APPROACH FOR PRIVATE PROPERTY
500	SH 9	500+50	LT										APPROACH FOR PRIVATE PROPERTY
503	SH 9	503+70	RT										APPROACH FOR PRIVATE PROPERTY
539	SH 9	539+70	RT	27	4	1.5"						2	APPROACH FOR PRIVATE PROPERTY
542	SH 9	542+50	LT										APPROACH FOR PRIVATE PROPERTY
	SH 9	570+40	RT	197	4	SEE COMMENTS		66	33			65	PAVE PULLOUT FOR SNOW PLOW TURNAROUND. SEE ROADWAY DETAILS
571	SH 9	571+60	LT	340	50	1.5"						28	APPROACH FOR TALLAHASSEE ROAD
	SH 9	591+60	RT	188		1.0"				5			UNPAVED PULLOUT
618	SH 9	618+30	LT	22	4	1.5"						2	APPROACH FOR PRIVATE PROPERTY
637	SH 9	637+00	RT										APPROACH FOR PRIVATE PROPERTY
654LT	SH 9	654+00	LT	22	4	1.5"						2	APPROACH FOR PRIVATE PROPERTY
654RT	SH 9	654+00	RT										APPROACH FOR PRIVATE PROPERTY
711	SH 9	711+00	LT										APPROACH FOR PRIVATE PROPERTY
	SH 9	713+50	LT	1452		1.0"				40			UNPAVED PULLOUT
752	SH 9	752+30	RT										APPROACH FOR PRIVATE PROPERTY
	SH 9	824+85	LT	271		1.0"				8			UNPAVED PULLOUT
	SH 9	836+80	RT	247		1.0"				7			UNPAVED PULLOUT
853LT	SH 9	853+30	LT	106	20	1.5"						9	APPROACH FOR ALPINE BLUFFS
853RT	SH 9	853+80	RT										APPROACH FOR PRIVATE PROPERTY
	SH 9	877+00	RT	419		1.0"				12			UNPAVED PULLOUT
CR275A	SH 9	918+05	RT	363	50	1.5"						30	APPROACH FOR CR 275A
	SH 9	953+75	LT	756		1.5"						62	OVERLAY PULLOUT
	SH 9	953+75	RT	344		1.0"				10			UNPAVED PULLOUT
	SH 9	960+00	LT	444		1.0"				12			UNPAVED PULLOUT
	US 50	3780+00	LT	110		1.0"				3			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3780+00	RT	248		1.0"				7			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
SH 9 APPROACH SUBTOTAL (2 OF 4)							0	562	280	178	0	718	
US 50 APPROACH SUBTOTAL (2 OF 4)							0	0	0	10	0	0	

NOTES:

1) WIDTHS ARE MEASURED FROM EOP AS SHOWN ON THE APPROACH DETAIL ON TABULATION OF APPROACHES SHEET 5 OF 5.
2) INSTALL AGGREGATE BASE COURSE (SPECIAL) TO 5' FROM EDGE OF PULLOUT FOR AREAS ALONG A WATERWAY SUCH AS THE ARKANSAS RIVER. SEE PULLOUT DETAIL ON TABULATION OF APPROACHES SHEET 5 OF 5.

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TABULATION OF APPROACHES AND PULLOUTS

Designer: JAB
Detailer: LMB
Subset: TAB-APPROACH
Structure Numbers:
Subset Sheets: 2 of 5

Project No./Code
STA 0503-089
21255
Sheet Number 18

TABULATION OF APPROACHES AND PULLOUTS (3 OF 4)

NAME	LOCATION	APPROX STATION	SIDE	PROP AREA	WIDTH (W)	DEPTH	202-00240 REMOVAL OF ASPHALT MAT (PLANING)	203-00000 UNCLASSIFIED EXCAVATION	304-06007 AGGREGATE BASE COURSE (CLASS 6)	304-09000 AGGREGATE BASE COURSE (SPECIAL)	403-34821 HOT MIX ASPHALT (GRADING SX) (100) (PG 58-28)	403-36721 HOT MIX ASPHALT (GRADING ST) (75) (PG 58-28)	COMMENTS
				SY	FT	IN	SY	CY	CY	CY	TON	TON	
	US 50	3784+00	LT	182		1.0"				5			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3789+00	LT	56		1.0"				2			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
3809	US 50	3809+00	LT	20	4	2.0"	20			2	2		APPROACH TO SPIKEBUCK EXIT. REPLACE 4' OF EXISTING ASPHALT. PLACE 10' OF MILLINGS OUTSIDE OF APRON.
3817	US 50	3817+00	LT	29	4	2.0"	29			2	3		APPROACH TO SPIKEBUCK ENTRANCE. REPLACE 4' OF EXISTING ASPHALT. PLACE 10' OF MILLINGS OUTSIDE OF APRON.
	US 50	3840+00	RT	250		1.0"				7			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3850+00	LT	52		1.0"				1			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3860+00	LT	529	4	1.0"	22			15	2		PULLOUT WITH PAVED APRON. SEE ROADWAY DETAILS
	US 50	3872+00	LT	87		1.0"				2			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3884+00	LT	242		1.0"				7			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3893+00	LT	305		1.0"				8			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3896+00	RT	361		1.0"				10			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3903+00	RT	127		1.0"				4			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3904+00	LT	218		1.0"				6			UNPAVED PULLOUT WITH MILLINGS. PLACE ABC (SPECIAL)
	US 50	3936+00	LT	1621	16	SEE COMMENTS		810	540	40	535		SLOW VEHICLE PULLOUT.SEE ROADWAY DETAILS
	US 50	3970+00	RT	135		1.0"				4			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3984+00	LT	126		1.0"				4			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3993+50	LT	176		1.0"				5			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	3994+00	RT	247		1.0"				7			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	4008+00	LT	125		1.0"				3			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	4017+50	LT	294		1.0"				8			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	4020+00	RT	681		1.0"				19			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	4028+50	LT	145		1.0"				4			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	4033+00	RT	378		1.0"				10			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
CR157	US 50	4039+00	LT										APPROACH FOR CR 157. PROTECT EXISTING PAVEMENT
	US 50	4044+00	RT	1010		1.0"				28			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
4067	US 50	4067+00	RT	24	4	2.0"	24				3		APPROACH FOR PRIVATE PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
	US 50	4073+00	RT	867		2.0"	556				95		PARTIALLY PAVED PULLOUT. SEE ROADWAY DETAILS
4073	US 50	4073+50	LT	36	4	2.0"	36				4		APPROACH FOR PARKDALE RECREATION AREA. REPLACE 4' OF EXISTING PAVEMENT
	US 50	4085+00	LT	911		1.0"				25			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	4094+00	LT	722		1.0"				20			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
CR3	US 50	4109+00	RT										APPROACH FOR CR 3. PROTECT EXISTING PAVEMENT
4110	US 50	4110+00	LT	13	4	2.0"	13				1		APPROACH FOR PRIVATE PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4111	US 50	4111+00	RT										APPROACH FOR COMMERCIAL PROPERTY. PROTECT EXISTING CONCRETE
4119	US 50	4119+00	RT	69	4	2.0"	69				8		APPROACH FOR PRIVATE PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4120	US 50	4120+50	LT	88	20	2.0"	88				10		APPROACH FOR MULTIPLE PRIVATE PROPERTIES. REPLACE 20' OF EXISTING PAVEMENT
	US 50	4142+00	RT	411		1.0"				11			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
4145	US 50	4144+75	LT	40	4	2.0"					4		APPROACH FOR PRIVATE PROPERTY. PLACE 4' OF ASPHALT
4151	US 50	4151+00	RT	22	4	2.0"	22				2		APPROACH FOR PRIVATE PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
	US 50	4157+00	LT	292		1.0"				8			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
						SH 9 APPROACH SUBTOTAL (3 OF 4)	0	0	0	0	0	0	
						US 50 APPROACH SUBTOTAL (3 OF 4)	879	810	540	267	669	0	

NOTES:

1) WIDTHS ARE MEASURED FROM EOP AS SHOWN ON THE APPROACH DETAIL ON TABULATION OF APPROACHES SHEET 5 OF 5.
2) INSTALL AGGREGATE BASE COURSE (SPECIAL) TO 5' FROM EDGE OF PULLOUT FOR AREAS ALONG A WATERWAY SUCH AS THE ARKANSAS RIVER. SEE PULLOUT DETAIL ON TABULATION OF APPROACHES SHEET 5 OF 5.

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TABULATION OF APPROACHES AND PULLOUTS

Designer: JAB
Detailer: LMB
Subset: TAB-APPROACH
Structure Numbers:
Subset Sheets: 3 of 5

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Sheet Number 19

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TABULATION OF APPROACHES AND PULLOUTS (4 OF 4)

NAME	LOCATION	APPROX STATION	SIDE	PROP AREA	WIDTH (W)	DEPTH	202-00240 REMOVAL OF ASPHALT MAT (PLANING)	203-00000 UNCLASSIFIED EXCAVATION	304-06007 AGGREGATE BASE COURSE (CLASS 6)	304-09000 AGGREGATE BASE COURSE (SPECIAL)	403-34821 HOT MIX ASPHALT (GRADING SX) (100) (PG 58-28)	403-36721 HOT MIX ASPHALT (GRADING ST) (75) (PG 58-28)	COMMENTS
				SY	FT	IN	SY	CY	CY	CY	TON	TON	
	US 50	4163+50	LT	421		1.0"				12			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	4171+75	LT	392		1.0"				11			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
	US 50	4183+00	RT	284		1.0"				8			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
4197	US 50	4197+00	RT	24	4	2.0"	24				3		APPROACH FOR PRIVATE PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
	US 50	4201+00	LT	289		1.0"				8			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
SH9	US 50	4203+00	LT										JUNCTION OF SH 9 AND US 50. SEE TAB OF SURFACING MATERIALS
	US 50	4205+00	RT	321		1.0"				9			UNPAVED PULLOUT. PLACE ABC (SPECIAL)
4207RT	US 50	4207+00	RT	33	4	2.0"	33				4		APPROACH FOR COMMERCIAL PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4207LT	US 50	4207+70	LT	20	4	2.0"	20				2		APPROACH FOR COMMERCIAL PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4208	US 50	4208+50	RT	33	4	2.0"	33				4		APPROACH FOR COMMERCIAL PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4209	US 50	4209+00	LT	24	4	2.0"	24				3		APPROACH FOR COMMERCIAL PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4212	US 50	4212+00	LT	31	4	2.0"	31				3		APPROACH FOR COMMERCIAL PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
CR61	US 50	4212+00	RT										APPROACH FOR CR61. PROTECT EXISTING PAVEMENT
4217	US 50	4217+25	RT	27	4	2.0"	27				3		APPROACH FOR PRIVATE PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4222	US 50	4222+65	LT	20	4	2.0"	20				2		APPROACH FOR PRIVATE PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4223	US 50	4223+25	RT										APPROACH FOR PRIVATE PROPERTY. PROTECT EXISTING CONCRETE
4234	US 50	4234+00	RT	22	4	2.0"	22				2		APPROACH FOR COMMERCIAL PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4235	US 50	4235+00	RT	24	4	2.0"	24				3		APPROACH FOR COMMERCIAL PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4236	US 50	4236+50	RT	31	4	2.0"	31				3		APPROACH FOR COMMERCIAL PROPERTY. REPLACE 4' OF EXISTING PAVEMENT
4241	US 50	4241+00	LT	24	4	2.0"	24				3		APPROACH FOR MULTIPLE PRIVATE PROPERTIES. REPLACE 4' OF EXISTING PAVEMENT
CR364A	US 50	4241+00	RT	18	4	2.0"	18				2		APPROACH FOR CR 364A. REPLACE 4' OF EXISTING PAVEMENT.
						SH 9 APPROACH SUBTOTAL (4 OF 4)	0	0	0	0	0	0	
						US 50 APPROACH SUBTOTAL (4 OF 4)	331	0	0	48	37	0	

	202-00240 REMOVAL OF ASPHALT MAT (PLANING)	203-00000 UNCLASSIFIED EXCAVATION	304-06007 AGGREGATE BASE COURSE (CLASS 6)	304-09000 AGGREGATE BASE COURSE (SPECIAL)	403-34821 HOT MIX ASPHALT (GRADING SX) (100) (PG 58-28)	403-36721 HOT MIX ASPHALT (GRADING ST) (75) (PG 58-28)
	SY	CY	CY	CY	TON	TON
SH 9 APPROACH SUBTOTAL (1 OF 4)		31	20	117		83
US 50 APPROACH SUBTOTAL (1 OF 4)						
SH 9 APPROACH SUBTOTAL (2 OF 4)		562	280	178		718
US 50 APPROACH SUBTOTAL (2 OF 4)				10		
SH 9 APPROACH SUBTOTAL (3 OF 4)						
US 50 APPROACH SUBTOTAL (3 OF 4)	879	810	540	267	669	
SH 9 APPROACH SUBTOTAL (4 OF 4)						
US 50 APPROACH SUBTOTAL (4 OF 4)	331			48	37	
SH 9 APPROACH SUBTOTAL	0	593	300	295	0	801
US 50 APPROACH SUBTOTAL	1,210	810	540	325	706	0
PROJECT TOTAL	*	**1,403**	**840**	**620**	*	*

* CARRIED TO TABULATION OF SURFACING MATERIALS

NOTES:

1) WIDTHS ARE MEASURED FROM EOP AS SHOWN ON THE APPROACH DETAIL ON TABULATION OF APPROACHES SHEET 5 OF 5.
2) INSTALL AGGREGATE BASE COURSE (SPECIAL) TO 5' FROM EDGE OF PULLOUT FOR AREAS ALONG A WATERWAY SUCH AS THE ARKANSAS RIVER. SEE PULLOUT DETAIL ON TABULATION OF APPROACHES SHEET 5 OF 5.

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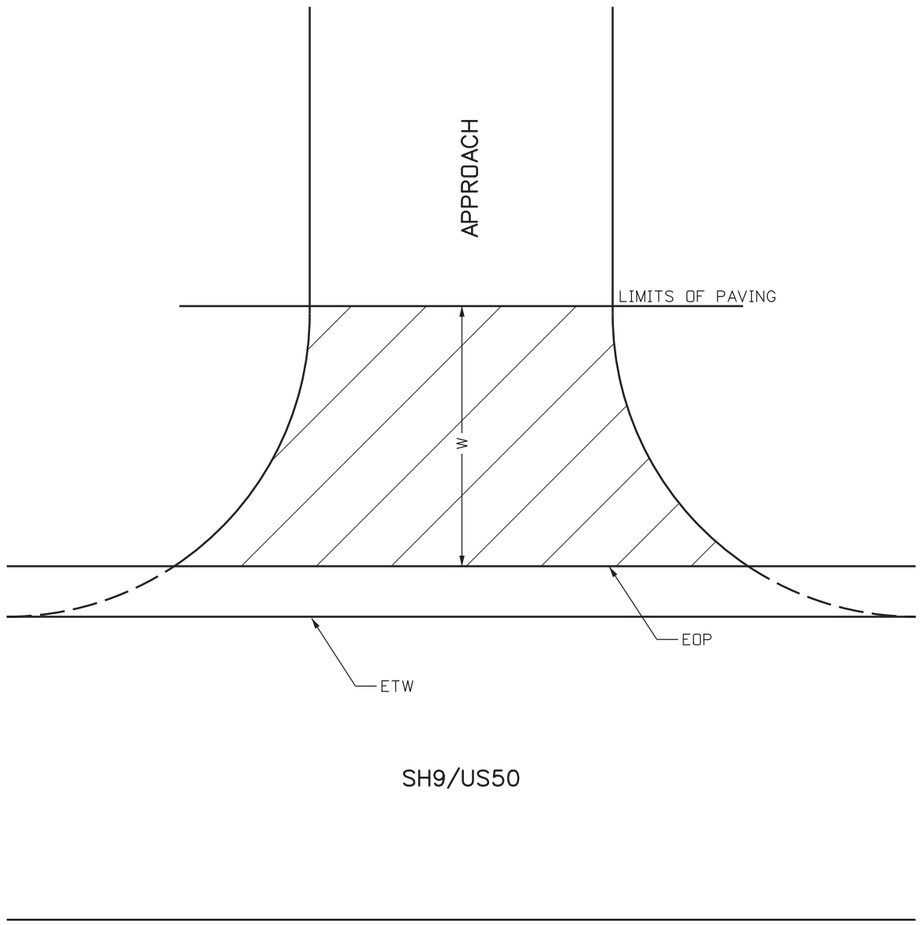
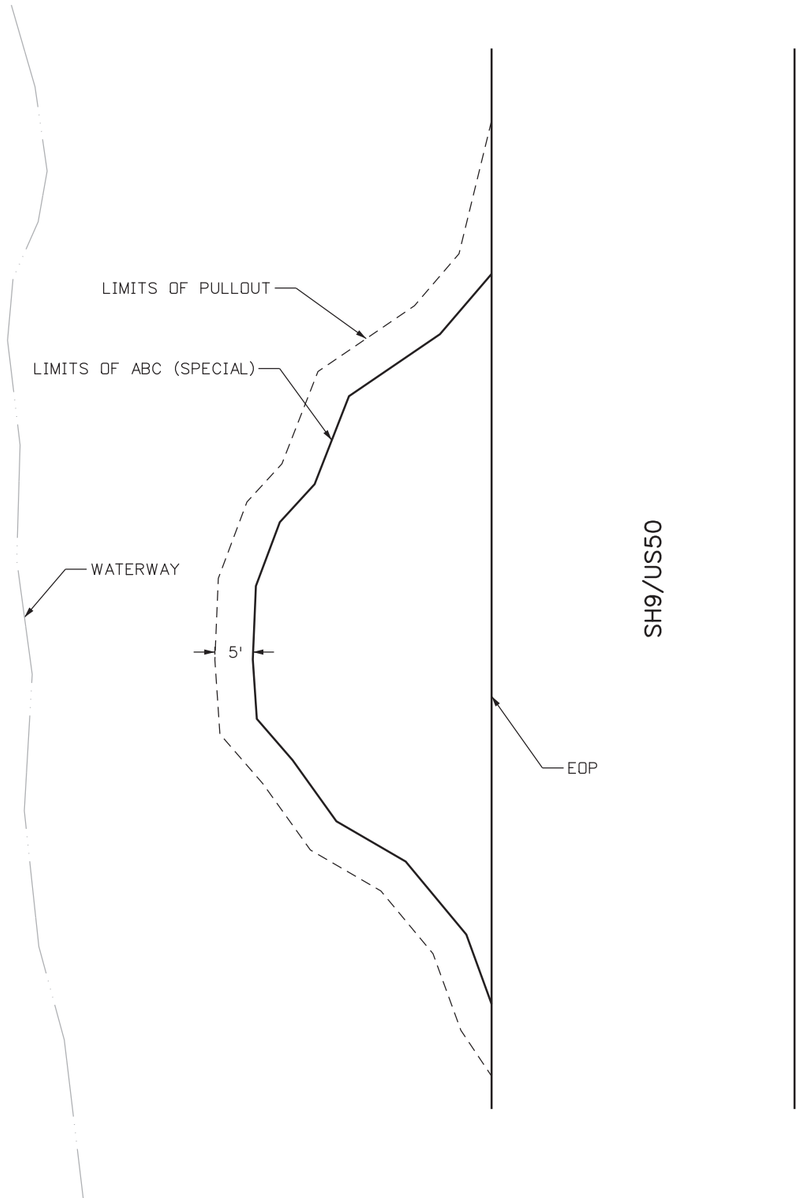
TABULATION OF APPROACHES AND PULLOUTS

Designer: JAB
Detailer: LMB
Subset: TAB-APPROACH
Structure Numbers:
Subset Sheets: 4 of 5

Project No./Code
STA 0503-089
21255
Sheet Number 20



APPROACH DETAIL



PULLOUT DETAIL

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TABULATION OF APPROACHES AND PULLOUTS

Designer: JAB
Detailer: LMB
Subset: TAB-APPROACH
Structure Numbers:
Subset Sheets: 5 of 5

Project No./Code
STA 0503-089
21255
Sheet Number 21

TABULATION OF CULVERTS (1 OF 7)

CULVERT NO	LOCATION	APPROX STATION	SIDE	EXISTING CONDITION			202-04002	203-01510	612-00003	612-00043
				SIZE	NO OF PIPES	TYPE	CLEAN CULVERT	BACKHOE	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE III)
							EA	HOUR	EACH	EACH
C1	SH 9	03+77	MI	24"	1	CMP			2	
C2	SH 9	04+63	MI	24"	1	CMP			2	
C3	SH 9	13+83	MI	78"	1	CMP			2	
C3A	SH 9	26+46	RT	24"	1	CMP				
C4	SH 9	28+80	MI	72"	1	CMP			2	
C5	SH 9	34+36	MI	48"	1	CMP			2	
C6	SH 9	46+40	MI	24"	1	CMP	1		2	
C7	SH 9	46+60	LT	18"	1	CMP	1			
C8	SH 9	52+37	MI	24"	1	CMP			2	
C9	SH 9	56+90	MI	60"	1	CMP			2	
C10	SH 9	67+02	MI	24"	1	CMP			2	
C11	SH 9	76+74	MI	24"	1	CMP			2	
C12	SH 9	80+17	MI	48"	1	CMP			2	
C13	SH 9	81+87	MI	24"	1	CMP			2	
C13A	SH 9	83+50	RT	18"	1	CMP	1			
C14	SH 9	86+84	MI	24"	1	CMP		2	2	
C15	SH 9	91+89	MI	24"	1	CMP	1		2	
C16	SH 9	100+70	MI	24"	1	CMP			2	
C17	SH 9	108+04	MI	42"	1	CMP			2	
C18	SH 9	114+73	MI	48"	1	CMP			2	
C19	SH 9	123+20	RT	18"	1	CMP				
C20	SH 9	130+00	MI	66"	1	CMP			2	
C21	SH 9	134+30	RT	18"	1	CMP	1			
C22	SH 9	137+20	MI	24"	1	CMP			2	
C23	SH 9	140+35	MI	24"	1	CMP	1	2	2	
C24	SH 9	147+20	MI	48"	1	CMP			2	
C24A	SH 9	152+65	RT	18"	1	CMP	1			
C25	SH 9	155+80	MI	24"	1	CMP	1		2	
C26	SH 9	159+37	MI	24"	1	CMP			2	
C27	SH 9	159+37	RT	24"	1	CMP	1			
C28	SH 9	162+62	MI	24"	1	CMP			2	
C28A	SH 9	172+30	RT	18"	1	CMP	1			
C29	SH 9	178+80	MI	24"	1	CMP			2	
C30	SH 9	181+78	MI	24"	1	CMP			2	
C31	SH 9	185+12	MI	24"	1	CMP	1		2	
C32	SH 9	190+80	MI	24"	1	CMP			2	
C32A	SH 9	192+75	LT	18"	1	CMP	1			
C33	SH 9	197+77	MI	24"	1	CMP	1		2	
SH 9 CULVERT SUBTOTAL (1 OF 7)							13	4	58	0
US 50 CULVERT SUBTOTAL (1 OF 7)							0	0	0	0

TABULATION OF CULVERTS (2 OF 7)

CULVERT NO	LOCATION	APPROX STATION	SIDE	EXISTING CONDITION			202-04002	203-01510	612-00003	612-00043
				SIZE	NO OF PIPES	TYPE	CLEAN CULVERT	BACKHOE	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE III)
							EA	HOUR	EACH	EACH
C34	SH 9	202+70	MI	24"	1	CMP			2	
C35	SH 9	217+23	MI	24"	1	CMP		2	2	
C36	SH 9	220+32	MI	24"	1	CMP			2	
C37	SH 9	221+75	RT	18"	1	CMP	1			
C38	SH 9	230+30	MI	24"	1	CMP			2	
C39	SH 9	237+44	MI	24"	1	CMP			2	
C40	SH 9	238+46	RT	18"	1	CMP	1			
C41	SH 9	241+76	MI	24"	1	CMP			2	
C42	SH 9	244+00	RT	24"	1	CMP				
C43	SH 9	246+52	MI	24"	1	CMP			2	
C44	SH 9	252+44	MI	36"	1	CMP			2	
C45	SH 9	257+18	MI	24"	1	CMP	1		2	
C46	SH 9	263+37	MI	24"	1	CMP			2	
C47	SH 9	274+98	MI	48"	1	CMP			2	
C48	SH 9	284+60	MI	24"	1	CMP			2	
C49	SH 9	288+05	RT	24"	1	CMP	1			
C50	SH 9	291+64	MI	84"	1	CMP			2	
C51	SH 9	294+20	MI	24"	1	CMP			2	
C52	SH 9	308+82	MI	24"	1	CMP	1		2	
C53	SH 9	319+23	MI	36"	1	CMP	1		2	
C53A	SH 9	320+60	LT	24"	1	CMP				
C54	SH 9	332+66	MI	24"	1	CMP	1		2	
C55	SH 9	343+98	MI	48"	1	CMP	1		2	
C56	SH 9	344+79	LT	18"	1	CMP	1			
C57	SH 9	351+07	MI	24"	1	CMP			2	
C58	SH 9	357+64	MI	24"	1	CMP			2	
C59	SH 9	362+53	MI	24"	1	CMP			2	
C60	SH 9	366+30	MI	4' x 11'	1	CBC			2	
C61	SH 9	366+97	LT	24"	1	CMP	1			
C62	SH 9	386+10	MI	36"	1	CMP			2	
C63	SH 9	391+91	MI	18"	1	CMP	1		2	
C64	SH 9	396+30	MI	36"	1	CMP			2	
C65	SH 9	408+72	MI	6' x 6'	1	CBC			2	
C66	SH 9	412+93	MI	24"	1	CMP	1		2	
C67	SH 9	417+89	MI	24"	1	CMP			2	
C68	SH 9	420+86	MI	24"	1	CMP			2	
C69	SH 9	428+73	MI	24"	1	CMP			2	
C70	SH 9	434+01	MI	24"	1	CMP	1		2	
SH 9 CULVERT SUBTOTAL (2 OF 7)							13	2	62	0
US 50 CULVERT SUBTOTAL (2 OF 7)							0	0	0	0

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TABULATION OF CULVERTS

Designer: JAB
Detailer: LMB
Subset: TAB-CULVERT
Structure Numbers:
Subset Sheets: 1 of 4

Project No./Code
STA 0503-089
21255
Sheet Number 22

TABULATION OF CULVERTS (3 OF 7)

CULVERT NO	LOCATION	APPROX STATION	SIDE	EXISTING CONDITION			202-04002	203-01510	612-00003	612-00043
				SIZE	NO OF PIPES	TYPE	CLEAN CULVERT	BACKHOE	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE III)
							EA	HOUR	EACH	EACH
C71	SH 9	443+77	MI	24"	1	CMP			2	
C72	SH 9	447+77	MI	24"	1	CMP			2	
C73	SH 9	456+04	MI	24"	1	CMP			2	
C74	SH 9	461+56	MI	24"	1	CMP			2	
C75	SH 9	465+30	MI	24"	1	CMP			2	
C76	SH 9	471+68	MI	24"	1	CMP	1	2	2	
C77	SH 9	476+77	MI	7' x 6'	1	CBC			2	
C78	SH 9	482+70	MI	24"	1	CMP			2	
C79	SH 9	488+82	MI	24"	1	CMP			2	
C80	SH 9	490+48	MI	24"	1	CMP	1		2	
C81	SH 9	494+35	MI	24"	1	CMP	1		2	
C82	SH 9	495+91	RT	10' x 17'	1	CBC				
C83	SH 9	498+09	MI	5' x 6'	1	CBC			2	
C84	SH 9	500+42	LT	24"	1	CMP	1			
C85	SH 9	509+86	MI	24"	1	CMP			2	
C86	SH 9	520+88	MI	24"	1	CMP			2	
C87	SH 9	525+94	MI	24"	1	CMP	1		2	
C88	SH 9	527+66	MI	24"	1	CMP	1		2	
C89	SH 9	532+18	MI	24"	1	CMP			2	
C90	SH 9	536+53	MI	24"	1	CMP			2	
C90A	SH 9	542+50	LT	18"	1	CMP				
C91	SH 9	543+28	MI	7' x 6'	1	CBC			2	
C92	SH 9	552+10	MI	24"	1	CMP			2	
C93	SH 9	555+55	MI	24"	1	CMP			2	
C94	SH 9	558+30	MI	24"	1	CMP			2	
C95	SH 9	563+50	MI	24"	1	CMP			2	
C96	SH 9	572+39	MI	8' x 12'	1	CBC			2	
C97	SH 9	585+35	MI	24"	1	CMP			2	
C98	SH 9	588+91	MI	30"	1	CMP	1		2	
C99	SH 9	605+69	MI	24"	1	CMP			2	
C100	SH 9	610+62	MI	24"	1	CMP	1	2	2	
C100A	SH 9	618+30	LT	18"	1	CMP	1			
C101	SH 9	619+65	MI	24"	1	CMP	1		2	
C102	SH 9	625+64	MI	24"	1	CMP	1		2	
C103	SH 9	636+31	MI	72"	3	CMP			2	
C104	SH 9	637+03	RT	18"	1	CMP	1			
C105	SH 9	645+07	MI	24"	1	CMP	1		2	
C106	SH 9	648+60	MI	24"	1	CMP	1		2	
SH 9 CULVERT SUBTOTAL (3 OF 7)							14	4	66	0
US 50 CULVERT SUBTOTAL (3 OF 7)							0	0	0	0

TABULATION OF CULVERTS (4 OF 7)

CULVERT NO	LOCATION	APPROX STATION	SIDE	EXISTING CONDITION			202-04002	203-01510	612-00003	612-00043
				SIZE	NO OF PIPES	TYPE	CLEAN CULVERT	BACKHOE	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE III)
							EA	HOUR	EACH	EACH
C107	SH 9	653+27	MI	48"	3	CMP			2	
C108	SH 9	654+06	RT	24"	1	CMP		2		
C109	SH 9	658+59	MI	24"	1	CMP	1		2	
C110	SH 9	663+61	MI	36"	1	CMP			2	
C111	SH 9	673+35	MI	36"	1	CMP			2	
C112	SH 9	680+80	MI	36"	1	CMP	1		2	
C113	SH 9	689+66	MI	30"	1	CMP			2	
C114	SH 9	695+07	MI	48"	2	CMP	NO WORK		2	
C115	SH 9	696+59	MI	24"	1	CMP	1		2	
C116	SH 9	698+84	MI	60"	2	CMP			2	
C117	SH 9	702+58	MI	24"	1	CMP			2	
C118	SH 9	709+14	MI	84"	2	CMP			2	
C119	SH 9	731+44	MI	18"	1	CMP	1		2	
C120	SH 9	738+03	MI	12"	1	CMP	1		2	
C121	SH 9	750+60	MI	36"	1	CMP			2	
C122	SH 9	763+79	MI	42"	1	CMP			2	
C123	SH 9	763+89	MI	24"	1	CMP			2	
C124	SH 9	771+25	MI	18"	1	CMP			2	
C125	SH 9	775+42	MI	84"	1	CMP			2	
C126	SH 9	782+48	MI	24"	1	CMP	1		2	
C127	SH 9	784+94	MI	84"	1	CMP			2	
C128	SH 9	802+81	MI	42"	1	CMP			2	
C129	SH 9	815+11	MI	18"	1	CMP			2	
C130	SH 9	825+67	MI	48"	1	CMP			2	
C131	SH 9	837+66	MI	84"	2	CMP			2	
C132	SH 9	853+65	MI	24"	1	CMP			2	
C133	SH 9	861+13	MI	24"	1	CMP			2	
C134	SH 9	871+87	MI	24"	1	CMP			2	
C135	SH 9	888+41	MI	24"	1	CMP			2	
C136	SH 9	892+98	MI	24"	1	CMP			2	
C137	SH 9	897+84	MI	24"	1	CMP			2	
C138	SH 9	900+18	MI	30"	1	CMP			2	
C139	SH 9	912+13	MI	24"	1	CMP			2	
C140	SH 9	915+03	MI	24"	1	CMP			2	
C141	SH 9	917+10	MI	30"	1	CMP			2	
C142	SH 9	920+86	MI	24"	1	CMP	1		2	
C143	SH 9	931+50	MI	24"	1	CMP			2	
C144	SH 9	941+53	MI	24"	1	CMP	1		2	
SH 9 CULVERT SUBTOTAL (4 OF 7)							8	2	74	0
US 50 CULVERT SUBTOTAL (4 OF 7)							0	0	0	0

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TABULATION OF CULVERTS

Designer: JAB
Detailer: LMB
Subset: TAB-CULVERT
Structure Numbers:
Subset Sheets: 2 of 4

Project No./Code
STA 0503-089
21255
Sheet Number 23

TABULATION OF CULVERTS (5 OF 7)

CULVERT NO	LOCATION	APPROX STATION	SIDE	EXISTING CONDITION			202-04002	203-01510	612-00003	612-00043
				SIZE	NO OF PIPES	TYPE	CLEAN CULVERT	BACKHOE	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE III)
							EA	HOUR	EACH	EACH
C145	SH 9	958+66	MI	24"	1	CMP	1		2	
C146	SH 9	962+70	MI	24"	1	CMP			2	
C148	SH 9	969+23	MI	24"	1	CMP			2	
C282	US 50	3792+20	MI	36"	1	CMP				2
C281	US 50	3795+90	MI	24"	1	CMP				2
C280	US 50	3798+85	MI	5' x 6'	1	CBC				2
C279	US 50	3802+85	MI	24"	1	CMP				2
C278	US 50	3807+65	MI	7' x 6'	1	CBC				2
C277	US 50	3810+40	MI	24"	1	CMP				2
C276	US 50	3813+10	MI	24"	1	CMP				2
C275	US 50	3816+00	MI	36"	1	CMP	1			2
C274	US 50	3817+70	MI	24"	1	CMP	1			2
C273	US 50	3822+15	MI	24"	1	CMP				2
C272	US 50	3826+45	MI	7' x 10'	1	CBC				2
C271	US 50	3843+40	MI	24"	1	CMP				2
C270	US 50	3847+90	MI	42"	1	CMP				2
C269	US 50	3851+55	MI	48"	1	CMP				2
C268	US 50	3853+25	MI	24"	1	CMP				2
C267	US 50	3857+00	MI	24"	1	CMP				2
C266	US 50	3861+90	MI	5' x 6'	1	CBC				2
C265	US 50	3864+90	MI	24"	1	CMP				2
C264	US 50	3873+05	MI	24"	1	CMP				2
C263	US 50	3877+05	MI	36"	1	CMP				2
C262	US 50	3884+81	MI	36"	1	CMP				2
C261	US 50	3888+60	MI	24"	1	CMP				2
C260	US 50	3892+70	MI	24"	1	CMP				2
C259	US 50	3896+85	MI	30"	1	CMP				2
C258	US 50	3903+80	MI	36"	1	CMP				2
C257	US 50	3910+00	MI	24"	1	CMP				2
C256	US 50	3914+40	MI	24"	1	CMP				2
C255	US 50	3916+30	MI	36"	1	CMP				2
C254	US 50	3922+85	MI	24"	1	CMP				2
C253	US 50	3927+10	MI	36"	1	CMP				2
C252	US 50	3929+10	MI	36"	1	CMP				2
C251	US 50	3935+90	MI	36"	1	CMP				2
C250	US 50	3937+25	MI	36"	1	CMP				2
C249	US 50	3944+70	MI	7' x 6'	1	CBC				2
SH 9 CULVERT SUBTOTAL (5 OF 7)							1	0	6	0
US 50 CULVERT SUBTOTAL (5 OF 7)							2	0	0	68

TABULATION OF CULVERTS (6 OF 7)

CULVERT NO	LOCATION	APPROX STATION	SIDE	EXISTING CONDITION			202-04002	203-01510	612-00003	612-00043
				SIZE	NO OF PIPES	TYPE	CLEAN CULVERT	BACKHOE	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE III)
							EA	HOUR	EACH	EACH
C248	US 50	3948+20	MI	36"	1	CMP				2
C247	US 50	3959+00	MI	36"	1	CMP				2
C246	US 50	3963+40	MI	24"	1	CMP				2
C245	US 50	3970+20	MI	48"	1	CMP				2
C244	US 50	3975+80	MI	36"	1	CMP				2
C243	US 50	3977+50	MI	24"	1	CMP				2
C242	US 50	3980+65	MI	24"	1	CMP				2
C241	US 50	3983+95	MI	60"	1	CMP				2
C240	US 50	3987+85	MI	36"	1	CMP				2
C239	US 50	3990+85	MI	24"	1	CMP				2
C238	US 50	3995+60	MI	24"	1	CMP				2
C237	US 50	4001+30	MI	36"	1	CMP				2
C236	US 50	4003+30	MI	36"	1	CMP				2
C235	US 50	4008+85	MI	36"	1	CMP				2
C234	US 50	4011+80	MI	24"	1	CMP				2
C233	US 50	4018+75	MI	36"	1	CMP				2
C232	US 50	4023+10	MI	24"	1	CMP				2
C231	US 50	4029+40	MI	24"	1	CMP	1			2
C230	US 50	4035+20	MI	36"	1	CMP				2
C229	US 50	4037+80	MI	24"	1	CMP				2
C228	US 50	4042+40	MI	30"	1	CMP				2
C227	US 50	4065+85	MI	7' x 6'	1	CBC				2
C226	US 50	4068+50	MI	7' x 8'	1	CBC				2
C225	US 50	4079+70	MI	72"	1	CMP				2
C201	US 50	4111+00	RT	18"	1	CMP	1			
C224	US 50	4120+80	LT	24"	1	CMP				
C223	US 50	4125+25	MI	36"	1	CMP				2
C222	US 50	4127+65	MI	24"	1	CMP				2
C221	US 50	4132+00	MI	48"	2	CMP				2
C220	US 50	4139+40	MI	24"	1	CMP				2
C219	US 50	4146+95	MI	36"	1	CMP				2
C218	US 50	4149+85	MI	48"	1	CMP				2
C217A	US 50	4153+90	MI	48"	1	CMP				2
C217	US 50	4155+60	MI	24"	1	CMP				2
C216A	US 50	4159+30	MI	24"	1	CMP		2		2
C216	US 50	4166+25	MI	N/A	1	CMP				2
C215	US 50	4174+60	MI	24"	1	CMP				2
SH 9 CULVERT SUBTOTAL (6 OF 7)							0	0	0	0
US 50 CULVERT SUBTOTAL (6 OF 7)							2	2	0	70

Print Date: 12/17/2016
File Name: 21255DES_Tab_Culverts03.dgn
Horiz. Scale: 1:1 Vert. Scale: N/A

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Sheet Revisions

Date:	Comments	Init.

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Region 2 DW

As Constructed
No Revisions:
Revised:
Void:

TABULATION OF CULVERTS

Designer: JAB
Detailer: LMB
Subset: TAB-CULVERT
Structure Numbers:
Subset Sheets: 3 of 4

Project No./Code
STA 0503-089
21255
Sheet Number 24

TABULATION OF CULVERTS (7 OF 7)

CULVERT NO	LOCATION	APPROX STATION	SIDE	EXISTING CONDITION			202-04002	203-01510	612-00003	612-00043
				SIZE	NO OF PIPES	TYPE	CLEAN CULVERT	BACKHOE	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE III)
							EA	HOUR	EACH	EACH
C214	US 50	4184+50	MI	24"	1	CMP				2
C213	US 50	4187+80	MI	24"	1	CMP				2
C202	US 50	4197+00	RT	18"	1	CMP	1			
C203	US 50	4207+00	RT	18"	1	CMP	1			
C212	US 50	4215+50	MI	24"	1	CMP		6		2
C204	US 50	4223+25	RT	18"	1	CMP	1			
C211	US 50	4225+00	MI	24"	1	CMP	1			2
C210	US 50	4232+70	MI	24"	1	CMP	1			2
C209	US 50	4238+30	MI	24"	1	CMP	1			2
C208	US 50	4241+35	MI	18"	1	CMP	1			2
C207	US 50	4249+95	MI	24"	1	CMP				2
C206	US 50	4256+25	MI	36"	1	CMP				2
C205	US 50	4259+40	MI	24"	1	CMP	1			2
SH 9 CULVERT SUBTOTAL (7 OF 7)							0	0	0	0
US 50 CULVERT SUBTOTAL (7 OF 7)							8	6	0	20

	202-04002	203-01510	612-00003	612-00043
	CLEAN CULVERT	BACKHOE	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE III)
	EA	HOUR	EACH	EACH
SH 9 CULVERT SUBTOTAL (1 OF 7)	13	4	58	
US 50 CULVERT SUBTOTAL (1 OF 7)				
SH 9 CULVERT SUBTOTAL (2 OF 7)	13	2	62	
US 50 CULVERT SUBTOTAL (2 OF 7)				
SH 9 CULVERT SUBTOTAL (3 OF 7)	14	4	66	
US 50 CULVERT SUBTOTAL (3 OF 7)				
SH 9 CULVERT SUBTOTAL (4 OF 7)	8	2	74	
US 50 CULVERT SUBTOTAL (4 OF 7)				
SH 9 CULVERT SUBTOTAL (5 OF 7)	1		6	
US 50 CULVERT SUBTOTAL (5 OF 7)	2			68
SH 9 CULVERT SUBTOTAL (6 OF 7)				
US 50 CULVERT SUBTOTAL (6 OF 7)	2	2		70
SH 9 CULVERT SUBTOTAL (7 OF 7)				
US 50 CULVERT SUBTOTAL (7 OF 7)	8	6		20
SH 9 CULVERT SUBTOTAL	49	12	266	0
US 50 CULVERT SUBTOTAL	12	8	0	158
PROJECT TOTAL	**61**	**20**	*	*

* CARRIED TO TABULATION OF DELINEATORS

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TABULATION OF CULVERTS

Designer: JAB
Detailer: LMB
Subset: TAB-CULVERT
Structure Numbers:
Subset Sheets: 4 of 4

Project No./Code
STA 0503-089
21255
Sheet Number 25

TABULATION OF STRIPING (1 OF 3)

SH 9

APPROX STATION	TO APPROX STATION	DIRECTION	APPROX LENGTH OF EXISITNG					627-00009	
			YELLOW			WHITE		MOIFIED EPOXY PAVEMENT MARKING (INLAID)	
			4" SOLID DOUBLE (1 GAL/120 LF) CENTER	4" SKIP (1 GAL/960 LF) CENTER	4" SOLID /SKIP (1 GAL/192 LF) CENTER	4" SOLID (1 GAL/240 LF) EDGE	8" SOLID (1 GAL/120 LF) CHANNELIZING	YELLOW	WHITE
			LF			LF		GAL	
00+10	0+40	NB	30			65	125	0.3	1.3
00+40	15+50	NB	1510			1510		12.6	6.3
15+95	23+20	NB	725			725		6.0	3.0
23+20	37+50	NB			1430	1430		7.5	6.0
37+50	38+05	NB				55			0.2
38+05	45+80	NB			775	775		4.0	3.2
45+80	59+50	NB	1370			1370		11.4	5.7
59+50	60+25	NB				75			0.3
60+25	106+50	NB	4625			4625		38.5	19.3
106+50	117+50	NB			1100	1100		5.7	4.6
117+50	162+00	NB		4450		4450		4.6	18.5
162+00	173+00	NB			1100	1100		5.7	4.6
173+00	192+70	NB	1970			1970		16.4	8.2
192+70	193+40	NB				70			0.3
193+40	209+60	NB	1620			1620		13.5	6.8
209+60	218+35	NB			875	875		4.6	3.7
218+35	229+80	NB		1145		1145		1.2	4.8
229+80	248+00	NB			1820	1820		9.5	7.6
248+00	253+85	NB		585		585		0.6	2.4
253+85	255+60	NB			175	175		0.9	0.7
255+60	256+20	NB				60			0.3
256+20	263+00	NB			680	680		3.5	2.8
263+00	285+50	NB	2250			2250		18.8	9.4
285+50	297+15	NB			1165	1165		6.1	4.9
297+15	331+50	NB		3435		3435		3.6	14.3
331+50	353+70	NB			2220	2220		11.6	9.3
353+70	366+40	NB		1270		1270		1.3	5.3
366+40	377+00	NB			1060	1060		5.5	4.4
377+00	383+35	NB	635			635		5.3	2.7
383+35	394+00	NB			1065	1065		5.6	4.4
						SH 9 STRIPING SUBTOTAL (1 OF 3)		204.3	165.3

US 50

APPROX STATION	TO APPROX STATION	DIRECTION	APPROX LENGTH OF EXISTING							627-00009	
			YELLOW			WHITE				MOIFIED EPOXY PAVEMENT MARKING (INLAID)	
			4" SOLID DOUBLE (1 GAL/ 120 LF) CENTER	4" SKIP (1 GAL/960 LF) CENTER	4" SOLID /SKIP (1 GAL/192 LF) CENTER	4" SOLID (1 GAL/240 LF) EDGE	4" SKIP (1 GAL/960 LF) LANE	4" BROKEN (1 GAL/360 LF) DOTTED	8" SOLID (1 GAL/120 LF) CHANNELIZING	YELLOW	WHITE
			LF			LF				GAL	
3780+00	3800+00	WB	2000			2000				16.7	8.3
3800+00	3809+10	WB	910			910	910			7.6	4.7
3809+10	3809+70	WB	60				60			0.5	0.1
3809+70	3816+75	WB	705			705	705			5.9	3.7
3816+75	3817+40	WB					65				0.1
3817+40	3822+20	WB	480			480	480		480	4.0	6.5
3822+20	3825+25	WB	305			305	305	305		2.5	2.0
3825+25	3837+70	WB	1245			1245	1245			10.4	6.5
3837+70	3846+30	WB			860	860	860			4.5	4.5
3846+30	3856+50	WB	1020			1020	1020			8.5	5.3
3856+50	3865+70	WB			920	920	920			4.8	4.8
3865+70	3881+10	WB	1540			1540	1540			12.8	8.0
3881+10	3887+50	WB	640			640				5.3	2.7
3887+50	3908+50	WB			2100	2100				10.9	8.8
3908+50	3937+00	WB	2850			2850				23.8	11.9
3937+00	3944+50	WB			750	750				3.9	3.1
3944+50	3948+40	WB		390		390				0.4	1.6
3948+40	3953+50	WB			510	510				2.7	2.1
3953+50	3974+70	WB	2120			2120				17.7	8.8
3974+70	3993+00	WB			1830	1830				9.5	7.6
3993+00	4029+00	WB	3600			3600				30.0	15.0
4029+00	4038+00	WB			900	900				4.7	3.8
4038+00	4040+00	WB	200							1.7	
4040+00	4061+00	WB	2100			2100				17.5	8.8
4061+00	4065+00	WB	400			400		400		3.3	2.2
4065+00	4073+20	WB	820			820			820	6.8	10.3
4073+60	4078+75	WB	515			515			515	4.3	6.4
4078+75	4080+30	WB	155			155		155		1.3	0.9
4080+30	4110+00	WB	2997			2997				25.0	12.5
4110+00	4111+00	WB				100					0.4
								US 50 STRIPING SUBTOTAL (1 OF 3)		247.0	161.4

NOTES:

1) THE APPLICATION RATES SHOWN ABOVE IN UNITS OF GAL/LF ARE FOR ESTIMATING PURPOSES ONLY. THESE RATES INCLUDE THE LENGTH OF GAPS BETWEEN SKIPS OR DOTS. SEE THE PROJECT SPECIFICATIONS FOR ACTUAL APPLICATION RATE REQUIREMENTS.
2) THE CONTRACTOR SHALL CONTACT THE CDOT TRAFFIC UNIT AT LEAST TWO WEEKS PRIOR TO LAYING OUT FINAL CENTERLINE STRIPES.

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Date:	Comments	Init.

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Region 2 DW

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TABULATION OF STRIPING

Designer: JAB
Detailer: LMB
Subset: TAB-STRIPE
Structure Numbers:
Subset Sheets: 1 of 3

Project No./Code
STA 0503-089
21255
Sheet Number 26

TABULATION OF STRIPING (2 OF 3)

SH 9										
APPROX STATION	TO APPROX STATION	DIRECTION	APPROX LENGTH OF EXISITNG					627-00009	
			YELLOW			WHITE		MOIFIED EPOXY PAVEMENT MARKING (INLAID)	
			4" SOLID DOUBLE (1 GAL/120 LF) CENTER	4" SKIP (1 GAL/960 LF) CENTER	4" SOLID /SKIP (1 GAL/192 LF) CENTER	4" SOLID (1 GAL/240 LF) EDGE	8" SOLID (1 GAL/120 LF) CHANNELIZING	YELLOW	WHITE
			LF			LF		GAL	
394+00	411+80	NB		1780		1780		1.9	7.4
411+80	420+90	NB			910	910		4.7	3.8
420+90	452+20	NB	3130			3130		26.1	13.0
453+20	460+70	NB	750			750		6.3	3.1
460+70	471+20	NB			1050	1050		5.5	4.4
471+20	485+40	NB		1420		1420		1.5	5.9
485+40	493+50	NB			810	810		4.2	3.4
493+50	525+15	NB	3165			3165		26.4	13.2
525+15	549+45	NB			2430	2430		12.7	10.1
549+45	558+30	NB		885		885		0.9	3.7
558+30	565+00	NB			670	670		3.5	2.8
565+00	571+00	NB	600			600		5.0	2.5
571+00	571+75	NB				75			0.3
571+75	591+25	NB			1950	1950		10.2	8.1
591+25	608+50	NB	1725			1725		14.4	7.2
608+50	616+35	NB			785	785		4.1	3.3
616+35	621+70	NB		535		535		0.6	2.2
621+70	631+30	NB			960	960		5.0	4.0
631+30	636+80	NB	550			550		4.6	2.3
636+80	645+70	NB			890	890		4.6	3.7
645+70	656+90	NB		1120		1120		1.2	4.7
656+90	664+00	NB			710	710		3.7	3.0
664+00	675+50	NB	1150			1150		9.6	4.8
675+50	685+20	NB			970	970		5.1	4.0
685+20	696+00	NB		1080		1080		1.1	4.5
696+00	707+00	NB			1100	1100		5.7	4.6
707+00	727+60	NB	2060			2060		17.2	8.6
727+60	736+50	NB			890	890		4.6	3.7
736+50	760+00	NB		2350		2350		2.5	9.8
760+00	765+80	NB			580	580		3.0	2.4
						SH 9 STRIPING SUBTOTAL (2 OF 3)		195.9	154.5

US 50										
APPROX STATION	TO APPROX STATION	DIRECTION	APPROX LENGTH OF EXISTING						627-00009	
			YELLOW			WHITE			MOIFIED EPOXY PAVEMENT MARKING (INLAID)	
			4" SOLID DOUBLE (1 GAL/ 120 LF) CENTER	4" SKIP (1 GAL/960 LF) CENTER	4" SOLID /SKIP (1 GAL/192 LF) CENTER	4" SOLID (1 GAL/240 LF) EDGE	4" SKIP (1 GAL/960 LF) LANE	4" BROKEN (1 GAL/360 LF) DOTTED	8" SOLID (1 GAL/120 LF) CHANNELIZING	YELLOW	WHITE
			LF			LF				GAL	
4111+00	4152+50	WB			4150	4150				21.6	17.3
4152+50	4201+80	WB	4930			4930				41.1	20.5
4201+80	4202+60	WB	80			80			80	0.7	1.0
4203+00	4203+70	WB	70						70	0.6	0.6
4203+70	4207+25	WB	355			355			355	3.0	4.4
4207+25	4207+90	WB	65						65	0.5	0.5
4207+90	4208+55	WB	65			65			65	0.5	0.8
4208+55	4208+90	WB	35						35	0.3	0.3
4208+90	4209+30	WB	40					40		0.3	0.1
4209+30	4211+60	WB	230			230		230		1.9	1.3
4211+60	4212+30	WB	70							0.6	
4212+30	4219+20	WB			690	690				3.6	2.9
4219+20	4238+60	WB		1940		1940				2.0	8.1
4238+60	4250+00	WB			1140	1140				5.9	4.8
4250+00	4260+35	WB	1035			1035				8.6	4.3
3780+00	3804+00	EB				2400					10.0
3804+00	3809+90	EB	590			590				4.9	2.5
3809+90	3811+15	EB	125			125		125		1.0	0.7
3811+15	3816+75	EB	560			560			560	4.7	7.0
3816+75	3817+55	EB				80					0.3
3817+55	3822+00	EB	445			445				3.7	1.9
3822+00	4059+00	EB				23700					98.8
4059+00	4065+00	EB	600			600				5.0	2.5
4065+00	4068+20	EB	320			320		320		2.7	1.8
4068+20	4073+25	EB				505			505		6.3
4073+25	4080+00	EB	675			675				5.6	2.8
4080+00	4110+10	EB				3010					12.5
4111+10	4183+91	EB				7281	7281				37.9
4183+91	4190+55	EB				664					2.8
4190+55	4199+85	EB	930			930				7.8	3.9
							US 50 STRIPING SUBTOTAL (2 OF 3)			126.6	258.6

NOTES:

1) THE APPLICATION RATES SHOWN ABOVE IN UNITS OF GAL/LF ARE FOR ESTIMATING PURPOSES ONLY. THESE RATES INCLUDE THE LENGTH OF GAPS BETWEEN SKIPS OR DOTS. SEE THE PROJECT SPECIFICATIONS FOR ACTUAL APPLICATION RATE REQUIREMENTS.
2) THE CONTRACTOR SHALL CONTACT THE CDOT TRAFFIC UNIT AT LEAST TWO WEEKS PRIOR TO LAYING OUT FINAL CENTERLINE STRIPES.

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TABULATION OF STRIPING

Designer: JAB
Detailer: LMB
Subset: TAB-STRIPE
Structure Numbers:
Subset Sheets: 2 of 3

Project No./Code
STA 0503-089
21255
Sheet Number 27

TABULATION OF STRIPING (3 OF 3)

SH 9									
APPROX STATION	TO APPROX STATION	DIRECTION	APPROX LENGTH OF EXISITNG					627-00009	
			YELLOW			WHITE		MOIFIED EPOXY PAVEMENT MARKING (INLAID)	
			4" SOLID DOUBLE (1 GAL/120 LF) CENTER	4" SKIP (1 GAL/960 LF) CENTER	4" SOLID /SKIP (1 GAL/192 LF) CENTER	4" SOLID (1 GAL/240 LF) EDGE	8" SOLID (1 GAL/120 LF) CHANNELIZING	YELLOW	WHITE
			LF			LF		GAL	
765+80	852+90	NB	8710			8710		72.6	36.3
852+90	853+45	NB				55			0.2
853+45	860+40	NB			695	695		3.6	2.9
860+40	868+00	NB		760		760		0.8	3.2
868+00	877+00	NB			900	900		4.7	3.8
877+00	886+00	NB	900			900		7.5	3.8
886+00	903+00	NB			1700	1700		8.9	7.1
903+00	908+50	NB	550			550		4.6	2.3
908+50	917+50	NB			900	900		4.7	3.8
917+50	918+50	NB		100				0.1	
918+50	945+40	NB		2690		2690		2.8	11.2
945+40	952+00	NB			660	660		3.4	2.8
00+15	0+55	SB				60	130		1.3
00+55	37+50	SB				3695			15.4
38+00	59+50	SB				2150			9.0
60+10	120+00	SB				5990			25.0
120+60	192+50	SB				7190			30.0
193+45	255+50	SB				6205			25.9
256+20	570+50	SB				31430			131.0
571+90	853+00	SB				28110			117.1
853+60	952+00	SB				9840			41.0
						SH 9 STRIPING SUBTOTAL (3 OF 3)		113.7	473.1

US 50											
APPROX STATION	TO APPROX STATION	DIRECTION	APPROX LENGTH OF EXISTING							627-00009	
			YELLOW			WHITE				MOIFIED EPOXY PAVEMENT MARKING (INLAID)	
			4" SOLID DOUBLE (1 GAL/ 120 LF) CENTER	4" SKIP (1 GAL/960 LF) CENTER	4" SOLID /SKIP (1 GAL/192 LF) CENTER	4" SOLID (1 GAL/240 LF) EDGE	4" SKIP (1 GAL/960 LF) LANE	4" BROKEN (1 GAL/360 LF) DOTTED	8" SOLID (1 GAL/120 LF) CHANNELIZING	YELLOW	WHITE
			LF			LF				GAL	
4199+85	4206+60	EB				675			675		8.4
4206+60	4206+85	EB				25					0.1
4207+20	4208+40	EB				120					0.5
4209+00	4211+70	EB				270					1.1
4212+35	4217+00	EB				465					1.9
4217+60	4260+35	EB				4275					17.8
								US 50 STRIPING SUBTOTAL (3 OF 3)		0.0	29.8

	627-00009	
	MOIFIED EPOXY PAVEMENT MARKING (INLAID)	
	YELLOW	WHITE
	GAL	
SH 9 SUBTOTAL (1 OF 3)	204.3	165.3
US 50 SUBTOTAL (1 OF 3)	247.0	161.4
SH 9 SUBTOTAL (2 OF 3)	195.9	154.5
US 50 SUBTOTAL (2 OF 3)	126.6	258.6
SH 9 SUBTOTAL (3 OF 3)	113.7	473.1
US 50 SUBTOTAL (3 OF 3)	0.0	29.8
SH 9 STRIPING SUBTOTAL	1306.8	
US 50 STRIPING SUBTOTAL	823.4	
PROJECT TOTAL	**2131**	

US50/SH9								
LOCATION	APPROX STATION	DIRECTION	SYMBOL				627-30405	627-30410
			TURN ARROW (15.5 SF)	MERGE ARROW (58 SF)	STOP BAR (24")	YIELD BAR (12") (MUTCD FIG 3B-16)	PREFORMED THERMOPLASTIC PAVEMENT MARKING (WORD-SYMBOL)	PREFORMED THERMOPLASTIC PAVEMENT MARKING (XWALK-STOP LINE)
			EA	EA	LF	LF	SF	SF
SH 9	0+20	LT			13			26
SH 9	0+20	LT				14		21
US 50	3800+13	LT		1			58	
US 50	3804+35	LT		1			58	
US 50	3812+80	RT	1				15.5	
US 50	3816+30	RT	1				15.5	
US 50	3817+90	LT	1				15.5	
US 50	3821+70	LT	1				15.5	
US 50	4068+20	RT	1				15.5	
US 50	4072+90	RT	1				15.5	
US 50	4073+90	LT	1				15.5	
US 50	4078+60	LT	1				15.5	
US 50	4183+91	RT		1			58	
US 50	4190+77	RT		1			58	
US 50	4200+05	RT	1				15.5	
US 50	4202+50	RT	1				15.5	
US 50	4204+00	LT	1				15.5	
US 50	4207+00	LT	1				15.5	
						SH 9 SUBTOTAL		47
						US 50 SUBTOTAL	418	
						PROJECT TOTAL	**418**	**47**

NOTES:

1) THE APPLICATION RATES SHOWN ABOVE IN UNITS OF GAL/LF ARE FOR ESTIMATING PURPOSES ONLY. THESE RATES INCLUDE THE LENGTH OF GAPS BETWEEN SKIPS OR DOTS. SEE THE PROJECT SPECIFICATIONS FOR ACTUAL APPLICATION RATE REQUIREMENTS.
2) THE CONTRACTOR SHALL CONTACT THE CDOT TRAFFIC UNIT AT LEAST TWO WEEKS PRIOR TO LAYING OUT FINAL CENTERLINE STRIPES.

jason.bonini 10:06:32 PM pw:\\617479-PWINT.aecomonline.local:AECOM_DS01_NA\Documents\60505397-US50 Royal Gorge West_SH9 Jct North\900 Work\910 CAD\02 SHEETS\02_Roadway\21255DES_Tab_Stripe03.dgn

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As Constructed
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TABULATION OF STRIPING

Designer: JAB
Detailer: LMB
Subset: TAB-STRIPE
Structure Numbers:
Subset Sheets: 3 of 3

Project No./Code
STA 0503-089
21255
Sheet Number 28

TABULATION OF SIGNING (1 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
1	A	9A	0.04	NB	RT	M3-1	24	X	12	WHT	NORTH					2.00		1				
	B	9A	0.04	NB	RT	M1-5(9)	24	X	24	WHT	C-9					4.00						
2	X	9A	0.05	NB	RT	R2-1(65)	REMOVE			WHT	SPEED LIMIT 65	1										
3	A	9A	0.06	NB	RT	R2-1(65)	36	X	48	WHT	SPEED LIMIT 65						12.00			1		
4	A	9A	0.08	NB	RT	D2-3	96	X	42	GRN	**Guffey 22 Cripple Creek 40 Fairplay 64****						28.00			2		
	X	9A	0.08	NB	RT	D2-2	REMOVE			GRN	HARTSEL 47 FAIRPLAY 64	1										
	Y	9A	0.08	NB	RT	M1-5(9)	REMOVE			WHT	C-9											
5	A	9A	0.12	NB	RT	R10-50	42	X	48	WHT	STOP WHEN SCHOOL BUS SIGNALS FLASH RED						14.00					
	X	9A	0.12	NB	RT	R10-50	REMOVE			WHT	STOP WHEN SCHOOL BUS SIGNALS FLASH RED		1									
6	A	9A	0.15	NB	RT	D6-4C	24	X	24	BLUE	Scenic Byway						4.00					
	B	9A	0.15	NB	RT	D6-4	24	X	24	WHT	AMERICA'S BYWAYS						4.00			1	U	
	C	9A	0.15	NB	RT	SPECIAL	48	X	30	BLUE	**Gold Belt Tour****						10.00					
7	X	9A	0.17	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	0.17	NB	RT	W13-1P(55)	REMOVE			YEL	55 M.P.H.											
8	X	9A	0.19	NB	RT	D6-4C	REMOVE			BLUE	Scenic Byway	1										
	Y	9A	0.19	NB	RT	SPECIAL	REMOVE			BLUE	Gold Belt Tour											
	Z	9A	0.19	NB	RT	D6-4A	REMOVE			WHT	AMERICA'S BYWAYS											
9	A	9A	0.27	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	0.27	NB	RT	W13-1P(55)	24	X	24	YEL	55 MPH						4.00					
10	A	9A	0.30	WB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	B	9A	0.30	NB	RT	D3-1	30	X	12	GRN	**CR 62****						2.50				T	
	C	9A	0.30	SB	LT	D3-1	30	X	12	GRN	**CR 62****						2.50					
	X	9A	0.30	WB	RT	R1-1	REMOVE			RED	STOP	1										
11	X	9A	0.94	NB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	0.94	NB	RT	W13-1P(60)	REMOVE			YEL	60 M.P.H.											
12	A	9A	1.00	NB	RT	D10-1(1)	10	X	18	GRN	MILE 1					1.25		1				
	B	9A	1.00	SB	LT	D10-1(1)	10	X	18	GRN	MILE 1					1.25						
	X	9A	1.00	NB	RT	D10-1(1)	REMOVE			GRN	MILE 1	1										
	Y	9A	1.00	SB	LT	D10-1(1)	REMOVE			GRN	MILE 1											
											SH 9 SIGNING SUBTOTAL (1 OF 27)	7	1	0	0	8.50	99.00	2		6		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 1 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 29

TABULATION OF SIGNING (2 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	614-01503 * EA	614-01573 P1 EA	614-01573 * EA	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
13	A	9A	1.03	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	1.03	NB	RT	W13-1P(60)	24	X	24	YEL	60 MPH						4.00					
14	X	9A	1.20	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
15	A	9A	1.34	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
16	X	9A	1.50	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	1.50	NB	RT	W13-1P(60)	REMOVE			YEL	60 M.P.H.											
17	A	9A	1.53	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	1.53	NB	RT	W13-1P(60)	24	X	24	YEL	60 MPH						4.00					
18	X	9A	1.84	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
19	A	9A	1.93	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
20	A	9A	2.00	NB	RT	D10-1(2)	10	X	18	GRN	MILE 2					1.25		1				
	B	9A	2.00	SB	LT	D10-1(2)	10	X	18	GRN	MILE 2					1.25						
	X	9A	2.00	NB	RT	D10-1(2)	REMOVE			GRN	MILE 2	1										
	Y	9A	2.00	SB	LT	D10-1(2)	REMOVE			GRN	MILE 2											
21	A	9A	2.18	NB	RT	W11-8	36	X	36	YEL	[EMERGENCY VEHICLE]						9.00			1		
22	X	9A	2.19	NB	RT	SPECIAL	REMOVE			YEL	FIRE DEPARTMENT	1										
	Y	9A	2.19	NB	RT	W16-2AP(500)	REMOVE			YEL	500 FT											
23	A	9A	3.00	NB	RT	D10-1(3)	10	X	18	GRN	MILE 3					1.25		1				
	B	9A	3.00	SB	LT	D10-1(3)	10	X	18	GRN	MILE 3					1.25						
	X	9A	3.00	NB	RT	D10-1(3)	REMOVE			GRN	MILE 3	1										
	Y	9A	3.00	SB	LT	D10-1(3)	REMOVE			GRN	MILE 3											
24	A	9A	3.13	NB	RT	STRID	12	X	18	WHT	J 15 A 3.14					1.50		1				
	X	9A	3.13	NB	RT	STRID	REMOVE			WHT	J 15 A	1										
25	X	9A	3.97	NB	RT	D10-1(4)	REMOVE			GRN	MILE 4	1										
	Y	9A	3.97	SB	LT	D10-1(4)	REMOVE			GRN	MILE 4											
26	A	9A	4.00	NB	RT	D10-1(4)	10	X	18	GRN	MILE 4					1.25		1				
	B	9A	4.00	SB	LT	D10-1(4)	10	X	18	GRN	MILE 4					1.25						
27	A	9A	4.75	NB	RT	W11-3	36	X	36	YEL	[DEER]						9.00			1		1
	B	9A	4.75	NB	RT	W7-3AP(6)	24	X	18	YEL	NEXT 6 MILES						3.00					
											SH 9 SIGNING SUBTOTAL (2 OF 27)	8	0	0	0	9.00	65.00	4		6		1

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 2 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 30

TABULATION OF SIGNING (3 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
28	X	9A	4.80	NB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	4.80	NB	RT	W13-1P(60)	REMOVE			YEL	60 M.P.H.											
29	A	9A	4.89	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	4.89	NB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
30	X	9A	4.96	NB	RT	D10-1(5)	REMOVE			GRN	MILE 5	1										
	Y	9A	4.96	SB	LT	D10-1(5)	REMOVE			GRN	MILE 5											
31	A	9A	5.00	NB	RT	D10-1(5)	10	X	18	GRN	MILE 5					1.25		1				
	B	9A	5.00	SB	LT	D10-1(5)	10	X	18	GRN	MILE 5					1.25						
32	A	9A	5.03	NB	RT	R2-1(65)	30	X	36	WHT	SPEED LIMIT 65						7.50			1		
33	A	9A	5.45	NB	RT	R2-1(65)	30	X	36	WHT	SPEED LIMIT 65						7.50			1		
	X	9A	5.45	NB	RT	R2-1(65)	REMOVE			WHT	SPEED LIMIT 65	1										
34	X	9A	5.50	NB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
35	X	9A	5.54	NB	RT	W11-3	REMOVE			YEL	[DEER]	1										
	Y	9A	5.54	NB	RT	W7-3AP(5)	REMOVE			YEL	NEXT 5 MILES											
36	X	9A	5.95	NB	RT	D10-1(6)	REMOVE			GRN	MILE 6	1										
	Y	9A	5.95	SB	LT	D10-1(6)	REMOVE			GRN	MILE 6											
37	A	9A	6.00	NB	RT	D10-1(6)	10	X	18	GRN	MILE 6					1.25		1				
	B	9A	6.00	SB	LT	D10-1(6)	10	X	18	GRN	MILE 6					1.25						
38	X	9A	6.29	NB	RT	W1-4L	REMOVE			YEL	[REVERSE CURVE]	1										
39	A	9A	6.38	NB	RT	W1-4L	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	9A	6.38	NB	RT	W13-1P(60)	24	X	24	YEL	60 MPH						4.00					
40	A	9A	6.84	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00					
	B	9A	6.84	NB	RT	W13-1P(55)	24	X	24	YEL	55 MPH						4.00					
	X	9A	6.84	NB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]		1									
	Y	9A	6.84	NB	RT	W13-1P(60)	REMOVE			YEL	60 M.P.H.		1									
41	X	9A	6.95	NB	RT	D10-1(7)	REMOVE			GRN	MILE 7	1										
	Y	9A	6.95	SB	LT	D10-1(7)	REMOVE			GRN	MILE 7											
42	A	9A	7.00	NB	RT	D10-1(7)	10	X	18	GRN	MILE 7					1.25		1				
	B	9A	7.00	SB	LT	D10-1(7)	10	X	18	GRN	MILE 7					1.25						
SH 9 SIGNING SUBTOTAL (3 OF 27)												8	2	0	0	7.50	54.00	3		4		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 3 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 31

TABULATION OF SIGNING (4 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
43	X	9A	7.06	NB	RT	W1-5R	REMOVE			YEL	[WINDING ROAD]	1										
	Y	9A	7.06	NB	RT	W13-1P(55)	REMOVE			YEL	55 M.P.H.											
44	A	9A	7.15	NB	RT	W1-4L	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	9A	7.15	NB	RT	W13-1P(55)	24	X	24	YEL	55 MPH						4.00					
45	A	9A	7.18	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON] (INSTALL CHEVRONS AT 160-FOOT SPACINGS)					5.00		1				
46	A	9A	7.21	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00		1				
47	A	9A	7.24	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00		1				
48	A	9A	7.69	NB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00					
	X	9A	7.69	NB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55		1									
49	X	9A	7.94	NB	RT	D10-1(8)	REMOVE			GRN	MILE 8	1										
	Y	9A	7.94	SB	LT	D10-1(8)	REMOVE			GRN	MILE 8											
50	A	9A	8.00	NB	RT	D10-1(8)	10	X	18	GRN	MILE 8					1.25		1				
	B	9A	8.00	SB	LT	D10-1(8)	10	X	18	GRN	MILE 8					1.25						
51	X	9A	8.11	NB	RT	R2-1(45)	REMOVE			WHT	SPEED LIMIT 45		1									
52	X	9A	8.24	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	8.24	NB	RT	W13-1P(40)	REMOVE			YEL	40 M.P.H.											
53	A	9A	8.26	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	8.26	NB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
54	A	9A	8.29	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON] (INSTALL CHEVRONS AT 120-FOOT SPACINGS)					5.00		1				
	B	9A	8.29	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
55	A	9A	8.31	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	8.31	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
56	A	9A	8.34	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	8.34	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
57	A	9A	8.36	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	8.36	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
58	A	9A	8.38	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	8.38	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
											SH 9 SIGNING SUBTOTAL (4 OF 27)	3	2	0	0	67.50	38.00	9		2		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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Region 2

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers
Subset Sheets: 4 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 32

TABULATION OF SIGNING (5 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
59	A	9A	8.40	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	8.40	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
60	A	9A	8.43	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	8.43	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
61	A	9A	8.45	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	8.45	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
62	A	9A	8.51	NB	RT	W1-10L	36	X	36	YEL	[CURVE/INTERSECTION SYMBOL]						9.00			1		
	B	9A	8.51	NB	RT	W13-1P(45)	24	X	24	YEL	45 MPH						4.00					
63	A	9A	8.54	NB	RT	D1-2A	108	X	30	GRN	**Cripple Creek 31 -> Florissant 32 ->****						22.50					
	X	9A	8.54	NB	RT	D1-2A	REMOVE			GRN	GUFFEY 15 ^ CRIPPLE CREEK 35 ->		1									
64	A	9A	8.56	NB	RT	D6-4C	24	X	24	BLUE	Scenic Byway						4.00			1	U	
	B	9A	8.56	NB	RT	D6-4	24	X	24	WHT	AMERICA'S BYWAYS						4.00					
	C	9A	8.56	NB	RT	SPECIAL	48	X	30	BLUE	**Gold Belt Tour****						10.00					
	D	9A	8.56	NB	RT	M6-1R	21	X	15	BLUE	->						2.19					
	X	9A	8.56	NB	RT	D6-4C	REMOVE			BLUE	Scenic Byway											
	Y	9A	8.56	NB	RT	SPECIAL	REMOVE			BLUE	Gold Belt Tour ->	1										
	Z	9A	8.56	NB	RT	D6-4A	REMOVE			WHT	AMERICA'S BYWAYS											
65	A	9A	8.62	WB	RT	R1-1	36	X	36	RED	STOP						9.00			1	T	
	B	9A	8.62	NB	RT	D3-1	30	X	12	GRN	**CR 11****						2.50					
	C	9A	8.62	SB	LT	D3-1	30	X	12	GRN	**CR 11****						2.50					
	X	9A	8.62	NB	RT	D3-1	REMOVE			GRN	HIGH PARK RD, CR-11	1										
66	A	9A	8.62	NB	RT	D3-1	60	X	12	GRN	**HIGH PARK RD****						5.00			1	T	
	B	9A	8.62	SB	LT	D3-1	60	X	12	GRN	**HIGH PARK RD****						5.00					
	X	9A	8.62	WB	RT	R1-1	REMOVE			RED	STOP	1										
67	A	9A	8.65	NB	RT	M3-1	24	X	12	WHT	NORTH					2.00		1				
	B	9A	8.65	NB	RT	M1-5(9)	24	X	24	WHT	C-9					4.00						
	X	9A	8.65	NB	RT	M1-5(9)	REMOVE			WHT	C-9	1										
68	X	9A	8.69	NB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
											SH 9 SIGNING SUBTOTAL (5 OF 27)	5	1	0	0	36.00	79.69	4		4		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

Print Date: 12/19/2016
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Date:	Comments	Init.

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 5 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 33

TABULATION OF SIGNING (6 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
69	A	9A	8.77	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	8.77	NB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
70	X	9A	8.94	NB	RT	D10-1(9)	REMOVE			GRN	MILE 9	1										
	Y	9A	8.94	SB	LT	D10-1(9)	REMOVE			GRN	MILE 9											
71	A	9A	8.97	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	8.97	NB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
72	A	9A	9.00	NB	RT	D10-1(9)	10	X	18	GRN	MILE 9					1.25		1				
	B	9A	9.00	SB	LT	D10-1(9)	10	X	18	GRN	MILE 9					1.25						
73	X	9A	9.18	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
74	A	9A	9.26	NB	RT	S3-1	36	X	36	FYG	[SCHOOL BUS STOP AHEAD SYMBOL]						9.00			1		
	X	9A	9.26	NB	RT	S3-1	REMOV			FYG	SCHOOL BUS STOP AHEAD	1										
75	A	9A	9.28	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	9.28	NB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
76	A	9A	9.60	NB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00			1		
	X	9A	9.60	NB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55	1										
77	X	9A	9.85	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
78	X	9A	9.91	NB	RT	D10-2(10)	REMOVE			GRN	MILE 10	1										
	Y	9A	9.91	SB	LT	D10-2(10)	REMOVE			GRN	MILE 10											
79	A	9A	10.00	NB	RT	D10-2(10)	10	X	27	GRN	MILE 10					1.88		1				
	B	9A	10.00	SB	LT	D10-2(10)	10	X	27	GRN	MILE 10					1.88						
80	A	9A	10.81	NB	RT	D3-2	72	X	36	GRN	**Tallahassee Road <-****						18.00			2		
81	X	9A	10.85	NB	RT	D3-2	REMOVE			GRN	Tallahassee Road <-	1										
82	A	9A	10.90	NB	RT	W8-51B	36	X	36	YEL	NO SNOWPLOWING 7PM - 5AM						9.00					
	X	9A	10.90	NB	RT	W8-51B	REMOVE			YEL	NO SNOWPLOWING 7PM - 5AM		1									
83	A	9A	10.92	NB	RT	M3-1	24	X	12	WHT	NORTH					2.00		1				
	B	9A	10.92	NB	RT	M1-5(9)	24	X	24	WHT	C-9					4.00						
	X	9A	10.92	NB	RT	M1-5(9)	REMOVE			YEL	C-9	1										
84	X	9A	10.91	NB	RT	D10-2(11)	REMOVE			GRN	MILE 11	1										
	Y	9A	10.91	SB	LT	D10-2(11)	REMOVE			GRN	MILE 11											
SH 9 SIGNING SUBTOTAL (6 OF 27)												9	1	0	0	12.25	87.00	3		7		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

jason.bonini 3:39:32 PM pw:\\617479-PWINT.aecomonline.local:AECOM_DSGI_NA\Documents\605505397-US50 Royal Gorge West_SH9 Jct North\900 Work\910 CAD\02 SHEETS\02_Roadway\21255DES_Tab_Sign06.dgn

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File Name: 21255DES_Tab_Sign06.dgn	Date: / Comments / Init.	1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298	No Revisions:
Horiz. Scale: 1:1 Vert. Scale: N/A		Region 2 DW	Revised:
TRANSPORTATION AECOM Technical Services, Inc. 2315 Briargate Parkway, Suite 150 Colorado Springs, CO 80920 T 719.531.0001 www.aecom.com			Void:

TABULATION OF SIGNING			Project No./Code
Designer: JAB	Structure Numbers		STA 0503-089
Detailer: LMB			21255
Subset: TAB-SIGN	Subset Sheets: 6 of 27		Sheet Number 34

TABULATION OF SIGNING (7 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
85	A	9A	11.00	NB	RT	D10-2(11)	10	X	27	GRN	MILE 11					1.88		1				
	B	9A	11.00	SB	LT	D10-2(11)	10	X	27	GRN	MILE 11					1.88						
86	A	9A	11.04	NB	RT	R2-1(45)	36	X	48	WHT	SPEED LIMIT 45						12.00					
	X	9A	11.04	NB	RT	R2-1(45)	REMOVE			WHT	SPEED LIMIT 45		1									
87	X	9A	11.26	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	11.26	NB	RT	W13-1P(35)	REMOVE			YEL	35 M.P.H.											
88	A	9A	11.32	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	11.32	NB	RT	W13-1P(35)	24	X	24	YEL	35 MPH						4.00					
89	A	9A	11.35	NB	RT	STRID	12	X	18	WHT	J 15 F 11.34					1.50		1				
90	A	9A	11.38	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON] (INSTALL CHEVRONS AT 80-FOOT SPACINGS)					5.00		1				
	B	9A	11.38	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
91	A	9A	11.40	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	11.40	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
92	X	9A	11.40	NB	RT	W1-8L	REMOVE			YEL	[CHEVRON]	1										
93	A	9A	11.41	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	11.41	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
	X	9A	11.41	NB	RT	W1-8L	REMOVE			YEL	[CHEVRON]	1										
94	X	9A	11.42	NB	RT	W1-8L	REMOVE			YEL	[CHEVRON]	1										
95	A	9A	11.43	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	11.43	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
96	A	9A	11.44	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	11.44	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
97	A	9A	11.46	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	11.46	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
98	A	9A	11.47	NB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	11.47	SB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
99	A	9A	11.80	NB	RT	R2-1(55)	30	X	36	WHT	SPEED LIMIT 55						7.50			1		
100	X	9A	11.89	NB	RT	D10-2(12)	REMOVE			GRN	MILE 12	1										
	Y	9A	11.89	SB	LT	D10-2(12)	REMOVE			GRN	MILE 12											
											SH 9 SIGNING SUBTOTAL (7 OF 27)	5	1	0	0	75.25	32.50	9		2		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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Date:	Comments	Init.

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Region 2 DW

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 7 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 35

TABULATION OF SIGNING (8 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
101	A	9A	12.00	NB	RT	D10-2(12)	10	X	27	GRN	MILE 12					1.88		1				
	B	9A	12.00	SB	LT	D10-2(12)	10	X	27	GRN	MILE 12					1.88						
102	A	9A	12.02	NB	RT	STRID	12	X	18	WHT	J 15 E 12.03					1.50		1				
103	X	9A	12.20	NB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55	1										
104	X	9A	12.88	NB	RT	D10-2(13)	REMOVE			GRN	MILE 13	1										
	Y	9A	12.88	SB	LT	D10-2(13)	REMOVE			GRN	MILE 13											
105	A	9A	13.00	NB	RT	D10-2(13)	10	X	27	GRN	MILE 13					1.88		1				
	B	9A	13.00	SB	LT	D10-2(13)	10	X	27	GRN	MILE 13					1.88						
106	X	9A	13.29	NB	RT	W1-5R	REMOVE			YEL	[WINDING ROAD]	1										
	Y	9A	13.29	NB	RT	W13-1P(50)	REMOVE			YEL	50 M.P.H.											
107	A	9A	13.36	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	13.36	NB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
108	A	9A	13.52	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	13.52	NB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
109	X	9A	13.87	NB	RT	D10-2(14)	REMOVE			GRN	MILE 14	1										
	Y	9A	13.87	SB	LT	D10-2(14)	REMOVE			GRN	MILE 14											
110	A	9A	14.00	NB	RT	D10-2(14)	10	X	27	GRN	MILE 14					1.88		1				
	B	9A	14.00	SB	LT	D10-2(14)	10	X	27	GRN	MILE 14					1.88						
111	A	9A	14.31	NB	RT	R2-1(45)	36	X	48	WHT	SPEED LIMIT 45						12.00					
	X	9A	14.31	NB	RT	R2-1(45)	REMOVE			WHT	SPEED LIMIT 45		1									
112	X	9A	14.43	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
113	X	9A	14.76	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
114	A	9A	14.82	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	14.82	NB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
115	X	9A	14.87	NB	RT	D10-2(15)	REMOVE			GRN	MILE 15	1										
	Y	9A	14.87	SB	LT	D10-2(15)	REMOVE			GRN	MILE 15											
116	A	9A	15.00	NB	RT	D10-2(15)	10	X	27	GRN	MILE 15					1.88		1				
	B	9A	15.00	SB	LT	D10-2(15)	10	X	27	GRN	MILE 15					1.88						
SH 9 SIGNING SUBTOTAL (8 OF 27)												7	1	0	0	16.50	51.00	5		3		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers
Subset Sheets: 8 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 36

TABULATION OF SIGNING (9 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
117	A	9A	15.28	NB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	15.28	NB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
	X	9A	15.28	NB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
118	X	9A	15.61	NB	RT	W1-3R	REMOVE			YEL	[REVERSE TURN]	1										
	Y	9A	15.61	NB	RT	W13-1P(35)	REMOVE			YEL	35 M.P.H.											
119	A	9A	15.65	NB	RT	W1-4R	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	9A	15.65	NB	RT	W13-1P(35)	24	X	24	YEL	35 MPH						4.00					
120	X	9A	15.91	NB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	15.91	NB	RT	W13-1P(35)	REMOVE			YEL	35 M.P.H.											
121	A	9A	15.93	NB	RT	W1-1R	36	X	36	YEL	[TURN SYMBOL]						9.00			1		
	B	9A	15.93	NB	RT	W13-1P(30)	24	X	24	YEL	30 MPH						4.00					
122	X	9A	15.85	NB	RT	D10-2(16)	REMOVE			GRN	MILE 16	1										
	Y	9A	15.85	SB	LT	D10-2(16)	REMOVE			GRN	MILE 16											
123	A	9A	15.94	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	15.94	NB	RT	W13-1P(35)	24	X	24	YEL	35 MPH						4.00					
	X	9A	15.94	NB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	15.94	NB	RT	W13-1P(40)	REMOVE			YEL	40 M.P.H.											
124	A	9A	16.00	NB	RT	D10-2(16)	10	X	27	GRN	MILE 16					1.88		1				
	B	9A	16.00	SB	LT	D10-2(16)	10	X	27	GRN	MILE 16					1.88						
125	X	9A	16.03	NB	RT	W2-2L	REMOVE			YEL	[SIDE ROAD WARNING]	1										
126	X	9A	16.56	NB	RT	W1-5L	REMOVE			YEL	[WINDING ROAD]	1										
	Y	9A	16.56	NB	RT	W13-1P(40)	REMOVE			YEL	40 M.P.H.											
127	A	9A	16.75	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	16.75	NB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
128	A	9A	16.95	NB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00			1		
	X	9A	16.95	NB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55	1										
129	X	9A	16.84	NB	RT	D10-2(17)	REMOVE			GRN	MILE 17	1										
	Y	9A	16.84	SB	LT	D10-2(17)	REMOVE			GRN	MILE 17											
											SH 9 SIGNING SUBTOTAL (9 OF 27)	9	0	0	0	3.75	77.00	1	6	0	

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

jason.bonini 3:40:18 PM pw:\\617479-PWINT.aecomonline.local:AECOM_DS01_NA\Documents\60505397-US50 Royal Gorge West_SH9 Jct North\900 Work\910 CAD\02 SHEETS\02_Roadway\21255DES_Tab_Sign09.dgn

Print Date: 12/19/2016
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Horiz. Scale: 1:1 Vert. Scale: N/A

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Date:	Comments	Init.

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Region 2 DW

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers
Subset Sheets: 9 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 37

TABULATION OF SIGNING (10 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - NORTHBOUND																						
130	A	9A	17.00	NB	RT	D10-2(17)	10	X	27	GRN	MILE 17					1.88		1				
	B	9A	17.00	SB	LT	D10-2(17)	10	X	27	GRN	MILE 17					1.88						
131	A	9A	17.53	WB	RT	R1-1	36	X	36	RED	STOP						9.00					
	B	9A	17.53	NB	RT	D3-1	42	X	12	GRN	**CR 275A****						3.50			1	T	
	C	9A	17.53	SB	LT	D3-1	42	X	12	GRN	**CR 275A****						3.50					
	X	9A	17.53	WB	RT	R1-1	REMOVE			RED	STOP	1										
	Y	9A	17.53	NB	RT	D3-1	REMOVE				CR 275A											
132	A	9A	17.63	NB	RT	R2-1(55)	30	X	36	WHT	SPEED LIMIT 55						7.50			1		
133	A	9A	18.00	NB	RT	D10-2(18)	10	X	27	GRN	MILE 18					1.88		1				
	B	9A	18.00	SB	LT	D10-2(18)	10	X	27	GRN	MILE 18					1.88						
	X	9A	18.00	NB	RT	D10-2(18)	REMOVE			GRN	MILE 18	1										
	Y	9A	18.00	SB	LT	D10-2(18)	REMOVE			GRN	MILE 18											
134	A	9A	18.04	NB	RT	R10-50	42	X	48	WHT	STOP WHEN SCHOOL BUS SIGNALS FLASH RED						14.00					
	X	9A	18.04	NB	RT	R10-50	REMOVE			WHT	STOP WHEN SCHOOL BUS SIGNALS FLASH RED		1									
135	X	9A	18.06	NB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
136	A	9A	18.12	NB	RT	W7-1	36	X	36	YEL	[HILL]						9.00			1		
137	X	9A	18.14	NB	RT	W7-1	REMOVE			YEL	[HILL]	1										
138	A	9A	18.15	NB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	18.15	NB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
SH 9A - SOUTHBOUND																						
139	A	9A	18.06	SB	RT	R2-1(55)	30	X	36	WHT	SPEED LIMIT 55						7.50			1		
140	A	9A	17.43	SB	RT	R2-1(55)	30	X	36	WHT	SPEED LIMIT 55						7.50			1		
141	A	9A	17.02	SB	RT	R2-1(45)	36	X	48	WHT	SPEED LIMIT 45						12.00					
	X	9A	17.02	SB	RT	R2-1(45)	REMOVE			WHT	SPEED LIMIT 45		1									
142	X	9A	16.94	SB	RT	W1-5R	REMOVE			YEL	[WINDING ROAD]	1										
143	A	9A	16.91	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	16.91	SB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
144	X	9A	16.39	SB	RT	W2-2R	REMOVE			YEL	[SIDE ROAD WARNING]	1										
											SH 9 SIGNING SUBTOTAL (10 OF 27)	6	2	0	0	7.50	99.50	2		7		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers
Subset Sheets: 10 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 38

TABULATION OF SIGNING (11 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - SOUTHBOUND																						
145	X	9A	16.31	SB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	16.31	SB	RT	W13-1P(35)	REMOVE			YEL	35 M.P.H.											
146	A	9A	16.28	EB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	9A	16.28	EB	RT	R1-1	REMOVE			RED	STOP	1										
147	A	9A	16.23	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	16.23	SB	RT	W13-1P(35)	24	X	24	YEL	35 MPH						4.00					
148	A	9A	16.17	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
	B	9A	16.17	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
	X	9A	16.17	NB	LT	W1-8R	REMOVE			YEL	[CHEVRON]		1									
	Y	9A	16.17	SB	RT	W1-8L	REMOVE			YEL	[CHEVRON]		1									
149	A	9A	16.15	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
	B	9A	16.15	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
	X	9A	16.15	NB	LT	W1-8R	REMOVE			YEL	[CHEVRON]		1									
	Y	9A	16.15	SB	RT	W1-8L	REMOVE			YEL	[CHEVRON]		1									
150	A	9A	16.13	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
	B	9A	16.13	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
	X	9A	16.13	NB	LT	W1-8R	REMOVE			YEL	[CHEVRON]		1									
	Y	9A	16.13	SB	RT	W1-8L	REMOVE			YEL	[CHEVRON]		1									
151	X	9A	16.10	SB	RT	W1-1L	REMOVE			YEL	[TURN SYMBOL]	1										
	Y	9A	16.10	SB	RT	W13-1P(30)	REMOVE			YEL	30 M.P.H.											
152	A	9A	16.08	SB	RT	W1-1L	36	X	36	YEL	[TURN SYMBOL]						9.00			1		
	B	9A	16.08	SB	RT	W13-1P(30)	24	X	24	YEL	30 MPH						4.00					
153	A	9A	16.03	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON] (INSTALL CHEVRONS AT 80-FOOT SPACINGS)					5.00		1				
	B	9A	16.03	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
154	A	9A	16.02	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	16.02	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
155	A	9A	16.00	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	16.00	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
											SH 9 SIGNING SUBTOTAL (11 OF 27)	3	6	0	0	60.00	35.00	3		3		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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Region 2 DW

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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 11 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 39

TABULATION OF SIGNING (12 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - SOUTHBOUND																						
156	A	9A	15.95	SB	RT	W1-4R	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	9A	15.95	SB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
	X	9A	15.95	SB	RT	W1-4R	REMOVE			YEL	[REVERSE CURVE]	1										
	Y	9A	15.95	SB	RT	W13-1P(40)	REMOVE			YEL	40 M.P.H.											
157	A	9A	15.60	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	15.60	SB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
158	X	9A	15.48	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
159	X	9A	15.01	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
160	X	9A	14.82	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
161	A	9A	14.57	SB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00			1		
	X	9A	14.57	SB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55	1										
162	X	9A	13.90	SB	RT	W1-5R	REMOVE			YEL	[WINDING ROAD]	1										
	Y	9A	13.90	SB	RT	W13-1P(50)	REMOVE			YEL	50 M.P.H.											
163	A	9A	13.73	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	13.73	SB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
164	A	9A	13.61	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	13.61	SB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
165	X	9A	12.24	SB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
166	A	9A	12.02	SB	RT	STRID	12	X	18	WHT	J 15 E 12.03					1.50		1				
167	A	9A	11.81	SB	RT	R2-1(45)	36	X	48	WHT	SPEED LIMIT 45						12.00					
	X	9A	11.81	SB	RT	R2-1(45)	REMOVE			WHT	SPEED LIMIT 45		1									
168	X	9A	11.57	SB	RT	W1-1R	REMOVE			YEL	[TURN SYMBOL]	1										
	Y	9A	11.57	SB	RT	W13-1P(30)	REMOVE			YEL	30 M.P.H.											
169	A	9A	11.52	SB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	11.52	SB	RT	W13-1P(35)	24	X	24	YEL	35 MPH						4.00					
170	A	9A	11.38	SB	RT	STRID	12	X	18	WHT	J 15 F 11.34					1.50		1				
171	A	9A	11.26	SB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00			1		
	X	9A	11.26	SB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55	1										
											SH 9 SIGNING SUBTOTAL (12 OF 27)	9	1	0	0	3.00	101.00	2		7		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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Vert. Scale:	N/A

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Region 2
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TABULATION OF SIGNING

Designer:	JAB	Structure Numbers	
Detailer:	LMB		
Subset:	TAB-SIGN	Subset Sheets:	12 of 27

Project No./Code	
STA 0503-089	
21255	
Sheet Number	40

TABULATION OF SIGNING (13 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - SOUTHBOUND																						
172	A	9A	10.99	SB	RT	D3-2	72	X	36	GRN	**Tallahassee Road ->****						18.00			2		
	X	9A	10.99	SB	RT	D3-2	REMOVE			GRN	Tallahassee Road ->	1										
173	A	9A	10.90	EB	RT	R1-1	36	X	36	RED	STOP						9.00			1	T	
	B	9A	10.90	SB	RT	D3-1	24	X	12	GRN	**CR 2****						2.00					
	C	9A	10.90	NB	LT	D3-1	24	X	12	GRN	**CR 2****						2.00					
	X	9A	10.90	SB	RT	D3-1	REMOVE			GRN	TALLAHASSEE ROAD	1										
	Y	9A	10.90	EB	RT	R1-1	REMOVE			RED	STOP											
174	A	9A	10.87	SB	RT	W11-3	36	X	36	YEL	[DEER]						9.00			1		1
	B	9A	10.87	SB	RT	W7-3AP(6)	24	X	18	YEL	NEXT 6 MILES						3.00					
175	A	9A	10.84	SB	RT	M3-3	24	X	12	WHT	SOUTH					2.00		1				
	B	9A	10.84	SB	RT	M1-5(9)	24	X	24	WHT	C-9					4.00						
	X	9A	10.84	SB	RT	M1-5(9)	REMOVE			YEL	C-9	1										
176	A	9A	10.80	SB	RT	R2-1(55)	30	X	36	WHT	SPEED LIMIT 55						7.50			1		
177	A	9A	10.50	SB	RT	W11-3	REMOVE			YEL	[DEER]	1										
	B	9A	10.50	SB	RT	W7-3AP(5)	REMOVE			YEL	NEXT 5 MILES											
178	X	9A	10.17	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
179	X	9A	9.85	SB	RT	R2-1(45)	REMOVE			WHT	SPEED LIMIT 45		1									
180	X	9A	9.57	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
181	A	9A	9.53	SB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	9.53	SB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
182	A	9A	9.21	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	9.21	SB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
183	A	9A	8.71	SB	RT	D1-2A	108	X	30	GRN	**<- Cripple Creek 31 <- Florissant 32****						22.50					
	X	9A	8.71	SB	RT	D1-2A	REMOVE			GRN	^ CANON CITY 17 <- CRIPPLE CREEK 35		1									
184	A	9A	8.69	SB	RT	W1-10R	36	X	36	YEL	[CURVE/INTERSECTION SYMBOL]						9.00			1		
	B	9A	8.69	SB	RT	W13-1P(45)	24	X	24	YEL	45 MPH						4.00					
185	A	9A	8.67	SB	RT	D6-4C	24	X	24	BLUE	Scenic Byway						4.00			1	U	
	B	9A	8.67	SB	RT	D6-4	24	X	24	WHT	AMERICA'S BYWAYS						4.00					
	C	9A	8.67	SB	RT	SPECIAL	48	X	30	BLUE	**Gold Belt Tour****						10.00					
	D	9A	8.67	SB	RT	M6-6L	21	X	15	BLUE	<-^						2.19					
											SH 9 SIGNING SUBTOTAL (13 OF 27)	6	2	0	0	6.00	132.19	1		9		1

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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Sheet Revisions		
Date:	Comments	Init.

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Region 2 DW

As Constructed
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Void:

TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 13 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 41

TABULATION OF SIGNING (14 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - SOUTHBOUND																						
186	X	9A	8.64	SB	RT	D6-4C	REMOVE			BLUE	Scenic Byway	1										
	Y	9A	8.64	SB	RT	SPECIAL	REMOVE			BLUE	Gold Belt Tour <-^											
	Z	9A	8.64	SB	RT	D6-4A	REMOVE			WHT	AMERICA'S BYWAYS											
187	A	9A	8.61	WB	T	D1-2	84	X	30	GRN	**<- Cañon City Fairplay ->****						17.50					
	X	9A	8.61	WB	T	D1-2A	REMOVE			GRN	<- CANON CITY 17 GUFFY 14 ->		1									
188	A	9A	8.57	SB	RT	M3-3	24	X	12	WHT	SOUTH					2.00		1				
	B	9A	8.57	SB	RT	M1-5(9)	24	X	24	WHT	C-9					4.00						
	X	9A	8.57	SB	RT	M1-5(9)	REMOVE			WHT	C-9	1										
189	X	9A	8.54	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
	Y	9A	8.54	SB	RT	W13-1P(40)	REMOVE			YEL	40 M.P.H.											
190	A	9A	8.53	SB	RT	R2-1(45)	36	X	48	WHT	SPEED LIMIT 45						12.00			1		
191	A	9A	8.48	SB	RT	W7-1	36	X	36	YEL	[HILL]						9.00			1		
	B	9A	8.48	SB	RT	W7-2BP	24	X	18	YEL	TRUCKS USE LOWER GEAR						3.00					
192	X	9A	8.47	SB	RT	W7-1	REMOVE			YEL	[HILL]	1										
	Y	9A	8.47	SB	RT	W7-2BP	REMOVE			YEL	TRUCKS USE LOWER GEAR											
193	A	9A	8.45	SB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	8.45	SB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
194	A	9A	8.25	SB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	8.25	SB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
195	A	9A	8.05	SB	RT	R2-1(65)	36	X	48	WHT	SPEED LIMIT 65						12.00			1		
	X	9A	8.05	SB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55	1										
196	A	9A	7.94	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	7.94	SB	RT	W13-1P(60)	24	X	24	YEL	60 MPH						4.00					
197	A	9A	7.62	SB	RT	W1-4L	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	9A	7.62	SB	RT	W13-1P(60)	24	X	24	YEL	60 MPH						4.00					
198	X	9A	7.59	SB	RT	W1-5L	REMOVE			YEL	[WINDING ROAD]	1										
	Y	9A	7.59	SB	RT	W13-1P(45)	REMOVE			YEL	45 M.P.H.											
199	A	9A	7.42	SB	RT	W1-4L	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	9A	7.42	SB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
SH 9 SIGNING SUBTOTAL (14 OF 27)												6	1	0	0	6.00	118.50	1		8		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

TABULATION OF SIGNING (15 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - SOUTHBOUND																						
200	A	9A	7.37	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON] (INSTALL CHEVRONS AT 160-FOOT SPACINGS)					5.00		1				
201	A	9A	7.34	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
202	A	9A	7.31	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
203	A	9A	7.17	SB	RT	W1-4R	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	9A	7.17	SB	RT	W13-1P(55)	24	X	24	YEL	55 MPH						4.00					
204	X	9A	7.04	SB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
205	X	9A	6.72	SB	RT	W1-4L	REMOVE			YEL	[REVERSE CURVE]	1										
206	A	9A	6.63	SB	RT	W1-4L	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	9A	6.63	SB	RT	W13-1P(55)	24	X	24	YEL	55 MPH						4.00					
207	X	9A	5.75	SB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
208	A	9A	5.37	SB	RT	R2-1(65)	30	X	36	WHT	SPEED LIMIT 65						7.50			1		
	X	9A	5.37	SB	RT	R2-1(65)	REMOVE			WHT	SPEED LIMIT 65	1										
209	X	9A	5.10	SB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
210	A	9A	5.03	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
	B	9A	5.03	SB	RT	W13-1P(50)	24	X	24	YEL	50 MPH						4.00					
211	A	9A	4.98	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON] (INSTALL CHEVRONS AT 160-FOOT SPACINGS)					5.00		1				
	B	9A	4.98	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
212	A	9A	4.95	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	4.95	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
213	A	9A	4.92	NB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	9A	4.92	SB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00						
214	A	9A	4.86	EB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	9A	4.86	EB	RT	R1-1	REMOVE			RED	STOP	1										
215	A	9A	4.76	SB	RT	R2-1(65)	30	X	36	WHT	SPEED LIMIT 65						7.50			1		
216	A	9A	3.15	SB	RT	STRID	12	X	18	WHT	J 15 A 3.14					1.50		1				
	X	9A	3.15	SB	RT	STRID	REMOVE			WHT	J 15 A	1										
217	X	9A	2.39	SB	RT	SPECIAL	REMOVE			YEL	FIRE DEPT	1										
	Y	9A	2.39	SB	RT	W16-2AP(500)	REMOVE			YEL	500 FT											
											SH 9 SIGNING SUBTOTAL (15 OF 27)	8	0	0	0	46.50	63.00	7		6		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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As Constructed
No Revisions:
Revised:
Void:

TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers
Subset Sheets: 15 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 43

TABULATION OF SIGNING (16 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - SOUTHBOUND																						
218	A	9A	2.38	SB	RT	W11-8	36	X	36	YEL	[EMERGENCY VEHICLE]						9.00			1		
219	A	9A	2.24	EB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	9A	2.24	EB	RT	R1-1	REMOVE			RED	STOP	1										
220	X	9A	2.10	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
221	A	9A	2.06	SB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
222	X	9A	1.70	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
223	A	9A	1.66	SB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
224	X	9A	1.41	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
225	A	9A	1.39	SB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
226	X	9A	1.26	SB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
227	A	9A	1.25	SB	RT	W1-2L	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
228	A	9A	1.09	EB	RT	R1-1	36	X	36	RED	STOP						9.00			1	T	
	B	9A	1.09	SB	RT	D3-1	42	X	12	GRN	**CR 353A****						3.50					
	C	9A	1.09	NB	LT	D3-1	42	X	12	GRN	**CR 353A****						3.50					
	X	9A	1.09	EB	RT	R1-1	REMOVE			RED	STOP	1										
	Y	9A	1.09	SB	RT	D3-1	REMOVE				353-A											
229	A	9A	0.68	EB	RT	R1-1	36	X	36	RED	STOP						9.00			1	T	
	B	9A	0.68	SB	RT	D3-1	42	X	12	GRN	**CR 353A****						3.50					
	C	9A	0.68	NB	LT	D3-1	42	X	12	GRN	**CR 353A****						3.50					
	X	9A	0.68	EB	RT	R1-1	REMOVE			RED	STOP	1										
	Y	9A	0.68	SB	RT	D3-1	REMOVE				353-A											
230	X	9A	0.57	SB	RT	W1-2R	REMOVE			YEL	[CURVE SYMBOL]	1										
231	A	9A	0.53	SB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00					
	X	9A	0.53	SB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55		1									
232	A	9A	0.49	SB	RT	W1-2R	36	X	36	YEL	[CURVE SYMBOL]						9.00			1		
233	X	9A	0.37	SB	RT	R2-1(45)	REMOVE			WHT	SPEED LIMIT 45	1										
234	X	9A	0.32	SB	RT	D6-4C	REMOVE			BLUE	Scenic Byway											
	Y	9A	0.32	SB	RT	SPECIAL	REMOVE			BLUE	Gold Belt Tour <-	1										
	Z	9A	0.32	SB	RT	D6-4A	REMOVE			WHT	AMERICA'S BYWAYS											
											SH 9 SIGNING SUBTOTAL (16 OF 27)	10	1	0	0	0.00	107.00	0		9		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

TABULATION OF SIGNING (17 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
SH 9A - SOUTHBOUND																						
235	A	9A	0.24	SB	RT	R2-1(45)	36	X	48	WHT	SPEED LIMIT 45						12.00			1		
236	A	9A	0.13	SB	RT	M2-1	21	X	15	WHT	JCT					2.19		1				
	B	9A	0.13	SB	RT	M1-4(50)	24	X	24	WHT	US 50					4.00						
	X	9A	0.13	SB	RT	M2-1	REMOVE			WHT	JCT	1										
	Y	9A	0.13	SB	RT	M1-4(50)	REMOVE			WHT	US 50											
237	A	9A	0.11	SB	RT	R2-1(35)	36	X	48	WHT	SPEED LIMIT 35						12.00			1		
	X	9A	0.11	SB	RT	R2-1(35)	REMOVE			WHT	SPEED LIMIT 35	1										
238	A	9A	0.08	SB	RT	W3-1	36	X	36	YEL	[STOP AHEAD]						9.00					
	X	9A	0.08	SB	RT	W3-1	REMOVE			YEL	[STOP AHEAD]		1									
239	A	9A	0.05	SB	RT	D1-2	84	X	30	GRN	**<- Cañon City Salida ->****						17.50			2		
	X	9A	0.05	SB	RT	D1-2	REMOVE			GRN	<- PUEBLO SALIDA ->	1										
240	A	9A	0.03	SB	RT	D6-4C	24	X	24	BLUE	Scenic Byway						4.00			1	U	
	B	9A	0.03	SB	RT	D6-4	24	X	24	WHT	AMERICA'S BYWAYS						4.00					
	C	9A	0.03	SB	RT	SPECIAL	48	X	30	BLUE	**Gold Belt Tour****						10.00					
	D	9A	0.03	SB	RT	M6-1L	21	X	15	BLUE	<-						2.19					
241	A	9A	0.01	SB	RT	M4-6	24	X	12	WHT	END					2.00		1				
	B	9A	0.01	SB	RT	M1-5(9)	24	X	24	WHT	C-9					4.00						
242	A	9A	0.00	SB	RT	R1-1	48	X	48	RED	STOP						16.00					
	X	9A	0.00	SB	RT	R1-1	REMOVE			RED	STOP		1									
243	A	9A	0.00	SB	RT	R1-2	36X36X36			RED	YIELD						4.50					
	X	9A	0.00	SB	RT	R1-2	REMOVE			RED	YIELD		1									
US 50A - EASTBOUND																						
244	R	50A	262.72	EB	RT	W1-2R	RESET			YEL	[CURVE SYMBOL] (RESET TO MP 262.75)	1			1							
	S	50A	262.72	EB	RT	W13-1P(45)	RESET			YEL	45 M.P.H. (RESET TO MP 262.75)				1							
245	X	50A	262.75	EB	RT	W6-3	REMOVE			YEL	[TWO-WAY TRAFFIC]		1									
246	R	50A	262.92	EB	RT	D10-3(263)	RESET			GRN	MILE 263 (RESET TO MP 263)			1								
	S	50A	262.92	WB	LT	D10-3(263)	RESET			GRN	MILE 263 (RESET TO MP 263)											
247	R	50A	264.89	EB	RT	D10-3(265)	RESET			GRN	MILE 265 (RESET TO MP 265)			1								
	S	50A	264.89	WB	LT	D10-3(265)	RESET			GRN	MILE 265 (RESET TO MP 265)											
											SH 9 SIGNING SUBTOTAL (17 OF 27)	3	3	0	0	12.19	91.19	2		5		0
											US 50 SIGNING SUBTOTAL (17 OF 27)	1	1	2	2	0.00	0.00	0		0		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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Sheet Revisions		
Date:	Comments	Init.

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Region 2 DW

As Constructed
No Revisions:
Revised:
Void:

TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 17 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 45

TABULATION OF SIGNING (18 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
US 50A - EASTBOUND																						
248	X	50A	266.81	EB	RT	R52-3	REMOVE			WHT	UNLAWFUL TO DEFACE PUBLIC OR PRIVATE PROPERTY	1										
249	X	50A	266.85	EB	RT	D10-3(267)	REMOVE			GRN	MILE 267	1										
	Y	50A	266.85	WB	LT	D10-3(267)	REMOVE			GRN	MILE 267											
250	A	50A	267.00	EB	RT	D10-3(267)	10	X	36	GRN	MILE 267					2.50		1				
	B	50A	267.00	WB	LT	D10-3(267)	10	X	36	GRN	MILE 267					2.50						
251	X	50A	267.02	EB	RT	W2-2R	REMOVE			YEL	[SIDE ROAD WARNING]	1										
252	A	50A	267.08	EB	RT	R2-1(50)	36	X	48	WHT	SPEED LIMIT 50						12.00			1		
	X	50A	267.08	EB	RT	R2-1(50)	REMOVE			WHT	SPEED LIMIT 50	1										
253	A	50A	267.13	EB	RT	W2-2R	36	X	36	YEL	[SIDE ROAD WARNING]						9.00			1		
	X	50A	267.13	EB	RT	W16-8P	24	X	12	YEL	**CR 3****						2.00					
254	X	50A	267.14	EB	RT	I-2	REMOVE			GRN	PARKDALE	1										
255	A	50A	267.15	EB	RT	I-2	48	X	18	GRN	**Parkdale****						6.00			1		
256	A	50A	267.22	NB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	50A	267.22	NB	RT	R1-1	REMOVE			RED	STOP	1										
257	A	50A	267.26	NB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	50A	267.26	NB	RT	R1-1	REMOVE			RED	STOP	1										
258	A	50A	267.33	EB	RT	I-3	36	X	18	GRN	**Arkansas River****						4.50			1		
	B	50A	267.33	EB	RT	STRID	12	X	18	WHT	K 15 W 267.45					1.50						
	X	50A	267.33	EB	RT	I-3	REMOVE			GRN	ARKANSAS RIVER	1										
259	X	50A	267.49	EB	RT	R4-16	REMOVE			WHT	KEEP RIGHT EXCEPT TO PASS	1										
260	A	50A	267.52	EB	RT	R4-16	36	X	48	WHT	KEEP RIGHT EXCEPT TO PASS						12.00			1		
261	A	50A	267.78	EB	RT	R2-1(50)	30	X	36	WHT	SPEED LIMIT 50						7.50			1		
	X	50A	267.78	EB	RT	R2-1(50)	REMOVE			WHT	SPEED LIMIT 50	1										
262	X	50A	267.81	EB	RT	SPECIAL	REMOVE			GRN	ROYAL GORGE NORTH RIM MAIN ENTRANCE EXIT 2 1/2 MILES	1										
263	X	50A	267.85	EB	RT	W1-2L	REMOVE			YEL	[CURVE SYMBOL]	1										
264	X	50A	267.87	EB	RT	D10-3(268)	REMOVE			GRN	MILE 268	1										
	Y	50A	267.87	WB	LT	D10-3(268)	REMOVE			GRN	MILE 268											
265	X	50A	267.98	EB	RT	W1-4R	REMOVE			YEL	[REVERSE CURVE]	1										
	Y	50A	267.98	EB	RT	W13-1P(45)	REMOVE			YEL	45 M.P.H.											
											US 50 SIGNING SUBTOTAL (18 OF 27)	14	0	0	0	6.50	71.00	1		8		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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Sheet Revisions

Date:	Comments	Init.

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As Constructed
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TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 18 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 46

TABULATION OF SIGNING (19 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
US 50A - EASTBOUND																						
266	A	50A	268.00	EB	RT	D10-3(268)	10	X	36	GRN	MILE 268					2.50		1				
	B	50A	268.00	WB	LT	D10-3(268)	10	X	36	GRN	MILE 268					2.50						
267	A	50A	268.07	EB	RT	W1-4R	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	50A	268.07	EB	RT	W13-1P(45)	24	X	24	YEL	45 MPH						4.00					
268	A	50A	268.34	EB	RT	W1-4R	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	50A	268.34	EB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
269	A	50A	268.49	EB	RT	W9-1L	36	X	36	YEL	LEFT LANE ENDS						9.00			1		
270	A	50A	268.59	EB	RT	W4-2L	36	X	36	YEL	[LANE ENDS]						9.00			1		
271	A	50A	268.61	EB	RT	W1-8L	24	X	30	YEL	[CHEVRON] (INSTALL CHEVRONS AT 120-FOOT SPACINGS)					5.00		1				
	B	50A	268.61	WB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
272	A	50A	268.63	EB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.63	WB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
273	A	50A	268.66	EB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.66	WB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
274	A	50A	268.68	EB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.68	WB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
275	A	50A	268.70	EB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.70	WB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
276	A	50A	268.72	EB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.72	WB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
277	A	50A	268.65	EB	RT	D9-3A	24	X	24	BLUE	[TRAILER CAMPING]					4.00		1				
	B	50A	268.65	EB	RT	W16-3AP(1/2)	24	X	12	BLUE	1/2 MILE					2.00						
	X	50A	268.65	EB	RT	D9-3A	REMOVE			BLUE	[TRAILER CAMPING]	1										
	Y	50A	268.65	EB	RT	W16-3AP(1/2)	REMOVE			BLUE	1/2 MILE											
278	X	50A	268.76	EB	RT	D1-2	REMOVE			GRN	CRIPPLE CREEK VICTOR <-	1										
279	A	50A	268.91	EB	RT	M2-1	21	X	15	WHT	JCT					2.19		1				
	B	50A	268.91	EB	RT	M1-5(9)	24	X	24	WHT	C-9					4.00						
	X	50A	268.91	EB	RT	M2-1	REMOVE			WHT	JCT	1										
	Y	50A	268.91	EB	RT	M1-5(9)	REMOVE			WHT	C-9											
US 50 SIGNING SUBTOTAL (19 OF 27)												3	0	0	0	77.19	44.00	9		4		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

TABULATION OF SIGNING (20 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	614-01503 *	614-01573 P1 EA	614-01573 *	614-80001 FLASHING BEACON (SOLAR POWERED) EA
US 50A - EASTBOUND																						
280	A	50A	268.98	EB	RT	D1-3	96	X	42	GRN	**^Canon City <- Cripple Creek <- Fairplay****						28.00					
	X	50A	268.98	EB	RT	D1-3	REMOVE			GRN	^ CANON CITY <- GUFFEY <- HARTSEL		1									
281	A	50A	269.00	EB	RT	D10-3(269)	10	X	36	GRN	MILE 269					2.50		1				
	B	50A	269.00	WB	LT	D10-3(269)	10	X	36	GRN	MILE 269					2.50						
	X	50A	269.00	EB	RT	D10-3(269)	REMOVE			GRN	MILE 269	1										
	Y	50A	269.00	WB	LT	D10-3(269)	REMOVE			GRN	MILE 269											
282	A	50A	269.01	EB	RT	R3-7L	36	X	36	WHT	LEFT LANE MUST TURN LEFT						9.00			1		
283	A	50A	269.03	EB	RT	D6-4C	24	X	24	BLUE	Scenic Byway						4.00					
	B	50A	269.03	EB	RT	D6-4	24	X	24	WHT	AMERICA'S BYWAYS						4.00			1	U	
	C	50A	269.03	EB	RT	SPECIAL	48	X	30	BLUE	**Gold Belt Tour****						10.00					
	D	50A	269.03	EB	RT	M6-6L	21	X	15	BLUE	<-^						2.19					
284	X	50A	269.04	EB	RT	D6-4C	REMOVE			BLUE	Scenic Byway											
	Y	50A	269.04	EB	RT	SPECIAL	REMOVE			BLUE	Gold Belt Tour <-^	1										
	Z	50A	269.04	EB	RT	D6-4A	REMOVE			WHT	AMERICA'S BYWAYS											
285	A	50A	269.06	EB	RT	W9-1R	36	X	36	YEL	RIGHT LANE ENDS						9.00			1		
286	U	50A	269.08	EB	RT	M3-1	REMOVE			WHT	NORTH											
	V	50A	269.08	EB	RT	M1-5(9)	REMOVE			WHT	C-9											
	W	50A	269.08	EB	RT	M6-1L	REMOVE			WHT	<-											
	X	50A	269.08	EB	RT	M3-2	REMOVE			WHT	EAST	1										
	Y	50A	269.08	EB	RT	M1-4(50)	REMOVE			WHT	US 50											
	Z	50A	269.08	EB	RT	M6-3	REMOVE			WHT	^											
287	A	50A	269.09	EB	RT	M3-1	24	X	12	WHT	NORTH						2.00					
	B	50A	269.09	EB	RT	M1-5(9)	24	X	24	WHT	C-9						4.00					
	C	50A	269.09	EB	RT	M6-1L	21	X	15	WHT	<-						2.19			1	U	
	D	50A	269.09	EB	RT	M3-2	24	X	12	WHT	EAST						2.00					
	E	50A	269.09	EB	RT	M1-4(50)	24	X	24	WHT	US 50						4.00					
	F	50A	269.09	EB	RT	M6-3	21	X	15	WHT	^						2.19					
288	A	50A	269.10	SB	T	W1-7	48	X	24	YEL	<->						8.00					
	X	50A	269.10	SB	T	W1-7	REMOVE			YEL	<->		1									
											US 50 SIGNING SUBTOTAL (20 OF 27)	3	2	0	0	5.00	90.56	1		4		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

TABULATION OF SIGNING (21 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
US 50A - EASTBOUND																						
289	A	50A	269.10	SB	T	M3-2	24	X	12	WHT	EAST						2.00			1	U	
	B	50A	269.10	SB	T	M1-4(50)	24	X	24	WHT	US 50						4.00					
	C	50A	269.10	SB	T	M6-1L	21	X	15	WHT	<-						2.19					
	D	50A	269.10	SB	T	M3-4	24	X	12	WHT	WEST						2.00					
	E	50A	269.10	SB	T	M1-4(50)	24	X	24	WHT	US 50						4.00					
	F	50A	269.10	SB	T	M6-1R	21	X	15	WHT	->						2.19					
	X	50A	269.10	SB	T	M1-4(50)	REMOVE			WHT	US 50	1										
	Y	50A	269.10	SB	T	M6-4	REMOVE			WHT	<->											
290	A	50A	269.11	EB	RT	W4-2R	36	X	36	YEL	[LANE ENDS]						9.00			1		
	X	50A	269.11	EB	RT	W4-2R	REMOVE			YEL	[LANE ENDS]	1										
291	X	50A	269.13	EB	RT	M3-2	REMOVE			WHT	EAST	1										
	Y	50A	269.13	EB	RT	M1-4(50)	REMOVE			WHT	US 50											
292	A	50A	269.14	EB	RT	M3-2	24	X	12	WHT	EAST					2.00		1				
	B	50A	269.14	EB	RT	M1-4(50)	24	X	24	WHT	US 50					4.00						
	X	50A	269.14	EB	RT	R8-3	REMOVE			WHT	[NO PARKING]	1										
293	A	50A	269.15	EB	RT	R8-3	30	X	30	WHT	[NO PARKING]					6.25		1				
294	A	50A	269.16	EB	RT	R2-1(50)	30	X	36	WHT	SPEED LIMIT 50						7.50			1		
295	A	50A	269.17	EB	RT	D9-3A	24	X	24	BLUE	[TRAILER CAMPING]					4.00		1				
	B	50A	269.17	EB	RT	M6-4	21	X	15	BLUE	<->					2.19						
	X	50A	269.17	EB	RT	D9-3A	REMOVE			BLUE	[TRAILER CAMPING]											
	Y	50A	269.17	EB	RT	M6-1R	REMOVE			BLUE	->	1										
	Z	50A	269.17	EB	RT	M6-1L	REMOVE			BLUE	<-											
296	A	50A	269.19	NB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	50A	269.19	NB	RT	R1-1	REMOVE			RED	STOP	1										
297	A	50A	269.22	NB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	50A	269.22	NB	RT	R1-1	REMOVE			RED	STOP	1										
298	A	50A	269.28	NB	RT	R1-1	36	X	36	RED	STOP						9.00					
	B	50A	269.28	EB	RT	D3-1	30	X	12	GRN	**CR 61****						2.50			1	T	
	C	50A	269.28	WB	LT	D3-1	30	X	12	GRN	**CR 61****						2.50					
	X	50A	269.28	NB	RT	R1-1	REMOVE			RED	STOP	1										
	Y	50A	269.28	EB	RT	D3-1	REMOVE				CR 61											
											US 50 SIGNING SUBTOTAL (21 OF 27)	8	0	0	0	18.44	64.88	3		6		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

Print Date: 12/19/2016	Sheet Revisions	Colorado Department of Transportation	As Constructed
File Name: 21255DES_Tab_Sign21.dgn	Date: / Comments / Init.	1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298	No Revisions:
Horiz. Scale: 1:1 Vert. Scale: N/A		Region 2 DW	Revised:
TRANSPORTATION AECOM Technical Services, Inc. 2315 Briargate Parkway, Suite 150 Colorado Springs, CO 80920 T 719.531.0001 AECOM www.aecom.com			Void:

TABULATION OF SIGNING			Project No./Code
			STA 0503-089
Designer: JAB	Structure Numbers		21255
Detailer: LMB			
Subset: TAB-SIGN	Subset Sheets: 21 of 27		Sheet Number 49

TABULATION OF SIGNING (22 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
US 50A - EASTBOUND																						
299	A	50A	269.29	EB	RT	R10-50	42	X	48	WHT	STOP WHEN SCHOOL BUS SIGNALS FLASH RED						14.00					
	X	50A	269.29	EB	RT	R10-50	REMOVE			WHT	STOP WHEN SCHOOL BUS SIGNALS FLASH RED		1									
300	A	50A	269.44	EB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00					
	X	50A	269.44	EB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55		1									
301	A	50A	269.49	EB	RT	D6-4C	24	X	24	BLUE	Scenic Byway						4.00					
	B	50A	269.49	EB	RT	D6-4	24	X	24	WHT	AMERICA'S BYWAYS						4.00			1	U	
	C	50A	269.49	EB	RT	SPECIAL	48	X	30	BLUE	**Gold Belt Tour****						10.00					
	X	50A	269.49	EB	RT	D6-4C	REMOVE			BLUE	Scenic Byway	1										
302	A	50A	269.93	EB	RT	D9-3A	24	X	24	BLUE	[TRAILER CAMPING]					4.00		1				
	B	50A	269.93	EB	RT	W16-3AP(1/2)	24	X	12	BLUE	1/2 MILE					2.00						
	X	50A	269.93	EB	RT	D9-3A	REMOVE			BLUE	[TRAILER CAMPING]	1										
	Y	50A	269.93	EB	RT	W16-3AP(1/2)	REMOVE			BLUE	1/2 MILE											
303	A	50A	270.00	EB	RT	D10-3(270)	10	X	36	GRN	MILE 270					2.50		1				
	B	50A	270.00	WB	LT	D10-3(270)	10	X	36	GRN	MILE 270					2.50						
	X	50A	270.00	EB	RT	D10-3(270)	REMOVE			GRN	MILE 270	1										
	Y	50A	270.00	WB	LT	D10-3(270)	REMOVE			GRN	MILE 270											
US 50A - WESTBOUND																						
304	A	50A	270.20	WB	RT	M3-4	24	X	12	WHT	WEST					2.00		1				
	B	50A	270.20	WB	RT	M1-4(50)	24	X	24	WHT	US 50					4.00						
	X	50A	270.20	WB	RT	M1-4(50)	REMOVE			YEL	US 50	1										
305	A	50A	270.13	WB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00					
	X	50A	270.13	WB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55		1									
306	X	50A	269.64	WB	RT	R52-3	REMOVE			WHT	UNLAWFUL TO DEFACE PUBLIC OR PRIVATE PROPERTY	1										
307	X	50A	269.41	WB	RT	W7-1	REMOVE			YEL	[HILL]	1										
	Y	50A	269.41	WB	RT	W7-3P	REMOVE			YEL	6% GRADE											
308	A	50A	269.29	WB	RT	D9-3A	24	X	24	BLUE	[TRAILER CAMPING]					4.00		1				
	B	50A	269.29	WB	RT	M6-4	21	X	15	BLUE	<->					2.19						
	X	50A	269.29	WB	RT	D9-3A	REMOVE			BLUE	[TRAILER CAMPING]											
	Y	50A	269.29	WB	RT	M6-1R	REMOVE			BLUE	<-	1										
	Z	50A	269.29	WB	RT	M6-1L	REMOVE			BLUE	->											
											US 50 SIGNING SUBTOTAL (22 OF 27)	7	3	0	0	23.19	56.00	4		1		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

Print Date: 12/19/2016
File Name: 21255DES_Tab_Sign22.dgn
Horiz. Scale: 1:1 Vert. Scale: N/A

TRANSPORTATION
AECOM Technical Services, Inc.
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Sheet Revisions

Date:	Comments	Init.

Colorado Department of Transportation
1480 Quail Lake, Suite A
Colorado Springs, CO 80906
Phone: 719-634-2323 FAX: 719-227-3298
Region 2 DW

As Constructed
No Revisions:
Revised:
Void:

TABULATION OF SIGNING

Designer: JAB
Detailer: LMB
Subset: TAB-SIGN
Structure Numbers:
Subset Sheets: 22 of 27

Project No./Code
STA 0503-089
21255
Sheet Number 50

TABULATION OF SIGNING (23 OF 27)

SIGN NUMEER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
US 50A - WESTBOUND																						
309	A	50A	269.26	WB	RT	M2-1	21	X	15	WHT	JCT					2.19		1				
	B	50A	269.26	WB	RT	M1-5(9)	24	X	24	WHT	C-9					4.00						
	X	50A	269.26	WB	RT	M2-1	REMOVE			WHT	JCT	1										
	Y	50A	269.26	WB	RT	M1-5(9)	REMOVE			WHT	C-9											
310	A	50A	269.21	SB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	50A	269.21	SB	RT	R1-1	REMOVE			RED	STOP	1										
311	A	50A	269.20	WB	RT	R3-7R	30	X	30	WHT	RIGHT LANE MUST TURN RIGHT					6.25		1				
	X	50A	269.20	WB	RT	R3-7R	REMOVE			WHT	RIGHT LANE MUST TURN RIGHT	1										
312	A	50A	269.18	SB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	50A	269.18	SB	RT	R1-1	REMOVE			RED	STOP	1										
313	A	50A	269.18	WB	RT	W7-1	36	X	36	YEL	[HILL]						9.00			1		
	B	50A	269.18	WB	RT	W7-3P	24	X	18	YEL	6% GRADE						3.00					
314	A	50A	269.16	WB	RT	D1-3	96	X	42	GRN	**^ Salida Cripple Creek -> Fairplay ->****						28.00			2		
315	X	50A	269.15	WB	RT	D1-3	REMOVE			GRN	^ Salida Guffey -> Hartsel ->	1										
316	A	50A	269.13	WB	RT	D6-4C	24	X	24	BLUE	Scenic Byway						4.00			1	U	
	B	50A	269.13	WB	RT	D6-4	24	X	24	WHT	AMERICA'S BYWAYS						4.00					
	C	50A	269.13	WB	RT	SPECIAL	48	X	30	BLUE	**Gold Belt Tour****						10.00					
	D	50A	269.13	WB	RT	M6-1R	21	X	15	BLUE	->						2.19					
	X	50A	269.13	WB	RT	D6-4C	REMOVE			BLUE	Scenic Byway											
	Y	50A	269.13	WB	RT	SPECIAL	REMOVE			BLUE	Gold Belt Tour ->	1										
	Z	50A	269.13	WB	RT	D6-4A	REMOVE			WHT	AMERICA'S BYWAYS											
317	A	50A	269.11	WB	RT	M3-4	24	X	12	WHT	WEST						2.00			1	U	
	B	50A	269.11	WB	RT	M1-4(50)	24	X	24	WHT	US 50						4.00					
	C	50A	269.11	WB	RT	M6-3	21	X	15	WHT	^						2.19					
	D	50A	269.11	WB	RT	M3-1	24	X	12	WHT	NORTH						2.00					
	E	50A	269.11	WB	RT	M1-5(9)	24	X	24	WHT	C-9						4.00					
	F	50A	269.11	WB	RT	M6-1R	21	X	15	WHT	->						2.19					
	U	50A	269.11	WB	RT	M3-4	REMOVE			WHT	WEST											
	V	50A	269.11	WB	RT	M1-4(50)	REMOVE			WHT	US 50											
	W	50A	269.11	WB	RT	M6-3	REMOVE			WHT	^	1										
	X	50A	269.11	WB	RT	M3-1	REMOVE			WHT	NORTH											
	Y	50A	269.11	WB	RT	M1-5(9)	REMOVE			WHT	C-9											
	Z	50A	269.11	WB	RT	M5-1R	REMOVE			WHT	|->											
											US 50 SIGNING SUBTOTAL (23 OF 27)	7	0	0	0	12.44	94.56	2		7		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

Print Date: 12/19/2016	Sheet Revisions	Colorado Department of Transportation	As Constructed
File Name: 21255DES_Tab_Sign23.dgn	Date: / Comments / Init.	1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298	No Revisions:
Horiz. Scale: 1:1 Vert. Scale: N/A		Region 2 DW	Revised:
TRANSPORTATION AECOM Technical Services, Inc. 2315 Briargate Parkway, Suite 150 Colorado Springs, CO 80920 T 719.531.0001 AECOM www.aecom.com			Void:

TABULATION OF SIGNING			Project No./Code
Designer: JAB	Structure Numbers		STA 0503-089
Detailer: LMB			21255
Subset: TAB-SIGN	Subset Sheets: 23 of 27		Sheet Number 51

TABULATION OF SIGNING (24 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN (EA)	202-00821 REMOVAL OF SIGN PANEL (EA)	210-00810 RESET GROUND SIGN (EA)	210-00815 RESET SIGN PANEL (EA)	614-00011 SIGN PANEL (CLASS I) (SF)	614-00012 SIGN PANEL (CLASS II) (SF)	614-01503 P (EA)	614-01503 * (EA)	614-01573 P1 (EA)	614-01573 * (EA)	614-80001 FLASHING BEACON (SOLAR POWERED) (EA)
US 50A - WESTBOUND																						
318	A	50A	269.05	WB	RT	M3-4	24	X	12	WHT	WEST					2.00		1				
	B	50A	269.05	WB	RT	M1-4(50)	24	X	24	WHT	US 50					4.00						
	X	50A	269.05	WB	RT	M3-4	REMOVE			WHT	WEST	1										
	Y	50A	269.05	WB	RT	M1-4(50)	REMOVE			WHT	US 50											
319	A	50A	269.03	WB	RT	R2-1(50)	36	X	48	WHT	SPEED LIMIT 50						12.00					
	X	50A	269.03	WB	RT	R2-1(50)	REMOVE			WHT	SPEED LIMIT 50		1									
320	X	50A	268.97	WB	RT	W1-5L	REMOVE			YEL	[WINDING ROAD]	1										
	Y	50A	268.97	WB	RT	W13-1P(35)	REMOVE			YEL	35 M.P.H.											
321	A	50A	268.95	WB	RT	D2-2	72	X	30	GRN	**Cotopaxi 24 Salida 47****						15.00					
	X	50A	268.95	WB	RT	D2-2	REMOVE			GRN	COTOPAXI 24 SALIDA 47		1									
322	A	50A	268.88	WB	RT	W1-5R	36	X	36	YEL	[WINDING ROAD]						9.00			1		
	B	50A	268.88	WB	RT	W13-1P(40)	24	X	24	YEL	40 MPH						4.00					
323	A	50A	268.57	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON] (INSTALL CHEVRONS AT 120-FOOT SPACINGS)					5.00		1				
	B	50A	268.57	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
324	A	50A	268.55	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.55	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
325	A	50A	268.52	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.52	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
326	A	50A	268.50	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.50	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
327	A	50A	268.48	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.48	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
328	A	50A	268.46	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.46	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
329	A	50A	268.43	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.43	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
330	A	50A	268.41	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.41	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
											US 50 SIGNING SUBTOTAL (24 OF 27)	2	2	0	0	86.00	40.00	9		1		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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TABULATION OF SIGNING

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Structure Numbers:
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STA 0503-089
21255
Sheet Number 52

TABULATION OF SIGNING (25 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
US 50A - WESTBOUND																						
331	A	50A	268.39	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.39	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
332	A	50A	268.37	WB	RT	W1-8L	24	X	30	YEL	[CHEVRON]					5.00		1				
	B	50A	268.37	EB	LT	W1-8R	24	X	30	YEL	[CHEVRON]					5.00						
333	X	50A	268.27	WB	RT	W1-4L	REMOVE			YEL	[REVERSE CURVE]	1										
	Y	50A	268.27	WB	RT	W13-1P(40)	REMOVE			YEL	40 M.P.H.											
334	A	50A	268.21	WB	RT	W1-4L	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	50A	268.21	WB	RT	W13-1P(45)	24	X	24	YEL	45 MPH						4.00					
335	A	50A	267.49	WB	RT	I-2	48	X	18	GRN	**Parkdale****						6.00			1		
	X	50A	267.49	WB	RT	I-2	REMOVE			GRN	PARKDALE	1										
336	A	50A	267.46	WB	RT	SPECIAL	48	X	60	YEL	**WATCH FOR LEFT TURNING VEHICLES****						20.00			1		
	X	50A	267.46	WB	RT	W2-2L	REMOVE			YEL	[SIDE ROAD WARNING]	1										
337	A	50A	267.43	SB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	50A	267.43	SB	RT	R1-1	REMOVE			RED	STOP	1										
338	A	50A	267.41	WB	RT	W2-2L	36	X	36	YEL	[SIDE ROAD WARNING]						9.00			1		
	X	50A	267.41	WB	RT	W16-8P	24	X	12	YEL	**CR 3****						2.00					
339	A	50A	267.38	WB	RT	I-3	36	X	18	GRN	**Arkansas River****						4.50			1		
	B	50A	267.38	WB	RT	STRID	12	X	18	WHT	K 15 W 267.45					1.50						
	X	50A	267.38	WB	RT	I-3	REMOVE			GRN	ARKANSAS RIVER	1										
340	X	50A	267.37	WB	RT	STRID	REMOVE			WHT	K 15 W	1										
341	A	50A	267.22	NB	T	D1-2	84	X	30	GRN	**<- Salida Cañon City ->****						17.50			2		
	X	50A	267.22	NB	T	D1-2	REMOVE			GRN	CANON CITY -> US 50 <- SALIDA	1										
342	A	50A	267.18	WB	RT	M3-4	24	X	12	WHT	WEST					2.00		1				
	B	50A	267.18	WB	RT	M1-4(50)	24	X	24	WHT	US 50					4.00						
	X	50A	267.18	WB	RT	M3-4	REMOVE			WHT	WEST	1										
	Y	50A	267.18	WB	RT	M1-4(50)	REMOVE			WHT	US 50											
343	A	50A	267.12	WB	RT	R2-1(55)	36	X	48	WHT	SPEED LIMIT 55						12.00					
	X	50A	267.12	WB	RT	R2-1(55)	REMOVE			WHT	SPEED LIMIT 55		1									
											US 50 SIGNING SUBTOTAL (25 OF 27)	8	1	0	0	27.50	93.00	3		8		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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21255
Sheet Number 53

TABULATION OF SIGNING (26 OF 27)

SIGN NUMBER		HIGHWAY	MILEPOST	DIRECTION	LOCATION	SIGN	PANEL SIZE (IN) W	x	H	BACKGROUND COLOR	LEGEND	202-00810 REMOVAL OF GROUND SIGN EA	202-00821 REMOVAL OF SIGN PANEL EA	210-00810 RESET GROUND SIGN EA	210-00815 RESET SIGN PANEL EA	614-00011 SIGN PANEL (CLASS I) SF	614-00012 SIGN PANEL (CLASS II) SF	614-01503 P EA	*	614-01573 P1 EA	*	614-80001 FLASHING BEACON (SOLAR POWERED) EA
US 50A - WESTBOUND																						
344	A	50A	266.64	WB	RT	R3-7R	30	X	30	WHT	RIGHT LANE MUST TURN RIGHT					6.25		1				
	X	50A	266.64	WB	RT	R3-7R	REMOVE			WHT	RIGHT LANE MUST TURN RIGHT	1										
345	A	50A	266.56	WB	RT	R3-7R	30	X	30	WHT	RIGHT LANE MUST TURN RIGHT					6.25		1				
	X	50A	266.56	WB	RT	R3-7R	REMOVE			WHT	RIGHT LANE MUST TURN RIGHT	1										
346	A	50A	266.54	SB	RT	R1-1	36	X	36	RED	STOP						9.00			1		
	X	50A	266.54	SB	RT	R1-1	REMOVE			RED	STOP	1										
347	X	50A	266.11	WB	RT	W1-4R	REMOVE			YEL	[REVERSE CURVE]	1										
	Y	50A	266.11	WB	RT	W13-1P(45)	REMOVE			YEL	45 M.P.H.											
348	A	50A	266.10	WB	RT	W2-2R	36	X	36	YEL	[SIDE ROAD WARNING]						9.00			1		
	X	50A	266.10	WB	RT	W16-8P	30	X	12	YEL	**CR 157****						2.50					
349	A	50A	266.03	WB	RT	W1-4R	36	X	36	YEL	[REVERSE CURVE]						9.00			1		
	B	50A	266.03	WB	RT	W13-1P(45)	24	X	24	YEL	45 M.P.H.						4.00					
350	A	50A	265.90	WB	RT	W8-14	RESET			YEL	FALLEN ROCKS (RESET FROM MP 263.98)									1		
351	A	50A	264.42	WB	RT	D17-2	72	X	42	GRN	**SLOW VEHICLE TURN OUT 1/2 MILE****						21.00			2		
352	A	50A	264.30	WB	RT	R4-12	42	X	24	WHT	SLOW VEHICLES WITH 5 OR MORE FOLLOWING VEHICLES MUST USE TURN-OUT						7.00			1		
353	A	50A	263.98	WB	RT	R4-14	30	X	42	WHT	SLOW VEHICLES MUST TURN OUT /						6.75					
	R	50A	263.98	WB	RT	W8-14	RESET			YEL	FALLEN ROCKS (RESET TO MP 265.90)				1							
354	R	50A	263.14	WB	RT	W1-2L	RESET			YEL	[CURVE SYMBOL] (RESET TO MP 263.01)			1								
	S	50A	263.14	WB	RT	W13-1P(45)	RESET			YEL	45 MPH (RESET TO MP 263.01)											
355	R	50A	261.49	WB	RT	W4-2R	RESET			YEL	[LANE ENDS] (RESET TO MP 261.37)				1							
356	R	50A	261.37	WB	RT	W9-1R	RESET			YEL	RIGHT LANE ENDS (RESET TO MP 261.49)				1							
											US 50 SIGNING SUBTOTAL (26 OF 27)	4	0	1	3	12.50	70.25	2		7		0

NOTES:

1) FOR LEGEND, SEE SHEET 27 OF 27.

