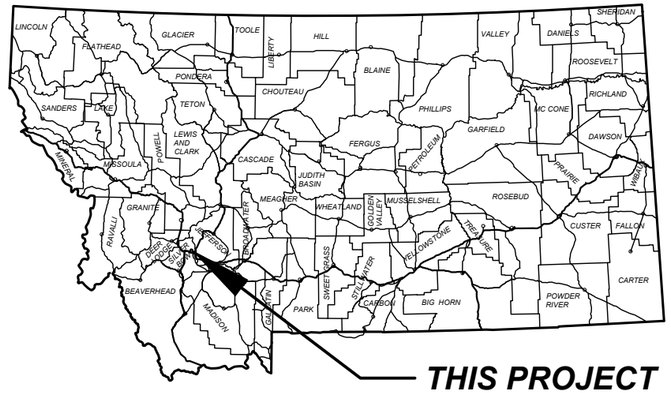
AWARD COPY



MONTANA DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT IM 115-2(10)0
MILL, PMS OVERLAY, SEAL & COVER
INTERSTATE 115-BUTTE
SILVER BOW COUNTY

PROJECT DESIGN DATA

PRESENT	2023	A.D.T. =	4,460
LETTING	2023	A.D.T. =	4,460
DESIGN	2043	A.D.T. =	5,660
		D.H.V. =	610
		TRUCKS =	2.9%
		V. =	70 MPH
		18 KIP ESAL'S =	65
		GROWTH RATE =	1.2%

SURFACING SOURCES - CONTRACTOR FURNISHED

LENGTH 1.1 MILES

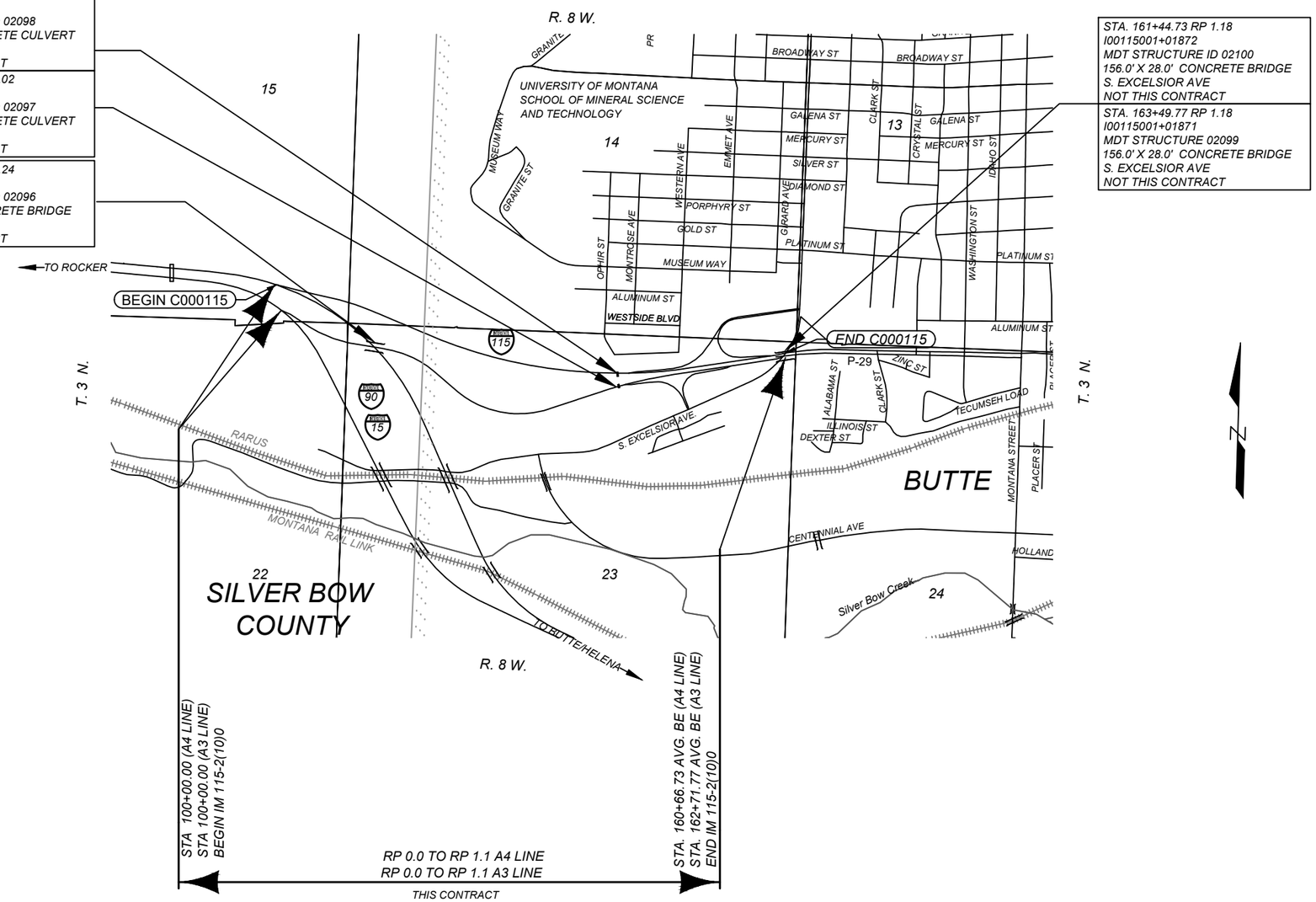
STA. 136+00.00 RP 1.02
I00115001+00232
MDT STRUCTURE ID 02098
38.0' X 13.0' CONCRETE CULVERT
DRAINAGE
NOT THIS CONTRACT

STA. 138+25.30 RP 1.02
I00115001+00231
MDT STRUCTURE ID 02097
38.0' X 13.0' CONCRETE CULVERT
DRAINAGE
NOT THIS CONTRACT

STA. 112+69.55 RP 0.24
I00115000+02471
MDT STRUCTURE ID 02096
243.9' X 28.0' CONCRETE BRIDGE
SEP I-15
NOT THIS CONTRACT

STA. 161+44.73 RP 1.18
I00115001+01872
MDT STRUCTURE ID 02100
156.0' X 28.0' CONCRETE BRIDGE
S. EXCELSIOR AVE
NOT THIS CONTRACT

STA. 163+49.77 RP 1.18
I00115001+01871
MDT STRUCTURE 02099
156.0' X 28.0' CONCRETE BRIDGE
S. EXCELSIOR AVE
NOT THIS CONTRACT



SHEET NO. 1

TITLE SHEET

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

CHECKED BY	TOJ	8/18/2023
REVIEWED BY	JDB	8/2/2023
DESIGNED BY	RPB	5/1/2023

10257000RDDTL001.DWG

MONTANA
Department of Transportation

ROAD PLANS

10/24/2023 1:06 PM

AWARD COPY

TABLE OF CONTENTS

ROAD PLANS	SHEET NO.
TITLE SHEET	1
TABLE OF CONTENTS	2
NOTES	2
TYPICAL SECTIONS	3-6
SUMMARIES	7-8
SURFACING	7
ADDITIONAL SURFACING	7
COLD MILLING	8
GUARDRAIL	8
REVEGETATION	8
CATTLE GUARD	8
FENCING	8
RUMBLE STRIPS	8
PAVEMENT MARKINGS	8
DETAILS	9-11
S. EXCELSIOR AVE. INTERCHANGE	9
CATTLE GUARD REMOVAL	10
TAPERED MILLING DETAIL	11
PLAN	12-14
SIGNING PLANS	
SUMMARY	S1
SPECIFICATIONS	S2-S10
DETAILS	S11-S15
PLANS	S16-S24

NOTES

BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

COMP. AGGREGATE WEIGHT	= 3700 LBS. PER CUBIC YARD
COMP. WEIGHT OF PL. MIX BIT. SURF.	= 3855 LBS. PER CUBIC YARD
HYDRATED LIME	= 1.4% OF PL.MIX BIT.SURF.
BITUMINOUS MATERIAL	= 8.5 LBS. PER GAL.
ASPHALT CEMENT - GRADE S - 3/4" AGG.	= 5.4% OF PL.MIX BIT.SURF.
EMULSIFIED ASPHALT - TACK (ALL OTHER SURFACES)	= 0.05 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - FOG SEAL (RUMBLE STRIPS)	= 0.10 GAL. PER SQ.YARD (UNDILUTED)
SEAL	= 0.42 GAL. PER SQ.YARD
COVER	= 25 LBS. PER SQ.YARD

STATIONING

THE ROAD PLANS WERE STATIONED WITH AN ASSUMED STATION BEGINNING AT STATION 100+00.00. AS-BUILT PLANS WERE NOT USED.

STATIONING USED IN THE PLANS WAS GENERATED BY BEST FIT METHOD. IT IS NOT INTENDED TO BE EXACT, BUT REPRESENTS LOCATIONS WHERE WORK IS REQUIRED.

UTILITIES

CALL THE UTILITIES UNDERGROUND LOCATION CENTER (811) OR OTHER NOTIFICATION SYSTEM FOR THE MARKING AND LOCATION OF ALL LINES AND SERVICES BEFORE EXCAVATING. ALL CLEARANCES OR DEPTHS PROVIDED FOR UTILITIES ARE FROM EXISTING GROUND LINE.

AS-BUILTS

IR 15-2(49)124-B (RECONSTRUCTION - 1987)
I 15-2(38)120 (GRADE, GRAVEL, PMS, & STRUCTURES. - 1978)
I-115-2(6)126 (SAFETY IMPROVEMENTS - 1976)
U-70(14) (GRADE, GRAVEL, BIT. SURFACE TREATMENT. - 1955)

WETLANDS

WETLANDS MAY EXIST ADJACENT TO THE ROADWAY AND BEYOND THE PROJECT LIMITS. A WETLAND DELINEATION HAS NOT BEEN COMPLETED FOR THIS PROJECT. IMPACTS TO WETLAND AREAS ARE NOT ANTICIPATED IN ASSOCIATION WITH THE PROPOSED WORK. NO PERMITS HAVE BEEN OBTAINED. ANY ACTION IMPACTING WETLAND AREAS WITHOUT THE APPROPRIATE PERMITTING IS THE RESPONSIBILITY OF THE CONTRACTOR.

SHEET NO.
2

TABLE OF CONTENTS AND NOTES

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

CHECKED BY	TOJ	8/18/2023
REVIEWED BY	JDB	8/2/2023
DESIGNED BY	RPB	5/1/2023

10257000RDDTL001.DWG

MONTANA
Department of Transportation

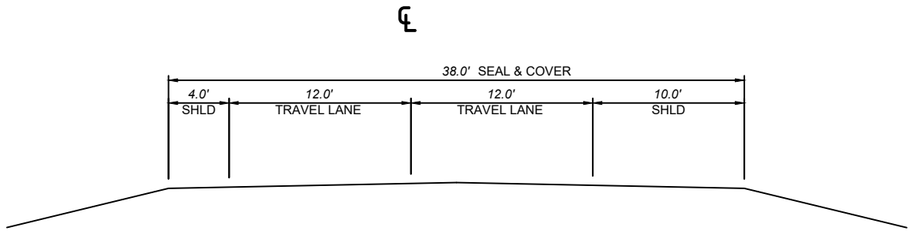
ROAD PLANS

10/24/2023 1:06 PM

AWARD COPY

TYPICAL SECTION NO. 1

A3 LINE (REVERSE FOR A4 LINE)



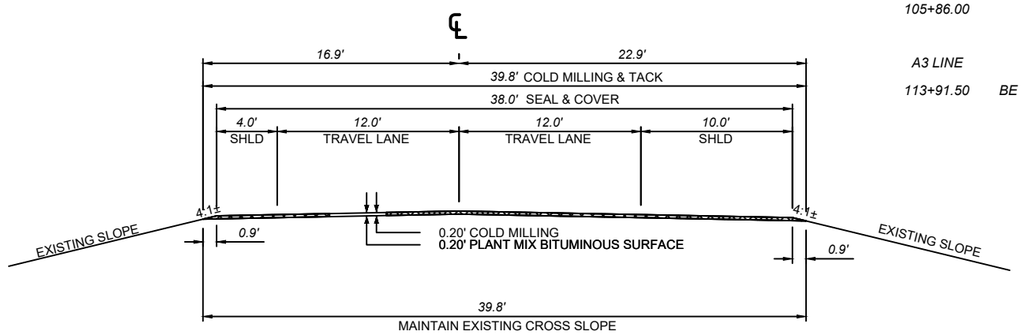
A4 LINE					
100+00.00		TO	105+86.00		THEN TYP. SECT. NO. 2

A3 LINE					
100+00.00		TO	111+47.60	BE	
111+47.60	BE	TO	113+91.50	BE	BRIDGE (NOT THIS CONTRACT) - THEN TYP. SECT. NO. 2

QUANTITIES			
UNIT	AGGREGATE	UNIT	BITUMINOUS MATERIAL
	COVER		EMULSIFIED ASPHALT SEAL
AREA square feet cubic yards PER STATION tons PER STATION square yards PER STATION	422	square yards PER STATION tons PER STATION gals. PER STATION	422 0.75

TYPICAL SECTION NO. 2

A3 LINE (REVERSE FOR A4 LINE)



A4 LINE					
105+86.00		TO	112+01.40		THEN TYP. SECT. NO. 3

A3 LINE					
113+91.50	BE	TO	121+77.60		THEN TYP. SECT. NO. 3

= COLD MILLING

QUANTITIES							
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL			COLD MILLING
	COVER	PLANT MIX		ASPHALT CEMENT	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet cubic yards PER STATION tons PER STATION square yards PER STATION	422	7.78 28.8 55.5	square yards PER STATION tons PER STATION gals. PER STATION	3.00	422 0.75	442 22	442

*BASED ON 1 APPLICATION

SHEET NO. 3

TYPICAL SECTIONS

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

	CHECKED BY	REVIEWED BY	DESIGNED BY
8/18/2023	TOJ	JDB	RPB
8/2/2023			
5/1/2023			

10257000RDTYP001.DWG

MONTANA Department of Transportation

ROAD PLANS

10/24/2023 9:29 AM

AWARD COPY

TYPICAL SECTION NO. 3

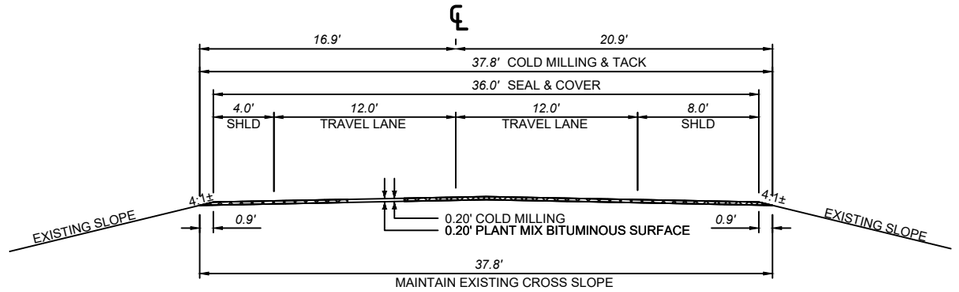
A3 LINE (REVERSE FOR A4 LINE)

A4 LINE

112+01.40 *TO* *146+51.00* *THEN TYP. SECT. NO. 4*

A3 LINE

121+77.60 *TO* *148+91.36* *THEN TYP. SECT. NO. 4*



= COLD MILLING

QUANTITIES							
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL			COLD MILLING
	COVER	PLANT MIX		ASPHALT CEMENT	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		7.38	square yards PER STATION		400	420	420
cubic yards PER STATION		27.3	tons PER STATION	2.84	0.71		
tons PER STATION		52.6	gals. PER STATION			21	
square yards PER STATION	400						

*BASED ON 1 APPLICATION

TYPICAL SECTION NO. 4

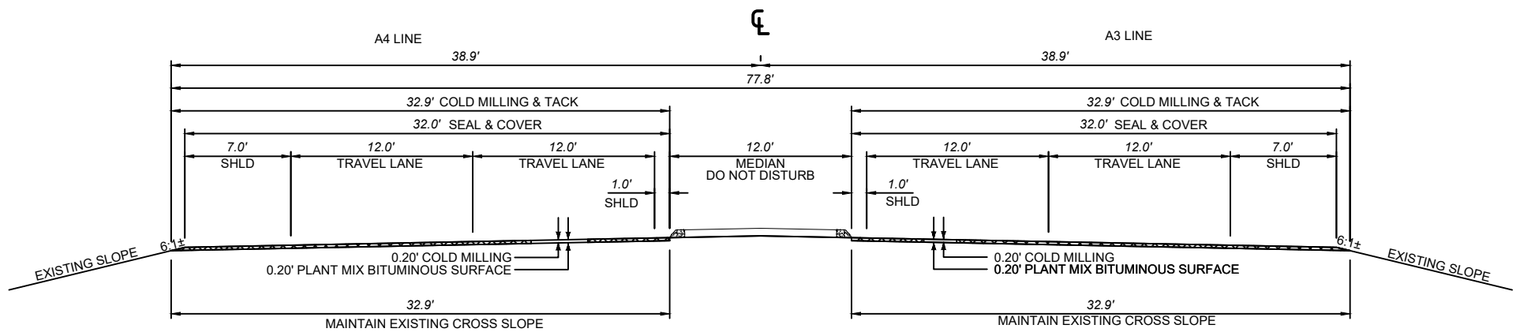
A3 & A4 LINE

A4 LINE

146+51.00 *TO* *159+66.73* *THEN TYP. SECT. NO. 5*

A3 LINE

148+91.36 *TO* *162+71.77* *BE* *AVG. BRIDGE END*



= COLD MILLING

QUANTITIES PER LINE							
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL			COLD MILLING
	COVER	PLANT MIX		ASPHALT CEMENT	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		6.49	square yards PER STATION		356	366	366
cubic yards PER STATION		24.0	tons PER STATION	2.50	0.64		
tons PER STATION		46.3	gals. PER STATION			18	
square yards PER STATION	356						

