

MONTANA DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT STPS 482-1(10)2

BRIDGE REPLACEMENT, GRADE, GRAVEL & ASPHALT

S-482 REPAIR - S OF LIBBY

LINCOLN COUNTY

LENGTH 0.1 MILES

R. 31 W.

LINCOLN COUNTY

S-482

T. 30 N.

T. 29 N.

STA. 42+76.57 ON S-325(1)=
STA. 102+76.18
BEGIN STPS 482-1(10)2

STA. 105+44.75
RP 2+0.573
24.0' X 121.5' BR. IN PL.
NBI # S00482002+06021
REMOVE
LIBBY CREEK
THIS CONTRACT

STA. 106+27.61
RP 2+0.589
NEW 28.0' X 302.9' BRIDGE
MDT STR. ID 06853
LIBBY CREEK
THIS CONTRACT


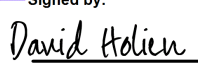
STA. 109+79.04
END STPS 482-1(10)2 =
STA. 35+73.71 ON S-325(1)

RP 2.5 TO RP 2.7

THIS CONTRACT

TO LIBBY

TO LIBBY
AIRPORT

MONTANA DEPARTMENT OF TRANSPORTATION	
APPROVED BY: HIGHWAYS ENGINEER	
Signed by:  4FA8874BB4E5415...	6/25/2026 DATE

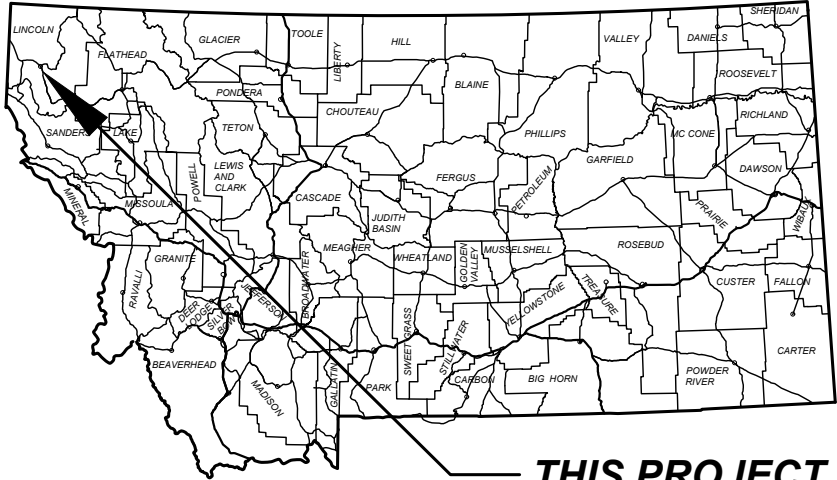
PROJECT DESIGN DATA

PRESENT	2025	A.A.D.T. = 1,040
LETTING	2026	A.A.D.T. = 1,050
DESIGN	2046	A.A.D.T. = 1,280
		D.H.V. = 180
		TRUCKS = 3.0%
		V. = 50 MPH
		18 KIP ESAL'S = 17 DAILY
		ANNUAL GROWTH RATE = 1.0%

ASSOCIATED PROJECT
AGREEMENT NUMBERS

R/W	STPS 482-1(12)2
I. C.	STPS 482-1(11)2
P. E.	STPS 482-1(9)2

SURFACING SOURCES -
CONTRACTOR FURNISHED



THIS PROJECT

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ROAD PLANS

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BRIDGE PLANS

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STANDARD DRAWINGS	4 SHEETS
AS-BUILT DRAWINGS	1 SHEET

CROSS SECTIONS

MAINLINE	1-11
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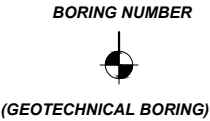
BASIS OF PLAN QUANTITIES

(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 BINDER - GRADE S - 1/2" AGG.	= 5.8% OF PL.MIX BIT.SURF.
ASPHALT BINDER - GRADE S - 3/8" AGG.	= 6.2% OF PL.MIX BIT.SURF.
BITUMINOUS MATERIAL	= 8.5 LBS. PER GAL.
EMULSIFIED ASPHALT - TACK (ALL OTHER SURFACES)	= 0.05 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - FOG SEAL (S & C)	= 0.075 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - FOG SEAL (RUMBLE STRIPS)	= 0.10 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT SEAL	= 0.42 GAL. PER SQ.YARD
COVER	= 25 LBS. PER SQ.YARD

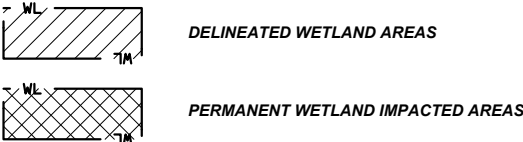
SOILS INFORMATION

SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION. THE LOCATION OF GEOTECHNICAL BORINGS IS SHOWN ON THE PLAN VIEW WITH THE FOLLOWING SYMBOL:



WETLANDS

WETLANDS EXIST ADJACENT TO THE ROADWAY AND MAY EXIST BEYOND THE PROJECT LIMITS. WETLAND AREAS AND PERMANENT WETLAND IMPACT AREAS WITHIN THE PROJECT LIMITS HAVE BEEN DELINEATED AND ARE SHOWN ON THE PLANS. ANY ACTION IMPACTING WETLAND AREAS OUTSIDE OF THE PERMANENT IMPACT AREAS SHOWN IS THE RESPONSIBILITY OF THE CONTRACTOR.



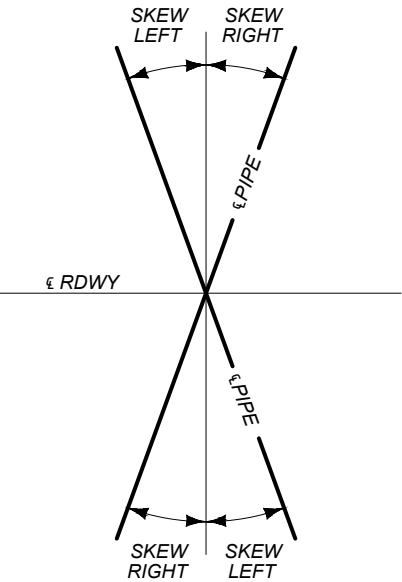
WETLAND SITE					
WETLAND DESIGNATION	STATION		WETLAND AREA (acres)		REMARKS
			DELINEATED AREA	PERMANENT IMPACTED AREA	
	FROM	TO			
WL-1 #	107+38	110+41	0.214	0.023	# RT.
TOTAL			0.21	0.02	

AREA OF EXISTING WETLAND MAY EXTEND BEYOND PLAN LIMITS.

APPROACHES (FOR INFORMATION ONLY)													
STATION	TYPE	linear feet				EXISTING SURFACING	feet		PROPOSED SURFACE	tons	cu. yards	gallons	REMARKS
		WIDTH	RADIUS #		LENGTH		PMS THK.	CAC THK.		COMMERCIAL PLANT MIX BIT. SURF. MISC.	CRUSHED AGG. COURSE	EMULSIFIED ASPHALT - TACK COAT	
			LEFT	RIGHT									
104+43	FARM FIELD	20	5, 16, 34	25, 50	79.1	GRAVEL	0.2	0.6	ASPHALT FOR 25'; GRAVEL TO END	15	31	6	RT.
SUBTOTAL	FARM FIELD									15	31	6	

ALL RADII MEASURED TO FRONT OF GUTTER OR EDGE OF SHOULDER
M.O.C. - MEASURED ON CAD

SKEW DIAGRAM



UTILITIES

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

CLEARING AND GRUBBING

CLEAR AND GRUB TO CONSTRUCTION LIMITS. INCLUDE THE COST OF CLEARING AND GRUBBING IN THE UNIT PRICE BID FOR CLEARING AND GRUBBING

CENTERLINE COORDINATE TABLE - S-482_MAINLINE_RND				
STATION	DESCRIPTION	NORTHING OR Y COORDINATE	EASTING OR X COORDINATE	REMARKS
100+00.00	BOA	1,538,071.637	508,831.573	BEG. ALIGNMENT
102+76.18	POT	1,537,891.633	509,041.034	BEG. PROJECT
109+79.04	POT	1,537,433.534	509,574.098	END PROJECT
115+00.00	EOA	1,537,093.991	509,969.206	END ALIGNMENT

PROFILE NAME: S-482_MAINLINE

SHEET NO.

2

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PROJECT NAME
S-482 REPAIR - S OF LIBBY

COUNTY
LINCOLN

PROJECT ID
STPS 482-1(10)2

UPN
10760000

DESIGNED BY
L. HARK

05/2026

REVIEWED BY
FIRST INITIAL LAST NAME
MM/YYYY

CHECKED BY
FIRST INITIAL LAST NAME
MM/YYYY

10760000RDTTL001.DWG



ROAD PLANS

6/9/2026 11:33 AM

CONTROL DIAGRAM

SCALE: N/A

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 0.99954052

BEARING SOURCE
GRID -- MONTANA COORDINATE SYSTEM NAD 83-2011

LEVEL DATUM SOURCE
NAVD88 (GNSS DERIVED ELEVATIONS USING GEOID18 AND HOLDING BMS B10760)




CONTROL ABSTRACT

POINT NAME/NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
A10760	1,537,551.065	509,403.620	2,370.03
B10760	1,537,744.288	509,172.490	2,361.99
C10760	1,538,474.985	508,398.621	2,353.81
D10760	1,536,600.790	510,513.200	2,453.50

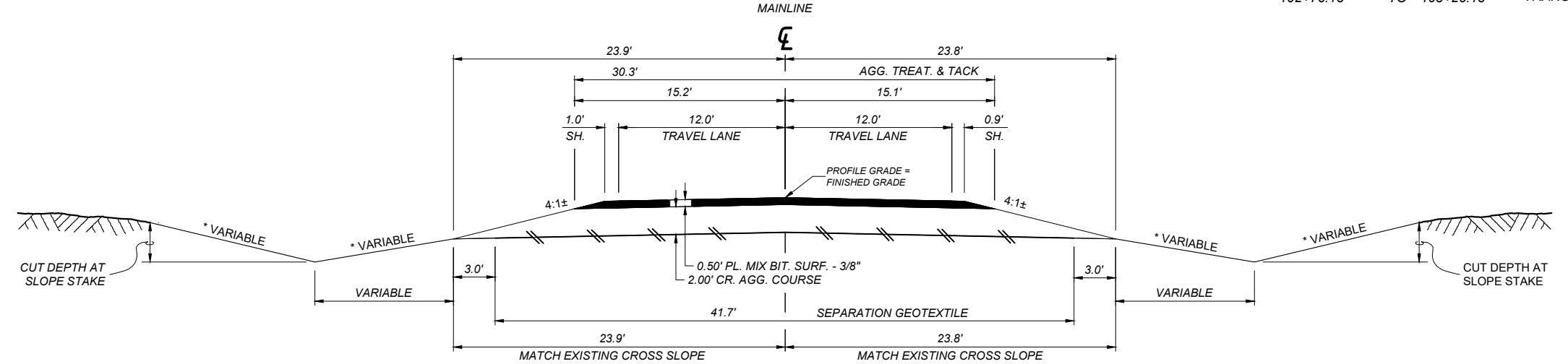
SHEET NO.
3

CONTROL DIAGRAM

 MONTANA Department of Transportation	DESIGNED BY L. HARK		PROJECT NAME S-482 REPAIR - S OF LIBBY	
	REVIEWED BY FIRST INITIAL LAST NAME MM/YYYY		COUNTY LINCOLN	
	CHECKED BY FIRST INITIAL LAST NAME MM/YYYY		PROJECT ID STPS 482-1(10)2	
	10760000RDBS001.DWG		UPN 10760000	
ROAD PLANS				
6/9/2026 11:33 AM				

TYPICAL SECTION NO. 1
ALTERNATIVE A1

102+76.18 ONLY
102+76.18 TO 103+26.18 TRANS. TYP. NO. 1 (A1) TO TYP. NO. 2 (A1)



QUANTITIES					
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL	SEPARATION GEOTEXTILE ‡
	COMM. PLANT MIX 3/8"	CR. AGG. COURSE ‡		EMULSIFIED ASPHALT TACK*, ‡	
AREA square feet	14.05	78.00	square yards PER STATION	1011	463
cubic yards PER STATION	52.0	288.9	tons PER STATION	51	
tons PER STATION	100.2		gals. PER STATION		
square yards PER STATION					

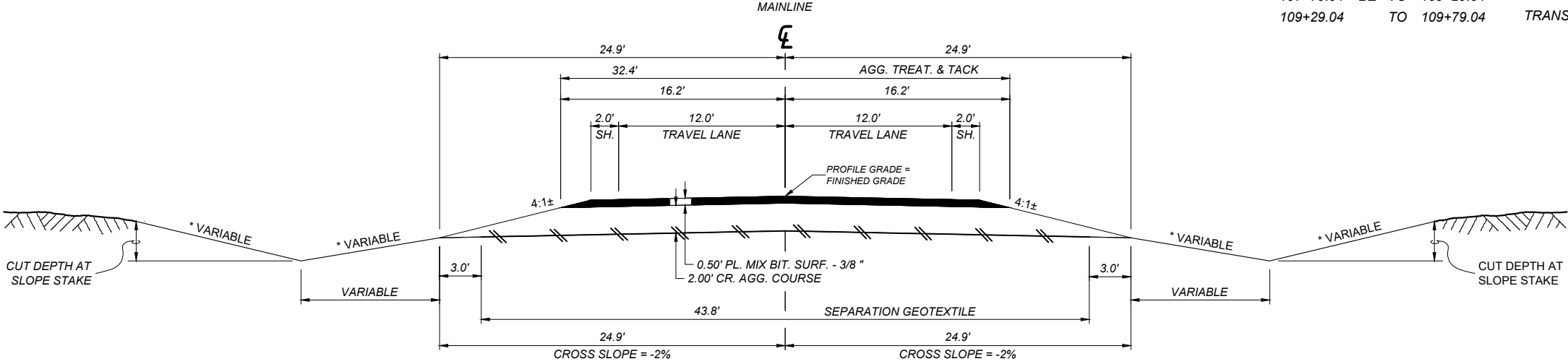
* BASED ON 3 APPLICATIONS

‡ CR. AGG. COURSE, SEPARATION GEOTEXTILE, EMULSIFIED ASPHALT TACK ARE BASE BID ITEMS. THE QUANTITIES DO NOT CHANGE BETWEEN ALTERNATE A1 AND ALTERNATE A2.

*SEE CROSS SECTIONS FOR SLOPES

TYPICAL SECTION NO. 2
ALTERNATIVE A1

103+26.18 TO 104+76.18 BE
107+79.04 BE TO 109+29.04
109+29.04 TO 109+79.04 TRANS. TYP. NO. 2 (A1) TO TYP. NO. 3 (A1)



QUANTITIES					
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL	SEPARATION GEOTEXTILE ‡
	COMM. PLANT MIX 3/8"	CR. AGG. COURSE ‡		EMULSIFIED ASPHALT TACK*, ‡	
AREA square feet	15.10	82.20	square yards PER STATION	1080	487
cubic yards PER STATION	55.9	304.4	tons PER STATION	54	
tons PER STATION	107.7		gals. PER STATION		
square yards PER STATION					

* BASED ON 3 APPLICATIONS

‡ CR. AGG. COURSE, SEPARATION GEOTEXTILE, EMULSIFIED ASPHALT TACK ARE BASE BID ITEMS. THE QUANTITIES DO NOT CHANGE BETWEEN ALTERNATE A1 AND ALTERNATE A2.

SHEET NO.

4

TYPICAL SECTIONS

PROJECT NAME S-482 REPAIR - S OF LIBBY

COUNTY LINCOLN

PROJECT ID STPS 482-1(10)2

UPN 10760000

DESIGNED BY L. HARK

REVIEWED BY 05/2026

FIRST INITIAL LAST NAME MM/YYYY

CHECKED BY MM/YYYY

FIRST INITIAL LAST NAME MM/YYYY 10760000RDTYP001.DWG



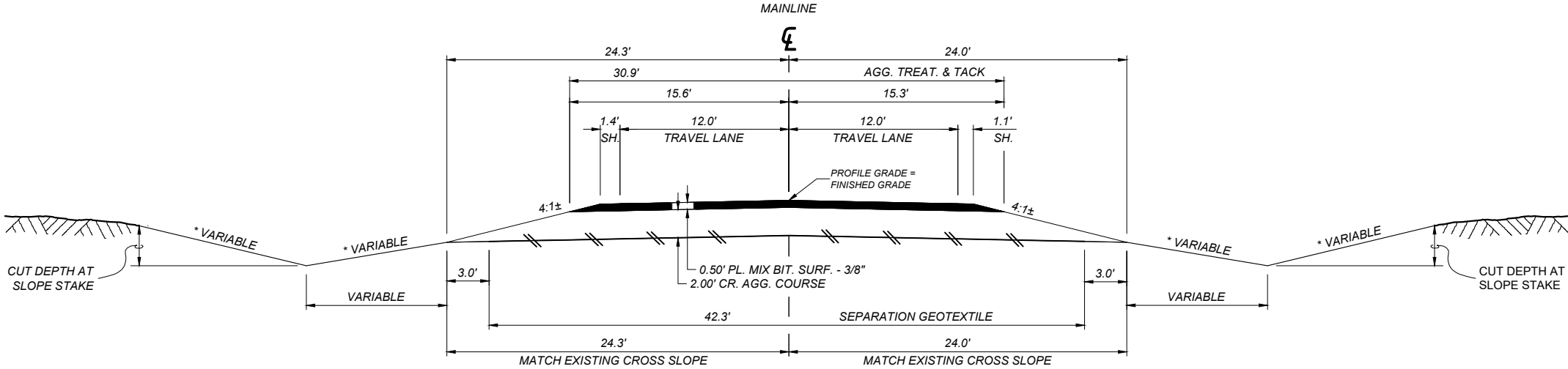
ROAD PLANS

6/9/2026 11:33 AM

TYPICAL SECTION NO. 3
ALTERNATIVE A1

109+79.04

ONLY



QUANTITIES					
UNIT	AGGREGATE		UNIT	BITUMINOUS MATERIAL	SEPARATION GEOTEXTILE
	COMM. PLANT MIX 3/8"	CR. AGG. COURSE ‡		EMULSIFIED ASPHALT TACK* ‡	‡
AREA square feet	14.35	79.20	square yards PER STATION	1030	470
cubic yards PER STATION	53.1	293.3	tons PER STATION	52	
tons PER STATION	102.4		gals. PER STATION		
square yards PER STATION					

* BASED ON 3 APPLICATIONS

‡ CR. AGG. COURSE, SEPARATION GEOTEXTILE, EMULSIFIED ASPHALT TACK ARE BASE BID ITEMS. THE QUANTITIES DO NOT CHANGE BETWEEN ALTERNATE A1 AND ALTERNATE A2.