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Detailer:	LMB		
Subset:	TAB-SIGN	Subset Sheets: 26 of 27	

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Sheet Number	54

LEGEND:

** SPECIAL LAYOUT
P STEEL SIGN SUPPORT (2-INCH ROUND)(POST AND SOCKET)
P1 STEEL SIGN SUPPORT (2-1/2 INCH ROUND NP-40)(POST & SLIPBASE)
EB EASTBOUND
WB WESTBOUND
NB NORTHBOUND
SB SOUTHBOUND
RT RIGHT SIDE OF ROAD
LT LEFT SIDE OF ROAD
T FAR SIDE OF T INTERSECTION

TABULATION OF SIGNING (27 OF 27)

	202-00810	202-00821	210-00810	210-00815	614-00011	614-00012	614-01503		614-01573		614-80001
	REMOVAL OF GROUND SIGN	REMOVAL OF SIGN PANEL	RESET GROUND SIGN	RESET SIGN PANEL	SIGN PANEL (CLASS I)	SIGN PANEL (CLASS II)	P	*	P1	*	FLASHING BEACON (SOLAR POWERED)
	EA	EA	EA	EA	SF	SF	EA		EA		EA
SH 9 SIGNING SUBTOTAL (1 OF 27)	7	1			8.50	99.00	2		6		
SH 9 SIGNING SUBTOTAL (2 OF 27)	8				9.00	65.00	4		6		1
SH 9 SIGNING SUBTOTAL (3 OF 27)	8	2			7.50	54.00	3		4		
SH 9 SIGNING SUBTOTAL (4 OF 27)	3	2			67.50	38.00	9		2		
SH 9 SIGNING SUBTOTAL (5 OF 27)	5	1			36.00	79.69	4		4		
SH 9 SIGNING SUBTOTAL (6 OF 27)	9	1			12.25	87.00	3		7		
SH 9 SIGNING SUBTOTAL (7 OF 27)	5	1			75.25	32.50	9		2		
SH 9 SIGNING SUBTOTAL (8 OF 27)	7	1			16.50	51.00	5		3		
SH 9 SIGNING SUBTOTAL (9 OF 27)	9				3.75	77.00	1		6		
SH 9 SIGNING SUBTOTAL (10 OF 27)	6	2			7.50	99.50	2		7		
SH 9 SIGNING SUBTOTAL (11 OF 27)	3	6			60.00	35.00	3		3		
SH 9 SIGNING SUBTOTAL (12 OF 27)	9	1			3.00	101.00	2		7		
SH 9 SIGNING SUBTOTAL (13 OF 27)	6	2			6.00	132.19	1		9		1
SH 9 SIGNING SUBTOTAL (14 OF 27)	6	1			6.00	118.50	1		8		
SH 9 SIGNING SUBTOTAL (15 OF 27)	8				46.50	63.00	7		6		
SH 9 SIGNING SUBTOTAL (16 OF 27)	10	1				107.00			9		
SH 9 SIGNING SUBTOTAL (17 OF 27)	3	3			12.19	91.19	2		5		
US 50 SIGNING SUBTOTAL (17 OF 27)	1	1	2	2							
US 50 SIGNING SUBTOTAL (18 OF 27)	14				6.50	71.00	1		8		
US 50 SIGNING SUBTOTAL (19 OF 27)	3				77.19	44.00	9		4		
US 50 SIGNING SUBTOTAL (20 OF 27)	3	2			5.00	90.56	1		4		
US 50 SIGNING SUBTOTAL (21 OF 27)	8				18.44	64.88	3		6		
US 50 SIGNING SUBTOTAL (22 OF 27)	7	3			23.19	56.00	4		1		
US 50 SIGNING SUBTOTAL (23 OF 27)	7				12.44	94.56	2		7		
US 50 SIGNING SUBTOTAL (24 OF 27)	2	2			86.00	40.00	9		1		
US 50 SIGNING SUBTOTAL (25 OF 27)	8	1			27.50	93.00	3		8		
US 50 SIGNING SUBTOTAL (26 OF 27)	4		1	3	12.50	70.25	2		7		
SH 9 SIGNING SUBTOTAL	112	25	0	0	377.44	1330.56	58		94		2
US 50 SIGNING SUBTOTAL	57	9	3	5	268.75	624.25	34		46		0
TOTAL	**169**	**34**	**3**	**5**	**646.19**	**1954.81**	**92**		**140**		**2**
PROJECT TOTAL					**647**	**1955**					

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Structure Numbers:
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Project No./Code
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21255
Sheet Number 55

TABULATION OF GUARDRAIL (1 OF 4)

LOCATION	APPROX STATION	TO APPROX STATION	SIDE	EXISTING CONDITION					202-00201	202-01130	202-01300	210-01200	210-04030	403-00720		506-00212	603-10120	606-00301	606-01370	606-01395	606-02003	606-02005	609-60011	612-00001	612-00003	612-00041	612-00043	615-00030	COMMENTS
				APPROX LENGTH	APPROX HEIGHT	CURB			REMOVAL OF CURB	REMOVAL OF GUARDRAIL TYPE 3	REMOVAL OF END ANCHORAGE	RESET END ANCHORAGE	MODIFY GUARDRAIL	HOT MIX ASPHALT (PATCHING) (ASPHALT)		RIPRAP (12 INCH)	12 INCH CORRUGATED STEEL PIPE	GUARDRAIL TYPE 3 (6-3 POST SPACING) (31 IN MGS)	TRANSITION TYPE 3G (31 IN MGS)	TRANSITION TYPE 3L (31 IN MGS)	END ANCHORAGE (NONFLARED) (31 IN MGS)	END ANCHORAGE (FLARED) (31 IN MGS)	CURB TYPE 6 (SECTION M) (BITUMINOUS)	DELINEATOR (TYPE I)	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE I)	DELINEATOR (FLEXIBLE) (TYPE III)	EMBANKMENT PROTECTOR TYPE 3	
						APPROX STATION		TYPE						TON															
				LF	IN	BEGIN	END		LF	LF	EACH	EACH	LF	RAIL	ANCHORS	CY	LF	LF	EACH	EACH	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	
SH 9	03+63	05+28	RT	165	27					90	2			4	15			100				2		1	1				
SH 9	03+60	05+62	LT	202	27					127	2			5	15			137.50				2		1	1				
SH 9	09+45	15+45	RT	600	27	09+45	15+45	HMA	600	525	2			19	15			525				2	600	1	1				
SH 9	05+80	15+54	LT	974	28	08+40	15+54	HMA	714	899	2			32	15	2	20	900				2	714	1	1			1	ADD EMBANKMENT PROTECTOR AT APPROX STA 13+40. NEST GUARDRAIL. SEE ROADWAY DETAILS.
SH 9	32+78	35+44	RT	266	<26.5					191	2			7	15			200				2		1	1				
SH 9	31+83	35+10	LT	327	<26.5	31+83	35+10	HMA	327	252	2			9	15			262.50				2	327	1	1				
SH 9	50+28	52+83	LT	255	<26.5	50+61	52+83	HMA	222	180	2			7	15	2	20	187.50				2	255	1	1			1	ADD EMBANKMENT PROTECTOR AT LOW POINT EXTEND CURB TO BEGINNING OF RAIL
SH 9	65+03	68+30	RT	327	27					252	2			9	15			262.50				2		1	1				
SH 9	161+63	165+11	RT	348	27	164+97	165+12	CONC		286	2			10	9			287.50		1		1			1				J-15-A
SH 9	161+83	165+11	LT	348	27	164+91	165+12	CONC		286	2			10	9			287.50		1		1		1					J-15-A
SH 9	166+09	167+15	RT	106	26.5	166+08	166+28	CONC		44	2			2	9			50		1		1		1					J-15-A
SH 9	166+09	167+67	LT	158	27	166+08	166+30	CONC		96	2			4	9			100		1		1			1				J-15-A
SH 9	592+37	594+61	LT	174	-																								PROTECT TYPE 7 BARRIER
SH 9	593+39	594+84	RT	95	27.5																								J-15-F PROTECT
SH 9	594+61	595+02	LT	41	28																								J-15-F PROTECT
SH 9	596+20	596+90	RT	70	27																								J-15-F PROTECT
SH 9	596+50	598+10	LT	160	28																								J-15-F PROTECT
US 50	3780+40	3781+85	RT	145	28					89	2			4	9			112.50	1			1					1		
US 50	3780+85	3781+85	LT	100	27						1				1				1							1			REPLACE EXISTING K-15-G RAIL TRANSITIONS
US 50	3782+28	3783+33	RT	105	28						1				1				1							1			
US 50	3782+28	3783+68	LT	140	28						1				1				1								1		
SH 9 GUARDRAIL SUBTOTAL (1 OF 4)									1,863	3,228	24	0	0	118	156	4	40	3,300.00	0	4	0	20	1,896	10	10	0	0	2	
US 50 GUARDRAIL SUBTOTAL (1 OF 4)									0	89	5	0	0	4	12	0	0	112.50	4	0	0	1	0	0	0	2	2	0	

NOTES:

1) HEIGHT IS MEASURED TO THE TOP OF RAIL IN ACCORDANCE WITH M-606-1.
2) ALL GUARDRAIL IS TYPE 3 UNLESS OTHERWISE NOTED.
3) ALL GUARDRAIL COMPONENTS SHALL BE GALVANIZED STEEL EXCEPT THAT POSTS MAY BE WOOD WHEN IN CLOSE PROXIMITY TO UTILITIES.
4) ALL POSTS SHALL BE 7-FOOT.
5) ALL BLOCKS SHALL BE COMPOSITE EXCEPT WHERE WOOD IS REQUIRED BY THE M STANDARD OR MANUFACTURER.
6) CONTRACTOR IS RESPONSIBLE FOR DETERMINING WHETHER A POST WILL PUNCTURE OR DAMAGE A CULVERT OR ANY UTILITY AND SHALL REPAIR ANY SUCH DAMAGE WITHOUT ADDITIONAL COMPENSATION.
7) CONTRACTOR SHALL STAKE OR OTHERWISE MARK PROPOSED POST LOCATIONS FOR REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION OF POSTS.
8) ANY DAMAGE TO THE ROADWAY CAUSED BY GUARDRAIL WORK SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITHOUT ADDITIONAL COMPENSATION.
9) THE LIMITS AND LENGTH OF PROPOSED GUARDRAIL SHALL MATCH OR EXCEED EXISTING.
10) ALL RAIL SHALL BE 10-GAUGE.
11) ALL GUARDRAIL SHALL COMPLY WITH THE FHWA MANUAL FOR ASSESSING SAFETY HARDWARE.
12) ALL GUARDRAIL SHALL BE REPLACED WITHIN 72 HOURS OF REMOVAL.
13) PAVEMENT SHALL BE EXTENDED TO ONE FOOT OUTSIDE THE POST WHERE POSSIBLE AS DETERMINED BY THE ENGINEER. SEE TYPICAL SECTION.
14) EXISTING END ANCHORS ASSUMED TO BE 37'-6" IN LENGTH EXCEPT FOR TYPE 3G, WHICH ARE 18'-9"; AND TYPE 3L, WHICH ARE 25'.
15) QUANTITY OF PIPE FOR EMBANKMENT PROTECTOR IS AN ESTIMATE. CONTRACTOR SHALL FIELD MEASURE LENGTH BEFORE PURCHASING MATERIALS.
16) CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR FLARED AND NON-FLARED END ANCHORS WITH FIELD ENGINEER BEFORE PURCHASING MATERIALS AFTER LOCATING UTILITIES.

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Date:	Comments	Init.

Colorado Department of Transportation
1480 Quail Lake, Suite A
Colorado Springs, CO 80906
Phone: 719-634-2323 FAX: 719-227-3298
Region 2 DW

As Constructed
No Revisions:
Revised:
Void:

TABULATION OF GUARDRAIL

Designer: JAB
Detailer: WRS
Subset: TAB-GUARDRAIL
Structure Numbers:
Subset Sheets: 1 of 4

Project No./Code
STA 0503-089
21255
Sheet Number 56

TABULATION OF GUARDRAIL (2 OF 4)

LOCATION	APPROX STATION	TO APPROX STATION	SIDE	EXISTING CONDITION					202-00201	202-01130	202-01300	210-01200	210-04030	403-00720		506-00212	603-10120	606-00301	606-01370	606-01395	606-02003	606-02005	609-60011	612-00001	612-00003	612-00041	612-00043	615-00030	COMMENTS
				APPROX LENGTH	APPROX HEIGHT	CURB			REMOVAL OF CURB	REMOVAL OF GUARDRAIL TYPE 3	REMOVAL OF END ANCHORAGE	RESET END ANCHORAGE	MODIFY GUARDRAIL	HOT MIX ASPHALT (PATCHING) (ASPHALT)		RIPRAP (12 INCH)	12 INCH CORRUGATED STEEL PIPE	GUARDRAIL TYPE 3 (6-3 POST SPACING) (31 IN MGS)	TRANSITION TYPE 3G (31 IN MGS)	TRANSITION TYPE 3L (31 IN MGS)	END ANCHORAGE (NONFLARED) (31 IN MGS)	END ANCHORAGE (FLARED) (31 IN MGS)	CURB TYPE 6 (SECTION M) (BITUMINOUS)	DELINEATOR (TYPE I)	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE I)	DELINEATOR (FLEXIBLE) (TYPE III)	EMBANKMENT PROTECTOR TYPE 3	
						APPROX STATION		TYPE						TON															
				LF	IN	BEGIN	END		LF	LF	EACH	EACH	LF	RAIL	ANCHORS	CY	LF	LF	EACH	EACH	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	
US 50	3789+60	3808+65	LT	1905	<26.5	3789+60	3792+20	WOOD			2		1,830		15							2				1	1		
						3792+20	3796+18																						
						3802+00	3806+05																						
						3806+05	3807+05																						
US 50	3796+50	3800+25	RT	375	<26.5						2		300		15							2				1	1		
US 50	3804+90	3809+15	RT	425	<26.5						2		350		15							2				1	1		
US 50	3817+79	3830+29	LT	1250	24	3826+45	3830+20	WOOD			2		1,194		9				1			1	10			1			K-15-H. 10' CURB PER SHEET B9
US 50	3823+84	3830+29	RT	645	<26.5						2		589		9				1			1					1		K-15-H
US 50	3830+62	3849+52	LT	1890	26.5						1				8							1	10				1		K-15-H. 10' CURB PER SHEET B9. REPLACE END ANCHOR AT STA 3849+40
US 50	3830+62	3837+92	RT	730	<26.5						2		674		9				1			1				1			K-15-H
US 50	3850+60	3858+10	LT	750	26.5						2		675		12						1	1				1	1		FLARED AT STA 3850+60
US 50	3861+20	3871+60	LT	1040	27						2				15							2				1	1		
US 50	3861+60	3863+40	RT	180	<26.5						2		105		15							2				1	1		
US 50	3873+50	3882+45	LT	895	27						1				8							1				1	1		REPLACE END ANCHOR AT STA 3882+45
US 50	3885+30	3891+90	LT	660	<26.5						2		585		15							2				1	1		
US 50	3906+10	3931+97	LT	2587	27.5						2			8	12			225			1	1				1	1		EXTEND GUARDRAIL. SEE ROADWAY DETAILS. FLARED AT 3931+97
US 50	3941+50	3946+25	RT	475	<26.5						2		400		15							2				1	1		
US 50	3939+26	3983+10	LT	4384	28	3973+00	3982+60	WOOD			2			19	12			537.50			1	1				1	1		EXTEND GUARDRAIL. SEE ROADWAY DETAILS. FLARED AT STA 3939+26
US 50	3984+95	3992+90	LT	795	28						1				4						1					1	1		REPLACE END ANCHOR AT STA 3984+95
SH 9 GUARDRAIL SUBTOTAL (2 OF 4)									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
US 50 GUARDRAIL SUBTOTAL (2 OF 4)									0	0	29	0	6,702	27	188	0	0	762.50	3	0	4	22	20	0	0	14	14	0	

NOTES:

1) HEIGHT IS MEASURED TO THE TOP OF RAIL IN ACCORDANCE WITH M-606-1.
2) ALL GUARDRAIL IS TYPE 3 UNLESS OTHERWISE NOTED.
3) ALL GUARDRAIL COMPONENTS SHALL BE GALVANIZED STEEL EXCEPT THAT POSTS MAY BE WOOD WHEN IN CLOSE PROXIMITY TO UTILITIES.
4) ALL POSTS SHALL BE 7-FOOT.
5) ALL BLOCKS SHALL BE COMPOSITE EXCEPT WHERE WOOD IS REQUIRED BY THE M STANDARD OR MANUFACTURER.
6) CONTRACTOR IS RESPONSIBLE FOR DETERMINING WHETHER A POST WILL PUNCTURE OR DAMAGE A CULVERT OR ANY UTILITY AND SHALL REPAIR ANY SUCH DAMAGE WITHOUT ADDITIONAL COMPENSATION.
7) CONTRACTOR SHALL STAKE OR OTHERWISE MARK PROPOSED POST LOCATIONS FOR REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION OF POSTS.
8) ANY DAMAGE TO THE ROADWAY CAUSED BY GUARDRAIL WORK SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITHOUT ADDITIONAL COMPENSATION.
9) THE LIMITS AND LENGTH OF PROPOSED GUARDRAIL SHALL MATCH OR EXCEED EXISTING.
10) ALL RAIL SHALL BE 10-GAUGE.
11) ALL GUARDRAIL SHALL COMPLY WITH THE FHWA MANUAL FOR ASSESSING SAFETY HARDWARE.
12) ALL GUARDRAIL SHALL BE REPLACED WITHIN 72 HOURS OF REMOVAL.
13) PAVEMENT SHALL BE EXTENDED TO ONE FOOT OUTSIDE THE POST WHERE POSSIBLE AS DETERMINED BY THE ENGINEER. SEE TYPICAL SECTION.
14) EXISTING END ANCHORS ASSUMED TO BE 37'-6" IN LENGTH EXCEPT FOR TYPE 3G, WHICH ARE 18'-9"; AND TYPE 3L, WHICH ARE 25'.
15) QUANTITY OF PIPE FOR EMBANKMENT PROTECTOR IS AN ESTIMATE. CONTRACTOR SHALL FIELD MEASURE LENGTH BEFORE PURCHASING MATERIALS.
16) CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR FLARED AND NON-FLARED END ANCHORS WITH FIELD ENGINEER BEFORE PURCHASING MATERIALS AFTER LOCATING UTILITIES.

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Sheet Revisions

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As Constructed
No Revisions:
Revised:
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TABULATION OF GUARDRAIL

Designer: JAB
Detailer: WRS
Subset: TAB-GUARDRAIL
Structure Numbers:
Subset Sheets: 2 of 4

Project No./Code
STA 0503-089
21255
Sheet Number 57

TABULATION OF GUARDRAIL (3 OF 4)

LOCATION	APPROX STATION	TO APPROX STATION	SIDE	EXISTING CONDITION					202-00201	202-01130	202-01300	210-01200	210-04030	403-00720		506-00212	603-10120	606-00301	606-01370	606-01395	606-02003	606-02005	609-60011	612-00001	612-00003	612-00041	612-00043	615-00030	COMMENTS
				APPROX LENGTH	APPROX HEIGHT	CURB			REMOVAL OF CURB	REMOVAL OF GUARDRAIL TYPE 3	REMOVAL OF END ANCHORAGE	RESET END ANCHORAGE	MODIFY GUARDRAIL	HOT MIX ASPHALT (PATCHING) (ASPHALT)		RIPRAP (12 INCH)	12 INCH CORRUGATED STEEL PIPE	GUARDRAIL TYPE 3 (6-3 POST SPACING) (31 IN MGS)	TRANSITION TYPE 3G (31 IN MGS)	TRANSITION TYPE 3L (31 IN MGS)	END ANCHORAGE (NONFLARED) (31 IN MGS)	END ANCHORAGE (FLARED) (31 IN MGS)	CURB TYPE 6 (SECTION M) (BITUMINOUS)	DELINEATOR (TYPE I)	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE I)	DELINEATOR (FLEXIBLE) (TYPE III)	EMBANKMENT PROTECTOR TYPE 3	
						APPROX STATION		TYPE						TON															
				LF	IN	BEGIN	END		LF	LF	EACH	EACH	LF	RAIL	ANCHORS	CY	LF	LF	EACH	EACH	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	
US 50	3994+55	4007+35	LT	1280	27.5							1														1	1		RESET CABLE ON END ANCHOR AT STA 3994+55
US 50	4008+50	4016+75	LT	825	27																					1	1		
US 50	4018+45	4028+00	LT	955	28						1				4						1					1	1		REPLACE END ANCHOR AT STA 4028+00
US 50	4029+60	4038+10	LT	850	28						1				4						1					1	1		REPLACE END ANCHOR AT STA 4029+60
US 50	4039+70	4052+80	LT	1310	27.5						1				8							1				1	1		REPLACE END ANCHOR AT STA 4039+70
US 50	4062+60	4071+50	LT	890	28																					1	1		
US 50	4062+75	4066+60	RT	385	27																					1	1		
US 50	4067+20	4071+00	RT	380	28																					1	1		
US 50	4076+85	4081+90	RT	505	28																					1	1		
US 50	4111+94	4114+84	RT	290	28	4114+65	4114+85	HMA			1				8							1					1		K-15-W. REPLACE END ANCHOR AT STA 4111+75
US 50	4111+99	4114+84	LT	285	29	4114+65	4114+85	HMA			1				8	2	20					1				1		1	K-15-W. REPLACE END ANCHOR AND ADD EMBANKMENT PROTECTOR AT STA 4111+80
US 50	4117+24	4117+99	RT	75	28	4117+23	4117+43	HMA																		1			K-15-W
US 50	4117+24	4120+04	LT	280	29	4117+23	4119+68	WOOD																			1		K-15-W
US 50	4123+70	4143+35	LT	1965	27	4123+70	4143+35	HMA								2	160									1	1	1	ADD EMBANKMENT PROTECTOR AT MID POINT BETWEEN CULVERTS 221 AND 223
US 50	4149+60	4156+00	LT	640	<26.5						2		565		15							2				1	1		
US 50	4164+35	4168+45	RT	410	27																					1	1		
US 50	4165+00	4171+60	LT	660	<26.5						2		585		15							2				1	1		
SH 9 GUARDRAIL SUBTOTAL (3 OF 4)									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
US 50 GUARDRAIL SUBTOTAL (3 OF 4)									0	0	9	1	1,150	0	62	4	180	0	0	0	2	7	0	0	0	15	15	2	

NOTES:

1) HEIGHT IS MEASURED TO THE TOP OF RAIL IN ACCORDANCE WITH M-606-1.
2) ALL GUARDRAIL IS TYPE 3 UNLESS OTHERWISE NOTED.
3) ALL GUARDRAIL COMPONENTS SHALL BE GALVANIZED STEEL EXCEPT THAT POSTS MAY BE WOOD WHEN IN CLOSE PROXIMITY TO UTILITIES.
4) ALL POSTS SHALL BE 7-FOOT.
5) ALL BLOCKS SHALL BE COMPOSITE EXCEPT WHERE WOOD IS REQUIRED BY THE M STANDARD OR MANUFACTURER.
6) CONTRACTOR IS RESPONSIBLE FOR DETERMINING WHETHER A POST WILL PUNCTURE OR DAMAGE A CULVERT OR ANY UTILITY AND SHALL REPAIR ANY SUCH DAMAGE WITHOUT ADDITIONAL COMPENSATION.
7) CONTRACTOR SHALL STAKE OR OTHERWISE MARK PROPOSED POST LOCATIONS FOR REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION OF POSTS.
8) ANY DAMAGE TO THE ROADWAY CAUSED BY GUARDRAIL WORK SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITHOUT ADDITIONAL COMPENSATION.
9) THE LIMITS AND LENGTH OF PROPOSED GUARDRAIL SHALL MATCH OR EXCEED EXISTING.
10) ALL RAIL SHALL BE 10-GAUGE.
11) ALL GUARDRAIL SHALL COMPLY WITH THE FHWA MANUAL FOR ASSESSING SAFETY HARDWARE.
12) ALL GUARDRAIL SHALL BE REPLACED WITHIN 72 HOURS OF REMOVAL.
13) PAVEMENT SHALL BE EXTENDED TO ONE FOOT OUTSIDE THE POST WHERE POSSIBLE AS DETERMINED BY THE ENGINEER. SEE TYPICAL SECTION.
14) EXISTING END ANCHORS ASSUMED TO BE 37'-6" IN LENGTH EXCEPT FOR TYPE 3G, WHICH ARE 18'-9"; AND TYPE 3L, WHICH ARE 25'.
15) QUANTITY OF PIPE FOR EMBANKMENT PROTECTOR IS AN ESTIMATE. CONTRACTOR SHALL FIELD MEASURE LENGTH BEFORE PURCHASING MATERIALS.
16) CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR FLARED AND NON-FLARED END ANCHORS WITH FIELD ENGINEER BEFORE PURCHASING MATERIALS AFTER LOCATING UTILITIES.

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Revised:
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TABULATION OF GUARDRAIL

Designer: JAB
Detailer: WRS
Subset: TAB-GUARDRAIL
Structure Numbers:
Subset Sheets: 3 of 4

Project No./Code
STA 0503-089
21255
Sheet Number 58

TABULATION OF GUARDRAIL (4 OF 4)

LOCATION	APPROX STATION	TO APPROX STATION	SIDE	EXISTING CONDITION					202-00201	202-01130	202-01300	210-01200	210-04030	403-00720		506-00212	603-10120	606-00301	606-01370	606-01395	606-02003	606-02005	609-60011	612-00001	612-00003	612-00041	612-00043	615-00030	COMMENTS
				APPROX LENGTH	APPROX HEIGHT	CURB			REMOVAL OF CURB	REMOVAL OF GUARDRAIL TYPE 3	REMOVAL OF END ANCHORAGE	RESET END ANCHORAGE	MODIFY GUARDRAIL	HOT MIX ASPHALT (PATCHING) (ASPHALT)		RIPRAP (12 INCH)	12 INCH CORRUGATED STEEL PIPE	GUARDRAIL TYPE 3 (6-3 POST SPACING) (31 IN MGS)	TRANSITION TYPE 3G (31 IN MGS)	TRANSITION TYPE 3L (31 IN MGS)	END ANCHORAGE (NONFLARED) (31 IN MGS)	END ANCHORAGE (FLARED) (31 IN MGS)	CURB TYPE 6 (SECTION M) (BITUMINOUS)	DELINEATOR (TYPE I)	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE I)	DELINEATOR (FLEXIBLE) (TYPE III)	EMBANKMENT PROTECTOR TYPE 3	
						APPROX STATION		TYPE																					
						BEGIN	END																						
				LF	IN				LF	LF	EACH	EACH	LF	TON		CY	LF	LF	EACH	EACH	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH	
														RAIL	ANCHORS														
US 50	4172+35	4199+00	LT	2665	<26.5	4180+35	4186+00	WOOD			2		2590		15	2	160					2				1	1	1	ADD EMBANKMENT PROTECTOR AT ERODED AREA NEAR APPROX STA 4190+00
						4186+00	4195+08																						
US 50	4197+10	4203+00	RT	590	<26.5	4197+30	4202+05	WOOD			2		515		15							2				1	1		
SH 9 GUARDRAIL SUBTOTAL (4 OF 4)									0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
US 50 GUARDRAIL SUBTOTAL (4 OF 4)									0	0	4	0	3,105	0	30	2	160	0	0	0	0	4	0	0	0	2	2	1	

	202-00201	202-01130	202-01300	210-01200	210-04030	403-00720		506-00212	603-10120	606-00301	606-01370	606-01395	606-02003	606-02005	609-60011	612-00001	612-00003	612-00041	612-00043	615-00030
	REMOVAL OF CURB	REMOVAL OF GUARDRAIL TYPE 3	REMOVAL OF END ANCHORAGE	RESET END ANCHORAGE	MODIFY GUARDRAIL	HOT MIX ASPHALT (PATCHING) (ASPHALT)		RIPRAP (12 INCH)	12 INCH CORRUGATED STEEL PIPE	GUARDRAIL TYPE 3 (6-3 POST SPACING) (31 IN MGS)	TRANSITION TYPE 3G (31 IN MGS)	TRANSITION TYPE 3L (31 IN MGS)	END ANCHORAGE (NONFLARED) (31 IN MGS)	END ANCHORAGE (FLARED) (31 IN MGS)	CURB TYPE 6 (SECTION M) (BITUMINOUS)	DELINEATOR (TYPE I)	DELINEATOR (TYPE III)	DELINEATOR (FLEXIBLE) (TYPE I)	DELINEATOR (FLEXIBLE) (TYPE III)	EMBANKMENT PROTECTOR TYPE 3
	LF	LF	EACH	EACH	LF	TON		CY	LF	LF	EACH	EACH	EACH	EACH	LF	EACH	EACH	EACH	EACH	EACH
						RAIL	ANCHORS													
SH 9 GUARDRAIL SUBTOTAL (1 OF 4)	1,863	3,228	24			118	156	4	40	3,300.00		4		20	1,896	10	10			2
US 50 GUARDRAIL SUBTOTAL (1 OF 4)		89	5			4	12			112.50	4			1				2	2	
SH 9 GUARDRAIL SUBTOTAL (2 OF 4)																				
US 50 GUARDRAIL SUBTOTAL (2 OF 4)			29		6,702	27	188			762.50	3		4	22	20			14	14	
SH 9 GUARDRAIL SUBTOTAL (3 OF 4)																				
US 50 GUARDRAIL SUBTOTAL (3 OF 4)			9	1	1,150		62	4	180				2	7				15	15	2
SH 9 GUARDRAIL SUBTOTAL (4 OF 4)																				
US 50 GUARDRAIL SUBTOTAL (4 OF 4)			4		3,105		30	2	160					4				2	2	1
SH 9 GUARDRAIL SUBTOTAL	1,863	3,228	24	0	0	118	156	4	40	3,300.00	0	4	0	20	1,896	10	10	0	0	2
US 50 GUARDRAIL SUBTOTAL	0	89	47	1	10,957	31	292	6	340	875.00	7	0	6	34	20	0	0	33	33	3
TOTAL	*	3,317	71	1	10,957	597		10	380	4,175.00	7	4	6	54	*	**	**	**	**	5
PROJECT TOTAL										4,175										

* CARRIED TO TABULATION OF CURB

**CARRIED TO TABULATION OF DELINEATORS

NOTES:

1) HEIGHT IS MEASURED TO THE TOP OF RAIL IN ACCORDANCE WITH M-606-1.
2) ALL GUARDRAIL IS TYPE 3 UNLESS OTHERWISE NOTED.
3) ALL GUARDRAIL COMPONENTS SHALL BE GALVANIZED STEEL EXCEPT THAT POSTS MAY BE WOOD WHEN IN CLOSE PROXIMITY TO UTILITIES.
4) ALL POSTS SHALL BE 7-FOOT.
5) ALL BLOCKS SHALL BE COMPOSITE EXCEPT WHERE WOOD IS REQUIRED BY THE M STANDARD OR MANUFACTURER.
6) CONTRACTOR IS RESPONSIBLE FOR DETERMINING WHETHER A POST WILL PUNCTURE OR DAMAGE A CULVERT OR ANY UTILITY AND SHALL REPAIR ANY SUCH DAMAGE WITHOUT ADDITIONAL COMPENSATION.
7) CONTRACTOR SHALL STAKE OR OTHERWISE MARK PROPOSED POST LOCATIONS FOR REVIEW AND APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION OF POSTS.
8) ANY DAMAGE TO THE ROADWAY CAUSED BY GUARDRAIL WORK SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITHOUT ADDITIONAL COMPENSATION.
9) THE LIMITS AND LENGTH OF PROPOSED GUARDRAIL SHALL MATCH OR EXCEED EXISTING.
10) ALL RAIL SHALL BE 10-GAUGE.
11) ALL GUARDRAIL SHALL COMPLY WITH THE FHWA MANUAL FOR ASSESSING SAFETY HARDWARE.
12) ALL GUARDRAIL SHALL BE REPLACED WITHIN 72 HOURS OF REMOVAL.
13) PAVEMENT SHALL BE EXTENDED TO ONE FOOT OUTSIDE THE POST WHERE POSSIBLE AS DETERMINED BY THE ENGINEER. SEE TYPICAL SECTION.
14) EXISTING END ANCHORS ASSUMED TO BE 37'-6" IN LENGTH EXCEPT FOR TYPE 3G, WHICH ARE 18'-9"; AND TYPE 3L, WHICH ARE 25'.
15) QUANTITY OF PIPE FOR EMBANKMENT PROTECTOR IS AN ESTIMATE. CONTRACTOR SHALL FIELD MEASURE LENGTH BEFORE PURCHASING MATERIALS.
16) CONTRACTOR SHALL FIELD VERIFY LOCATIONS FOR FLARED AND NON-FLARED END ANCHORS WITH FIELD ENGINEER BEFORE PURCHASING MATERIALS AFTER LOCATING UTILITIES.

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Sheet Revisions		
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TABULATION OF GUARDRAIL

Designer: JAB
Detailer: WRS
Subset: TAB-GUARDRAIL
Structure Numbers:
Subset Sheets: 4 of 4

Project No./Code
STA 0503-089
21255
Sheet Number 59

TABULATION OF DELINEATORS

TYPE	LOCATION	202-00090 REMOVAL OF DELINEATOR (EACH)	612-00001 DELINEATOR (TYPE I) (EACH)	612-00003 DELINEATOR (TYPE III) (EACH)	612-00041 DELINEATOR (FLEXIBLE) (TYPE I) (EACH)	612-00042 DELINEATOR (FLEXIBLE) (TYPE II) (EACH)	612-00043 DELINEATOR (FLEXIBLE) (TYPE II) (EACH)
TABULATION OF GUARDRAIL (GREEN)	SH 9	20	10	10			
	US 50	66			33		33
TABULATION OF CURB (GREEN)	SH 9	17	7	10			
	US 50						
STRUCTURES (BLUE)	SH 9	8	4	4			
	US 50	12			6		6
TABULATION OF CULVERTS (YELLOW)	SH 9	266		266			
	US 50	158					158
TABULATION OF DELINEATORS (CRYSTAL)	SH 9	681	681				
	US 50	423			396	27	
SH 9 DELINEATOR SUBTOTAL		992	702	290			
US 50 DELINEATOR SUBTOTAL		659			435	27	197
PROJECT TOTAL		**1651**	**702**	**290**	**435**	**27**	**197**

NOTES:

1) CRYSTAL DELINEATORS: TANGENT SPACING ON SH9 AND US50 528' PER S-612-1
   AVERAGE CURVE RADIUS OF 1219' ON SH9 YIELDS 102' SPACING
   AVERAGE CURVE RADIUS OF 1439' ON US50 YIELDS 110' SPACING
2) THE LENGTH ASSUMPTIONS ABOVE ARE FOR ESTIMATING PURPOSES ONLY. THE CONTRACTOR SHALL SPACE DELINEATORS IN ACCORDANCE WITH S-612-1.
3) ASSUMED TWO TYPE I AND TWO TYPE III BLUE DELINEATORS AT STRUCTURES K-15-G, K-15-H, K-15-W, J-15-A, AND J-15-F.
4) REMOVAL OF DELINEATOR QUANTITY ESTABLISHED BY MATCHING QUANTITY OF NEW DELINEATORS.

TABULATION OF CURB

APPROX. STATION	TO APPROX. STATION	LOCATION	SIDE	EXISTING CONDITION APPROX. LENGTH (LF)	EXISTING CONDITION TYPE	202-00201 REMOVAL OF CURB (LF)	609-60011 CURB TYPE 6 (SECTION M) (BITUMINOUS) (LF)	612-00001 DELINEATOR (TYPE I) (EACH)	612-00003 DELINEATOR (TYPE III) (EACH)	COMMENTS
0+10	0+40	SH 9	RT	100	CONCRETE	100				REMOVE CURB AT EASTERN ISLAND. SEE ROADWAY DETAILS
0+10	0+40	SH 9	RT	100	CONCRETE				3	PROTECT WESTERN ISLAND. SEE ROADWAY DETAILS
387+42	389+95	SH 9	LT	253	ASPHALT		385	1	1	EXTEND CURB TO CULVERT C62. REPLACE EXISTING CURB AS DIRECTED BY FIELD ENGINEER, SEE NOTE 1
394+54	400+14	SH 9	RT	560	ASPHALT		50	1	1	REPLACE EXISTING CURB AS DIRECTED BY FIELD ENGINEER, SEE NOTE 1
406+85	413+23	SH 9	RT	638	ASPHALT		50	1	1	REPLACE EXISTING CURB AS DIRECTED BY FIELD ENGINEER, SEE NOTE 1
416+60	425+52	SH 9	RT	892	ASPHALT		200	1	1	REPLACE EXISTING CURB AS DIRECTED BY FIELD ENGINEER, SEE NOTE 1
425+74	431+12	SH 9	LT	538	ASPHALT		588	1	1	EXTEND CURB TO CULVERT C68. REPLACE EXISTING CURB AS DIRECTED BY FIELD ENGINEER, SEE NOTE 1
513+90	516+54	SH 9	RT	264	ASPHALT		150	1	1	REPLACE EXISTING CURB AS DIRECTED BY FIELD ENGINEER, SEE NOTE 1
878+45	884+93	SH 9	RT	648	ASPHALT		648	1	1	REPLACE EXISTING CURB AS DIRECTED BY FIELD ENGINEER, SEE NOTE 1
SH 9 CURB SUBTOTAL						100	2,071	7	10	
US 50 CURB SUBTOTAL						0	0	0	0	
TABULATION OF GUARDRAIL - SH 9 GUARDRAIL SUBTOTAL						1,863	1,896	0	0	
TABULATION OF GUARDRAIL - US 50 GUARDRAIL SUBTOTAL						0	20	0	0	
PROJECT TOTAL						**1,963**	**3,987**	*	*	

* CARRIED TO TABULATION OF DELINEATORS

NOTES:

1) THE ESTIMATED QUANTITY OF CURB TYPE 6 IS BASED ON AN ESTIMATE OF THE PERCENTAGE OF THE EXISTING CURB THAT IS DAMAGED AND REQUIRES REPLACEMENT. THE ENGINEER SHALL DETERMINE THESE AREAS.

Print Date: 1/24/2017
File Name: 21255DES_Tab_Delin_Curb01.dgn
Horiz. Scale: 1:1 Vert. Scale: N/A

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No Revisions:
Revised:
Void:

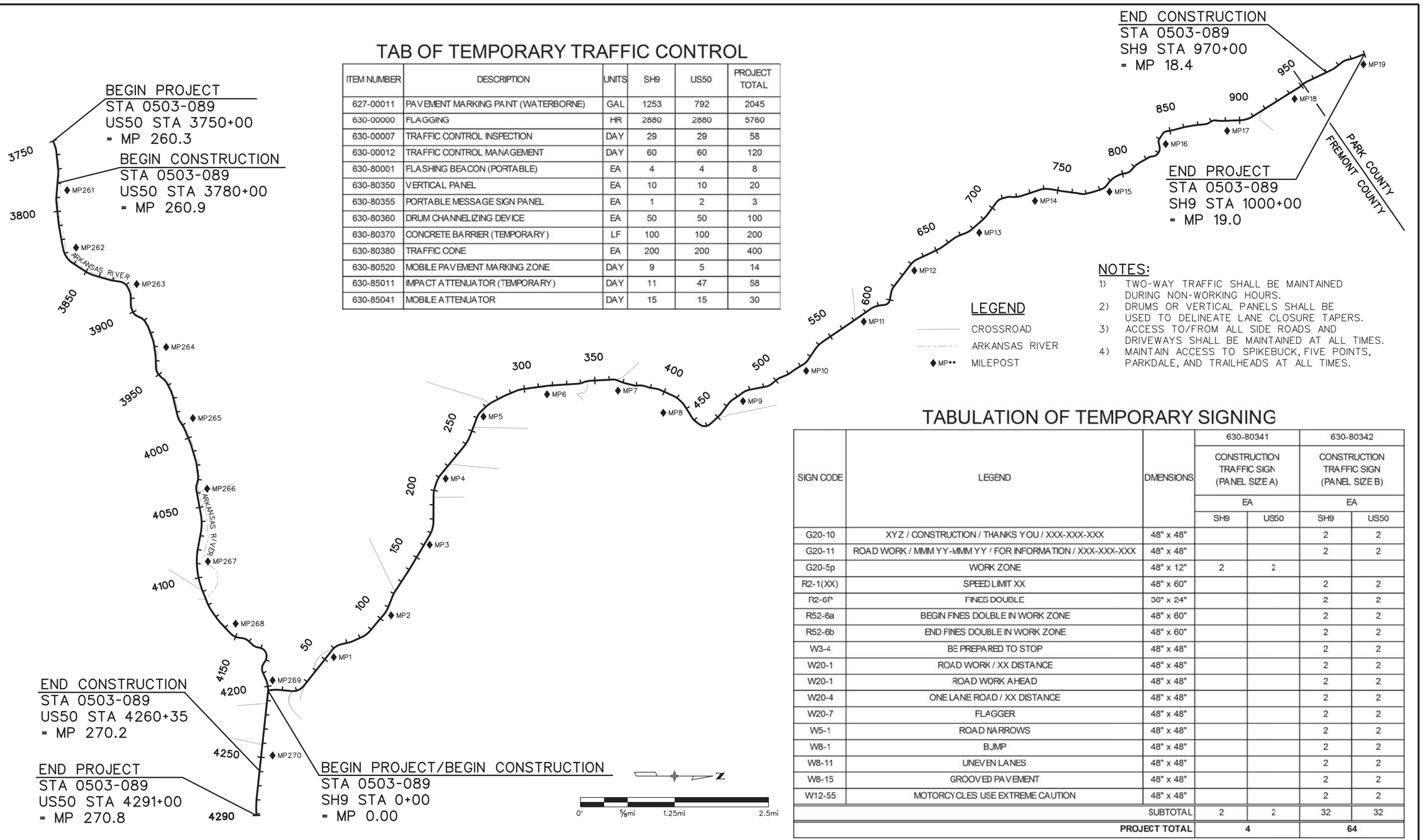
TABULATION OF DELINEATORS
TABULATION OF CURB

Designer: JAB
Detailer: WRS
Subset: TAB-DELINCURB
Structure Numbers:
Subset Sheets: 1 of 1

Project No./Code
STA 0503-089
21255
Sheet Number 60

TAB OF TEMPORARY TRAFFIC CONTROL

ITEM NUMBER	DESCRIPTION	UNITS	SH9	US50	PROJECT TOTAL
627-00011	PAVEMENT MARKING PAINT (WATERBORNE)	GAL	1253	792	2045
630-00000	FLAGGING	HR	2880	2880	5760
630-00007	TRAFFIC CONTROL INSPECTION	DAY	29	29	58
630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	60	60	120
630-80001	FLASHING BEACON (PORTABLE)	EA	4	4	8
630-80350	VERTICAL PANEL	EA	10	10	20
630-80355	PORTABLE MESSAGE SIGN PANEL	EA	1	2	3
630-80360	DRUM CHANNELIZING DEVICE	EA	50	50	100
630-80370	CONCRETE BARRIER (TEMPORARY)	LF	100	100	200
630-80380	TRAFFIC CONE	EA	200	200	400
630-80520	MOBILE PAVEMENT MARKING ZONE	DAY	9	5	14
630-85011	IMPACT ATTENUATOR (TEMPORARY)	DAY	11	47	58
630-85041	MOBILE ATTENUATOR	DAY	15	15	30



LEGEND

- CROSSROAD
- ARKANSAS RIVER
- MP** MILEPOST

NOTES:

1) TWO-WAY TRAFFIC SHALL BE MAINTAINED DURING NON-WORKING HOURS.
2) DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE LANE CLOSURE TAPERS.
3) ACCESS TO/FROM ALL SIDE ROADS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
4) MAINTAIN ACCESS TO SPIKEBUCK, FIVE POINTS, PARKDALE, AND TRAILHEADS AT ALL TIMES.

TABULATION OF TEMPORARY SIGNING

SIGN CODE	LEGEND	DIMENSIONS	630-80341 CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A) EA		630-80342 CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B) EA	
			SH9	US50	SH9	US50
G20-10	XYZ / CONSTRUCTION / THANKS YOU / XXX-XXX-XXX	48" x 48"			2	2
G20-11	ROAD WORK / MMM YY-MMM YY / FOR INFORMATION / XXX-XXX-XXX	48" x 48"			2	2
G20-5p	WORK ZONE	48" x 12"	2	2		
R2-1(XX)	SPEED LIMIT XX	48" x 60"			2	2
R2-6P	FINES DOUBLE	36" x 24"			2	2
R52-6a	BEGIN FINES DOUBLE IN WORK ZONE	48" x 60"			2	2
R52-6b	END FINES DOUBLE IN WORK ZONE	48" x 60"			2	2
W3-4	BE PREPARED TO STOP	48" x 48"			2	2
W20-1	ROAD WORK / XX DISTANCE	48" x 48"			2	2
W20-1	ROAD WORK AHEAD	48" x 48"			2	2
W20-4	ONE LANE ROAD / XX DISTANCE	48" x 48"			2	2
W20-7	FLAGGER	48" x 48"			2	2
W5-1	ROAD NARROWS	48" x 48"			2	2
W8-1	BUMP	48" x 48"			2	2
W8-11	UNEVEN LANES	48" x 48"			2	2
W8-15	GROOVED PAVEMENT	48" x 48"			2	2
W12-55	MOTORCYCLES USE EXTREME CAUTION	48" x 48"			2	2
		SUBTOTAL	2	2	32	32
		PROJECT TOTAL	4		64	

Print Date: 12/17/2016
File Name: 21255DES_TTC.dgn
Horiz. Scale: 1:6600 Vert. Scale: N/A

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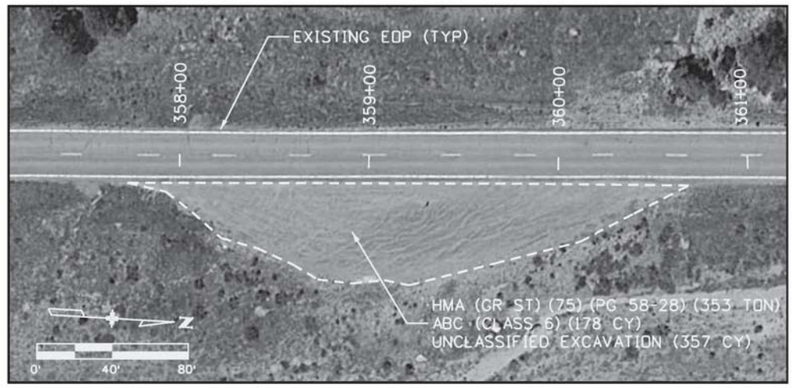
Void:

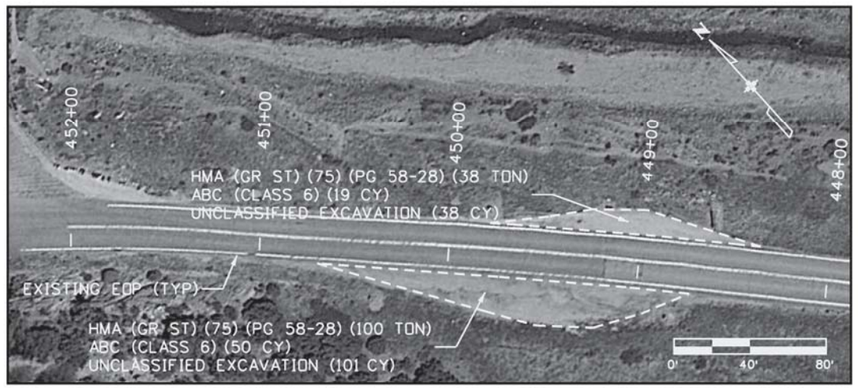
TABULATION OF TEMPORARY TRAFFIC CONTROL

Designer: JAB
Detailer: JAB
Subset: TAB-TTC
Structure Numbers:
Subset Sheets: 1 of 1

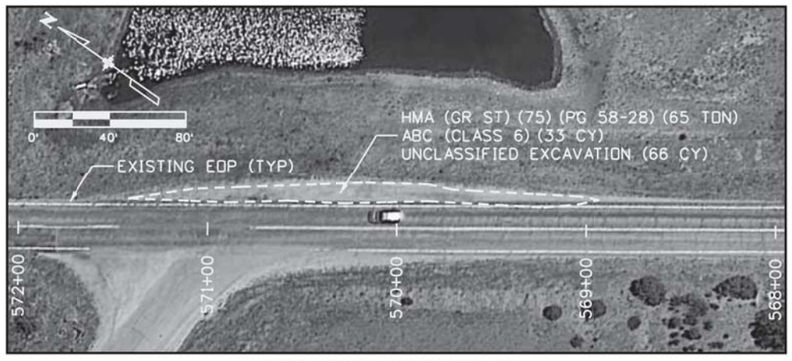
Project No./Code
STA 0503-089
21255
Sheet Number 61



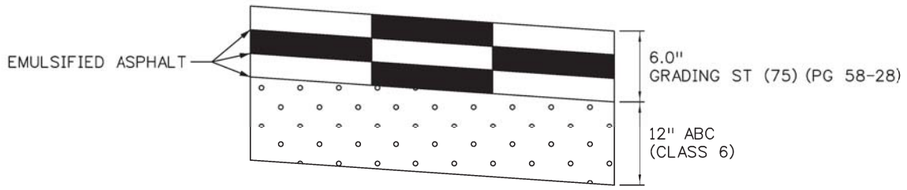
SH9 STA 360+00 RT
SNOWPLOW TURNAROUND



SH9 STA 449+00 RT & 450+00 LT
SNOWPLOW TURNAROUND

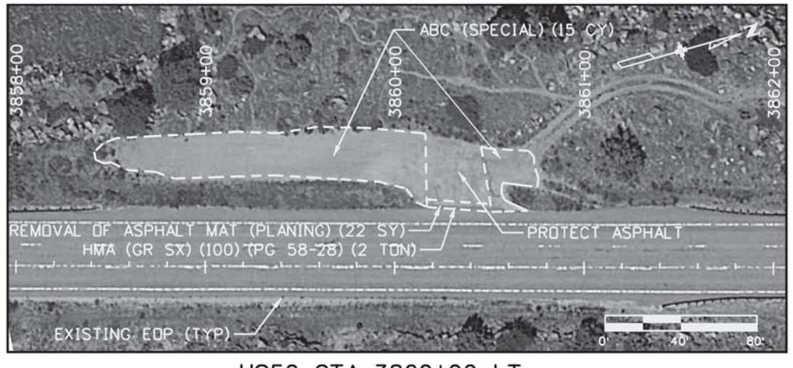


SH9 STA 570+40 RT
SNOWPLOW TURNAROUND

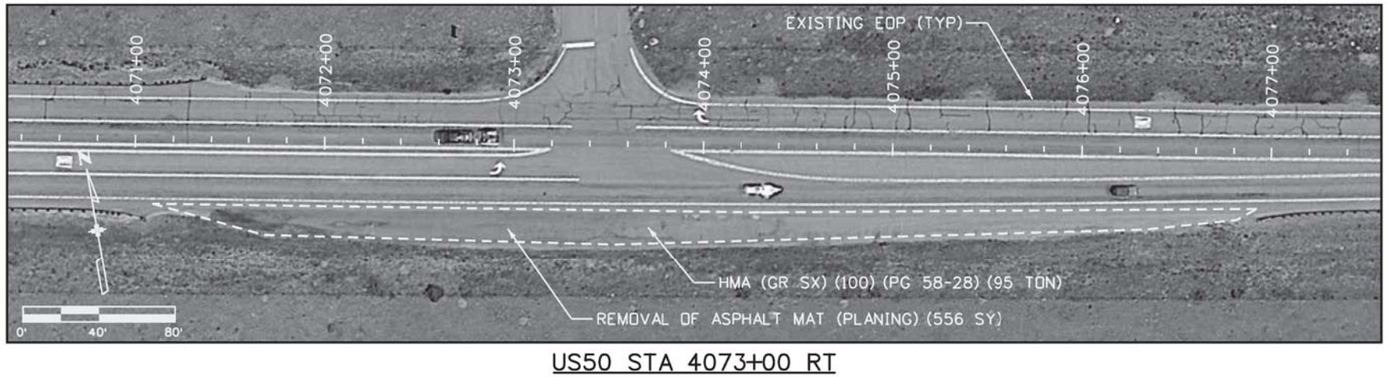


SH9 SNOWPLOW TURNAROUND
PAVEMENT SECTION DETAIL

(STA 360+00 RT, STA 449+00 RT,
STA 450+00 LT, & STA 570+40 RT)



US50 STA 3860+00 LT



US50 STA 4073+00 RT

Print Date: 1/24/2017	Sheet Revisions		
File Name: 21255DES_RdwyDetail_1.dgn	Date:	Comments	Init.
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ROADWAY DETAIL
APPROACHES AND PULLOUTS

Designer:	JAB	Structure Numbers	
Detailer:	WRS		
Subset:	DET-RDWY	Subset Sheets: 1 of 8	

Project No./Code
STA 0503-089
21255
Sheet Number 62

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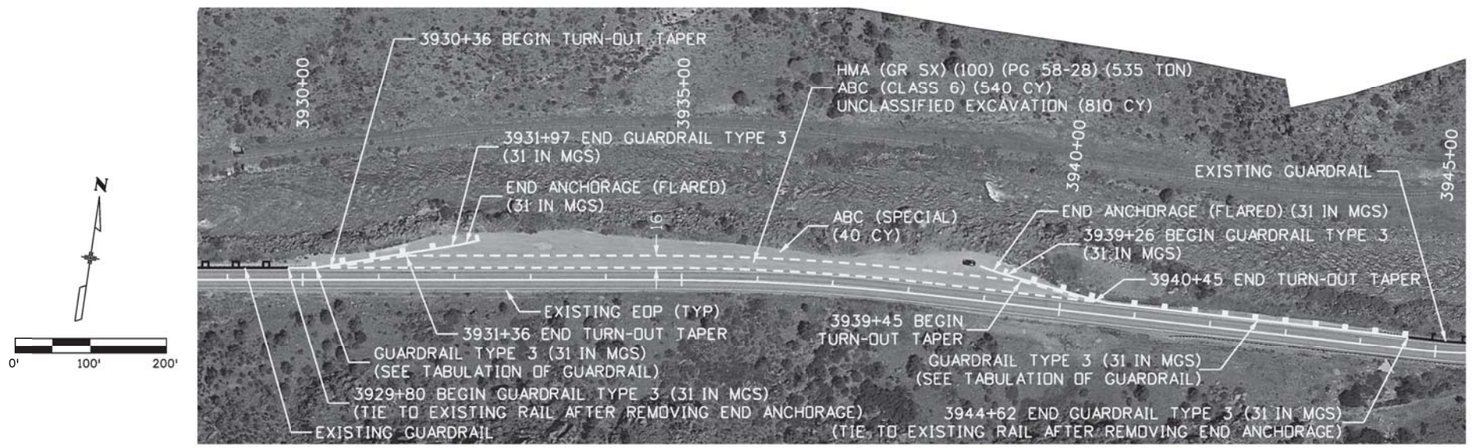
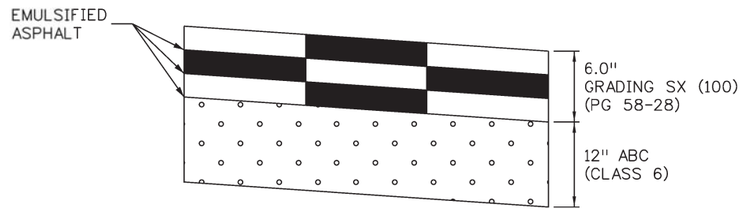
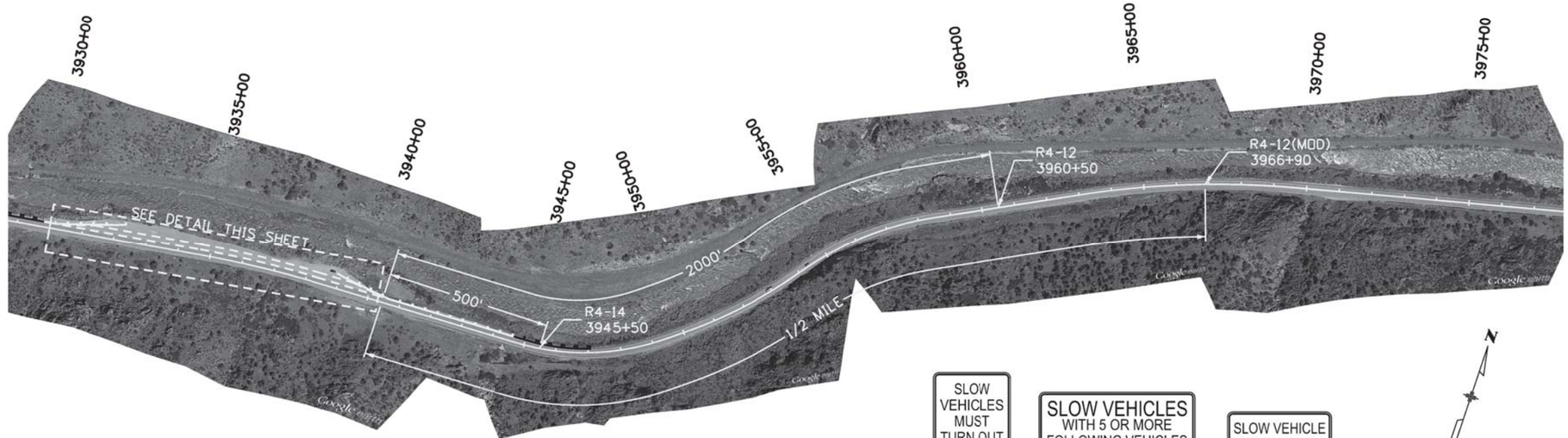


SLOW VEHICLE PULLOUT US50 STA 3936+00 LT



SLOW VEHICLE PULLOUT US50
PAVEMENT SECTION DETAIL



SLOW VEHICLE PULLOUT US50 STA 3936+00 LT

Print Date: 1/24/2017
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No Revisions:
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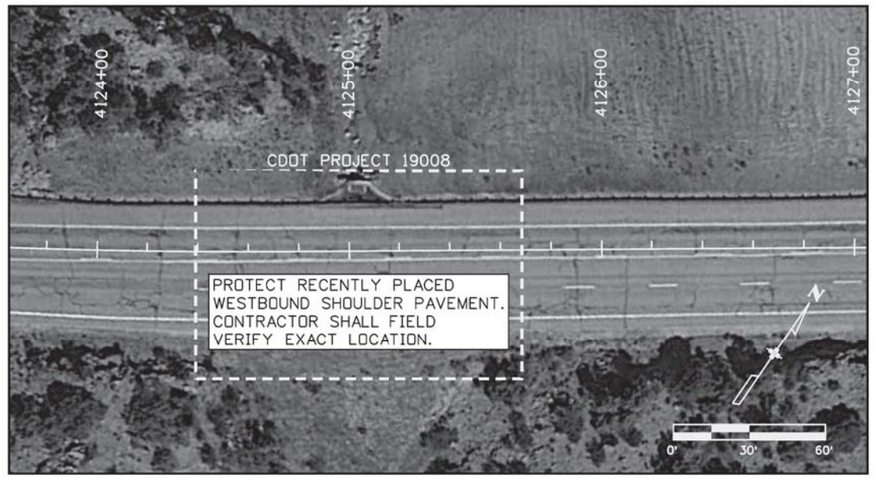
ROADWAY DETAIL
APPROACHES AND PULLOUTS

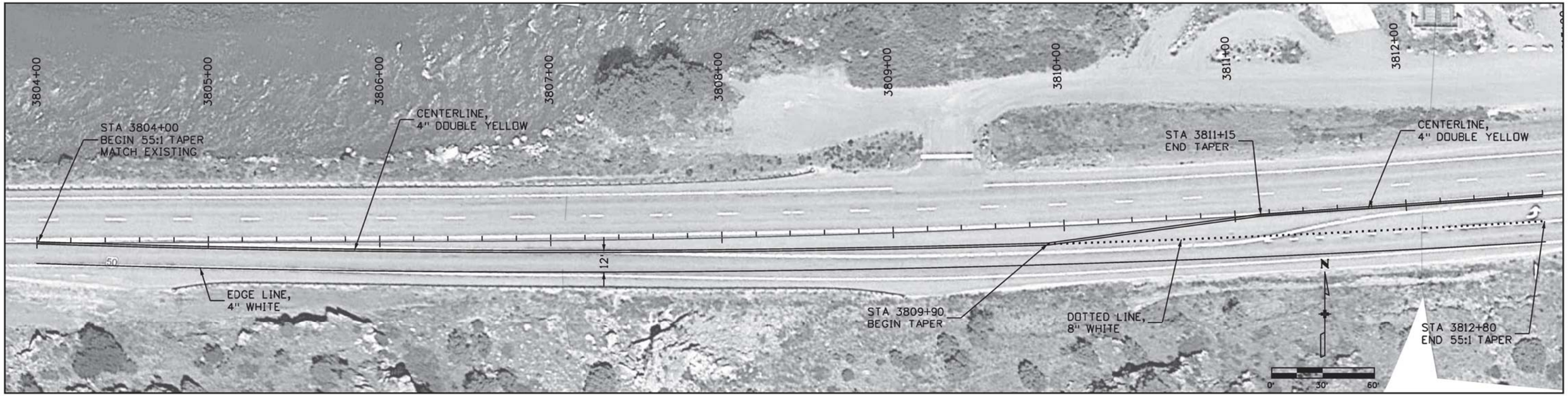
Designer: JAB
Detailer: WRS
Subset: DET-RDWY
Structure Numbers:
Subset Sheets: 2 of 8

Project No./Code
STA 0503-089
21255
Sheet Number 63

SH9 STA 13+45 LT



US50 STA 4125+00



US50 STRIPING CORRECTIONS

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ROADWAY DETAIL
MISCELLANEOUS DETAILS

Designer: JAB
Detailer: WRS
Subset: DET-RDWY
Structure Numbers:
Subset Sheets: 3 of 8

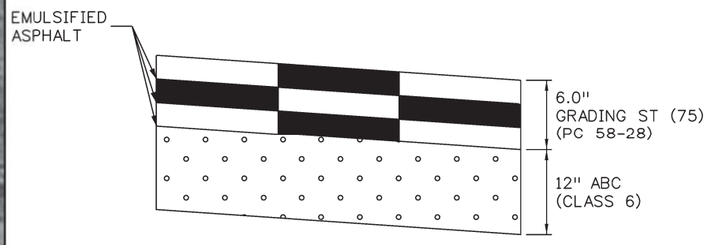
Project No./Code
STA 0503-089
21255
Sheet Number 64

busansky 12:03:14 PM pw:\\617479-PWINT.aecomonline.local:AECOM_DS01_NA\Documents\60505397-US50 Royal Gorge West_SH9 Jct North\900 Work\910 CAD\02 SHEETS\02_Roadway\21255DES_RdwyDetail_3.dgn

JCT US 50/SH 9

NOTES:

1) THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING THE EXCAVATION IS PROTECTED. THIS WILL REQUIRE THE CONTRACTOR TO SHORE ANY EXCAVATIONS AT THE DIRECTION OF THE ENGINEER NIGHTLY. THE COST OF THIS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF WORK.



ISLAND PAVEMENT SECTION DETAIL

Print Date: 1/24/2017
File Name: 21255DES_RdwyDetail_4.dgn
Horiz. Scale: 1:40 Vert. Scale: N/A

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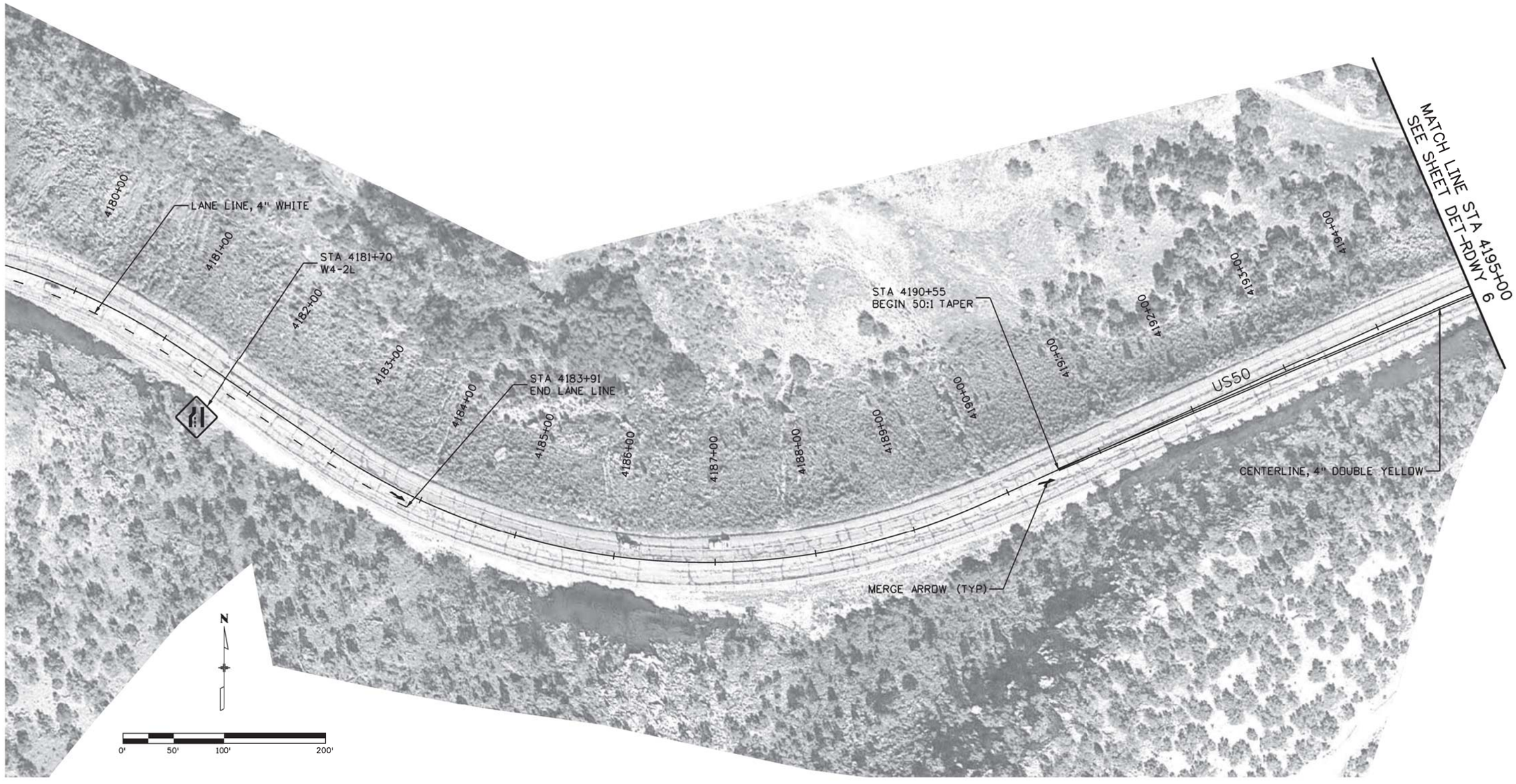
Void:

ROADWAY DETAIL
JUNCTION US 50/SH 9

Designer: WRS
Detailer: JAB
Subset: DET-RDWY
Structure Numbers:
Subset Sheets: 4 of 8

Project No./Code
STA 0503-089
21255
Sheet Number 65



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Print Date: 12/21/2016
File Name: 21255DES_RdwyDetail_5.dgn
Horiz. Scale: 1:100 Vert. Scale: N/A

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Void:	

ROADWAY DETAIL
US50 EASTBOUND LEFT TURN

Designer:	WRS	Structure Numbers	
Detailer:	JAB		
Subset:	DET-RDWY	Subset Sheets:	5 of 8

Project No./Code	
STA 0503-089	
21255	
Sheet Number	66

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Print Date: 12/21/2016
File Name: 21255DES_RdwyDetail_6.dgn
Horiz. Scale: 1:100 Vert. Scale: N/A

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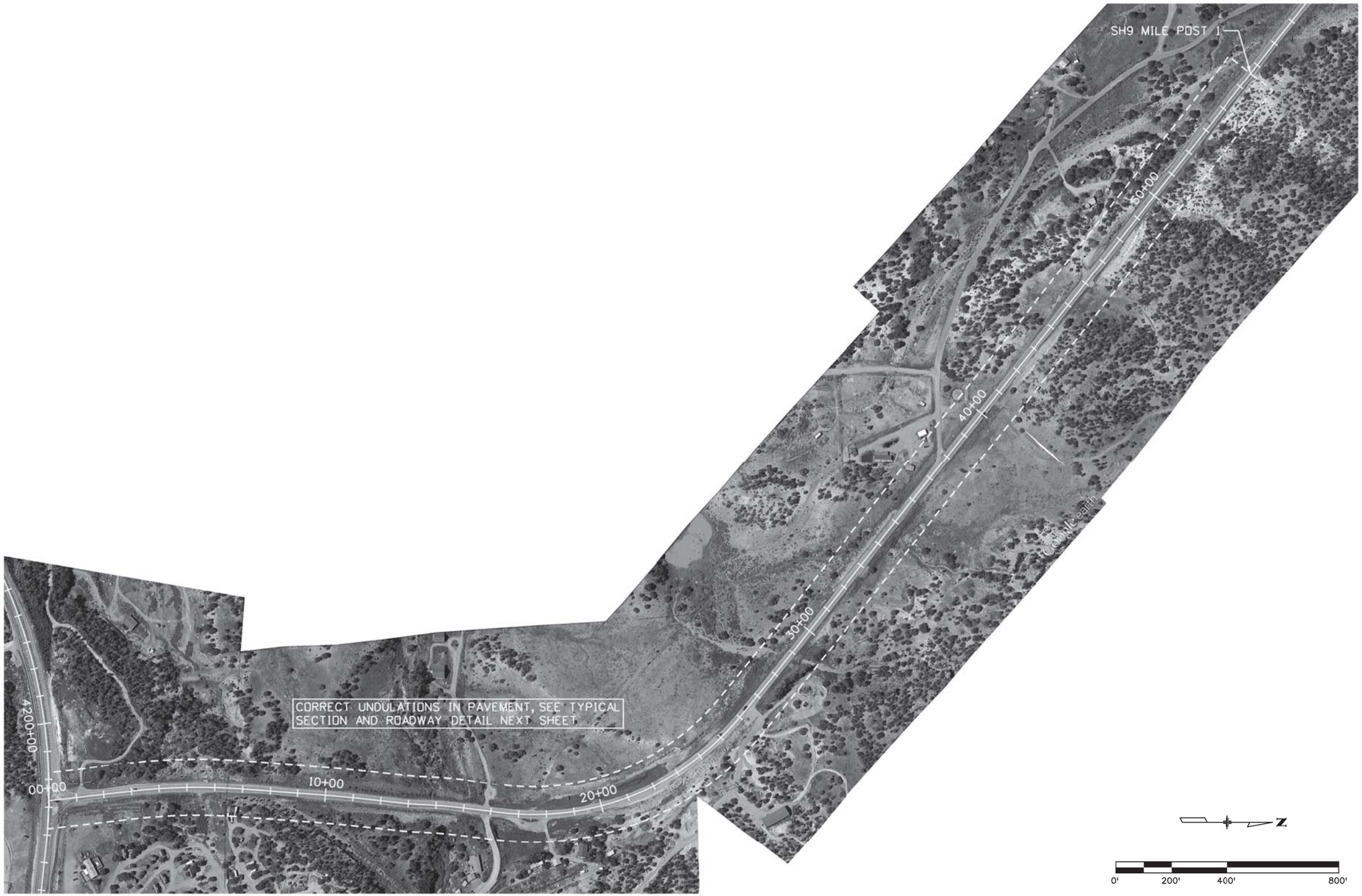
As Constructed

No Revisions:
Revised:
Void:

ROADWAY DETAIL
US50 EASTBOUND LEFT TURN

Designer: WRS
Detailer: JAB
Subset: DET-RDWY
Structure Numbers:
Subset Sheets: 6 of 8

Project No./Code
STA 0503-089
21255
Sheet Number 67



Print Date: 12/22/2016		Sheet Revisions			Colorado Department of Transportation
File Name: 21255DES_RdwyDetail_7.dgn		Date:	Comments	Init.	1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298
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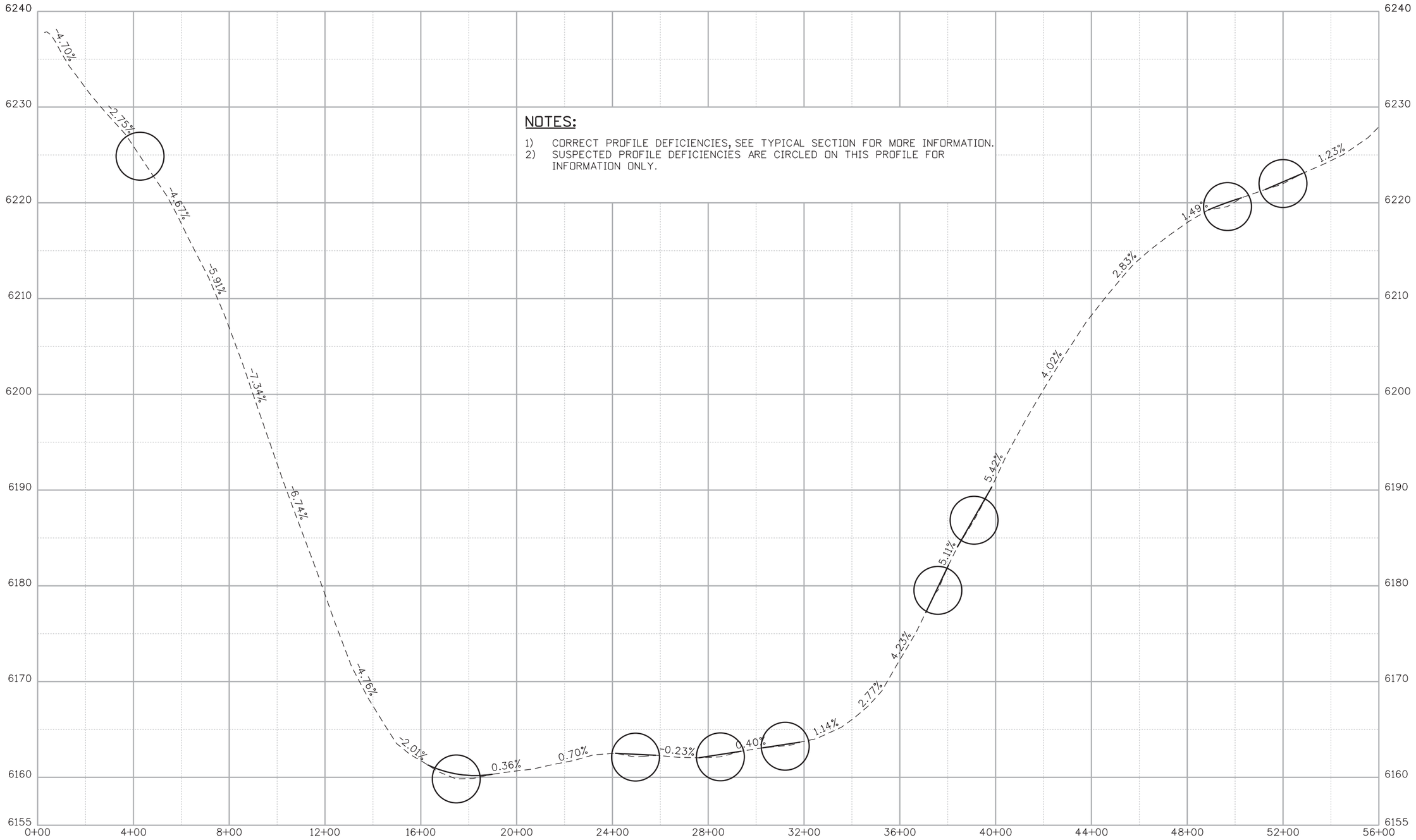
As Constructed	ROADWAY DETAIL SH9 MP 0.0 TO MP 1.0			Project No./Code
No Revisions:				STA 0503-089
Revised:	Designer: WRS	Structure Numbers		21255
Void:	Detailer: JAB			Sheet Number 68
	Subset: DET-RDWY	Subset Sheets: 7 of 8		

jason.tonini 8:31:31 AM pw:\\617479-PWINT.aecomonline.local:AECOM_DS01_NA\Documents\60505397-US50 RoyalGorge West_SH9 Jct North\900 Work\910 CAD\02 SHEETS\02_Roadway\21255DES_RdwyDetail_7.dgn



NOTES:

1) CORRECT PROFILE DEFICIENCIES, SEE TYPICAL SECTION FOR MORE INFORMATION.
2) SUSPECTED PROFILE DEFICIENCIES ARE CIRCLED ON THIS PROFILE FOR INFORMATION ONLY.

wes.suchland 11:08:08 AM pw:\\617479-PWINT.aecomonline.local:AECOM_DSO1_NA\Documents\60505397-US50 Royal Gorge West_SH9 Jct North\900 Work\910 CAD\02 SHEETS\02_Roadway\21255DES_RdwyDetail_8.dgn

Print Date: 12/21/2016
File Name: 21255DES_RdwyDetail_8.dgn
Horiz. Scale: 1:400 Vert. Scale: 1:10

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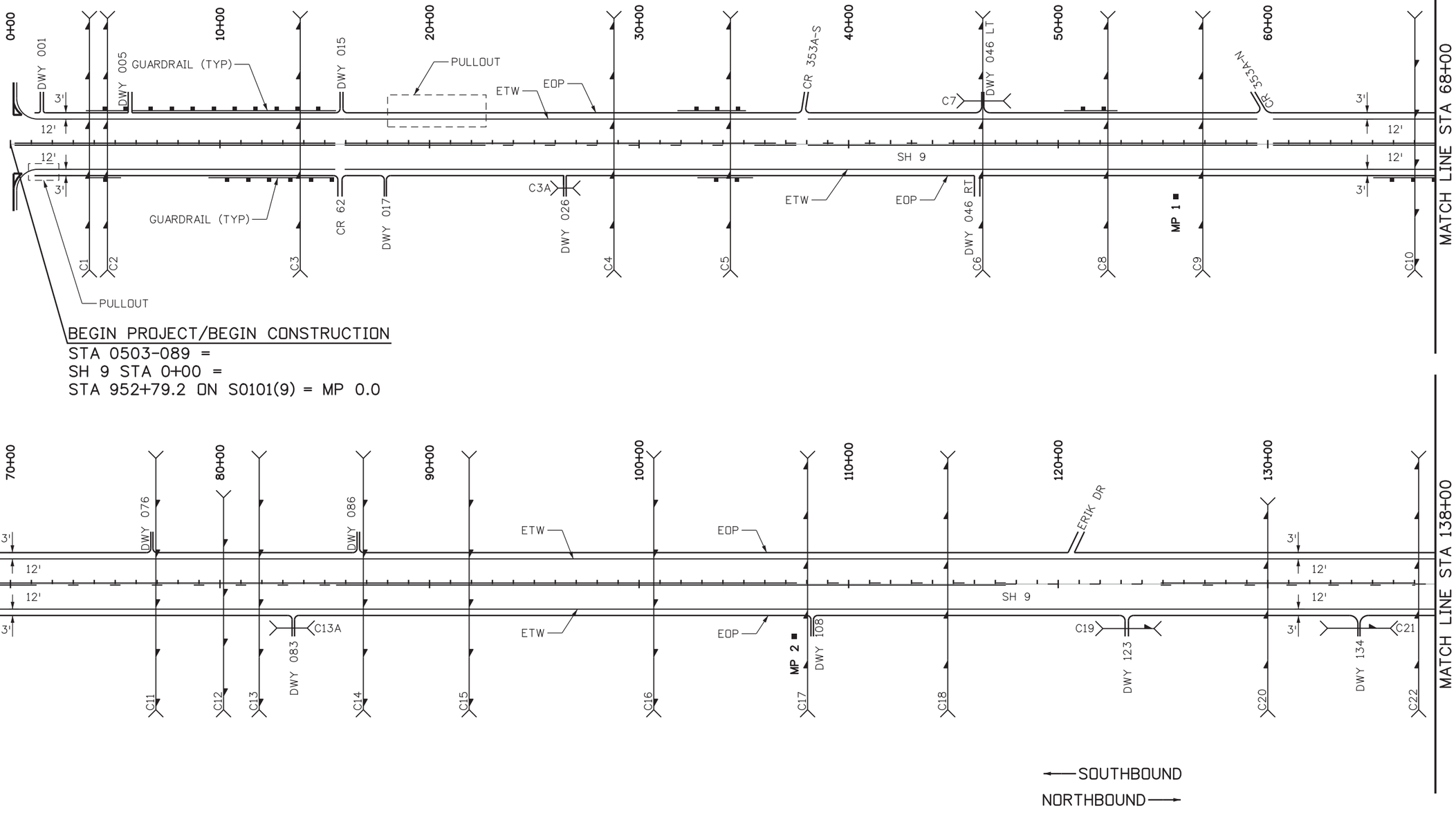
Revised:
Void:

ROADWAY DETAIL
SH9 MP 0.0 TO MP 1.0

Designer: WRS
Detailer: JAB
Subset: DET-RDWY
Structure Numbers:
Subset Sheets: 8 of 8

Project No./Code
STA 0503-089
21255
Sheet Number 69



BEGIN PROJECT/BEGIN CONSTRUCTION
STA 0503-089 =
SH 9 STA 0+00 =
STA 952+79.2 ON S0101(9) = MP 0.0

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Print Date: 1/24/2017
File Name: 21255DES_Plan1.dgn
Horiz. Scale: 1:500 Vert. Scale: 1:50

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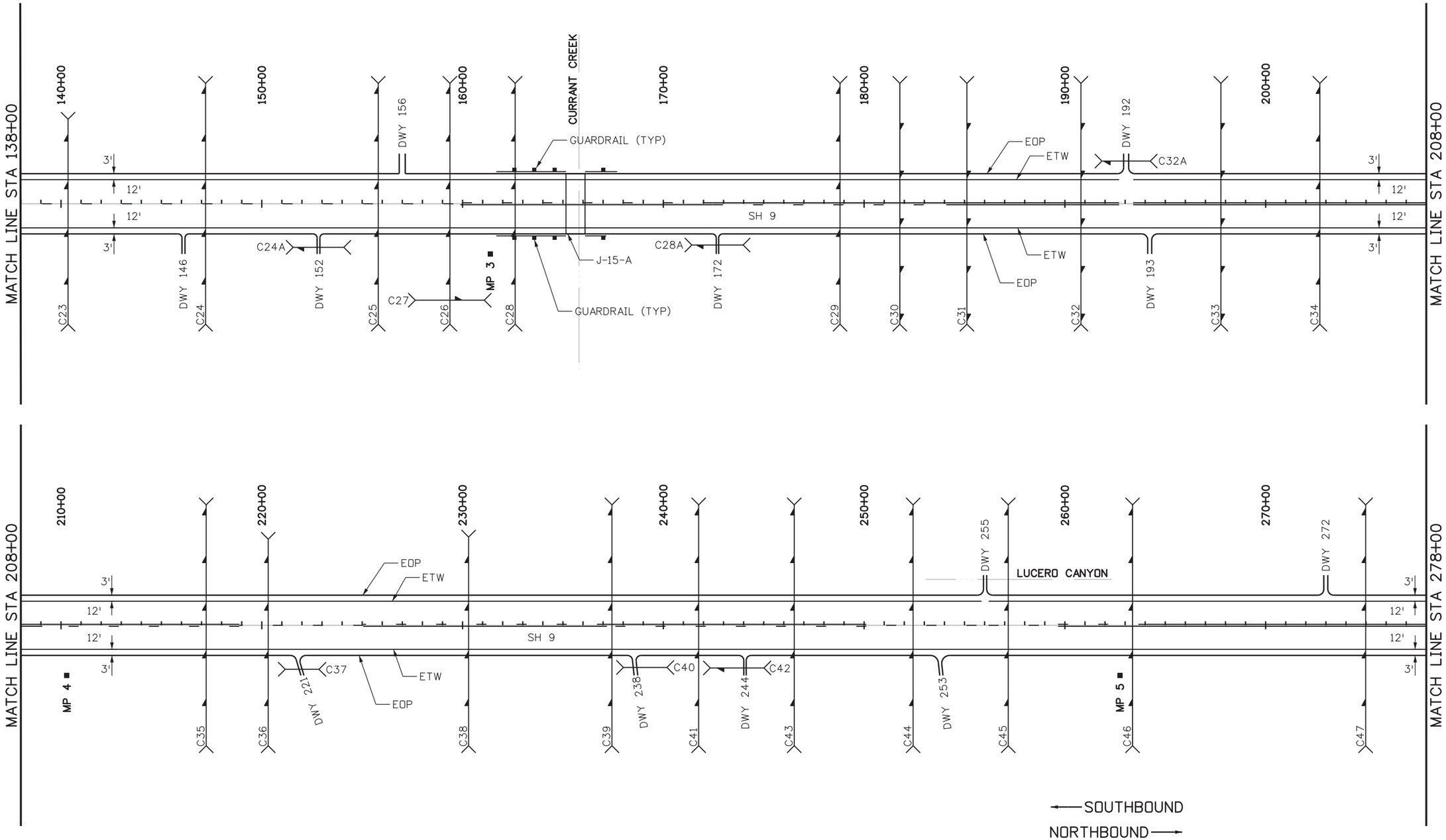
SH 9
ROADWAY PLAN
STA 00+00 TO STA 138+00

Designer: JAB
Detailer: LMB
Subset: ROADWAY
Structure Numbers:
Subset Sheets: 1 of 11

Project No./Code
STA 0503-089
21255
Sheet Number 70



Print Date: 12/20/2016			
File Name: 21255DES_Plan2.dgn			
Horiz. Scale: 1:500	Vert. Scale: 1:50		

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SH 9
ROADWAY PLAN
STA 138+00 TO STA 278+00

Designer:	JAB	Structure Numbers	
Detailer:	LMB		
Subset:	ROADWAY	Subset Sheets: 2 of 11	

Project No./Code	
STA 0503-089	
21255	
Sheet Number	71

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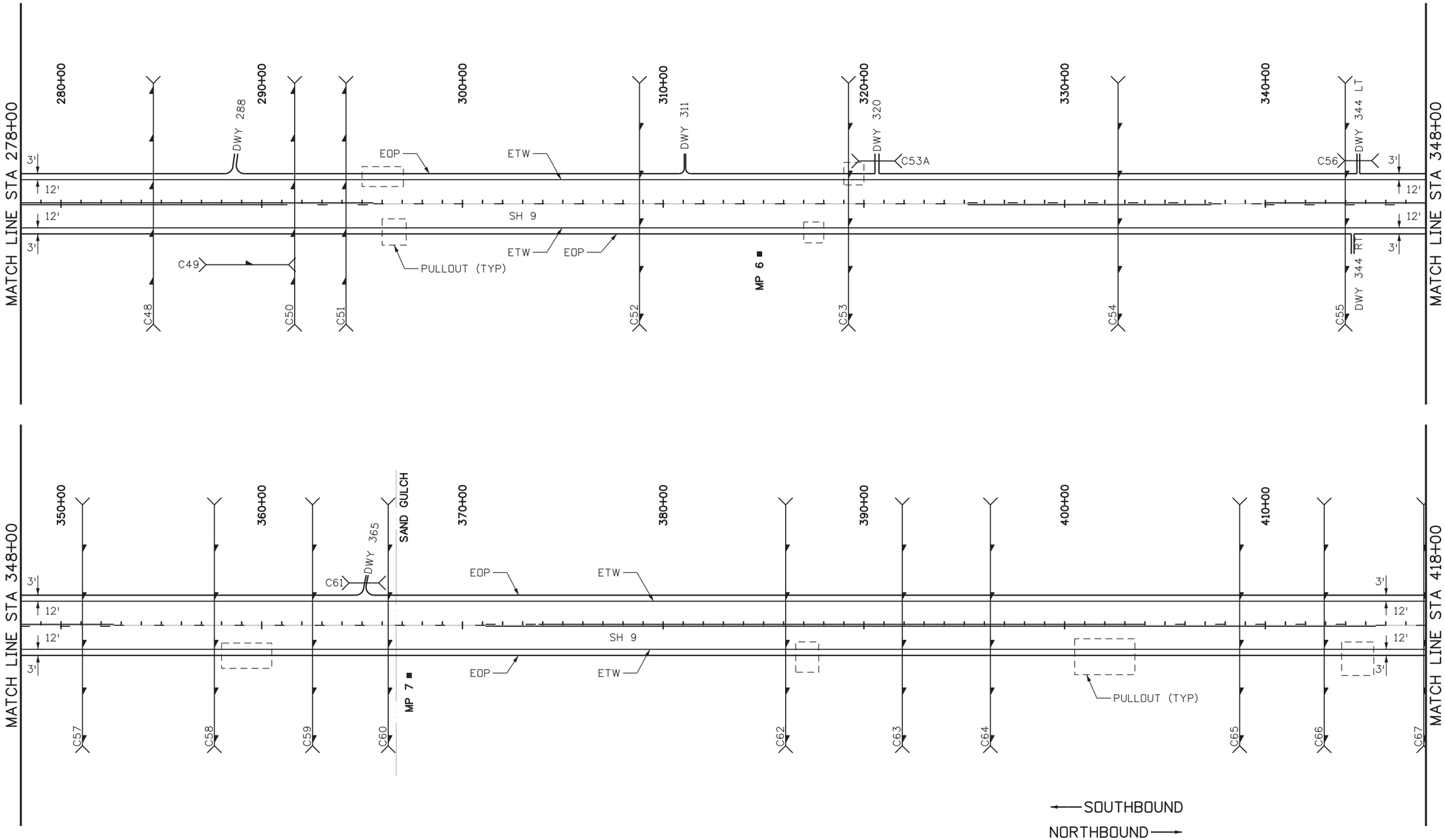

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Print Date: 12/20/2016			
File Name: 21255DES_Plan3.dgn			
Horiz. Scale: 1:500	Vert. Scale: 1:50		

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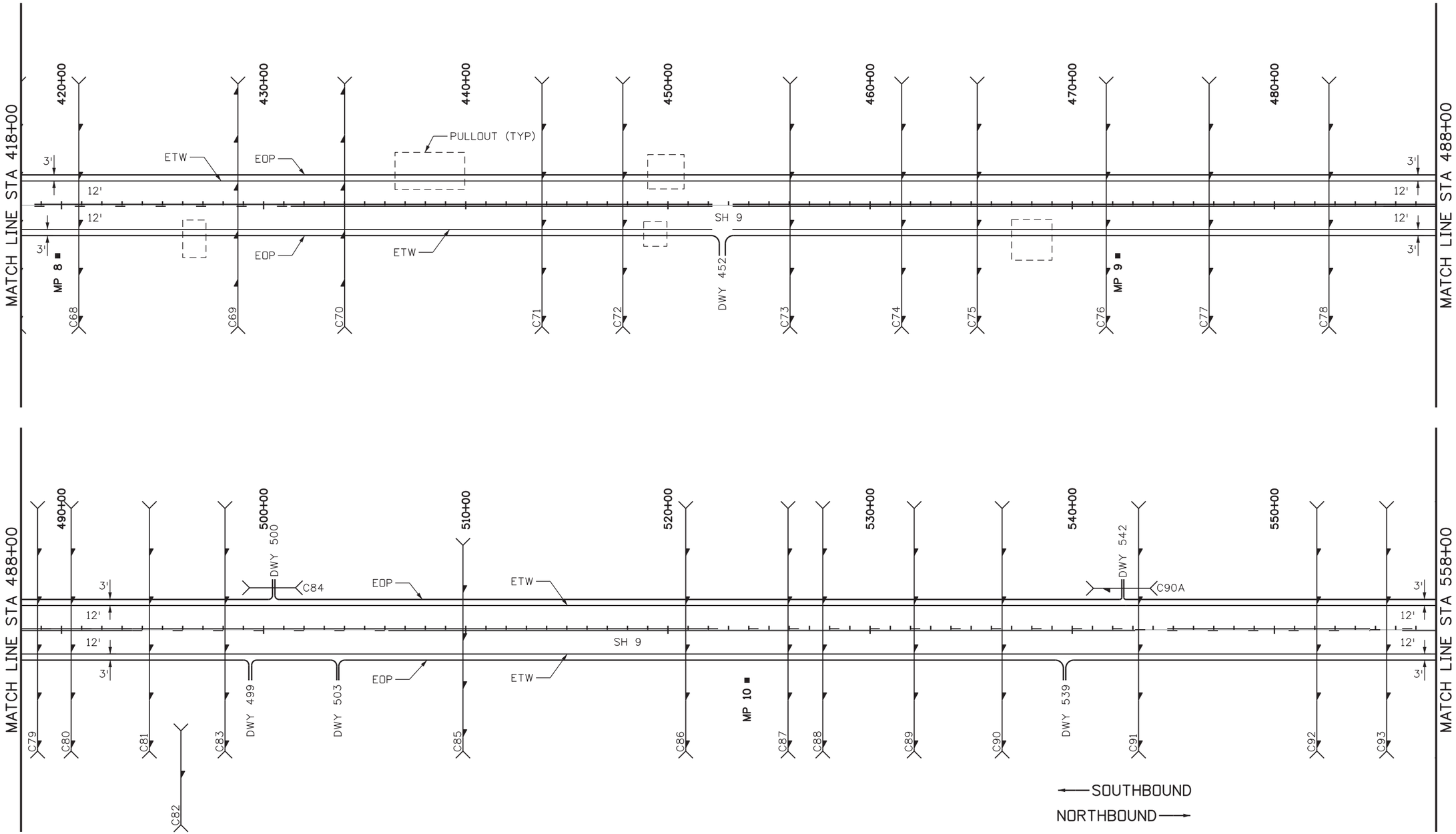
No Revisions:	
Revised:	
Void:	

SH 9
ROADWAY PLAN
STA 00+00 TO STA 138+00

Designer:	JAB	Structure Numbers	
Detailer:	LMB		
Subset:	ROADWAY	Subset Sheets:	3 of 11

Project No./Code	
STA 0503-089	
21255	
Sheet Number	72



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Print Date: 12/20/2016
File Name: 21255DES_Plan4.dgn
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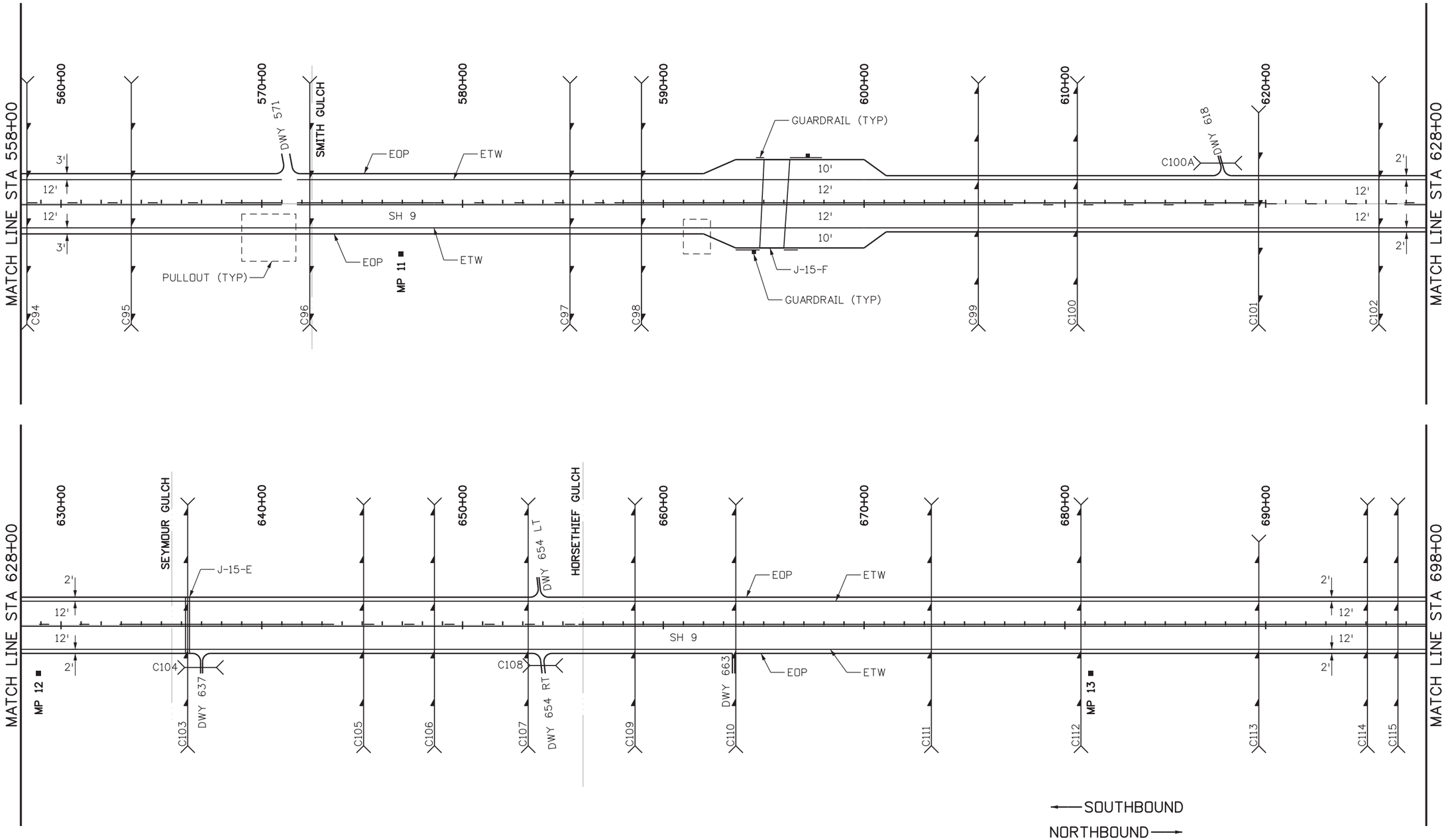
SH 9
ROADWAY PLAN
STA 418+00 TO STA 558+00

Designer: JAB
Detailer: LMB
Subset: ROADWAY
Structure Numbers:
Subset Sheets: 4 of 11

Project No./Code
STA 0503-089
21255
Sheet Number 73



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Horiz. Scale: 1:500	Vert. Scale: 1:50		

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SH 9
ROADWAY PLAN
STA 558+00 TO STA 698+00

Designer:	JAB	Structure Numbers	
Detailer:	LMB		
Subset:	ROADWAY	Subset Sheets: 5 of 11	

Project No./Code	
STA 0503-089	
21255	
Sheet Number	74

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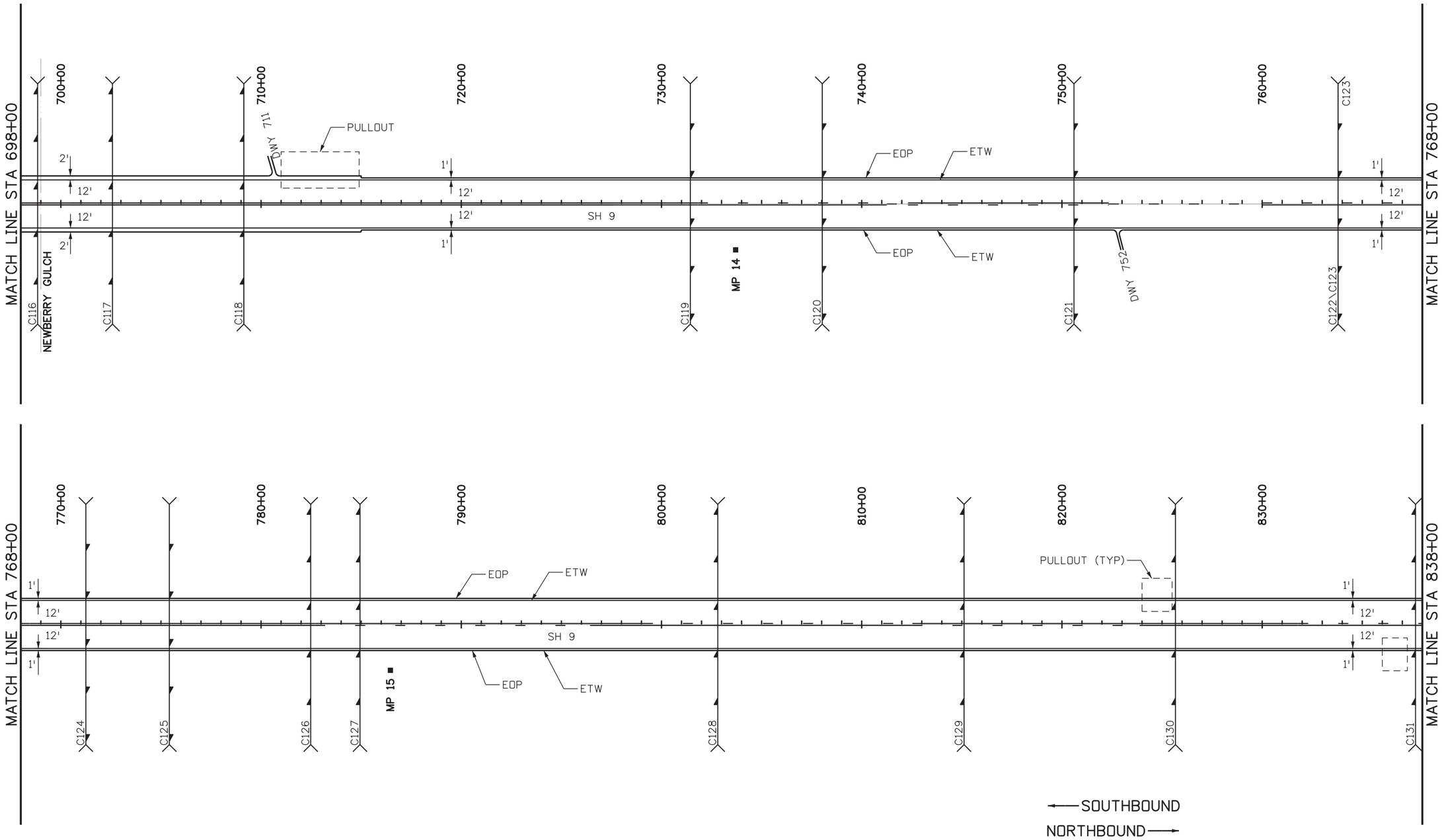

Print Date: 12/20/2016
File Name: 21255DES_Plan6.dgn
Horiz. Scale: 1:500 Vert. Scale: 1:50

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SH 9
ROADWAY PLAN
STA 698+00 TO STA 838+00

Designer:	JAB	Structure Numbers	
Detailer:	LMB		
Subset:	ROADWAY	Subset Sheets: 6 of 11	

Project No./Code	
STA 0503-089	
21255	
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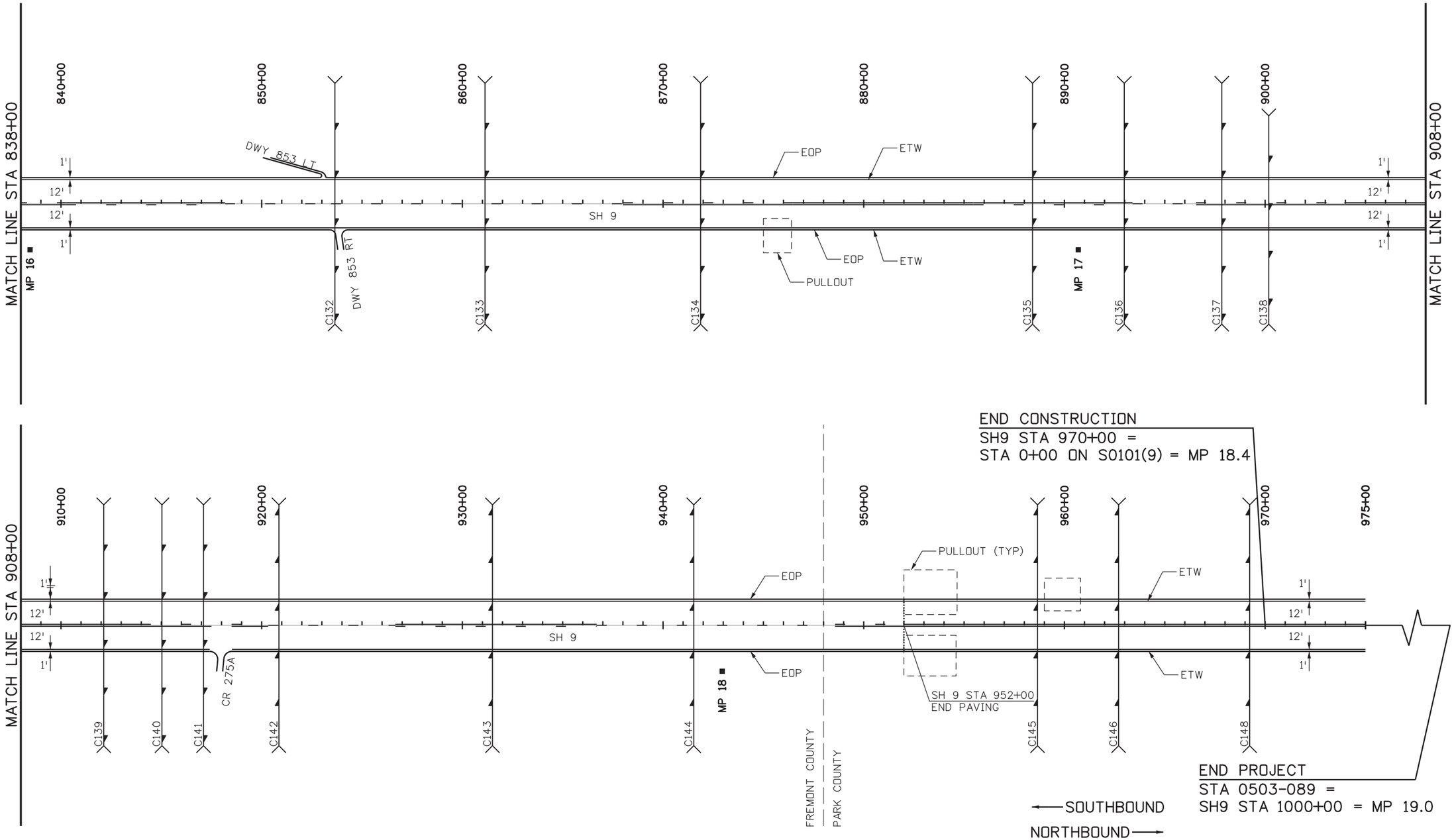

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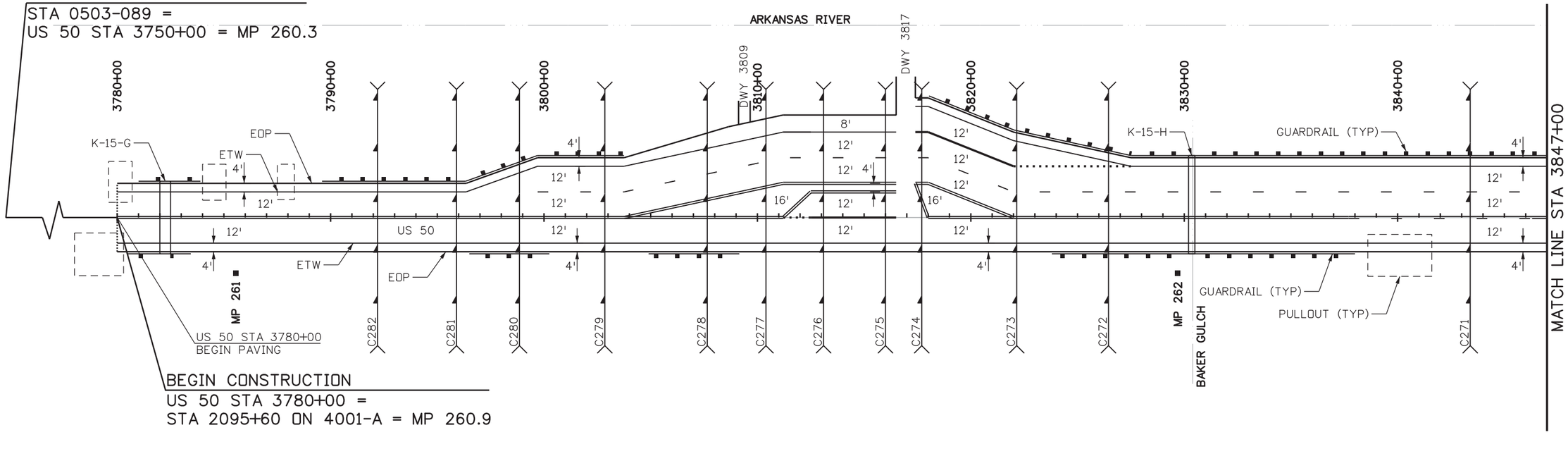
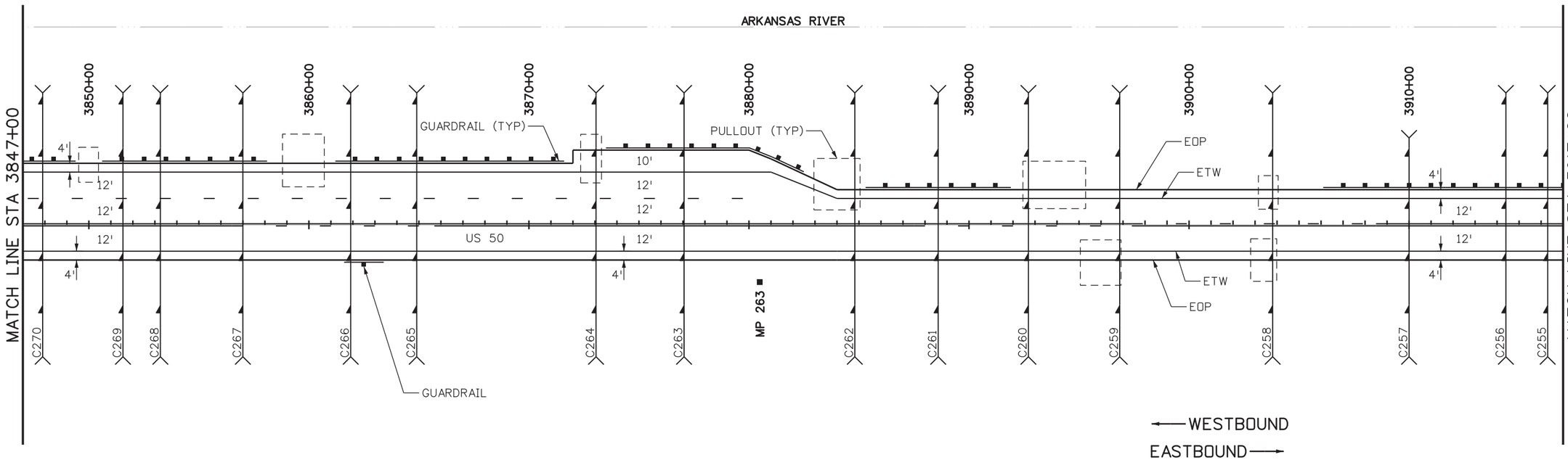
SH 9
ROADWAY PLAN
STA 838+00 TO STA 970+00

Designer: JAB
Detailer: LMB
Subset: ROADWAY
Structure Numbers:
Subset Sheets: 7 of 11

Project No./Code
STA 0503-089
21255
Sheet Number 76





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Print Date: 1/24/2017
File Name: 21255DES_Plan8.dgn
Horiz. Scale: 1:500 Vert. Scale: 1:50

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US 50
ROADWAY PLAN
STA 3780+00 TO STA 3917+00

Designer:	JAB	Structure Numbers	
Detailer:	LMB		
Subset:	ROADWAY	Subset Sheets: 8 of 11	

Project No./Code
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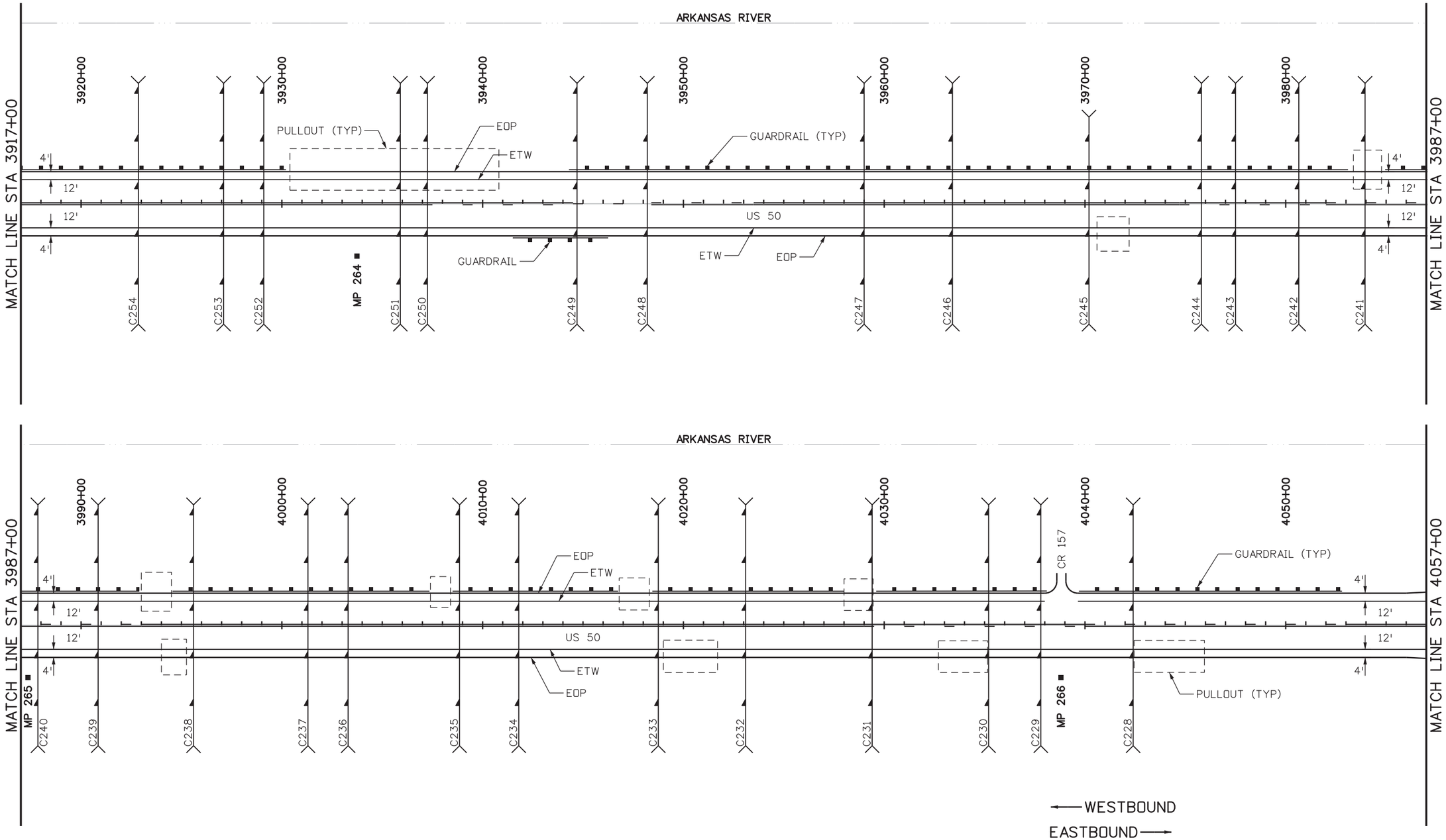
21255
Sheet Number 77



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Print Date: 12/20/2016
File Name: 21255DES_Plan9.dgn
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US 50
ROADWAY PLAN
STA 3917+00 TO STA 4057+00

Designer: JAB
Detailer: LMB
Subset: ROADWAY
Structure Numbers:
Subset Sheets: 9 of 11

Project No./Code
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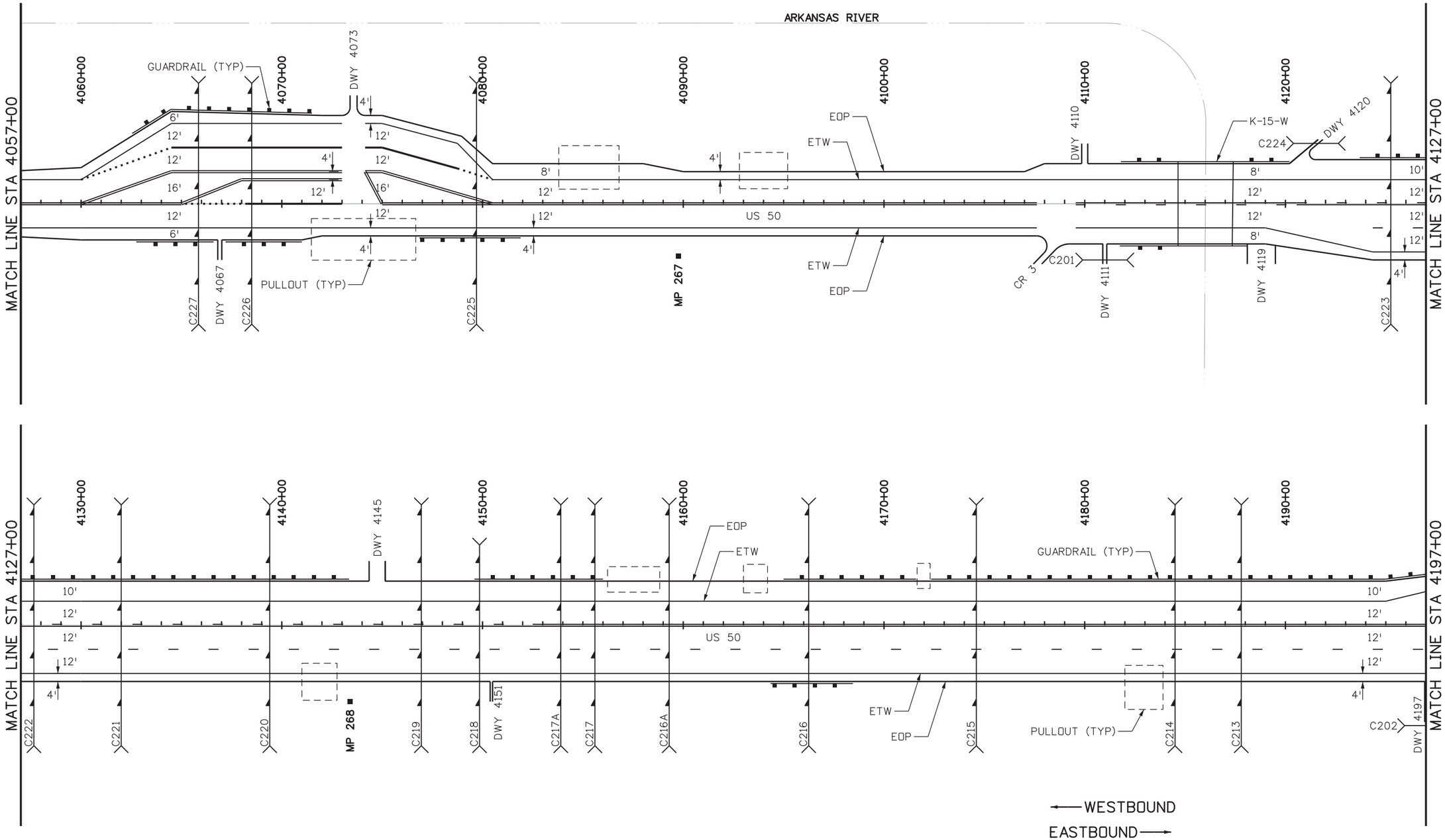

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US 50
ROADWAY PLAN
STA 4057+00 TO STA 4197+00

Designer:	JAB	Structure Numbers	
Detailer:	LMB		
Subset:	ROADWAY	Subset Sheets: 10 of 11	

Project No./Code	
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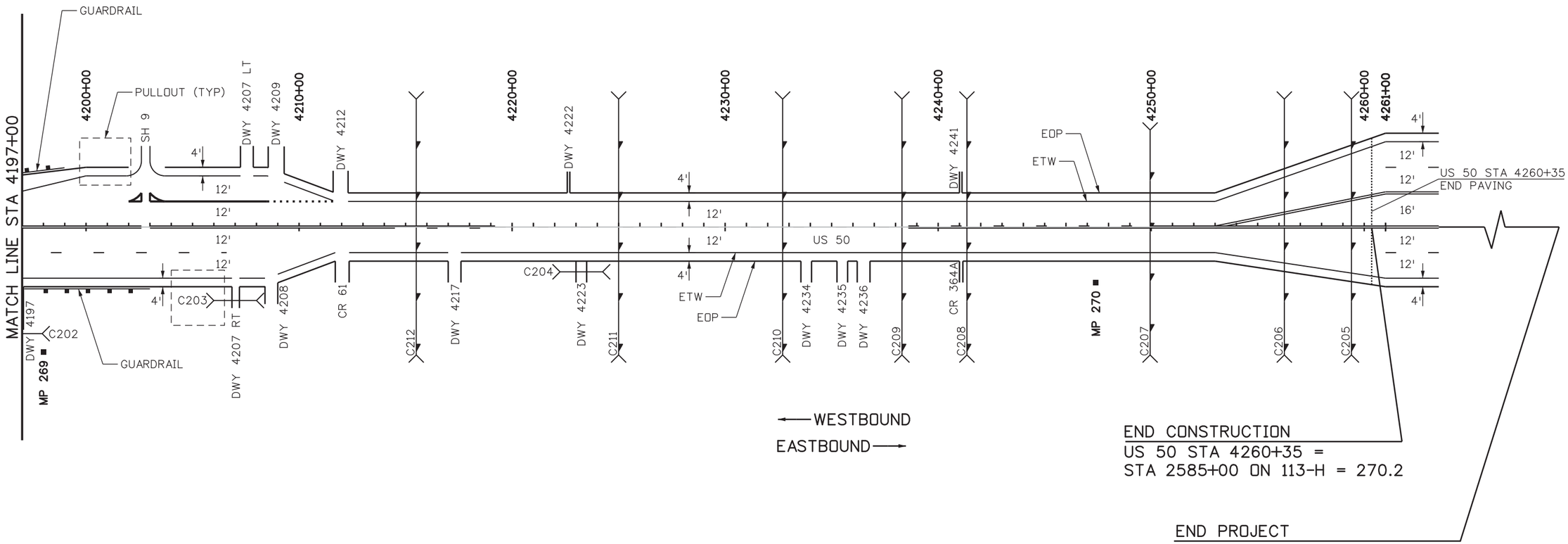

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US 50
ROADWAY PLAN
STA 4197+00 TO STA 4261+00

Designer: JAB
Detailer: LMB
Subset: ROADWAY
Structure Numbers:
Subset Sheets: 11 of 11

Project No./Code
STA 0503-089
21255
Sheet Number 80

US HIGHWAY NO. 50 / STATE HIGHWAY NO.9 RESURFACING PROJECT SWMP

1. SITE DESCRIPTION

The Contractor shall comply with all CDOT contractual requirements and all requirements associated with the CDPS-SCP on this project. The SWMP Administrator shall update to reflect current project site conditions.

A. PROJECT SITE LOCATION:
US Highway 50 from approximately mile marker 261.0 east to mile marker 270.0. State Highway 9 from mile marker 0 (junction with US 50) north to approximately mile marker 18.6.

Construction office address (to be determined by Contractor):

B. PROJECT SITE DESCRIPTION:
The project consists of mill and overlay of approximately 28 miles of roadway along US Hwy 50 and State Hwy 9, northwest of Cañon City. US Hwy 50 is an arid region that runs parallel to the Arkansas River. Hwy 9 rises in elevation as the road travels to the north and ultimately settles into the mountainous climate. Drainage within the project area is generally conveyed from east to west into the drainages along the corridor. Construction activities include mill and overlay of asphalt, widening of asphalt to accommodate 5 snowplow turnarounds and shoulders with safety edges, bridge maintenance and rehabilitation for 4 structures (J-15-A, K-15-G, K-15-H, K-15-W), replacement of guardrail, replacement of sign panels, and replacement of delineators. Roadway runoff will be conveyed through existing roadside ditches.

The project area is located within the Foothill Shrublands and Crystalline Mid-Elevation Forests ecoregions as defined by the Environmental Protection Agency (EPA). The area has an average high temperature of 89°F in the summer. The area receives 13.5" annual precipitation with historic rainfall totals of 7.75" between May- September, with a majority of the rainfall occurring in afternoon thunderstorm events dropping an average of 1.55" per event. In winter, the project area experiences 29" of snow. The average lows are 25°F October-March. While the average winter temperatures are below freezing, it is possible that warmer temperatures may lead to snowmelt runoff. The contractor should have BMPs available to address potential runoff. It is anticipated that there will be 345 working days where the ground is not frozen.

C. PROPOSED SEQUENCING FOR MAJOR CONSTRUCTION ACTIVITIES:
- BMP installation
- Traffic diversion
- Existing road will be milled
- Guardrail, signage, and delineators will be removed and replaced
- Road shall be resurfaced
- Bridge maintenance and rehabilitation
  - Curb and asphalt mat removal
  - Saw cutting at expansion joints
  - Removal and repair of expansion joints
  - Install waterproof membrane
- Culverts to be cleaned
- Seeding and mulching if areas are disturbed by contractor

D. ACRES OF DISTURBANCE:
1. Total area of proposed disturbance (LDA): 2.5 acres
2. Total area of seeding: 0.0 acres
3. Total area of impervious surface: 119 acres
4. Total area of NEW impervious surface: 5.1 acres

E. EXISTING SOIL DATA:
The site is mainly composed of Type D rated soils as defined by the Natural Resources Conservation Service Web Soil Survey. Type D soils have a moderately high runoff potential and moderately low infiltration rate. Specifically, the site is composed of Ustic Torriorthents and Boyle very gravelly sandy loam.

F. EXISTING VEGETATION:
The construction SWMP Administrator will conduct the Vegetation Transects as outlined in Chapter 4.11.2 of the Erosion Control and Stormwater Quality Guide.

A survey including general description of existing vegetation shall be conducted by the construction SWMP Administrator prior to any ground disturbance on the project. The construction SWMP Administrator shall photo-document existing vegetation where all work will be occurring. The construction SWMP Administrator shall also perform the vegetation survey transect(s) including photo documentation as outlined in Chapter 4.11.2 of CDOT's Erosion Control and Stormwater Quality Guide.

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File Name: 21255SWMP_Narrative1.dgn	Date: Comments: Init.	1480 Quail Lake, Suite A Colorado Springs, CO 80906 Phone: 719-634-2323 FAX: 719-227-3298	No Revisions:
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STORMWATER MANAGEMENT PLAN				Project No./Code
				STA 0503-089
Designer: JSR	Structure Numbers			21255
Detailer: JSR				
Subset: SWMP	Subset Sheets: 1 of 8			Sheet Number 81

Pre-Construction Date of survey: _____ %Density: _____
Description of existing vegetation:
Map or table showing transect locations in SWMP notebook tab 17:

Post-Construction Date of survey: _____ %Density: _____
Description of existing vegetation: **Date of CDPS-SCP Closure:** _____
Map or table showing transect locations in SWMP notebook tab 17:

G. POTENTIAL POLLUTANTS SOURCES: See First Construction Activities under Potential Pollutant Sources. The SWMP Administrator shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

H. RECEIVING WATER:
1. Outfall locations: There are 132 outfalls along SH 9 and 79 outfalls along US 50. The locations are included on the project site maps.
2. Names of receiving water(s) on site: Arkansas River, Baker Gulch, Currant Creek, Horsethief Gulch, Lucero Canyon, Newberry Gulch, Sand Gulch, Seymour Gulch, Smith Gulch
3. Ultimate receiving water: Arkansas River
4. Distance nearest water of the state is from project: Arkansas River is adjacent to US 50. The tributaries listed pass under or adjacent to US 50 and SH 9.

I. NON-STORMWATER DISCHARGES:

ALLOWABLE:
1. Groundwater and stormwater dewatering: Discharges to the ground of water from construction dewatering activities may be authorized provided that:
   a. The source is groundwater and/or groundwater combined with stormwater that does not contain pollutants.
   b. The source and BMPs/Control Measures are identified in the SWMP.
   c. Discharges do not leave the site as surface runoff or to surface waters.
   d. The contractor shall protect all work areas and facilities from water at all times. Areas and facilities subject to flooding, regardless of the source of water, shall be promptly dewatered and restored at no cost to the owner. This shall include removal of any debris caused by flooding. Any dewatering shall be done in accordance with Subsection 107.25.

CONTAMINATED:
1. If discharges do not meet the above criteria a separate CDPS permit shall be obtained by the Contractor from the CDPHE.

2. SITE MAP COMPONENTS:

Pre-construction

A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES
US Highway 50 from approximately mile marker 261.0 east to mile marker 270.0. State Highway 9 from mile marker 0 (junction with US 50) north to approximately mile marker 18.6.

B. ALL AREAS OF GROUND SURFACE DISTURBANCE
Existing pullout areas may be disturbed as part of construction staging. Appropriate BMPs will be installed to minimize impact to pullout areas. Silt fence to be installed separating pullout area from nearby drainage prior to any staging.

C. AREAS OF CUT AND FILL
There will be no cut and fill as part of this project.

D. LOCATION OF ALL STRUCTURAL BMPs/CONTROL MEASURES IDENTIFIED IN THE SWMP
Any hydraulic structures that are disturbed by the contraction will require BMP placement. This includes culverts and inlets adjacent to the roadway, and any structure that does not have established vegetation between the structure and edge of road.

