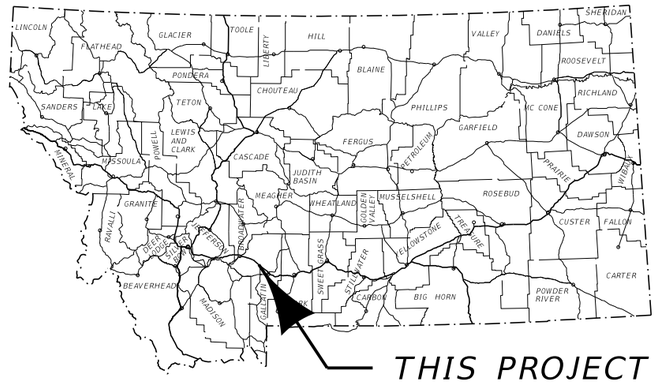
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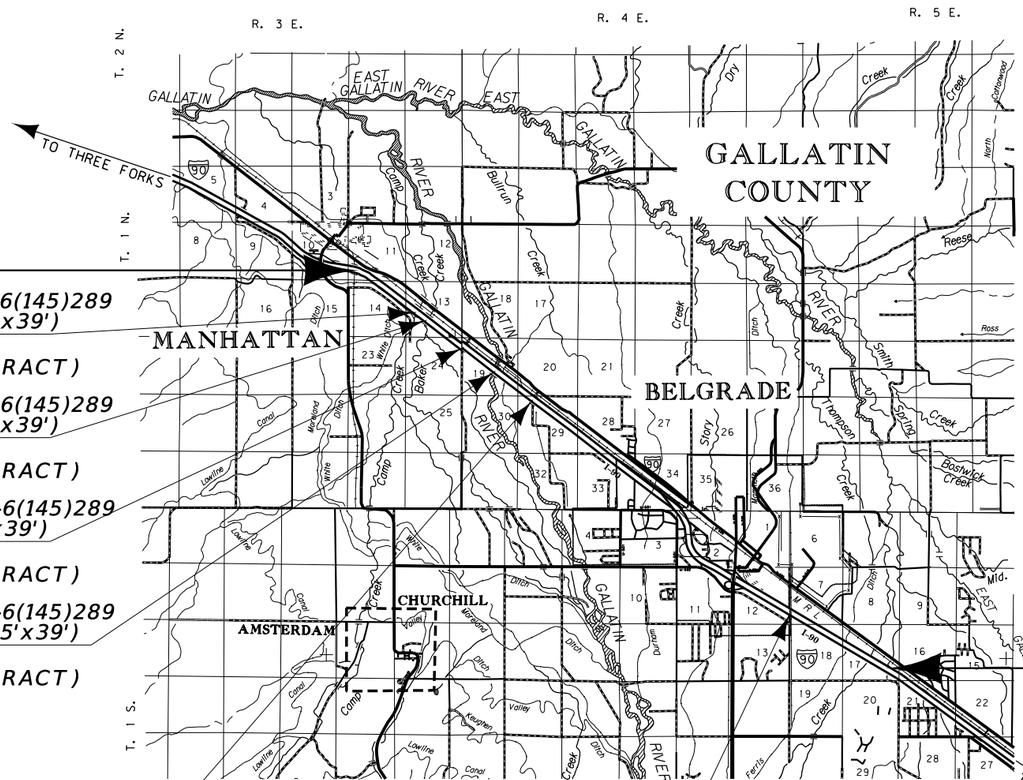
MONTANA DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT IM 90-6(145)289
MILL/FILL, SEAL & COVER, AND GUARDRAIL
MANHATTAN - BELGRADE
GALLATIN COUNTY

PROJECT DESIGN DATA		
PRESENT	2019	A.D.T. = 19,090
LETTING	2022	A.D.T. = 20,620
DESIGN	2042	A.D.T. = 34,450
		D.H.V. = 3,890
		TRUCKS = 14.8%
		V. = 70 mph
		18 KIP ESAL'S = 1,299
		GROWTH RATE = 2.6%

SURFACING SOURCES -
CONTRACTOR FURNISHED

LENGTH 11.9 MILES



STA. 779+45 ON IM 90-6(145)289
BRIDGE IN PLACE (81.5'x39')
ID# 01575 / 01576
RP 290.7 (THIS CONTRACT)

STA. 790+49 ON IM 90-6(145)289
BRIDGE IN PLACE (91.5'x39')
ID# 01577 / 01578
RP 291.0 (THIS CONTRACT)

STA. 826+69 ON IM 90-6(145)289
BRIDGE IN PLACE (113'x39')
ID# 01579 / 01580
RP 291.6 (THIS CONTRACT)

STA. 868+45 ON IM 90-6(145)289
BRIDGE IN PLACE (204.5'x39')
ID# 01581 / 01582
RP 292.4 (THIS CONTRACT)

STA. 909+84 ON IM 90-6(145)289
BRIDGE IN PLACE (113'x39')
ID# 01583 / 01584
RP 293.2 (THIS CONTRACT)

STA. 1240+83 ON IM 90-6(145)289
BRIDGE IN PLACE (147.42'x40')
ID# 01585 / 01586
RP 299.5 (NOT THIS CONTRACT)

STA. 705+00.00 (ENGLISH)
ON I-IG 90-6(14)287

STA. 705+00.00 (ENGLISH)
BEGIN IM 90-6(145)289

THIS CONTRACT

RP 289.3 TO RP 301.3

STA. 1335+00.00
(ENGLISH)
END IM 90-6(145)289

STA. 1335+00.00
(ENGLISH)
ON I 90-6(13)296

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdtl001.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS
2		12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018	
		12:01:05 PM CPS - U3162	CHECKED BY			UPN 8756000

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

UTILITIES

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

PUBLIC LAND SURVEY MONUMENTS

ALL MONUMENTS TO BE REMOVED AND RELOCATED OR RESET BY STATE FORCES.

MISC. TO BE MOVED OR REMOVED BY OTHERS

ALL PRIVATELY OWNED SIGNS TO BE REMOVED BY OWNER.

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.

CONSTRUCTION NOTES

DURING COLD MILLING OPERATIONS, IT IS POSSIBLE THAT EXISTING PLANT MIX SURFACING WILL VARY IN THICKNESS. CONCRETE EXISTS BELOW THE PLANT MIX SURFACING THROUGHOUT THE PROJECT. BASED UPON CORE SAMPLES TAKEN FROM THE EXISTING SURFACING, THE PMS THICKNESS WITHIN 120' OF ANY BRIDGE END MAY BE LESS THAN 0.20' AND CONCRETE WILL POTENTIALLY BE ENCOUNTERED DURING MILLING OPERATIONS.
THE FOLLOWING STATION RANGES ARE POTENTIAL AREAS WHERE PLANT MIX SURFACING MAY BE LESS THAN 0.20':

EAST BOUND LANES	WEST BOUND LANES
STA. 777+83.61 TO STA. 779+03.61	STA. 777+83.75 TO STA. 779+03.75
STA. 779+86.61 TO STA. 781+06.61	STA. 779+86.75 TO STA. 781+06.75
STA. 788+82.65 TO STA. 790+02.65	STA. 788+82.80 TO STA. 790+02.80
STA. 790+95.65 TO STA. 792+15.65	STA. 790+95.80 TO STA. 792+15.80
STA. 824+91.45 TO STA. 826+11.45	STA. 824+91.38 TO STA. 826+11.38
STA. 827+26.45 TO STA. 828+46.45	STA. 827+26.38 TO STA. 828+46.38
STA. 866+22.03 TO STA. 867+42.03	STA. 865+83.09 TO STA. 867+03.09
STA. 869+48.03 TO STA. 870+68.03	STA. 869+09.09 TO STA. 870+29.09
STA. 908+06.64 TO STA. 909+26.64	STA. 908+06.82 TO STA. 909+26.82
STA. 910+40.64 TO STA. 911+60.64	STA. 910+40.82 TO STA. 911+60.82

CORE SAMPLES OF THE EXISTING ROADWAY SURFACE INDICATED THESE STATION RANGES AS POTENTIAL LOCATIONS FOR PMS THICHNESSES LESS THAN 0.20'. LOCATIONS OUTSIDE OF THESE LISTED STATION RANGES MAY ALSO HAVE THICKNESSES LESS THAN 0.20'. MILLING SHOULD BE CONDUCTED IN ACCORDANCE WITH THE TYPICAL SECTIONS. HOWEVER, THE CONTRACTOR SHOULD MILL TO THE SURFACE OF THE CONCRETE WHERE PMS IS LESS THAN 0.20' AT THE LISTED BRIDGE APPROACHES.

AS-BUILTS

FOR THE HORIZONTAL ALIGNMENT AND STATIONING, REFER TO THE FOLLOWING "AS-BUILT" PROJECTS:

I-IG 90-6(14)287	(ORIGINAL CONSTRUCTION – 1966)
I 90-6(13)296	(ORIGINAL CONSTRUCTION – 1966)
IM – HDP 9240(001)F	(ORIGINAL CONSTRUCTION – 1997)
IM – MT STPU 90-6(112)299	(ORIGINAL CONSTRUCTION – 2015)

LINEAR & LEVEL DATA

INTERSTATE 90 - EAST BOUND			
LENGTH OF ROADWAY		URBAN	34,362.24 ft
LENGTH OF ROADWAY		RURAL	27,886.84 ft
LENGTH OF BRIDGE	(NOT THIS CONTRACT)	URBAN	147.42 ft
LENGTH OF BRIDGE		RURAL	603.50 ft
TOTAL LENGTH OF		URBAN	34,509.66 ft
TOTAL LENGTH OF		RURAL	28,490.34 ft
TOTAL LENGTH OF IM 90-6(145)289			63,000.00 ft
INTERSTATE 90 - WEST BOUND			
LENGTH OF ROADWAY		URBAN	34,362.24 ft
LENGTH OF ROADWAY		RURAL	27,886.84 ft
LENGTH OF BRIDGE	(NOT THIS CONTRACT)	URBAN	147.42 ft
LENGTH OF BRIDGE		RURAL	603.50 ft
TOTAL LENGTH OF		URBAN	34,509.66 ft
TOTAL LENGTH OF		RURAL	28,490.34 ft
TOTAL LENGTH OF IM 90-6(145)289			63,000.00 ft

BEARING SOURCE

GRID -- MONTANA COORDINATE SYSTEM NAD 83-2011

LEVEL DATUM SOURCE

NAVD 88 (GNSS DERIVED ELEVATIONS USING GEOID 12A AND HOLDING BMS N4, P4, R493, & S493)

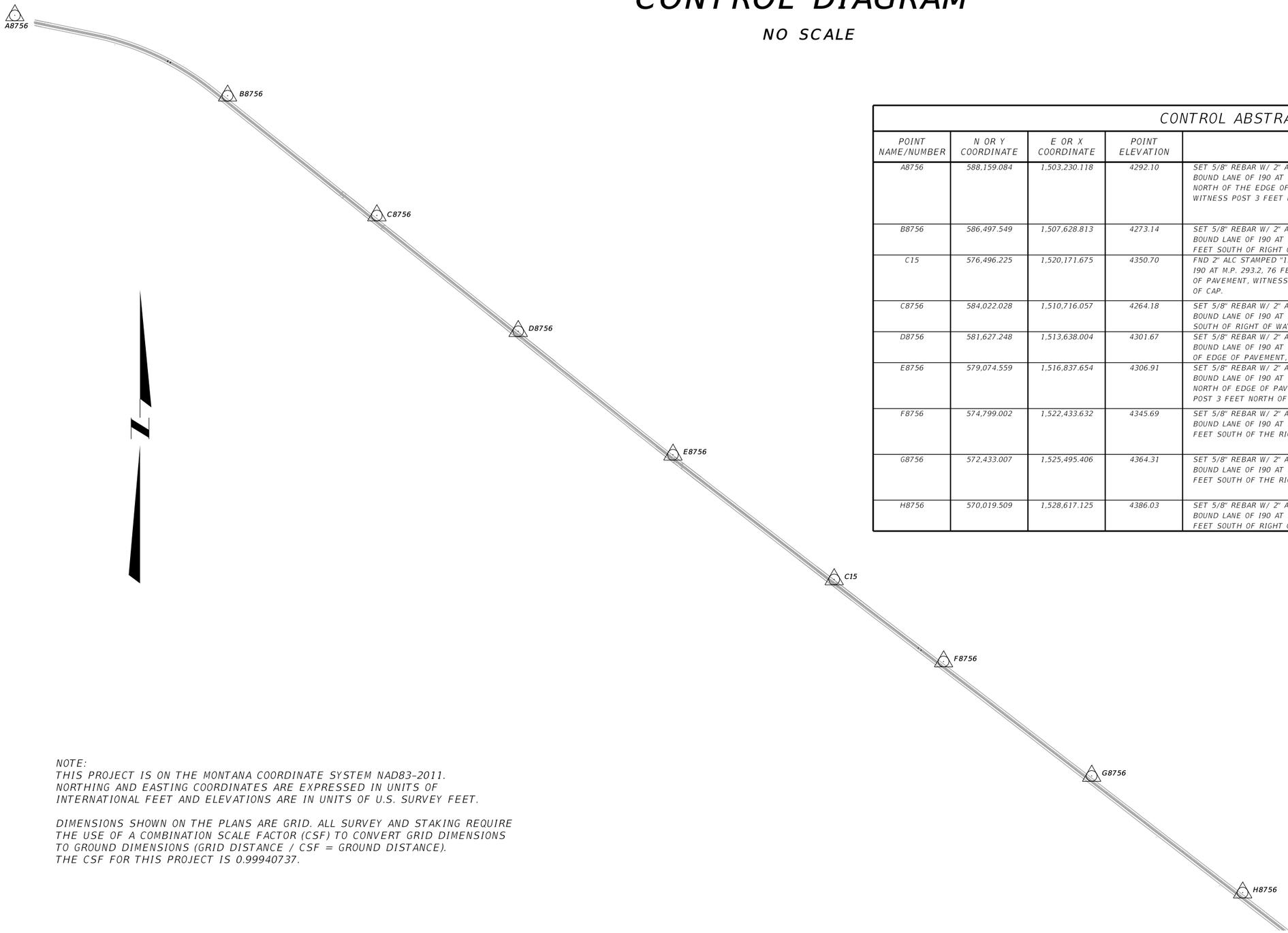
CENTERLINE COORDINATE TABLE

STATION	DESCRIPTION	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
705+00.00	POT	588,009.267	1,503,630.841	BEGIN PROJECT
717+86.47	PC	587,749.388	1,504,890.793	
731+55.45	PI	587,472.843	1,506,231.545	
744+73.53	PT	586,617.565	1,507,300.466	
863+58.05	PI	579,192.616	1,516,580.112	
909+24.09	PI	576,398.135	1,520,191.151	
935+94.24	PI	574,773.411	1,522,310.106	
1071+30.36	PC	566,500.899	1,533,024.217	
1090+35.55	PI	565,336.557	1,534,532.210	
1107+42.86	PT	563,446.948	1,534,775.346	
1118+05.25	PC	562,393.246	1,534,910.925	
1141+90.14	PI	560,027.851	1,535,215.280	
1162+05.63	PT	558,913.411	1,537,323.773	
1335+00.00	POT	550,831.903	1,552,613.785	END PROJECT
1337+16.90	POT	550,730.549	1,552,805.543	

GPK NAME: JOB756.GPK CHAIN NAME: ALIGNMENT1

CONTROL DIAGRAM

NO SCALE



CONTROL ABSTRACT

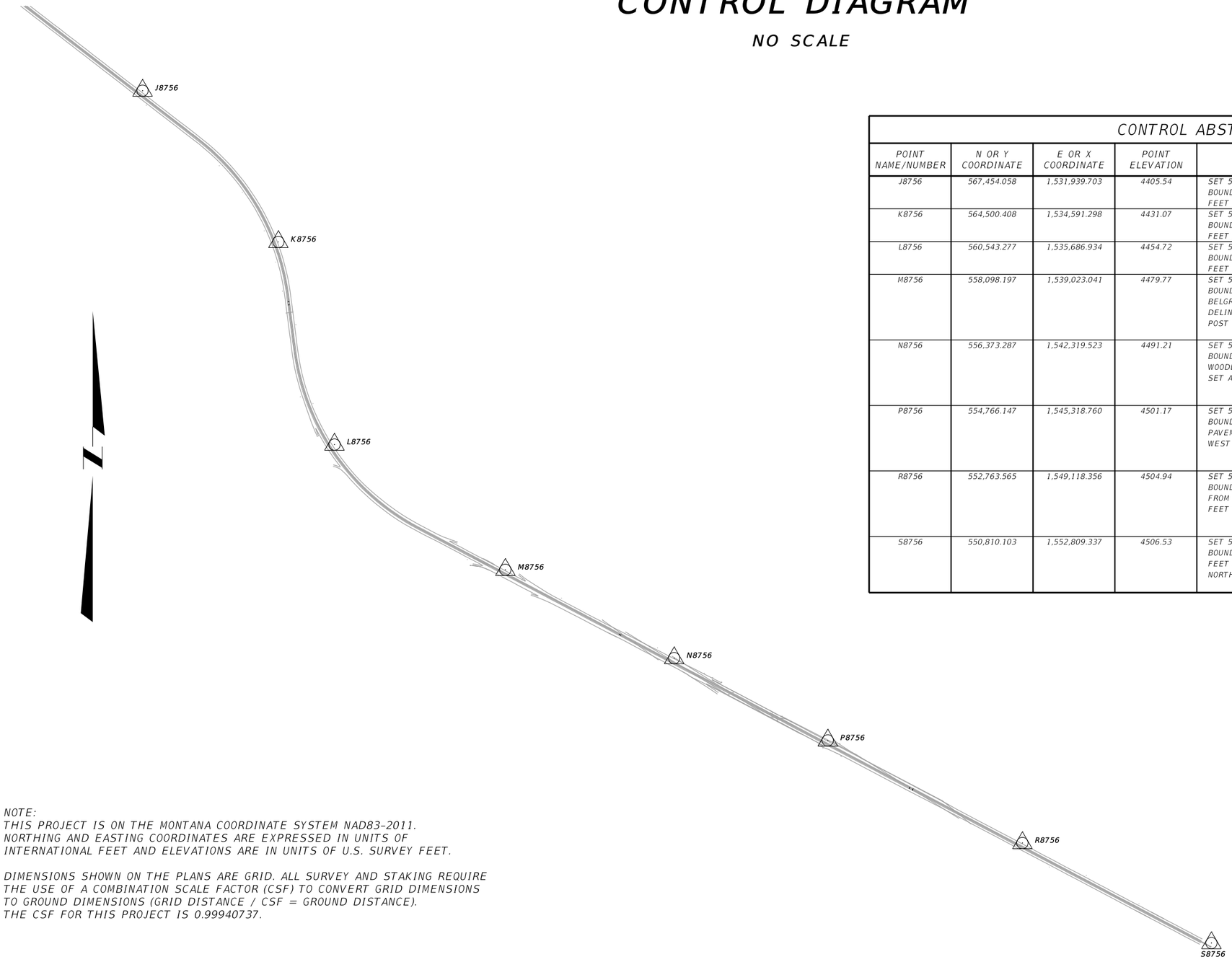
POINT NAME/NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION	LOCATION AND DESCRIPTION
A8756	588,159.084	1,503,230.118	4292.10	SET 5/8" REBAR W/ 2" ALC STAMPED "A8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 289.3, 18 FEET NORTHWEST OF BRIDGE CORNER, 9 FEET NORTH OF THE EDGE OF PAVEMENT, 12 FEET WEST OF RIGHT OF WAY FENCE, SET WITNESS POST 3 FEET NORTH OF CAP.
B8756	586,497.549	1,507,628.813	4273.14	SET 5/8" REBAR W/ 2" ALC STAMPED "B8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 290.1, 48 FEET NORTH OF THE EDGE OF PAVEMENT, 9 FEET SOUTH OF RIGHT OF WAY FENCE, SET WITNESS POST 3 FEET NORTH OF CAP.
C15	576,496.225	1,520,171.675	4350.70	FND 2" ALC STAMPED "15C 2001" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 293.2, 76 FEET NORTHWEST OF BRIDGE CORNER, 8 FEET NORTH OF EDGE OF PAVEMENT, WITNESS POST 6 FEET TO THE EAST, SET A WITNESS POST 6 FEET WEST OF CAP.
C8756	584,022.028	1,510,716.057	4264.18	SET 5/8" REBAR W/ 2" ALC STAMPED "C8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 290.9, 50' NORTH OF THE EDGE OF PAVEMENT, 9 FEET SOUTH OF RIGHT OF WAY FENCE, SET WITNESS POST 3 FEET NORTH OF CAP.
D8756	581,627.248	1,513,638.004	4301.67	SET 5/8" REBAR W/ 2" ALC STAMPED "D8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 291.7, 69' NORTHWEST OF BRIDGE CORNER, 8 FEET NORTH OF EDGE OF PAVEMENT, SET WITNESS POST 3 FEET NORTH OF CAP.
E8756	579,074.559	1,516,837.654	4306.91	SET 5/8" REBAR W/ 2" ALC STAMPED "E8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 292.5, 60 FEET NORTHWEST OF BRIDGE CORNER, 9 FEET NORTH OF EDGE OF PAVEMENT, 34 FEET SOUTH OF RIGHT OF WAY FENCE, SET WITNESS POST 3 FEET NORTH OF CAP.
F8756	574,799.002	1,522,433.632	4345.69	SET 5/8" REBAR W/ 2" ALC STAMPED "F8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 293.8, 37 FEET NORTH OF THE EDGE OF PAVEMENT, 9 FEET SOUTH OF THE RIGHT OF WAY FENCE, SET A WITNESS POST 3 FEET NORTH OF CAP.
G8756	572,433.007	1,525,495.406	4364.31	SET 5/8" REBAR W/ 2" ALC STAMPED "G8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 294.5, 29 FEET NORTH OF THE EDGE OF PAVEMENT, 6 FEET SOUTH OF THE RIGHT OF WAY FENCE, SET A WITNESS POST 3 FEET NORTH OF CAP.
H8756	570,019.509	1,528,617.125	4386.03	SET 5/8" REBAR W/ 2" ALC STAMPED "H8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 295.2, 30 FEET NORTH OF THE EDGE OF PAVEMENT, 8 FEET SOUTH OF RIGHT OF WAY FENCE, SET A WITNESS POST 3 FEET NORTH OF CAP.

NOTE:
THIS PROJECT IS ON THE MONTANA COORDINATE SYSTEM NAD83-2011.
NORTHING AND EASTING COORDINATES ARE EXPRESSED IN UNITS OF INTERNATIONAL FEET AND ELEVATIONS ARE IN UNITS OF U.S. SURVEY FEET.

DIMENSIONS SHOWN ON THE PLANS ARE GRID. ALL SURVEY AND STAKING REQUIRE THE USE OF A COMBINATION SCALE FACTOR (CSF) TO CONVERT GRID DIMENSIONS TO GROUND DIMENSIONS (GRID DISTANCE / CSF = GROUND DISTANCE).
THE CSF FOR THIS PROJECT IS 0.99940737.

CONTROL DIAGRAM

NO SCALE



CONTROL ABSTRACT (CONTINUED)

POINT NAME/NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION	LOCATION AND DESCRIPTION
J8756	567,454.058	1,531,939.703	4405.54	SET 5/8" REBAR W/ 2" ALC STAMPED "J8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 296.0, 32 FEET NORTH OF THE EDGE OF PAVEMENT, 6 FEET SOUTH OF RIGHT OF WAY FENCE, SET A WITNESS POST 3 FEET NORTH OF CAP.
K8756	564,500.408	1,534,591.298	4431.07	SET 5/8" REBAR W/ 2" ALC STAMPED "K8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 296.7, 17 FEET NORTH OF THE EDGE OF PAVEMENT, 32 FEET SOUTH OF RIGHT OF WAY FENCE, SET A WITNESS POST 3 FEET NORTH OF CAP.
L8756	560,543.277	1,535,686.934	4454.72	SET 5/8" REBAR W/ 2" ALC STAMPED "L8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 297.6, 37 FEET NORTH OF THE EDGE OF PAVEMENT, 9 FEET SOUTH OF RIGHT OF WAY FENCE, SET A WITNESS POST 3 FEET NORTH OF CAP.
M8756	558,098.197	1,539,023.041	4479.77	SET 5/8" REBAR W/ 2" ALC STAMPED "M8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 298.4, JUST WEST OF THE WEST BOUND OFF RAMP TO BELGRADE, 15 FEET NORTH OF EDGE OF PAVEMENT TO I90, 30 FEET NORTHWEST OF A DELINATOR, 84 FEET SOUTH OF EDGE OF PAVEMENT TO THE OFF RAMP, SET A WITNESS POST 3 FEET NORTH OF THE CAP.
N8756	556,373.287	1,542,319.523	4491.21	SET 5/8" REBAR W/ 2" ALC STAMPED "N8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 299.1, AT THE END OF THE ON RAMP. 34 FEET SOUTH OF WOODEN FENCE, 43 FEET EAST OF LODGING SIGN, 9 FEET NORTH OF EDGE OF PAVEMENT, SET A WITNESS POST 3 FEET NORTH OF CAP.
P8756	554,766.147	1,545,318.760	4501.17	SET 5/8" REBAR W/ 2" ALC STAMPED "P8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 299.7, AT THE OFF RAMP. 30 FEET SOUTH OF EDGE OF PAVEMENT TO THE OFF RAMP, 11 FEET NORTH OF EDGE OF PAVEMENT TO I90, 37 FEET WEST OF LIGHT POLE, SET A WITNESS POST 3 FEET TO THE NORTH OF CAP.
R8756	552,763.565	1,549,118.356	4504.94	SET 5/8" REBAR W/ 2" ALC STAMPED "R8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 300.52, 30 FEET SOUTH OF RIGHT OF WAY FENCE 14 FEET FROM THE EDGE OF PAVEMENT, SET IN BETWEEN 2 CULVERTS, SET A WITNESS POST 3 FEET TO THE NORTH OF CAP.
S8756	550,810.103	1,552,809.337	4506.53	SET 5/8" REBAR W/ 2" ALC STAMPED "S8756 2015" ON THE NORTH SIDE OF THE WEST BOUND LANE OF I90 AT M.P. 301.3, 12 FEET NORTH OF THE EDGE OF PAVEMENT, 32 FEET SOUTH OF RIGHT OF WAY FENCE, SET A WITNESS POST 3 FEET TO THE NORTH OF CAP.

NOTE:
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NORTHING AND EASTING COORDINATES ARE EXPRESSED IN UNITS OF INTERNATIONAL FEET AND ELEVATIONS ARE IN UNITS OF U.S. SURVEY FEET.

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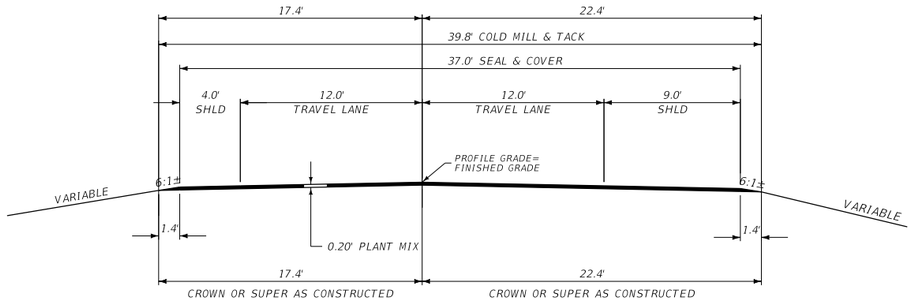
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TYPICAL SECTION NO. 1

MAINLINE

℄

EAST BOUND LANES
(REVERSE FOR WEST BOUND LANES)



QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED* ASPHALT TACK	
AREA square feet		7.68					square yards PER STATION		411	442	442
cubic yards PER STATION		28.4					tons PER STATION	2.95	0.73		
tons PER STATION		54.7					gallons PER STATION			22	
square yards PER STATION	411										

*TACK QUANTITIES BASED ON ONE LIFT

INTERSTATE 90 – EAST BOUND LANES

STA. 705+00.00	TO	STA. 779+04.36B.E.	TYP. SEC. NO. 1
STA. 779+85.86B.E.	TO	STA. 790+03.40B.E.	TYP. SEC. NO. 1
STA. 790+94.90B.E.	TO	STA. 826+12.45B.E.	TYP. SEC. NO. 1
STA. 827+25.45B.E.	TO	STA. 867+42.78B.E.	TYP. SEC. NO. 1
STA. 869+47.28B.E.	TO	STA. 909+27.14B.E.	TYP. SEC. NO. 1
STA. 910+40.14B.E.	TO	STA.1128+00.00	TYP. SEC. NO. 1
STA.1128+00.00	TO	STA.1133+89.00	TRANSITION TYP. SEC. NO. 1 TO TYP. SEC. NO. 2
STA.1133+89.00	TO	STA.1142+60.52	TYP. SEC. NO. 1 (THEN TO TYP. SEC. NO. 3)
STA.1168+12.00	TO	STA.1176+55.60	TYP. SEC. NO. 1 (THEN TO TYP. SEC. NO. 5)
STA.1226+31.14	TO	STA.1238+29.31	TYP. SEC. NO. 1 (THEN TO TYP. SEC. NO. 11)
STA.1243+30.15	TO	STA.1252+07.00	TYP. SEC. NO. 1 (THEN TO TYP. SEC. NO. 3)
STA.1276+94.00	TO	STA.1335+00.00	TYP. SEC. NO. 1

INTERSTATE 90 – WEST BOUND LANES

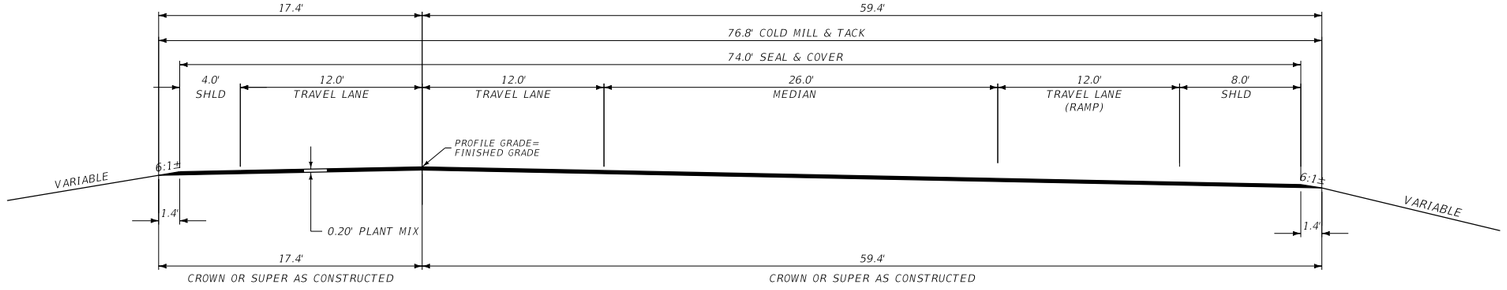
STA. 705+00.00	TO	STA. 779+04.50B.E.	TYP. SEC. NO. 1
STA. 779+86.00B.E.	TO	STA. 790+03.55B.E.	TYP. SEC. NO. 1
STA. 790+95.05B.E.	TO	STA. 826+12.38B.E.	TYP. SEC. NO. 1
STA. 827+25.38B.E.	TO	STA. 867+03.84B.E.	TYP. SEC. NO. 1
STA. 869+08.34B.E.	TO	STA. 909+27.32B.E.	TYP. SEC. NO. 1
STA. 910+40.32B.E.	TO	STA.1150+00.00	TYP. SEC. NO. 1
STA.1150+00.00	TO	STA.1168+68.00	TRANSITION TYP. SEC. NO. 1 TO TYP. SEC. NO. 9
STA.1168+68.00	TO	STA.1203+43.00	TYP. SEC. NO. 1 (THEN TO TYP. SEC. NO. 4)
STA.1226+62.00	TO	STA.1238+43.16	TYP. SEC. NO. 1 (THEN TO TYP. SEC. NO. 11)
STA.1243+20.81	TO	STA.1254+61.00	TYP. SEC. NO. 1 (THEN TO TYP. SEC. NO. 3)
STA.1280+46.30	TO	STA.1335+00.00	TYP. SEC. NO. 1