*SEE CROSS SECTIONS FOR SLOPES

TYPICAL SECTION NO. 1
ALTERNATIVE A2

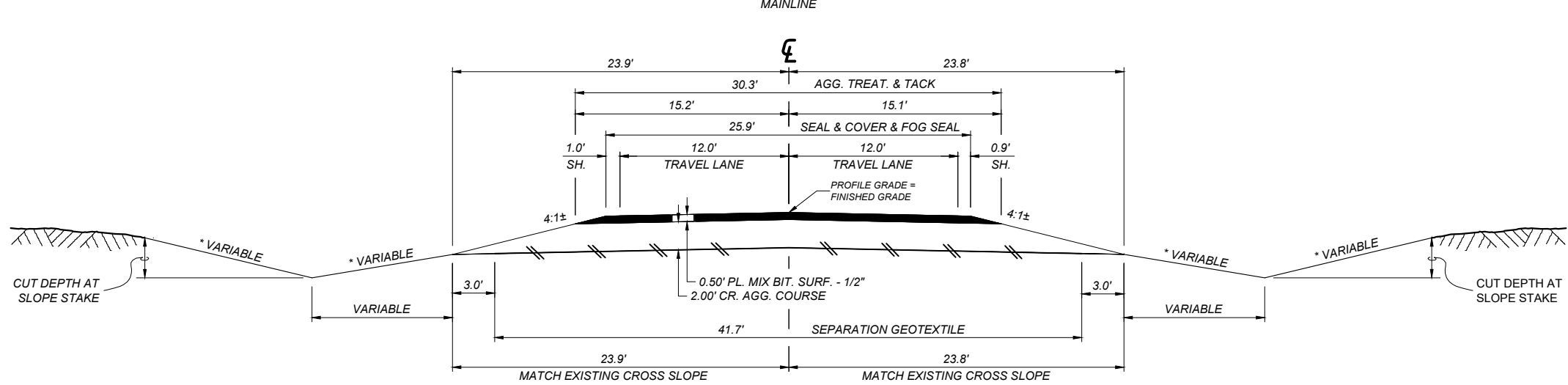
102+76.18

ONLY

102+76.18

TO 103+26.18

TRANS. TYP. NO. 1 (A2) TO TYP. NO. 2 (A2)



QUANTITIES								
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL			SEPARATION GEOTEXTILE
	COVER	COMM. PLANT MIX 1/2"	CR. AGG. COURSE ‡		EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK* ‡	EMULSIFIED ASPHALT FOG SEAL	‡
AREA square feet		14.05	78.00	square yards PER STATION	288	1011	288	463
cubic yards PER STATION		52.0	288.9	tons PER STATION	0.51	51	22	
tons PER STATION		100.2		gals. PER STATION				
square yards PER STATION	288							

* BASED ON 3 APPLICATIONS

‡ CR. AGG. COURSE, SEPARATION GEOTEXTILE, EMULSIFIED ASPHALT TACK ARE BASE BID ITEMS. THE QUANTITIES DO NOT CHANGE BETWEEN ALTERNATE A1 AND ALTERNATE A2.

PROJECT NAME S-482 REPAIR - S OF LIBBY

COUNTY LINCOLN

PROJECT ID STPS 482-1(10)2

UPN 10760000

DESIGNED BY L. HARK

05/2026

REVIEWED BY

FIRST INITIAL LAST NAME MM/YYYY

CHECKED BY

FIRST INITIAL LAST NAME MM/YYYY

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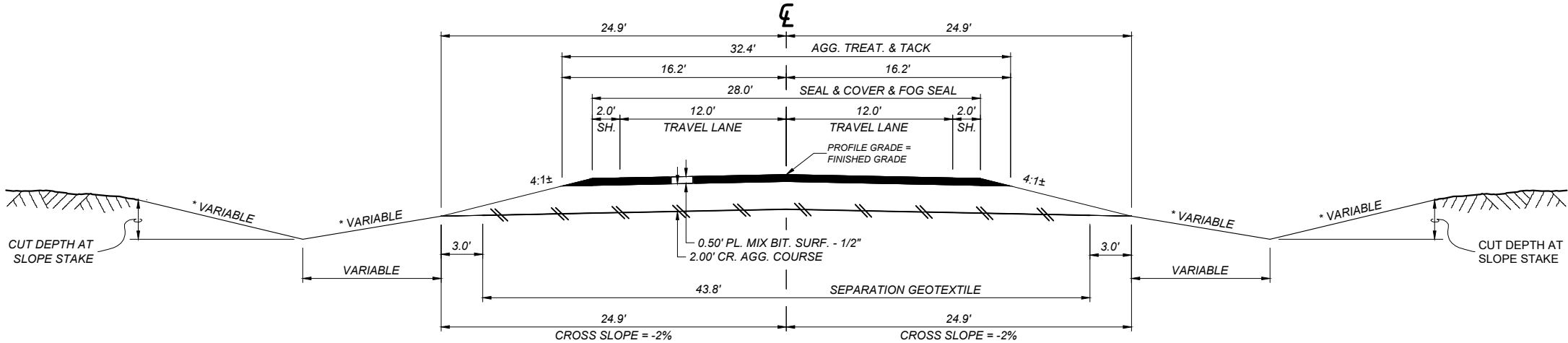
ROAD PLANS

6/9/2026 11:33 AM

TYPICAL SECTION NO. 2
ALTERNATIVE A2

MAINLINE

103+26.18 TO 104+76.18 BE
107+79.04 BE TO 109+29.04
109+29.04 TO 109+79.04 TRANS. TYP. NO. 2 (A2) TO TYP. NO. 3 (A2)



QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		
	COVER	COMM. PLANT MIX 1/2"	CR. AGG. COURSE ‡		EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK* ‡	SEPARATION GEOTEXTILE ‡
AREA square feet		15.10	82.20	square yards PER STATION	311	1080	487
cubic yards PER STATION		55.9	304.4	tons PER STATION	0.56	54	
tons PER STATION		107.7		gals. PER STATION		23	
square yards PER STATION	311						

* BASED ON 3 APPLICATIONS

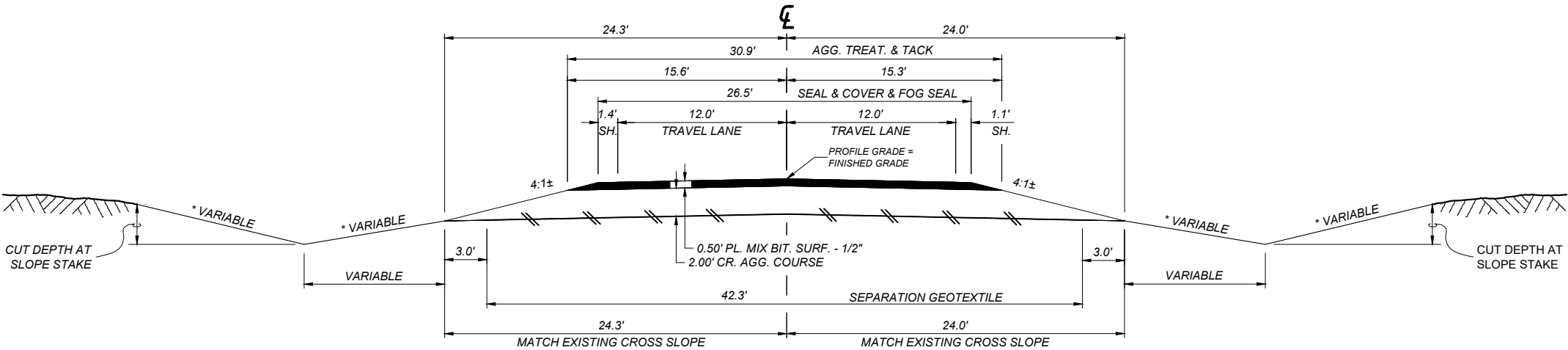
‡ CR. AGG. COURSE, SEPARATION GEOTEXTILE, EMULSIFIED ASPHALT TACK ARE BASE BID ITEMS. THE QUANTITIES DO NOT CHANGE BETWEEN ALTERNATE A1 AND ALTERNATE A2.

*SEE CROSS SECTIONS FOR SLOPES

TYPICAL SECTION NO. 3
ALTERNATIVE A2

MAINLINE

109+79.04 ONLY



QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		
	COVER	COMM. PLANT MIX 1/2"	CR. AGG. COURSE ‡		EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK* ‡	SEPARATION GEOTEXTILE ‡
AREA square feet		14.35	79.20	square yards PER STATION	294	1030	470
cubic yards PER STATION		53.1	293.3	tons PER STATION	0.52	52	
tons PER STATION		102.4		gals. PER STATION		22	
square yards PER STATION	294						

* BASED ON 3 APPLICATIONS

‡ CR. AGG. COURSE, SEPARATION GEOTEXTILE, EMULSIFIED ASPHALT TACK ARE BASE BID ITEMS. THE QUANTITIES DO NOT CHANGE BETWEEN ALTERNATE A1 AND ALTERNATE A2.

SHEET NO.

6

TYPICAL SECTIONS

PROJECT NAME S-482 REPAIR - S OF LIBBY

COUNTY LINCOLN

PROJECT ID STPS 482-1(10)2

UPN 10760000

DESIGNED BY L. HARK

05/2026

REVIEWED BY

FIRST INITIAL LAST NAME MM/YYYY

CHECKED BY

FIRST INITIAL LAST NAME MM/YYYY

10760000RDTYP001.DWG



ROAD PLANS

6/9/2026 11:33 AM

SUMMARY - BASE BID ITEMS

SURFACING											
STATION		linear feet				FOR	AGGREGATE		BITUMINOUS MATERIAL	sq. yards	REMARKS
		GROSS	NET	+	-		tons	cu. yards	gals.		
							COMMERCIAL PLANT MIX - MISC.	CRUSHED AGG. COURSE	EMULSIFIED ASPHALT - TACK COAT	SEPARATION GEOTEXTILE	
										HIGH SURV.	
FROM	TO										
102+76.18	103+26.18	50.00	50.00				*	148	26	238	TRANS. TYP. NO. 1 TO TYP. NO. 2
103+26.18											
104+76.18 B.E.	107+79.04 B.E.				302.86	BRIDGE					
	109+29.04	602.86	300.00				*	913	162	1,461	TYP. NO. 2
109+29.04	109+79.04	50.00	50.00				*	149	27	239	TRANS. TYP. NO. 2 TO TYP. NO. 3
						ADDITIONAL SURFACING					
							147	191	73	~	
TOTAL		702.86	400.00	~	302.86		147	1,401	288	1,938	

*SEE ALTERNATIVE SURFACING FRAMES

ADDITIONAL SURFACING (INCLUDED IN SURFACING FRAME)										
STATION		linear feet				FOR	AGGREGATE		BITUMINOUS MATERIAL	REMARKS
		GROSS	NET	+	-		tons	cu. yards	gals.	
							COMMERCIAL PLANT MIX - MISC.	CRUSHED AGG. COURSE	EMULSIFIED ASPHALT - TACK COAT	
FROM	TO									
102+76.18										
104+76.18 B.E.	107+79.04 B.E.				302.86					
	109+79.04	702.86	400.00			TEMPORARY DRIVING SURFACE *	123	160	64	
						1 - FARM FIELD APPR. RT.	15	31	6	
104+26.83	104+74.85	48.02	48.02			EMBANKMENT PROTECTOR WDENING/PAVING LT.	3		1	
108+16.83	108+57.67	40.84	40.84			EMBANKMENT PROTECTOR WDENING/PAVING LT. & RT.	6		2	
SUBTOTAL		~	~	~	~		147	191	73	

* TO TEMPORARILY GRAVEL AND THEN PAVE THE DRIVING SURFACE OVER WINTER SHUTDOWN IF PERMANENT PAVING CANNOT BE COMPLETED PRIOR TO THE COMPLETION DATE. SEE SPECIAL PROVISION.

GUARDRAIL												
STATION		linear feet				each						REMARKS
		REMOVE GUARDRAIL *		MGS GUARDRAIL		MASH W-BEAM TERMINAL SECTION		MASH THRIE-BEAM BRIDGE APPROACH SECTION **		IMPACT ATTENUATOR ##	REMOVE IMPACT ATTENUATOR *	
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	RIGHT	RIGHT	
NEW RAIL												
103+90.48	104+74.85 B.R.			12.5		1		1				
104+61.85	104+74.85 B.R.									1		
107+80.38 B.R.	109+27.26			75.0		1		1				
107+80.38 B.R.	108+64.75				12.5		1		1			
REMOVE RAIL												
104+03.48	104+82.27	78.8										
104+71.70	104+82.27										1	
106+05.58	107+68.08	162.5										#
SUBTOTAL		241.3	~	87.5	12.5	2	1	2	1	1	1	
TOTAL		241.3		100.0		3		3		1	1	

*SEE SPECIAL PROVISION FOR GUARDRAIL AND IMPACT ATTENUATOR SALVAGE REQUIREMENTS.

GUARDRAIL IS SUSPENDED IN THE AIR DANGLING BETWEEN THE EXISTING BRIDGE AND THE ROADWAY EMBANKMENT.

B.R. = BRIDGE RAIL

**** SEE THRIE-BEAM BRIDGE APPROACH SECTION CONNECTOR PLATE DETAIL.**

SEE IMPACT ATTENUATOR SPECIAL PROVISION.

SHEET NO.

7

SUMMARY

PROJECT NAME
S-482 REPAIR - S OF LIBBY

LINCOLN

STPS 482-1(10)2

10760000

DESIGNED BY

L. HARK	05/2026
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REVIEWED BY

<div style="display: flex; justify-content: space-between;"> <div> <p>1. CHARTERED IN THE LAST TWELVE MONTHS</p> </div> <div> <p>2. CHECKED BY</p> </div> </div>
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10760000RDSUM001.DWG



MONTANA
Department of Transportation

ROAD PLANS

1/9/2026 11:34 AM

SUMMARY - BASE BID ITEMS

REMOVE STRUCTURE		
STATION	<i>lump sum</i>	REMARKS
	REMOVE STRUCTURE	
105+45	1	24.0' X 121.5' BR. IN PL.
TOTAL	1	

EMBANKMENT PROTECTORS								
STATION		linear feet				sq. yards	cu. yards	REMARKS
		EMBANKMENT PROTECTOR		CONCRETE CURB 4"		GEOTEXTILE	ANCILLARY ARMOR	
						PERM. EROS. CNTRL.		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	HIGH SURV. CLASS B	CLASS 1	
104+30		34				15	3	
108+20		48	44			30	6	
104+26.83	104+74.85			48				
107+80.38	108+57.67			78				
107+80.38	108+57.67				78			
SUBTOTAL		82	44	126	78	45	9	
TOTAL		126		204		45	9	

PERMANENT EROSION CONTROL *						
STATION		<i>cu. yards</i>		<i>sq. yards</i>		REMARKS
		ANCILLARY ARMOR	RANDOM RIPRAP	EROSION CONTROL BLANKET	GEOTEXTILE	
				PERM. EROS. CNTRL.	RIPRAP REVEGE-TATION	
FROM	TO	CL. 1	CL. 2	HIGH PERFORMANCE	HIGH SURV. CLASS B	
104+78	105+14		384		521	241
107+24	108+05		721		992	
107+40		2.0			36	
104+09	104+49			167		
TOTAL		2.0	1,105	167	1,549	241

* SEE DETAILS

BRIDGE END BACKFILL #				
STATION		<i>cu. yards</i>	<i>sq. yards</i>	<i>linear feet</i>
		BRIDGE END BACKFILL TYPE 1	SEPARATION GEOTEXTILE - HIGH SURVIVABILITY	CORRUGATED POLYETHYLENE PIPE 8 IN **
FROM	TO			
104+27.83	104+76.18 B.E.	337	339	
104+52.75	104+73.18			78*
107+79.04 B.E.	108+46.60	639	590	
107+82.04				70
TOTAL		976	929	148

SEE SPECIAL PROVISION AND DETAIL.
* PIPE INCLUDES ONE 45° BEND AT STATION 104+73
** WITH RODENT GUARD ON OUTLETS

GRADING			
STATION	<i>cu. yards</i>		
	UNCL. EXC.	EXCESS EXC.	EMB.+
102+76.18			
109+79.04	3,454		1,985
TOTAL	3,454	# 1,469	# 1,985

FOR INFORMATION ONLY

ADDITIONAL GRADING					
STATION		cu. yards			REMARKS
		INCL. IN ROADWAY		ADD. UNCL. EXC.	
		UNCL. EXC.	EMB.+		
FROM	TO				
102+76.18	109+79.04		300		TOPSOIL REPLACEMENT =20%
103+51.86	104+74.85		30		GUARDRAIL EMB. WDENING LT.
104+26.83	104+74.85		5		EMBANKMENT PROTECTOR WDENING/GRADING LT.
104+27.83	104+76.18 B.E.	340			BRIDGE END BACKFILL - BENT # 1
104+43		15	145		FARM FIELD APP. RT.
104+61.85	104+74.85		10		IMPACT ATTENUATOR EMB. WDENING RT.
104+78	105+14		560		RIPRAP NORTHWEST EMB. REPLACE
107+40	108+05		770		RIPRAP SOUTH EMB. REPLACEMENT
107+53	108+05	650	100		BRIDGE ABUTMENT SLOPE UNCL. EXC. & EMB. REPLACE
107+79.04 B.E.	108+46.60	640			BRIDGE END BACKFILL - BENT # 4
107+80.38	109+65.89		35		GUARDRAIL EMB. WDENING LT.
107+80.38	109+03.37		20		GUARDRAIL EMB. WDENING RT.
108+16.83	108+57.67		10		EMBANKMENT PROTECTOR WDENING/GRADING LT. & RT.
TOTAL		~	~	~	

SHEET NO.
8

SUMMARY

PROJECT NAME
S-482 REPAIR - S OF LIBBY

COUNTY
LINCOLN

PROJECT ID
STPS 482-1(10)2

UPN
10760000

DESIGNED BY
L. HARK

05/2026

REVIEWED BY
FIRST INITIAL LAST NAME
MM/YYYY

CHECKED BY
FIRST INITIAL LAST NAME
MM/YYYY

10760000RDSUM001.DWG

MONTANA
Department of Transportation

ROAD PLANS

6/9/2026 11:34 AM

SUMMARY - BASE BID ITEMS

SHEET NO.

9

SUMMARY

PAVEMENT MARKINGS				
ITEM	UNIT	INTERIM APPLICA-TION #	FINAL APPLICA-TION	TOTAL
STRIPING - WHITE EPOXY	gallon		6	6
STRIPING - YELLOW EPOXY	gallon		6	6
TEMPORARY STRIPING	linear feet			1,600

BASED ON 1 APPLICATION. INTERIM PAINT WILL BE REQUIRED IF THE CHIP SEAL ISN'T COMPLETED UNTIL 2027.

REVEGETATION							
STATION		lump sum	cu. yards	acres		sq. yds	REMARKS
		REVEGE-TATION	TOPSOIL SALVAGING & PLACING	SEED	FERTILIZER	MULCH	
FROM	TO						
102+76	109+79	1.0	247	0.4	0.4	0.4	416
TOTAL		1	# 247	# 0.4	# 0.4	# 0.4	# 416

FOR INFORMATION ONLY

RUMBLE STRIPS				
STATION		miles	gals	REMARKS
		SINUSOIDAL RUMBLE STRIPS	EMULSIFIED ASPHALT FOG SEAL #	
FROM	TO	CENTERLINE		
102+76.18	104+76.18 B.E.	0.04	4	
107+79.04 B.E.	109+79.04	0.04	4	
SUBTOTAL		0.08	8	
TOTAL		0.1	~	

FOR INFORMATION ONLY, INCLUDE IN THE COST OF RUMBLE STRIPS

CLEARING & GRUBBING			
STATION		LUMP SUM	REMARKS
		CLEARING AND GRUBBING	
FROM	TO		
102+76	109+79	1.0	
TOTAL		1.0	

BIO-ENGINEERED BANK *										
STATION	lump sum	cu. yards			square yards		linear feet	acres	each	REMARKS
	BIO-ENGINEERED BANK	TOPSOIL	FLOODPLAIN BACKFILL	FILTER MATERIAL NO. 2	COIR NETTING	EROSION CONTROL BLANKET - LONG TERM	20" COIR LOGS	SEEDING	WILLOW CUTTINGS	
107+19	1	118	25	1,205	487	1,139	149	0.13	1,489	SOUTHEAST BANK
TOTAL	1	# 118	# 25	# 1,205	# 487	# 1,139	# 149	# 0.13	# 1,489	

* THE BIO-ENGINEERED BANK LS PAY ITEM INCLUDES THE FLOODPLAIN BENCH QUANTITIES - SEE DETAIL AND SPECIAL PROVISION
FOR INFORMATION ONLY

CULVERTS		
STATION	CULVERT IN PL. in x ft	REMARKS
102+70	24" X 109' CMP DR. IN PL.	DO NOT DISTURB
TOTAL		~

PROJECT NAME S-482 REPAIR - S OF LIBBY

COUNTY

LINCOLN

PROJECT ID

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MM/YYYY

CHECKED BY

MM/YYYY

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ROAD PLANS

6/9/2026 11:34 AM

SUMMARY - ALTERNATIVES A1 & A2

SURFACING - ALTERNATIVE A1								
STATION		linear feet				FOR	AGGREGATE	REMARKS
		GROSS	NET	+	-		tons	
							COMMERCIAL PLANT MIX - 3/8" PG 58H-34	
FROM	TO							
102+76.18	103+26.18	50.00	50.00				52	TRANS. TYP. NO. 1 (A1) TO TYP. NO. 2 (A1)
103+26.18								
104+76.18 B.E.	107+79.04 B.E.				302.86	BRIDGE		
	109+29.04	602.86	300.00				323	TYP. NO. 2 (A1)
109+29.04	109+79.04	50.00	50.00				53	TRANS. TYP. NO. 2 (A1) TO TYP. NO. 3 (A1)
TOTAL		702.86	400.00	~	302.86		428	

SURFACING - ALTERNATE A2											
STATION		linearfeet				FOR	AGGREGATE		BITUMINOUS MATERIAL		REMARKS
		GROSS	NET	+	-		sq. yards	tons	tons	gals.	
							COVER TYPE 1	COMMERCIAL PLANT MIX - 1/2" PG 58H-34	EMULSIFIED ASPHALT CHFRS-2P	EMULSIFIED ASPHALT FOG SEAL	
FROM	TO										
102+76.18	103+26.18	50.00	50.00				150	52	0.3	11	TRANS. TYP. NO. 1 (A2) TO TYP. NO. 2 (A2)
103+26.18											
104+76.18 B.E.	107+79.04 B.E.				302.86	BRIDGE					
	109+29.04	602.86	300.00				933	323	1.7	69	TYP. NO. 2 (A2)
109+29.04	109+79.04	50.00	50.00				151	53	0.3	11	TRANS. TYP. NO. 2 (A2) TO TYP. NO. 3 (A2)
TOTAL		702.86	400.00	~	302.86		1,234	428	2.3	91	

PAVEMENT MARKINGS - ALTERNATE A2				
ITEM	UNIT	INTERIM APPLICA- TION #	FINAL APPLICA- TION	TOTAL
STRIPING - WHITE PAINT	gallon	5		5
STRIPING - YELLOW PAINT	gallon	5		5

BASED ON 1 APPLICATION. INTERIM PAINT WILL BE REQUIRED IF THE CHIP SEAL ISN'T COMPLETED UNTIL 2027.