E. LOCATION OF NON-STRUCTURAL BMPs/CONTROL MEASURES AS APPLICABLE IN THE SWMP
No seeding is anticipated as part of this project.

F. SPRINGS, STREAMS, WETLANDS AND OTHER SURFACE WATER
Arkansas River, Baker Gulch, Currant Creek, Horsethief Gulch, Lucero Canyon, Newberry Gulch, Sand Gulch, Seymour Gulch, Smith Gulch

A. PROTECTION OF TREES, SHRUBS, CULTURAL RESOURCES AND MATURE VEGETATION
No trees will be disturbed as part of this project.

B. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and BATCH PLANTS
Contractor to determine.

3. SWMP ADMINISTRATOR:

A. SWMP ADMINISTRATOR FOR DESIGN:

Name/Title	Contact Information
Joseph S. Roerkohl, PE, CFM Senior Water Resources Engineer	719-531-0001 Joseph.roerkohl@aecom.com AECOM 2315 Briargate Parkway, Suite 150 Colorado Springs, CO 80920

B. SWMP ADMINISTRATOR FOR CONSTRUCTION: (As defined in Subsection 208) The Contractor shall designate a SWMP Administrator for Construction upon ownership of the SWMP. The SWMP Administrator shall become the owner/operator and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance to 208.03. The SWMP Administrator shall be responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP administrator shall address all aspects of the projects SWMP. (Update the information below for each new SWMP Administrator) (Copy of TECS Certification must also be included in the SWMP Notebook.)

Name/Title	Contact Information	Certification #	Start Date

C. EROSION CONTROL INSPECTOR: (As defined in Subsection 208) The Contractor may designate an Erosion Control Inspector. The Erosion Control Inspector shall complete duties in accordance with subsection 208.03 (c) (Copy of TECS Certification must also be included in the SWMP Notebook.)

Name/Title	Contact Information	Certification #	Start Date

4. STORMWATER MANAGEMENT CONTROLS FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

A. POTENTIAL POLLUTANT SOURCES
Sediment accumulation from guardrail and sign replacement.
Equipment maintenance and fueling activities
Paving activities

B. OFFSITE DRAINAGE (RUN ON WATER)
1. Describe and record BMPs/Control Measures on the SWMP site map that have been implemented to address off site run-on water in accordance with subsection 208.03.

C. VEHICLE TRACKING PAD/VEHICLE TRACKING CONTROL
1. BMPs/Control Measures shall be implemented in accordance with subsection 208.04.

Print Date: 2/1/2017
File Name: 21255SWMP_Narrative3.dgn
Horiz. Scale: 1:1 Vert. Scale: N/A

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STORMWATER MANAGEMENT PLAN

Designer: JSR
Detailer: JSR
Subset: SWMP
Structure Numbers
Subset Sheets: 3 of 8

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STA 0503-089
21255
Sheet Number 83

D. PERIMETER CONTROL

1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
2. Perimeter control may consist of vegetation buffers, berms, silt fence, erosion logs, existing landforms, or other BMPs/Control Measures as approved.
3. Perimeter control shall be in accordance with subsection 208.04

5. DURING CONSTRUCTION

RESPONSIBILITIES OF THE SWMP ADMINISTRATOR DURING CONSTRUCTION

The SWMP should be considered a "living document" that is continuously reviewed and modified. During construction, the following items shall be added, updated, or amended as needed by the SWMP Administrator in accordance with subsection 208.

During construction, indicate how items that have not been addressed during design are being handled in construction. If items are covered in the template or other sections of the SWMP notebook indicate below what section the discussion takes place.

A. STOCKPILE MANAGEMENT: Shall be done in accordance with subsection 107.25 and 208.07

B. CONCRETE WASHOUT: Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.

C. SAW CUTTING: Shall be done in accordance with subsection 107.25, 208.04, 208.05 Saw cutting will occur on structures K-15-G, K-15-H, and K-15-W. Use capture and collect techniques for slurry.

D. STREET SWEEPING: Shall be done in accordance with subsection 208.04

6. INSPECTIONS

A. Inspections shall be in accordance with subsection 208.03 (c).

7. BMP/CONTROL MEASURE MAINTENANCE

A. Maintenance shall be in accordance with subsection 208.04 (f).

8. RECORD KEEPING

A. Records shall be kept in accordance with subsection 208.03 (d).

9. INTERIM AND PERMANENT STABILIZATON

A. SEEDING PLAN

It is anticipated that no seeding will be required as part of this project due to the nature of the work being performed. In the event that seeding is required, the following types and rates shall be used:

COMMON NAME	BOTANICAL NAME	LBS. PLS PER ACRE
Blue grama	Bouteloua gracilis v. Hachita	2.0
Western wheatgrass	Pascopyrum smithii v arriba	6.0
Sideoats grama	Bouteloua curtipendula v. Vaughn	3.0
Little bluestem	Schizachyrium scoparium 'Pastura'	3.0
Green needlegrass	Stipa viridula v. Lordom	3.0
Buffalo grass	Bouteloua dactyloides 'Plains'	4.0
Junegrass	Koeleria macrantha	0.2
Prairie coneflower	Ratibida columnifera	0.3
Blue Flax	Linum lewisii	0.5
Gaillardia	Gaillardia aristata	1.0
Oats	Avena sativa	3.0
TOTAL		26.0

B. SEEDING APPLICATION: Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25 inch to 0.5 inch into the soil per subsection 212.

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STORMWATER MANAGEMENT PLAN

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C. MULCHING APPLICATION: Apply a minimum of 2 tons of certified weed free hay or 2 1/2 tons of certified weed free straw per acre and in accordance with Section 213, and mechanically crimp it into the soil in combination with an organic mulch tackifier.

1. Prior to winter shutdown or the summer seeding window closure: Uncompleted slopes shall be mulched with 2 tons of mulching (weed free) per acre, mechanically crimped into the topsoil in combination with an organic mulch tackifier per subsections 208 and 213.

D. SPECIAL REQUIREMENTS:

1. Due to high failure rates, hydroseeding will not be allowed for permanent stabilization.

E. SOIL CONDITIONING AND FERTILIZER REQUIREMENTS: Minimum requirements for all disturbances to receive seeding (native).

Soil conditioner paid for as Item 212- Soil Conditioning (Acre)		
Biological nutrient organic based fertilizer (lbs/acre)*	Humate (lbs/acre)	Compost (cys/acre **All areas <2:1** [1/2 inch depth]
300	200	65

*Biological nutrient shall not exceed 8-8-8 (N-P-K).
Humate based material shall be in accordance to Standard Special Provision 212 and compost shall be in accordance to Standard Special Provision 212.

F. SOIL RETENTICN COVERING: On slopes and ditches requiring a blanket or turf reinforcement mat (trm), the blanket/trm shall be placed in lieu of mulch and mulch tackifier and placed after seeding (native). See SWMP site map for blanket/trm locations.

G. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION
Prior to partial acceptance.

1. All seeded areas shall be reviewed during the 14 day inspections by the SWMP Administrator and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
2. The Contractor shall maintain seeding/mulch/tackifier/blanket/TRM, mow to control weeds or apply herbicide to control weeds in the seeded areas until Partial Acceptance of the stormwater construction work.

10. PRIOR TO PROJECT FINAL ACCEPTANCE

A. Partial Acceptance shall be in accordance with subsection 107.25 (d), 208.10 and 214.04 at the Partial Acceptance of the project, it shall be determined by the SWMP Administrator and the Engineer which temporary BMPs/Control Measures shall remain until 70% revegetation is established or which shall be removed.
B. At the end of the project, all ditch checks shall either consist of temporary erosion logs (or equivalent) or permanent rip-rap.
C. All storm drains shall be cleaned prior to the Final Acceptance of the project. Work shall be included in 203 Clean Culvert.

11. NARRATIVES:

A. ADDITIONAL BMPS/CONTROL MEASURES AND NARRATIVES:
BMP/Control Measure details and narratives not covered by the SWMP or CDOT Standard Plan M-208, M-216 shall be added to the SWMP notebook by the SWMP Administrator.

STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

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APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	CDOT M-STANDARD	BMP/CONTROL MEASURE AS DESIGNED	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINISTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
							FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	FINAL STABILIZATION
PROTECTION OF EXISTING WETLANDS *Fence (plastic) and erosion logs*	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. Fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.	N/A							
CHECK DAM/DITCH CHECK *Erosion log, silt berm, silt dike, rock check dam*	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.	M-208					C	C	
CULVERT INLET/OUTLET PROTECTION *Erosion logs, aggregate bags*	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to start of construction disturbances.	M-208					C	C	C
TYPE C, TYPE D AND TYPE 13 PROTECTION *Erosion logs, aggregate bags, erosion bales*	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to start of construction disturbances.	M-208					C	C	
STOCKPILE PROTECTION *Temporary berm, erosion logs, aggregate bags**	Placed within specified distance, in accordance with subsection 208.06, from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stock pile, increase control as stock pile increases size.	M-208						C	
TOE OF FILL PROTECTION *Erosion logs, temporary berm, silt fence, topsoil windrow**	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	M-208							
PERIMETER CONTROL *Erosion logs, silt fence, temporary berm, topsoil windrow**	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area. *Can be used to stockpile topsoil for salvage.	M-208					C	C	
SEDIMENT CONTROL/ SLOPE CONTROL *Silt fence, erosion logs*	Placed on the contour of a slope to contain and slow down construction runoff. Place prior to start of construction disturbances.	M-208							
OUTLET PROTECTION *Riprap, or approved other*	Material placed as energy dissipater to prevent erosion at outlet structure.	N/A							
CONCRETE WASHOUT *In-ground or fabricated*	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to start of concrete activities.	M-208					X	X	
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to start of construction disturbances.	M-208							
SWEEPING	Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.	N/A					X	X	

C – Use of BMP to be determined by Contractor.

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STORMWATER MANAGEMENT PLAN

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NON-STRUCTURAL BMPs/Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:
Erosion control devices are used to limit the amount of soil loss on site
Sediment control devices are designed to capture sediment on the project site.
Construction controls are BMPs/Control Measures related to construction access and staging.
BMP/Control Measure locations are indicated on the SWMP site map.

APPLICATION, BMP/CONTROL MEASURE	NARRATIVE	M-STANDARD	BMP/CONTROL MEASURE AS DESIGNED	IN USE ON SITE	BMP/CONTROL MEASURE TO BE LOCATED BY SWMP ADMINSTRATOR	INSTALLATION BMP/CONTROL MEASURE PRE-CONSTRUCTION	BMP/CONTROL MEASURE PHASING		
							FIRST/INITIAL CONSTRUCTION ACTIVITIES	INTERIM CONSTRUCTION ACTIVITIES	FINAL STABILIZATION
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Windrow or stockpile	Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windrows. Upon completion of slope work/final grading (less 4 inches), topsoil shall be evenly distributed over embankment to a depth of 4 inches.	N/A							
SURFACE ROUGHENING / GRADING TECHNIQUES Blading, Backhoe, Dozing, Combination Loader	Temporary stabilization of disturbance and to minimize wind and erosion.	N/A							
SEEDING (TEMPORARY)	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.	N/A							
MULCH/MULCH TACKIFIER	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer	N/A							
SEEDING PERMANENT (NATIVE)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	N/A							
SOIL RETENTION BLANKET (SRB)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	M-216							

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12. TABULATION OF STORMWATER QUANTITIES

A. BMP/Control Measure sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other BMP/Control Measure maintenance shall be included in the cost of the BMP/Control Measure.

B. It is estimated that labor, blading, dozing, combination loader and/or backhoe may be required for miscellaneous erosion control work as directed by the Engineer. Work shall not be paid for separately but shall be included in the cost of BMP installation.

C. Establishment of seeded areas shall be paid for as: 212 Seeding (native). This shall include mowing, weed control, reseeding/mulch/tackifier.

Item List	Item Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
203-01622	Sweeping (With Pickup Broom)	Hour		64	32	96
208-00002	Erosion Log Type 1 (12 Inch)	LF	100	100		200
208-00020	Silt Fence	LF	200			200
208-00045	Concrete Washout Structure	Each		6		6
208-00053	Storm Drain Inlet Protection (Type 1)	Each	5	5		10
208-00070	Vehicle Tracking Pad	Each	2			2
208-00103	Removal and Disposal of Sediment (Labor)	Hour	100	100		200
208-00105	Removal and Disposal of Sediment (Equipment)	Hour	40	40		80
208-00106	Sweeping (Sediment Removal)	Hour		96	48	144
208-00107	Removal of Trash	HR	10	10		20
208-00207	Erosion Control Management	Day		75	75	150
607-11525	Fence (Plastic)	LF	200			200

*It is anticipated that adcitional BMPs/Control Measures and BMP/Control Measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life. **Quantities for all BMPs/Control Measures shown above are estimated, and do not include increased quantities to account for unforeseen project conditions.** Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.

13. BIOLOGIC IMPACTS

A. ENVIRONMENTAL IMPACTS:

1. Wetlanc Impacts: YES NO
2. Stream Impacts: YES NO
3. Threatened and Endangered Species: No species are anticipated to be impacted by the project.

14. NOTES

A. Sediment (mud and dirt), construction debris, and trash transported onto a public road, regardless of the size of the site, shall be cleaned immediately. Paved surfaces which are adjacent to the construction site must be swept as often as needed throughout the day to keep adjacent streets clean when sediment and other materials are tracked and discharged onto them. Either sweeping by hand or use of a street sweeper is acceptable. Spoils from guardrail work shall not be broadcast off the roadway surface, but shall be disposed of properly.

B. Soil erosion control measures for any disturbed land area shall be completed within twenty-one (21) calendar days after final earth disturbance has been completed. Disturbed areas and stockpiles which are not at final grade but will remain dormant for longer than thirty (30) days shall also be mulched within twenty-one (21) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded. All temporary soil erosion control measures and BMP's shall be maintained until permanent soil erosion control measures are implemented.

C. Material from pavement saw cutting operations shall be cleaned from the roadway surface during operations using a vacuum on a daily basis. A BMP such as a berm shall be placed to contain slurry from joint flushing operations until the residue can be removed from the soil surface. Concrete wash water shall not be discharged to or allowed to runoff to State Waters, including any storm drainage system or facilities. Concrete washout locations to be determined by contractor.

D. Location of stabilized staging areas and stockpile areas will be determined during construction and will be placed by the contractor with approval in the field by the inspector.

E. Storm Drain Inlet Protection shall also include bridge drains.

F. All wetlands shall be protected by placement of plastic fence.

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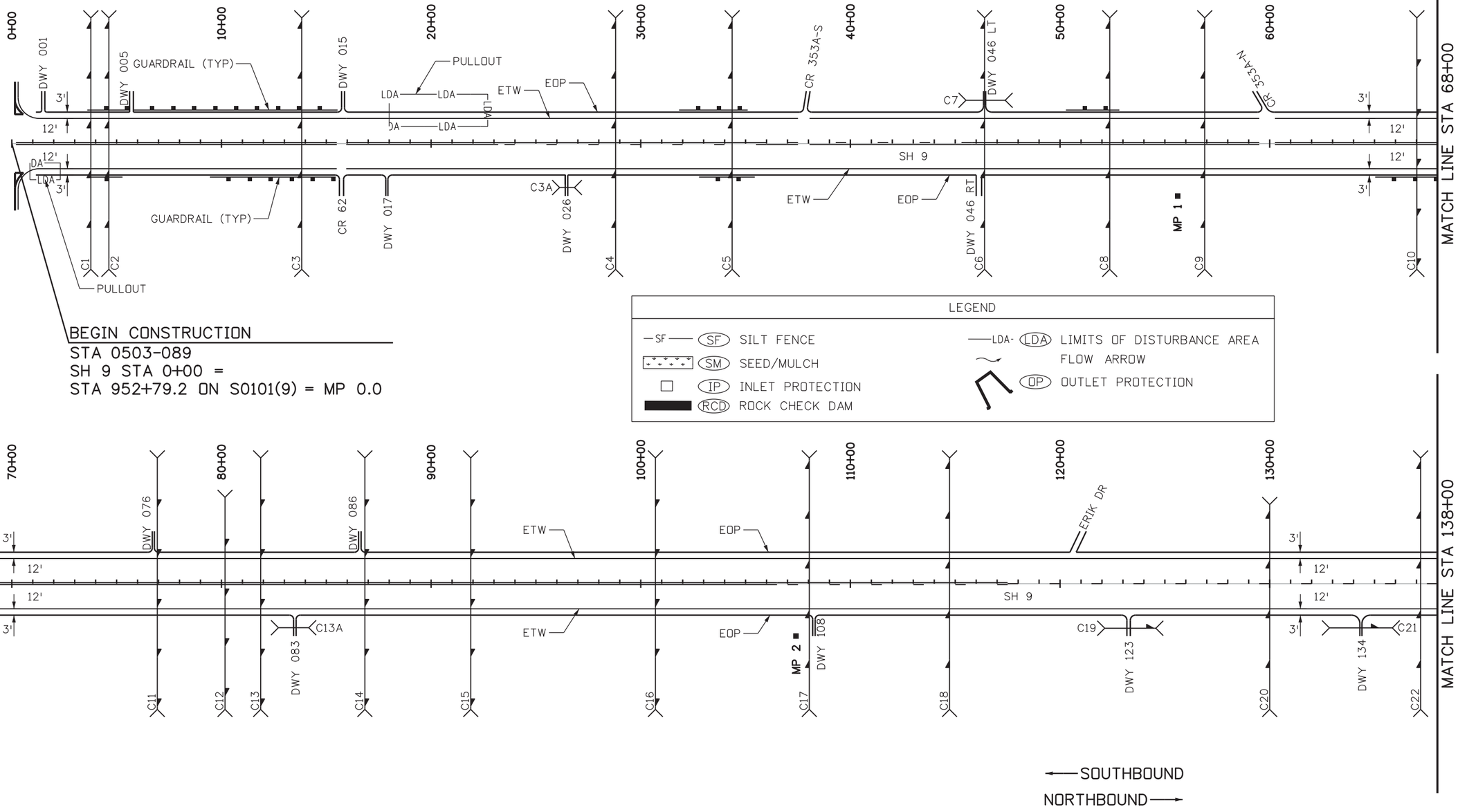

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LEGEND

SF — SF	SILT FENCE
SM	SEED/MULCH
IP	INLET PROTECTION
RCD	ROCK CHECK DAM
LDA - LDA	LIMITS OF DISTURBANCE AREA
	FLOW ARROW
OP	OUTLET PROTECTION

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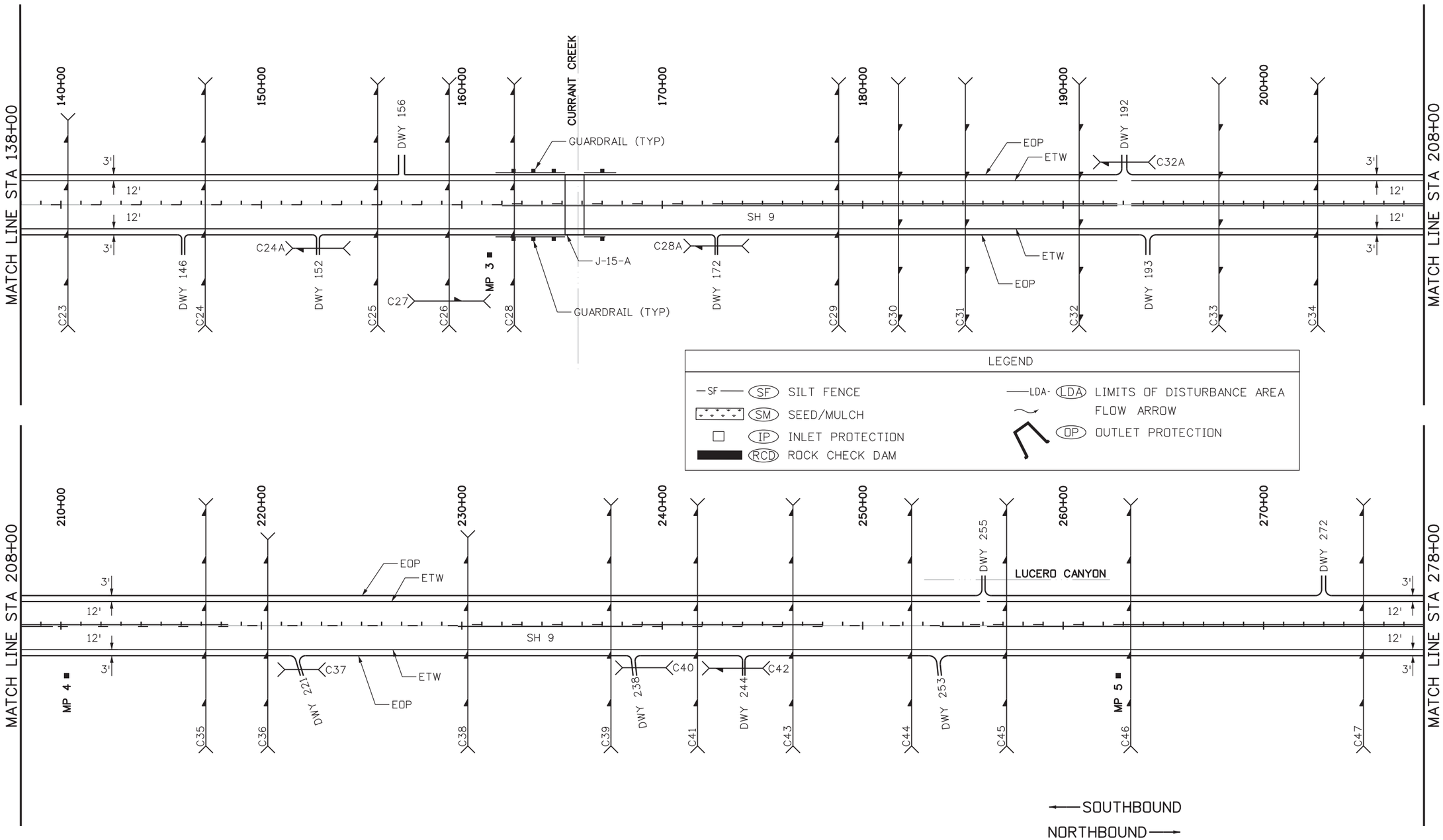

LEGEND

SF	SILT FENCE	LDA	LIMITS OF DISTURBANCE AREA
SM	SEED/MULCH		FLOW ARROW
IP	INLET PROTECTION	OP	OUTLET PROTECTION
RCD	ROCK CHECK DAM		

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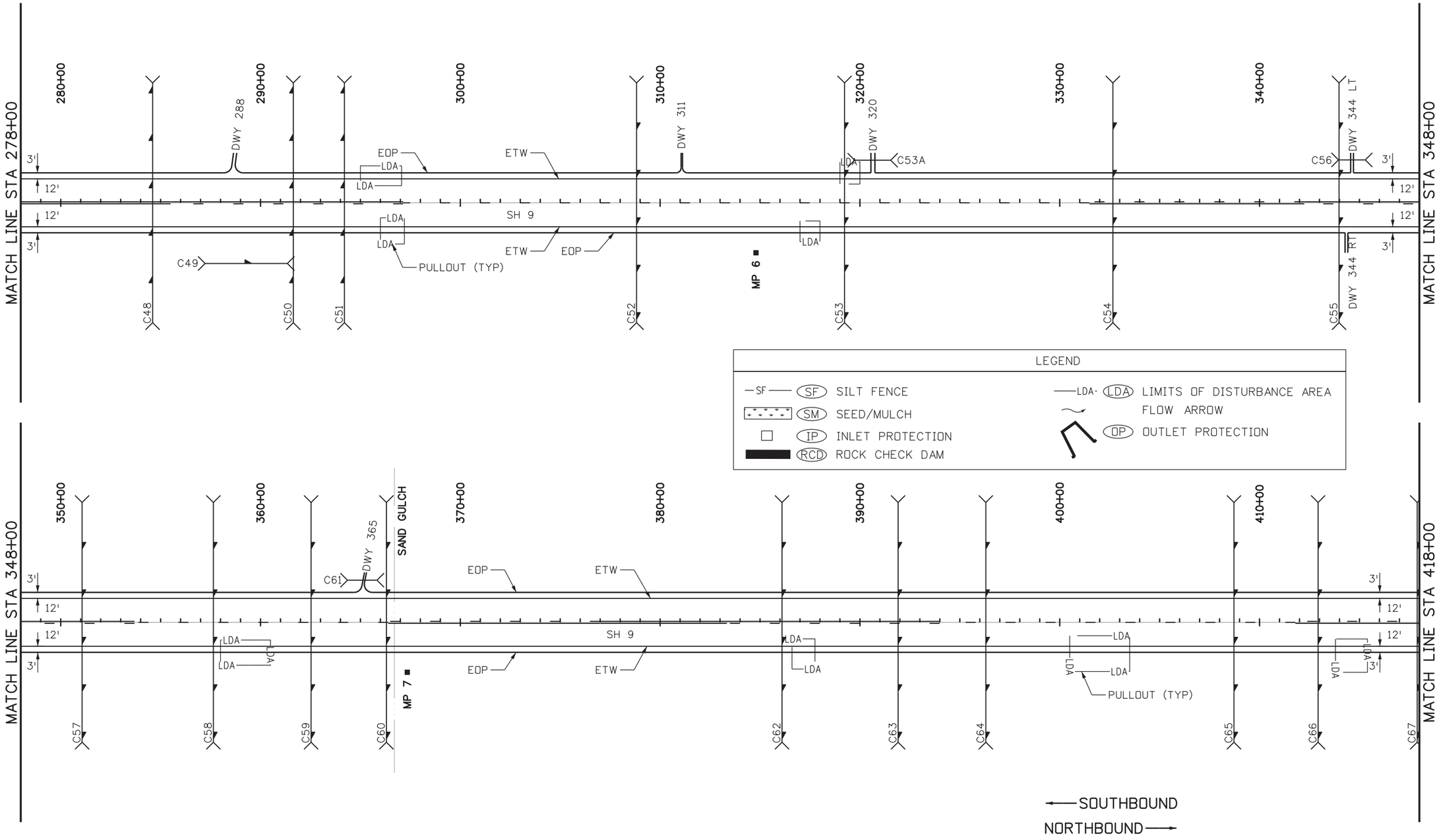

LEGEND

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SM	SEED/MULCH		FLOW ARROW
IP	INLET PROTECTION	OP	OUTLET PROTECTION
RCD	ROCK CHECK DAM		

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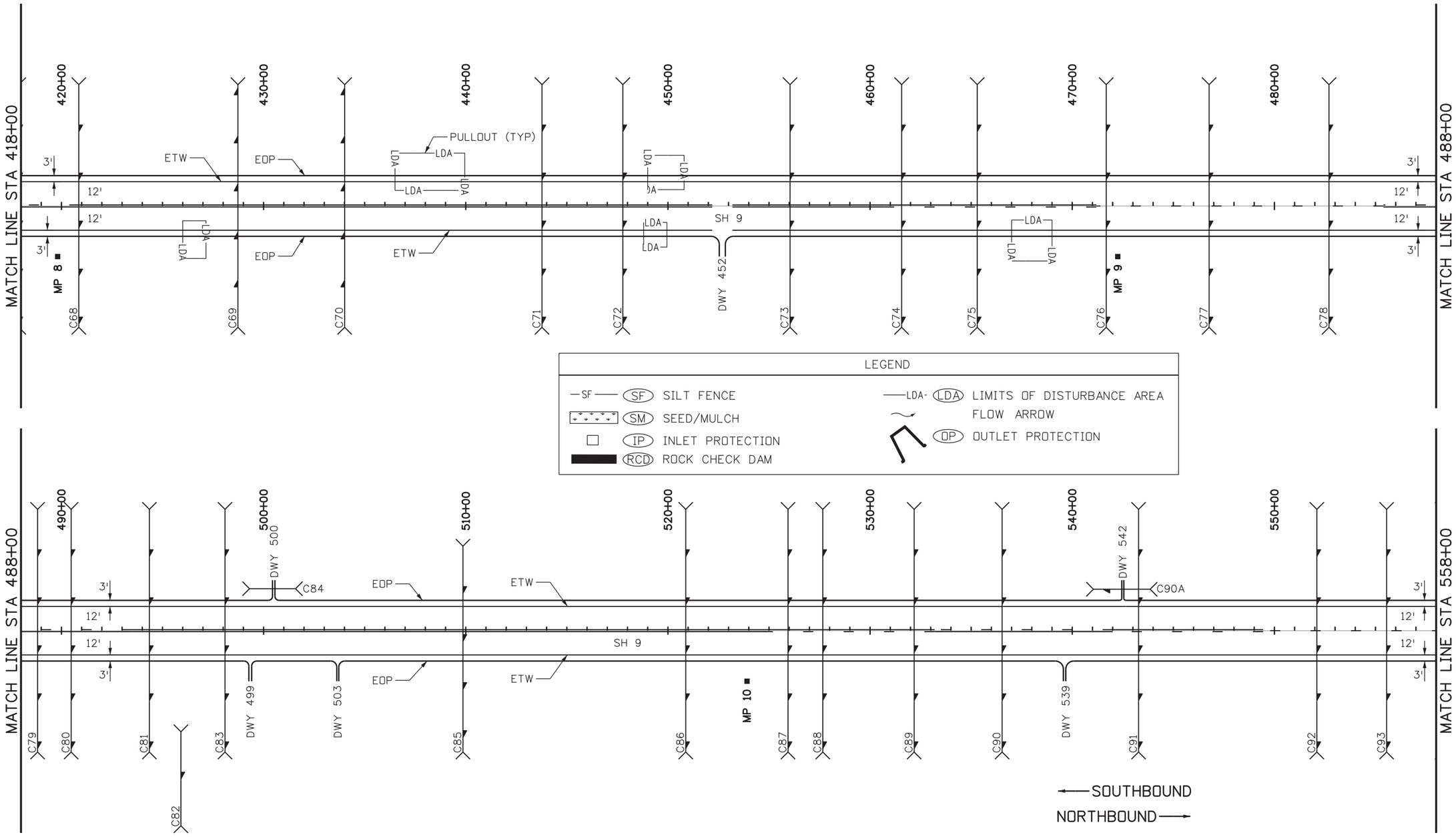

LEGEND

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SM	SEED/MULCH
IP	INLET PROTECTION
RCD	ROCK CHECK DAM
LDA - LDA	LIMITS OF DISTURBANCE AREA
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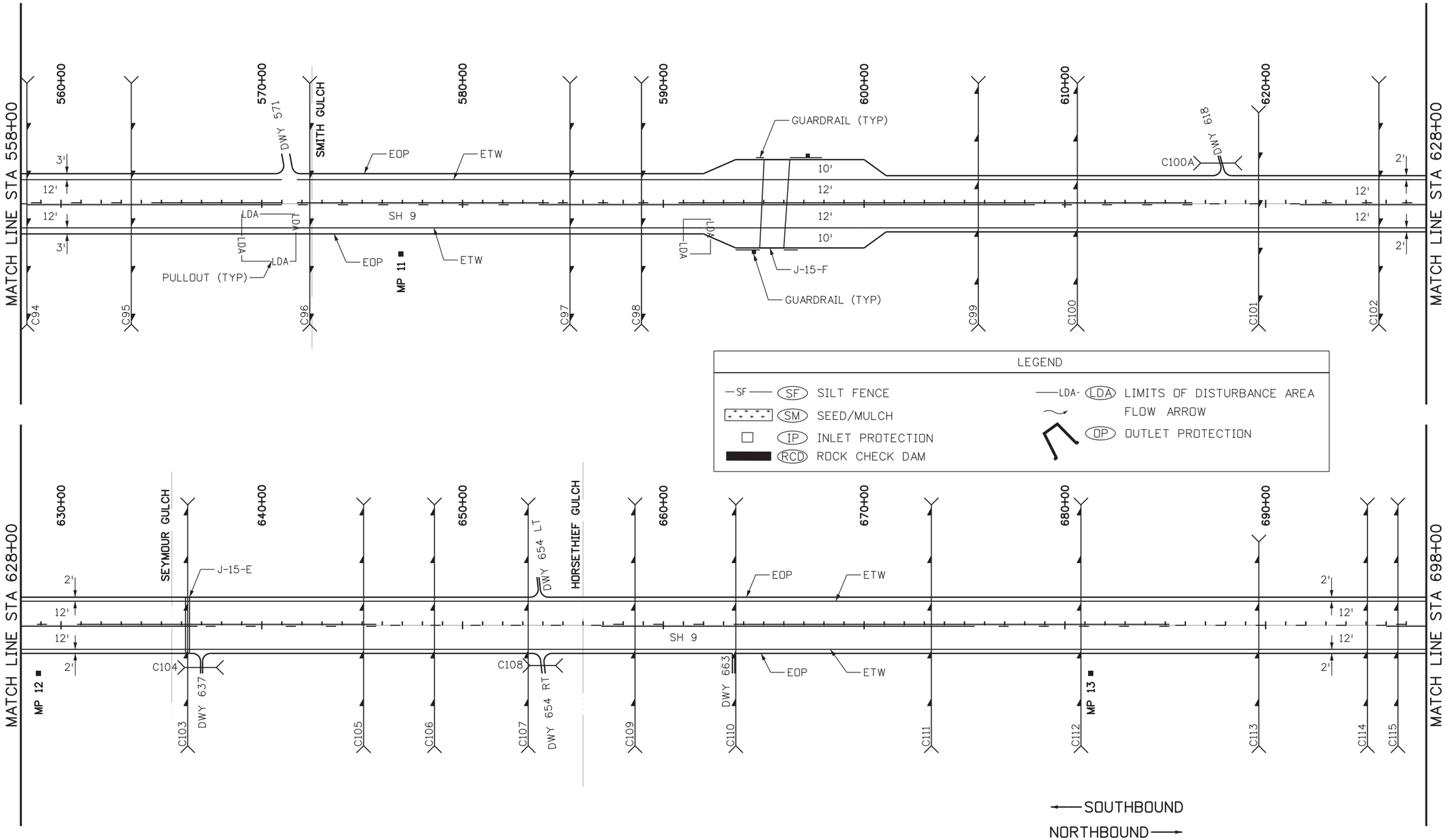

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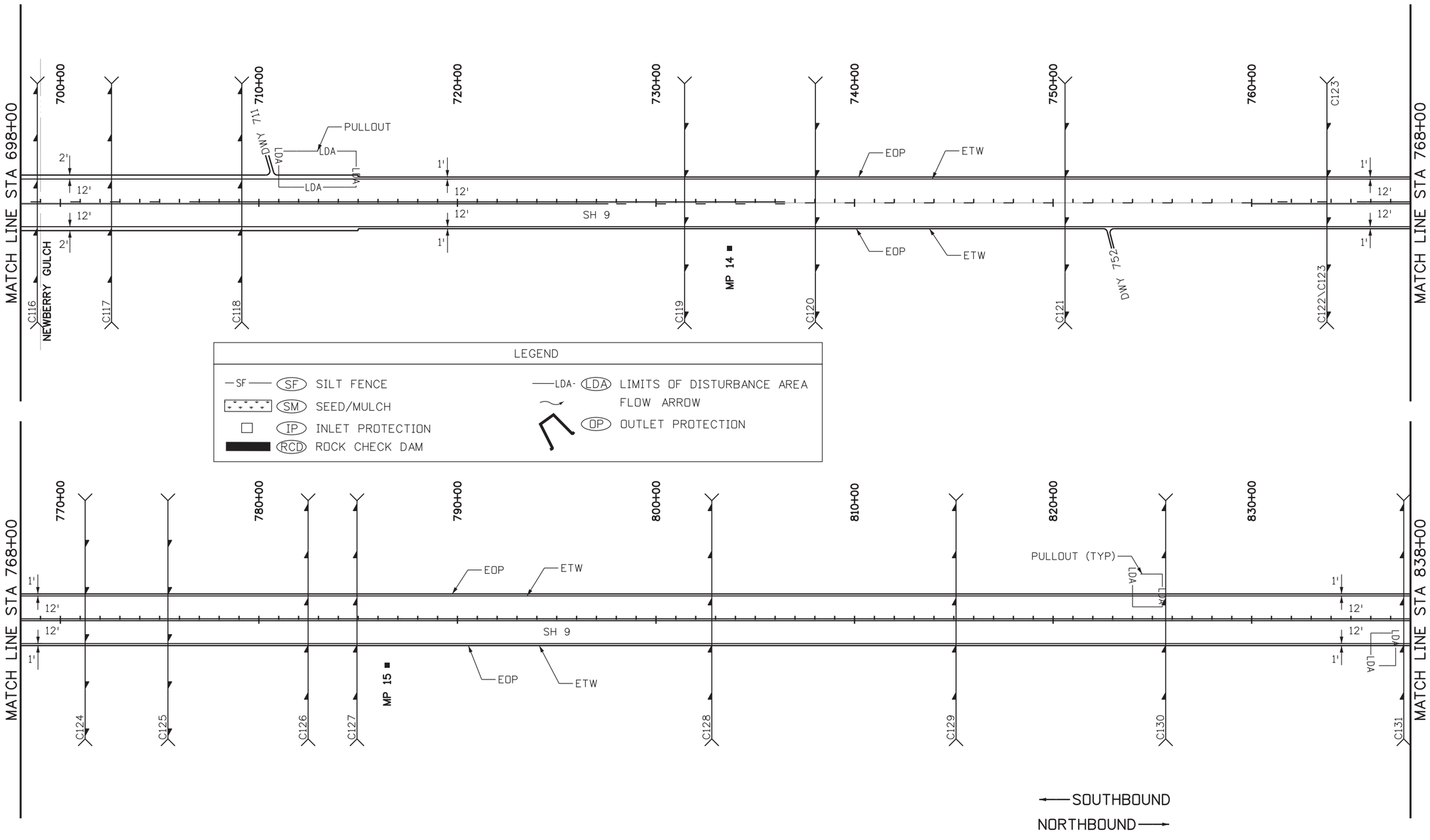

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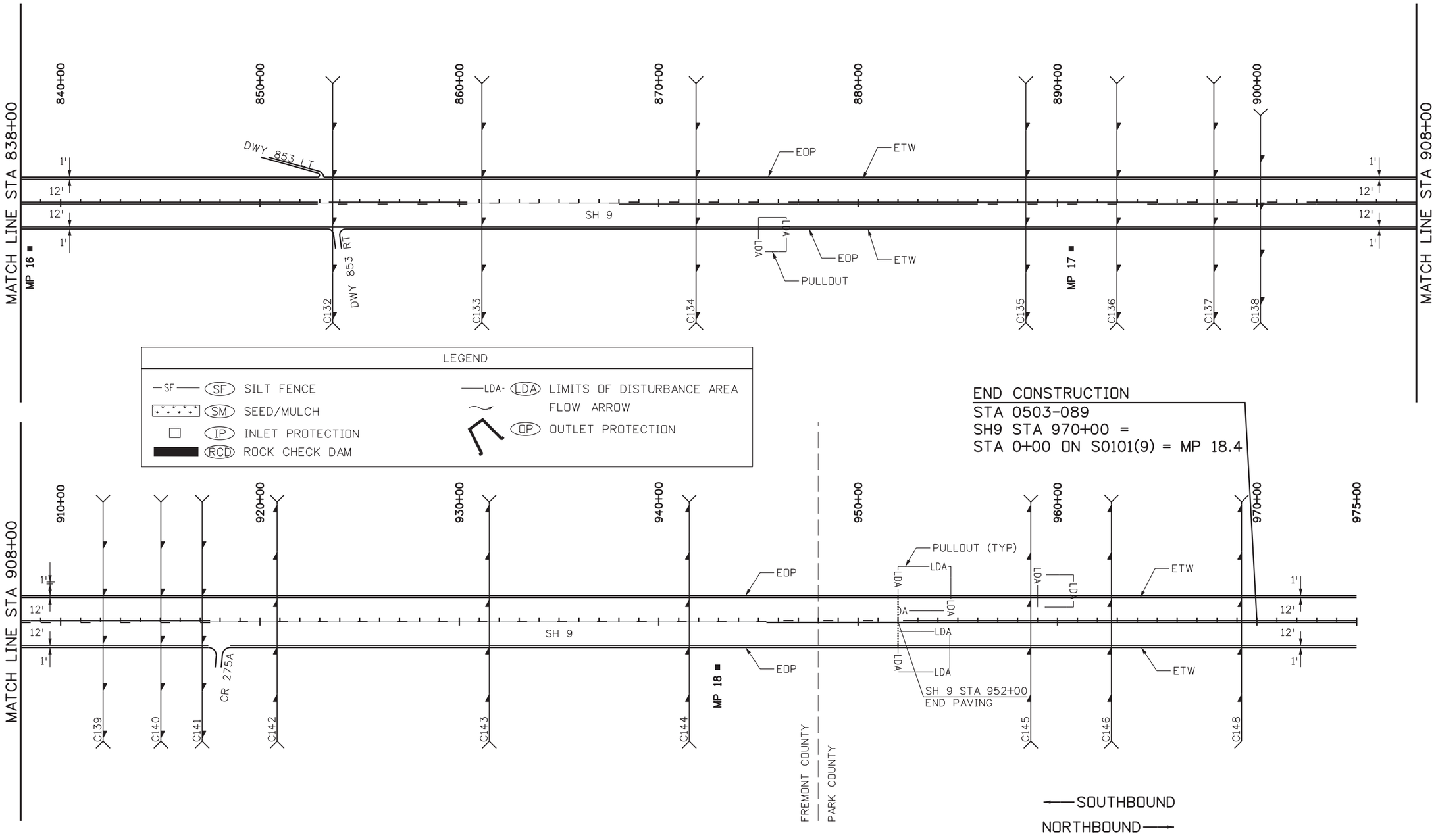

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Print Date: 12/19/2016
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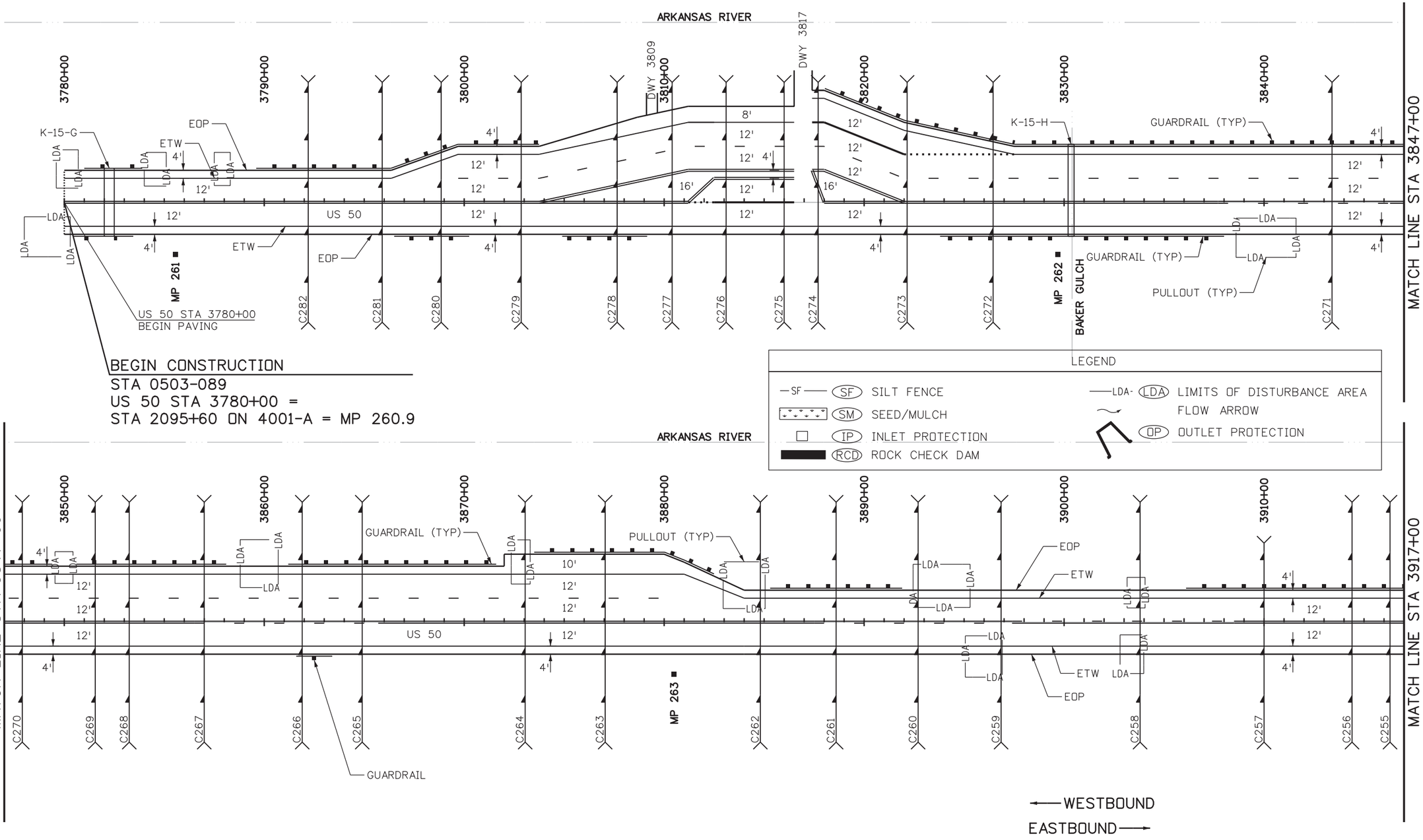
SH 9
STORMWATER SITE MAP
STA 838+00 TO STA 970+00

Designer:	JSR	Structure Numbers	
Detailer:	LMB		
Subset:	SWMP	Subset Sheets: 7 of 15	

Project No./Code
STA 0503-089
21255
Sheet Number 95



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Print Date: 12/19/2016
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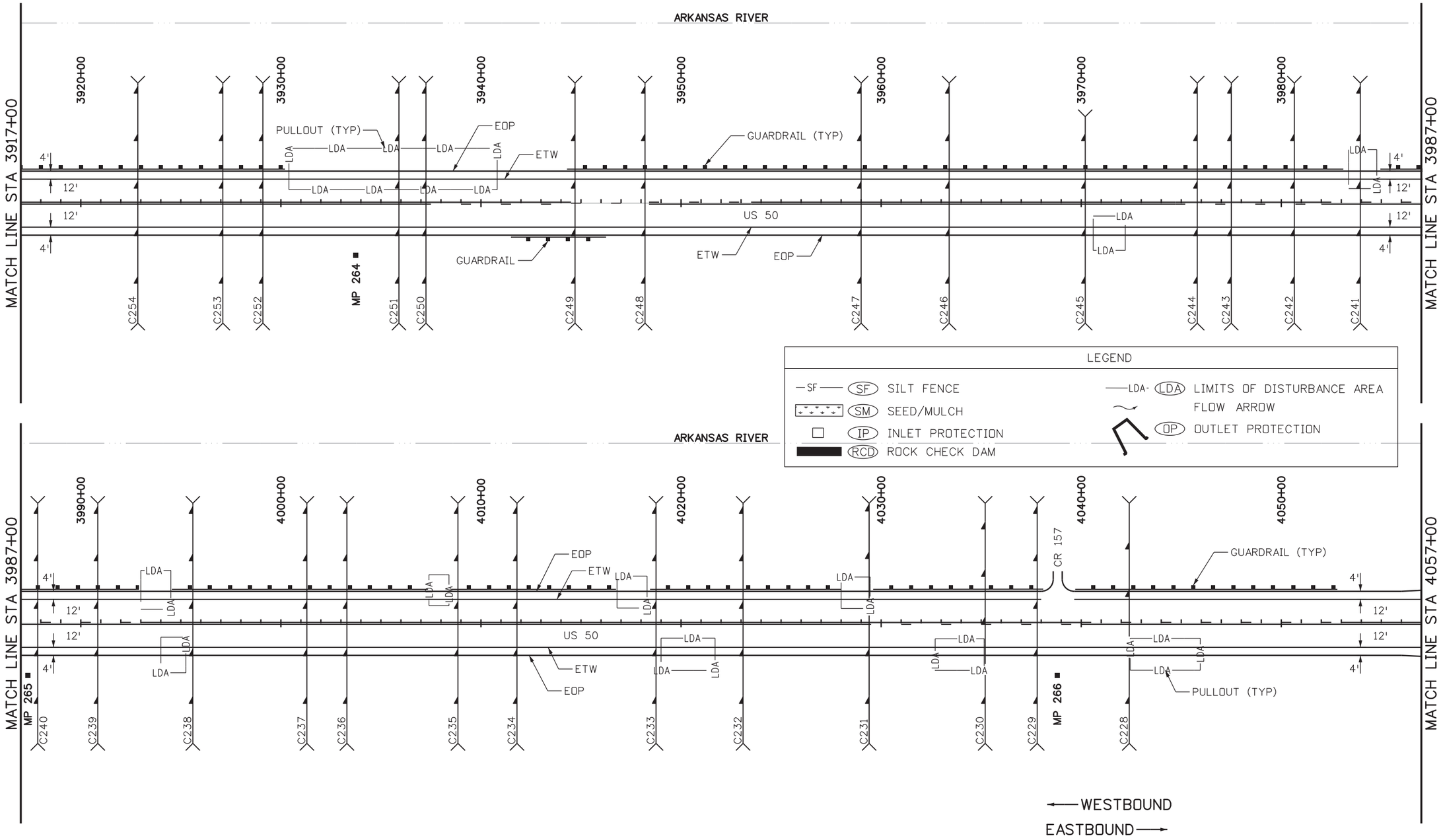
US 50
STORMWATER SITE MAP
STA 3780+00 TO STA 3917+00

Designer:	JSR	Structure Numbers	
Detailer:	LMB		
Subset:	SWMP	Subset Sheets:	8 of 15

Project No./Code	STA 0503-089
	21255
Sheet Number	96



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Print Date: 12/19/2016
File Name: 21255SWMP_Plan9.dgn
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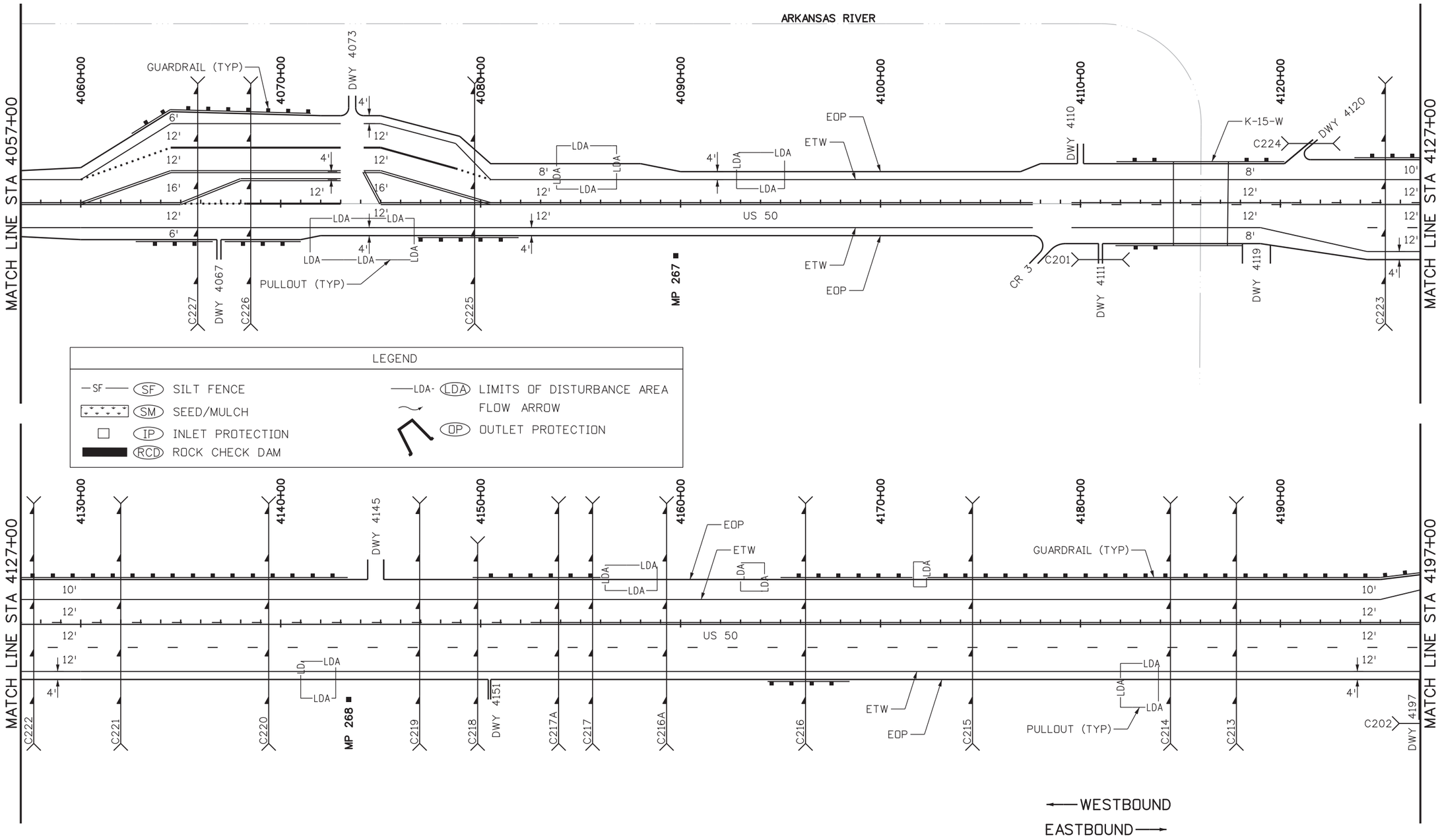
US 50
STORMWATER SITE MAP
STA 3917+00 TO STA 4057+00

Designer: JSR
Detailer: LMB
Subset: SWMP
Structure Numbers:
Subset Sheets: 9 of 15

Project No./Code
STA 0503-089
21255
Sheet Number 97



LEGEND

—SF— (SF)	SILT FENCE	—LDA- (LDA)	LIMITS OF DISTURBANCE AREA
(SM)	SEED/MULCH		FLOW ARROW
(IP)	INLET PROTECTION	(OP)	OUTLET PROTECTION
(RCD)	ROCK CHECK DAM		

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Print Date: 12/19/2016
File Name: 21255SWMP_Plan10.dgn
Horiz. Scale: 1:500 Vert. Scale: 1:50

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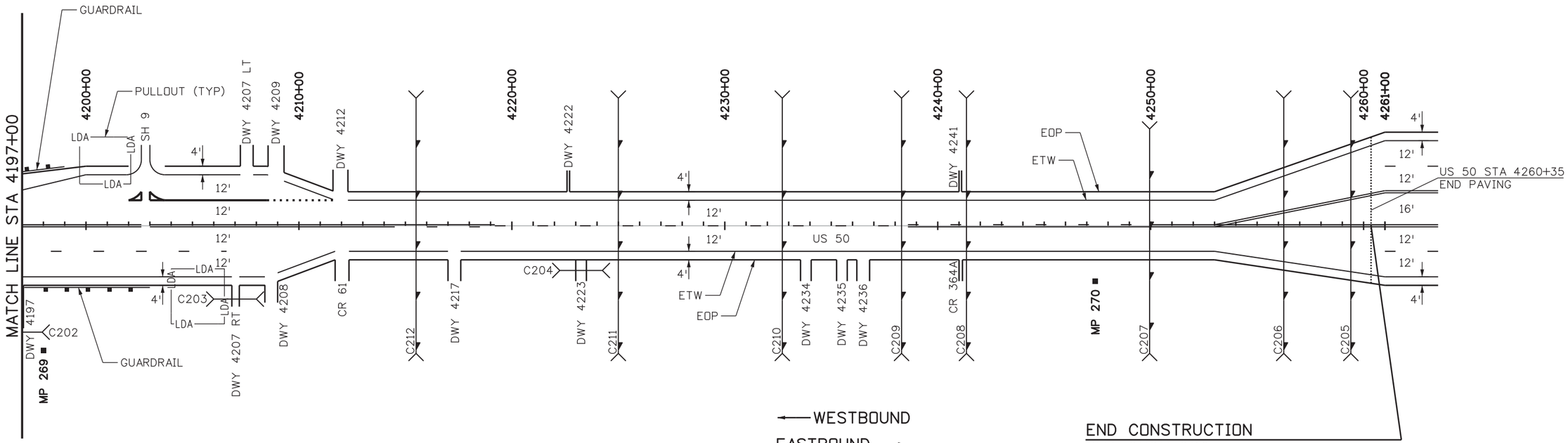
US 50
STORMWATER SITE MAP
STA 4057+00 TO STA 4197+00

Designer: JSR
Detailer: LMB
Subset: SWMP
Structure Numbers:
Subset Sheets: 10 of 15

Project No./Code
STA 0503-089
21255
Sheet Number 98



LEGEND

SF	SILT FENCE	LDA	LIMITS OF DISTURBANCE AREA
SM	SEED/MULCH		FLOW ARROW
IP	INLET PROTECTION	OP	OUTLET PROTECTION
RCD	ROCK CHECK DAM		

Print Date: 12/19/2016
File Name: 21255SWMP_Plan11.dgn
Horiz. Scale: 1:500 Vert. Scale: 1:50

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US 50
STORMWATER SITE MAP
STA 4197+00 TO STA 4260+35

Designer: JSR
Detailer: LMB
Subset: SWMP
Structure Numbers:
Subset Sheets: 11 of 15

Project No./Code
STA 0503-089
21255
Sheet Number 99

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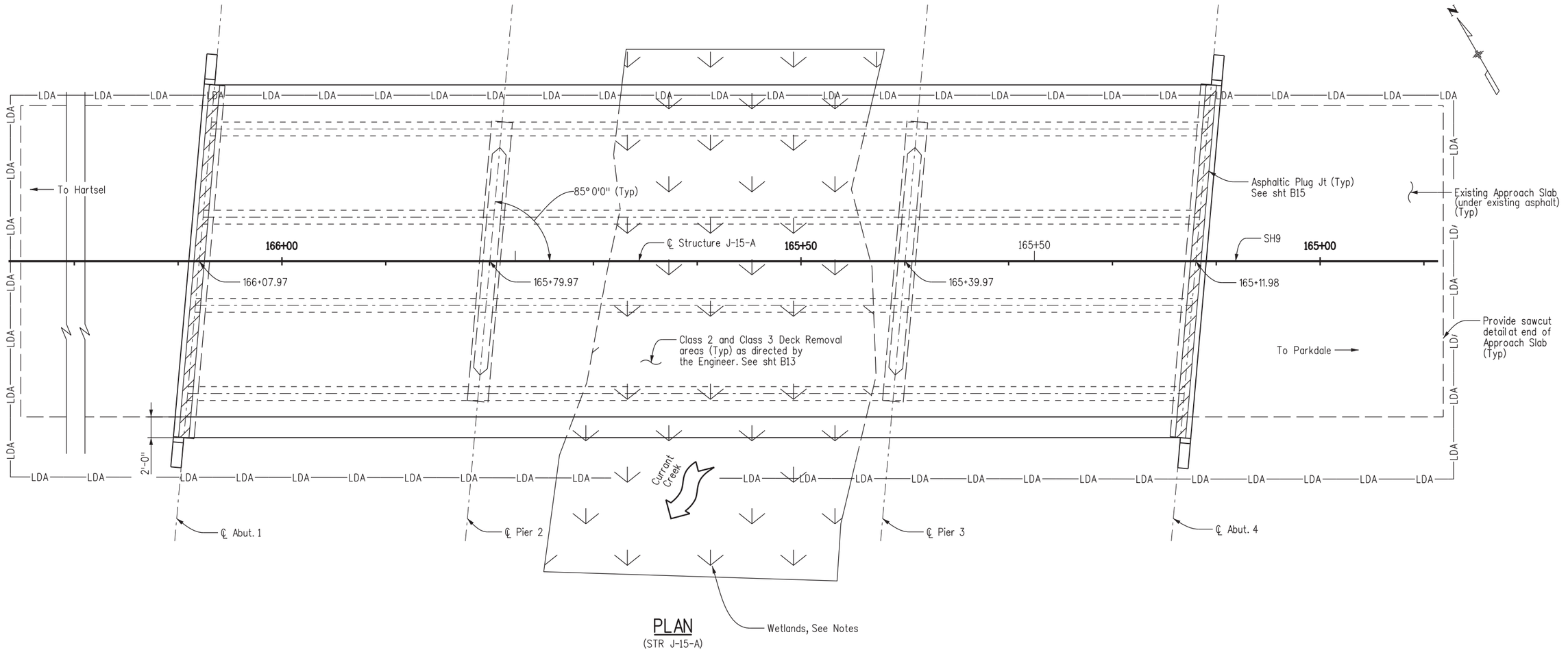

PLAN
(STR J-15-A)

NOTES:

1. No parking, no staging, no work, no access. Prior to work the contractor will install and maintain plastic fencing along the perimeter of each feature at each bridge to prevent impacts.
2. Substructure work should be scheduled during low or no flow periods to reduce effects of work on water quality.
3. Blow-through debris from Class 3 repairs shall be collected from dry swales at the end of each day. Blow-through from Class 3 repairs will be captured before entering flowing Waters of the State or wetlands.
4. Inlet protection shall be added to all bridge drains during maintenance activities.
5. All wetlands impacted as part of bridge maintenance shall be protected by placement of plastic fence.

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File Name: 21255SWMP_Plan12.dgn
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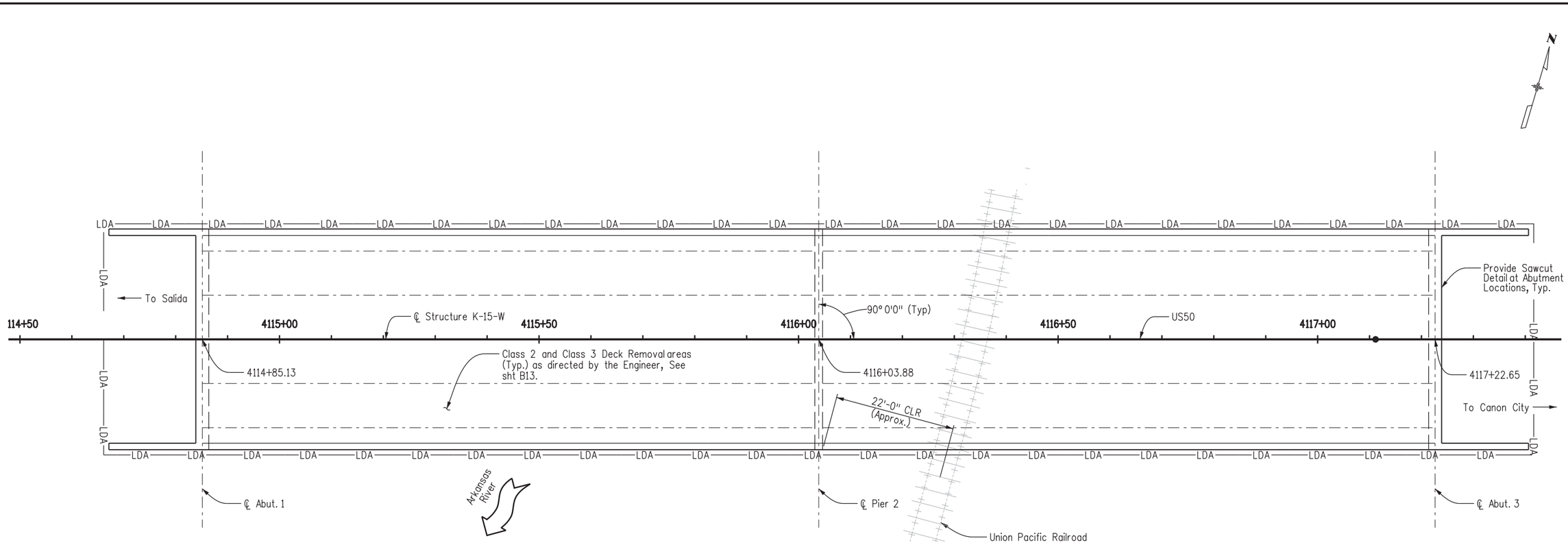
SH 9
STORMWATER SITE MAP
STR J-15-A

Designer:	JSR	Structure Numbers	J-15-A
Detailer:	LMB		
Subset:	SWMP	Subset Sheets: 12 of 15	

Project No./Code
STA 0503-089
21255
Sheet Number 100



PLAN
(STR K-15-W)

NOTES:

1. No parking, no staging, no work, no access. Prior to work the contractor will install and maintain plastic fencing along the perimeter of each feature at each bridge to prevent impacts.
2. Blow-through debris from Class 3 repairs shall be collected from dry swales at the end of each day. Blow-through from Class 3 repairs will be caprtured before entering flowing Waters of the State or wetlands.
3. Inlet protection shall be added to all bridge drains during maintenance activities.
4. All wetlands impacted as part of bridge maintenance shall be protected by placement of plastic fence.

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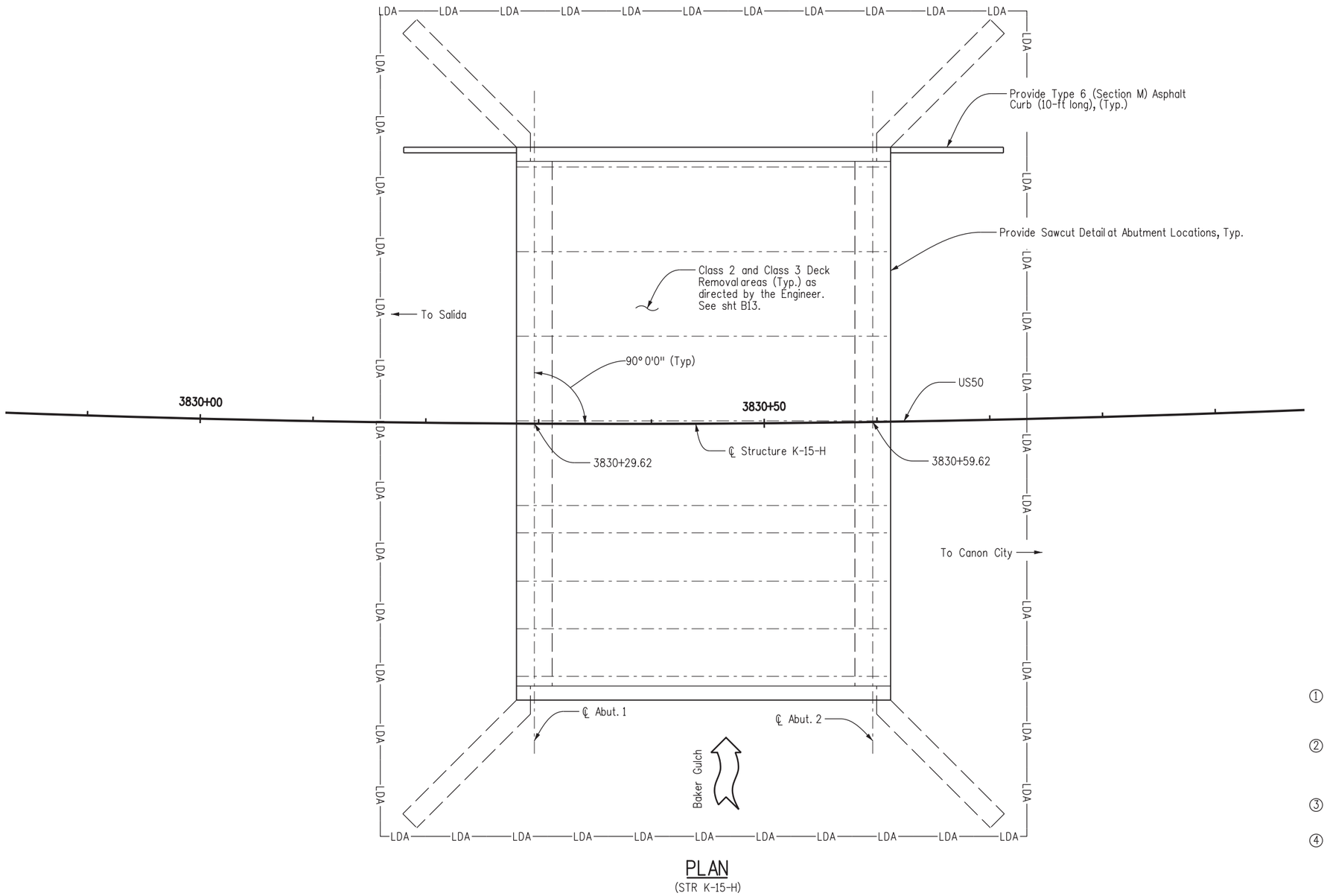
US 50
STORMWATER SITE MAP
STR K-15-W

Designer:	JSR	Structure Numbers	K-15-W
Detailer:	LMB		
Subset:	SWMP	Subset Sheets: 13 of 15	

Project No./Code
STA 0503-089
21255
Sheet Number 101



PLAN
(STR K-15-H)

NOTES:

1. No parking, no staging, no work, no access. Prior to work the contractor will install and maintain plastic fencing along the perimeter of each feature at each bridge to prevent impacts.
2. Blow-through debris from Class 3 repairs shall be collected from dry swales at the end of each day. Blow-through from Class 3 repairs will be captured before entering flowing Waters of the State or wetlands.
3. Inlet protection shall be added to all bridge drains during maintenance activities.
4. All wetlands impacted as part of bridge maintenance shall be protected by placement of plastic fence.

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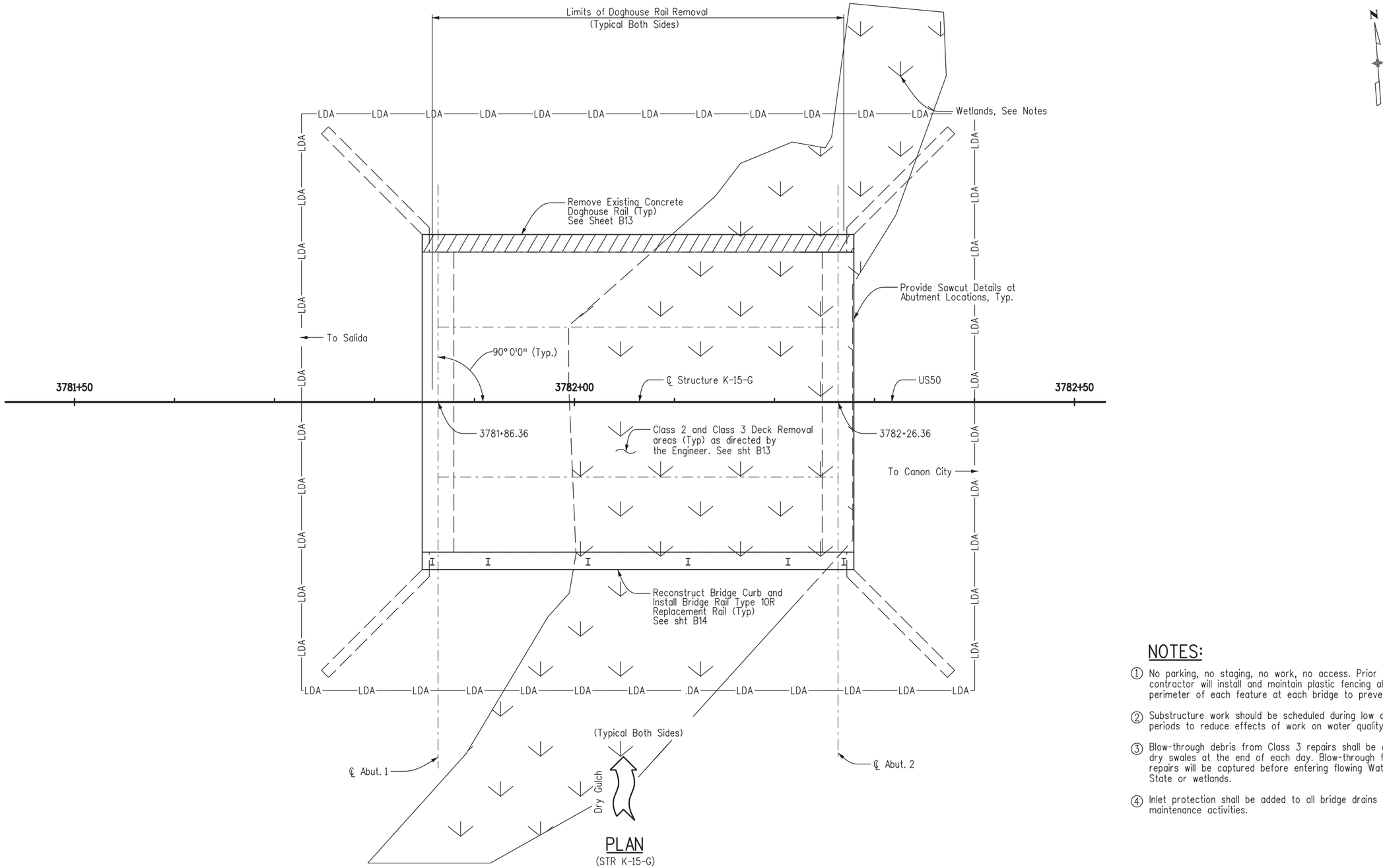
US 50
STORMWATER SITE MAP
STR K-15-H

Designer:	JSR	Structure Numbers	K-15-H
Detailer:	LMB		
Subset:	SWMP	Subset Sheets: 14 of 15	

Project No./Code
STA 0503-089
21255
Sheet Number 102



PLAN
(STR K-15-G)

NOTES:

1. No parking, no staging, no work, no access. Prior to work the contractor will install and maintain plastic fencing along the perimeter of each feature at each bridge to prevent impacts.
2. Substructure work should be scheduled during low or no flow periods to reduce effects of work on water quality.
3. Blow-through debris from Class 3 repairs shall be collected from dry swales at the end of each day. Blow-through from Class 3 repairs will be captured before entering flowing Waters of the State or wetlands.
4. Inlet protection shall be added to all bridge drains during maintenance activities.

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US 50
STORMWATER SITE MAP
STR K-15-G

Designer:	JSR	Structure Numbers	K-15-G
Detailer:	LMB		
Subset:	SWMP	Subset Sheets: 15 of 15	

Project No./Code
STA 0503-089
21255
Sheet Number 103

GENERAL NOTES

Expansion joint material shall meet AASHTO Specification M213.

Grade 60 reinforcing steel is required.

All reinforcing steel shall be epoxy coated unless otherwise noted.

The following table gives the minimum lap splice length for epoxy coated reinforcing bars placed in accordance with subsection 602.06. These splice lengths shall be increased by 25% for bars spaced at less than 6" on center.

Bar size	#5	#6	#7	#8	#9	#10	#11
Splice length for Class D concrete	1'-7"	2'-5"	2'-10"	3'-8"	4'-8"	5'-11"	7'-3"

The contractor shall be responsible for the stability of the structure during construction.

Dimensions contained in these plans are calculated from "as constructed plans". These dimensions may be adjusted to meet the existing structure. The contractor shall verify all dependant dimensions in the field before ordering or fabricating any material.

All falsework shall conform to the requirements of Subsection 601.11 of the 2011 CDOT Standard Specifications for Road and Bridge Construction.

The information shown on these plans concerning the type and location of underground utilities is not guaranteed to be accurate or all inclusive. The contractor is responsible for making his own determination as to type and location of underground utilities as may be necessary to avoid damage thereto. The contractor shall contact the utility notification center of Colorado at 811 (1-800-922-1987) at least 2 days (not including the day of notification) prior to any excavation or other earthwork.

Deck rehabilitation locations and quantities shown are approximate. Final locaitons shall be determined by the Engineer. Payment will be for the actual area repaired and material used as approved by the Engineer.

The bituminous pavement shall be removed from the existing structure as indicated on the plans and replaced to the grade and cross slope of the existing concrete deck.

Roadway alignment stationing shown on the General Layout sheets are shown for information only.

DECK REPAIR NOTES

The Contractor shall identify, in the presence of the Engineer, remove and dispose of all existing unsound concrete, unsound patches and all asphalt concrete patches on the bridge deck. The Engineer shall approve all removal locations and limits.

Unsound concrete is generally concrete that emits a relatively dead or hollow sound when a chain is dragged over its surface in accordance with ASTM D4580-86. Concrete encased corroded reinforcing steel beyond the limits identified by the sound may be considered as unsound concrete. The Engineer shall determine the soundness of all concrete.

Equipment and tools shall not be used to remove unsound concrete, which, in the opinion of the Engineer, cause removal of excess quantities of sound concrete along with the unsound concrete.

Equipment used shall be fitted with suitable traps, filters, drip pans, or other devices to prevent oil or other deleterious matter from being deposited on the deck.

Exposed reinforcing steel shall be cleaned of deleterious materials, such as, rust and corrosive products including oil, dirt, concrete fragments, loose scale and other coating, of any character, which would destroy or reduce the bond with the patch material.

Deck drains shall be protected during any removal operations.

DESIGN DATA

AASHTO, Sixth Edition LRFD with current interims

Design Method:	Load and Resistance Factor Design.
Live Load:	HL-93 (design truck or tandem, and design lane load)
Dead Load:	Assumes 36 lbs. per sq. ft. for bridge deck overlay.
Reinforced Concrete:	
Class D Concrete:	f'c = 4,500 psi
Reinforcing Steel:	fy = 60,000 psi

BRIDGE WORK DESCRIPTION

J-15-E
Remove 1.5-inches of the asphalt and replace with 1.5-inches of Hot Mix Asphalt, HMA.

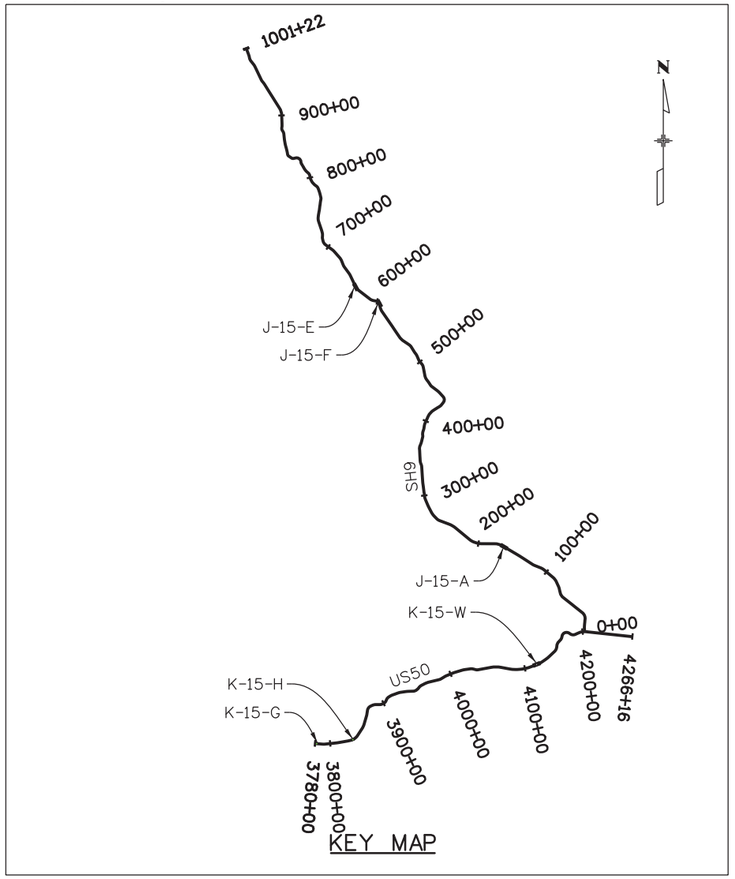
J-15-F
No work planned at Str. No. J-15-F.

J-15-A
Remove the existing asphalt mat to bare deck. Perform deck evaluation and Class 2 and Class 3 deck repairs. Replace joints. Place waterproofing (membrane) and asphalt. Flow-fill along bottom of abutment cap.

K-15-W
Remove the existing asphalt mat to bare deck. Perform deck evaluation and Class 2 and Class 3 deck repairs. Place waterproofing (membrane) and asphalt. Repair the chain link fence. Replace the impacted bridge rail, reset one rail post and perform concrete repair to the spalled curb. Replace bolts on the two adjacent rail posts.

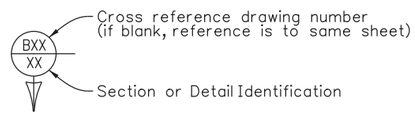
K-15-H
Remove the existing asphalt mat to bare deck. Perform deck evaluation and Class 2 and Class 3 deck repairs. Place waterproofing (membrane) and asphalt. Extend curbs at the NE and NW corners of the bridge to direct drainage away from the bridge.

K-15-G
Remove the existing asphalt mat to bare deck. Perform deck evaluation and Class 2 and Class 3 deck repairs. Place water proofing (membrane) and asphalt. Remove the concrete doghouse rail, attached w-beam, and concrete curb and construct new curb and Type 10R bridge rail.



KEY MAP

INDEX OF DRAWINGS



▼ Includes:
J-15-E
J-15-F
J-15-A
K-15-W
K-15-H
K-15-G

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MS	11/16	Detailed By	RW	11/16	Quantities By	MS	11/16
Checked By	GM	11/16	Checked By	GMM	11/16	Checked By	GMM	11/16

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GENERAL INFORMATION

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset:
Structure Numbers: ▼
Subset Sheets: B1 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 104

SUMMARY OF QUANTITIES

	Item No.	Description	Units	J-15-E		J-15-A		K-15-W		K-15-H		K-15-G		Total	
				Plan	As Constr	Plan	As Constr	Plan	As Constr	Plan	As Constr	Plan	As Constr	Plan	As Constr
	202	Removal of Asphalt Mat (Special)	SY			469		1067		172		144		1852	
	202	Removal of Asphalt Mat (Planing)	SY	75										*	
	202	Removal of Bridge Railing	LF									87		87	
①②	202	Removal of Portions of Present Structure (Class 2)	SY			47		54		18		29		148	
①②	202	Removal of Portions of Present Structure (Class 3)	SY			10		22		4		22		58	
	202	Removal of Expansion Joint Material	LF			60								60	
	206	Structure Backfill (Flow-Fill)	CY			6								6	
	210	Reset Chainlink Fence	LF					13						13	
	210	Reset Bridge Railing	LF					20						20	
	403	Hot Mix Asphalt (Grading ST) (75) (PG 58-28)	TON	6		77								*	
	403	Hot Mix Asphalt (Grading SX) (100) (PG 58-28)	TON					174		28		23		*	
	515	Waterproofing (Membrane)	SY			469		1067		172		146		1854	
	518	Bridge Expansion Joint (Asphaltic Plug)	LF			60								60	
	518	Sawing and Sealing Bridge Joint	LF			60		80		93		67		300	
⑤	601	Concrete Class D (Bridge)	CY									4		4	
③④	601	Concrete Class D (Bridge)(Special)	CY			8		11		3		8		30	
	601	Galvanic Anodes	EA			285		380		110		255		1030	
⑥	602	Reinforcing Steel	LB			200		275		75		325		875	
⑦	602	Reinforcing Steel (Epoxy Coated)	LB									361		361	
	606	Bridge Rail Type 10R	LF									87		87	

* Carried to Tabulation of Surfacing Materials

① All quantities are approximate and shall be adjusted according to the conditions encountered in the field. Payment shall be for the actual area repaired and materials used as directed by the engineer.

② Nominal quantities have been estimated at the following: J-15-A and K-15-H - 10% of the deck area for removal of existing structures (Class 2) and 2% of the deck area for removal of existing structure (Class 3). K-15-G - 20% of the deck area for removal of existing structures (Class 2) and 15% of the deck area for removal of existing structure (Class 3). K-15-W - 5% of the deck area for removal of existing structures (Class 2) and 2% of the deck are for removal of existing structures (Class 3).

③ Quantities for removals are based on the removal details shown.

④ Quantity based on 4 inches removal thickness for Class 2 removal.

⑤ Quantity includes bridge deck only. Rail curb concrete totals 6 cyds and is included in the cost of Bridge Rail Type 10R.

⑥ Quantity includes reinforcement for Class 2 and 3 repairs.

⑦ Epoxy reinforcement total of 612 lbs assumed for Str K-15-G is included in the cost of Bridge Rail Type 10R.

▼ Includes:
J-15-E
J-15-A
K-15-W
K-15-H
K-15-G

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Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MS	11/16	Detailed By	RW	11/16	Quantities By	MS	11/16
Checked By	GM	11/16	Checked By	GMM	11/16	Checked By	GMM	11/16

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Phone: 719-634-2323 FAX: 719-227-3298
Region 2 DW

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No Revisions:
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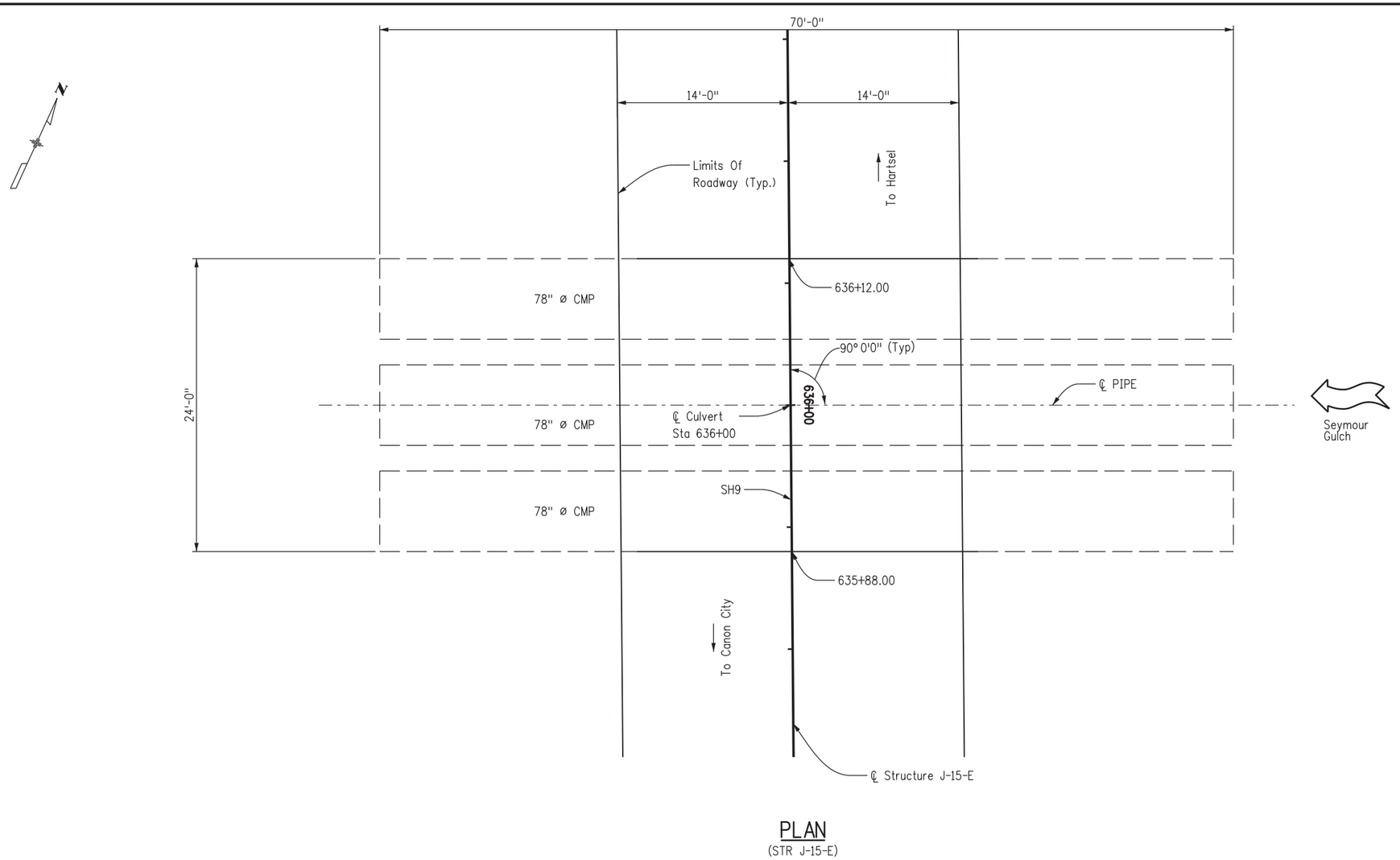
SUMMARY OF QUANTITIES

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset:
Structure Numbers: ▼
Subset Sheets: B2 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 105



PLAN
(STR J-15-E)

NOTES:

1. The contractor shall provide a minimum 14'-0" traffic opening on the bridge, measured from face of curb to face of curb, at all times.

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MS	11/16	Detailed By	RW	11/16	Quantities By	MS	11/16
Checked By	GM	11/16	Checked By	GMM	11/16	Checked By	GMM	11/16

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Region 2 DW

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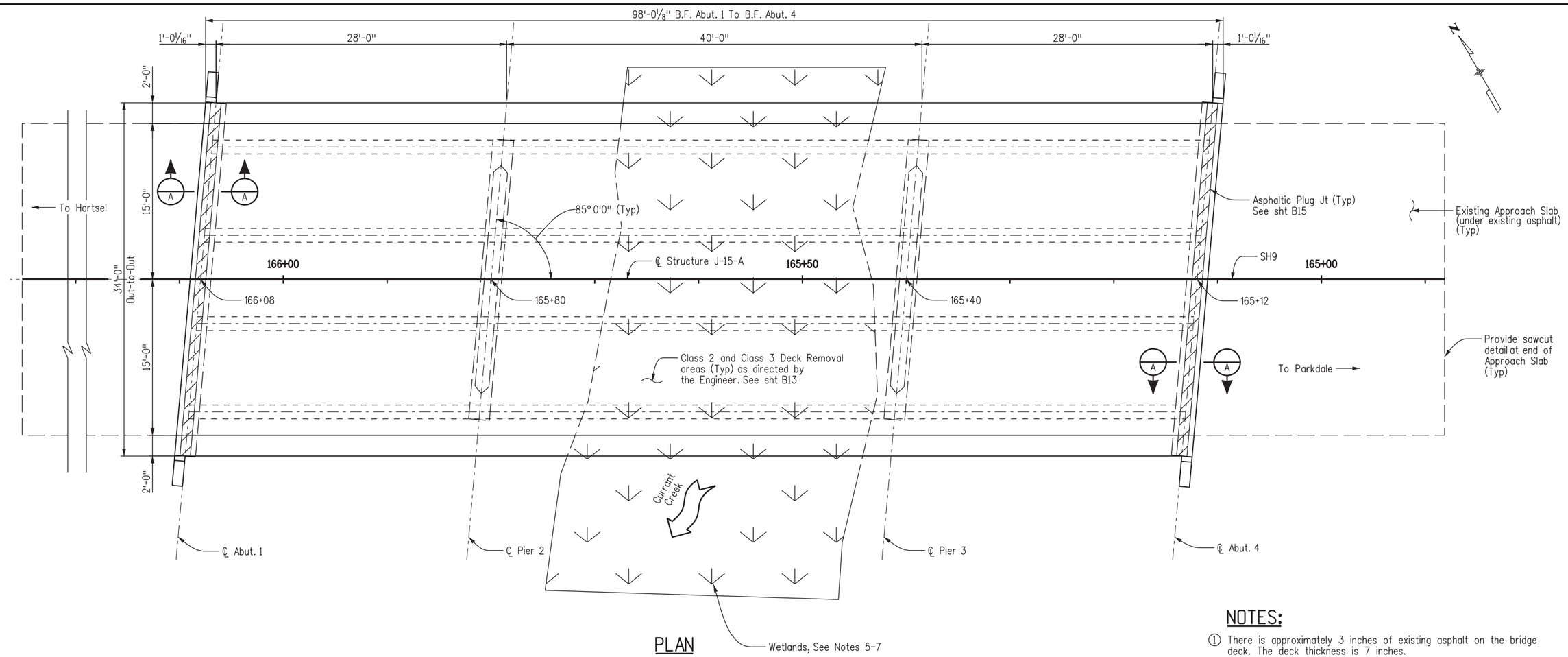
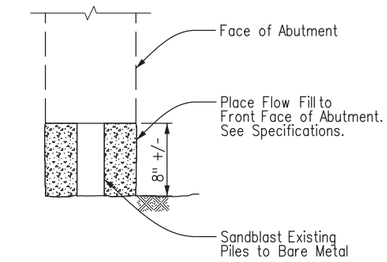
GENERAL LAYOUT
STR NO. J-15-E

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset:
Structure Numbers: J-15-E
Subset Sheets: B3 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 106



PLAN
(STR J-15-A)



SECTION: A

NOTES:

1. There is approximately 3 inches of existing asphalt on the bridge deck. The deck thickness is 7 inches.
2. Deck removal shall be in accordance with specifications. Removed areas of deck shall be replaced with Concrete Class D (Bridge) (Special).
3. Taper HMA to drain at all existing deck drain locations, as directed by the engineer.
4. The contractor shall provide a minimum 14'-0" traffic opening on the bridge, measured from face of curb to face of curb, at all times.
5. No parking, no staging, no work, no access. Prior to work the contractor will install and maintain plastic fencing along the perimeter of each feature at each bridge to prevent impacts.
6. Substructure work should be scheduled during low or no flow periods to reduce effects of work on water quality.
7. Blow-through debris from Class 3 repairs shall be collected from dry swales at the end of each day. Blow-through from Class 3 repairs will be captured before entering flowing Waters of the State or wetlands.

Design	INITIAL	DATE
Designed By	MS	11/16
Checked By	GM	11/16

Detail	INITIAL	DATE
Detailed By	RW	11/16
Checked By	GMM	11/16

Quantities	INITIAL	DATE
Quantities By	MS	11/16
Checked By	GMM	11/16

Print Date: 1/25/2017
File Name: US50_SH9-S-B07_J_15_A_GEN LAY.dgn
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Region 2
DW

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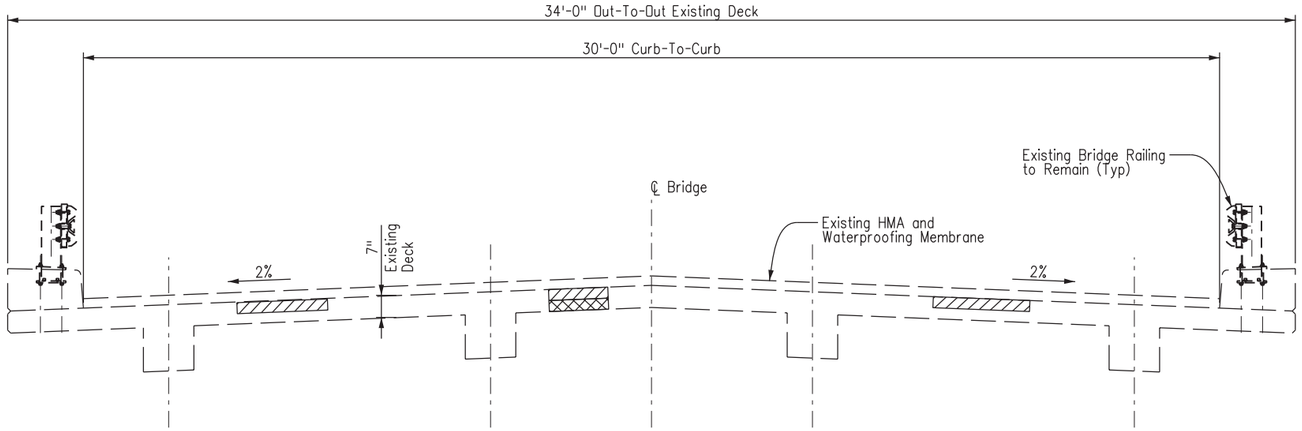
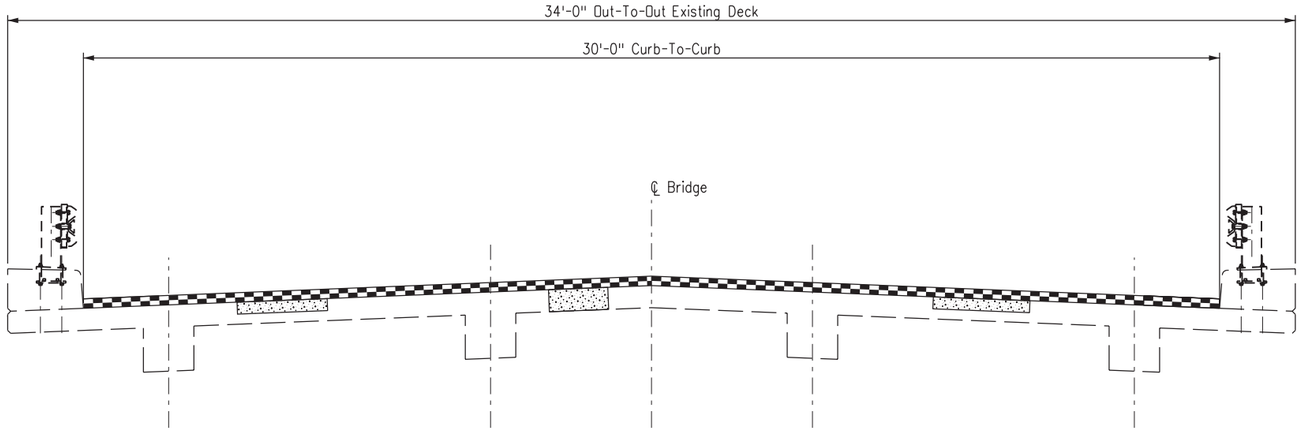
GENERAL LAYOUT
STR NO. J-15-A

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset:
Structure Numbers: J-15-A
Subset Sheets: B4 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 107



TYPICAL SECTION
(J-15-A)



REPAIR SECTION
(J-15-A)

LEGEND:

Indicates Class 2 removal.

Approximately half deck thickness Class 2 removal shown. See sht. B13 for Class 2 minimum and maximum removal limits.

The contractor shall identify in the presence of the engineer the limits of unsound concrete.

Indicates Class 3 removal.

Indicates 3" hot mix asphalt over waterproofing (membrane)

Indicates concrete Class D (Bridge) (Special)

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MS	11/16	Detailed By	RW	11/16	Quantities By	MS	11/16
Checked By	GM	11/16	Checked By	GMM	11/16	Checked By	GMM	11/16

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File Name: US50_SH9-S-B08_J_15_A_TYPSEC.dgn
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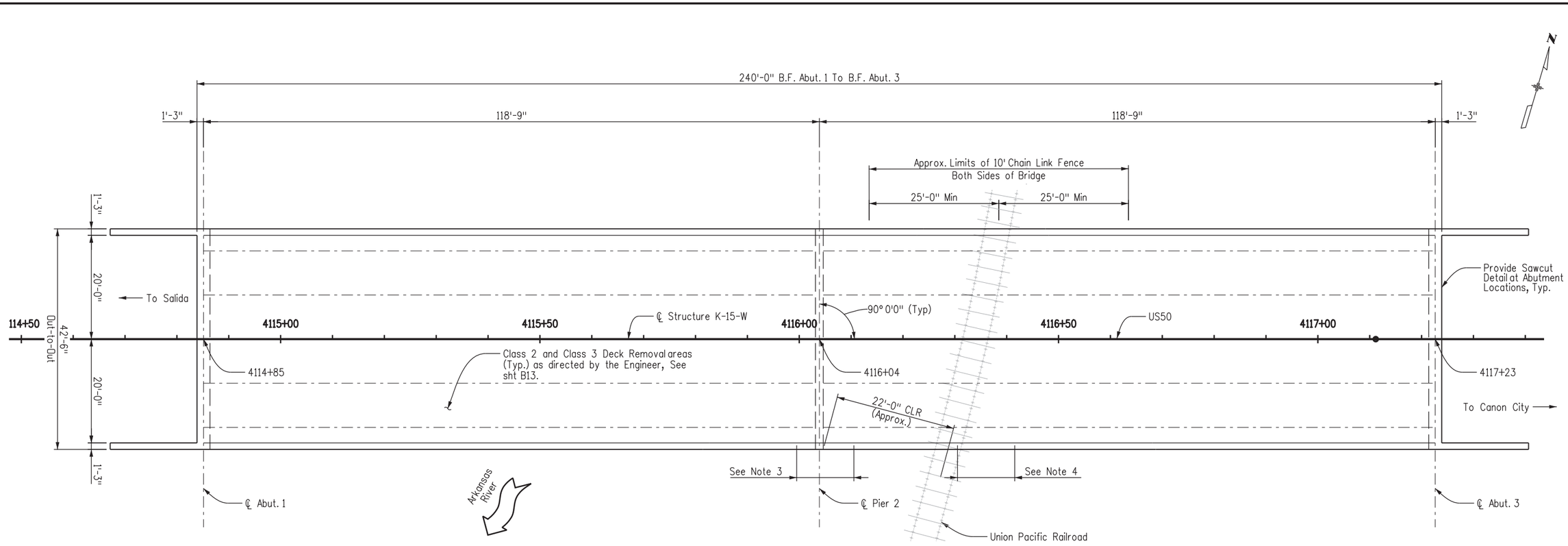
TYPICAL SECTION
STR NO. J-15-A

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset: Bridge
Structure Numbers: J-15-A
Subset Sheets: B5 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 108



PLAN
(STR K-15-W)

NOTES:

1. There is approximately 3½ - 4½ inches of existing asphalt on the bridge deck. The deck thickness is 7¼ inches.
2. Taper HMA to drain at all existing deck drain locations, as directed by the engineer.
3. Repair the chain link fence between the first two posts on the west side of the south fence.
4. Replace the damaged steel tube beam on the impacted bridge rail between splices. Replace one rail post and perform concrete repair to the spalled curb. Replace bolts on the two adjacent rail posts.
5. The contractor shall provide a minimum 14'-0" traffic opening on the bridge, measured from face of curb to face of curb, at all times.
6. Deck removal shall be in accordance with specifications. Removed areas of deck shall be replaced with Concrete Class D (Bridge) (Special).
7. Blow-through debris from Class 3 repairs shall be collected from dry swales at the end of each day. Blow-through from Class 3 repairs will be caprtured before entering flowing Waters of the State or wetlands.
8. See Sheet B8 for fence and rail repair details.

Design	INITIAL	DATE
Designed By	MS	11/16
Checked By	GM	11/16

Detail	INITIAL	DATE
Detailed By	RW	11/16
Checked By	GMM	11/16

Quantities	INITIAL	DATE
Quantities By	MS	11/16
Checked By	GMM	11/16

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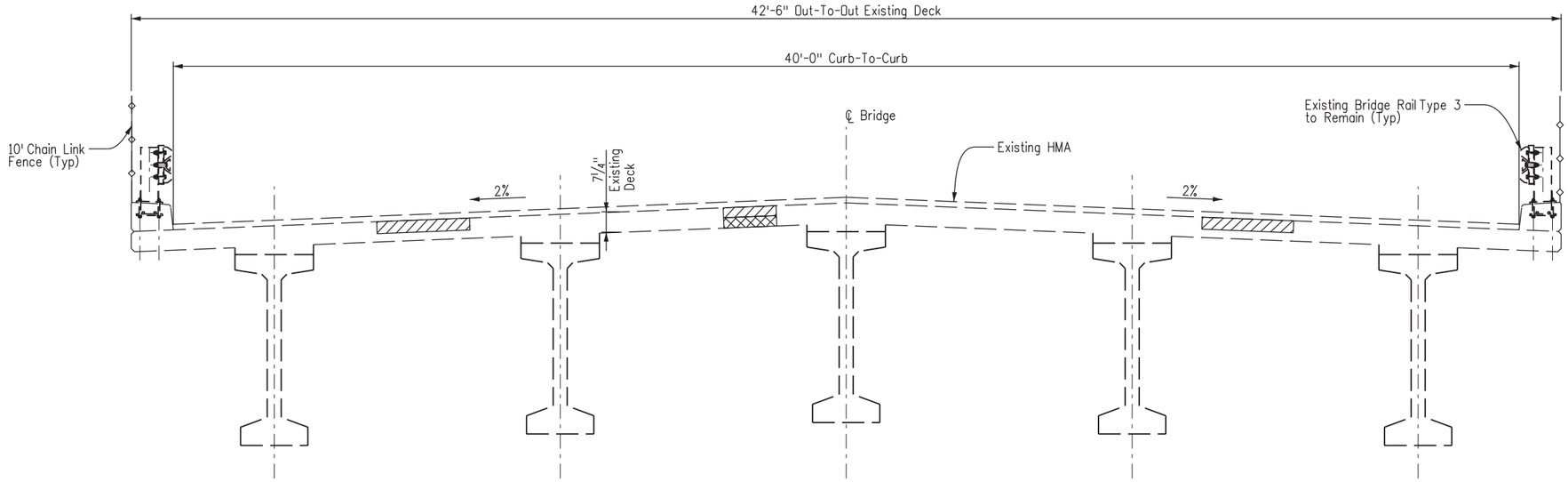
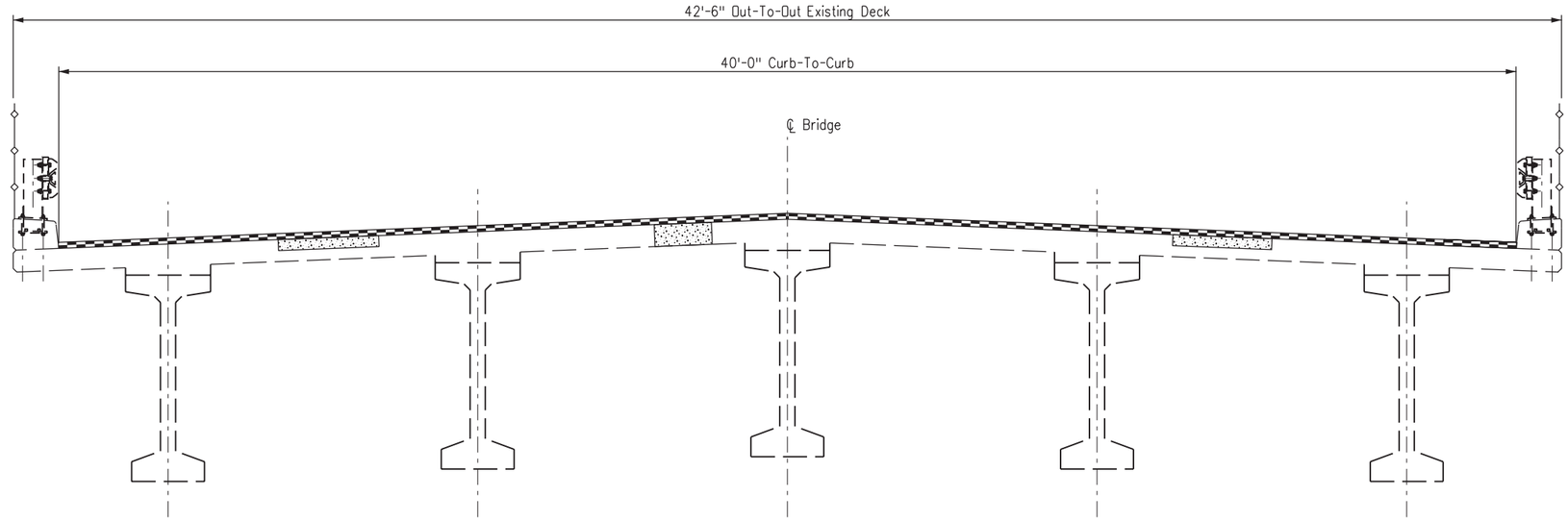
GENERAL LAYOUT
STR NO. K-15-W

Designer:	M. SUELAU	Structure Numbers	K-15-W
Detailer:	R. WHITCHER		
Subset:		Subset Sheets: B6 of B15	

Project No./Code	
STA 0503-089	
21255	
Sheet Number	109



TYPICAL SECTION
(K-15-W)



REPAIR SECTION
(K-15-W)

LEGEND:

Indicates Class 2 removal.

Approximately half deck thickness Class 2 removal shown. See sht. B13 for Class 2 minimum and maximum removal limits.

The contractor shall identify in the presence of the engineer the limits of unsound concrete.

Indicates Class 3 removal.

Indicates 3" hot mix asphalt over waterproofing (membrane)

Indicates concrete Class D (Bridge) (special)

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MS	11/16	Detailed By	RW	11/16	Quantities By	MS	11/16
Checked By	GM	11/16	Checked By	GMM	11/16	Checked By	GMM	11/16

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Region 2 DW

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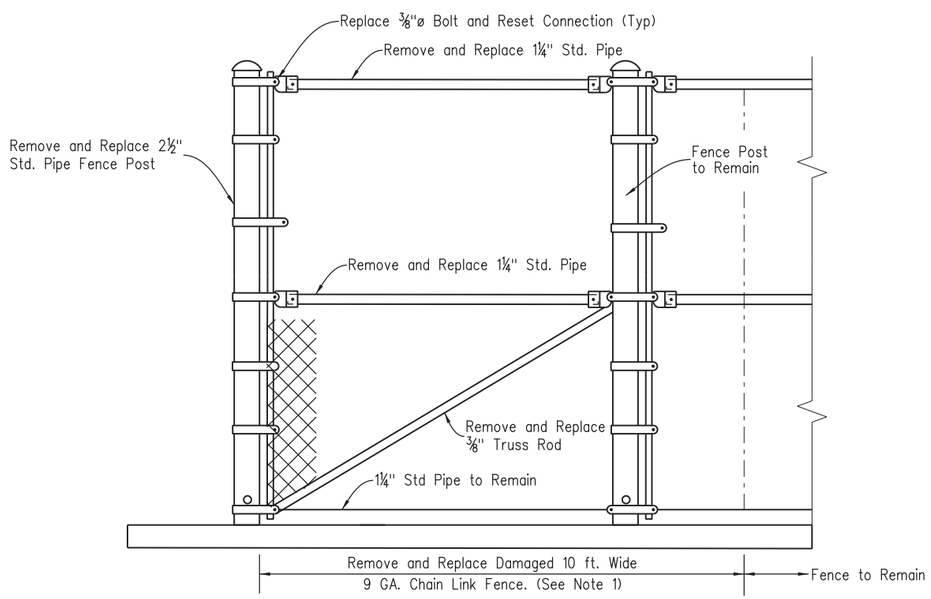
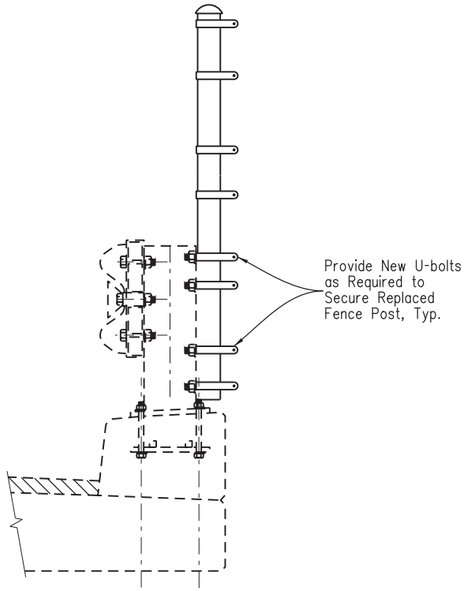
TYPICAL SECTION
STR NO. K-15-W

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset: Bridge
Structure Numbers: K-15-W
Subset Sheets: B7 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 110



ELEVATION

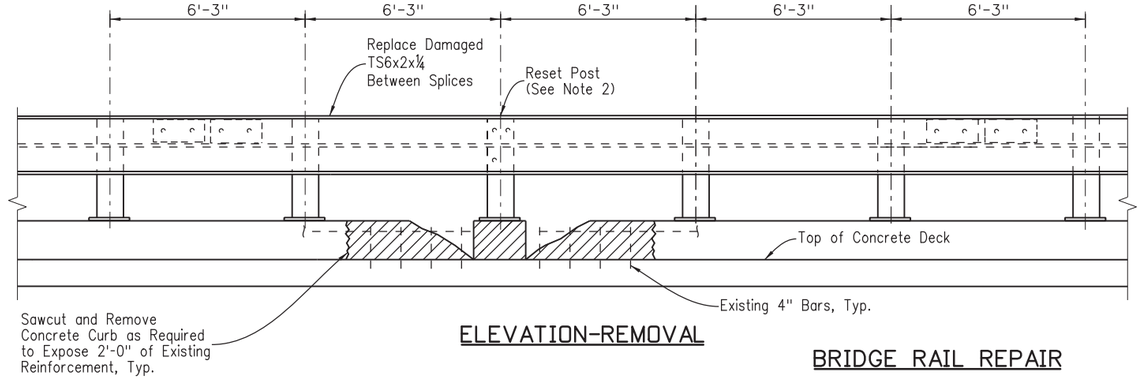


TYPICAL SECTION

NOTES

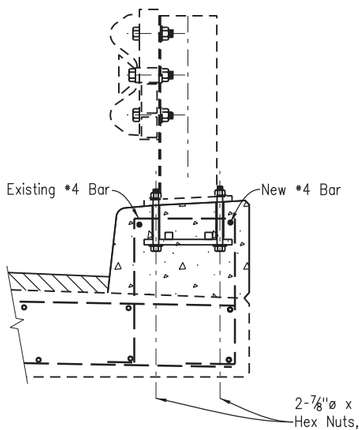
1. Cut damaged chain link fence and replace with a section 2'-0" more in length. Secure fence with with 9 ga. steel galv wire ties at 12" to all pipes and existing fence.
2. Temporarily remove post. Perform Class 2 concrete removal leaving the reinforcement intact. Clean the exposed concrete surface and reinforcement and prime with epoxy. Splice new, #4 epoxy bars into rail curb. Patch the curb with Concrete Class D (Bridge) (Special). Reset the post and replace ⅝"ø bolts (A307), hex nuts and lock washers.

CHAIN LINK FENCE REPAIR



ELEVATION-REMOVAL

BRIDGE RAIL REPAIR



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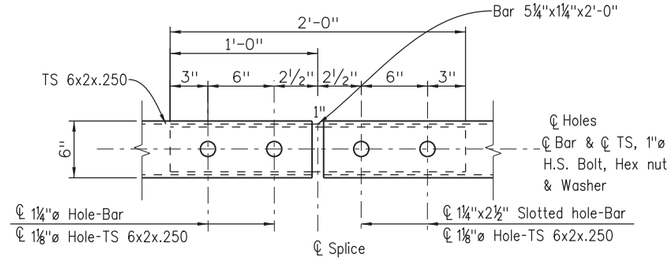
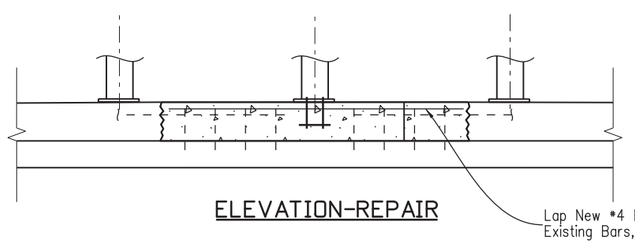


TUBE SPLICE DETAIL

NOTE

HMA not shown for clarity.



ELEVATION-REPAIR

Design	INITIAL	DATE
Designed By	MS	11/16
Checked By	GM	11/16

Detail	INITIAL	DATE
Detailed By	RW	11/16
Checked By	GMM	11/16

Quantities	INITIAL	DATE
Quantities By	MS	11/16
Checked By	GMM	11/16

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Region 2 DW

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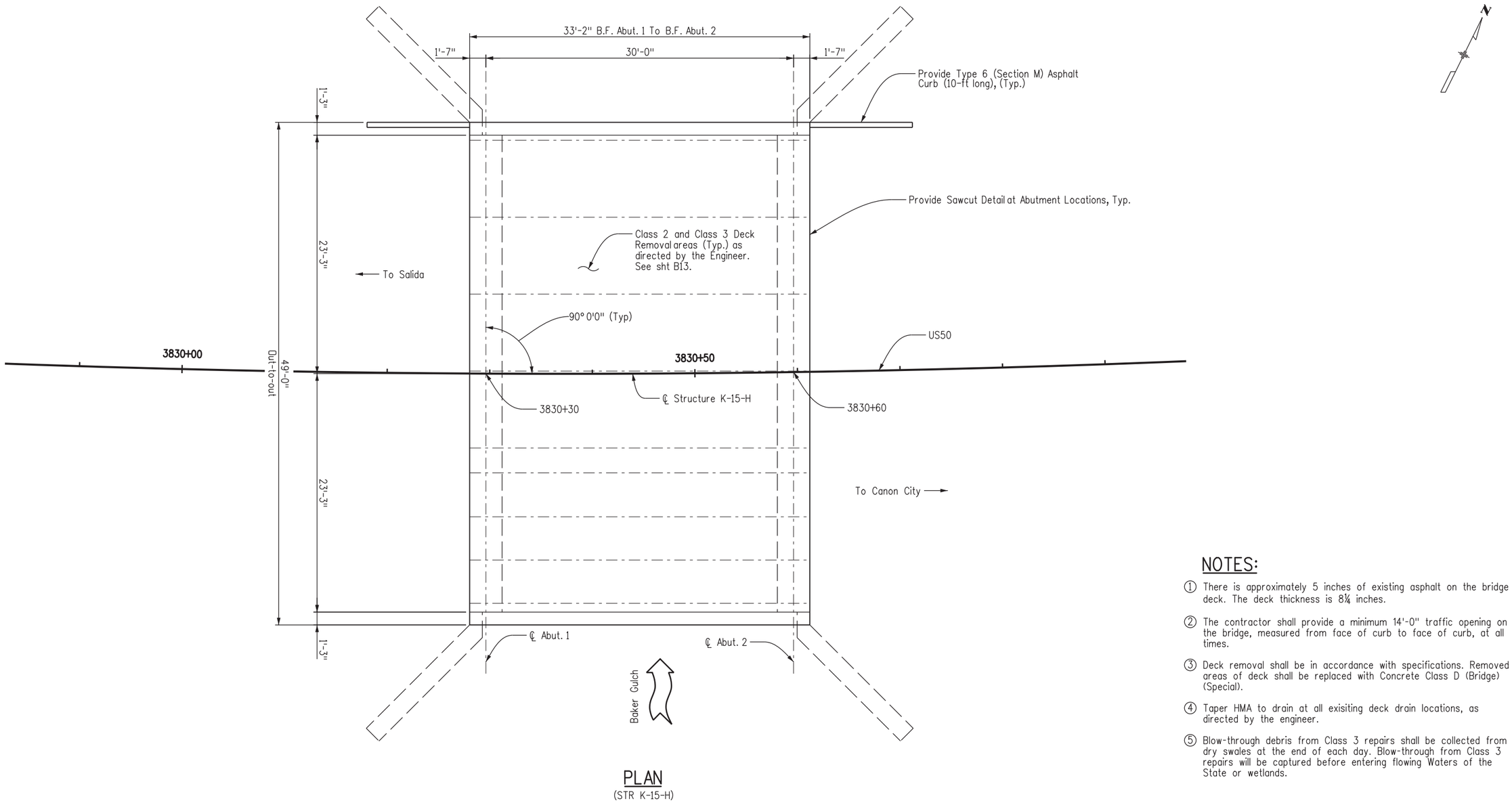
RAIL AND FENCE REPAIR DETAILS
STR NO. K-15-W

Designer: M. SUELAU
Detailer: L. BUSANSKY
Subset: Bridge
Structure Numbers: K-15-W
Subset Sheets: B8 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 111



PLAN
(STR K-15-H)

NOTES:

1. There is approximately 5 inches of existing asphalt on the bridge deck. The deck thickness is 8¼ inches.
2. The contractor shall provide a minimum 14'-0" traffic opening on the bridge, measured from face of curb to face of curb, at all times.
3. Deck removal shall be in accordance with specifications. Removed areas of deck shall be replaced with Concrete Class D (Bridge) (Special).
4. Taper HMA to drain at all exisiting deck drain locations, as directed by the engineer.
5. Blow-through debris from Class 3 repairs shall be collected from dry swales at the end of each day. Blow-through from Class 3 repairs will be captured before entering flowing Waters of the State or wetlands.

Design	INITIAL	DATE
Designed By	MS	11/16
Checked By	GM	11/16

Detail	INITIAL	DATE
Detailed By	RW	11/16
Checked By	GMM	11/16

Quantities	INITIAL	DATE
Quantities By	MS	11/16
Checked By	GMM	11/16

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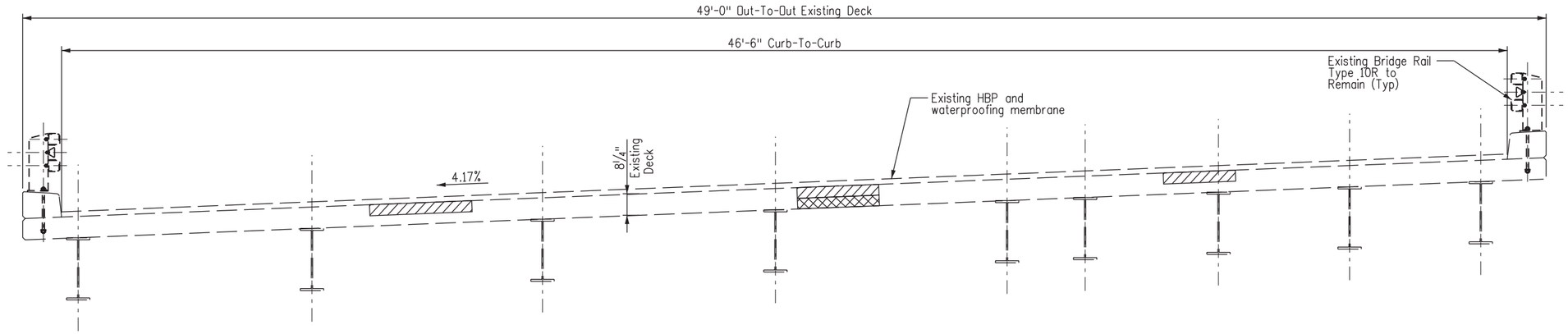
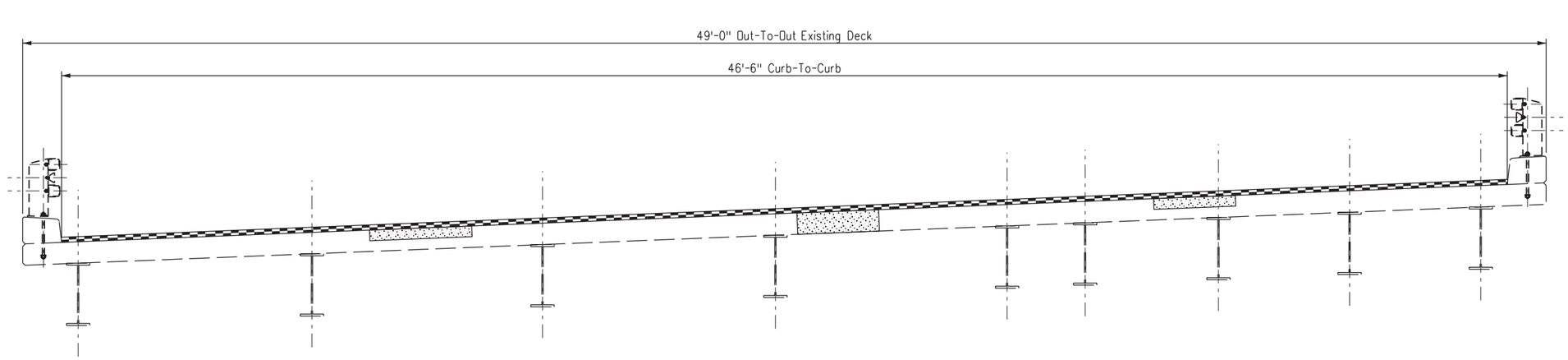
GENERAL LAYOUT
STR NO. K-15-H

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset:
Structure Numbers: K-15-H
Subset Sheets: B9 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 112



TYPICAL SECTION
(K-15-H)



REPAIR SECTION
(K-15-H)

LEGEND:

Indicates Class 2 removal.

Approximately half deck thickness Class 2 removal shown. See sht. B13 for Class 2 minimum and maximum removal limits.

The contractor shall identify in the presence of the engineer the limits of unsound concrete.

Indicates Class 3 removal.

Indicates 3" hot mix asphalt over waterproofing (membrane)

Indicates concrete Class D (Bridge) (Special)

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MS	11/16	Detailed By	RW	11/16	Quantities By	MS	11/16
Checked By	GM	11/16	Checked By	GMM	11/16	Checked By	GMM	11/16

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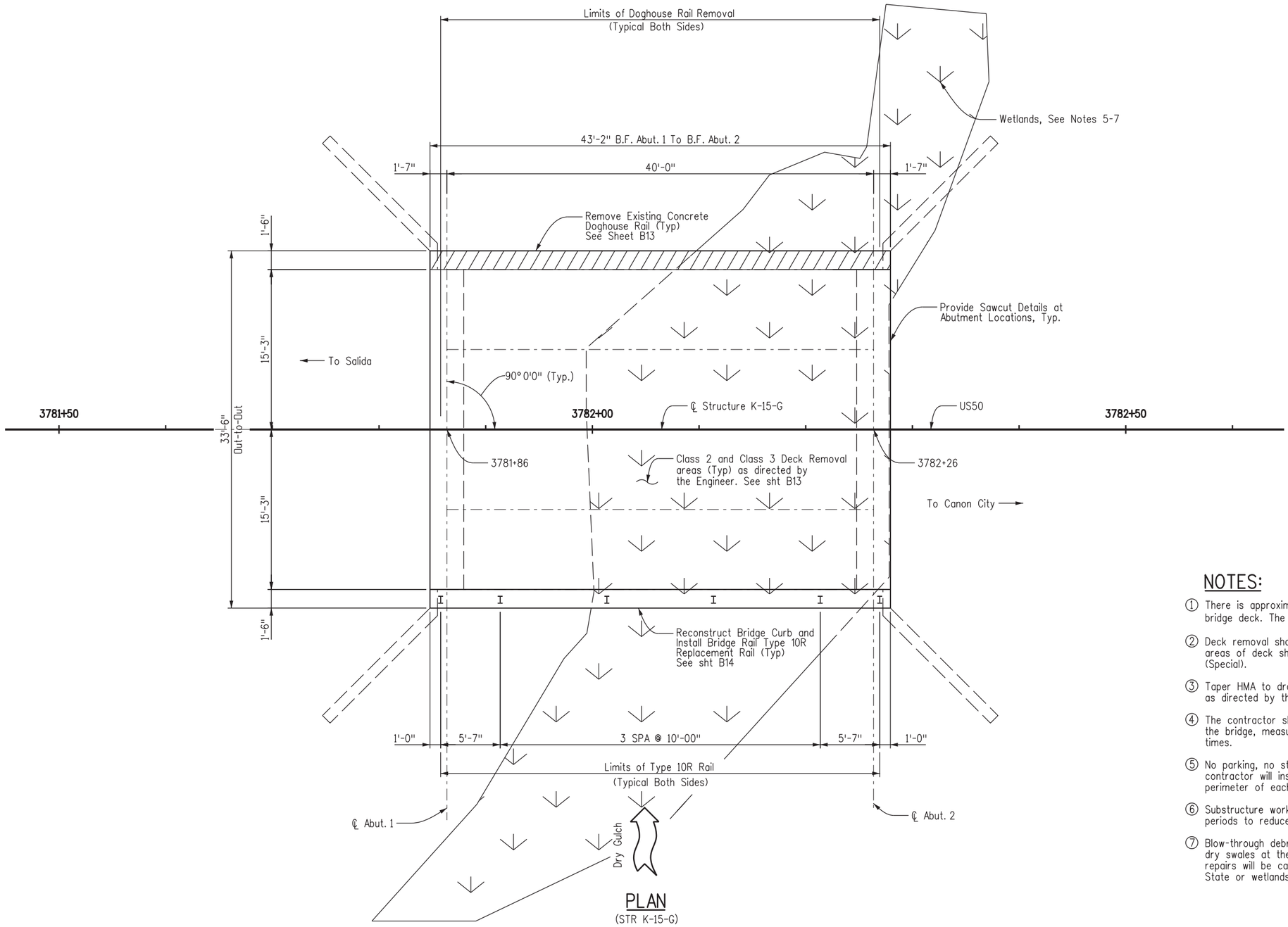
TYPICAL SECTION
STR NO. K-15-H

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset: Bridge
Structure Numbers: K-15-H
Subset Sheets: B10 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 113



PLAN
(STR K-15-G)

NOTES:

1. There is approximately 3-4 inches of existing asphalt on the bridge deck. The deck thickness is 8¼ inches.
2. Deck removal shall be in accordance with specifications. Removed areas of deck shall be replaced with Concrete Class D (Bridge) (Special).
3. Taper HMA to drain at all existing deck drain locations, as directed by the engineer.
4. The contractor shall provide a minimum 14'-0" traffic opening on the bridge, measured from face of curb to face of curb, at all times.
5. No parking, no staging, no work, no access. Prior to work the contractor will install and maintain plastic fencing along the perimeter of each feature at each bridge to prevent impacts.
6. Substructure work should be scheduled during low or no flow periods to reduce effects of work on water quality.
7. Blow-through debris from Class 3 repairs shall be collected from dry swales at the end of each day. Blow-through from Class 3 repairs will be captured before entering flowing Waters of the State or wetlands.

Design	INITIAL	DATE	Detail	INITIAL	DATE	Quantities	INITIAL	DATE
Designed By	MS	11/16	Detailed By	RW	11/16	Quantities By	MS	11/16
Checked By	GM	11/16	Checked By	GMM	11/16	Checked By	GMM	11/16

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Print Date: 1/25/2017
File Name: US50_SH9-S-B15_K_15_G_GEN LAY.dgn
Horiz. Scale: 1:10 Vert. Scale:

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Colorado Springs, CO 80906
Phone: 719-634-2323 FAX: 719-227-3298
Region 2 DW

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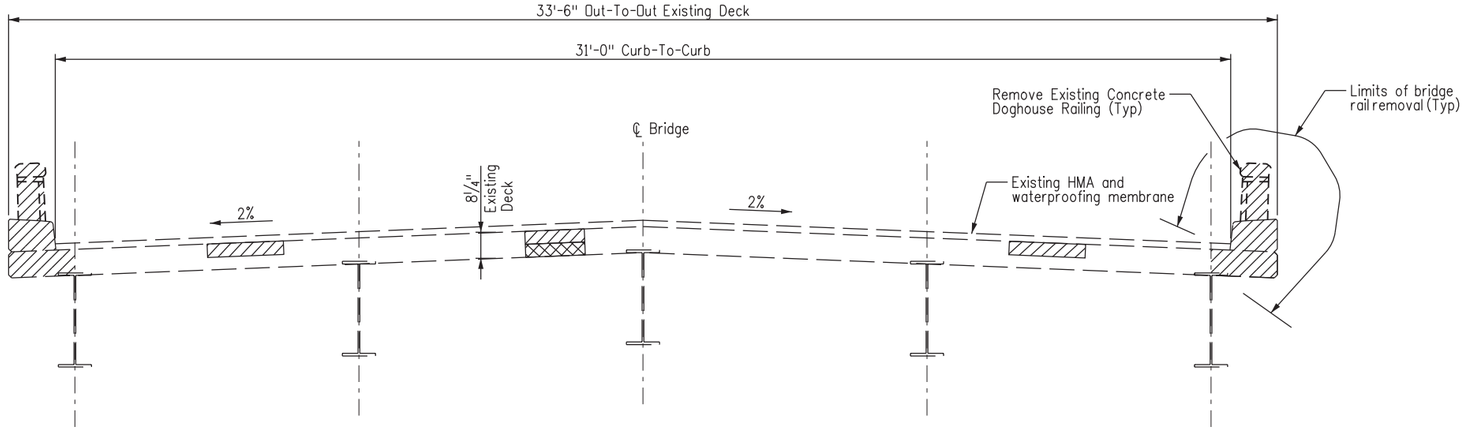
No Revisions:
Revised:
Void:

GENERAL LAYOUT
STR NO. K-15-G

Designer: M. SUELAU
Detailer: R. WHITCHER
Subset:
Structure Numbers: K-15-G
Subset Sheets: B11 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 114



TYPICAL SECTION
(K-15-G)

LEGEND:

Indicates Class 2 removal.

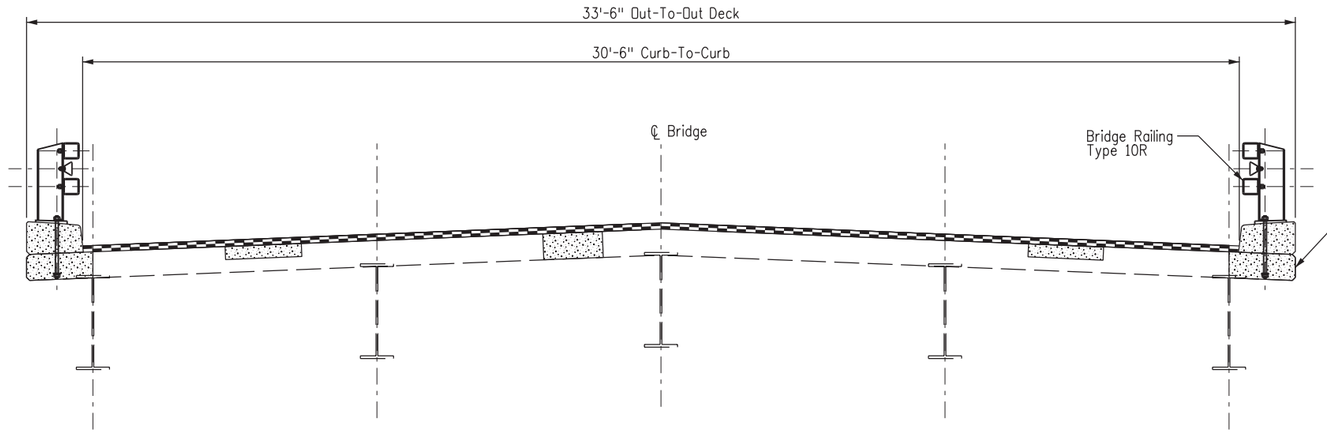
Approximately half deck thickness Class 2 removal shown. See sht. B13 For Class 2 minimum and maximum removal limits.