*BASED ON 1 APPLICATION

SHEET NO. 4

TYPICAL SECTIONS

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

	CHECKED BY	REVIEWED BY	DESIGNED BY
8/18/2023	TOJ	JDB	RPB
8/2/2023			
5/1/2023			

10257000RDTYP001.DWG

MONTANA Department of Transportation

ROAD PLANS

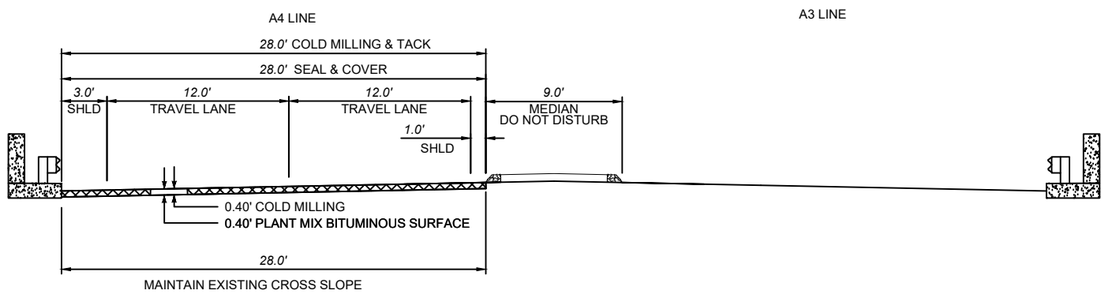
10/24/2023 9:29 AM

TYPICAL SECTION NO. 5

A4 LINE BRIDGE END

A4 LINE

159+66.73 *TO* *160+66.73* *BE* *AVG. BRIDGE END*



SEE TYPICAL SECTION NO 4. FOR A3 LINE

QUANTITIES A4 LINE							
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL			COLD MILLING
	COVER	PLANT MIX		ASPHALT CEMENT	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		11.20	square yards PER STATION		311	622	311
cubic yards PER STATION		41.5	tons PER STATION	4.32	0.56		
tons PER STATION		80.0	gals. PER STATION			31	
square yards PER STATION	311						

*BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 6

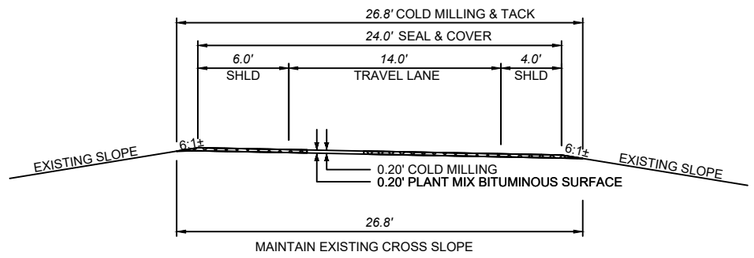
RAMPS

E1 RAMP
10+00.00 *TO* *27+63.82*

E2 RAMP
29+39.76 *TO* *38+09.12*

E3 RAMP
11+99.16 *TO* *24+05.04*

E4 RAMP
4+57.90 *TO* *11+99.16*



= COLD MILLING

QUANTITIES							
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL			COLD MILLING
	COVER	PLANT MIX		ASPHALT CEMENT	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		5.08	square yards PER STATION		267	298	298
cubic yards PER STATION		18.8	tons PER STATION	1.95	0.48		
tons PER STATION		36.2	gals. PER STATION			15	
square yards PER STATION	267						

*BASED ON 1 APPLICATION

SHEET NO. 5

TYPICAL SECTIONS

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

	CHECKED BY	REVIEWED BY	DESIGNED BY
8/18/2023	TOJ	JDB	RPB
8/2/2023			
5/1/2023			

10257000RDTYP001.DWG

MONTANA Department of Transportation

ROAD PLANS

10/24/2023 9:29 AM

TYPICAL SECTION NO. 7

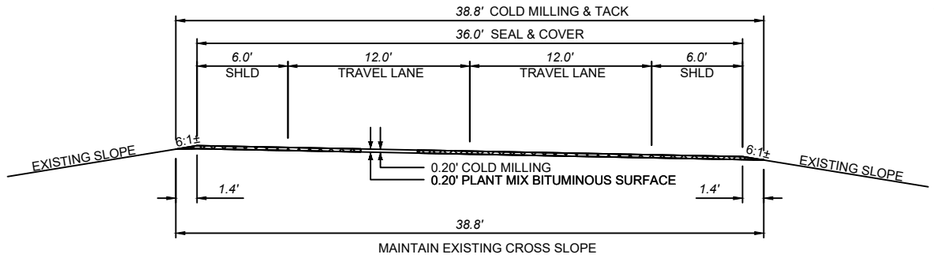
RAMP E2
E LINE

E2 RAMP

18+90.00	*TO*	*27+63.82*	
27+63.82	*TO*	*29+39.76*	*TRANS. TYP. SECT. NO. 7 TO TYP. SECT. NO. 6*

E LINE

10+00.00	*TO*	*11+99.16*	



= COLD MILLING

QUANTITIES							
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL			COLD MILLING
	COVER	PLANT MIX		ASPHALT CEMENT	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		7.48	square yards PER STATION		400	431	431
cubic yards PER STATION		27.7	tons PER STATION	2.88	0.71		
tons PER STATION		53.4	gals. PER STATION			22	
square yards PER STATION	400						

*BASED ON 1 APPLICATION

SHEET NO.
6

TYPICAL SECTIONS

PROJECT NAME			INTERSTATE 115-BUTTE
COUNTY			SILVER BOW
PROJECT ID			IM 115-2(10)0
UPN			10257000
CHECKED BY	TOJ	8/18/2023	
REVIEWED BY	JDB	8/2/2023	
DESIGNED BY	RPB	5/1/2023	

MONTANA
Department of Transportation

ROAD PLANS

10257000RDTYP001.DWG

10/24/2023 9:29 AM

AWARD COPY

SUMMARY

SURFACING

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR	tons HYDRATED LIME	AGGREGATE sq. yards COVER TYPE II	AGGREGATE tons PLANT MIX BIT. SURF. GRADE S 3/4"	AGGREGATE cu. yards CRUSHED AGG. COURSE	BITUMINOUS MATERIAL tons ASPHALT CEMENT PG 70-28	BITUMINOUS MATERIAL tons EMULSIFIED ASPHALT CHFRS-2P	BITUMINOUS MATERIAL gals. EMULSIFIED ASPHALT TACK	BITUMINOUS MATERIAL sq. yards AGG. TREAT.	REMARKS
A4 LINE															
100+00.00	103+38.77	338.77	338.77					715				1.3			TYPICAL SECTION NO. 1 – INCLUDES TAPER, GORE & CONN. TO MAINLINE
103+38.77	105+86.00	247.23	247.23					1,043				1.9			TYPICAL SECTION NO. 1
105+86.00	112+01.40	615.40	615.40					2,597	342		18.5	4.6	135		TYPICAL SECTION NO. 2
112+01.40	146+51.00	3,449.60	3,449.60					13,798	1,814		98.0	24.5	724		TYPICAL SECTION NO. 3
146+51.00	159+66.73	1,315.73	1,315.73					4,684	609		32.9	8.4	237		TYPICAL SECTION NO. 4
159+66.73	160+66.73 BE	100.00	100.00			AVG. BRIDGE END		311	80		4.3	0.6	31		TYPICAL SECTION NO. 5
	SUBTOTAL	6,066.73	6,066.73												
A3 LINE															
100+00.00	102+70.16	270.16	270.16					570				1.0			TYPICAL SECTION NO. 1 – INCLUDES TAPER, GORE & CONN. TO MAINLINE
102+70.16	111+47.60 BE	877.44	877.44					3,703				6.6			TYPICAL SECTION NO. 1
111+47.60 BE	113+91.50 BE	243.90			243.90	OMIT BRIDGE									
113+91.50 BE	121+77.60	786.10	786.10					3,317	436		23.6	5.9	173		TYPICAL SECTION NO. 2
121+77.60	148+91.36	2,713.76	2,713.76					10,855	1,427		77.1	19.3	570		TYPICAL SECTION NO. 3
148+91.36	162+71.77 BE	1,380.41	1,380.41			AVG. BRIDGE END		4,914	639		34.5	8.8	248		TYPICAL SECTION NO. 4
	SUBTOTAL	6,271.77	6,027.87												
						ADDITIONAL SURFACING		14,856	2,158	212	116.3	27.5	901	406	
TOTAL		~	~	~	~		105	61,363	7,505	212	405.2	110.4	3,019	406	

ADDITIONAL SURFACING (INCLUDED IN SURFACING FRAME)

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR	tons HYDRATED LIME	AGGREGATE sq. yards COVER TYPE II	AGGREGATE tons PLANT MIX BIT. SURF. GRADE S 3/4"	AGGREGATE cu. yards CRUSHED AGG. COURSE	BITUMINOUS MATERIAL tons ASPHALT CEMENT PG 70-28	BITUMINOUS MATERIAL tons EMULSIFIED ASPHALT CHFRS-2P	BITUMINOUS MATERIAL gals. EMULSIFIED ASPHALT TACK	BITUMINOUS MATERIAL sq. yards AGG. TREAT.	REMARKS
E1 RAMP															
10+00.00	20+28.48	1,028.48	514.24					1,373	186		10.0	2.5	77		TYP. SECT. NO. 6 INCLUDES TAPER, GORE, & CONN. TO MAINLINE
20+28.48	25+75.52	547.04	547.04					1,461	198		10.7	2.6	82		TYP. SECT. NO. 6
25+75.52	27+63.82	188.30	94.15					251	34		1.8	0.5	14		TYP. SECT. NO. 6 INCLUDES TAPER, GORE, & CONN. TO E2 RAMP
E2 RAMP															
18+90.00	27+63.82	873.82	873.82					3,495	467		25.2	6.2	192		TYP. SECT. NO. 7
27+63.82	29+39.76	175.94	175.94					588	79		4.3	1.8	33		TRANS. TYP. SECT. NO. 7 TO TYP. SECT. NO. 6
29+39.76	33+37.31	397.55	397.55					1,590	212		11.4	2.8	87		TYP. SECT. NO. 6
33+37.31	38+09.12	471.81	235.91					944	126		6.8	1.7	52		TYP. SECT. NO. 6 INCLUDES TAPER & GORE & CONN. TO MAINLINE
E LINE															
10+00.00	11+99.16	199.16	199.16					797	106		5.7	1.4	44		TYP. SECT. NO. 7
E3 RAMP															
11+99.16	14+24.32	225.16	225.16					601	82		4.4	1.1	34		TYP. SECT. NO. 6
14+24.32	24+05.04	980.72	490.36					1,309	178		9.6	2.4	74		TYP. SECT. NO. 6 INCLUDES TAPER & GORE & CONN. TO MAINLINE
E4 RAMP															
4+57.90	7+71.31	313.41	156.71					418	57		3.1	0.8	24		TYP. SECT. NO. 6 INCLUDES TAPER & GORE & CONN. TO MAINLINE
7+71.31	11+99.16	427.85	427.85					1,142	155		8.3	2.1	64		TYP. SECT. NO. 6
18+90.00						RAMP E2- RADII CADD AREAS		686	88		4.8	1.2	34		MEASURED IN CADD (686 SY)
10+00.00						E LINE-RADII CADD AREAS		201	26		1.4	0.4	10		MEASURED IN CADD (201 SY)
CATTLEGUARD REMOVAL															
20+87.05	21+27.05	40.00	40.00			CATTLE GUARD REMOVAL RESURFACING			82	# 106	4.4		40	203	E2 RAMP-SEE DETAIL
10+68.22	11+08.22	40.00	40.00			CATTLE GUARD REMOVAL RESURFACING			82	# 106	4.4		40	203	E LINE-SEE DETAIL
SUBTOTAL		~	~	~	~		~	14,856	2,158	212	116.3	27.5	901	406	

INCLUDES ADDITIONAL CRUSHED AGGREGATE COURSE FOR CATTLEGUARD REMOVAL

SHEET NO. 7

SUMMARY SHEET

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

	CHECKED BY	REVIEWED BY	DESIGNED BY
8/18/2023	TOJ	JDB	RPB
8/2/2023			
5/1/2023			

10257000RDSUM001.DWG

MONTANA Department of Transportation

ROAD PLANS

10/24/2023 12:59 PM

AWARD COPY

SUMMARY

COLD MILLING

STATION FROM	STATION TO	sq. yards COLD MILLING 0.20 ft	sq. yards COLD MILLING 0.40 ft	REMARKS
A4 LINE				
105+86.00	112+01.40	2,720		TYPICAL SECTION NO. 2
112+01.40	146+51.00	14,488		TYPICAL SECTION NO. 3
146+51.00	159+66.73	4,816		TYPICAL SECTION NO. 4
159+66.73	160+66.73 BE		311	TYPICAL SECTION NO. 5
A3 LINE				
113+91.50 BE	121+77.60	3,475		TYPICAL SECTION NO. 2
121+77.60	148+91.36	11,398		TYPICAL SECTION NO. 3
148+91.36	162+71.77 BE	5,052		TYPICAL SECTION NO. 4
E1 RAMP				
10+00.00	20+28.48	766		TYPICAL SECTION NO. 6 INCLUDES TAPER, GORE & CONN. TO MAINLINE
20+28.48	25+75.52	1,630		TYPICAL SECTION NO. 6
25+75.52	27+63.82	140		TYPICAL SECTION NO. 6 INCLUDES TAPER, GORE & CONN. TO E2 RAMP
E2 RAMP				
18+90.00	27+63.82	3,766		TYPICAL SECTION NO. 7
27+63.82	29+39.76	642		TRANS. TYP. SECT. NO. 7 TO TYP. SECT. NO. 6
29+39.76	33+37.31	1,185		TYPICAL SECTION NO. 6
33+37.31	38+09.12	703		TYPICAL SECTION NO. 6 INCLUDES TAPER, GORE & CONN. TO MAINLINE
E LINE				
10+00.00	11+99.16	858		TYPICAL SECTION NO. 7
E3 RAMP				
11+99.16	14+24.32	671		TYPICAL SECTION NO. 6
14+24.32	24+05.04	731		TYPICAL SECTION NO. 6 INCLUDES TAPER, GORE & CONN. TO MAINLINE
E4 RAMP				
4+57.90	7+71.31	233		TYPICAL SECTION NO. 6 INCLUDES TAPER, GORE & CONN. TO MAINLINE
7+71.31	11+99.16	1,275		TYPICAL SECTION NO. 6
CADD AREAS		887		RADII
SUBTOTAL		55,436	311	
TOTAL		55,747		

GUARDRAIL

STATION FROM	STATION TO	linear feet REMOVE GUARDRAIL LEFT	linear feet REMOVE GUARDRAIL RIGHT	linear feet MGS GUARDRAIL LEFT	linear feet MGS GUARDRAIL RIGHT	each MASH W-BEAM TERMINAL SECTION LEFT	each MASH W-BEAM TERMINAL SECTION RIGHT	each MGS ONE-WAY DEPARTURE TERMINAL SECTION LEFT	each MGS ONE-WAY DEPARTURE TERMINAL SECTION RIGHT	REMARKS
NEW RAIL										
WESTBOUND										
141+24.10	143+58.47				187.5		1		1	
EASTBOUND										
125+03.85	130+50.74				500.0		1		1	
REMOVE RAIL										
WESTBOUND										
141+33.47	143+70.97		237.5							INCLUDES ONE-WAY DEPART. SECT. & OTS
EASTBOUND										
124+91.36	130+41.36		550.0							INCLUDES ONE-WAY DEPART. SECT. & OTS
SUBTOTAL		~	787.5	~	687.5	~	2	~	2	
TOTAL		787.5		687.5		2		2		

REVEGETATION

STATION FROM	STATION TO	lump sum REVEGE-TATION	cu. yards TOPSOIL SALVAGING & PLACING	acres SEED NO.3	acres CONDITION SEEDBED	REMARKS
20+87	21+27	0.5	8	0.1	0.10	E2 RAMP
10+68	11+08	0.5	8	0.1	0.10	E LINE
TOTAL		1	# 16	# 0.2	# 0.2	

FOR INFORMATION ONLY

CATTLE GUARD

STATION	each REMOVE CATTLE GUARD	REMARKS
21+07	1	E2 RAMP
10+88	1	E LINE
TOTAL	2	

FENCING

STATION FROM	STATION TO	linear feet FARM FENCE TYPE F2-32WW	each FARM FENCE PANEL SINGLE FW	each FARM FENCE PANEL DOUBLE FW	REMARKS
21+07 LT		# 46	2		E2 RAMP
21+07 RT		# 40		2	E2 RAMP
10+88 LT		# 44		1	E LINE
10+88 RT		# 65		1	E LINE
TOTAL		195	2	4	

FOR SHOEFLY DETOUR TO REPLACE CATTLEGUARD. SEE SPECIAL PROVISIONS

RUMBLE STRIPS

STATION FROM	STATION TO	miles RUMBLE STRIPS CONTIN-UOUS	miles RUMBLE STRIPS INTER-MITTENT	gals EMULSIFIED ASPHALT FOG SEAL #	REMARKS
A4 LINE					
100+00.00	141+98.00 LT		0.8	9.4	
103+37.83	147+81.52 RT	0.8		9.4	
149+27.32	156+30.23 LT		0.1	1.2	
A3 LINE					
113+91.35	142+35.86 LT	0.5		5.9	
113+91.35	143+30.96 RT		0.6	7.0	
144+66.54	148+94.41 LT	0.1		1.2	
147+32.59	152+93.95 RT		0.1	1.2	
SUBTOTAL		1.4	1.6	35.2	
TOTAL		3.0		~	

FOR INFORMATION ONLY, INCLUDE IN THE COST OF RUMBLE STRIPS

PAVEMENT MARKINGS

ITEM	UNIT	INTERIM APPLICA-TION #	FINAL APPLICA-TION	TOTAL
STRIPING - WHITE PAINT	gallon	152		152
STRIPING - YELLOW PAINT	gallon	108		108
WORDS & SYMBOLS - WHITE PAINT	gallon	6		6
STRIPING - WHITE EPOXY	gallon		101	101
STRIPING - YELLOW EPOXY	gallon		72	72
WORDS & SYMBOLS - WHITE EPOXY	gallon		5	5
CURB MARKING - YELLOW EPOXY	gallon		38	38
TEMPORARY STRIPING	linear feet			8,390
FINAL SWEEP AND BROOM	course mile			2.2

BASED ON 2 APPLICATIONS.