SHEET NO.

10

SUMMARY

PROJECT NAME
S-482 REPAIR - S OF LIBBY

COUNTY
LINCOLN

PROJECT ID
STPS 482-1(10)2

UPN
10760000

DESIGNED BY
L. HARK

05/2026

REVIEWED BY

FIRST INITIAL LAST NAME
MM/YYYY

CHECKED BY

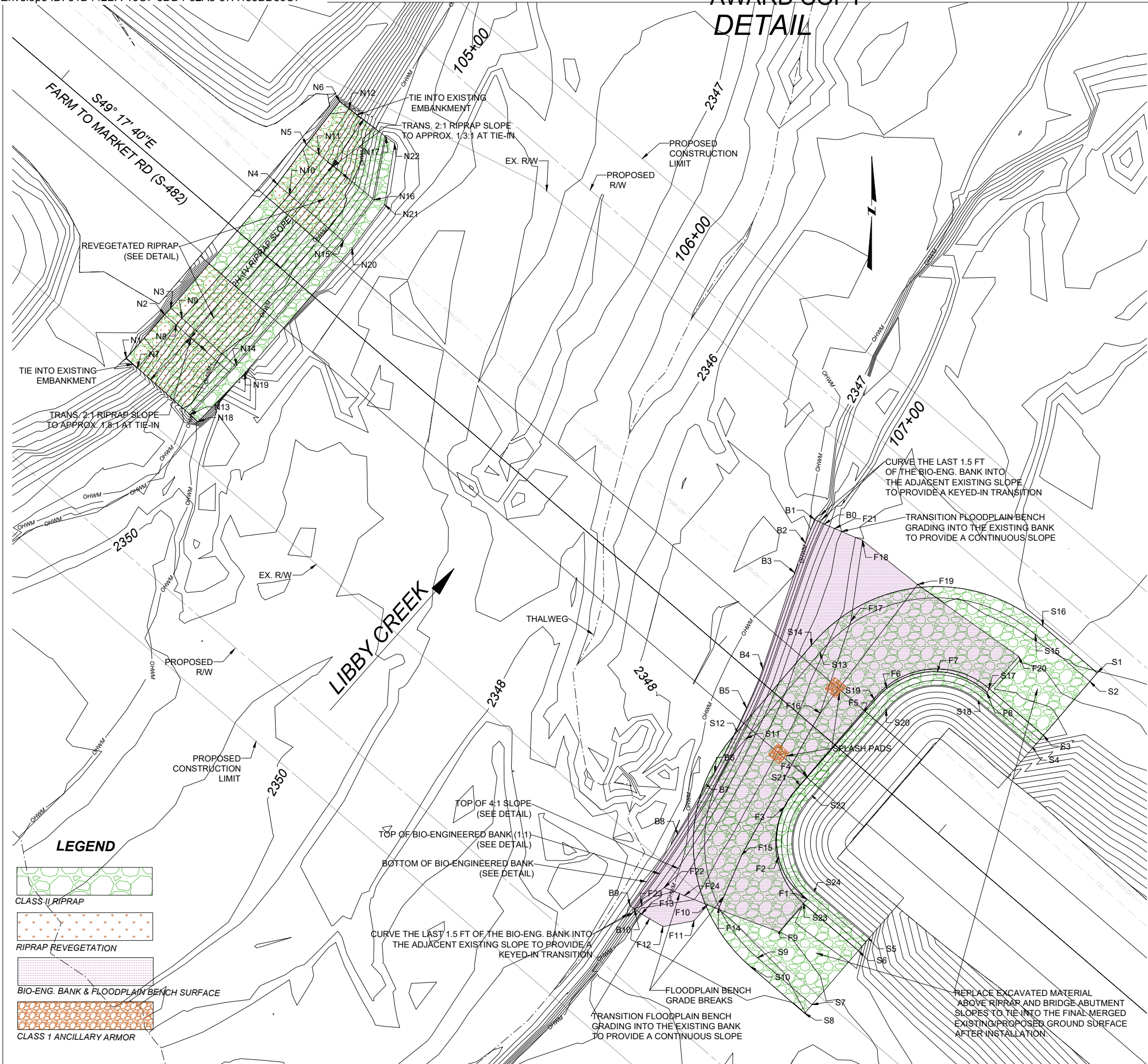
FIRST INITIAL LAST NAME
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ROAD PLANS

6/9/2026 11:34 AM



POINT NUMBER	W O R Y COORDINATE	E O R X COORDINATE	ELEVATION	REMARKS
S1	1,537,605.542	509,493.029	2,342.70	TOP OF KEY
S2	1,537,602.576	509,490.481	2,342.70	TOP OF KEY
S3	1,537,583.919	509,474.448	2,355.00	TOP OF SLOPE
S4	1,537,579.679	509,470.804	2,355.00	TOP OF RIPRAP
S5	1,537,513.672	509,414.079	2,355.00	TOP OF RIPRAP
S6	1,537,509.433	509,410.436	2,355.00	TOP OF SLOPE
S7	1,537,490.776	509,394.403	2,342.70	TOP OF KEY
S8	1,537,487.810	509,391.854	2,342.70	TOP OF KEY
S9	1,537,507.000	509,375.529	2,342.70	TOP OF KEY
S10	1,537,504.030	509,372.980	2,342.70	TOP OF KEY
S11	1,537,582.731	509,371.518	2,342.70	TOP OF KEY
S12	1,537,585.279	509,368.553	2,342.70	TOP OF KEY
S13	1,537,612.550	509,397.144	2,342.70	TOP OF KEY
S14	1,537,615.099	509,394.179	2,342.70	TOP OF KEY
S15	1,537,618.785	509,471.619	2,342.70	TOP OF KEY
S16	1,537,621.751	509,474.167	2,342.70	TOP OF KEY
S17	1,537,600.128	509,455.585	2,355.00	TOP OF SLOPE
S18	1,537,595.889	509,451.942	2,355.00	TOP OF RIPRAP
S19	1,537,596.517	509,415.801	2,355.00	TOP OF SLOPE
S20	1,537,592.874	509,420.041	2,355.00	TOP OF RIPRAP
S21	1,537,566.698	509,390.175	2,355.00	TOP OF SLOPE
S22	1,537,563.054	509,394.414	2,355.00	TOP OF RIPRAP
S23	1,537,525.653	509,391.562	2,355.00	TOP OF SLOPE
S24	1,537,529.892	509,395.205	2,355.00	TOP OF RIPRAP
F1	1,537,527.198	509,392.673	2,355.96	TOP OF FLOODPLAIN BENCH
F2	1,537,541.821	509,382.825	2,355.28	TOP OF FLOODPLAIN BENCH
F3	1,537,559.104	509,384.812	2,355.03	TOP OF FLOODPLAIN BENCH
F4	1,537,569.493	509,392.754	2,355.08	TOP OF FLOODPLAIN BENCH
F5	1,537,592.230	509,412.737	2,355.28	TOP OF FLOODPLAIN BENCH
F6	1,537,600.152	509,420.272	2,355.33	TOP OF FLOODPLAIN BENCH
F7	1,537,605.962	509,437.757	2,355.47	TOP OF FLOODPLAIN BENCH
F8	1,537,598.846	509,454.849	2,355.74	TOP OF FLOODPLAIN BENCH
F9	1,537,515.916	509,383.005	~2355.99	FLOODPLAIN LIMIT
F10	1,537,525.274	509,358.277	~2354.656	FLOODPLAIN LIMIT
F11	1,537,519.812	509,353.622	~2354.335	FLOODPLAIN LIMIT
F12	1,537,517.797	509,342.843	~2354.622	FLOODPLAIN LIMIT
F13	1,537,522.166	509,335.348	~2354.904	FLOODPLAIN LIMIT
F14	1,537,523.761	509,362.017	2,355.00	FLOODPLAIN BENCH GRADE BREAK
F15	1,537,542.813	509,370.223	2,355.00	FLOODPLAIN BENCH GRADE BREAK
F16	1,537,591.633	509,397.213	2,355.00	FLOODPLAIN BENCH GRADE BREAK
F17	1,537,623.346	509,407.792	2,354.50	FLOODPLAIN BENCH GRADE BREAK
F18	1,537,651.367	509,411.841	~2354.5	FLOODPLAIN BENCH GRADE BREAK
F19	1,537,636.097	509,430.901	~2355	FLOODPLAIN LIMIT
F20	1,537,611.223	509,465.870	~2355.698	FLOODPLAIN LIMIT
F21	1,537,655.466	509,402.211	~2352.5	TOP OF 4:1 SLOPE
F22	1,537,531.221	509,343.247	2,352.50	TOP OF 4:1 SLOPE
F23	1,537,524.996	509,335.565	2,353.50	4:1 TRANSITION TO EX. GROUND
F24	1,537,528.520	509,350.254	2,353.50	FLOODPLAIN BENCH GRADE BREAK
B0	1,537,656.988	509,398.632	2,351.50	TOP OF BANK (1:1)
B1	1,537,658.563	509,395.300	2,348.20	BOTTOM OF BIO-ENG. BANK
B2	1,537,650.494	509,392.075	2,348.20	BOTTOM OF BIO-ENG. BANK
B3	1,537,640.205	509,388.379	2,348.20	BOTTOM OF BIO-ENG. BANK
B4	1,537,606.989	509,377.342	2,348.20	BOTTOM OF BIO-ENG. BANK
B5	1,537,593.392	509,371.750	2,348.20	BOTTOM OF BIO-ENG. BANK
B6	1,537,571.161	509,360.717	2,348.20	BOTTOM OF BIO-ENG. BANK
B7	1,537,567.113	509,357.795	2,348.20	BOTTOM OF BIO-ENG. BANK
B8	1,537,549.971	509,347.839	2,348.20	BOTTOM OF BIO-ENG. BANK
B9	1,537,525.042	509,331.397	2,348.20	BOTTOM OF BIO-ENG. BANK
B10	1,537,523.903	509,332.956	2,351.50	TOP OF BANK (1:1)
N1	1,537,714.432	509,157.258	2356.55	TOP OF RIPRAP
N2	1,537,729.383	509,170.542	2355.23	TOP OF RIPRAP
N3	1,537,731.710	509,172.592	2355.00	TOP OF RIPRAP
N4	1,537,774.595	509,209.470	2355.00	TOP OF RIPRAP
N5	1,537,788.206	509,219.545	2355.00	TOP OF RIPRAP
N6	1,537,803.200	509,231.004	2355.00	TOP OF RIPRAP
N7	1,537,711.083	509,161.026	2356.55	TOP OF SLOPE
N8	1,537,725.925	509,174.421	2355.16	TOP OF SLOPE
N9	1,537,728.288	509,176.553	2355.00	TOP OF SLOPE
N10	1,537,770.969	509,213.697	2355.00	TOP OF SLOPE
N11	1,537,784.897	509,223.876	2355.00	TOP OF SLOPE
N12	1,537,800.709	509,234.265	2355.00	TOP OF SLOPE
N13	1,537,694.861	509,179.285	2342.70	TOP OF KEY
N14	1,537,711.973	509,195.440	2342.70	TOP OF KEY
N15	1,537,754.917	509,232.352	2342.70	TOP OF KEY
N16	1,537,769.165	509,242.971	2342.70	TOP OF KEY
N17	1,537,790.960	509,247.024	2342.70	TOP OF KEY
N18	1,537,692.395	509,182.060	2342.70	TOP OF KEY
N19	1,537,709.417	509,198.400	2342.70	TOP OF KEY
N20	1,537,752.384	509,235.323	2342.70	TOP OF KEY
N21	1,537,767.507	509,246.634	2342.70	TOP OF KEY
N22	1,537,788.669	509,250.021	2342.70	TOP OF KEY

*SEE BIO-ENGINEERED BANK AND RIPRAP REVEGETATION DETAIL

AWARD COPY
DETAIL

SHEET NO.

12

BIO-ENGINEERED BANK
& RIPRAP
REVEGETATION

PROJECT NAME
S-482 REPAIR - S OF LIBBY

COUNTY
LINCOLN

PROJECT ID
STPS 482-1(10)2

UPN
10760000

DESIGNED BY
K. BERGERON
3/2026

REVIEWED BY
C. KNUTH
4/2026

CHECKED BY
C. KNUTH
4/2026

10760000HYBIOBANK005.DWG

MONTANA
Department of Transportation

HYDRAULICS PLANS

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LEGEND

- TOPSOIL
- FLOODPLAIN BACKFILL
- FILTER MATERIAL NO. 2
- CLASS II RIPRAP
- CLASS 1 ANCILLARY ARMOR

NOTE:

THIS DETAIL IS TO BE USED AS A VISUAL GUIDE FOR RIPRAP REVEGETATION, ABUTMENT SLOPE REVEGETATION, THE FLOODPLAIN BENCH AND BIOENGINEERED BANK. REFER TO THE PLAN SHEETS AND CROSS SECTIONS FOR SPECIFIC GEOMETRIC CONFIGURATION OF THE RIPRAP LAYOUT.

FOR RIPRAP REVEGETATION, FILL RIPRAP VOIDS WITH FILTER MATERIAL NO. 2, OR A MATERIAL OF SIMILAR GRADATION OBTAINED ON SITE TO PROVIDE A UNIFORM SURFACE FOR THE PLACEMENT OF TOPSOIL, AS APPROVED BY THE PROJECT ENGINEER.

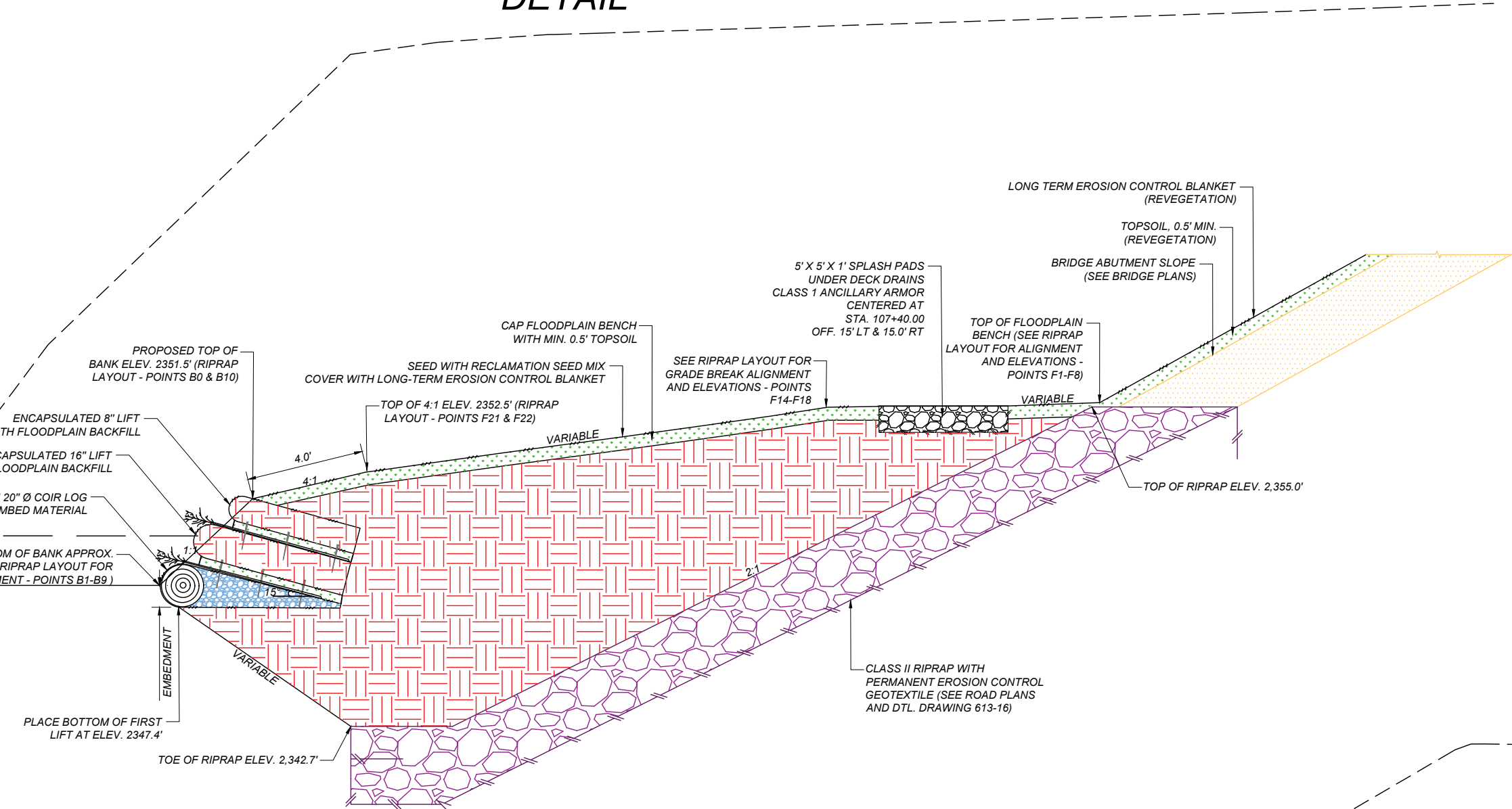
REFER TO THE SPECIAL PROVISIONS FOR PLANTING AND SEEDING SPECIFICATIONS.

SPLASH PAD OFFSET MAY BE ADJUSTED IN THE FIELD TO ALIGN CENTER WITH DECK DRAIN OUTLET.

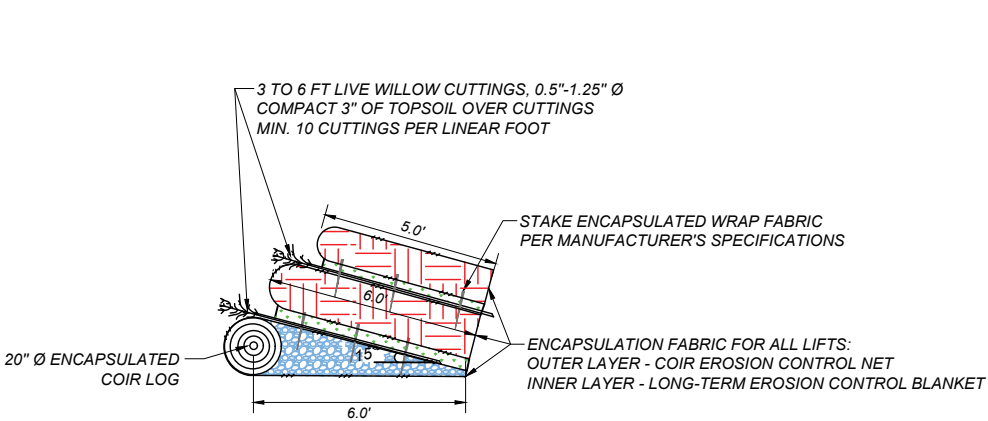
FLOODPLAIN BENCH QUANTITIES ARE INCLUDED IN THE BIO-ENGINEERED BANK LUMP SUM PAY ITEM.