The contractor shall identify in the presence of the engineer the limits of unsound concrete.

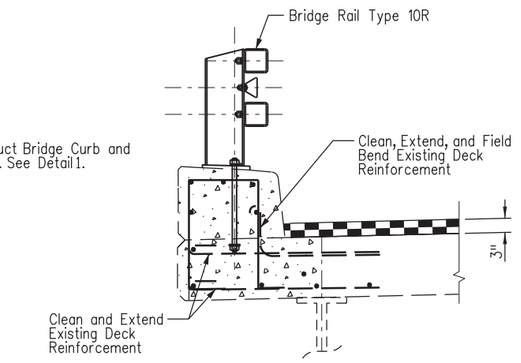
Indicates Class 3 removal.

Indicates 3" hot mix asphalt over waterproofing (membrane)

Indicates concrete Class D (Bridge) (Special)



REPAIR SECTION
(K-15-G)



DETAIL 1
BRIDGE RAIL TYPE 10R

Design	INITIAL	DATE
Designed By	MS	11/16
Checked By	GM	11/16

Detail	INITIAL	DATE
Detailed By	RW	11/16
Checked By	GMM	11/16

Quantities	INITIAL	DATE
Quantities By	MS	11/16
Checked By	GMM	11/16

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Print Date: 1/25/2017	
File Name: US50_SH9-S-B16_K_15_G_TYPSEC.dgn	
Horiz. Scale: 1:4 Vert. Scale:	

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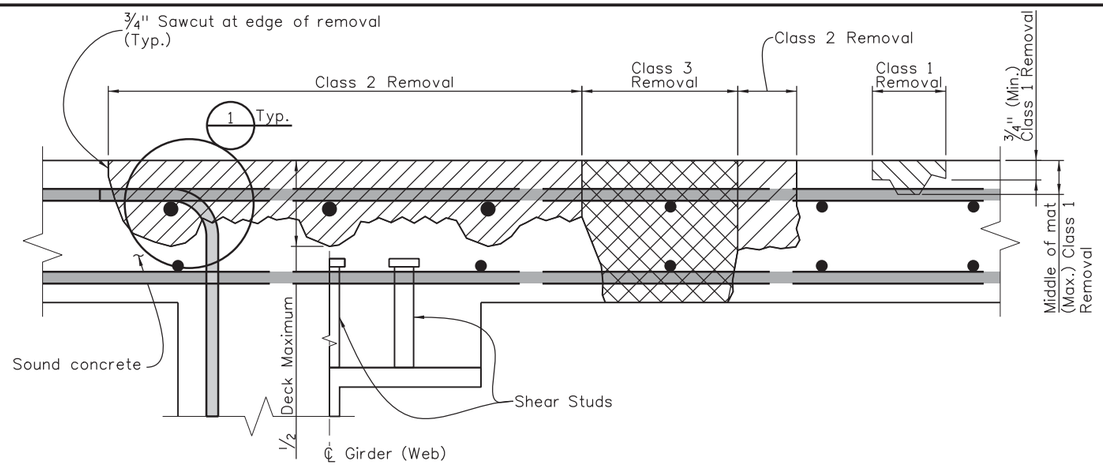
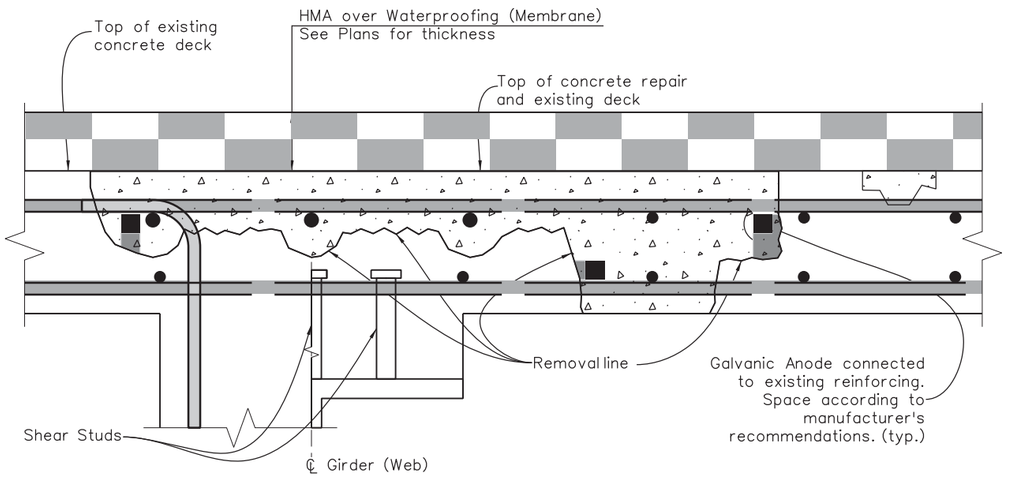
TYPICAL SECTION
STR NO. K-15-G

Designer:	M. SUELAU	Structure Numbers	K-15-G
Detailer:	R. WHITCHER		
Subset:	Bridge	Subset Sheets:	B12 of B15

Project No./Code	
STA 0503-089	
21255	
Sheet Number	115



REMOVAL OF PORTIONS OF PRESENT STRUCTURE (CLASS 1, 2, & 3)



CONCRETE REPLACEMENT

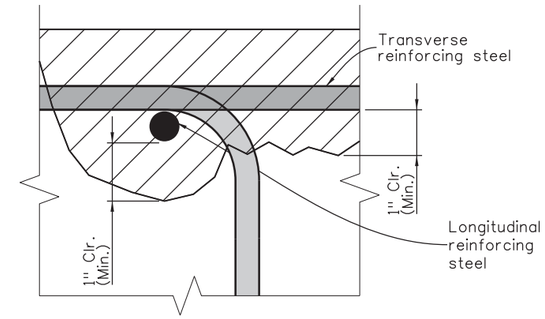
LEGEND

Class 2 Removal: From top of deck to sound concrete, but not less than 1" clear below the top mat of reinforcing steel. If the bottom mat of reinforcing steel is exposed, then Class 3 removal shall be performed at these locations.

Class 3 Removal: From top to bottom of deck, full depth removal.

Patching Material: Concrete Class D (Bridge) (Special).

HMA: HMA design and thickness as designated in the plans.



DETAIL 1

NOTES

These details reflect the scope and the nature of the work. They are not intended to represent the actual structure.

The applicable classes of removal shall be as designated by the summary of quantities in the plans.

Plan quantities are estimates. Actual concrete removal and replacement shall be as needed to reach sound concrete or as directed by the Engineer.

Removal operations shall be coordinated with the Engineer and performed in a manner as required to ensure the structural integrity of the bridge.

If Class 3 removal is performed immediately adjacent to, and on both sides of a Cast in Place concrete girder simultaneously within the middle half of a span, that girder shall be shored from the ground at the third points of that span.

If Class 2 or 3 removal is performed on both sides of a Cast in Place concrete girder simultaneously within the quarter of a span on either side of the pier, that girder shall be shored at the third point each side of that pier. This note is not intended to require shoring for "pothole" type repairs of limited extent where at least one half of the longitudinal deck reinforcing is anchored on both sides of the removal area.

If falsework is required, the falsework load capacity required to support the girders shall be determined by the Contractor and approved by the Engineer unless specified otherwise on the plans.

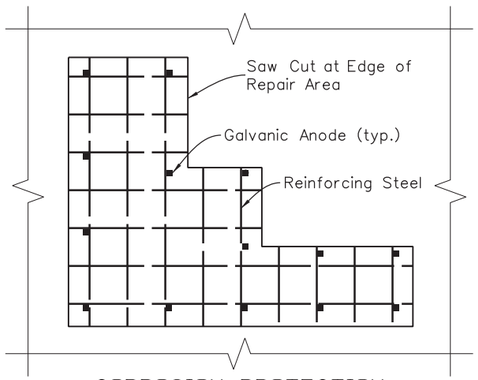
Care shall be taken in removing concrete from around structural steel elements and reinforcing steel to prevent damage to the steel.

All damaged or corroded non-epoxy coated reinforcing steel requires new non-epoxy coated reinforcing steel to be added per Revision of Section 202 Removal of Portions of Present Structure. All exposed non-epoxy coated reinforcing steel shall be cleaned with hand tools, straightened and sandblasted prior to placing concrete.

Galvanic Anode Corrosion protection is required on all areas of exposed non-epoxy or corroded epoxy coated reinforcing prior to placing Concrete. Galvanic Anodes shall be installed per manufacturer's recommendations in accordance with Revision of Section 601 Galvanic Anodes.

Patched deck may be opened to traffic as soon as new concrete has attained required strength.

HMA and Waterproofing membrane shall not be placed until the new concrete has cured for five full days.



CORROSION PROTECTION

▼ Includes:
J-15-A
K-15-W
K-15-H
K-15-G

Design	INITIAL	DATE
Designed By	MS	11/16
Checked By	GM	11/16

Detail	INITIAL	DATE
Detailed By	RW	11/16
Checked By	GMM	11/16

Quantities	INITIAL	DATE
Quantities By	MS	11/16
Checked By	GMM	11/16

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File Name: US50_SH9-S-B19_DECK REH DET.dgn
Horiz. Scale: 1:1 Vert. Scale:

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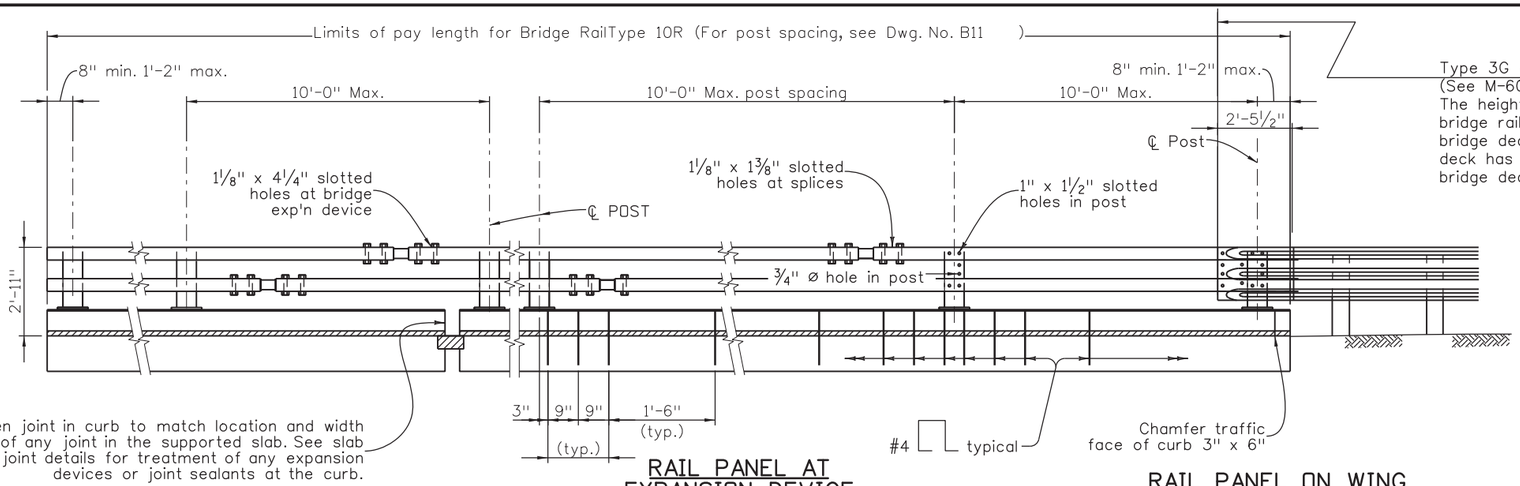
DECK REHABILITATION DETAILS

Designer: M. SUELAU
Detailer: L. BUSANSKY
Subset: Bridge
Structure Numbers: ▼
Subset Sheets: B13 of B15

Project No./Code
STA 0503-089
21255
Sheet Number 116



RAIL PANEL AT TERMINAL SECTION

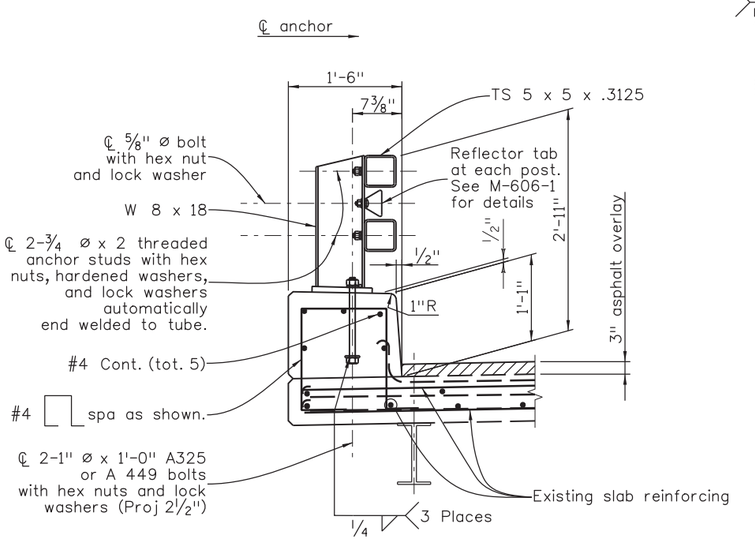
(See Roadway plans for ends not attached to Guard Rail.)

RAIL PANEL AT EXPANSION DEVICE

RAIL PANEL ON WING TRANSITION SECTION

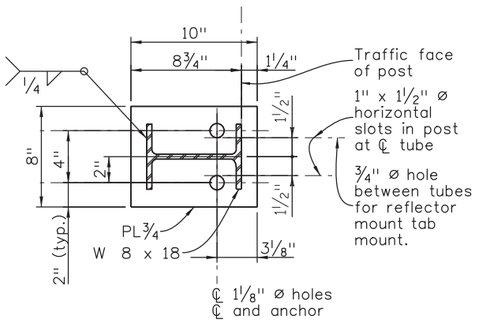
(See roadway plans for ends requiring attachment to guardrail.)

ELEVATION - BRIDGE RAIL

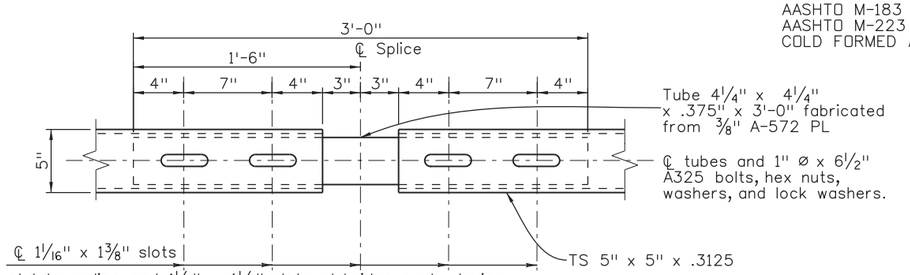


SECTION

Used when placed on concrete slab.



PLAN - POST DETAIL



at tube splice, and 1⅛" x 4¼" slots at bridge exp'n device.
Slot both inner and outer tubes. Stagger top and bottom splices into different post spacings except at expansion joint, place at opposite ends of same post space. (Range of motion = 1'-0" at bridge expansion device.)

PLAN - TUBE SPLICE

NOTES:

All tubes shall be ASTM A-500 Grade B.
All posts and base plates shall be ASTM A-572 Grade 50.
All other steel shall be ASTM A-36 unless otherwise noted.

The above material and all anchor bolts and miscellaneous bolts, nuts, and washers shall be galvanized after fabrication in accordance with Section 509. Concrete, reinforcing steel, and structural steel elements shall conform to the requirements of sections 601, 602 and 509, respectively.

Post anchor, encased in concrete, shall be ASTM A-36 (AASHTO M-183) steel and need not be galvanized.

The tubes shall be shop bent or fabricated to fit horizontal curve when radius is less than 1,500 feet.

Tubes shall be continuous over not less than two posts. No welded butt splices will be allowed in the tube sections.

The centerline of the tube splice shall be 1'-8" minimum and 2'-6" maximum from the centerline of the posts.

All bolts that have lock washers shall be tightened to snug only.

Posts shall be perpendicular to the longitudinal roadway grade.

One or more 10'-0" post spacings may be reduced (6'-8" min.) in order to maintain dimensions from the end of the rail and expansion joints.

Payment will be made under item 606, Bridge Rail type 10R for all posts, post anchors, base plates, backing plates, anchor bolts, miscellaneous bolts, nuts, washers, tubes, tube expansion devices, tube splices, end plates, curb concrete (Class D), curb reinforcing steel, and reflector tabs.

Prior to fabrication of this item, three sets of working drawings which comply with the requirements of section 105, shall be submitted to the Engineer for information only.

Structural Steel:

AASHTO M-183 (ASTM A-36)	f_y = 36,000 psi
AASHTO M-223 (ASTM A-572) GRADE 50	f_y = 50,000 psi
COLD FORMED ASTM A-500 GRADE B	f_y = 46,000 psi

Design			Detail			Quantities		
	INITIAL	DATE		INITIAL	DATE		INITIAL	DATE
Designed By	MS	11/16	Detailed By	RW	11/16	Quantities By	MS	11/16
Checked By	GM	11/16	Checked By	GMM	11/16	Checked By	GMM	11/16

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File Name: US50_SH9-S-B21_TYPE 10M RAIL.dgn	Date:	Comments	Init.
Horiz. Scale: 1:1 Vert. Scale:			
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BRIDGE RAIL TYPE 10R
REPLACEMENT RAIL
STR NO. K-15-G

Designer:	M. SUELAU	Structure Numbers	K-15-G
Detailer:	L. BUSANSKY		
Subset:	Bridge	Subset Sheets:	B14 of B15

Project No./Code	
STA 0503-089	
21255	
Sheet Number	117

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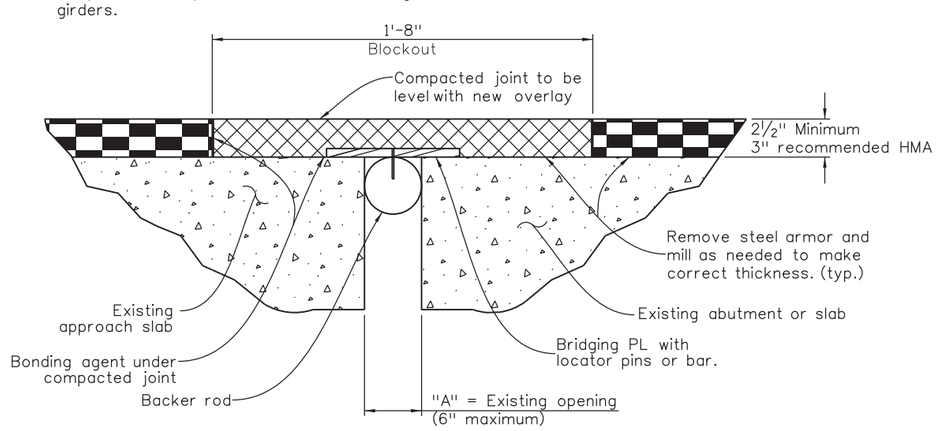
DESIGN DATA

J-15-A	Abutment 1	Pier X	Abutment 4
♦ Joint opening "A"	1/2"	0"	1/2"
★ Predicted Horizontal Movement	.04"	0"	.04"

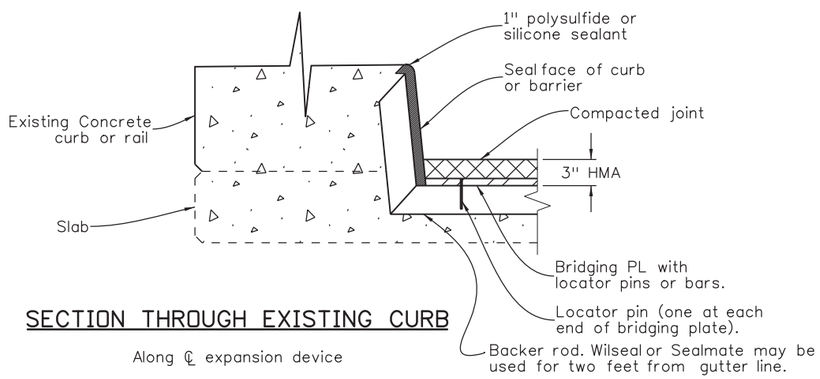
♦ Joint opening "A" for existing structure was determined from the existing plans and must be field verified before ordering or fabricating bridging plate.

★ The maximum predicted horizontal joint movement is based on a temperature drop of 60°F for concrete girders and 80°F for steel girders.



JOINT REHABILITATION DETAIL WITH EXISTING END DAMS

Typical detail shown.



SECTION THROUGH EXISTING CURB

Along ℄ expansion device

BRIDGING PLATE SIZES:

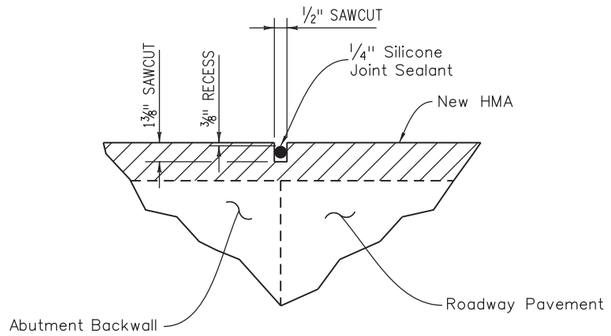
"A"	THICKNESS	WIDTH	MINIMUM LENGTH
0"-1"	1/4"	5"	4'-0"
1"-2"	3/8"	7"	4'-0"
2"-3"	3/8"	9"	4'-0"
3"-4"	1/2"	11"	4'-0"
4"-5"	1/2"	13"	4'-0"
5"-6"	5/8"	15"	4'-0"

At these structures:

Temperature Extremes:
- ■ Cold for mountains
- □ Hot for plains

Truck Traffic:
- □ ≥ 2500 ADTT For high truck traffic
- ■ < 2500 ADTT For moderate truck traffic

Stop and Go Traffic:
- □ Common for controlled intersections
- ■ Uncommon for everything else



SAWCUT DETAIL

SAWCUT SHALL BE ALIGNED DIRECTLY ABOVE JOINT. ABUTMENT JOINT SHOWN. APPROACH SLAB JOINT SIMILAR. THE COST OF THE ABOVE SHALL BE INCLUDED IN THE COST OF ITEM 518 SAWING AND SEALING BRIDGE JOINT.

NOTES:

The plug joint system shall include all labor and materials to install the expansion joint according to the Manufacturer's directions and according to these plans.

The blockout shall be formed or cut to full depth and ground to provide a uniform bearing surface for the bridging plate.

Bridging plates shall not rock on their supports prior to placing plug joint material.

The bridging plates shall be A36 steel as shown on the Table A or equivalent approved by the Engineer. It shall be installed in accordance with the Manufacturer's directions. All bridging plates shall have locator pins or bars for centralizers.

The backer rod shall be secured and sealed according to the Manufacturer's directions.

The joint bonding agent shall be the type recommended by the Manufacturer for the joint system being installed. It shall be applied according to the Manufacturer's recommendations.

All surfaces in joint opening shall be cleaned according to the Manufacturer's directions.

The joints shall be installed and compacted according to the Manufacturer's procedures. The finished joint, after compacting and sealing, shall be flush with the top of the adjacent wearing surface.

A representative of the Manufacturer shall be on site prior to and during installation of the plug joints and shall approve the methods and materials before work commences.

The Asphaltic Binder shall not be overheated, either by absolute temperature limits of the material, or by extended time at a lower high temperature. Material that is overheated shall be discarded.

For construction requirements see section 518.08 of Standard Specifications.

Seal top of curb as directed by the Engineer.

Sealing the face of the curb or barrier will not be paid for separately, but will be included in the work.

For information only: it is estimated that xxx cu. ft. of compacted joint material is required.

The Contractor shall be prepared to provide temporary cover plates in case the work must be suspended prior to opening the structure to traffic.

ACCEPTABLE EXPANSION DEVICE ALTERNATES

All Asphaltic Plug Joint materials need a Certified Test Report (CTR) from an independent laboratory showing passing test results on all referenced tests within the most recent ASTM D 6297 using granite blocks for each lot of material to be included on the APL.

A list of current Pre-Approved Lot numbers, Suppliers, and the Procedure to register new suppliers can be found on CDOT Approved Products List Web site at:
http://apps.coloradodot.info/apl/AplSearch.cfm

▼ Includes:
J-15-A
K-15-W
K-15-H
K-15-G

Design	INITIAL	DATE
Designed By	MS	11/16
Checked By	GM	11/16

Detail	INITIAL	DATE
Detailed By	RW	11/16
Checked By	GMM	11/16

Quantities	INITIAL	DATE
Quantities By	MS	11/16
Checked By	GMM	11/16

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No Revisions:	
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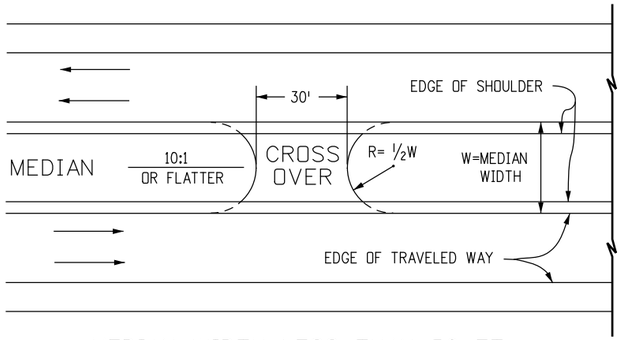
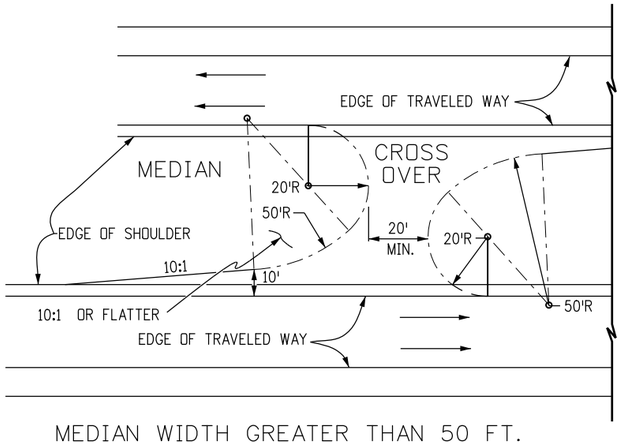
JOINT DETAILS

Designer:	M. SUELAU	Structure Numbers	▼
Detailer:	R. WHITCHER		
Subset:	Bridge	Subset Sheets: B15 of B15	

Project No./Code	
STA 0503-089	
21255	
Sheet Number	118



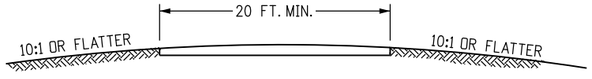
MEDIAN WIDTH LESS THAN 50 FT.



MEDIAN WIDTH GREATER THAN 50 FT.

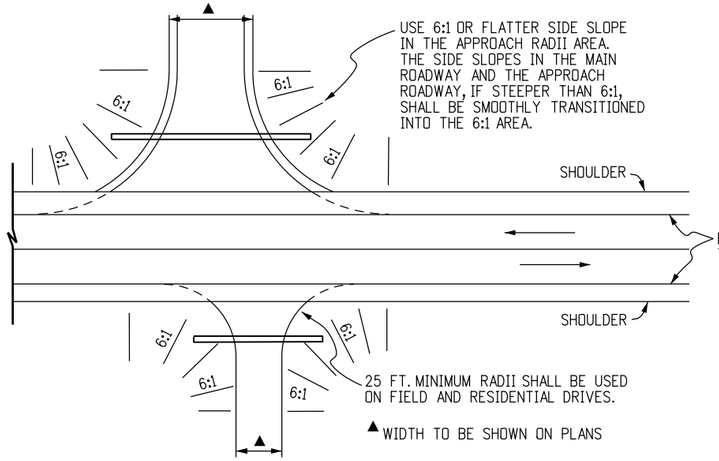
TYPICAL PLANS FOR EMERGENCY MEDIAN CROSS OVER

LOCATION OF RADIUS POINTS MAY BE ADJUSTED FOR BEST FIT



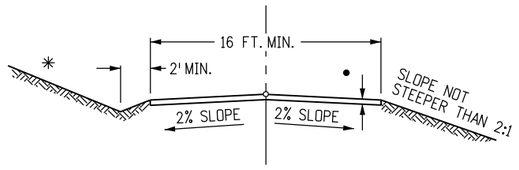
TYPICAL SECTION FOR MEDIAN CROSS OVER

ANY REQUIRED PIPE OR INLET FOR MEDIAN DRAINAGE SHALL HAVE A TRAVERSABLE DESIGN AS SPECIFIED ON THE PLANS



SIDE DRAINS SHALL BE LOCATED BEYOND THE CLEAR ZONE, OR WHEN WITHIN THE CLEAR ZONE, THEY SHALL BE INSTALLED WITH END SECTIONS CONFORMING TO A 6:1 SLOPE. FIFTY FT. RADII SHALL BE USED ON INTERSECTING ROADS, EXCEPT FOR FIELD AND RESIDENTIAL DRIVES OR UNLESS OTHERWISE SPECIFIED ON PLANS. RADII MAY BE VARIED TO SUIT FIELD CONDITIONS.

TYPICAL PLANS FOR SIDE APPROACH ROAD

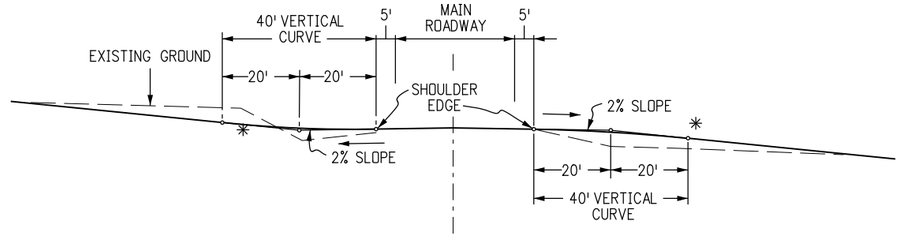


1/2 CUT SECTION 1/2 FILL SECTION

TYPICAL SECTION FOR APPROACH (ACCESS) ROAD

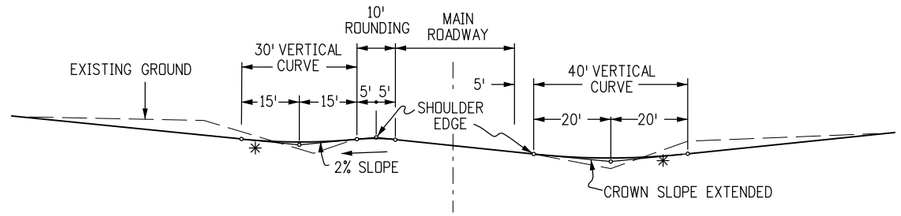
NOTE: ROAD APPROACHES WHICH REQUIRE HMA (ASPHALT) PAVEMENT SHALL BE PLACED AT THE FOLLOWING DISTANCES BACK FROM THE ROADWAY EDGE OF PAVEMENT:

1. RESIDENTIAL OR AGRICULTURAL FIELD ENTRANCES - PAVE 4 FEET BACK.
2. THREE OR MORE RESIDENCES OR COMMERCIAL PROPERTY - PAVE 20 FEET BACK OR TO ROW LINE, WHICHEVER IS LESS.
3. PUBLIC STREET - PAVE 50 FEET BACK OR TO ROW LINE, WHICHEVER IS LESS.
4. IF EXISTING ACCESS IS PAVED, THEN FEATHER NEW ASPHALT OVERLAY A MINIMUM OF 2 FEET BACK OR AS DIRECTED BY THE ENGINEER.

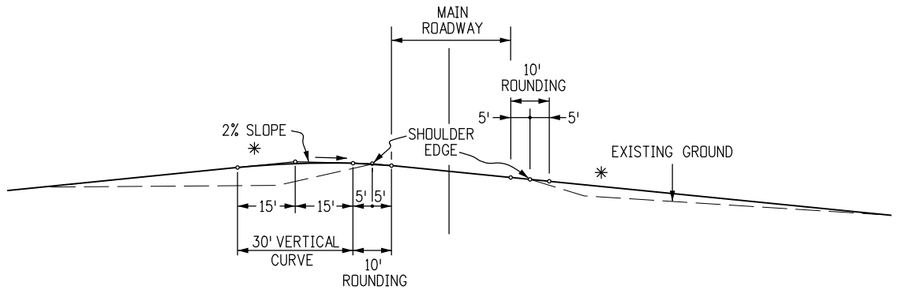


1/2 CUT SECTION 1/2 FILL SECTION

STANDARD CROWNED SECTION



SUPERELEVATED CUT SECTION



SUPERELEVATED FILL SECTION

VERTICAL ALIGNMENT SIDE APPROACH ROADS INTERSECTING MAIN ROADWAY

* TANGENT SLOPE NOT STEEPER THAN 8% BEYOND THE VERTICAL CURVE. THE SLOPE MAY BE STEEPER, IF REQUIRED, TO MEET EXISTING APPROACH SLOPE. HOWEVER, APPROACH ROAD SLOPE SHOULD NOT BE STEEPER THAN EXISTING SLOPE.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: DD		Date:	Comments
Last Modification Date: 07/08/13 Initials: LTA	(R-X)	07/08/13	Added notes to Approach Road Typ. Sec. detail.
Full Path: www.coloradodot.info/business/designsupport	(R-X)		
Drawing File Name: 203010101.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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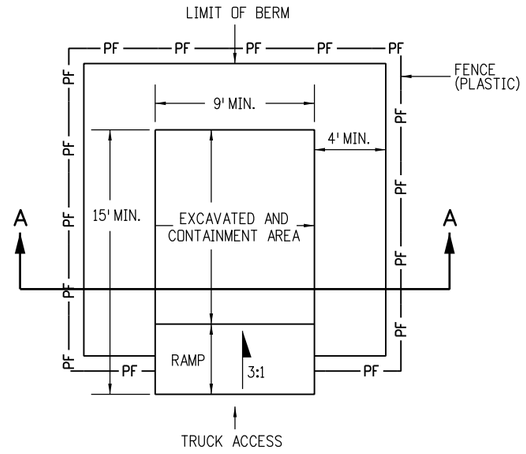
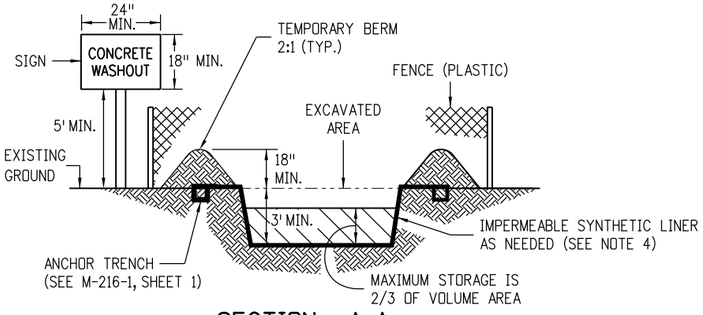
APPROACH ROADS

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-203-1
Sheet No. 1 of 1



PLAN VIEW



SECTION A-A

NOTES:

1. A FENCE (PLASTIC) CONFORMING TO SECTION 607 SHALL BE INSTALLED AROUND THE CONCRETE WASHOUT AREA, EXCEPT AT THE OPENING.

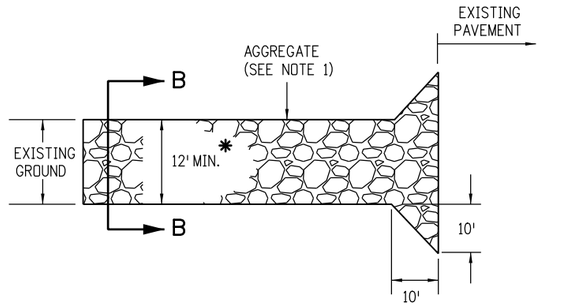
2. THE CONCRETE WASHOUT SIGN SHALL HAVE LETTERS AT LEAST 3 INCHES HIGH AND CONFORM TO SUBSECTION 630.02.

3. ALL MATERIALS AND LABOR TO COMPLETE THE CONCRETE WASHOUT STRUCTURE SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.

4. THE BOTTOM OF EXCAVATION SHALL BE A MINIMUM OF FIVE FEET ABOVE GROUND WATER. IF NOT, IT SHALL BE LINED WITH AN IMPERMEABLE SYNTHETIC LINER THAT IS DESIGNED TO CONTROL SEEPAGE AT A MAXIMUM RATE OF 6 TO 10 CENTIMETERS PER SECOND.

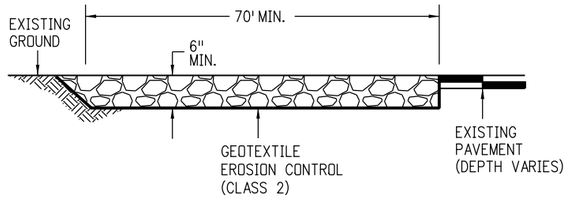
5. THE PAY ITEM NUMBER FOR CONCRETE WASHOUT STRUCTURE (EACH) IS 208-00045.

CONCRETE WASHOUT STRUCTURE

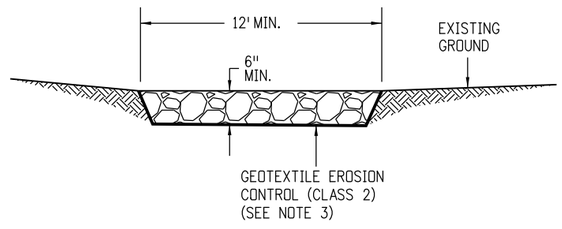


PLAN VIEW

* SHALL EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.



ELEVATION SECTION



SECTION B-B

NOTES:

1. AGGREGATE SHALL CONFORM TO SUBSECTION 208.02 (K).

2. THE CONTRACTOR SHALL PROTECT CURB AND GUTTER THAT CROSSES THE ENTRANCE FROM DAMAGE. PROTECTION OF THE CURB AND GUTTER SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.

3. GEOTEXTILE SHALL CONFORM TO SUBSECTION 712.08.

4. ALL MATERIALS AND LABOR TO COMPLETE THE VEHICLE TRACKING PAD SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.

5. THE PAY ITEM NUMBER FOR VEHICLE TRACKING PAD (EACH) IS 208-00070.

VEHICLE TRACKING PAD

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 03/29/16 Initials: LTA	(R-X)	07/16/15	Deleted the two Soil Retention Blanket detail sheets. They are now standard M-216-1 Soil Retention Covering.
Full Path: www.coloradodot.info/business/designsupport	(R-X)	03/29/16	Minor revisions to some dimensions and General Notes.
Drawing File Name: 2080101011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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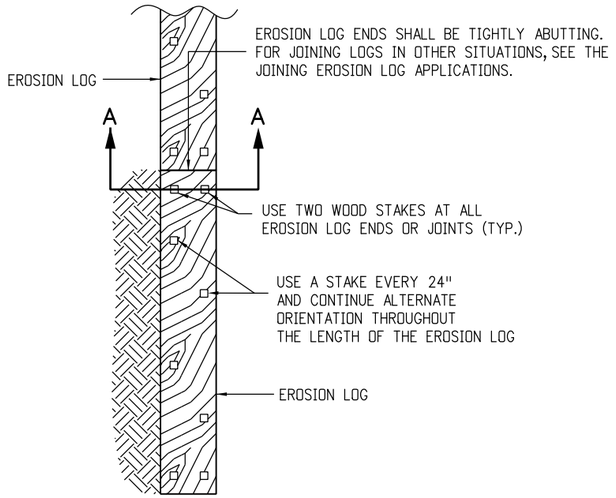
TEMPORARY EROSION CONTROL

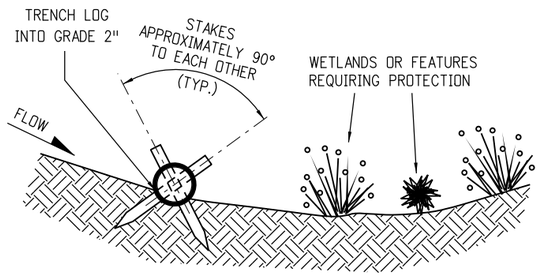
Issued By: Project Development Branch on July 4, 2012

STANDARD PLAN NO.

M-208-1



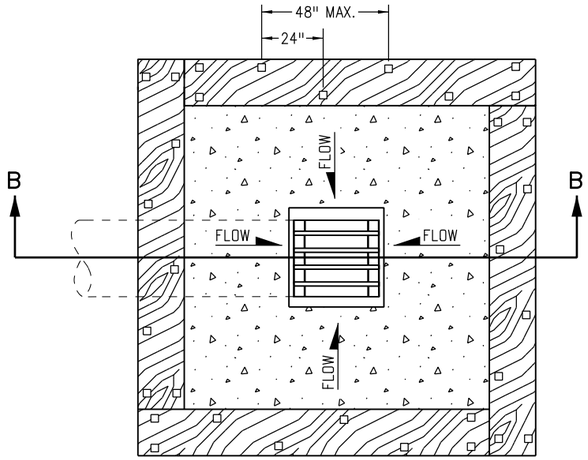
PLAN VIEW



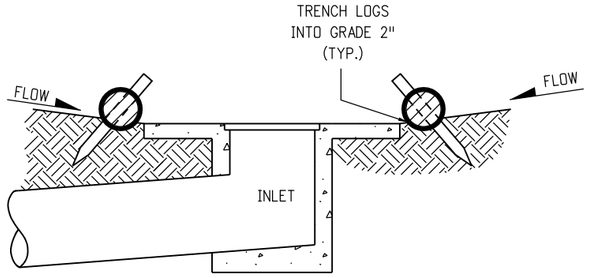
SECTION A-A

TYPICAL STAKE INSTALLATION

EROSION LOGS PAY ITEMS	
NUMBER	DESCRIPTION
208-00012	TYPE 1 (9")
208-00002	TYPE 1 (12")
208-00013	TYPE 1 (20")
208-00007	TYPE 2 (8")
208-00008	TYPE 2 (12")
208-00009	TYPE 2 (18")



PLAN VIEW



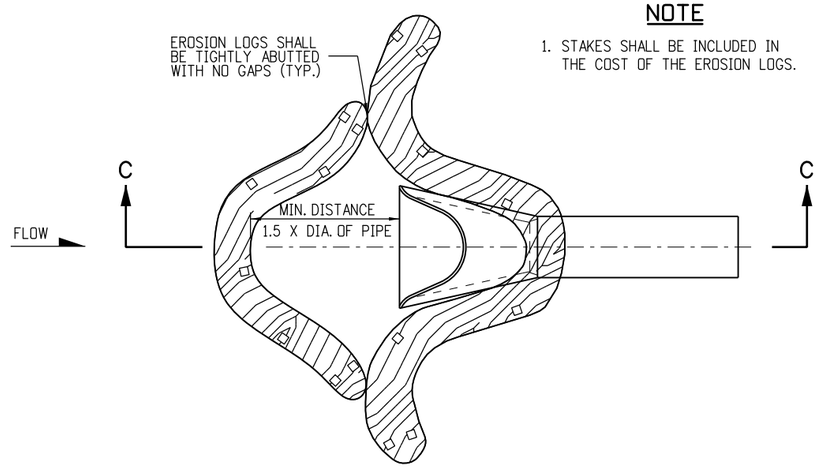
SECTION B-B

NOTE: LOCATE EROSION LOGS AT THE OUTSIDE EDGE OF THE CONCRETE APRON.

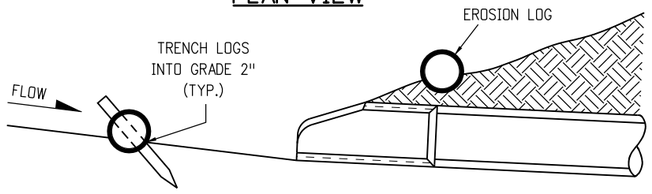
EROSION LOG FILTER AT DROP INLET

NOTE

1. STAKES SHALL BE INCLUDED IN THE COST OF THE EROSION LOGS.



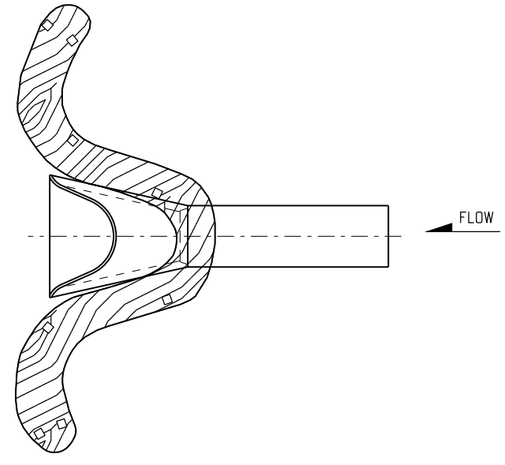
PLAN VIEW



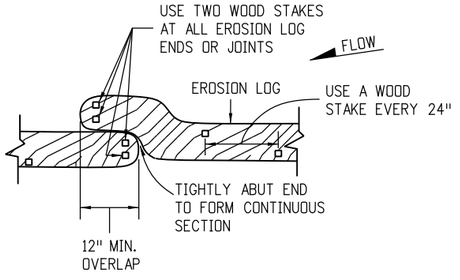
SECTION C-C

(NOT ALL LOGS SHOWN)

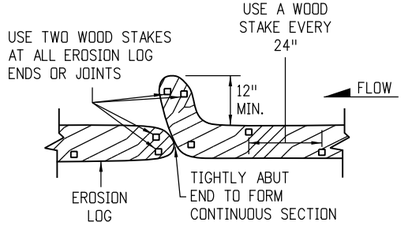
EROSION LOG CULVERT INLET PROTECTION



EROSION LOG CULVERT OUTLET PROTECTION



OVERLAP JOINING DETAIL



J-HOOK JOINING DETAIL

JOINING EROSION LOG APPLICATIONS

EROSION LOG APPLICATIONS

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 03/29/16 Initials: LTA	(R-X)	03/29/16	Minor revisions to some dimensions. Added Erosion Logs Pay Item table.
Full Path: www.coloradodot.info/business/designsupport	(R-X)		
Drawing File Name: 2080102011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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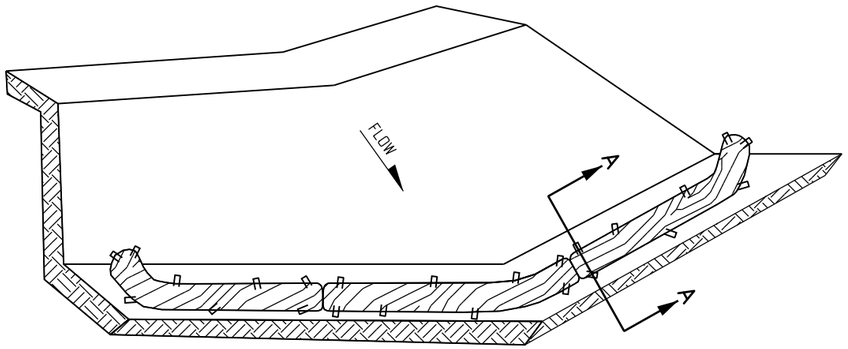
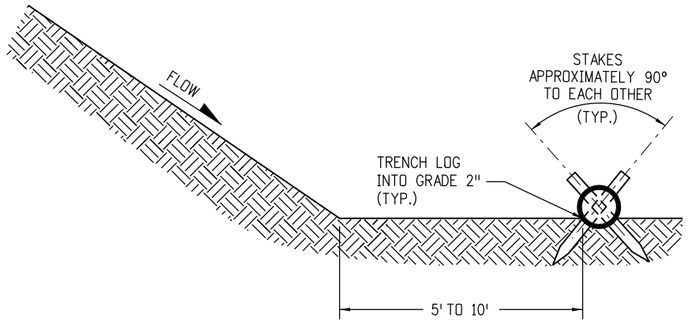


ISOMETRIC VIEW



SECTION A-A

NOTES:

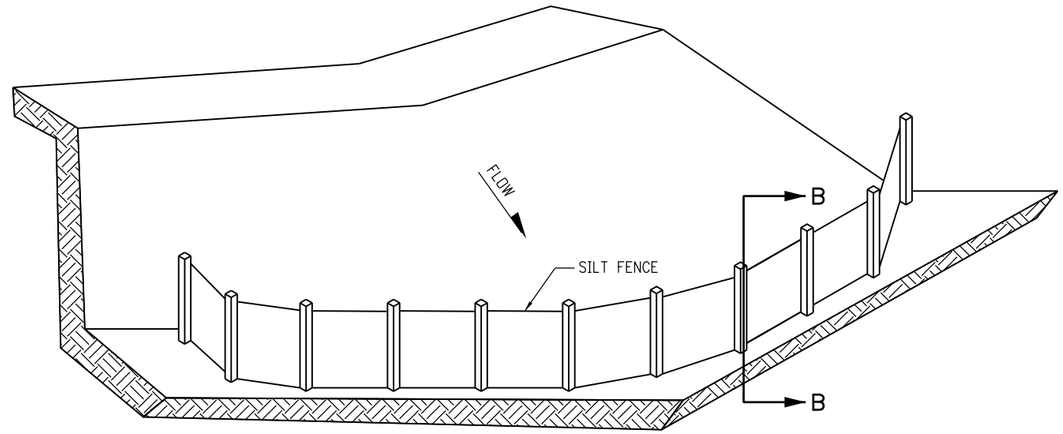
1. EROSION LOGS USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
2. EROSION LOGS SHALL BE PLACED ON THE CONTOUR WITH ENDS FLARED UP SLOPE.
3. SEE SHEET 2 OF 11 FOR JOINING LOGS DETAIL.

EROSION LOGS PAY ITEMS	
NUMBER	DESCRIPTION
208-00012	TYPE 1 (9")
208-00002	TYPE 1 (12")
208-00013	TYPE 1 (20")
208-00007	TYPE 2 (8")
208-00008	TYPE 2 (12")
208-00009	TYPE 2 (18")

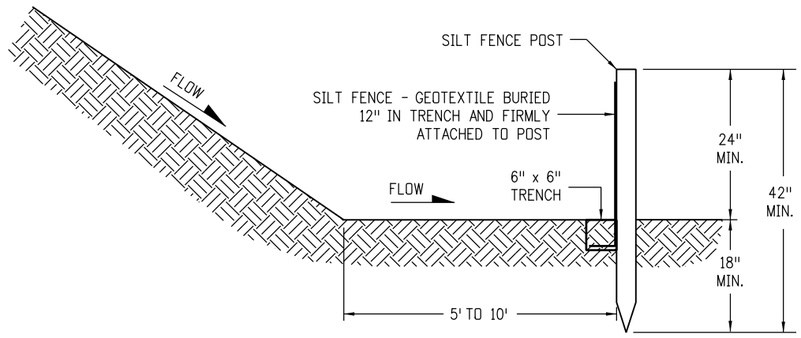
EROSION LOG TOE OF SLOPE PROTECTION

NOTES

1. SILT FENCE SHALL HAVE A MAXIMUM DRAINAGE AREA OF ONE-QUARTER ACRE PER 100 FEET OF SILT FENCE LENGTH; MAXIMUM SLOPE LENGTH BEHIND BARRIER IS 100 FEET; MAXIMUM GRADIENT BEHIND THE BARRIER IS 2:1.
2. SILT FENCE USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
3. SILT FENCE SHALL BE PLACED ON THE CONTOUR WITH ENDS FLARED UP SLOPE.
4. THE MAXIMUM LENGTH OF EROSION LOGS OR SILT FENCES WITHOUT A FLARED END TURNING UPSLOPE IS 150 FEET.



ISOMETRIC VIEW



SECTION B-B

SILT FENCE TOE OF SLOPE PROTECTION

NOTE: THE PAY ITEM NUMBER FOR SILT FENCE (LF) IS 208-00020.

TOE OF SLOPE PROTECTION APPLICATIONS

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
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Drawing File Name: 2080103011.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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TEMPORARY EROSION CONTROL

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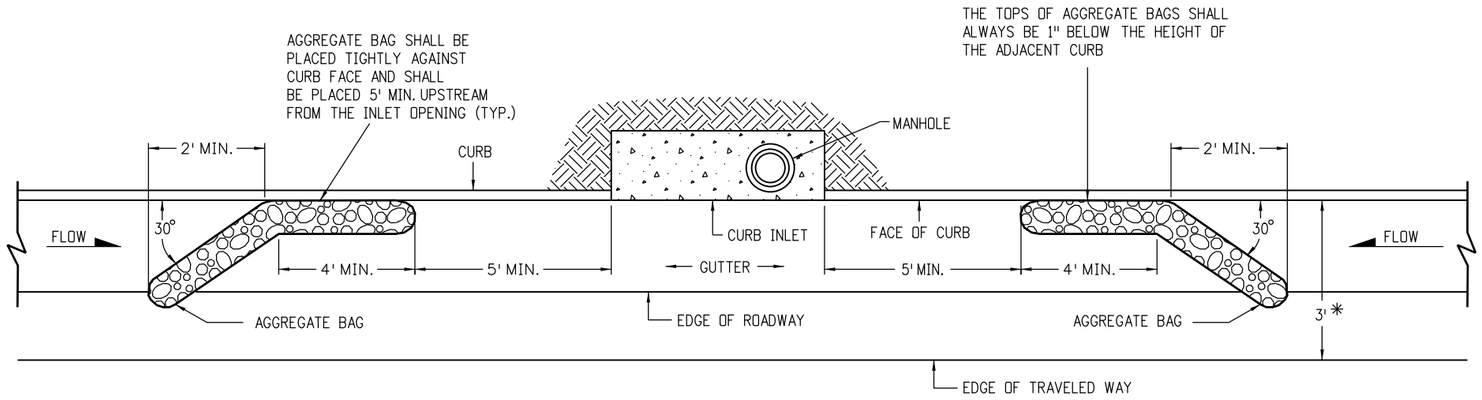
STANDARD PLAN NO.
M-208-1
Sheet No. 3 of 11

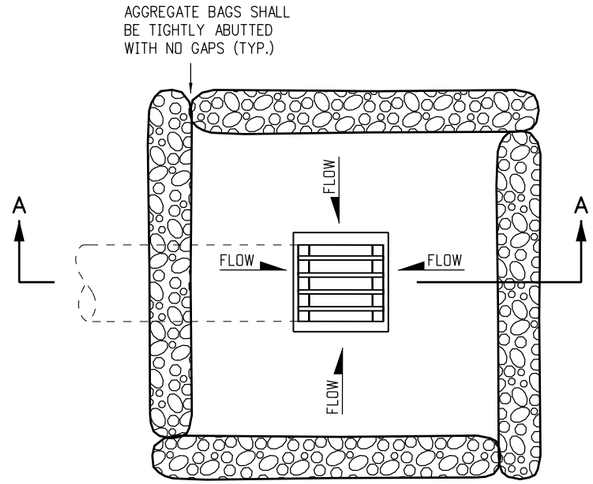


PLAN VIEW

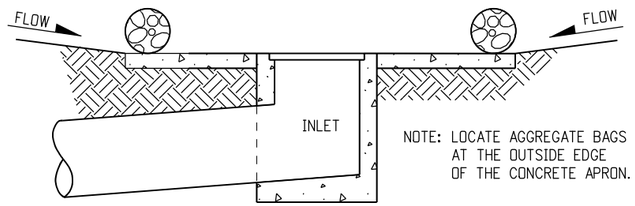
* NOTE: USE AGGREGATE BAGS ONLY WHEN THERE IS A MINIMUM CLEARANCE OF 3 FEET FROM THE EDGE OF THE TRAVELED WAY TO THE FACE OF CURB.

LENGTH OF INLET (L)	NUMBER OF AGGREGATE BAGS UPSTREAM OF INLET
0' - 5'	1
6' -10'	2
L > 10'	3

AGGREGATE BAGS AT STORM DRAIN INLET (TYPE I)



PLAN VIEW



SECTION A-A

AGGREGATE BAGS AT DROP INLET

AGGREGATE BAG APPLICATIONS

NOTE: THE PAY ITEM NUMBER FOR AGGREGATE BAG (LF) IS 208-00035

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 03/29/16 Initials: LTA	(R-X)	03/29/16	Added some dimensions and Note.
Full Path: www.coloradodot.info/business/designsupport	(R-X)		
Drawing File Name: 2080104011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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TEMPORARY EROSION CONTROL

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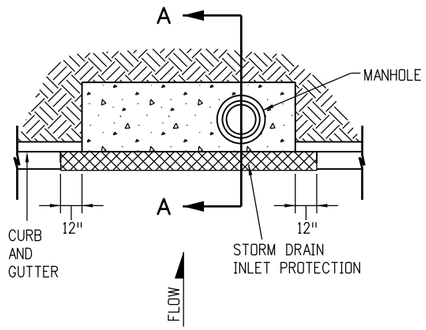
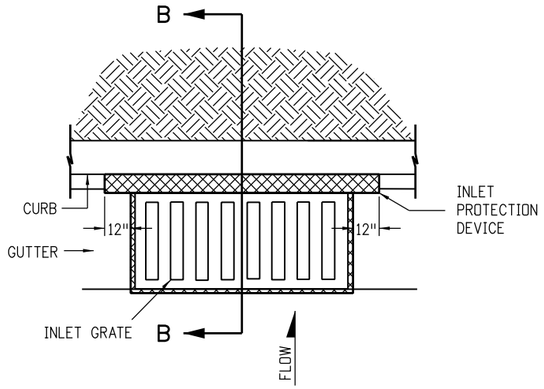
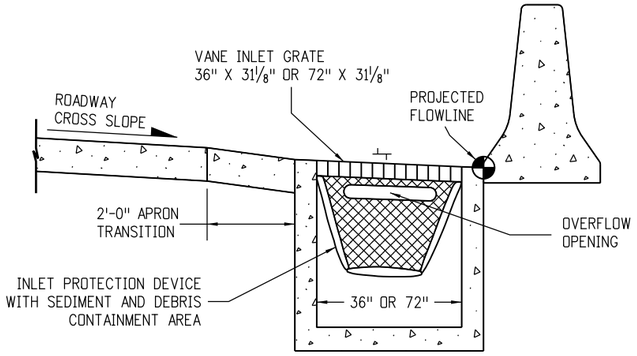
STANDARD PLAN NO.
M-208-1



PLAN VIEW

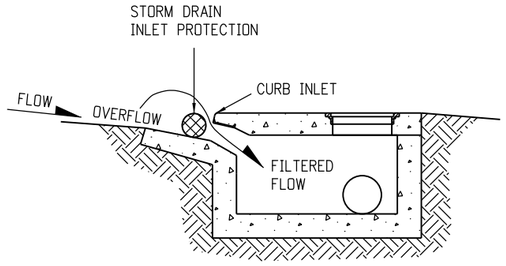


PLAN VIEW



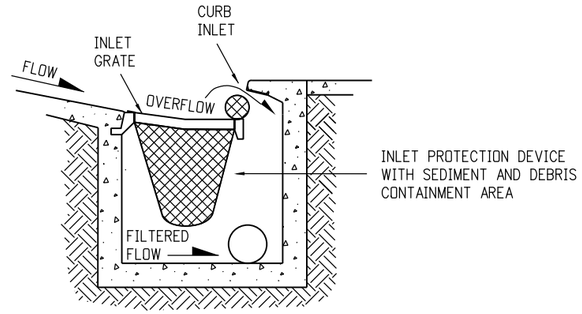
OPTION A

STORM DRAIN INLET PROTECTION (TYPE III)



SECTION A-A

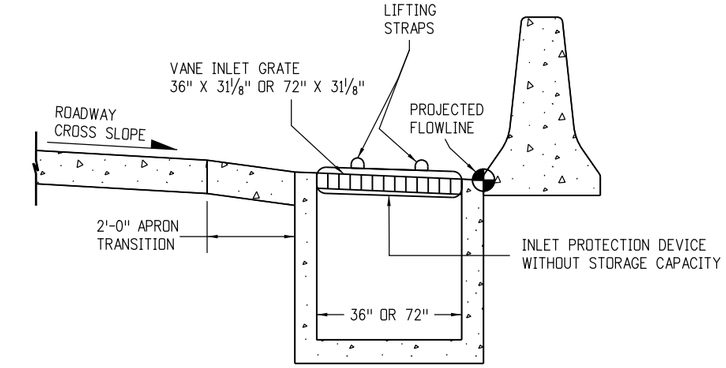
STORM DRAIN INLET PROTECTION (TYPE I)



SECTION B-B

OPTION A

STORM DRAIN INLET PROTECTION (TYPE II)



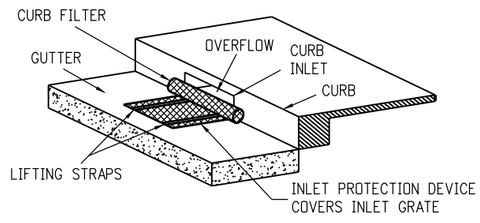
OPTION B

STORM DRAIN INLET PROTECTION (TYPE III)

NOTE: THE PAY ITEM NUMBER FOR STORM DRAIN INLET PROTECTION (TYPE III) (EACH) IS 208-00056.

NOTES

1. INLET PROTECTION DEVICE SHALL EXTEND 12 INCHES PAST EACH END OF THE INLET.
2. THE PAY ITEM NUMBER FOR STORM DRAIN INLET PROTECTION (TYPE I) (EACH) IS 208-00051.
3. FOR STORM DRAIN INLET TYPES I AND II, IF THERE IS A MINIMUM CLEARANCE OF 3 FEET FROM THE EDGE OF THE TRAVELED WAY TO THE FACE OF CURB, USE THE AGGREGATE BAGS AT STORM DRAIN INLET (TYPE I) DETAIL ON SHEET 4 INSTEAD.



ISOMETRIC VIEW

OPTION B

STORM DRAIN INLET PROTECTION (TYPE II)

NOTE: THE PAY ITEM NUMBER FOR STORM DRAIN INLET PROTECTION (TYPE II) (EACH) IS 208-00052.

STORM DRAIN INLET PROTECTION TYPES

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 03/29/16 Initials: LTA	(R-X)	03/29/16	Added Note 3.
Full Path: www.coloradodot.info/business/designsupport	(R-X)		
Drawing File Name: 2080105011.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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TEMPORARY EROSION CONTROL

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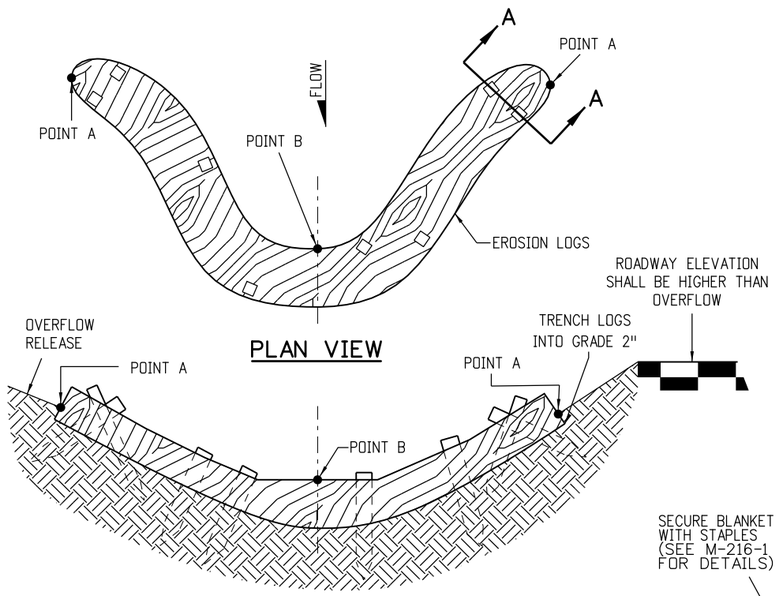
STANDARD PLAN NO.

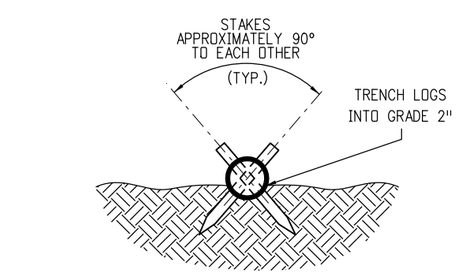
M-208-1



PLAN VIEW

NOTE: POINTS "A" SHALL BE A MINIMUM 4" HIGHER THAN POINT "B".

ELEVATION

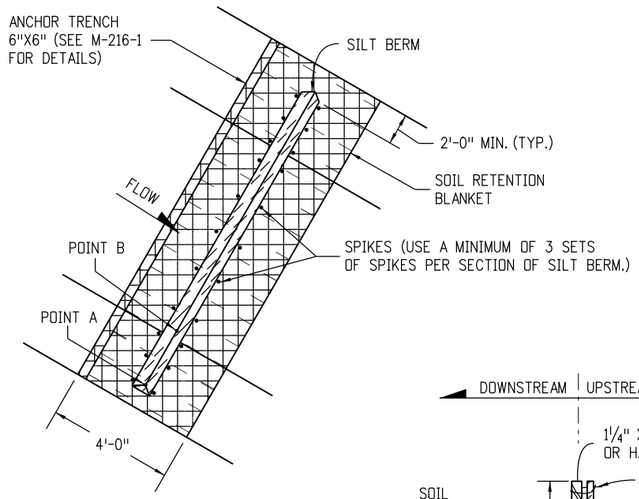


SECTION A-A

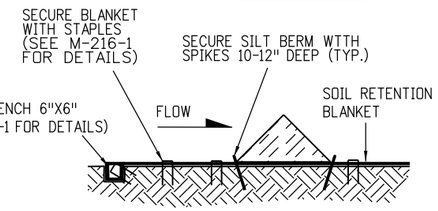
NOTES

1. EROSION LOGS SHALL BE EMBEDDED 2 INCHES INTO THE SOIL.
2. STAKES SHALL BE EMBEDDED TO A MINIMUM DEPTH OF 12 INCHES.
3. EROSION LOGS SHALL BE TIGHTLY ABUTTED WITH NO GAPS.
4. V-SHAPED TEMPORARY DITCHES SHALL NOT BE USED. DITCHES SHAL BE GRADED IN A PARABOLIC OR TRAPEZOIDAL SHAPE.

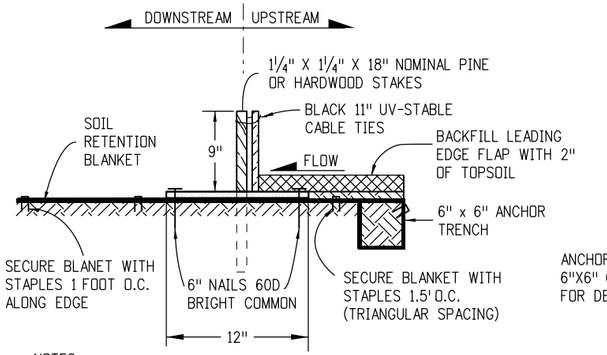
EROSION LOG INSTALLATION



PLAN VIEW



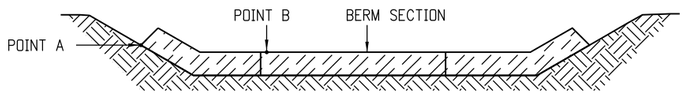
SILT BERM (1) SECTION VIEW



NOTES:

1. MINIMUM 4 NAILS PER SEGMENT (UPSTREAM).
2. MINIMUM 2 NAILS PER SEGMENT (DOWNSTREAM).

SILT BERM (2) SECTION VIEW



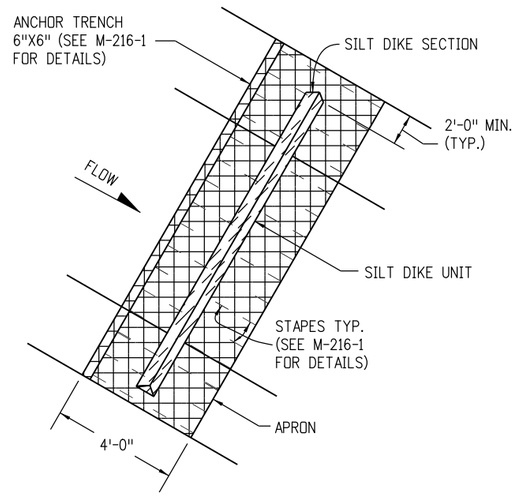
POINT "A" SHALL BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE BERM AND NOT AROUND THE ENDS.

FRONT VIEW

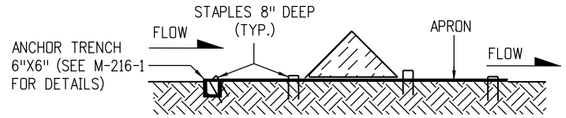
NOTES

1. ANCHOR SOIL RETENTION BLANKET INTO TRENCH WITH 8 INCHES MIN. STAPLES PLACED AT 1 FOOT INTERVALS ALONG EDGE.
2. FILL AND COMPACT TRENCH.
3. SECTIONS OF THE SILT BERM SHALL BE OVERLAPPED WITH NO GAPS.
4. FOR SLOPE AND CHANNEL SPACING SEE THE "SECTION VIEW ALONG DITCH FLOWLINE" DETAIL ON SHEET 11 OF 11.
5. SOIL RETENTION BLANKET SHALL ALWAYS BE REQUIRED.
6. THE PAY ITEM NUMBER FOR SILT BERM (LF) IS 208-00004.

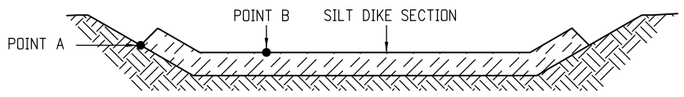
SILT BERM INSTALLATION



PLAN VIEW



TYPICAL SECTION



POINT "A" SHALL BE HIGHER THAN POINT "B" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

FRONT VIEW

NOTES

1. ANCHOR APRON INTO TRENCH WITH 8 INCH MINIMUM STAPLES PLACED AT 1 FOOT INTERVALS ALONG EDGE.
2. FILL AND COMPACT TRENCH.
3. THE APRON SHALL EXTEND A MINIMUM OF 2 FEET BEYOND EACH SIDE OF THE TRIANGLE.
4. FOR SLOPE AND CHANNEL SPACING SEE THE "SECTION VIEW ALONG DITCH FLOWLINE" DETAIL ON SHEET 11 OF 11.
5. THE PAY ITEM NUMBER FOR SILT DIKE (LF) IS 208-00001.

SILT DIKE INSTALLATION

DRAINAGE DITCH APPLICATIONS

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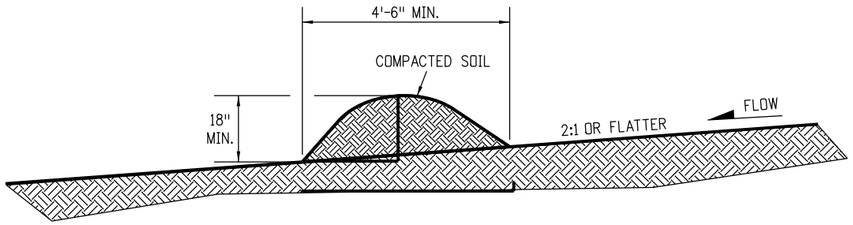
TEMPORARY EROSION CONTROL

Issued By: Project Development Branch on July 4, 2012

STANDARD PLAN NO.

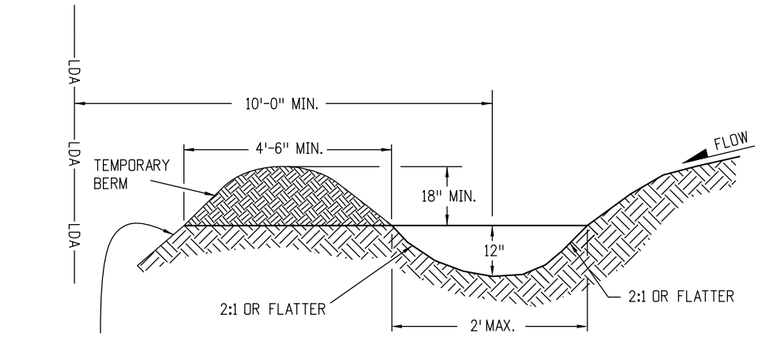
M-208-1



NOTES:

1. BERMS SHALL HAVE A HEIGHT OF 18 INCHES, SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM BASE WIDTH OF 4'-6" FEET.
2. BERMS SHALL BE USED TO INTERCEPT AND DIVERT DRAINAGE TO A DESIGNATED OUTLET.
3. BERMS SHALL NOT BE USED WHERE DRAINAGE AREA EXCEEDS 10 ACRES.
4. BERMS SHALL BE CONSTRUCTED OUT OF MATERIAL COMPACTED WITH AT LEAST A MINIMUM OF ONE WHEEL ROLLED COMPACTION.
5. THE PAY ITEM NUMBER FOR TEMPORARY BERM (LF) IS 208-00300.
6. BERMS SHALL BE CONSTRUCTED OUT OF ACCEPTABLE MATERIAL THAT CAN BE COMPACTED AND RECEIVE AT A MINIMUM HEAVY EQUIPMENT WHEEL ROLLED COMPACTION.

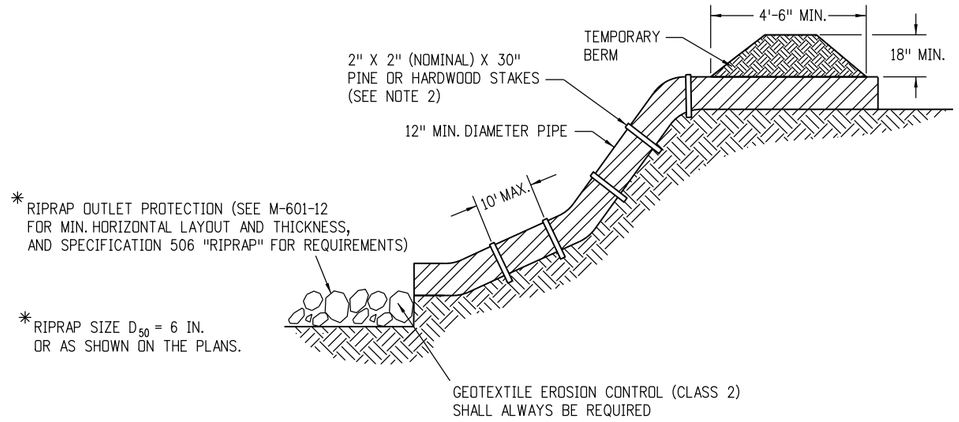
TEMPORARY BERM



NOTES

1. TEMPORARY DIVERSION DITCHES SHALL BE CONSTRUCTED ACROSS THE SLOPE TO INTERCEPT RUNOFF AND DIRECT IT TO A STABLE OUTLET OR SEDIMENT TRAP.
2. USE THE TEMPORARY DIVERSION DITCH IMMEDIATELY ABOVE A NEW CUT, FILL SLOPE, OR AROUND THE PERIMETER OF A DISTURBED AREA.
3. THE GRADIENT ALONG THE FLOW PATH SHALL HAVE A POSITIVE GRADE TO ASSURE DRAINAGE, BUT SHALL NOT BE SO STEEP AS TO RESULT IN EROSION DUE TO HIGH VELOCITY.
4. THE DIVERSION FLOWLINE SHALL ALWAYS BE LOCATED A MINIMUM 10 FEET FROM THE OUTSIDE LIMITS OF DISTURBED AREA BOUNDARY.
5. THE PAY ITEM NUMBER FOR TEMPORARY DIVERSION (LF) IS 208-00301.

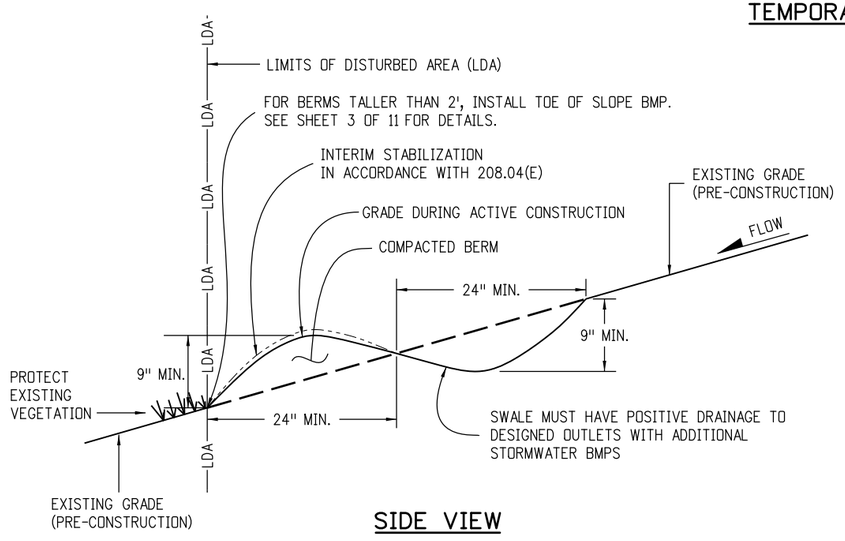
TEMPORARY DIVERSION



NOTES

1. ANCHOR SIZE VARIES ACCORDING TO PIPE SIZE
2. TO SECURE THE PIPE, DRIVE STAKES INTO GROUND, THEN TIE A 12 GUAGE WIRE BETWEEN THEM ABOVE AND ACROSS THE PIPE'S WIDTH.
3. THE OUTLET SHALL BE ALIGNED WITH THE FLOW DIRECTION OF THE EXISTING GRADE. PERPENDICULAR DISCHARGE TO A CHANNEL SHALL NOT BE ACCEPTABLE.
4. THE GRADE AROUND THE INLET TO THE PIPE SHALL BE COMPACTED.
5. THE PAY ITEM NUMBER FOR TEMPORARY SLOPE DRAINS (LF) IS 208-00060.

TEMPORARY SLOPE DRAINS



SIDE VIEW

NOTES:

1. BERMS CAN ONLY BE USED IF CONDITIONS ALLOW UNINTERRUPTED POSITIVE GRADE (MAXIMUM GRADIENT 3%) TO AN OUTLET PROTECTED WITH ADDITIONAL BMPS.
2. MAXIMUM DRAINAGE AREA FOR EACH OUTLET FROM THE SWALE SHALL BE LIMITED TO 2 ACRES.
3. CONTRACTOR SHALL SALVAGE TOPSOIL AND PLACE AFTER BERM IS REMOVED FOR FINAL SEEDING OF ALL DISTURBED AREAS.
4. ALL ACTIVITIES REQUIRED TO ACCOMPLISH TEMPORARY BERM (EXCLUDING SURFACE MULCHING) SHALL BE INCLUDED IN THE COST OF WORK AND WILL NOT BE PAID FOR SEPARATELY.
5. BERMS SHALL BE CONSTRUCTED OUT OF ACCEPTABLE MATERIAL THAT CAN BE COMPACTED AND RECEIVE AT A MINIMUM HEAVY EQUIPMENT WHEEL ROLLED COMPACTION.
6. THE PAY ITEM NUMBER FOR TEMPORARY BERM (LF) IS 208-00300.

TEMPORARY BERM (AT EDGE OF DISTURBANCE)

GRADING APPLICATIONS

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TEMPORARY EROSION CONTROL

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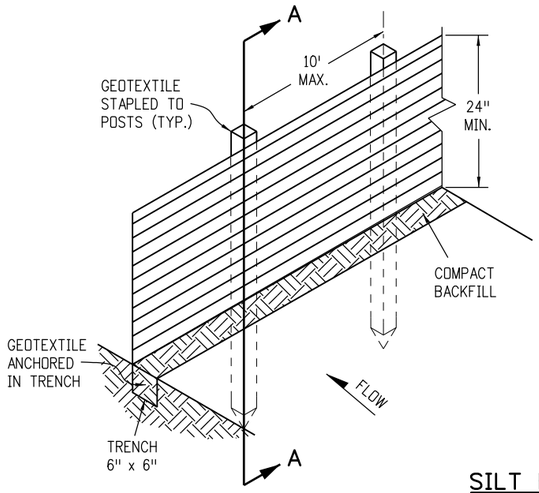
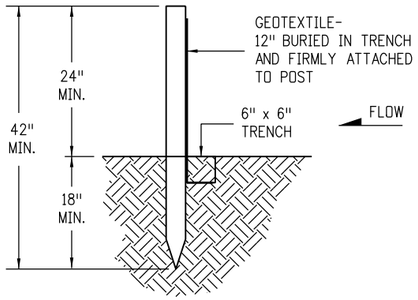
Sheet No. 7 of 11



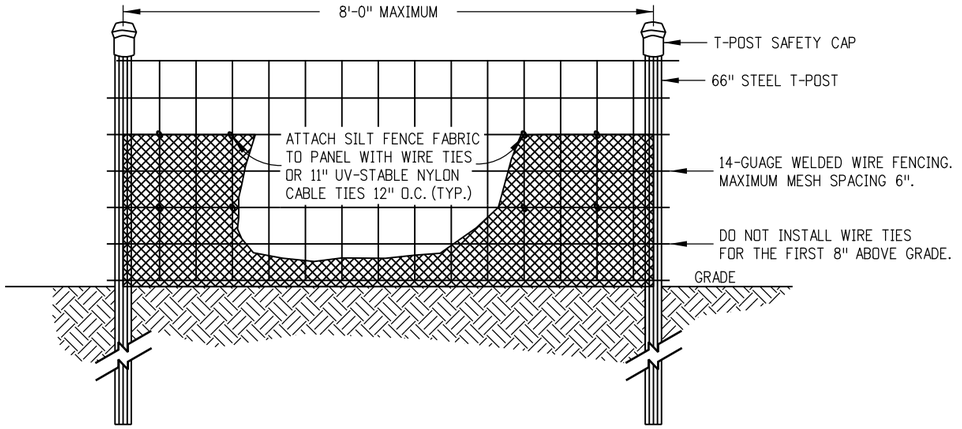


SECTION A-A

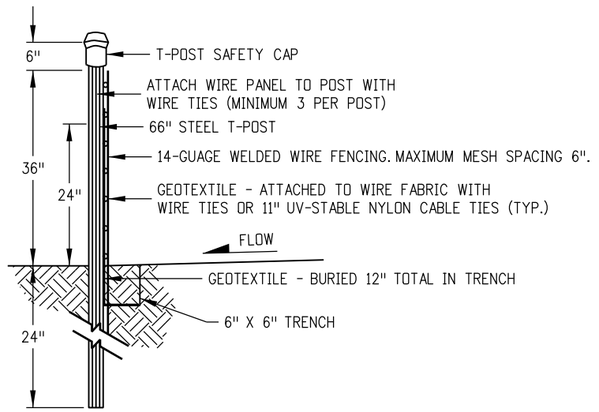
SILT FENCE

NOTES

1. GEOTEXTILE SHALL BE ATTACHED TO WOOD POSTS WITH THREE OR MORE STAPLES PER POST. STAPLES SHALL BE HEAVY DUTY WIRE AND AT LEAST 1" INCH LONG
2. WOOD POST SHALL BE 1½" X 1½" NOMINAL.
3. THE PAY ITEM NUMBER FOR SILT FENCE (LF) IS 208-00020.
4. THE SILT FENCE SHALL BE PLACED ON THE CONTOUR (AT THE SAME ELEVATION ±6"). THE ENDS SHALL BE FLARED UP SLOPE (MINIMUM ELEVATION GAIN OF 18").



ELEVATION VIEW

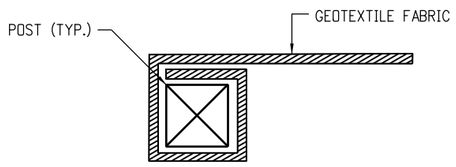


SIDE VIEW

NOTES

1. THE ENDS OF THE SILT FENCE FABRIC SHALL BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.
2. SILT FENCES SHALL NOT BE USED FOR CHECK DAMS.
3. THE PAY ITEM NUMBER FOR SILT FENCE (REINFORCED) (LF) IS 208-00021.

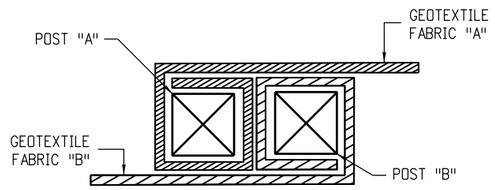
SILT FENCE (REINFORCED)



END SECTION DETAIL (PLAN VIEW)

NOTE

1. THE END OF THE SILT FENCE FABRIC SHALL BE WRAPPED APPROX. 6 INCHES AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.



JOINING SECTION DETAIL (PLAN VIEW)

NOTES

1. THE ENDS OF THE SILT FENCE FABRIC SHALL BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.
2. POSTS SHALL BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.

SILT FENCE APPLICATIONS

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TEMPORARY EROSION CONTROL

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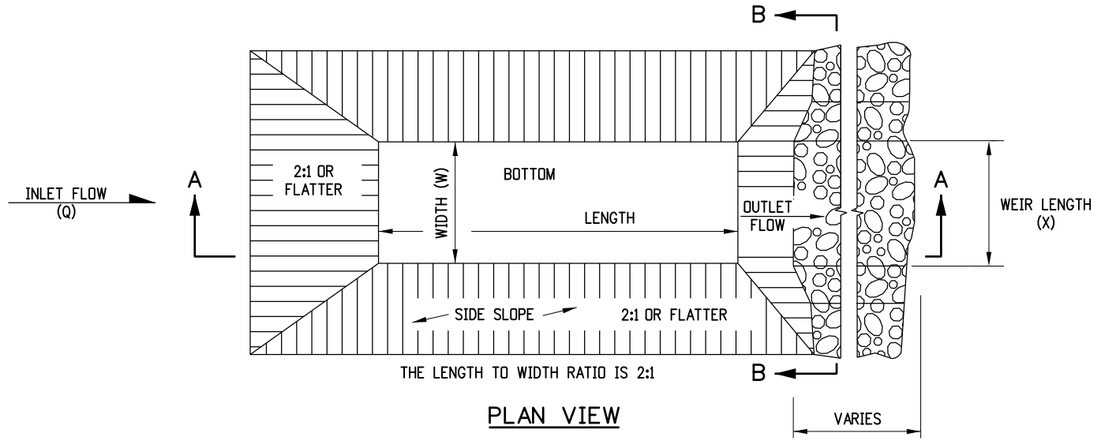
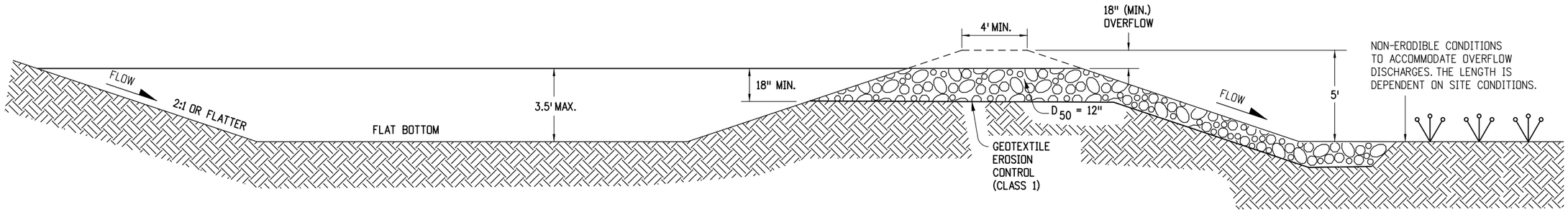


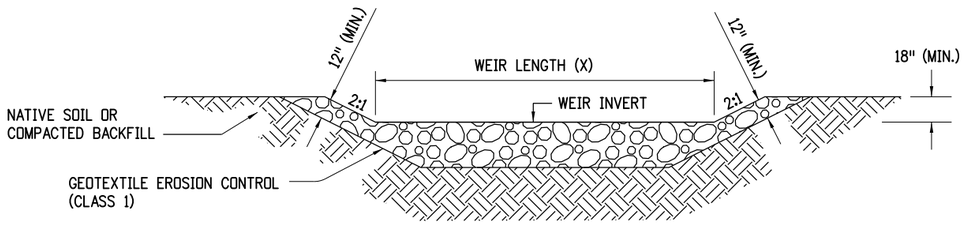
PLAN VIEW

NOTES

1. THE MAXIMUM DRAINAGE AREA IS 5 ACRES.
2. THE MAXIMUM STRUCTURE LIFE IS 2 YEARS.
3. THE STORAGE AREA IS 1800 CUBIC FEET PER ACRE.
4. THE MAXIMUM EMBANKMENT HEIGHT SHALL BE 5 FT. MEASURED ON THE DOWNSTREAM SIDE.
5. THE LENGTH/WIDTH RATIO MAY BE ADJUSTED TO MEET SITE CONDITIONS WHEN APPROVED BY THE ENGINEER.
6. WIDTH (W) OF SEDIMENT TRAP IS APPROXIMATELY EQUAL TO THE WEIR LENGTH (X).
7. SEDIMENT TRAP DESIGN SHALL BE APPROVED BY THE ENGINEER.
8. THE DOWN GRADE FROM WEIR SHALL BE STABLE AND NON-ERODIABLE.
9. THE PAY ITEM NUMBER FOR SEDIMENT TRAP (LF) IS 208-00033.



SECTION A-A



SECTION B-B

DRAINAGE AREA (ACRES)	WEIR LENGTH (FEET)
1	4
2	6
3	8
4	10
5	12

WEIR LENGTH TABLE

SEDIMENT TRAP

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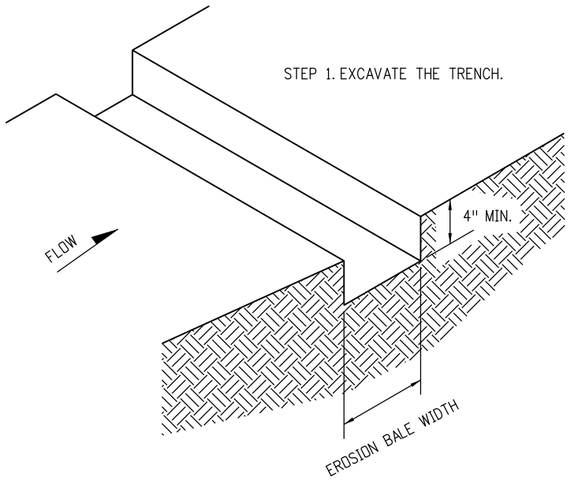
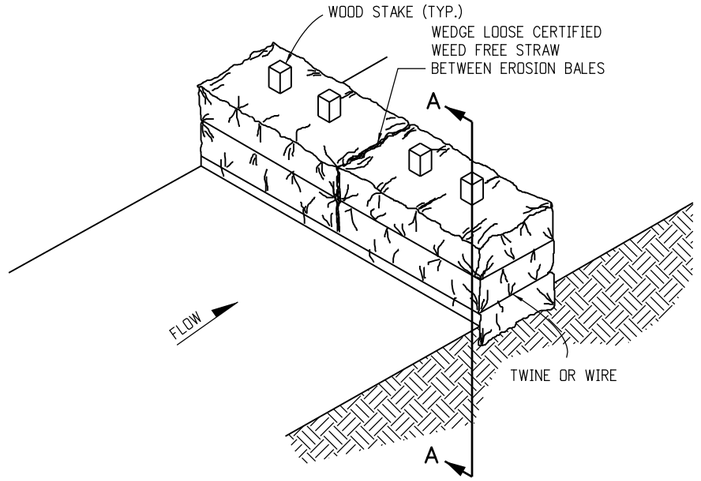
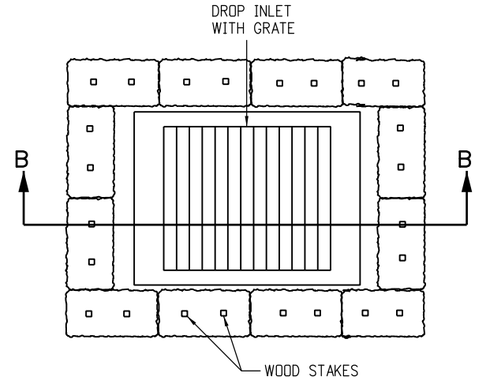


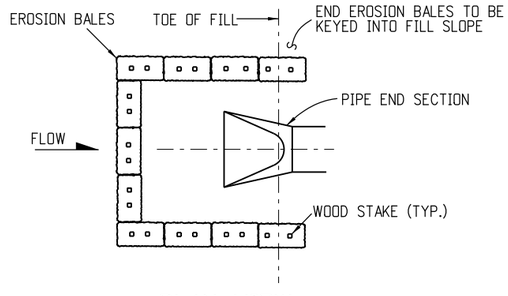


NOTES

1. STAKES SHALL BE WOOD AND SHALL BE 2" X 2" X 30" NOMINAL.
2. EROSION BALES SHALL BE 18" X 18" X 36".
3. EROSION BALES SHALL BE ENTRENCHED 4 IN. MINIMUM INTO THE SOIL, THIGHTLY ABUTTED WITH NO GAPS, STAKED, AND BACKFILLED AROUND THE ENTIRE OUTSIDE PERIMETER.
4. EROSION BALES CANNOT BE USED FOR CHECK DAMS.
5. THE PAY ITEM NUMBER FOR EROSION BALES (WEED FREE) (EA) IS 208-00011.

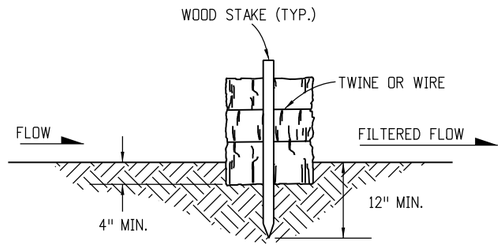


PLAN VIEW



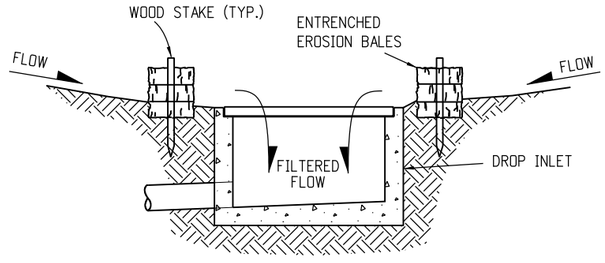
PLAN VIEW

EROSION BALE CULVERT INLET PROTECTION



SECTION A-A

EROSION BALE TRENCHING AND STAKING



SECTION B-B

EROSION BALE FILTER AT DROP INLET

EROSION BALE APPLICATIONS

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Drawing File Name: 20801010011.dgn	(R-X)		
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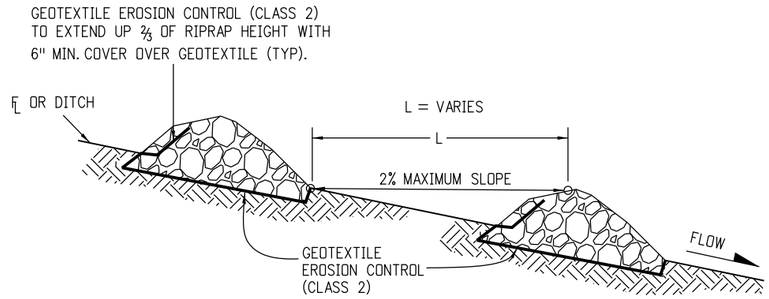
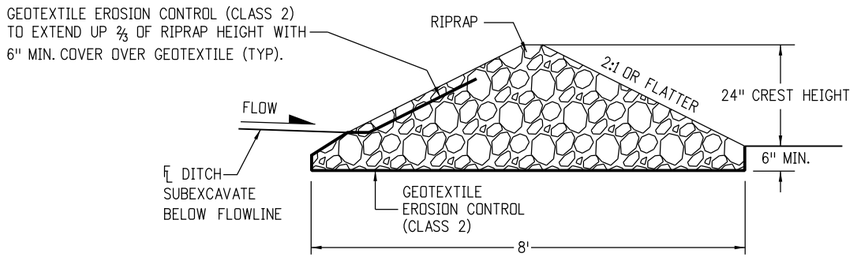
Sheet No. 10 of 11



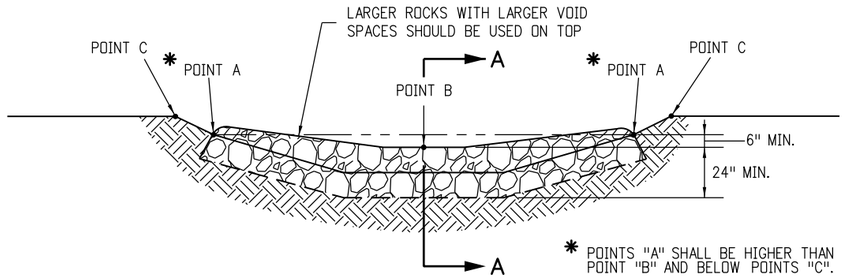
SECTION VIEW ALONG DITCH FLOWLINE



SECTION A-A

NOTES:

1. RIPRAP SIZE D_{50} = 6" OR AS SHOWN ON THE PLANS.
2. THE GEOTEXTILE EROSION CONTROL SHALL BE CLASS 2 AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 712.08.
3. THE ENDS OF RIPRAP CHECK DAM SHALL BE A MINIMUM OF 6 IN. HIGHER THAN CENTER OF CHECK DAM.
4. FOR USE AS TEMPORARY CHECK DAMS ONLY AND NOT FOR PERMANENT INSTALLATIONS.
5. THE PAY ITEM NUMBER FOR ROCK CHECK DAM (EA) IS 208-00041.



TYPICAL SECTION VIEW

ROCK CHECK DAM

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Drawing File Name: 20801011011.dgn	(R-X)		
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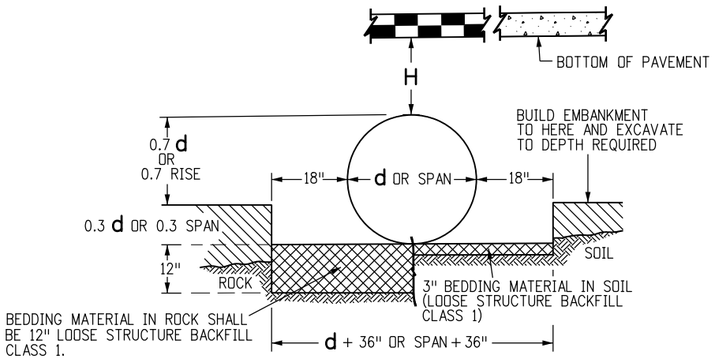
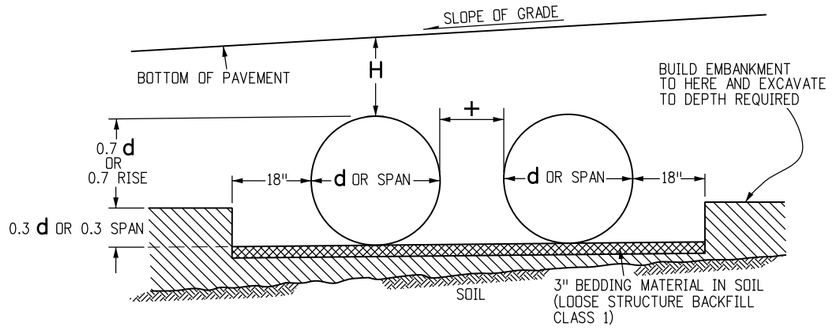
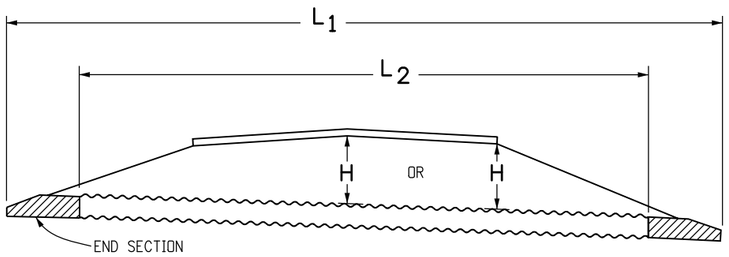


INSTALLATION OF METAL PIPE

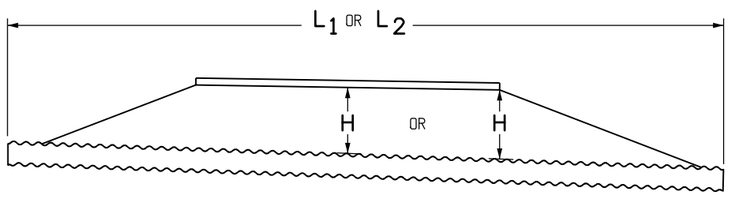


INSTALLATION OF MULTIPLE METAL PIPES



METAL PIPE WITH END SECTIONS

NOTE: USE THE H THAT IS GREATER FOR MAXIMUM ALLOWABLE FILL HEIGHT.

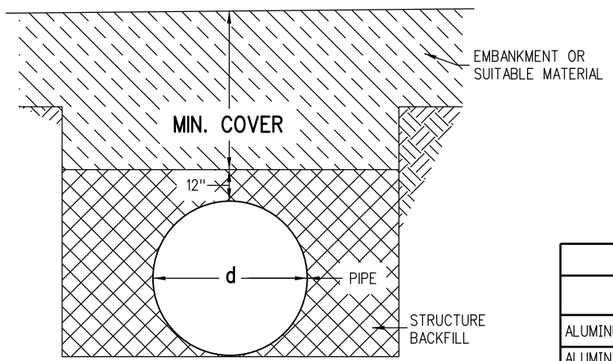


METAL PIPE WITHOUT END SECTIONS

NOTE: USE THE H THAT IS GREATER FOR MAXIMUM ALLOWABLE FILL HEIGHT.

	MINIMUM COVER (IN.) FOR INDICATED AXLE LOADS, kips			
PIPE SPAN (IN.)	18.0 - 50.0	50.0 - 75.0	75.0 - 110.0	110.0 - 150.0
12.0 - 42.0	24	30	36	36
48.0 - 72.0	36	36	42	48
78.0 - 120.0	36	42	48	48
126.0 - 144.0	42	48	54	54

MINIMUM COVER FOR CONSTRUCTION LOADS



CONSTRUCTION MINIMUM COVER FOR PIPE

GENERAL NOTES

1. STEEL PIPES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M36. ALUMINUM PIPES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M196. ALUMINIZED STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M274.
2. MINIMUM COVER SHALL BE PROVIDED DURING CONSTRUCTION TO PROTECT THE STRUCTURE FROM DAMAGE.
3. PIPE SHALL BE PLACED WITH LONGITUDINAL SEAMS AT THE SIDES OR QUARTER POINTS BUT NOT ALONG TOP OF VERTICAL AXIS.
4. STRUCTURAL PLATE PIPES OF EQUAL OR GREATER DIAMETER THAT CONFORM TO SECTION 510 MAY BE SUBSTITUTED FOR THE PIPES ON THESE SHEETS AT THE CONTRACTOR'S EXPENSE.
5. WHEN A PIPE IS TO BE EXTENDED, THE SAME PIPE MATERIAL AND SIZE AS IN THE ORIGINAL INSTALLATION SHALL BE USED.
6. EXTENSIONS FOR CMP ARCH PIPE SHALL MATCH THE CORRUGATIONS, AND THE SPAN AND RISE DIMENSIONS OF THE PIPE TO BE EXTENDED.
7. WHEN INSTALLING A GUARDRAIL OR A SIGN POST DIRECTLY ABOVE A PIPE, THE BOTTOM OF THE POST MUST BE AT LEAST 1 FOOT ABOVE THE TOP OF THE PIPE. THE HOLE FOR THE POST SHALL BE DRILLED INTO THE SOIL.
8. PIPE ARCH WITH EQUAL PERIPHERY AND WITH SPAN AND RISE DIMENSIONS APPROXIMATELY EQUAL TO THOSE SPECIFIED ON THE PLANS WILL BE PERMITTED.
9. PIPE ARCH IS INTENDED FOR USE WHERE MINIMUM COVER REQUIREMENTS FOR ROUND PIPE CANNOT BE MET. WHEN COVER EXCEEDS 11 FT. USE ROUND PIPE.
10. PIPE COVER GREATER THAN 90 FT. SHALL REQUIRE AN INVESTIGATION OF THE FOUNDATION MATERIAL.

LEGEND

H = THE MAXIMUM ALLOWABLE HEIGHTS OF FILL OVER THE TOP OF THE PIPE, EXCLUDING PAVEMENT THICKNESS, ARE SHOWN IN THE TABLES OF THIS STANDARD.

THE MINIMUM COVER SHALL BE AS SHOWN ON THESE TABLES OR CONFORM TO AASHTO REQUIREMENTS, WHICHEVER IS GREATER.

THE MINIMUM COVER FOR PIPE IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT: HMA OR PCCP.

THE MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE SUBGRADE FOR CONSTRUCTION LOADS.

L_1 = LENGTH OF PIPE TO BE MEASURED WHEN PLACED IN ACCORDANCE WITH SECTION 624.

L_2 = LENGTH OF PIPE TO BE MEASURED WHEN PLACED IN ACCORDANCE WITH SECTION 603.

\+ = THE MINIMUM SPACING BETWEEN THE OUTSIDE WALLS OF MULTIPLE PIPES OR END SECTIONS IS 18" OR ½ d, WHICHEVER IS GREATER, BUT NOT TO EXCEED 36".

CONVERSION OF NOMINAL GAGE TO THICKNESS					
GAGE NO.	16	14	12	10	8
ALUMINUM THICKNESS - IN.	0.060	0.075	0.105	0.135	0.164
ALUMINIZED OR GALVANIZED STEEL THICKNESS - IN.	0.064	0.079	0.109	0.138	0.168

ALLOWED WALL THICKNESS

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03/05/14	Deleted "H MIN." dim. Revised Gen Note 2 and 1st note in Legend.
04/29/14	Added applicable coating types notes to all sheets.

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METAL PIPE

Issued By: Project Development Branch on July 4, 2012

STANDARD PLAN NO.
M-603-1
Sheet No. 1 of 4

THESE TABLES ARE APPLICABLE FOR THE FOLLOWING LIST OF CORRUGATED STEEL PIPE:

1. GALVANIZED CORRUGATED STEEL PIPE (CSP)
2. ALUMINIZED CORRUGATED STEEL PIPE TYPE 2 (ALT2 CSP)
3. BITUMINOUS COATED CORRUGATED STEEL PIPE (BIT. CO. CSP)
4. ARAMID FIBER BONDED CORRUGATED STEEL PIPE (A.F. BO. CSP)
5. PRECOATED CORRUGATED STEEL PIPE (PCSP- BOTH SIDES)

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
12	24	207	259			
15	24	165	207			
18	24	138	172	242		
21	24	118	148	207		
24	24	103	129	181		
30	24	82	103	145		
36	24	68	86	120	155	
42	24	58	73	103	133	163
48	36	51	64	90	103	142
54	36		57	80	93	126
60	36			72	84	114
66	36				77	103
72	36					94
78	36					84
84	36					72

2-⅔" X ½" CORRUGATIONS
CORRUGATED STEEL PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
17 X 13	15	24	16	13
21 X 15	18	24	16	12
24 X 18	21	24	16	13
28 X 20	24	24	16	12
35 X 24	30	24	16	12
42 X 29	36	24	16	12
49 X 33	42	24	14	12
57 X 38	48	36	12	12
64 X 43	54	36	12	12
71 X 47	60	36	10	12
77 X 52	66	36	8	12
83 X 57	72	36	8	12

2-⅔" X ½" CORRUGATIONS *
CORRUGATED STEEL PIPE ARCH

* CORNER BEARING PRESSURE OF 2 TONS PER SQ. FT.

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	
		H MAXIMUM OF COVER (FT.)	
		16	14
6	24	408	509
8	24	306	382
10	24	244	305

1-½" X ¼" CORRUGATIONS
CORRUGATED STEEL PIPE

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
48	36	59	74	104	134	164
54	36	52	65	92	119	146
60	36	47	59	83	107	131
66	36	42	53	75	97	119
72	36	39	49	69	89	109
78	36		45	63	82	101
84	36		42	59	76	93
90	36			55	71	87
96	36			51	66	81
102	36			48	62	77
108	36				59	72
114	36				56	68
120	36				53	65
126	42					62

3" X 1" CORRUGATIONS
CORRUGATED STEEL PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
53 X 41	48	36	14	12
60 X 46	54	36	14	20
66 X 51	60	36	14	20
73 X 55	66	36	14	20
81 X 59	72	36	14	17
87 X 63	78	36	14	16
95 X 67	84	36	14	16
103 X 71	90	36	12	16
112 X 75	96	36	12	16
117 X 79	102	36	12	16

3" X 1" CORRUGATIONS *
CORRUGATED STEEL PIPE ARCH

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R-X	03/05/14	Revised detail titles and added "H" to tables.
R-X		
R-X		
R-X		

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METAL PIPE

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STANDARD PLAN NO.
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DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
54	36	46	58	82	106	129
60	36		52	74	95	116
66	36		47	66	86	106
72	36			61	79	97
78	36			56	73	89
84	36			53	68	83
90	36				63	77
96	36				59	72
102	36				55	68
108	36					64

5" X 1" CORRUGATIONS
CORRUGATED STEEL PIPE

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE			
		H MAXIMUM OF COVER (FT.)			
		16	14	12	10
18	24	90	126		
21	24	77	108	181	
24	24	67	95	158	
30	24	54	75	126	
36	24	45	63	105	
42	24	38	54	90	
48	36	33	47	78	114
54	36	29	41	70	101
60	36		37	63	91
66	36		34	57	83
72	36			52	76
78	36			48	70
84	36			44	65
90	36				60
96	36				56
102	36				50

¾" X ¾ 7-½" CORRUGATIONS
CORRUGATED STEEL PIPE

THESE TABLES ARE APPLICABLE FOR THE FOLLOWING LIST OF CORRUGATED STEEL PIPE:
1. GALVANIZED CORRUGATED STEEL PIPE (CSP)
2. ALUMINIZED CORRUGATED STEEL PIPE TYPE 2 (ALT2 CSP)
3. BITUMINOUS COATED CORRUGATED STEEL PIPE (BIT. CO. CSP)
4. ARAMID FIBER BONDED CORRUGATED STEEL PIPE (A.F. BO. CSP)
5. PRECOATED CORRUGATED STEEL PIPE (PCSP- BOTH SIDES)

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
81 X 59	72	36	12	17
87 X 63	78	36	12	16
95 X 67	84	36	12	16

5" X 1" CORRUGATIONS
CORRUGATED STEEL PIPE ARCH *

* CORNER BEARING PRESSURE OF 2 TONS PER SQ. FT.

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
20 X 16	18	24	16	16
23 X 19	21	24	16	15
27 X 21	24	24	16	13
33 X 26	30	24	16	13
40 X 31	36	24	16	14
46 X 36	42	24	12	13
53 X 41	48	36	12	13
60 X 46	54	36	12	20
66 X 51	60	36	12	20

¾" X ¾ 7-½" CORRUGATIONS
CORRUGATED STEEL PIPE ARCH *

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THESE TABLES ARE APPLICABLE FOR THE FOLLOWING LIST OF CORRUGATED STEEL PIPE:

1. GALVANIZED CORRUGATED STEEL PIPE (CSP)
2. ALUMINIZED CORRUGATED STEEL PIPE TYPE 2 (ALT2 CSP)
3. BITUMINOUS COATED CORRUGATED STEEL PIPE (BIT. CO. CSP)
4. ARAMID FIBER BONDED CORRUGATED STEEL PIPE (A.F. BO. CSP)
5. PRECOATED CORRUGATED STEEL PIPE (PCSP- BOTH SIDES)

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE
		H MAXIMUM OF COVER (FT.)
		16
6	24	247
8	24	185
10	24	148

1-½" X ¼" CORRUGATIONS
CORRUGATED ALUMINUM PIPE

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE			
		H MAXIMUM OF COVER (FT.)			
		16	14	12	10
18	24	43	61		
21	24	38	52	84	
24	24	33	45	73	
30	24	26	36	58	
36	24	21	30	49	69
42	24		25	41	59
48	36			36	51
54	36			32	46
60	36			29	41
66	36				37
72	36				34

¾" X ¾" 7-½" CORRUGATIONS
CORRUGATED ALUMINUM PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE			
			H MAXIMUM OF COVER (FT.)			
			16	14	12	10
20 X 16	18	24	16			
23 X 19	21	24	15			
27 X 21	24	24	13	13		
33 X 26	30	24	13	13	13	
40 X 31	36	24		13	13	
46 X 36	42	24			13	13
53 X 41	48	36			13	13
60 X 46	54	36			20	20
66 X 51	60	36				20

¾" X ¾" 7-½" CORRUGATIONS
CORRUGATED ALUMINUM PIPE ARCH *

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
12	24	125	157			
15	24	100	125			
18	24	83	104			
21	24	71	89			
24	24	62	78	109		
27	24		69	97		
30	24		62	87		
36	24		51	73	94	
42	24			62	80	
48	36			54	70	85
54	36			48	62	76
60	36				52	64
66	36					52
72	36					43

2-⅔" X ½" CORRUGATIONS
CORRUGATED ALUMINUM PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
17 X 13	15	24	16	13
21 X 15	18	24	16	12
24 X 18	21	24	16	13
28 X 20	24	24	16	12
35 X 24	30	24	16	12
42 X 29	36	24	16	12
49 X 33	42	24	14	12
57 X 38	48	36	12	12
64 X 43	54	36	12	12
71 X 47	60	36	10	12

2-⅔" X ½" CORRUGATIONS
CORRUGATED ALUMINUM PIPE ARCH *

* CORNER BEARING PRESSURE OF 2 TONS PER SQ. FT.

DIAMETER (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE				
		H MAXIMUM OF COVER (FT.)				
		16	14	12	10	8
30	24	57	72	101	135	159
36	24	47	60	84	112	132
42	24	40	51	72	96	113
48	36	35	44	62	84	99
54	36	31	39	55	74	88
60	36	28	35	50	67	79
66	36	25	32	45	61	72
72	36	23	29	41	56	66
78	36		27	38	51	61
84	36			35	48	56
90	36			33	44	52
96	36			31	41	49
102	36				39	46
108	36				37	43
114	36					39
120	36					36

3" X 1" CORRUGATIONS
CORRUGATED ALUMINUM PIPE

SPAN X RISE (IN. X IN.)	ROUND EQUIVALENT (IN.)	H MINIMUM COVER (IN.)	PIPE GAGE	H MAXIMUM COVER (FT.)
60 X 46	54	36	14	20
66 X 51	60	36	14	20
73 X 55	66	36	14	20
81 X 59	72	36	12	16
87 X 63	78	36	12	16
95 X 67	84	36	12	16
103 X 71	90	36	10	16
112 X 75	96	36	8	16

3" X 1" CORRUGATIONS
CORRUGATED ALUMINUM PIPE ARCH *

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METAL PIPE

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STANDARD PLAN NO.
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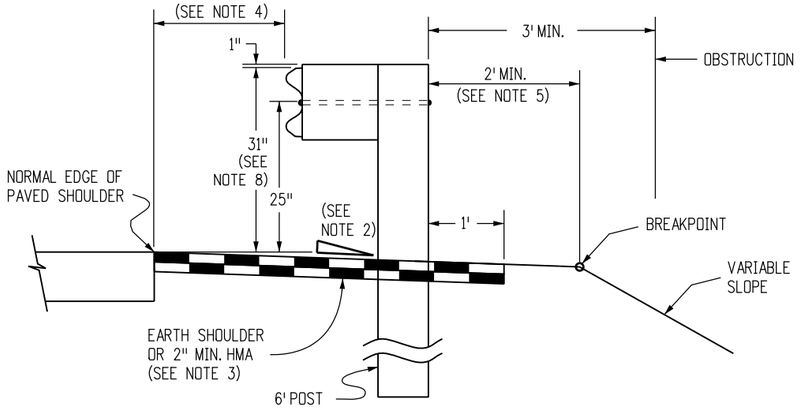
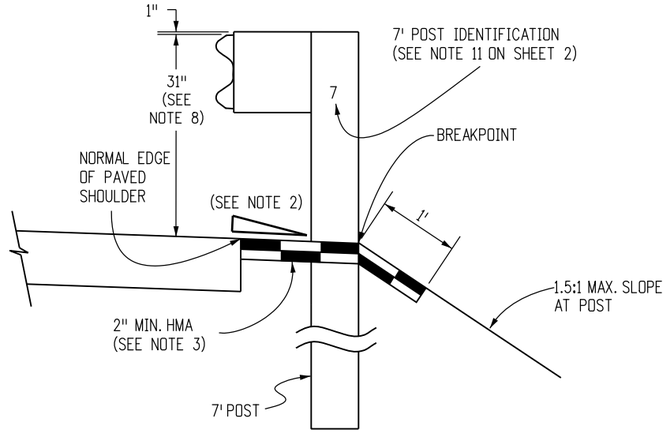
Sheet No. 4 of 4

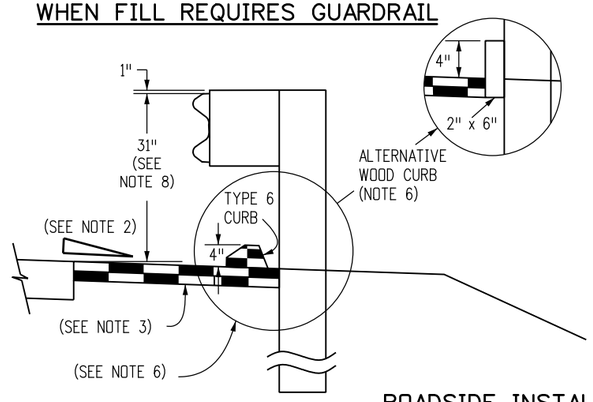


NORMAL ROADSIDE INSTALLATION WHEN FILL REQUIRES GUARDRAIL

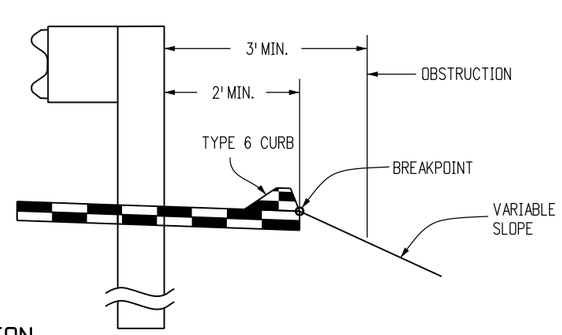


RESTRICTIVE ROADSIDE INSTALLATION WITH 7 FOOT GUARDRAIL POSTS

(SEE NOTE 5)

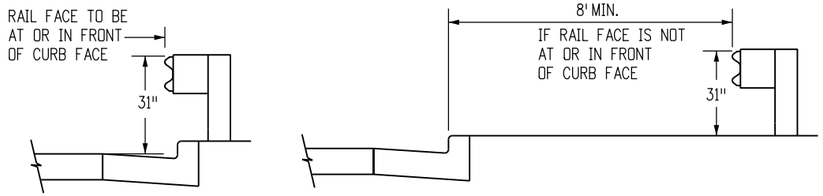


OPTION A



OPTION B

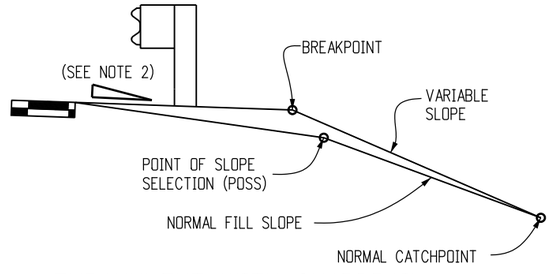
ROADSIDE INSTALLATION WITH EROSION CONTROL CURB



URBAN ROADSIDE INSTALLATION WITH CURB AND GUTTER

LOCATION	SPACING
ALL LOCATIONS EXCEPT BRIDGE RAIL LOCATIONS	6'-3"
BRIDGE OR STRUCTURE APPROACH	SEE SHEETS 12 & 20

NORMAL CENTER-TO-CENTER POST SPACING



EMBANKMENT WITH GUARDRAIL

(NOTE: THE CATCHPOINT REMAINS THE SAME AS THAT FOR "NORMAL" FILL SLOPE. FOR THE WIDER "Z" DISTANCES, THE VARIABLE SLOPE MAY "CATCH" AT THE POSS.)

GENERAL NOTES

1. TOLERANCE FOR TOP OF GUARDRAIL BEAM IS ±1 IN.
2. RATE OF SLOPE DEPENDS ON GUARDRAIL LOCATION:
   A. FOR GUARDRAIL FACE 2 FT. OR LESS FROM THE NORMAL EDGE OF PAVED SHOULDER, CONTINUE THE RATE OF SLOPE OF THE NORMAL PAVED SHOULDER TO THE BREAKPOINT.
   B. FOR GUARDRAIL FACE MORE THAN 2 FT. FROM THE NORMAL EDGE OF THE PAVED SHOULDER, THE SLOPE SHALL BE 10:1 OR FLATTER.
3. WHEN SPECIFIED ON THE PLANS, EXTEND A 2 IN. MINIMUM THICKNESS PAVED SURFACE TO 1 FT. BEHIND THE GUARDRAIL POSTS OR TO THE EROSION CONTROL CURB AS SHOWN ON PLANS. ASPHALT CUTTING & PATCHING OR OTHER APPROVED METHOD SHALL BE USED TO MINIMIZE DAMAGE TO ALL PAVED SURFACES UNDER GUARDRAIL INSTALLATIONS. ALL REPAIRS TO THE PAVED AREA WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK. A MINIMUM 3 IN. THICK FIBER REINFORCED CONCRETE PAVEMENT MAY ALSO BE USED FOR PAVING BENEATH THE GUARDRAIL. INSTALL THE POST IN A ½ IN. OVERSIZED FORMED HOLE FOR GUARDRAIL RUNS AND TERMINALS AS DIRECTED. PAYMENT FOR THIS PAVED SURFACE WILL BE MADE UNDER A PAVEMENT OR CONCRETE PAY ITEM WITH QUANTITIES SHOWN ON THE PLANS.
4. THE MINIMUM GUARDRAIL OFFSET FROM PAVED SHOULDER EDGE SHALL BE:
   0 FT. FOR SHOULDERS 8 FT. OR WIDER
   2 FT. FOR SHOULDERS 6 FT. OR LESS

   THE GUARDRAIL OFFSET FROM PAVED INSIDE SHOULDER EDGE OF A DIVIDED HIGHWAY SHALL BE;
   0 FT. MINIMUM FOR SHOULDERS 6 FT. OR WIDER
   2 FT. DESIRABLE FOR 4 FT. SHOULDERS

   THE ABOVE 2 FT. GUARDRAIL TO SHOULDER OFFSET IS DESIRABLE BUT NOT REQUIRED FOR:
   A. FOR AN EXISTING HIGHWAY WITH A DESIGN SPEED LESS THAN 50 MPH, THE MINIMUM OFFSET IS 4 FT. FROM THE TRAVELED WAY.
   B. FOR A ONE-WAY ONE-LANE RAMP, AND WHERE ONE OR MORE OF THE FOLLOWING ARE TRUE:
      (1) THE NON-OFFSET GUARDRAIL BEGINS AT LEAST 100 FT. BEYOND RAMP NOSE.
      (2) THE NON-OFFSET GUARDRAIL IS NOT LOCATED ON THE RAMP EXIT OR ENTRANCE CURVE CONNECTION TO THE MAJOR HIGHWAY.
      (3) THE RAMP SHOULDERS ARE 4 FT. OR WIDER.

   USE OF GREATER THAN MINIMUM OFFSET DIMENSIONS IS ENCOURAGED TO MEET THE DESIRABLE GOAL OF PLACING THE GUARDRAIL AS FAR AS POSSIBLE FROM THE TRAVEL WAY, EVEN FOR SHORT DISTANCES, WHILE PROVIDING A SMOOTH CHANGE IN GUARDRAIL ALIGNMENT.
5. IF 2 FT. CANNOT BE PROVIDED BETWEEN THE BACK OF THE GUARDRAIL POST AND THE BREAKPOINT, USE 7 FT. GUARDRAIL POSTS. REFER TO THE "RESTRICTIVE ROADSIDE INSTALLATION" DETAIL.
6. WHEN SPECIFIED ON THE PLANS, INSTALL 4 IN. HIGH TYPE 6 CURB WITH ITS FACE AT OR BEHIND THE RAIL FACE. AS AN ALTERNATIVE WHEN SPECIFIED ON THE PLANS, INSTALL A 2 IN. x 6 IN. TREATED (AASHTO M 133) WOOD CURB. FASTEN WITH A 4 IN. LAG BOLT AND WASHER AT EACH WOOD POST, OR WITH A ¼ IN. DIA. BOLT WITH WASHER AND NUT AT EACH STEEL POST. IF THE 2 IN. x 6 IN. WOOD CURB IS SPECIFIED, IT WILL BE INCLUDED IN THE COST OF THE GUARDRAIL. IF APPROVED BY THE ENGINEER, A 2 IN. x 4 IN. TREATED WOOD CURB MAY BE SUBSTITUTED FOR THE 2 IN. x 6 IN. CURB AND SET ON TOP OF PAVEMENT SURFACE AND ATTACHED AS DESCRIBED ABOVE. NO SPLICING SHALL BE ALLOWED IN WOOD CURBS. ADJACENT BOARDS SHALL BE BUTTED TOGETHER AND BOLTED AT A POST LOCATION. JOINTS SHALL BE LOCATED AT THE POSTS.
7. SEE SHEETS 7 AND 9 FOR CURB TREATMENTS AT GUARDRAIL TERMINALS.
8. IF THIS DIMENSION WILL BE LESS THAN 28 INCHES, RESET GUARDRAIL HEIGHT TO 28 INCHES OR ABOVE.
9. ALL W-BEAM SPLICES, AND SPLICES OF TERMINAL CONNECTORS TO W-BEAM SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC UNLESS OTHERWISE NOTED.
10. MATERIAL TYPE AND SHAPE OF POSTS AND BLOCKS SHALL BE THE SAME THROUGHOUT THE PROJECT EXCEPT WHEN SPECIFIC POSTS AND BLOCKS ARE SPECIFIED, i.e. AT END ANCHORAGES AND BOX CULVERTS.

THE GENERAL NOTES CONTINUE ON SHEET 2.

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

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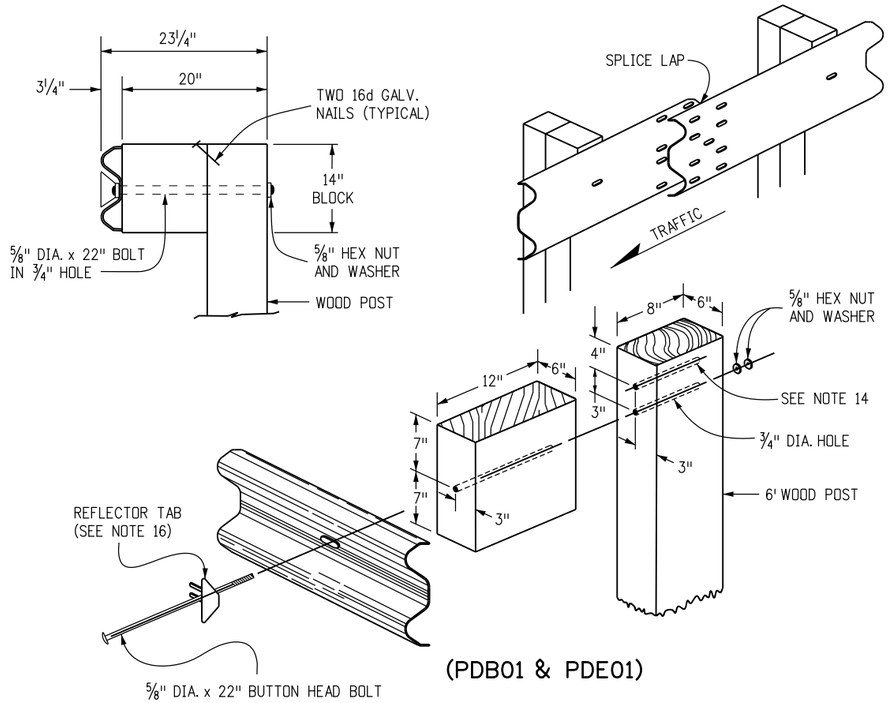
STANDARD PLAN NO.

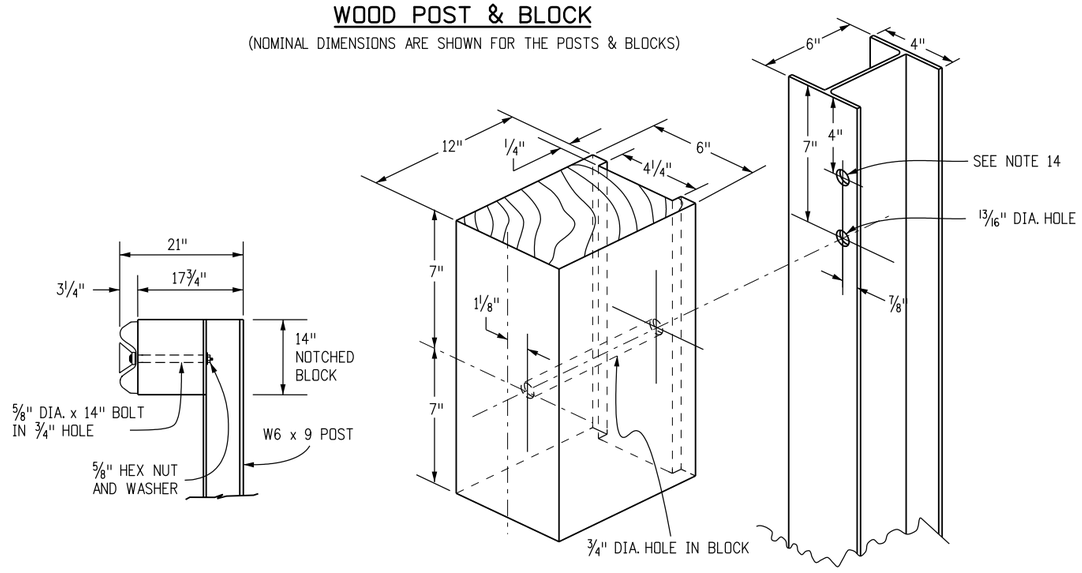
M-606-1



(PDB01 & PDE01)

WOOD POST & BLOCK

(NOMINAL DIMENSIONS ARE SHOWN FOR THE POSTS & BLOCKS)



STEEL POST & NOTCHED BLOCK

(NOMINAL DIMENSIONS ARE SHOWN FOR THE POSTS & BLOCKS)

(PWE01)

GENERAL NOTES (CONTINUED FROM SHEET 1)

11. WHEN SPECIFIED IN THE CONTRACT, 7 FT. POSTS SHALL BE INSTALLED INSTEAD OF THE STANDARD 6 FT. POSTS. THE 7 FT. POSTS SHALL BE MARKED WITH THE NUMBER 7 TO ENSURE PERMANENT INDENTIFICATION. STEEL POSTS SHALL BE STAMPED PRIOR TO GALVANIZING. THE NUMBER 7 SHALL BE A MINIMUM 2 IN. TALL AND LOCATED AS SHOWN ON THE ELEVATION VIEW ON SHEET 1.

12. THE STANDARD 3 IN. X 1¾ IN. X 3/16 IN. RECTANGULAR WASHER USED UNDER POST BOLT HEADS IN THE PAST MAY REMAIN IN EXISTING INSTALLATIONS BUT SHALL NOT BE USED IN NEW CONSTRUCTION, REPAIRS, OR RESETTING OF RAIL, EXCEPT WHEN SPECIFICALLY IDENTIFIED ON THE STANDARD PLAN.

13. STANDARD GALVANIZED ROUND STEEL WASHERS SHALL BE USED UNDER ALL NUTS IN CONTACT WITH WOOD POSTS.

14. AN ADDITIONAL HOLE SHALL BE PROVIDED IN THE POSTS TO FACILITATE FUTURE RAISING OF THE RAIL ELEMENTS AND BLOCKS FOR OVERLAYS.

15. RETROREFLECTOR TABS SHALL BE INSTALLED AT 25 FT. INTERVALS (SEE SHEETS 6 AND 8 FOR EXCEPTIONS). RETROREFLECTOR TABS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK. THE TABS SHALL BE MOUNTED SO THE BOLT SLOT FACES AWAY FROM TRAFFIC, AND THE RETROREFLECTOR SURFACE FACES THE APPROACHING TRAFFIC FOR ONE-WAY ROADS. FOR TWO-WAY ROADS, BOTH SIDES OF THE TABS SHALL BE RETROREFLECTIVE, SO THAT DELINEATION IS PROVIDED FOR BOTH DIRECTIONS OF TRAVEL. THE RETROREFLECTIVE SHEETING COLOR SHALL MATCH THE COLOR OF THE ADJACENT TRAVEL WAY EDGE LINE. SEE THE RETROREFLECTOR TAB DETAIL ON SHEET 3.

16. AT THE TIME OF INSTALLATION, WOOD POSTS OR BLOCKS WITH SEASONING CHECKS GREATER THAN ¼ IN. SHALL NOT BE USED WHEN THE CHECK EXTENDS THE FULL LENGTH OF THE PIECE.

17. WOOD BLOCKS SHALL BE CUT FROM THE SAME CROSS-SECTION, SPECIES, AND GRADE, AND SHALL RECEIVE THE SAME PRESERVATIVE TREATMENT AS THE POSTS WHEN WOOD POSTS ARE USED.

18. REFERENCES SUCH AS θθPDB01", θθPDE01", AND θθPWE01" IN THIS STANDARD PLAN SPECIFY HARDWARE DETAILS FROM θθA GUIDE TO STANDARDIZED HIGHWAY BARRIER HARDWARE" PREPARED BY THE AASHTO-AGC-ARTBA JOINT COOPERATIVE COMMITTEE.