SHEET NO. 8

SUMMARY SHEET

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

	CHECKED BY	REVIEWED BY	DESIGNED BY
8/18/2023	TOJ	JDB	RPB
8/2/2023			
5/1/2023			

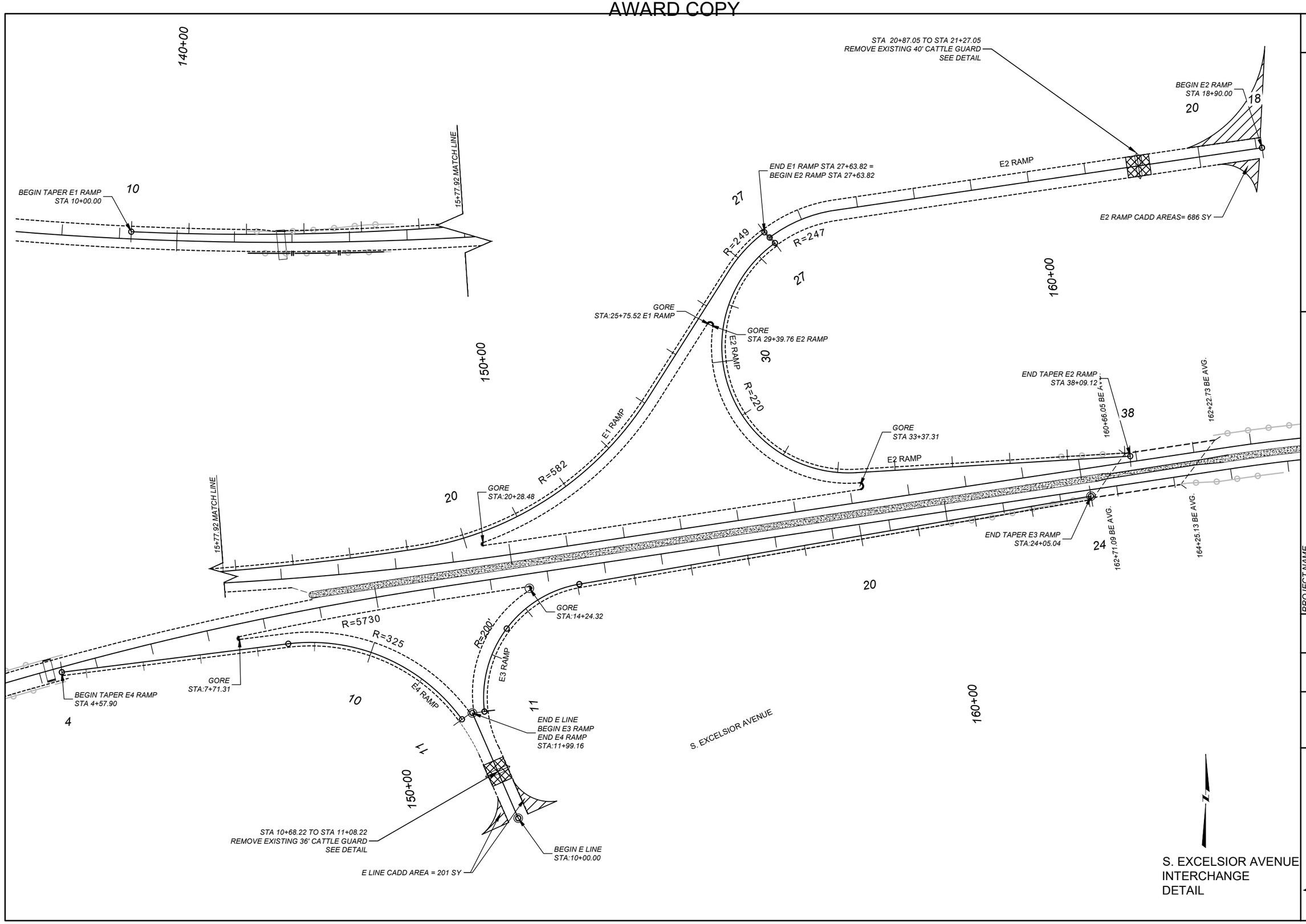
10257000RDSUM001.DWG

MONTANA Department of Transportation

ROAD PLANS

10/24/2023 12:59 PM

AWARD COPY



SHEET NO.
9

DETAILS
S. EXCELSIOR AVE.
INTERCHANGE

PROJECT NAME	INTERSTATE 115-BUTTE		
COUNTY	SILVER BOW		
PROJECT ID	IM 115-2(10)0		
UPN	10257000		
		8/18/2023	
	TOJ	8/2/2023	
CHECKED BY	JDB	5/1/2023	
REVIEWED BY	RPB		
DESIGNED BY			

10257000RDMAP001.DWG

MONTANA
Department of Transportation

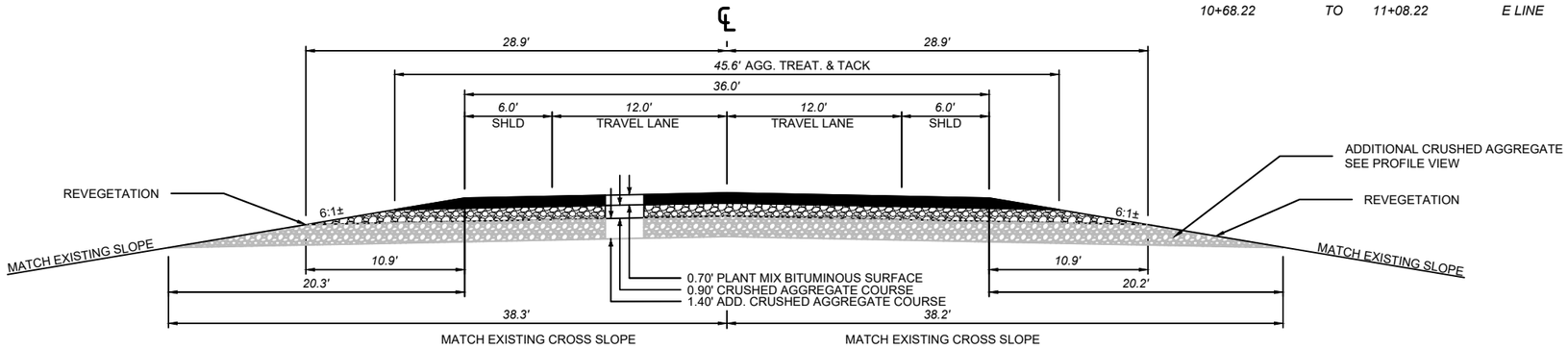
ROAD PLANS

10/24/2023 2:28 PM

SECTION A - A

20+87.05 TO 21+27.05 E2 RAMP

10+68.22 TO 11+08.22 E LINE

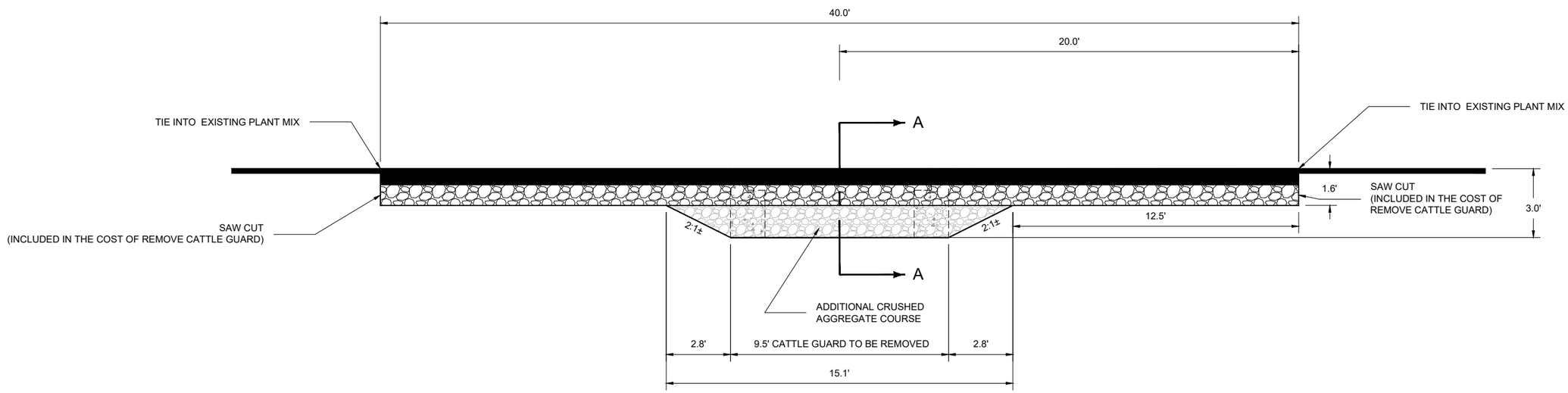


QUANTITIES						
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL		
	PLANT MIX	CR. AGG. COURSE		ASPHALT CEMENT	AGG. TREATMENT	EMULSIFIED ASPHALT TACK*
AREA square feet	28.56	46.53	square yards PER STATION			2027
cubic yards PER STATION	105.8	172.3	tons PER STATION	11.01	507	
tons PER STATION	203.9		gals. PER STATION			101
square yards PER STATION						

*BASED ON 4 APPLICATIONS

NOTE;
ESTIMATED QUANTITIES FOR CATTLE GUARD REMOVAL
ADDITIONAL CRUSHED AGGREGATE COURSE = 39 YD³
UNCLASSIFIED EXCAVATION = 175 YD³ (QUANTITY INCLUDED IN THE COST OF REMOVE CATTLE GUARD)

PROFILE VIEW



SHEET NO. 10

DETAILS CATTLE GUARD REMOVAL

PROJECT NAME INTERSTATE 115-BUTTE
COUNTY SILVER BOW
PROJECT ID IM 115-2(10)0
UPN 10257000

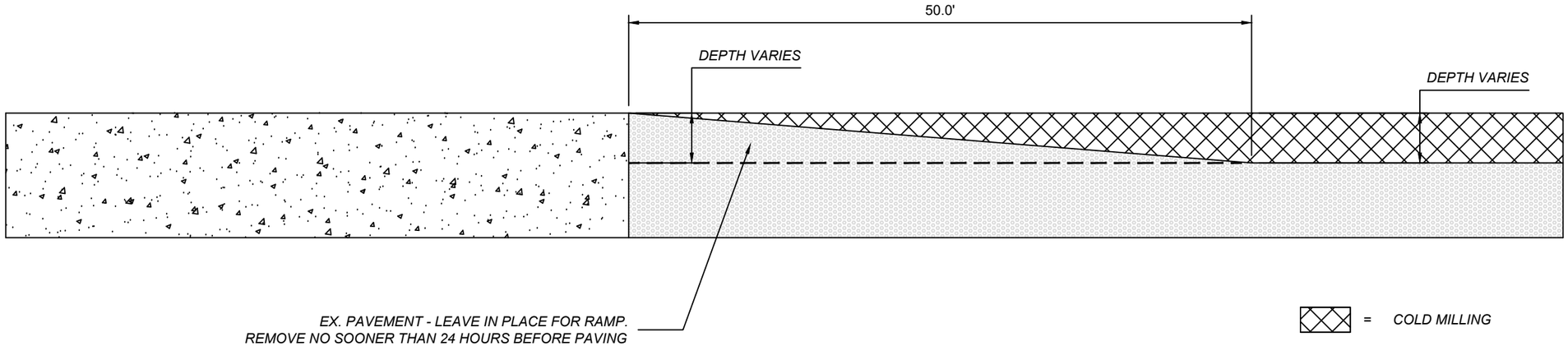
CHECKED BY	TOJ	8/18/2023
REVIEWED BY	JDB	8/2/2023
DESIGNED BY	RPB	7/26/2023

10257000RDMAP001.DWG

MONTANA Department of Transportation

ROAD PLANS

10/24/2023 2:28 PM



NOTE:
TAPERED MILLING DETAIL
APPLIES TO PTW CONNECTIONS

SHEET NO. 11

DETAILS
TEMPORARY MILLING CONNECTION

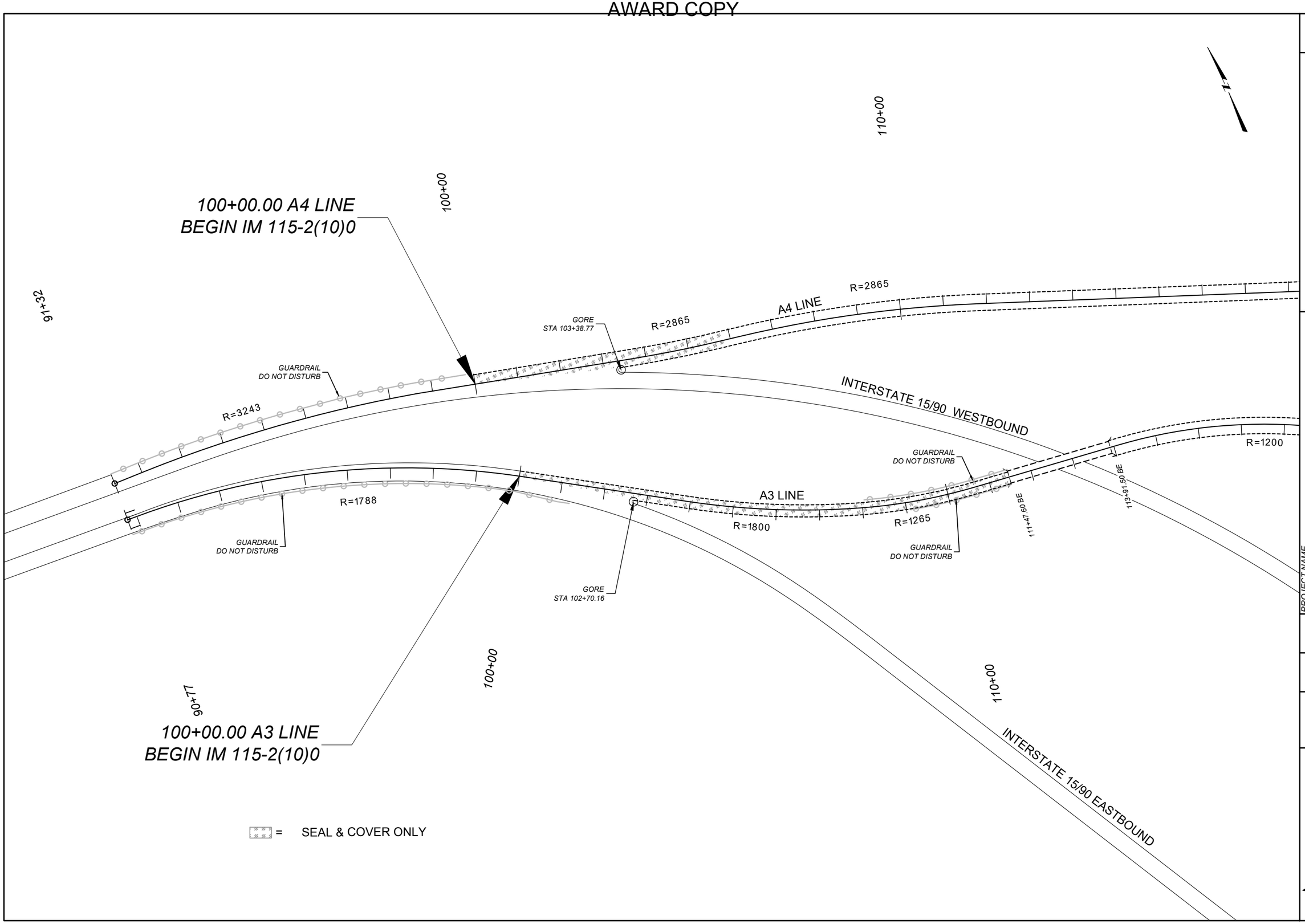
PROJECT NAME	INTERSTATE 115-BUTTE		
COUNTY	SILVER BOW		
CHECKED BY	TOJ	8/18/2023	
REVIEWED BY	JDB	8/2/2023	PROJECT ID IM 115-2(10)0
DESIGNED BY	RPB	7/26/2023	UPN 10257000