ABUTMENT SLOPE REVEGETATION AND RIPRAP REVEGETATION QUANTITIES ARE EXCLUDED FROM THE BIO-ENGINEERED BANK LUMP SUM PAY ITEM AND SHALL BE PAID UNDER THEIR RESPECTIVE PAY ITEM.

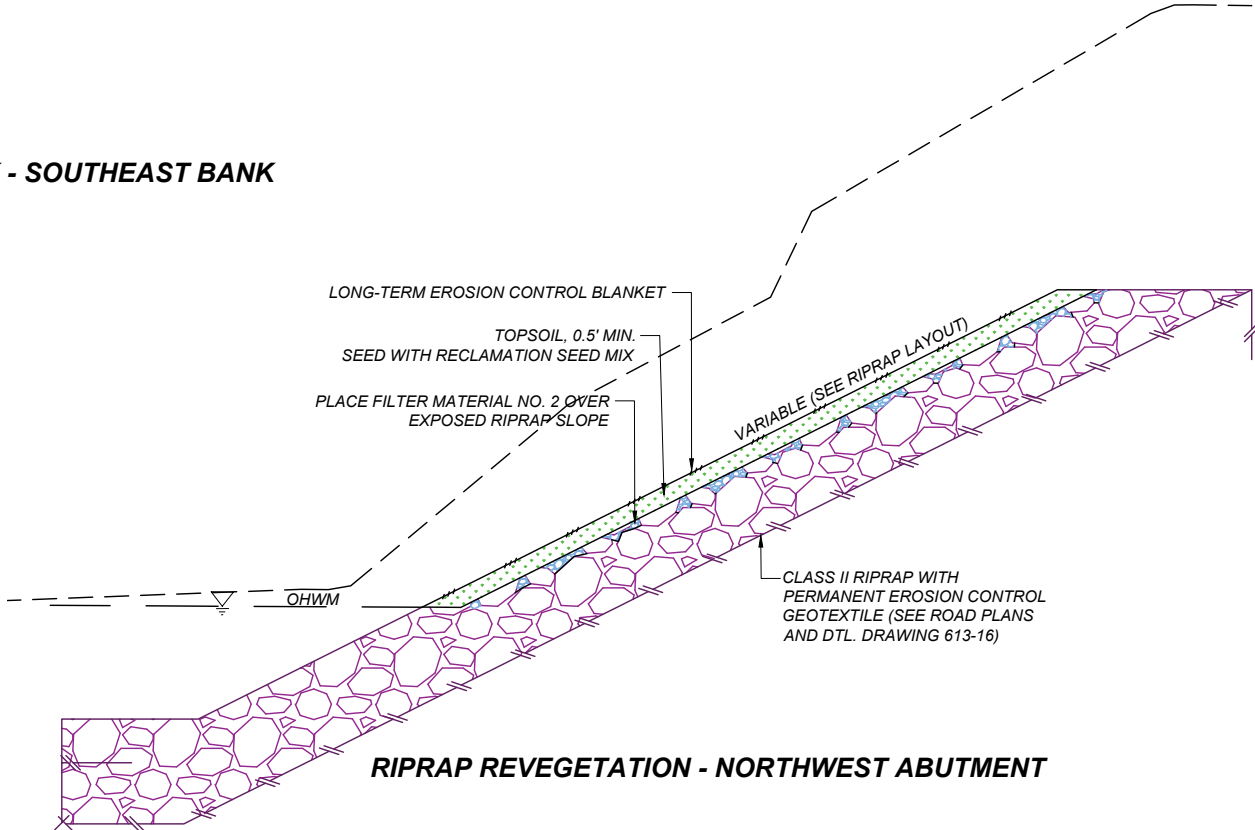
EXCAVATION FOR RIPRAP, BIO-ENGINEERED BANK AND FLOODPLAIN BENCH IS INCLUDED IN THE COST OF RIPRAP AND BIO-ENGINEERED BANK, AND NOT MEASURED FOR PAYMENT.



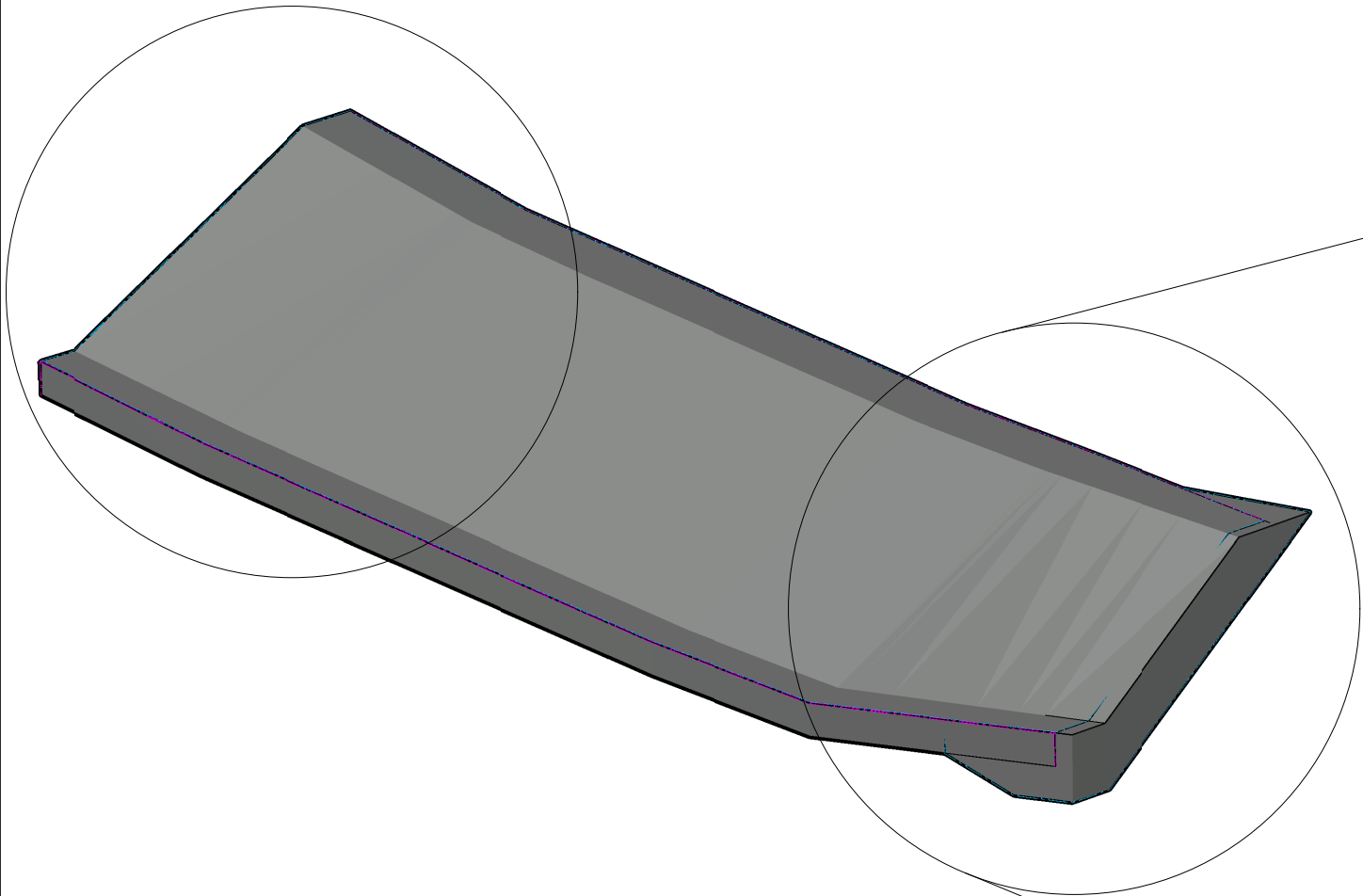
FLOODPLAIN BENCH AND BIO-ENGINEERED BANK - SOUTHEAST BANK



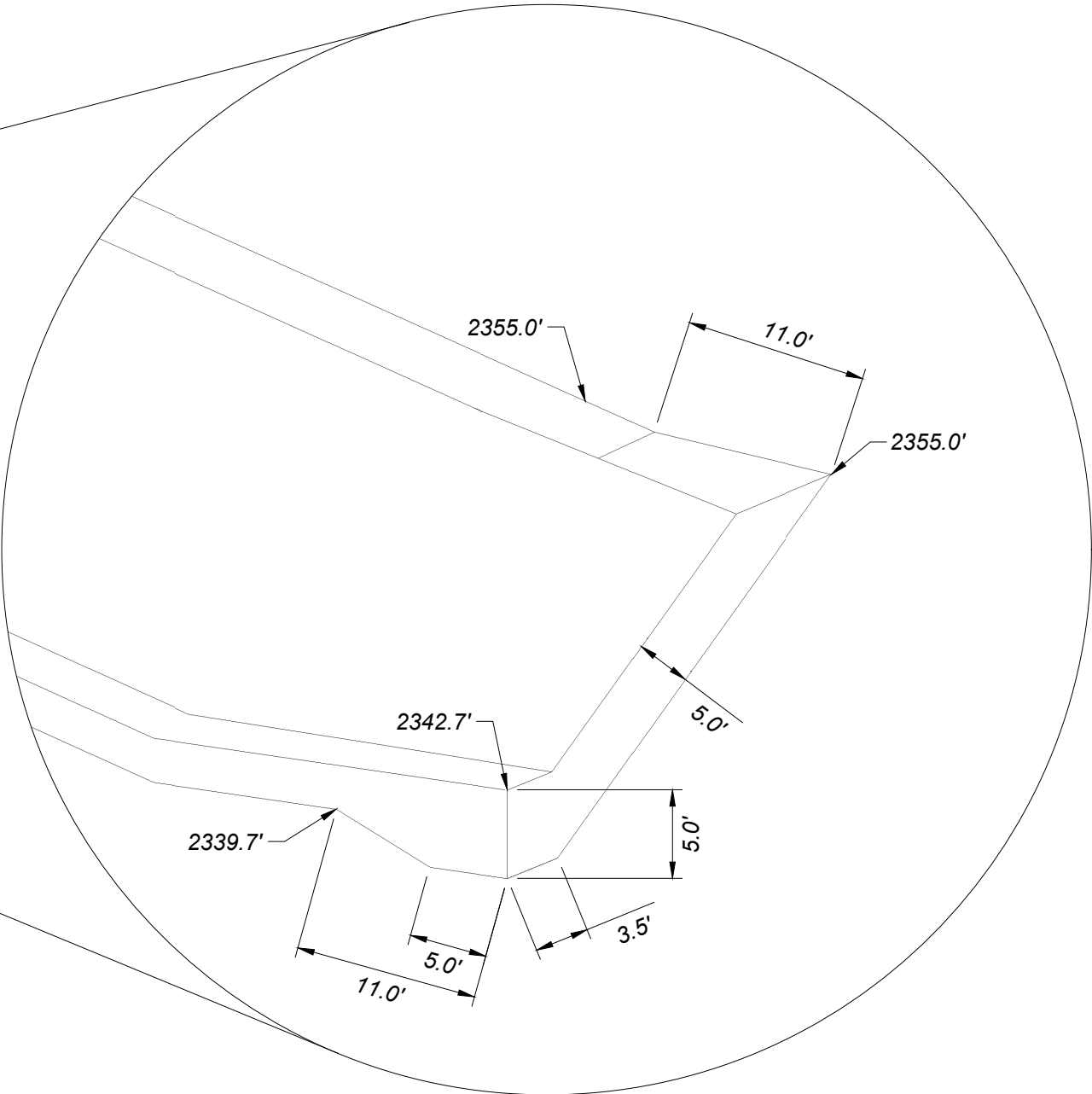
BIO-ENGINEERED BANK - TYPICAL SECTION



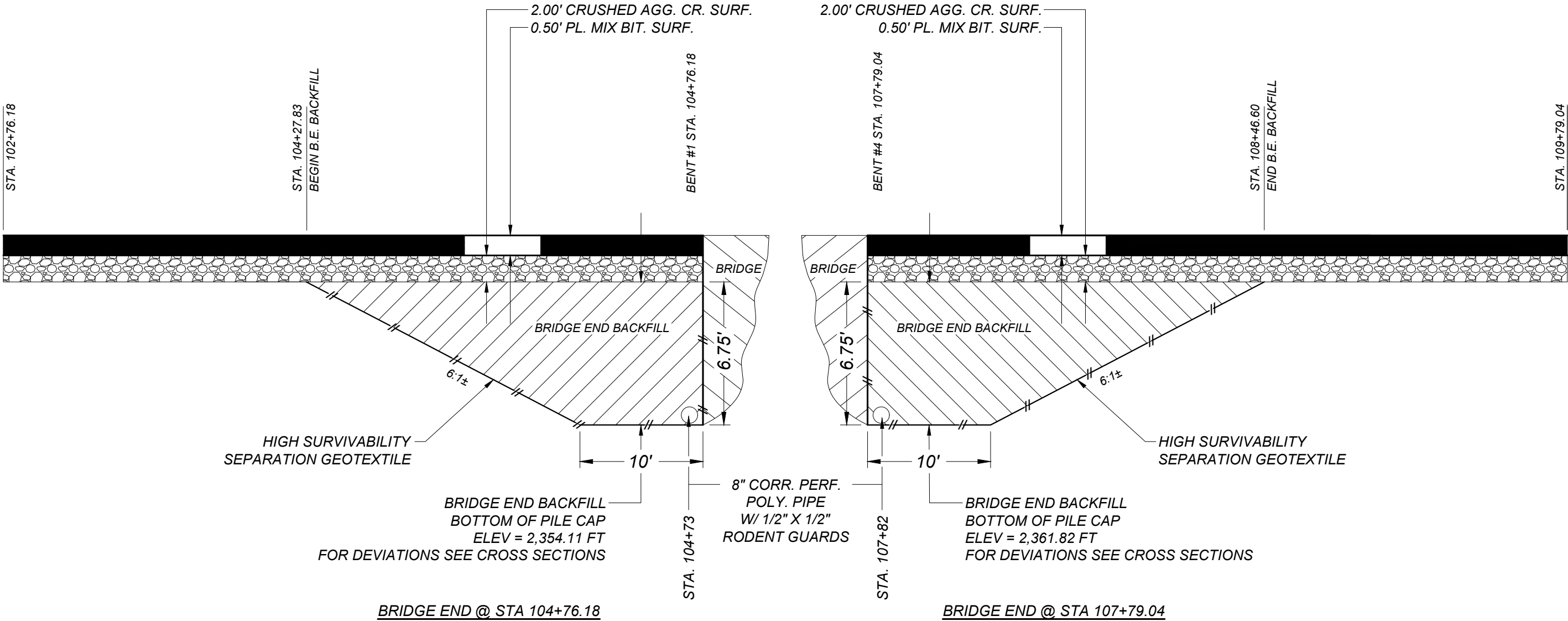
RIPRAP REVEGETATION - NORTHWEST ABUTMENT



NORTHWESTERN BANK RIPRAP SHAPE
(3-D ISOMETRIC VIEW)
NOT TO SCALE



**NOTE: NORTH END SHOWN. REVERSE
FOR SOUTH END**



NOTE: SEE CROSS SECTIONS FOR BRIDGE END BACKFILL LIMITS

SINUSOIDAL
CENTERLINE RUMBLE
STRIPS DETAIL

PROJECT NAME
S-482 REPAIR - S OF LIBBY

COUNTY
LINCOLN

PROJECT ID
STPS 482-1(10)2

UPN
10760000

DESIGNED BY
L. HARK

05/2026

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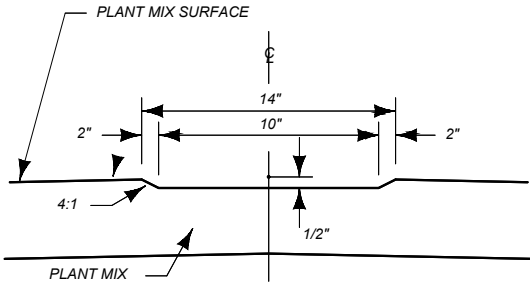
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FIRST INITIAL LAST NAME MM/YYYY

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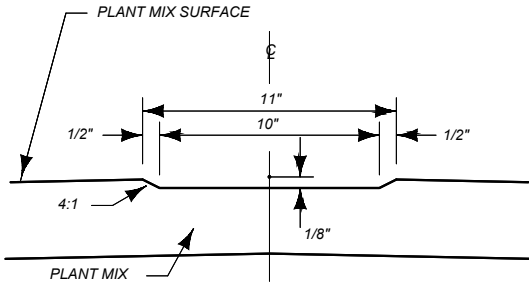


ROAD PLANS

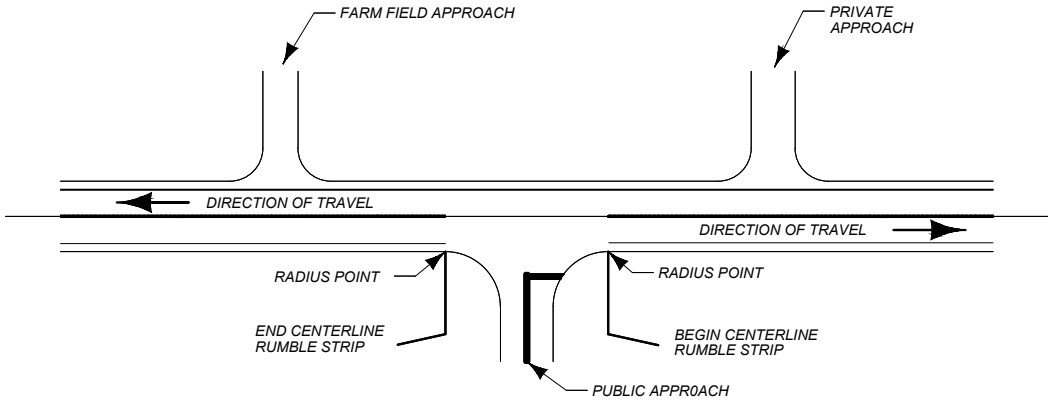
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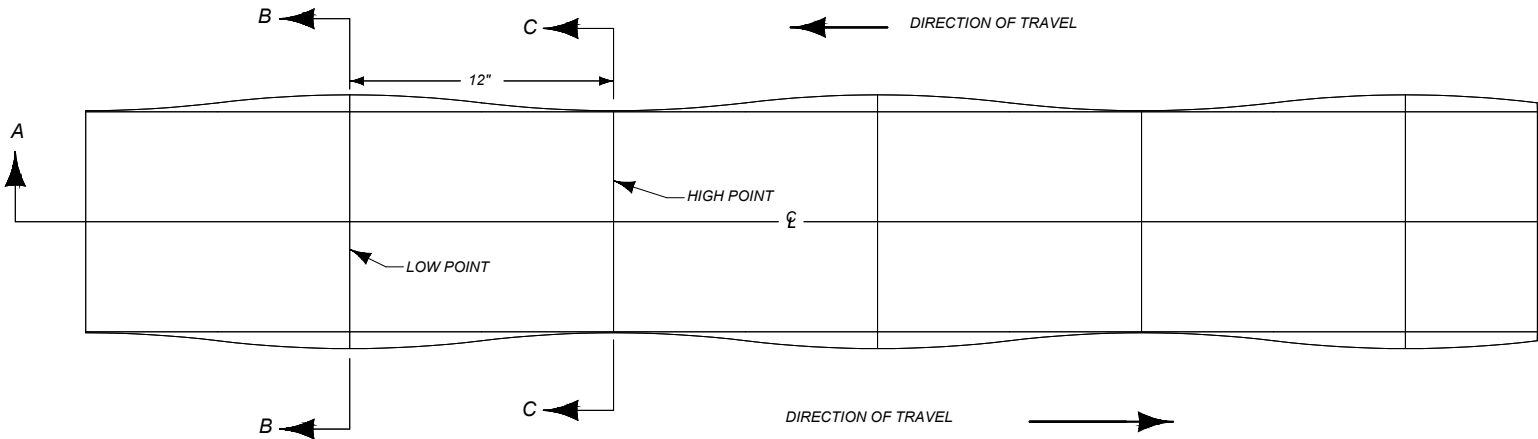
SECTION B-B