19. NOTCHED RAIL BLOCKS MANUFACTURED FROM SYNTHETIC MATERIAL WILL BE ACCEPTED AS ALTERNATIVES TO WOOD NOTCHED BLOCKS FOR USE WITH STEEL POSTS PROVIDED THAT THE BLOCKS HAVE RECEIVED FHWA APPROVAL AND ARE CERTIFIED AS IDENTICAL TO THE SPECIMENS USED FOR TESTING AND APPROVAL.

20. WOOD POSTS SHALL BE MADE OF TIMBER WITH AN EXTREME FIBER STRESS IN BENDING OF 1200 PSI STRESS GRADING AND POST DIMENSIONS SHALL CONFORM WITH THE RULES OF THE WEST COAST INSPECTION BUREAU, OR THE SOUTHERN PINE BUREAU, OR THE WESTERN WOOD PRODUCTS ASSOCIATION. TIMBER FOR POSTS SHALL BE EITHER ROUGH SAWN (UNPLANED) OR S4S (SURFACED FOUR SIDES) WITH NOMINAL DIMENSIONS INDICATED. ONLY ONE TYPE OF SURFACE FINISH SHALL BE USED FOR POSTS AND BLOCKS IN ANY ONE CONTINUOUS LENGTH OF GUARDRAIL.

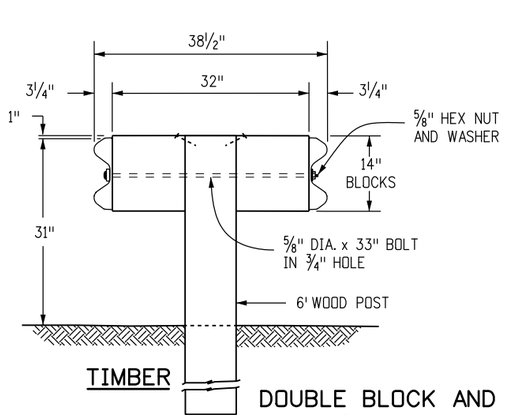
21. GLULAM POSTS AND BLOCKS WILL BE ACCEPTED AS ALTERNATIVES PROVIDED THAT THE SUPPLIED MATERIALS HAVE RECEIVED FHWA APPROVAL AND ARE CERTIFIED AS IDENTICAL TO THE SPECIMENS USED FOR TESTING AND APPROVAL.

22. PRESSURE TREATMENT OF POSTS AND BLOCKS SHALL CONFORM TO AASHTO M 133 EXCEPT THAT BLOCKS NEED NOT BE INCISED. PRESERVATION ASSAY RETENTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER. THE CONTRACTOR SHALL CERTIFY THAT THE SPECIES AND GRADE MEET THE REQUIREMENTS OF THE CONTRACT.

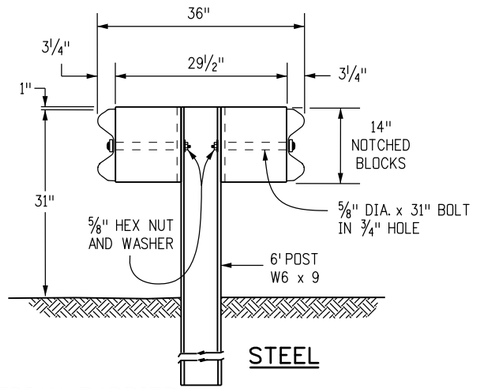
23. W-BEAM AND THRIE-BEAM GUARDRAIL POSTS SHALL BE MANUFACTURED USING AASHTO M 270 (ASTM A 709) GRADE 36 STEEL UNLESS CORROSION RESISTANT STEEL IS REQUIRED, IN WHICH CASE THE POST SHALL BE MANUFACTURED FROM AASHTO M 270 (ASTM A 709) GRADE 50W STEEL. THE DIMENSIONS OF THE CROSS-SECTION SHALL CONFORM TO A W6 X 9 SECTION AS DEFINED IN AASHTO M 160 (ASTM A 6). W6 X 8.5 WIDE FLANGE STEEL POSTS ARE AN ACCEPTABLE ALTERNATIVE TO THE W6 X 9.

24. AFTER THE SECTION IS CUT AND ALL HOLES ARE DRILLED OR PUNCHED THE COMPONENT SHALL BE ZINC-COATED CONFORMING TO AASHTO M 111 (ASTM A 123) UNLESS CORROSION-RESISTANT STEEL IS USED. WHEN CORROSION-RESISTANT STEEL IS USED THE PORTION OF THE POST TO BE EMBEDDED IN SOIL SHALL BE ZINC-COATED CONFORMING TO AASHTO M 111 (ASTM A 123) AND THE PORTION ABOVE THE SOIL SHALL NOT BE ZINC-COATED, PAINTED OR OTHERWISE TREATED.

25. FIELD MODIFICATION TO RAIL ELEMENTS ONLY IS ALLOWED BY SAWING AND DRILLING OF HOLES. FLAME CUTTING IS NOT PERMITTED. POSTS SHALL NOT BE MODIFIED. COMPONENTS ON WHICH THE SPELTER COATING HAS BEEN DAMAGED SHALL BE EITHER REGALVANIZED OR RECOATED IN CONFORMANCE WITH AASHTO M 36, OR PAINTED WITH ONE FULL BRUSH COAT OF ZINC RICH PAINT CONFORMING TO MILITARY SPECIFICATION DOD-P-21035A.



TIMBER



STEEL

DOUBLE BLOCK AND RAIL MEDIAN BARRIER
GUARDRAIL TYPE 3 (DOUBLE)

Computer File Information		Sheet Revisions	
Creation Date: 08/19/15 Initials: DLM		Date:	Comments
Last Modification Date: 12/29/15 Initials: LTA	(R-X)	12/29/15	Raised guardrail height to 31". Increased offset blocks to 12". Renumbered Gen Notes.
Full Path: www.codot.gov/business/designsupport	(R-X)		
Drawing File Name: 6060102020.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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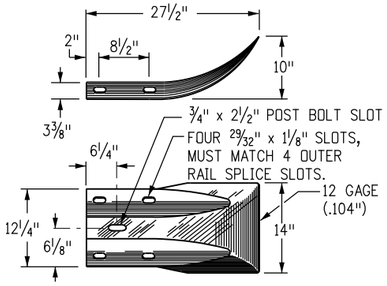
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

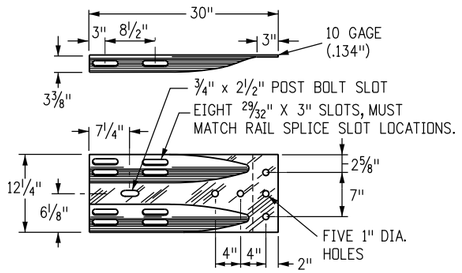
STANDARD PLAN NO.

M-606-1

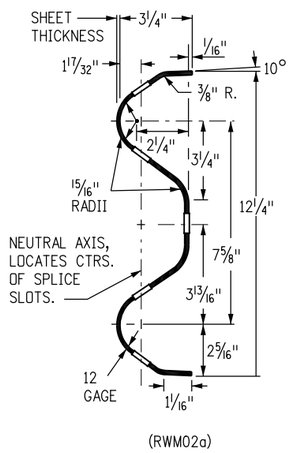


(RWE01a)

TERMINAL SECTION (FLARED)

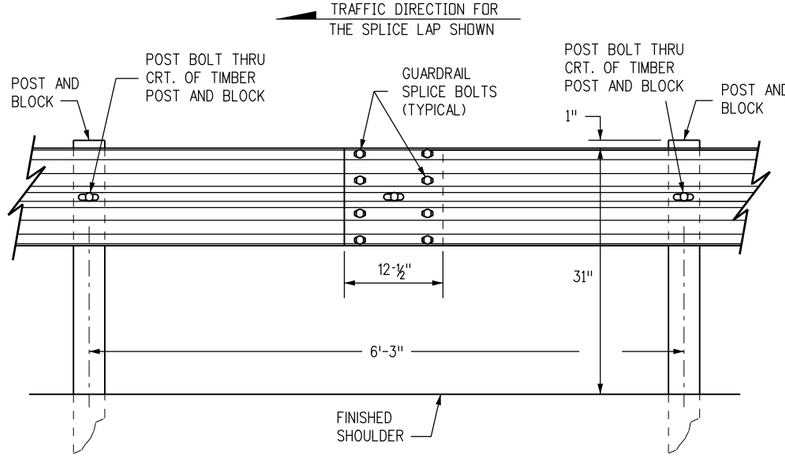


TERMINAL SECTION (CONNECTOR)



(RWM02a)

W-BEAM RAIL SECTION

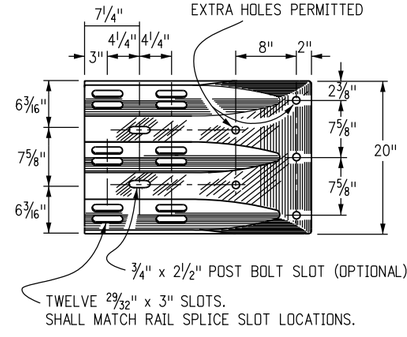


W-BEAM RAIL SPLICE

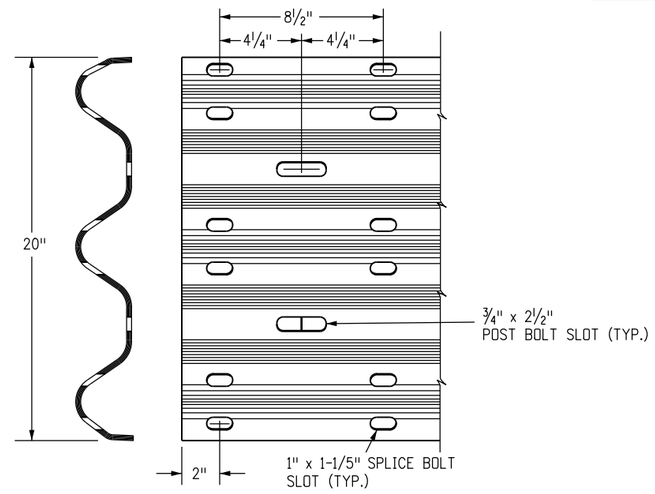
PART	MATERIAL SPEC.	GALVANIZING SPEC.	CORROSION-RESISTANT SPEC.
W-BEAM RAIL & TERMINAL SECTIONS	AASHTO M 180, CLASS A OR B	AASHTO M 180, TYPE 1 OR 2	AASHTO M 180, TYPE 4
BASE PLATE	ASTM A 36	AASHTO M 111	N.A.
NUTS, BOLTS & STUDS FOR GENERAL USE	ASTM A 307	AASHTO M 232, CLASS C OR ASTM B 695 CLASS 50 TYPE 1	
HIGH STRENGTH BOLTS & NUTS	ASTM A 325		
HIGH STRENGTH STUDS & NUTS	ASTM A 449		
ROUND STEEL WASHERS	ASTM F 436		
RECTANGULAR WASHERS	AASHTO M 180		
OTHER FITTINGS	ASTM A 36	AASHTO M 111	

THE TABULATION OF GUARDRAIL WILL SPECIFY THE TYPE OF CORROSION PROTECTION: GALVANIZED OR CORROSION - RESISTANT STEEL.

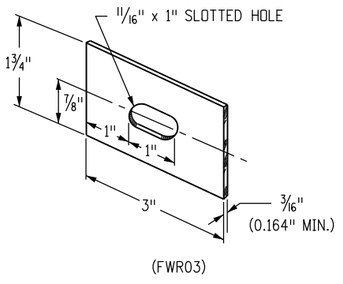
STEEL POSTS SHALL HAVE THE SAME CORROSION PROTECTION AS SPECIFIED FOR THE METAL BEAM RAIL. PUNCHING, DRILLING, CUTTING, OR WELDING OF POSTS WILL NOT BE PERMITTED AFTER GALVANIZING.



THRIE BEAM TERMINAL SECTION (CONNECTOR)



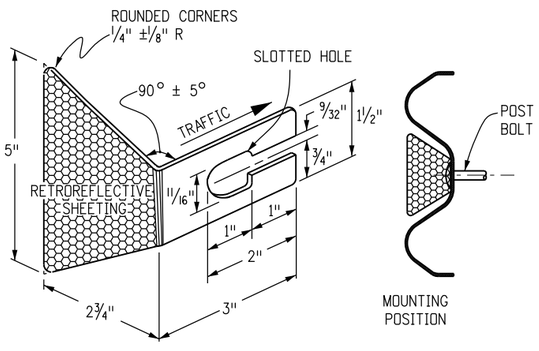
THRIE BEAM DETAIL



(FWR03)

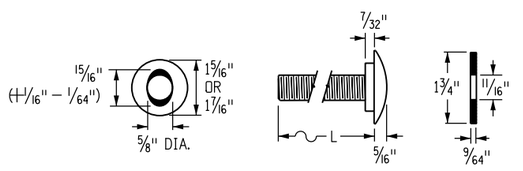
RECTANGULAR WASHER

(TO BE USED ONLY WHERE SPECIFIED.)



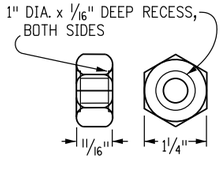
RETROREFLECTOR TAB

RETROREFLECTOR TABS SHALL BE MANUFACTURED FROM 12 TO 14 GAUGE STEEL. RETROREFLECTIVE SHEETING SHALL CONFORM TO ASTM D4956 TYPE III. SEE NOTE 7 ON SHEET 5.



BUTTON HEAD BOLT WITH OVAL SHOULDER

WASHER



HEX NUT

DIAMETER & TYPE (INCHES)	12" BLOCKS L = LENGTH (INCHES)	THREAD LENGTH (INCHES)	INTENDED USE	AASHTO-AGC-ARTBA STANDARD NUMBER	NO. BOLTS, NUTS & WASHERS
⅝	1¼	FULL (1 1/32)	ALL RAIL SPLICES	FBB01	8 PER SPLICE*
BUTTONHEAD OVAL SHLDR.	22	MIN. 2½	SINGLE BLOCK & POST (TIMBER)	FBB04	1 PER POST
	33	MIN. 2	DOUBLE BLOCK & POST (TIMBER)	FBB05	1 PER POST
	14	MIN. 2	FASTEN NOTCHED BLOCK TO STEEL POST	FBB03	1 PER BLOCK
WASHERS NOT USED AT RAIL SPLICES					

Computer File Information		Sheet Revisions	
Creation Date: 08/19/15 Initials: DLM		Date:	Comments
Last Modification Date: 12/29/15 Initials: LTA	(R-X)	12/29/15	Raised guardrail heights to 31" and changed splice to between posts.
Full Path: www.codot.gov/business/designsupport	(R-X)		
Drawing File Name: 6060103020.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

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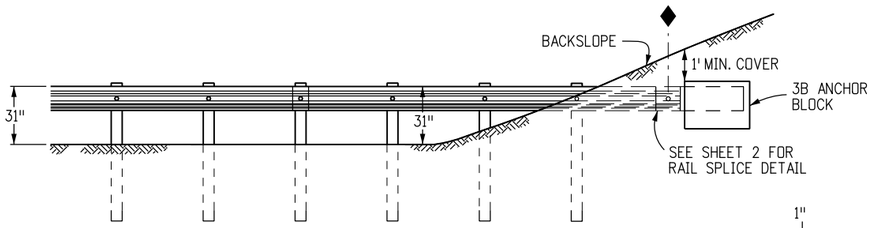
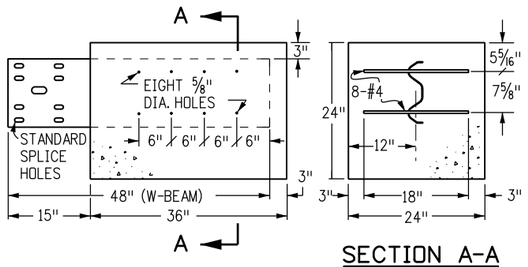


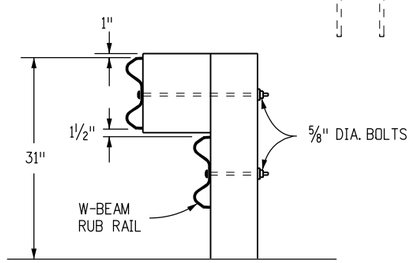
SEE TYPE 3B (RUB RAIL) PLAN VIEW FOR ALIGNMENT. THE 100 FT. FLARE LENGTH MAY BE SHORTENED IF THE SLOPE IS LESS THAN 8 FT. WIDE.

END ANCHORAGE TYPE 3B
(WITHOUT ROADSIDE DITCH AT GUARDRAIL)



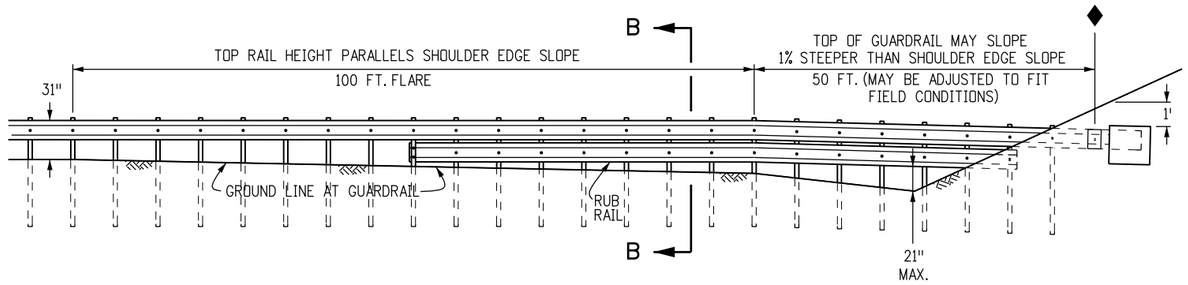
SECTION A-A

TYPE 3B ANCHOR BLOCK DETAIL

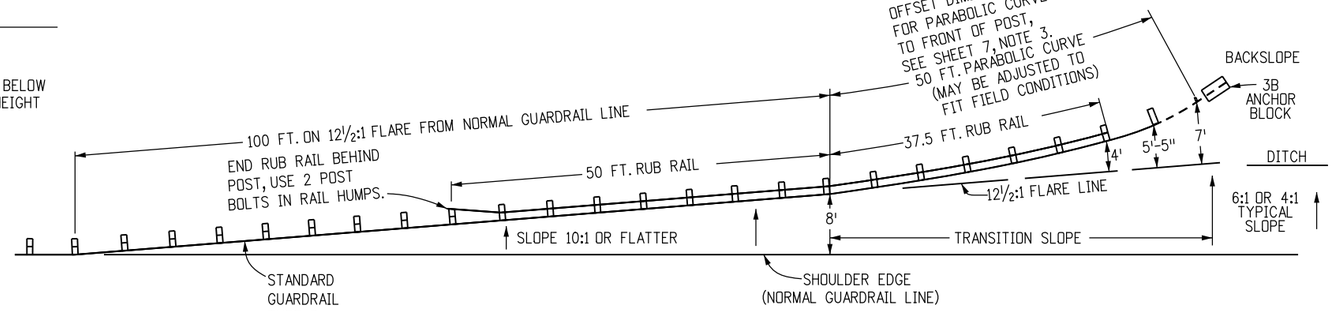


SECTION B-B

MOUNT A W-BEAM RUB RAIL 1-1/2 IN. BELOW THE TOP RAIL WHEN THE TOP RAIL HEIGHT EXCEEDS 33 IN. ABOVE THE GROUND



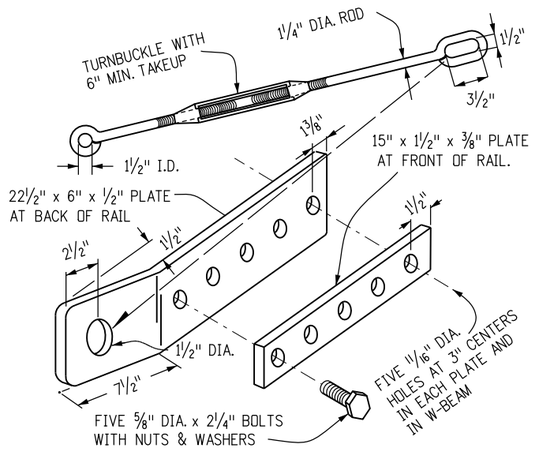
ELEVATION VIEW



PLAN VIEW

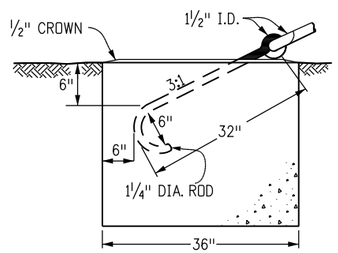
◆ END OF GUARDRAIL PAY LENGTH

END ANCHORAGE TYPE 3B (RUB RAIL)
(WITH ROADSIDE DITCH AT GUARDRAIL)

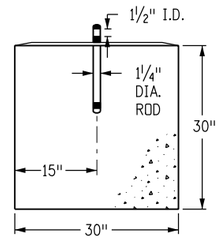


TYPE 3D HARDWARE DETAILS

NOTE: ALL PARTS SHALL BE GALVANIZED

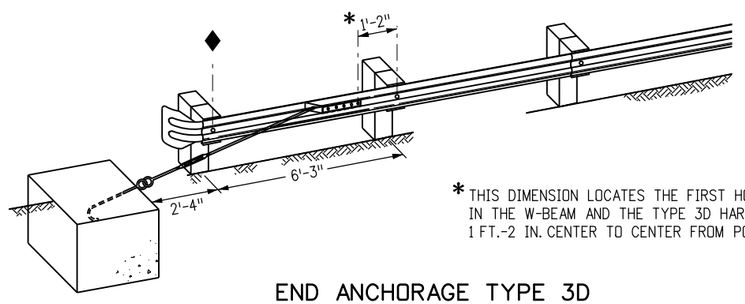


FRONT



END

TYPE 3D ANCHOR BLOCK DETAIL



* THIS DIMENSION LOCATES THE FIRST HOLE IN THE W-BEAM AND THE TYPE 3D HARDWARE. 1 FT.-2 IN. CENTER TO CENTER FROM POST BOLT HOLE.

END ANCHORAGE TYPE 3D DEPARTURE TERMINAL

Computer File Information		Sheet Revisions	
Creation Date: 08/19/15 Initials: DLM		Date:	Comments
Last Modification Date: 12/29/15 Initials: LTA	(R-X)	12/29/15	Raised guardrail height to 31".
Full Path: www.codot.gov/business/designsupport	(R-X)		
Drawing File Name: 6060104020.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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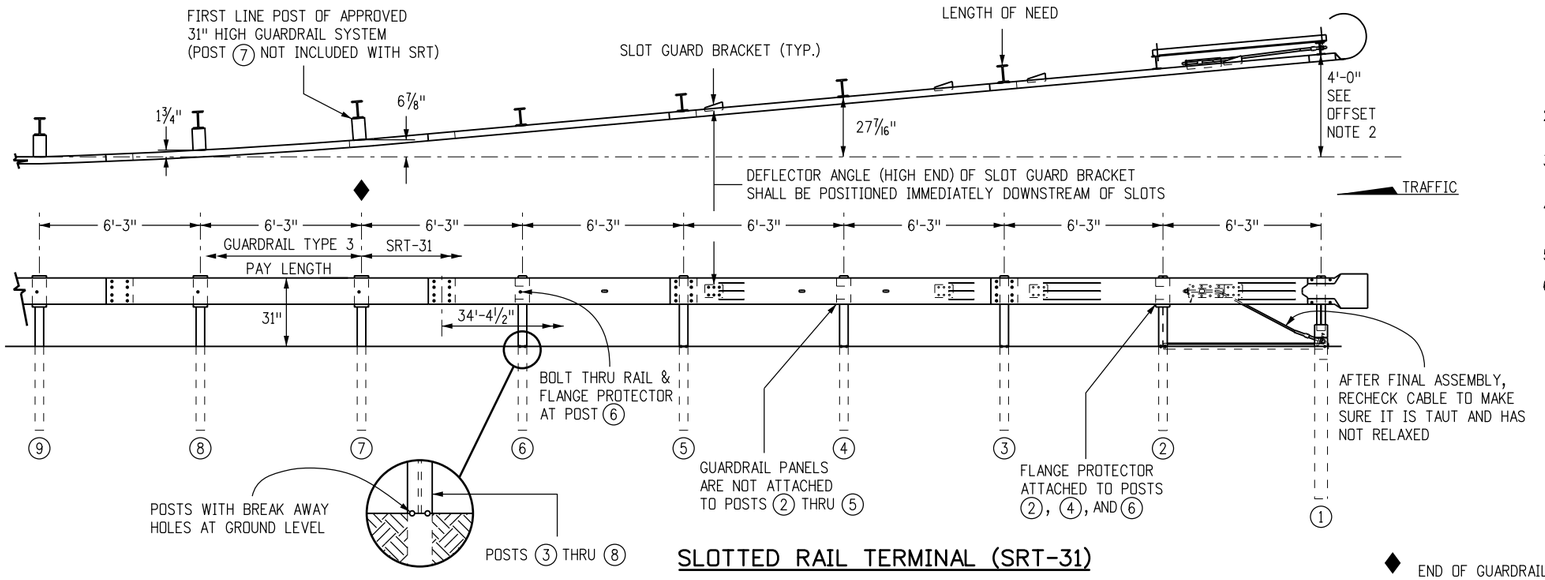
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-606-1
Sheet No. 4 of 20

OFFSET NOTES

1. POST OFFSET DIMENSIONS ARE GIVEN TO THE CENTER OF THE TRAFFIC FACE OF POSTS, EXCEPT AT POSTS (7) & (8), WHERE DIMENSION IS TO CENTER OF THE TRAFFIC FACE OF THE BLOCKOUTS.
2. THE GUARDRAIL BETWEEN POST (1) THRU (7) IS ON A STRAIGHT LINE FLARE.



SLOTTED RAIL TERMINAL (SRT-31)

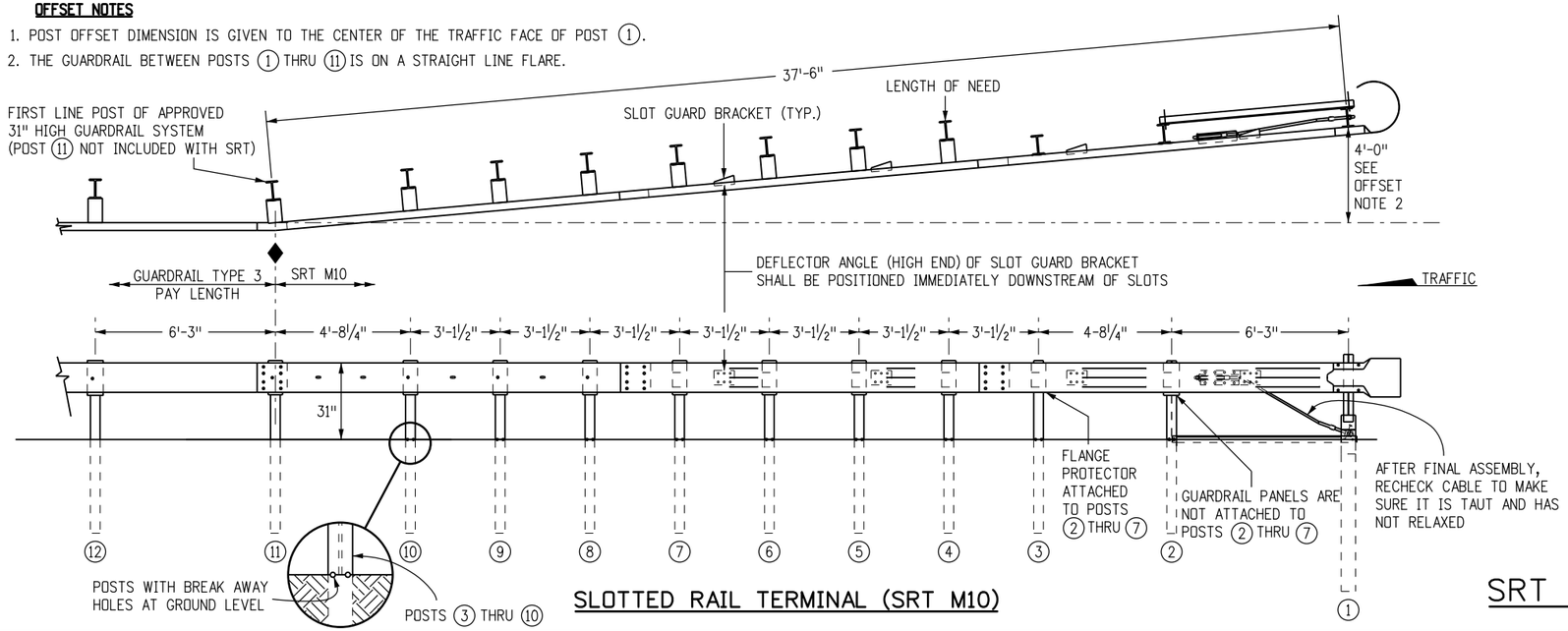
NOTES

1. THE END ANCHORAGES (FLARED) SHALL EITHER BE THE SLOTTED RAIL TERMINAL SRT-31 OR SRT M10 AS MANUFACTURED BY TRINITY HIGHWAY PRODUCTS LLC (TELEPHONE #: 800-772-7976), THE FLEAT-350, AS MANUFACTURED BY ROAD SYSTEMS INC. (TELEPHONE #: 432-263-2435), OR THE X-LITE AS MANUFACTURED BY BARRIER SYSTEMS, INC. (TELEPHONE #: 888-800-3691). ONE END ANCHORAGE (FLARED) SHALL INCLUDE ALL POST, RAIL, AND ALL HARDWARE ITEMS REQUIRED FOR A COMPLETE UNIT. THE END ANCHORAGE (FLARES) SHALL BE INSTALLED CONFORMING TO THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL PROVIDE A COPY OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND PARTS LIST TO THE ENGINEER PRIOR TO INSTALLATION OF THE DEVICE.
2. IN HEAVY SNOW LOCATIONS, TRIM POSTS (1) AND (2) (IF THEY ARE WOODEN) FLUSH WITH RAIL TOP AND TREAT END WITH SEALANT, IN CONFORMANCE WITH AASHTO M 133.
3. POSTS SHALL BE DRILLED FOR BREAKAWAY ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
4. SEE SHEETS 1, 3 AND 4 FOR STANDARD GUARDRAIL TYPE 3 AND INSTALLATION DETAILS.
5. RETROREFLECTOR TABS SHALL NOT BE USED ON END TERMINAL POSTS.
6. DELINEATION SHALL BE APPLIED TO THE END PIECE, AND SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

◆ END OF GUARDRAIL PAY LENGTH

OFFSET NOTES

1. POST OFFSET DIMENSION IS GIVEN TO THE CENTER OF THE TRAFFIC FACE OF POST (1).
2. THE GUARDRAIL BETWEEN POSTS (1) THRU (11) IS ON A STRAIGHT LINE FLARE.



SLOTTED RAIL TERMINAL (SRT M10)

SRT END ANCHORAGES (FLARED)

Computer File Information		Sheet Revisions	
Creation Date: 08/19/15 Initials: DLM		Date:	Comments
Last Modification Date: 12/29/15 Initials: LTA	(R-X)	12/29/15	New SRT End Anchorages 31" high.
Full Path: www.codot.gov/business/designsupport	(R-X)		
Drawing File Name: 6060105020.dgn	(R-X)		
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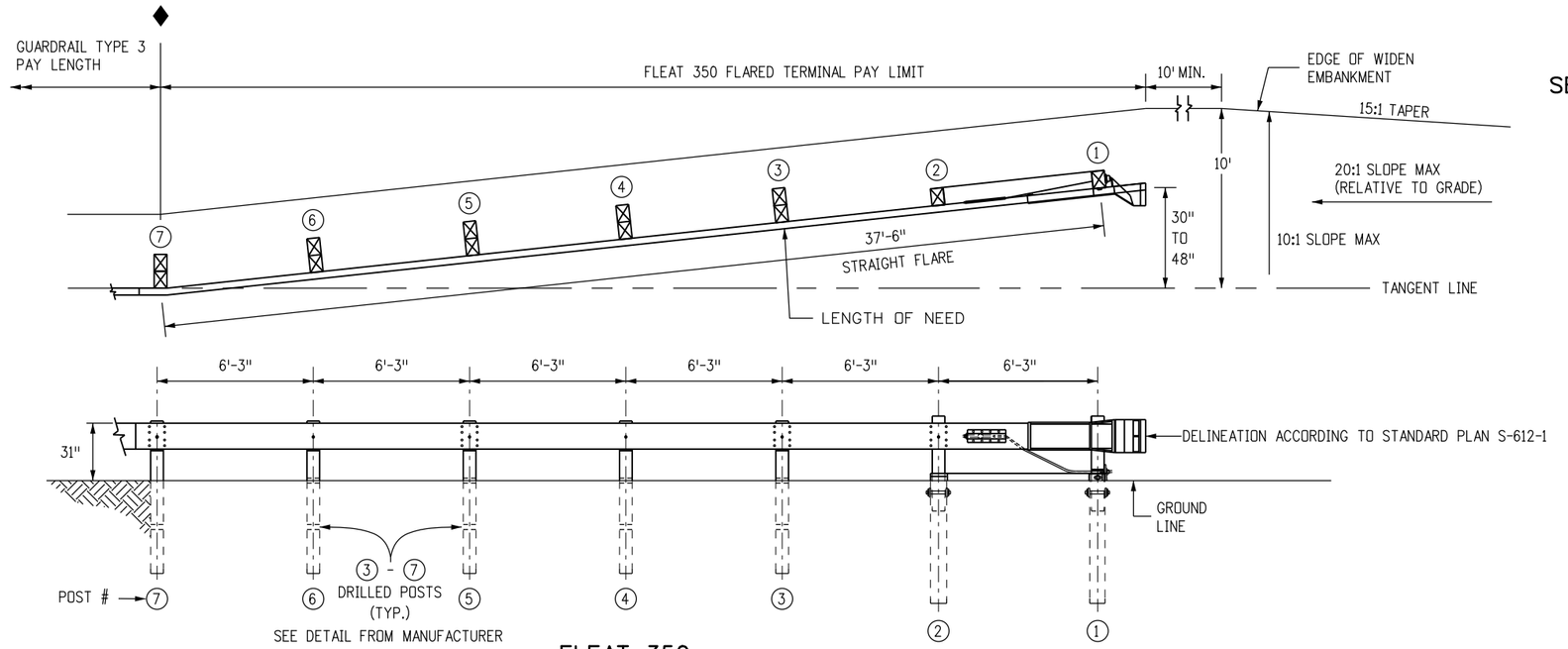
MIDWEST
GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

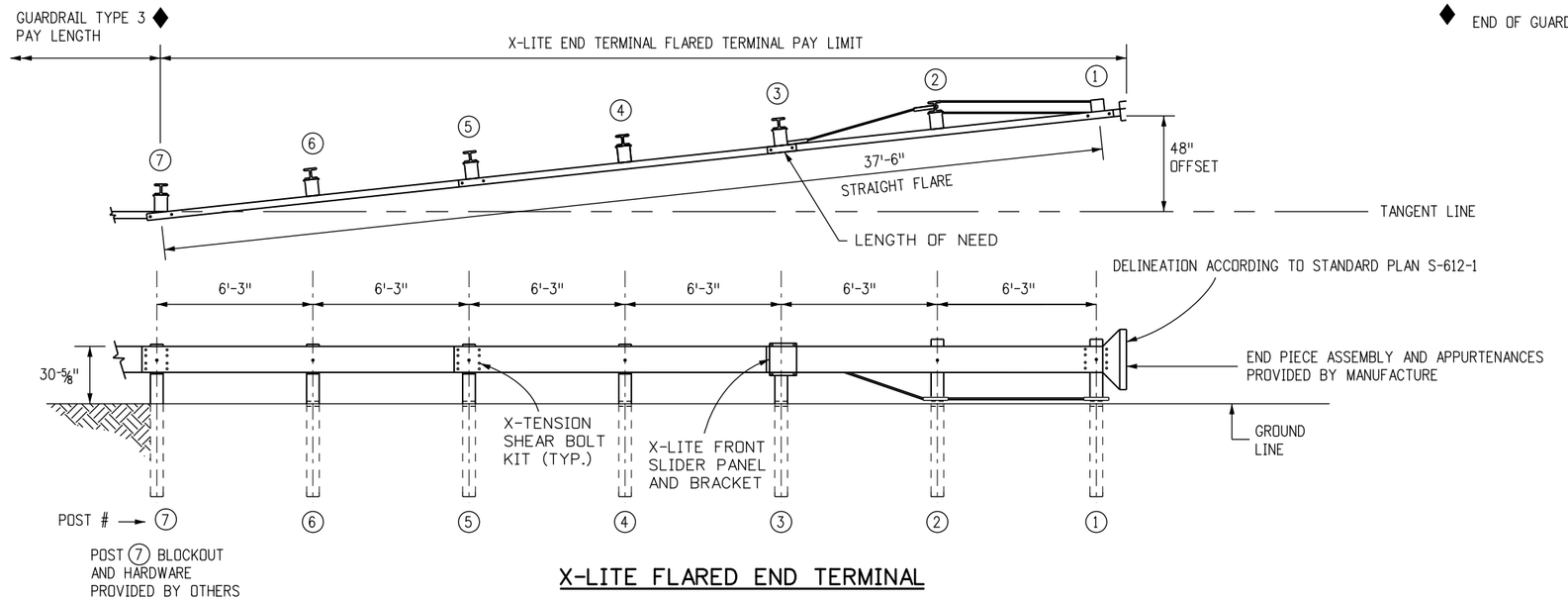
Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-606-1

SEE M-606-1, SHEET 5 OF 20, FOR "NOTES".



FLEAT 350



X-LITE FLARED END TERMINAL

END ANCHORAGES (FLARED)

Computer File Information		Sheet Revisions	
Creation Date: 08/19/15 Initials: DLM		Date:	Comments
Last Modification Date: 12/29/15 Initials: LTA	R-X	12/29/15	Raised End Anchorages to 31".
Full Path: www.codot.gov/business/designsupport	R-X		
Drawing File Name: 6060106020.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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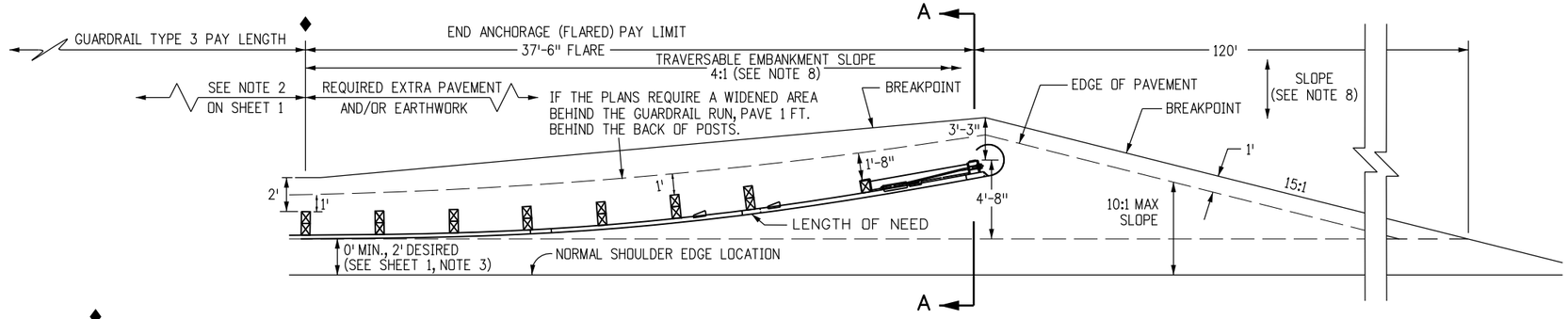
Division of Project Support DLM/LTA

MIDWEST
GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

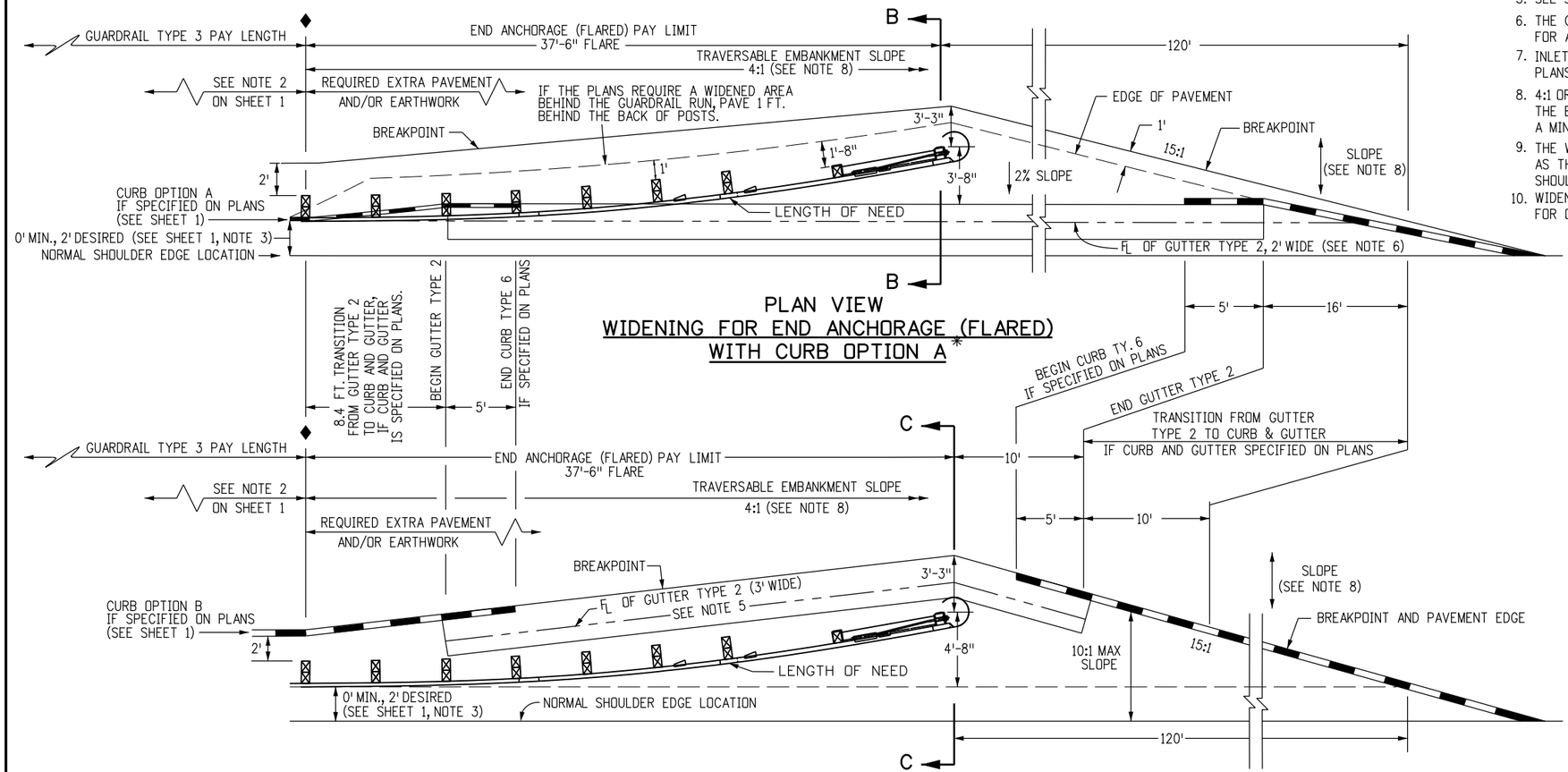
STANDARD PLAN NO.
M-606-1



◆ END OF GUARDRAIL PAY LENGTH

PLAN VIEW
WIDENING FOR END ANCHORAGE (FLARED) *

* THIS PLAN VIEW SHOWS ONLY THE SRT-31. THE FLEAT-350 USES THE SAME WIDENING DETAILS.

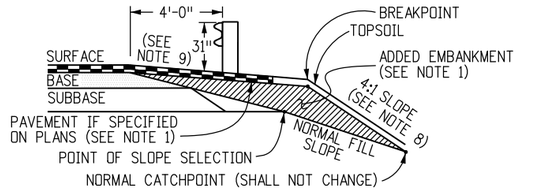


PLAN VIEW
WIDENING FOR END ANCHORAGE (FLARED) WITH CURB OPTION A *

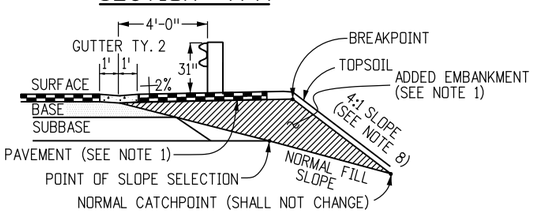
PLAN VIEW
WIDENING FOR END ANCHORAGE (FLARED) WITH CURB OPTION B *

NOTES

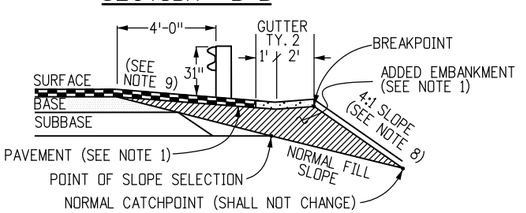
1. PAYMENT FOR THE ADDED EMBANKMENT (APPROXIMATELY 45 CU. YDS.) FOR THE FLARE SHALL BE AS FOLLOWS:
   A. UNDER PAY ITEM 203 WHEN THE CONTRACT PLAN INCLUDES PAY ITEM 203
   B. INCLUDED IN THE COST OF THE END ANCHORAGE (FLARED) WHEN THE CONTRACT PLANS DO NOT INCLUDE PAY ITEM 203. THE ADDED EMBANKMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBSECTION 203.07, AASHTO T 99.
2. WHEN THE WIDENED AREA IS PAVED, PAYMENT FOR THE PAVEMENT (APPROX. 70 SQ. YDS.) SHALL BE AS FOLLOWS:
   A. UNDER PAY ITEM 403 OR 412 WHEN THE CONTRACT PLAN INCLUDES PAY ITEM 403 OR 412
   B. INCLUDED IN THE COST OF THE END ANCHORAGE (FLARED) WHEN THE CONTRACT PLAN DOES NOT INCLUDE PAY ITEM 403 OR 412 (SEE SHEET 1, NOTE 2 FOR PAVEMENT TYPES)
3. CONCRETE PAVED AREAS SHALL HAVE THEIR TAPERED ENDS SQUARED OFF AS DIRECTED BY THE ENGINEER.
4. WHEN OVERLAY PAVING, THE FINISHED SURFACE AT EACH POST SHALL NOT BE ABOVE THE TOP BREAKAWAY HOLE OR STRUT ASSEMBLY. THE WIDENED AREA AT THE FLARED END ANCHORAGE SHOULD NOT BE OVERLAYED UNLESS PAVEMENT CONDITIONS WARRANT IT BEING OVERLAYED. ANY OVERLAY PAVEMENT ABUTTING THE FLARED END ANCHORAGE SHALL BE TAPERED TO PREVENT A DROP IN THE PAVED SURFACE BELOW THE RAIL.
5. SEE SHEETS 1, 3 AND 4 FOR STANDARD TYPE 3 GUARDRAIL AND INSTALLATION DETAILS.
6. THE COST OF THE GUTTER WILL BE PAID FOR AS "GUTTER TYPE 2 (2 FT.)" FOR A LENGTH OF 134 FT. OR "GUTTER TY. 2 (3 FT.)" FOR A LENGTH OF 40 FT.
7. INLETS OR RUNDOWNS MAY BE USED INSTEAD OF THE GUTTER IF SPECIFIED ON THE PLANS. NO ADDITIONAL CURB SHALL BE ADDED IN THE VICINITY OF THE END ANCHORAGE.
8. 4:1 OR FLATTER SLOPES IN THE TRAVERSABLE AREA SHALL BE USED BEHIND THE END ANCHORAGE, AND IN ADVANCE OF POST (1). IF THIS IS NOT POSSIBLE, A MINIMUM 3:1 SLOPE MAY BE USED IF APPROVED BY THE ENGINEER.
9. THE WIDENED AREA, EXCEPT FOR CURB OPTION A, SHALL HAVE THE SAME GRADING AS THE ADJACENT GUARDRAIL: 10:1 OR FLATTER IF MORE THAN 2 FT. FROM SHOULDER OR SLOPE EQUAL TO ROADWAY SLOPE IF 2 FT. OR LESS FROM SHOULDER.
10. WIDENING FOR END ANCHORAGES SHALL BE PAVED ON INTERSTATES AND FREEWAYS. FOR OTHER HIGHWAYS, PAVING SHALL BE AS SHOWN ON THE PLANS.



SECTION A-A



SECTION B-B



SECTION C-C

Computer File Information		Sheet Revisions	
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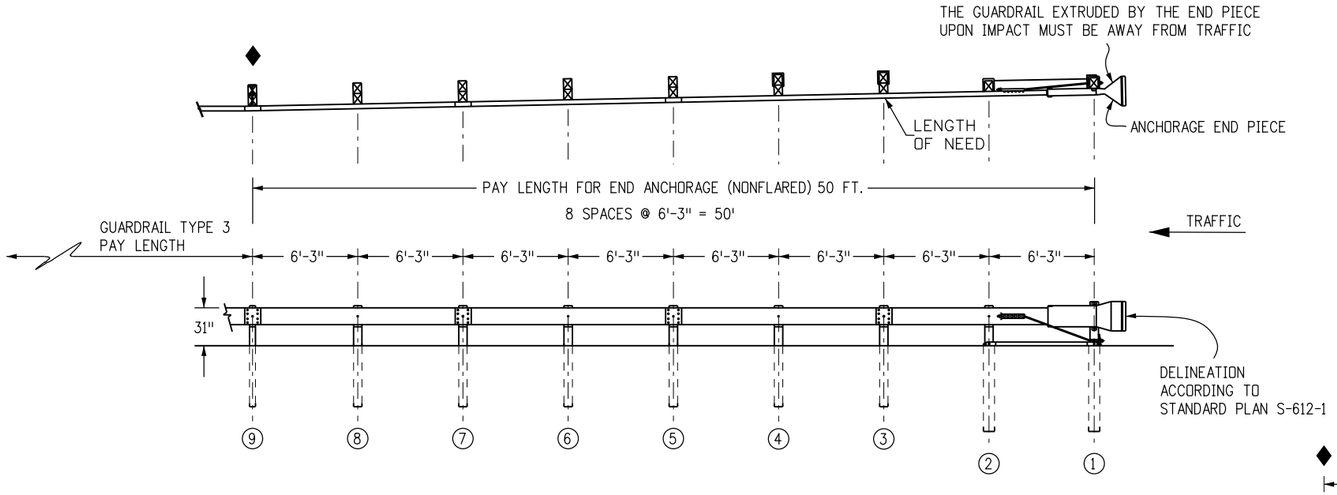
MIDWEST
GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

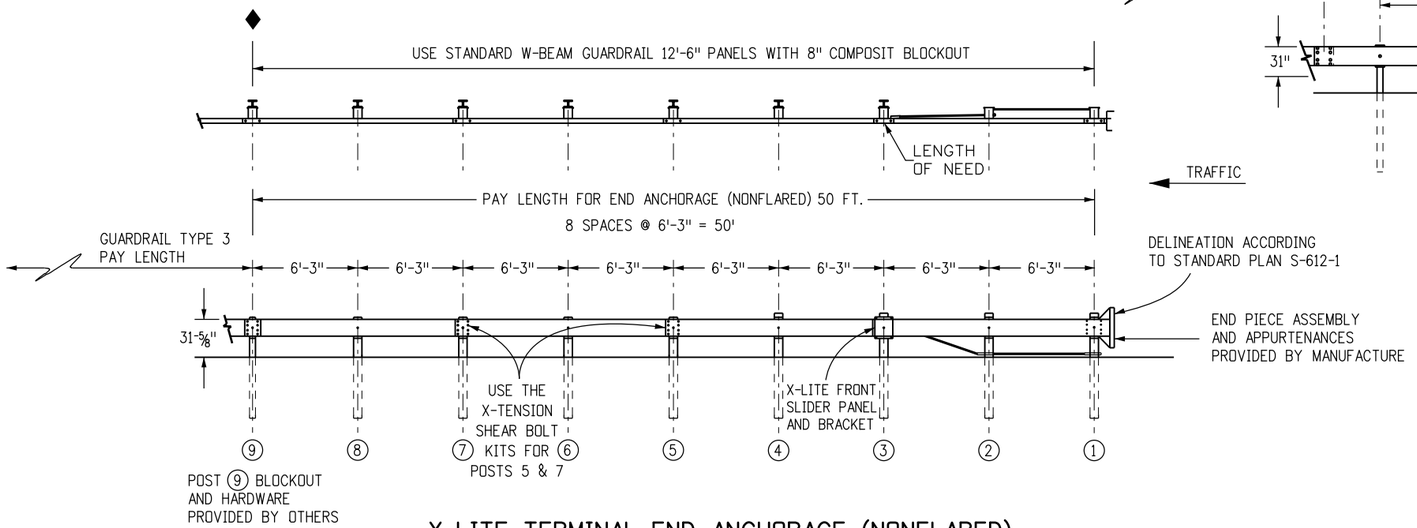
Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-606-1
Sheet No. 7 of 20



SKT END ANCHORAGE (NONFLARED)

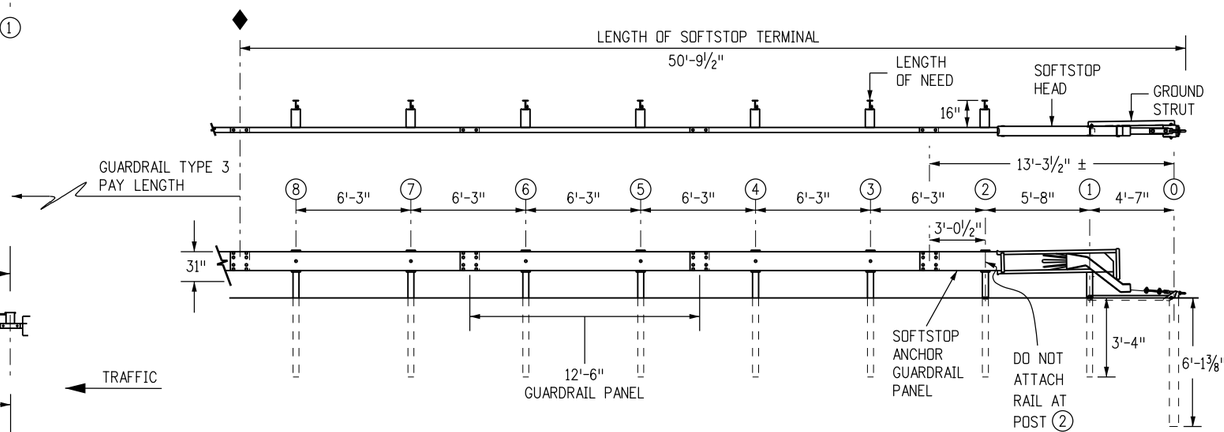
◆ END OF GUARDRAIL PAY LENGTH



X-LITE TERMINAL END ANCHORAGE (NONFLARED)

NOTES FOR NONFLARED

1. THE END ANCHORAGE (NONFLARED) SHALL EITHER BE THE SKT GUARDRAIL AS MANUFACTURED BY ROAD SYSTEMS, INC. (TEL. #: 432-263-2435), OR THE X-LITE AS MANUFACTURED BY BARRIER SYSTEMS, INC. (TEL. #: 888-800-3691), OR THE SOFTSTOP AS MANUFACTURED BY TRINITY HIGHWAY PRODUCTS LLC (TEL. # : 800-772-7976). THE END ANCHORAGE (NONFLARED) SHALL INCLUDE ALL POST, RAIL, AND HARDWARE ITEMS REQUIRED FOR A COMPLETE UNIT. THE END ANCHORAGE (NONFLARED) SHALL BE INSTALLED CONFORMING TO THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL PROVIDE A COPY OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND PARTS LIST TO THE ENGINEER PRIOR TO THE INSTALLATION OF THE DEVICE.
2. WOOD POSTS SHALL BE DRILLED FOR BREAKAWAY CONFORMING TO THE MANUFACTURER'S INSTRUCTIONS.
3. HINGED BREAK AWAY (HBA) STEEL POSTS MAY BE USED CONFORMING TO THE MANUFACTURER'S INSTRUCTIONS.
4. RETROREFLECTOR TABS SHALL NOT BE USED ON END TERMINAL POSTS.
5. USE THE MANUFACTURER'S SPECIFIED STEEL FOUNDATION TUBE FOR POSTS (1) AND (2) FOR SKT END ANCHORAGES (NONFLARED).
6. USE THE MANUFACTURE'S SUPPLIED POSTS FOR X-LITE END ANCHORAGE AS FOLLOWS:
   POST 1 - X-LITE, CRIMPED POST SLOTS, GALVANIZED.
   POST 2 - X-LITE, POST II, GALVANIZED.
   POST 3 - X-LITE, CRIMPED POST HOLES, GALVANIZED.
   FOR POSTS 4 THRU 8 - USE STANDARD LINE POST, GALVANIZED.
7. DELINEATION SHALL BE APPLIED TO THE END PIECE AND SHALL NOT BE PAID FOR SEPARATELY BUT BE INCLUDED IN THE COST OF THE WORK. SEE STANDARD PLAN S-612-1.



SOFTSTOP TERMINAL END ANCHORAGE (NONFLARED)

END ANCHORAGES (NONFLARED)

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MIDWEST
GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
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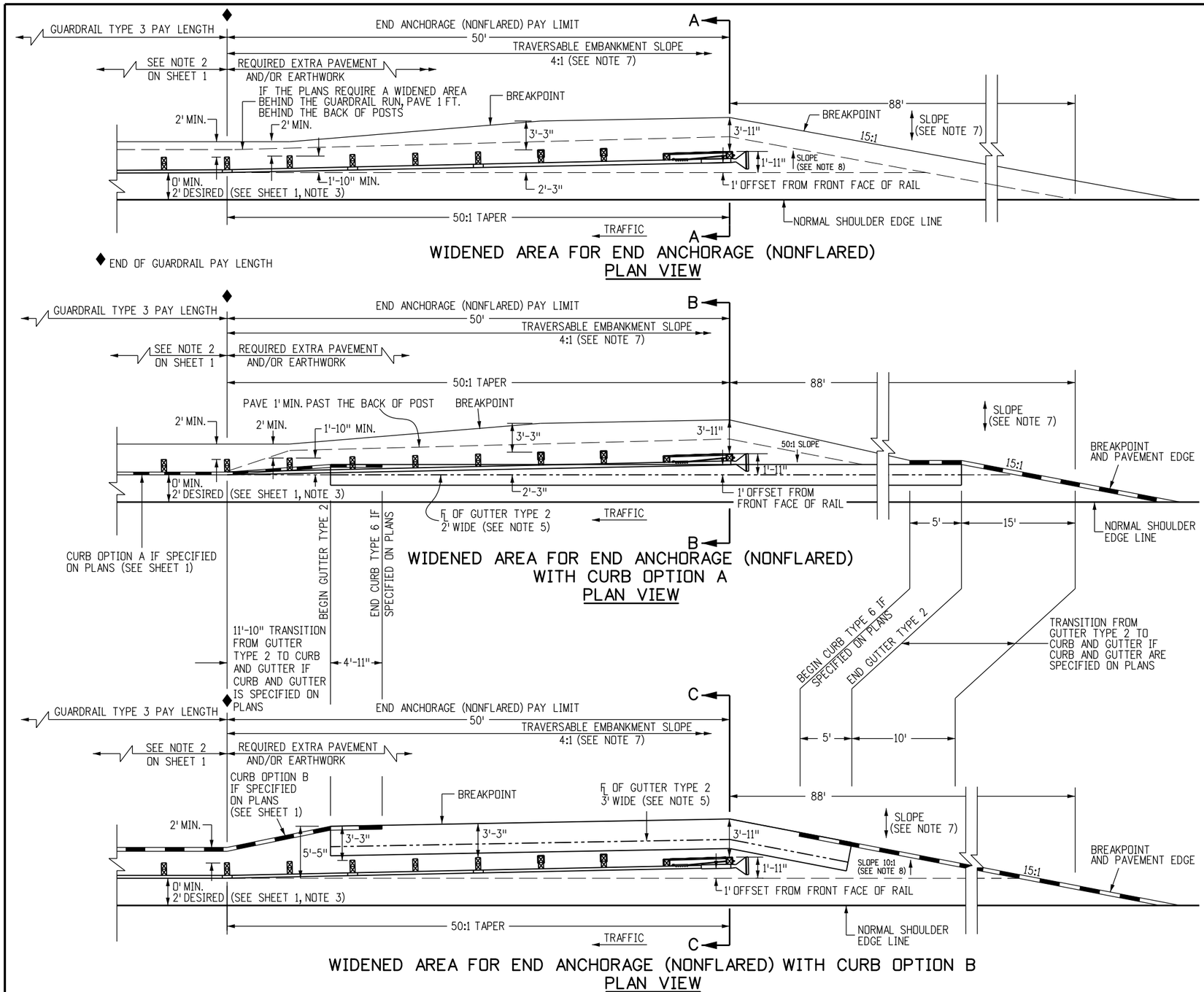
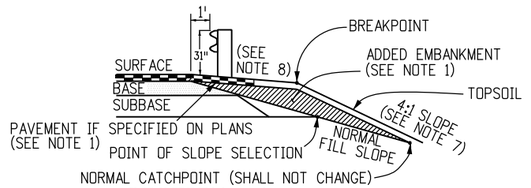
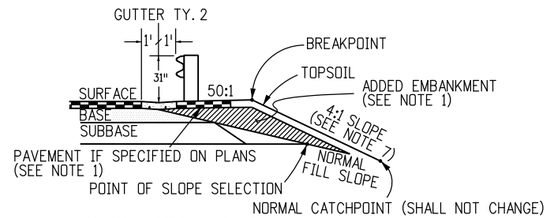


NOTES

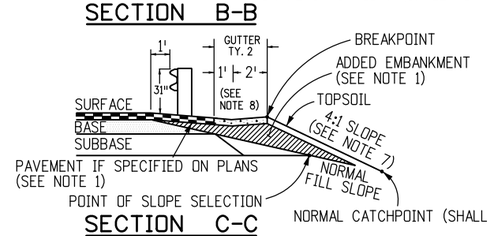
1. PAYMENT FOR THE ADDED EMBANKMENT (APPROXIMATELY 25 CU. YDS.) FOR THE FLARE SHALL BE AS FOLLOWS:
   A. UNDER PAY ITEM 203 WHEN THE CONTRACT PLAN INCLUDES PAY ITEM 203.
   B. INCLUDED IN THE COST OF THE END ANCHORAGE (NONFLARED) WHEN THE CONTRACT PLANS DOES NOT INCLUDE PAY ITEM 203. THE ADDED EMBANKMENT SHALL BE BE CONSTRUCTED IN ACCORDANCE WITH SUBSECTION 203.07, AASHTO T 99.
2. WHEN THE WIDENED AREA IS PAVED, PAYMENT FOR THE PAVEMENT (APPROX. 39 SQ. YDS.) SHALL BE AS FOLLOWS:
   A. UNDER PAY ITEM 403 OR 412 WHEN THE CONTRACT PLAN INCLUDES PAY ITEM 403 OR 412.
   B. INCLUDED IN THE COST OF THE END ANCHORAGE (NONFLARED) WHEN THE CONTRACT PLAN DOES NOT INCLUDE PAY ITEM 403 OR 412, (SEE SHEET 1, NOTE 2 FOR PAYMENT TYPES).
3. WHEN OVERLAY PAVING, THE FINISHED SURFACE AT EACH POST SHALL NOT BE ABOVE THE TOP BREAKWAY HOLE OR STRUT ASSEMBLY. THE WIDENED AREA AT THE END ANCHORAGE (NONFLARED) SHALL NOT BE OVERLAYED UNLESS PAVEMENT CONDITIONS WARRANT IT BEING OVERLAYED. ANY OVERLAY PAVEMENT ABUTTING THE END ANCHORAGE (NONFLARED) SHALL BE TAPERED TO PREVENT A DROP IN THE PAVED SURFACE BELOW THE RAIL.
4. SEE SHEETS 1, 2 AND 3 FOR STANDARD TYPE 3 GUARDRAIL AND INSTALLATIONS DETAILS.
5. THE COST OF THE GUTTER WILL BE PAID FOR AS "GUTTER TYPE 2 (2 FT.)" FOR A LENGTH OF 111 FT., OR "GUTTER TY. 2 (3 FT.)" FOR A LENGTH OF 50 FT.
6. INLETS OR RUNDOWNS MAY BE USED INSTEAD OF THE GUTTER IF SPECIFIED ON THE PLANS. NO ADDITIONAL CURB SHALL BE ADDED IN THE VICINITY OF THE END TREATMENT.
7. 4:1 OR FLATTER SLOPES IN THE TRAVERSABLE AREA SHALL BE USED BEHIND THE END ANCHORAGE AREA, AND IN ADVANCE OF POST (1). IF THIS IS NOT POSSIBLE A MINIMUM 3:1 SLOPE MAY BE USED IF APPROVED BY THE ENGINEER.
8. THE WIDENED AREA, EXCEPT FOR CURB OPTION A, SHALL HAVE THE SAME GRADING AS BENEATH THE ADJACENT GUARDRAIL: 10:1 OR FLATTER IF MORE THAN 2 FT. FROM SHOULDER, OR SLOPE EQUAL TO ROADWAY SLOPE IF 2 FT. OR LESS FROM SHOULDER.
9. WIDENING FOR END ANCHORAGES SHALL BE PAVED ON INTERSTATES AND FREEWAYS. FOR OTHER HIGHWAYS, PAVING SHALL BE AS SHOWN ON THE PLANS.
10. HINGED BREAK AWAY (HBA) STEEL POSTS MAY BE USED. SEE MANUFACTURER'S DETAILS.



SECTION A-A



SECTION B-B



SECTION C-C

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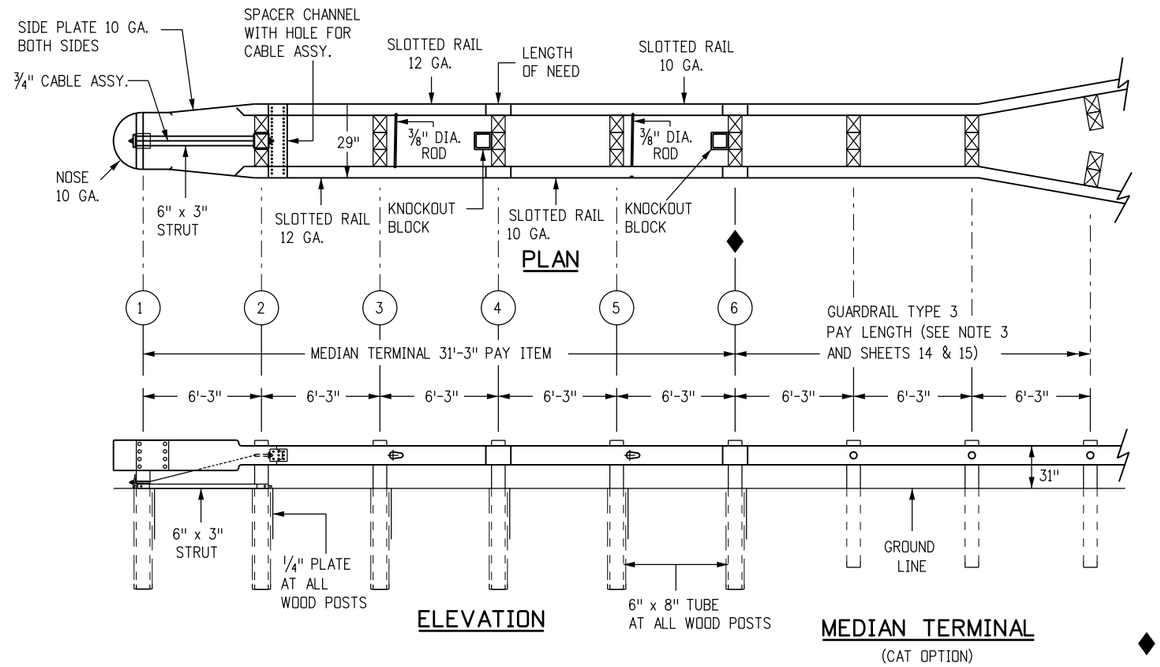
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO. M-606-1



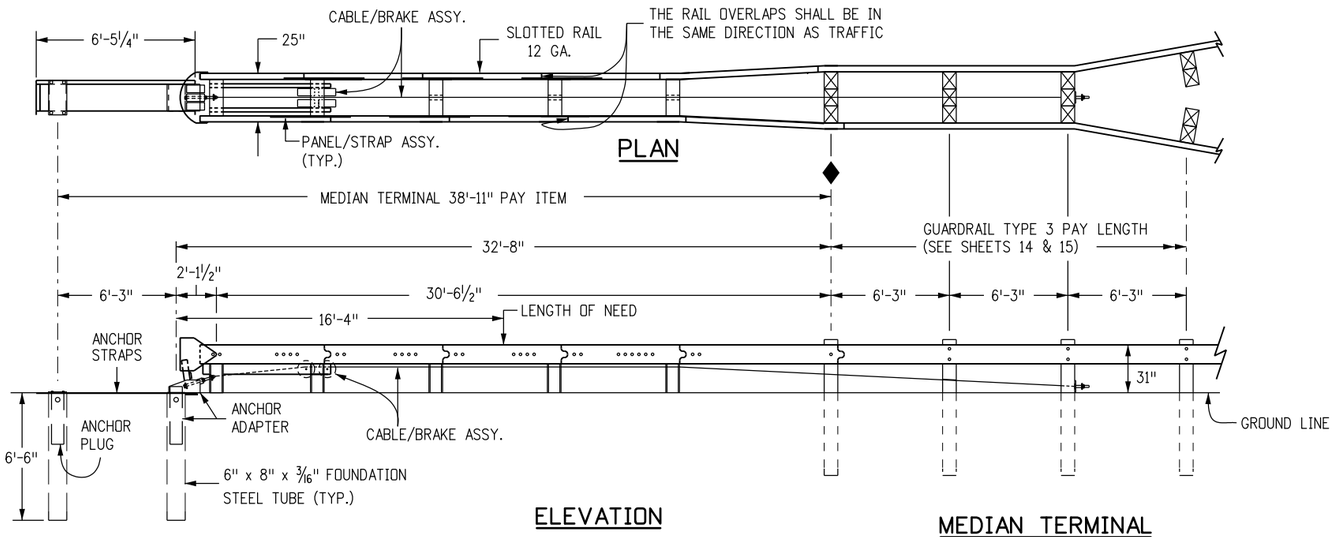
MEDIAN TERMINAL

(CAT OPTION)

◆ END OF GUARDRAIL PAY LENGTH

MEDIAN TERMINAL NOTES

1. THE MEDIAN TERMINAL SHALL BE THE CAT 350 AS MANUFACTURED BY TRINITY INDUSTRIES INC. (TEL #: 800-722-7976), OR THE BRAKEMASTER AS MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC. AS DISTRIBUTED BY INTERWEST SAFETY SUPPLY (TEL #: 303-733-8447), OR THE FLEAT-MT MEDIAN TERMINAL AS MANUFACTURED BY ROAD SYSTEM INC. (TEL. #: 432-263-2435).
2. ONE MEDIAN TERMINAL SHALL INCLUDE ALL POSTS, RAIL, AND HARDWARE ITEMS REQUIRED FOR A COMPLETE UNIT. THE DEVICE SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S INSTRUCTIONS. THE CONTRACTOR SHALL PROVIDE A COPY OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND PARTS LISTS TO THE ENGINEER PRIOR TO THE INSTALLATION OF THE DEVICE.
3. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE MEDIAN TERMINAL SHALL BE INSTALLED FOR BIDIRECTIONAL TRAFFIC APPLICATION.
4. MEDIAN GUARDRAIL POSTS MAY BE STEEL OR WOOD.
5. EACH INSTALLATION SHALL BE SUPERVISED AND CERTIFIED AS CORRECT UPON COMPLETION BY A REPRESENTATIVE OF THE DEVICE MANUFACTURER OR BY AN EMPLOYEE OF THE CONTRACTOR WHO IS A CERTIFIED INSTALLER. THE CERTIFIED INSTALLER SHALL HAVE COMPLETED DEVICE TRAINING AND SHALL BE REGISTERED WITH THE MANUFACTURER AS A CERTIFIED INSTALLER.
6. DELINEATION, IF REQUIRED, SHALL BE APPLIED TO THE END PIECE AND WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK. SEE STANDARD PLAN S-612-1.
7. IF THE MEDIAN TERMINAL IS LESS THAN 31 INCHES HIGH, A TRANSITIONAL PIECE SHALL BE INSTALLED TO REACH THE 31 INCHES MGS HEIGHT.



MEDIAN TERMINAL

(BRAKEMASTER OPTION)

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

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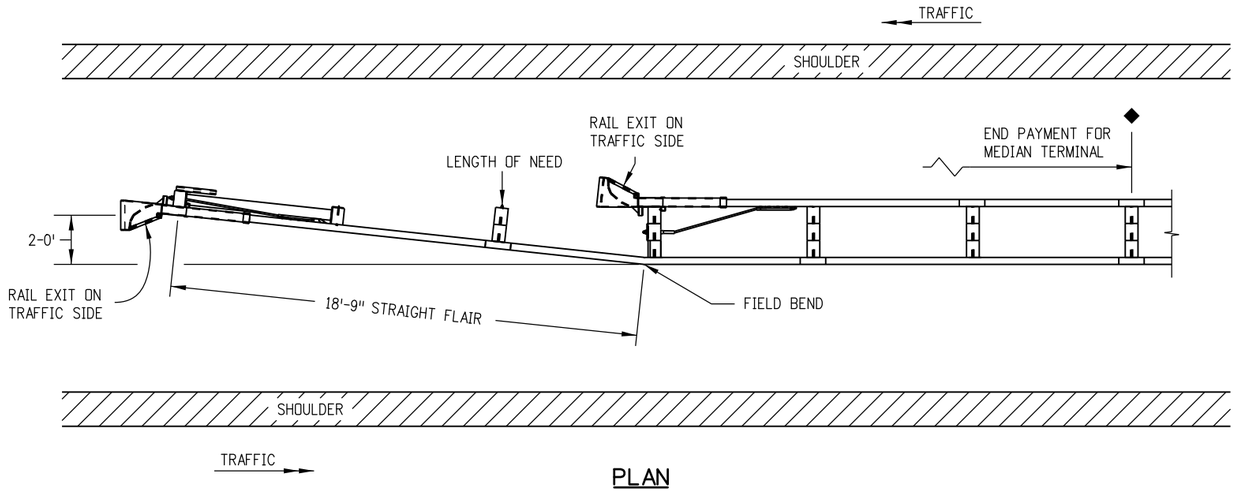

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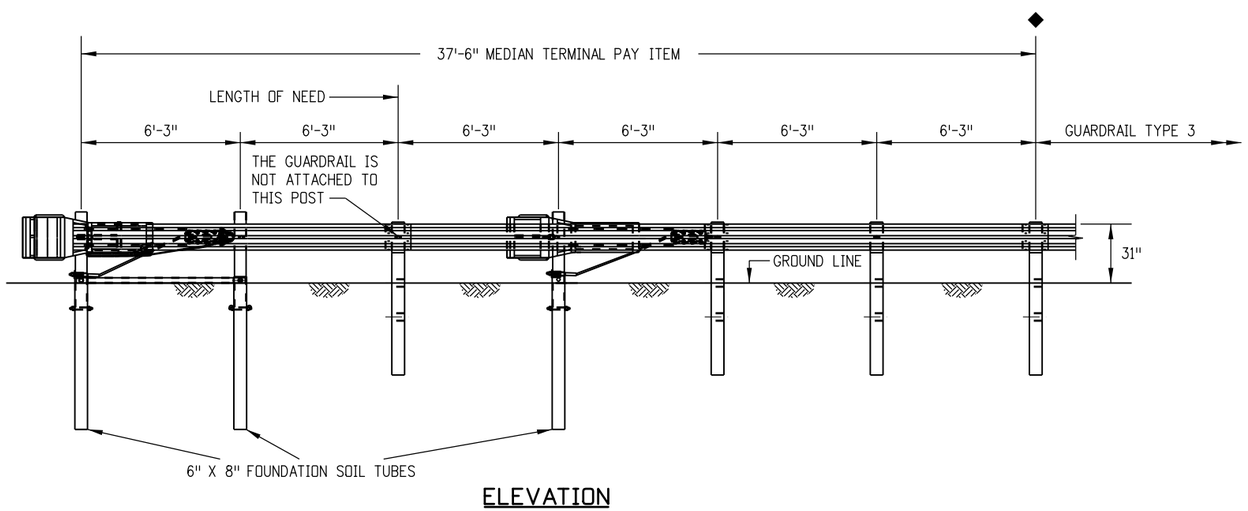

ELEVATION

MEDIAN TERMINAL
(FLEAT-MT OPTION)

FLEAT- MT NOTES

1. THE FLEAT-MT MAY BE SELECTED AS A MEDIAN TERMINAL UNLESS OTHERWISE SHOWN IN THE PLANS.
2. BREAKAWAY POSTS ARE REQUIRED WITH THE FLEAT-MT.
3. THE SOIL TUBES SHALL NOT PROTRUDE MORE THAN 4 INCHES ABOVE GROUND (MEASURED ALONG A 5 FEET CORD). SITE GRADING MAY BE NECESSARY TO MEET THIS REQUIREMENT.
4. THE SOIL TUBES SHALL BE DRIVEN WITH AN APPROVED DRIVING HEAD AND NOT BE DRIVEN WITH THE POST IN THE TUBE. IF THE TUBES ARE PLACED IN DRILLED HOLES, THE BACKFILL MATERIAL MUST BE SATISFACTORILY COMPACTED TO PREVENT SETTLEMENT.
5. WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE, 20 INCH DEEP MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROX. 2½ INCH DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.
6. THE BREAKAWAY CABLE ASSEMBLY MUST BE TAUT. DO NOT TWIST THE CABLE WHEN TIGHTENING NUTS.

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GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
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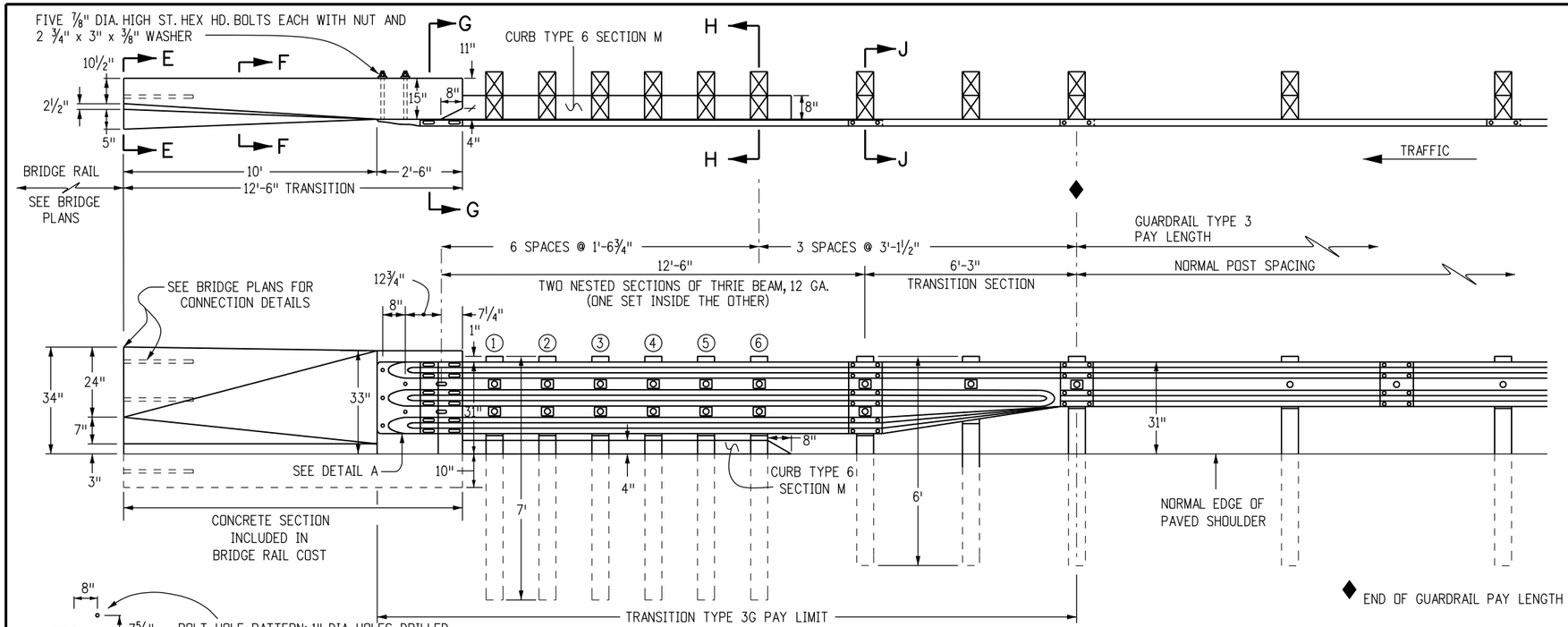
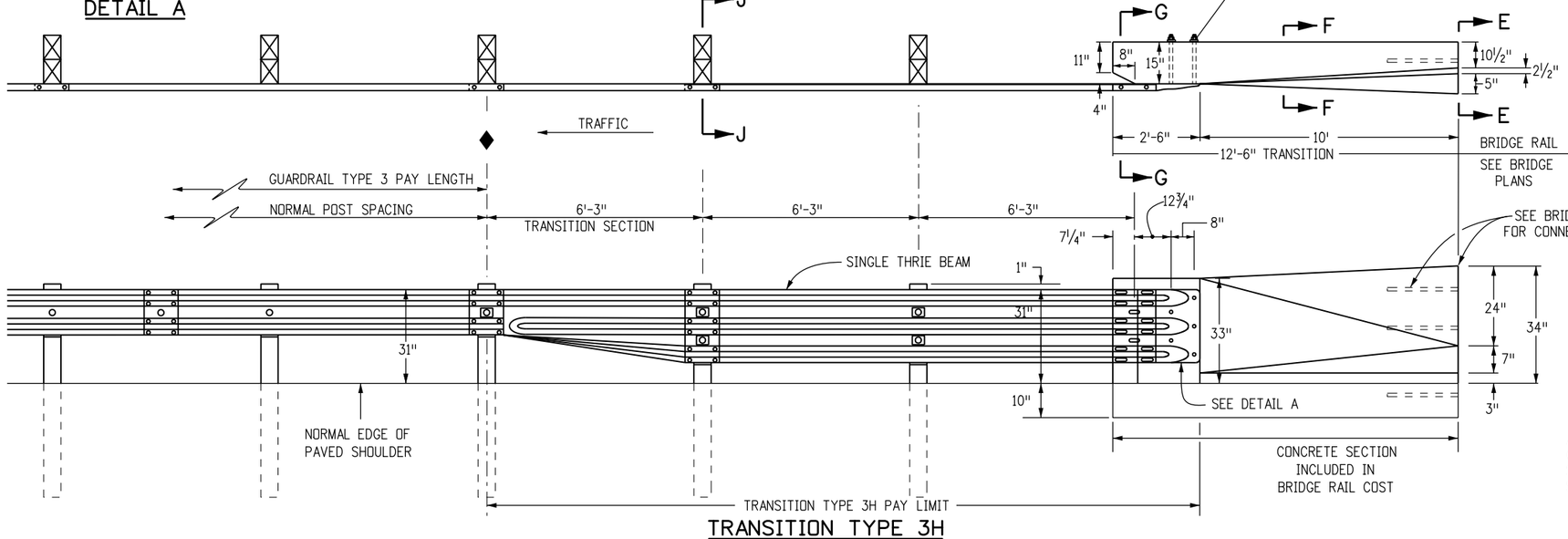
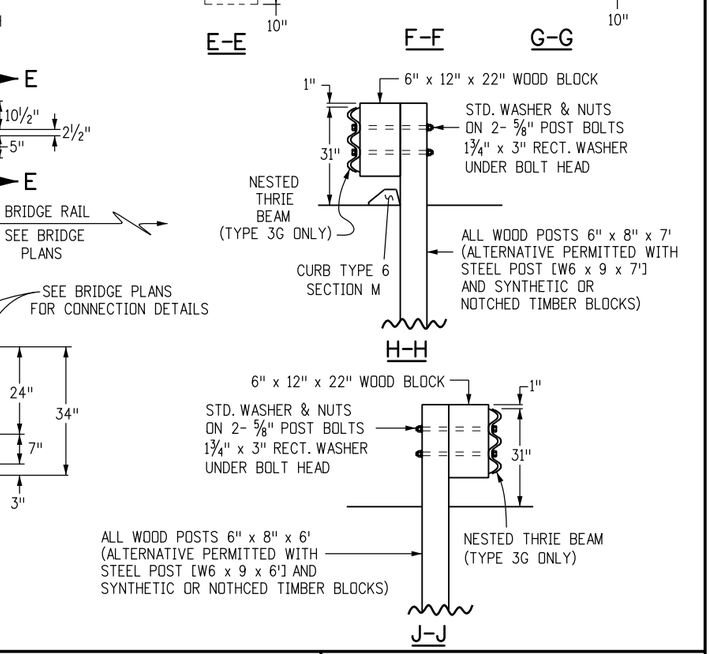


TRANSITION TYPE 3G

DETAIL A

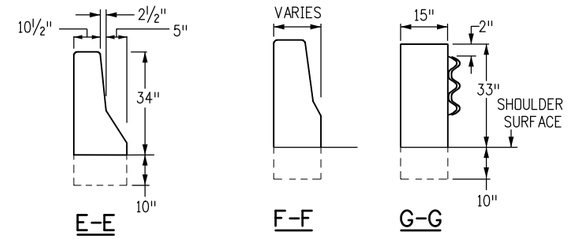


TRANSITION TYPE 3H



NOTES

1. TRANSITION TYPE 3G IS FOR USE AT BOTH ENDS OF BRIDGES ON TWO-WAY HIGHWAYS AND AT THE APPROACH END OF BRIDGES ON ONE-WAY HIGHWAYS.
2. TRANSITION TYPE 3H IS FOR USE AT THE TRAILING END OF BRIDGES ON ONE-WAY HIGHWAYS.
3. THE THRIE BEAM SECTION IN TRANSITIONS TYPES 3G AND 3H MAY BE SHOP BENT TO FIT CURVES THAT ARE GREATER THAN OR EQUAL TO A 10 FT. RADIUS. HOWEVER, THE 6 FT.-3 IN. TRANSITION SECTION SHALL NOT BE BENT.
4. A 12 FT.-6 IN. CONCRETE TRANSITION IS REQUIRED BETWEEN THE TYPE 3G OR 3H AND TYPE 7 BRIDGE RAIL. SEE STANDARD PLAN M-606-13 FOR THE TRANSITION BETWEEN TYPE 3 GUARDRAIL AND TYPE 7 GUARDRAIL.
5. TRANSITIONS TYPE 3G AND TYPE 3H ARE ALSO USED TO CONNECT TO TYPE 8 AND TYPE 10 BRIDGE RAIL. SEE BRIDGE PLANS FOR CONNECTION DETAILS.
6. BACKUP PLATE IS NOT REQUIRED AT POSTS ON TYPE 3G AND 3H.
7. ◻ THIS SYMBOL IN THE ELEVATION DRAWINGS SHOWS THE LOCATIONS WHERE A RECTANGULAR WASHER IS REQUIRED UNDER THE POST BOLT HEAD.
8. CURB TYPE 6 SECTION M, MAY BE ASPHALT OR CONCRETE. THE COST OF CURB IS INCLUDED IN THE WORK, UNLESS A SEPARATE PAY ITEM IS INCLUDED IN THE BID SCHEDULE.
9. POSTS (1) THRU (6) ARE 7 FT. LONG. ALL OTHER POSTS SHALL BE STANDARD 6 FT. IN LENGTH UNLESS OTHERWISE SPECIFIED IN THE CONTRACT.
10. NOTCHED RAIL BLOCKS MANUFACTURED FROM SYNTHETIC MATERIAL WILL BE ACCEPTED AS ALTERNATIVES TO WOOD NOTCHED BLOCKS FOR USE WITH STEEL POSTS PROVIDED THAT THE BLOCKS HAVE RECEIVED FHWA APPROVAL AND ARE CERTIFIED AS IDENTICAL TO THE SPECIMENS USED FOR TESTING AND APPROVAL. STEEL BLOCKS ARE NOT ALLOWED.



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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

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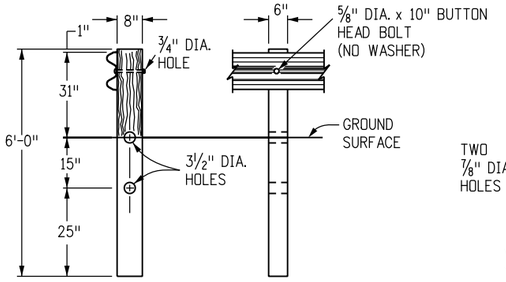
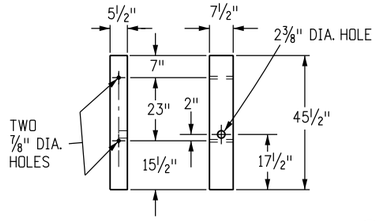


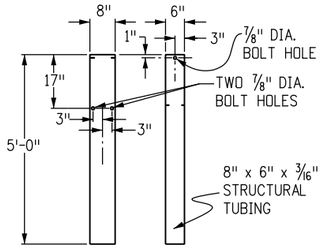
CONTROLLED RELEASING TERMINAL (CRT) POST ①



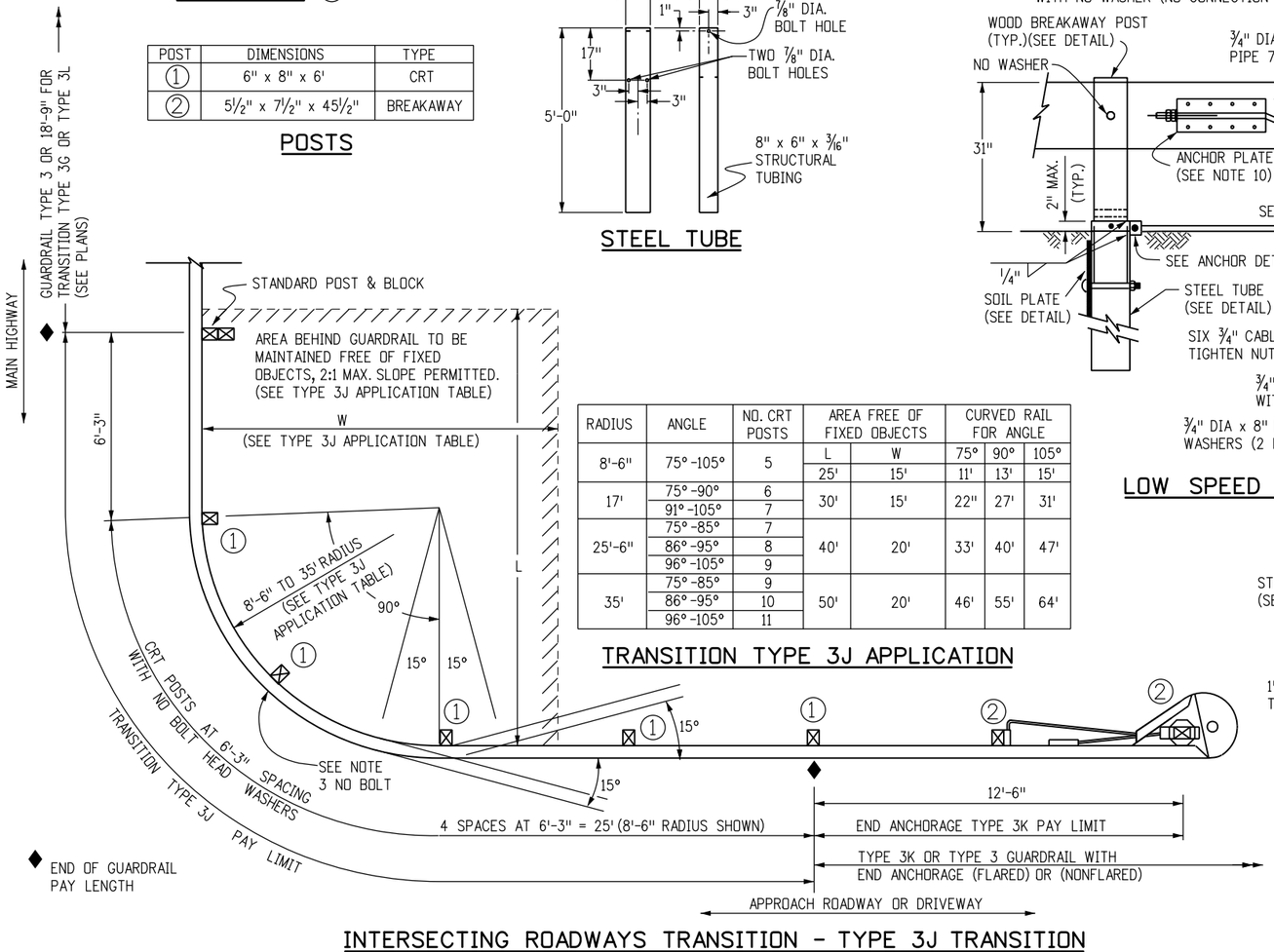
WOOD BREAKAWAY POST ②

POST	DIMENSIONS	TYPE
①	6" x 8" x 6'	CRT
②	5 1/2" x 7 1/2" x 45 1/2"	BREAKAWAY

POSTS



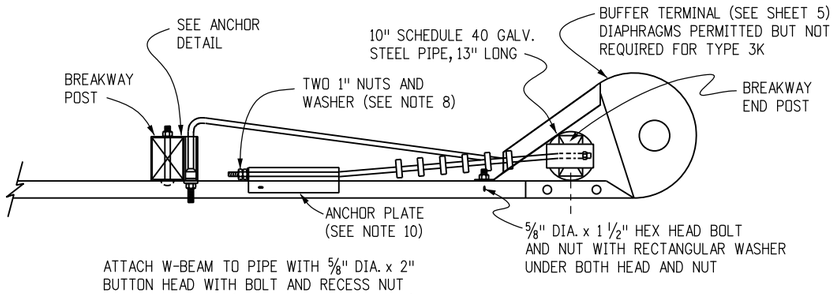
STEEL TUBE

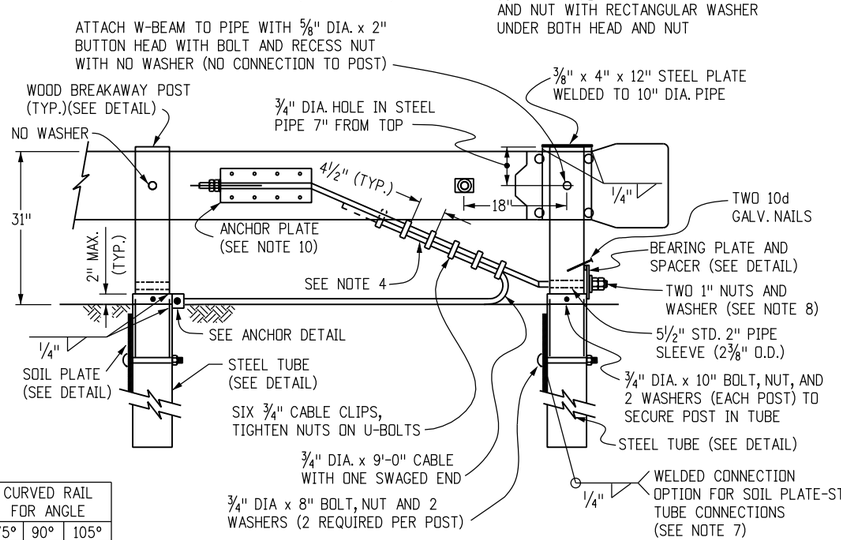


RADIUS	ANGLE	NO. CRT POSTS	AREA FREE OF FIXED OBJECTS		CURVED RAIL FOR ANGLE		
			L	W	75°	90°	105°
8'-6"	75°-105°	5	25'	15'	11'	13'	15'
17'	75°-90°	6	30'	15'	22"	27'	31'
	91°-105°	7					
25'-6"	75°-85°	7	40'	20'	33'	40'	47'
	86°-95°	8					
	96°-105°	9					
35'	75°-85°	9	50'	20'	46'	55'	64'
	86°-95°	10					
	96°-105°	11					

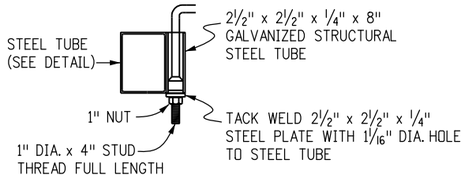
TRANSITION TYPE 3J APPLICATION

INTERSECTING ROADWAYS TRANSITION - TYPE 3J TRANSITION

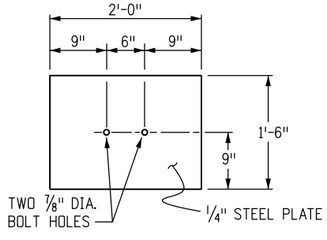




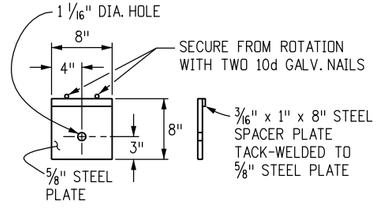
LOW SPEED TERMINAL - TYPE 3K



ANCHOR DETAIL



SOIL PLATE



BEARING PLATE FOR STEEL TUBE

NOTES

1. APPLICATION: THE TRANSITION TYPE 3J MAY BE USED TO SHIELD HAZARDS AT THE INTERSECTION OF TWO ROADWAYS. TYPICAL APPLICATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
   A. CANAL SERVICE ROADS AT BRIDGE ENDS.
   B. INTERRUPTIONS IN GUARDRAIL RUNS BY INTERSECTING ROADWAYS, ETC..

   THE LOW SPEED (<45 MPH) END ANCHORAGE TYPE 3K SHALL BE USED ONLY ON DRIVEWAYS AND LOW SPEED SERVICE ROADS. WHEN AN APPROVED CRASH-TESTED END TREATMENT IS REQUIRED USE THE END ANCHORAGE (FLARED) OR (NONFLARED) WITH 37 FT.-6 IN. LENGTH.
2. GRADING AND PAVING FOR THE 3J & 3K SHALL MATCH THE GRADING AND PAVING OF THE GUARDRAIL TO WHICH THEY ARE ATTACHED, AND SHALL BE IN ACCORDANCE WITH SHEET ONE OF THIS STANDARD. MAXIMUM FILL SLOPE SHALL BE 2:1.
3. THE RAIL IS NOT BOLTED TO THE CRT POST AT THE CENTER OF THE CURVE FOR THE 8 FT.-6 IN., 17 FT., AND 25 FT.-6 IN. RADII. PLATES SHALL CONFORM TO ASTM A 36, AND THE STRUCTURAL TUBING TO ASTM A 500.
4. THE 3/4IN. GALVANIZED WIRE ROPE (CABLE) SHALL CONFORM TO AASHTO M 30 TYPE II.
5. PLATES SHALL CONFORM TO ASTM A 36, AND STRUCTURAL TUBING TO ASTM A 500. WELDING SHALL MEET ALL REQUIREMENTS OF THE AMERICAN WELDING SOCIETY.
6. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN CONFORMANCE WITH ASTM A 123. POSTS SHALL NOT BE PUNCHED, DRILLED, CUT, OR WELDED AFTER GALVANIZING.
7. WHEN THE SOIL PLATE WELDED OPTION IS SELECTED, SOIL PLATE CONNECTION BOLT HOLES ARE NOT REQUIRED.
8. OUTSIDE NUT SHALL BE TORQUED AGAINST INSIDE NUT WITH THE CABLE INSTALLED TAUT BETWEEN THE ANCHOR PLATE AND FIRST POST.
9. ALL CURVED GUARDRAIL SHALL BE SHOP BENT.
10. SEE SHEET 4 FOR ANCHOR PLATE AND OTHER DETAILS.
11. THE STEEL TUBE MAY BE DRIVEN WITH WOOD POST INSERTED IF NO DAMAGE OCCURS TO THE POST OR BOLTS.

Computer File Information		
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Last Modification Date: 12/29/15	Initials: LTA	(R-X)
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Sheet Revisions	
Date:	Comments
12/29/15	Raised guardrail height to 31".

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

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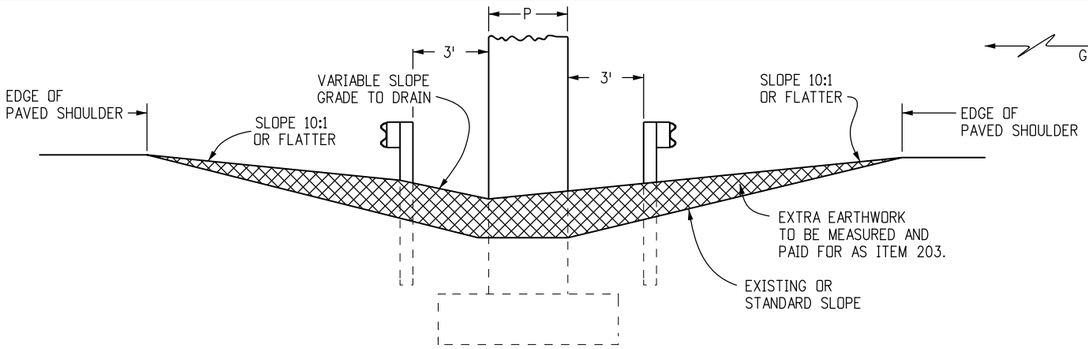
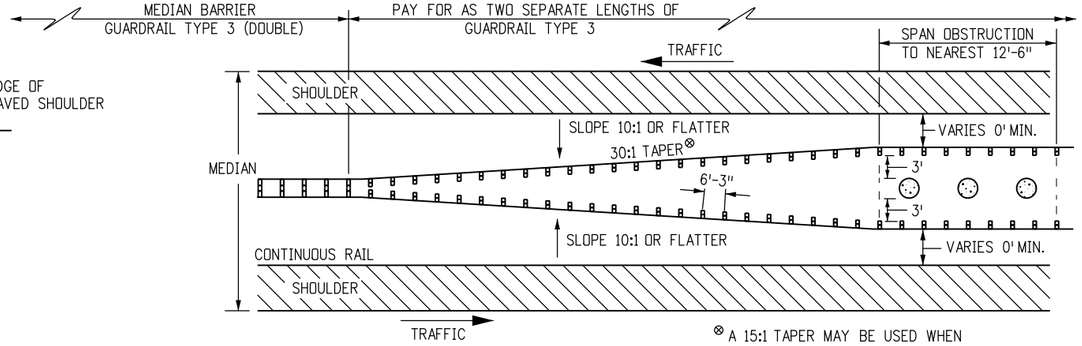
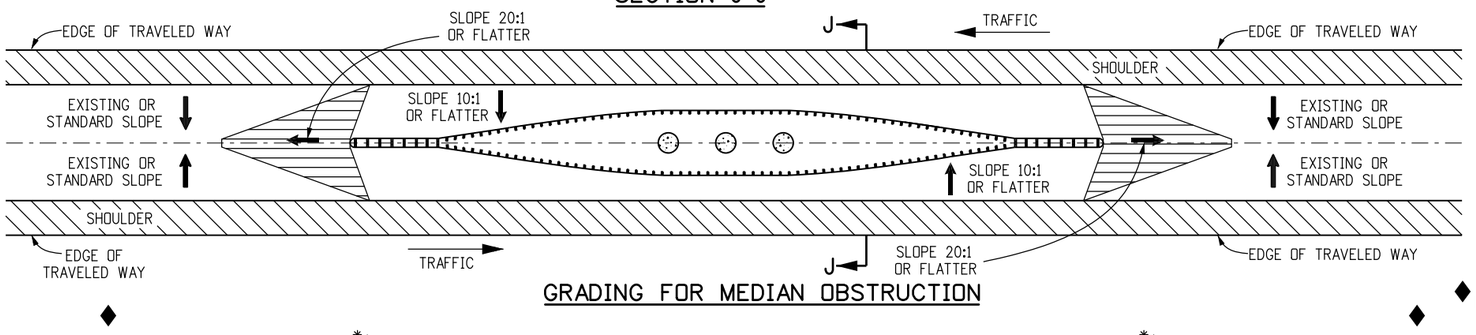


SECTION J-J

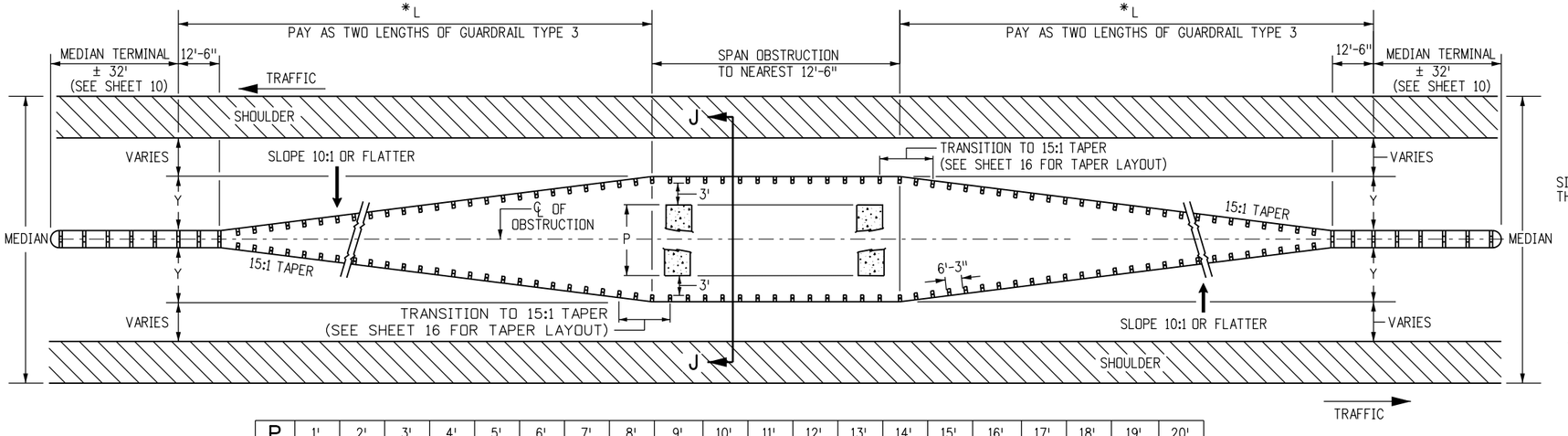


⊗ A 15:1 TAPER MAY BE USED WHEN THE BARRIER ENDS IN THE MEDIAN TERMINAL

OBSTRUCTION IN MEDIAN 30 FT. WIDE OR LESS



GRADING FOR MEDIAN OBSTRUCTION



END OF GUARDRAIL PAY LENGTH

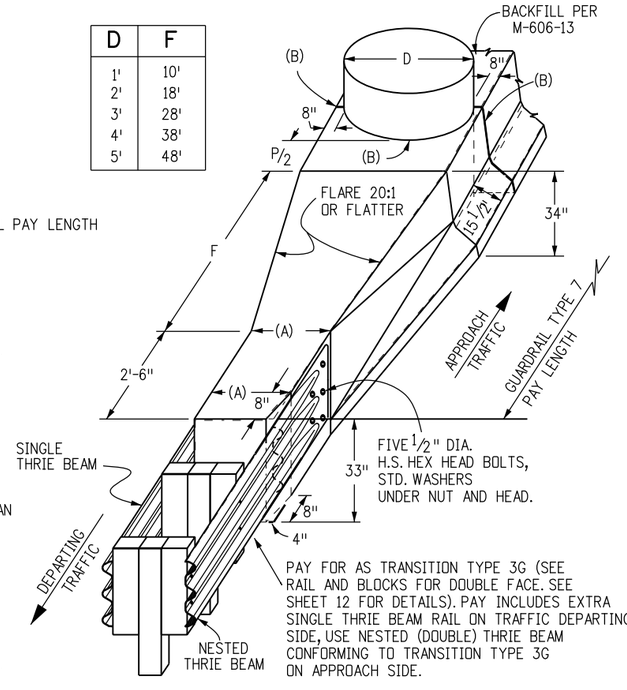
P	1'	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'
Y	4'-1"	4'-7"	5'-1"	5'-7"	6'-1"	6'-7"	7'-1"	7'-7"	8'-1"	8'-7"	9'-1"	9'-7"	10'-1"	10'-7"	11'-1"	11'-7"	12'-1"	12'-7"	13'-1"	13'-7"
L	75'	87'-6"		100'	112'-6"		125'		137'-6"	150'		162'-6"		175'		187'-6"	200'		212'-6"	225'

*L IS MEASURED ALONG FACE OF GUARDRAIL

GUARDRAIL FOR OBSTRUCTION IN MEDIANS WIDER THAN 30 FT.

NOTE: FOR OBSTRUCTIONS (P) THAT ARE WIDER THAN 20 FT. IN MEDIANS USE SHEET 17.

D	F
1'	10'
2'	18'
3'	28'
4'	38'
5'	48'



(A). TIMBER POSTS 2 FT., STEEL POSTS 1 FT.-9½IN.

(B). ½ IN. PREFORMED JOINT MATERIAL

NARROW MEDIAN DETAIL

USUALLY LESS THAN 30 FT. WIDE MEDIAN WITH ALL PAVED SURFACE

OBSTRUCTIONS IN MEDIANS

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MIDWEST
GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

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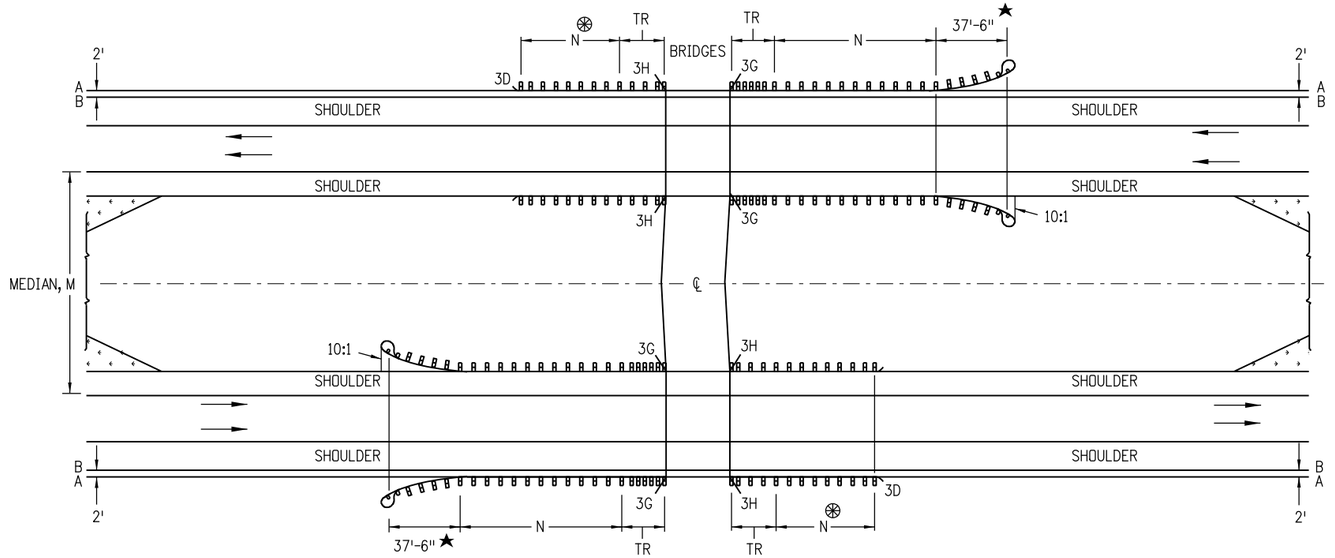

MULTILANE DIVIDED HIGHWAYS FOR STEEP EMBANKMENTS IN MEDIAN

NOTES

1. MEDIAN BARRIERS TANGENT TO THE ROADWAY MAY BE USED WHERE THE SHOULDER SLOPES IN THE MEDIAN ARE STEEP.
2. BARRIER LENGTHS SHALL BE INCREASED TO ACCOUNT FOR STEEP EMBANKMENTS OR OTHER HAZARDS WITHIN CLOSE PROXIMITY OF BRIDGES.

⊛ — DO NOT CONSTRUCT THE TR AND GUARDRAIL ON THE TRAILING BRIDGE ENDS IF SITE CONDITIONS DO NOT WARRANT THE USE OF GUARDRAIL.

N — SHOWN ON PLANS. LENGTH TO SHIELD ALL HAZARDS IS BASED ON GUARDRAIL'S LENGTH OF NEED COMPUTATION. SEE AASHTO ROADWAY DESIGN GUIDE. THE MINIMUM SHALL BE 12 FT. - 6 IN., WHERE SITE CONDITIONS ALLOW. THE TOTAL LENGTH OF NEED WILL INCLUDE THE LENGTH OF TRANSITION, THE LENGTH OF RAIL (N), AND ANY REDIRECTIVE LENGTH IN THE RAIL END TREATMENT.

TR — 18 FT.-9 IN. FOR 3G AND 3H.

A — EDGE OF 8 FT. OR 10 FT. SHOULDER.

B — EDGE OF 6 FT. OR LESS SHOULDER.

★ — END ANCHORAGE CAN BE FLARED OR NONFLARED.

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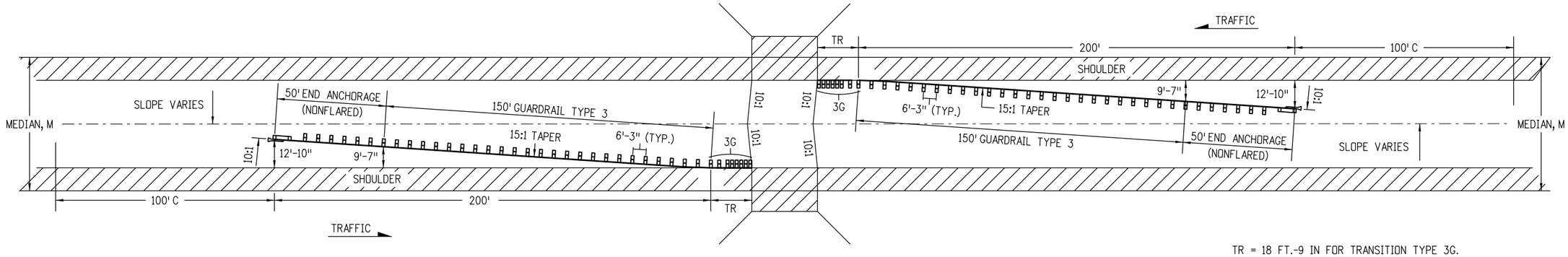
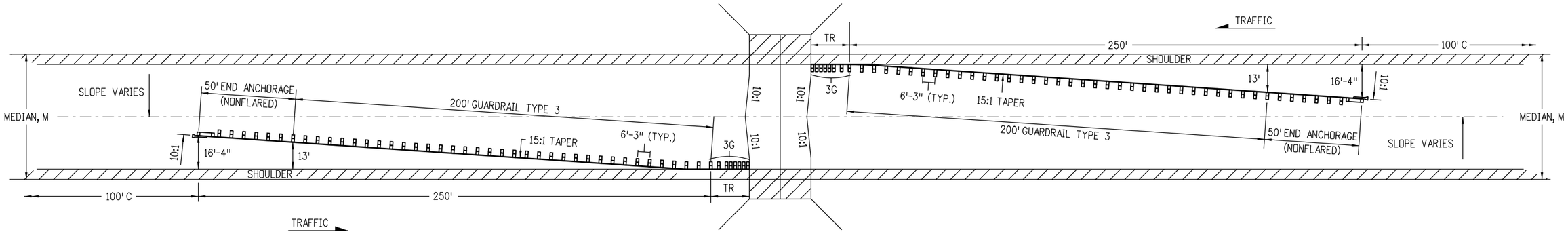
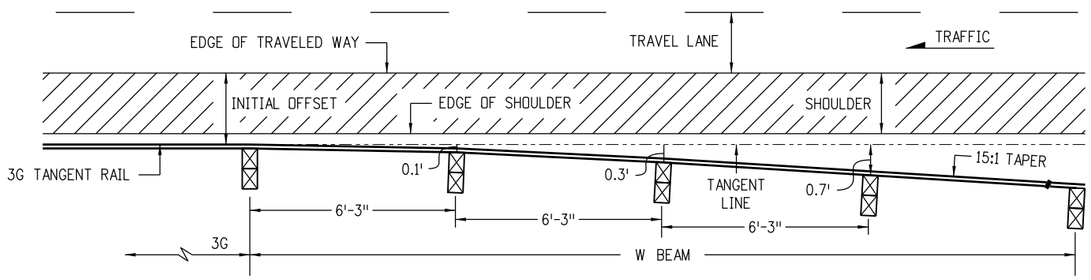


MEDIANS 60 FT. AND OVER WITH 10 FT. OR WIDER SHOULDERS.

TR = 18 FT.-9 IN FOR TRANSITION TYPE 3G.
C = CHANGE: 100 FT. TRANSITION TO NORMAL SLOPE.
M = WIDTH OF MEDIAN.



MEDIANS 60 FT. AND OVER WITH 4 to 8 FT. SHOULDERS.



TRANSITION TO TYPICAL 15:1 TAPER

NOTES

1. GUARDRAIL TRANSITIONS FROM PARALLEL TO ROADWAY SHOULDER AT 3G SEGMENT TO 15:1 TAPER WITHIN 18'-9" BASED ON POST OFFSET DIMENSIONS SHOWN.
2. SEE SHEET 15 FOR THE RIGHT SHOULDER GUARDRAIL LAYOUT.

MULTILANE DIVIDED HIGHWAYS - (DEPRESSED MEDIANS, 60 FT. AND OVER WITH OPEN HAZARDS OR OBSTRUCTIONS)

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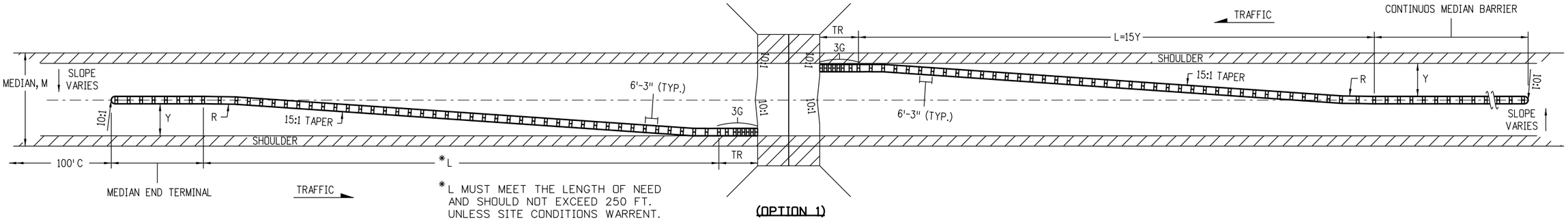
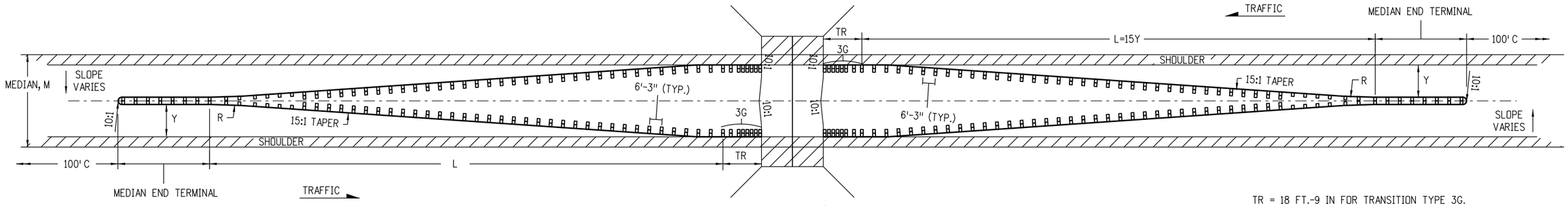
NOTES

1. GUARDRAIL TRANSITIONS FROM PARALLEL TO ROADWAY SHOULDER AT 3G SEGMENT TO 15:1 TAPER WITHIN 18'-9" BASED ON POST OFFSET DIMENSIONS SHOWN.
2. THE OPTION 1 LAYOUT SHALL BE USED WHEN "Y" EXCEEDS 16 FEET OR WHEN MEDIAN BARRIER IS CONTINUOUS.
3. THE OPTION 2 LAYOUT SHALL BE USED WHEN "Y" IS 16 FEET OR LESS.
4. SEE SHEET 15 FOR RIGHT SHOULDER GUARDRAIL LAYOUT.

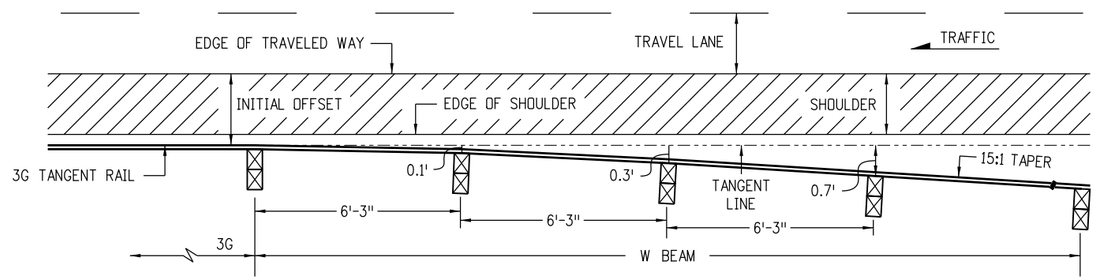


* L MUST MEET THE LENGTH OF NEED AND SHOULD NOT EXCEED 250 FT. UNLESS SITE CONDITIONS WARRENT.

(OPTION 1)



(OPTION 2)



TRANSITION TO TYPICAL 15:1 TAPER

TR = 18 FT.-9 IN FOR TRANSITION TYPE 3G.
C = CHANGE: 100 FT. TRANSITION TO NORMAL SLOPE.
M = WIDTH OF MEDIAN.
L = TOTAL LENGTH PAID AS GUARDRAIL TYPE 3.
Y = FINAL OFFSET AT END.

MULTILANE DIVIDED HIGHWAYS - (DEPRESSED MEDIANS, 21 - 59 FT. WITH OPEN HAZARDS OR OBSTRUCTIONS)

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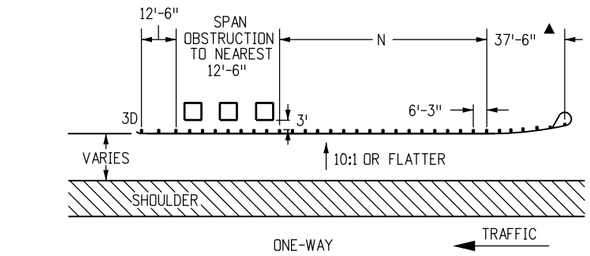
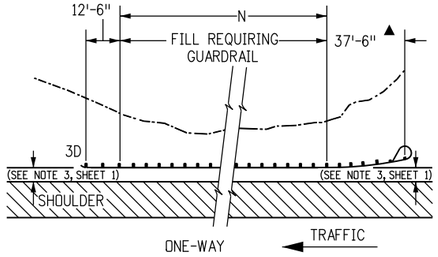
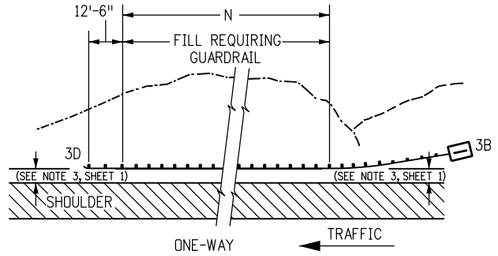
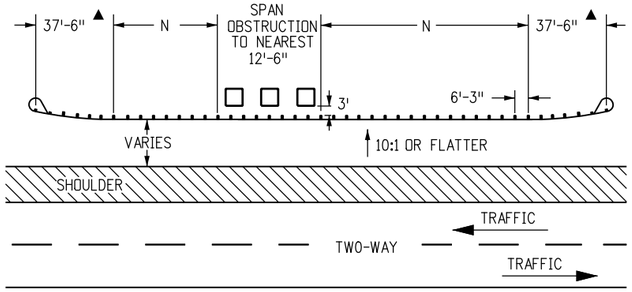
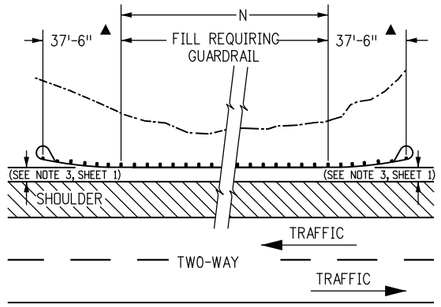




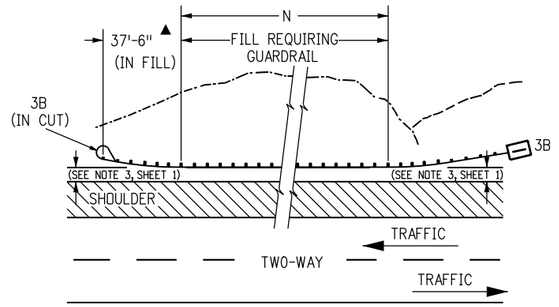




GUARDRAIL FOR ROADSIDE OBSTRUCTIONS



GUARDRAIL FOR ROADSIDE FILL CONSTRUCTION

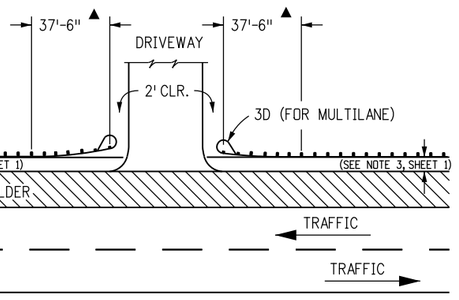


GUARDRAIL FOR ROADSIDE CUT-TO-FILL CONDITION

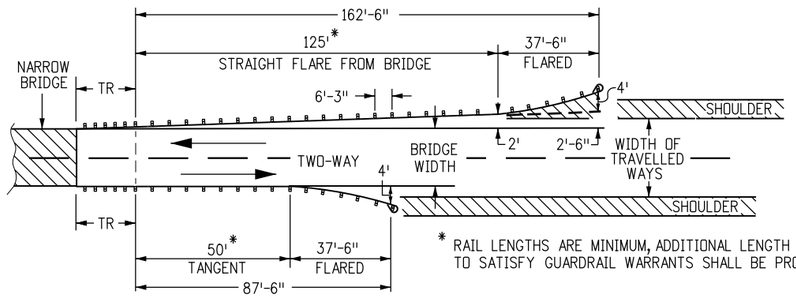
NOTES

1. THE TYPE 3G OR 3H TRANSITIONS (SEE SHEET 12) SHALL BE USED TO CONNECT A TYPE 3 W-BEAM TO TYPE 7 CONCRETE BARRIER OR TO A TYPE 7, 8, OR 10 BRIDGE RAIL. FOR A TRANSITION FROM A ROADWAY TYPE 3 W-BEAM TO A BRIDGE RAIL TYPE 3 WITH BACKING TUBES, THE TRANSITION TYPE 3L SHOWN ON SHEET 20 SHALL BE USED.
2. "TR" WILL BE 18 FT.-9 IN. FOR THE TRANSITIONS TYPE 3G AND 3H, AND 25 FT. FOR THE TRANSITION TYPE 3L.
3. THE GUARDRAIL LENGTH DIMENSION "N" IS THE LENGTH AS DETERMINED BY THE LENGTH OF NEED COMPUTATION AND IS SHOWN ON THE PLANS. THE MINIMUM IS 12 FT.-6 IN. WHERE SITE CONDITIONS ALLOW. THE OVERALL REQUIRED LENGTH OF NEED CAN INCLUDE THE LENGTH OF TRANSITION, THE LENGTH OF RAIL (N), AND ANY REDIRECTIVE LENGTH IN THE RAIL END TREATMENT. A TRAVERSABLE SLOPE SHALL BE PROVIDED BEHIND THE TERMINAL TO DIMENSION "N" PRIOR TO THE OBSTRUCTION UNLESS OTHERWISE APPROVED BY THE ENGINEER.

▲ END ANCHORAGE CAN BE FLARED OR NONFLARED

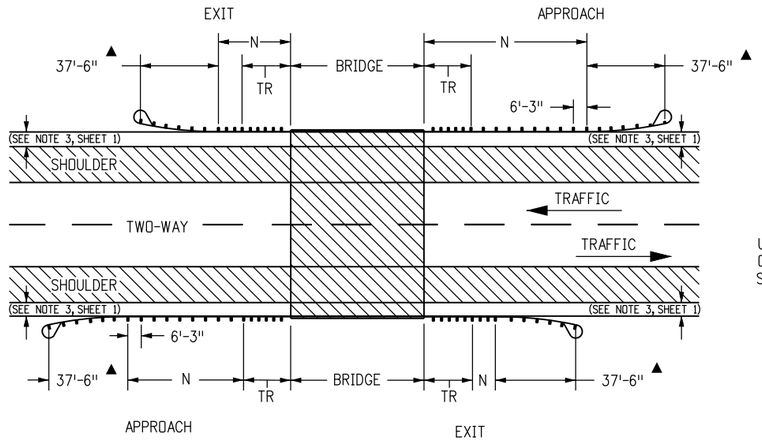


LAYOUT FOR DRIVEWAY APPROACH

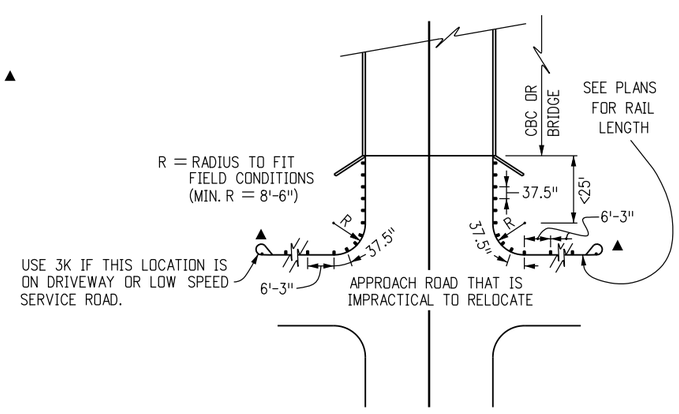


* RAIL LENGTHS ARE MINIMUM, ADDITIONAL LENGTH TO SATISFY GUARDRAIL WARRANTS SHALL BE PROVIDED

2-WAY NARROW APPLICATION



2-WAY NORMAL BRIDGE APPLICATION



GUARDRAIL TYPE 3 WITH BLOCKED OUT POSTS SPACED AT 3'-1½" FROM STRUCTURE AROUND CURVE.

INTERRUPTED STRUCTURE APPROACH

(USE TYPE 3J ON SHEET 13 WHEN PRACTICAL)

Computer File Information		Sheet Revisions	
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Last Modification Date: 12/29/15 Initials: LTA	(R-X)		
Full Path: www.codot.gov/business/designsupport	(R-X)		
Drawing File Name: 606010180 20.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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Division of Project Support DLM/LTA

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

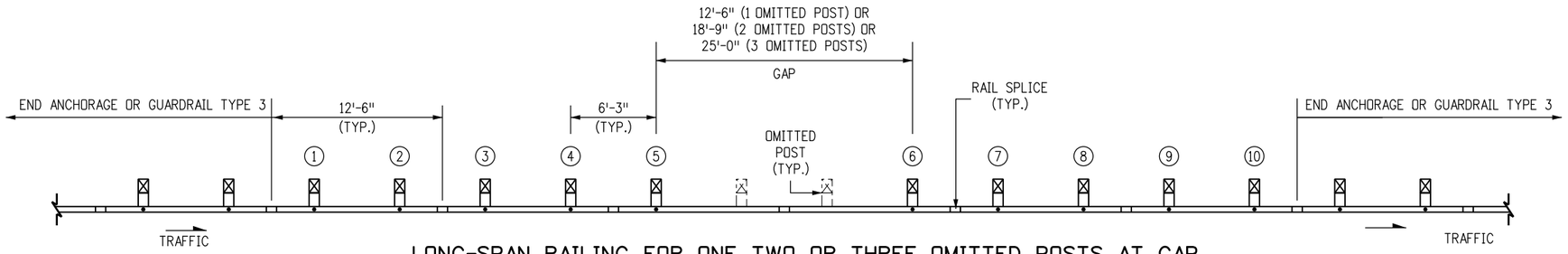
Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.

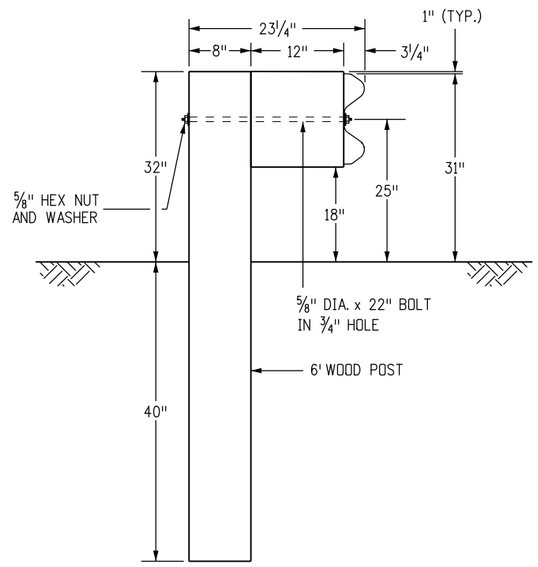
M-606-1

NOTES

1. POSTS (1), (2), (9), and (10) MAY BE TIMBER OR STEEL.
2. THE NUMBER OF OMITTED POSTS IS DEPENDENT ON THE LENGTH OF THE GAP.