TYPICAL SECTION NO. 2

MAINLINE

℄

EAST BOUND LANES



QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED* ASPHALT TACK	
AREA square feet		15.08					square yards PER STATION		822	853	853
cubic yards PER STATION		55.9					tons PER STATION	5.82	1.47		
tons PER STATION		107.7					gallons PER STATION			43	
square yards PER STATION	822										

*TACK QUANTITIES BASED ON ONE LIFT

INTERSTATE 90 – EAST BOUND LANES
STA.1133+89.00 ONLY — *TYP. SEC. NO. 2 (THEN TO TYP. SEC. NO. 1)*

3	MDT	MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdtyp001.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS
2			12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018	
			12:01:37 PM CPS – U3162	CHECKED BY			GALLATIN COUNTY

MANHATTAN - BELGRADE		IM 90-6(145)289
	UPN 8756000	SHEET 6

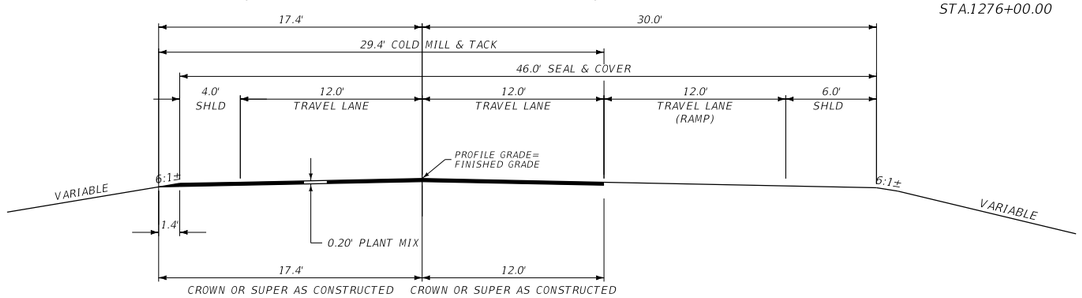
AWARD COPY

TYPICAL SECTION NO. 3

MAINLINE

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EAST BOUND LANES
(REVERSE FOR WEST BOUND LANES)



INTERSTATE 90 – EAST BOUND LANES

STA.1142+60.52	TO STA.1160+50.00	TYP. SEC. NO. 3
STA.1160+50.00	TO STA.1168+12.00	TRANSITION TYP. SEC. NO. 3 TO TYP. SEC. NO. 4
STA.1252+07.00	TO STA.1270+40.00	TYP. SEC. NO. 3
STA.1270+40.00	TO STA.1276+94.00	TRANSITION TYP. SEC. NO. 3 TO TYP. SEC. NO. 4

INTERSTATE 90 – WEST BOUND LANES

STA.1254+61.00	TO STA.1276+00.00	TYP. SEC. NO. 3
STA.1276+00.00	TO STA.1280+46.30	TRANSITION TYP. SEC. NO. 3 TO TYP. SEC. NO. 4

QUANTITIES

UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT TACK *	
AREA square feet		5.74					square yards PER STATION		511	327	327
cubic yards PER STATION		21.3					tons PER STATION	2.22	0.91		
tons PER STATION		41.1					gallons PER STATION			16	
square yards PER STATION	511										

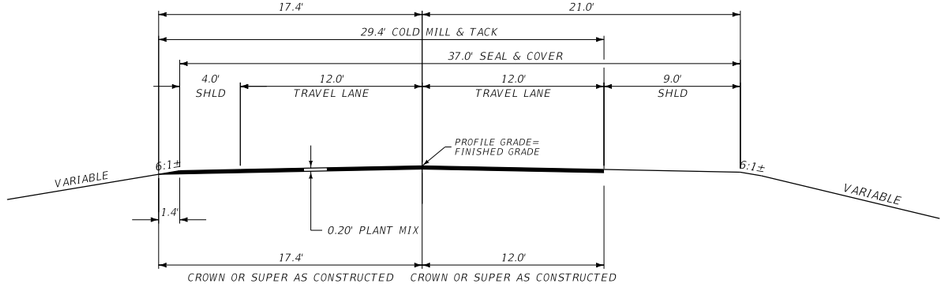
*TACK QUANTITIES BASED ON ONE LIFT

TYPICAL SECTION NO. 4

MAINLINE

℄

EAST BOUND LANES
(REVERSE FOR WEST BOUND LANES)



INTERSTATE 90 – EAST BOUND LANES

STA.1168+12.00	ONLY	TYP. SEC. NO. 4 (THEN TO TYP. SEC. NO. 1)
STA.1226+31.14	ONLY	TYP. SEC. NO. 4 (THEN TO TYP. SEC. NO. 1)
STA.1276+94.00	ONLY	TYP. SEC. NO. 4 (THEN TO TYP. SEC. NO. 1)

INTERSTATE 90 – WEST BOUND LANES

STA.1203+43.00	TO STA.1226+62.00	TRANSITION TYP. SEC. NO. 4 TO TYP. SEC. NO. 12
STA.1280+46.30	ONLY	TYP. SEC. NO. 4 (THEN TO TYP. SEC. NO. 1)

QUANTITIES

UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT TACK *	
AREA square feet		5.74					square yards PER STATION		411	327	327
cubic yards PER STATION		21.3					tons PER STATION	2.22	0.73		
tons PER STATION		41.1					gallons PER STATION			16	
square yards PER STATION	411										

*TACK QUANTITIES BASED ON ONE LIFT

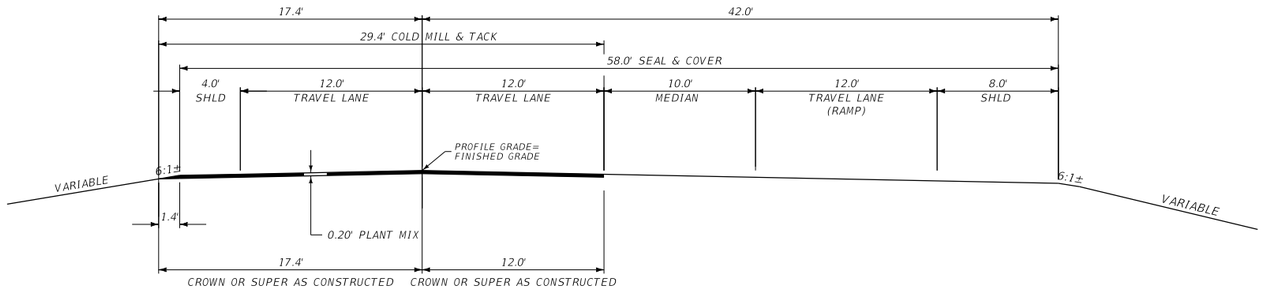
AWARD COPY

TYPICAL SECTION NO. 5

MAINLINE

INTERSTATE 90 – EAST BOUND LANES
STA.1176+55.60 TO STA.1188+94.80 TYP. SEC. NO. 5 (THEN TO TYP. SEC. NO. 6)

℄
EAST BOUND LANES



QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT TACK *	
AREA square feet		5.74					square yards PER STATION		644	327	327
cubic yards PER STATION		21.3					tons PER STATION	2.22	1.15		
tons PER STATION		41.1					gallons PER STATION			16	
square yards PER STATION	644										

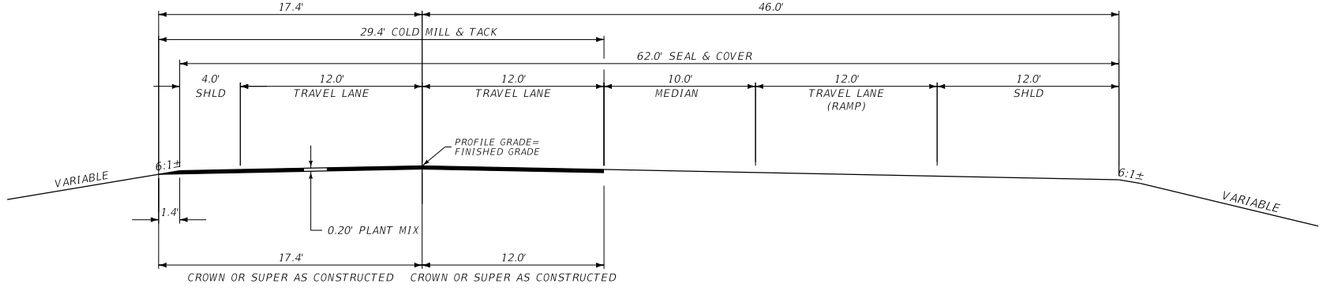
*TACK QUANTITIES BASED ON ONE LIFT

TYPICAL SECTION NO. 6

MAINLINE

INTERSTATE 90 – EAST BOUND LANES
STA.1188+94.80 TO STA.1196+09.00 TYP. SEC. NO. 6 (THEN TO TYP. SEC. NO. 7)

℄
EAST BOUND LANES



QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT TACK *	
AREA square feet		5.74					square yards PER STATION		689	327	327
cubic yards PER STATION		21.3					tons PER STATION	2.22	1.23		
tons PER STATION		41.1					gallons PER STATION			16	
square yards PER STATION	689										

*TACK QUANTITIES BASED ON ONE LIFT

2	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdtyp001.dgn	DESIGNED BY B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE	IM 90-6(145)289
1		12/15/2020	REVIEWED BY T. MURFITT	12/20/2018			
		12:01:48 PM CPS – U3162	CHECKED BY		GALLATIN COUNTY	UPN 8756000	SHEET 8

AWARD COPY

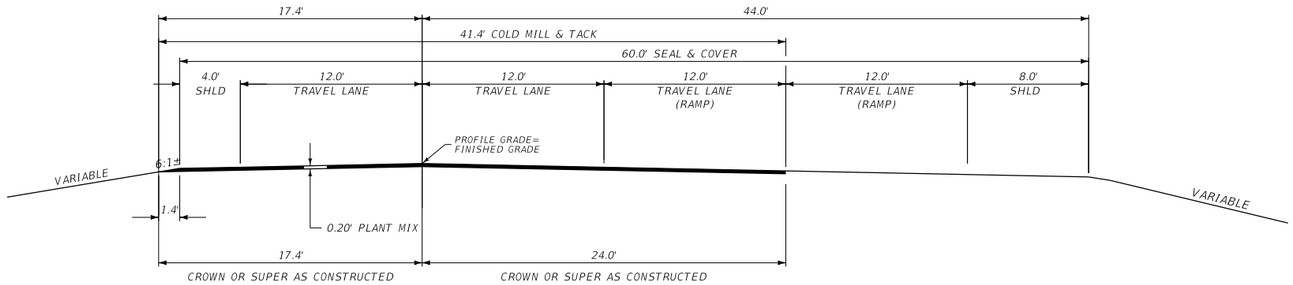
TYPICAL SECTION NO. 7

MAINLINE

℄

EAST BOUND LANES

INTERSTATE 90 – EAST BOUND LANES
STA.1196+09.00 TO STA.1203+26.28 TYP. SEC. NO. 7
STA.1203+26.28 TO STA.1207+18.80 TRANSITION TYP. SEC. NO. 7 TO TYP. SEC. NO. 8



QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		8.14					square yards PER STATION		667	460	460
cubic yards PER STATION		30.1					tons PER STATION	3.13	1.19		
tons PER STATION		58.0					gallons PER STATION			23	
square yards PER STATION	667										

*TACK QUANTITIES BASED ON ONE LIFT

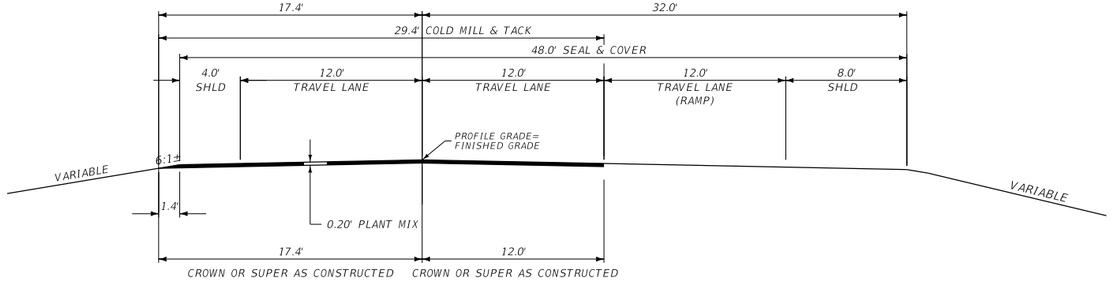
TYPICAL SECTION NO. 8

MAINLINE

℄

EAST BOUND LANES

INTERSTATE 90 – EAST BOUND LANES
STA.1207+18.80 ONLY TYP. SEC. NO. 8 (THEN TO TYP. SEC. NO. 9)



QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		5.74					square yards PER STATION		533	327	327
cubic yards PER STATION		21.3					tons PER STATION	2.22	0.95		
tons PER STATION		41.1					gallons PER STATION			16	
square yards PER STATION	533										

*TACK QUANTITIES BASED ON ONE LIFT

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdtyp002.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
2		12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018		
		12:01:59 PM CPS – U3162	CHECKED BY			GALLATIN COUNTY	UPN 8756000 / SHEET 9

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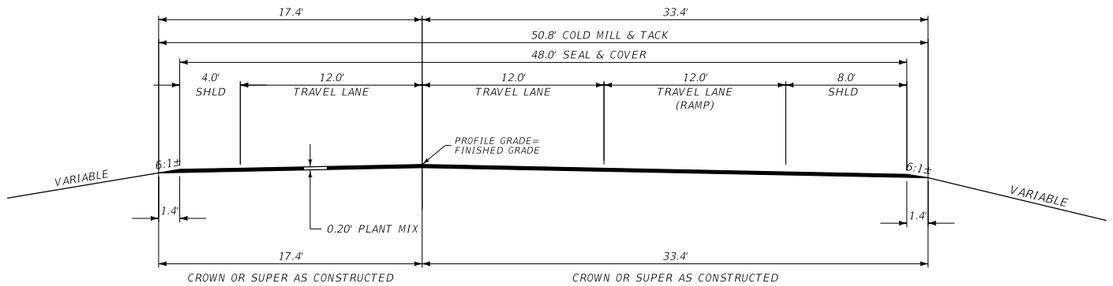
TYPICAL SECTION NO. 9

MAINLINE

INTERSTATE 90 - EAST BOUND LANES
STA.1207+18.80 TO STA.1220+72.45 TYP. SEC. NO. 9 (THEN TO TYP. SEC. NO. 10)

INTERSTATE 90 – WEST BOUND LANES
STA.1168+68.00 ONLY TYP. SEC. NO. 9 (THEN TO TYP. SEC. NO. 1)

℄
EAST BOUND LANES
(REVERSE FOR WEST BOUND LANES)



QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		9.88					square yards PER STATION		533	564	564
cubic yards PER STATION		36.6					tons PER STATION	3.81	0.95		
tons PER STATION		70.5					gallons PER STATION			28	
square yards PER STATION	533										

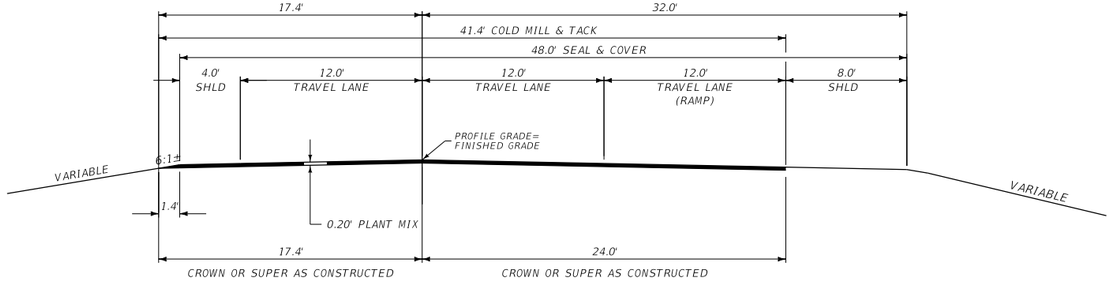
*TACK QUANTITIES BASED ON ONE LIFT

TYPICAL SECTION NO. 10

MAINLINE

INTERSTATE 90 – EAST BOUND LANES
STA.1220+72.45 TO STA.1226+31.14 TRANSITION TYP. SEC. NO. 10 TO TYP. SEC. NO. 4

℄
EAST BOUND LANES



QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	EMULSIFIED ASPHALT TACK*	
AREA square feet		8.14					square yards PER STATION		533	460	460
cubic yards PER STATION		30.1					tons PER STATION	3.13	0.95		
tons PER STATION		58.0					gallons PER STATION			23	
square yards PER STATION	533										

*TACK QUANTITIES BASED ON ONE LIFT

3 / 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdtyp002.dgn	DESIGNED BY B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE	IM 90-6(145)289
		12/15/2020	REVIEWED BY T. MURFITT	12/20/2018			
		12:02:04 PM CPS - U3162	CHECKED BY		GALLATIN COUNTY	UPN 8756000	SHEET 10

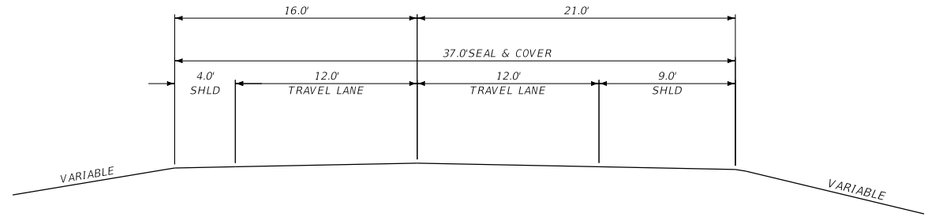
AWARD COPY

TYPICAL SECTION NO. 11

MAINLINE

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EAST BOUND LANES
(REVERSE FOR WEST BOUND LANES)



INTERSTATE 90 – EAST BOUND LANES
STA.1238+29.31 TO STA.1240+09.72B.E. TYP. SEC. NO. 11
STA.1241+57.14B.E. TO STA.1243+30.15 TYP. SEC. NO. 11 (THEN TO TYP. SEC. NO. 1)

INTERSTATE 90 – WEST BOUND LANES
STA.1238+43.16 TO STA.1240+09.54B.E. TYP. SEC. NO. 11
STA.1241+56.96B.E. TO STA.1243+20.81 TYP. SEC. NO. 11 (THEN TO TYP. SEC. NO. 1)

QUANTITIES											
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL			
	COVER								SEAL		
AREA square feet cubic yards PER STATION tons PER STATION square yards PER STATION	411						square yards PER STATION tons PER STATION gallons PER STATION		411 0.73		

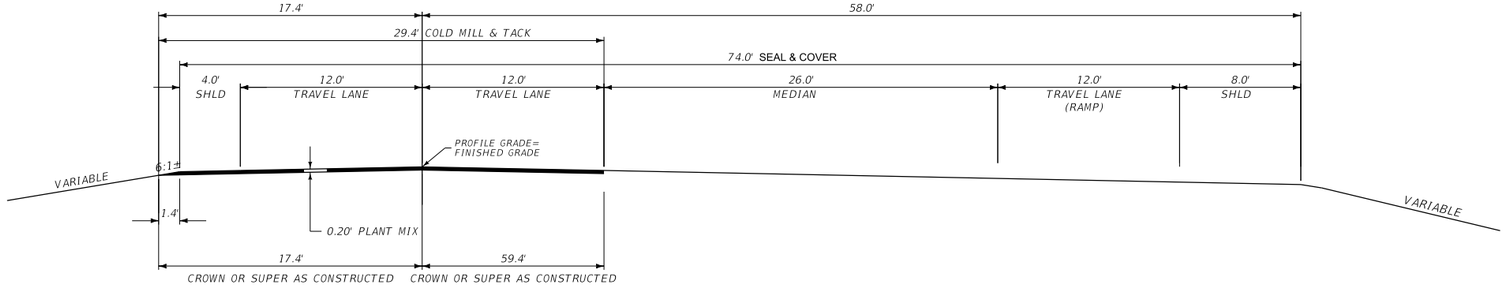
TYPICAL SECTION NO. 12

MAINLINE

INTERSTATE 90 – WEST BOUND LANES
STA.1226+62.00 ONLY
TYP. SEC. NO. 12 (THEN TO TYP. SEC. NO. 1)

℄

EAST BOUND LANES



QUANTITIES												
UNIT	AGGREGATE						UNIT	BITUMINOUS MATERIAL				COLD MILL
	COVER	PLANT MIX						ASPHALT CEMENT	SEAL	*EMULSIFIED ASPHALT TACK	
AREA square feet cubic yards PER STATION tons PER STATION square yards PER STATION	822	5.74 21.3 41.1					square yards PER STATION tons PER STATION gallons PER STATION	2.22	822 1.47	327 16		327

*TACK QUANTITIES BASED ON ONE LIFT

2 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdtyp002.dgn 12/15/2020 12:02:09 PM CPS – U3162	DESIGNED BY B. RICKMAN 12/3/2018 REVIEWED BY T. MURFITT 12/20/2018 CHECKED BY	ROAD PLANS GALLATIN COUNTY		MANHATTAN - BELGRADE UPN 8756000	IM 90-6(145)289 SHEET 11

AWARD COPY

SUMMARY

SURFACING

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR	tons HYDRATED LIME	AGGREGATE square yards COVER TYPE II		AGGREGATE tons PLANT MIX BIT. SURF. GR. S - 3/4"	BITUMINOUS MATERIAL tons ASPHALT CEMENT PG 70-28	BITUMINOUS MATERIAL tons SEAL CHFRS-2P	BITUMINOUS MATERIAL gallons EMULSIFIED ASPHALT TACK	REMARKS
														I-90 EAST BOUND LANES
705+00.00	779+04.36 B.E.	7,404.36	7,404.36					30,432		4,050	218.4	54.1	1,629	TYP. SEC. NO. 1
779+04.36 B.E.	779+85.86 B.E.	81.50			81.50	BRIDGE								
779+85.86 B.E.	790+03.40 B.E.	1,017.54	1,017.54					4,182		557	30.0	7.4	224	TYP. SEC. NO. 1
790+03.40 B.E.	790+94.90 B.E.	91.50			91.50	BRIDGE								
790+94.90 B.E.	826+12.45 B.E.	3,517.55	3,517.55					14,457		1,924	103.8	25.7	774	TYP. SEC. NO. 1
826+12.45 B.E.	827+25.45 B.E.	113.00			113.00	BRIDGE								
827+25.45 B.E.	867+42.78 B.E.	4,017.33	4,017.33					16,511		2,197	118.5	29.3	884	TYP. SEC. NO. 1
867+42.78 B.E.	869+47.28 B.E.	204.50			204.50	BRIDGE								
869+47.28 B.E.	909+27.14 B.E.	3,979.86	3,979.86					16,357		2,177	117.4	29.1	876	TYP. SEC. NO. 1
909+27.14 B.E.	910+40.14 B.E.	113.00			113.00	BRIDGE								
910+40.14 B.E.	1128+00.00	21,759.86	21,759.86					89,433		11,903	641.9	158.8	4,787	TYP. SEC. NO. 1
1128+00.00	1133+89.00	589.00	589.00					3,631		478	25.8	6.5	191	TRANS. TYP. SEC. NO. 1 TO TYP. SEC. NO. 2
1133+89.00	1142+60.52	871.52	871.52					3,582		477	25.7	6.4	192	TYP. SEC. NO. 1
1142+60.52	1160+50.00	1,789.48	1,789.48					9,144		735	39.7	16.3	286	TYP. SEC. NO. 3
1160+50.00	1168+12.00	762.00	762.00					3,513		313	16.9	6.2	122	TRANS. TYP. SEC. NO. 3 TO TYP. SEC. NO. 4
1168+12.00	1176+55.60	843.60	843.60					3,467		461	24.9	6.2	186	TYP. SEC. NO. 1
1176+55.60	1188+94.80	1,239.20	1,239.20					7,980		509	27.5	14.3	198	TYP. SEC. NO. 5
1188+94.80	1196+09.00	714.20	714.20					4,921		294	15.9	8.8	114	TYP. SEC. NO. 6
1196+09.00	1203+26.28	717.28	717.28					4,784		416	22.5	8.5	165	TYP. SEC. NO. 7
1203+26.28	1207+18.80	392.52	392.52					2,355		194	10.5	4.2	77	TRANS. TYP. SEC. NO. 7 TO TYP. SEC. NO. 8
1207+18.80	1220+72.45	1,353.65	1,353.65					7,215		954	51.6	12.9	379	TYP. SEC. NO. 9
1220+72.45	1226+31.14	558.69	558.69					2,637		277	14.9	4.7	109	TRANS. TYP. SEC. NO. 10 TO TYP. SEC. NO. 4
1226+31.14	1238+29.31	1,198.17	1,198.17					4,924		655	35.3	8.7	264	TYP. SEC. NO. 1
1238+29.31	1240+09.72 B.E.	180.41	180.41					741				1.3		TYP. SEC. NO. 11
1240+09.72 B.E.	1241+57.14 B.E.	147.42			147.42	BRIDGE								
1241+57.14 B.E.	1243+30.15	173.01	173.01					711				1.3		TYP. SEC. NO. 11
1243+30.15	1252+07.00	876.85	876.85					3,604		480	25.9	6.4	193	TYP. SEC. NO. 1
1252+07.00	1270+40.00	1,833.00	1,833.00					9,367		753	40.7	16.7	293	TYP. SEC. NO. 3
1270+40.00	1276+94.00	654.00	654.00					3,015		269	14.5	5.4	105	TRANS. TYP. SEC. NO. 3 TO TYP. SEC. NO. 4
1276+94.00	1335+00.00	5,806.00	5,806.00					23,863		3,176	171.3	42.4	1,277	TYP. SEC. NO. 1
	SUBTOTAL	63,000.00	62,249.08		750.92			270,826		33,249	1,793.6	481.6	13,325	I-90 EAST BOUND LANES
														I-90 WEST BOUND LANES
705+00.00	779+04.50 B.E.	7,404.50	7,404.50					30,432		4,050	218.4	54.1	1,629	TYP. SEC. NO. 1
779+04.50 B.E.	779+86.00 B.E.	81.50			81.50	BRIDGE								
779+86.00 B.E.	790+03.55 B.E.	1,017.55	1,017.55					4,182		557	30.0	7.4	224	TYP. SEC. NO. 1
790+03.55 B.E.	790+95.05 B.E.	91.50			91.50	BRIDGE								
790+95.05 B.E.	826+12.38 B.E.	3,517.33	3,517.33					14,456		1,924	103.8	25.7	774	TYP. SEC. NO. 1
826+12.38 B.E.	827+25.38 B.E.	113.00			113.00	BRIDGE								
827+25.38 B.E.	867+03.84 B.E.	3,978.46	3,978.46					16,351		2,176	117.4	29.0	875	TYP. SEC. NO. 1
867+03.84 B.E.	869+08.34 B.E.	204.50			204.50	BRIDGE								
869+08.34 B.E.	909+27.32 B.E.	4,018.98	4,018.98					16,518		2,198	118.6	29.3	884	TYP. SEC. NO. 1
909+27.32 B.E.	910+40.32 B.E.	113.00			113.00	BRIDGE								
910+40.32 B.E.	1150+00.00	23,959.68	23,959.68					98,474		13,106	706.8	174.9	5,271	TYP. SEC. NO. 1
1150+00.00	1168+68.00	1,868.00	1,868.00					8,817		1,169	63.1	15.7	467	TRANS. TYP. SEC. NO. 1 TO TYP. SEC. NO. 9
1168+68.00	1203+43.00	3,475.00	3,475.00					14,282		1,901	102.5	25.4	765	TYP. SEC. NO. 1
1203+43.00	1226+62.00	2,319.00	2,319.00					14,297		953	51.5	25.5	371	TRANS. TYP. SEC. NO. 4 TO TYP. SEC. NO. 12
1226+62.00	1238+43.16	1,181.16	1,181.16					4,855		646	34.8	8.6	260	TYP. SEC. NO. 1
1238+43.16	1240+09.54 B.E.	166.38	166.38					684				1.2		TYP. SEC. NO. 11
1240+09.54 B.E.	1241+56.96 B.E.	147.42			147.42	BRIDGE								
1241+56.96 B.E.	1243+20.81	163.85	163.85					673				1.2		TYP. SEC. NO. 11
1243+20.81	1254+61.00	1,140.19	1,140.19					4,686		624	33.6	8.3	251	TYP. SEC. NO. 1
1254+61.00	1276+00.00	2,139.00	2,139.00					10,930		879	47.5	19.5	342	TYP. SEC. NO. 3
1276+00.00	1280+46.30	446.30	446.30					2,057		183	9.9	3.7	71	TRANS. TYP. SEC. NO. 3 TO TYP. SEC. NO. 4
1280+46.30	1335+00.00	5,453.70	5,453.70					22,415		2,983	160.9	39.8	1,200	TYP. SEC. NO. 1
	SUBTOTAL	63,000.00	62,249.08		750.92			264,109		33,349	1,798.8	469.3	13,384	I-90 WEST BOUND LANES
						ADDITIONAL SURFACING		34,663		724	39.0	61.8	281	RAMPS
	TOTAL	~	~	~	~		943	569,598		67,322	3,631.4	1,012.7	26,990	

SUMMARY

ADDITIONAL SURFACING (INCLUDED IN SURFACING FRAME)

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR		AGGREGATE square yards COVER TYPE II		AGGREGATE tons PLANT MIX BIT. SURF. GR. S - 3/4"	BITUMINOUS MATERIAL tons ASPHALT CEMENT PG 70-28	BITUMINOUS MATERIAL tons SEAL CHFRS-2P	BITUMINOUS MATERIAL gallons EMILSIFIED ASPHALT TACK	REMARKS
BELGRADE INTERCHANGE														
1134+00.00 RT.	1142+81.00 RT.					RAMPS C1 & C2		5,057				9.0		
1168+68.00 LT.	1175+36.00 LT.					RAMP A		1,978		286	15.0	3.5	111	MILL/FILL
1176+40.00 LT.	1185+32.00 LT.					RAMP B		3,116		438	24.0	5.6	170	MILL/FILL
1170+55.00 RT.	1178+92.00 RT.					RAMP D1		6,673				11.9		
1179+44.00 RT.	1188+95.00 RT.					RAMP D2		2,286				4.1		
EAST BELGRADE INTERCHANGE														
1226+60.00 LT.	1240+83.00 LT.					RAMP A		1,847				3.3		
1226+00.00 RT.	1240+83.00 RT.					RAMP C		5,255				9.4		
1240+83.00 LT.	1254+63.00 LT.					RAMP B		5,512				9.8		
1240+83.00 RT.	1252+08.00 RT.					RAMP D		2,939				5.2		
SUBTOTAL		~	~	~	~			34,663		724	39.0	61.8	281	

RUMBLE STRIPS

STATION FROM	STATION TO	miles RUMBLE STRIPS CONTINUOUS	miles RUMBLE STRIPS INTERMITTENT	gals EMULSIFIED ASPHALT FOG SEAL*	REMARKS
EAST BOUND LANES					
705+15.50 RT.	1335+00.00 RT.		10.5	1,227	INCLUDES 500' RT. & 1200' LT. RAMP D1 BELGRADE INTERCHANGE
705+15.50 LT.	1335+00.00 LT.	11.2		1,316	
WEST BOUND LANES					
705+00.00 RT.	1334+90.61 RT.	11.2		1,318	
705+00.00 LT.	1334+90.61 LT.		10.8	1,266	
SUBTOTAL		22.4	21.3	5,127	
TOTAL		43.7		~	

* FOR INFORMATION ONLY - INCLUDE IN COST OF RUMBLE STRIPS

PAVEMENT MARKINGS

ITEM	UNIT	INTERIM APPLICATION #	FINAL APPLICATION	TOTAL
STRIPING - WHITE PAINT	gallon	758		758
STRIPING - YELLOW PAINT	gallon	492		492
WORDS & SYMBOLS - WHITE PAINT	gallon	66		66
STRIPING - WHITE EPOXY	gallon		505	505
STRIPING - YELLOW EPOXY	gallon		328	328
WORDS & SYMBOLS - WHITE EPOXY	gallon		44	44
FINAL SWEEP AND BROOM	course mile			25.9
TEMPORARY STRIPING	linear foot			126,000

BASED ON 2 APPLICATIONS.