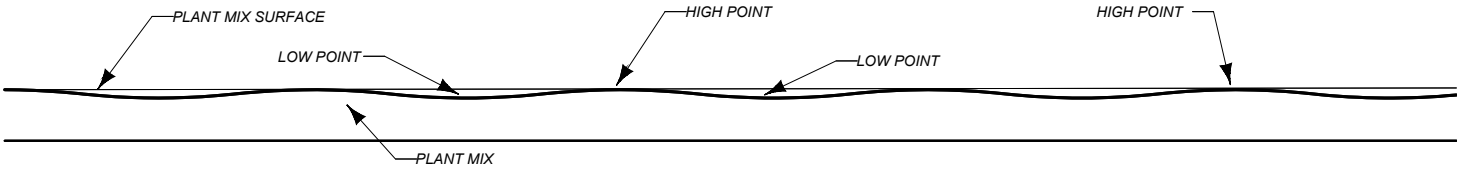
SECTION C-C



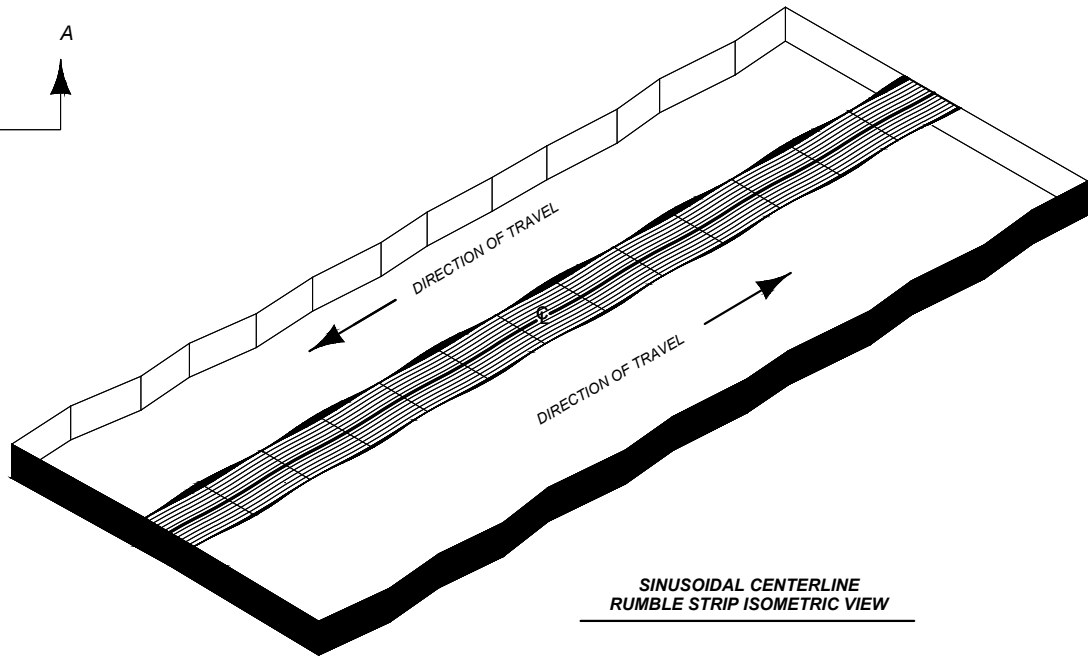
SINUSOIDAL CENTERLINE
RUMBLE STRIP APPROACH DETAIL



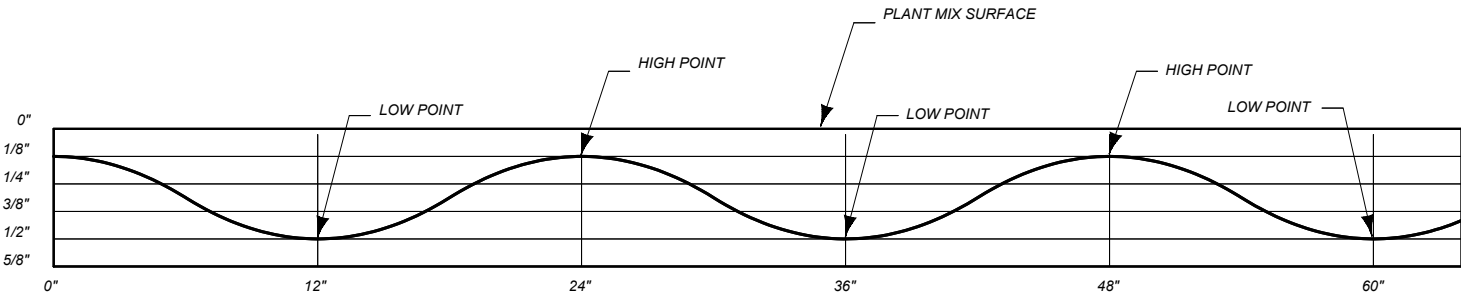
SINUSOIDAL CENTERLINE RUMBLE STRIP
WITH TAPERED GROOVE PLAN VIEW



SECTION A-A



SINUSOIDAL CENTERLINE
RUMBLE STRIP ISOMETRIC VIEW



SINUSOIDAL CENTERLINE
RUMBLE STRIP PROFILE VIEW
EXAGGERATED VERTICAL SCALE 10:1

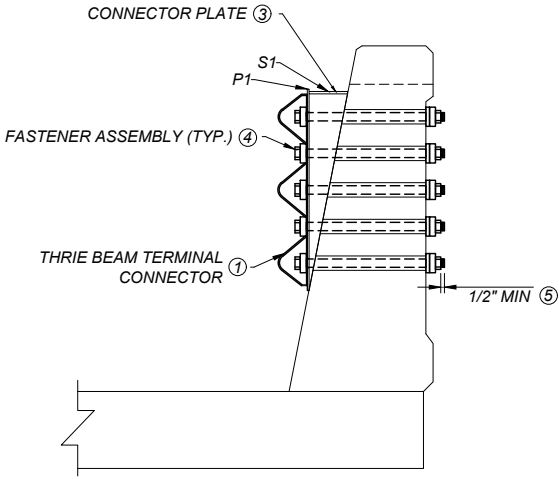
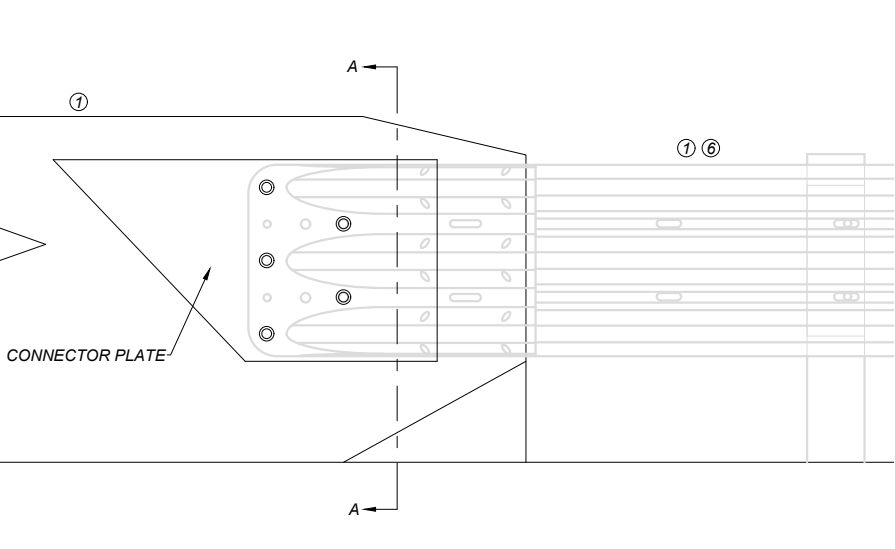
NOTES:
BREAK SINUSOIDAL CENTERLINE RUMBLE STRIPS FOR PUBLIC APPROACHES ONLY.
DO NOT INSTALL SINUSOIDAL CENTERLINE RUMBLE STRIPS ON CONCRETE
BRIDGE DECKS AND CONCRETE BRIDGE APPROACH SLABS.
DO NOT INSTALL SINUSOIDAL CENTERLINE RUMBLE STRIPS IN AREAS POSTED
AT 45 MPH OR LESS.
ROUTES WITHIN DESIGNATED CITY OR URBAN LIMITS USE ENGINEERING
JUDGEMENT ON A CASE BY CASE BASIS TO DETERMINE IF SINUSOIDAL
CENTERLINE RUMBLE STRIP INSTALLATION IS APPROPRIATE.
MINIMUM VERTICAL MILLING DEPTHS AND DIFFERENCE BETWEEN MILLING HIGH POINTS
AND LOW POINTS SHOWN IN DETAIL. ADDITIONAL 1/8" DEPTH OF MILLING IS ALLOWABLE
ON INSTALLATION OF SINUSOIDAL CENTERLINE RUMBLE STRIP.
SEE DETAILED DRAWING 620-30 FOR CENTERLINE RUMBLE STRIP PAVEMENT MARKING
INFORMATION.

NOTES:

- ① SEE STD. DWG. NO. SBR-SS36 FOR STANDARD BRIDGE RAIL TYPE SINGLE SLOPE 36" INFORMATION. SEE DTL. DWG. NO. 606-23A AND 606-23B FOR STANDARD MGS THRIE BEAM BRIDGE APPROACH SECTION INFORMATION.
- ② USE PLATES AND STIFFENERS CONFORMING TO AASHTO M-270 GRADE 36 STEEL.
- ③ STIFFENERS NOT SHOWN FOR CLARITY IN SECTION A-A VIEW.
- ④ USE 7/8" DIA. HIGH STRENGTH BOLT (FBX22b*) W/ 1 PLATE WASHER AND 1 HEAVY HEX NUT (FNX22b*)(5 PLACES)
- ⑤ BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN THRIE BEAM CONNECTION PLATE, CONNECTOR PLATE, AND THE RIGID BARRIER. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH.
- ⑥ INCLUDE THE COST OF THE MGS THRIE BEAM BRIDGE APPROACH CONNECTOR PLATE IN THE COST OF THE MGS THRIE BEAM BRIDGE APPROACH SECTION.
- ⑦ GALVANIZE FABRICATED PARTS IN ACCORDANCE WITH SUBSECTION 711.08. DO NOT PUNCH, DRILL, OR CUT AFTER GALVANIZING.
- ⑧ WELD IS TYPICAL AT ALL JOINTS. DRILL HOLES AFTER WELDING. GRIND WELDS SMOOTH AT HOLES TO ALLOW FOR EASY PASSAGE OF BOLTS.

*SEE DTL. DWG. NO. 606-80 FOR SCHEDULE OF GUARDRAIL HARDWARE.

CONNECTOR PLATE DIMENSIONS (PER ASSEMBLY) ②				
PLATE	QUANTITY	SHAPE	SIZE (A x B x C)	THICKNESS
P1	1		40" x 20" x 21"	0'-0 3/16"
S1	1		39 1/2" x 20" x 4"	0'-0 1/4"
S2	3		4" x 20 1/2"	0'-0 1/4"
S3	1		14 7/8" x 2 3/4" x 2 1/2"	0'-0 1/4"
S4	1		8 1/2" x 2"	0'-0 1/4"
S5	1		7 3/4" x 2"	0'-0 1/4"



CONNECTION DETAIL

NE CORNER (FOR SE CORNER, MIRROR ABOUT BRIDGE C)
(FOR NW CORNER, MIRROR ABOUT CENTER OF BRIDGE, TRANSVERSE TO BRIDGE C)

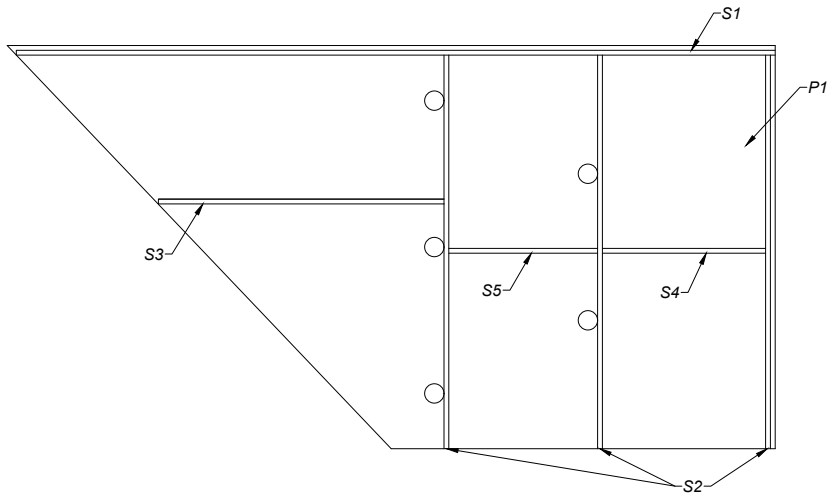
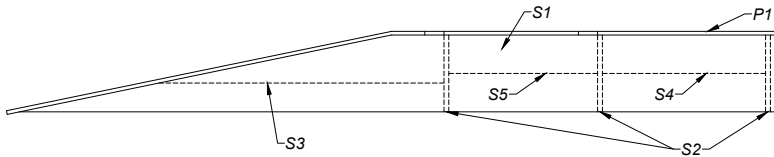


PLATE AND STIFFENER IDENTIFICATION

SECTION A-A

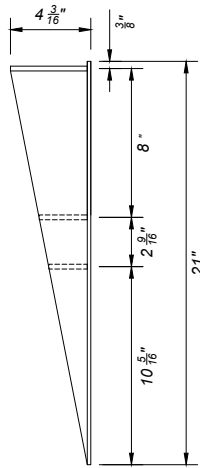
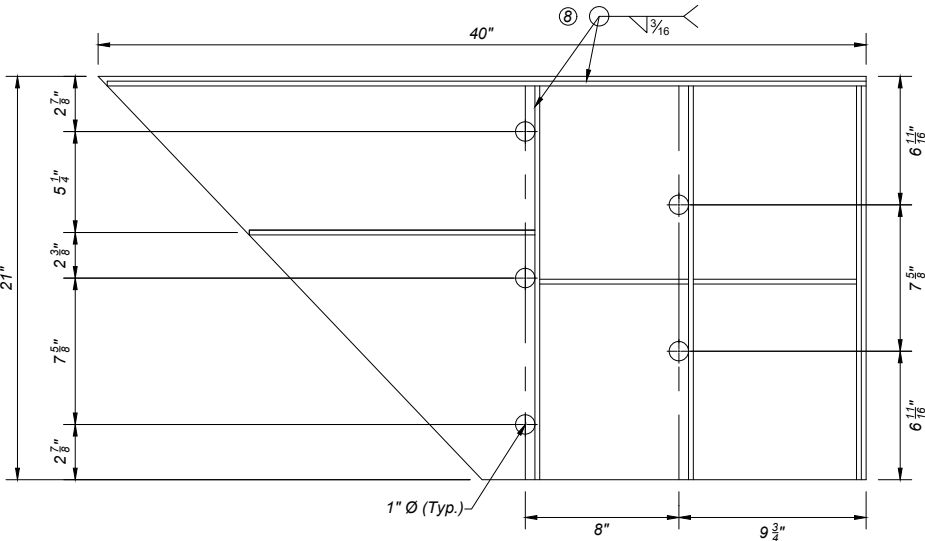
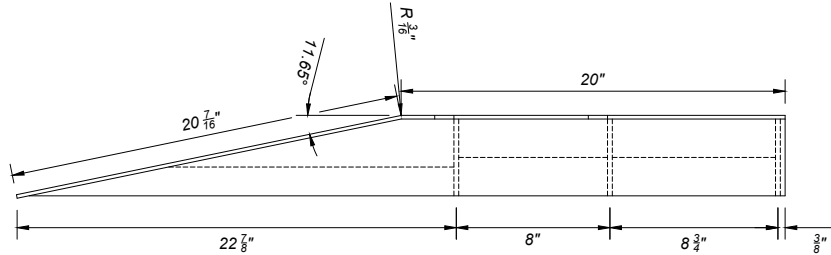
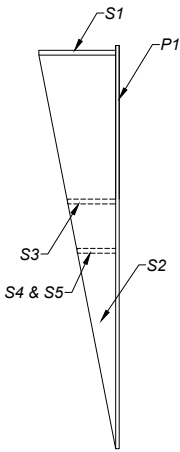
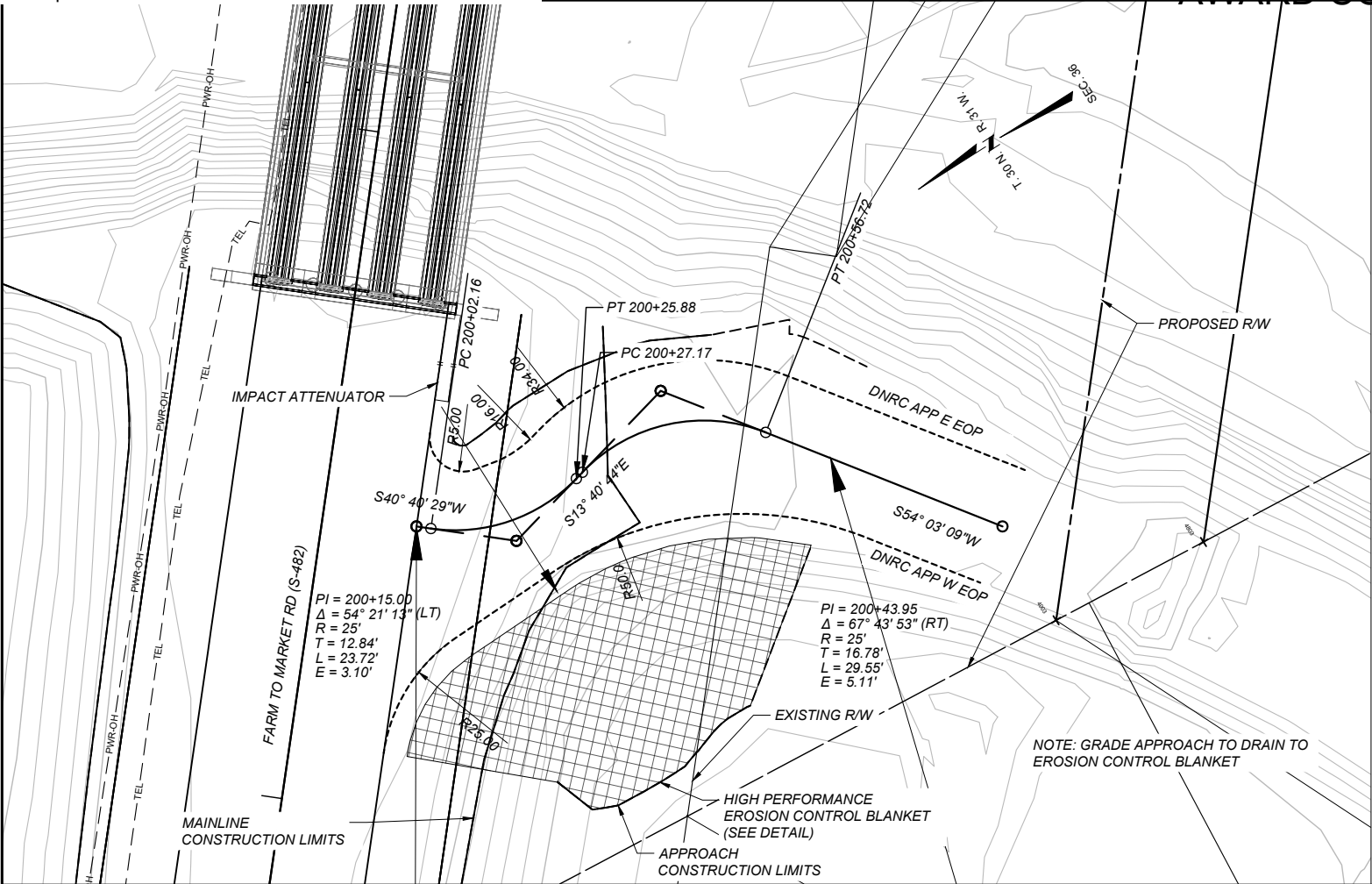