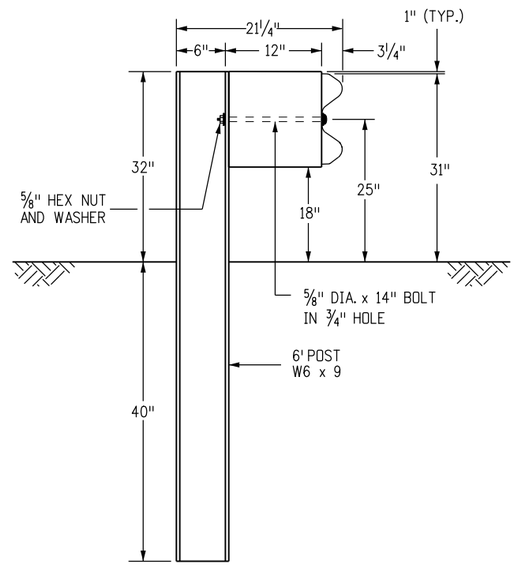


LONG-SPAN RAILING FOR ONE, TWO, OR THREE OMITTED POSTS AT GAP



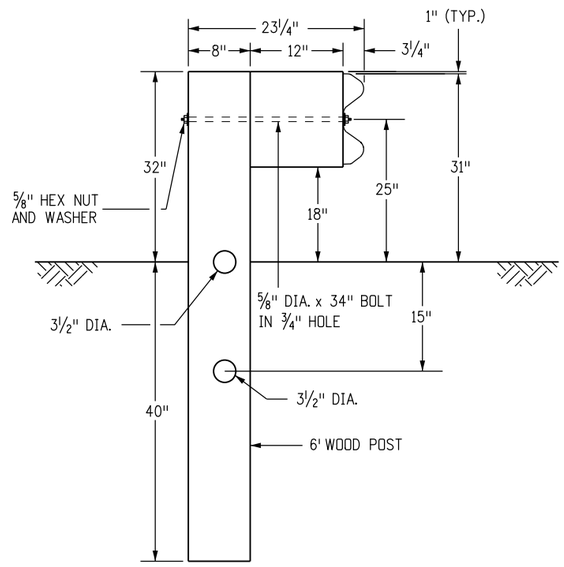
TIMBER POST

POSTS (1)-(2) AND (9)-(10)
(SEE NOTE 1)



STEEL POST

POSTS (1)-(2) AND (9)-(10)
(SEE NOTE 1)



BREAKWAY TIMBER POST

POSTS (3) - (8)

Computer File Information		Sheet Revisions	
Creation Date: 08/19/15 Initials: DLM		Date:	Comments
Last Modification Date: 12/29/15 Initials: LTA	(R-X)	12/29/15	Raised guardrail height to 31".
Full Path: www.codot.gov/business/designsupport	(R-X)	12/29/15	Deleted Nested Rails details. Revised General Notes. Combined 1, 2, and 3 omitted posts details into one detail.
Drawing File Name: 606010190 20.dgn	(R-X)		
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MIDWEST
GUARDRAIL SYSTEM (MGS)
TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
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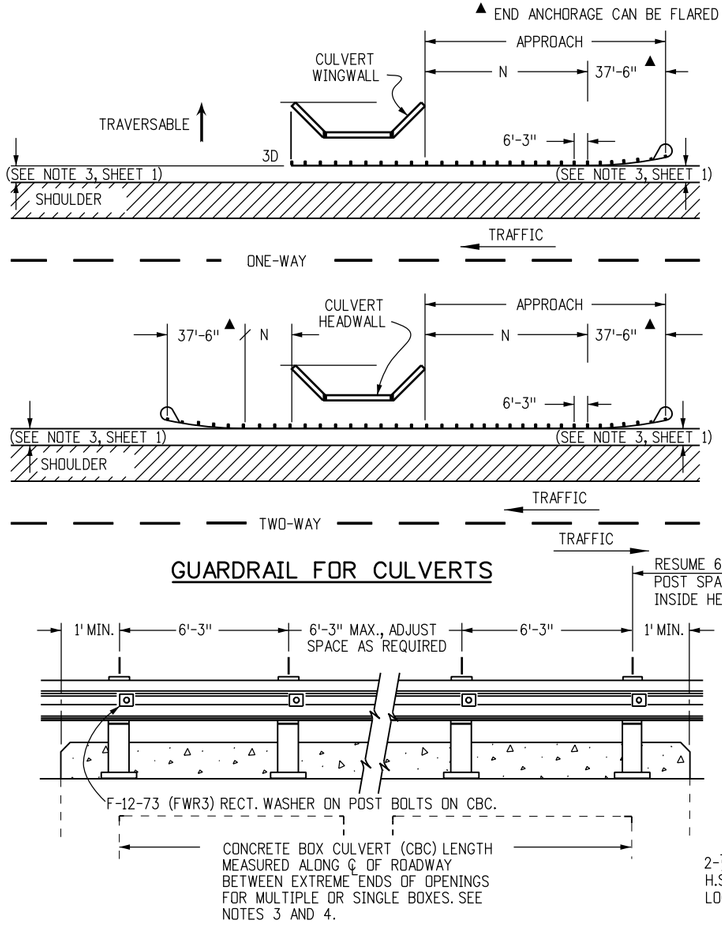
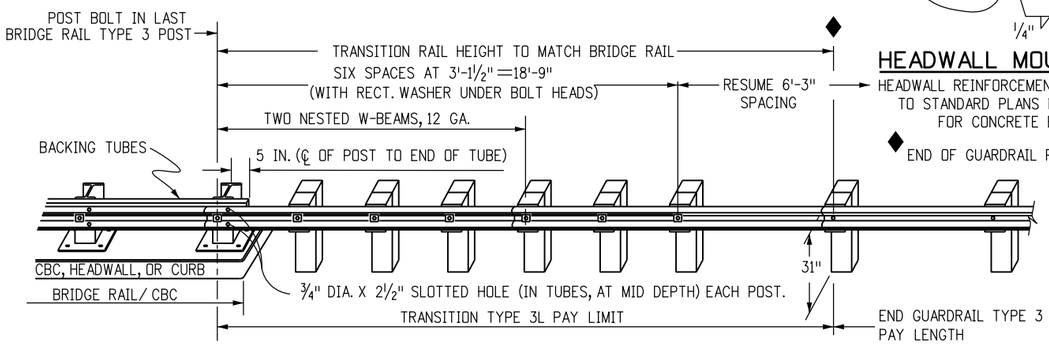
GUARDRAIL FOR CULVERTS

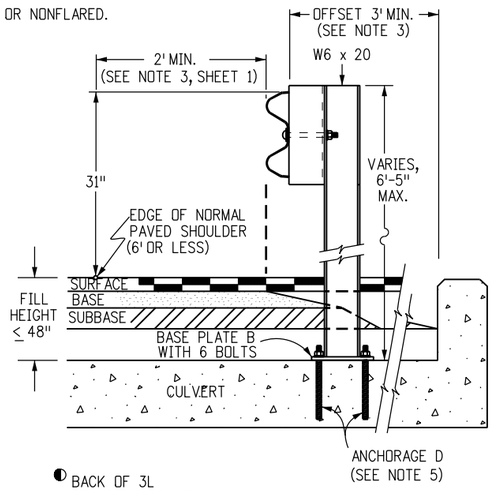


RAIL PLACEMENT FOR INSIDE OR HEADWALL MOUNT

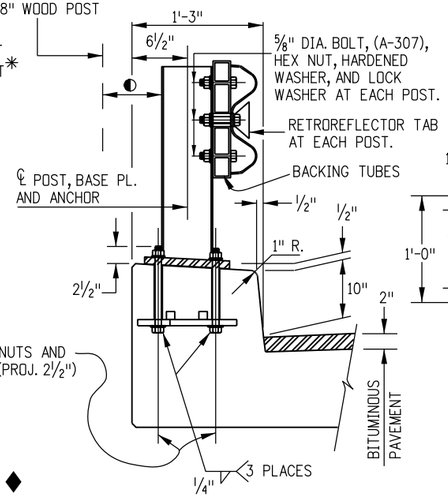
* USE 3L TRANSITION AT BOTH APPROACH AND EXIT ENDS OF BRIDGE RAIL TYPE 3 (HEADWALL MOUNT)



TRANSITION TYPE 3L AND GUARDRAIL TYPE 3 APPROACH



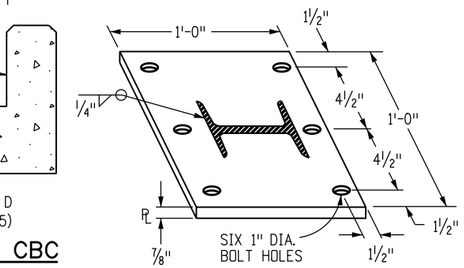
INSIDE MOUNT ON CBC



HEADWALL MOUNT ON CBC

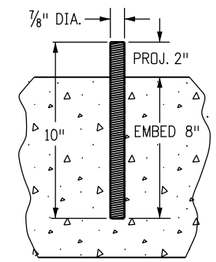
HEADWALL REINFORCEMENT SHALL BE ACCORDING TO STANDARD PLANS M-601-1, 2, AND 3 FOR CONCRETE BOX CULVERTS.

◆ END OF GUARDRAIL PAY LENGTH



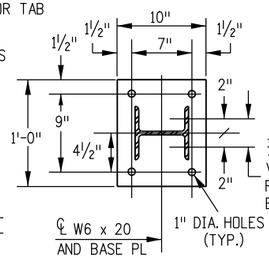
BASE PLATE B

(FOR INSIDE MOUNT)

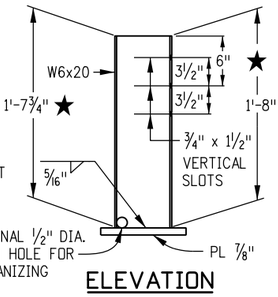


ANCHORAGE D

(FOR INSIDE MOUNT)

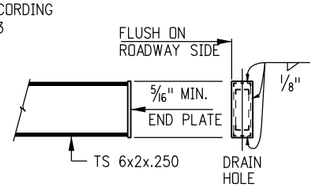


PLAN



ELEVATION

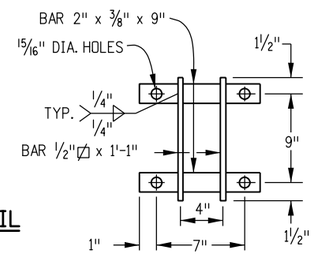
HEADWALL MOUNT POST DETAIL



BACKING TUBES END DETAIL

(FOR HEADWALL MOUNT)

TUBES SHALL BE CONTINUOUS. NEITHER BOLTED NOR WELDED SPLICES WILL BE ALLOWED.



● ANCHOR DETAIL

(FOR HEADWALL MOUNT)

NOTES

1. LOCATION AND LENGTH OF MEDIAN GUARDRAIL APPROACHES TO CULVERTS WITH FULL HEADWALL AND WINGWALLS SHALL BE AS SHOWN FOR BRIDGES ON SHEET 16. THE GUARDRAIL TYPE 3 SHALL CONTINUE ACROSS THE CULVERT AS SHOWN ON THIS SHEET.
2. RIGHT SHOULDER BOX CULVERT TREATMENT IS SHOWN ON THIS SHEET FOR CULVERTS 20 FT. OR LESS IN LENGTH.
3. GUARDRAIL ACROSS CULVERTS WITH A LENGTH OF 20 FT. OR LESS SHALL BE AS FOLLOWS:
   A. FILL HEIGHT AT GUARDRAIL POST 48 IN. OR GREATER: CONSTRUCTION AND PAYMENT WILL BE AS GUARDRAIL TYPE 3.
   B. FILL HEIGHT AT GUARDRAIL POST LESS THAN 48 IN. AND BLOCK FACE TO HEADWALL OFFSET OF 3 FT. OR GREATER: CONSTRUCTION AND PAYMENT AS GUARDRAIL TYPE 3.
   C. FILL HEIGHT AT GUARDRAIL POST 48 IN. OR LESS AND BLOCK FACE TO HEADWALL OFFSET LESS THAN 3 FT: CONSTRUCTION ACCORDING TO HEADWALL MOUNT DETAILS AND PAYMENT AS BRIDGE RAIL TYPE 3.
4. GUARDRAIL ACROSS CULVERTS WITH LENGTH GREATER THAN 20 FT. SHALL BE AS FOLLOWS:
   A. FILL HEIGHT AT GUARDRAIL POSTS 48 IN. OR GREATER: CONSTRUCTION AND PAYMENT WILL BE FOR STANDARD GUARDRAIL TYPE 3.
   B. FILL HEIGHT AT GUARDRAIL POSTS 48 IN. OR LESS: CONSTRUCTION AND PAYMENT IN ACCORDANCE WITH THE CONTRACT BRIDGE PLANS. WHEN BLOCK FACE TO HEADWALL OFFSET IS 3 FT. OR GREATER: CONSTRUCTION AND PAYMENT AS GUARDRAIL TYPE 3.
5. ANCHORAGE D: SIX BOLTS FOR BASE PLATE "B" WITH INSIDE MOUNT. THE BOLTS SHALL BE 7/8 IN. DIA X 10 IN. HIGH STRENGTH RODS THREADED FULL LENGTH AND ALL GALVANIZED. RODS SHALL BE CAST-IN-PLACE FOR A NEW STRUCTURE. FOR AN EXISTING STRUCTURE, THE RODS SHALL BE INSTALLED IN 1-1/4 IN. DIA HOLES WITH NON-SHRINK GROUT OR EPOXY CONFORMING TO ASTM C 881.
6. TYPE 3L POSTS SHALL BE STEEL OR WOOD TO MATCH POSTS USED ON THE APPROACH GUARDRAIL.
7. THE GUARDRAIL LENGTH DIMENSION "N" IS THE LENGTH AS DETERMINED BY THE LENGTH OF NEED COMPUTATION AND IS SHOWN ON THE PLANS. THE MINIMUM IS 12 FT.-6 IN. WHERE SITE CONDITIONS ALLOW. THE OVERALL REQUIRED LENGTH OF NEED CAN INCLUDE THE LENGTH OF TRANSITION, THE LENGTH OF RAIL (N), AND ANY REDIRECTIVE LENGTH IN THE RAIL END TREATMENT.
8. ALL BRIDGE RAIL TYPE 3 BACKING TUBES SHALL BE FABRICATED FROM ASTM A 500 GRADE B. ALL POSTS, BASE PLATES, AND ANCHOR BOLTS SHALL BE FABRICATED FROM ASTM A 36 STEEL. THE ABOVE MATERIAL, W-BEAM, AND ALL ANCHOR BOLTS AND MISCELLANEOUS BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH SECTION 509. CONCRETE, REINFORCING STEEL, AND STRUCTURAL STEEL ELEMENTS SHALL BE IN ACCORDANCE WITH SECTIONS 601, 602, AND 509, RESPECTIVELY.
9. POST ANCHORS, ENCASED IN CONCRETE, SHALL BE ASTM A 36 STEEL, AND NEED NOT BE GALVANIZED.
10. PRIOR TO FABRICATION OF BRIDGE RAIL, THREE SETS OF WORKING DRAWINGS WHICH COMPLY WITH THE REQUIREMENTS OF SECTION 105 SHALL BE SUBMITTED TO THE ENGINEER FOR INFORMATION ONLY.
11. IF HEADWALL MOUNT GUARDRAIL IS USED, SEE STANDARD PLAN M-601, AND NOTES BELOW:
    A. ALL ITEMS ABOVE TOP OF CBC HEADWALL WILL BE MEASURED AND PAID FOR AS LINEAR FEET OF BRIDGE RAIL TYPE 3.
    B. HEADWALL MOUNTING OF RAIL WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

★ FOR STANDARD 12 IN. HEADWALL WITH NO PAVEMENT, THE POST HEIGHT SHALL BE 1 FT.- 6 IN. ADJUST POST HEIGHT FOR PAVEMENT THICKNESS.

● ONE ANCHOR ASSEMBLY SHALL BE PLACED FOR EACH RAIL POST.

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MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 3 W-BEAM 31 INCHES

Issued By: Project Development Branch July 4, 2012

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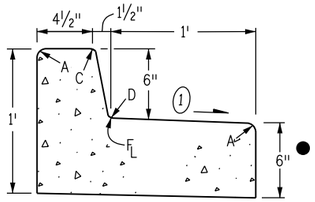
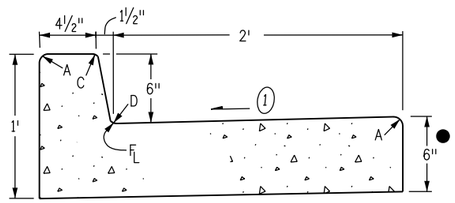
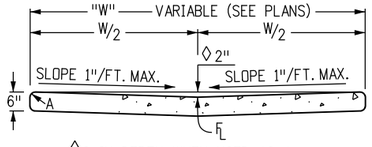


CURB AND GUTTER TYPE 2
(SECTION IB)
(6 IN. BARRIER - 1 FT. GUTTER)

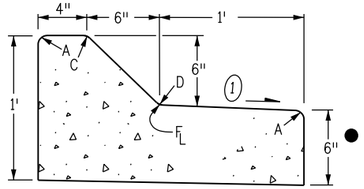


CURB AND GUTTER TYPE 2
(SECTION IIB)
(6 IN. BARRIER - 2 FT. GUTTER)

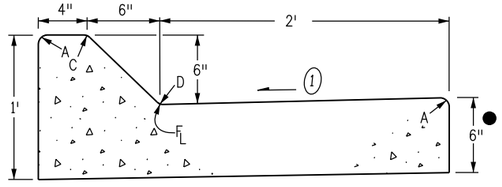


◊ 2 IN. DEPTH WHEN USED AS A CROSSPAN IN AN INTERSECTION

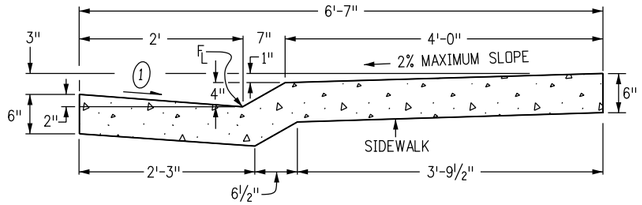
GUTTER TYPE 2



CURB AND GUTTER TYPE 2
(SECTION IM)
(6 IN. MOUNTABLE - 1 FT. GUTTER)



CURB AND GUTTER TYPE 2
(SECTION IIM)
(6 IN. MOUNTABLE - 2 FT. GUTTER)



CURB AND GUTTER TYPE 2
(SECTION MS)
(4 IN. MOUNTABLE WITH SIDEWALK)

GENERAL NOTES

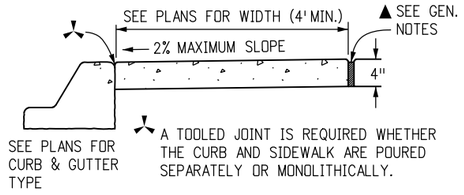
1. ON ROADWAY CURVES WITH A RADIUS OF 1,900 FT. OR LESS, CURBS AND GUTTERS ARE TO BE PLACED ON THE ARC OF THE CURVE, UNLESS OTHERWISE NOTED ON THE PLANS. A MAXIMUM CHORD LENGTH OF 10 FT. MAY BE USED WHEN THE CURVE RADIUS IS GREATER THAN 1,900 FT.
2. CONCRETE SHALL BE CLASS B.
3. PROFILE GRADE OF CURBS AND GUTTERS SHALL BE LOCATED AT THE FLOW LINE.
4. CURB TYPE 4 (KEY-WAY) MAY BE USED IN LIEU OF CURB AND GUTTER TYPE 2 (SECTIONS IB AND IM) UNLESS OTHERWISE SPECIFIED ON THE PLANS.
5. GUTTER CROSS SLOPES MAY BE ADJUSTED TO FACILITATE DRAINAGE FOR PROFILE GRADES AS SHOWN ON THE PLANS.
6. THICKNESS OF CURB AND GUTTER SECTION SHALL MATCH CONCRETE PAVEMENT THICKNESS IF SHOWN ON THE PLANS. CURB AND GUTTER SHALL BE CLASS P CONCRETE IF PLACED MONOLITHICALLY WITH CONCRETE PAVEMENT.
7. INCREASE SIDEWALK THICKNESS TO 6 IN. AT LOCATIONS SHOWN ON THE PLANS.
8. MINIMUM SIDEWALK WIDTH IS 4 FT.

▲ EXPANSION JOINTS SHALL BE INSTALLED WHEN ABUTTING EXISTING CONCRETE OR FIXED STRUCTURE. EXPANSION JOINT MATERIAL SHALL BE ½ IN. THICK AND SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE.

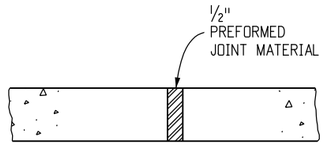
(1) GUTTER CROSS SLOPES SHALL BE ½ IN./FT. WHEN DRAINING AWAY FROM CURB AND 1 IN./FT. WHEN DRAINING TOWARD CURB (WITH EXCEPTION TO IMMEDIATELY ADJACENT TO CURB RAMPS - SEE STANDARD PLAN M-608-1 FOR SLOPE REQUIREMENTS).

● WHEN TIE BARS ARE REQUIRED, THE GUTTER THICKNESS SHALL BE INCREASED TO THE PAVEMENT THICKNESS (T). BARS SHALL BE EPOXY-COATED #4 CONFORMING TO AASHTO M 284 AND SPACED AT 3 FT. INTERVALS. THEY SHALL BE INSERTED T/2 AND 1#2 LENGTH INTO THE GUTTER.

LEGEND FOR RADII
A = 1/8" TO 1/4"
B = 1"
C = 1½"
D = 1½" TO 2"



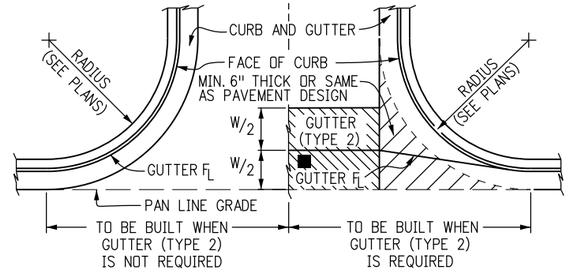
CONCRETE SIDEWALK



NOTES: 1. EXPANSION JOINTS SHALL BE PLACED IN THE SIDEWALK AT INTERVALS OF NOT MORE THAN 500 FT.

2. EXPANSION JOINTS MAY BE SEALED WHEN SPECIFIED ON THE PLANS.

SIDEWALK EXPANSION JOINT



▨ THIS AREA SHALL BE POURED MONOLITHICALLY WITH CURB AND GUTTER AND PAID FOR AS "CONCRETE PAVEMENT".

■ FLOW LINE LOCATION WILL BE ESTABLISHED BY W/2 SHOWN ON PLANS.

CONSTRUCTION OF CONCRETE GUTTERS AT INTERSECTION

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Drawing File Name: 609010104.dgn		(R-X)
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English		(R-X)

Sheet Revisions	
Date:	Comments
07/24/12	Changed Tie Bar spacing from 30" to 36".
05/16/14	Revised Gutter Cross Slope Note to exclude ADA Ramp

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CURB, GUTTERS, AND SIDEWALKS

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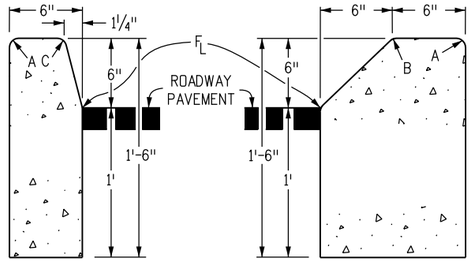
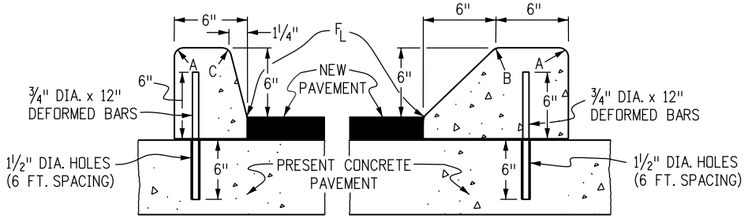
Sheet No. 1 of 4



CURB TYPE 2
(SECTION B)
6 IN. BARRIER

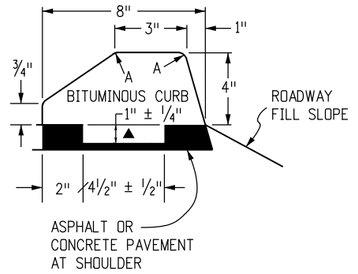
CURB TYPE 2
(SECTION M)
6 IN. MOUNTABLE

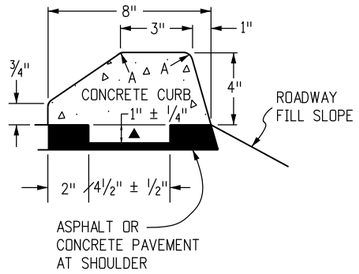


¾" DIA. x 12" DEFORMED REINFORCING BARS AT 6 FT. SPACING SHALL BE GROUTED IN 1¼" DIA. HOLES IN EXISTING CONCRETE. GROUT SHALL CONSIST OF 2 PARTS CLEAN SAND AND 1 PART CEMENT. COST OF INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR CURB.

CURB TYPE 4
(SECTION B)
6 IN. BARRIER

CURB TYPE 4
(SECTION M)
6 IN. MOUNTABLE



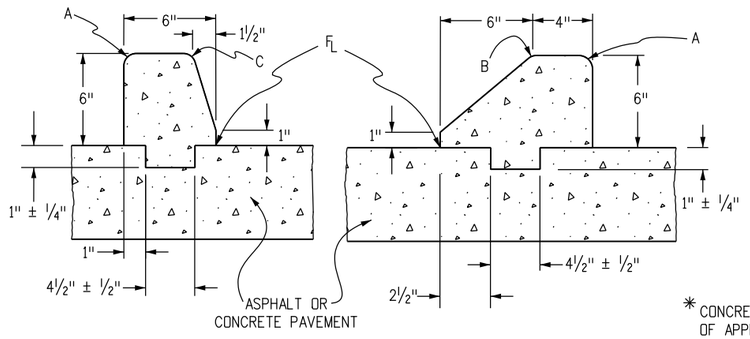


CURB TYPE 6
(SECTION M)
4 IN. MOUNTABLE

NOTE: BITUMINOUS OR CONCRETE * UNLESS OTHWISE SPECIFIED ON THE PLANS.

▲ KEY-WAY MAY BE OMITTED WHEN PLACED UNDER GUARDRAIL.

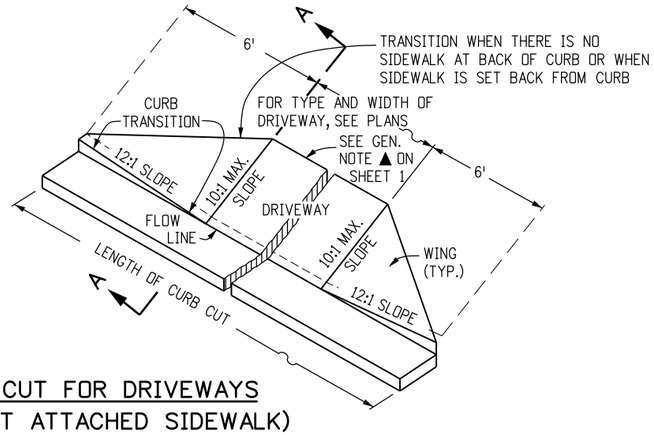
LEGEND FOR RADII
A = 1/8 TO 1/4"
B = 1"
C = 1½"
D = 1½" TO 2"



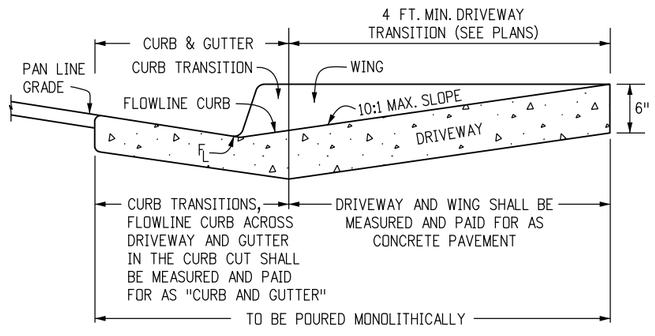
(SECTION B) (SECTION M)

CURB TYPE 4 (KEY-WAY) *

* CONCRETE CLASS B SHALL CONTAIN 1.5 POUNDS PER CUBIC YARD OF APPROVED POLYPROPYLENE FIBERS AND MAY HAVE A NOMINAL AGGREGATE SIZE OF ⅜ IN.

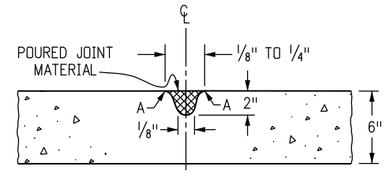


CURB CUT FOR DRIVEWAYS
(WITHOUT ATTACHED SIDEWALK)



SECTION A-A

CONCRETE PAVEMENT (DRIVEWAYS)



NOTE: RECOMMENED JOINT SPACING IS EVERY 8 FOOT ALONG THE WIDTH AND LENGTH OF DRIVEWAY. FOR DRIVEWAYS WIDER THAN 12 FEET, JOINTS ARE REQUIRED.

TRANSVERSE CONTRACTION JOINT
FOR CONCRETE PAVEMENT (DRIVEWAYS)

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CURB, GUTTERS, AND SIDEWALKS

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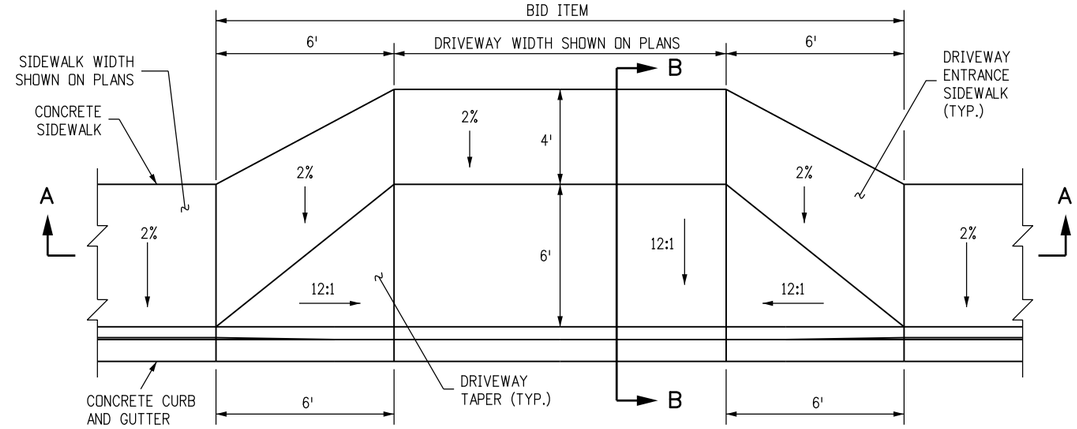

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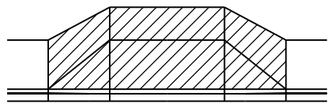

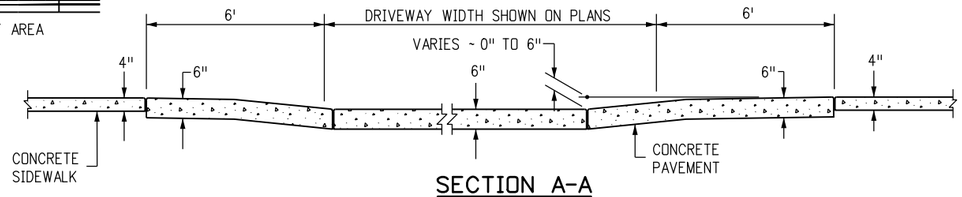

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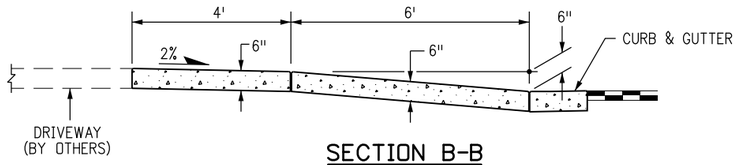

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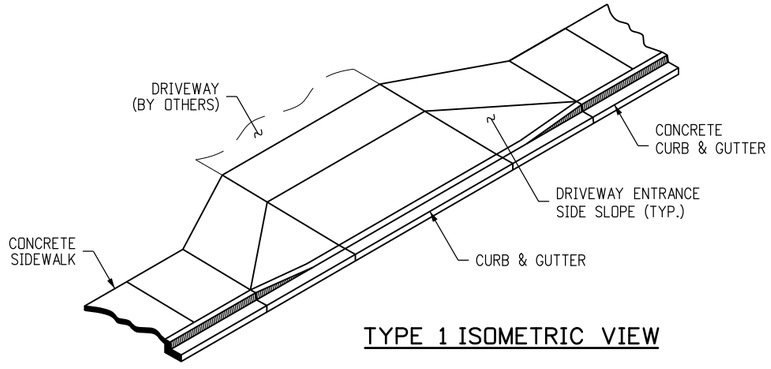

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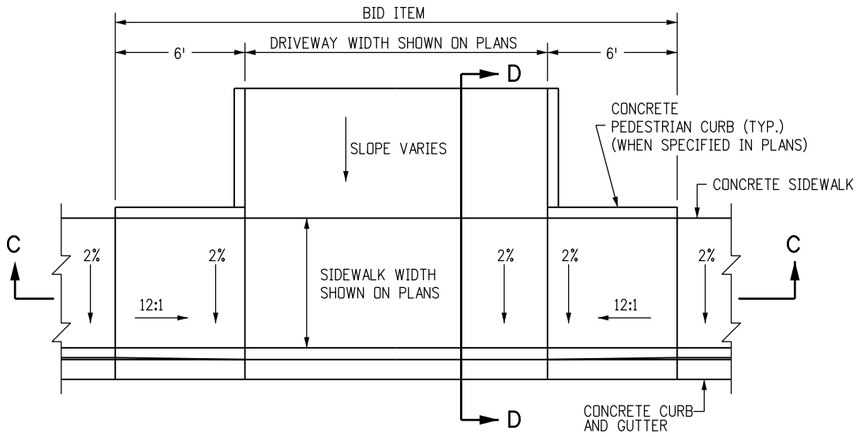

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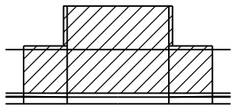

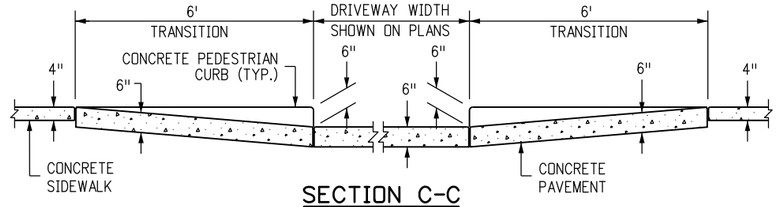

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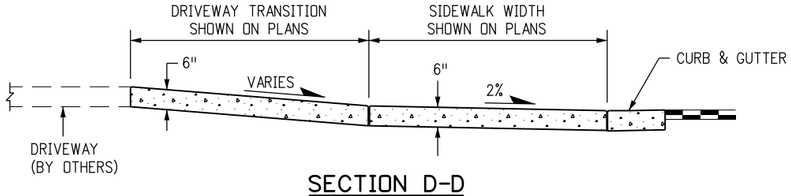

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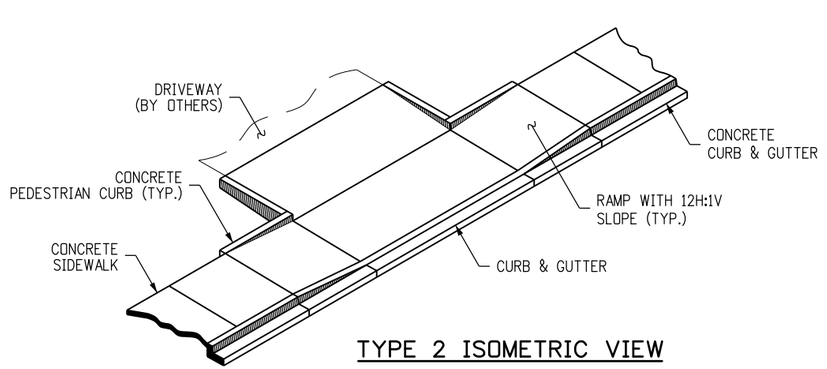

TYPE 2 ISOMETRIC VIEW

NOTES

1. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, JUNCTION BOXES, AND OTHER OBSTRUCTIONS SHOULD NOT BE PLACED IN FRONT OF THE DRIVEWAY RAMP ACCESS AREAS.
2. FOR THE CURB AND GUTTER SHOWN, SEE PLANS FOR CURB TYPE.
3. RAMP SLOPES SHALL BE 12:1 OR FLATTER.
4. CONSTRUCTION OF THE CONCRETE PEDESTRIAN CURB SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE PAVEMENT.

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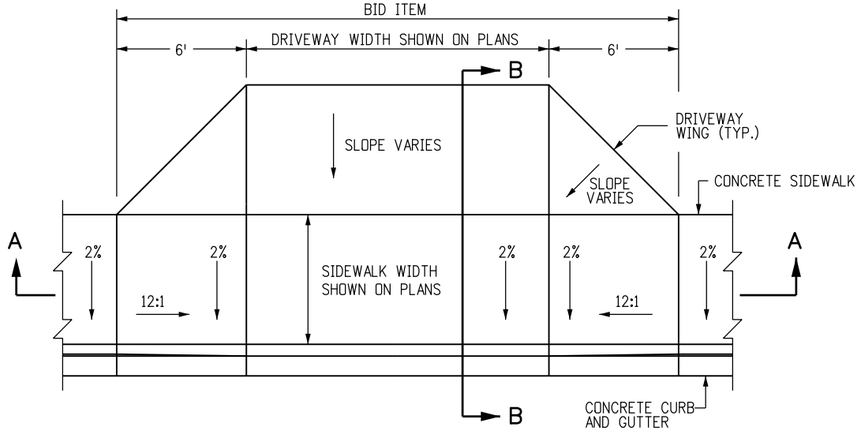

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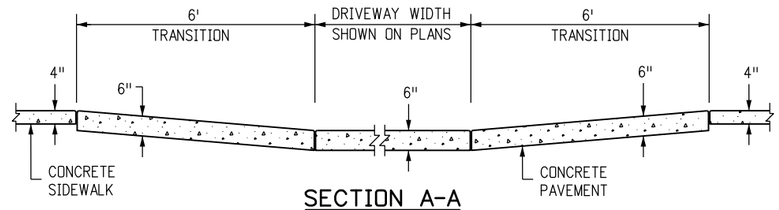
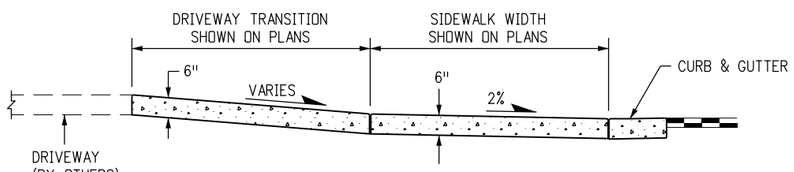
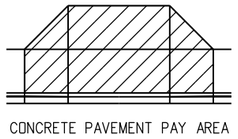


SECTION A-A



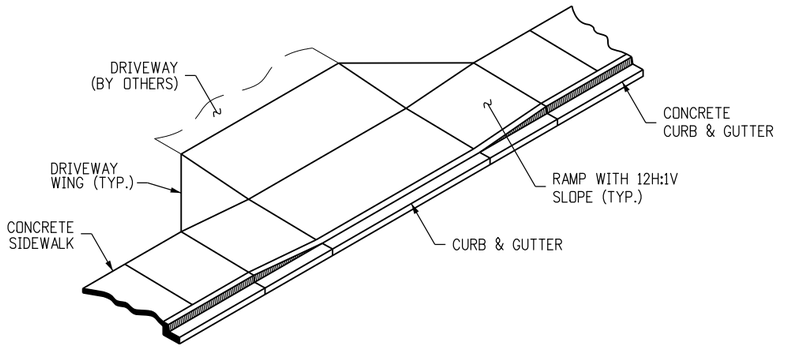
SECTION B-B



CONCRETE PAVEMENT PAY AREA

NOTES

1. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, JUNCTION BOXES, AND OTHER OBSTRUCTIONS SHOULD NOT BE PLACED IN FRONT OF THE DRIVEWAY RAMP ACCESS AREAS.
2. FOR THE CURB AND GUTTER SHOWN, SEE PLANS FOR CURB TYPE.
3. RAMP SLOPES SHALL BE 12:1 OR FLATTER.



TYPE 3 ISOMETRIC VIEW

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CURB, GUTTERS, AND SIDEWALKS

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STANDARD PLAN NO.
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SPACING FOR DELINEATOR POSTS ON HORIZONTAL CURVES

'R' RADIUS (FEET)	'D' DEGREE OF CURVE	✳ - ● SPACING ON CURVE (FEET)	✳ SPACING IN ADVANCE OF AND BEYOND CURVE (FEET)		
			FIRST SPACE	SECOND SPACE	THIRD SPACE
20000	0° 17'	300	300	300	300
17000	0° 20'	300	300	300	300
14000	0° 25'	300	300	300	300
12000	0° 29'	300	300	300	300
10000	0° 34'	299	300	300	300
8000	0° 43'	267	300	300	300
6000	0° 57'	231	300	300	300
5000	1° 09'	211	300	300	300
4000	1° 26'	189	300	300	300
3500	1° 38'	176	300	300	300
3000	1° 55'	163	300	300	300
2500	2° 18'	148	297	300	300
2000	2° 52'	132	265	300	300
1800	3° 11'	125	251	300	300
1600	3° 35'	118	236	300	300
1400	4° 06'	110	220	300	300
1200	4° 47'	102	203	300	300
1000	5° 44'	92	185	277	300
900	6° 22'	87	175	262	300
800	7° 10'	82	164	246	300
700	8° 11'	76	153	229	300
600	9° 33'	70	141	211	300
500	11° 28'	64	127	191	300
450	12° 44'	60	120	180	300
400	14° 20'	56	112	168	300
350	16° 22'	52	104	156	300
300	19° 06'	47	95	142	285
250	22° 55'	42	85	127	255
200	28° 39'	37	73	110	220
150	38° 12'	30	60	90	180
100	57° 18'	21	42	64	127
75	76° 24'	20	30	45	90

✳ ON CONVENTIONAL ROADWAYS OMIT THE "THIRD SPACE" AND DOUBLE THE SPACING "ON THE CURVE" AND "IN ADVANCE OF AND BEYOND THE CURVE" (300' MAX.)

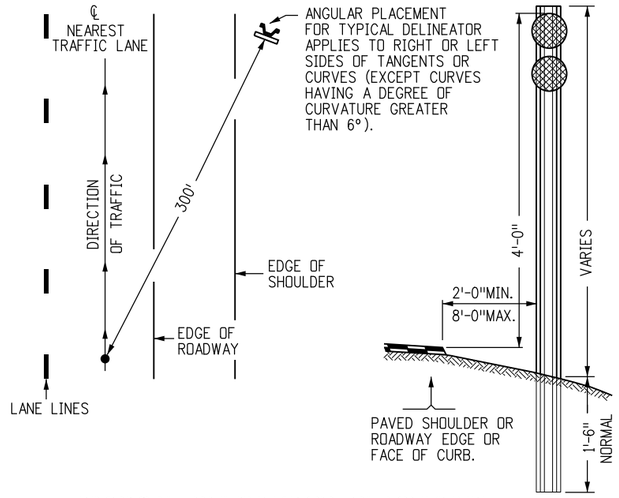
● SPACING FOR CURVES NOT SHOWN MAY BE COMPUTED FROM THE FORMULA: $S = 3\sqrt{R-50}$

SPACING IN ADVANCE OF AND BEYOND THE CURVE IS: FIRST SPACE = 2S, SECOND SPACE = 3S AND THIRD SPACE = 6S. SPACES SHOULD NOT BE LESS THAN 20 FT. OR GREATER THAN 300 FT.

RESIDUAL SPACE AFTER "ON CURVE" SPACING IS APPLIED, SHALL BE DIVIDED EQUALLY AMONG ALL OF THE "ON CURVE" SPACES SO THAT THE LAST DELINEATOR FALLS AT THE P.T. OR C.S. OF THE CURVE.

GENERAL NOTES

1. SEE THE TABULATION OF QUANTITIES INCLUDED IN THE PLANS FOR THE NUMBERS AND LOCATIONS OF DELINEATORS REQUIRED.
2. THE COLOR OF DELINEATORS SHALL, IN ALL CASES, CONFORM TO THE COLOR OF EDGE LINES, EXCEPT:
   A. RED, GREEN AND BLUE DELINEATORS
   B. TYPE III DELINEATORS (3 YELLOW).
3. THE COLOR OF DELINEATOR POSTS AND ALL SPECIAL MOUNTING BRACKETS SHALL BE INTERSTATE GREEN.
4. DELINEATORS ARE MANDATORY ON ALL ROADWAYS ON THE STATE HIGHWAY SYSTEM. THEY ARE OPTIONAL WHERE FIXED SOURCE LIGHTING IS IN OPERATION: HOWEVER, ALL CONCRETE BARRIER AND TYPE 3 GUARDRAIL SHALL HAVE REFLECTORS OR SUPPLEMENTAL TABS.
5. TYPE I (YELLOW) DELINEATORS ARE MANDATORY ON THE LEFT SIDE OF EXPRESSWAY ROADWAYS (MEDIAN).
6. RED DELINEATORS MAY BE INSTALLED ON THE REVERSE SIDE OF ANY DELINEATOR AND/OR A SEPARATE POST ON ONE-WAY ROADWAYS OR RAMPS WHERE INVESTIGATION SHOWS A NEED FOR WRONG-WAY MOVEMENT PROTECTION.
7. TYPE III (3-YELLOW) DELINEATORS ARE TO BE INSTALLED TO WARN OF THE EXISTENCE OF OBJECTS NOT ACTUALLY IN THE ROADWAY BUT THAT MAY BE SO CLOSE TO THE EDGE OF THE ROADWAY THAT THEY NEED A MARKER. THESE INCLUDE UNDERPASS PIERS, BRIDGE ABUTMENTS, HANDRAILS, AND CULVERTS HEADS. THE INSIDE EDGE OF THE MARKER SHALL BE IN LINE WITH THE INNER EDGE OF THE OBSTRUCTION.
8. INTERCHANGE RAMPS SHALL BE DELINEATED ON THE RIGHT SIDE, THE LEFT SIDE, OR BOTH SIDES WITH TYPE I DELINEATORS OF THE APPROPRIATE COLOR (CRYSTAL OR YELLOW) AS ILLUSTRATED ON SHEET NUMBER 3.
9. FRONTAGE ROAD DELINEATORS ARE NOT TO BE INSTALLED WHERE THEY MIGHT BE MISLEADING TO MAINLINE TRAFFIC.
10. SPACING OF DELINEATORS FOR TUNNELS AND SNOW SHEDS SHALL BE AS SHOWN ON THE PLANS.
11. WHERE PRACTICABLE, THE APPROACH ENDS OF ISLANDS AND MEDIANS SHOULD BE DELINEATED.
12. TYPICAL INSTALLATION LOCATIONS FOR ALL TYPE I DELINEATORS ON TAGENT SECTIONS SHALL BE ON 1/10TH MILE INTERVALS IN RELATION TO THE HIGHWAY MILE MARKERS. A 200 FOOT MINIMUM WILL APPLY TO THE "LAST SPACE" EXITTING A HORIZONTAL CURVE AND THE FOLLOWING DELINEATOR SHALL BE INSTALLED ON THE NEXT 1/10TH MILE LOCATION (MAXIMUM SPACING IS ALSO 528 FEET). AT ALL OTHER LOCATIONS, SUCH AS A & D LANES, RAMPS, WIDTH TRANSITIONS, AND TURN LANES, A "LAST SPACE" SHOULD NOT BE LESS THAN 50% OF HTE SPACING SHOWN FOR THAT LOCATION.
13. TYPE II DELINEATORS SHALL BE INSTALLED AT 100 FOOT SPACING ON ALL ACCELERATION LANES AND TAPERS, DECELERATION LANES AND TAPERS, AND LANE TRANSITIONS INVOLVING PAVEMENT WIDTH REDUCTIONS IN THE DIRECTION OF TRAFFIC. TYPE II DELINEATORS ARE NOT REQUIRED FOR REDIRECT TAPERS, FOR TRAFFIC MOVING IN THE DIRECTION OF WIDER PAVEMENT OR ON THE SIDE OF THE ROADWAY WHERE THE ALIGNMENT IS NOT AFFECTED BY THE LANE REDUCTION. TYPE II (YELLOW) DELINEATORS SHALL ONLY BE USED WHEN A RAISED OR DEPRESSED MEDIAN IS PRESENT. FOR WIDTH TRANSITIONS WHERE TRAFFIC MOVES IN THE DIRECTION OF WIDER PAVEMENT, THE NORMAL SPACING SHALL BE ADJUSTED SO THERE IS A DELINEATOR AT EACH OF THE ANGLE POINTS OF THE WIDTH TRANSITION.
14. TYPE I DELINEATORS SHALL BE INSTALLED AT 100 FOOT SPACING ON INTERCHANGE RAMP TANGENT SECTION AND BY THE SPACING TABLE ON RAMP CURVES. SPACING "IN ADVANCE OF AND BEYOND CURVE" DOES NOT APPLY TO RAMP CURVES.
15. FOR SPACING ON A CURVE THAT FOLLOWS A TANGENT SECTION WITH SPACES SHORTER THAN THOSE SHOWN IN THE CURVE SPACING TABLE: MODIFY THE TABLE SO THAT THE CURVE SPACING IS NO GREATER THAN THE TANGENT SPACING.
16. WHERE GUARDRAIL INTRUDES INTO THE SPACE BETWEEN THE PAVEMENT EDGE AND THE LINE OF DELINEATORS, PLACE THE DELINEATORS IMMEDIATELY ABOVE OR BEHIND THE RAIL FACE, AND DELINEATOR SPACING SHALL BE THE SAME BEHIND THE RAIL FACE.
17. WHEN NORMAL SPACING FALLS ON AN INTERSECTING ROADWAY, DRIVEWAY, ETC. THE DELINEATOR MAY BE MOVED EITHER DIRECTION A DISTANCE NOT EXCEEDING ONE-QUARTER OF THE NORMAL SPACING.
18. THE ANGULAR PLACEMENT FOR ALL DELINEATORS SHOULD BE BY THE "TRAFFIC ORIENTING" METHOD: AIM THE FACE OF THE DELINEATOR AT THE CENTERLINE OF THE NEAREST LANE OF APPROACHING TRAFFIC AT A POINT 300 FEET AWAY (OR AS DIRECTED BY THE ENGINEER FOR SPECIAL OR LOCATIONS AND CURVES HAVING A DEGREE OF CURVATURE GREATER THAN 6 DEGREES).
19. TYPE III (YELLOW-BLUE-YELLLOW) DELINEATORS ARE TO BE INSTALLED TO WARN OF THE EXISTENCE OF AN ASPHALT CURB INSTALLED BELOW GUARDRAIL. THE DELINEATOR SHALL BE PLACED IN LINE WITH THE ASPHALT CURB.



TYPICAL DELINEATOR PLACEMENT

SECTION B-B

TYPICAL DOUBLE HEIGHT INSTALLATION

POST NOTES

1. POSTS SHALL BE A UNIFORM FLANGED CHANNEL SECTION (U-SHAPE) MADE FROM HOT ROLLED STRUCTURAL STEEL, RE-ROLLED RAIL STEEL, OR NEW BILLET STEEL, HAVING A MINIMUM YIELD STRENGTH OF 30,000 PSI AND A MINIMUM TENSILE STRENGTH OF 50,000 PSI.
2. POSTS SHALL BE SET IN DRILLED OR EXCAVATED HOLES, PLACED PLUMB AND FIRMLY TAMPED IN PLACE; OR MAY BE DRIVEN PLUMB.
3. A MINIMUM OF 3 HOLES OF 3/16" DIAMETER, SPACED AS SHOWN, ARE REQUIRED FOR ALL DELINEATOR POSTS.

● AN ADDITIONAL HOLE IS REQUIRED WHEN THE ADJUSTABLE REFLECTOR BRACKET IS USED.

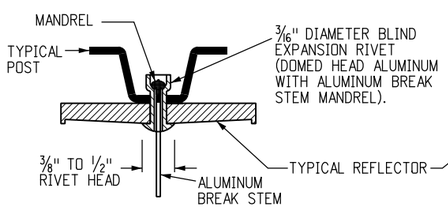
DOUBLE HEIGHT POSTS

4. THE LOWER SECTION OF THE 2-POST COMBINATION SHALL BE INSTALLED ACCORDING TO THE SAME PLACEMENT SPECIFICATIONS AS A TYPICAL SINGLE POST INSTALLATION.

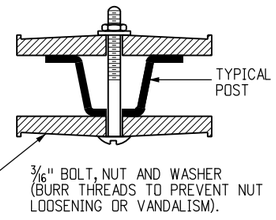
▲ 5. REFLECTORS SHALL BE MOUNTED AT THE CONNECTION OF THE POSTS AND AT THE TOP OF THE UPPER POST IN ACCORDANCE WITH THE APPROPRIATE CONFIGURATION FOR THE APPLICATION.

6. THE LENGTH OF THE UPPER EXTENSION PIECE SHALL NOT EXCEED 7 FEET.

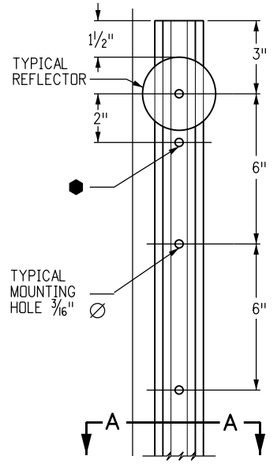
TYPICAL INSTALLATION SINGLE DIRECTION



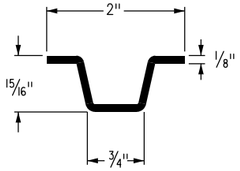
TYPICAL INSTALLATION BACK - TO - BACK



TYPICAL DELINEATOR FABRICATION DETAILS



TYPICAL 1,12# DELINEATOR POST



SECTION A-A

ALLOWABLE TOLERANCE DIMENSION:

1" AND UP	± 1/8"
1/2" TO 1"	± 1/16"
1/2" AND BELOW	± 1/32"

WEIGHT:

MINUS 3 1/2% OF THE WEIGHT OF ANY ONE POST.

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DELINEATOR INSTALLATIONS

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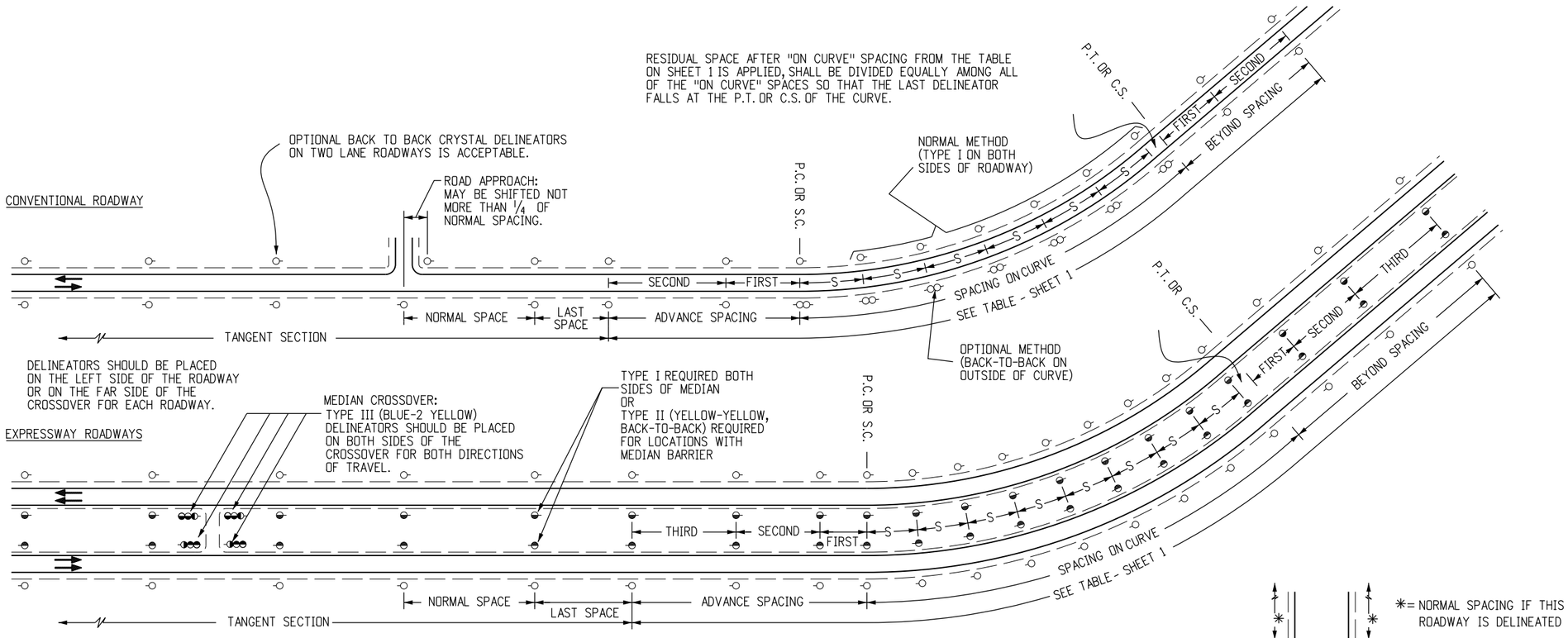
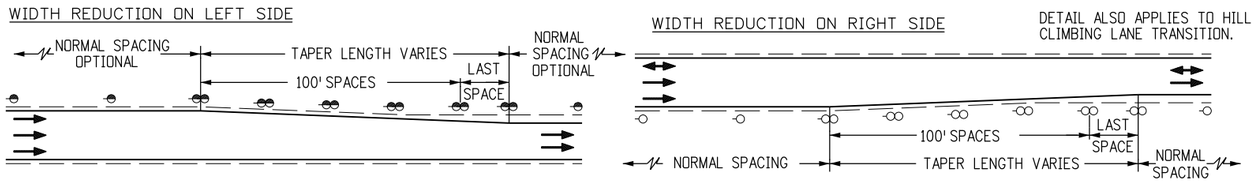
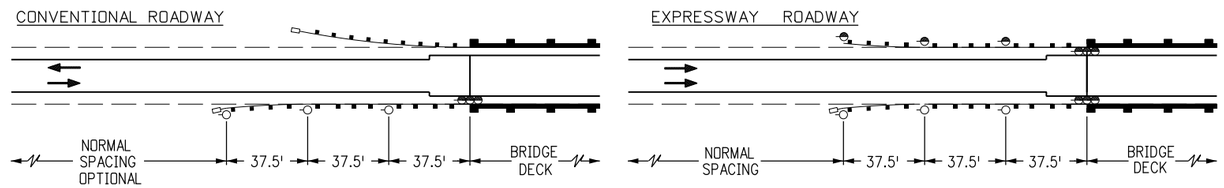


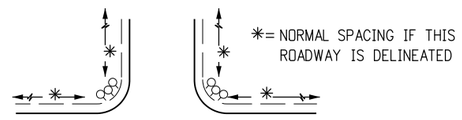
TYPICAL INSTALLATION FOR TANGENT SECTION AND CURVES

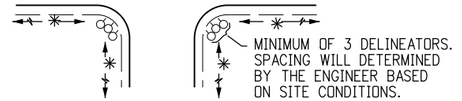


TYPICAL INSTALLATION FOR LANE TRANSITION



TYPICAL INSTALLATION FOR BRIDGE APPROACHES





TYPICAL INSTALLATION FOR MINOR INTERSECTION

DELINEATOR SYMBOLS AND TYPICAL CONFIGURATION

- TYPE I (CRYSTAL)
- TYPE I (YELLOW)
- TYPE I (RED)
- TYPE I (GREEN) (MAINTENANCE MARKER)
- TYPE I (BLUE) (MAINTENANCE MARKER)
- TYPE II (2 CRYSTAL)
- TYPE II (2 YELLOW)
- TYPE II (CRYSTAL-CRYSTAL BACK-TO-BACK)
- TYPE II (YELLOW-YELLOW, BACK-TO-BACK)
- TYPE II (CRYSTAL-RED, BACK-TO-BACK)
- TYPE II (YELLOW-RED, BACK-TO-BACK)
- TYPE III (3 YELLOW)
- TYPE III (2 CRYSTAL-RED, BACK-TO-BACK)
- TYPE III (2 YELLOW-RED, BACK-TO-BACK)
- TYPE III (GREEN)
- TYPE III (BLUE)
- TYPE III (BLUE-2 YELLOW)
- TYPE III (YELLOW-BLUE-YELLOW)

BRIDGE NOTES

1. WHERE CURB TO CURB WIDTH OF BRIDGE IS EQUAL TO OR GREATER THAN ROADWAY WIDTH PLUS USABLE SHOULDER WIDTH, USE THE TYPE III DELINEATOR (3 YELLOW) ONLY AND OMIT ALL THE TYPE I DELINEATORS.
2. FOR GUARD RAIL INSTALLATIONS WHERE APPROACH END IS NOT FLARED, PLACE A TYPE III DELINEATOR (3 YELLOW) IMMEDIATELY IN ADVANCE OF APPROACH END.
3. ALL TYPE I DELINEATORS ARE TO BE MOUNTED ABOVE OR IMMEDIATELY BEHIND GUARD RAIL AND ARE NOT A CONSTANT DISTANCE FROM THE ROADWAY.

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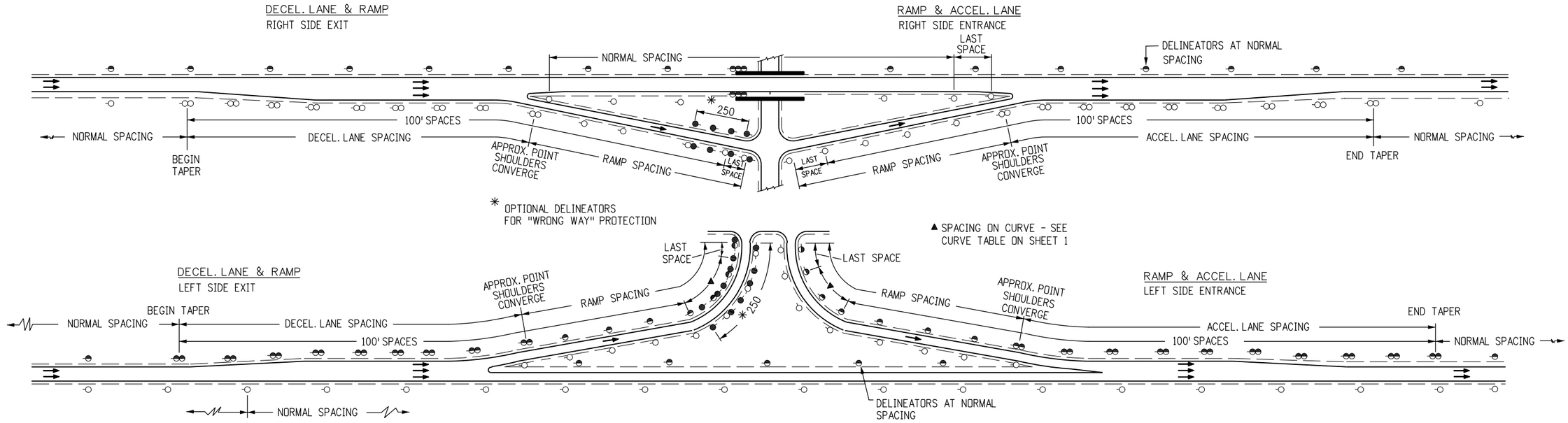
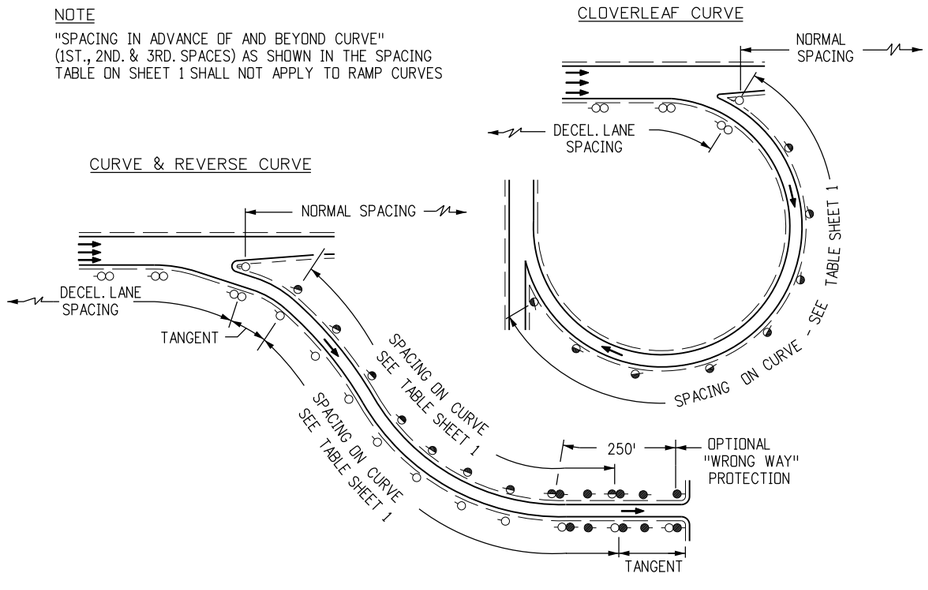


TYPICAL INSTALLATION FOR INTERCHANGES

NOTE

"SPACING IN ADVANCE OF AND BEYOND CURVE" (1ST., 2ND. & 3RD. SPACES) AS SHOWN IN THE SPACING TABLE ON SHEET 1 SHALL NOT APPLY TO RAMP CURVES



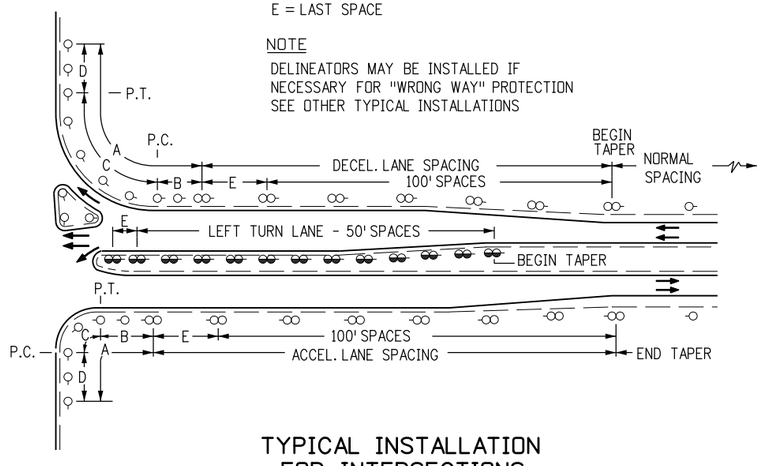
TYPICAL INSTALLATION FOR RAMP CURVES

LEGEND

A = SEE CURVE SPACING TABLE
B = ADVANCE SPACES (FIRST & SECOND)
C = SPACING ON CURVE
D = BEYOND SPACES (FIRST & SECOND)
E = LAST SPACE

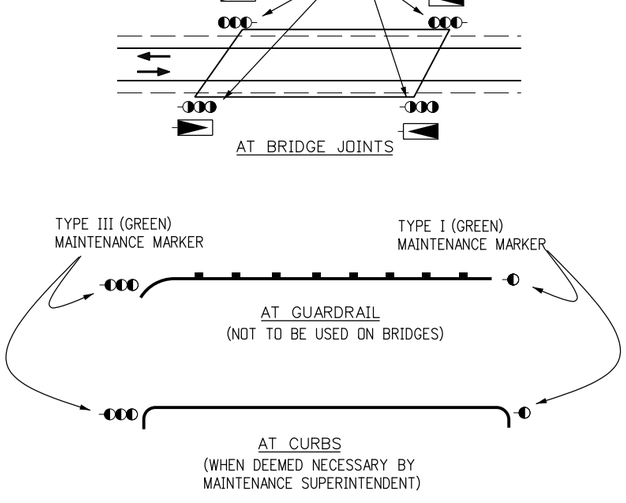
NOTE

DELINEATORS MAY BE INSTALLED IF NECESSARY FOR "WRONG WAY" PROTECTION SEE OTHER TYPICAL INSTALLATIONS



TYPICAL INSTALLATION FOR INTERSECTIONS

WITH ACCEL. & DECEL. LANES



MAINTENANCE MARKER LOCATIONS FOR OBSTRUCTIONS

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R-1

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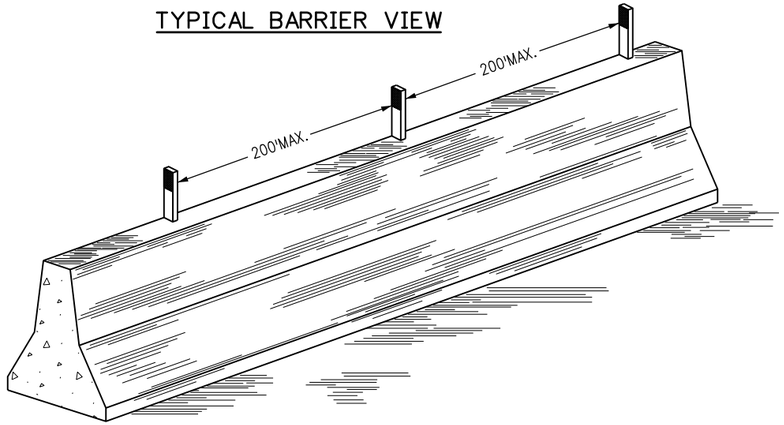
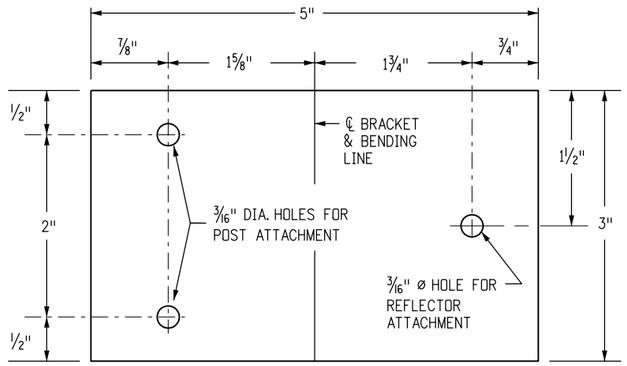
TYPICAL BARRIER VIEW

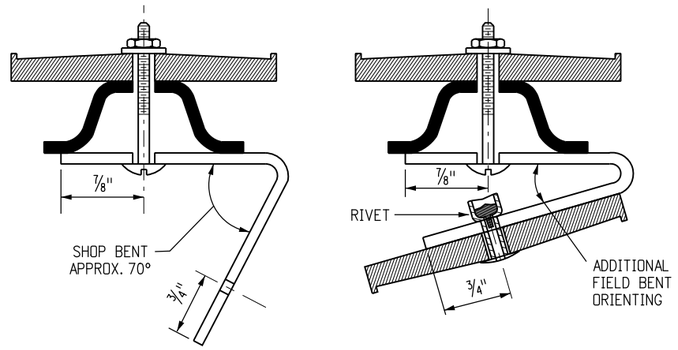


TYPICAL REFLECTOR DETAILS FOR CONCRETE BARRIER

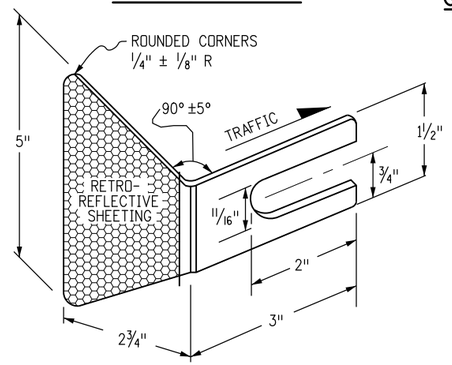
PLAN VIEW



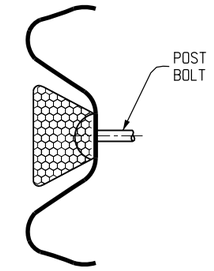
TYPICAL ADJUSTABLE REFLECTOR BRACKET



REFLECTOR TAB



MOUNTING POSITION ON GUARD RAIL TYPE 3

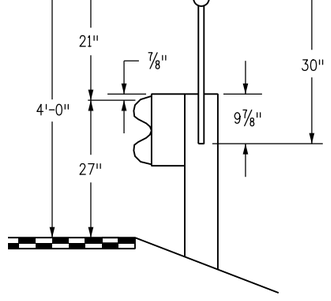


TYPICAL GUARDRAIL REFLECTOR TAB

SEE THE APPROPRIATE GUARDRAIL STANDARD PLANS FOR REFLECTOR TAB FABRICATION AND PLACEMENT DETAILS.

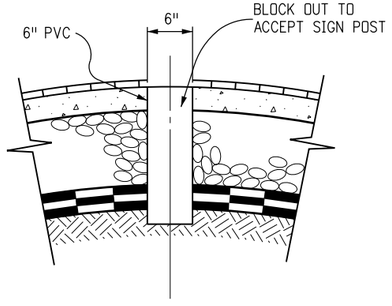
BARRIER REFLECTOR NOTES

1. BARRIER REFLECTORS, REGARDLESS OF TYPE, SHALL MEET THE RETROREFLECTIVE QUALTITIES SPECIFIED IN SECTION 713 OF THE STANDARD SPECIFICATIONS FOR DELINEATOR REFLECTORS, AND BE PAID FOR AS DELINEATOR (TYPE _) (BARRIER) (EACH). USE OF THESE REFLECTORS IS MANDATORY.
2. THE COLOR OF REFLECTIVE SURFACE SHALL MATCH THE COLOR OF THE ADJACENT EDGE LINE.
3. CONCRETE SURFACE PREPARATION, ADHESIVE, AND METHOD OF APPLICATION SHALL BE AS RECOMMENDED BY THE REFLECTOR MANUFACTURER.
4. UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER, A 200 FOOT MAXIMUM TANGENT AND CURVE SPACING APPLIES TO BARRIER REFLECTORS.
5. TOP MOUNT REFLECTORS ARE STANDARD. SIDEMOUNT BARRIER REFLECTORS OR 6 INCH WIDE REFLECTOR STRIPS MAY BE REQUIRED IF SPECIFIED IN THE PLANS.
6. MEDIAN BARRIER REFLECTORS SHALL BE TYPE II (YELLOW-YELLOW, BACK-TO-BACK).
7. FOR A TWO-WAY ROADWAY BARRIER, REFLECTORS SHALL BE TYPE II (CRYSTAL-CRYSTAL, BACK-TO-BACK).
8. FOR TEMPORARY CONCRETE BARRIER, RELFECTORS SHALL BE INSTALLED THAT MEET THE MINIMUM REQUIREMENTS OF STANDARD TYPICAL DELINEATOR INSTALLATIONS, EXCEPT THE MAXIMUM SPACING SHALL BE 50 FT., AND THEY WILL NOT BE PAID FOR, BUT ARE INCLUDED IN THE WORK.



TYPICAL GUARDRAIL POST MOUNT DELINEATORS

POST MOUNT DELINEATORS SHALL BE ATTACHED BY A METHOD APPROVED BY THE ENGINEER OR A METHOD REQUIRED BY THE DEVICE MANUFACTURER.



TYPICAL SLEEVE INSTALLATION FOR MEDIAN DELINEATOR POSTS

TYPICAL BRACKET FABRICATION DETAILS

BRACKET NOTES

1. THE ADJUSTABLE REFLECTOR BRACKET IS TO BE USED TO "TRAFFIC ORIENT" BACK-TO-BACK DELINEATORS USED ON CURVES.
2. REFLECTOR BRACKETS SHALL BE FABRICATED FROM EITHER GALVANIZED STEEL NOT LESS THAN 16 GAGE, OR ALUMINUM NOT LESS THAN 0.100 INCH THICKNESS.
3. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED OR CADMIUM PLATED.
4. ALL BRACKET HOLES ARE 3/16 IN. DIAMETER AND DELINEATOR POSTS REQUIRE AN ADDITIONAL HOLE 2 IN. BELOW THE TOP HOLE PROVIDED IN THE POST.
5. SHOP BEND THE BRACKET APPROX. 70 DEGREES AS SHOWN, ATTACH TO THE DELINEATOR POST WITH 3/16 IN. BOLTS AND FIELD BEND AS NECESSARY TO TRAFFIC ORIENT. THEN THE BRACKET REFLECTOR CAN BE ATTACHED WITH A 3/16 IN. BLIND EXPANSION RIVET OR A BOLT.
6. BURR THE THREADS OF ALL BOLTS TO PREVENT NUT LOOSENING OR VANDALISM.

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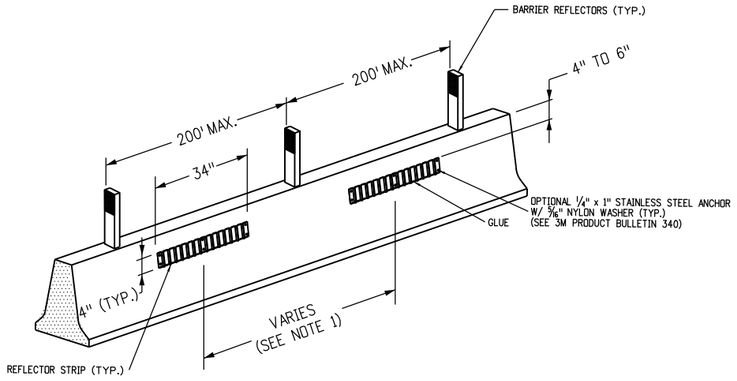
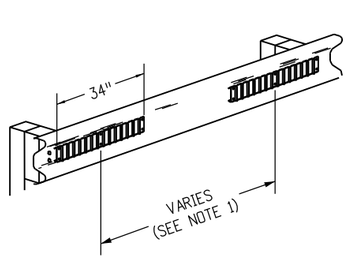
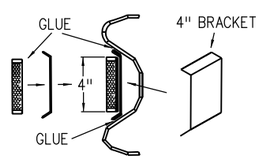
TYPICAL INSTALLATION DETAIL FOR CONTINUOUS CONCRETE BARRIER



TYPICAL INSTALLATION DETAIL FOR GUARDRAIL TYPE 3





ATTACHMENT DETAILS

TYPICAL REFLECTOR STRIP INSTALLATION

1. REFLECTOR STRIPS SHALL BE SPACED AT INTERVALS OF 20' O.C. FOR TANGENT SECTIONS OF BARRIER AND 10' O.C. FOR CURVED SECTIONS OF BARRIER.
2. THIS DEVICE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. IT IS THE RESPONSIBILITY OF THE INSTALLER TO CONTACT THE MANUFACTURER REPRESENTATIVE WHENEVER THERE IS A QUESTION REGARDING APPLICATION PROCEDURES OR SUBSTRATE CONDITIONS.
3. THE COLOR OF THE RELECTIVE SURFACE SHALL MATCH THE COLOR OF THE ADJACENT ROADWAY EDGE LINE.
4. AT THE TIME OF INSTALLATION, THE CONTACTING SURFACE SHALL BE DRY AND MOISTURE-FREE.
5. AFTER REFLECTOR STRIP INSTALLATION, SURFACES SHOULD STAY DRY WITHOUT RAIN IN THE FORECAST FOR AT LEASAT 8 HOURS.
6. SURFACE PREPARATION, BRACKETS, BOLTS, AND GLUE (OR EQUIVALENT) SHALL BE INCLUDED IN THE COST OF EACH DELINEATOR STRIP.

CONCRETE BARRIER NOTES

1. CONCRETE SURFACE PREPARATION, ADHESIVE, AND METHOD OF APPLICATION SHALL BE AS RECOMMENDED BY THE REFLECTOR MANUFACTURER.
2. TO ASSUME A STRAIGHT, LEVEL APPLICATION, SNAP A CHALK LINE ACROSS THE BARRIER.
3. FOR MOUNTING THE REFLECTOR STRIP TO CONCRETE BARRIER, INCLUDING THE BRACKETS, THE USE OF 3M WINDO-WELD SUPER FAST URETHANE GLUE OR EQUIVALENT APPLIED AT 60 DEGREES FAHRENHEIT IN DRY WEATHER IS RECOMMENDED. THIS PRODUCT IS AVAILABLE IN A STANDARD CAULKING TUBE AND SHOULD BE APPLIED TO THE BRACKETS AND PANELS WITH A CONSTRUCTION STYLE CAULKING GUN, AND/OR USE 1/4" x 1" STAINLESS STEEL ANCHOR WITH 5/16" NYLON WASHER, AS SPECIFIED IN 3M PRODUCT BULLETIN 340.
4. UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER, A 200-FOOT MAXIMUM TANGENT AND CURVE SPACING APPLIES TO BARRIER REFLECTORS ALONG THE TOP OF THE BARRIER.

GUARDRAIL TYPE 3 NOTES

1. THE USE OF REFLECTOR STRIPS ON GUARDRAIL TYPE 3 IS SUPPLEMENTAL TO THE REFLECTOR TAB.
2. TWO DIFFERENT STYLES OF MOUNTING BRACKETS ARE AVAILABLE. THERE IS ONE TYPE FOR THE 4" REFLECTOR STRIP AND ANOTHER FOR THE 6" REFLECTOR STRIP. THE BRACKETS MUST BE MATCHED TO FIT THE EXACT 4" OR 6" REFLECTOR STRIP PANEL. THE 4" REFLECTOR STRIP SIZE IS TYPICAL, HOWEVER, 1.5" OR 6" REFLECTOR STRIPS MAY BE INSTALLED AS SPECIFIED IN THE PLANS.
3. METAL GUARDRAIL SHALL BE WIRE BRUSHED/SANDED, THEN CLEANED WITH ISOPROPYL ALCOHOL WHERE THE BRACKETS WILL ADHERE TO THE GUARDRAIL.
4. FOR MOUNTING THE REFLECTOR STRIP TO GUARDRAIL, INCLUDING THE BRACKETS, THE USE OF 3M WINDO-WELD SUPER FAST URETHANE GLUE OR EQUIVALENT APPLIED AT 60 DEGREES FAHRENHEIT IN DRY WEATHER IS RECOMMENDED. THIS PRODUCT IS AVAILABLE IN A STANDARD CAULKING TUBE AND SHOULD BE APPLIED TO THE BRACKETS AND PANELS WITH A CONSTRUCTION STYLE CAULKING GUN, AND/OR USE 1#4" x 1" STAINLESS STEEL ANCHOR WITH 5#16" NYLON WASHER, AS SPECIFIED IN 3M PRODUCT BULLETIN 340.
5. INSTALLATION REQUIRES THE USE OF THREE BRACKETS (MIN.) PER REFLECTOR STRIP CORRESPONDING TO THE PRE-DRILL REFLECTOR STRIP HOLES.

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Drawing File Name: S-612-01.dgn			
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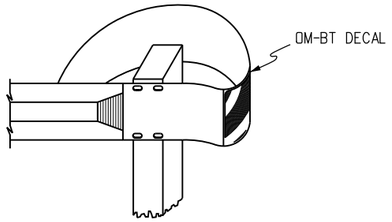
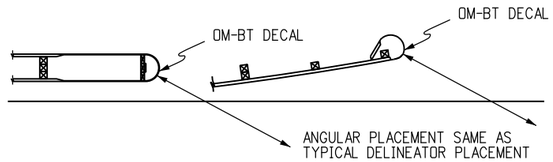
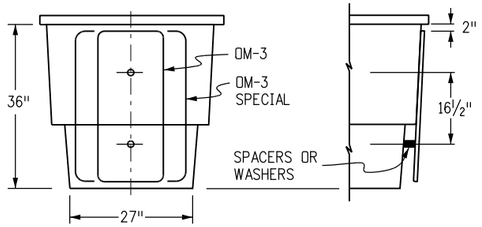


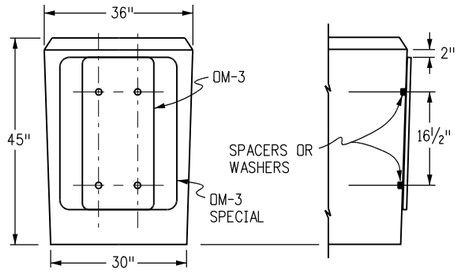
SIDE VIEW



TOP VIEWS

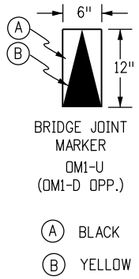
BUFFER TERMINALS (BT)





FRONT VIEWS SIDE VIEWS

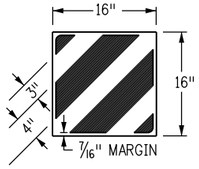
IMPACT ATTENUATOR (SAND FILLED)



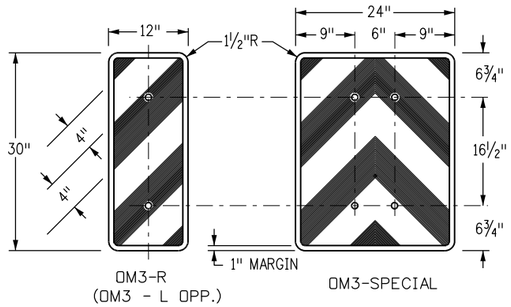
BRIDGE JOINT
MARKER
OM1-U
(OM1-D OPP.)

(A) BLACK

(B) YELLOW



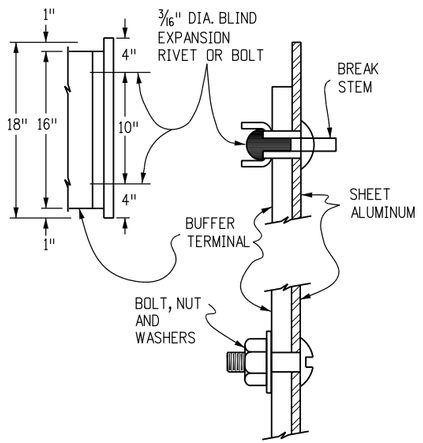
OM-BT DECAL
(OPTIONAL)



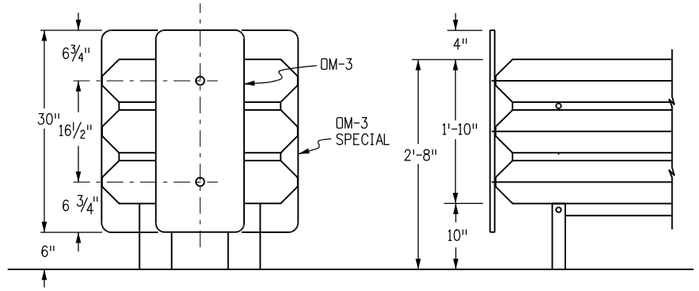
OM3-R
(OM3 - L OPP.)

OM3-SPECIAL

SUPPLEMENTAL DELINEATION DETAILS

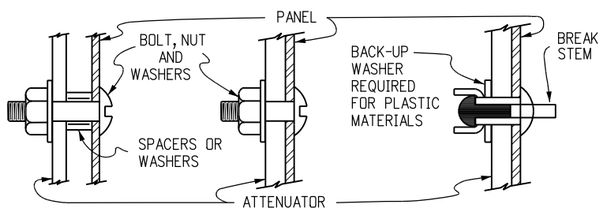


BUFFER PANEL ATTACHMENT DETAILS



FRONT VIEW SIDE VIEW

IMPACT ATTENUATOR (MODULAR)



ATTENUATOR PANEL ATTACHMENT DETAILS

SUPPLEMENTAL PANEL NOTES

1. ALL SUPPLEMENTAL DELINEATION PANELS SHALL BE SINGLE SHEET ALUMINUM, 0.080" MINIMUM THICKNESS.
2. A) PANELS SHALL BE FASTENED DIRECTLY TO THE IMPACT ATTENUATOR WITH 2 OR 4-3/16 IN. DIA. BLIND EXPANSION RIVETS, OR 2 OR 4-3/16 IN. BOLTS, NUTS AND WASHERS.
   B) EXPANSION RIVETS SHALL BE DOMED HEAD ALUMINUM WITH ALUMINUM BREAK STEM MANDREL, AND SHALL HAVE A BACK-UP WASHER WHEN USED WITH PLASTIC MATERIALS.
   C) BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED OR CADMIUM PLATED.
   D) SPACERS, OR SPACING WASHERS SHALL BE USED AS NECESSARY FOR SAND FILLED ATTENUATORS.
3. OM-BT DECAL (BUFFER TERMINAL OBJECT MARKER) SHALL BE PRESSURE SENSITIVE REFLECTIVE SHEETING AND SHALL BE APPLIED DIRECTLY TO THE GUARDRAIL END TREATMENT (FLARED OR NON-FLARED).
4. RETROREFLECTIVE SHEETING SHALL CONFORM TO ASTM D4956, TYPE III. THE SHEETING SHALL BE YELLOW FOR PERMANENT INSTALLATIONS.
   OM-BT DECAL AND OM-3 PANELS SHALL HAVE YELLOW SHEETING BACKGROUND WITH STENCIL BLACK STRIPES.
   THE SHEETING FOR TEMPORARY (CONSTRUCTION ZONE) INSTALLATIONS SHALL BE AS FOLLOWS:
   OM-BT DECAL AND OM-3 PANELS SHALL HAVE ALTERNATING ORANGE AND WHITE REFLECTORIZED STRIPES.
5. SUPPLEMENTAL DELINEATION PANELS OR PRESSURE SENSITIVE RETROREFLECTIVE SHEETING DECALS SHALL BE INCLUDED IN THE COST OF THE GUARDRAIL END ANCHOR OR THE IMPACT ATTENUATOR ITEM.
6. REFERENCE SHEET S-612-1 SHEET 7 OF FOR BASE DETAIL

SUPPLEMENTAL DELINEATION FOR GUARD RAIL BUFFER TERMINALS AND IMPACT ATTENUATORS

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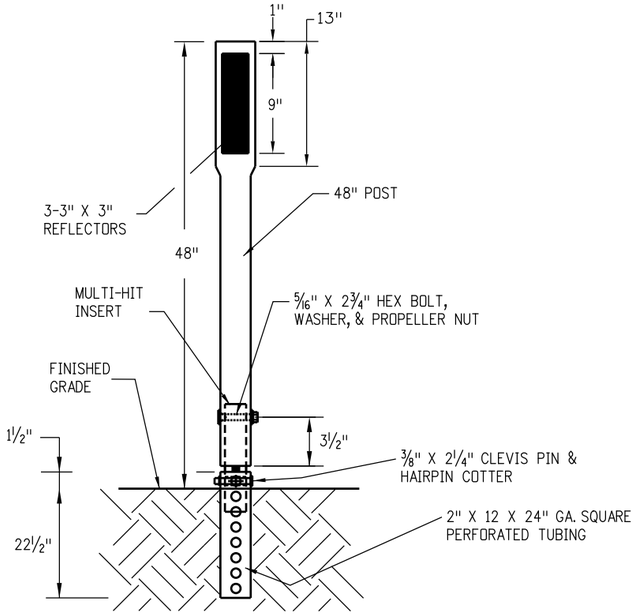
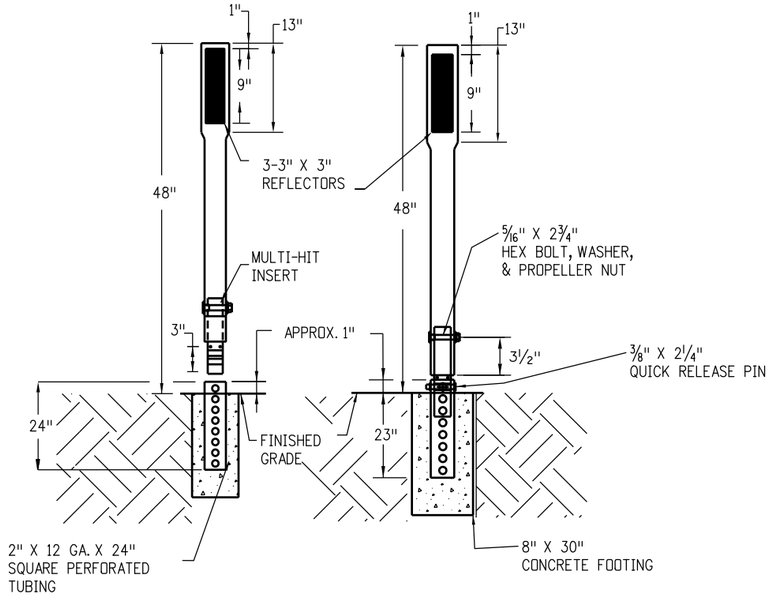
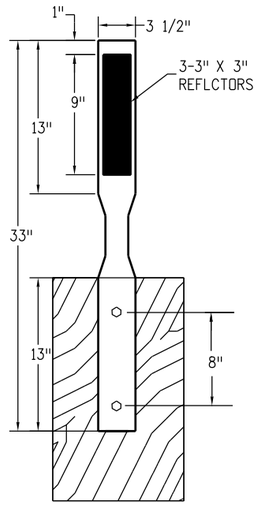


TYPICAL CONDITIONS



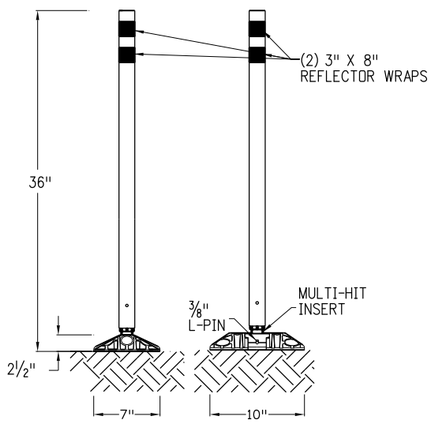
SOFT SOIL CONDITIONS

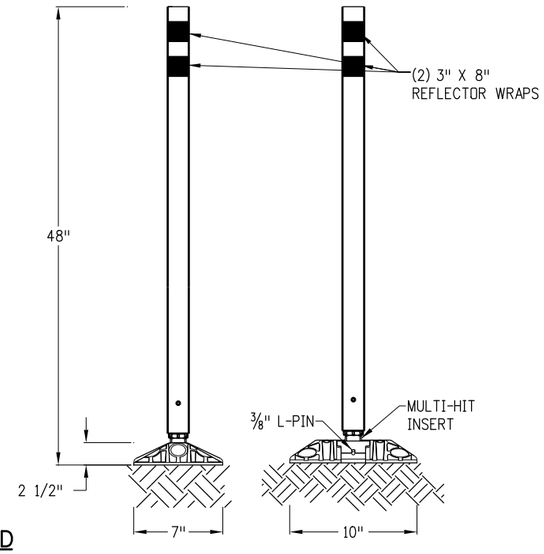
DRIVEABLE METHOD



POST MOUNTED

GUARDRAIL MOUNTED





SURFACE MOUNTED

GENERAL NOTES

1. FLEXIBLE,33", IMPACT RESISTANT, DELINEATOR POSTS, COMPRISED OF RUBBER COMPOSITE, INCLUDING, 80% BY VOLUME, POST COMSUMER RECYLED HDPE, WITH AN INTERSTATE GREEN, PREMIUM U.V. INHIBITED, CO-EXTRUDED HDTP SHELL.
2. THE TOP OF TUBULAR POSTS SHALL BE PERMANENTLY CLOSED TO PREVENT MOISTURE OR DEBRIS FROM ENTERING.
3. THE SIDE OF THE POST FACING TRAFFIC, UPON WHICH THE DELINEATOR IS TO BE MOUNTED. SHALL HAVE A FLAT SURFACE WITH MINIMUM DIMENSIONS OF 3.25 INCHES IN WIDTH BY 13 INCHES IN LENGTH. THE TEXTURE OF THE PROJECTED SURFACE SHALL BE SMOOTH AND SUITABLE FOR THE ADHERENCE OF REFLECTIVE SHEETING WITHOUT PREPARATION OTHER THAN WIPING WITH A CLEAN CLOTH DAMPENED WITH MINERAL SPIRITS TO REMOVE OIL-TYPE CONTAMINANTS.
4. THE BOTTOM OF THE POST SHALL HAVE A MINIMUM 13 INCH LENGTH FLAT MOUNTING SURFACE WITH MINIMUM DIMENSION OF 3 1/4 INCHES IN WIDTH.
5. THE WIDTH OF THE POST AT ANY POINT (EXCLUDING THE BASE, IF ANY) SHALL BE A MAXIMUM OF 4 1/8 INCHES.
6. THE OUTSIDE DIAMETER OF THE TUBULAR POST SHALL BE A MAXIMUM OF 2 3/8 INCHES.

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Creation Date: 07/04/12	Initials: RPR	Date:	Comments
Last Modification Date: 12/01/2016	Initials: RPR	12/01/2016	REMOVED "SHURFLEX" FROM DETAIL AND UPDATED "INTERSTATE GREEN" TO NOTE 1
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans			
Drawing File Name: S-612-01.dgn			
CAD Ver.: MicroStation V8i Scale: Not to Scale Units: English			

R-1

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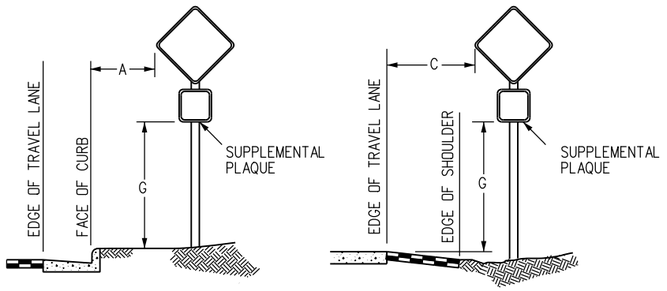
Safety & Traffic Engineering KCM

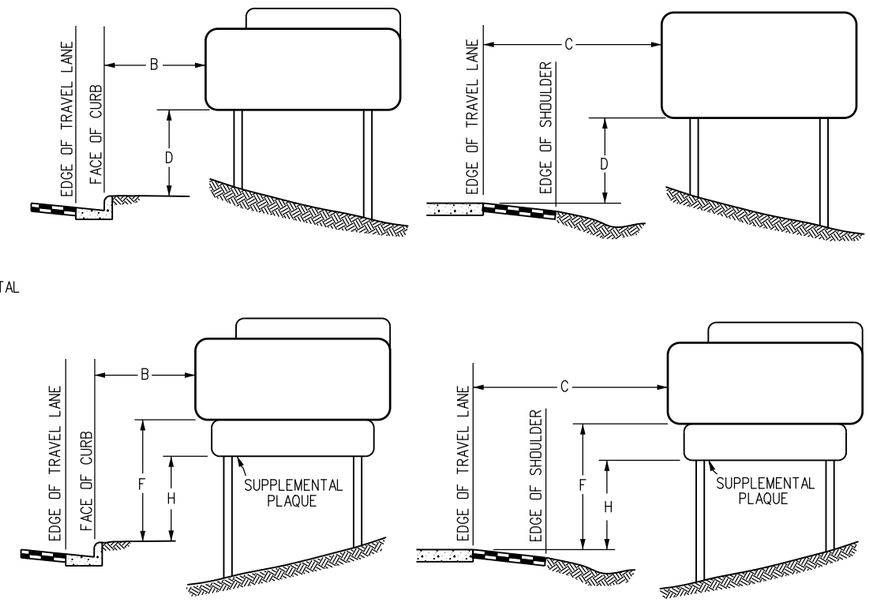
DELINEATOR INSTALLATIONS

Issued By: Safety & Traffic Engineering Branch July 4, 2012

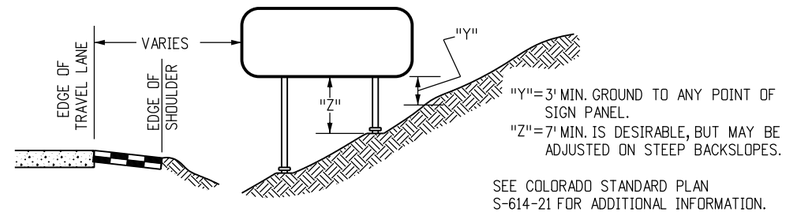
STANDARD PLAN NO.
S-612-1
Sheet No. 7 of 7



WARNING SIGN PLACEMENT



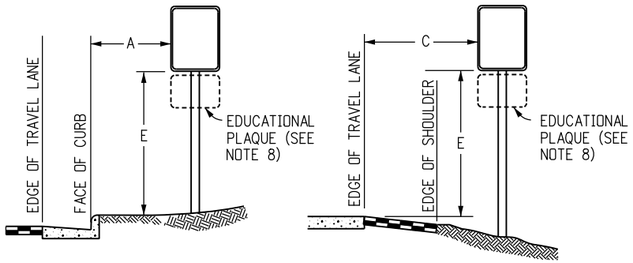
CLASS III SIGN PLACEMENT

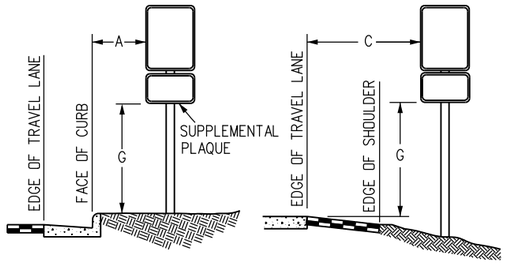


"Y"= 3' MIN. GROUND TO ANY POINT OF SIGN PANEL.
"Z"= 7' MIN. IS DESIRABLE, BUT MAY BE ADJUSTED ON STEEP BACKSLOPES.

SEE COLORADO STANDARD PLAN S-614-21 FOR ADDITIONAL INFORMATION.

CLASS III SIGNS, PANEL GROUND CLEARANCE

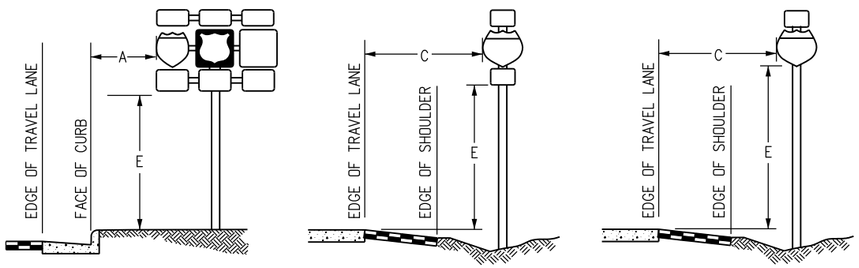




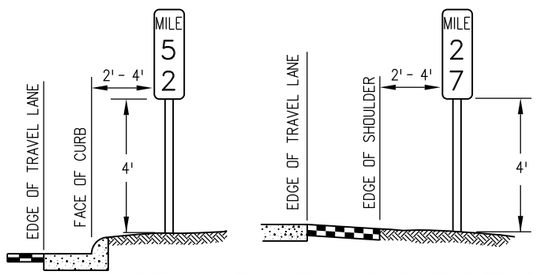
REGULATORY, RECREATIONAL AND CULTURAL INFORMATION SIGN PLACEMENT

GENERAL NOTES

1. THE ENGINEER WILL ESTABLISH GRADES AND LOCATIONS FOR ALL SIGN POSTS IN ACCORDANCE WITH DETAILS SHOWN ON THE PLANS.
2. SPECIAL CARE SHALL BE TAKEN IN SIGN LOCATION TO ENSURE AN UNOBSTRUCTED VIEW OF EACH SIGN.
3. MINIMUM POST EMBEDMENT SHALL BE 3 FT. FOR U-2 POSTS AND 4 IN. X 4 IN. TIMBER POSTS, AND 5 FT. FOR 6 IN. X 6 IN. TIMBER POSTS. FOR FOOTING DEPTH SEE THE APPLICABLE STANDARD.
4. IF A SHOULDER IS WIDER THAN 6 FEET, THE MINIMUM LATERAL OFFSET DISTANCE SHOULD BE 6 FEET FROM EDGE OF SHOULDER, EXCEPT FOR MILE MARKER SIGNS. SEE FIGURE 2A-2(B) OF THE 2009 MUTCD.
5. NORMAL LATERAL PLACEMENT IS MEASURED FROM THE EDGE OF TRAVEL LANE.
6. IN URBAN AREAS, A LATERAL CLEARANCE OF 1 FT. FROM THE CURB FACE IS PERMISSIBLE WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING POLES ARE CLOSE TO THE CURB.
7. TYPICAL POST MOUNTING HEIGHTS FROM GROUND TO BOTTOM OF SIGN PANEL ARE 7, OR 8 FEET. OTHER HEIGHTS MAY BE REQUIRED WHEN SIGNS ARE MOUNTED ON STEEPER FILL OR CUT SLOPES.
8. "EDUCATIONAL PLAQUES" FOR SYMBOL SIGNS WILL NOT BE CONSIDERED WHEN DETERMINING VERTICAL PLACEMENT. FOR INFORMATION OF EDUCATIONAL PLAQUE, SEE PAGE 3 OF THE 2012 CDOT GUIDE SIGNING POLICIES & PROCEDURES, AND SECTION 2M.06 OF THE 2009 MUTCD.
9. WHEN LATERAL PLACEMENT IS 30 FT. OR MORE FOR SIGNS WITHOUT A SUPPLEMENTAL PLAQUE, VERTICAL PLACEMENT D MAY BE REDUCED TO 5 FT. WHEN LATERAL PLACEMENT IS 30 FT. OR MORE, FOR SIGNS WITH A SUPPLEMENTAL PANEL, VERTICAL PLACEMENT E DOES NOT APPLY - USE ONLY VERTICAL PLACEMENT H.
10. NORMAL ANGULAR PLACEMENT IS 0 DEG. SIGNS CLOSER THAN 30 FT. SHOULD BE TURNED SLIGHTLY AWAY TO MINIMIZE SPECULAR REFLECTION. SIGNS PLACED 30 FT. OR MORE SHOULD GENERALLY BE TURNED TOWARD THE ROAD.
11. THE EXIT PANEL IS MOUNTED ON THE RIGHT HAND SIDE FOR RIGHT HAND EXITS AND THE LEFT SIDE FOR LEFT HAND EXITS.
12. POST SHALL BE INSTALLED PLUMB, VERTICAL DEVIATION SHALL NOT EXCEED ½ IN. IN 10 FT.
13. ON ALL TWO-LANE, UNDIVIDED HIGHWAYS, THE MILE MARKER AND POST SHALL BE INSTALLED ON THE RIGHT SHOULDER IN THE ASCENDING DIRECTION, WITH THE MILE MARKER PANELS DISPLAYED ON THE FRONT AND BACK SIDE OF THE POST.
14. ON ALL UNDIVIDED MULTI-LANE AND DIVIDED HIGHWAYS, AND INTERSTATES, THE MILE MARKER AND POST SHALL BE INSTALLED ON THE OUTSIDE SHOULDER (OR SIDEWALK IF APPLICABLE) IN BOTH DIRECTIONS OF TRAVEL.
15. VERTICAL SPACING BETWEEN SIGN PANELS SHALL BE 1 TO 1½ IN., TYPICAL.



ROUTE MARKER ASSEMBLY PLACEMENT



NOTE: MILE MARKERS SHALL BE LOCATED IN LINE WITH DELINEATOR POSTS.

MILE MARKER PLACEMENT

PLACEMENT TABLES

LATERAL PLACEMENT		
KEY	ALL CLASSES OF STREETS AND HIGHWAYS	
	MINIMUM	NORMAL
A	2'-0"	15'-0"PLUS CURB
B	2'-0"	30'-0" OR MORE INCLUDES CURB
C	2'-0"	6'-0"PLUS EDGE OF 6'+ WIDE SHOULDER. IF NONE, 15'-0" FROM EDGE OF TRAVEL LANE.

VERTICAL PLACEMENT						
KEY	FREEWAYS AND EXPRESSWAYS		CONVENTIONAL STREETS AND HIGHWAYS			
			URBAN		RURAL	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
D	7'-0" OR NOTE NO. 9	12'-0"	7'-0"	8'-0"	5'-0"	8'-0"
E	7'-0"	8'-0"	7'-0"	8'-0"	5'-0"	8'-0"
F	8'-0" OR NOTE NO. 9	12'-0"	8'-0"	9'-0"	5'-0"	9'-0"
G	6'-0"	7'-0"	6'-0"	7'-0"	4'-0"	7'-0"
H	5'-0"	10'-0"	6'-0"	7'-0"	4'-0"	7'-0"

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Drawing File Name: S-614-01_1of2.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale	Units: English

	Sheet Revisions	
	Date:	Comments
R-1	07/24/12	ADDED NOTES 14 AND 15 ON SHEET 1
R-2	03/07/14	SHEET 1 - UPDATED DIMENSIONS TO MUTCD STDS.
R-3	12/12/14	SHEET 1 - CORRECTED BOTTOM PANELS TO 'PLAQUES'
R-X		

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GROUND SIGN PLACEMENT

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STANDARD PLAN NO.
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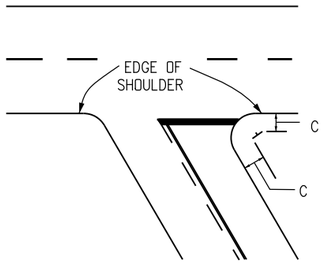
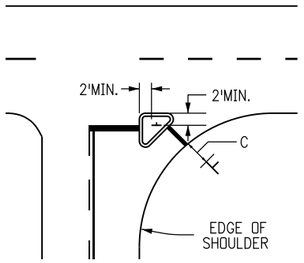
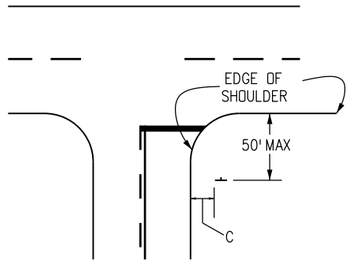


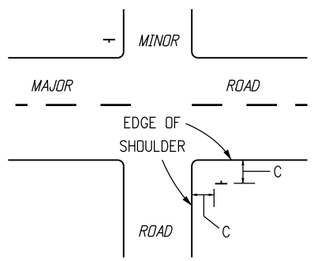
ACUTE ANGLE INTERSECTION



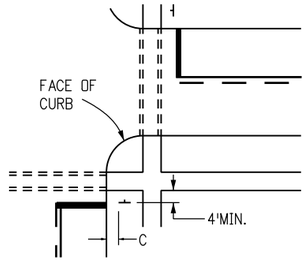
CHANNELIZED INTERSECTION



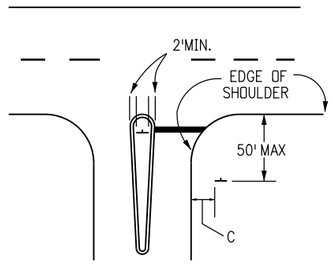
WIDE THROAT INTERSECTION



MINOR CROSSROAD

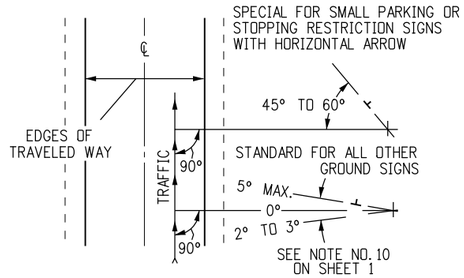


URBAN INTERSECTION



DIVISIONAL ISLAND

TYPICAL LOCATIONS-STOP SIGNS AND YIELD SIGNS



NORMAL ANGULAR PLACEMENT IS 0°. SIGNS CLOSER THAN 30 FT. SHOULD BE TURNED SLIGHTLY AWAY TO MINIMIZE SPECULAR REFLECTION. SIGNS PLACED 30' OR MORE SHOULD GENERALLY BE TURNED TOWARD THE ROAD.

ANGULAR PLACEMENT

PLACEMENT TABLES

LATERAL PLACEMENT		
KEY	ALL CLASSES OF STREETS AND HIGHWAYS	
	MINIMUM	NORMAL
*A	2'-0" & NOTE NO.4	15'-0"PLUS CURB OR SHOULDER WIDTH
*B	2'-0" & NOTE NO.4	30'-0" OR MORE INCLUDES CURB OR SHOULDER
*C	2'-0" & NOTE NO.4	6'-0"PLUS CURB OR SHOULDER WIDTH OR IF NONE 15'-0"

VERTICAL PLACEMENT (MINIMUM) (9' MAXIMUM)			
KEY	FREEWAYS AND EXPRESSWAYS	CONVENTIONAL STREETS AND HIGHWAYS	
		URBAN	RURAL
D	7'-0" OR NOTE NO. 10	7'-0"	5'-0"
E	6'-0"	7'-0"	5'-0"
F	8'-0" OR NOTE NO. 10	7'-0"	5'-0"
G	6'-0"	6'-0"	4'-0"
H	5'-0"	6'-0"	4'-0"

* SEE NOTE NO. 6 ON SHEET 1

Computer File Information		
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CAD Ver.: MicroStation V8 Scale: Not to Scale	Units: English	R-X

Sheet Revisions	
Date:	Comments

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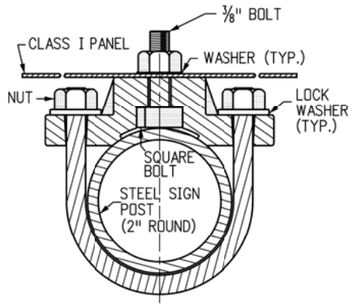
GROUND SIGN PLACEMENT

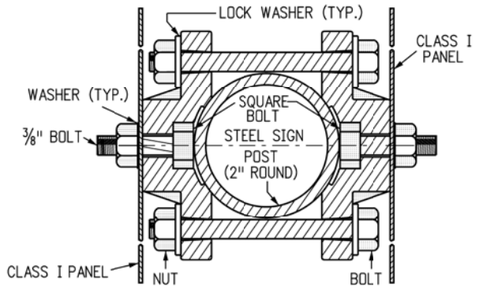
Issued By: Safety & Traffic Engineering Branch July 4, 2012

STANDARD PLAN NO.
S-614-1
Sheet No. 2 of 2

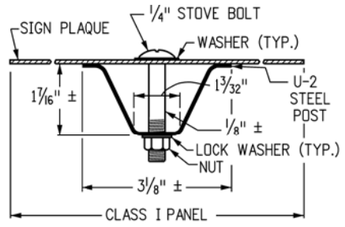
TYPICAL SINGLE BRACKET



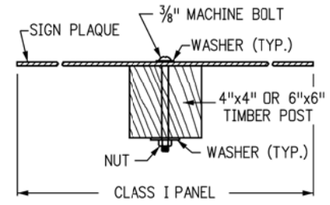
TYPICAL BACK TO BACK



TYPICAL ROUND STEEL POLE SECTION



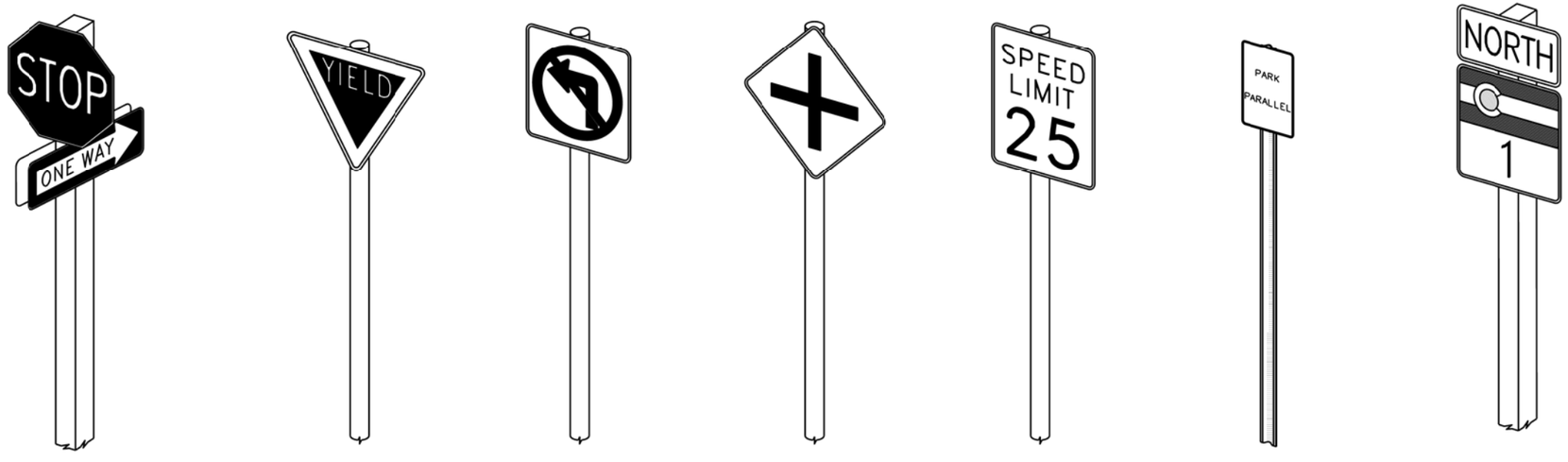
TYPICAL U-2 POST SECTION



TYPICAL TIMBER POST SECTION

GENERAL NOTES

1. CLASS I SIGN PANELS ARE ALL THOSE THAT DO NOT REQUIRE BACKING ZEES. CLASS I PANELS SHALL GENERALLY BE 0.100" MINIMUM THICKNESS SINGLE SHEET ALUMINUM, BUT 0.080" THICKNESS MAY BE USED FOR SIGN PANELS WHERE BOTH THE HORIZONTAL AND VERTICAL DIMENSIONS ARE LESS THAN 36 IN.
2. CLASS I SIGN PANELS SHALL BE FASTENED TO THE U-2 POST WITH 2-1/4 IN. STOVE BOLTS AND TO TIMBER POSTS WITH 2-3/8 IN. MACHINE BOLTS. SEE STANDARD PLANS S-614-20 AND S-614-22 FOR EXCEPTIONS.
3. A WASHER SHALL BE PLACED BETWEEN THE BOLT HEAD AND THE FACE OF THE SIGN PANEL. A 1½ IN. DIA. WASHER SHALL BE PLACED UNDER THE NUT ON THE BACK OF THE TIMBER POST.
4. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED OR CADMIUM PLATED.
5. ALL SIGNS SHALL BE FABRICATED USING RETROREFLECTIVE SHEETING CONFORMING TO ASTM D4956. THE TYPE SHALL BE AS DESCRIBED IN THE STANDARD SPECIFICATIONS AND/OR AS SHOWN ON THE PLANS.
6. FOR SIGN PLACEMENT SEE STANDARD PLAN S-614-1.
7. U-2 POSTS MAY ONLY BE USED FOR DELINEATORS, MILE MARKERS AND STRUCTURE NUMBER PLAQUES. "U" SHAPE STEEL POSTS SHALL BE A UNIFORM FLANGED CHANNEL SECTION MADE FROM HOT ROLLED STRUCTURAL STEEL, RE-ROLLED RAIL STEEL, OR NEW BILLET STEEL HAVING A MINIMUM YIELD STRENGTH OF AT LEAST 30,000 PSI, AND A MINIMUM TENSILE STRENGTH OF AT LEAST 50,000 PSI. U" SHAPE POSTS SHALL WEIGH 2 LBS/FT, EXCEPT THAT A MILL TOLERANCE OF MINUS 3½% OF THE WEIGHT OF ANY ONE POST WILL BE ALLOWED. "U" SHAPE POSTS SHALL HAVE 5/16 IN. HOLES DRILLED OR PUNCHED ON 1IN. OR 2 IN. CENTERS FOR THE TOP 4 FEET OF THE POST AS A MINIMUM, WITH THE FIRST HOLE 1½ IN. FROM THE TOP OF THE POST. COLOR OF POSTS SHALL BE INTERSTATE GREEN.
8. VERTICAL SPACING BETWEEN PANELS ON THE SAME POST SHALL BE 1 IN. TO 1½ IN.
9. TIMBER SIGN POSTS MAY ONLY BE USED FOR TEMPORARY SIGNAGE DURING CONSTRCTION. TUBULAR STEEL SHALL BE USED FOR PERMANENT INSTALLATIONS.



TYPICAL CLASS I GROUND SIGNS

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Creation Date: 07/04/12 Initials: KCM		Date:	Comments
Last Modification Date: 06/24/2016 Initials: RRR	(R-1)	6/24/16	ADD NOTE 9
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CLASS I SIGNS

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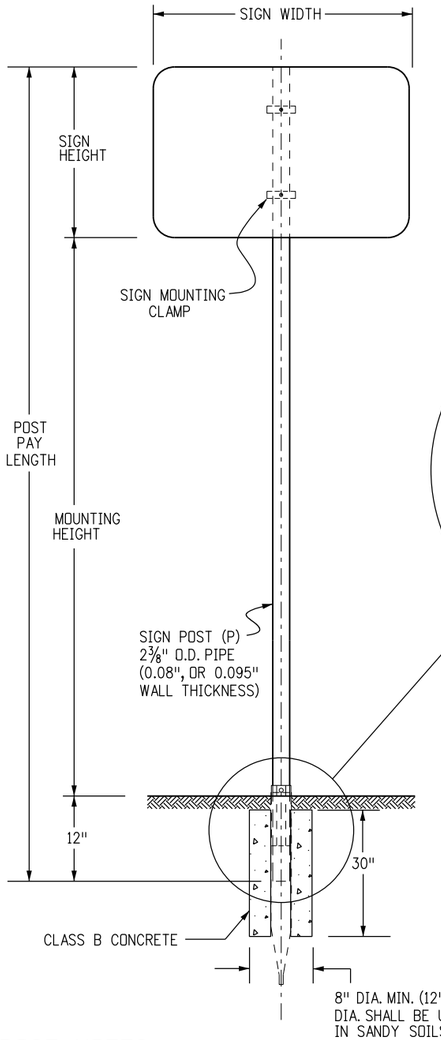
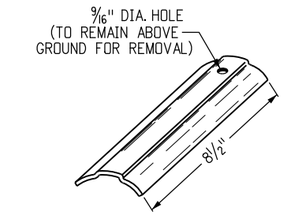
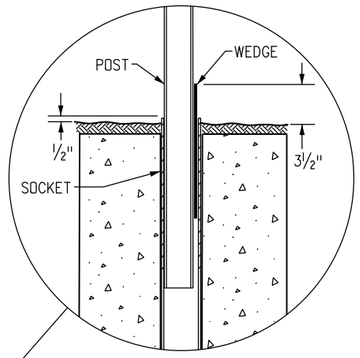
STANDARD PLAN NO.
S-614-2
Sheet No. 1 of 1

TUBULAR STEEL POSTS
(SOCKET SYSTEM) (FOR USE WITH ALL P-POST INSTALLATIONS)
(SEE SHEET 2 FOR P1 AND P2 POST INSTALLATIONS)

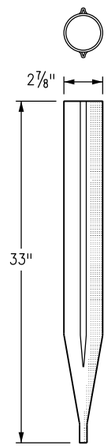




WEDGE
11 GA. GALVANIZED STEEL
ASTM A-526 G-90



NOTE: WEDGE SHALL BE INSTALLED ON SIDE OF POST FACING TRAFFIC.



TUBULAR CONCRETE FOOTING
12 GA. GALVANIZED
STEEL ASTM - 787

POST NOTES

THE POST MAY BE PRE-PUNCHED WITH ⅜" DIA. HOLES AND THE SIGN MOUNTED DIRECTLY TO THE POST, OR AN APPROVED MOUNTING CLAMP MAY BE USED TO MOUNT THE SIGN TO THE POST. IF THE POST IS PRE-PUNCHED, THE HOLES SHALL BE SPACED THE FOLLOWING DISTANCES FROM THE TOP:

1", 3", 10", 16", 21", 23", 24", 27", 33", 37", 39", AND 45"

SIGNPOST SELECTION GUIDE (90 MPH WIND LOAD DESIGN)
(FOR SOCKET SYSTEM AND SLIPBASE INSTALLATIONS USING P, P1 OR P2 POSTS)

7' MOUNTING HEIGHT

SIGN HEIGHT (FT) \ SIGN WIDTH (FT)	1	2	2.5	3	4	5	6	7	8	9
1	P	P	P	P	P	P1	SIZES NOT USED			
2	P	P	P	P	P	P1				
2.5	P	P	P	P	P1	P1				
3	P	P	P	P1	P1	P1				
4	P	P1	P1	P1	P1	P1	TWO P1'S			
5	SIZES NOT USED		P1	P1	P1	P1				
6			P1	P1	P1	▼P2				TWO P2'S
7			P1	P1	▼P2	TWO P1'S			TWO P2'S	SIZE NOT USED

8' MOUNTING HEIGHT

SIGN HEIGHT (FT) \ SIGN WIDTH (FT)	1	2	2.5	3	4	5	6	7	8	9
1	P	P	P	P	P	P1	SIZES NOT USED			
2	P	P	P	P	P1	P1				
2.5	P	P	P	P1	P1	P1				
3	P	P	P1	P1	P1	P1				
4	P	P1	P1	P1	P1	P1	TWO P1'S			
5	SIZES NOT USED		P1	P1	P1	▼P2				
6			P1	P1	P1	▼P2				TWO P2'S
7			P1	P1	TWO P1'S	TWO P1'S			TWO P2'S	SIZES NOT USED

9' MOUNTING HEIGHT

SIGN HEIGHT (FT) \ SIGN WIDTH (FT)	1	2	2.5	3	4	5	6	7	8	9
1	P	P	P	P	P	P1	SIZES NOT USED			
2	P	P	P	P	P1	P1				
2.5	P	P	P	P1	P1	P1				
3	P	P	P1	P1	P1	P1				
4	P	P1	P1	P1	P1	P1	TWO P1'S			
5	SIZES NOT USED		P1	P1	P1	▼P2				TWO P2'S
6			P1	P1	▼P2	TWO P1'S			TWO P2'S	
7			P1	P2	TWO P1'S	TWO P1'S		TWO P2'S	SIZES NOT USED	

▼ SEE CHART NOTE 4.

CHART NOTES

1. TYPICAL POST MOUNTING HEIGHTS FROM GROUND TO BOTTOM OF SIGN PANEL ARE 7, 8 OR 9 FEET. OTHER HEIGHTS MAY BE REQUIRED WHEN SIGNS ARE MOUNTED ON STEEPER FILL OR CUT SLOPES.
2. FOR SIGNS MOUNTED ON TWO POSTS, THE MINIMUM DISTANCE BETWEEN POSTS SHALL BE 2 FEET AND THE MAXIMUM DISTANCE SHALL BE 8 FEET. DISTANCE FROM POST TO EDGE OF SIGN PANEL(S) SHALL BE 0 TO 4 INCHES. WHEN BACKING ZEES ARE USED, POSTS SHALL BE INSTALLED WITH A MINIMUM OF 2 INCHES TO THE EDGE OF THE BACKING ZEE.
3. ALL SIGN PANELS GREATER THAN 60 INCHES IN WIDTH MUST BE MOUNTED ON TWO POSTS TO PREVENT TURNING.
4. THE POST SIZES SHOWN ARE THE MINIMUM SIZES REQUIRED. TWO P1 POSTS MAY BE SUBSTITUTED WHERE ONE P2 POST IS INDICATED. P2 POSTS MAY SUBSTITUTED FOR P1 POSTS WHEN DIRECTED BY THE ENGINEER.

GENERAL NOTES

1. SIGNS BETWEEN 37 IN. AND 60 IN. WIDTH WITH ONE POST INSTALLATION REQUIRE A T OR U SIGN SUPPORT BRACKET IN ADDITION TO THE BACKING ZEE REQUIREMENTS. WHEN DIRECTED BY THE ENGINEER, SIGN PANELS LESS THAN 48 IN. IN WIDTH MAY ATTACHED DIRECTLY TO T OR U BRACKETS WITHOUT ZEES.
2. U-BRACKETS MAY BE USED FOR MULTIPLE SIGN INSTALLATIONS.
3. FOR BACKING ZEE REQUIREMENTS AND DETAILS, SEE STANDARD PLANS S-614-3 AND S-614-4.

POST SPECIFICATIONS

POST SIZE	OUTSIDE DIAMETER	WALL THICKNESS	MATERIAL	**COATING	MAX ALLOW MOMENT	PAID FOR AS:
P	2.375"	.080"	ASTM-513	ASTM A-653 G-210 WITH 3.0 MIL POLYMER COATING PER ASTM A123 CLEAR COATING	1.47 KIP FT	STEEL SIGN SUPPORT (2 INCH ROUND)
P1	2.875"	.160"	ASTM-513		4.02 KIP FT	STEEL SIGN SUPPORT (2½ INCH ROUND NP-40)
P2	2.875"	.276"	ASTM-500	GC HOT DIPPED PER ASTM-123	5.13 KIP FT	STEEL SIGN SUPPORT (2½ INCH ROUND SCH 80)

** COLOR POWDER COATING MAY BE ADDED ACCORDING TO MANUFACTURER SPECIFICATIONS FOR SPECIAL LOCATIONS WHEN SHOWN ON THE PLANS.

Computer File Information	
Creation Date: 07/04/12	Initials: KEN
Last Modification Date: 08/05/16	Initials: NNC
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	
Drawing File Name: S-614-08.dgn	
CAD Ver.: MicroStation V8i Scale: Not to Scale	Units: English

Sheet Revisions		
	Date:	Comments
R-1	03/05/13	SHTS 1 & 2 - UPDATED DETAIL TITLES
R-2	10/23/14	SHT 2 - MOVED SLIPBASE DETAILS TO SHEET 3, AND ADDED 4" BASE PLATE DETAIL TO NEW SHEET 3

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TUBULAR STEEL SIGN SUPPORT DETAILS

Issued By: Safety & Traffic Engineering Branch July 4, 2012

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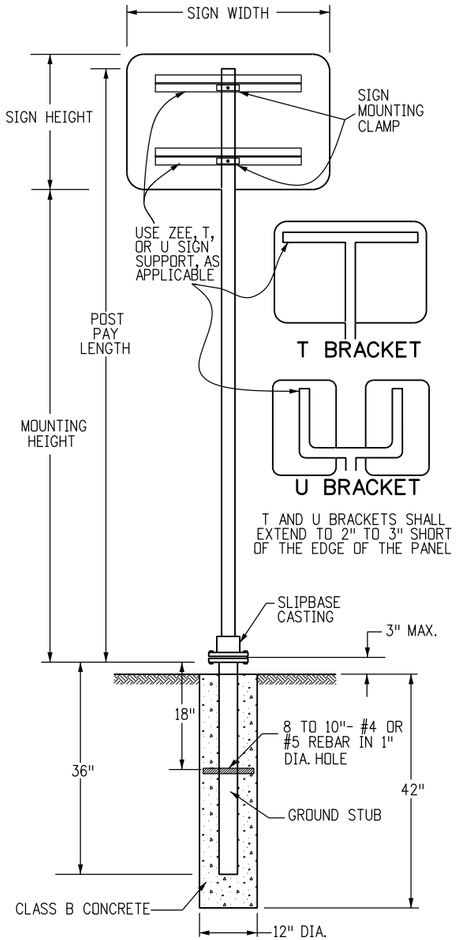


TUBULAR STEEL POST (WITH SLIPBASE) (FOR USE WITH ALL P1 AND P2 POST INSTALLATIONS) (SEE SHEET 1 FOR P-POST INSTALLATIONS)

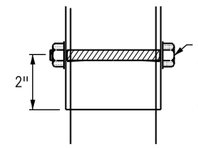
GENERAL NOTE

THE CONTRACTOR SHALL INSTALL THE POSTS PER THE MANUFACTURER'S RECOMMENDATIONS WITHOUT ADDITIONAL COMPENSATION.

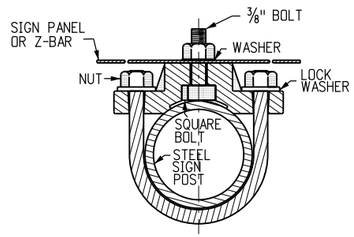
DIMENSIONS FOR MOUNTING CLAMP (ALL DIMENSION ARE IN INCHES)

STANDARD PIPE SIZE	A	B	C	D	E	F	G	K	L	R_1	R_2
2	3 3/4	2 3/4	1 1/2	1 1/8	1/2	3/16	1	2 11/16	1 7/32	1 1/4	1 3/16
2 1/2	4 1/4	3 1/4	2	1 1/4	1/2	1/4	1	3 3/16	1 15/32	1 1/2	1 7/16

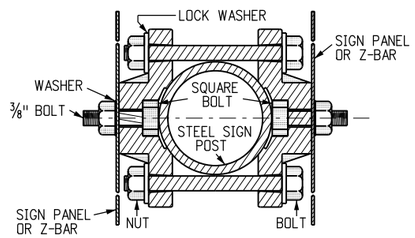
T AND U BRACKET ATTACHMENT



TYPICAL SINGLE BRACKET



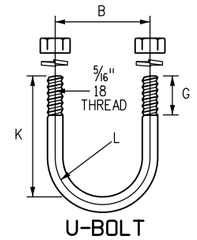
TYPICAL BACK TO BACK



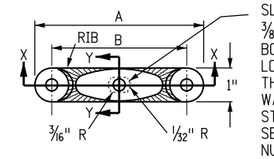
DETAILS FOR SIGN PANEL ATTACHMENT

PIPE CLAMP CASTING

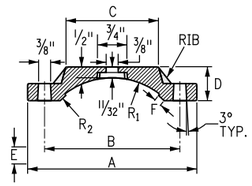
PIPE CLAMP CASTING SHALL BE ASTM B26 OR B108 ALUMINUM ALLOY A444.0-T4 OR 356.0-F. ALL SIGN MOUNTING CLAMP PARTS NOT MADE FROM ALUMINUM SHALL BE GALVANIZED STEEL IN CONFORMANCE WITH ASTM A153 OR STAINLESS STEEL.