COLD MILLING

STATION FROM	STATION TO	square yards COLD MILLING 0.20 ft	REMARKS
			I-90 EAST BOUND LANES
705+00.00	779+04.36 B.E.	32,727	
779+85.86 B.E.	790+03.40 B.E.	4,498	
790+94.90 B.E.	826+12.45 B.E.	15,548	
827+25.45 B.E.	867+42.78 B.E.	17,757	
869+47.28 B.E.	909+27.14 B.E.	17,591	
910+40.14 B.E.	1128+00.00	96,179	
1128+00.00	1133+89.00	3,814	
1133+89.00	1142+60.52	3,852	
1142+60.52	1160+50.00	5,852	
1160+50.00	1168+12.00	2,492	
1168+12.00	1176+55.60	3,729	
1176+55.60	1188+94.80	4,052	
1188+94.80	1196+09.00	2,335	
1196+09.00	1203+26.28	3,299	
1203+26.28	1207+18.80	1,545	
1207+18.80	1220+72.45	7,635	
1220+72.45	1226+31.14	2,198	
1226+31.14	1238+29.31	5,296	
1243+30.15	1252+07.00	3,876	
1252+07.00	1270+40.00	5,994	
1270+40.00	1276+94.00	2,139	
1276+94.00	1335+00.00	25,663	
SUBTOTAL		268,071	I-90 EAST BOUND LANES
			I-90 WEST BOUND LANES
705+00.00	779+04.50 B.E.	32,728	
779+86.00 B.E.	790+03.55 B.E.	4,498	
790+95.05 B.E.	826+12.38 B.E.	15,547	
827+25.38 B.E.	867+03.84 B.E.	17,585	
869+08.34 B.E.	909+27.32 B.E.	17,764	
910+40.32 B.E.	1150+00.00	105,902	
1150+00.00	1168+68.00	9,396	
1168+68.00	1203+43.00	15,360	
1203+43.00	1226+62.00	7,583	
1226+62.00	1238+43.16	5,221	
1243+20.81	1254+61.00	5,040	
1254+61.00	1276+00.00	6,995	
1276+00.00	1280+46.30	1,459	
1280+46.30	1335+00.00	24,105	
SUBTOTAL		269,183	I-90 WEST BOUND LANES
		5,639	RAMPS
TOTAL		542,893	

HIGH EFFICACY LUMINAIRE LED

ITEM	EACH	REMARKS
150 WATT EQUIVALENT	6	
250 WATT EQUIVALENT	90	
400 WATT EQUIVALENT	12*	
TOTAL	108	

*ONE 400 WATT EQUIVALENT LUMINAIRE WILL REPLACE AN EXISTING 250 WATT LUMINAIRE ON THE CLOVER LEAF OF THE BELGRADE INTERCHANGE

TEMPORARY GUARDRAIL

STATION FROM	STATION TO	linear feet TEMPORARY BARRIER RAIL	linear feet RESET TEMPORARY BARRIER RAIL	each TEMPORARY IMPACT ATTENUATOR	each RESET TEMPORARY IMPACT ATTENUATOR	REMARKS
						I-90 EAST BOUND LANES
777+10.00	780+20.00	310	310	1	1	
788+10.00	791+30.00	320	320	1	1	
824+20.00	827+60.00	340	340	1	1	
865+40.00	869+90.00	450	450	1	1	
907+35.00	910+75.00	340	340	1	1	
SUBTOTAL		1,760	1,760	5	5	I-90 EAST BOUND LANES
						I-90 WEST BOUND LANES
778+70.00	781+80.00	310	310	1	1	
789+70.00	792+90.00	320	320	1	1	
825+80.00	829+20.00	340	340	1	1	
866+60.00	871+10.00	450	450	1	1	
908+95.00	912+35.00	340	340	1	1	
SUBTOTAL		1,760	1,760	5	5	I-90 WEST BOUND LANES
TOTAL		3,520	3,520	10	10	

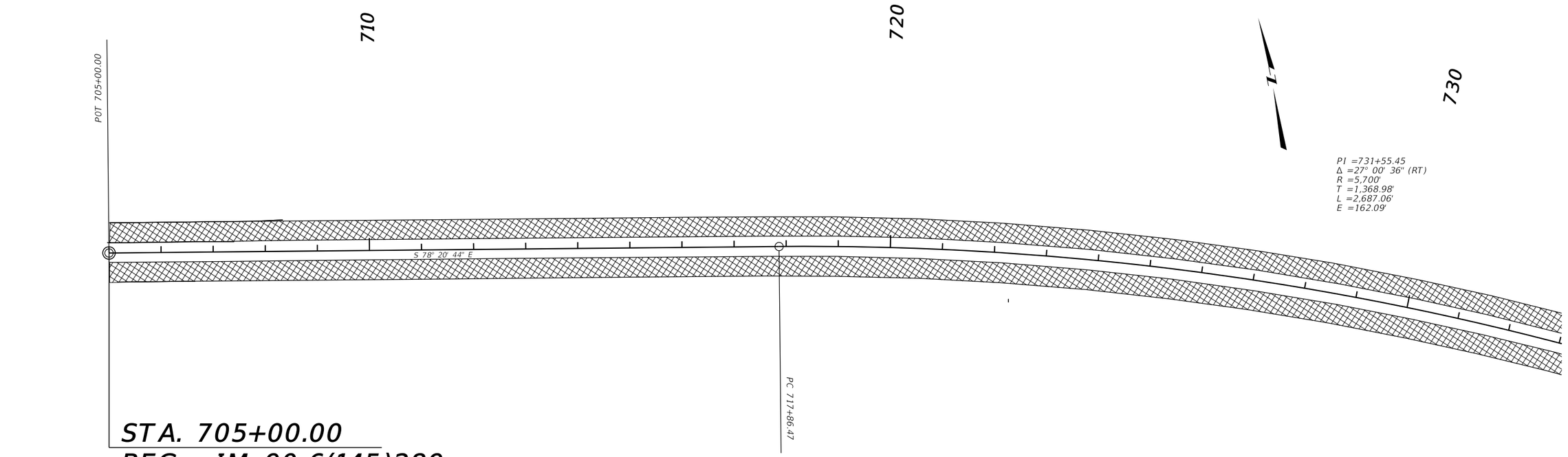
SUMMARY

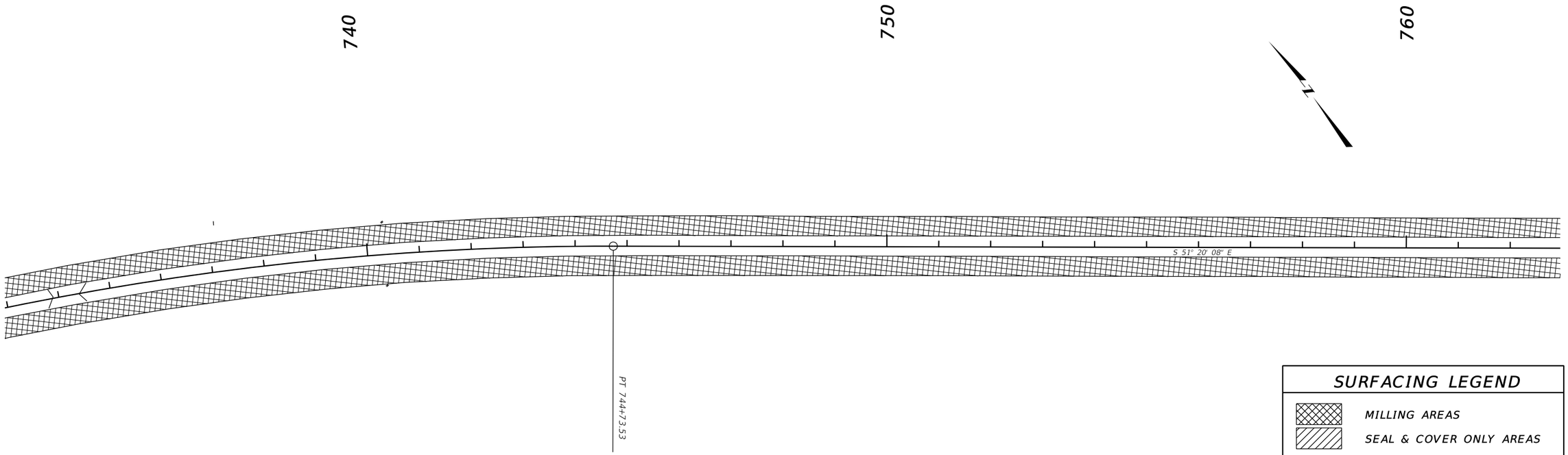
GUARDRAIL

STATION		linear feet				each						REMARKS
		REMOVE GUARDRAIL		MGS GUARDRAIL		MASH W-BEAM TERMINAL SECTION		MASH THRIE BEAM BRIDGE APPROACH SECTION		MGS ONE-WAY DEPARTURE TERMINAL SECTION		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
I-90 EAST BOUND LANES												I-90 EAST BOUND LANES
774+03.40	779+03.40		500.0									
774+19.03	779+03.40				412.5		1		1			
774+03.83	779+03.83	500.0										
774+19.46	779+03.83			412.5		1		1				
785+27.81	790+02.81		475.0									
785+43.44	790+02.81				387.5		1		1			
785+27.85	790+02.85	475.0										
785+43.48	790+02.85			387.5		1		1				
818+36.48	826+11.48		775.0									
818+52.11	826+11.48				687.5		1		1			
821+23.94	826+11.44	487.5										
821+39.57	826+11.44			400.0		1		1				
827+25.46	831+75.46		450.0									
827+25.46	831+78.59				& 440.6						1	
862+44.56	867+32.06	487.5										
862+60.19	867+32.06			400.0		1		1				
862+77.38	867+52.38		475.0									
862+93.01	867+52.38				387.5		1		1			
869+57.87	876+07.87		650.0									
869+57.87	876+11.00				& 640.6						1	
900+27.01	909+27.01		900.0									
900+42.64	909+27.01				812.5		1		1			
904+51.82	909+26.82	475.0										
904+67.45	909+26.82			387.5		1		1				
910+40.55	914+03.05		362.5									
910+40.55	914+06.18				& 353.1						1	
I-90 WEST BOUND LANES												I-90 WEST BOUND LANES
779+86.75	784+46.13				387.5		1		1			
779+86.75	784+61.75		475.0									
779+86.75	784+46.13			387.5		1		1				
779+86.75	784+61.75	475.0										
790+95.89	795+55.27				387.5		1		1			
790+95.89	795+70.89		475.0									
790+96.05	795+55.43			387.5		1		1				
790+96.05	795+71.05	475.0										
820+82.54	826+10.66			& 515.6						1		
820+85.66	826+10.66	525.0										
827+25.82	831+85.20				387.5		1		1			
827+25.82	832+00.82		475.0									
827+25.95	835+10.33			712.5		1		1				
827+25.95	835+25.95	800.0										
868+99.18	873+58.56			387.5		1		1				
868+99.18	873+74.18	475.0										
869+19.10	873+78.48				387.5		1		1			
869+19.10	873+94.10		475.0									
903+98.07	909+26.19			& 515.6						1		
904+01.19	909+26.19	525.0										
910+41.32	915+00.70				387.5		1		1			
910+41.32	915+16.32		475.0									
910+41.36	917+88.24			675.0		1		1				
910+41.36	918+03.86	762.5										
	SUBTOTAL	6,462.5	6,962.5	5,568.7	6,059.3	10	10	10	10	2	3	
	TOTAL	13,425.0		11,628.0		20		20		5		

& INCLUDES MGS TO METAL GUARDRAIL TRANSITION, CONNECT GUARDRAIL TRANSITION PIECE TO BRIDGE RAIL

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3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln001.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
2		12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018		
		12:02:57 PM CPS - U3162	CHECKED BY			GALLATIN COUNTY	UPN 8756000 / SHEET 15

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770

780

790

WEST BOUND LANES
STA. 779+86.75 TO 784+61.75
REMOVE GUARDRAIL RT.

WEST BOUND LANES
STA. 779+86.75 TO 784+46.13
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

WEST BOUND LANES
STA. 779+86.75 TO 784+61.75
REMOVE GUARDRAIL LT.

WEST BOUND LANES
STA. 779+86.75 TO 784+46.13
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.

WEST BOUND LANES
STA. 790+95.89 TO 795+70.89
REMOVE GUARDRAIL RT.

WEST BOUND LANES
STA. 790+95.89 TO 795+55.27
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

WEST BOUND LANES
STA. 790+96.05 TO 795+71.05
REMOVE GUARDRAIL LT.

WEST BOUND LANES
STA. 790+96.05 TO 795+55.43
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.

S 51° 20' 08" E

EAST BOUND LANES
STA. 774+03.40 TO 779+03.40
REMOVE GUARDRAIL RT.

EAST BOUND LANES
STA. 774+19.03 TO 779+03.40
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

EAST BOUND LANES
STA. 774+03.83 TO 779+03.83
REMOVE GUARDRAIL LT.

EAST BOUND LANES
STA. 774+19.46 TO 779+03.83
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.

EAST BOUND LANES
STA. 785+27.81 TO 790+02.81
REMOVE GUARDRAIL RT.

EAST BOUND LANES
STA. 785+43.44 TO 790+02.81
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

EAST BOUND LANES
STA. 785+27.85 TO 790+02.85
REMOVE GUARDRAIL LT.

EAST BOUND LANES
STA. 785+43.48 TO 790+02.85
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.

800

810

820

S 51° 20' 08" E

SURFACING LEGEND

MILLING AREAS

SEAL & COVER ONLY AREAS

3 / 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln001.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
		12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018		
		12:03:00 PM CPS - U316	CHECKED BY			GALLATIN COUNTY	UPN 8756000 / SHEET 16

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830 840 850

WEST BOUND LANES
STA. 820+85.66 TO 826+10.66
REMOVE GUARDRAIL LT.

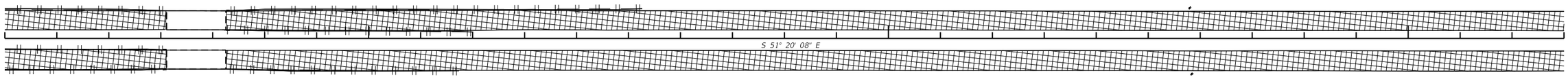
WEST BOUND LANES
STA. 820+82.54 TO 826+10.66
NEW MGS GUARDRAIL LT.
NEW MGS ONE-WAY DEPART. TERM. SECTION LT.

WEST BOUND LANES
STA. 827+25.82 TO 832+00.82
REMOVE GUARDRAIL RT.

WEST BOUND LANES
STA. 827+25.82 TO 831+85.20
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

WEST BOUND LANES
STA. 827+25.95 TO 835+25.95
REMOVE GUARDRAIL LT.

WEST BOUND LANES
STA. 827+25.95 TO 835+10.33
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.



EAST BOUND LANES
STA. 818+36.48 TO 826+11.48
REMOVE GUARDRAIL RT.

EAST BOUND LANES
STA. 818+52.11 TO 826+11.48
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

EAST BOUND LANES
STA. 821+23.94 TO 826+11.44
REMOVE GUARDRAIL LT.

EAST BOUND LANES
STA. 821+39.57 TO 826+11.44
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.

EAST BOUND LANES
STA. 827+25.46 TO 831+75.46
REMOVE GUARDRAIL RT.

EAST BOUND LANES
STA. 827+25.46 TO 831+78.59
NEW MGS GUARDRAIL RT.
NEW MGS ONE-WAY DEPART. TERM. SECTION RT.

860 870 880

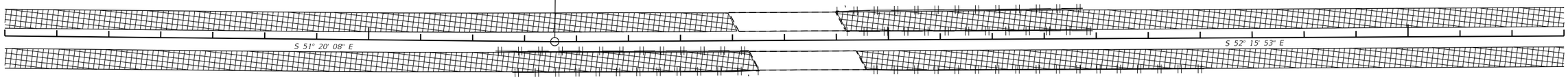
PI 863+58.05

WEST BOUND LANES
STA. 868+99.18 TO 873+74.18
REMOVE GUARDRAIL LT.

WEST BOUND LANES
STA. 868+99.18 TO 873+58.56
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.

WEST BOUND LANES
STA. 869+19.10 TO 873+94.10
REMOVE GUARDRAIL RT.

WEST BOUND LANES
STA. 869+19.10 TO 873+78.48
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.



EAST BOUND LANES
STA. 862+44.56 TO 867+32.06
REMOVE GUARDRAIL LT.

EAST BOUND LANES
STA. 862+60.19 TO 867+32.06
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.

EAST BOUND LANES
STA. 862+77.38 TO 867+52.38
REMOVE GUARDRAIL RT.

EAST BOUND LANES
STA. 862+93.01 TO 867+52.38
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

EAST BOUND LANES
STA. 869+57.87 TO 876+07.87
REMOVE GUARDRAIL RT.

EAST BOUND LANES
STA. 869+57.87 TO 876+11.00
NEW MGS GUARDRAIL RT.
NEW MGS ONE-WAY DEPART. TERM. SECTION RT.

SURFACING LEGEND

MILLING AREAS

SEAL & COVER ONLY AREAS

2 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln001.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
		12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018		
		12:03:03 PM CPS - U3162	CHECKED BY			GALLATIN COUNTY	UPN 8756000 / SHEET 17

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890 900 910

WEST BOUND LANES
STA. 904+01.19 TO 909+26.19
REMOVE GUARDRAIL LT.

WEST BOUND LANES
STA. 903+98.07 TO 909+26.19
NEW MGS GUARDRAIL LT.
NEW MGS ONE-WAY DEPART. TERM. SECTION LT.

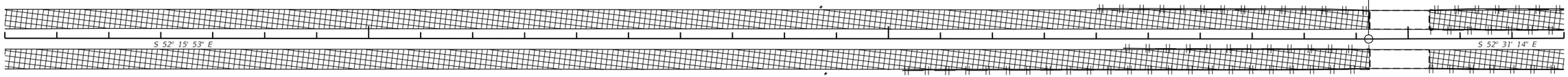
WEST BOUND LANES
STA. 910+41.32 TO 915+16.32
REMOVE GUARDRAIL RT.

WEST BOUND LANES
STA. 910+41.32 TO 915+00.70
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

PI 909+24.09

WEST BOUND LANES
STA. 910+41.36 TO 918+03.86
REMOVE GUARDRAIL LT.

WEST BOUND LANES
STA. 910+41.36 TO 917+88.24
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.



EAST BOUND LANES
STA. 900+27.01 TO 909+27.01
REMOVE GUARDRAIL RT.

EAST BOUND LANES
STA. 900+42.64 TO 909+27.01
NEW MGS GUARDRAIL RT.
NEW MASH W-BEAM TERMINAL SECTION RT.
NEW MASH THRIE BEAM BR APPRCH SECTION RT.

EAST BOUND LANES
STA. 904+51.82 TO 909+26.82
REMOVE GUARDRAIL LT.

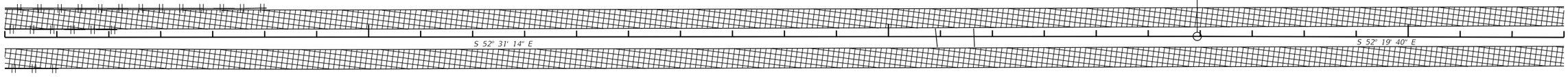
EAST BOUND LANES
STA. 904+67.45 TO 909+26.82
NEW MGS GUARDRAIL LT.
NEW MASH W-BEAM TERMINAL SECTION LT.
NEW MASH THRIE BEAM BR APPRCH SECTION LT.

EAST BOUND LANES
STA. 910+40.55 TO 914+03.05
REMOVE GUARDRAIL RT.

EAST BOUND LANES
STA. 910+40.55 TO 914+06.18
NEW MGS GUARDRAIL RT.
NEW MGS ONE-WAY DEPART. TERM. SECTION RT.

920 930 940

PI 935+94.24



SURFACING LEGEND

MILLING AREAS

SEAL & COVER ONLY AREAS

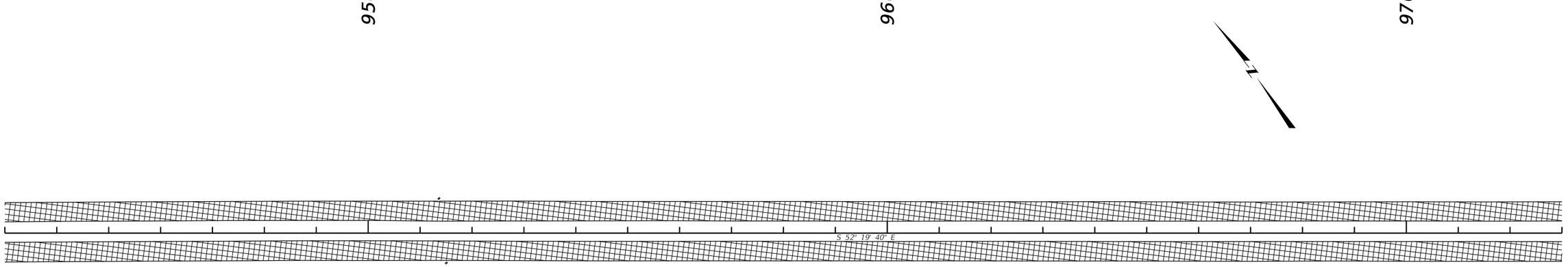
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2	MDT	12/15/2020	REVIEWED BY T. MURFITT	12/20/2018	GALLATIN COUNTY	UPN 8756000 / SHEET 18
		12:03:12 PM CPS - U3162	CHECKED BY			

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950

960

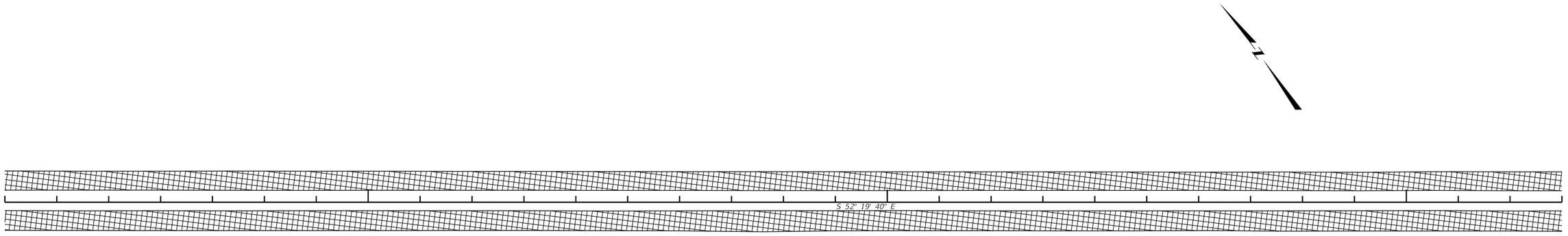
970



980

990

1000



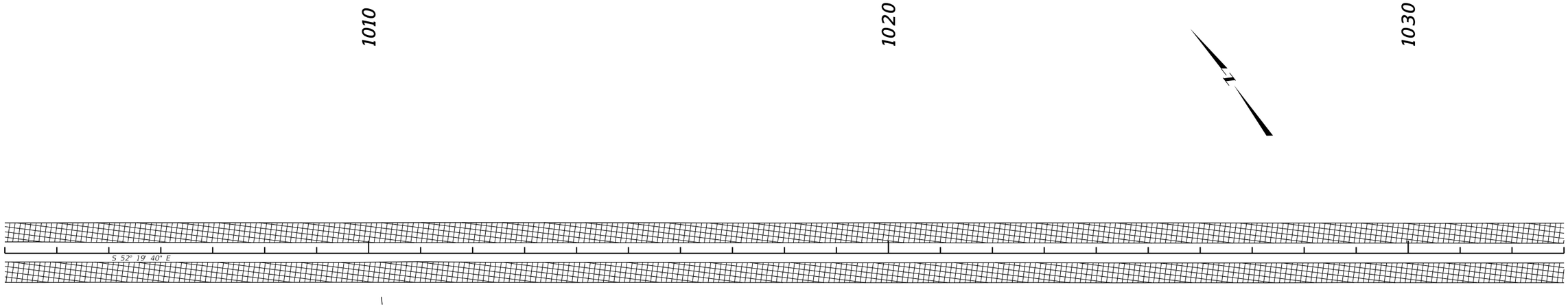
SURFACING LEGEND

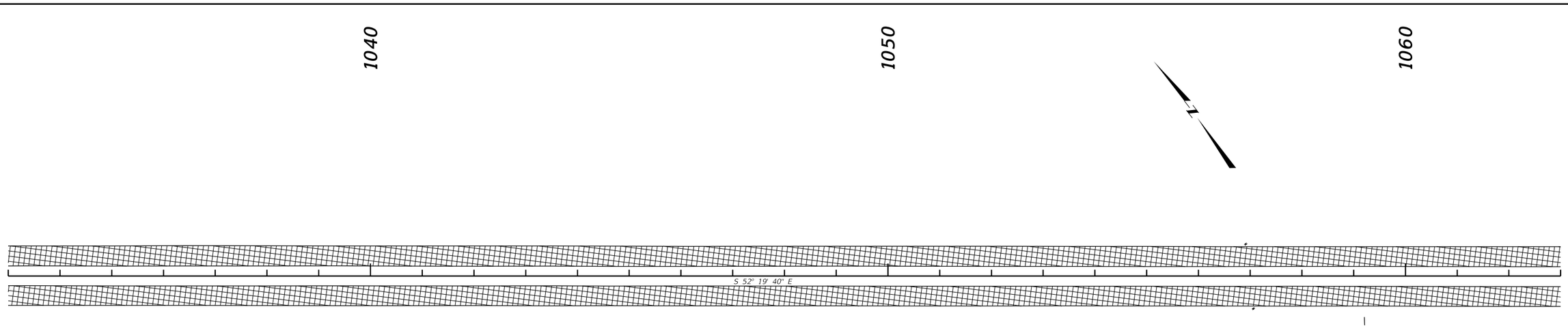
MILLING AREAS

SEAL & COVER ONLY AREAS

3 / 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln002.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
		12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018		
		12:03:15 PM CPS - U316	CHECKED BY			GALLATIN COUNTY	UPN 8756000 / SHEET 19

AWARD COPY





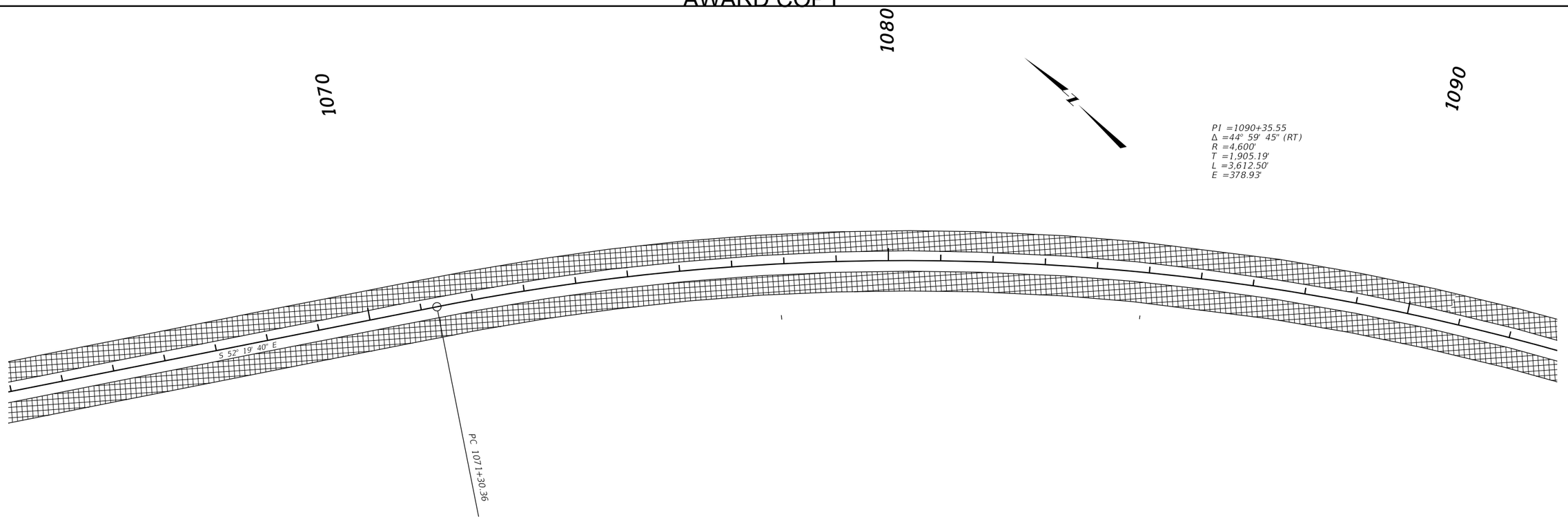
SURFACING LEGEND

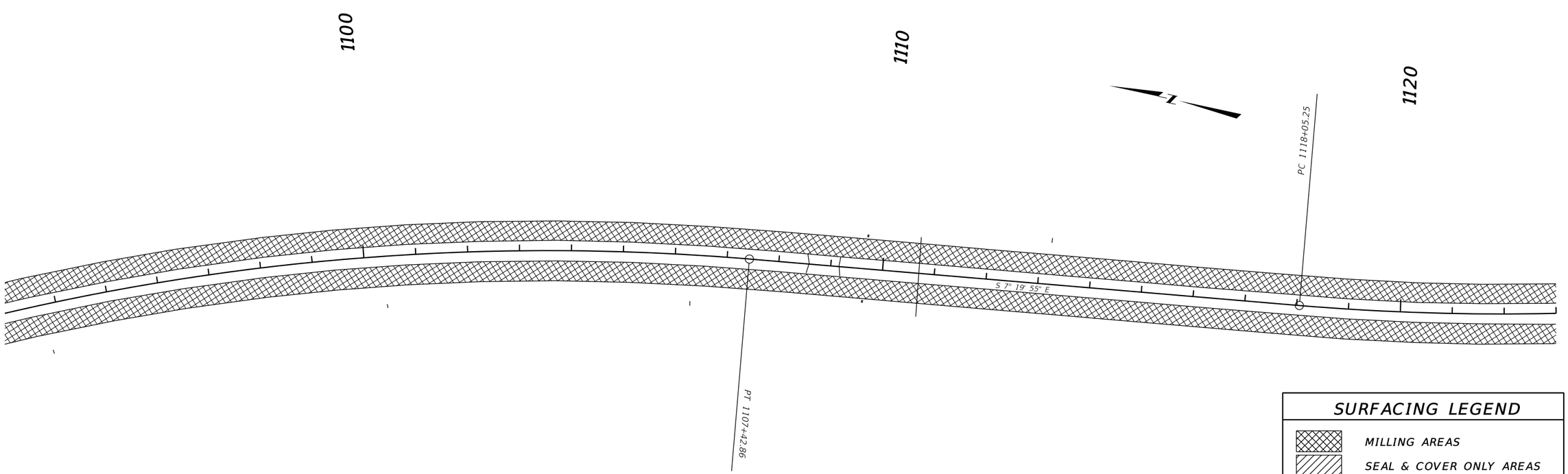
MILLING AREAS

SEAL & COVER ONLY AREAS

2	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln002.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
1		12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018	GALLATIN COUNTY	UPN 8756000 / SHEET 20
		12:03:18 PM CPS - U3162	CHECKED BY				