MONTANA
Department of Transportation

ROAD PLANS

10257000RDMAP001.DWG

10/24/2023 2:28 PM



SHEET NO.
12

PLAN SHEETS

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

	CHECKED BY	REVIEWED BY	DESIGNED BY
	TOJ	JDB	RPB
	8/18/2023	8/2/2023	5/1/2023

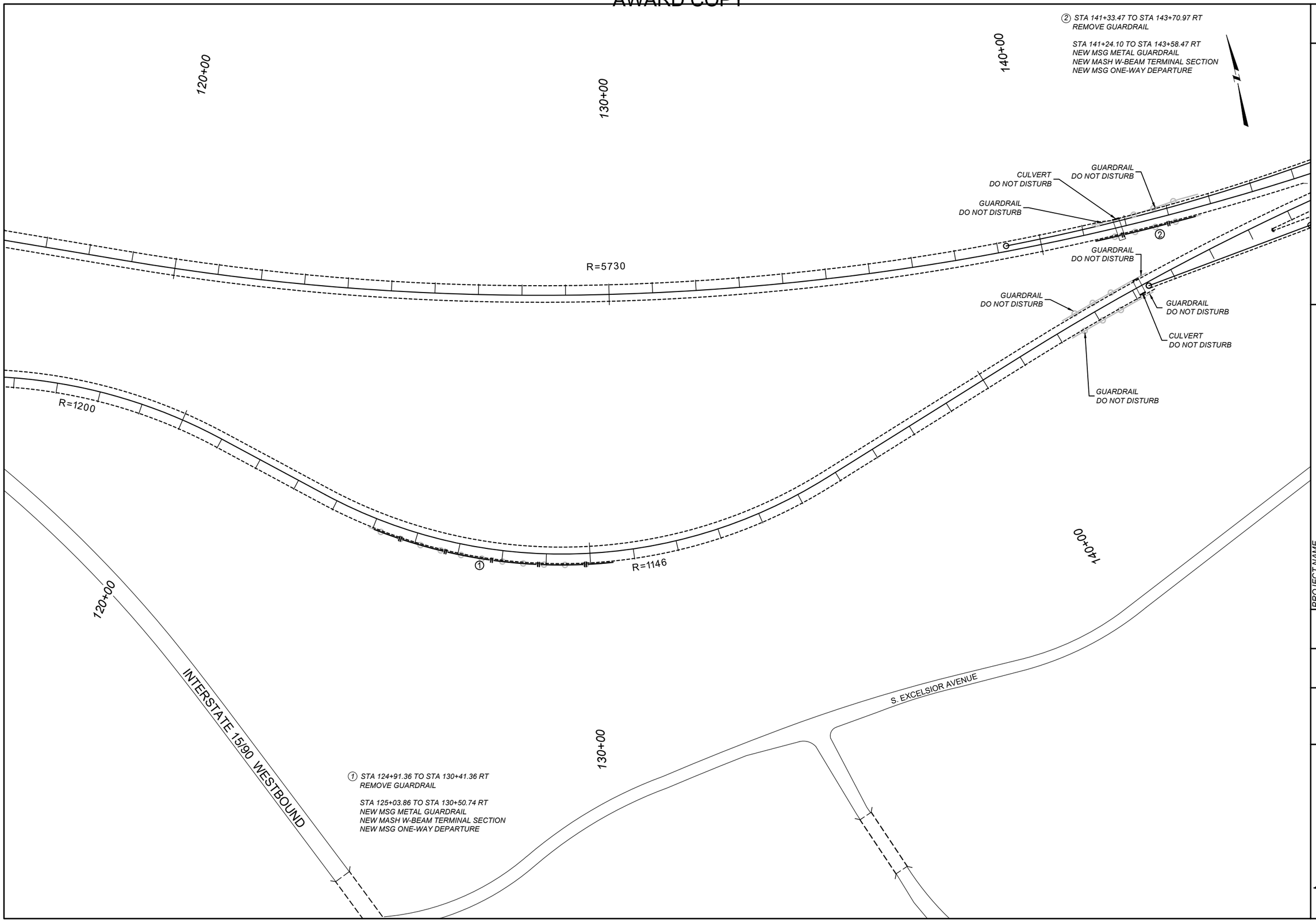
MONTANA
Department of Transportation

ROAD PLANS

10257000RDMAP001.DWG

10/24/2023 2:28 PM

AWARD COPY



SHEET NO.
13

PLAN SHEETS

PROJECT NAME	INTERSTATE 115-BUTTE		
COUNTY	SILVER BOW		
PROJECT ID	IM 115-2(10)0		
UPN	10257000		
CHECKED BY	TOJ	8/18/2023	
REVIEWED BY	JDB	8/2/2023	
DESIGNED BY	RPB	5/1/2023	

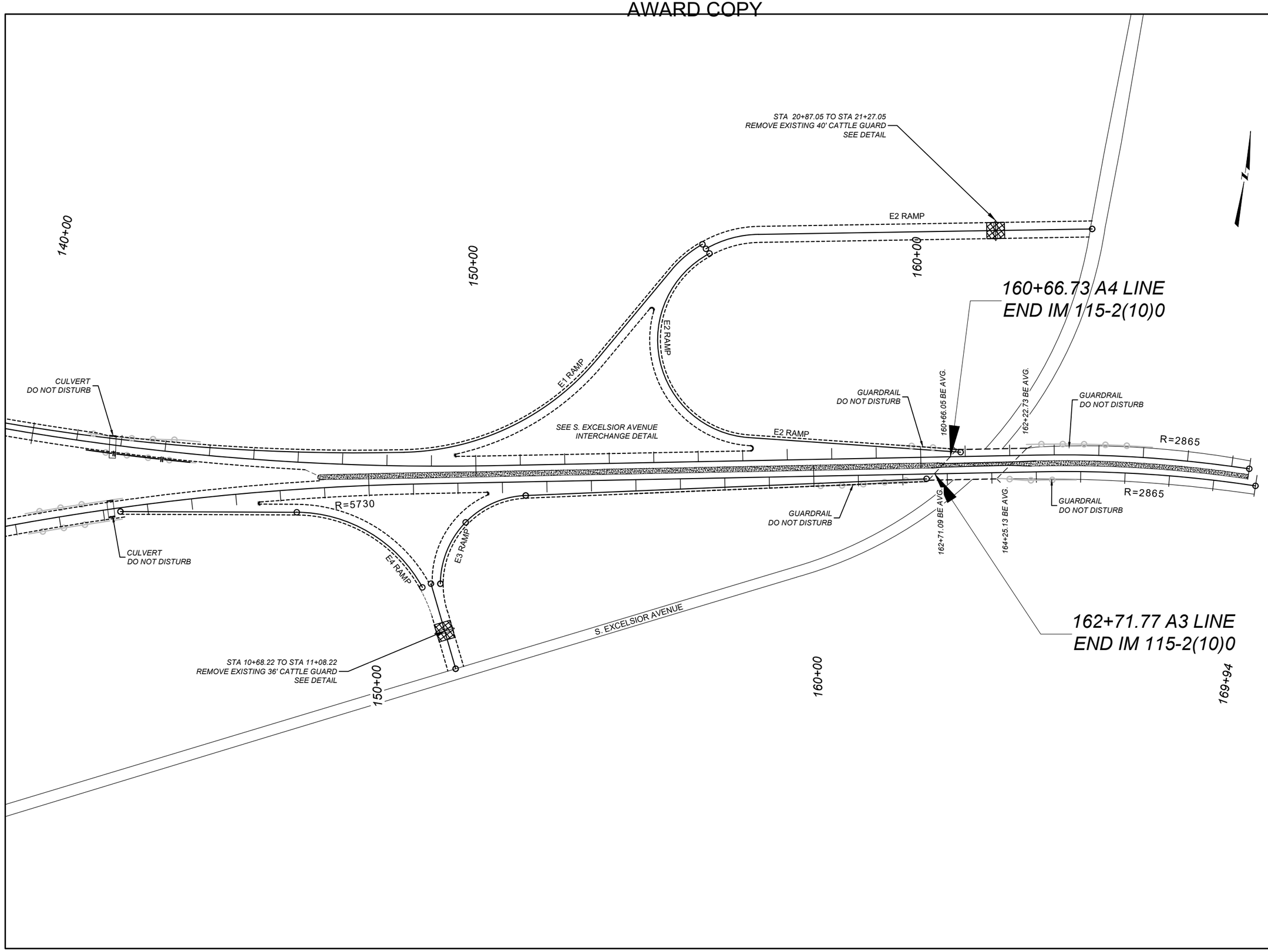
10257000RDMAP001.DWG

MONTANA
Department of Transportation

ROAD PLANS

10/24/2023 2:28 PM

AWARD COPY



SHEET NO.
14

PLAN SHEETS

PROJECT NAME	INTERSTATE 115-BUTTE		
COUNTY	SILVER BOW		
PROJECT ID	IM 115-2(10)0		
UPN	10257000		
DESIGNED BY	RPB	5/1/2023	
REVIEWED BY	JDB	8/2/2023	
CHECKED BY	TOJ	8/18/2023	

MONTANA
Department of Transportation

ROAD PLANS

10/24/2023 2:28 PM

10257000RDMAP001.DWG

Material	Total	Unit
SIGNS-ALUM REFL SHEET XI	775.4	SQ. FOOT
SIGNS-ALUM SHEET INCR XI	992.9	SQ. FOOT
POSTS-STEEL U SIGN	64	POUNDS
POLES-TREATED WOOD 4 IN	32	LINEAR FT.
POLES-TREATED WOOD 5 IN	334	LINEAR FT.
POSTS-TUBULAR STEEL	2078	POUNDS
POSTS-STEEL STRUCTURAL SIGN	7792	POUNDS
DELINEATOR DES A	87	EACH
DELINEATOR DES B	8	EACH
DELINEATOR DES D	4	EACH
DELINEATOR DES G	43	EACH
DELINEATOR DES H	57	EACH
DELINEATOR DES BJ	22	EACH
DELINEATOR DES GJ	18	EACH
DELINEATOR FLEXIBLE SURFACE MOUNT YELLOW	15	EACH
REMOVE SIGNS	49	EACH
REMOVE SIGNS-GUIDE	11	EACH
FRANG SIGN POST BKWY - 3.5 IN RD	10	EACH
FRANG SIGN POST BKWY- S4 X 7.7	6	EACH
FRANG SIGN POST BKWY- S5 X 10	2	EACH
FRANG SIGN POST BKWY- 4 IN RD	6	EACH
FRANG SIGN POST BKWY- W8 X 18	10	EACH
FRANG SIGN POST BKWY- W8 X 24	2	EACH

X = *STANDARD BREAKAWAY DEVICE:*
-FOR WOOD POST SEE DETAILED DRAWINGS 619-20.
-FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-13

■ = *FRANGIBLE SIGN POST. BREAKAWAY DEVICE REQUIRED.*

FY = *FLUORESCENT YELLOW-SHEETING REQUIRED.*

RSFO = *REPLACE SIGN FACE ONLY.*

BBR = *BACKBRACKING REQUIRED:*
-FOR WOOD POST
2" X 4" REQ'D
-FOR STRUCTURAL STEEL
2" X 2" X $\frac{1}{4}$" ANGLE IRON REQ'D.

AIR = *$2\frac{1}{2}$" X $2\frac{1}{2}$" X $\frac{3}{8}$" X 6' - 4" ANGLE IRON REQUIRED (37 LBS.)*

MOUNTING HEIGHT REQUIREMENTS:
MOUNTING HEIGHTS SHOWN REFER TO THE BOTTOM OF THE MAJOR PANEL. SEE DETAILED DRAWINGS 619-00 & 619-08

WHITE CROSS BY OTHERS SIGNS WILL BE "USE AS IS"

BGR = *BEHIND GUARDRAIL*

SHEET NO. S1

SUMMARY SIGNING & DELINEATION QUANTITIES

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

DESIGNED BY	REVIEWED BY	CHECKED BY
S WATSON 09/2023	--- 10/2023	N STYREN 09/2023

MONTANA Department of Transportation

SIGNING PLANS

10/24/2023 12:50 PM

10257000SISUM001.DWG

AWARD COPY

SIGN LOCATION			SIGN PANEL SPECIFICATIONS																			SIGN ASSEMBLY QUANTITIES										ADDITIONAL SIGN INFORMATION	
										FEET			FEET									PANEL (SQ. FT.)		WOOD POLE		STEEL POST (LBS.)				REMV			
STATION / R.P.		DIRECTON	SIGN NO. (MUTCD)	PANEL SIZE (INCHES)			REFLECTIVE SHEETING TYPE		FY OR FYG	BACK BRACING REQ'D ANGLE IRON REQ'D	REPLACE SIGN FACE ONLY	CLEARANCE/OFF SET (SHOULDER TO EDGE OF SIGN)	SLOPE	TYPE OF SUPPORT	SIGN SUPPORT SPACING	MOUNTING HEIGHT	FOUNDATION DEPTH	SUPPORT LENGTH (ESTIMATED)			BREAKAWAY TYPE	BEHIND GUARDRAIL	SHEET ALUMINUM	SHEET ALUMINUM INCREMENT	4" TOP DIA.	5" TOP DIA.	ROUND TUBULAR	STRUCTURAL STEEL	"U" POST	BREAKAWAY	SIGN	GUIDE	SIGN TEXT	REMARKS
LFT MDN		RGT		W	X	H	BG	LEG										X	Y Z														
I-115 Westbound																																	
103+63		WB																														NO U TURN	
		X	R3-4	48	X	48	XI	XI				20.00	"6:1"	4.0" Tubular Stl-Round		7'	3'	14'4"			■		16.0				155.00			1	1			REPLACE - NO U TURN
106+80		WB								BBR																						MERGE RIGHT	
		X	W4-1R	48	X	48	XI				RSFO												16.0							1			RSFO - MERGE RIGHT
113+62		WB								BBR																						LANE ENDS-LEFT	RSFO - LEFT LANE ENDS
		X	W4-2L	48	X	48	XI				RSFO												16.0							1			
113+62		WB								BBR																						LANE ENDS-LEFT	RSFO - LEFT LANE ENDS
X			W4-2L	48	X	48	XI				RSFO												16.0							1			
124+10		WB								BBR																						LANE ENDS	
		X	W9-1	48	X	48	XI				RSFO												16.0							1			RSFO - LANE ENDS
124+10		WB								BBR																						LANE ENDS	
X			W9-1	48	X	48	XI				RSFO												16.0							1			RSFO - LANE ENDS
134+33		WB								BBR																						WEST	
		X	M3-4A	30	X	15	XI	XI				10.00	"4:1" upslope	S5x10 Structural Steel		7'	3'6"	14'11"			■		3.1					150.00		1		1		REPLACE - WEST
			M1-1	36	X	36	XI	XI		BBR													7.2										INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 115
			M4-5A	24	X	12	XI	XI		BBR													2.0										TO	REPLACE - TO
			M4-5A	24	X	12	XI	XI		BBR													2.0										TO	REPLACE - TO
			M3-3A	30	X	15	XI	XI		BBR													3.1										SOUTH	REPLACE - SOUTH
			M3-4A	30	X	15	XI	XI		BBR													3.1										WEST	REPLACE - WEST
			M1-1	36	X	36	XI	XI		BBR													7.2										INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 15
			M1-1	36	X	36	XI	XI		BBR													7.2										INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 90
			M6-3A	21	X	15	XI	XI		BBR													2.2										DIRECTIONAL ARROW-UP	REPLACE - STRAIGHT ARROW
			M6-3A	21	X	15	XI	XI		BBR													2.2										DIRECTIONAL ARROW-UP	REPLACE - STRAIGHT ARROW
142+16		WB								BBR																						SPEED LIMIT {___}	
		X	R2-1	48	X	60	XI					5.00	"6:1"	S4x7.7 Structural Steel		7'	3'6"	13'2"			X	BGR		20.00				101.00		1	1			REPLACE - SPEED LIMIT (65 MPH)
154+46		WB								BBR																						MERGE RIGHT	
		X	W4-1R	48	X	48	XI					10.00	"6:1"	3.5" Tubular Stl-Round		7'	3'	14'7"			■		16.0				169.00			1	1			REPLACE - MERGE RIGHT
			W4-1P	REMOVE																												MERGE	REMOVE - MERGE SUPPL.