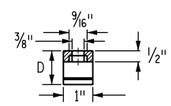
U-BOLT TO BE MADE IN ACCORDANCE WITH STANDARD MANUFACTURING PROCEDURE. 1/4" OR 5/18" DIAMETER STOCK IS PERMISSIBLE. AMERICAN STANDARD REGULAR SEMI-FINISHED HEX NUTS AND SPRING LOCKWASHERS.



SLOT TO HOLD HEAD OF 3/8" HEX HEAD BOLT. THE BOLT SHALL BE 1 1/4" LONG, WITH FULL THREADS, A MEDIUM WASHER, AND GALVANIZED STEEL OR ALUMINUM SELF-LOCKING HEX HEAD NUT. THE BOLT HEAD MUST NOT TURN IN THE SLOT.



SECTION X-X



SECTION Y-Y

MOUNTING CLAMP FOR SOCKET OR SLIPBASE

Computer File Information			Sheet Revisions	
Creation Date: 07/04/12 Initials: SCL		Date:	Comments	
Last Modification Date: 10/23/14 Initials: KEN	R-1	03/05/13	UPDATED DETAIL TITLES	
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-2	10/23/14	MOVED SLIPBASE DETAILS TO SHEET 3	
Drawing File Name: S-614-08.dgn				
CAD Ver.: MicroStation V8i Scale: Not to Scale Units: English				

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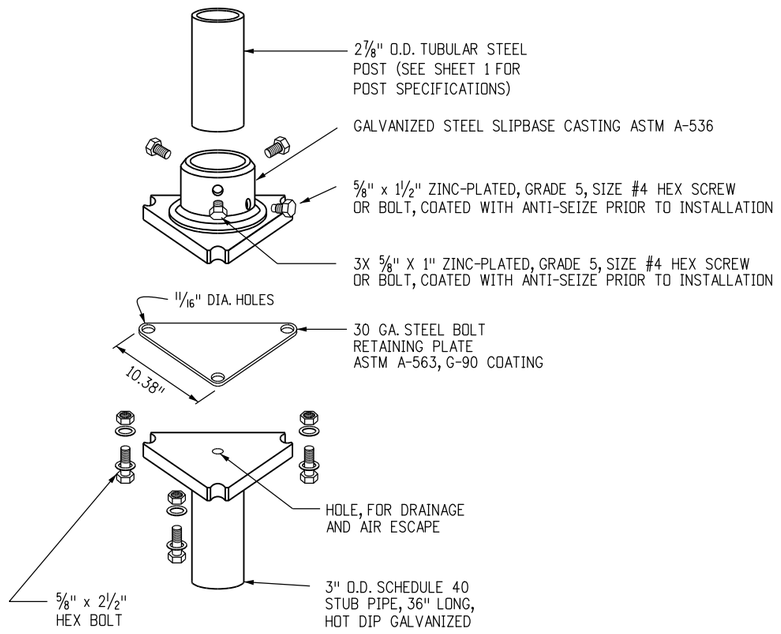
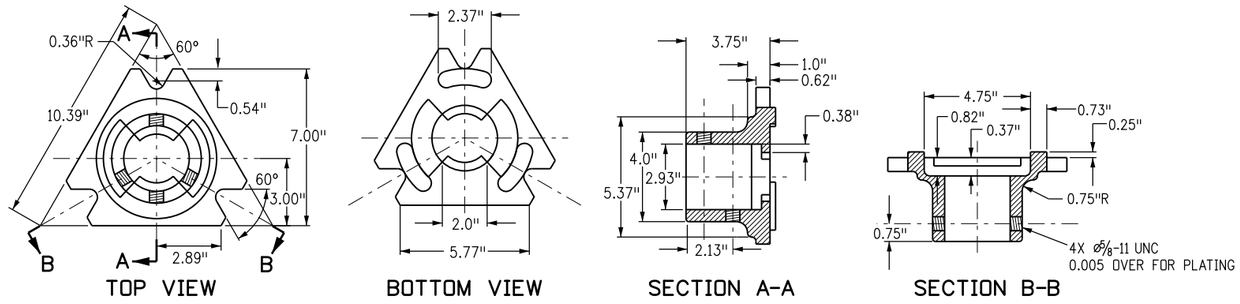
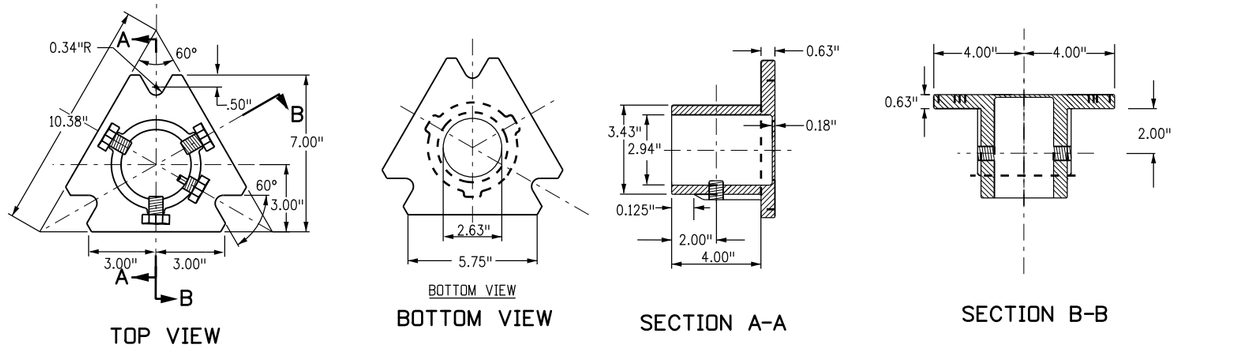


TYPICAL ASSEMBLY

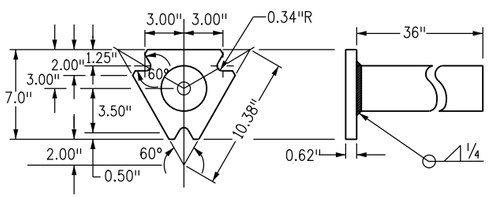
CAST-IN-PLACE SLIPBASE INSTALLATION



SLIPBASE CASTING 1



SLIPBASE CASTING 2



SLIPBASE STUB POST

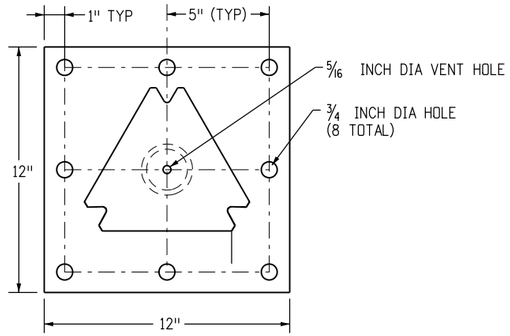
BASE PLATE FABRICATION REQUIREMENTS:

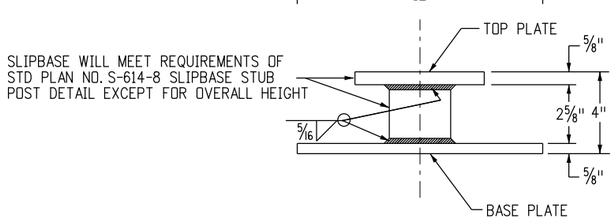
BASE PLATE: 3/4 INCH ASTM A 36 PLATE STEEL

PIPE STUB: 3 INCH NOMINAL SCHEDULE 80, ASTM A 500 GR B

TOP PLATE: MEET REQUIREMENTS OF STD PLAN NO. S-614-8, SHT 2 OF 5

MEET ASTM A 123 GALVANIZING AFTER FABRICATION IS COMPLETED.





BASE PLATE DETAIL

SURFACE MOUNT SLIPBASE TUBULAR STEEL SIGN BASE REQUIREMENTS

FOR 2-7/8 INCH POSTS (P1 OR P2 POSTS)
FOR CONCRETE SURFACES GREATER THAN 7 INCHES THICK
FOR CONCRETE SURFACES GREATER THAN 12 INCHES IN WIDTH

MOUNTING HARDWARE

- 8 - EACH ⅝ x 5½ INCH LONG "HILTI KWIK HUS-EZ SCREW ANCHORS
- 16 - EACH ⅝ INCH FLAT WASHERS
- 8 - EACH ⅝ INCH LOCK WASHERS
- 8 - EACH ⅝ INCH NUTS

ALL HARDWARE WILL BE GALVANIZED OR ZINC PLATED.

INSTALLATION REQUIREMENTS:

DRILL: (8) - ⅝ INCH HOLES 6 INCH DEEP, CLEAN HOLE PRIOR TO INSTALLING ANCHORS

USE ADDITIONAL WASHERS FOR SHIMMING TO LEVEL BASE PLATE.

SURFACE MOUNT SLIPBASE TUBULAR STEEL SIGN BASE NOTES

1. REFER TO SIGNING PLANS FOR SIGN LOCATIONS AND HEIGHT
2. MINUMUM ALLOWABLE TENSION CAPACITY FOR WEDGE ANCHORS = 3000 LBS.
3. MAXIMUM ALLOWABLE MOMENT FOR SIGN BASE = 5.13 kip-ft.

RETRO-FIT SLIPBASE INSTALLATION

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: KEN		Date:	Comments
Last Modification Date: 12/01/16 Initials: RPR	R-1	10/23/14	NEW SHEET. INCLUDES SLIP BASE DETAILS PLUS 4" BASE PLATE DETAIL
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-2	04/01/16	UPDATES TO RETRO-FIT HARDWARE
Drawing File Name: S-614-08.dgn	R-3	12/01/16	ADDED DETAILS FOR SLIPBASE 2
CAD Ver.: MicroStation V8i Scale: Not to Scale Units: English			

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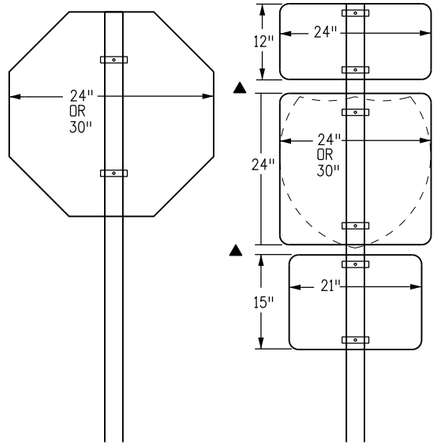
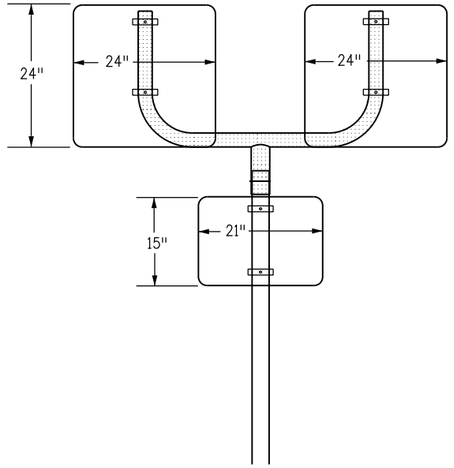
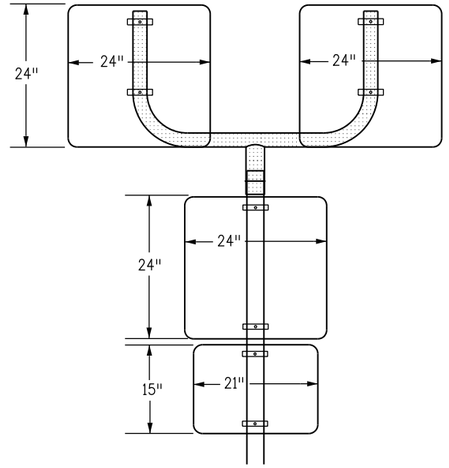
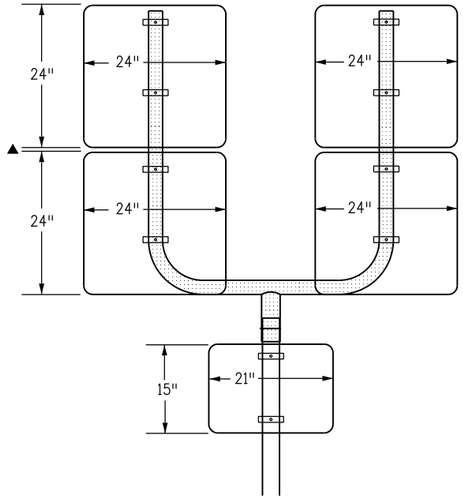
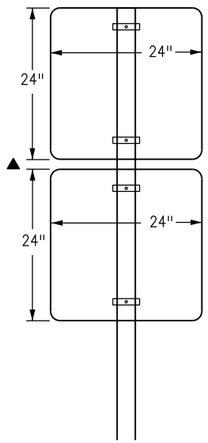
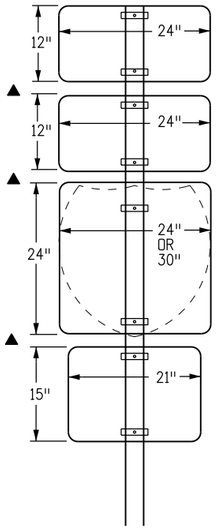


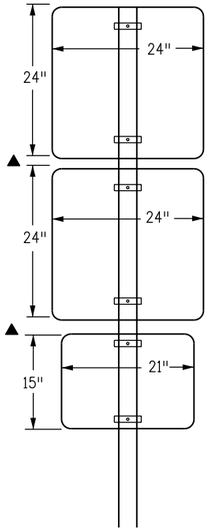




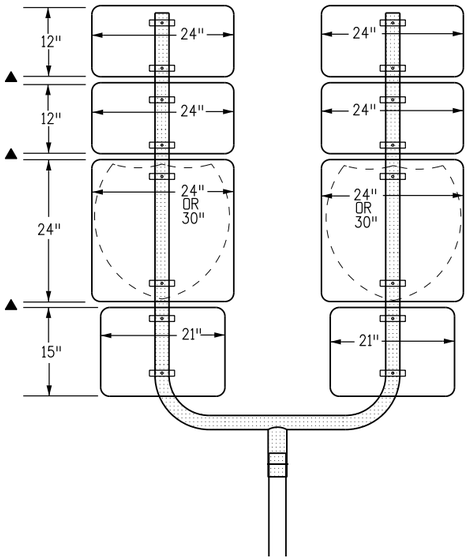








CLASS I SIGN COMBINATIONS (DIRECT ATTACHMENT)



CLASS I SIGN COMBINATIONS USING U-BRACKETS

▲ SEE NOTE 6 ON SHEET 5

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12	Initials: KEN	Date:	Comments
Last Modification Date:	Initials:		
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans			
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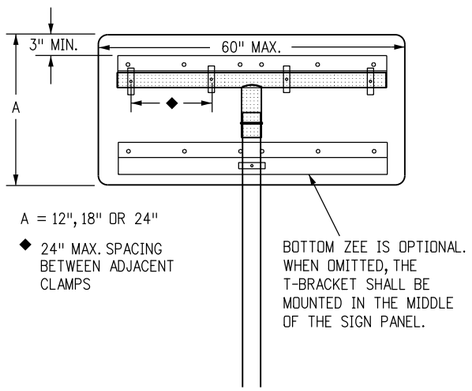
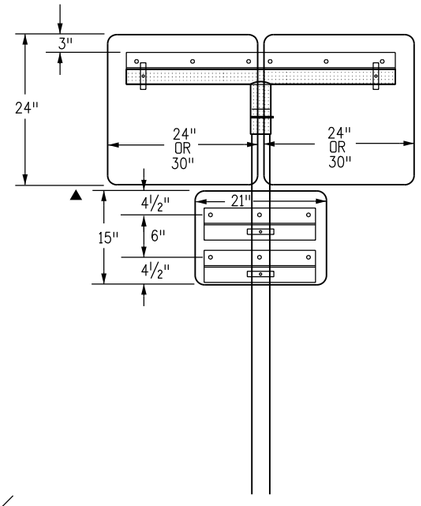
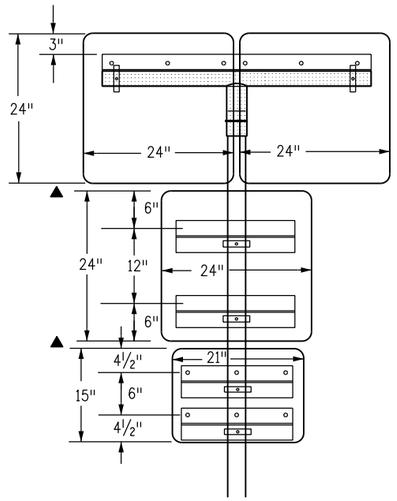
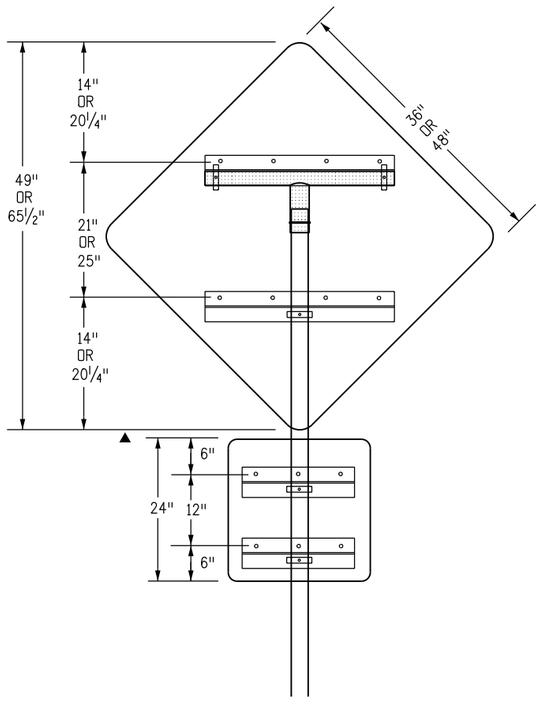
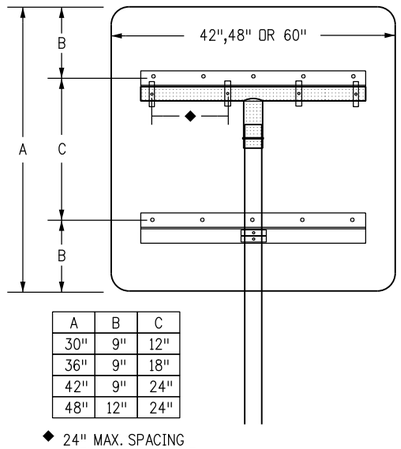










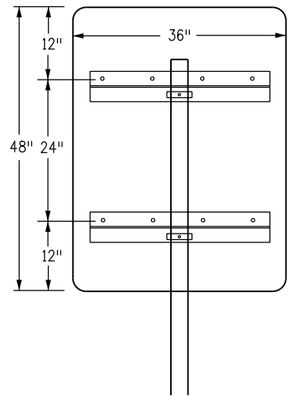
A	B	C
30"	9"	12"
36"	9"	18"
42"	9"	24"
48"	12"	24"

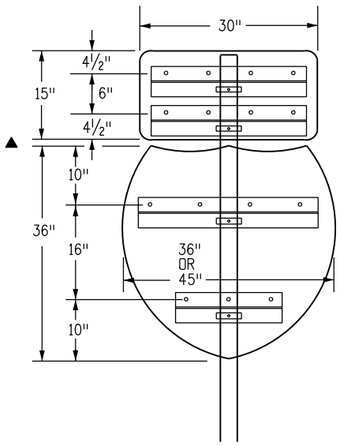
CLASS II SIGN COMBINATIONS USING T-BRACKETS WITH Z-BAR

PANEL WIDTHS	ZEE LENGTH
21"	15"
24"	18"
30"	24"
36"	30"
42"	36"
45"	39"
48"	42"
54"	48"
60"	54"
36" DIAMOND	22"
48" DIAMOND	36"
24" & 24"	43"
24" & 30"	49"
30" & 30"	55"
36" & 36"	67"
45" & 36"	76"
24" & 24" & 24"	68"
24" & 24" & 30"	74"
24" & 30" & 24"	74"
30" & 24" & 30"	80"
24" & 30" & 30"	80"
30" & 30" & 30"	86"

GENERAL NOTES

1. Z-BAR LENGTH SHALL BE 3 IN. (± ½ IN.) SHORT OF THE EDGE OF THE SIGN OR ROW OF SIGNS ON BOTH SIDES. THE ACCOMPANYING TABLE GIVES THE Z-BAR LENGTH FOR MOST TYPICAL PANEL COMBINATIONS.
2. FIRST AND LAST HOLES SHALL BE 2 IN. FROM EDGE OF Z-BAR. THE HOLES IN BETWEEN SHALL BE 6 IN. TO 8 IN. APART.
3. T AND U BRACKETS SHALL TERMINATE 2 IN. TO 3 IN. FROM EDGE OF SIGN PANEL. WHEN A ZEE IS CONNECTED TO A T-BRACKET, THEY SHALL BE THE SAME LENGTH EXCEPT WHEN THE ZEE MUST EXTEND BEYOND THE MAXIMUM LENGTH OF A T-BRACKET.
4. TWO MOUNTING CLAMPS ARE REQUIRED ON ZEES WHERE THERE IS ONLY ONE ZEE FOR THE PANEL AND THE ZEE IS ATTACHED TO ONLY ONE POST.
5. ZEES SHALL BE ATTACHED TO T-BRACKETS AND U-BRACKETS WITH U-BOLTS OR MOUNTING CLAMPS.
6. ▲ VERTICAL SPACING BETWEEN SIGN PANELS SHALL BE 1 IN. TO 1½ IN. TYPICAL.
7. IN SPECIAL CASES U-BRACKETS MAY BE USED TO MOUNT SIGNS THAT FACE DIFFERENT DIRECTIONS. THE ENGINEER SHALL DETERMINE THE ORIENTATION OF THE SIGN PANELS AND VERIFY THAT THE MAXIMUM ALLOWABLE WIND LOADS FOR THE POST ARE NOT EXCEEDED.





SINGLE POST CLASS II SIGNS USING Z-BAR

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12	Initials: KEN	Date:	Comments
Last Modification Date:	Initials:		
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans			
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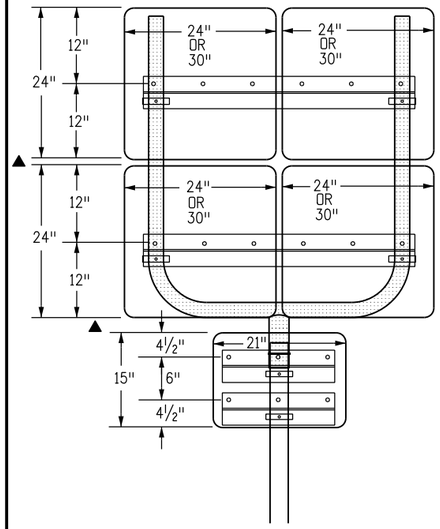
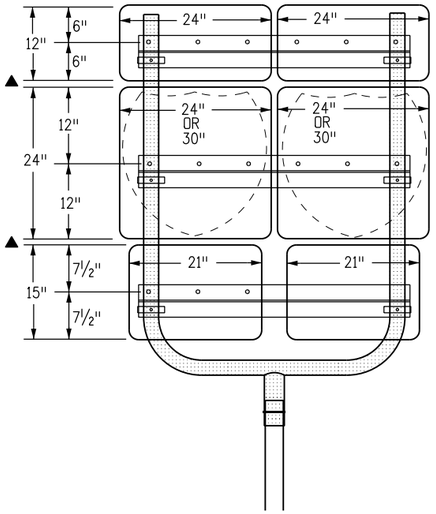
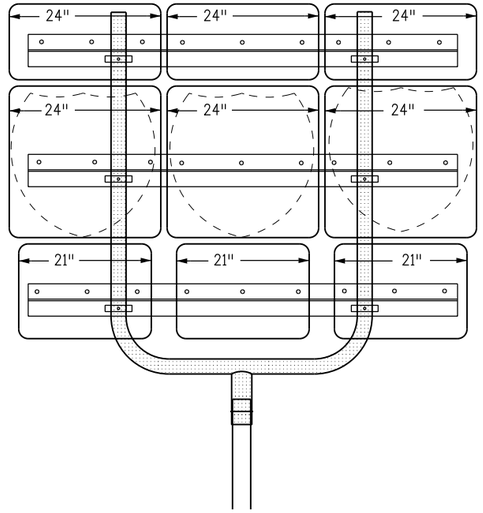
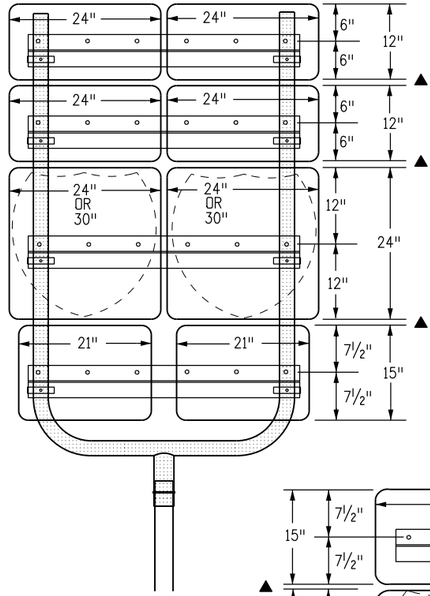
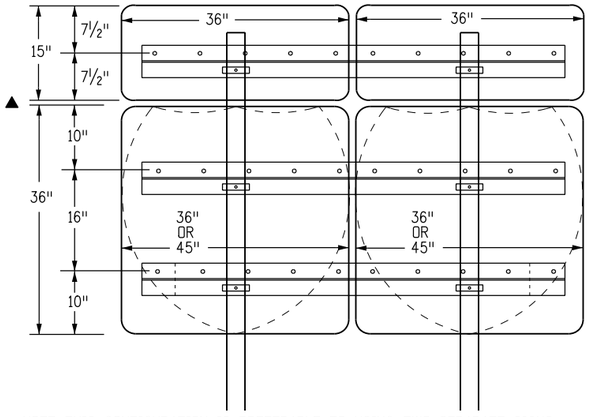




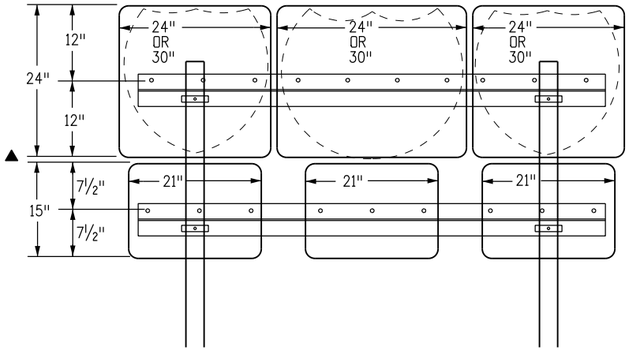




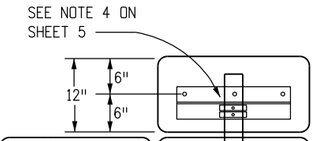
CLASS II SIGN COMBINATIONS USING U-BRACKETS

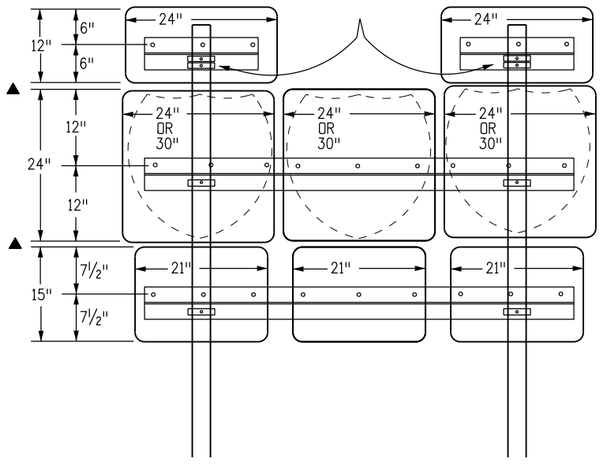


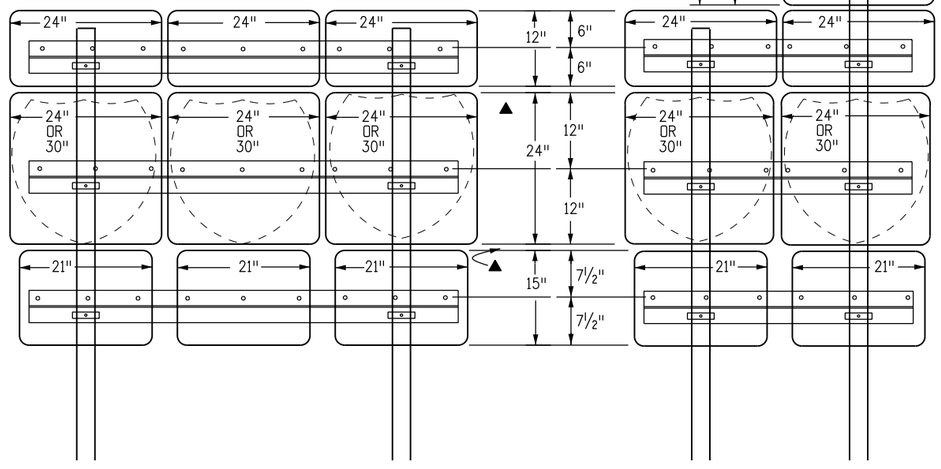
NOTE: THIS CONFIGURATION IS PREFERABLE TO USING TWO SEPARATE SIGNS.



SEE NOTE 4 ON SHEET 5







▲ SEE NOTE 6 ON SHEET 5

CLASS II SIGN COMBINATIONS USING TWO POSTS

Computer File Information		Sheet Revisions	
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Last Modification Date:	Initials:		
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans			
Drawing File Name: S-614-08.dgn			
CAD Ver.: MicroStation V8i Scale: Not to Scale Units: English			

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TUBULAR STEEL SIGN SUPPORT DETAILS

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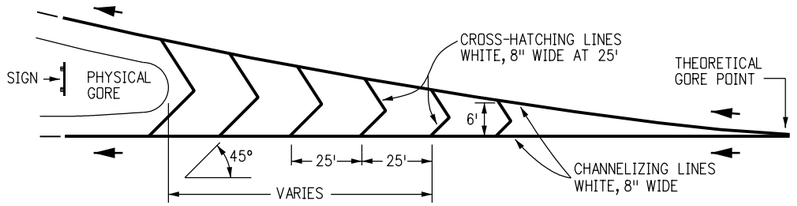
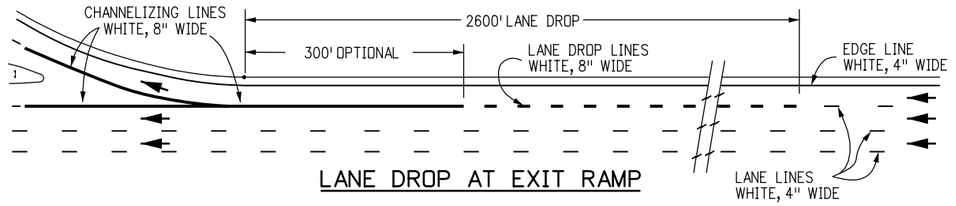
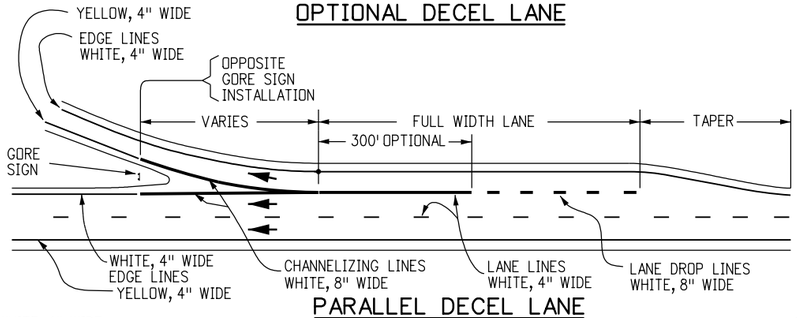
STANDARD PLAN NO.
S-614-8
Sheet No. 6 of 6



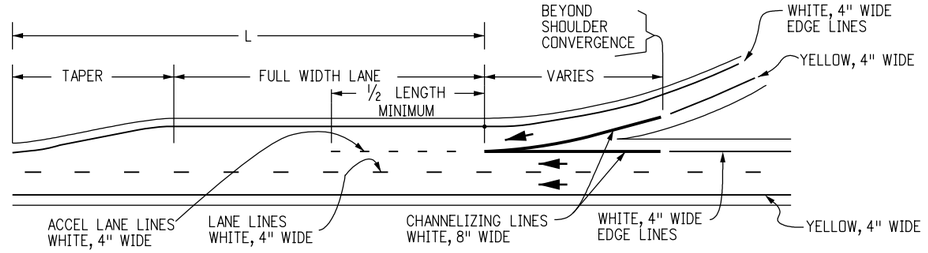
OPTIONAL DECEL LANE



LANE DROP AT EXIT RAMP



PARALLEL DECEL LANE



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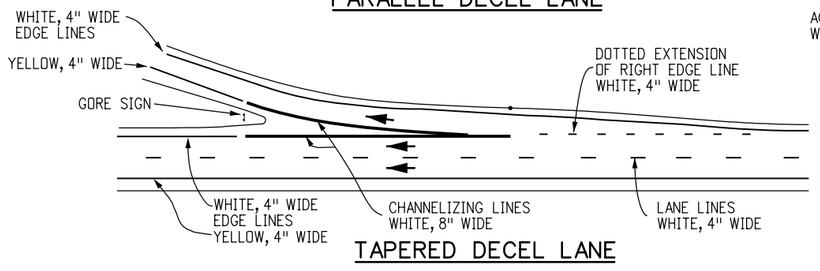
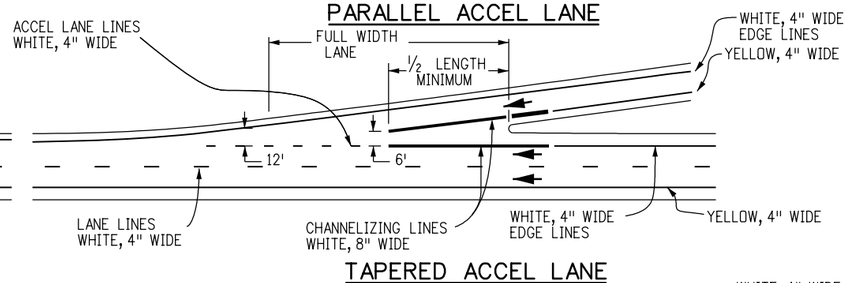
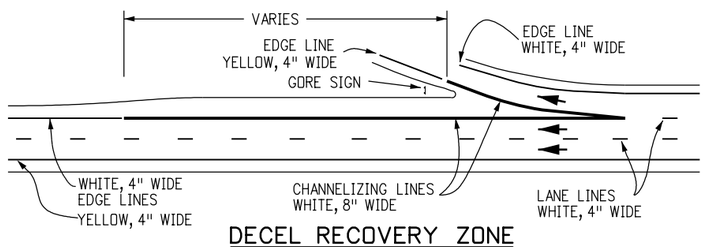


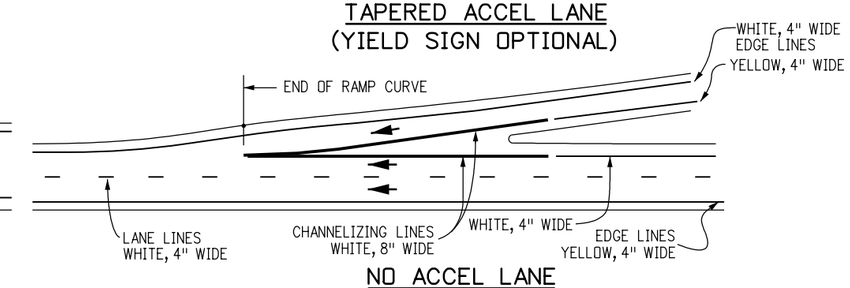
TAPERED DECEL LANE



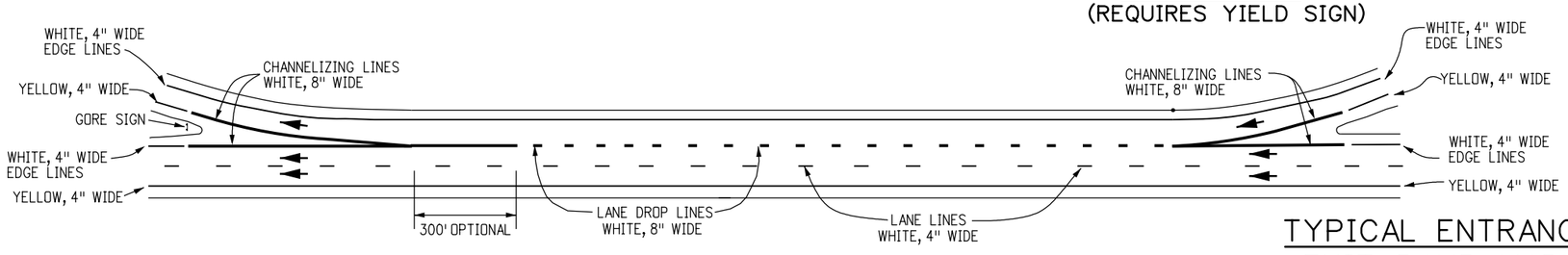
TAPERED ACCEL LANE (YIELD SIGN OPTIONAL)



DECEL RECOVERY ZONE



NO ACCEL LANE (REQUIRES YIELD SIGN)



COMBINATION ACCEL-DECEL LANE

TYPICAL ENTRANCE AND EXIT RAMP MARKINGS

GENERAL NOTES

1. CENTER LINES

   BROKEN YELLOW, 4 IN. WIDE - 10 FT. SEGMENTS WITH 30 FT. GAPS.

   SOLID YELLOW, 4 IN. WIDE. THESE LINES SEPARATE ADJACENT-OPPOSITE DIRECTION TRAFFIC LANES. DOUBLE LINES SHALL BE SPACED 4 IN. APART.

2. LANE LINES

   BROKEN WHITE, 4 IN. WIDE - 10 FT. SEGMENTS WITH 30' GAPS.

   SOLID WHITE, 4 IN. WIDE. THESE LINES SEPARATE ADJACENT-SAME DIRECTION TRAFFIC LANES. A SOLID LINE MAY BE USED TO DISCOURAGE LANE CHANGING, WHILE TWO PARALLEL SOLID WHITE LINES ARE REQUIRED TO PROHIBIT LANE CHANGING.

3. EDGE LINES

   SOLID WHITE OR YELLOW EDGE LINES SHALL BE 4 IN. WIDE. YELLOW EDGE LINES SHALL BE USED ONLY FOR LEFT EDGE, IN THE DIRECTION OF TRAVEL OF DIVIDED STREETS AND HIGHWAYS (SEPARATED BY OTHER THAN A PAINTED MEDIAN) AND ONE-WAY ROADWAYS (INCLUDING RAMPS).

   EDGE LINES ARE NOT CONTINUED THROUGH INTERSECTIONS AND ARE NOT BROKEN FOR DRIVEWAYS. CARE MUST BE TAKEN TO AVOID EDGE LINE APPEARING AS LANE LINE ALONG ROADWAYS WITH WIDE SHOULDERS AND/OR CLOSELY SPACED DRIVEWAYS.

4. DOTTED EXTENSION LINES

   BROKEN WHITE, WIDTH MATCHING THE LINE BEING EXTENDED-2 FT. SEGMENTS WITH 4 FT. GAPS. THESE LINES ARE USED TO DELINEATE THE EXTENSION OF A LINE THROUGH AN INTERSECTION OR INTERCHANGE AREA.

5. CHANNELIZING LINES

   SOLID WHITE, 8 IN. WIDE. THESE LINES ARE USED WITH ACCELERATION-DECELERATION LANES, PAVEMENT WIDTH TRANSITIONS, AND LEFT-RIGHT TURN SLOTS OR ISLANDS.

6. CROSS-HATCHING LINES

   SOLID WHITE OR YELLOW, 8 IN. WIDE-45 DEGREE DIAGONAL, SPACED AT 25 FT. INTERVALS. THESE LINES ARE OPTIONAL AND MAY BE PLACED AT LOCATIONS INDICATED ON THE PLANS OR DETERMINED BY THE ENGINEER. YELLOW SHALL BE USED FOR PAINTED MEDIANS OR PAVEMENT WIDTH TRANSITIONS ONLY.

   OPTIONAL DIAGONAL SHOULDER MARKINGS SHALL BE SOLID WHITE, 8 IN. WIDE, SPACED AT INTERVALS OF 20 FT. MINIMUM TO 100 FT. MAXIMUM.

7. PARKING LINES

   SOLID WHITE, 3 IN. WIDE-DIAGONAL OR PARALLEL AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.

8. STOP LINES

   SOLID WHITE, 24 IN. WIDE-EXTEND PARALLEL TO INTERSECTED ROADWAY ACROSS ALL APPROACH LANES OR AS INDICATED AT LOCATIONS ON THE PLANS. LOCATE AT THE DESIRED STOPPING POINT, NOT MORE THAN 30 FT, NOR LESS THAN 4 FT. FROM THE NEAREST EDGE OF THE INTERSECTED TRAFFIC LANE.

9. LANE DROP / AUX LINES

   BROKEN WHITE, 8 IN. WIDE - 3 FT. SEGMENTS WITH 12 FT. GAPS. THESE LINES SHOULD BEGIN 2600 FT. IN ADVANCE OF THE THEORETICAL GORE POINT TO DISTINGUISH THE LANE DROP FROM A CONTINUOUS LANE. THE CHANNELIZING LINE MAY BE EXTENDED APPROXIMATELY 300 FT. UPSTREAM.

(CONTINUED ON SHEET NO. 2)

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: SCL		Date:	Comments
Last Modification Date: 02/08/17 Initials: MBhat	R-5	02/08/17	UPDATED #9 IN GEN. NOTES FROM 9' TO 12' UPDATED #9 TITLE TO INCLUDE "AUX LINES" UPATED LANE DROP TO ACCEL LANE DELETED DIMENSION IN COMB. ACCEL-DECEL DRAWING ADDED DIMENSIONS IN PARALLEL ACCEL LANE DRAWING
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans			
Drawing File Name: S-627-01.dgn			
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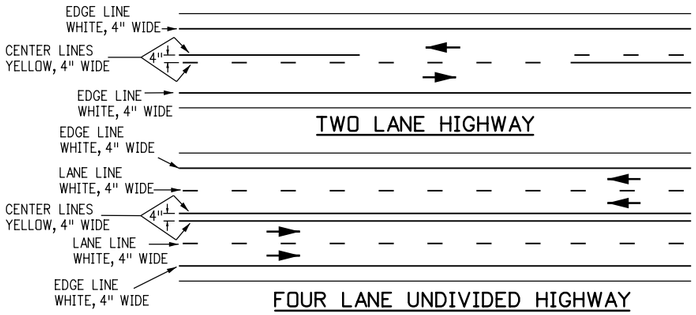
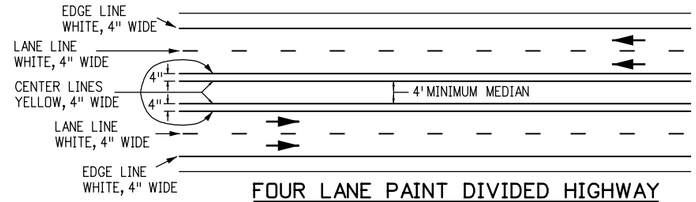
Sheet No. 1 of 8

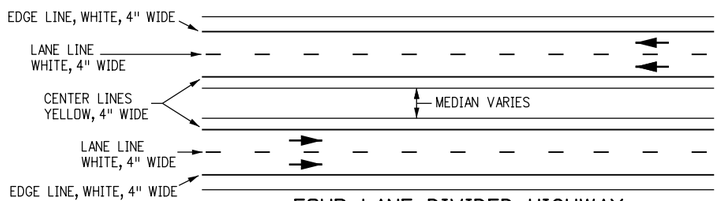


TWO LANE HIGHWAY

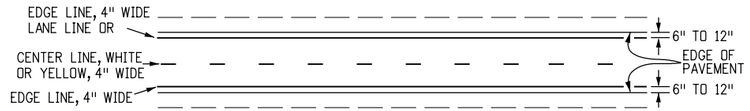
FOUR LANE UNDIVIDED HIGHWAY



FOUR LANE PAINT DIVIDED HIGHWAY



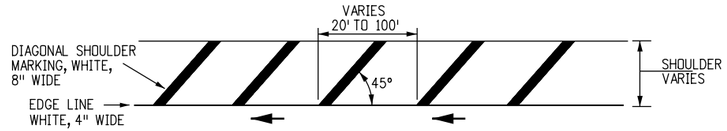
FOUR LANE DIVIDED HIGHWAY



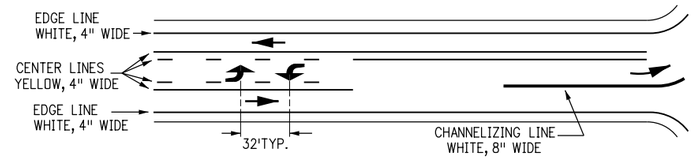
NOTE: EDGE LINES ARE NOT TO BE USED WHEN TRAVELED WAY IS LESS THAN 20 FEET.

NO SHOULDER OR UNSURFACED SHOULDER

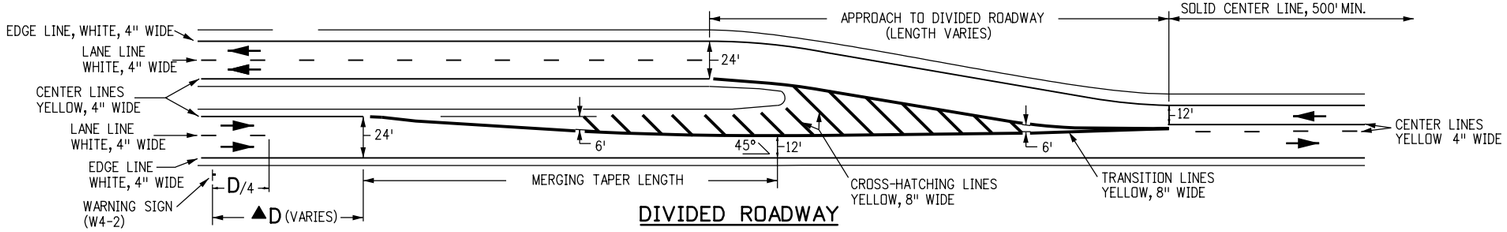
SHOULDER SURFACED



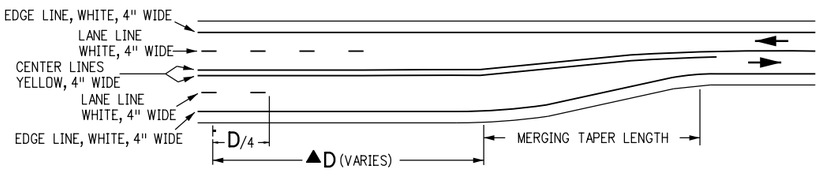
EDGE LINE WITH OPTIONAL DIAGONAL SHOULDER MARKING



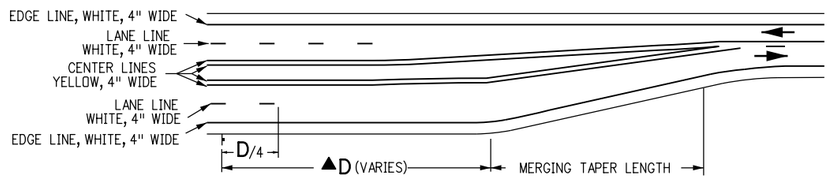
TYPICAL TWO WAY LEFT TURN LANE



DIVIDED ROADWAY



UNDIVIDED ROADWAY - CASE 1



UNDIVIDED ROADWAY - CASE 2

GENERAL NOTES

(CONTINUED FROM SHEET NO. 1)

10. ACCEL LANE LINES

BROKEN WHITE, 4 IN WIDE - 3 FT SEGMENTS WITH 12 FT GAPS. THESE LINES WOULD BE USED WHERE TWO THRU LANES OR AN ACCEL LANE MERGE INTO ONE THRU LANE.

11. CROSSWALK LINES

SOLID WHITE, 12 IN. WIDE FOR TRANSVERSE LINE TYPE - EXTEND ACROSS ENTIRE WIDTH OF PAVEMENT. IF NO ADVANCE STOP LINE IS PROVIDED, INCREASE THE WIDTH OF THE CROSSWALK LINES TO 24 IN. THE DISTANCE BETWEEN THE LINES IS USUALLY DETERMINED BY THE WIDTH OF THE SIDEWALKS SO CONNECTED, HOWEVER, IN NO CASE SHALL THIS BE LESS THAN 6 FT.

COMPLICATED AND/OR CHANNELIZED INTERSECTIONS AND MID-BLOCK CROSSWALKS SHALL BE SOLID WHITE, 12 IN. TO 24 IN. WIDE AND 8 FT. TO 10 FT. LONG FOR LONGITUDINAL LINE TYPE AS DETAILED IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

12. WORD, ARROW AND SYMBOL MARKINGS

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH "THE STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION.

13. MERGING TAPER LENGTH

L = MINIMUM LENGTH OF TAPER.

S = DESIGN SPEED FOR NEW CONSTRUCTION OR NUMERICAL VALUE OF THE POSTED SPEED LIMIT OF THE 85TH PERCENTILE SPEED OF EXISTING TRAFFIC.

W = WIDTH TRANSITIONED

FORMULA: FOR SPEED 45 MPH OR MORE, $L = S \times W$

FOR SPEED 40 MPH OR LESS, $L = \frac{WS^2}{60}$

14. TRANSITION LINES

SOLID YELLOW, 8 IN. WIDE. THESE LINES ARE USED WHERE ADDITIONAL EMPHASIS OR VISIBILITY IS DESIRABLE AT PAVEMENT WIDTH TRANSITIONS. PLACE AT LOCATIONS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

15. SPEED MEASURING MARKING

SOLID WHITE, 24 IN. - EXTEND 4 FT. FROM OUTSIDE OF EDGE LINES ON SHOULDERS.

▲ NOTE:

D = THE DISTANCE FROM THE LANE ENDS SIGN (W4-2) TO THE BEGINNING OF THE MERGING TAPER. FOR MORE INFORMATION ON THE "D" VALUE REGARDING SIGN AND PAVEMENT MARKING PLACEMENT, SEE THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", TABLE 2C-4, CONDITION A: SPEED REDUCTION AND LANE CHANGING IN HEAVY TRAFFIC AND FOOTNOTE 2 REGARDING TYPICAL CONDITIONS.

LEGEND

→ Direction of Travel

TYPICAL PAVEMENT WIDTH TRANSITION MARKINGS

Computer File Information	
Creation Date: 07/04/12	Initials: KEN
Last Modification Date: 02/08/17	Initials: MBhat
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	
Drawing File Name: S-627-01.dgn	
CAD Ver.: MicroStation V8i Scale: Not to Scale	Units: English

Sheet Revisions	
Date:	Comments
10/18/12 (R-1)	ADDED MORE NOTES ON "D" VALUE
02/08/17 (R-2)	ADDED LEGEND UPDATED WORD "TRANSITION" TO "MERGING" UPDATED ▲NOTE ADDED NEW NOTE 10 RENUMBERED NOTES FOLLOWING 10

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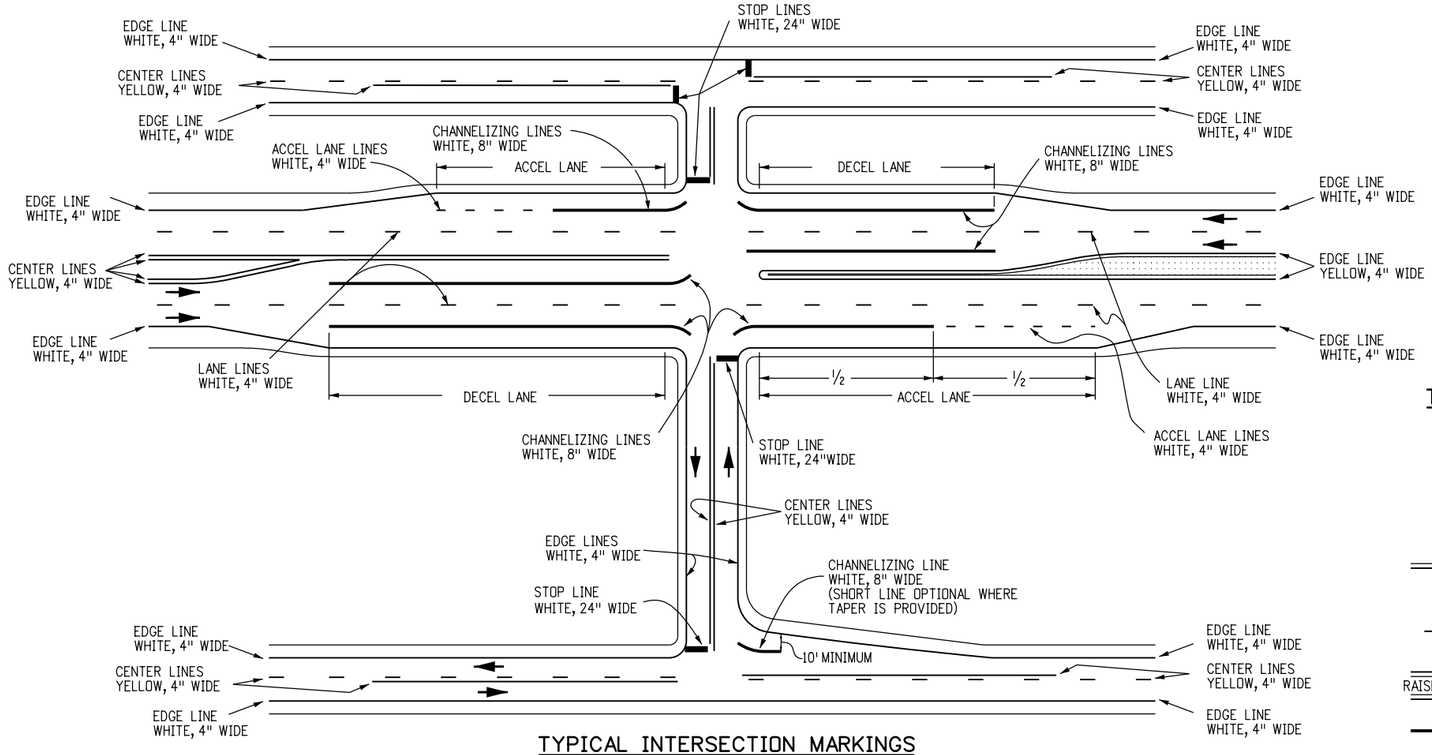
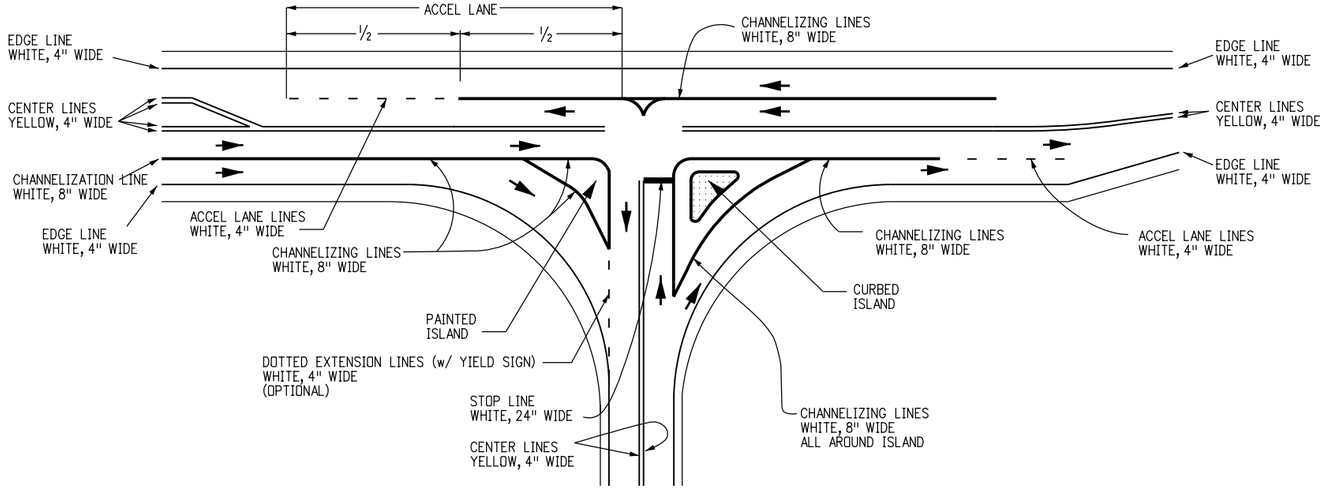
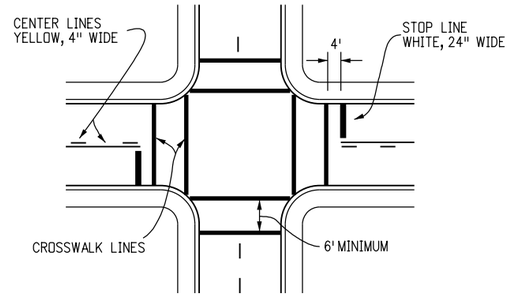


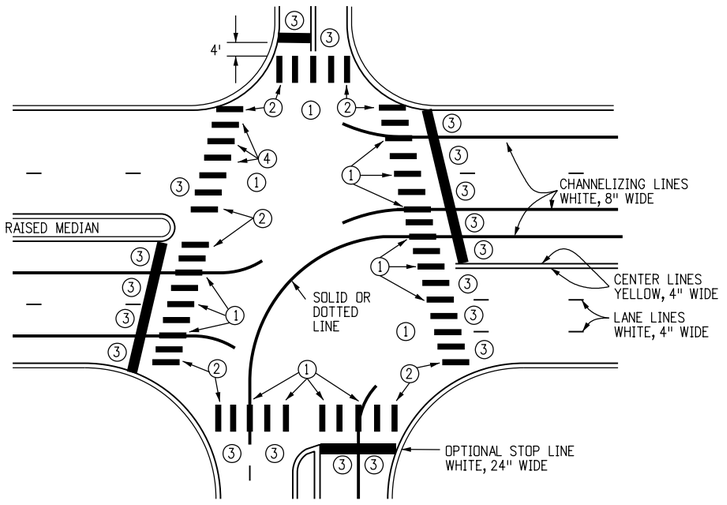
TYPICAL INTERSECTION MARKINGS



TYPICAL ISLAND MARKINGS

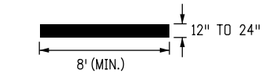


TYPICAL TRANSVERSE LINE CROSSWALK MARKINGS



TYPICAL CONTINENTAL CROSSWALK MARKINGS

CROSSWALK LINE DETAIL



LEGEND

→ Direction of Travel

CROSSWALK NOTES

1. CENTER CROSSWALKS ON CURB RAMPS. IF SUCH RAMPS ARE NOT PROVIDED CENTER ON SIGNAL POLES WHEREVER PRACTICAL.
2. CENTER ON LANE, CENTER OR CHANNELIZING LINE.
3. CENTER OR EXTENDED FLOW LINE.
4. CENTER BETWEEN ADJACENT LINES.
5. LINES AND SPACES TO APPROXIMATE ADJACENT PATTERN.

INTERSECTIONS, ISLANDS AND CROSSWALKS

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JSW		Date:	Comments
Last Modification Date: 02/08/17 Initials: MBhat	R-5	02/08/17	UPDATE LANE DROP LINES TO ACCEL LANES ADDED LEGEND UPDATE LANE ISLAND MARKINGS & ADDED ADDED DIMENSIONS TO ACCEL LANE LINES
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans			
Drawing File Name: S-627-01.dgn			
CAD Ver.: MicroStation V8i Scale: Not to Scale Units: English			UPDATED "LONGITUDINAL" TO "CROSSWALK"

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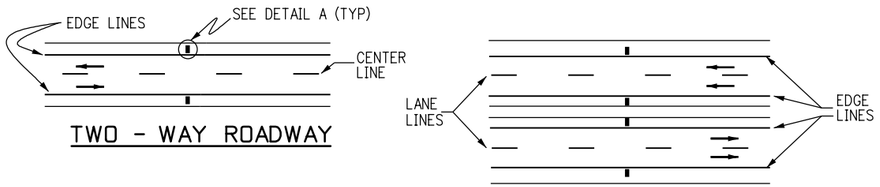
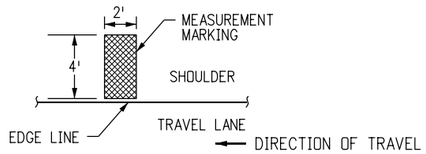


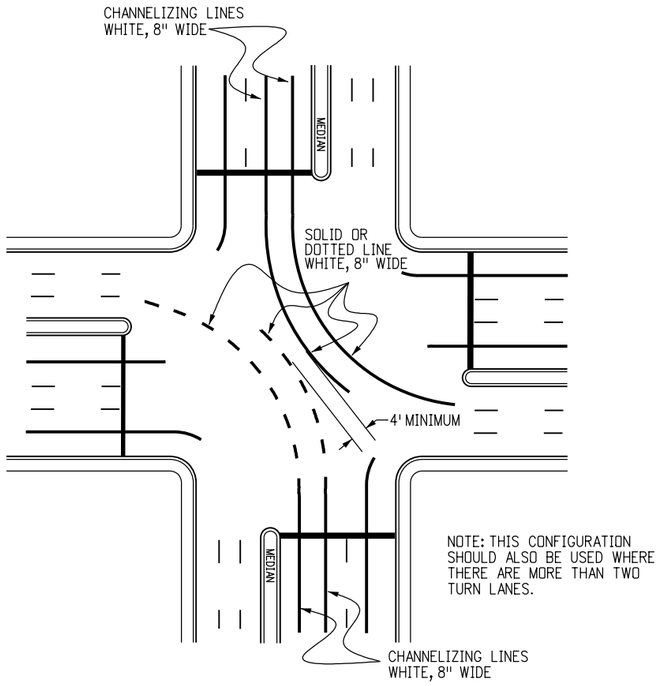
TWO - WAY ROADWAY

MULTI - LANE DIVIDED HIGHWAY

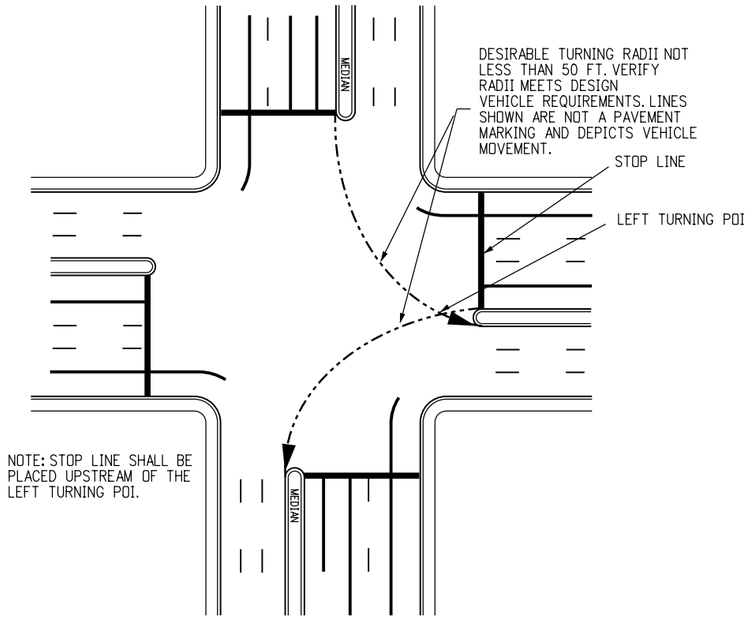


DETAIL A

TYPICAL SPEED MEASUREMENT MARKING



TYPICAL DOUBLE LEFT TURN MARKINGS



TYPICAL STOP LINE PLACEMENT

Computer File Information		Sheet Revisions	
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Last Modification Date: 02/08/17 Initials: MBhat	R-1	02/08/17	UPDATE "TYPICAL STOP BAR PLACEMENT" TITLE TO "TYPICAL STOP LINE PLACEMENT"
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans			
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CAD Ver.: MicroStation V8i Scale: Not to Scale Units: English			

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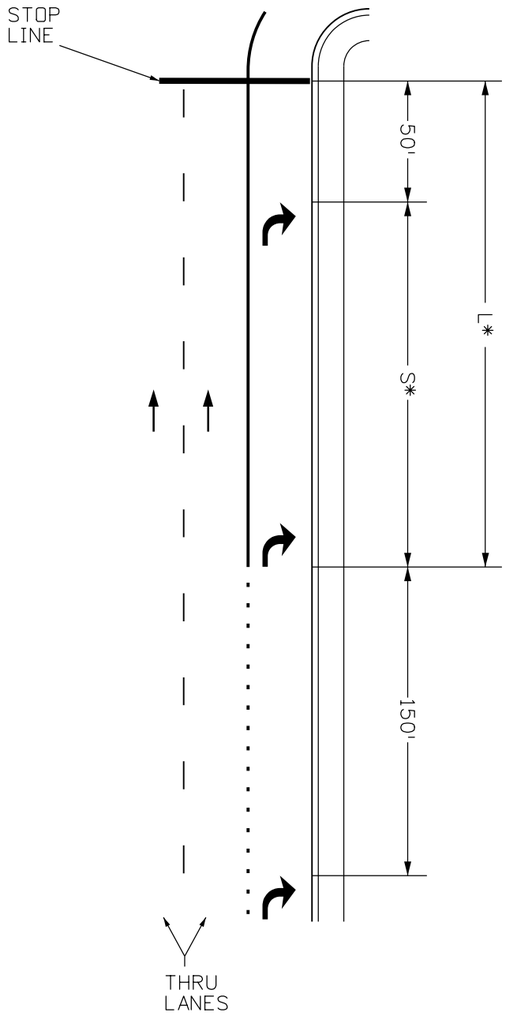
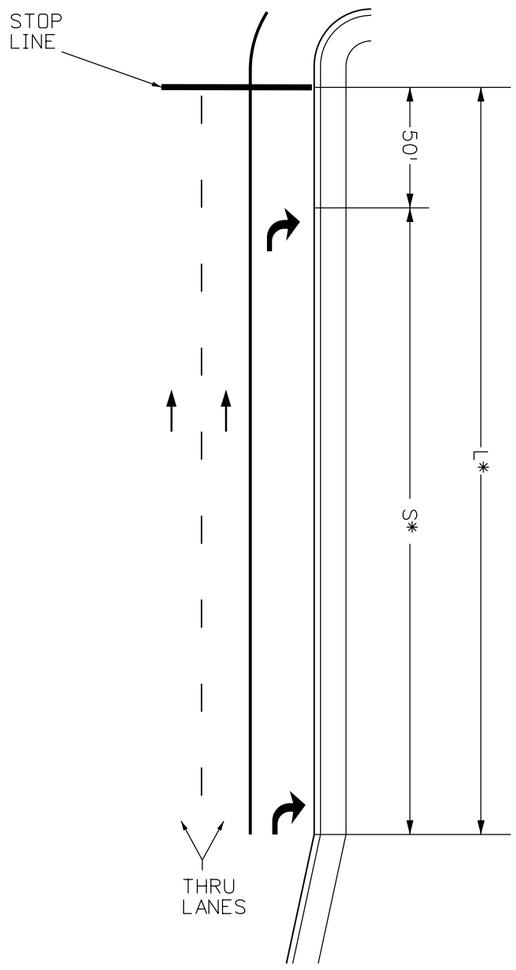
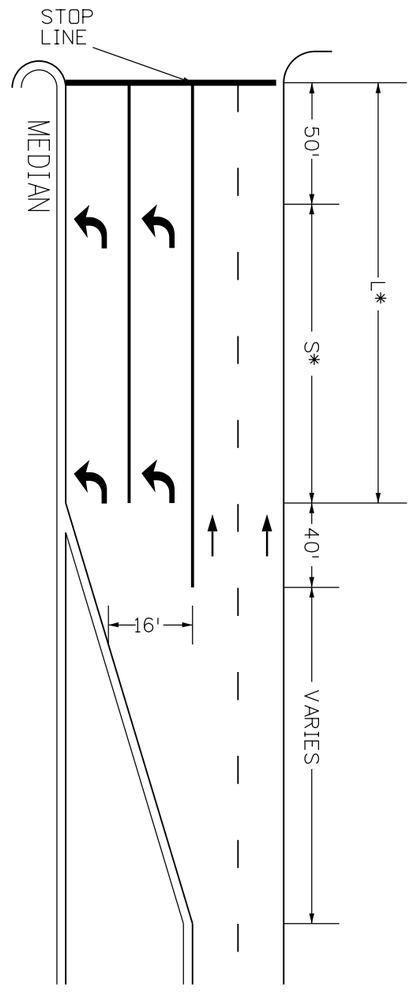


LANE DROP



POCKET LANE



DOUBLE TURNING

GENERAL NOTES

1. THE SPACING, IN THE TABLE APPLIES TO LEFT & RIGHT TURN LANES.
2. WHEN ONE (1) ARROW IS USED, IT SHALL BE PLACED AT THE BEGINNING OF THE FULL WIDTH TURN LANE, OTHERWISE USE THE TABLE BELOW FOR ARROW PLACEMENT.

LENGTH (L)	NO. OF ARROWS PER LANE	SPACING (S)
L < 200'	1	NA
200' - 350'	2	EVENLY SPACED BETWEEN 150'-300'
350' - 650'	3	
650' - 950'	4	
950' ≤	≥5	

*L (LENGTH) AND *S (SPACING) PROVIDED IN THE TABLE ABOVE WILL HELP DETERMINE THE NUMBER OF ARROWS NEEDED PER LANE.

LEGEND

→ Direction of Travel

ARROW PLACEMENTS AT INTERSECTIONS

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Creation Date: 02/08/17	Initials: MBhat	Date:	Comments
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4201 East Arkansas Avenue
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Safety & Traffic Engineering KCM

PAVEMENT MARKINGS

Issued By: Safety & Traffic Engineering Branch July 4, 2012

STANDARD PLAN NO.
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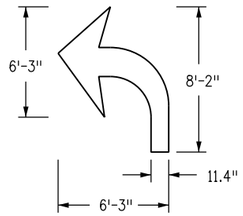
Sheet No. 5 of 8



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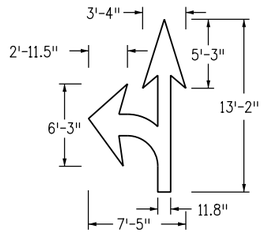

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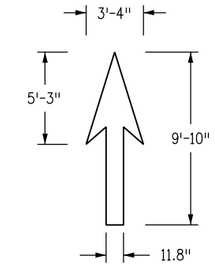

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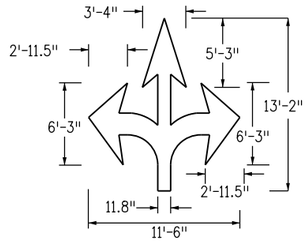

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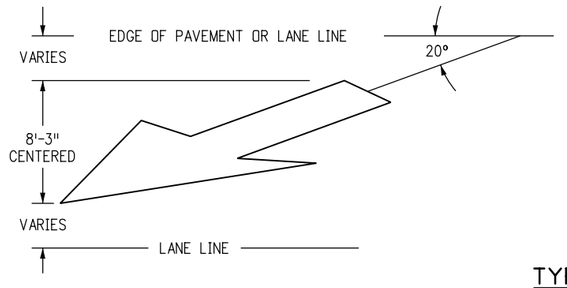

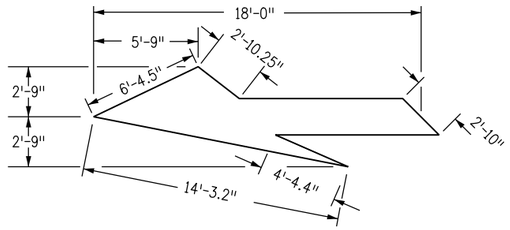

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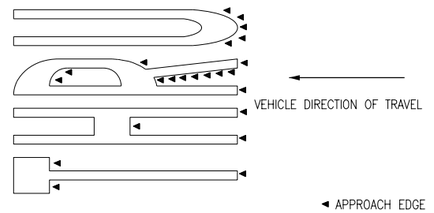
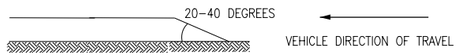
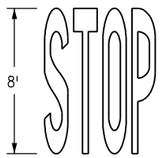
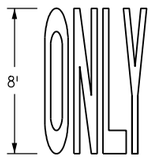


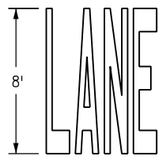
TYPICAL APPROACH EDGE TAPERING VIEW

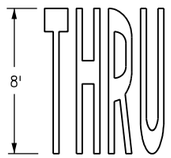


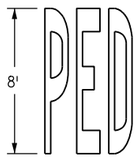
TYPICAL APPROACH EDGE TAPERING PROFILE VIEW

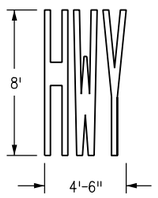


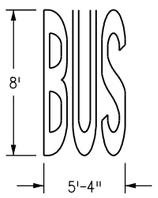


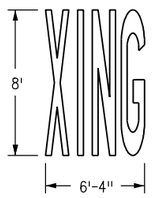


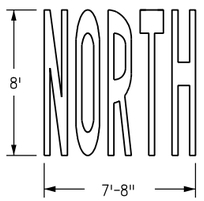


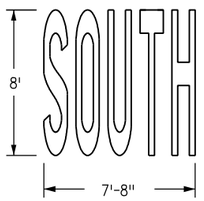


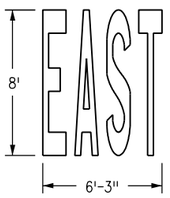


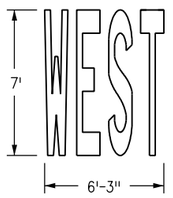


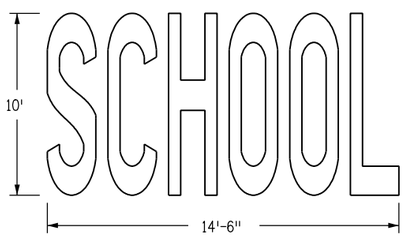






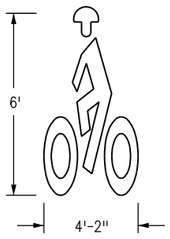


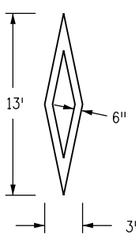




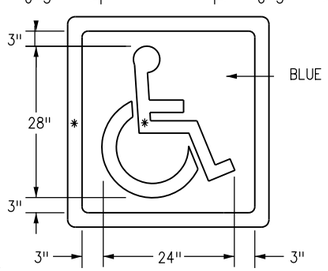
STROKE = 8"
2-LANE SCHOOL

1-LANE SCHOOL





AREA = 11.9 SQ.FT. AREA = 10 SQ.FT.



* WHITE 3" STROKE WIDTH (BORDER MAY BE 4" STROKE WIDTH)

PAVEMENT MARKING WORDS AND SYMBOLS

WORD AND SYMBOL NOTES

IF HEIGHT IS INCREASED OR DECREASED THEN ALL MEASUREMENTS CHANGE PROPORTIONATELY. EXAMPLE: "H" MEASUREMENT FOR STOP IS REDUCED TO 4' FROM 8' THEN SQUARE FEET = 5.75 (1/4 OF 23.0 SQ. FT.).

PAVEMENT WORD AND SYMBOL MARKINGS, TRANSVERSE AND LONGITUDINAL (CONTINENTAL) CROSSWALK LINES, AND STOP LINES WILL BE PAID FOR IN SQUARE FEET USING THEIR SPECIFIC BID ITEMS.

LETTER SPACING SHALL BE 8 INCHES EXCEPT FOR THE LETTER "A' WHICH IS 6 INCHES.

USE THE MARKING WORD "BIKE" IF 6 FT TO 8 FT BIKE LANES ARE INSTALLED.

TAPERING NOTES

ALL PAVEMENT MARKING APPROACH EDGES FROM THE VEHICLE DIRECTION OF TRAVEL SHALL BE TAPERED USING A PUTTY KNIFE OR SIMILAR TOOL.

DESIGNATED PAYMENT AREAS

FOR THE FOLLOWING H, W, AND S DIMENSIONS PAY:

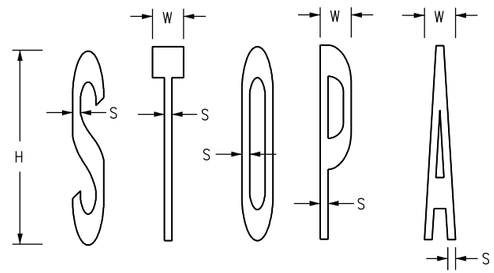
H = 4' WORDS

BIKE - 5.5 SQ.FT.	LANE - 6.0 SQ.FT.
ONLY - 6.0 SQ.FT.	XING - 5.0 SQ.FT.

H = 8' WORDS

STOP - 23.0 SQ.FT.	XING - 20.0 SQ.FT.
ONLY - 22.5 SQ.FT.	LANE - 22.5 SQ.FT.
AHEAD - 29.0 SQ.FT.	BIKE - 21.0 SQ.FT.
BUS - 18.5 SQ.FT.	HWY - 16.5 SQ.FT.
SCHOOL(1L) - 33.0 SQ.FT.	THRU - 22.0 SQ.FT.
SCHOOL(2L) - 85.0 SQ.FT.	PED - 17.5 SQ.FT.
NORTH - 30.6 SQ.FT.	SOUTH - 28.5 SQ.FT.
EAST - 22.1 SQ.FT.	WEST - 23.7 SQ.FT.

TYPICAL LETTER MEASUREMENTS



H = HEIGHT	H = 8'	H = 4'
W = WIDTH	W = 1'-3.4" TO 1'-4"	W = XX TO XX
S = STROKE	S = 3.8" TO 4"	S = 1.9" TO 2"

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12	Initials: SCL	Date:	Comments
Last Modification Date: 02/08/17	Initials: MBhat	02/08/17	UPDATED BICYCLIST SYMBOL ADDED NOTE REGARDING "BIKE" MARKING WORD RELOCATED ELONGATED ROUTE SHIELDS TO PAGE 7 OF 8 ADDED CARDINAL STENCILS & UPDATED STENCIL DIMENSIONS ADDED 3 HEAD COMBINATION ARROW & UPDATED ARROW DIMENSIONS AND AREAS
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans			
Drawing File Name: S-627-01.dgn			
CAD Ver.: MicroStation V8i Scale: Not to Scale Units: English			

R-3

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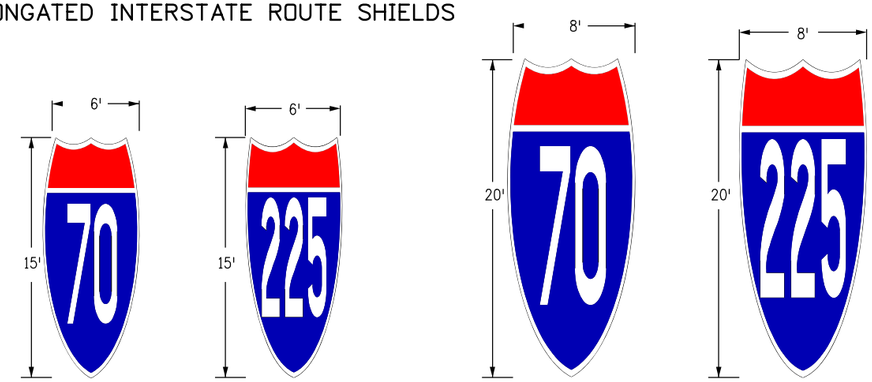
ELONGATED INTERSTATE ROUTE SHIELDS



DESIGNATED PAYMENT AREAS

FOR THE FOLLOWING ROUTE SHIELDS
& CARDINAL DIRECTIONS DIMENSIONS PAY:

INTERSTATE

6' X 15' - 75 SQ.FT. 8' X 20' - 128 SQ.FT.

COLORADO STATE

6' X 15' - 90 SQ.FT. 8' X 20' - 160 SQ.FT.

US HIGHWAYS

7' X 16' - 112 SQ.FT. 9' X 21' - 189 SQ.FT.

CARDINAL

8' X 10' - 80 SQ.FT. 9' X 10' - 90 SQ.FT.

GENERAL NOTES

1. DIMENSIONS

   ELONGATED ROUTE SHIELDS SHALL BE AT LEAST 8'x20' WHEN USED ON HIGH SPEED ROADWAYS (55 MPH OR MORE).

   PER FIGURE 3B-25 OF THE 2009 MUTCD ELONGATED ROUTE SHIELD COLORS SHALL CONFORM WITH THE STANDARD HIGHWAY SIGNS AND MARKINGS BOOK.

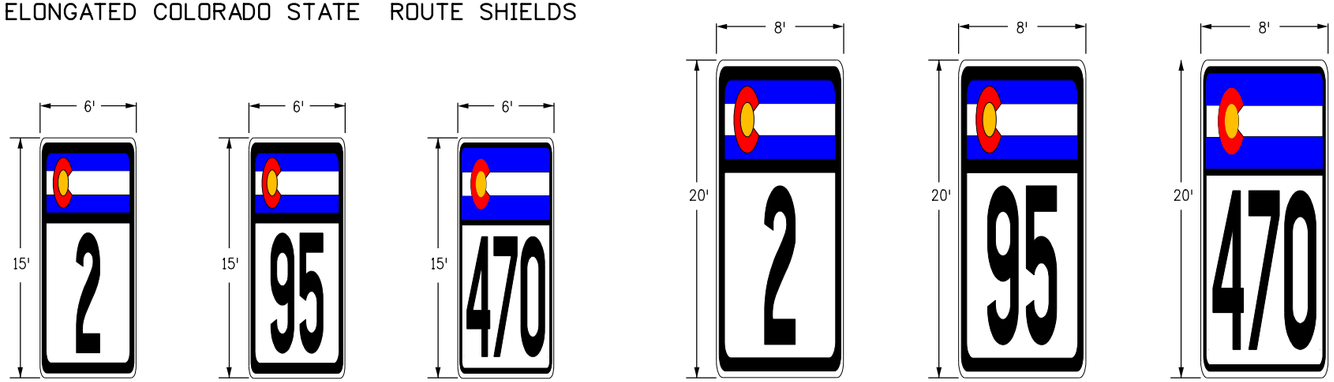
2. CARDINAL DIRECTIONS

   USE CARDINAL DIRECTIONS WITH WHITE ON BLUE WHEN USING INTERSTATE ROUTE SHIELDS

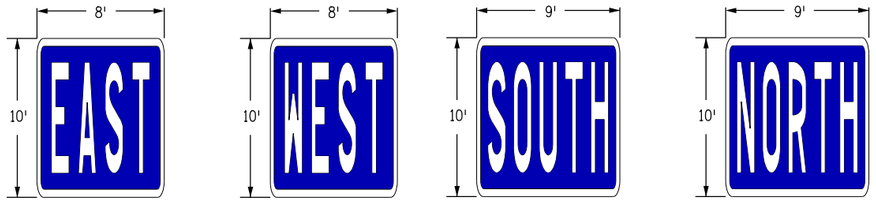
   USE CARDINAL DIRECTIONS WITH BLACK ON WHITE WHEN USING EITHER COLORADO STATE OR US HIGHWAY ROUTE SHIELDS.

   CARDINAL DIRECTION MARKING WORD SYMBOL FROM PAGE 7 OF 8 MAY BE USED INSTEAD OF PLAQUE.

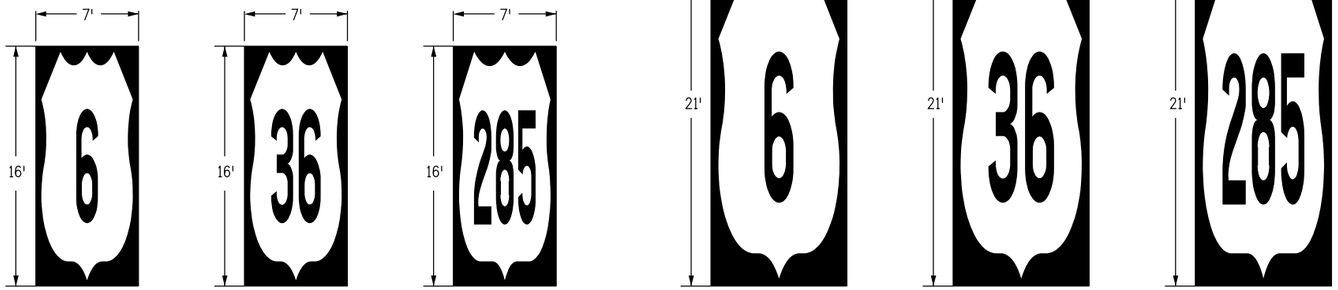
ELONGATED COLORADO STATE ROUTE SHIELDS



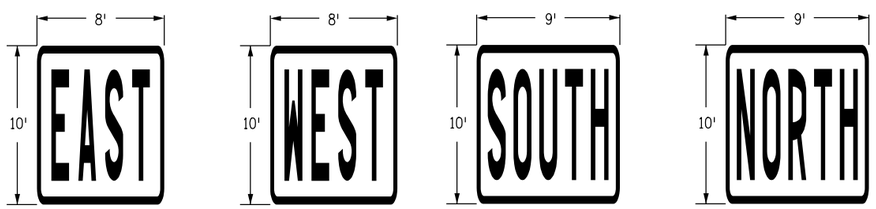
CARDINAL DIRECTIONS
(WHITE LETTERING ON BLUE BACKGROUND)



ELONGATED US HIGHWAY ROUTE SHIELDS



CARDINAL DIRECTIONS
(BLACK LETTERING ON WHITE BACKGROUND WITH BLACK BORDER)



ELONGATED ROUTE SHIELDS & CARDINAL DIRECTION MARKINGS

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Creation Date: 02/08/17	Initials: MBhat
Last Modification Date:	Initials:
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	
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Sheet Revisions	
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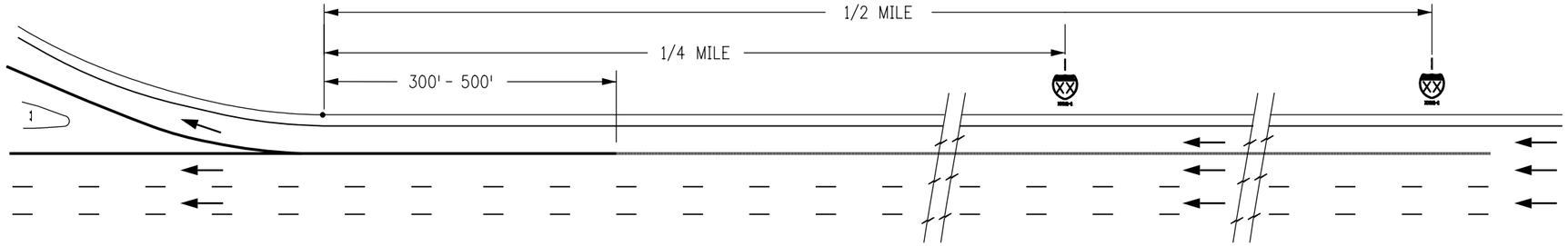
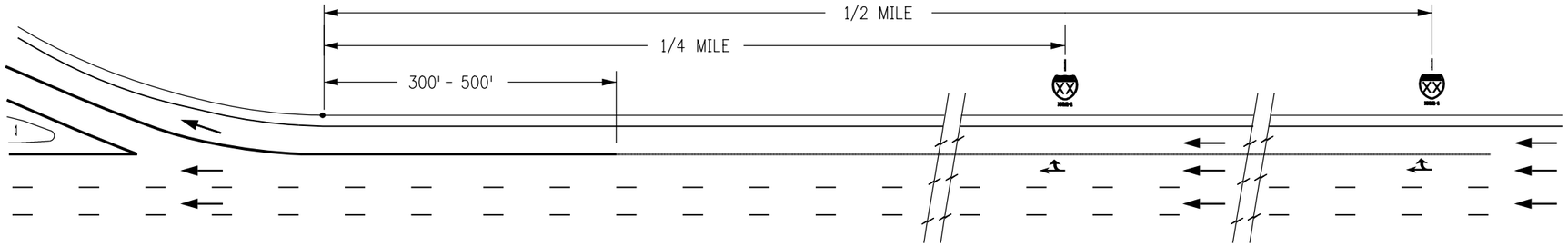


TYPICAL SHIELD PLACEMENT

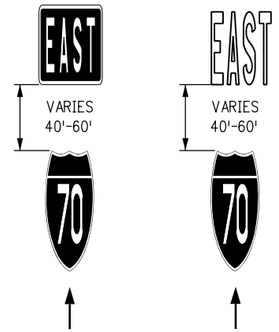
*AS DIRECTED BY THE ENGINEER



TYPICAL SHIELD & OPTION ARROW PAVEMENT MARKING PLACEMENT

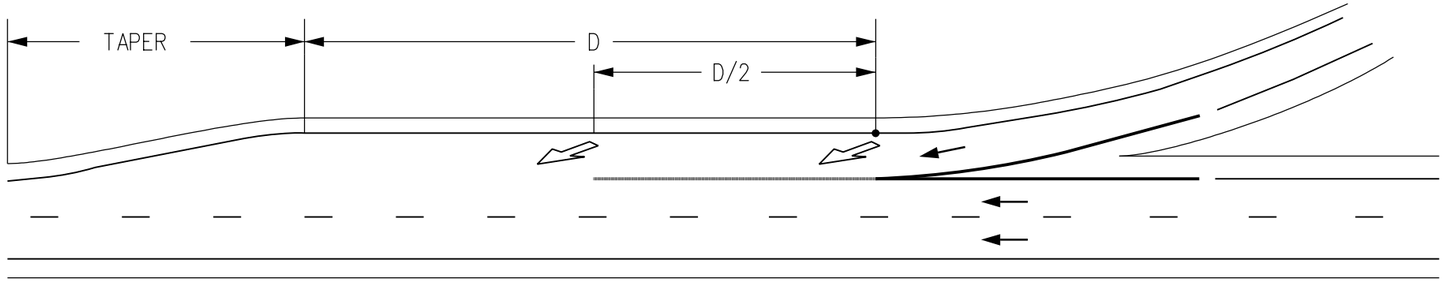
*AS DIRECTED BY THE ENGINEER

SHIELD LAYOUT DETAIL

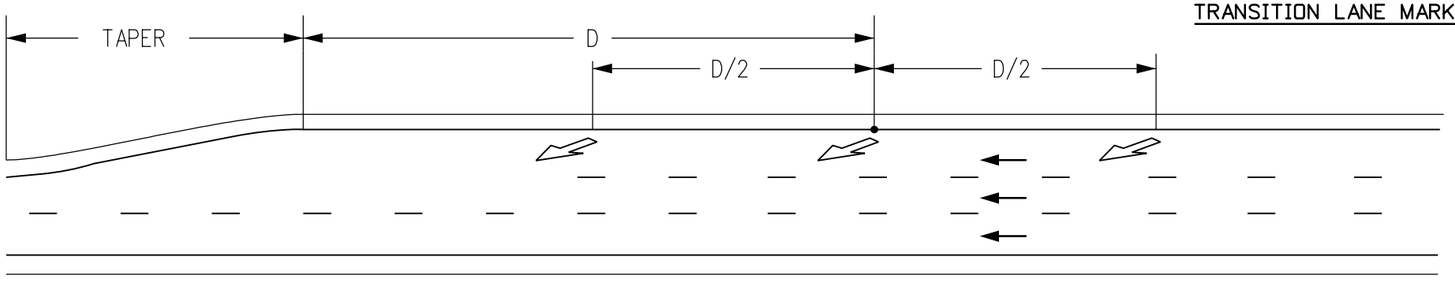


LEGEND

→ Direction of Travel



TRANSITION LANE MARKINGS



D = THE DISTANCE FROM THE PAVEMENT WIDTH TRANSITION SIGN (W4-2) TO THE BEGINNING OF THE TRANSITION TAPER

THRU LANE DROP MARKINGS

LANE REDUCTION TRANSITION MARKINGS

Computer File Information		Sheet Revisions	
Creation Date: 02/08/17	Initials: MBhat	Date:	Comments
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STANDARD PLAN NO.

S-627-1

GENERAL NOTES

1. ALL CONSTRUCTION ZONE TRAFFIC CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO BARRICADES, SIGNS, ARROW PANELS, FLASHING BEACON (PORTABLE), AND CHANNELIZING DEVICES, SHALL BE FURNISHED, INSTALLED, MAINTAINED (INCLUDING WASHING), REPLACED IF DAMAGED, REMOVED WHEN TEMPORARILY NOT IN USE AND RETURNED WHEN REQUIRED, RESET AS NECESSARY DURING THE PROGRESS OF CONSTRUCTION, AND REMOVED ENTIRELY WHEN THE PROJECT IS COMPLETED. ALL DEVICES SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE ATSSA "QUALITY GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES & FEATURES".

2. WORK ON THE PROJECT SHALL NOT BE STARTED UNTIL ALL REQUIRED TRAFFIC CONTROL DEVICES ARE IN PLACE, AND APPROVED BY THE ENGINEER.

3. WHEN SPEED LIMIT REDUCTION IS REQUIRED, SUCH REDUCTION SHALL BE IN ACCORDANCE WITH CDOT FORM 568, "AUTHORIZATION AND DECLARATION OF TEMPORARY SPEED LIMITS."

   WHEN A CHANGE IN AN EXISTING SPEED LIMIT IS REQUIRED, THE R2-1 SIGNS, SHOWN ON THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES, SHOULD BE INSTALLED AT THE LOCATIONS SHOWN ON THE TYPICAL CASES BY R2-1 (OPTIONAL) SIGNS.

   AN ADVISORY SPEED PLATE (W13-1P) MAY BE USED WITH A WARNING SIGN WHEN THE MAXIMUM RECOMMENDED SPEED FOR CONDITION NAMED IS LOWER THAN THE POSTED SPEED LIMIT.

   THE REGULATORY OR ADVISORY SPEED REDUCTION DISPLAYED SHALL NOT EXCEED 15 MPH PER SIGN INSTALLATION.

4. ANY TRAFFIC CONTROL DEVICE THAT IS DAMAGED, WEATHERED, WORN, OR OTHERWISE DEEMED UNACCEPTABLE BY THE ENGINEER, SHALL BE REPLACED.

5. CONTRACTOR AND PERSONAL VEHICLE PARKING IS PROHIBITED WITHIN THE RIGHT-OF-WAY UNLESS DESIGNATED ON THE PLANS, OR APPROVED BY THE ENGINEER.

6. CONSTRUCTION TRAFFIC SIGNS SHALL BE MEASURED BY THE FOLLOWING SIZES AND DESCRIPTIONS:

PANEL SIZE A	0.01 TO 9.00 SQ. FT. (INCLUDING TYPE 1 AND TYPE 2 BARRICADES).
PANEL SIZE B	9.01 TO 16.00 SQ. FT.
PANEL SIZE C	GREATER THAN 16 SQ. FT.

   CONSTRUCTION TRAFFIC SIGN (SPECIAL), SQ. FT., MAY BE USED FOR SOME PROJECT SPECIFIC INFORMATION SIGNS.

   FOR DETAILED DIMENSIONS OF SIGNS WITH SIGN CODE NUMBERS, SEE "STANDARD HIGHWAY SIGNS" AND THE "COLORADO SUPPLEMENT" THERETO. SIGN LAYOUTS FOR OTHER SIGNS WILL BE FURNISHED IN THE PLANS, TRANSMITTED TO THE ENGINEER AFTER AWARD, OR MAY BE AVAILABLE UPON REQUEST.

   W20-5 WARNING SIGNS SHALL BE FURNISHED WITH EXCHANGEABLE PLAQUES READING "RIGHT", "LEFT", "CENTER", "RIGHT 2", ETC. AT NO ADDITIONAL COST.

7. ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF THE ROADWAY ON DIVIDED HIGHWAYS, MULTI-LANE RAMPS, ONE-WAY STREETS, AND AS DIRECTED BY THE ENGINEER, EXCEPT WHERE ONLY ONE SHOULDER IS CLOSED (EX: CASE 11 ON SHEET 7).

8. ADDITIONAL TRAFFIC CONTROL DEVICES ADDRESSING FLAGGING, SPEED REDUCTION, ETC. WILL BE NECESSARY FOR SET-UP AND TAKE-DOWN OF MOST CASE APPLICATIONS; DAILY WORK SITE ACCESS; AND PAVEMENT MARKING REMOVAL AND INSTALLATION OPERATIONS.

9. BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.

10. IF CONSTRUCTION RELATED TRAFFIC CONGESTION BACKS UP BEYOND THE INSTALLED ADVANCE SIGN SEQUENCE, ADDITIONAL ADVANCE SIGNING SHALL BE PLACED BEYOND THE CONGESTION.

11. ALL SIGN MATERIAL SHALL BE SOUND AND DURABLE TO THE DEGREE NECESSARY FOR MAINTAINING EFFECTIVE AND NEAT APPEARING TRAFFIC CONTROLS, AND:

    a. SIGN PANELS MAY BE FABRICATED FROM PLYWOOD, STEEL, ALUMINUM, OR OTHER SUITABLE MATERIAL.
    b. REFLECTIVE SHEETING SHALL CONFORM TO ASTM D4956. THE TYPE SHALL BE AS DESCRIBED IN THE STANDARD SPECIFICATIONS AND/OR AS SHOWN ON THE PLANS.
    c. SYMBOLS AND LEGEND SHALL BE OF GOOD WORKMANSHIP (UNEVEN OR HAND LETTERING WILL NOT BE ACCEPTED).
    d. PORTABLE OR TEMPORARY MOUNTING SHALL NOT BE CONSTRUCTED OR WEIGHTED BY ANY METHOD OR MATERIAL THAT MAKES THEM HAZARDOUS TO TRAFFIC.
    e. CERTAIN POST SIZES AND SHAPES REQUIRE A "BREAK-AWAY" DEVICE. SEE THE APPLICABLE STANDARD PLAN. OTHER POST DESIGNS OR SYSTEMS REQUIRE THE SUBMITTAL OF AN FHWA LETTER OF ACCEPTANCE TO THE ENGINEER, AND MUST BE APPROVED BY THE ENGINEER PRIOR TO THEIR USE.

12. ALL CONSTRUCTION SIGN PLACEMENT SHALL BE IN ACCORDANCE WITH STANDARD PLAN "TYPICAL GROUND SIGN PLACEMENT" UNLESS OTHERWISE APPROVED.

    SIGNS APPROVED TO BE MOUNTED ON PORTABLE SUPPORTS, OR APPROPRIATE SIGNS MOUNTED ON BARRICADES, MAY BE AT LOWER HEIGHTS, BUT THE BOTTOM OF THE SIGNS SHALL NOT BE LESS THAN ONE FOOT ABOVE THE PAVEMENT ELEVATION.

13. SIGNS MOUNTED ON THE MEDIAN OF DIVIDED HIGHWAYS WHERE MEDIAN BARRIER IS IN PLACE MAY BE MOUNTED ON THE BARRIER WITH A SADDLE TYPE BRACKET. IF THE BRACKET ALLOWS THE SIGN PANEL TO BE TURNED PARALLEL TO THE ROADWAY, THE SIGN MAY REMAIN IN PLACE WHEN NOT APPLICABLE, BUT LAYING THE SIGN PANEL DOWN IN A HORIZONTAL POSITION IS NOT PERMITTED.

14. TRAFFIC CONES SHALL BE AT LEAST 28 INCHES IN HEIGHT. HOWEVER, THE MINIMUM SIZE SHALL BE 36 INCHES WHEN THEY ARE USED ON FREEWAYS AND EXPRESSWAYS, OR DURING NIGHT TIME WORKING HOURS. THEY SHOULD ALSO BE 36 INCHES WHEN USED ON OTHER HIGH SPEED ROADWAYS (45 MPH OR MORE) WITH AN ADT OF 6,000 OR MORE.

15. TYPE 1 BARRICADES SHALL NOT BE USED ON FREEWAYS, EXPRESSWAYS, OR OTHER HIGH SPEED ROADWAYS (55 MPH OR MORE).

16. WHEN TWO-WAY TRAFFIC IS PLACED ON ONE ROADWAY OF A NORMALLY DIVIDED HIGHWAY, OPPOSING TRAFFIC SHALL BE SEPARATED EITHER WITH CONCRETE BARRIER (TEMPORARY), OR WITH CHANNELIZING DEVICES APPROVED FOR THIS APPLICATION, THROUGHOUT THE LENGTH OF TWO-WAY OPERATION. THE TRANSITION ZONES SHALL HAVE CONCRETE BARRIER (TEMPORARY). THE BARRIER SHALL BE TIED TO AN EXISTING STRUCTURE OR GUARD RAIL, FLARED OR EXTENDED, TO MEET CLEAR ZONE REQUIREMENTS, OR FITTED WITH AN IMPACT ATTENUATION DEVICE.

17. CHANNELIZING DEVICE SPACING, IN FEET, SHALL BE AS FOLLOWS:
    a. FOR TAPERS AND TRANSITIONS, SPACING EQUALS THE NUMERICAL VALUE OF THE SPEED LIMIT. (e.g. 45 MPH = 45 FEET)
    b. FOR TANGENTS ALONG THE BUFFER SPACE OR WORK AREA, SPACING MAY NOT BE GREATER THAN TWO TIMES THE SPEED LIMIT. (e.g. 50 MPH = 50 FEET TO 100 FEET MAXIMUM)

18. FOR DETAILS ON BARRICADES, CONCRETE BARRIER (TEMPORARY), VERTICAL PANELS, AND FLASHING BEACON (PORTABLE), SEE THE APPLICABLE STANDARD PLANS.

19. FLOOD LIGHTS SHALL BE USED TO ILLUMINATE FLAGGER STATIONS DURING THE HOURS OF DARKNESS UNLESS OTHERWISE APPROVED. A TYPICAL LIGHT SHOULD PROVIDE THE FOLLOWING: A FULLY DIRECTIONAL SWIVEL MOUNT QUARTZ LIGHT SOURCE (500 WATT MINIMUM), SELF-SUPPORTING STAND WITH VARIABLE LIGHT HEIGHT FROM A MINIMUM OF EIGHT FEET ABOVE THE ROADWAY, AND A POWER SOURCE. IT SHALL ILLUMINATE THE STATION AREA AND A FLAGGER ESCAPE PATH, BUT SHALL NOT PRESENT ANY GLARE TO TRAFFIC.

20. FOR TEMPORARY PAVEMENT MARKINGS AND CONTROL POINTS FOR INSTALLING THOSE PAVEMENT MARKINGS FOR UNDIVIDED ROADWAYS THAT ARE BEING CONSTRUCTED UNDER TRAFFIC, FULL COMPLIANCE CENTER LINE, LANE LINE, AND EDGE LINE TEMPORARY MARKINGS SHALL BE IN PLACE AT THE END OF EACH WORK DAY IN ACCORDANCE WITH SECTION 627.03(d)2.

    FOR ADDITIONAL PAVEMENT MARKING DETAILS, SEE STANDARD PLAN "TYPICAL PAVEMENT MARKINGS".

21. BUFFER SPACE IS OPTIONAL. NEED MUST BE DETERMINED ON A PROJECT OR SITE SPECIFIC BASIS AS DIRECTED BY THE ENGINEER. WHEN A BUFFER SPACE IS USED, DIMENSIONS AND/OR DEVICES USED ARE TO BE INCORPORATED IN THE TRAFFIC CONTROL PLAN (TCP) OR THE CONTRACTOR'S METHOD OF HANDLING TRAFFIC (MHT).

22. ADDITIONAL VMS SIGNAGE SHOULD BE CONSIDERED AT LEAST A MILE IN ADVANCE OF THE SIGNING SHOWN IN THE DETAIL FOR ANY LANE CLOSURES ON INTERSTATE AND OTHER HIGH SPEED FACILITIES ESPECIALLY WHEN THE LEVEL OF SERVICE IS SIGNIFICANTLY REDUCED AS A RESULT OF CONSTRUCTION. THE LEGENDS SHOULD BE CHANGED TO ADVISE MOTORISTS OF UPCOMING TRAFFIC CONDITIONS AND TO ALERT THEM OF UPCOMING LANE USAGE.

    ADDITIONAL ADVANCE WARNING SIGNAGE IS ENCOURAGED IN ALL CASES WHERE TRAFFIC VOLUMES AND SPEEDS ARE HIGH AND/OR WHERE THERE ARE INFREQUENT EXITS. ADDITIONAL SIGNAGE IS ALSO ENCOURAGED IN LOCATIONS WHERE DRIVERS' LINE OF SIGHT TO ADVANCE WARNING SIGNS IS OBSTRUCTED.

23. WHEN ARROW BOARDS ARE USED TO CLOSE MULTIPLE LANES, A SEPARATE ARROW BOARD SHALL BE USED FOR EACH CLOSED LANE.

    IF ARROW BOARDS ARE USED FOR SHOULDER WORK, BLOCKING THE SHOULDER, FOR ROADSIDE WORK NEAR THE SHOULDER, OR FOR TEMPORARILY CLOSING ONE LANE ON A TWO-LANE, TWO-WAY ROADWAY, USE THE ARROW BOARDS ONLY IN THE CAUTION MODE.

24. RAISED PAVEMENT MARKERS MAY BE USED TO SUPPLEMENT TEMPORARY STRIPING DURING NON-SNOW PERIODS. THEIR USE IS ENCOURAGED ON HIGHER SPEED FACILITIES WHEN TRAFFIC IS BEING DIVERTED FROM ITS USUAL COURSE.

25. THE TYPICAL CASES DEPICTED IN THIS STANDARD REFLECT THE MINIMUM REQUIREMENTS, UNLESS AS OTHERWISE DIRECTED BY THE PROJECT PLANS AND SPECIFICATIONS, AND/OR THE PROJECT ENGINEER.

26. A SIGNIFICANT PROJECT IS DEFINED AS ONE THAT, ALONE OR IN COMBINATION WITH OTHER CONCURRENT PROJECTS NEARBY, IS ANTICIPATED TO CAUSE SUSTAINED WORK ZONE IMPACTS AT A LOCATION FOR THREE OR MORE CONSECUTIVE DAYS WITH EITHER INTERMITTENT OR CONTINUOUS LANE CLOSURES.

Sheet Revisions

	Date:	Comments
R-1	02/06/13	SHEET 13 - UPDATE TO 2009 MUTCD STD
R-2	02/26/13	SHEET 1 - UPDATE TO NOTE 1
R-3	02/27/13	SHEET 4 - UPDATE TAPER TO MUTCD STD
R-4	07/26/13	SHTS 9,10,15 & 20 - CORRECTED SIGN CODE DESIGNATION
R-5	**03/27/14**	SHTS 17 & 18 - UPDATED SIGNS AND TMA'S
R-6	**07/22/14**	SHEET 1 - UPDATE TO NOTE 20
R-7	**12/8/14**	SHEETS 17 TO 24 - ADDED AND RENUMBERED SHEET 22 - SIGN CODE UPDATE, W5-4D & W21-5a

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TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

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S-630-1
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R-X		
R-X		

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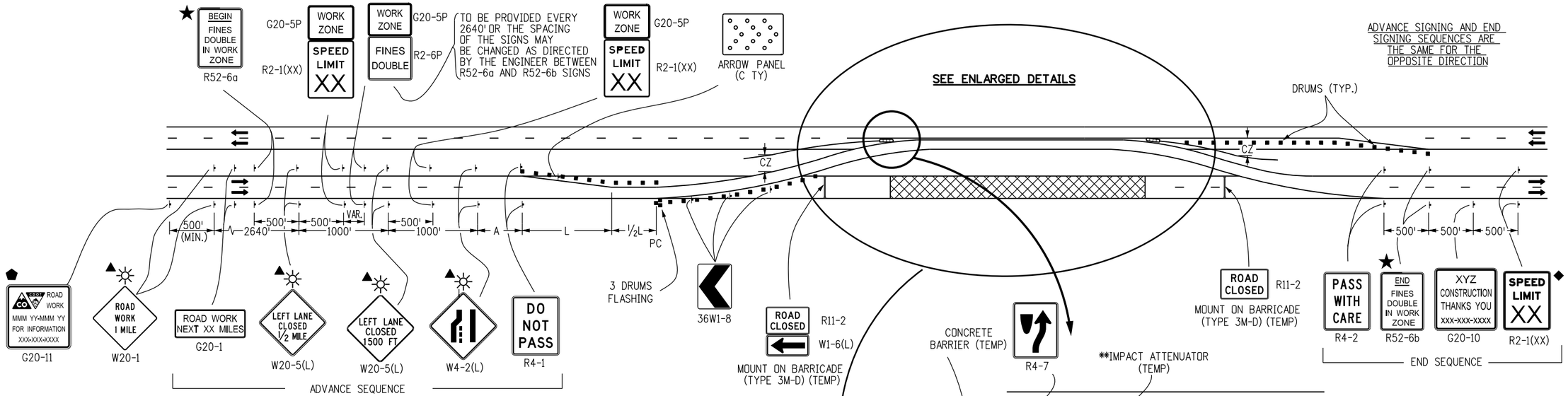
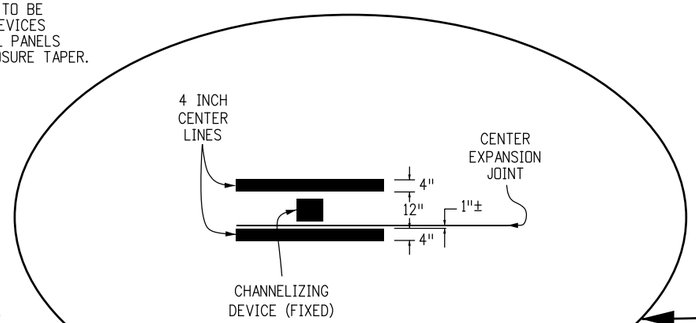


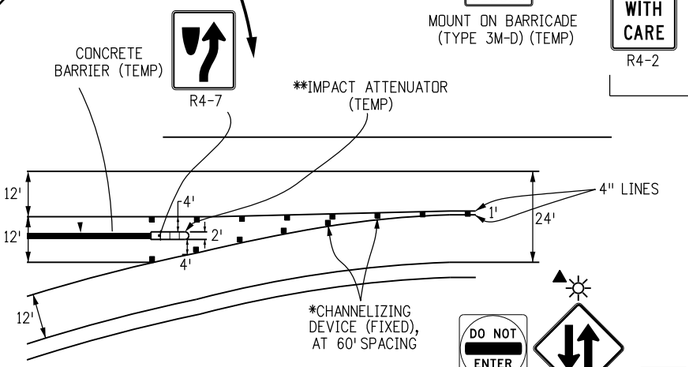
LEGEND

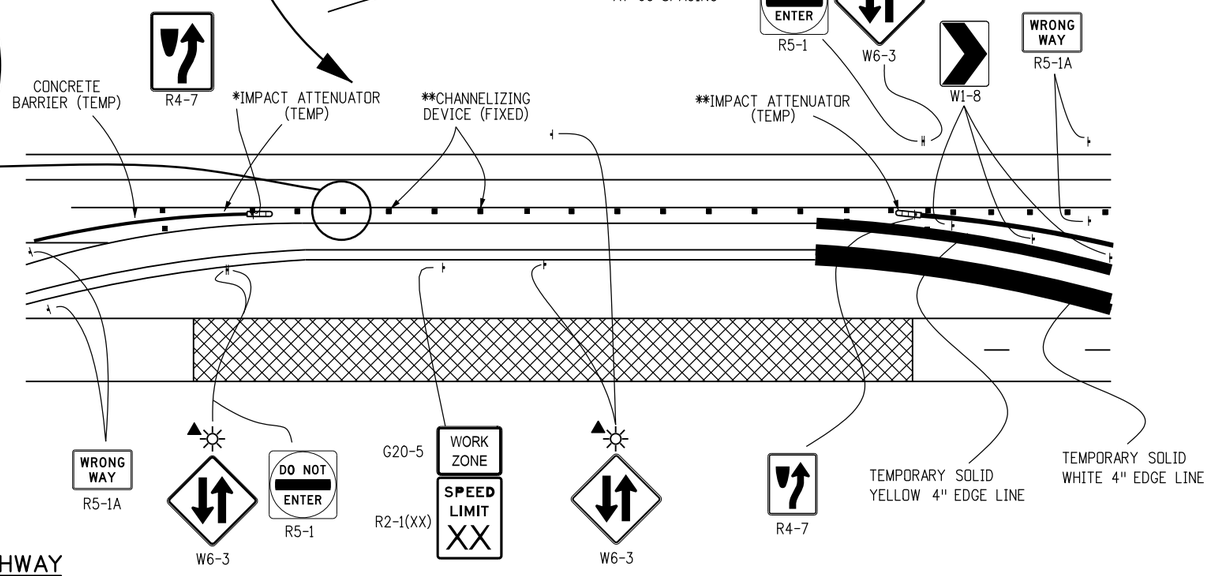
- ▪ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- DIRECTION OF TRAVEL
- WORK AREA
- L TRANSITION TAPER LENGTH:
  - L = MINIMUM LENGTH OF TAPER
  - SPEED 45 MPH OR MORE: $L = S \times W$
  - SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$
  - S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED
  - W = WIDTH OF OFFSET
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- A = 100' (URBAN LOW SPEED)
  - 350' (URBAN HIGH SPEED)
  - 500' (RURAL)
  - 1,000' (EXPRESSWAY / FREEWAY)
- CZ CLEAR ZONE (SEE GENERAL NOTE 16 ON SHEET 1).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- VAR. BUFFER SPACE (SEE GENERAL NOTE 21 ON SHEET 1).
- IMPACT ATTENUATOR AS DETAILED ON THE PLANS
- FLASHING BEACON



TYPICAL 2-WAY ZONE STRIPING

- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- * THESE ITEMS ARE NOT REQUIRED WHEN CONTINUOUS CONCRETE BARRIER IS USED FOR CHANNELIZATION.
- ** SEE GENERAL NOTE 16 ON SHEET 1.
- ⬟ G20-11 SIGN IS REQUIRED IF SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.





CASE NO. 1
TYPICAL APPLICATION
CLOSURE OF ONE ROADWAY 4-LANE DIVIDED HIGHWAY

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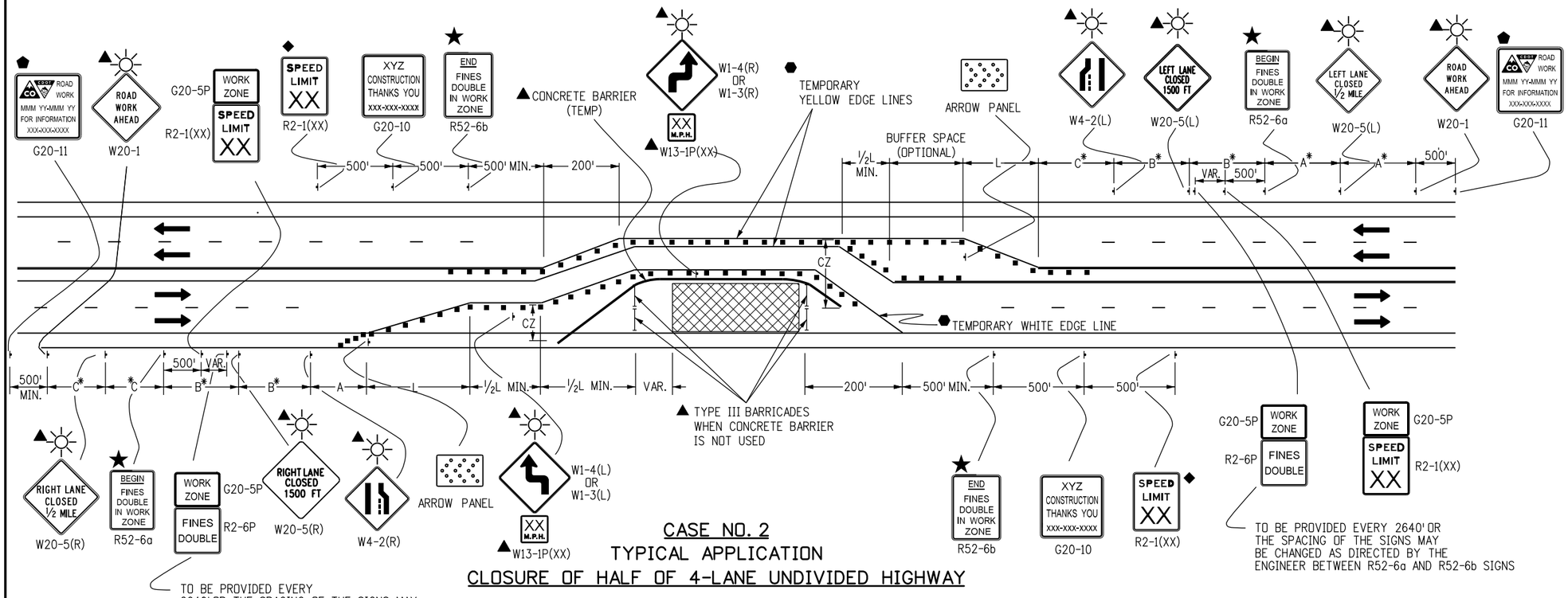
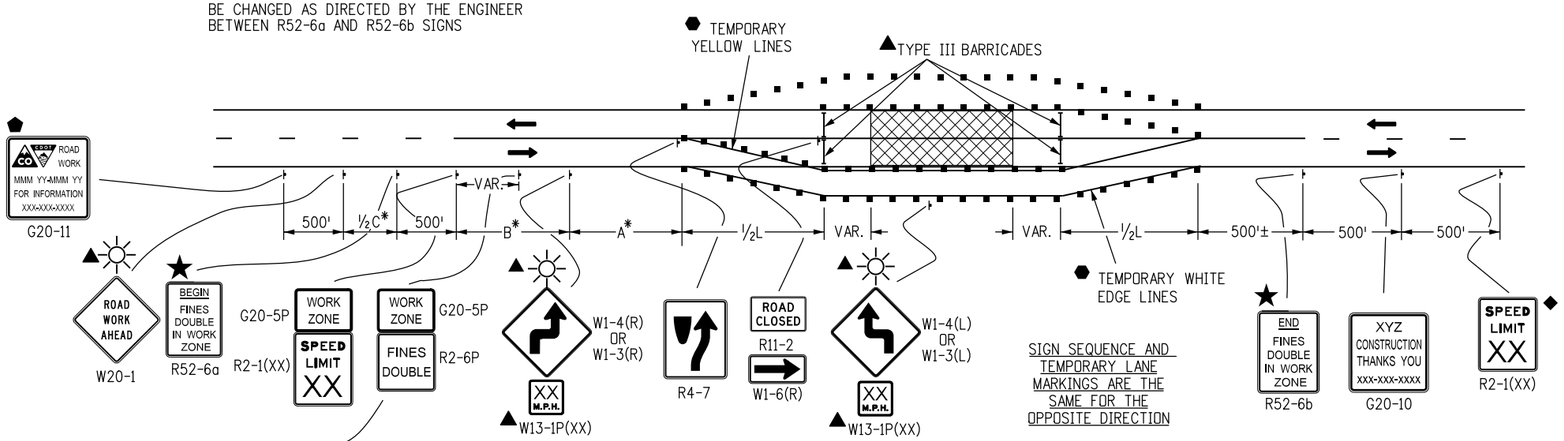


CASE NO. 2
TYPICAL APPLICATION
CLOSURE OF HALF OF 4-LANE UNDIVIDED HIGHWAY



CASE NO. 3
TYPICAL APPLICATION
ROAD CLOSURE, USE OF ADJACENT SHOULDERS

LEGEND

- ■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- TYPE III BARRICADE
- FLAGGER
- DIRECTION OF TRAVEL
- WORK AREA
- L TRANSITION TAPER LENGTH:
  - L = MINIMUM LENGTH OF TAPER
  - SPEED 45 MPH OR MORE: $L = S \times W$
  - SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$
  - S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED
  - W = WIDTH OF OFFSET
  - SHOULDER TAPER = 1/3 L
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
- A = 100' (URBAN LOW SPEED)
  350' (URBAN HIGH SPEED)
  500' (RURAL)
  1,000' (EXPRESSWAY / FREEWAY)
- CZ CLEAR ZONE (SEE GENERAL NOTE 16 ON SHEET 1)
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- VAR. BUFFER SPACE (SEE GENERAL NOTE 21 ON SHEET 1).
- ⬢ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- FLASHING BEACON
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

* KEY TO ADVANCE SIGNING DISTANCES

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (<=40 MPH)	100	100	100
URBAN (>=45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

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R-X		
R-X		

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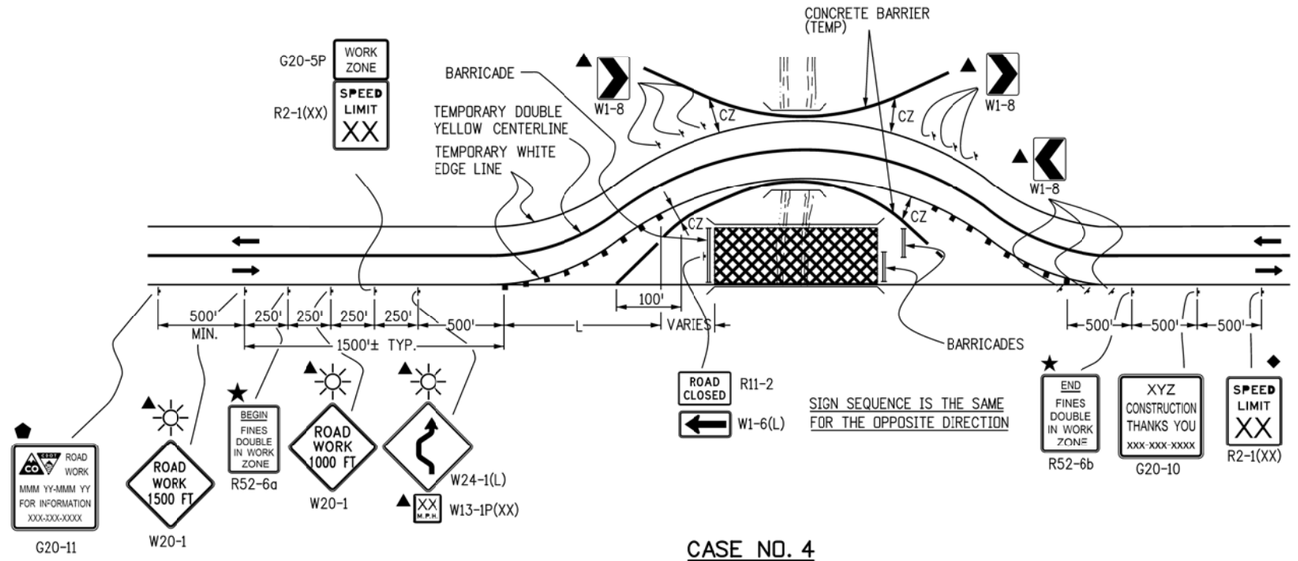
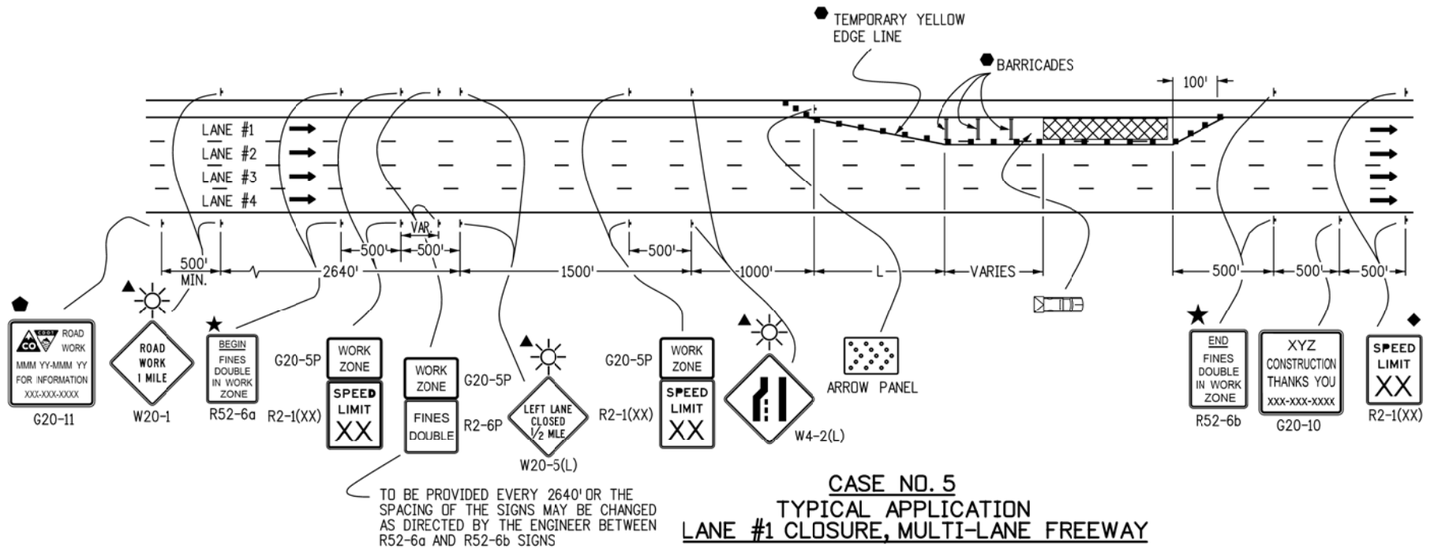


CASE NO. 4
TYPICAL APPLICATION
ROAD CLOSURE, BYPASS DETOUR PROVIDED



TO BE PROVIDED EVERY 2640' OR THE SPACING OF THE SIGNS MAY BE CHANGED AS DIRECTED BY THE ENGINEER BETWEEN R52-6a AND R52-6b SIGNS

CASE NO. 5
TYPICAL APPLICATION
LANE #1 CLOSURE, MULTI-LANE FREEWAY

LEGEND

- ▪ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
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  - W = WIDTH OF OFFSET
  - SHOULDER TAPER = 1/3 L
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- CZ — CLEAR ZONE (SEE GENERAL NOTE 16 ON SHEET 1).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- VARIES — BUFFER SPACE (SEE GENERAL NOTE 21 ON SHEET 1).
- ⬢ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- MOBILE ATTENUATOR
- FLASHING BEACON
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

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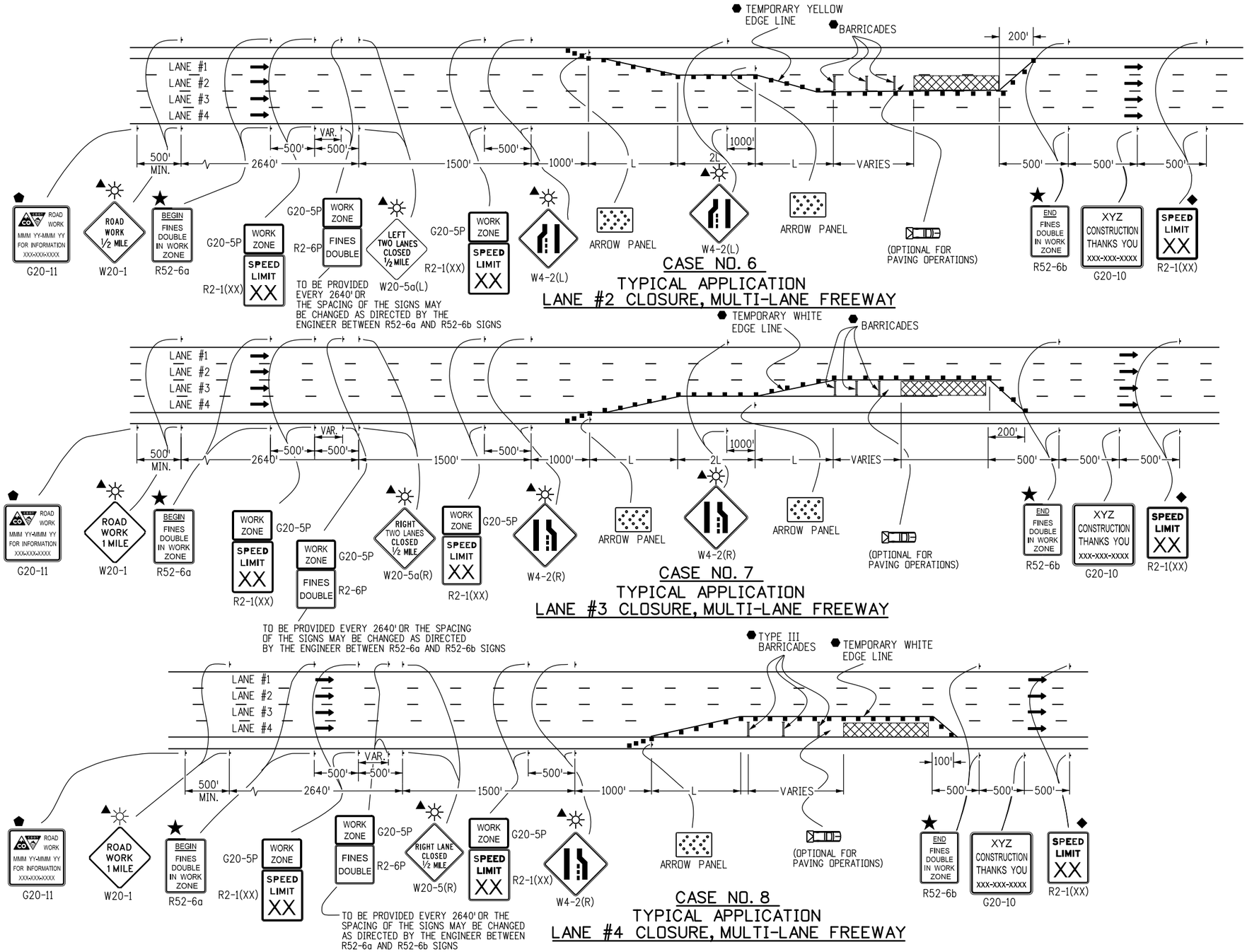

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- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- MOBILE ATTENUATOR
- FLASHING BEACON
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

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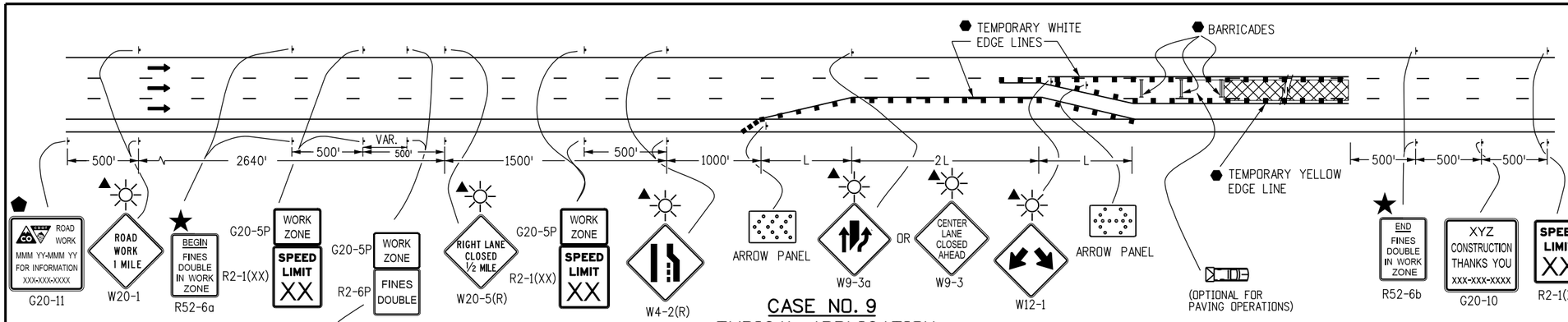
TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

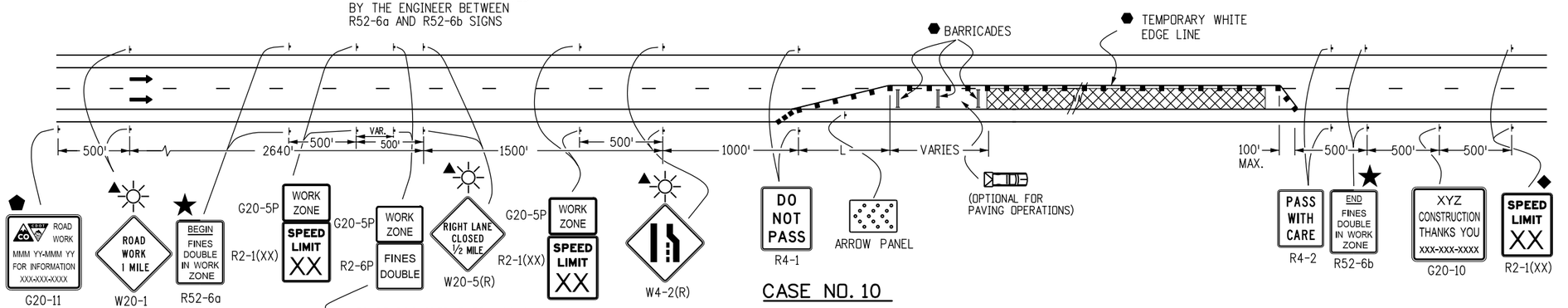
Issued By: Safety & Traffic Engineering Branch July 4, 2012

STANDARD PLAN NO.
S-630-1
Sheet No. 6 of 24



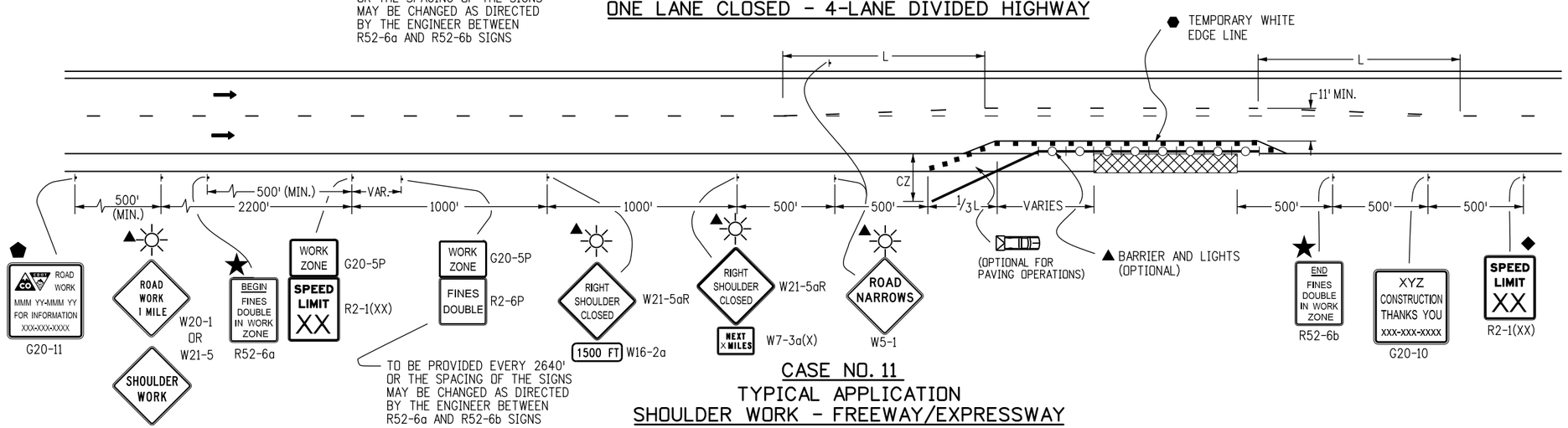
TO BE PROVIDED EVERY 2640' OR THE SPACING OF THE SIGNS MAY BE CHANGED AS DIRECTED BY THE ENGINEER BETWEEN R52-6a AND R52-6b SIGNS

CASE NO. 9
TYPICAL APPLICATION
CENTER LANE CLOSURE - MULTI-LANE FREEWAY



TO BE PROVIDED EVERY 2640' OR THE SPACING OF THE SIGNS MAY BE CHANGED AS DIRECTED BY THE ENGINEER BETWEEN R52-6a AND R52-6b SIGNS

CASE NO. 10
TYPICAL APPLICATION
ONE LANE CLOSED - 4-LANE DIVIDED HIGHWAY



TO BE PROVIDED EVERY 2640' OR THE SPACING OF THE SIGNS MAY BE CHANGED AS DIRECTED BY THE ENGINEER BETWEEN R52-6a AND R52-6b SIGNS

CASE NO. 11
TYPICAL APPLICATION
SHOULDER WORK - FREEWAY/EXPRESSWAY

LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- DIRECTION OF TRAVEL
- WORK AREA

L TRANSITION TAPER LENGTH:

L = MINIMUM LENGTH OF TAPER

SPEED 45 MPH OR MORE: $L = S \times W$

SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$

S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER = 1/3 L

- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- CZ CLEAR ZONE (SEE GENERAL NOTE 16 ON SHEET 1).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- FLASHING BEACON
- VARIES BUFFER SPACE (SEE GENERAL NOTE 21 ON SHEET 1).
- ⬢ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- MOBILE ATTENUATOR
- CONCRETE BARRIER (TEMPORARY) WITH LIGHTS
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

Computer File Information	
Creation Date: 07/04/12	Initials: RRR
Last Modification Date:	Initials:
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	
Drawing File Name: S-630-01_7of24.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions		
	Date:	Comments
R-1	05/19/16	ADDED "OPTIONAL FOR PAVING OPERATIONS" CHANGED TMA TO "MOBILE ATTENUATOR"
R-X		
R-X		
R-X		

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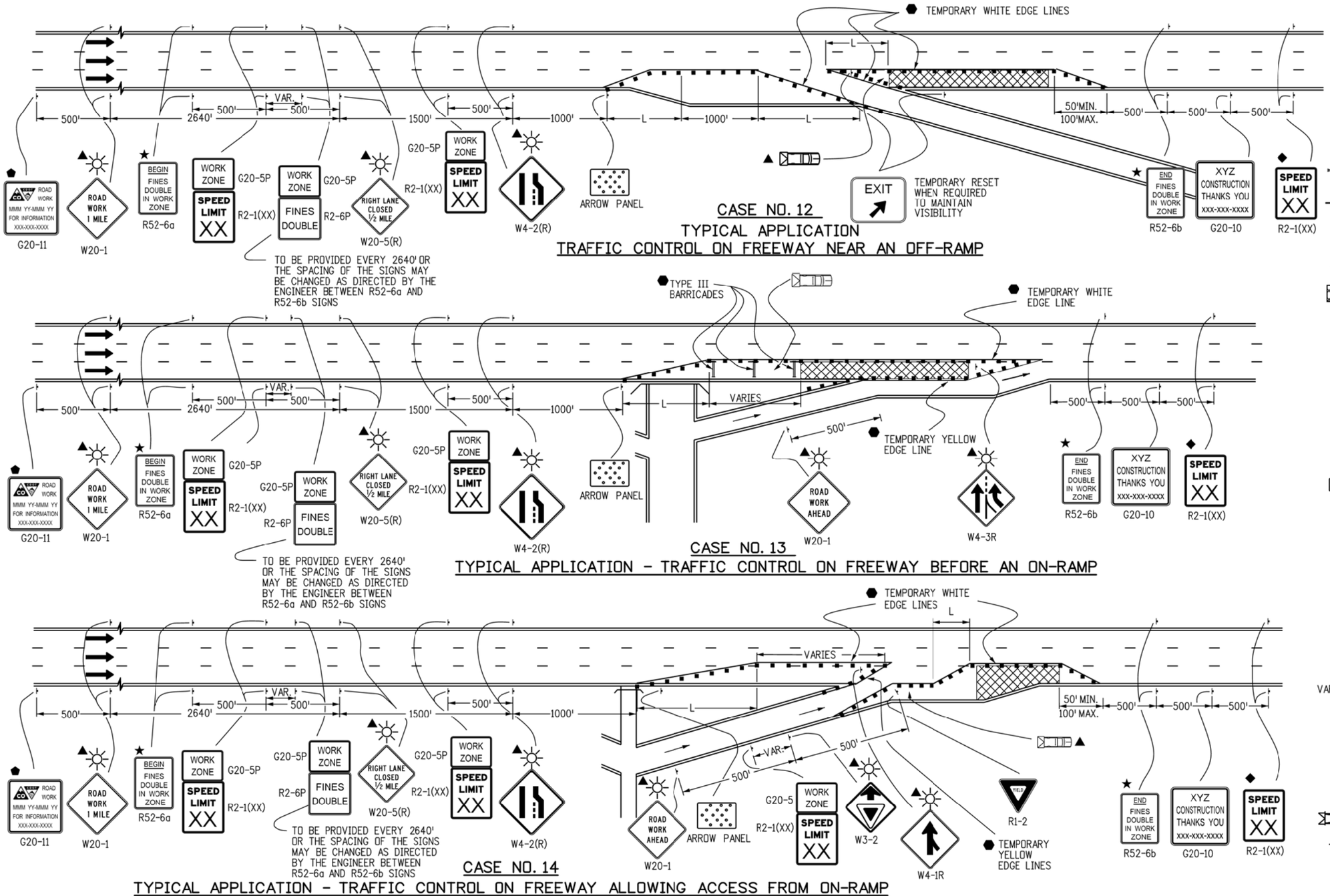

LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- DIRECTION OF TRAVEL
- WORK AREA

L TRANSITION TAPER LENGTH:

L = MINIMUM LENGTH OF TAPER

SPEED 45 MPH OR MORE: $L = S \times W$

SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$

S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER = 1/3 L

- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- CZ CLEAR ZONE (SEE GENERAL NOTE 16 ON SHEET 1).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- VARIES BUFFER SPACE (SEE GENERAL NOTE 21).
- ⬢ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- MOBILE ATTENUATOR
- FLASHING BEACON
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: KEN		Date:	Comments
Last Modification Date: Initials:	R-X		
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-X		
Drawing File Name: S-630-01_8of24.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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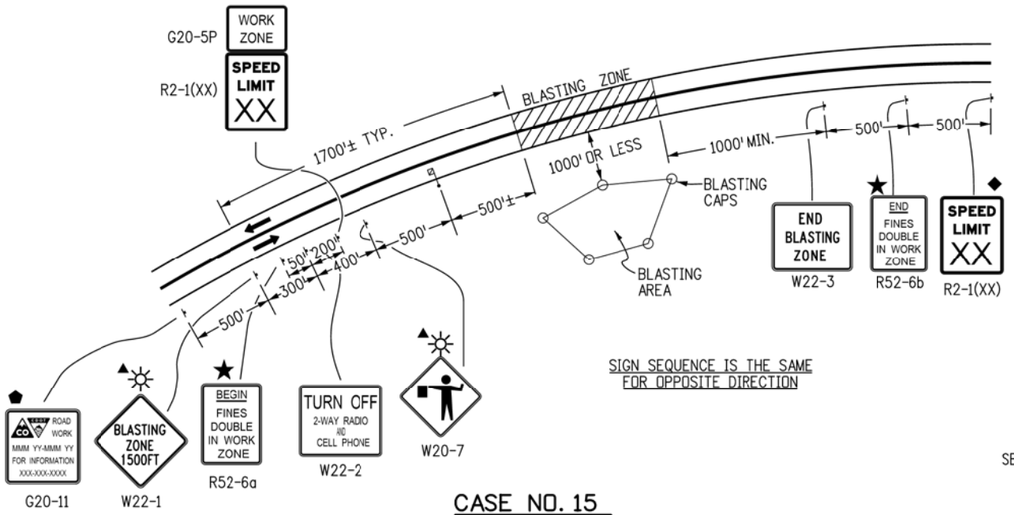
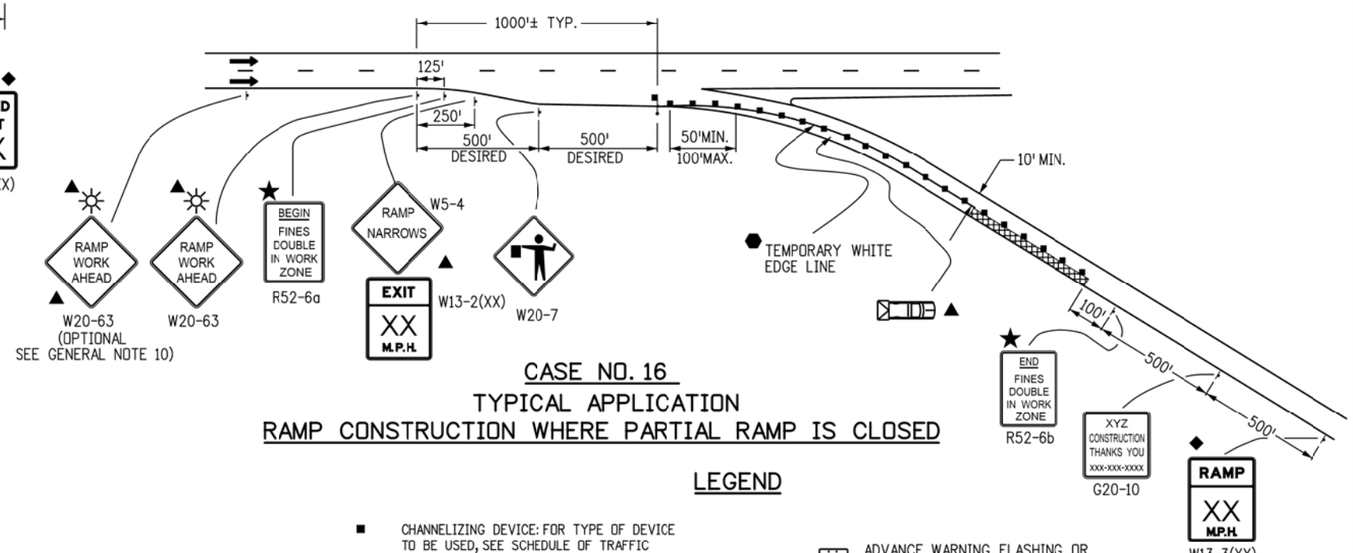
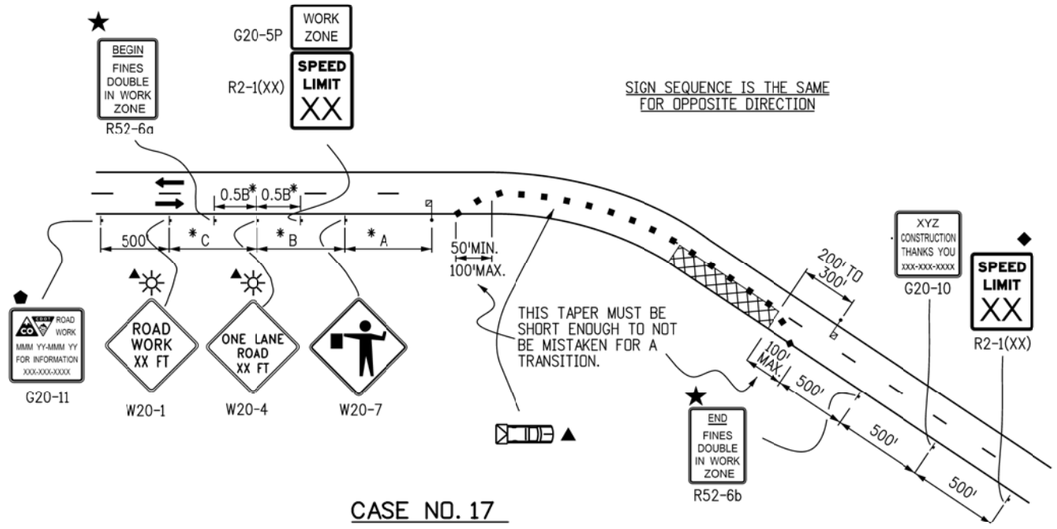


SIGN SEQUENCE IS THE SAME FOR OPPOSITE DIRECTION

CASE NO. 15
TYPICAL APPLICATION
BLASTING ZONE



CASE NO. 16
TYPICAL APPLICATION
RAMP CONSTRUCTION WHERE PARTIAL RAMP IS CLOSED



SIGN SEQUENCE IS THE SAME FOR OPPOSITE DIRECTION

CASE NO. 17
TYPICAL APPLICATION
LANE CLOSURE, 2-LANE HIGHWAY, AT CURVE

LEGEND

- ■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- DIRECTION OF TRAVEL
- WORK AREA
- L TRANSITION TAPER LENGTH:
  - L = MINIMUM LENGTH OF TAPER
  - SPEED 45 MPH OR MORE: L = S x W
  - SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$
  - S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED
  - W = WIDTH OF OFFSET
  - SHOULDER TAPER = 1/3 L
- MOBILE ATTENUATOR
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- CZ CLEAR ZONE (SEE GENERAL NOTE 16 ON SHEET 1).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- FLASHING BEACON
- ● REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.