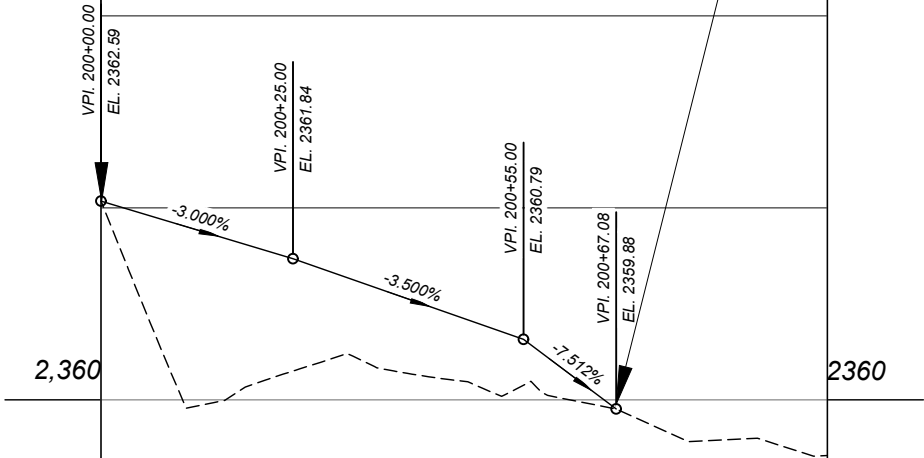
PLATE AND STIFFENER DIMENSIONS



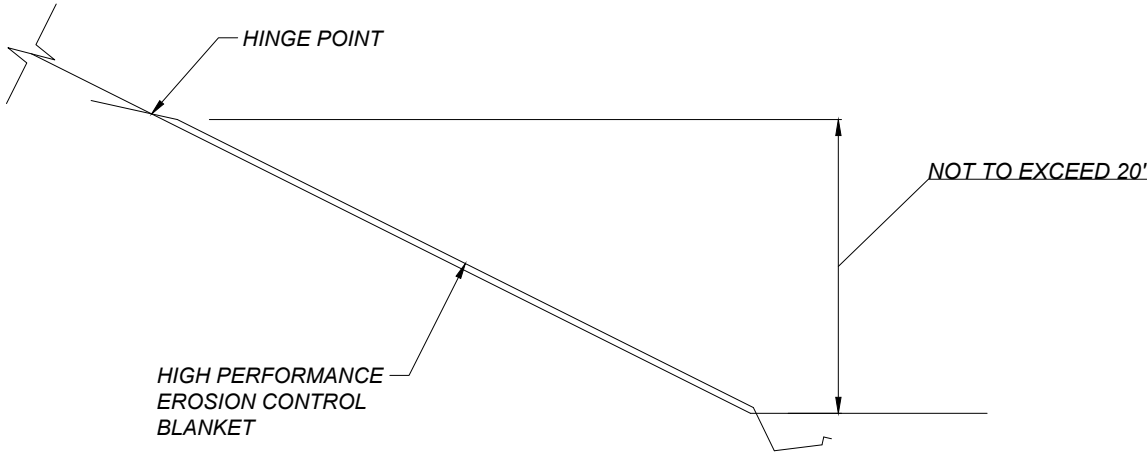
DNRC APPROACH 104+42.85 RT. COORDINATE TABLE				
STATION	DESCRIPTION	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
200+00.00	POT	1,537,772.386	509,158.315	BEGIN APPROACH, MAINLINE STA. 104+43 RT
200+02.16	PC	1,537,770.744	509,156.904	
200+15.00	PI	1,537,761.009	509,148.539	RADIUS = 25.0 FEET (LT)
200+25.88	PT	1,537,748.538	509,151.574	
200+27.17	PC	1,537,747.284	509,151.879	
200+43.95	PI	1,537,730.982	509,155.847	RADIUS = 25.0 FEET (RT)
200+56.72	PT	1,537,721.133	509,142.264	
200+67.08	POT	1,537,715.054	509,133.881	END APPROACH ALIGNMENT

200+00.00 BEG. DNRC APP =
MAINLINE STA. 104+42.85
14.00' RT

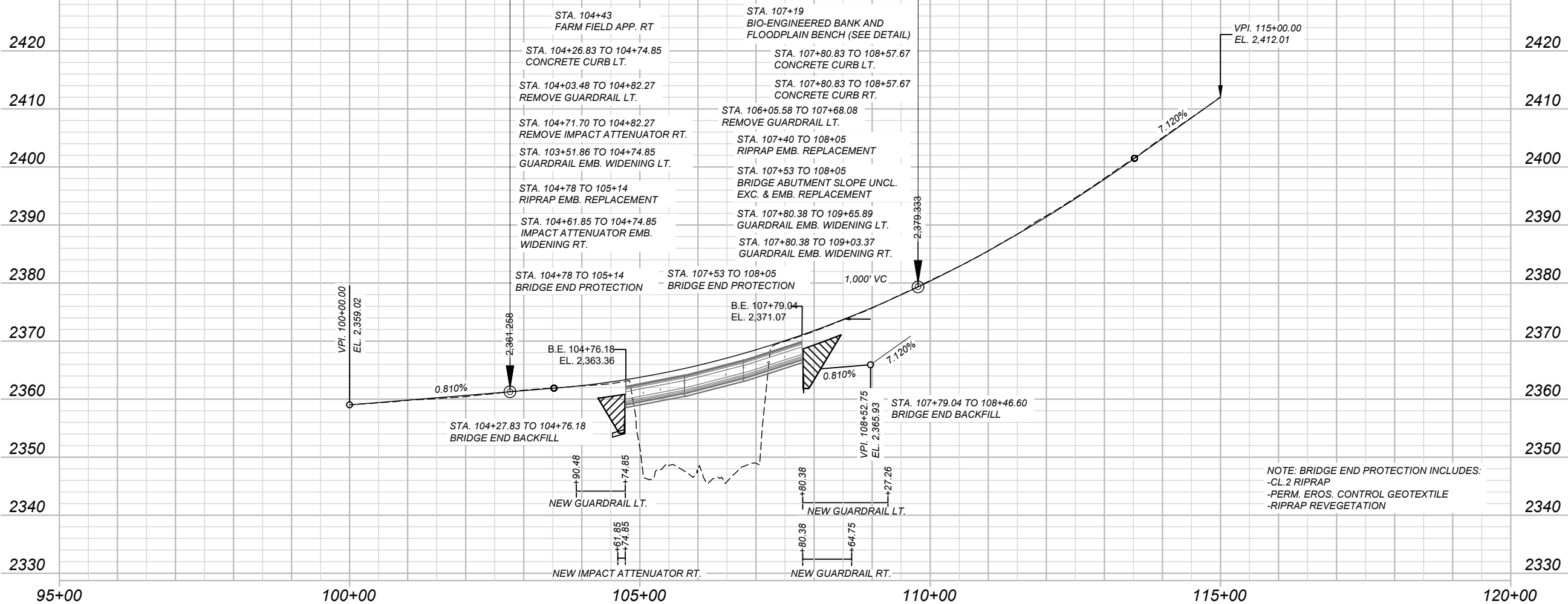
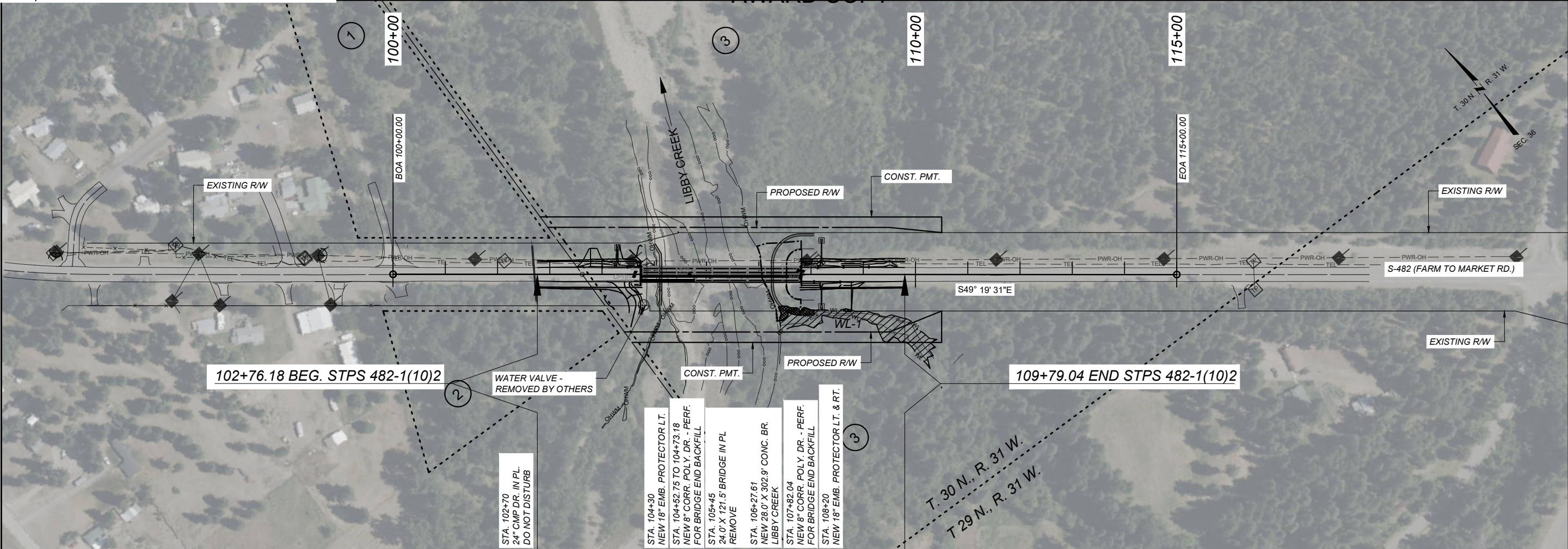
200+67.08 END DNRC APP
CONSTRUCTION



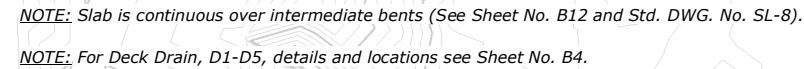
NOTE: INSTALL PER DET. DWG NO. 610-05
AND STANDARD SPECS SEC. 713.12



HIGH PERFORMANCE
EROSION CONTROL
BLANKET DETAIL







NOTE: BRIDGE END PROTECTION INCLUDES:
-CL.2 RIPRAP
-PERM. EROS. CONTROL GEOTEXTILE
-RIPRAP REVEGETATION



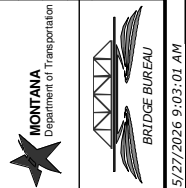
1 | **GENERAL PLAN**
Scale ~ 1" = 25'-0"



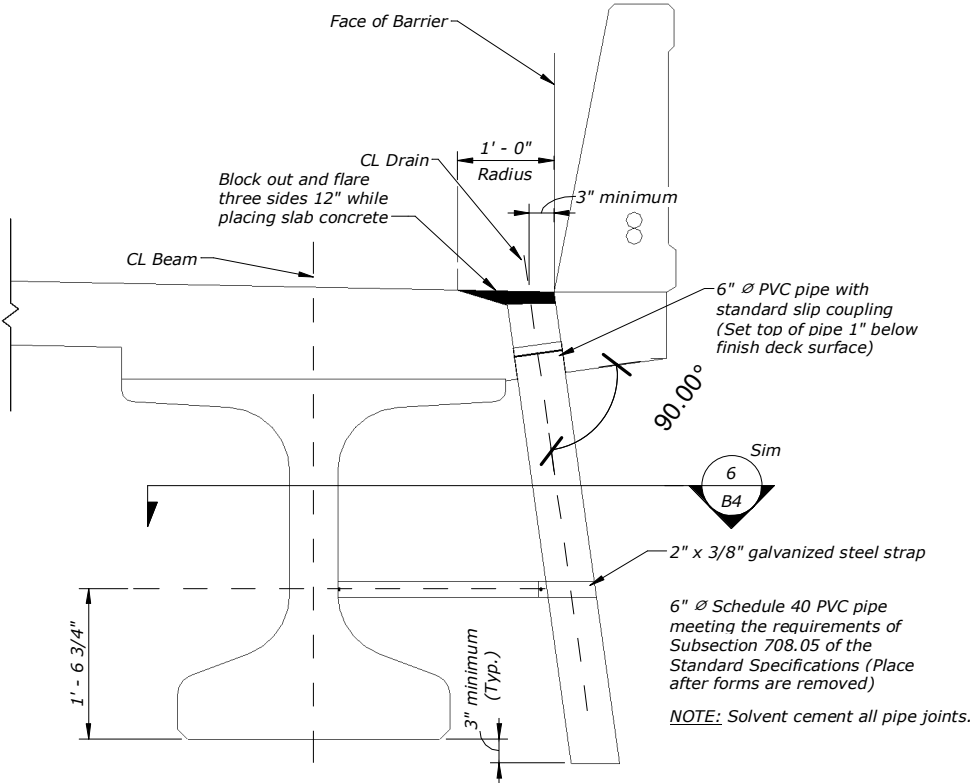
2 | GENERAL ELEVATION

		REVISED			FEDERAL AID PROJECT NO. STPS 482-1(10)2	BRIDGE OVER LIBBY CREEK	GENERAL LAYOUT	SHEET NO. B3
		REVISED						
		REVISED			COUNTY LINCOLN	AT STA. 106+27.61		SCALE: As indicated
		REVISED						
		CHECKED	05-13-26	L.R.K.				
		DRAWN	01-13-26	S.E.W.				
		DESIGNED	01-13-26	M.L.C.				
5/27/2026 9:02:59 AM		FILENAME: 10760000BRRTV.TVT						
ROUTE S-482								
REF POINT 2+0.589								
MDT STR. ID 06853								
UPN NUMBER 10760000								
DRAWING NO. 21162								

REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED	FILENAME:
				05-13-26	01-13-26	01-13-26	1076000BRRTV-RVT
				L.A.K.	S.E.W.	M.L.C.	

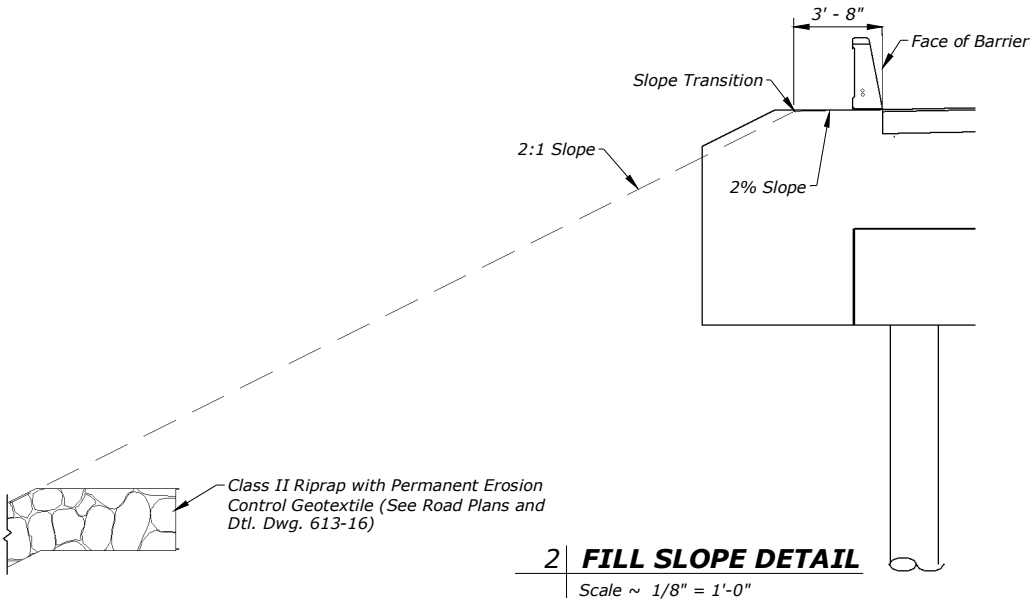


HYDRAULIC DATA	
Drift:	Heavy
Ice:	Light
Low Scour Elevation Abutment (Q500):	2340.86'
Low Scour Elevation Piers (Q500):	2332.60'
Drainage Area:	130.10 sq. mi.
Q2 Elevation:	2349.66'
Q100 Flow:	7,230 cfs
Q100 Elevation:	2352.36'
Q100 Velocity:	7.85 fps
Actual Low Beam Elevation:	2358.34'
Allowable Low Beam Elevation:	2354.83'

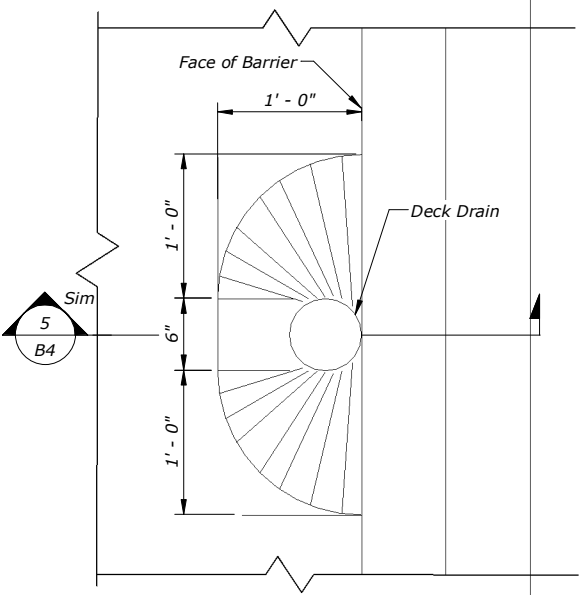


5 DECK DRAIN DETAIL
B4 Scale ~ 1/2" = 1'-0"

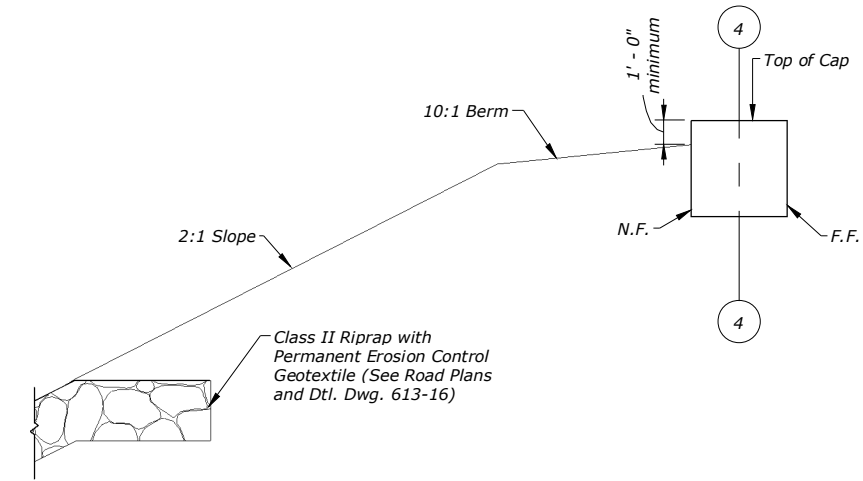
DECK DRAIN LOCATIONS	
DECK DRAIN	DECK DRAIN STATION
D1	104+90.00
D2	105+03.00
D3	105+81.00
D4	106+83.00
D5	107+40.00