SHEET NO.
S2

SIGN LOCATION AND SPECIFICATIONS

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

DESIGNED BY		REVIEWED BY		CHECKED BY	
S WATSON	09/2023	---	10/2023	N STYREN	09/2023

10257000SIGSUM001.DWG

MONTANA Department of Transportation

SIGNING PLANS

10/24/2023 12:50 PM

AWARD COPY

SIGN LOCATION			SIGN PANEL SPECIFICATIONS																																	ADDITIONAL SIGN INFORMATION	
STATION / R.P.		DIRECTION	SIGN NO. (MUTCD)	PANEL SIZE (INCHES)			REFLECTIVE SHEETING TYPE		FY OR FYG	BACK BRACING REQ'D ANGLE IRON REQ'D	REPLACE SIGN FACE ONLY	FEET			FEET						BREAKAWAY TYPE	BEHIND GUARDRAIL	SIGN ASSEMBLY QUANTITIES													
																							PANEL (SQ. FT.)		WOOD POLE		STEEL POST (LBS.)				REMV			
LFT	MDN	RGT		W	X	H	BG	LEG				CLEARANCE/OFF SET (SHOULDER TO EDGE OF SIGN)	SLOPE	TYPE OF SUPPORT	SIGN SUPPORT SPACING	MOUNTING HEIGHT	FOUNDATION DEPTH	SUPPORT LENGTH (ESTIMATED) X	Y	Z			SHEET ALUMINUM	SHEET ALUMINUM INCREMENT	4" TOP DIA.	5" TOP DIA.	ROUND TUBULAR	STRUCTURAL STEEL	"U" POST	BREAKAWAY	SIGN	GUIDE	SIGN TEXT	REMARKS
155+82		WB								BBR				S4x7.7 Structural Steel																						EXIT GORE	REPLACE - EXIT GORE 1 W/R DIAG.
		X	EG-1	60	X	72	XI					5.00	"6:1"		3'-7"	7'	3'6"	12'9"	12'9"		■			30.00				197.00		2		1		
162+52		WB								BBR				W12x30 Structural Steel																						EXIT PANEL	REPLACE - EXIT PANEL 1
		X	E-1	66	X	30	XI			AIR		5.00	"6:1 and 1:1"		10'6"	7'	8'	16'11"	27'9"		X	BGR		13.80				1164.00		2		1		
			G5-75	210	X	102	XI			BBR														148.80									EXIT GUIDE SIGN	REPLACE - EXCELSIOR WALKERVILLE W/R. DIAG. ARROW
166+85		WB								BBR				3.5" Tubular Stl-Round				12'8"			■															
		X	W8-12B	48	X	48	XI					20.00	"1:0"			7'	3'						16.0				116.00			1	1		WATCH FOR ICE ON BRIDGE	RSFO - WATCH FOR ICE ON BRIDGE (HINGED)
168+90		WB								BBR				W8x24 Structural Steel				17'			■															
		X	E-1	66	X	30	XI			AIR		30.00	"6:1 and 0:0"		10'6"	7'	7'		18'11"					13.80				909.00		2		1		EXIT PANEL	REPLACE - EXIT PANEL 1
			G3-82A	210	X	102	XI			BBR														148.80									EXIT GUIDE SIGN	REPLACE - EXCELSIOR WALKERVILLE 1/4 MILE
171+50		WB								BBR				W8x18 Structural Steel				18'2"			■															
		X	M3-4A	30	X	15						20.00	"0:0"			7'							3.1					328.00		1	1		WEST	REPLACE - WEST
			M1-1	36	X	36				BBR													7.2									INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 115
			M4-5A	24	X	12				BBR													2.0									TO	REPLACE - TO
			M4-5A	24	X	12				BBR													2.0									TO	REPLACE - TO
			M3-3A	30	X	15				BBR													3.1									SOUTH	REPLACE - SOUTH
			M3-4A	30	X	15				BBR													3.1									WEST	REPLACE - WEST
			M1-1	36	X	36				BBR													7.2									INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 15
			M1-1	36	X	36				BBR													7.2									INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 90
			M6-3A	21	X	15				BBR													2.2									DIRECTIONAL ARROW-UP	REPLACE - STRAIGHT ARROW
			M6-3A	21	X	15				BBR													2.2									DIRECTIONAL ARROW-UP	REPLACE - STRAIGHT ARROW
I-115 Westbound On-Ramp																																					
20+97		WB								BBR				3.5" Tubular Stl-Round				14'7"			■															
		X	W4-1R	48	X	48	XI					10.00	"6:1"			7'	3'						16.0				169.00			1	1		MERGE RIGHT	REPLACE - MERGE RIGHT
25+42		WB								BBR				4.0" Tubular Stl-Round				14'			■															
X			R4-7	48	X	60	XI					10.00	"6:1"			7'	3'							20.00				190.00		1	1		KEEP RIGHT	REPLACE - KEEP RIGHT SYMBOL
			R4-7P	REMOVE																													KEEP RIGHT	REMOVE - KEEP RIGHT

SHEET NO.
S3

SIGN LOCATION AND SPECIFICATIONS

PROJECT NAME: INTERSTATE 115-BU
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

DESIGNED BY: S WATSON 09/2023
REVIEWED BY: --- 10/2023
CHECKED BY: N STYREN 09/2023

10257000SIGSUM001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 12:50 PM

AWARD COPY

| SIGN LOCATION | | | SIGN PANEL SPECIFICATIONS | | |

AWARD COPY

SIGN LOCATION			SIGN PANEL SPECIFICATIONS																																ADDITIONAL SIGN INFORMATION	
											FEET				FEET						SIGN ASSEMBLY QUANTITIES															
																					PANEL (SQ. FT.)		WOOD POLE		STEEL POST (LBS.)				REMV							
STATION / R.P.		DIRECTION		PANEL SIZE (INCHES)			REFLECTIVE SHEETING TYPE		FY OR FYG	BACK BRACING REQ'D ANGLE IRON REQ'D	REPLACE SIGN FACE ONLY	CLEARANCE/OFF SET (SHOULDER TO EDGE OF SIGN)	SLOPE	TYPE OF SUPPORT	SIGN SUPPORT SPACING	MOUNTING HEIGHT	FOUNDATION DEPTH	SUPPORT LENGTH (ESTIMATED)			BREAKAWAY TYPE	BEHIND GUARDRAIL	SHEET ALUMINUM	SHEET ALUMINUM INCREMENT	4" TOP DIA.	5" TOP DIA.	ROUND TUBULAR	STRUCTURAL STEEL	"U" POST	BREAKAWAY	SIGN	GUIDE	SIGN TEXT	REMARKS
LFT	MDN	RGT	SIGN NO. (MUTCD)	W	X	H	BG	LEG									X	Y	Z																
18+50		WB																																		
X			M3-4A	30	X	15				BBR			"6:1"	W8x18 Structural Steel		7'	5.5'	23'3"			■		3.1					419.00		1	1		WEST	REPLACE - WEST
			M1-1	36	X	36				BBR													7.5										INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 115
			M6-1A	21	X	15				BBR													2.2										DIRECTIONAL ARROW	REPLACE - LEFT ARROW
			M4-5A	24	X	12				BBR													2.0										TO	REPLACE - TO
			M4-5A	24	X	12				BBR													2.0										TO	REPLACE - TO
			M3-3A	30	X	15				BBR													3.1										SOUTH	REPLACE - SOUTH
			M3-4A	30	X	15				BBR													3.1										WEST	REPLACE - WEST
			M1-1	36	X	36				BBR													7.5										INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 15
			M1-1	36	X	36				BBR													7.5										INTERSTATE {___}	REPLACE - INTERSTATE SHIELD 90
			M6-1A	21	X	15				BBR													2.2										DIRECTIONAL ARROW	REPLACE - LEFT ARROW
			M6-1A	21	X	15				BBR													2.2										DIRECTIONAL ARROW	REPLACE - LEFT ARROW
18+40		WB																																		
	X		G8-25	120	X	24	XI	XI				20.00	"6:1"	5" Treated Wood Pole	6'	7'	3'6"	12'2"	12'2"		✕			20.00		28.00				2		1	GUIDE SIGN	REPLACE - <- WALKERVILLE
I-115 Westbound Off-Ramp																																				
32+45		WB																																		
X			W1-8R	36	X	48	XI		FY	BBR		10.00	"6:1"	5" Treated Wood Pole		7'	3'6"	16'5"			✕		12.0			18.00				1			CHEVRON	NEW - CHEVRON
32+08		WB																																		
X			W1-6R	REMOVE																											1			DIRECTIONAL ARROW-RT	REMOVE- RIGHT DIRECTIONAL ARROW
31+71																																				
X			W1-8R	36	X	48	XI		FY	BBR		10.00	"6:1"	5" Treated Wood Pole		7'	3'6"	16'5"			✕		12.0			18.00				1			CHEVRON	NEW - CHEVRON
31+34		WB																																		
X			R5-1A	42	X	30	XI	XI				10.00	"6:1"	5" Treated Wood Pole		7'	3'6"	15'			✕		8.8			16.00				1	1		WRONG WAY	REPLACE - WRONG WAY
31+32		WB																																		
	X		R5-1A	42	X	30	XI	XI				10.00	"6:1"	5" Treated Wood Pole		7'	3'6"	15'			✕		8.8			16.00					1		WRONG WAY	REPLACE - WRONG WAY
31+02		WB																																		
X			W1-8R	36	X	48	XI		FY	BBR		10.00	"6:1"	5" Treated Wood Pole		7'	3'6"	16'5"			✕		12.0			18.00				1			CHEVRON	NEW - CHEVRON
30+27		WB																																		
X			W1-8R	36	X	48	XI		FY	BBR		10.00	"6:1"	5" Treated Wood Pole		7'	3'6"	16'5"			✕		12.0			18.00				1			CHEVRON	NEW - CHEVRON

SHEET NO.
S5

SIGN LOCATION AND SPECIFICATIONS

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

DESIGNED BY	DATE	REVIEWED BY	DATE	CHECKED BY	DATE
S WATSON	09/2023	---	10/2023	N STYREN	09/2023

10257000SIGSUM001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 12:50 PM

AWARD COPY

| SIGN LOCATION | | | SIGN PANEL SPECIFICATIONS | | |

AWARD COPY

| SIGN LOCATION | | | SIGN PANEL SPECIFICATIONS | | |

AWARD COPY

| SIGN LOCATION | | | SIGN PANEL SPECIFICATIONS | | |

AWARD COPY

| SIGN LOCATION | | | SIGN PANEL SPECIFICATIONS | | |

AWARD COPY

| SIGN LOCATION | | | SIGN PANEL SPECIFICATIONS | | |

CHEVRON PLACEMENT DETAIL

(GUIDANCE ONLY)

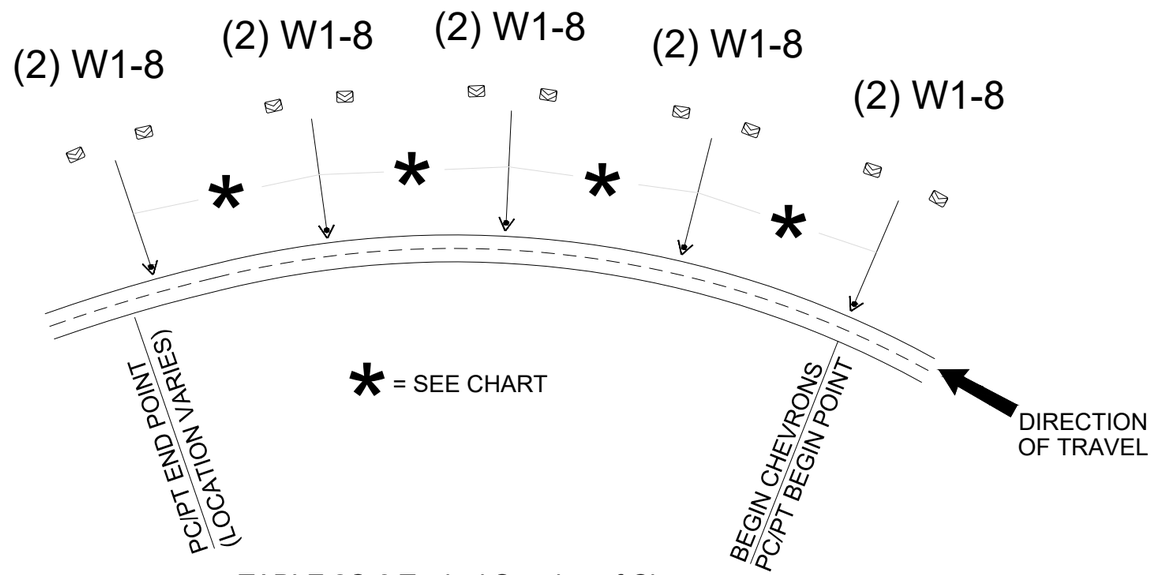


TABLE 2C-6 Typical Spacing of Chevrons

ADVISORY SPEED	CURVE RADIUS	SIGN SPACING		R.P. CONVERSION
<15 mph	<200'	40'	=	.008+-
20-30 mph	200' - 400'	80'	=	.015+-
35-45 mph	401' - 700'	120'	=	.023+-
50-60 mph	701' - 1250'	160'	=	.030+-
>60 mph	>1250'	200'	=	.038+-

1) SEE SPEC SHEET FOR CHEVRON PLACEMENT

2) USE BEGINNING OF CURVE LOCATION AS REFERENCE POINT TO INSTALL CHEVRONS
(BEGIN POINT - ALWAYS ON OUTSIDE OF CURVE IN DIRECTION OF TRAVEL)

SHEET NO.
S11

CHEVRON DETAIL

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

DESIGNED BY	S WATSON	09/2023	
REVIEWED BY	---	10/2023	
CHECKED BY	N STYREN	09/2023	

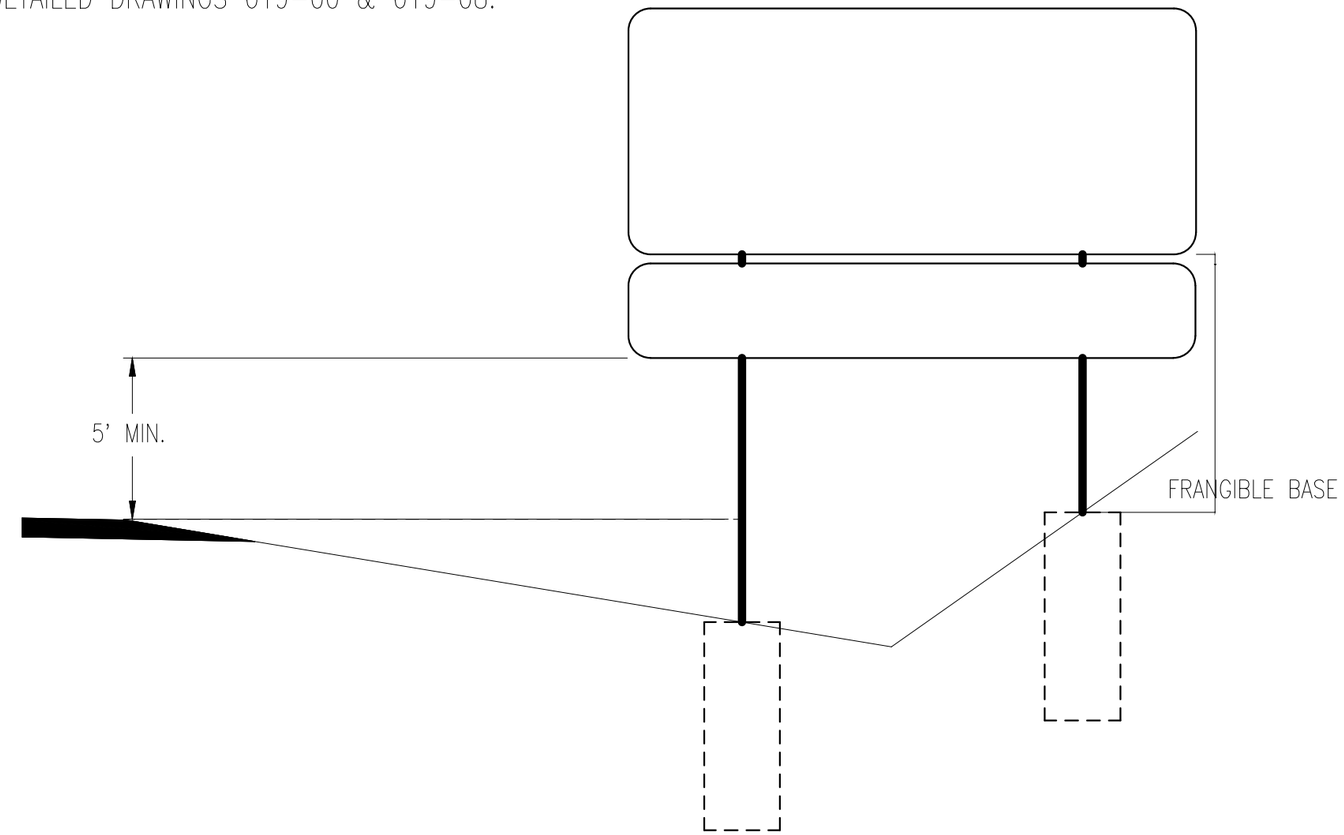
10257000SIDET001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

MINIMUM MOUNTING HEIGHTS SHOWN IN LOCATION AND SPECIFICATION SHEETS REFER TO THE BOTTOM OF THE MAJOR PANEL. MOUNTING HEIGHTS WILL INCREASE WITH ADDITIONAL PANELS.
SEE DETAILED DRAWINGS 619-00 & 619-08.