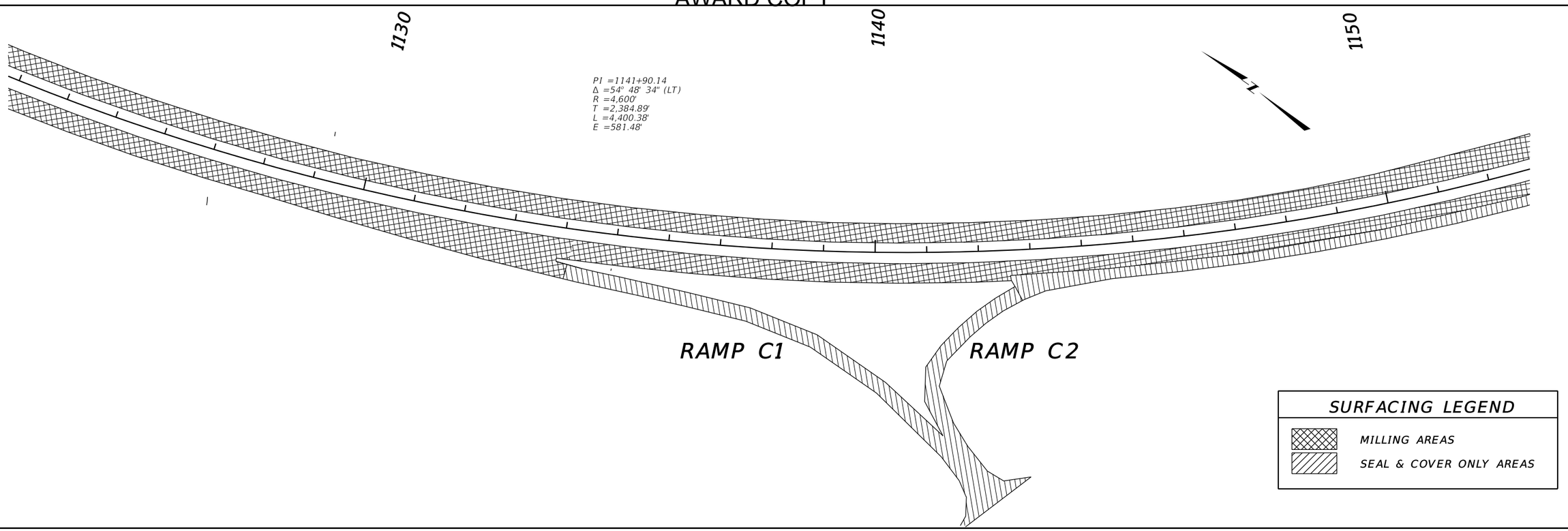
AWARD COPY

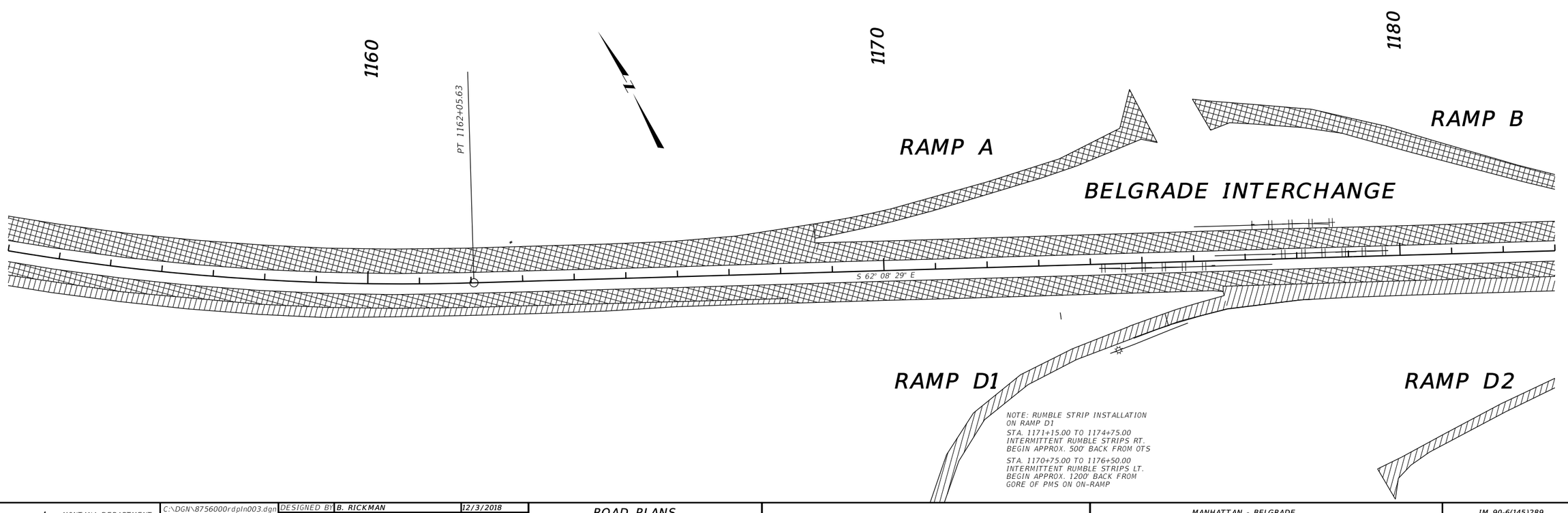




3	MDT	MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln003.dgn	DESIGNED BY B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
2			12/15/2020	REVIEWED BY T. MURFITT	12/20/2018		
			12:03:29 PM CPS - U3162	CHECKED BY		GALLATIN COUNTY	UPN 8756000 / SHEET 21

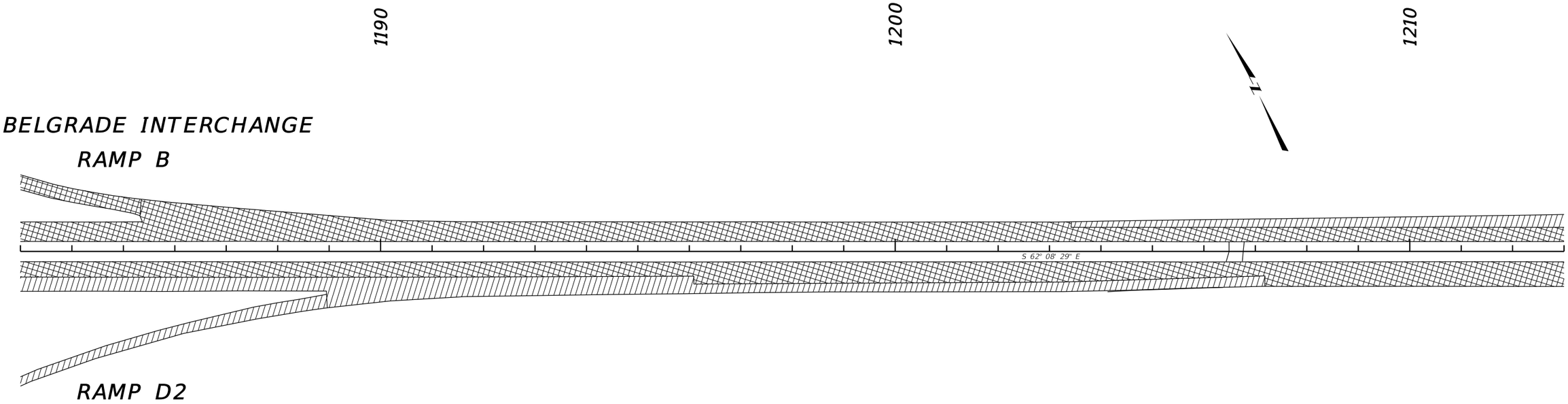
AWARD COPY

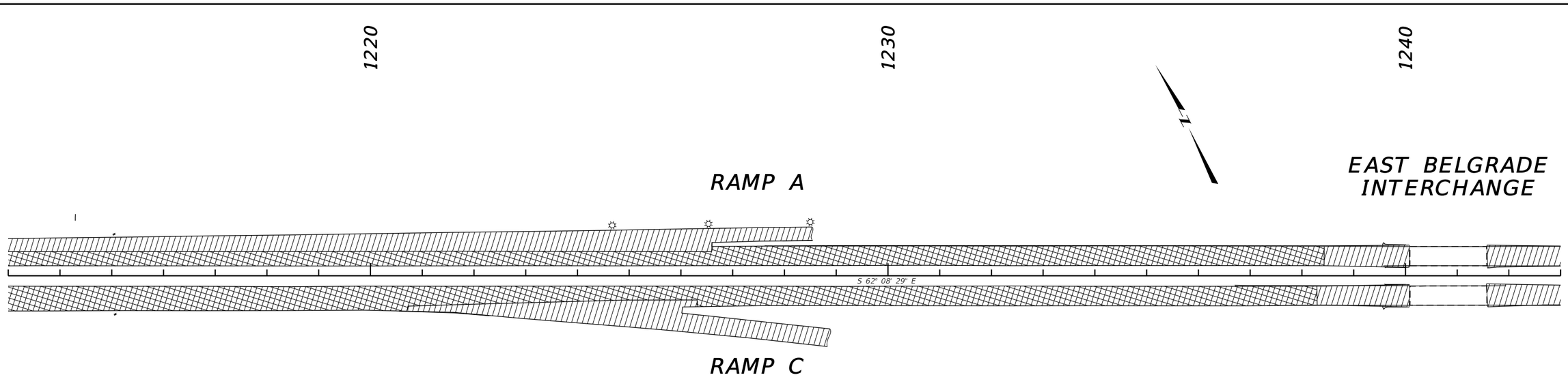




3 / 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln003.dgn	DESIGNED BY B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE	IM 90-6(145)289
		12/15/2020	REVIEWED BY T. MURFITT	12/20/2018			
		12:03:32 PM CPS - U3162	CHECKED BY		GALLATIN COUNTY	UPN 8756000	SHEET 22

AWARD COPY



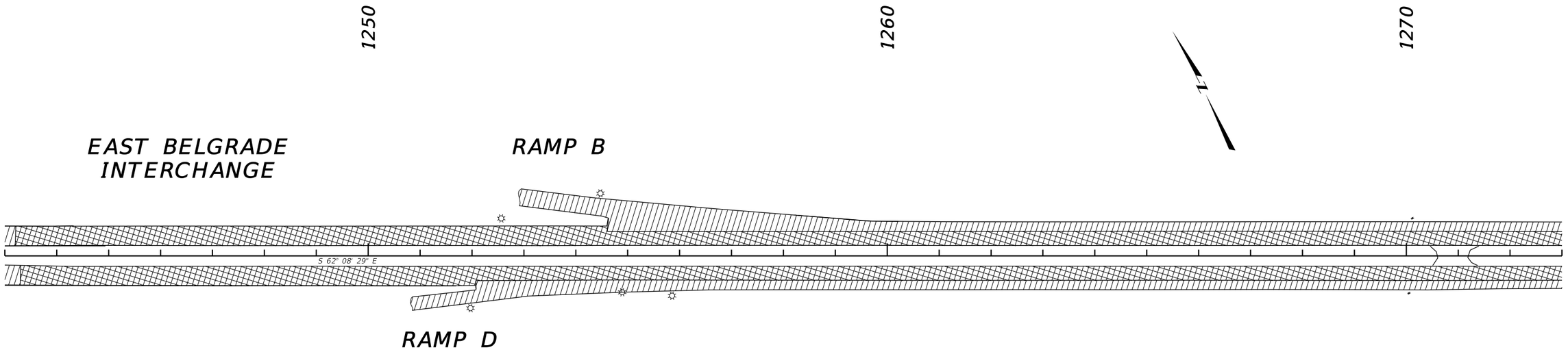


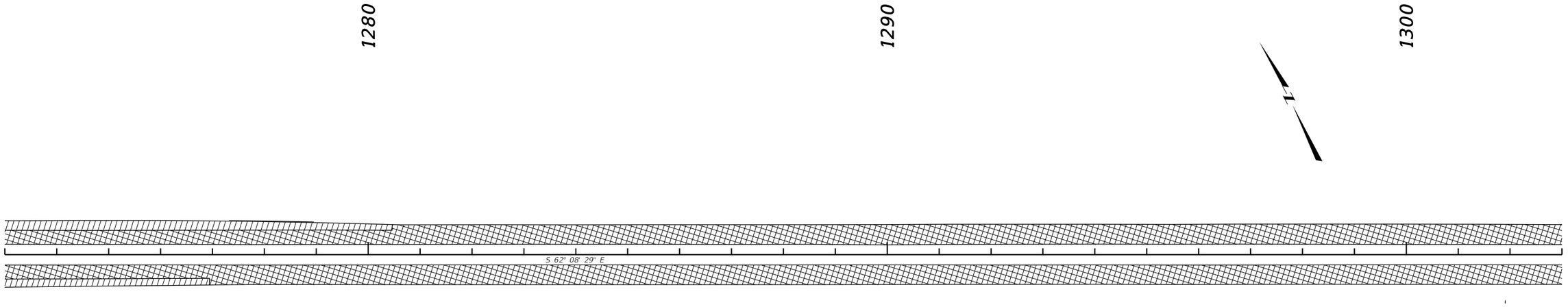
SURFACING LEGEND

- MILLING AREAS
- SEAL & COVER ONLY AREAS

2	MDT	MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln003.dgn	DESIGNED BY B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
1			12/15/2020	REVIEWED BY T. MURFITT	12/20/2018	GALLATIN COUNTY	UPN 8756000 / SHEET 23
			12:03:35 PM CPS - U3162	CHECKED BY			

AWARD COPY



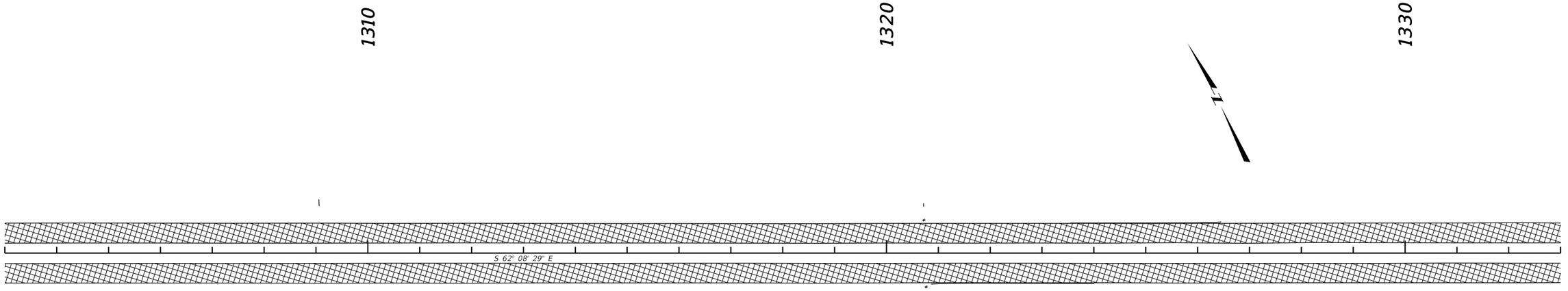


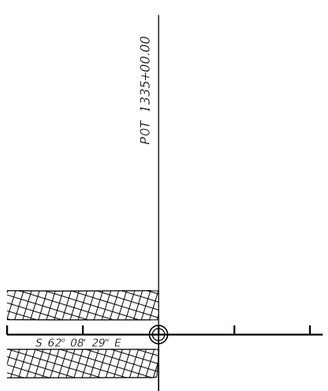
SURFACING LEGEND

- MILLING AREAS
- SEAL & COVER ONLY AREAS

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln004.dgn	DESIGNED BY	B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE / IM 90-6(145)289
2		12/15/2020	REVIEWED BY	T. MURFITT	12/20/2018		
		12:03:44 PM CPS - U3162	CHECKED BY			GALLATIN COUNTY	UPN 8756000 / SHEET 24

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STA. 1335+00.00
END IM 90-6(145)289

SURFACING LEGEND

MILLING AREAS

SEAL & COVER ONLY AREAS

3 / 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000rdpln004.dgn	DESIGNED BY B. RICKMAN	12/3/2018	ROAD PLANS	MANHATTAN - BELGRADE	IM 90-6(145)289
		12/15/2020	REVIEWED BY T. MURFITT	12/20/2018			
		12:03:47 PM CPS - U3162	CHECKED BY		GALLATIN COUNTY	UPN 8756000	SHEET 25

SUMMARY
SIGNING & DELINEATION QUANTITIES

MATERIAL	TOTAL	UNIT
SIGNS-ALUM REFL SHEET IV	178.1	SQ. FOOT
SIGNS-ALUM REFL SHEET XI	220.3	SQ. FOOT
SIGNS-ALUM SHEET INCR IV	1888.1	SQ. FOOT
SIGNS-ALUM SHEET INCR XI	24.0	SQ. FOOT
OVERLAY-SHEET ALUMINUM		SQ. FOOT
POSTS-STEEL U SIGN	297	POUNDS
POLES-TREATED WOOD 4 IN		LINEAR FT.
POLES-TREATED WOOD 5 IN	152	LINEAR FT.
POLES-TREATED TIMBER-CLASS 4		LINEAR FT.
POLES-TREATED TIMBER-CLASS 3		LINEAR FT.
POSTS-TUBULAR STEEL	482	POUNDS
POSTS-TUBULAR STEEL-SQ-PERF		POUNDS
POSTS-STEEL STRUCTURAL SIGN	296	POUNDS
OVERHEAD STR/METAL-CANTILEVER		EACH
OVERHEAD STR/METAL-BRIDGE		EACH
HIGHWAY TRAFFIC STRIPING-WHITE		GAL.(S)
HIGHWAY TRAFFIC STRIPING-YELLOW		GAL.(S)
WORDS & SYMBOLS		GAL.(S)
DELINEATOR-DESIGN BJ	12	EACH
DELINEATOR DES A	325	EACH
DELINEATOR DES B		EACH
DELINEATOR DES C		EACH
DELINEATOR DES D		EACH
DELINEATOR DES E		EACH
DELINEATOR DES F		EACH
DELINEATOR DES G		EACH
DELINEATOR DES H	109	EACH
REMOVE SIGNS	54	EACH
REMOVE SIGNS-GUIDE	12	EACH
RESET SIGNS		EACH
RESET SIGNS-GUIDE		EACH
FRANGIBLE SIGN POST BREAKAWAY DEVICE- 3.5" PIPE	2	EACH
FRANGIBLE SIGN POST BREAKAWAY DEVICE- 4" PIPE	1	EACH
SQ TUBLR SLIP BASE BKWY-3 IN		EACH

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SIGN LOCATION AND SPECIFICATIONS

REF. POST	RAMP NO.	SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACK-GROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	TYPE OF SUPPORT	FEET: CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET ALUMINUM	SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT	SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY	TIMBER POLE (LINEAR FT.): 4" TOP DIA.	TIMBER POLE (LINEAR FT.): 5" TOP DIA.	TIMBER POLE (LINEAR FT.): 6" TOP DIA.	STEEL POST(LBS.): ROUND TUBULAR	STEEL POST(LBS.): SQUARE TUBULAR	STEEL POST(LBS.): STRUCTURAL STEEL	STEEL POST(LBS.): "U" POST	BREAKAWAY	SIGNS REMOVE	SIGNS RESET	GUIDE REMOVE	GUIDE RESET	REMARKS
INTERSTATE 90																													
289.0000 RT	EB	W11-13	48x48	XI		5-0		5" DIA POLE		18-3		7-7	4-6	16.0 XI				20						X				BB	WILDLIFE CROSSING
		W7-3A	24x18	XI										3.0 XI														BB	NEXT 6 MILES
289.0000 LT	WB	D10-6	REUSE			2-0		3 LB/FT STL U		11-0		4-0	3-0										33		1				R.P. 289
289.0075 RT	EB	M3-2a	36x18	IV	IV									4.5															EAST
		M1-1	36x36	IV	IV	5-0		5" DIA POLE		17-0		7-0	3-6	7.2				18						X					I-90
289.1566 RT	EB	W8-12B	48x48	XI								7-0		16.0 XI											1				WATCH FOR ICE ON BRIDGE, HINGED REPLACE SIGN FACE ONLY
289.4660 RT	EB	R2-1	USE AS IS																										SPEED LIMIT 80
		R2-2A	48x36	XI											12.0 XI										1				TRUCKS 65 REPLACE SIGN FACE ONLY
289.4667 LT	WB	W8-12B	48x48	XI								7-0		16.0 XI											1				WATCH FOR ICE ON BRIDGE, HINGED REPLACE SIGN FACE ONLY
289.6701 RT	EB	G11-306	108x60	IV	IV							7-0			45.0											1		θ	REPLACE SIGN FACE ONLY
289.9020 MEDIAN		(2) R5-11	30x24	IV								7-0		10.0											1				MOUNT BACK TO BACK REPLACE SIGN FACE ONLY
289.9531 LT	WB	E-288	108x30	IV	IV										22.5							74							2-2.5"x2.5"x3/8"x6'4" ANGLE REQ'D REPLACE SIGN FACE ONLY
		G2-16	168x120	IV	IV							5-0			140.0											1		Δ	REPLACE SIGN FACE ONLY
		D9-7	30x30											6.3															GAS
		D9-8	30x30											6.3															FOOD
		IS21-8	REMOVE																										GAS FOOD PHONE NEXT RIGHT
290.0049 RT	EB	D10-6	12x48	IV	IV	6-0		3 LB/FT STL U		11-0		4-0	3-0	4.0									33		1				R.P. 290
290.0151 LT	WB	D10-6	12x48	IV	IV							4-0		4.0											1				R.P. 290 REPLACE SIGN FACE ONLY
290.6344 RT	EB	W8-12B	USE AS IS																										WATCH FOR ICE ON BRIDGE HINGED SIGN
290.9965 LT	WB	D10-6	12x48	IV	IV							4-0		4.0											1				R.P. 291 REPLACE SIGN FACE ONLY
290.9992 RT	EB	D10-6	12x48	IV	IV	6-0		3 LB/FT STL U		11-0		4-0	3-0	4.0									33		1				R.P. 291
291.4489 RT	EB	W8-12B	USE AS IS																										WATCH FOR ICE ON BRIDGE HINGED SIGN
291.9810 LT	WB	N7-1	REUSE			30-0		5" DIA POLE		18-3		7-0	3-6					20						X	1			BB	ADOPT A HIGHWAY
		N7-1P	36x12	IV	IV									3.0														BB	ADOPT THIS AREA CALL 556-4700
291.9856 RT	EB	W21-1	REMOVE																						1				WORKERS HINGED
291.9987 LT	WB	W21-1	REMOVE																						1				WORKERS HINGED
292.0000 RT	EB	D10-6	12x48	IV	IV	6-0		3 LB/FT STL U		11-0		4-0	3-0	4.0									33		1				R.P. 292
292.0020 LT	WB	D10-6	12x48	IV	IV							4-0		4.0											1				R.P. 292 REPLACE SIGN FACE ONLY
292.0195 RT	EB	N7-1	USE AS IS																										ADOPT A HIGHWAY
		N7-1P	USE AS IS																										ADOPT THIS AREA CALL 556-4700

■ FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

FY / FY X STANDARD BREAKAWAY DEVICE:
- FOR WOOD POST SEE DETAILED DRAWING 619-20.
- FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-13.

BB BACKBRACING REQUIRED:
- FOR WOOD POST 2" x 4" REQ'D.
- FOR STRUCTURAL STEEL 2" x 2" x 1/4" ANGLE IRON REQ'D.

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

FY = TYPE IX FLUORESCENT YELLOW SHEETING REQUIRED.

Belgrade 9
Bozeman 16
Billings 158

288 346
Manhattan
1 MILE

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SIGN LOCATION AND SPECIFICATIONS

REF. POST	RAMP NO.	SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACK-GROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	TYPE OF SUPPORT	FEET: CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET ALUMINUM	SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT	SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY	TIMBER POLE (LINEAR FT.): 4" TOP DIA.	TIMBER POLE (LINEAR FT.): 5" TOP DIA.	TIMBER POLE (LINEAR FT.): 6" TOP DIA.	STEEL POST(LBS.): ROUND TUBULAR	STEEL POST(LBS.): SQUARE TUBULAR	STEEL POST(LBS.): STRUCTURAL STEEL	STEEL POST(LBS.): "U" POST	BREAKAWAY	SIGNS REMOVE	SIGNS RESET	GUIDE REMOVE	GUIDE RESET	REMARKS
292.2698 RT	EB	W8-12B	48x48	XI								7-0		16.0 XI											1					WATCH FOR ICE ON BRIDGE, HINGED REPLACE SIGN FACE ONLY
292.4028 RT	EB	N6-2	66x42	IV	IV							7-0			19.3												1		# REPLACE SIGN FACE ONLY
292.4450 LT	WB	N6-2	66x42	IV	IV							7-0			19.3												1		# REPLACE SIGN FACE ONLY
292.5813 LT	WB	W8-12B	48x48	XI								7-0		16.0 XI											1					WATCH FOR ICE ON BRIDGE, HINGED REPLACE SIGN FACE ONLY
292.9831 RT	EB	W8-12B	48x48	XI		20-0		3.5" DIA PIPE		16-4		7-0	3-0	16.0 XI						149.0				■	1				BB	WATCH FOR ICE ON BRIDGE, HINGED
293.0007 LT	WB	D10-6	12x48	IV	IV							4-0		4.0											1					R.P. 293 REPLACE SIGN FACE ONLY
293.0048 RT	EB	D10-6	12x48	IV	IV							4-0		4.0											1					R.P. 293 REPLACE SIGN FACE ONLY
293.4364 LT	WB	W8-12B	48x48	XI		20-0		3.5" DIA PIPE		16-9		7-0	3-0	16.0 XI						153.0				■	1					WATCH FOR ICE ON BRIDGE, HINGED
293.6286 MEDIAN		(2) R5-11	30x24	IV								7-0		10.0											1					MOUNT BACK TO BACK REPLACE SIGN FACE ONLY
293.9765 LT	WB	N7-1	USE AS IS																											ADOPT A HIGHWAY
		N7-1P	USE AS IS																											ADOPT THIS AREA CALL 556-4700
294.0012 LT	WB	D10-6	12x48	IV	IV	6-0		3 LB/FT STL U		11-0		4-0	3-0	4.0									33		1					R.P. 294
294.0013 RT	EB	D10-6	12x48	IV	IV							4-0		4.0											1					R.P. 294 REPLACE SIGN FACE ONLY
294.0182 RT	EB	N7-1	REUSE			30-0		5" DIA POLE		17-9		7-0	3-6					18						X	1					ADOPT A HIGHWAY
		N7-1P	REUSE																											ADOPT THIS AREA CALL 556-4700
294.0191 LT	WB	W21-1	REMOVE																						1					WORKERS HINGED
294.8011 RT	EB	E9-13	USE AS IS																											BELGRADE NEXT 2 EXITS
294.9991 RT	EB	D10-6	12x48	IV	IV	6-0		3 LB/FT STL U		11-0		4-0	3-0	4.0									33		1					R.P. 295
294.9998 LT	WB	D10-6	12x48	IV	IV							4-0		4.0											1					R.P. 295 REPLACE SIGN FACE ONLY
295.0000 LT	WB	W11-13	48x48	XI		20-0		4" DIA. PIPE		16-8		7-7	3-0	16.0 XI						180.0				■					BB	WILDLIFE CROSSING FY
		W7-3A	24x18	XI										3.0 XI															BB	NEXT 6 MILES FY
295.1134 RT	EB	E-298	108x30	IV	IV										22.5							74								2-2.5"x2.5"x3/8"x6'4" ANGLE REQ'D REPLACE SIGN FACE ONLY
		G1-20	270x168	IV	IV							5-0			315.0												1		Δ REPLACE SIGN FACE ONLY
295.9939 RT	EB	D10-6	12x48	IV	IV	6-0		3 LB/FT STL U		11-0		4-0	3-0	4.0									33		1					R.P. 296
296.0101 LT	WB	D10-6	12x48	IV	IV	6-0		3 LB/FT STL U		11-0		4-0	3-0	4.0									33		1					R.P. 296
296.0399 RT	EB	E-298	108x30	IV	IV										22.5															2-2.5"x2.5"x3/8"x6'4" ANGLE REQ'D REPLACE SIGN FACE ONLY
		G1-21	270x168	IV	IV							5-0			315.0												1		* REPLACE SIGN FACE ONLY
		D9-10	30x30	IV	IV									6.3																TOURIST INFO REPLACE SIGN FACE ONLY
		D9-1	REMOVE																											TELEPHONE
		I-5	REMOVE																											AIRPORT
296.4000 RT	EB	LOGO-0	USE AS IS																											LODGING - EXIT 298

FY ■ FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

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

FY BB BACKBRACING REQUIRED:
- FOR WOOD POST 2" x 4" REQ'D.
- FOR STRUCTURAL STEEL 2" x 2" x 1/4" ANGLE IRON REQ'D.

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

FY = TYPE XI FLUORESCENT YELLOW SHEETING REQUIRED.

Gallatin River

291 85 Belgrade W Yellowstone 2 MILES

291 85 Belgrade W Yellowstone 1 MILE

ROBERT PECCIA & ASSOCIATES
CIVIL ENGINEERING | PLANNING | SURVEYING | LANDSCAPE ARCHITECTURE

3 2 1	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\8756000sisumz01.dgn 12/15/2020 12:04:02 PM CPS - U316z	DESIGNED BY: S. ROGNE REVIEWED BY: CHECKED BY:	SIGNING PLANS GALLATIN COUNTY	MANHATTAN - BELGRADE	IM 90-6(145) 289
					UPN: 8756000	S3

AWARD COPY

SIGN LOCATION AND SPECIFICATIONS

REF. POST		SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACKGROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	FEET: TYPE OF SUPPORT	FEET: CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET ALUMINUM	SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT	SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY	TIMBER POLE (LINEAR FT.): 4" TOP DIA.	TIMBER POLE (LINEAR FT.): 5" TOP DIA.	STEEL POST(LBS.): ROUND TUBULAR	STEEL POST(LBS.): SQUARE TUBULAR	STEEL POST(LBS.): STRUCTURAL STEEL	STEEL POST(LBS.): "U" POST	BREAKAWAY	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	REMARKS
296.5272 RT	EB	LOGO-1	USE AS IS																									FOOD - EXIT 298
296.6932 RT	EB	G30-41	156x84	IV	IV							7-0			91.0										1			# REPLACE SIGN FACE ONLY
296.8168 RT	EB	LOGO-2	USE AS IS																									GAS - EXIT 298
296.9315 RT		LOGO-3	USE AS IS																									CAMPING - EXIT 298
296.9725 MEDIAN		(2) R5-11	30x24	XI								7-0		10.0 XI									1					MOUNT BACK TO BACK REPLACE SIGN FACE ONLY
296.9840 LT	WB	N7-1	REUSE			20-0		5" DIA POLE		18-2		7-0	3-6				20					X	1					ADOPT A HIGHWAY, BB
		N7-1P	REUSE																									ADOPT THIS AREA CALL 556-4700, BB
297.0012 LT	WB	D10-6	12x48	IV	IV							4-0		4.0									1					R.P. 297 REPLACE SIGN FACE ONLY
297.0094 RT	EB	D10-6	12x48	IV	IV							4-0		4.0									1					R.P. 297 REPLACE SIGN FACE ONLY
297.0213 LT	WB	W21-1	REMOVE																				1					WORKERS HINGED
297.0220 RT	EB	N7-1	REUSE			20-0		5" DIA POLE		18-2		7-0	3-6				20					X	1					ADOPT A HIGHWAY, BB
		N7-1P	REUSE																									MONROE WIND ENERGY
297.0698 LT	WB	R99-9A	USE AS IS																									STATE LAW EMERGENCY VEHICLES
297.3357 RT	EB	E-298	108x30	IV	IV										22.5						74							2-2.5"x2.5"x3/8"x6'4" ANGLE REQ'D REPLACE SIGN FACE ONLY
		G1-108	270X168	IV	IV							5-0			315.0										1			θ REPLACE SIGN FACE ONLY
		I-5	REMOVE																									
		I-5A	REMOVE																									AIRPORT
297.3680 LT	WB	G11-307	120x60	IV	IV							7-0			50.0										1			Δ REPLACE SIGN FACE ONLY
297.4848 RT	EB	EG-298	90x60	IV	IV							7-0			37.5										1			EXIT 298 REPLACE SIGN FACE ONLY
RAMP	C1																											
297.4100 RT	C1	W13-3	USE AS IS																									RAMP 30 M.P.H.
297.4430 RT	C1	LOGO-1	USE AS IS																									LODGING
297.5000 RT	C1	LOGO-2	USE AS IS																									GAS AND DINING
297.5240 RT	C1	W3-3	USE AS IS																									
297.5270 RT	C1	R5-1A	USE AS IS																									
297.5840 RT	C1	G10-140	132x72	IV	IV							9-6			66.0								1					← BELGRADE W YELLOSTONE AMSTERDAM →
		I-5 M6-1B	REMOVE																									AIRPORT ←
		D9-1 M6-1A	24x24 21x15	IV	IV									4.0 2.2														← TELEPHONE REPLACE SIGN FACE ONLY
297.5870 RT	C1	R6-1 R5-1	USE AS IS																									
297.5990 RT	C1	LA-2	USE AS IS																									

FY = TYPE IX FLUORESCENT YELLOW SHEETING REQUIRED.

■ FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

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

FY BB BACKBRACING REQUIRED:
- FOR WOOD POST 2" x 4" REQ'D.
- FOR STRUCTURAL STEEL 2" x 2" x 1/4" ANGLE IRON REQ'D.

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







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SIGN LOCATION AND SPECIFICATIONS

REF. POST	RAMP NO.	SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACK-GROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	TYPE OF SUPPORT	FEET: CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET ALUMINUM	SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT	SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY	TIMBER POLE (LINEAR FT.): 4" TOP DIA.	TIMBER POLE (LINEAR FT.): 5" TOP DIA.	STEEL POST(LBS.): ROUND TUBULAR	STEEL POST(LBS.): SQUARE TUBULAR	STEEL POST(LBS.): STRUCTURAL STEEL	STEEL POST(LBS.): "U" POST	BREAKAWAY	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	REMOVE	RESET	REMARKS
RAMP		C2																											
297.6150 RT	C2	LA-1	USE AS IS																										
297.6170 RT	C2	D13-3	USE AS IS																										
MAINLINE																													
297.5301 LT	WB	R2-1	USE AS IS																										SPEED LIMIT 80
		R2-2A	48x36	XI											12.0 XI								1					TRUCKS 65 REPLACE SIGN FACE ONLY
297.6530 LT	WB	M3-4A	36x18	IV	IV									4.5															WEST
		M1-1	36x36	IV	IV	20-0		5" DIA POLE		17-8		7-0	3-6	7.2			18						X	1					INTERSTATE 90
298.0000 RT	EB	D10-6	12x48	IV	IV	6-0		3 LB/FT STL U		11-0		4-0	3-0	4.0								33							R.P. 298
298.0042 LT	WB	D10-6	12x48	IV	IV							4-0		4.0										1					R.P. 298 REPLACE SIGN FACE ONLY
RAMP		A																											
298.2150 RT	A	LA-1	USE AS IS																										
298.2230 RT	A	D13-3	USE AS IS																										
RAMP		B																											
298.2690 LT	B	R5-1	36x36	XI	XI							7-0		9.0 XI										1					DO NOT ENTER REPLACE SIGN FACE ONLY
298.2720 RT	B	R10-11C	30x42	XI								7-0		8.8 XI										1					REPLACE SIGN FACE ONLY MOUNT ON LUMINAIRE POLE
298.2830 RT	B	LA-2	USE AS IS																										
298.2950 LT	B	LOGO-1	USE AS IS																										CAMPING
298.3110 RT	B	D9-10	30x30	IV	IV																								
298.3110 RT	B	M1-5 M6-1L	24x24 21x15	IV	IV							9-0		4.0 2.2										1					MONTANA 85 ←
		M1-12 M6-1R	24x24 21x15	IV	IV									4.0 2.2															291 →
		I-5 M6-1B	REMOVE																										
298.3220 RT	B	G10-151	132x72	IV	IV							9-0			66.0									1					← AMSTERDAM W YELLOSTONE BELGRADE →
		D9-3A M6-1AL	24x24 21x15	IV	IV									4.0 2.2															
		D9-1 M6-1AR	REMOVE																										
298.3470 LT	B	R5-1A	USE AS IS																										
298.3480 RT	B	R5-1A	USE AS IS																										
298.3580 RT	B	W3-3	48x48	XI								9-0		16.0 XI										1					FY
298.3580 LT	B	LOGO-2	USE AS IS																										
298.3750 LT	B	LOGO-3	USE AS IS																										

■ FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

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

BB BACKBRACING REQUIRED:
- FOR WOOD POST 2" x 4" REQ'D.
- FOR STRUCTURAL STEEL 2" x 2" x 1/4" ANGLE IRON REQ'D.

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

FY = TYPE IX FLUORESCENT YELLOW SHEETING REQUIRED.

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SIGN LOCATION AND SPECIFICATIONS

REF. POST	RAMP NO.	SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACK-GROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	TYPE OF SUPPORT	FEET: CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET ALUMINUM	SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT	SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY	TIMBER POLE (LINEAR FT.): 4" TOP DIA.	TIMBER POLE (LINEAR FT.): 5" TOP DIA.	TIMBER POLE (LINEAR FT.): 6" TOP DIA.	STEEL POST(LBS.): ROUND TUBULAR	STEEL POST(LBS.): SQUARE TUBULAR	STEEL POST(LBS.): STRUCTURAL STEEL	STEEL POST(LBS.): "U" POST	BREAKAWAY	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	REMARKS
RAMP	D1																													
298.2230 LT	D1	W1-8	30x36	XI								6-6		7.5	XI										1					CHEVRON REPLACE SIGN FACE ONLY
298.2620 LT	D1	W1-8	30x36	XI								6-6		7.5	XI										1					CHEVRON REPLACE SIGN FACE ONLY
298.2970 LT	D1	W1-8	30x36	XI								6-6		7.5	XI										1					CHEVRON REPLACE SIGN FACE ONLY
298.3060 RT	D1	D13-3	USE AS IS																											
298.3080 RT	D1	W13-3	48x60	XI								7-6		20.0	XI										1					RAMP 25 M.P.H.
298.3080 RT	D1	LA-1	USE AS IS																											
RAMP	D2																													
298.3440 RT	D2	D13-3	USE AS IS																											
298.3460 RT	D2	LA-1	USE AS IS																											
MAINLINE																														
298.2082 RT	EB	E-299	USE AS IS																											EXIT 299
		G3-79	USE AS IS																											AIRWAY BLVD 1 MILE
		I-5A	USE AS IS																											INT'L AIRPORT
298.4189 LT	WB	EG-298	90x60	IV	IV							7-0			37.5											1				EXIT 298 REPLACE SIGN FACE ONLY
298.5822 LT	WB	E-298	108x30	IV	IV										22.5							74								2-2.5"x2.5"x3/8"x6'4" ANGLE REQ'D REPLACE SIGN FACE ONLY
		G1-109	222x168	IV	IV							7-0			259.0											1				* REPLACE SIGN FACE ONLY
		I-5	REMOVE																											
		I-5A	REMOVE																											AIRPORT
298.7541 LT	WB	LOGO-4	USE AS IS																											GAS AND CAMPING-EXIT 298
298.8515 RT	EB	OHE-299	USE AS IS																											EXIT 299
		OHG12-151	USE AS IS																											AIRWAY BLVD EXIT ONLY ARROW
298.8549 LT	WB	LOGO-5	USE AS IS																											FOOD - EXIT 298
298.9244 LT	WB	R2-1(MOD)	REMOVE																						1					SPEED LIMIT 75 TRUCKS 65
298.9782 LT	WB	E-298	USE AS IS																											EXIT 299
		G1-24	USE AS IS																											BELGRADE AMSTERDAM 1/2 MILE
298.9969 LT	WB	D10-6	USE AS IS																											R.P. 299
299.0013 RT	EB	D10-6	USE AS IS																											R.P. 299
299.0090 RT	EB	N7-1	REUSE	IV	IV	15-0		5" DIA POLE		17-4		7-0	3-6					18						X	1					ADOPT A HIGHWAY
		N7-1P	REUSE	IV	IV																									ADOPT THIS AREA CALL 556-4700

■ FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

FY STANDARD BREAKAWAY DEVICE:
- FOR WOOD POST SEE DETAILED DRAWING 619-20.
- FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-13.

FY X

BB BACKBRACING REQUIRED:
- FOR WOOD POST 2" x 4" REQ'D.
- FOR STRUCTURAL STEEL 2" x 2" x 1/4" ANGLE IRON REQ'D.

FY

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

FY = TYPE IX FLUORESCENT YELLOW SHEETING REQUIRED.



ROBERT PECCIA & ASSOCIATES
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REF. POST		SIGN NO.	PANEL SIZE	REFL SHTG TYPE: BACK-GROUND	REFL SHTG TYPE: LEGEND	FEET: CLEARANCE	FEET: SIGN SUPPORT SPACING	TYPE OF SUPPORT	CANTILEVER	FEET: SUPPORT LENGTH (ESTIMATED)	FEET: SUPPORT LENGTH (INSTALLED)	FEET: MOUNTING HEIGHT	FEET: FOUNDATION DEPTH	SIGN PANEL (SQ. FT.): SHEET ALUMINUM	SIGN PANEL (SQ. FT.): ALUMINUM SHEET INCREMENT	SIGN PANEL (SQ. FT.): ALUMINUM SHEET OVERLAY	TIMBER POLE (LINEAR FT.): 4" TOP DIA.	TIMBER POLE (LINEAR FT.): 5" TOP DIA.	TIMBER POLE (LINEAR FT.): 6" TOP DIA.	STEEL POST(LBS.): ROUND TUBULAR	STEEL POST(LBS.): SQUARE TUBULAR	STEEL POST(LBS.): STRUCTURAL STEEL	STEEL POST(LBS.): "U" POST	BREAKAWAY	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	SIGNS/GUIDE: REMOVE	SIGNS/GUIDE: RESET	REMARKS
MAIN LINE																													
299.0464 LT	WB	LOGO-6	USE AS IS																										LODGING EXIT 298
299.1402 RT	EB	OHE-299	USE AS IS																										EXIT 299
		OHG12-152	USE AS IS																										AIRWAY BLVD EXIT ONLY ARROW
299.2127 RT	EB	EG-299	USE AS IS																										EXIT 299
RAMP AA																													
299.4520 RT	AA	D13-3	USE AS IS																										
299.4670 RT	AA	LA-1	USE AS IS																										
RAMP AB																													
299.5330 RT	AB	LA-2	USE AS IS																										
299.5470 LT	AB	R5-1A	USE AS IS																										
299.5500 RT	AB	G10-56 R5-1A	USE AS IS																										
299.5720 LT	AB	R3-8(6)	USE AS IS																										
299.5750 RT	AB	R3-8(6)	USE AS IS																										
299.6060 LT	AB	W2-6 W13-1	USE AS IS																										
299.6070 RT	AB	W2-6 W13-1	USE AS IS																										
299.6250 LT	AB	R3-8(6)	USE AS IS																										
299.6280 RT	AB	R3-8(6)	USE AS IS																										
299.6570 RT	AB	W3-2	USE AS IS																										
RAMP AC																													
299.3190 RT	AC	W3-2	USE AS IS																										
299.3520 RT	AC	R3-8(6)	USE AS IS																										
299.3540 LT	AC	R3-8(6)	USE AS IS																										
299.3850 RT	AC	W2-6 W13-1	USE AS IS																										
299.3870 LT	AC	W2-6 W13-1	USE AS IS																										
299.4020 RT	AC	R3-8(6)	USE AS IS																										
299.4070 LT	AC	R3-8(6)	USE AS IS																										
299.4270 RT	AC	G10-55 R5-1A	USE AS IS																										
299.4290 LT	AC	R5-1A	USE AS IS																										
299.4470 RT	AC	LA-2	USE AS IS																										

■ FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

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

BB BACKBRACING REQUIRED:
- FOR WOOD POST 2" x 4" REQ'D.
- FOR STRUCTURAL STEEL 2" x 2" x 1/4" ANGLE IRON REQ'D.

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

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RAMP		AD																												
299.5080 LT	AD	LA-1	USE AS IS																											
299.5120 RT	AD	D13-3	USE AS IS																											
MAINLINE																														
299.3124 LT	WB	W4-1R	USE AS IS																											MERGING LANE
299.4676 RT	EB	M1-90	USE AS IS																											PATRICIA ABELIN MEMORIAL BRIDGE
299.5098 LT	WB	E-298	USE AS IS																											EXIT 298
		G1-22	USE AS IS																											BELGRADE AMSTERDAM 1 MILE
		D9-1	REMOVE																					1						TELEPHONE
		D9-10	USE AS IS																											VISITOR INFO
299.5332 LT	WB	M1-90	USE AS IS																											PATRICIA ABELIN MEMORIAL BRIDGE
299.6067 RT	EB	W4-3	USE AS IS																											
299.7460 LT	WB	EG-299	USE AS IS																											EXIT 299 ARROW
299.8150 LT	WB	OHE-299	USE AS IS																											EXIT 299
		OHG12-152	USE AS IS																											AIRWAY BLVD ARROW EXIT ONLY ARROW
300.0361 RT	EB	D10-6	USE AS IS																											R.P. 300
300.0504 LT	WB	D10-6	USE AS IS																											R.P. 300
300.0759 MEDIAN		(2) R5-11	USE AS IS																											AUTHORIZED VEHICLES ONLY
300.1755 LT	WB	OHE-299	USE AS IS																											EXIT 299
		OHG12-151	USE AS IS																											AIRWAY BLVD EXIT ONLY
300.2630 RT	EB	M3-2A	USE AS IS																											EAST
		M1-1	USE AS IS																											INTERSTATE 90
300.4549 RT	EB	R2-1	USE AS IS																											SPEED LIMIT 75
		R2-2A	USE AS IS																											TRUCKS 65
300.6445 RT	EB	G11-41	USE AS IS																											BOZEMAN 5 LIVINGSTON 33 BILLINGS 147
300.7876 LT	WB	E-299	USE AS IS																											EXIT 299
		G3-79	USE AS IS																											AIRWAY BLVD 1 MILE
		I-5A	USE AS IS																											INT'L AIRPORT
300.9901 RT	EB	W21-1	REMOVE																						1					WORKERS HINGED
300.9954 RT	EB	D10-6	12x48	IV	IV							4-0		4.0										1					R.P. 301 REPLACE SIGN FACE ONLY

■ FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

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

BB BACKBRACING REQUIRED:
- FOR WOOD POST 2" x 4" REQ'D.
- FOR STRUCTURAL STEEL 2" x 2" x 1/4" ANGLE IRON REQ'D.

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

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301.0014 LT	WB	N7-1	USE AS IS																										ADOPT A HIGHWAY
		N7-1P	USE AS IS																										ADOPT THIS AREA
301.0086 LT	WB	D10-6	USE AS IS																										R.P. 301
301.0086 LT	WB	E9-13	USE AS IS																										BELGRADE NEXT 2 EXITS
301.0221 RT	EB	N7-1	36x48	IV	IV							7-0		12.0										1					ADOPT A HIGHWAY REPLACE SIGN FACE ONLY
		N7-1P	USE AS IS																										GREAT OLD BROADS BOZEMAN
TOTALS														IV=178.1 XI=220.3	IV=1888.1 XI=24.0			152		482.0		296	297	54		12			

■ FRANGIBLE SIGN POST BREAKAWAY DEVICE REQUIRED.

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

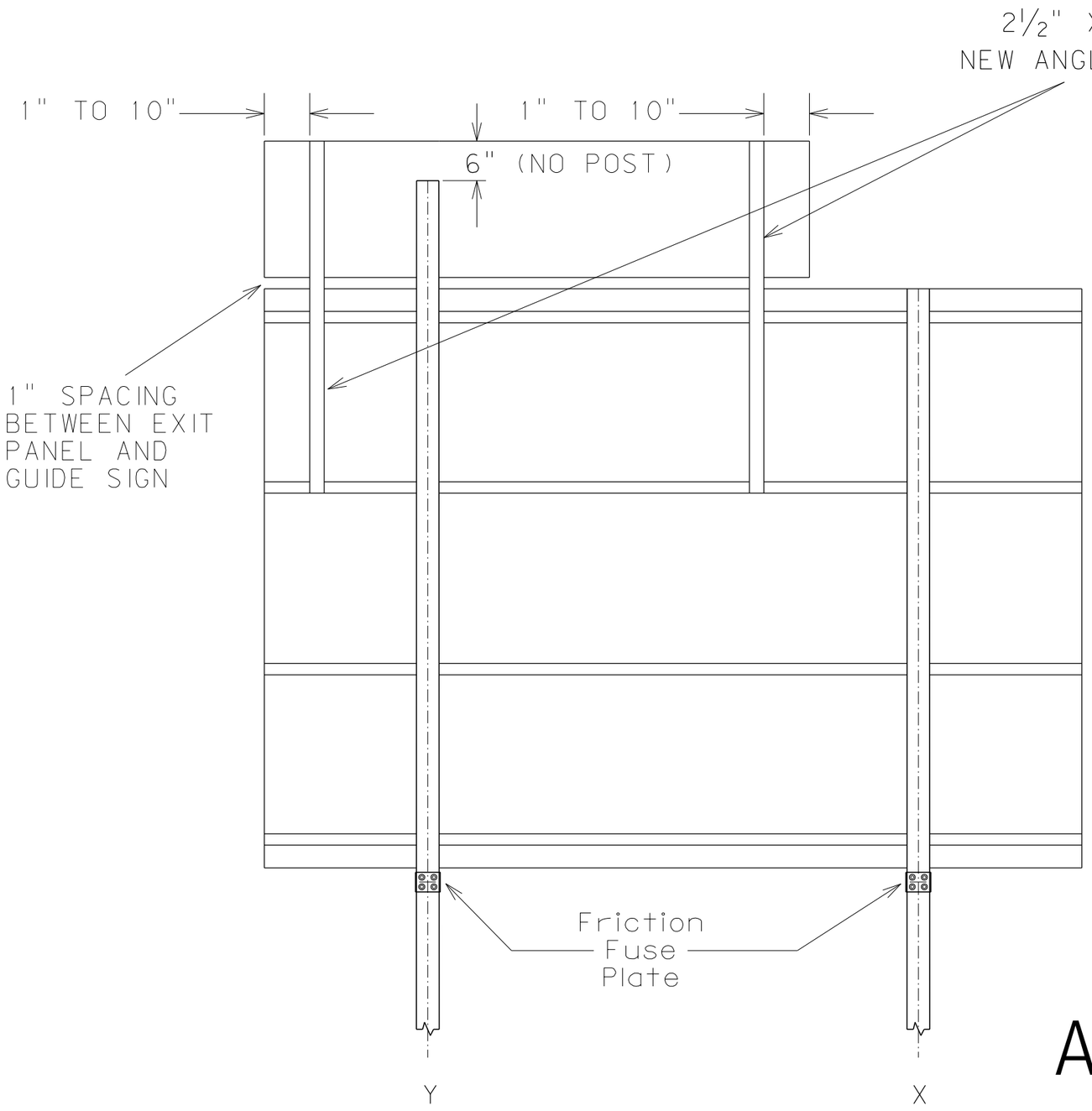
BB BACKBRACING REQUIRED:
- FOR WOOD POST 2" x 4" REQ'D.
- FOR STRUCTURAL STEEL 2" x 2" x 1/4" ANGLE IRON REQ'D.

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

DELINEATOR LEGEND		
⊣	DESIGN "A"	325
⊣⊧	DESIGN "B"	
⊣⊦	DESIGN "C"	___
⊧⊣⊧	DESIGN "D"	___
⊣⫼	DESIGN "E"	___
⊢	DESIGN "F"	___
⊣<	DESIGN "G"	___
→⊧	DESIGN "H"	109
×⊣⊧	DESIGN "BJ"	12
▲	FLEX. YLW	

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R.S.E.O. GUIDE SIGNS with EXIT PANELS



BACK VIEW OF ADVANCE GUIDE SIGNS WITH EXIT NUMBER PANEL SIGN SHOWING INSTALLATION OF ANGLE IRON

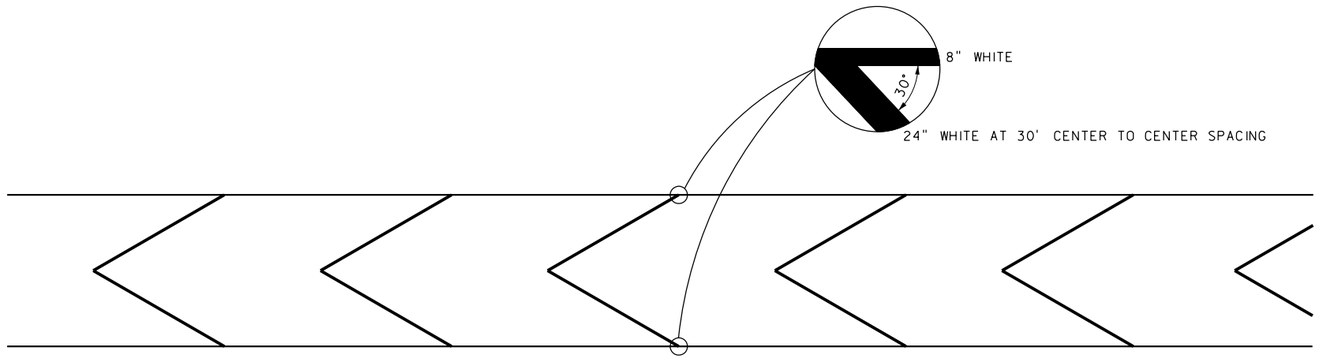
NOTE: WHEN EXIT PANEL IS SUPPORTED BY MULTIPLE POST, 2 ANGLE IRONS ARE REQUIRED. SIGN WILL EXTEND 6 INCHES ABOVE SUPPORTS

ANGLE IRON DETAIL

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PAINTED MEDIAN DETAIL

R.P. 298.2830 TO R.P. 298.6344



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ASSOCIATED PROJECT AGREEMENT NUMBERS	
P. E.	IM 90-6(144)289

BRIDGE IDENTIFICATION	
MDT STR ID	NBI NUMBER
01575	I00090290+07391
01576	I00090290+07392
01577	I00090290+09511
01578	I00090290+09512
01579	I00090291+06371
01580	I00090291+06372
01581	I00090292+04251
01582	I00090292+04252
01583	I00090293+02131
01584	I00090293+02132

MONTANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS AND QUANTITIES

FEDERAL AID PROJECT IM 90-6(145)289

MANHATTAN - BELGRADE

GALLATIN COUNTY

SCALES SHOWN ON BRIDGE PLAN SHEETS ARE FOR FULL SIZE (22 X 34) PRINTS REDUCED PRINTS ARE APPROXIMATELY ONE-HALF ORIGINAL SCALE

LIST OF DRAWINGS

SHEET NO.	DWG. NO.	TITLE
BRIDGE DRAWINGS		
B1	23791	LIST OF DRAWINGS & ESTIMATED BRIDGE PLAN QUANTITIES
B2	23792	REVISE CONCRETE BARRIER RAIL END - BR
B3	23793	BARRIER END DETAILS & BILL OF REINFORCING STEEL

DWG. NO.	TITLE
AS BUILTS	
6836	BRIDGE OVER CAMP CREEK
6841	BRIDGE OVER BAKER CREEK
6883	HEEB LANE GRADE SEPARATION
6846	WEST GALLATIN RIVER BRIDGE
6845	WEST GALLATIN RIVER BRIDGE
6887	CENTRAL PARK GRADE SEPARATION

ESTIMATED BRIDGE PLAN QUANTITIES

MDT STRUCTURE ID	FEATURE INTERSECTED	GENERAL LAYOUT DRAWING NO.	REFERENCE POINT	REVISE CONCRETE BARRIER RAIL END - BR (EACH.)
01575	CAMP CREEK	6836	290+0.730	4
01576	CAMP CREEK	6836	290+0.730	4
01577	BAKER CREEK	6841	290+0.950	4
01578	BAKER CREEK	6841	290+0.950	4
01579	SEPARATION HEEB ROAD	6883	291+0.630	4
01580	SEPARATION HEEB ROAD	6883	291+0.630	4
01581	GALLATIN RIVER	6846	292+0.420	4
01582	GALLATIN RIVER	6845	292+0.420	4
01583	SEPARATION THORPE ROAD	6887	293+0.210	4
01584	SEPARATION THORPE ROAD	6887	293+0.210	4
			PROJECT TOTAL	40

SHEET NO. B1

LIST OF DRAWINGS & ESTIMATED BRIDGE PLAN QUANTITIES

REVISED								T.W.S.	
REVISED								D.G.G.	
REVISED								D.G.G.	
REVISED								12-06-18	
CHECKED								11-30-18	
DRAWN								11-30-18	
DESIGNED									

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MONTANA DEPARTMENT OF TRANSPORTATION BRIDGE BUREAU

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ROUTE 00090

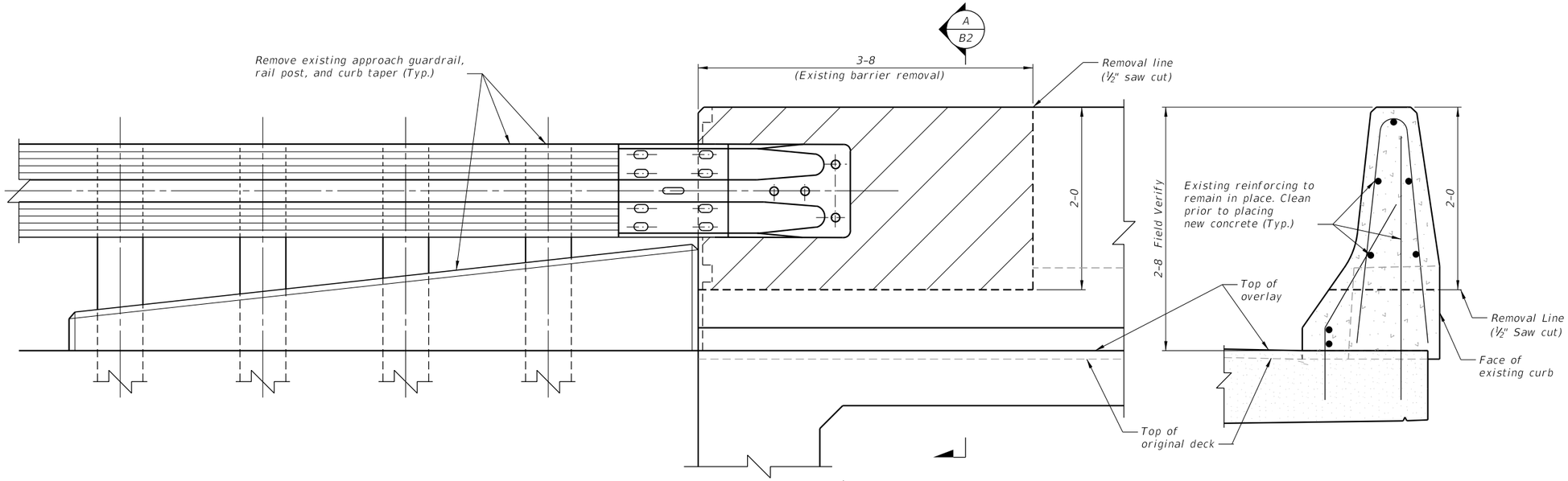
REF POINT AS SHOWN

MDT STR. ID AS SHOWN

UPN NUMBER 8756000

DRAWING NO. 23791

AWARD COPY

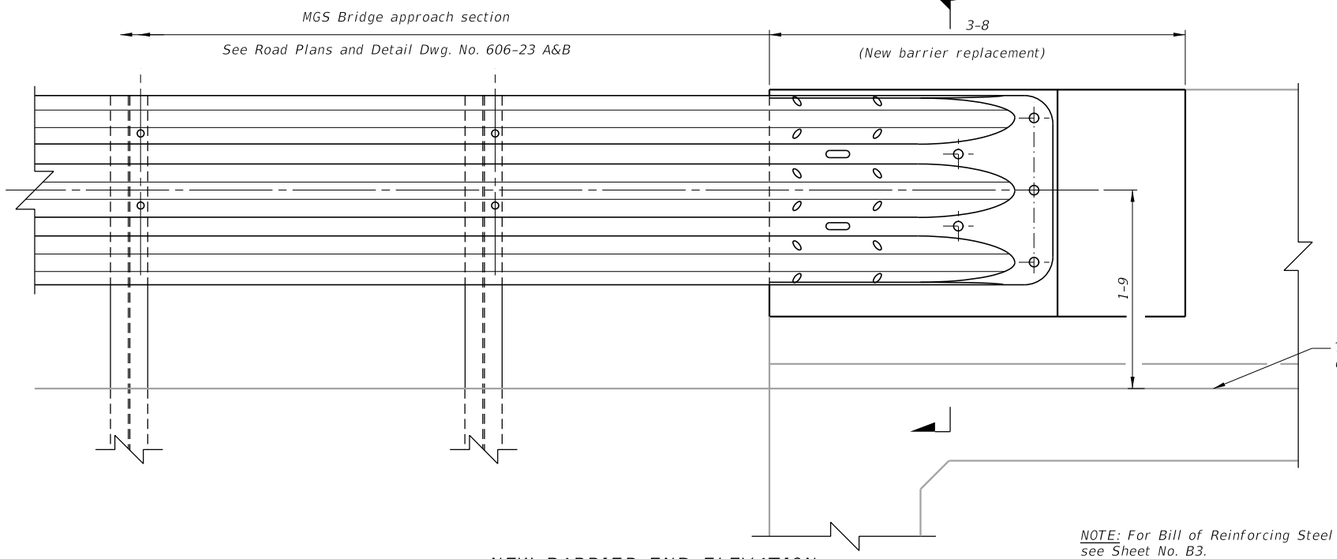


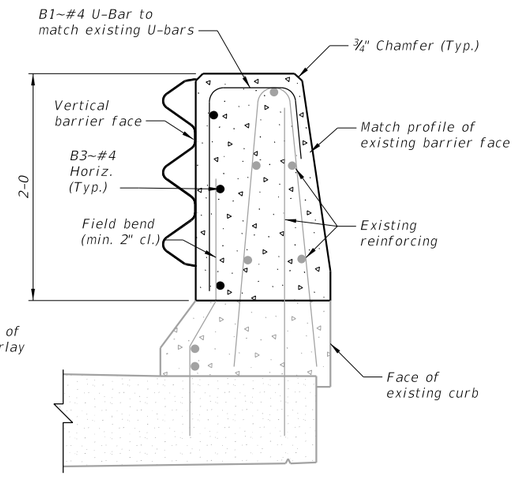
EXISTING BARRIER END ELEVATION

Scale ~ 1½" = 1-0

EXISTING BARRIER SECTION

Scale ~ 1½" = 1-0





NEW BARRIER END ELEVATION

Scale ~ 1½" = 1-0

NOTE: For Bill of Reinforcing Steel see Sheet No. B3.

NEW BARRIER SECTION

Scale ~ 1½" = 1-0

GENERAL NOTES

GENERAL: Plans were prepared from original drawings and as-built drawings. No additional survey information was procured for this project. Existing structure dimensions may vary from those shown on the drawings.