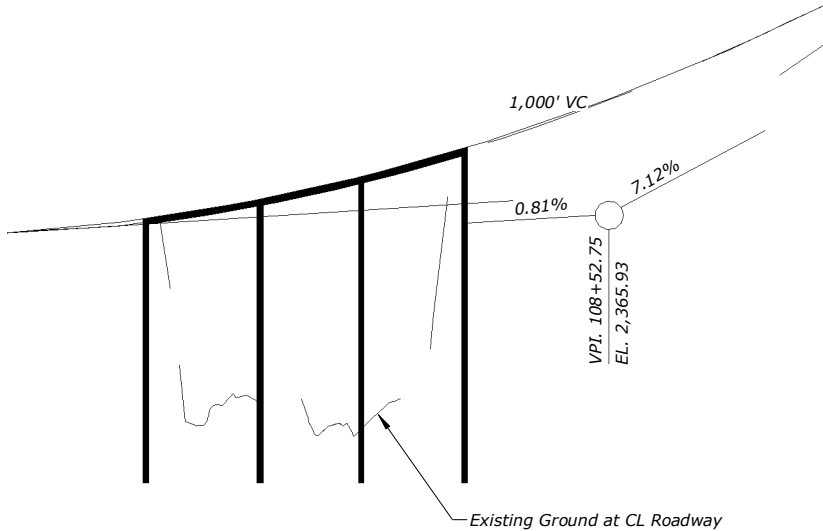
2 FILL SLOPE DETAIL
Scale ~ 1/8" = 1'-0"



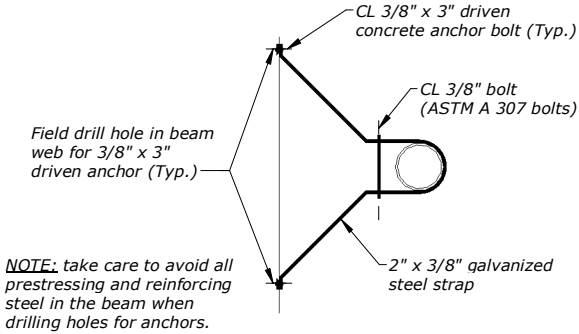
4 DECK DRAIN PLAN
Scale ~ 3/4" = 1'-0"



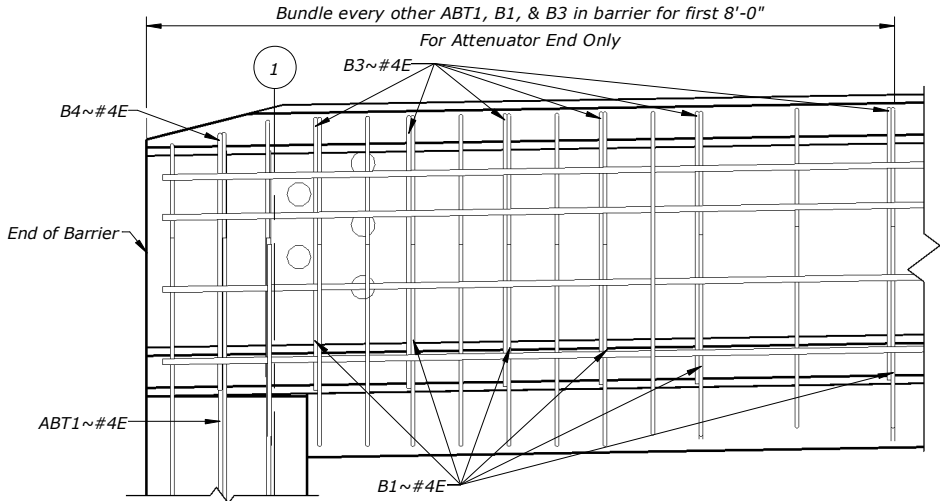
1 BERM DETAIL
Scale ~ 1/8" = 1'-0"



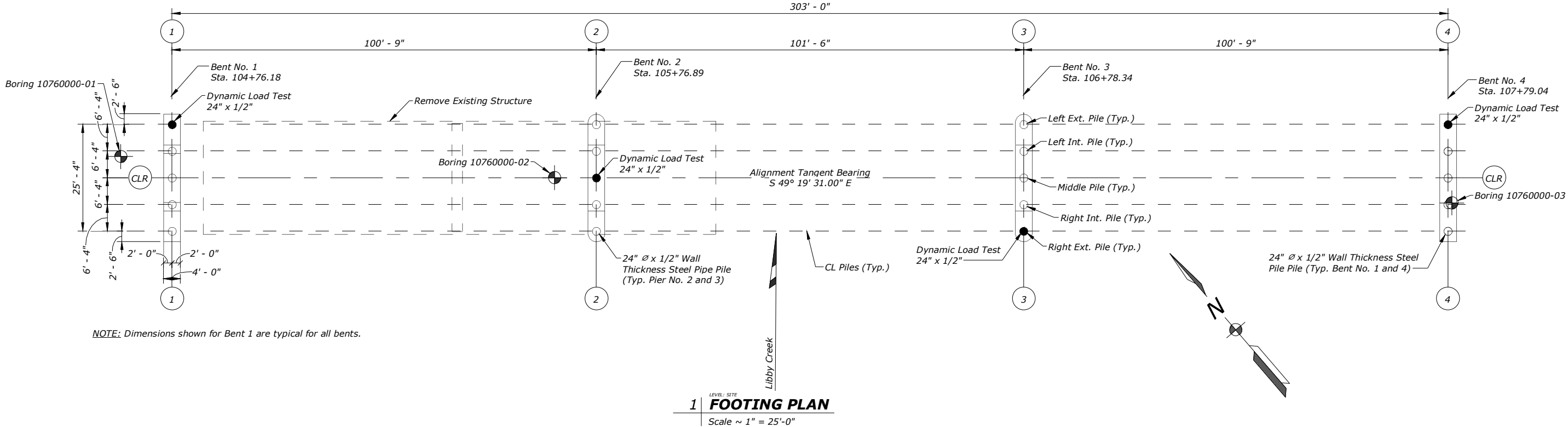
3 PROFILE GRADE
Scale ~ 1" = 160'-0"



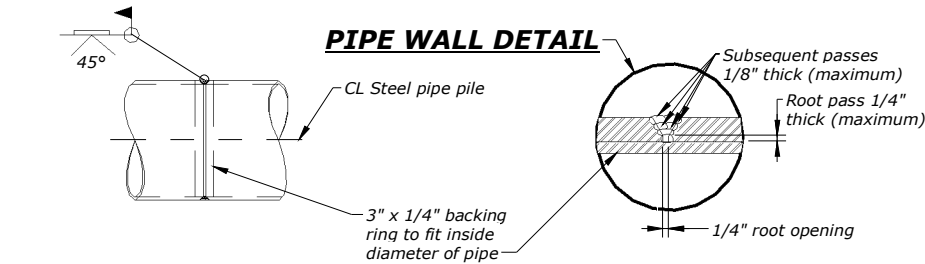
6 DECK DRAIN SECTION
B4 Scale ~ 1/2" = 1'-0"



7 BARRIER RAIL END WITH ATTENUATOR
B3 Scale ~ 1 1/2" = 1'-0"



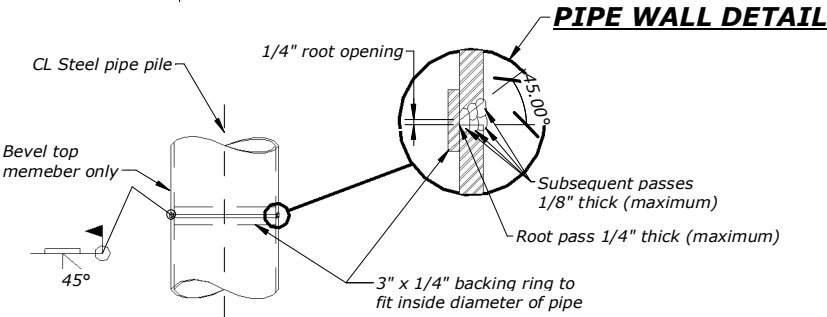
WELD SPLICES FOR STEEL PIPE PILES



NOTE: Refer to AWS D1.1 for prequalified joint designation B-U2a.

2 PILE EXTENSION BEFORE DRIVING

No Scale



NOTE: Refer to AWS D1.1 for prequalified joint designation B-U4a.

3 PILE EXTENSION AFTER DRIVING

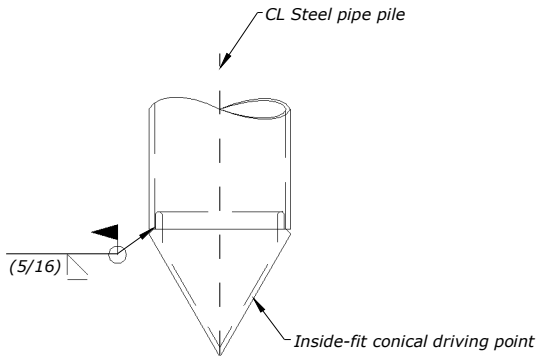
No Scale

NOTE: For pile splices, use only E7018 series electrodes. Prepare the weld surfaces to a smooth, uniform finish. Remove all fins, tears, loose scale, slab, rust, grease, moisture and other material that would prevent proper welding.

NOTE: For pile tips, use only E7018 series electrodes to attach pile tips.

NOTE: See plans this sheet for correct pile type, pile tip and pile tip elevations.

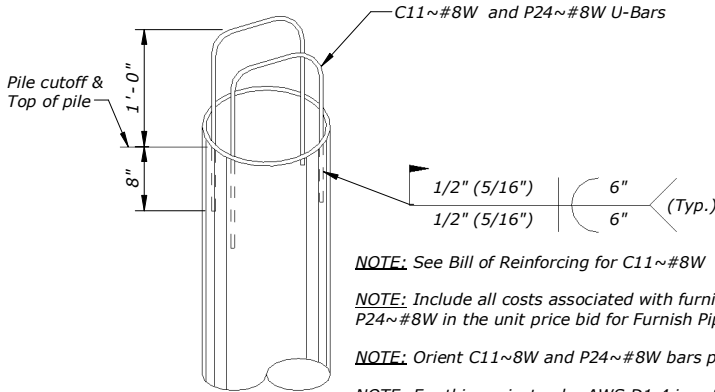
NOTE: For this project only, the pipe pile welding requires 25% Visual Inspection (VT) by a valid CWI and RT, UT, MT & PAUT are not required. Submit CWI inspector certification and all VT reports. All other welding requirements of Section 624 in the Standard Specifications still apply.



NOTE: Slip driving point inside pipe.

4 CONICAL DRIVING POINT WELD DETAIL

No Scale



NOTE: See Bill of Reinforcing for C11~#8W and P24~#8W U-Bar dimensions.

NOTE: Include all costs associated with furnishing and placing C11~#8W and P24~#8W in the unit price bid for Furnish Pipe Pile.

NOTE: Orient C11~8W and P24~#8W bars parallel to the the CL Brg.

NOTE: For this project only, AWS D1.4 is not required for welding C11~#8W and P24~#8W reinforcement to the pipe piles. In lieu of AWS D1.4, the AWS D1.1 welder qualifications required for the pile welds also applies to the U-bar reinforcement welds.

NOTE: Use only E7018 series electrodes.

5 PILE REINFORCING DETAIL

No Scale Typical all piles on all Bents

PIPE PILE WEIGHT

PIPE PILE DIAMETER	WALL THICKNESS	WEIGHT (LBS/FT)
24"	1/2"	126

PILE LOCATION COORDINATE TABLE

POINT NAME	N OR Y COORDINATE	E OR X COORDINATE	DESCRIPTION
P1	1537770.89	509200.97	BENT 1 LEFT EXT. PILE
P2	1537766.08	509196.85	BENT 1 LEFT INT. PILE
P3	1537761.28	509192.72	BENT 1 MIDDLE PILE
P4	1537756.48	509188.59	BENT 1 RIGHT INT. PILE
P5	1537751.67	509184.46	BENT 1 RIGHT EXT. PILE
P6	1537705.25	509277.35	BENT 2 LEFT EXT. PILE
P7	1537700.44	509273.23	BENT 2 LEFT INT. PILE
P8	1537695.64	509269.10	BENT 2 MIDDLE PILE
P9	1537690.84	509264.97	BENT 2 RIGHT INT. PILE
P10	1537686.03	509260.84	BENT 2 RIGHT EXT. PILE
P11	1537639.13	509354.30	BENT 3 LEFT EXT. PILE
P12	1537634.32	509350.17	BENT 3 LEFT INT. PILE
P13	1537629.52	509346.04	BENT 3 MIDDLE PILE
P14	1537624.72	509341.91	BENT 3 RIGHT INT. PILE
P15	1537619.91	509337.79	BENT 3 RIGHT EXT. PILE
P16	1537573.49	509430.67	BENT 4 LEFT EXT. PILE
P17	1537568.69	509426.54	BENT 4 LEFT INT. PILE
P18	1537563.89	509422.41	BENT 4 MIDDLE PILE
P19	1537559.08	509418.29	BENT 4 RIGHT INT. PILE
P20	1537554.28	509414.16	BENT 4 RIGHT EXT. PILE

NOTE: All pile coordinates are at center of pile.

PILE INFORMATION

LOCATION	DESIGN PILE TIP ELEVATION	MAXIMUM PILE CUT-OFF ELEVATION (FT)	PILE TIP TREATMENT	REQUIRED BEARING RESISTANCE DURING DRIVING (KIP)	MAXIMUM PILE REACTION SERVICE I
Bent No. 1	2289.11'	2356.11'	CONICAL DRIVING POINT	400	179.9
Pier No. 2	2261.03'	2358.03'	CONICAL DRIVING POINT	550	271.4
Pier No. 3	2263.61'	2360.61'	CONICAL DRIVING POINT	550	271.4
Bent No. 4	2296.82'	2363.82'	CONICAL DRIVING POINT	400	179.9

SHEET NO.

B5

FOOTING PLAN AND PILE DETAILS

SCALE: As indicated

BRIDGE OVER
LIBBY CREEK

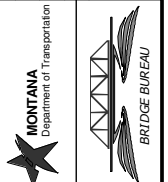
AT STA.
106+27.61

FEDERAL AID PROJECT NO.

STPS 482-1(10)2

COUNTY
LINCOLN

REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED	FILENAME:
				05-13-26	01-13-26	01-13-26	10760000BRRT-RVT
				L.A.K.	S.E.W.	M.L.C.	



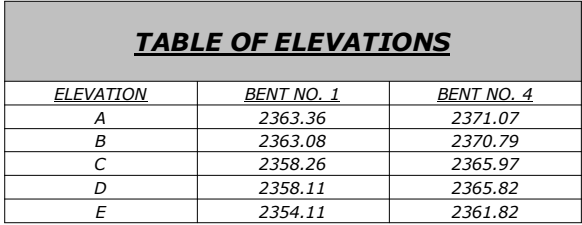
ROUTE
S-482

REF POINT
2+0.589

MDT STR. ID
06853

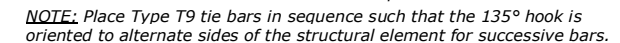
UPN NUMBER
10760000

DRAWING NO.
21164

[illegible]

2 ABUTMENT ELEVATION

DRAWING NO.
21165



Scale ~ 1/4" = 1'-0'

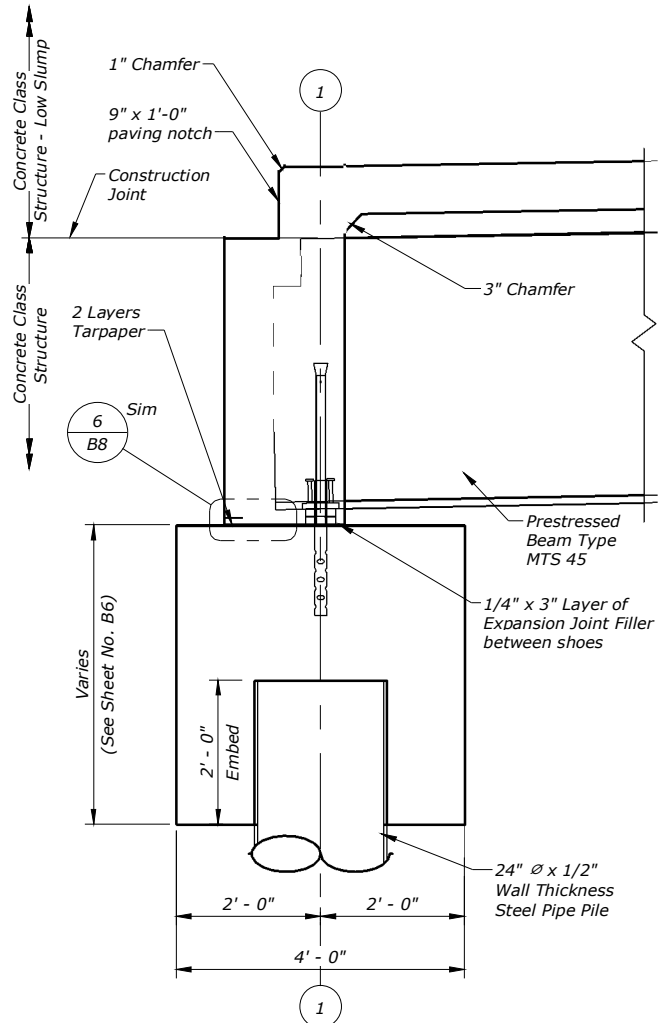
B7 | Scale $\sim 1/4'' = 1'-0''$



Scale $\sim 1/4'' = 1'-0''$

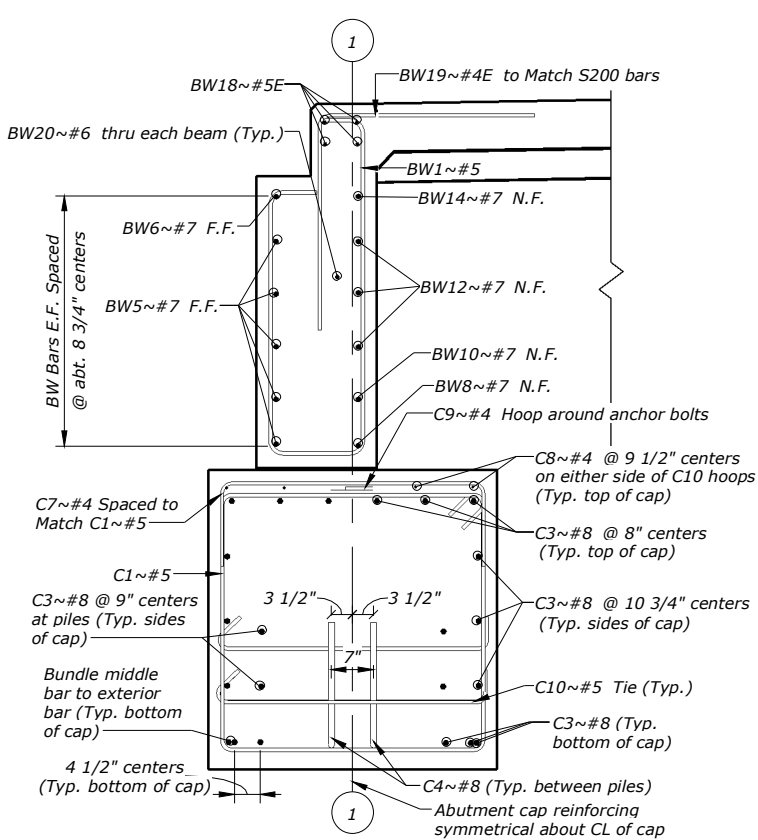
B7 | Scale $\sim 1/4'' = 1'-0''$

[illegible]



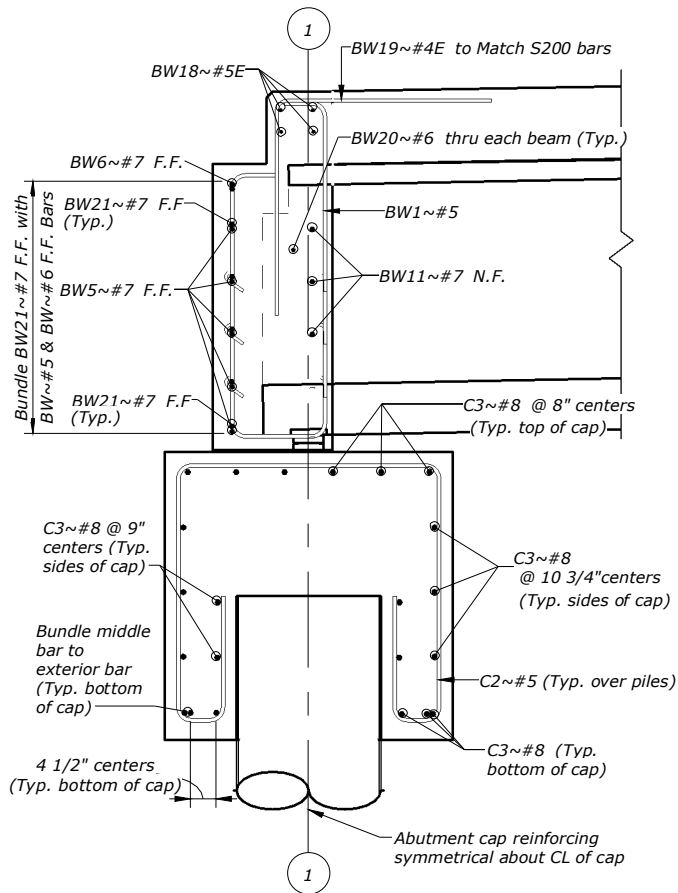
1 ABUTMENT SECTION

B6 Scale ~ 3/8" = 1'-0"