GUIDE SIGN MOUNTING HEIGHT DETAIL

SHEET NO.
S12

GUIDE SIGN MOUNTING HEIGHT DETAIL

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

DESIGNED BY	S WATSON	09/2023
REVIEWED BY	---	10/2023
CHECKED BY	N STYREN	09/2023

10257000SIDET001.DWG

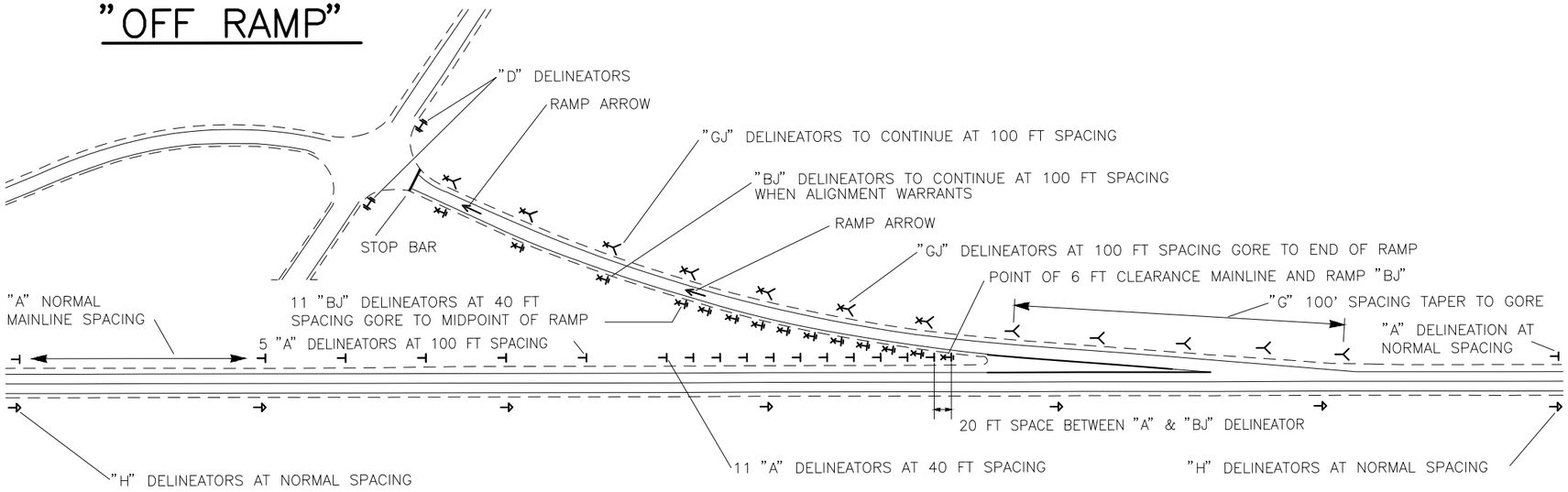
MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

NEW
RAMP DELINEATION DETAIL

"OFF RAMP"

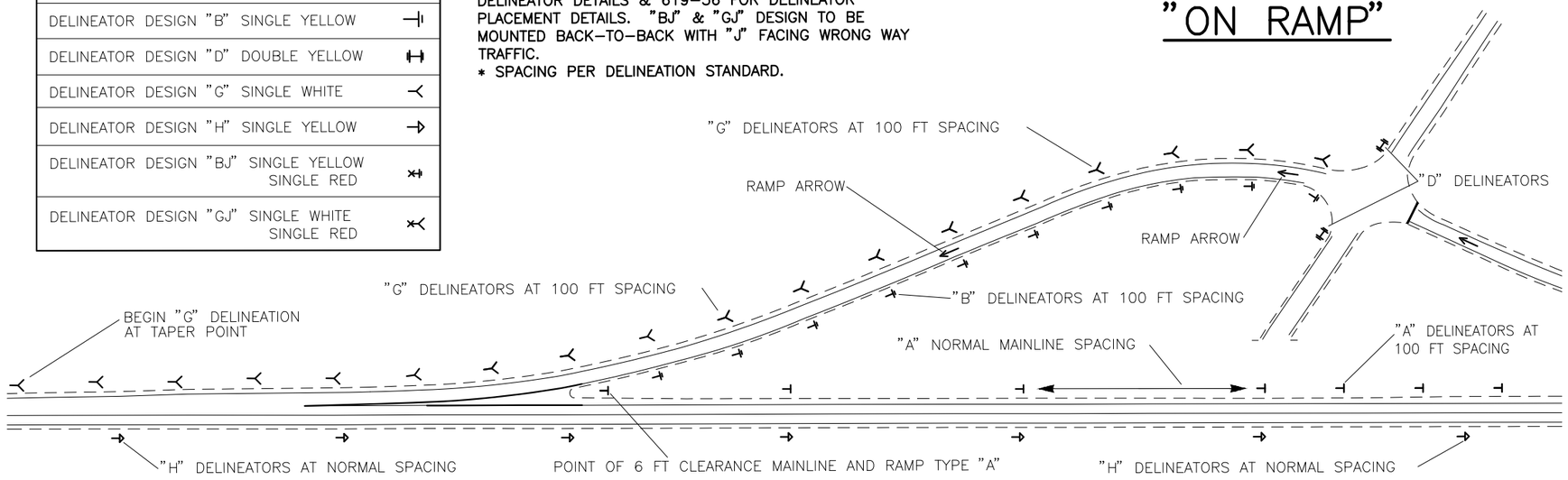


LEGEND

DELINEATOR DESIGN "A" SINGLE WHITE	⊣
DELINEATOR DESIGN "B" SINGLE YELLOW	⊣
DELINEATOR DESIGN "D" DOUBLE YELLOW	⊣⊣
DELINEATOR DESIGN "G" SINGLE WHITE	⊣
DELINEATOR DESIGN "H" SINGLE YELLOW	⊣
DELINEATOR DESIGN "BJ" SINGLE YELLOW SINGLE RED	⊣
DELINEATOR DESIGN "GJ" SINGLE WHITE SINGLE RED	⊣

NOTE:
ALL DELINEATORS AT 6 FT CLEARANCE FROM EDGE OF PAVEMENT. SEE DETAILED DRAWING 619-34 FOR DELINEATOR DETAILS & 619-36 FOR DELINEATOR PLACEMENT DETAILS. "BJ" & "GJ" DESIGN TO BE MOUNTED BACK-TO-BACK WITH "J" FACING WRONG WAY TRAFFIC.
*** SPACING PER DELINEATION STANDARD.**

"ON RAMP"



SHEET NO.
S13

RAMP DELINEATION DETAIL

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

DESIGNED BY	REVIEWED BY	CHECKED BY
S WATSON 09/2023	--- 10/2023	N STYREN 09/2023

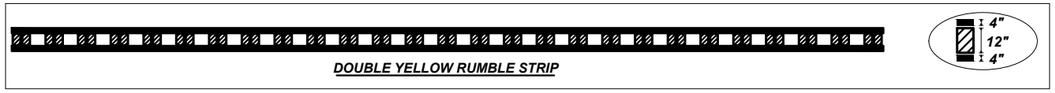
10257000SIDET001.DWG

MONTANA Department of Transportation

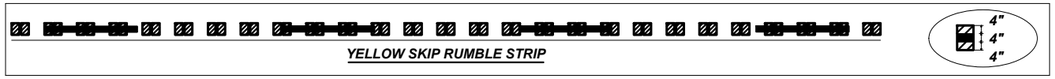
SIGNING PLANS

10/24/2023 9:51 AM

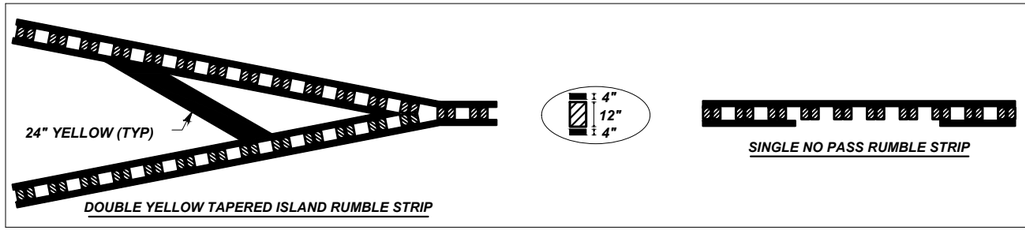
TYPICAL RURAL CENTERLINE PAVEMENT MARKINGS AND RUMBLE STRIPS.
SEE ROAD DESIGN PLANS FOR RUMBLE STRIP QUANTITY (IF USED)



DOUBLE YELLOW RUMBLE STRIP

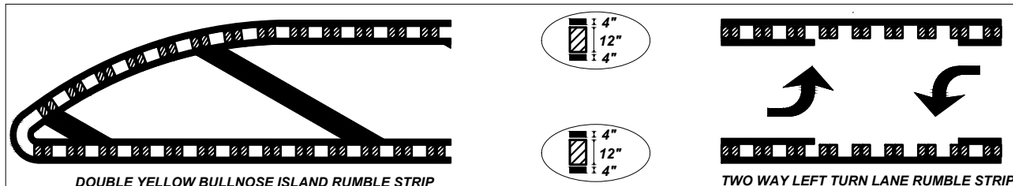


YELLOW SKIP RUMBLE STRIP



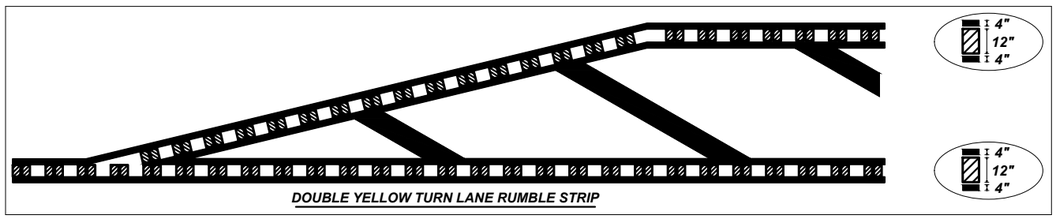
DOUBLE YELLOW TAPERED ISLAND RUMBLE STRIP

SINGLE NO PASS RUMBLE STRIP

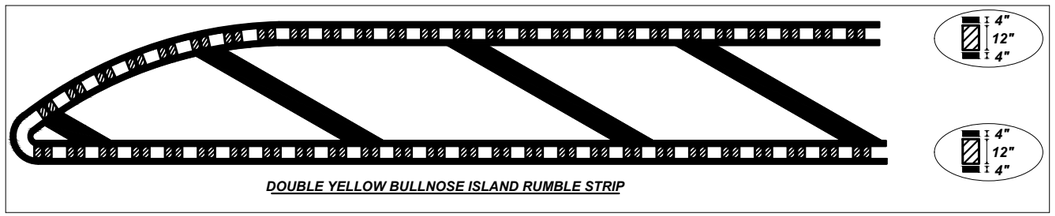


DOUBLE YELLOW BULLNOSE ISLAND RUMBLE STRIP

TWO WAY LEFT TURN LANE RUMBLE STRIP



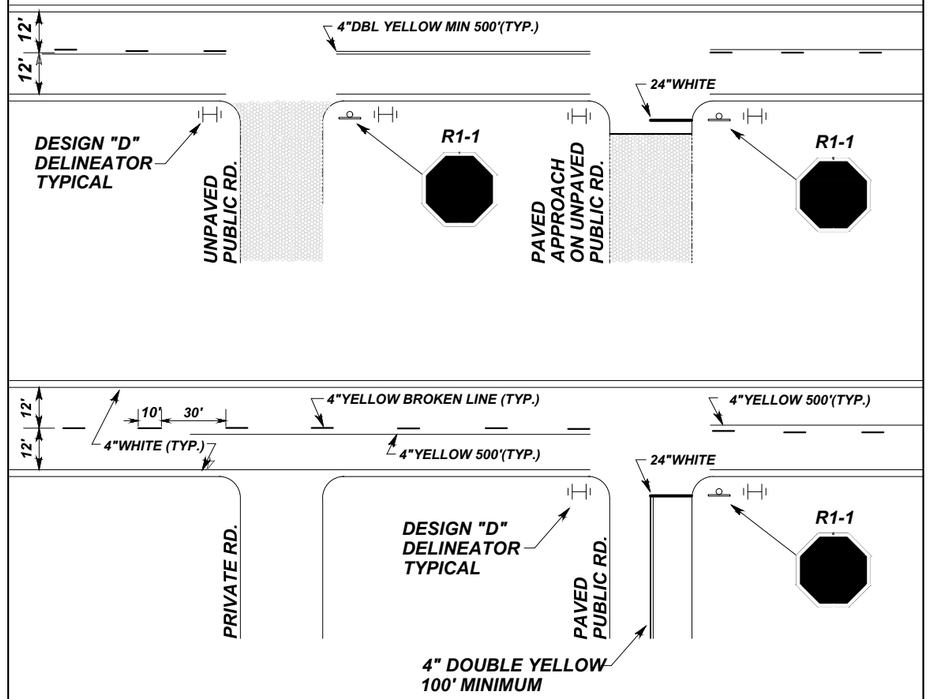
DOUBLE YELLOW TURN LANE RUMBLE STRIP



DOUBLE YELLOW BULLNOSE ISLAND RUMBLE STRIP

TYPICAL RURAL PAVEMENT MARKINGS

NO SCALE



NOTE: FINAL CENTERLINE CONFIGURATION AND NO PASSING ZONES TO BE DETERMINED BY THE PROJECT MANAGER.

ALL PAVEMENT MARKINGS TO BE EPOXY UNLESS OTHERWISE SPECIFIED.

NOTES:

1. SEE CENTERLINE RUMBLE STRIPS DTL. DWG. NO. 411-05 FOR ADDITIONAL INFORMATION.
2. ALL PAVEMENT MARKINGS ARE TO CONFORM TO THE REQUIREMENTS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND "STANDARD HIGHWAY SIGNS" PUBLICATIONS, FROM THE FEDERAL HIGHWAY ADMINISTRATION.
3. SEE CENTERLINE PAVEMENT MARKINGS FOR RURAL HIGHWAYS MEMO DATED JUNE 18, 2019 FOR APPLICATION METHODOLOGY
4. DASHED LINES WILL HAVE A 10:30 SKIP IN RURAL LOCATIONS, AND A 9:15 SKIP IN URBAN LOCATIONS