DIMENSIONS: All dimensions are in feet and inches except as noted. Verify all necessary dimensions of the existing structures in the field before ordering materials. Obtain approval of shop plans from the State of Montana, Department of Transportation before beginning fabrication. If the dimensions and details of the existing structure are not as shown on the plans, vary construction as necessary to best suit existing conditions and the nature of the intended work.

SPECIFICATIONS: Montana Department of Transportation and the Montana Transportation Commission Standard Specifications for Road and Bridge Construction, 2014 edition, and amendments, and special provisions govern unless otherwise noted.

REINFORCING STEEL COVER: Unless specified otherwise on the drawings, the minimum concrete cover measured from the face of the concrete to the face of any reinforcing steel is 2" except as noted below:

Bottom of Slab	1"
Top of Slab	2½"
Bottom of Abutment Caps	3"
Concrete Barriers & Curbs	1½"

Concrete cover to any tie bar is ½" less than what is listed above.

SHEET NO. B2

REVISE CONCRETE BARRIER RAIL END - BR

SCALE: As Shown

MANHATTAN - BELGRADE

01575, 01576, 01577
01578, 01579, 01580
01581, 01582, 01583, 01584

FEDERAL AID PROJECT
IM 90-6(145)289

COUNTY
GALLATIN

		T.W.S.	
		D.G.G.	
REVISED	12-06-18	DESIGNED	D.G.G.
REVISED	12-03-18	DRAWN	
REVISED		CHECKED	
REVISED			

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MONTANA DEPARTMENT OF TRANSPORTATION
BRIDGE BUREAU

ROUTE
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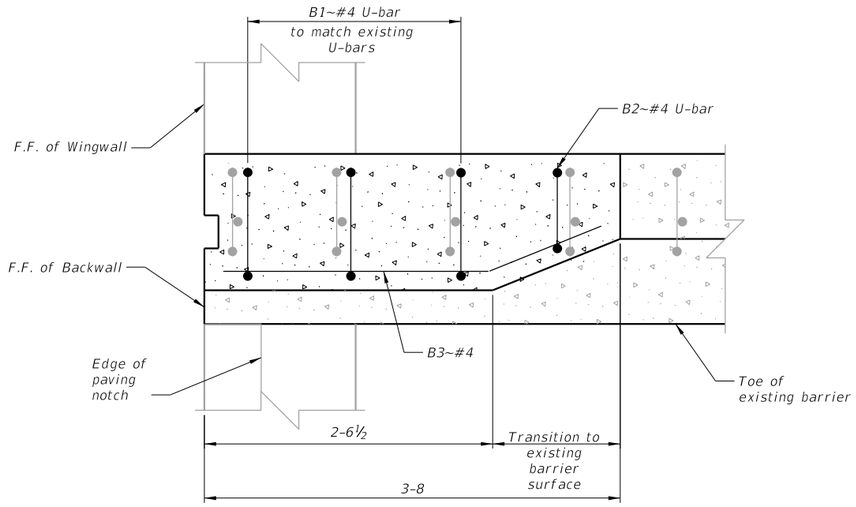
REF POINT
AS SHOWN

MDT STR. ID
AS SHOWN

UPN NUMBER
8756000

DRAWING NO.
23792

AWARD COPY

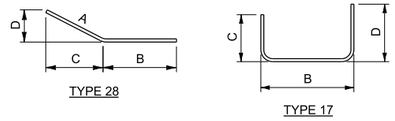


BARRIER END PLAN VIEW

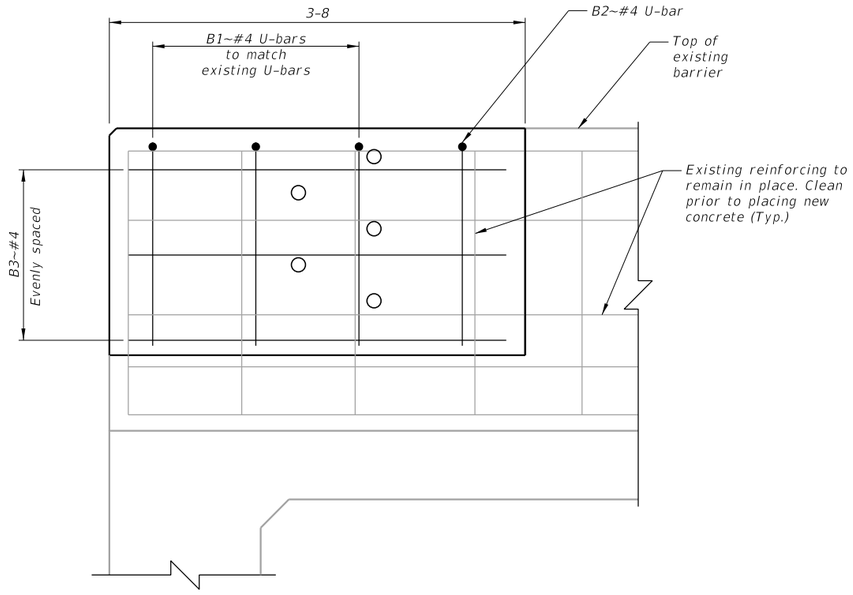
Scale ~ 1½" = 1-0

BILL OF REINFORCING STEEL (FOR ONE LOCATION ONLY) (ALL DIMENSIONS ARE OUT TO OUT)

(FOR INFORMATION ONLY)

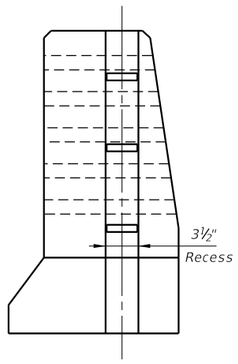


Mark	Size	No.	Type	Length	A	B	C	D	E	N
B1	#4	3	17	3-2		0-9	0-7½	1-9½		
B2	#4	1	17	2-11		0-6	0-7½	1-9½		
B3	#4	3	28	3-5	1-1	2-4	1-0	0-5		

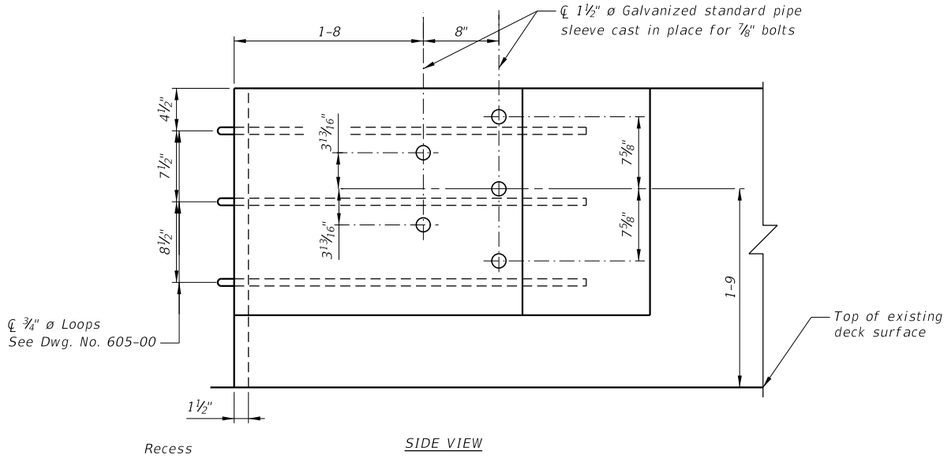


BARRIER END ELEVATION VIEW

Scale ~ 1½" = 1-0



END VIEW



NEW BARRIER END ELEVATION

Scale ~ 1½" = 1-0

SHEET NO. B3

BARRIER END DETAILS & BILL OF REINFORCING STEEL

SCALE: As Shown

MANHATTAN - BELGRADE

01575, 01576, 01577
01578, 01579, 01580
01581, 01582, 01583, 01584

FEDERAL AID PROJECT
IM 90-6(145)289

COUNTY
GALLATIN

REVISED			CHECKED	T.W.S
REVISED			DRAWN	D.G.G.
REVISED			DESIGNED	D.G.G.
REVISED			CHECKED	12-06-18
			DRAWN	12-03-18
			DESIGNED	12-03-18

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MONTANA DEPARTMENT OF TRANSPORTATION
MDT
BRIDGE BUREAU

ROUTE
00090

REF POINT
AS SHOWN

MDT STR. ID
AS SHOWN

UPN NUMBER
8756000

DRAWING NO.
23793

AWARD COPY

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	MONT.	IM-90-6(71)289		30

IM 90-6(71)289 F B10

81-6 ℄ Brg. to ℄ Brg of End Bents. (Horizontal Distance)

40-9 | 40-9

℄ Brg @ Bent no. 1
Fin Gr @ ℄ Rdwy.
Sta. 776+74.25
Elev. 4269.57
E.B. ℄ W.B. Rdwy.

℄ Pier No. 2
Sta. 777+15.00
Fin. Gr. @ ℄ Rdwy.
Elev. 4269.47
E.B. ℄ W.B. Rdwy.

℄ Brg @ Bent No. 3
Sta. 777+55.75
Fin. Gr. @ ℄ Rdwy.
Elev. 4269.37
E.B. ℄ W.B. Rdwy.

Fin. Grade → -0.23%

℄ Camp Creek

800' V.C.

+0.32 %

Sta. 784+00
Elev. 4267.89

Note: No bridgemarkers or reflector signals required for these structures.
Note: W.B. denotes Westbound. E.B. denotes Eastbound.
Note: Finished Plan grade of bridges is the same as profile grade shown on Road Plans.

℄ REMOVE TERMINAL END SECTION, (TYP.) SEE SHEET NO. 11318

Fin. Gr. @ ℄ Rdwy.

Prestressed Concrete Beams

Fix. | Slope 2:1 | Slope 1½:1 | Water El. 4256.2 (7-1-61) | HWL El. 4262.0 | Slope 1½:1 | Slope 2:1 | Fix.

Top of Riprap Elev. 4263.0 (Typ.)

Existing Profile @ ℄ W.B. Structure

EB El. 4255.05
WB El. 4253.80

Channel Change by Road Contractor. See Dwg. No. 6837 and Road Plans.

El. 4255.7 Bot. of Channel

El. 4245.95

2-0 Type "B" Random Riprap 2-0 Thick by Road Contractor (Typical) See Plan of Riprap on Dwg. No. 6837 ℄ Road Plans.

El. 4252.85 E.B.
El. 4249.85 W.B.

30'-0 Bottom of Channel

ELEVATION WESTBOUND STRUCTURE
(EASTBOUND STRUCTURE SIMILAR)

1 THIS CONTRACT Revise Concrete IM 90-6(145)289 Bridge Rail Ends See Dwgs. No. 23791 thru 23793

THIS CONTRACT: IM 90-6(71)289 F
REVISE EXIST RAIL TO CONCRETE BARRIER, PLACE THICK LATEX OVERLAY AND INSTALL BRIDGE APPROACH SECTION. SEE DETAILS, DWG'S. NO. 17134Q THRU NO. 17141.

RETROFIT SUBSTRUCTURE FOR SEISMIC LOADS.

Note: Lap all longitudinal Bars 1-3 min.

S200 - ⅝ Bent @ 0-11 ctrs. (Alt. with S100)
S100 - ⅝ Stk @ 0-11 ctrs. (Alt with S200)
S400
Slope down 0.02 ft.
2-0 | 2-0
0.2% Slope
7½"
S300
Type "A" Beam
8-3¼
℄ Beam | ℄ Beam

DETAIL A (TRANSVERSE SLAB SECTION)
SCALE: 3/4" = 1'-0"

Note: For additional slab end diaphragm & intermediate diaphragm details see Dwg. No. SL-1.

NOTES

SPECIFICATIONS: Montana State Highway Commission Standard Specifications for Road and Bridge Construction, 1962 Edition, and any amendments thereto, and Special Provisions shall govern unless otherwise noted. Design prepared in accordance with A.A.S.H.O. Specifications, 1961 Edition, and any amendments thereto.

CAST IN PLACE CONCRETE: Unless otherwise noted, all concrete in superstructure shall be Class "AD" and all concrete in substructure shall be Class "A". An "Air Entraining Agent" shall be added to all concrete except Class "S". Chamfer all exposed edges of concrete with enclosed angle less than 120°, ¾ and fillet entrant angles ¾" unless otherwise noted.

REINFORCING STEEL: Bends in reinforcing steel shall be made to a radius of not less than four (4) diameters of the bar except for stirrups and tie bars, which shall be bent around a pin having a diameter of not less than two (2) bar diameters. Hooks shall conform to the dimensions shown in the following sketches, except as otherwise noted.

3d ("2 to "7) inside radius
4d ("8 to "11) inside radius
4d or 2½" min.
2½d - inside radius ("2 to "7)
d = diameter of bar

APPROVAL: Shop plans shall be approved by the Montana State Highway Department before fabrication is begun.

SETTING OF MASONRY PLATES: Care shall be taken in placing reinforcing steel so as to clear anchor bolts.

Contractor shall finish concrete under beam or girder masonry plate slightly high and bush-hammer to exact elevation shown. Masonry plates shall be placed on three (3) layers of canvas thoroughly swabbed with red lead, as called for in the Standard Specifications

LIVE LOAD: Standard H20-S16 or Alternate Loading. Alternate Loading for bridges and floor systems with spans under 40 feet consist of two axles four feet apart with each axle weighing 24000 lbs.

GUARD ANGLE and PIER NOSE ANGLE: Slab Guard Angles and pier nose angles shall be paid for at the unit price bid for reinforcing steel.

OTHER NOTES: For other notes see Dwg. No. 6837

STREAM DATA
Ice: Light
Drift: Moderate
Scour: Moderate
Subsoil: For borings see Dwg. No. 6837

Riprap | Camp Creek | ℄ Pier No. 2

10-0 | 10-0

Brush Curb | 0-9 | ℄ Brg. | Slope 1½:1 | ¼ Exp. Jt. filler in curb (Typ.) See Dwg. No. SL-1 | Slope 1½:1 | ℄ Brg.

℄ E.B. LANE ONLY

℄ W.B. LANE ONLY

Curb opening (both sides)

Slab Continuous over pier (See Dwg. No. SL-1

Crown 0.02 Ft/Ft. down

Crown 0.02 Ft/Ft. down

℄ Westboand Rdwy. Alignment Brg. S51°20'07"E

37-3 | 21-3 | 16-0

℄ E.B. LANE ONLY

℄ W.B. LANE ONLY

0-9 Brush Curb | 35-0

0-7 | 5-4 | 9 Spa. @ 8-4 = 75-0 | 0-7 Rail Post Spacing (Typ.) Horizontal Dimensions

℄ End Rail Post

℄ Median

90°00'

Sta. 777+15 ℄ Median = Sta. 10+00 ℄ Camp Creek Ch. Ch.

PLAN WESTBOUND STRUCTURE
(EASTBOUND STRUCTURE SIMILAR)

BILL of SLAB, CURBS, & DIAPHRAGMS REINFORCING STEEL (One Structure Only)

TYPE 1 | TYPE 2 | TYPE 3 | TYPE 4

STRAIGHT BARS				BENT BARS (all dimensions are out to out)									
MARK	SIZE	NO.	LENGTH	MARK	SIZE	NO	TYPE	LENGTH	A	B	C	D	E
S 100	#5	166	38'-8"	S 200	#5	84	1	40'-0"	38'-8"	4'-9½"	3'-6¾"	4'-0"	
S 300	4	~~158~~ #162	28-3										
S 400	4	~~69~~ #75	28-3										
S 5	5	19	15-0										
S 6	5	~~18~~ #19	10-0										
C 400	4	~~46~~ #32	21-6	C 2	4	169	2	4-4	1-3	1-4	0-8	0-9	0'-9"
D 1	6	4	38-8	D 3	#4	56	3	4-11	1-9½	0-8	0-4		
D 2	6	16	6-10	D 8	#4	56	4	7-5	3-1½	0-6	0-4		
D 5	6	4	38-8										
D 6	4	16	7-8										
D 7	6	16	6-10										
D 9	#6	24	4-6										

See transverse slab section.

PRESTRESSED BEAM DESIGN (Type A)					
	D.L. Beam Stress		D.L. + L.L. Stress		Ultimate
Span Length	f Top Comp. psi	f Bottom Ten. psi.	f Top Comp. psi	f Bottom Ten. psi.	Design Moment Foot Kips
40'	304	246	1172	1509	1541

FOR REQUIRED STATIONS, SEE ROAD PLANS. GUARDRAIL TO BE INSTALLED THE FULL LENGTH OF THE BRIDGE, AND CONTINUOUS WITH THE BRIDGE APPROACH GUARDRAIL SECTION, LT. & RT. (SHEET NO. 11318)

℄ Brg. Bent No. 1 | ℄ Inter. Diaphragm | ℄ Pier No. 2 | ℄ Inter. Diaphragm | ℄ Brg. Bent No. 3

℄ Brg. | 0-9 | 0-9 | ℄ Brg.

5 Beams @ 8-3¼ ctrs. = 33-1 spa. @

℄ Beams

20-0 | 20-0 | 20-0 | 20-0

40-9 | 40-9

ERECTION PLAN
Both Rdwys. Same
Scale: 1" = 15'-0"

REFERENCES	
Drawing No.	Descriptions
6837	Footing Plan and Soil Borings
6838	Bents No. 1 & No. 3 Column & Footing Details
6839	Bents No. 1 & No. 3 Beam & Backwall Details
6840	Pier No. 2
SL-1	Standard Slab, Curb, Safety Walk, & Diaphragm details
B-A	Standard Prestressed Concrete Beam - Type A
S88R	Steel Beam Bridge Rail & Details (Rev. 11-27-63)

To Three Forks | 16-0 | 2-3

℄ W.B. Rdwy. Alignment Brg. S51°20'07"E.

35-0

90°00'

℄ Interstate 90 Median

35-0

℄ E.B. Rdwy. To Bozeman Aligment Brg S51°20'07"E.

2-3 | 16-0

BRIDGE ORIENTATION PLAN

½:1 Slope

5-0 Berm

SECTION A-A
SCALE: 1/4" = 1'-0"

Bottom of Channel

2-0

Slope 1½:1

Slope 1:1

2-0

SECTION C-C
TYPICAL RIPRAP KEY
Scale: ½" = 1'-0"

1 Revised By | D.G.G. | 12-3-18

REVISED	D.W.C.	9-21-98
DESIGNED		
DRAWN	O.L.R.	2-11-64
CHECKED	D.R.S.	4-8-69
REVISED	N.H.R.	2-4-74
REVISED	D.W.C.	9-14-98

STATE OF MONTANA
STATE HIGHWAY COMMISSION
BRIDGE OVER CAMP CREEK
AT STA. 777+15.00
FEDERAL AID PROJECT NO. IHG-90-6(14)287
GALLATIN COUNTY
GENERAL LAYOUT

SCALE: 1" = 10'-0" EXCEPT AS NOTED

APPROVED BY _____ BRIDGE ENGINEER

DRAWING NO. 6836

V.12.8

AWARD COPY

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	MONT.	[redacted]	[redacted]	[redacted]

IM 90-6(71)289 F B11

91-6 ℄ Brg to ℄ Brg of End Bents (Horizontal Distance)

45-9 | 45-9

℄ Brg @ Bent No. 1
Sta. 787+74.25
Fin. Gr. @ ℄ Rdwy.
Elev. 4269.09
E.B. & W.B. Rdwy.

℄ Pier No. 2
Sta. 788+20.00
Fin. Gr. @ ℄ Rdwy.
Elev. 4269.23
E.B. & W.B. Rdwy.

℄ Brg @ Bent No. 3
Sta. 788+65.75
Fin. Gr. @ ℄ Rdwy.
Elev. 4269.38
E.B. & W.B. Rdwy.

1 THIS CONTRACT Revise Concrete IM 90-6(145)289 Bridge Rail Ends See Dwgs. No. 23791 thru 23793

‡REMOVE TERMINAL END SECTION, (TYP.) SEE SHEET NO. [redacted] 11318

Fin. Gr. @ ℄ Rdwy.

Fix | Prestressed Concrete Beams | Fix

W.L. Elev. 4258.3 (June 30, 1961) | Fix | Fix | H.W.L. Elev. 4262.0

2:1 Slope | 2:1 Slope

Existing Profile @ ℄ W.B. Rdwy.
E.B. Lt. Ftg. 4253.00
" Rt. Ftg. 4254.00

W.B. Elev. 4254.57 Channel Change by Road Contractor, See Road Plans and Dwg. No. 6842

Top of Riprap, Elev. 4263.0

Elev. 4254.86

Elev. 4247.7 @ Sta. 10+00.00

Type "B" Random Riprap 2-0 thick by Road Contractor See Dwg. No. 6842 & Road Plans

Note: Upstream end of rip rap similar to that shown for downstream

40-0 Bottom of Channel

Note: Lap all longitudinal #4 bars 1-3 min.

ELEVATION WESTBOUND STRUCTURE

(EASTBOUND STRUCTURE SIMILAR)

10-0 | 10-0

℄ Brg @ Bent No. 1 | ℄ Brg @ Bent No. 3

BAKER CREEK

0-9 Brush Curb

¼ Exp. Jt. Filler in curb (Typ.) See Dwg. No. SL-1

℄ Pier No. 2

Slope 2:1 | Slope 2:1

‡E.B. LANE ONLY

Curb Opening

Crown Down 0.02%

Slope down 0.02%

‡W.B. LANE ONLY

℄ Westbound Rdwy.

Alignment Bearing S51°20'07"E

Slab Continuous over pier See Dwg. No. SL-1

16-0 | 35-0

℄ End Rail Post

0-7 | 7-8 | 9 Spa. @ 8-4 = 75-0 | 7-8

0-7 Rail Post Spacing (Horiz. dimensions)

90°

℄ Median

℄ Median Sta. 788+20.00

℄ Baker Creek Ch. Ch. Sta. 10+00.00

STREAM DATA
Ice - Light
Drift - Light
Scour - Light
Subsoil - For Borings See Dwg. No. 6842

PLAN WESTBOUND STRUCTURE

(EASTBOUND SIMILAR)

‡FOR REQUIRED STATIONS, SEE ROAD PLANS. GUARDRAIL TO BE INSTALLED THE FULL LENGTH OF THE BRIDGE, AND CONTINUOUS WITH THE BRIDGE APPROACH GUARDRAIL SECTION, LT. & RT. (SHEET NO. [redacted] 11318

Finished Grade
-0.23% | 800' V.C. | +0.32%
PVI Sta. 784+00.00
Elev. 4267.89

Note: W.B. denotes West Bound
E.B. denotes East Bound

Note: No bridge markers or reflector signals required for these structures.

Note: Finished plan grade of bridges is the same as profile grade shown on Road Plans.

DESIGN TABLE FOR PRESTRESSED CONCRETE BEAMS

		45' Span
BEAM D.L. STRESSES (p.s.i.)	Fb	-311
	Ft	+384
TOTAL DESIGN STRESSES (p.s.i.)	Fb	-1845
	Ft	+1450
ULTIMATE MOMENT (ft. kip)	M	1865

S200-#5 Bent @ 0-11 ctrs (Alt with S100)
S100-#5 Str. @ 0-11 ctrs (Alt with S200)
S400
S300
TYPE-A BEAM
℄ Beam
7¼"
8-3¼
0-7¼ Slab

DETAIL A (TRANSVERSE SLAB SECTION)

SCALE: 3/4" = 1'-0"

Note: For additional slab, end diaphragm & intermediate diaphragm details see Dwg. No. SL-1

℄ Brg. @ Bent No. 1 | ℄ Brgs. | ℄ Pier No. 2 | ℄ Brg. @ Bent No. 3

5 Beams Spaced @ 8-3¼ ctrs = 33-1

0-9 | 0-9 | ℄ Beams

℄ Intermediate Diaphragm

22-6 | 22-6 | 22-6 | 22-6

45-9 | 45-9

ERECTION PLAN
(Both Roadways Same)
No Scale

BILL OF SLAB, CURB & DIAPHRAGM REINFORCING STEEL (One Structure Only)

TYPE 1 | TYPE 2 | TYPE 3 | TYPE 4

STRAIGHT BARS				BENT BARS (all dimensions are out to out)									
MARK	SIZE	NO	LENGTH	MARK	SIZE	NO	TYPE	LENGTH	A	B	C	D	E
S100	#5	200	38'-8"	S200	#5	98	1	40'-0"	38'-8"	4'-9½"	3'-6¾"	4'-0"	
~~S-300~~	~~4~~	~~150~~	~~31-7~~										
S300	4	162*	31-7										
~~S-400~~	~~4~~	~~69~~	~~31-7~~										
S400	4	75*	31-7										
S5	5	19	15-0										
S6	5	19	10-0										
~~C-400~~	~~4~~	~~16~~	~~24-0~~	C3	4	184	2	4-4	1-3	1-4	0-8	0-9	0'-4"
C400	4	32*	24-0										
D1	6	4	38-8	D3	4	56	3	4-11	1-9½	0-8	0-4		
D2	6	16	6-10	D8	#4	56	4	7-5	3-1½	0-6	0-4		
D5	6	4	38-8										
D6	4	16	7-8										
D7	6	16	6-10										
D9	#6	24	4-6										

* See transverse slab section

2:1 Slope
Bottom of Channel
2-0 | 12 | 12 | 2-0

SECTION C-C
TYPICAL RIPRAP KEY

REFERENCES

Drawing No.	Description
6842	Footing Plan and Soil Borings
6843	Bents No. 1 & No. 3
6844	Pier No. 2
SL-1	Standard Slab, Curb, Safety Walk, & Diaphragm Details.
B-A	Standard Prestressed Concrete Beam - Type A
SBBR	Steel Beam Bridge Rail & Details (Rev. 11-27-63)

To Three Forks | 16-2 | 2-3

℄ W.B. Rdwy. Alignment Brg. S51°20'07"E.

90°00' | ℄ Interstate 90 Median

35-0 | 35-0

℄ E.B. Rdwy. To Bozeman Alignment Brg. S51°20'07"E.

2-3 | 14-0

BRIDGE ORIENTATION PLAN
NO SCALE

7-0 Berm | 2:1 Slope

SECTION A-A
SCALE: 3/8" = 1'-0"

NOTES

OTHER NOTES: For other notes see Dwgs. No. 6836 & 6837.

THIS CONTRACT: IM 90-6(71)289 F — Revise existing rail to concrete barrier, place Latex overlay and install bridge approach section.

Retrofit substructures for seismic loads. For details, see Dwg's. No. 17134Q thru No. 17141.

1 Revised By D.G.G. 12-3-18

DESIGNED		
DRAWN	D.L.R.	2-13-64
CHECKED	D.R.S.	4-13-64
‡ REVISED	N.H.R.	2-4-74
* REVISED	D.W.C.	9-21-98

STATE OF MONTANA
STATE HIGHWAY COMMISSION
BRIDGE OVER BAKER CREEK
AT STA. 788+20.00
FEDERAL AID PROJECT NO. I-IG-90-6(14)287
GALLATIN COUNTY
GENERAL LAYOUT

SCALE: 1"=10'-0" EXCEPT AS NOTED

APPROVED BY [signature] BRIDGE ENGINEER

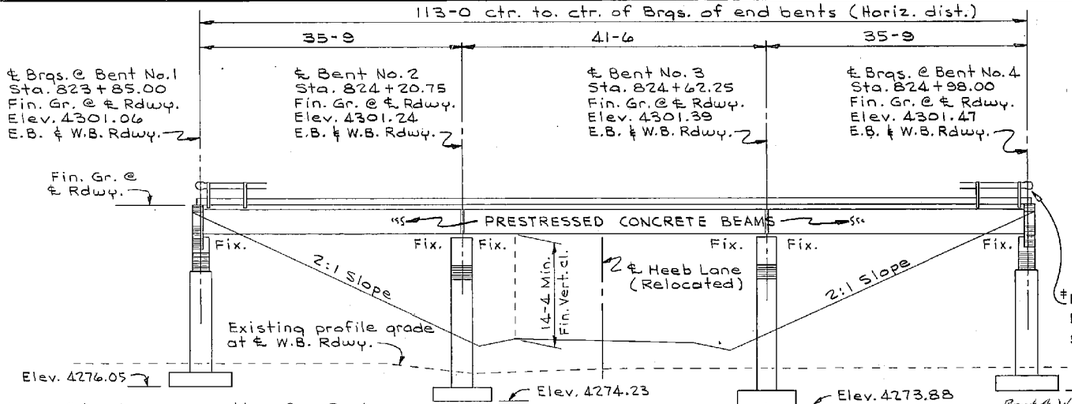
DRAWING NO. 6841

J.R.B.

AWARD COPY

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	MONT.	I-IG-90-6(14)287	1	73

IM 90-6(71)289 F B12



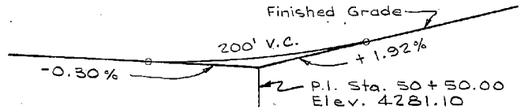
Note: Structure excavation for Bents shall be computed up to ground lines existing before any approach fill has been placed.

ELEVATION WESTBOUND STRUCTURE
(Eastbound Structure Similar)

Note: No bridge markers or reflector signals required for these bridges.

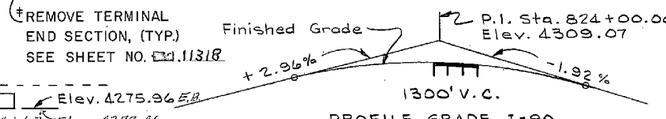
Note: Finished grade of bridges is the same as profile grade shown on road plans.

Note: E.B. = Eastbound
W.B. = Westbound



PROFILE GRADE HEEB LANE (RELOCATED)

‡REMOVE TERMINAL END SECTION, (TYP.) SEE SHEET NO. 11318

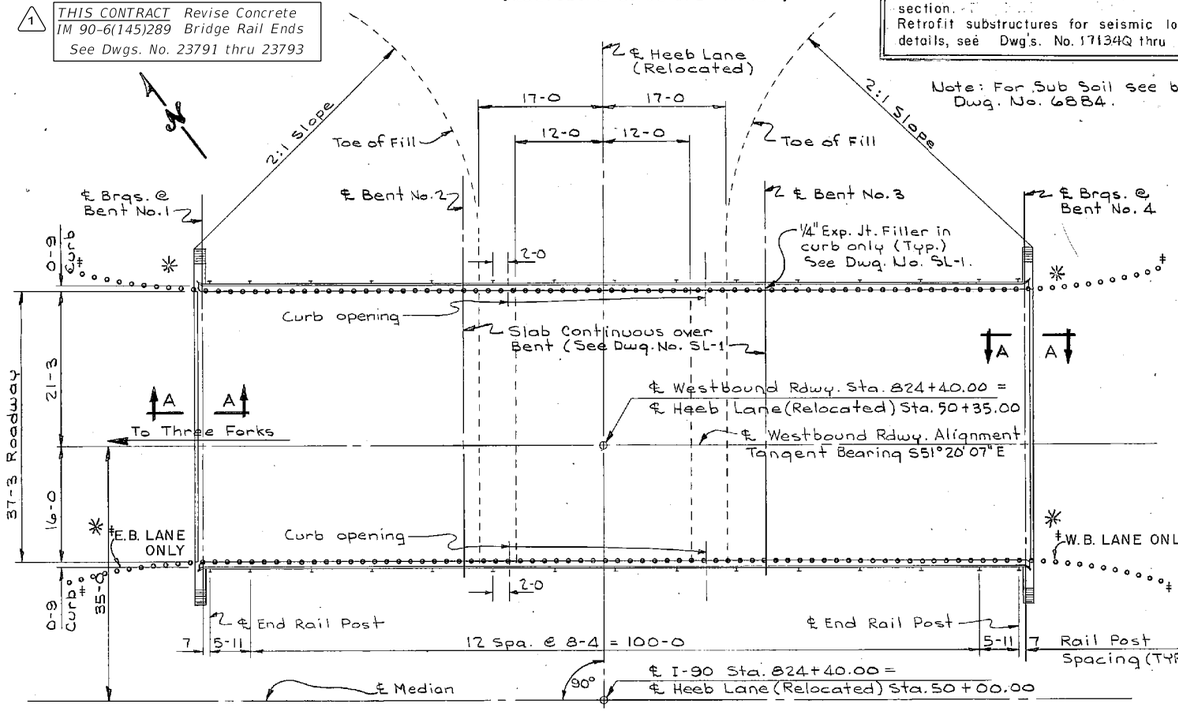


PROFILE GRADE I-90

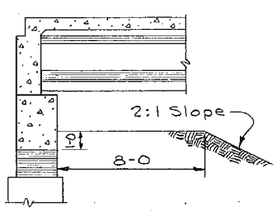
THIS CONTRACT: IM 90-6(71)289 F
Revise existing rail to concrete barrier, place Thick Latex overlay and install bridge approach section.
Retrofit substructures for seismic loads. For details, see Dwg's. No. 17134Q thru No. 17141.