*KEY TO ADVANCE SIGNING DISTANCES

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (<= 40 MPH)	100	100	100
URBAN (>= 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information		
Creation Date: 07/04/12	Initials: RRR	
Last Modification Date: 07/26/13	Initials: KEN	R-4
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans		R-X
Drawing File Name: S-630-01_9of24.dgn		R-X
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Sheet Revisions	
Date:	Comments
07/26/13	CORRECTED SIGN CODE DESIGNATION FOR FLAGGER (SYMBOL) SIGN TO W20-7

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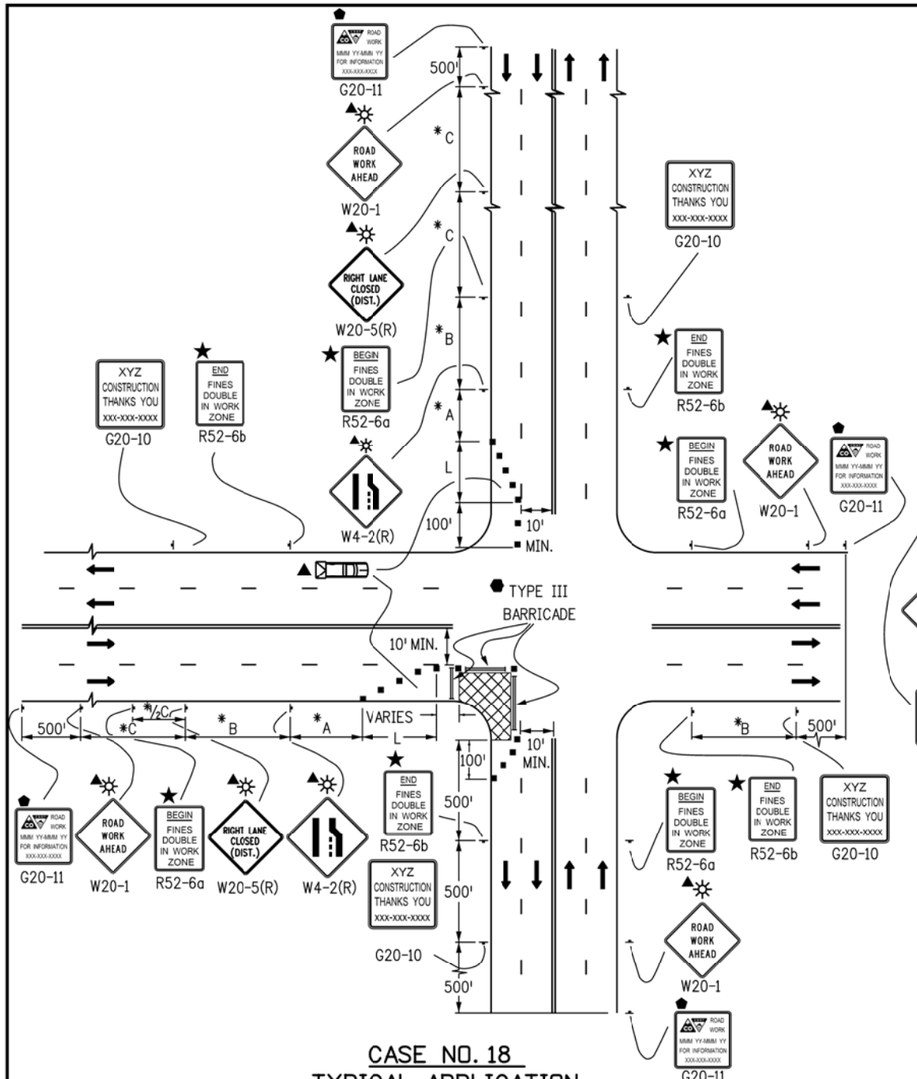
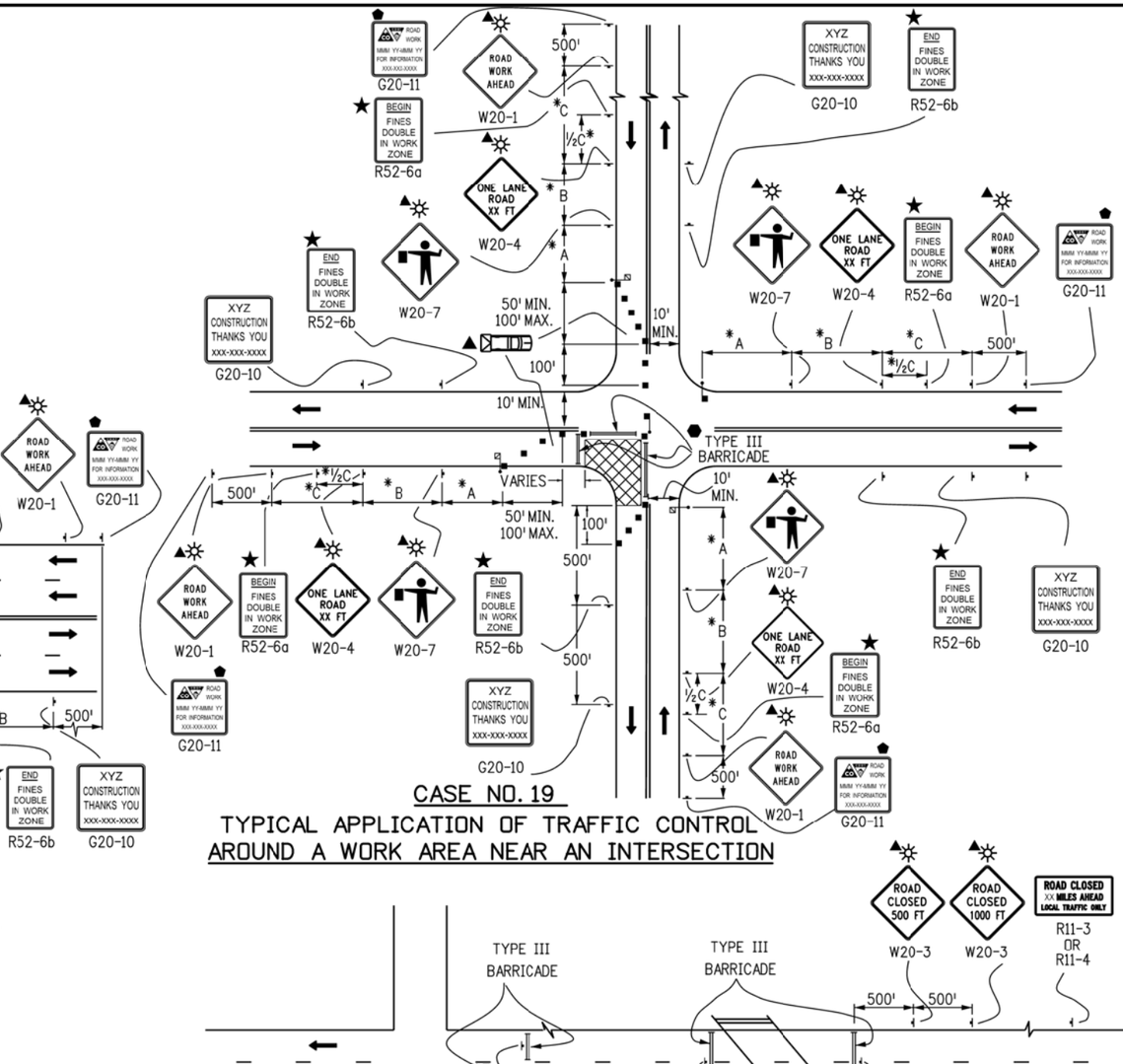
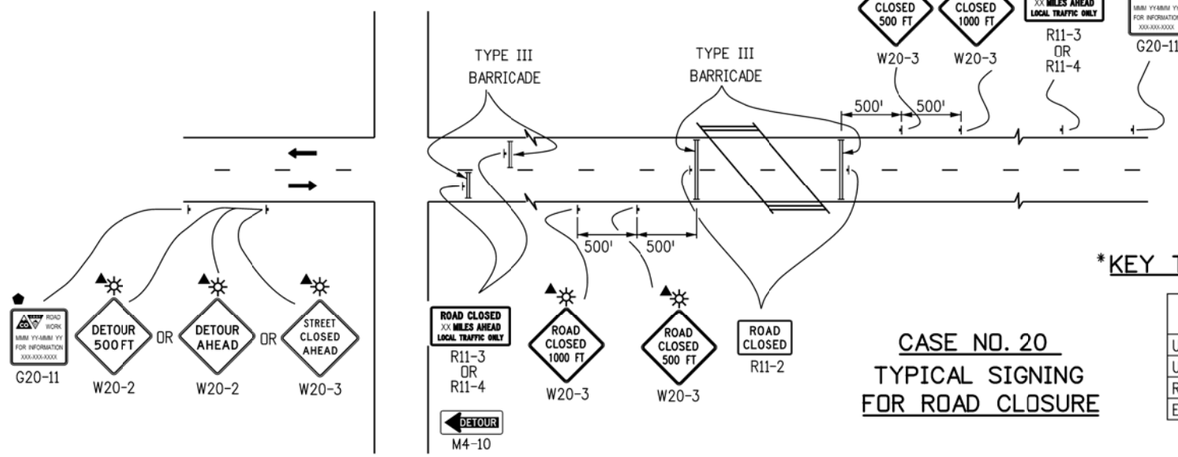


CASE NO. 18
TYPICAL APPLICATION TRAFFIC CONTROL AROUND A WORK AREA NEAR AN INTERSECTION, ONE LANE CLOSED



CASE NO. 19
TYPICAL APPLICATION OF TRAFFIC CONTROL AROUND A WORK AREA NEAR AN INTERSECTION



CASE NO. 20
TYPICAL SIGNING FOR ROAD CLOSURE

NOTES:

1. SIGN PLACEMENT SHOWN ON CASES 18 AND 19 TYPIFIES RURAL APPLICATIONS. URBAN APPLICATIONS REQUIRE THE SIGNS TO BE PLACED WITHIN ONE, OR PERHAPS TWO, BLOCKS.
2. TRUCK-MOUNTED ATTENUATORS (TMA) OPTIONAL FOR ALL CASES AS DETERMINED BY THE ENGINEER.

LEGEND

- ■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- DIRECTION OF TRAVEL
- WORK AREA
- L TRANSITION TAPER LENGTH:
  - L = MINIMUM LENGTH OF TAPER
  - SPEED 45 MPH OR MORE: L = S x W
  - SPEED 40 MPH OR LESS: L = $\frac{WS^2}{60}$
  - S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED
  - W = WIDTH OF OFFSET
  - SHOULDER TAPER = 1/3 L
- MOBILE ATTENUATOR
- CZ CLEAR ZONE (SEE GENERAL NOTE 16).
- FLASHING BEACON
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- VARIES BUFFER SPACE (SEE GENERAL NOTE 21 ON SHEET 1).
- ⬟ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.

*KEY TO ADVANCE SIGNING DISTANCES

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (<= 40 MPH)	100	100	100
URBAN (>= 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information	
Creation Date: 07/04/12	Initials: RRR
Last Modification Date: 04/02/2015	Initials: TCD
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	
Drawing File Name: S-630-01_10of24.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	

	Sheet Revisions	
	Date:	Comments
R-4	07/26/13	CORRECTED SIGN CODE DESIGNATION FOR FLAGGER (SYMBOL) SIGN TO W20-7
R-5	04/02/20	CORRECTED SIGN CODE DESIGNATION FOR ROAD WORK AHEAD SIGN TO W20-1
R-X		
R-X		

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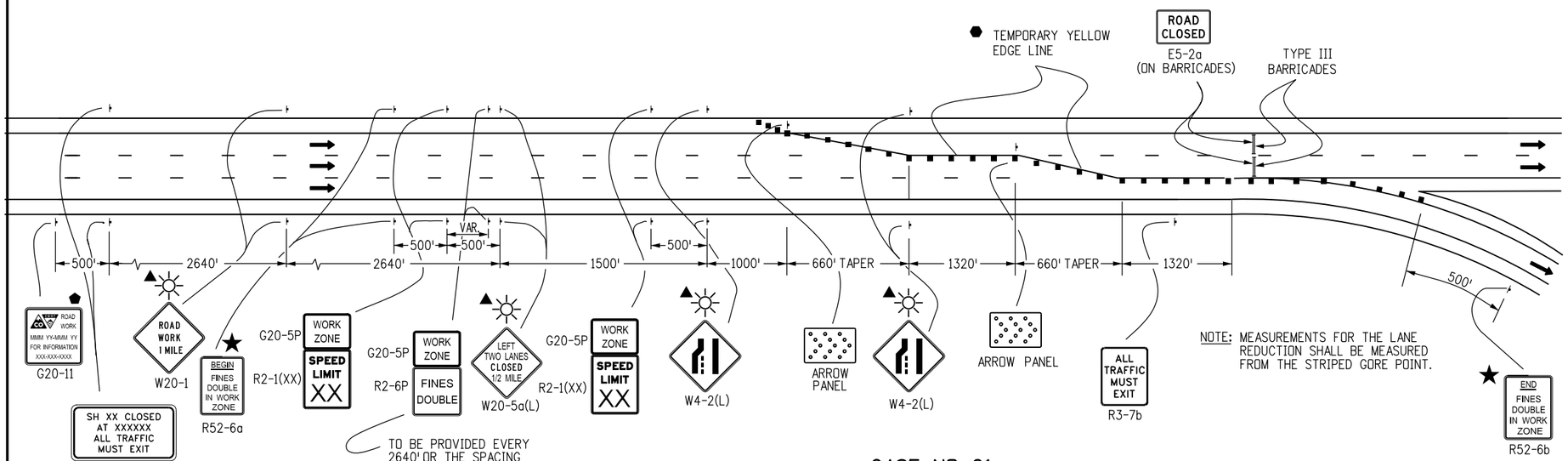
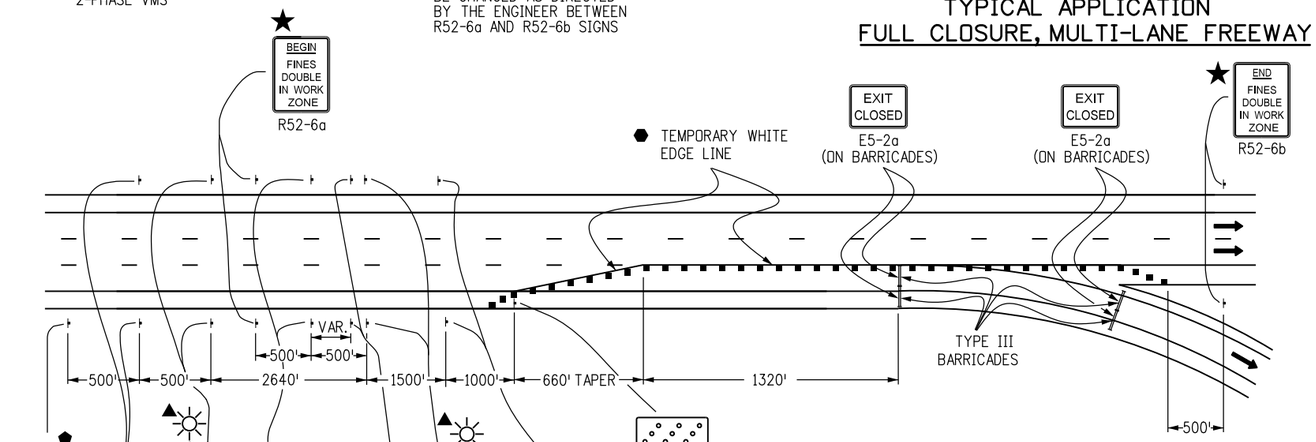
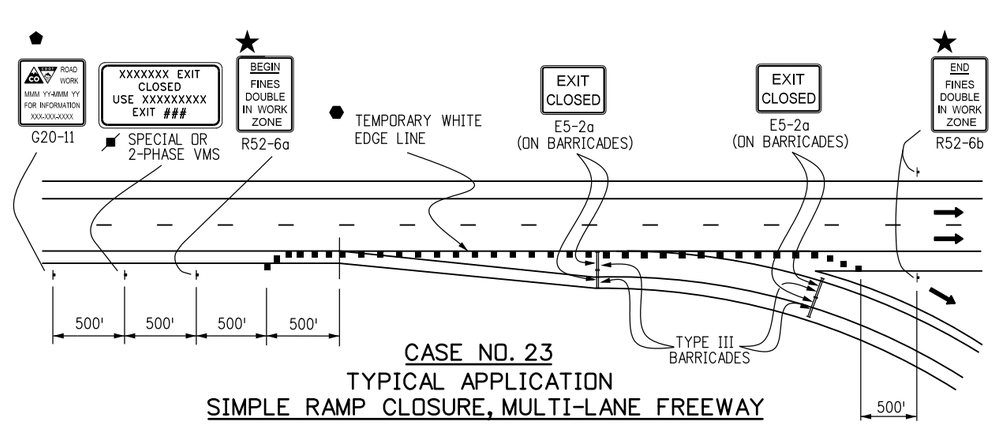


CASE NO. 21
TYPICAL APPLICATION
FULL CLOSURE, MULTI-LANE FREEWAY



CASE NO. 22
TYPICAL APPLICATION
CONTINUOUS LANE RAMP CLOSURE, MULTI-LANE FREEWAY



CASE NO. 23
TYPICAL APPLICATION
SIMPLE RAMP CLOSURE, MULTI-LANE FREEWAY

LEGEND

- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED WILL BE DETERMINED BY THE DESIGNER BASED ON DETOUR DESIGN AND/OR SCOPE OF THE CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE PLANS.
- ⬢ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- ■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- TYPE III BARRICADE
- DIRECTION OF TRAVEL
- L TRANSITION TAPER LENGTH:
  - L = MINIMUM LENGTH OF TAPER
  - SPEED 45 MPH OR MORE: $L = S \times W$
  - SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$
  - S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED
  - W = WIDTH OF OFFSET
  - SHOULDER TAPER = 1/3 L
- CLOSURE AND EXIT MESSAGES ON SIGN LEGEND(S) SHOULD BE MODIFIED TO FIT THE SITUATION.
- FLASHING BEACON
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

NOTES

1. NOTICE OF EXIT CLOSURE SHALL ALSO BE GIVEN IN ADVANCE OF THE PREVIOUS EXIT TO PROVIDE MOTORISTS WITH THE OPTION TO EXIT AT THAT LOCATION.
2. ADDITIONAL SIGNING TO REDIRECT DETOURED TRAFFIC SHALL BE PROVIDED FOR IN THE PROJECT'S METHOD OF HANDLING TRAFFIC.
3. FOR LONG TERM SETUPS, A BLACK ON ORANGE "EXIT CLOSED" (E5-2a) PANEL SHALL BE MOUNTED DIAGONALLY ACROSS ALL EXISTING GUIDE SIGNS THAT PERTAIN TO THE CLOSED EXIT.

Computer File Information		Sheet Revisions	
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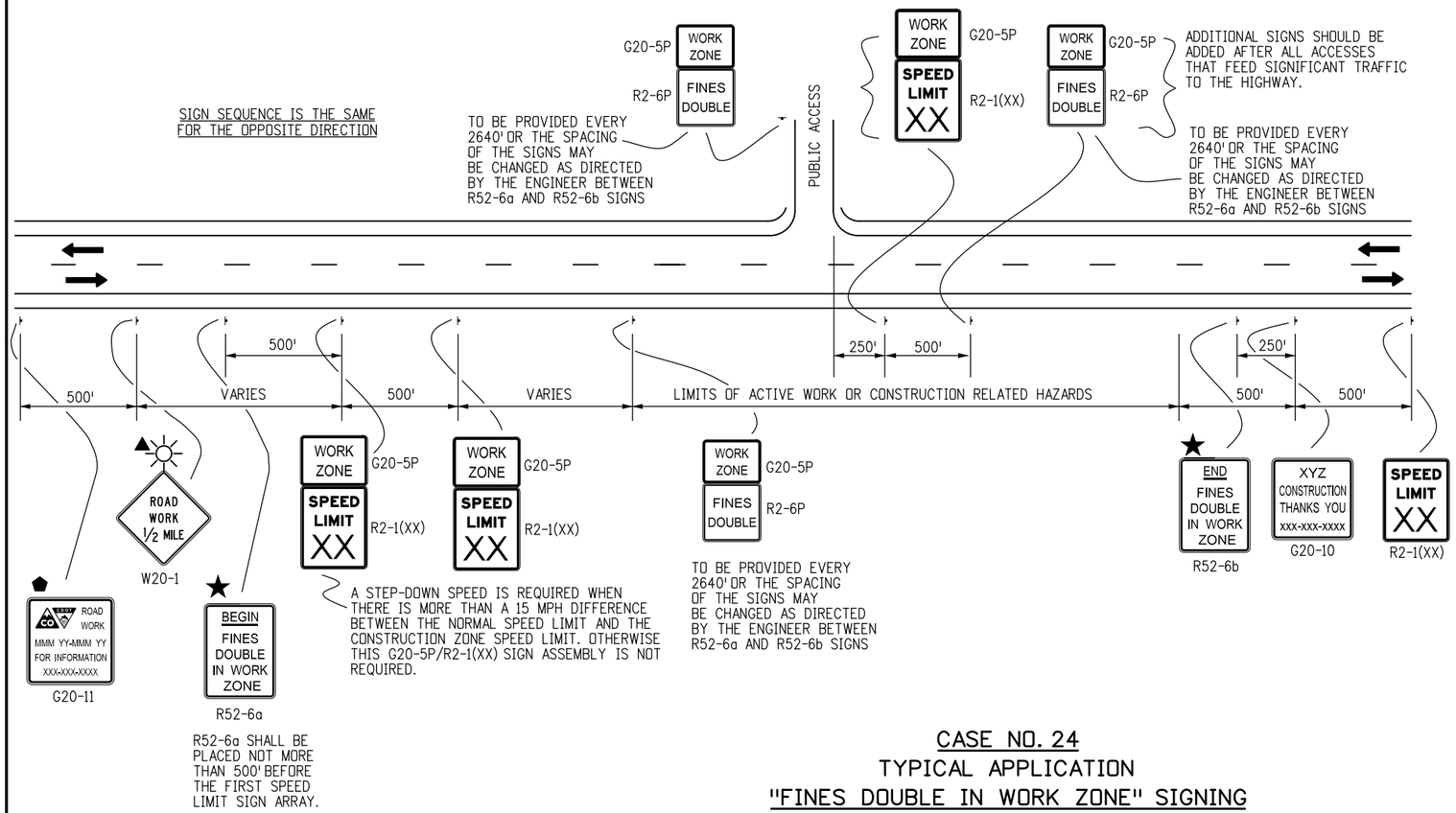

LEGEND

- DIRECTION OF TRAVEL
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED WILL BE DETERMINED BY THE DESIGNER BASED ON DETOUR DESIGN AND/OR SCOPE OF THE CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE PLANS.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- FLASHING BEACON
- ★ FINES DOUBLE SIGNING NOTES, SEE BELOW

FINES DOUBLE SIGNING NOTES:

1. SIGNS SHALL NOT BE PLACED SOONER THAN FOUR HOURS BEFORE WORK IS TO BEGIN AND SHALL BE REMOVED AS SOON AS WORK ACTIVITIES ARE CONCLUDED, UNLESS POTENTIAL HAZARDS INTRODUCED AS A RESULT OF THE WORK ARE STILL PRESENT AT THE END OF THE WORK DAY. IF SIGNS ARE LEFT IN PLACE AFTER WORK ACTIVITIES, THE TRAFFIC CONTROL SUPERVISOR SHALL MAKE AN ENTRY IN THEIR DAILY DIARY THAT JUSTIFIES THEIR USE.

   "HAZARDS" INCLUDE BUT ARE NOT LIMITED TO:
   - EDGE DROP OFFS
   - EQUIPMENT, WORKERS OR NON-SHIELDED OBJECTS IN THE CLEAR ZONE
   - ROUGH PAVEMENT
   - MAJOR CHANGE IN ALIGNMENT
   - REDUCED SHOULDER WIDTH
   - TEMPORARY GUARD RAIL OR BARRIER
   - LANE CLOSURE

2. SIGNS SHALL ONLY BE PLACED WHERE WORKERS ARE PRESENT IN THE ROADWAY OR CLEAR ZONE OR ARE AT RISK, OR WHERE THERE ARE HAZARDS IN THE TRAVELWAY, SHOULDERS OR CLEAR ZONE.

3. SIGNS SHOULD BE PLACED SO THAT MOTORISTS IMMEDIATELY ASSOCIATE THE SIGNS WITH PRESENT WORK ACTIVITIES. IF THE ZONE OF WORK ACTIVITY MOVES, THE SIGNS SHOULD BE MOVED ACCORDINGLY.

4. SIGNING SHOWN IS REQUIRED TO ENFORCE DOUBLE FINES IN A WORK ZONE. ADDITIONAL SIGNING SHALL BE IN ACCORDANCE WITH THAT NORMALLY REQUIRED FOR THE PARTICULAR WORK ZONE. PLACEMENT OF "FINES DOUBLE" SIGNING MAY BE ADJUSTED AS NEEDED TO PROVIDE A MINIMUM 250' SPACING BETWEEN OTHER SIGNING REQUIRED FOR THE SPECIFIC WORK ZONE SETUP.

CASE NO. 24
TYPICAL APPLICATION
"FINES DOUBLE IN WORK ZONE" SIGNING
(WITH SPEED REDUCTION)

Computer File Information		Sheet Revisions	
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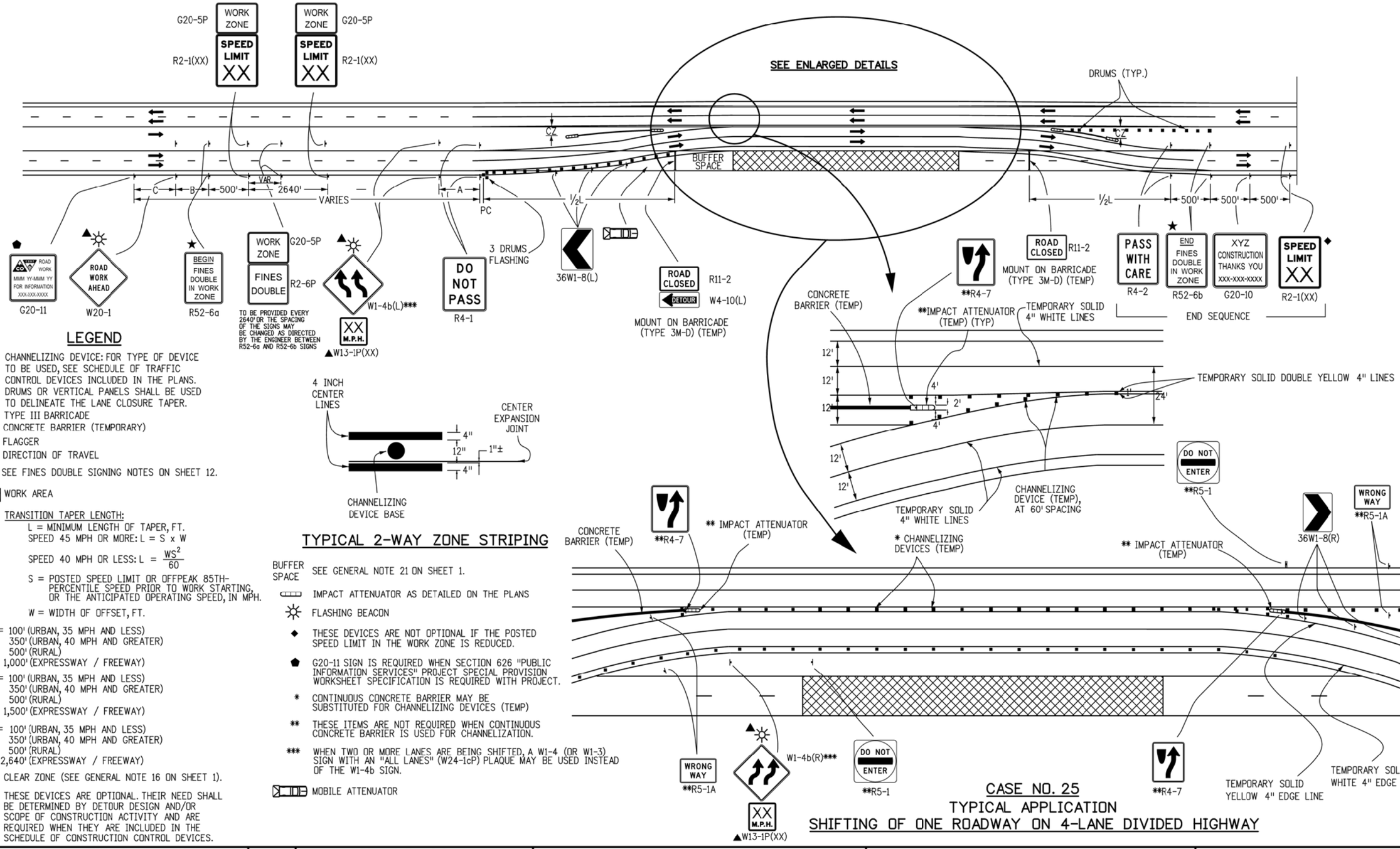

LEGEND

- ▪ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- ⊢ TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- DIRECTION OF TRAVEL
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.
- WORK AREA
- L TRANSITION TAPER LENGTH:
  - L = MINIMUM LENGTH OF TAPER, FT.
  - SPEED 45 MPH OR MORE: $L = S \times W$
  - SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$
  - S = POSTED SPEED LIMIT OR OFFPEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED, IN MPH.
  - W = WIDTH OF OFFSET, FT.
- A = 100' (URBAN, 35 MPH AND LESS); 350' (URBAN, 40 MPH AND GREATER); 500' (RURAL); 1,000' (EXPRESSWAY / FREEWAY)
- B = 100' (URBAN, 35 MPH AND LESS); 350' (URBAN, 40 MPH AND GREATER); 500' (RURAL); 1,500' (EXPRESSWAY / FREEWAY)
- C = 100' (URBAN, 35 MPH AND LESS); 350' (URBAN, 40 MPH AND GREATER); 500' (RURAL); 2,640' (EXPRESSWAY / FREEWAY)
- CZ CLEAR ZONE (SEE GENERAL NOTE 16 ON SHEET 1).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

TYPICAL 2-WAY ZONE STRIPING

- BUFFER SPACE — SEE GENERAL NOTE 21 ON SHEET 1.
- IMPACT ATTENUATOR AS DETAILED ON THE PLANS
- FLASHING BEACON
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- * CONTINUOUS CONCRETE BARRIER MAY BE SUBSTITUTED FOR CHANNELIZING DEVICES (TEMP)
- ** THESE ITEMS ARE NOT REQUIRED WHEN CONTINUOUS CONCRETE BARRIER IS USED FOR CHANNELIZATION.
- *** WHEN TWO OR MORE LANES ARE BEING SHIFTED, A W1-4 (OR W1-3) SIGN WITH AN "ALL LANES" (W24-1cP) PLAQUE MAY BE USED INSTEAD OF THE W1-4b SIGN.
- MOBILE ATTENUATOR

CASE NO. 25
TYPICAL APPLICATION
SHIFTING OF ONE ROADWAY ON 4-LANE DIVIDED HIGHWAY

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: RRR		Date:	Comments
Last Modification Date: 02/06/13 Initials: KEN	R-1	02/06/13	UPDATE TO 2009 MUTCD STANDARD
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-X		
Drawing File Name: S-630-01_13of24.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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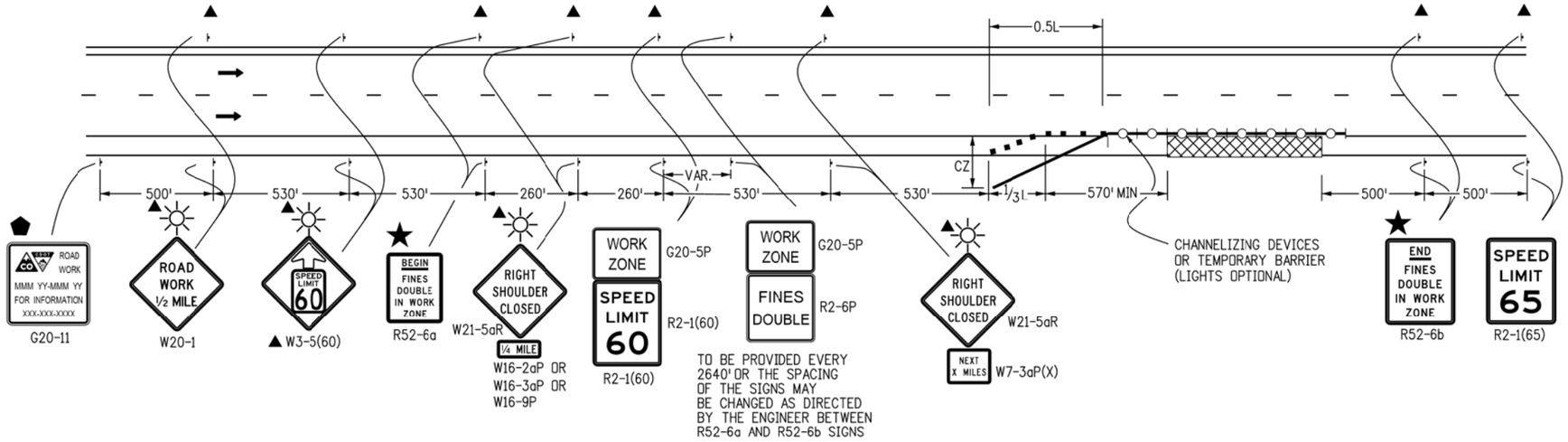
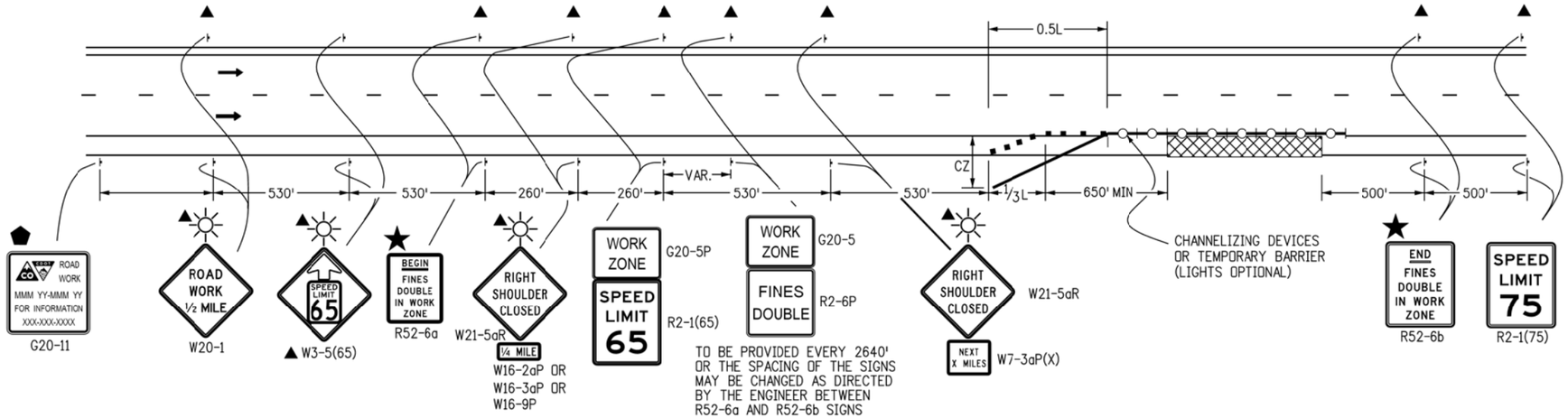


CASE NO. 26
TYPICAL APPLICATION
SHOULDER WORK - FREEWAY/EXPRESSWAY w/ 65 MPH SPEED LIMIT

WHEN HAZARDS (WORKERS, EQUIPMENT, OR TEMPORARY BARRIER) ARE WITHIN 8 FT OF TRAVEL WAY



CASE NO. 27
TYPICAL APPLICATION
SHOULDER WORK - FREEWAY/EXPRESSWAY w/ 75 MPH SPEED LIMIT

WHEN HAZARDS (WORKERS, EQUIPMENT, OR TEMPORARY BARRIER) ARE WITHIN 10 FT OF TRAVEL WAY

LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- DIRECTION OF TRAVEL
- WORK AREA
- L — TRANSITION TAPER LENGTH:
  - L = MINIMUM LENGTH OF TAPER
  - SPEED 45 MPH OR MORE: L = S x W
  - S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED
  - W = WIDTH OF OFFSET
  - SHOULDER TAPER = 1/3 L
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- CZ — CLEAR ZONE (SEE GENERAL NOTE 16 ON SHEET 1).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY TRAFFIC VOLUMES AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- MOBILE ATTENUATOR
- FLASHING BEACON
- SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: RRR		Date:	Comments
Last Modification Date: Initials:	R-X		
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-X		
Drawing File Name: S-630-01_14of24.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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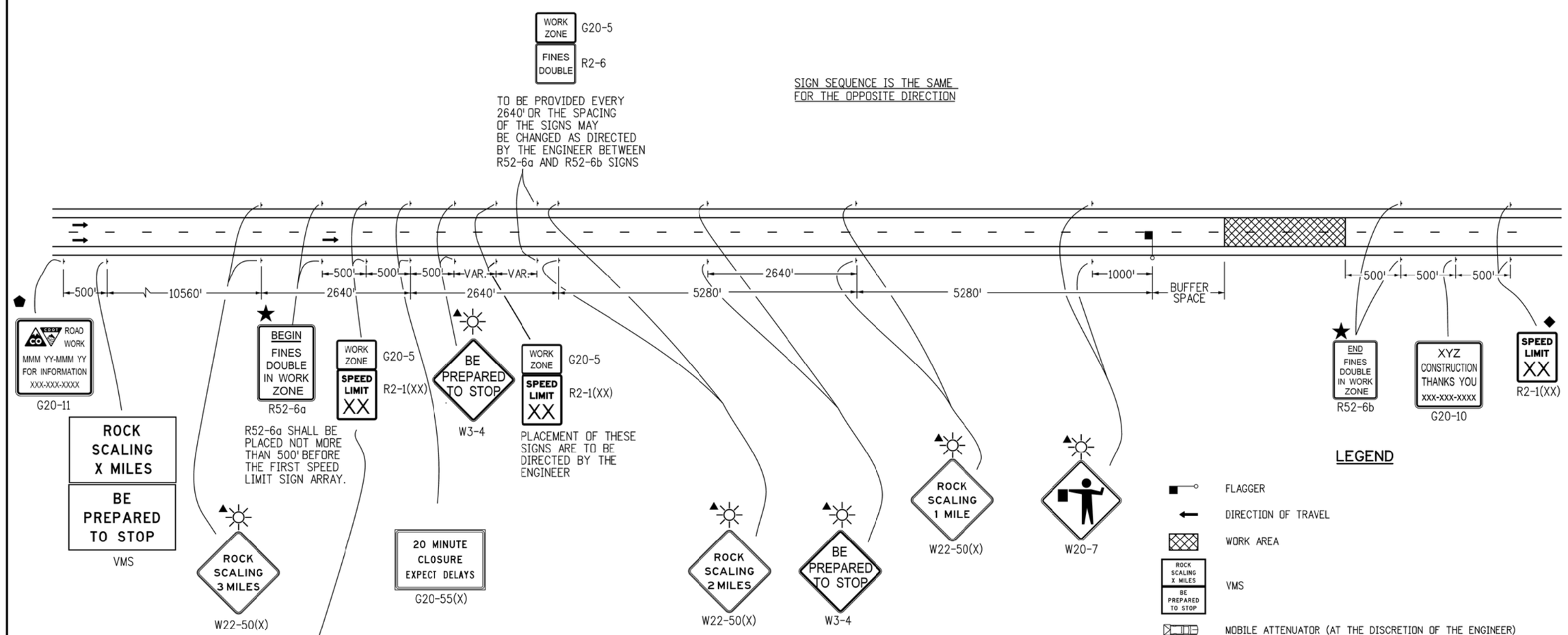

CASE NO. 28
TYPICAL APPLICATION
ROCK SCALING - ROAD CLOSURE, 4-LANE DIVIDED HIGHWAY

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: RRR		Date:	Comments
Last Modification Date: 07/26/13 Initials: KEN	R-4	07/26/13	CORRECTED SIGN CODE DESIGNATION FOR FLAGGER (SYMBOL) SIGN TO W20-7
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-X		
Drawing File Name: S-630-01_15of24.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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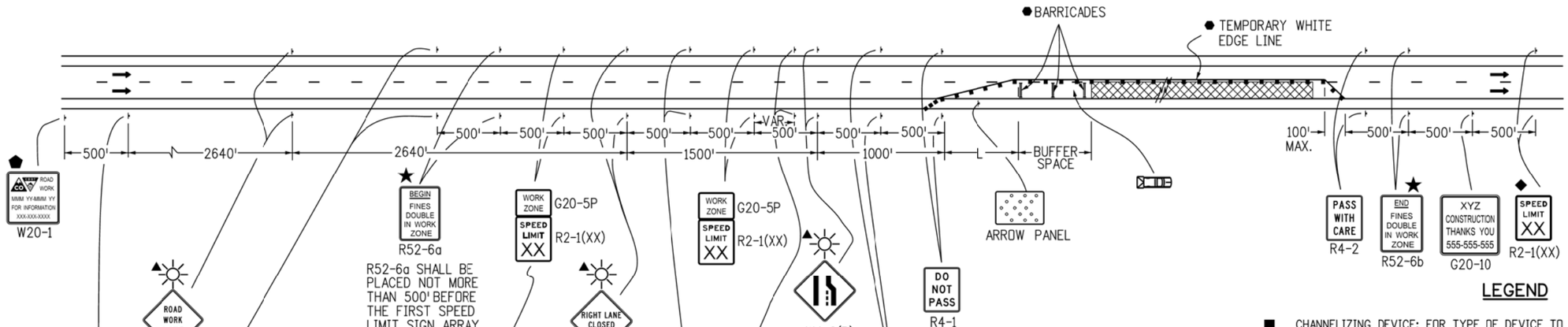

R52-6a SHALL BE PLACED NOT MORE THAN 500' BEFORE THE FIRST SPEED LIMIT SIGN ARRAY.

A STEP-DOWN SPEED LIMIT IS REQUIRED WHEN THERE IS MORE THAN A 15 MPH DIFFERENCE BETWEEN THE NORMAL SPEED LIMIT AND THE CONSTRUCTION ZONE SPEED LIMIT. OTHERWISE THIS G20-5P/R2-1(XX) SIGN ASSEMBLY IS NOT REQUIRED.

TO BE PROVIDED EVERY 2640' OR THE SPACING OF THE SIGNS MAY BE CHANGED AS DIRECTED BY THE ENGINEER BETWEEN R52-6a AND R52-6b SIGNS

CASE NO. 29
TYPICAL APPLICATION
LATE MERGING - ONE LANE CLOSED, 4-LANE DIVIDED HIGHWAY

LEGEND

■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 26), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.

TYPE III BARRICADE

DIRECTION OF TRAVEL

WORK AREA

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.

▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.

⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.

FLASHING BEACON

⬟ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

MOBILE ATTENUATOR

L TRANSITION TAPER LENGTH:

L = MINIMUM LENGTH OF TAPER

SPEED 45 MPH OR MORE: $L = S \times W$

SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$

S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER = 1/3 L

BUFFER SPACE — SEE GENERAL NOTE 21 ON SHEET 1.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: RRR		Date:	Comments
Last Modification Date: Initials:	R-1	06/23/16	IN LEGEND UNDER CHANNELIZING DEVICE UPDATED "NOTE 25" TO "NOTE 26"
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-X		
Drawing File Name: S-630-01_16of24.dgn	R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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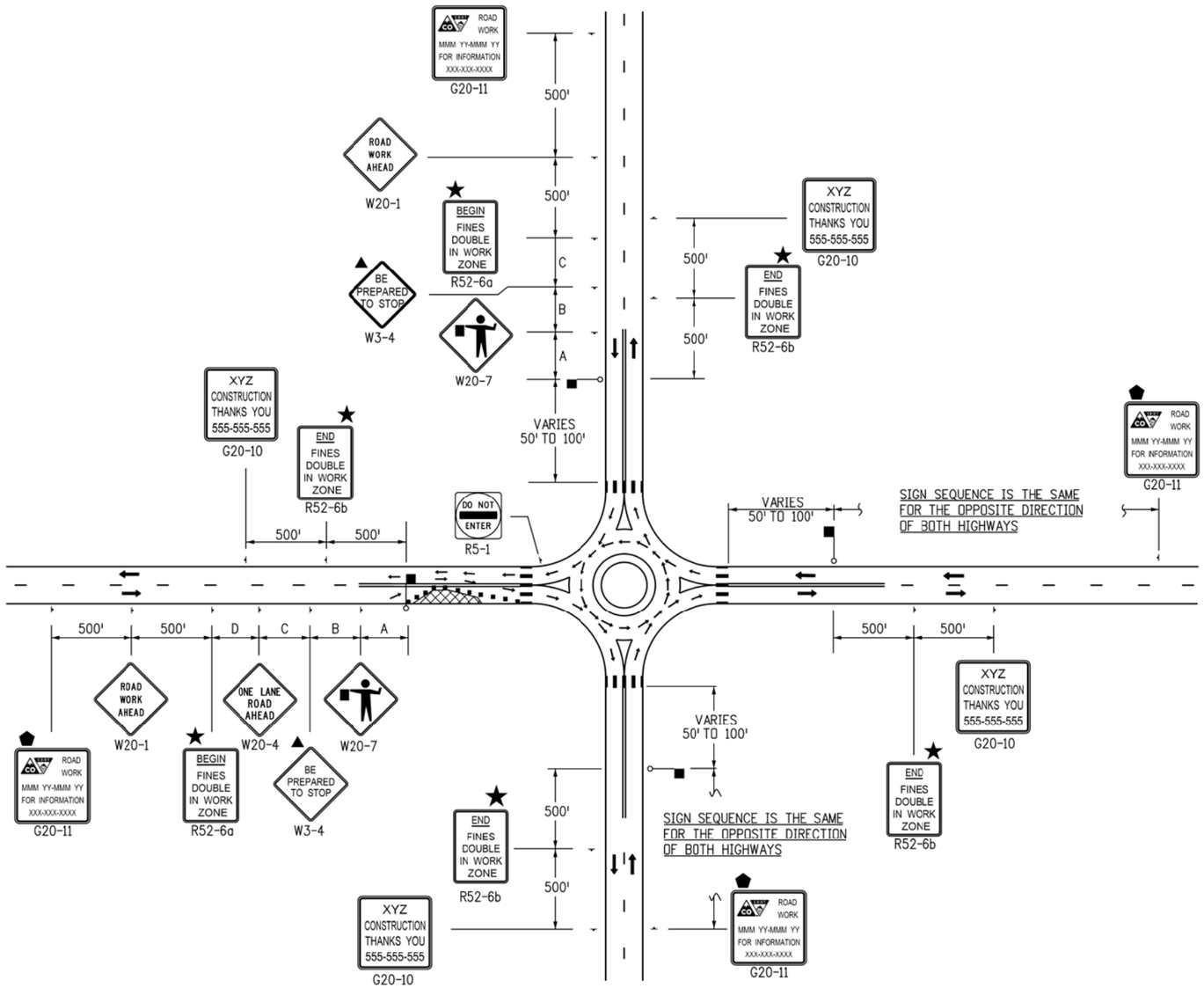

LEGEND

- ■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 26), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.
- TYPE III BARRICADE
- DIRECTION OF TRAVEL
- WORK AREA
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- ⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.
- FLASHING BEACON
- ⬟ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.
- MOBILE ATTENUATOR
- L TRANSITION TAPER LENGTH:

  L = MINIMUM LENGTH OF TAPER

  SPEED 45 MPH OR MORE: $L = S \times W$

  SPEED 40 MPH OR LESS: $L = \frac{WS^2}{60}$

  S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

  W = WIDTH OF OFFSET

  SHOULDER TAPER = 1/3 L
- BUFFER SPACE SEE GENERAL NOTE 21 ON SHEET 1.
- FLAGGER

CASE NO. 30
TYPICAL APPLICATION
ROUNDABOUT - PARTIAL CLOSURE NEAR ONE-LANE ROUNDABOUT

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (<= 40 MPH)	100	100	100
URBAN (>= 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information			Sheet Revisions	
Creation Date: 07/04/12	Initials: KEN		Date:	Comments
Last Modification Date: 12/08/14	Initials: KEN	R-7	12/08/14	NEW SHEET 17. OLD SHEET 17 NOW SHEET 21
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans		R-2	06/23/16	IN LEGEND UNDER CHANNELIZING DEVICE UPDATED "NOTE 25" TO "NOTE 26"
Drawing File Name: S-630-01_17of24.dgn		R-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English		R-X		

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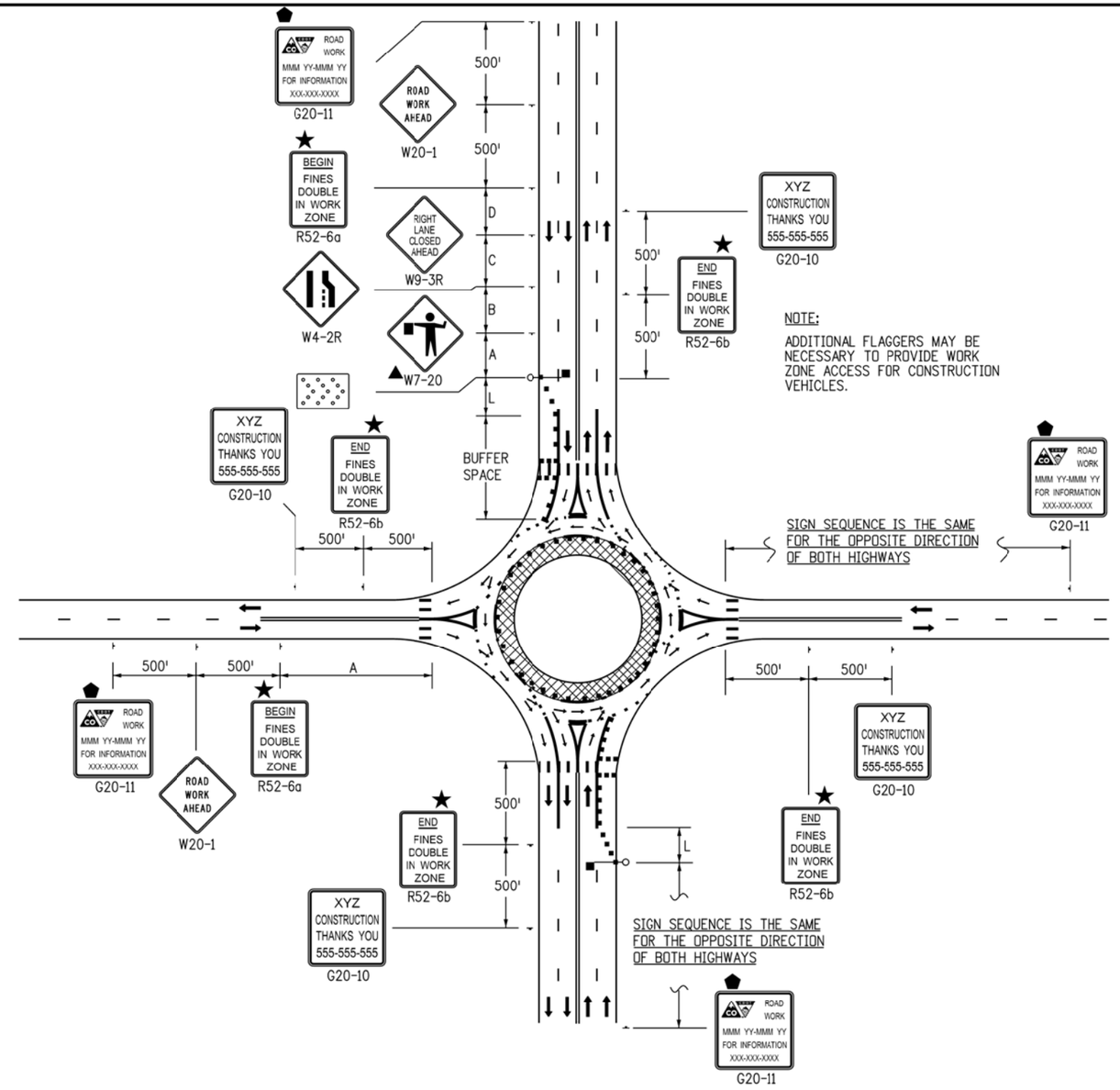

CASE NO. 31

TYPICAL APPLICATION *

ROUNDABOUT - INSIDE LANE CLOSURE FOR TWO-LANE ROUNDABOUT

LEGEND

* A TRUCK DETOUR ROUTE MAY BE NECESSARY TO DIVERT TRUCKS AWAY FROM THE ROUNDABOUT CIRCLE. ALSO NECESSARY IS A STREET NAME AND/OR ROUTE NUMBER SIGN, INFORMING MOTORISTS WHERE THEY NEED TO EXIT THE ROUNDABOUT CIRCLE TO ENTER THE DESIRED STREET AND/OR ROUTE NUMBER.

■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 26), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.

TYPE III BARRICADE

DIRECTION OF TRAVEL

WORK AREA

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.

▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.

⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.

FLASHING BEACON

⬟ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

MOBILE ATTENUATOR

L TRANSITION TAPER LENGTH:

L = MINIMUM LENGTH OF TAPER

SPEED 45 MPH OR MORE: $L = \frac{WS^2}{60}$

SPEED 40 MPH OR LESS: $L = \frac{WS^2}{}$

S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER = 1/3 L

BUFFER SPACE SEE GENERAL NOTE 21 ON SHEET 1.

FLAGGER

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (<= 40 MPH)	100	100	100
URBAN (>= 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information	
Creation Date: 07/04/12	Initials: KEN
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Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	
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	Sheet Revisions	
	Date:	Comments
R-7	12/08/14	NEW SHEET 18. OLD SHEET 18 NOW SHEET 22
R-8	06/23/16	IN LEGEND UNDER CHANNELIZING DEVICE UPDATED "NOTE 25" TO "NOTE 26"
R-X		
R-X		

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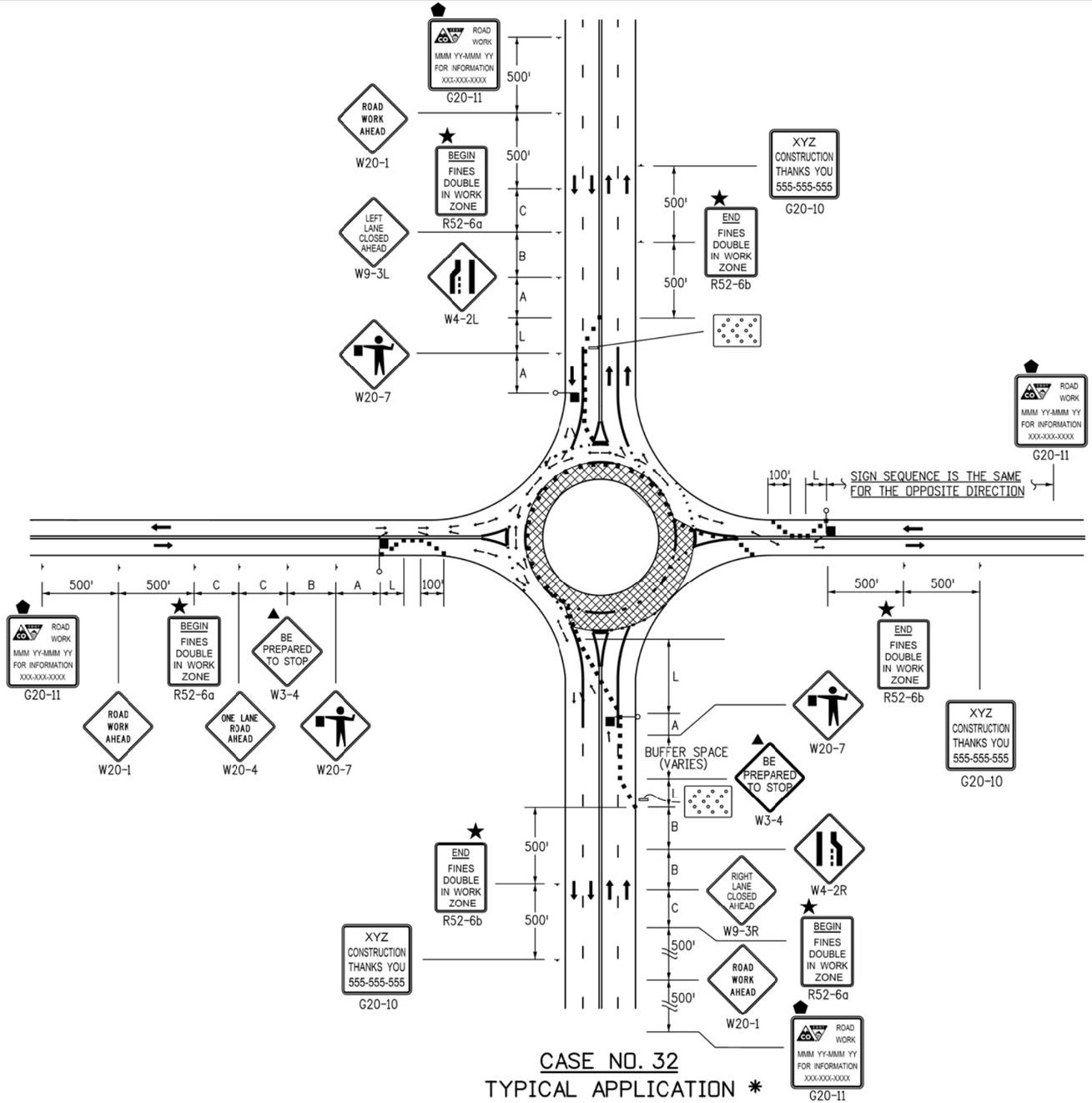

CASE NO. 32

TYPICAL APPLICATION *

ROUNDABOUT - OUTSIDE LANE CLOSURE FOR TWO-LANE ROUNDABOUT

LEGEND

* A TRUCK DETOUR ROUTE MAY BE NECESSARY TO DIVERT TRUCKS AWAY FROM THE ROUNDABOUT CIRCLE. ALSO NECESSARY IS A STREET NAME AND/OR ROUTE NUMBER SIGN, INFORMING MOTORISTS WHERE THEY NEED TO EXIT THE ROUNDABOUT CIRCLE TO ENTER THE DESIRED STREET AND/OR ROUTE NUMBER.

■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 26), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.

TYPE III BARRICADE

DIRECTION OF TRAVEL

WORK AREA

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.

▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.

⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.

FLASHING BEACON

⬢ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

MOBILE ATTENUATOR

L TRANSITION TAPER LENGTH: =

L = MINIMUM LENGTH OF TAPER $\frac{WS^2}{60}$

SPEED 45 MPH OR MORE: L = S x W

SPEED 40 MPH OR LESS: L

S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER = 1/3 L

BUFFER SPACE — SEE GENERAL NOTE 21 ON SHEET 1.

FLAGGER

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (<= 40 MPH)	100	100	100
URBAN (>= 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information		
Creation Date: 07/04/12	Initials: KEN	
Last Modification Date: 12/08/14	Initials: KEN	(R-7)
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Drawing File Name: S-630-01_19of24.dgn		(R-X)
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English		(R-X)

Sheet Revisions	
Date:	Comments
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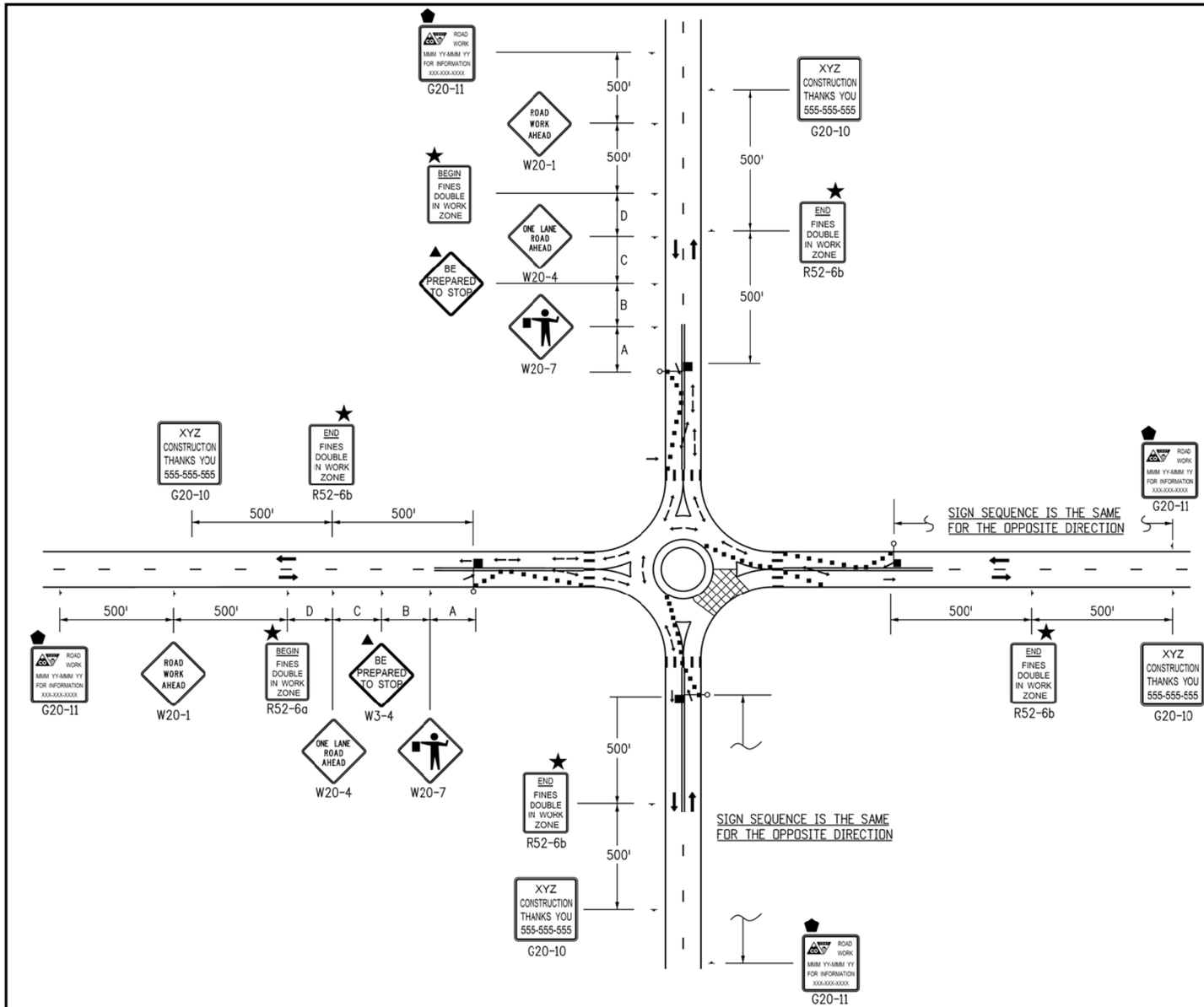

CASE NO. 33

TYPICAL APPLICATION *

ROUNDABOUT - PARTIAL CLOSURE FOR ONE-LANE ROUNDABOUT

LEGEND

* A TRUCK DETOUR ROUTE MAY BE NECESSARY TO DIVERT TRUCKS AWAY FROM THE ROUNDABOUT CIRCLE. ALSO NECESSARY IS A STREET NAME AND/OR ROUTE NUMBER SIGN, INFORMING MOTORISTS WHERE THEY NEED TO EXIT THE ROUNDABOUT CIRCLE TO ENTER THE DESIRED STREET AND/OR ROUTE NUMBER.

■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 26), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.

TYPE III BARRICADE

DIRECTION OF TRAVEL

WORK AREA

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.

▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.

⬟ G20-11 SIGN IS REQUIRED WHEN SECTION 626 "PUBLIC INFORMATION INFORMATION SERVICES" PROJECT SPECIAL PROVISION WORKSHEET SPECIFICATION IS REQUIRED WITH PROJECT.

FLASHING BEACON

⬢ REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

MOBILE ATTENUATOR

L TRANSITION TAPER LENGTH: =

L = MINIMUM LENGTH OF TAPER

SPEED 45 MPH OR MORE: $L = \frac{WS^2}{60}$

SPEED 40 MPH OR LESS: $L = S W$

S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER = 1/3 L

BUFFER SPACE SEE GENERAL NOTE 21 ON SHEET 1.

FLAGGER

ROAD TYPE	DISTANCE BETWEEN SIGNS		
	A	B	C
URBAN (<= 40 MPH)	100	100	100
URBAN (>= 45 MPH)	350	350	350
RURAL	500	500	500
EXPRESSWAY/FREEWAY	1000	1500	2640

Computer File Information	
Creation Date: 07/04/12	Initials: KEN
Last Modification Date: 12/08/14	Initials: KEN
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	
Drawing File Name: S-630-01_20of24.dgn	
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	Sheet Revisions	
	Date:	Comments
R-7	12/08/14	NEW SHEET 20. OLD SHEET 20 NOW SHEET 24
R-8	**06/23/16**	IN LEGEND UNDER CHANNELIZING DEVICE UPDATED "NOTE 25" TO "NOTE 26"
R-X		
R-X		

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LEGEND

MOBILE ATTENUATOR VEHICLE, TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.

VMS — VARIABLE MESSAGE SIGN (VMS).

▲ WHEN VMS IS USED, THE "SHOULDER CLOSED" SIGN BECOMES OPTIONAL.

■ THE "PICK-UP VEHICLES" OR "WARNING VEHICLE" MAY ENCROACH INTO THE TRAFFIC LANE WHEN THE SHOULDER IS TOO NARROW TO DRIVE ON.

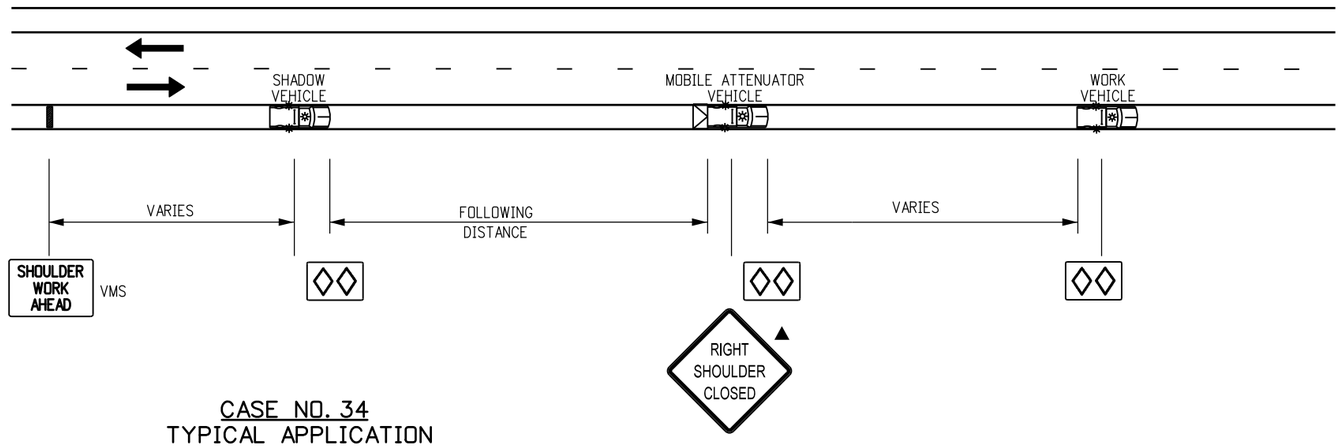
● IF TRACKING OF THE WET PAINT IS ANTICIPATED, THE USE OF CONES OR STATIONARY "WET PAINT" SIGNS SHALL BE POSTED.

⬢ THE VARIABLE SEPARATION DISTANCE BETWEEN THE "CONE PLACEMENT VEHICLE" AND "CONE PICKUP VEHICLE" SHALL BE DETERMINED BY THE TRACK DRYING TIME OF THE PAVEMENT MARKING MATERIAL.

⬬ OPTIONAL

FOLLOWING DISTANCE CHART FOR WARNING AND MOBILE ATTENUATOR (OR CONE PICKUP) VEHICLE

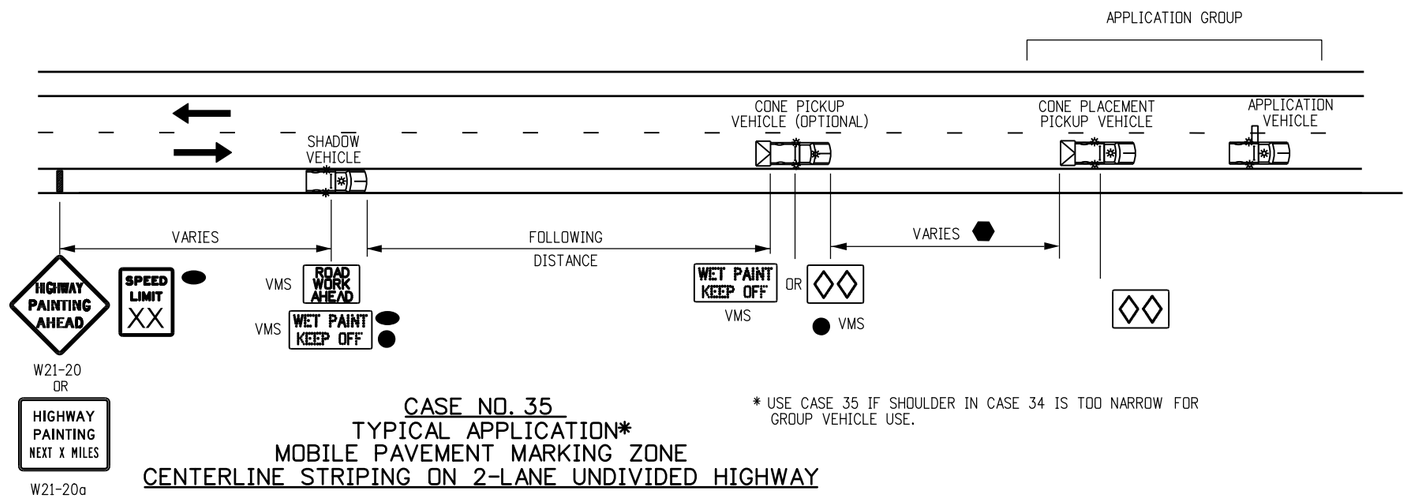
POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)
0 - 30	250 - 550
35 - 40	325 - 700
45 - 50	600 - 900
55	750 - 1200
60 - 65	1000 - 1400
70 - 75	1200 - 1600



CASE NO. 34
TYPICAL APPLICATION
MOBILE WORK ZONE
MOBILE SHOULDER CLOSURE ON 2-LANE UNDIVIDED HIGHWAY

NOTE

THE VARIABLE SEPARATION DISTANCE BETWEEN THE "CONE PLACEMENT VEHICLE" AND "CONE PICKUP VEHICLE" SHALL BE DETERMINED BY THE TRACK DRYING TIME OF THE PAVEMENT MARKING MATERIAL.



CASE NO. 35
TYPICAL APPLICATION*
MOBILE PAVEMENT MARKING ZONE
CENTERLINE STRIPING ON 2-LANE UNDIVIDED HIGHWAY

* USE CASE 35 IF SHOULDER IN CASE 34 IS TOO NARROW FOR GROUP VEHICLE USE.

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: KEN		Date:	Comments
Last Modification Date: 03/16/2016 Initials: NNC	R-5	3/27/14	REDUCED NUMBER OF TMA VEHICLES, REVISE VMS AND ADD STATIONARY SIGNS
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-7	12/8/14	FORMERLY SHEET 17.
Drawing File Name: S-630-1_21of24.dgn	R-8	5/20/16	VEHICLE TITLE CHANGE, SIGN REMOVAL NOTE CHANGE FROM 31 TO 34
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-9	6/23/16	UPDATED NOTE ON BOTTOM RIGHT FROM 34 TO 35 AND 30 TO 34

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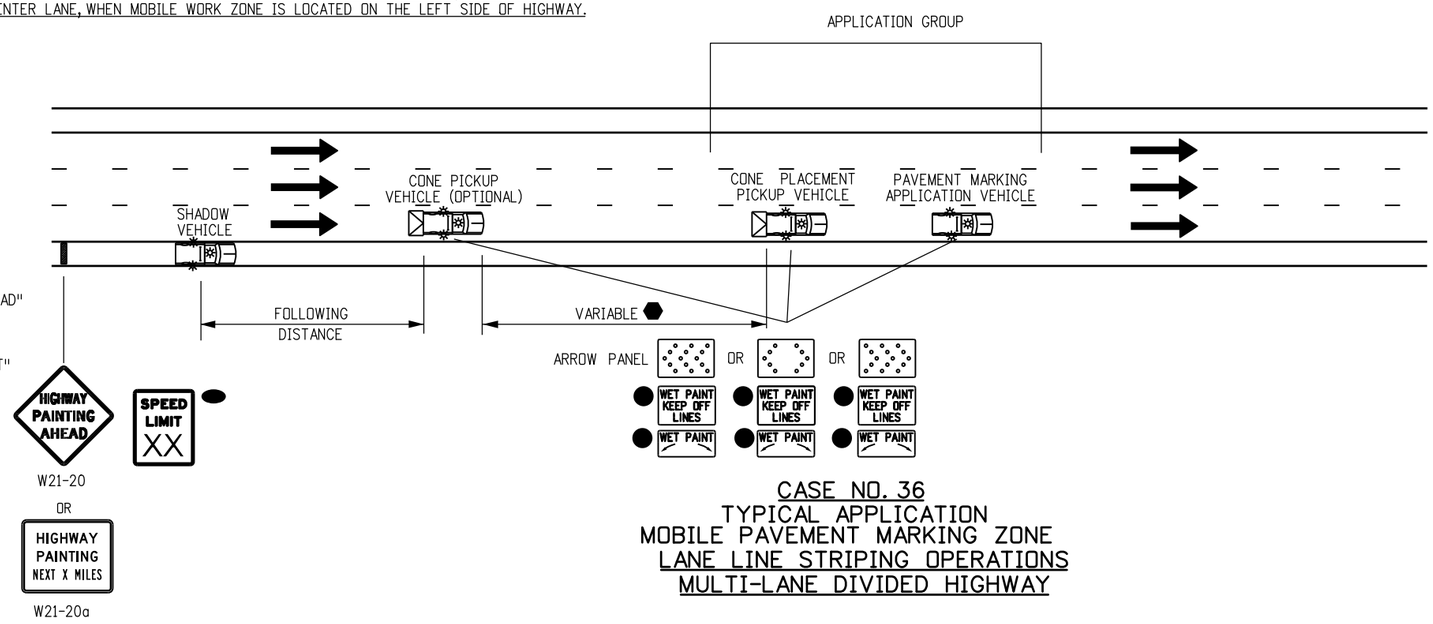
FOR CASE #36, VEHICLE/SIGN SEQUENCE IS THE SAME FOR THE LEFT SIDE OF HIGHWAY, WHILE TAPER IS MIRRORED ABOUT THE CENTER LANE, WHEN MOBILE WORK ZONE IS LOCATED ON THE LEFT SIDE OF HIGHWAY.

LEGEND

- MOBILE ATTENUATOR VEHICLE, TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
- AHEAD / LANE CLOSED — PORTABLE VARIABLE MESSAGE SIGN (VMS).
- ▲ WHEN THE VMS IS USED, THE "SHOULDER CLOSED" (W21-5aX) OR W21-5bX), AND "RAMP CLOSED AHEAD" SIGNS BECOME OPTIONAL.
- ● IF TRACKING OF THE WET PAINT IS ANTICIPATED, THE USE OF CONES OR STATIONARY "WET PAINT" SIGNS SHALL BE POSTED.
- ⬢ THE VARIABLE SEPARATION DISTANCE BETWEEN THE "CONE PLACEMENT VEHICLE" AND "CONE PICKUP VEHICLE" SHALL BE DETERMINED BY THE TRACK DRYING TIME OF THE PAVEMENT MARKING MATERIAL.
- ⬬ OPTIONAL



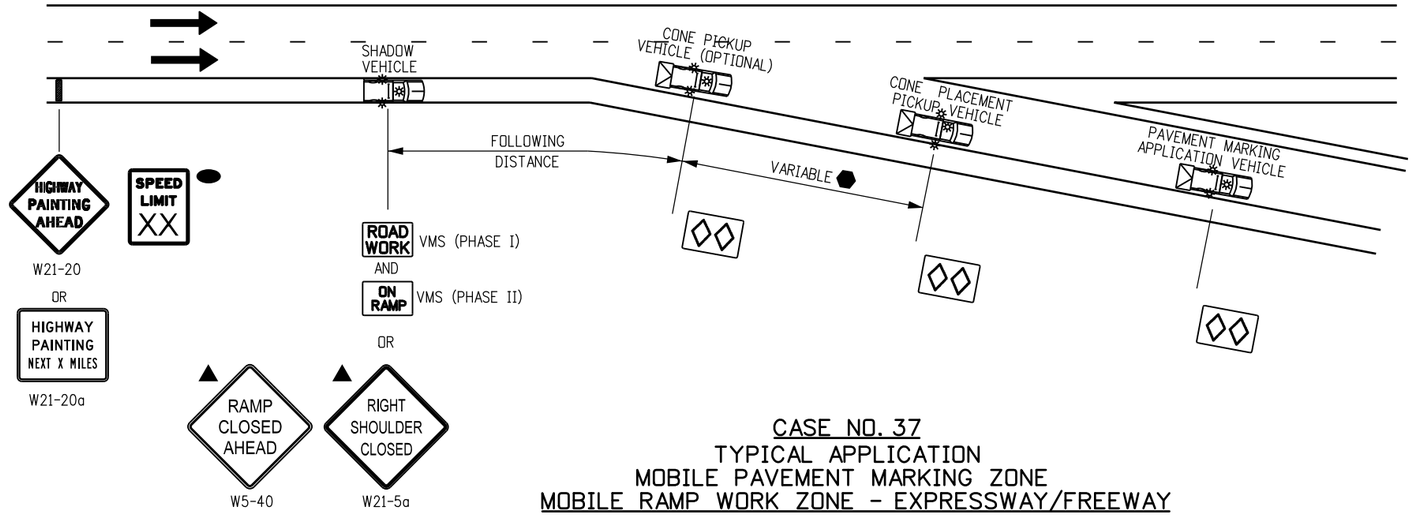
CASE NO. 36
TYPICAL APPLICATION
MOBILE PAVEMENT MARKING ZONE
LANE LINE STRIPING OPERATIONS
MULTI-LANE DIVIDED HIGHWAY

FOLLOWING DISTANCE CHART FOR WARNING VEHICLE AND CONE PICKUP VEHICLES

POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)
0 - 30	250 - 550
35 - 40	325 - 700
45 - 50	600 - 900
55	750 - 1200
60 - 65	1000 - 1400
70 - 75	1200 - 1600

NOTES

1. THE SIGNING VEHICLES MAY ENCROACH INTO THE TRAFFIC LANE WHEN THE SHOULDER IS TOO NARROW TO DRIVE ON.
2. IF THE RAMP CANNOT BE REOPENED WITHIN 15 MINUTES, USE CASE NO. 22 OF THE S-630-1 STANDARD PLAN.



CASE NO. 37
TYPICAL APPLICATION
MOBILE PAVEMENT MARKING ZONE
MOBILE RAMP WORK ZONE - EXPRESSWAY/FREEWAY

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: KEN		Date:	Comments
Last Modification Date: 3/16/16 Initials: NNC	R-5	3/27/14	REDUCE NUMBER OF TMA VEHICLES, REVISE VMS, AND ADD STATIONARY SIGNS
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-7	12/8/14	FORMERLY SHEET 18. SIGN CODE UPDATE. W5-40 & W21-5a.
Drawing File Name: S-630-1_22of24.dgn	R-8	5/20/16	REVISED NOTE 32 TO 36, CHANGE VEHICLE TITLE, REMOVE SIGNS
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-9	6/23/16	UPDATED LEGEND FROM "TRUCK MOUNTED ATTENUATOR" TO "MOBILE ATTENUATOR VEHICLE"

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LEGEND

MOBILE ATTENUATOR TRUCK, TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.

LANE CLOSED — PORTABLE VARIABLE MESSAGE SIGN (VMS).

▲ WHEN THE VMS IS USED, THE "RIGHT LANE CLSED AHEAD" (W9-3X) SIGN BECOMES OPTIONAL.

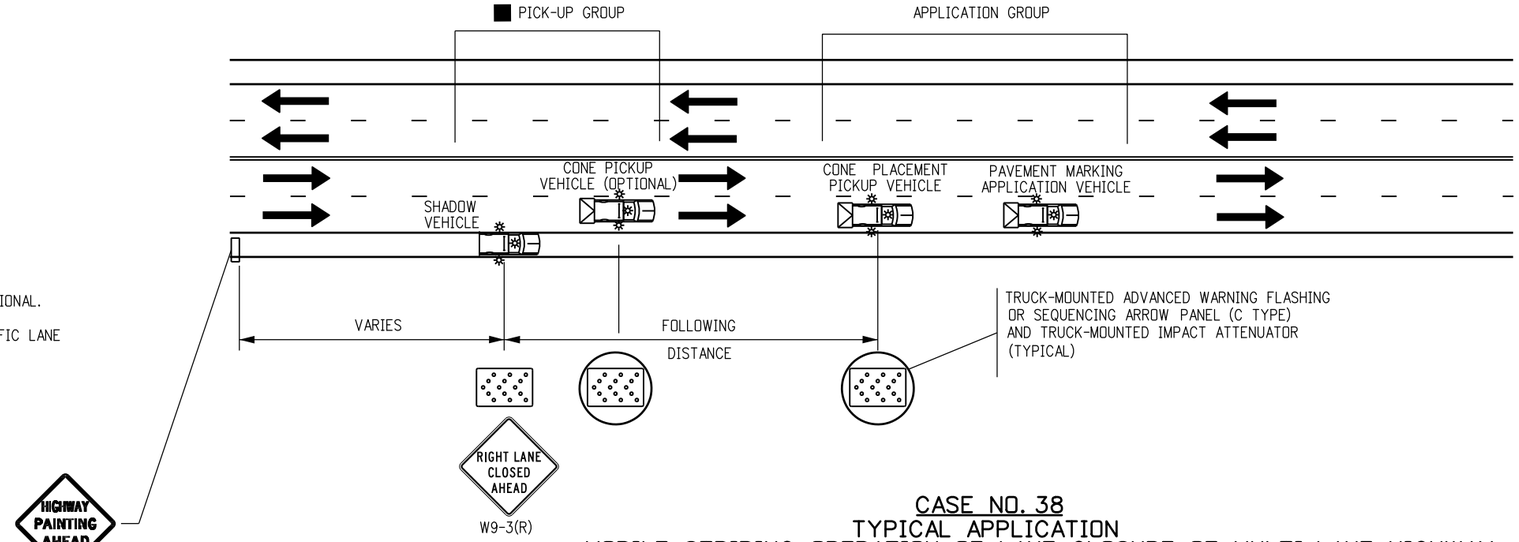
■ THE "CONE PICK-UP VEHICLE" OR "WARNING VEHICLE" MAY ENCROACH INTO THE TRAFFIC LANE WHEN THE SHOULDER IS TOO NARROW TO DRIVE ON.

NOTES

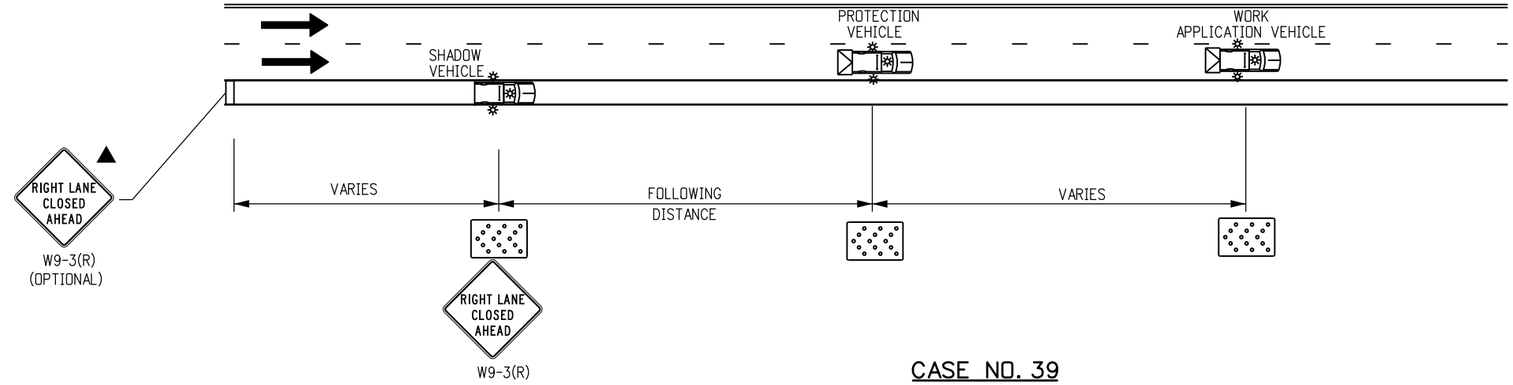
1. IN ROADWAY WHERE THE AADT IS 2,000 OR LESS, A SINGLE WORK VEHICLE WITH APPROPRIATE WARNING DEVICES ON THE VEHICLE MAY BE USED.
2. RADIO COMMUNICATIONS BETWEEN THE WORKCREW AND THE MOVING BLOCKADE ARE REQUIRED TO ADJUST THE BLOCKADE TO INCREASE OR DECREASE THE CLOSURE TIME. RELEASE TRAFFIC ONLY AFTER CONFIRMATION THAT ALL WORKERS AND THEIR VEHICLES ARE CLEAR OF THE ROADWAY.
3. IF APPLICABLE, ALL RAMPS AND ACCESS BETWEEN THE MOVING BLOCKADE AND WORK OPERATION AREA SHALL BE TEMPORARILY CLOSED USING TRAFFIC CONTROL EQUIPMENT AND PERSONNEL. EACH RAMP MUST REMAIN CLOSED UNTIL THE CREW DOING THE WORK GIVES THE "ALL CLEAR" SIGNAL OR UNTIL THE FRONT OF THE MOVING BLOCKADE PASSES THE CLOSED RAMP(S).

FOLLOWING DISTANCE CHART FOR WARNING VEHICLE AND SIGNING VEHICLES

POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)
0 - 30	250 - 550
35 - 40	325 - 700
45 - 50	600 - 900
55	750 - 1200
60 - 65	1000 - 1400
70 - 75	1200 - 1600



CASE NO. 38
TYPICAL APPLICATION
MOBILE STRIPING OPERATION OF LANE CLOSURE OF MULTI-LANE HIGHWAY
(NOT FOR USE ON FREEWAYS)



CASE NO. 39
TYPICAL APPLICATION
MOBILE OPERATION OF LANE CLOSURE OF MULTI-LANE HIGHWAY

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: KEN		Date:	Comments
Last Modification Date: 05/17/16 Initials: NNC	R-7	12/8/14	FORMERLY SHEET 19.
Full Path: www.coloradodot.info/library/traffic/traffic-s-standard-plans	R-8	05/20/16	CHANGED VEHICLE TITLES; CHANGED SIGN TEXT; ADDED W21-20 & W21-20a
Drawing File Name: S-630-1_23of24.dgn	R-9	06/23/16	UPDATED LEGEND FROM "TRUCK MOUNTED ATTENUATOR" TO "MOBILE ATTENUATOR VEHICLE"
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	R-X		

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TYPICAL CONSTRUCTION ZONE SIGNS

THESE SIGNING NOTES ARE INTENDED AS A QUICK REFERENCE
FOR TYPICAL SIGN USE AND PLACEMENT IN CONSTRUCTION ZONES.

G20-1 "ROAD/WORK/NEXT XX MILES" - THIS SIGN SHALL BE ERECTED AT THE LIMITS OF ANY ROAD CONSTRUCTION OR MAINTENANCE PROJECT OF MORE THAN TWO (2) MILES IN LENGTH WHERE TRAFFIC IS MAINTAINED THROUGH THE PROJECT.

G20-4 "PILOT CAR/FOLLOW ME" - THIS SIGN SHALL BE MOUNTED IN A CONSPICUOUS POSITION ON THE REAR OF A VEHICLE USED FOR GUIDING ONE-WAY TRAFFIC THROUGH OR AROUND THE PROJECT.

G20-5P "WORK ZONE" - THIS PLAQUE SHALL BE MOUNTED JUST ABOVE THE WORK ZONE SPEED LIMIT SIGNS PRIOR TO THE WORK ZONE AREA.

G20-10 THANK YOU SIGN - THIS SIGN SHOULD BE ERECTED APPROXIMATELY 500 FEET BEYOND THE END OF THE PROJECT.

G20-11 CONSTRUCTION PROJECT INFORMATION SIGN - THIS SIGN SHOULD BE ERECTED AS DESCRIBED IN THE SECTION 626 STANDARD SPECIFICATION.

G20-55(X) "X MINUTE CLOSURE. EXPECT DELAYS" - THIS SIGN IS INTENDED FOR USE 500 FEET PAST THE "WORK ZONE"/SPEED LIMIT SIGN.

M4-9( ) "DETOUR/<<<<" - THIS SIGN IS USED FOR UNNUMBERED ROUTES; FOR USE IN EMERGENCY SITUATIONS; FOR PERIODS OF SHORT DURATION; OR WHERE, OVER RELATIVELY SHORT DISTANCES. IT IS NOT NECESSARY TO SHOW ROUTE MARKERS TO GUIDE TRAFFIC ALONG THE DETOUR AND BACK TO ITS AUTHORIZED ROUTE.

M4-10( ) "DETOUR ARROW" - THIS SIGN SHOULD BE MOUNTED JUST BELOW THE ROAD CLOSED SIGN AT THE POINT WHERE THE DETOUR ROADWAY OR ROUTE HAS BEEN ESTABLISHED DUE TO THE CLOSURE OF THE STREET OR HIGHWAY TO THROUGH TRAFFIC.

R2-1( ) "SPEED/LIMIT/XX" - THESE SIGNS ARE INTENDED TO REDUCE TRAFFIC SPEED IN ADVANCE OF THE DAILY WORK AREA WITHIN THE OVERALL PROJECT LIMITS.

R2-1(XX) "SPEED/LIMIT/XX" - THIS SIGN IS INTENDED FOR USE 500 FEET PAST THE "THANK YOU" SIGN TO BRING TRAFFIC BACK TO ORIGINAL POSTED SPEED.

R2-6P "FINES DOUBLE" - THIS SIGN IS INTENDED FOR USE WITHIN WORK ZONES TO PROVIDE NOTICE OF INCREASED FINES FOR TRAFFIC VIOLATIONS WITHIN WORK ZONES.

R4-1 "DO NOT PASS" - THIS SIGN SHOULD BE PLACED AT TRANSITION TAPER POINT.

R4-2 "PASS WITH CARE" - THIS SIGN SHOULD BE PLACED AT TRANSITION TAPER POINT.

R11-2 "ROAD/CLOSED" - THIS SIGN IS TO BE MOUNTED ON THE BARRICADE THAT IS PLACED BEFORE THE WORK ZONE ENTRANCE TO PROHIBIT TRAFFIC FROM ENTERING THE WORK ZONE.

R11-3 "ROAD CLOSED/X MILES AHEAD/L.T.O. - THIS SIGN SHOULD BE PLACED WHERE THROUGH TRAFFIC MUST DETOUR TO AVOID THE CLOSURE OF THE ROAD SOME DISTANCE BEYOND, BUT WHERE THE ROAD IS OPEN TO LOCAL TRAFFIC UP TO THE POINT OF CLOSURE.

R11-4 "ROAD CLOSED/TO/THRU TRAFFIC" FOR URBAN USE - THIS SIGN SHOULD BE PLACED WHERE THROUGH TRAFFIC MUST DETOUR TO AVOID THE CLOSURE OF THE ROAD SOME DISTANCE BEYOND, BUT WHERE THE ROAD IS OPEN TO LOCAL TRAFFIC UP TO THE POINT OF CLOSURE.

R52-6a "BEGIN FINES DOUBLE IN WORK ZONE" SIGN IS PLACED AT THE BEGINNING OF THE ADVANCED WARNING AREA OF THE TRAFFIC CONTROL ZONE.

R52-6b "END FINES DOUBLE IN WORK ZONE" SIGN IS PLACED AFTER WORK ZONE AREA, PAST DOWNSTREAM TAPER SECTION.

W1-1( ) "TURN ARROW" - THIS SIGN IS INTENDED FOR USE WHERE ENGINEERING INVESTIGATIONS OF ROADWAY CONDITIONS SHOW THE RECOMMENDED SPEED ON THE TURN TO BE 30 MPH OR LESS.*

W1-2( ) "CURVE ARROW" - THIS SIGN IS INTENDED FOR USE WHERE ENGINEERING INVESTIGATIONS OF ROADWAY CONDITIONS SHOW THE RECOMMENDED SPEED ON THE CURVE TO BE IN THE RANGE BETWEEN 30 AND 60 MILES PER HOUR.*

W1-3( ) "REVERSE TURN ARROW" - THIS SIGN IS INTENDED FOR USE WHERE TWO TURNS OR THE CURVE AND A TURN IN OPPOSITE DIRECTIONS ARE SEPARATED BY A TANGENT OF LESS THAN 600 FEET.*

W1-4( ) "REVERSE CURVE ARROW" - THIS SIGN IS INTENDED FOR USE WHERE TWO CURVES IN OPPOSITE DIRECTIONS ARE SEPARATED BY A TANGENT OF LESS THAN 600 FEET.*

W1-6( ) "ARROW" - THIS SIGN SHOULD BE MOUNTED JUST BELOW THE ROAD CLOSED SIGN AT THE POINT WHERE THE DIVERSION HAS BEEN ESTABLISHED DUE TO THE LANE CLOSURE.

W3-2 "YIELD AHEAD" - THIS SIGN IS INTENDED FOR USE AT THE APPROACH TO THE YIELD SIGN THAT IS NOT VISIBLE FOR A SUFFICIENT DISTANCE TO PERMIT THE DRIVER TO BRING HIS VEHICLE TO A STOP AT THE YIELD SIGN.*

W3-4 "BE PREPARED TO STOP" - THIS SIGN TO BE PLACED 1.5 MILES IN ADVANCED OF A FLAGGER.

W4-2(X) "LEFT (RIGHT) LANE TRANSITION SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE REDUCTION IN THE NUMBER OF TRAFFIC LANES IN THE DIRECTION OF TRAVEL ON THE MULTILANE HIGHWAY.*

W4-50 "USE BOTH LANES DURING CONGESTION" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE "ROAD WORK X MILE" ADVANCED WARNING SIGN.

W4-51 "USE BOTH LANES TO MERGE POINT" - THIS SIGN IS INTENDED TO DIRECT MOTORISTS TO USE BOTH TRAVEL LANES UNTIL THE LANES ARE REDUCED TO ONE LANE.

W4-52 "TAKE TURNS MERGE HERE" - THIS SIGN IS INTENDED TO WARN MOTORISTS IN ADVANCED TO MOVE FROM THE CLOSED TRAVEL LANE TO THE OPEN TRAVEL LANE, USUALLY 500 FEET IN ADVANCED OF THE START OF THE TRANSITION TAPER .

W5-1 "ROAD NARROWS" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE TRANSITION ON THE ROAD WHERE THE PAVEMENT WIDTH IS REDUCED ABRUPTLY TO A WIDTH SUCH THAT TWO CARS CANNOT PASS WITHOUT REDUCING SPEED.*

W5-2a "NARROW BRIDGE SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A BRIDGE OR CULVERT HAVING A CLEAR TWO-WAY ROADWAY WIDTH OF 16 TO 18 FEET OR ANY BRIDGE OR CULVERT HAVING A ROADWAY CLEARANCE LESS THAN THE WIDTH OF THE APPROACH PAVEMENT.*

W5-3 "ONE LANE/BRIDGE" - THIS SIGN SHOULD BE PLACED ON TWO-WAY ROADWAYS IN ADVANCE OF THE BRIDGES OR CULVERTS WHERE THE ROADWAY WIDTH IS LESS THAN 16 FEET (18 FEET FOR COMMERCIAL VEHICLES) OR WHEN THE ALIGNMENT IS POOR ON THE APPROACH TO THE STRUCTURE HAVING A CLEAR ROADWAY WIDTH OF 18 FEET OR LESS.*

W6-1 "DIVIDED HIGHWAY SYMBOL" - THIS SIGN SHOULD BE PLACED ON THE APPROACHES TO THE SECTION OF HIGHWAY WHERE OPPOSING FLOWS OF TRAFFIC ARE SEPARATED BY A PHYSICAL MEDIAN.

W6-2 "DIVIDED HIGHWAY ENDS SYMBOL" - THIS SIGN SHOULD BE PLACED AT THE END OF THE SECTION OF PHYSICALLY DIVIDED HIGHWAY AS A WARNING OF TWO-WAY TRAFFIC AHEAD.

W6-3 "TWO-WAY TRAFFIC SYMBOL" - THIS SIGN IS INTENDED FOR USE TO GIVE WARNING OF TRANSITION FROM A SEPARATED ONE-WAY ROADWAY TO A TWO-WAY ROADWAY.*

W7-1 "HILL SYMBOL" - THIS SIGN SHOULD BE PLACED AT A POINT IN ADVANCE OF THE DOWNGRADE WHERE THE LENGTH, PERCENT OF GRADE, HORIZONTAL CURVATURE, OR OTHER PHYSICAL FEATURES REQUIRE SPECIAL CONSIDERATION ON THE PART OF DRIVERS.*

W8-1,W8-2 "BUMP"/"DIP" - THESE SIGNS ARE INTENDED FOR USE TO GIVE WARNING OF A SHARP RISE OR DEPRESSION IN THE PROFILE OF THE ROAD THAT IS SUFFICIENTLY ABRUPT TO AFFECT VEHICLE OPERATION OR CAUSE CONSIDERABLE DISCOMFORT TO PASSENGERS.*

W8-3a "PAVEMENT ENDS SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE THE PAVEMENT SURFACE CHANGES FROM A HARD-SURFACED PAVEMENT TO THE LOW-TYPE SURFACE OR EARTH ROAD.*

W8-4 "SOFT SHOULDER" - THIS SIGN IS INTENDED FOR USE TO WARN OF A SOFT SHOULDER CONDITION THAT COULD PRESENT A PROBLEM TO VEHICLES THAT MAY GET OFF THE PAVEMENT.*

W8-5 "SLIPPERY WHEN WET SYMBOL" - THIS SIGN SHOULD BE PLACED IN ADVANCE OF THE CONDITION WHERE THE HIGHWAY SURFACE IS SLIPPERY BEYOND WHAT IS ORDINARY WHEN WET.*

W8-9a "SHOULDER DROP-OFF" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A SHOULDER DROP-OFF THAT EXCEEDS THREE INCHES IN HEIGHT.*

W8-11 "UNEVEN LANES" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF AN UNEVEN ADJACENT LANE SITUATION THAT EXCEEDS ONE INCH IN HEIGHT.*

W9-1( ) "LEFT (RIGHT) LANE ENDS" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE PAVEMENT WIDTH TRANSITION SIGN (W4-2).

W9-2( ) "LANE ENDS/MERGE LEFT (RIGHT)" - THIS SIGN IS INTENDED FOR USE AS A SUPPLEMENT TO THE PAVEMENT WIDTH TRANSITION SIGN (W4-2).

W9-3 OR W9-3a( ) "CENTER LANE CLOSED AHEAD" - THIS SIGN SHOULD BE USED IN ADVANCE OF THE POINT WHERE WORK OCCUPIES THE CENTER LANE AND TRAFFIC IS DIRECTED TO THE RIGHT OR LEFT OF THE WORK ZONE.*

W12-1 "DOUBLE ARROW SYMBOL" - THIS SIGN SHOULD BE PLACED AT THE POINT OF THE OBSTRUCTION IN THE ROADWAY, WHERE TRAFFIC IS PERMITTED TO PASS ON EITHER SIDE OF THE OBSTRUCTION.

W12-2 "LOW CLEARANCE SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF AN OBSTRUCTION TO WARN VEHICLE OPERATORS OF CLEARANCES LESS THAN THE MAXIMUM VEHICLE HEIGHT PERMITTED PLUS 12 INCHES.*

W13-1P( ) "ADVISORY SPEED PLAQUE" - THIS PLAQUE IS INTENDED TO SUPPLEMENT WARNING SIGNS ONLY AND SHALL NOT BE MOUNTED ALONE. IT IS USED TO INDICATE THE MAXIMUM RECOMMENDED SPEED FOR THE INDICATED CONDITION.

W13-3 "ADVISORY RAMP SPEED" - THIS SIGN IS TO BE POSTED TO INFORM MOTORISTS WHAT THE SUGGESTED SPEED LIMIT IS ON A RAMP.

W20-1 "ROAD/WORK/AHEAD" - THIS SIGN IS TO BE LOCATED IN ADVANCE OF THE INITIAL ACTIVITY OR DETOUR A DRIVER MAY ENCOUNTER, AND IS INTENDED TO BE USED AS A WARNING OF OBSTRUCTIONS OR RESTRICTIONS.

W20-2 "DETOUR/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE POINT AT WHICH TRAFFIC IS DIVERTED OVER A TEMPORARY ROADWAY OR ROUTE.

W20-3 "ROAD/CLOSED/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT AT WHICH A ROADWAY IS CLOSED TO ALL TRAFFIC OR TO ALL BUT LOCAL TRAFFIC.

W20-4 "ONE LANE/ROAD/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE TRAFFIC IN BOTH DIRECTIONS MUST USE A SINGLE LANE.

W20-5( ) "XXX LANE/CLOSED/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE ONE LANE OF A MULTIPLE-LANE ROADWAY IS CLOSED. IT SHOULD BE PROVIDED WITH INTERCHANGEABLE PLAQUES READING "RIGHT", "LEFT", AND "CENTER" AT NO ADDITIONAL COST TO THE PROJECT.

W20-7 "FLAGGER SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF ANY POINT AT WHICH A FLAGGER HAS BEEN STATIONED TO CONTROL TRAFFIC THROUGH OR AROUND THE PROJECT.*

W20-52 "GROOVED/PAVEMENT/AHEAD" - THIS SIGN IS INTENDED TO BE USED IN ADVANCE OF A ROADWAY THAT HAS BEEN GROOVED AND/OR ROTO MILLED.

W21-1a "WORKER SYMBOL" - THIS SIGN IS INTENDED FOR USE IN CONJUNCTION WITH MINOR MAINTENANCE AND PUBLIC UTILITY OPERATIONS FOR THE PROTECTION OF MEN WORKING IN OR NEAR THE ROADWAY.

W21-2 "FRESH/OIL" - THIS SIGN IS INTENDED FOR USE WHERE RE-SURFACING OPERATIONS HAVE RENDERED THE SURFACE OF THE PAVEMENT TEMPORARILY WET, AND OBJECTIONABLE SPLASHING ON VEHICLES MAY OCCUR.*

W21-3 "ROAD/MACHINERY/AHEAD" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE AREAS WHERE HEAVY EQUIPMENT IS OPERATING IN OR ADJACENT TO THE ROADWAY.*

W21-4 "ROAD/WORK/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF MAINTENANCE FOR MINOR RECONSTRUCTION OPERATIONS IN THE ROADWAY.

W21-5 "SHOULDER/WORK" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE PROJECT INVOLVING THE SHOULDER, WHERE THE TRAVELED WAY REMAINS UNOBSTRUCTED.

W21-6 "SURVEY/CREW" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE A SURVEYING CREW IS WORKING IN OR ADJACENT TO THE ROADWAY.*

W21-20 "HIGHWAY PAINTING AHEAD" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE A PAINT CREW IS WORKING IN OR ADJACENT TO THE ROADWAY.

W21-20a "HIGHWAY PAINTING NEXT X MILES" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF PAINT CREW WORKING IN OR ADJACENT TO THE ROADWAY.

W22-1 "BLASTING/ZONE/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF ANY POINT OR WORK SITE WHERE THERE ARE EXPLOSIVES BEING USED. THE W22-2 AND W22-3 SIGNS MUST BE USED IN SEQUENCE WITH THIS SIGN.

W22-2 "TURN OFF/2-WAY RADIOS/AND/CELLULAR/PHONES" - THIS SIGN IS TO BE USED IN SEQUENCE WITH THE W22-1 AND W22-3 SIGNS AND PLACED AT LEAST 1000 FEET FROM THE BEGINNING OF THE BLASTING ZONE.

W22-3 "END/BLASTING/ZONE" - THIS SIGN IS TO BE USED TO DENOTE THE END OF THE RADIO INFLUENCE AREA AND SHALL BE PLACED A MINIMUM OF 1000 FEET FROM THE BLASTING ZONE, EITHER WITH OR PRECEDING THE END CONSTRUCTION SIGN.

W22-50(X) "ROCK SCALING X MILE(S)" - THIS SIGN IS INTENDED TO BE USED IN ADVANCE OF A FLAGGER IN ADVANCED OF THE WORK ZONE AREA.

ADVANCE PLACEMENT OF WARNING SIGNS

POSTED OR 85TH PERCENTILE SPEED	CONDITION A +	ADVANCE PLACEMENT DISTANCE (FEET) ++ CONDITION B: DECLARATION TO THE LISTED ADVISORY SPEED (MPH) FOR THE CONDITION							
		MPH							
		0	10	20	30	40	50	60	70
20	225	●	●	--	--	--	--	--	--
25	325	●	●	●	--	--	--	--	--
30	450	●	●	●	--	--	--	--	--
35	550	●	●	●	●	--	--	--	--
40	650	125	●	●	●	--	--	--	--
45	750	175	125	●	●	●	--	--	--
50	850	250	200	150	100	●	--	--	--
55	950	325	275	225	175	100	●	--	--
60	1100	400	350	300	250	175	●	--	--
65	1200	475	425	400	350	275	175	●	--
70	1250	550	525	500	425	350	250	150	--
75	1350	650	625	600	525	450	350	250	100

+ CONDITION A: SPEED REDUCTION AND LANE CHANGING IN HEAVY TRAFFIC. TYPICAL SIGNS ARE "MERGE" AND "RIGHT LANE ENDS".

++ CONDITION B: TYPICAL CONDITIONS ARE THE WARNING OF A POTENTIAL STOP SITUATION AND LOCATIONS WHERE THE ROAD USER MUST DECREASE SPEED TO MANEUVER THROUGH THE WARNED CONDITION. TYPICAL SIGNS ARE "STOP AHEAD", "SIGNAL AHEAD", "YIELD AHEAD", "CURVE", "REVERSE CURVE", "TURN".

● NO SUGGESTED DISTANCES ARE PROVIDED AT THESE SPEEDS, AS THE PLACEMENT IS DEPENDENT ON SITE CONDITIONS AND OTHER SIGNING.

A SUPPLEMENTAL PLAQUE MAY BE USED WITH WARNING SIGNS SPECIFYING THE DISTANCE TO THE CONDITION IF THERE IS AN IN-BETWEEN INTERSECTION THAT MIGHT CONFUSE THE MOTORIST.

* PLACEMENT SHOULD BE IN ACCORDANCE WITH WARNING SIGN PLACEMENT TABLE.

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R-4	07/26/13	CHANGE W20-7a SIGN CODE TO W20-7
R-7	12/8/14	FORMERLY SHEET 20.
R-8	05/20/16	ADDED SIGN W21-20 & W21-20a
R-X		

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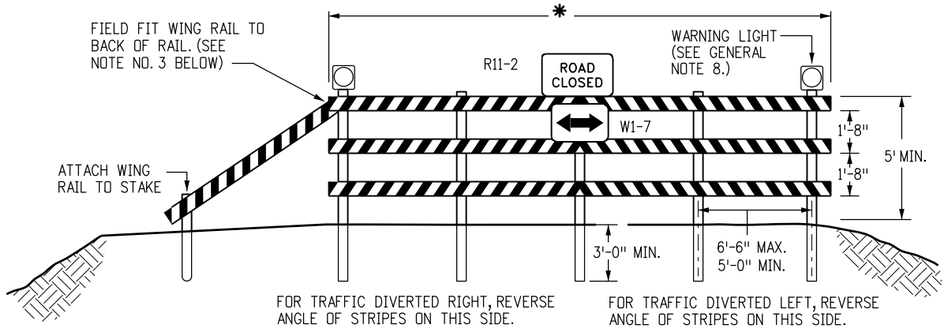
TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

Issued By: Safety & Traffic Engineering Branch July 4, 2012

STANDARD PLAN NO.
S-630-1
Sheet No. 24 of 24



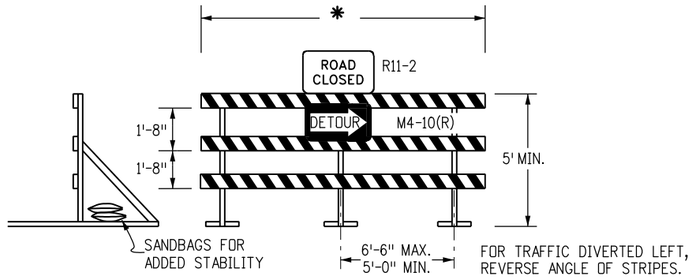
FIXED

* RAIL LENGTH TABLE

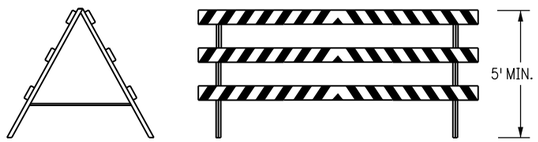
TYPE 3 BARRICADE		LENGTH
FIXED	MOVABLE	
F - A	M - A	8'- 14'
F - B	M - B	15'- 24'
F - C	M - C	25'- 35'
F - D	M - D	> 35'

NOTES

1. TYPE 3 BARRICADES HAVE 3 REFLECTORIZED RAIL FACES IF FACING TRAFFIC IN ONE DIRECTION AND 6 IF FACING TRAFFIC IN TWO DIRECTIONS.
2. THE PORTION OF THE POST ABOVE THE GROUND LINE SHALL BE PAINTED IN ACCORDANCE WITH THE APPROPRIATE GENERAL NOTE.
3. DETACHABLE EXTENSION WING RAILS FOR BYPASSING OF CONSTRUCTION EQUIPMENT ARE PERMITTED, WHEN NECESSARY, ON FIXED OR MOVABLE TYPE 3 BARRICADES. THE LENGTH SHALL BE ADEQUATE TO CLOSE THE BORROW PIT AND/OR SHOULDER AS REQUIRED.



MOVABLE-SKIDS

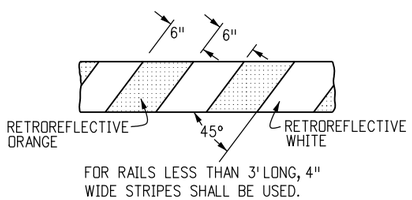


MOVABLE-HINGED

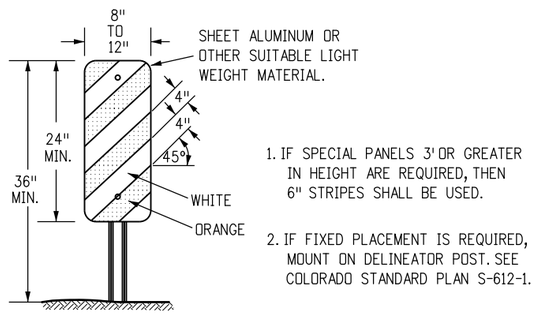
TYPICAL TYPE 3 BARRICADES

TYPICAL BARRICADE CHARACTERISTICS

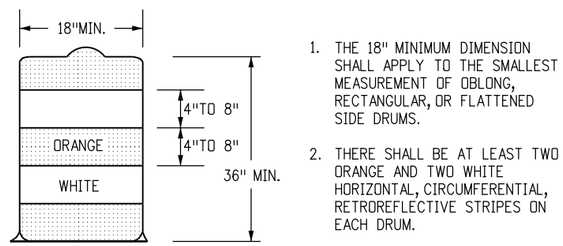
	BARRICADE DESIGNATIONS
	TYPE 3
RAIL WIDTH	8" MIN.-12" MAX.
RAIL LENGTH	AS REQUIRED, SEE RAIL LENGTH TABLE
HEIGHT	5' MIN.
USE	TEMPORARY OR PERMANENT
STRIPES	SEE DETAIL OF BARRICADE STRIPING AND APPROPRIATE GENERAL NOTES.



RAIL STRIPING DETAIL



TYPICAL VERTICAL PANEL



TYPICAL DRUM

GENERAL NOTES

1. THE VARIOUS TYPES, COMBINATIONS AND APPLICATIONS OF SIGNS AND WARNING LIGHTS FOR BARRICADES REQUIRED FOR EACH PROJECT SHALL BE:
   A. AS SPECIFIED OR DETAILED IN THE PLANS.
   B. AS SHOWN IN APPLICABLE TYPICAL ILLUSTRATIONS.
   C. AS CALLED FOR AND SUBJECT TO APPROVAL BY THE ENGINEER.
2. TEMPORARY AND PERMANENT BARRICADES TYPE 3 SHALL BE FABRICATED FROM APPROVED CRASH TESTED MATERIALS. SEE SECTION 614 AND 630 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. ALL PAINTING SHALL CONFORM WITH THE FOLLOWING:
   A. THE APPLICABLE SECTION OF 508 OF THE STANDARD SPECIFICATIONS.
   B. ALL SKIDS, BRACES AND POSTS SHALL BE PAINTED WITH 2 COATS OF EXTERIOR WHITE PAINT
   C. THE BACKSIDES OF RAILS AND VERTICAL PANEL CHANNELIZING DEVICES FACING ONE DIRECTION OF TRAFFIC ONLY SHALL BE PAINTED WITH "EXTERIOR WHITE PAINT.
   D. ALUMINUM OR GALVANIZED STEEL SKIDS, BRACES AND POSTS SHALL NOT BE PAINTED.
4. ALL STRIPED SURFACES SHALL CONFORM WITH THE FOLLOWING:
   A. THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE FABRICATED AS ONE PIECE.
   B. HORIZONTAL RAILS, WING RAILS AND VERTICAL PANEL CHANNELIZING DEVICES SHALL HAVE ORANGE AND WHITE STRIPES ON THE FACE SIDE(S) SLANTING DOWNWARD AT A 45° ANGLE TOWARD THE SIDE(S) TO WHICH TRAFFIC IS TO PASS OR TURN.
   C. PERMANENT BARRICADES SHALL HAVE RETROREFLECTIVE RED AND WHITE STRIPES. THEY MAY BE USED AT LOCATIONS TO MARK THE END OF A ROAD, STREET OR HIGHWAY THAT ENDS AT A "T" INTERSECTION, OR WHERE THERE IS NO CROSSROAD OR OUTLET.
   D. ALL RETROREFLECTIVE SHEETING SHALL CONFORM TO ASTM D4956:
      1. ORANGE AND WHITE SHALL BE TYPE II, III OR IV.
      2. RED AND WHITE SHALL BE TYPE II, III OR IV.
5. FOR ALL WOODEN BARRICADE COMPONENTS NOMINAL LUMBER DIMENSIONS ARE SATISFACTORY.
6. ALL SCREWS, BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED OR CADMIUM PLATED.
7. STABILITY OF BARRICADES AND CHANNELIZING DEVICES SHALL CONFORM WITH THE FOLLOWING:
   A. SKIDS (BASES) OF MOVABLE BARRICADES SHALL BE WEIGHTED WITH SANDBAGS ONLY WHERE NECESSARY TO PROVIDE STABILITY
   B. NO MOVABLE OR PORTABLE DEVICE SHALL BE WEIGHTED BY ANY METHOD OR WITH ANY MATERIAL THAT WOULD MAKE THEM HAZARDOUS TO MOTORISTS.
8. WARNING LIGHTS USED WITH BARRICADES, DRUMS AND VERTICAL PANELS SHALL CONFORM WITH THE FOLLOWING:
   A. USE FLASHING WARNING LIGHTS WHEN DEVICES ARE USED SINGLY, AND STEADY BURN LIGHTS WHEN THEY ARE USED IN A SERIES FOR CHANNELIZATION.
   B. THEY SHALL BE POSITIONED ABOVE THE TOP RAIL OF BARRICADES OR ON TOP OF DRUMS AND VERTICAL PANELS.
9. CONCRETE BARRIER (TEMPORARY) SHALL CONFORM WITH:
   A. PRECAST CONCRETE BARRIER AS SHOWN ON COLORADO STANDARD PLAN M-606-14.
   B. BARRIER REFLECTORS SHALL BE INSTALLED THAT MEET THE REQUIREMENTS OF STANDARD TYPICAL DELINEATOR INSTALLATIONS, EXCEPT THE MAXIMUM SPACING SHALL BE 50', AND THEY WILL NOT BE PAID FOR BUT ARE INCLUDED IN THE COST OF THE BARRIER.
   C. CONCRETE BARRIER END TREATMENT SHALL BE IN ACCORDANCE WITH CLEAR ZONE CRITERIA, AND PLACED AS SHOWN ON THE PLANS.
10. SIGN PANELS MOUNTED ON BARRICADES WILL BE PAID FOR SEPARATELY.

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BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) & VERTICAL PANELS

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STANDARD PLAN NO.
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Sheet No. 1 of 1