SHEET NO.
S14

PAVEMENT MARKING DETAIL

PROJECT NAME	INTERSTATE 115-BUTTE
COUNTY	SILVER BOW
PROJECT ID	IM 115-2(10)0
UPN	10257000

DESIGNED BY	S WATSON	09/2023	
REVIEWED BY	---	10/2023	
CHECKED BY	N STYREN	09/2023	

MONTANA Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

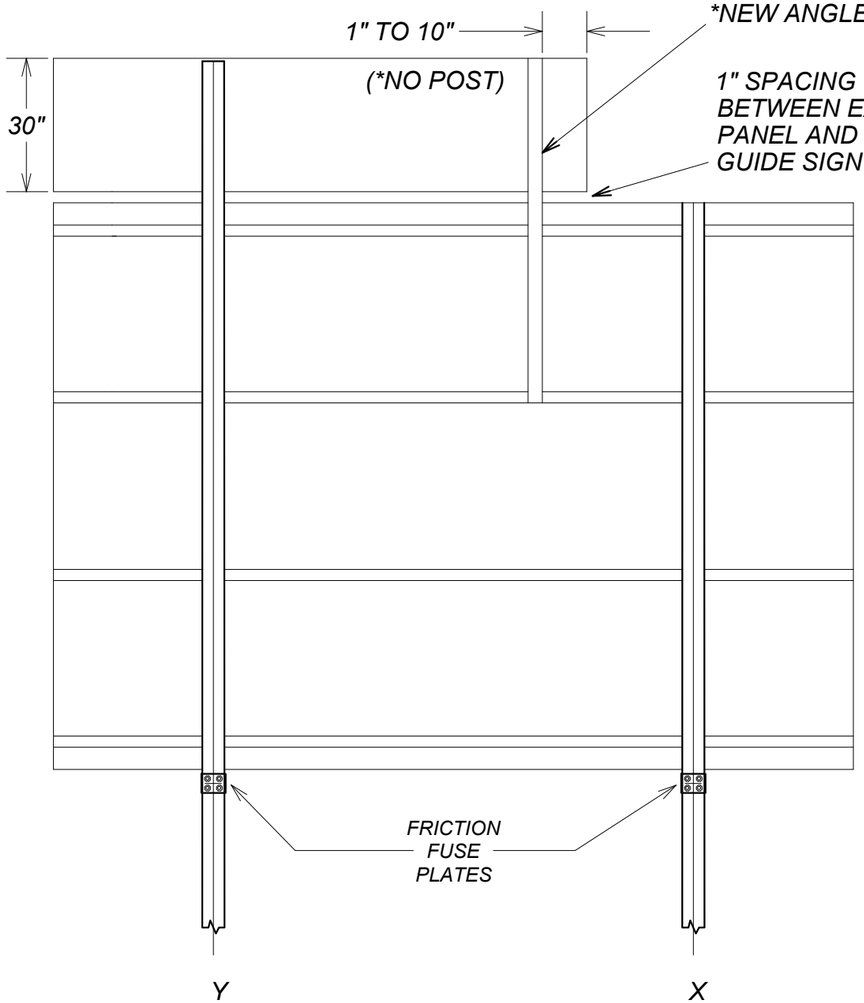
10257000SIDET001.DWG

AWARD COPY

GUIDE SIGN WITH EXIT PANEL - NEW INSTALLATION

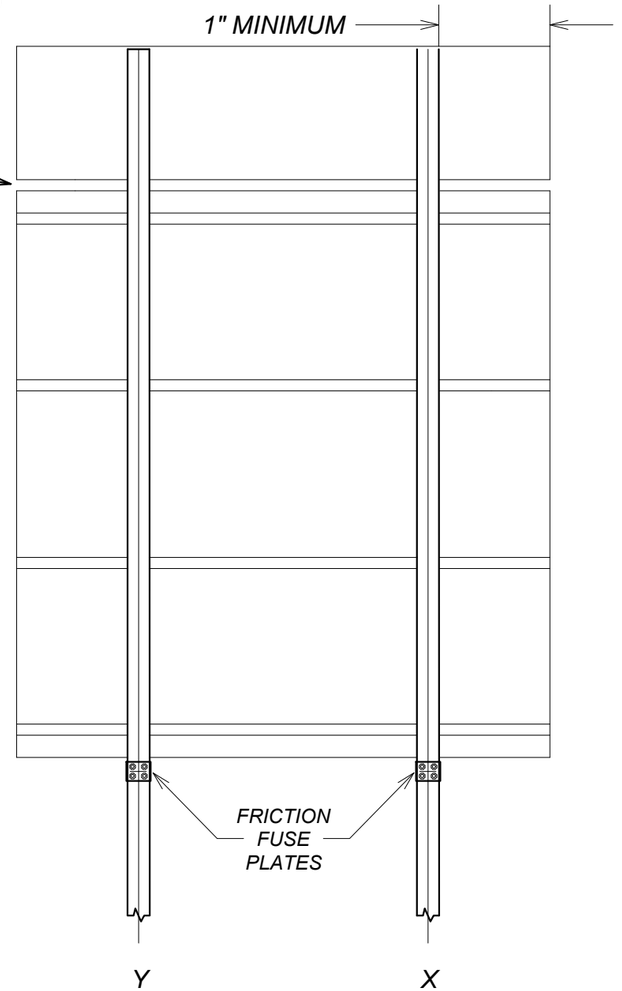
NO SCALE

OPTION 1



OPTION 1 - REAR VIEW OF ADVANCE GUIDE SIGN WITH EXIT NUMBER PANEL SIGN SHOWING INSTALLATION OF ANGLE IRON WITH A SINGLE POST CONNECTION.

OPTION 2



OPTION 2 - THE X AND Y POST OF THE GUIDE SIGN SHALL BE USED FOR THE EXIT PANEL SUPPORTS WHEN A 1" MINIMUM CLEARANCE FROM THE POST TO THE EDGE OF THE EXIT PANEL CAN BE OBTAINED. ANGLE IRON SUPPORTS WILL BE OMITTED.

SHEET NO.
S15

ANGLE IRON DETAIL

PROJECT NAME	INTERSTATE 115-BUTTE
COUNTY	SILVER BOW
PROJECT ID	IM 115-2(10)0
UPN	10257000

DESIGNED BY	S WATSON	09/2023	
REVIEWED BY	---	10/2023	
CHECKED BY	N STYREN	09/2023	

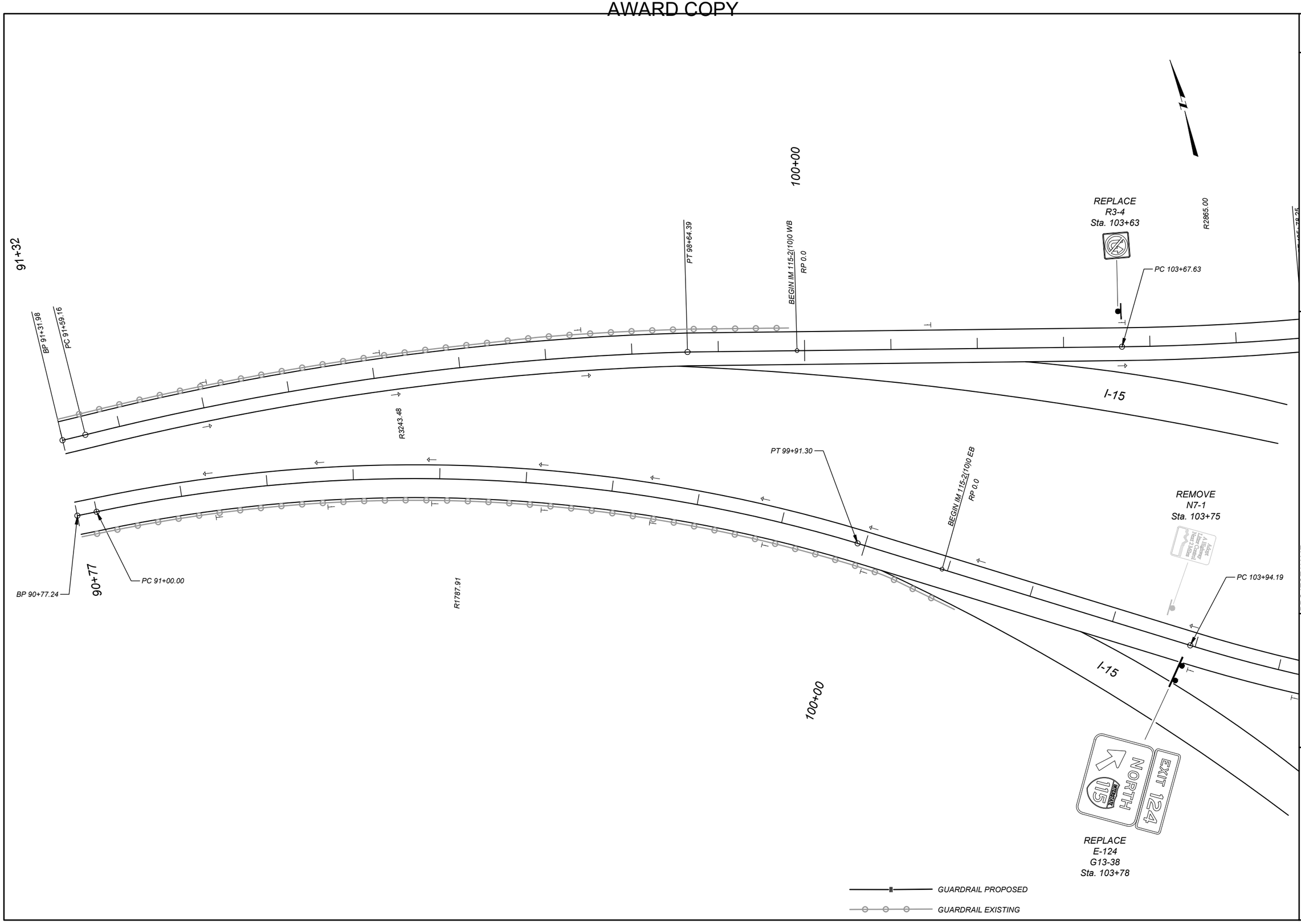
10257000SIDET001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

AWARD COPY



SHEET NO.
S16

WEST END
PROJECT BEGINNING

PROJECT NAME: **INTERSTATE 115-BUTTE**
COUNTY: **SILVER BOW**
PROJECT ID: **IM 115-2(10)0**
UPN: **10257000**

DESIGNED BY		REVIEWED BY		CHECKED BY	
S WATSON	09/2023	---	10/2023	N STYREN	09/2023

10257000SIPLN001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

AWARD COPY

110+00

RSFO
W4-1R
Sta. 106+80

PT 105+78.25

PC 106+20.79

PT 111+81.32

RSFO
W4-2L
Sta. 113+62

PC 118+84.41

120+00

R2865.00

RSFO
W4-2L
Sta. 113+62

110+00

PC 114+09.99

PC 103+94.19

R1800.00

PCC 107+94.19

R1265.00

PT 110+62.52

R1200.00

RSFO
W8-12B
Sta. 106+80

REPLACE
M3-2A
M1-1
M3-2B
(2)M1-2
M3-1B
From Sta. 109+20
To St. 109+40

GUARDRAIL PROPOSED

GUARDRAIL EXISTING

SHEET NO.
S17

STATIONS
106+00 - 120+00

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

DESIGNED BY	09/2023
S WATSON	
REVIEWED BY	10/2023

CHECKED BY	09/2023
N STYREN	

10257000SIPLN001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

AWARD COPY

120+00

RSFO
W9-1
Sta. 124+10

LEFT LANE ENDS

120+00

RSFO
W9-1
Sta. 124+10

LEFT LANE ENDS

130+00

R5730.00

REPLACE
(2)M3-4A
(3)M1-1
(2)M4-5A
M3-3A
(2)M6-3A
Sta. 134+33

TO WEST INTERSTATE 90

WEST INTERSTATE 115

TO SOUTH INTERSTATE 15

PT 120+96.77

PC 123+69.77

130+00

R1146.00

PT 135+14.77

REPLACE
E-1
G3-82
D9-2
Sta. 122+26

Exit 1
Excelsior Ave
Walkerville
1/2 MILE

REPLACE
G7-131
D9-99
Sta. 130+39
BGR

Montana Tech
NEXT RIGHT

GUARDRAIL PROPOSED

GUARDRAIL EXISTING

SHEET NO.
S18

STATIONS
120+00-135+00

PROJECT NAME: **INTERSTATE 115-BUTTE**

COUNTY: **SILVER BOW**

PROJECT ID: **IM 115-2(10)0**

UPN: **10257000**

DESIGNED BY		REVIEWED BY		CHECKED BY	
S WATSON	09/2023	---	10/2023	N STYREN	09/2023

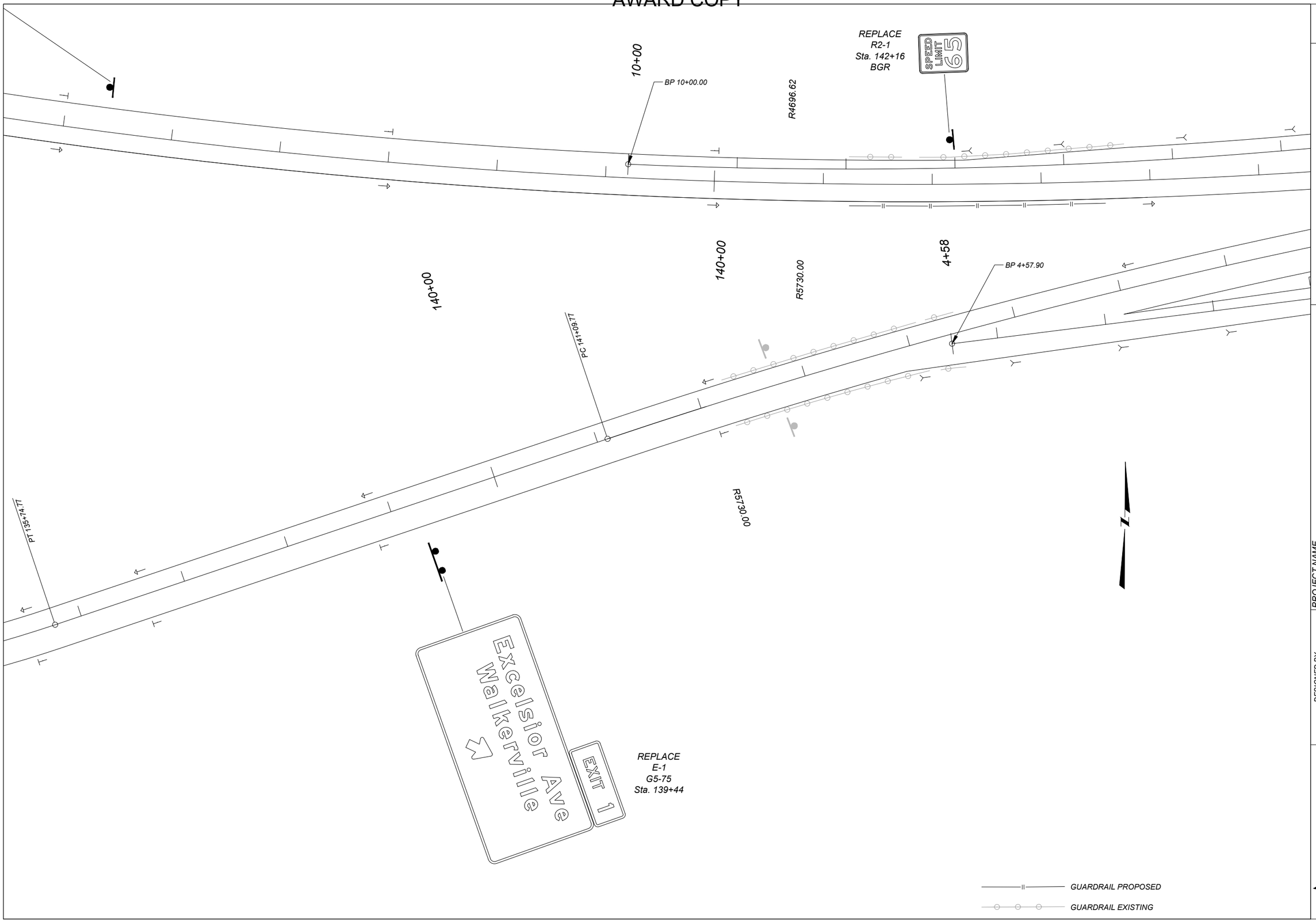
10257000SIPLN001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

AWARD COPY



SHEET NO.
S19

EB AND WB LANES CONVERGE

PROJECT NAME: **INTERSTATE 115-BUTTE**
COUNTY: **SILVER BOW**
PROJECT ID: **IM 115-2(10)0**
UPN: **10257000**

DESIGNED BY	S WATSON	09/2023
REVIEWED BY	---	10/2023
CHECKED BY	N STYREN	09/2023

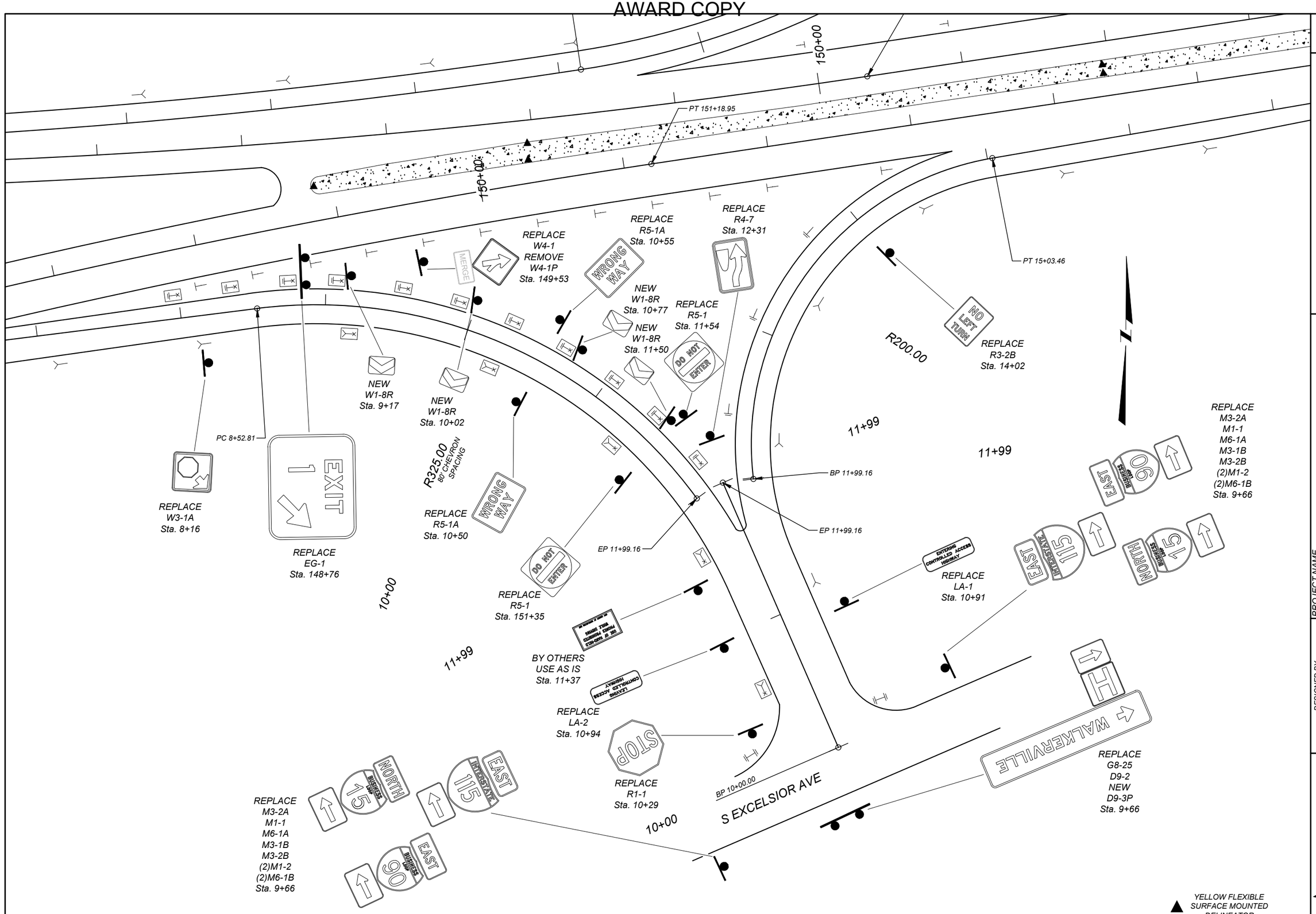
10257000SIPLN001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