1 THIS CONTRACT Revise Concrete IM 90-6(145)289 Bridge Rail Ends See Dwgs. No. 23791 thru 23793

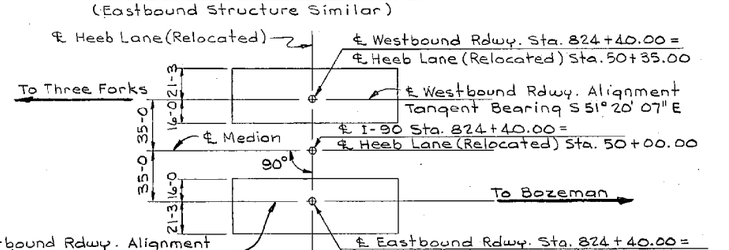
Note: For Sub Soil see borings on Dwg. No. 6884.



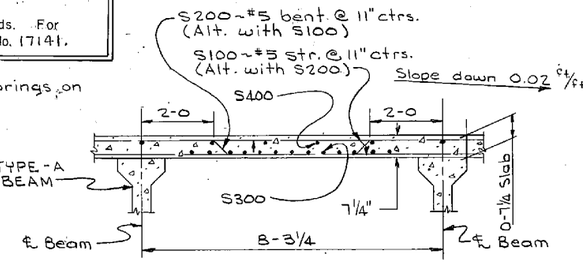
PLAN WESTBOUND STRUCTURE
(Eastbound Structure Similar)



SECTION A-A
Scale: ¼"=1'-0"



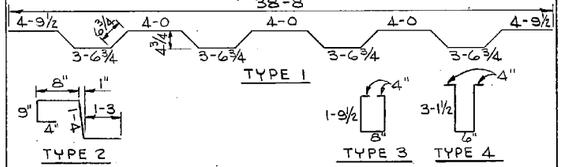
BRIDGE ORIENTATION PLAN
Scale: 1" = 50'-0"



DETAIL A (TRANSVERSE SLAB SECTION)
Scale: ½"=1'-0"

Note: For additional slab, end diaphragm & intermediate diaphragm details see Dwg. No. SL-1.

BILL OF SLAB, CURBS & DIAPHRAGMS REINFORCING STEEL
(For One Structure Only)



(All dimensions are out to out)

Mark	Size	No.	Type	Length	Mark	Size	No.	Type	Length
S100	#5	244	Str.	38'-8"	C3	#4	228	2	4'-4"
S200	5	118	1	40-0	DIAPHRAGM BARS				
S300	4	162	Str.	38-9	D1	6	8	Str.	38-8
S400	4	~~156~~ 128	Str.	38-9	D2	6	32	Str.	6-10
					D3	4	~~128~~ 128	3	4-11
					D5	6	6	Str.	38-8
S5	5	38	Str.	15-0	D6	4	24	Str.	7-8
S6	5	38	Str.	10-0	D7	6	24	Str.	6-10
					D8	4	~~84~~ 96	4	7-5
C400	4	16	Str.	35-11	D9	6	42	Str.	4-6
C401	4	16	Str.	21-3					

REFERENCES

DRAWING NO.	DESCRIPTION
6884	FOOTING PLAN
6885	BENT NO. 1 & NO. 4 COLUMN & FOOTING DETAILS & ERECTION PLAN
6886	BENTS NO. 2 & NO. 3
EB.30to50-R38US	STANDARD END BENT FOR PRESTRESSED CONCRETE BEAMS (REV. 4-9-64)
B-A	STANDARD PRESTRESSED CONCRETE BEAM TYPE-A
SL-1	STANDARD SLAB, CURB, SAFETYWALK, & DIAPHRAGM DETAILS
SBBR (REV. 11-27-63)	STEEL BEAM BRIDGE RAIL AND DETAILS

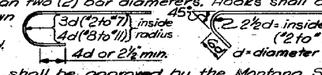
Note: For Utilities see appropriate Road Plan sheets.

NOTES

SPECIFICATIONS : Montana State Highway Commission Standard Specifications for Road and Bridge Construction, 1962 Edition, and any amendments thereto, and Special Provisions shall govern unless otherwise noted. Design prepared in accordance with A.A.S.H.O. Specifications, 1961 Edition, and any amendments thereto.

CAST IN PLACE CONCRETE : Unless otherwise noted, all concrete in superstructure shall be Class "AD" and all concrete in substructure shall be Class "A". An "Air Entraining Agent" shall be added to all concrete except Class "S". Chamfer all exposed edges of concrete with enclosed angle less than 120°, ¾" and fillet entrant angles ¾" unless otherwise noted.

REINFORCING STEEL : Bends in reinforcing steel shall be made to a radius of not less than four (4) diameters of the bar except for stirrups and tie bars, which shall be bent around a pin having a diameter of not less than two (2) bar diameters. Hooks shall conform to the dimensions shown in the following sketches, except as otherwise noted.



APPROVAL : Shop plans shall be approved by the Montana State Highway Department before fabrication is begun.

SETTING OF MASONRY PLATES : Care shall be taken in placing reinforcing steel so as to clear anchor bolts.

Contractor shall finish concrete under beam or girder masonry plate slightly high and bush-hammer to exact elevation shown. Masonry plates shall be placed on three (3) layers of canvas thoroughly swabbed with red lead, as called for in the Standard Specifications

SOILS AND FOUNDATION MATERIALS : Borings were taken by the Montana State Highway Department at the points shown on the General Layout or Footing Plan.

The series of three numbers shown on the log of borings indicates the number of blows per 6" penetration for each number of the series of a 2" sample tube which was driven in accordance with the Standard Penetration Test made with a 2" split tube sampler using a 140# hammer having a 30" drop. "R" indicates refusal of the sample tube to penetrate 6" after 50 blows.

The State Highway Department does not assume any responsibility for any variation or misinterpretation of the classes of materials and adjustment in bid prices will not be made if the materials found do not agree with those shown in the log of borings.

BACKFILL : The backfill at end bents may be complete up to the bottoms of the backwalls before superstructure is in place. The backfill against the backwalls shall not be placed until after the concrete roadway slab has been placed.

STRUCTURAL STEEL : Unless otherwise noted, structural steel shall be paid for at the unit price bid for reinforcing steel and the weight paid for shall be the computed weight as obtained in accordance with the Standard Specifications.

For requirements governing the fabrication of "Structural Steel" see the Standard Specifications. To avoid oversight these requirements shall be clearly noted on the shop drawings.

Structural steel shall recieve one (1) shop coat of red lead or zinc chromate primer and two (2) field coats consisting of first field or primer coat and one (1) coat of aluminum paint as specified in the Standard Specifications.

FOOTINGS : Elevations shown for bottom of footings are approximate only. Final elevations to be determined by the engineer.

LIVE LOAD : Standard H20-S16 or Alternate Loading. Alternate Loading for bridges and floor systems with spans under 40 feet consists of two axles four feet apart with each axle weighing 24,000 lbs.

‡FOR REQUIRED STATIONS, SEE ROAD PLANS. GUARDRAIL TO BE INSTALLED THE FULL LENGTH OF THE BRIDGE, AND CONTINUOUS WITH THE BRIDGE APPROACH GUARDRAIL SECTION, LT. & RT. (SHEET NO. 11318)

STATE OF MONTANA
STATE HIGHWAY COMMISSION

HEEB LANE GRADE SEPARATION
AT STA. 824+40.00
FEDERAL AID PROJECT NO. IG-90-6(14)287
GALLATIN COUNTY
GENERAL LAYOUT

Scale: 1"=10'-0" Except As Noted

1	Revised By	D.G.G.	12-3-18

DESIGNED		
DRAWN	K.P.	3-13-64
TRACED		
CHECKED	D.R.S.	4-20-64
REVISED	N.H.R.	2-4-74 ‡
REVISED	D.W.C.	9-21-98 *

APPROVED BY _____ BRIDGE ENGINEER

DRAWING NO. 6883

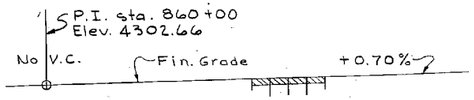
J.P.B.

AWARD COPY

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	MONT.	IM-90-6(14)287	~~11~~	~~13~~
		IR0002(22)U2	833	
		IM90-6(71)289 F	B14	

Note: No Bridge Markers or Reflector Signals will be required for this structure.

Note: Finished plan grade of Bridge @ ℄ Roadway is the same as profile grade shown on Road Plans.



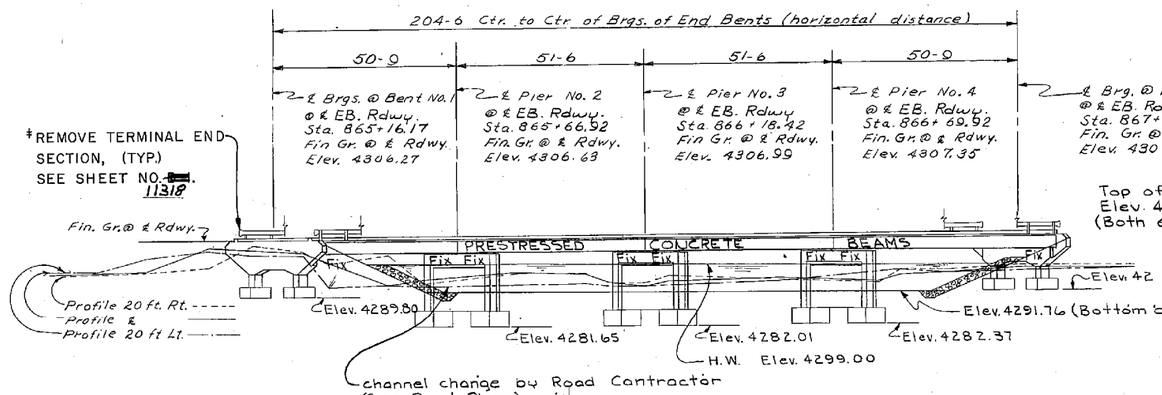
Note: Elevations shown for bottom of footings are approximate only. Final elevations to be determined by the Engineer.

Note: Structure excavation for Piers No.2, No.3 & No.4 shall be computed up to the bottom of the channel change. Structure Excavation for Bent No.5 shall be computed from the natural ground line existing before construction is started.

NOTES

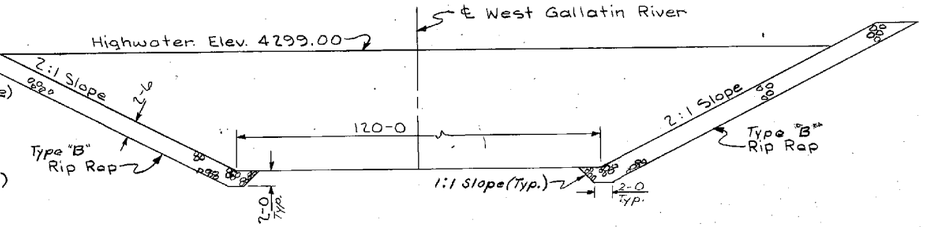
OTHER NOTES: For other noted see Dwgs. No. 6836 No. 6837

** THIS CONTRACT: IM 90-6(71)289 F
Revise existing rail to concrete barrier, place Thick Latex overlay and install bridge approach section. For details, see Dwg's. No. 17134Q thru No. 17141. Retrofit substructures for seismic load.

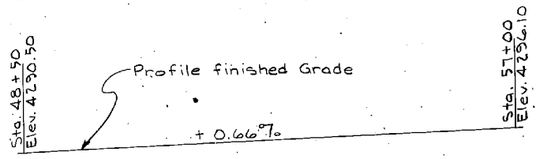


ELEVATION
SCALE: 1"= 20'

Top of rip rap Elev. 4302.00 (Both ends of structure)



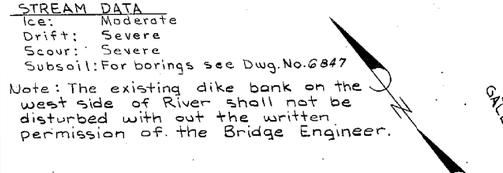
CROSS SECTION OF WEST GALLATIN RIVER CHANNEL CHANGES AT STA. 50+00

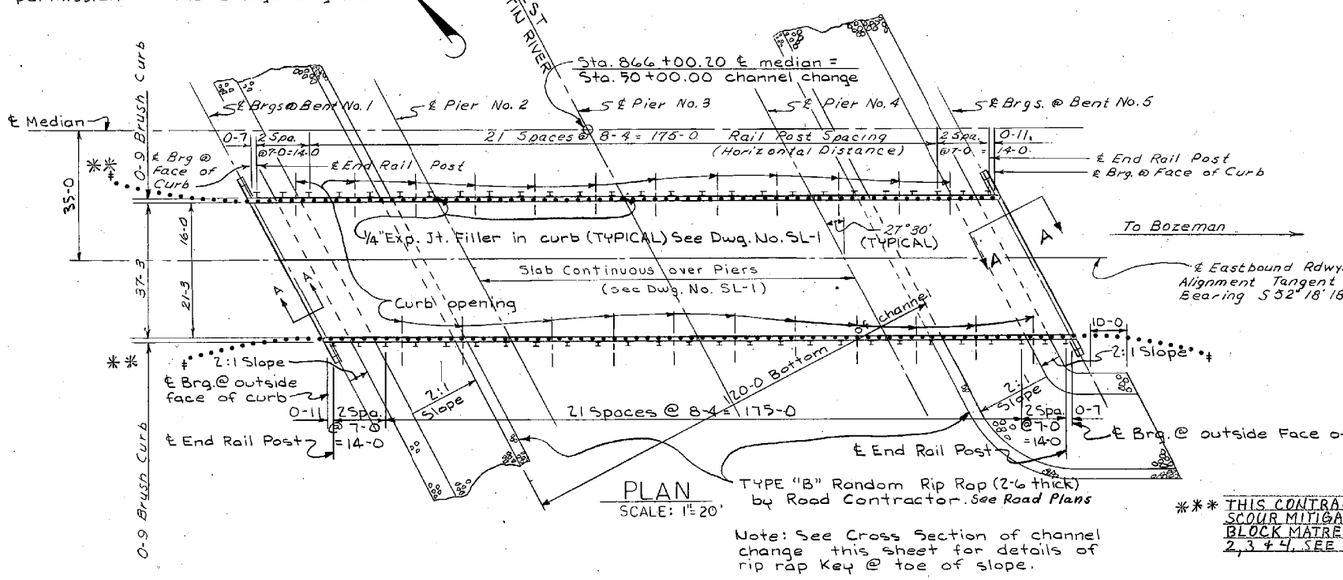


PROFILE GRADE
BOTTOM ℄ WEST GALLATIN RIVER CHANNEL CHANGE
Scale: 1"=10'

STREAM DATA
Ice: Moderate
Drift: Severe
Scour: Severe
Subsoil: For borings see Dwg. No. 6847

Note: The existing dike bank on the west side of River shall not be disturbed with out the written permission of the Bridge Engineer.

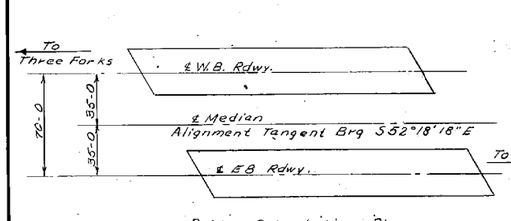




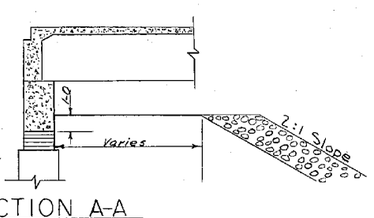
PLAN
SCALE: 1"= 20'

Note: See Cross Section of channel change this sheet for details of rip rap Key @ toe of slope.

*** THIS CONTRACT: IM-BH 0002(307) SCOUR MITIGATION, CONCRETE BLOCK MATRESSES AT PIER NOS. 2, 3 + 4. SEE DWG. NOS. 19697 & 19700.



Bridge Orientation Plan
No scale



SECTION A-A
SCALE: 3/16" = 1'-0"

THIS CONTRACT: IR 0002(22)U2
For revisions see Summary of Bridge Rehabilitation Dwg. No. 15136.

‡FOR REQUIRED STATIONS, SEE ROAD PLANS. GUARDRAIL TO BE INSTALLED THE FULL LENGTH OF THE BRIDGE, AND CONTINUOUS WITH THE BRIDGE APPROACH GUARDRAIL SECTION, LT. & RT. (SHEET NO. ~~B5~~). 11318.

* THIS CONTRACT: IM 0002(50) Replaced guard angle and resealed the existing deck joint at Bent No. 1, installed new bridge rail endpost, placed thin bridge deck overlay and installed new bridge approach guardrail. See Dwg. No. K0061-116063.

THIS CONTRACT Revise Concrete IM 90-6(145)289 Bridge Rail Ends See Dwgs. No. 23791 thru 23793

	Revised By	D.G.G.	12-3-18

***	REVISED	R.J.B.	6-16-05
**	REVISED	DWC	9-21-98
	DESIGNED		
	DRAWN	D.L.R.	12-3-63
	CHECKED	D.R.S.	4-15-64
‡	REVISED	N.H.R.	2-4-74
○	REVISED	L.R.T.	12-16-91
	REVISED	K.L.S.	4-11-95

STATE OF MONTANA
STATE HIGHWAY COMMISSION
WEST GALLATIN RIVER BRIDGE
AT STA. 866+00.20
FEDERAL AID PROJECT NO. IM-90-6(14)287
GALLATIN COUNTY
GENERAL LAYOUT
EASTBOUND ROADWAY
SCALE AS NOTED

APPROVED BY: [signature] BRIDGE ENGINEER

DRAWING NO. 6846

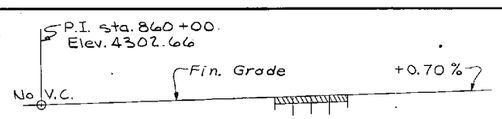
V.P.B.

AWARD COPY

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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		IR-0002(22)U2	832	
		IM 90-6(71)289 F	B13	

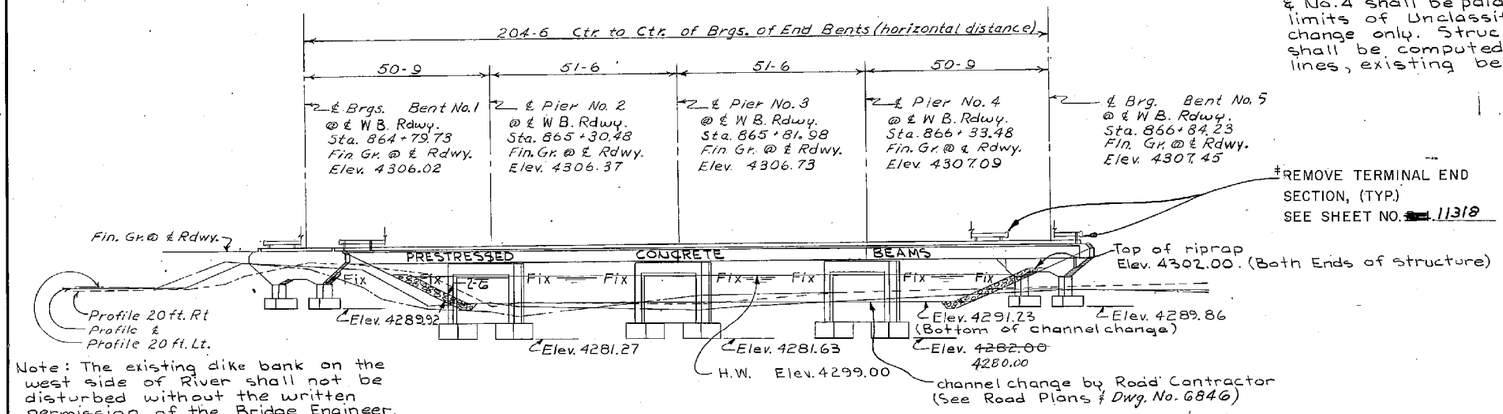
Note: No Bridge Markers or Reflector Signals will be required for this structure.

Note: Finished plan grade of Bridge @ ℄ roadway same as profile grade shown on Road Plans.



Note: Elevations shown for bottom of footings are approximate only. Final elevations to be determined by the Engineer.

Note: Structure Excavation for Piers No.2, No.3 & No.4 shall be paid for material below the limits of Unclassified Excavation for channel change only. Structure Excavation For Bent No.5 shall be computed from the natural ground lines, existing before any construction is started.



Note: The existing dike bank on the west side of River shall not be disturbed without the written permission of the Bridge Engineer.

ELEVATION
SCALE: 1"=20'

NOTES

SPECIFICATIONS: Montana State Highway Commission Standard Specifications for Road and Bridge Construction, 1962 Edition, and any amendments thereto, and Special Provisions shall govern unless otherwise noted. Design prepared in accordance with A.S.S.H.O. Specifications, 1961 Edition, and any amendments thereto.

LIVE LOAD: Standard (H20-S16) or Alternate Loading. Alternate Loading for bridges and floor systems with spans under 40 feet consists of two axles four feet apart with each axle weighing 24,000 lbs.

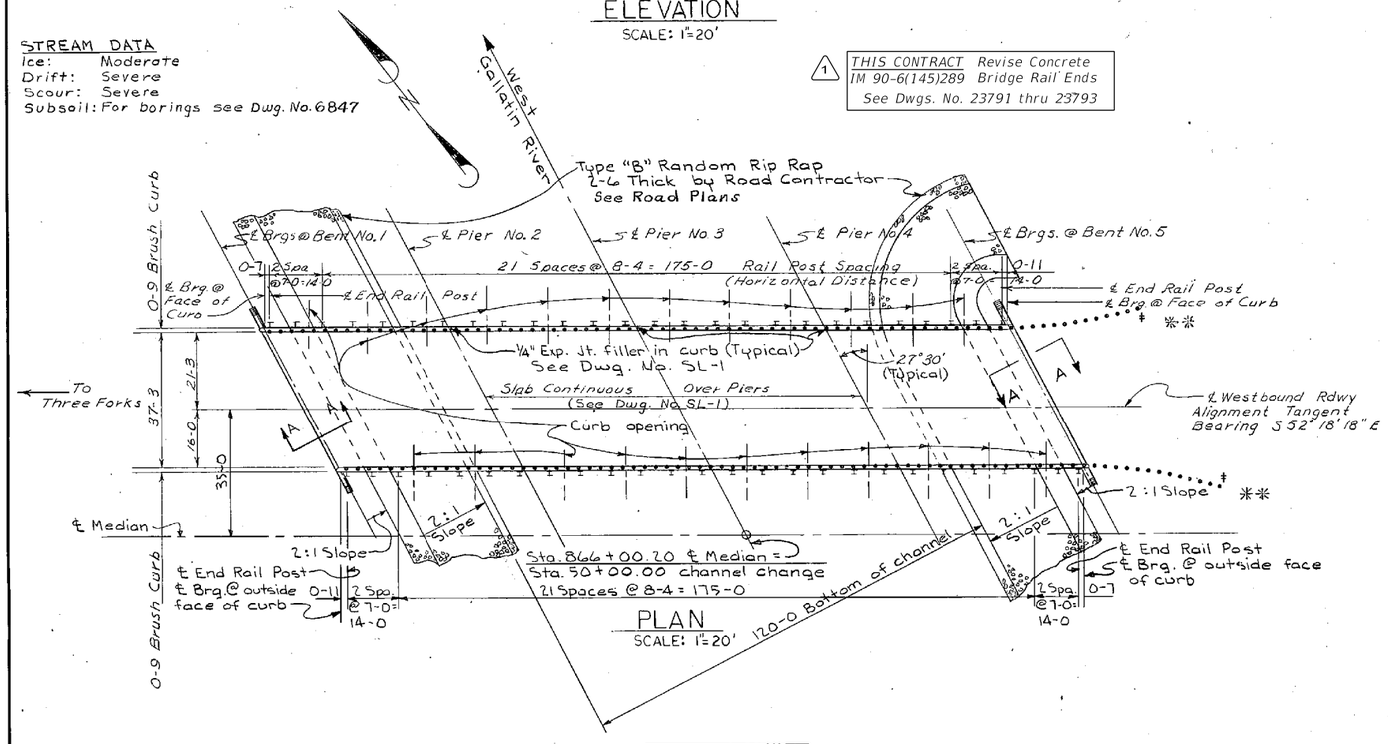
OTHER NOTES: For other notes see Dwgs. No. 6836 & No. 6837

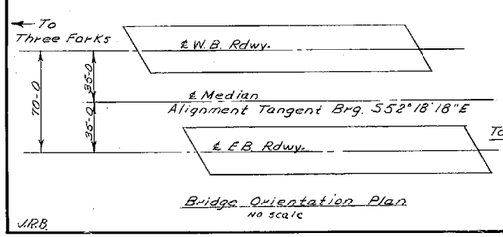
** THIS CONTRACT: IM 90-6(71)289 F
Revise existing rail to concrete barrier, place Thick Latex overlay and install bridge approach section. For details, see Dwg's No. 17340 thru No. 17341. Retrofit substructures for seismic load.

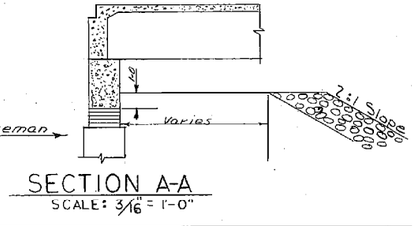
STREAM DATA
Ice: Moderate
Drift: Severe
Scour: Severe
Subsoil: For borings see Dwg. No. 6847

1 THIS CONTRACT Revise Concrete IM 90-6(145)289 Bridge Rail Ends
See Dwgs. No. 23791 thru 23793

◯ THIS CONTRACT: IR 0002(22)U2
For revisions see Summary of Bridge Rehabilitation Dwg. No. 15136.







Note: See Cross Section of channel change on Dwg. No. 6846 for details of rip rap key @ toe of slope.

REFERENCES	
DRAWING NO.	DESCRIPTION
6846	GENERAL LAYOUT EASTBOUND ROADWAY
6847	FOOTING PLAN
6848	BENT NO.1 & NO.5 BEAM & BACKWALL DETAILS
6849	BENT NO.1 & NO.5 FOOTING & COLUMN DETAILS
6850	PIER NO.2, NO.3, & NO.4
6851	ERECTION PLAN
SL-1	STANDARD SLAB, CURB, SAFETYWALK & DIAPHRAGM DETAILS
B-A	STANDARD PRESTRESSED CONCRETE BEAM - TYPE A
SBBR	STEEL BEAM BRIDGE RAIL & DETAILS (REV. 11-27-63)

‡ FOR REQUIRED STATIONS, SEE ROAD PLANS. GUARDRAIL TO BE INSTALLED THE FULL LENGTH OF THE BRIDGE, AND CONTINUOUS WITH THE BRIDGE APPROACH GUARDRAIL SECTION, LT. & RT. (SHEET NO. ~~B-1~~) 11318

*** THIS CONTRACT: IM-BH 0002(807) SCOUR MITIGATION, CONCRETE BLOCK MATTRESSES AT PIERS 2, 3 AND 4 SEE DWG. NOS. 19698 & 19700

* THIS CONTRACT: IM 0002(50) Installed new bridge rail endpost, placed thin bridge deck overlay and installed new bridge approach guardrail. See Dwg. No. 16064 and 16063.

	Revised By		
1	D.G.G.		12-3-18
***	REVISED	R.J.B.	6-16-05
**	REVISED	DWC	9-21-98
*	REVISED	KLS	4-11-95

DESIGNED		
DRAWN	D.L.R.	12-3-63
CHECKED	D.R.S.	4-15-64
‡ REVISED	N.H.R.	2-4-74
◯ REVISED	L.R.T.	12-16-91

STATE OF MONTANA
STATE HIGHWAY COMMISSION
WEST GALLATIN RIVER BRIDGE
AT STA. 866+00.20
FEDERAL AID PROJECT NO. HG-90-6(14)287
GALLATIN COUNTY
GENERAL LAYOUT
WESTBOUND ROADWAY

SCALE: AS NOTED

APPROVED BY: _____ BRIDGE ENGINEER

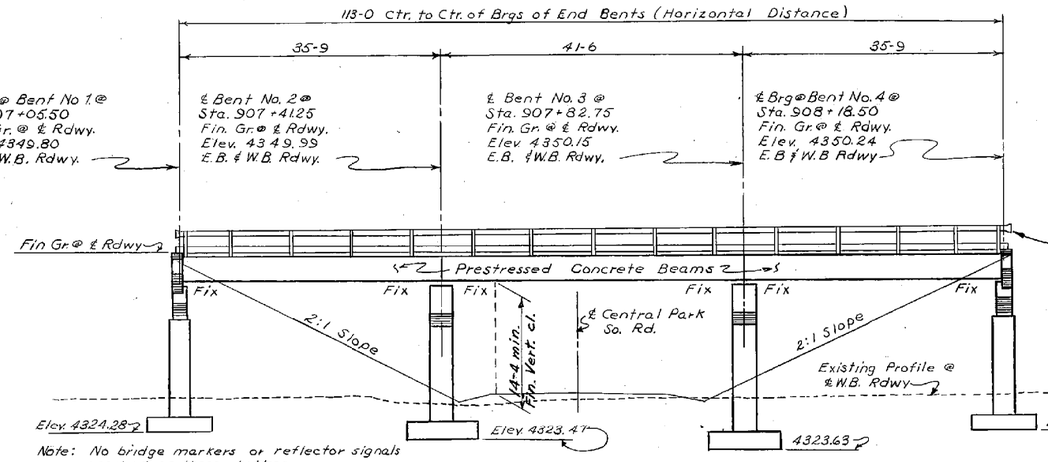
DRAWING NO. 6845

J.R.B.

AWARD COPY

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	MONT.	~~I-IG-90-6(14)287~~ IM 90-6(71)289 F	5	23

B15

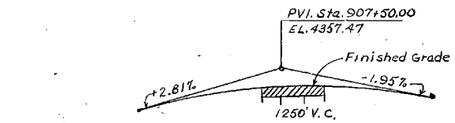


Note: No bridge markers or reflector signals required on these bridges.

Note: Finished Grade on bridges is the same as profile grade shown on Road Plans.

Note: E.B. Denotes EastBound, W.B. Denotes WestBound.

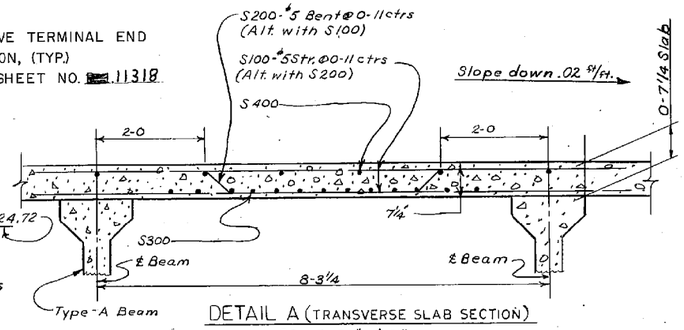
ELEVATION WESTBOUND STRUCTURE
(EASTBOUND STRUCTURE SIMILAR)



NOTE: Structure excavation for Bents shall be computed up to ground lines existing before any approach fill has been placed.

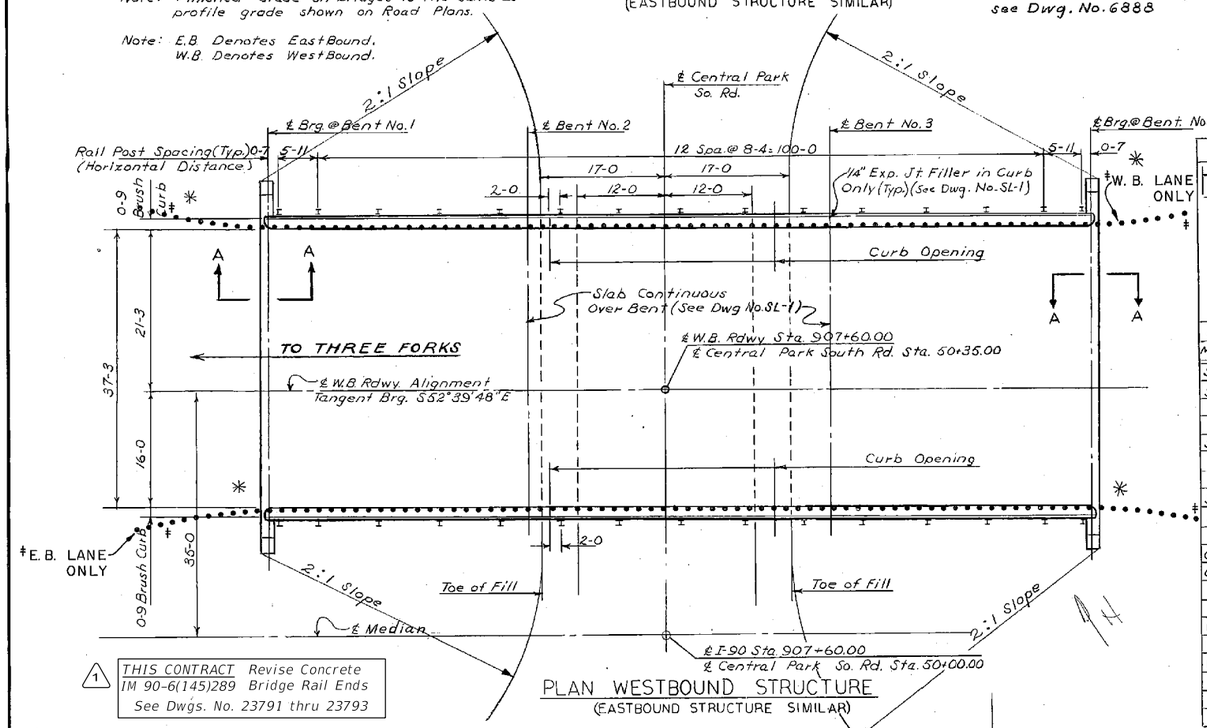
‡REMOVE TERMINAL END SECTION, (TYP.) SEE SHEET NO. 11318

NOTE: For soil borings see Dwg. No. 6888



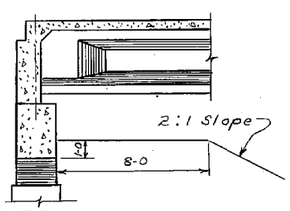
DETAIL A (TRANSVERSE SLAB SECTION)
SCALE: 3/4"=1'-0"

NOTE: For additional slab, end diaphragm & intermediate diaphragm details see Dwg. No. SL-1

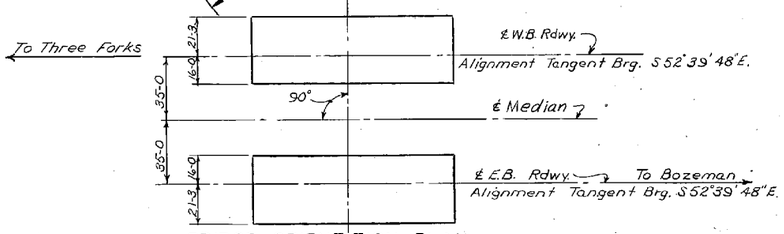


PLAN WESTBOUND STRUCTURE
(EASTBOUND STRUCTURE SIMILAR)

1 THIS CONTRACT Revise Concrete IM 90-6(145)289 Bridge Rail Ends See Dwgs. No. 23791 thru 23793

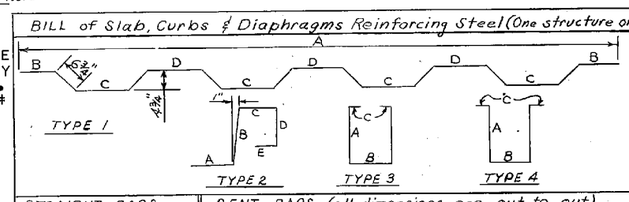


SECTION A-A
SCALE: 1/2"=1'-0"



BRIDGE ORIENTATION PLAN
NO SCALE

BILL of Slab, Curbs & Diaphragms Reinforcing Steel (One structure only)



STRAIGHT BARS				BENT BARS (all dimensions are out to out)									
Mark	Size	No.	Length	Mark	Size	No.	Type	Length	A	B	C	D	E
S100	#5	244	38'-8"	S200	#5	118	1	40'-0"	38'-8"	4'-9"	3'-6¾"	4'-0"	
S300	4	162	38-9										
S400	4	69	38-9										
S5	5	38	15-0										
S6	5	38	10-0										
C400	4	16	35-11	C3	4	228	2	4-4	1-3	1-4	0-8	0-9	0'-4"
C401	4	16	21-3										

DIAPHRAGM BARS											
D1	6	8	38-8	D3	4	~~12-8~~ 128	3	4-11	1-9½	0-8	0-4
D2	6	32	6-10	D8	#4	~~8-6~~ 86	4	7'-5"	3'-1½	0'-6"	0'-4"
D5	6	6	38-8								
D6	4	24	7-8								
D7	6	24	6-10								
D9	#6	42	4'-6"								

‡FOR REQUIRED STATIONS, SEE ROAD PLANS. GUARDRAIL TO BE INSTALLED THE FULL LENGTH OF THE BRIDGE, AND CONTINUOUS WITH THE BRIDGE APPROACH GUARDRAIL SECTION, LT. & RT. (SHEET NO. 11318)

1 Revised By D.G.G. 12-3-18

NOTES

LIVE LOAD: Standard H20-S16 or Alternate loading. Alternate loading for bridge and floor systems with spans under 40 feet consists of two axles four feet apart with each axle weighing 24,000 lbs.

OTHER NOTES: For other notes see Dwg. No. 6883

* THIS CONTRACT: IM 90-6(71)289 F
Revise existing rail to concrete barrier, place Thick Latex overlay and install bridge approach section. For details, see Dwg's. No. 17134Q thru No. 17141. Retrofit substructures for seismic load.

○ THIS CONTRACT: IR 0002(22)U2
For revisions see Summary of Bridge Rehabilitation Dwg. No. 15134.

REFERENCES	
DRAWING NO.	DESCRIPTIONS
6888	FOOTING PLAN AND ERECTION PLAN
6889	BENT NO.1 & NO.4 COLUMN AND FOOTING DETAILS
6890	BENT NO.2 & NO.3
E.B. 30 TO 50 - R38-LIS	STANDARD END BENT FOR PRESTRESSED CONCRETE BEAMS (REV. 4-9-64)
SL-1	STANDARD SLAB, CURB, SAFETY WALK & DIAPHRAGM DETAILS
B-A	STANDARD PRESTRESSED CONCRETE BEAM - TYPE A
SBBR	STEEL BEAM BRIDGE RAIL AND DETAILS (REV. 11-27-63)

STATE OF MONTANA
STATE HIGHWAY COMMISSION
CENTRAL PARK GRADE SEPARATION
AT STA. 907+60.00
FEDERAL AID PROJECT NO. I-IG-90-6(14)287
GALLATIN COUNTY
GENERAL LAYOUT
Scale: 1"=10'-0" Except As Noted

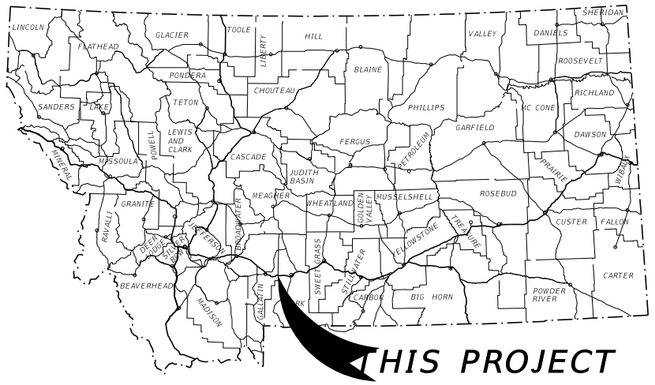
REVISED	D.W.C.	9-21-98
DESIGNED	J.D.S.	1-31-64
DRAWN	D.L.R.	2-26-64
CHECKED	R.B.S.	4-21-64
REVISED	N.H.R.	2-5-74
REVISED	L.R.T.	12-16-91

APPROVED BY _____ BRIDGE ENGINEER

DRAWING NO. 6887

J.R.B.

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MONTANA DEPARTMENT OF TRANSPORTATION

PRESENT
LETTING
DESIGN

A.D.T. =
A.D.T. =
A.D.T. =
D.H.V. =
TRUCKS =
V. =
KIP / SAL'S =
GROWTH RATE =

N/A

FEDERAL AID PROJECT IM 90-6(149)313
GUARDRAIL
BOZEMAN HILL - GUARDRAIL
GALLATIN & PARK COUNTIES

LETTING DATE - _____

LENGTH 13.300 MILES

RP 314.08
I00090314+00831
BRIDGE ID 01604
39.5' X 426.4' CONCRETE BRIDGE
MRL RAILROAD
NOT THIS CONTRACT

RP 314.08
I00090314+00832
BRIDGE ID 01605
39.5' X 426.4' CONCRETE BRIDGE
MRL RAILROAD
NOT THIS CONTRACT

RP 313.44
I00090313+04471
BRIDGE ID 01602
41' X 113' CONCRETE BRIDGE
INT BEAR CANYON
NOT THIS CONTRACT

RP 313.44
I00090313+04472
BRIDGE ID 01603
41' X 113' CONCRETE BRIDGE
INT BEAR CANYON
NOT THIS CONTRACT

RP 316.76
I00090316+07671
BRIDGE ID 01607
36' X 129' CONCRETE BRIDGE
INT TRAIL CREEK
NOT THIS CONTRACT

RP 316.76
I00090316+07672
BRIDGE ID 01608
36' X 129' CONCRETE BRIDGE
INT TRAIL CREEK
NOT THIS CONTRACT

RP 319.66
I00090319+06691
BRIDGE ID 01609
44.2' X 130' CONCRETE BRIDGE
INT JACKSON CREEK
NOT THIS CONTRACT

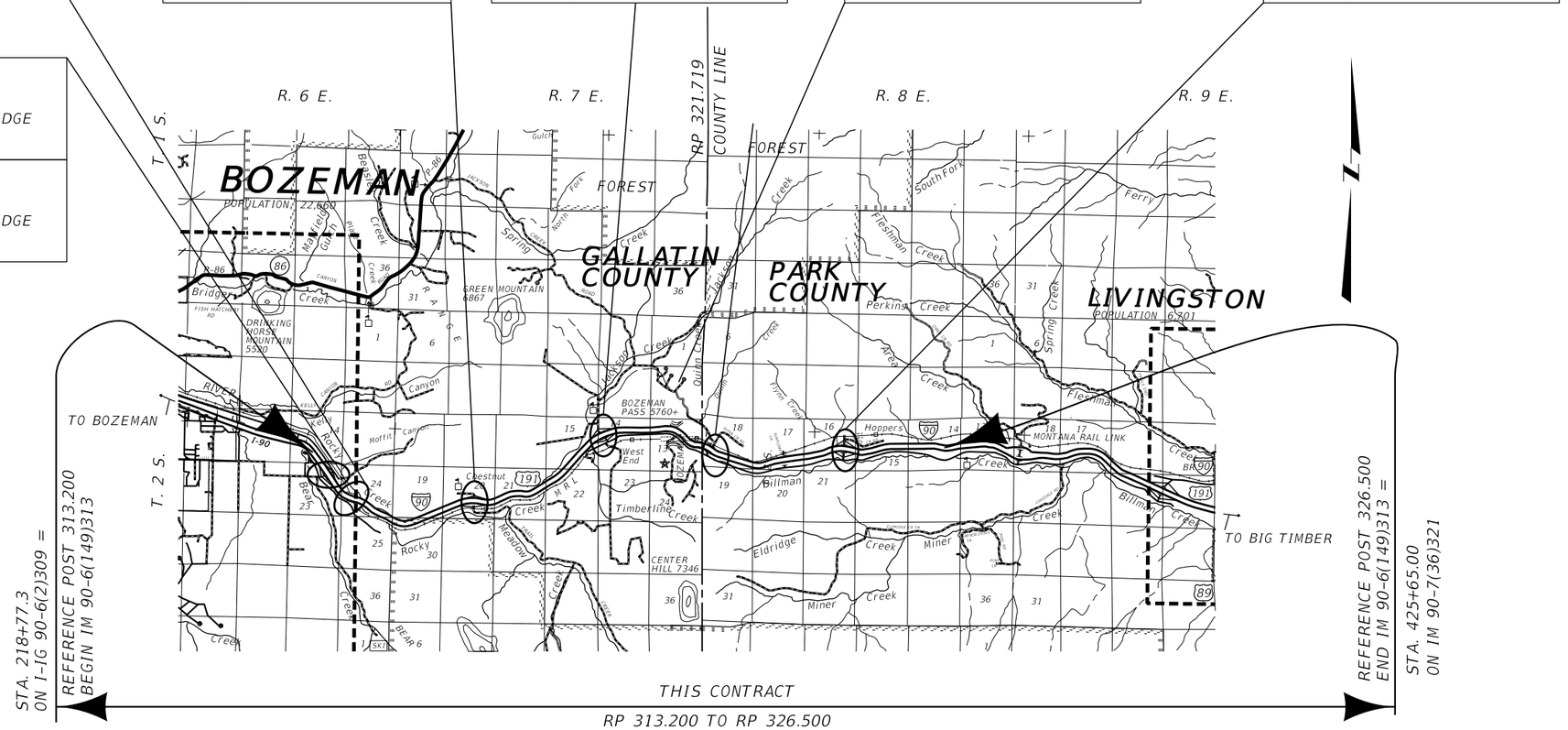
RP 319.66
I00090319+06692
BRIDGE ID 01610
44.2' X 130' CONCRETE BRIDGE
INT JACKSON CREEK
NOT THIS CONTRACT

RP 321.89
I00090321+08951
BRIDGE ID 01611
44.2' X 127' CONCRETE BRIDGE
QUINN CREEK RD
NOT THIS CONTRACT

RP 321.89
I000903321+08952
BRIDGE ID 01612
44.2' X 127' CONCRETE BRIDGE
QUINN CREEK RD
NOT THIS CONTRACT

RP 324.60
I00090324+06051
BRIDGE ID 01614
44.2' X 126' CONCRETE BRIDGE
INT HOPPER
NOT THIS CONTRACT

RP 324.60
I00090324+06052
BRIDGE ID 01615
44.2' X 126' CONCRETE BRIDGE
INT HOPPER
NOT THIS CONTRACT



3	MDT	MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9247000rdtl001.dgn	DESIGNED BY	Kevin Mueller	7/10/2020
2			12/15/2020	REVIEWED BY		
			12:07:19 PM CPS - U3162	CHECKED BY		

ROAD PLANS

9247000

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TABLE OF CONTENTS

ROAD PLANS	SHEET NO.
TITLE SHEET	1
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NOTES	
SUMMARIES	3-4
GUARDRAIL	3-4
CURB	4
IMPACT ATTENUATOR	4
DETAILS	5
SNOWPOLE DELINEATOR DETAIL	5

NOTES

UTILITIES

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

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.

AS-BUILTS

I-IG-90-6(2)309
IM 90-6(139)313
IM 90-6(128)318
IR 90-6(43)313
IR 90-6(45)307
IM 90-6(63)318
I 90-6(36)315
I 90-7(38)315
I 90-7(36)321

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SUMMARY

GUARDRAIL

REFERENCE POST		linear feet				each						REMARKS
		REMOVE GUARDRAIL		MGS GUARDRAIL		MASH W-BEAM TERMINAL SECTION		MGS ONE-WAY DEPARTURE TERMINAL SECTION		BRIDGE APPROACH SECTION TYPE 3		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
WESTBOUND												
313.362	313.446 B.E.		450.0									REMOVAL INCLUDES ONE-WAY DTS
313.362	313.446 B.E.				* 440.6				!			
313.468 B.E.	313.553		450.0									REMOVAL INCLUDES OTS, BAS
313.468 B.E.	313.553				* 378.1		1				1	
313.992	314.032 B.E.		212.5									REMOVAL INCLUDES ONE-WAY DTS
313.992	314.032 B.E.				* 203.1				!			
314.117 B.E.	314.176		312.5									REMOVAL INCLUDES OTS, BAS
314.117 B.E.	314.176				* 240.6		1				1	
319.659 B.E.	319.707		250.0									REMOVAL INCLUDES OTS, BAS
319.659 B.E.	319.707				* 178.1		1				1	
321.424	321.871 B.E.		2,362.5									REMOVAL INCLUDES ONE-WAY DTS
321.424	321.871 B.E.				* 2353.1				!			
321.905 B.E.	321.958		275.0									REMOVAL INCLUDES OTS, BAS
321.905 B.E.	321.958				* 203.1		1				1	
322.700	323.013		1,675.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
322.700	323.013				1612.5		1		!			
324.618 B.E.	324.664		237.5									REMOVAL INCLUDES OTS, BAS
324.618 B.E.	324.664				* 165.6		1				1	
326.167	326.317		787.5									REMOVAL INCLUDES OTS, BAS
326.167	326.317				725.0		1		!			
313.295	313.400	550.0										REMOVAL INCLUDES OTS, BAS
313.295	313.400			487.5		1		1				
313.357	313.446 B.E.	475.0										REMOVAL INCLUDES ONE-WAY DTS
313.357	313.446 B.E.			* 465.6				1				
313.468 B.E.	313.553	450.0										REMOVAL INCLUDES OTS, BAS
313.468 B.E.	313.553			* 378.1		1				1		
313.515	314.032 B.E.	2,725.0										REMOVAL INCLUDES ONE-WAY DTS
313.515	314.032 B.E.			* 2715.6				1				
314.117 B.E.	314.407	1,525.0										REMOVAL INCLUDES OTS, BAS
314.117 B.E.	314.407			* 1453.1		1				1		
314.817	315.058	1,275.0										REMOVAL INCLUDES OTS, ONE-WAY DTS
314.817	315.058			1,212.5		1		1				
316.696	316.746 B.E.	262.5										REMOVAL INCLUDES ONE-WAY DTS
316.696	316.746 B.E.			* 253.1				1				
316.770 B.E.	316.888	625.0										REMOVAL INCLUDES OTS, BAS
316.770 B.E.	316.888			* 553.1		1				1		
318.033	318.406	1,975.0										REMOVAL INCLUDES OTS, ONE-WAY DTS
318.033	318.406			1,912.5		1		1				
319.204	319.594	2,062.5										REMOVAL INCLUDES OTS, ONE-WAY DTS
319.204	319.594			2,000.0		1		1				
319.568	319.636 B.E.	362.5										REMOVAL INCLUDES ONE-WAY DTS
319.568	319.636 B.E.			* 353.1				1				
319.659 B.E.	319.757	512.5										REMOVAL INCLUDES OTS, BAS
319.659 B.E.	319.757			* 440.6		1				1		
321.415	321.872 B.E.	2,412.5										REMOVAL INCLUDES ONE-WAY DTS
321.415	321.872 B.E.			* 2403.1				1				
321.905 B.E.	322.078	912.5										REMOVAL INCLUDES OTS, BAS
321.905 B.E.	322.078			* 840.6		1				1		
323.370	323.439	362.5										REMOVAL INCLUDES OTS, ONE-WAY DTS
323.370	323.439			300.0		1		1				
324.564	324.595 B.E.	162.5										REMOVAL INCLUDES ONE-WAY DTS
324.564	324.595 B.E.			* 153.1				1				
324.618 B.E.	324.664	237.5										REMOVAL INCLUDES OTS, BAS
324.618 B.E.	324.664			* 165.6		1				1		
WESTBOUND SUBTOTAL		**16,887.5**	**7,012.5**	**16,087.2**	**6,499.8**	**11**	**7**	**11**	**5**	**6**	**5**	

* INCLUDES MGS TO METAL GUARDRIAL TRANSITION

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SUMMARY

GUARDRAIL (CONTINUED)

REFERENCE POST		linear feet				each						REMARKS
		REMOVE GUARDRAIL		MGS GUARDRAIL		MASH W-BEAM TERMINAL SECTION		MGS ONE-WAY DEPARTURE TERMINAL SECTION		BRIDGE APPROACH SECTION TYPE 3		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
EASTBOUND												
313.392	313.477 B.E.	450.0										REMOVAL INCLUDES OTS, BAS
313.392	313.477 B.E.			* 378.1		1				1		
313.498 B.E.	313.582	437.5										REMOVAL INCLUDES ONE-WAY DTS
313.498 B.E.	313.582			* 440.6				1				
314.035	314.095 B.E.	312.5										REMOVAL INCLUDES OTS, BAS
314.035	314.095 B.E.			* 240.6		1				1		
314.180 B.E.	314.222	225.0										REMOVAL INCLUDES ONE-WAY DTS
314.180 B.E.	314.222			* 228.1				1				
314.416	314.430	75.0										REMOVAL INCLUDES DOUBLE RAIL IN MEDIAN
319.635	319.682 B.E.	250.0										REMOVAL INCLUDES OTS, BAS
319.635	319.682 B.E.			* 178.1		1				1		
321.839	321.894 B.E.	312.5										REMOVAL INCLUDES OTS, BAS
321.839	321.894 B.E.			* 228.1		1				1		
324.572	324.619 B.E.	250.0										REMOVAL INCLUDES OTS, BAS
324.572	324.619 B.E.			* 178.1		1				1		
313.392	313.477 B.E.		450.0									REMOVAL INCLUDES OTS, BAS
313.392	313.477 B.E.				* 378.1		1				1	
313.498 B.E.	313.582		450.0									REMOVAL INCLUDES ONE-WAY DTS
313.498 B.E.	313.582				* 440.6				1			
313.542	314.095 B.E.		2,925.0									REMOVAL INCLUDES OTS, BAS
313.542	314.095 B.E.				* 2853.1		1				1	
314.180 B.E.	315.019		4,425.0									REMOVAL INCLUDES ONE-WAY DTS
314.180 B.E.	315.019				* 4415.6				1			
315.459	315.569		575.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
315.459	315.569				512.5		1		1			
315.778	315.900		650.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
315.778	315.900				587.5		1		1			
316.065	316.263		1,050.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
316.065	316.263				987.5		1		1			
316.654	316.789		687.5									REMOVAL INCLUDES OTS, ONE-WAY DTS
316.654	316.789				625.0		1		1			
316.694	316.789 B.E.		500.0									REMOVAL INCLUDES OTS, BAS
316.694	316.789 B.E.				* 428.1		1				1	
316.813 B.E.	316.969		825.0									REMOVAL INCLUDES ONE-WAY DTS
316.813 B.E.	316.969				* 815.6				1			
316.885	317.281		2,150.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
316.885	317.281				2,087.5		1		1			
317.349	317.780		2,275.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
317.349	317.780				2,212.5		1		1			
317.871	318.462		3,125.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
317.871	318.462				3,062.5		1		1			
319.343	319.598		1,350.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
319.343	319.598				1,287.5		1		1			
319.635	319.682 B.E.		250.0									REMOVAL INCLUDES OTS, BAS
319.635	319.682 B.E.				* 178.1		1				1	
319.706 B.E.	319.796		475.0									REMOVAL INCLUDES ONE-WAY DTS
319.706 B.E.	319.796				* 465.6				1			
321.383	321.894 B.E.		2,700.0									REMOVAL INCLUDES OTS, BAS
321.383	321.894 B.E.				* 2628.1		1				1	
321.919 B.E.	321.964		237.5									REMOVAL INCLUDES ONE-WAY DTS
321.919 B.E.	321.964				* 228.1				1			
322.762	323.462		3,700.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
322.762	323.462				3,637.5		1		1			
323.966	324.075		575.0									REMOVAL INCLUDES OTS, ONE-WAY DTS
323.966	324.075				512.5		1		1			
324.177	324.412		1,237.5									REMOVAL INCLUDES OTS, ONE-WAY DTS
324.177	324.412				1,175.0		1		1			
324.527	324.619 B.E.		487.5									REMOVAL INCLUDES OTS, BAS
324.527	324.619 B.E.				* 415.6		1				1	
324.642 B.E.	324.676		175.0									REMOVAL INCLUDES ONE-WAY DTS
324.642 B.E.	324.676				* 165.6				1			
EASTBOUND SUBTOTAL		2,312.5	31,275.0	1,871.7	30,099.7	5	17	2	17	5	6	
SUBTOTAL		19,200.0	38,287.5	17,958.9	36,599.5	16	24	13	22	11	11	
TOTAL		57,487.5		54,558.4		40		35		22		

* INCLUDES MGS TO METAL GUARDRAIL TRANSITION

CURB

REFERENCS POST		linear feet				REMARKS
		REMOVE CURB		CONCRETE CURB		
				4 in		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	
WESTBOUND						
321.900	321.919	100.0		100.0		
322.000	322.076		400.0		400.0	
EASTBOUND						
316.900	316.928		150.0		150.0	
319.800	319.857		300.0		300.0	
321.900	321.957		300.0		300.0	
SUBTOTAL		100.0	1,150.0	100.0	1,150.0	
TOTAL		1,250.0		1,250.0		

IMPACT ATTENUATOR

REFERENCE POST		each		REMARKS
		REMOVE IMPACT ATTEN-UATOR	IMPACT ATTEN-UATOR	
FROM	TO			
314.430	~		1	MEDIAN
318.600	~	1	1	MEDIAN
TOTAL		1	2	

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FIELD INSTALLATION

1. INSTALL A 3/8" THICK x 1 1/4" WIDE x 6' LONG SNOWPOLE EXTENSION IN THE METAL U-CHANNEL AS SHOWN.
   FASTEN THE EXTENSION WITH ONE 1/4" x 3" BOLT AND ONE 1/4" x 1" BOLT 12" BELOW THE TOP OF THE METAL U-CHANNEL AS SHOWN.

2. ATTACH TWO REFLECTORS TO THE TOP OF THE EXTENSION AS SHOWN.
   ATTACH TWO REFLECTORS TO THE METAL U-CHANNEL AS SHOWN.

A 1/4" x 1" BOLT - 2 REQUIRED

B 1/4" x 3" BOLT - 1 REQUIRED

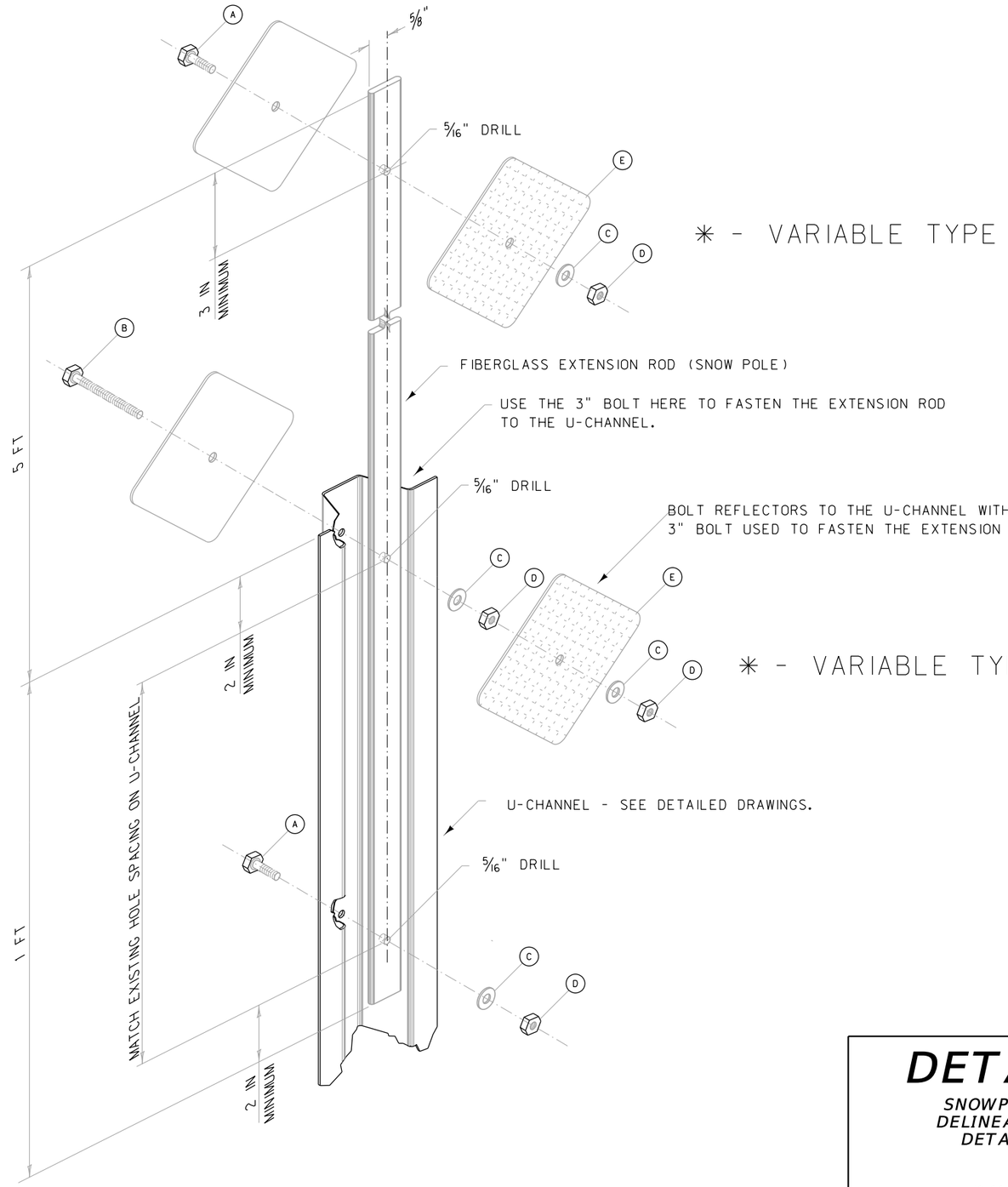
C 5/16" FLAT WASHER - 4 REQUIRED

D 1/4" HEX NUT - 4 REQUIRED

E REFLECTOR - 2 OR 4 REQUIRED

* = MATCH SNOWPOLE DELINEATOR WITH ROADWAY DELINEATOR. REFER TO DETAIL DRAWING 619-34/36 FOR TYPE

DETAIL SHOWN IS BID AS ONE UNIT (INCLUDES SNOWPOLE, STEEL U-POST & DELINEATORS)



DETAIL

SNOWPOLE DELINEATOR DETAIL

NO SCALE

3	MDT MONTANA DEPARTMENT OF TRANSPORTATION	C:\DGN\9247000rddet001.dgn	DESIGNED BY	Nathan Styren	7/10/2020	SIGNING PLANS	BOZEMAN HILL - GUARDRAIL	IM 90-6(149)313
2		12/15/2020	REVIEWED BY			GALLATIN AND PARK COUNTIES	UPN 9247000	5
		12:07:58 PM CPS - U316	CHECKED BY					