AWARD COPY



SHEET NO. S20

EASTBOUND ON/OFF RAMPS

PROJECT NAME	INTERSTATE 115-BUTTE
COUNTY	SILVER BOW
PROJECT ID	IM 115-2(10)0
UPN	10257000

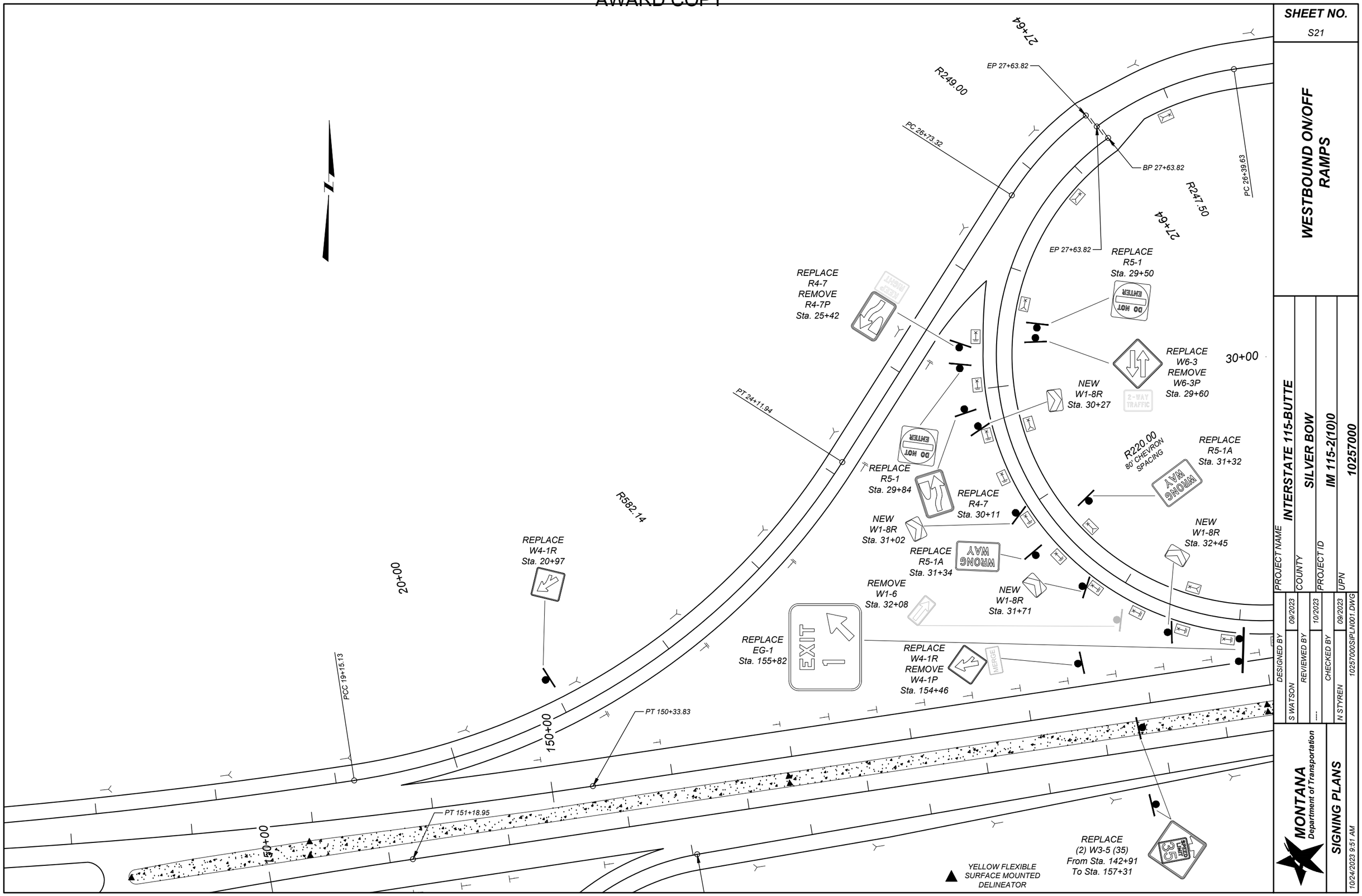
DESIGNED BY	09/2023	CHECKED BY	09/2023
S WATSON		N STYREN	
REVIEWED BY	10/2023	10257000SIPLN001.DWG	

MONTANA Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

AWARD COPY



SHEET NO.
S21

WESTBOUND ON/OFF RAMPS

PROJECT NAME: INTERSTATE 115-BUTTE
COUNTY: SILVER BOW
PROJECT ID: IM 115-2(10)0
UPN: 10257000

	DESIGNED BY	REVIEWED BY	CHECKED BY
	S WATSON	---	N STYREN
	09/2023	10/2023	09/2023

10257000SIPLN001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

10/24/2023 9:51 AM

AWARD COPY

REPLACE
R4-7
REMOVE
R4-7P
Sta. 25+95

REPLACE
LA-1
Sta. 21+07

REPLACE
D13-3
Sta. 20+97

BP 18+90.00

S EXCELSIOR AVE

REPLACE
G8-25
Sta. 18+40

PC 26+39.63

REPLACE
W3-1A
Sta. 24+10

REPLACE
LA-2
Sta. 21+20

20+00

REPLACE
R1-1
Sta. 19+44

18+90

REPLACE
(2) M3-4A
(3) M1-1
(3) M6-1A
(2) M4-5A
M3-3A
Sta. 18+50

REPLACE
E-1
G3-82A
Sta. 168+90

30+00

160+00

38+09

REPLACE
E-1
G5-75
Sta. 162+52
BGR

167+40

REPLACE
W8-12B
Sta. 166+85

REMOVE
R2-1
Sta. 161+38

END IM 115-2(10)0 WB
RP 1+0.324

EP 38+09.12

PC 162+58.74

EP 167+39.88

EP 169+94.46

PT 33+32.12

150'

EP 24+05.04

24+05
END IM 115-2(10)0 EB
RP 1+0.348

PC 165+08.08

169+94

R2866.00

20+00

160+00

REPLACE
W8-12B
Sta. 160+27

REMOVE
R2-1
Sta. 161+38

RSFO
M3-2A
M1-1
M3-1B
(2)M1-2
M3-2B
Sta. 165+78
BGR

GUARDRAIL PROPOSED
GUARDRAIL EXISTING
YELLOW FLEXIBLE SURFACE MOUNTED DELINEATOR

SHEET NO.
S22

EAST OF RAMPS

PROJECT NAME	INTERSTATE 115-BUTTE
COUNTY	SILVER BOW
PROJECT ID	IM 115-2(10)0
UPN	10257000

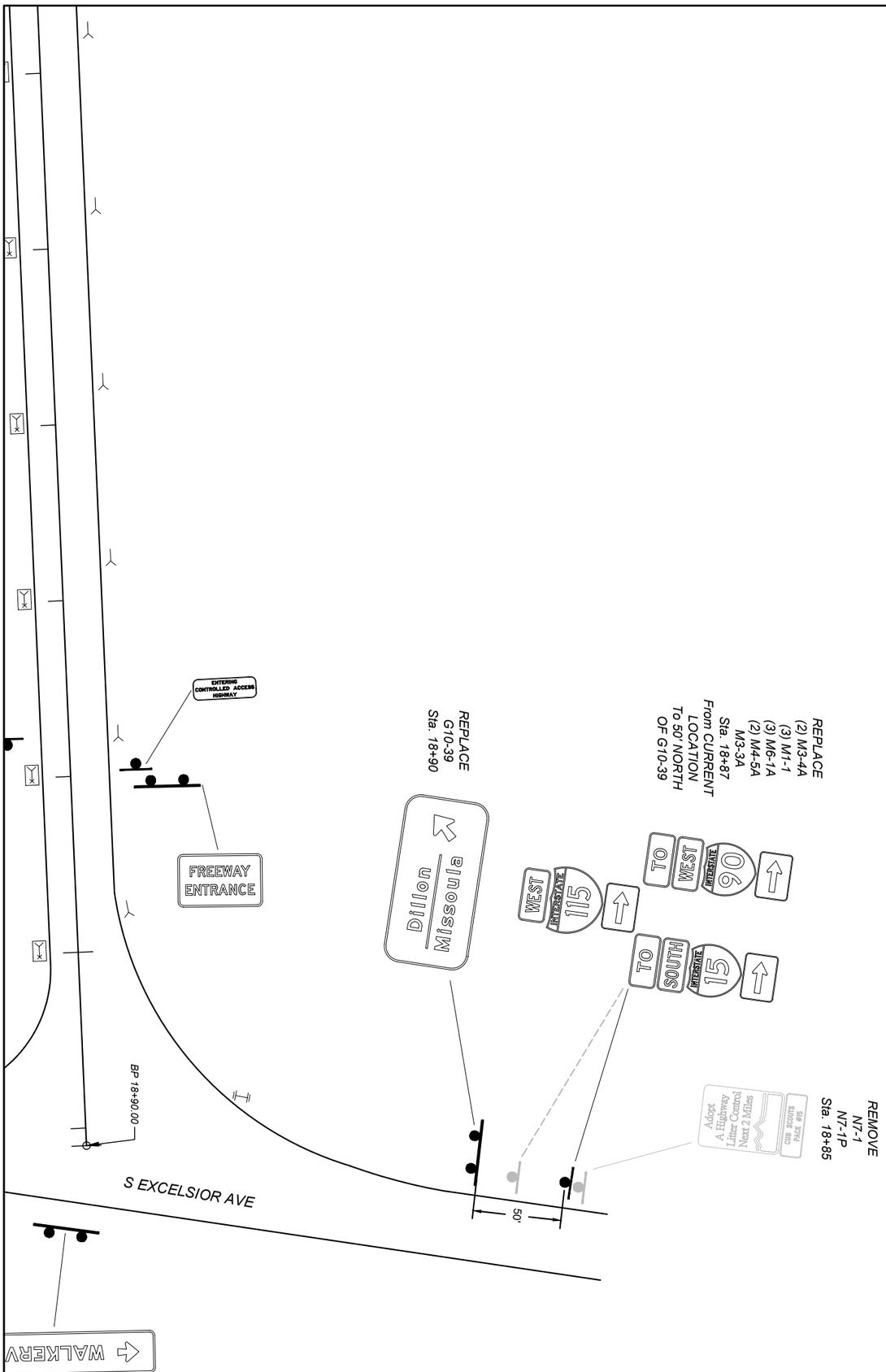
DESIGNED BY	S WATSON	09/2023
REVIEWED BY	---	10/2023
CHECKED BY	N STYREN	09/2023

10257000SIPLN001.DWG

MONTANA
Department of Transportation

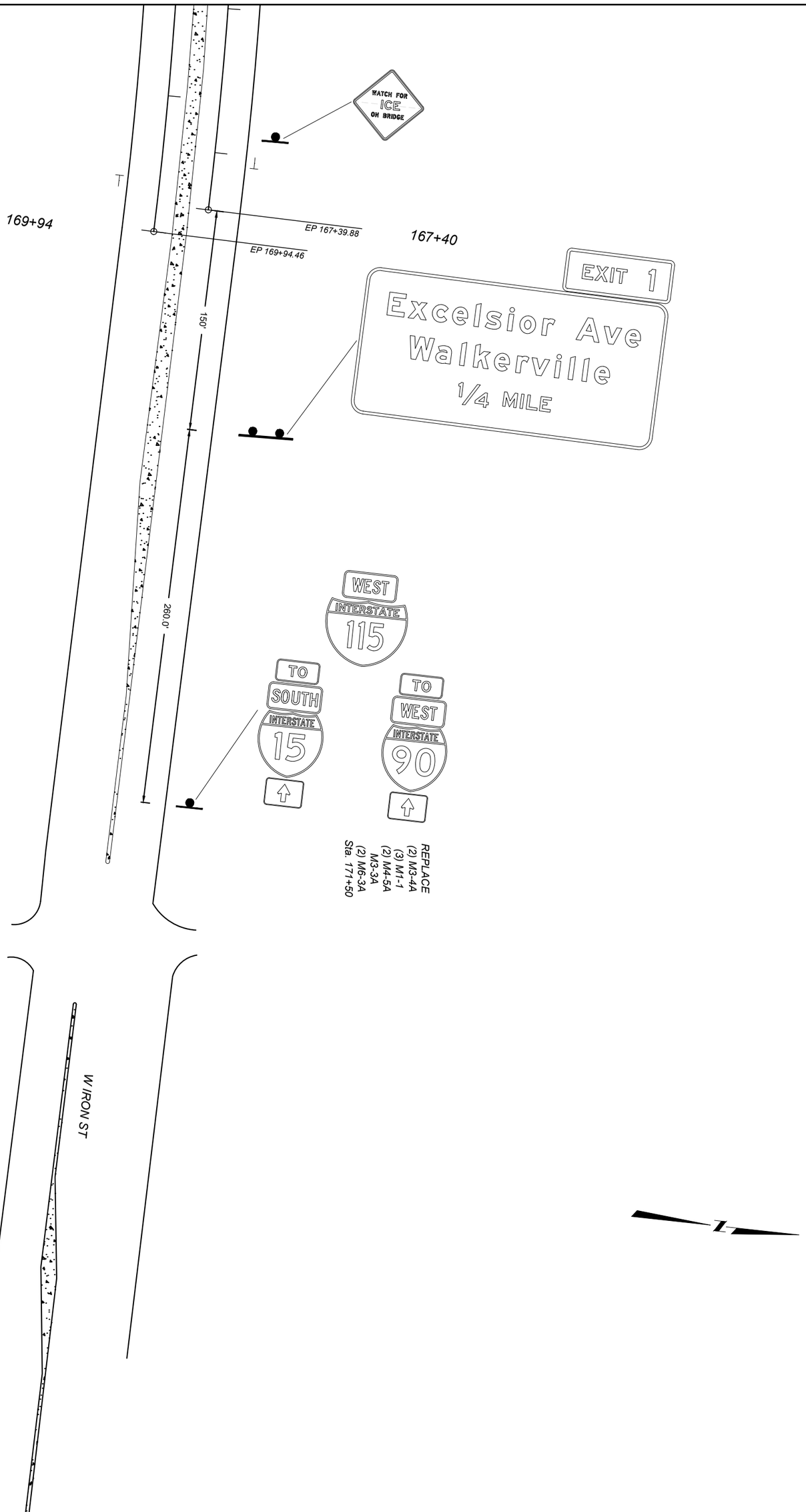
SIGNING PLANS

10/24/2023 9:51 AM



AWARD COPY

MONTANA Department of Transportation	DESIGNED BY: S WATSON 09/2023	PROJECT NAME: INTERSTATE 115-BUTTE	NORTH EAST END
	REVIEWED BY: ---- 10/2023	COUNTY: SILVER BOW	
SIGNING PLANS	CHECKED BY: N STYREN 09/2023	PROJECT ID: IM 115-2(10)0	
10/24/2023 9:51 AM	10257000SIPLN001.DWG	UPN: 10257000	SHEET NO. S23



AWARD COPY

MONTANA Department of Transportation	DESIGNED BY: S WATSON 09/2023	PROJECT NAME: INTERSTATE 115-BUTTE	EAST END - END OF PROJECT
	REVIEWED BY: ---- 10/2023	COUNTY: SILVER BOW	
SIGNING PLANS	CHECKED BY: N STYREN 09/2023	PROJECT ID: IM 115-2(10)0	
10/24/2023 9:51 AM	10257000SIPLN001.DWG	UPN: 10257000	SHEET NO. S24