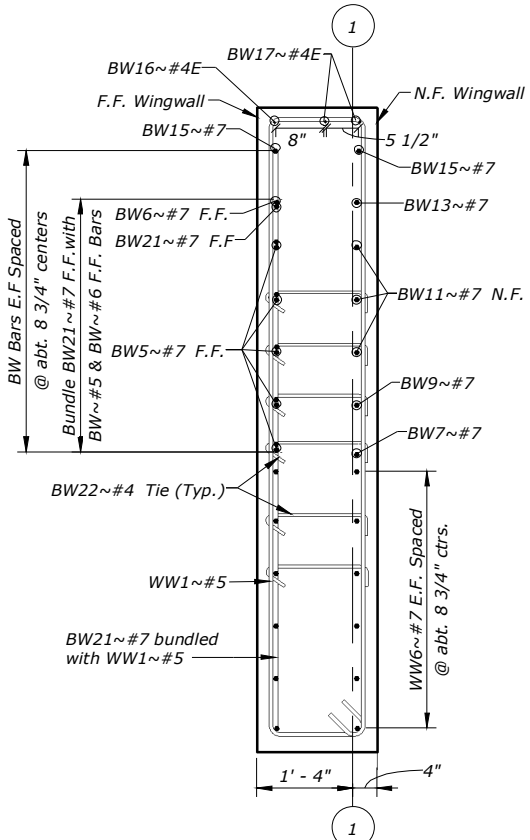
3 ABUTMENT REINFORCING BETWEEN PILES

B6 Scale ~ 3/8" = 1'-0"



2 ABUTMENT REINFORCING AT PILES

B6 Scale ~ 3/8" = 1'-0"



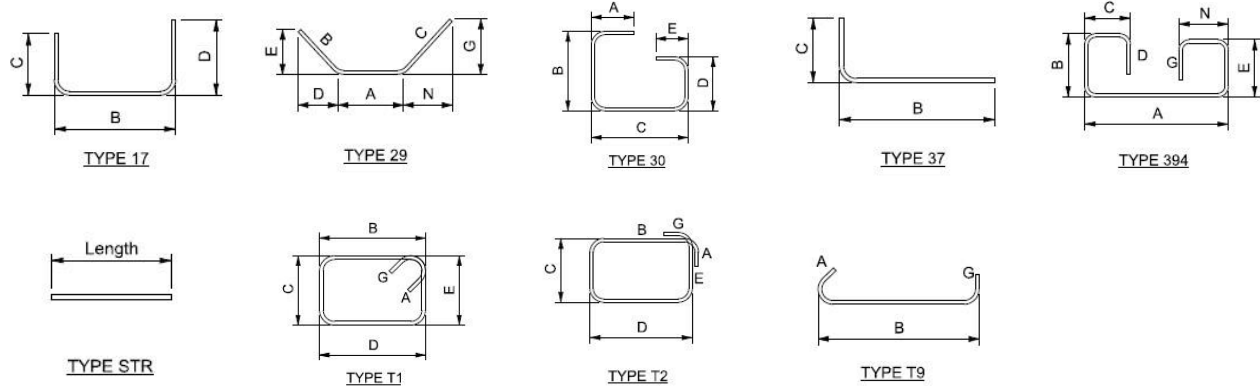
4 WINGWALL SECTION

B6 Scale ~ 3/8" = 1'-0"

ABUTMENT REBAR REFERENCE
SEE SHEET NOS. B14 & B15 FOR STRUCTURE BILL OF REINFORCING STEEL

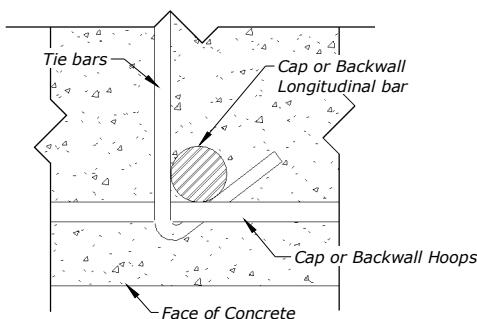
(FOR BOTH ABUTMENTS)

(ALL DIMENSIONS ARE OUT TO OUT)



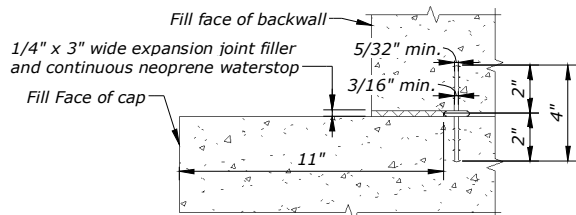
Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
BW1	#5	34	30	10' - 11"	7"	4'-8"	1'-4"	3'-8"	8"		
BW2	#5	16	T1	8' - 6"	6"	2'-5"	1'-4"	2'-5"	1'-4"	6"	
BW3	#5	16	T1	7' - 6"	6"	1'-11"	1'-4"	1'-11"	1'-4"	6"	
BW4	#5	8	T1	13' - 0"	6"	4'-8"	1'-4"	4'-8"	1'-4"	6"	
BW5	#7	10	STR	42' - 8"							
BW6	#7	2	STR	41' - 10 1/2"							
BW7	#7	4	STR	8' - 3"							
BW8	#7	6	STR	4' - 6"							
BW9	#7	4	STR	8' - 3 1/2"							
BW10	#7	6	STR	4' - 7"							
BW11	#7	12	STR	9' - 4"							
BW12	#7	18	STR	6' - 10"							
BW13	#7	4	STR	7' - 3"							
BW14	#7	6	STR	3' - 4"							
BW15	#7	8	STR	4' - 1 1/2"							
BW16	#4E	4	29	9' - 11 1/2"	3'-3"	2'-5"	4'-3 1/2"	1'-1"	2'-2"	1'-10 1/2"	3'-10"
BW17	#4E	8	29	11' - 10"	3'-3"	2'-5"	6'-2 1/2"	1'-1"	2'-2"	2'-8 1/2"	5'-7"
BW18	#5E	8	STR	30' - 4"							
BW19	#4E	64	37	6' - 0"		3'-0"	3'-0"				
BW20	#6	8	STR	6' - 0"							
BW21	#7	26	STR	8' - 0"							
BW22	#4	112	T9	2' - 3"	5"	1'-5"				5"	
C1	#5	116	T1	15' - 6"	6"	3'-8"	3'-7"	3'-8"	3'-7"	6"	
C2	#5	30	394	15' - 8"	3'-8"	3'-7"	8"	1'-9"	3'-7"	1'-9"	8"
C3	#8	44	STR	30' - 0"							
C4	#8	16	17	7' - 6 1/2"		1'-9"	4'-1"	1'-9"			
C5	#4	12	17	7' - 7"		2'-0"	3'-7"	2'-0"			
C6	#4	24	17	6' - 8"		2'-0"	3'-6"	1'-2"			
C7	#4	40	17	6' - 0"		1'-2"	3'-8"	1'-2"			
C8	#4	8	STR	11' - 8 1/2"							
C9	#4	4	T2	10' - 2"	5"	4'-0"	8"	4'-0"	8"	5"	
C10	#5	60	T9	4' - 9"	6"	3'-9"				6"	
C11	#8W	20	17	5' - 3"		1'-8"	1'-11"	1'-8"			
WW1	#5	16	T1	20' - 10"	6"	8'-7"	1'-4"	8'-7"	1'-4"	6"	
WW2	#5	4	T1	20' - 6"	6"	8'-5"	1'-4"	8'-5"	1'-4"	6"	
WW3	#5	4	T1	19' - 8"	6"	8'-0"	1'-4"	8'-0"	1'-4"	6"	
WW4	#5	4	T1	18' - 10"	6"	7'-7"	1'-4"	7'-7"	1'-4"	6"	
WW5	#5	4	T1	18' - 0"	6"	7'-2"	1'-4"	7'-2"	1'-4"	6"	
WW6	#7	48	STR	5' - 11"							
WW7	#4	12	37	8' - 8"		1'-6"	7'-2"				

NOTE: See Sheet B5 for C11~#8W details.



5 TIE BAR DETAIL

No Scale



NOTE: Hold waterstop in accurate position while placing concrete

6 WATERSTOP DETAIL

B8 Scale ~ 1 1/2" = 1'-0"

SHEET NO.
B8

BENT NO. 1 & NO. 4
DETAILS CONTINUED

SCALE: As indicated

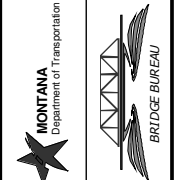
BRIDGE OVER
LIBBY CREEK

AT STA.
106+27.61

FEDERAL AID PROJECT NO.
STPS 482-1(10)2

COUNTY
LINCOLN

REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED	FILENAME:
				05-13-26	03-19-26	03-16-26	10760000BRV1.RVT
				L.R.K.	S.E.W.	M.L.C.	



ROUTE

S-482

REF POINT

2+0.589

MDT STR. ID

06853

UPN NUMBER

10760000

DRAWING NO.

21167

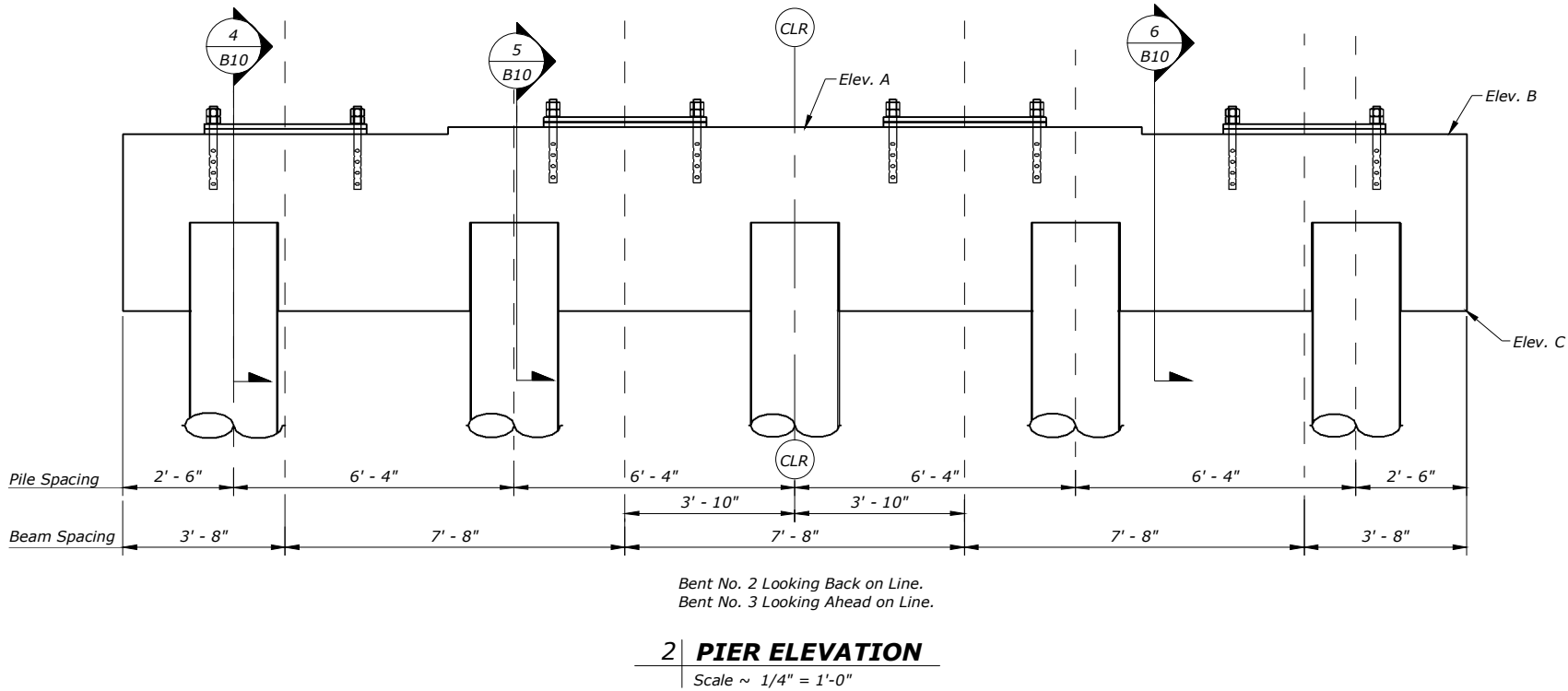
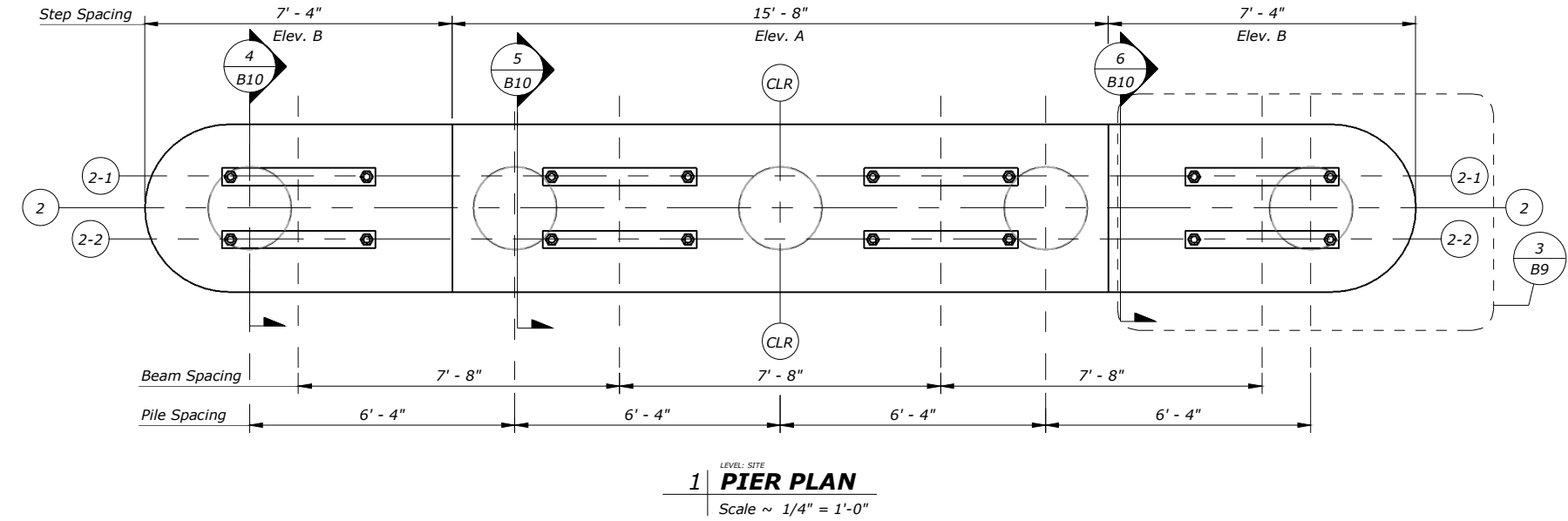
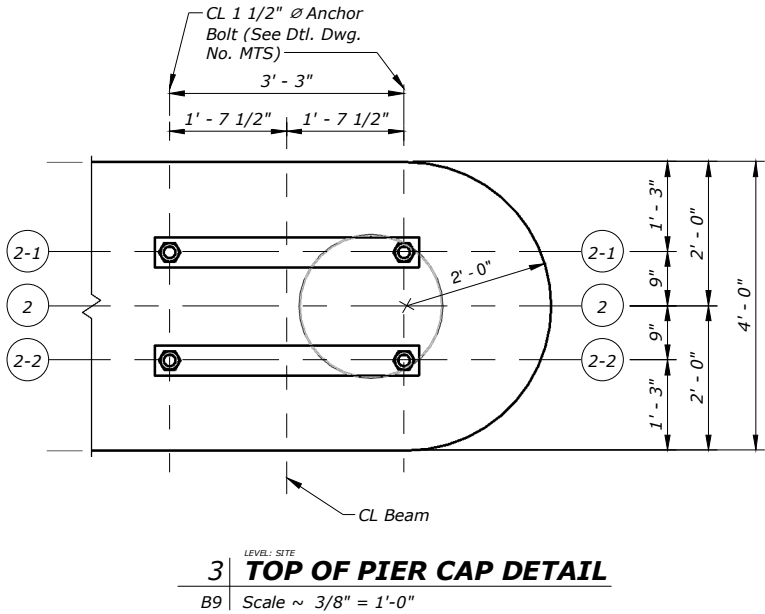


TABLE OF ELEVATIONS PIER		
ELEVATION	PIER NO. 2	PIER NO. 3
A	2360.18'	2362.61'
B	2360.03'	2362.77'
C	2356.03'	2358.61'



SHEET NO.

B9

PIER NO. 2 & NO. 3

BRIDGE OVER
LIBBY CREEK

AT STA.

106+27.61

FEDERAL AID PROJECT NO.

STPS 482-1(10)2

COUNTY

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ROUTE

S-482

REF POINT

2+0.589

MDT STR. ID

06853

UPN NUMBER

10760000

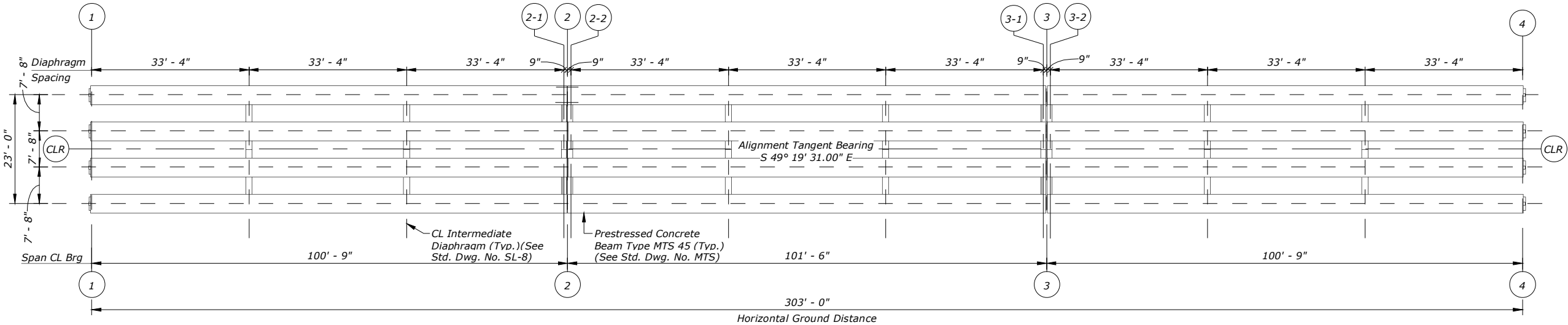
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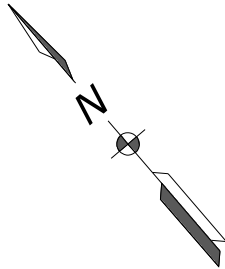
SCALE: As indicated



NOTE: See Sheet B5 for P24~#8W details.



1
ERECTOR PLAN
Scale ~ 1" = 25'



DEAD LOAD DEFLECTION TABLE					
TYPE MTS-45 PRESTRESSED CONCRETE BEAM					
SPAN LENGTH 100'-0"					
TENTH POINT					
	0.1	0.2	0.3	0.4	0.5
INT.	13/16"	1 1/2"	2 1/16"	2 7/16"	2 1/2"
EXT.	3/4"	1 7/16"	2"	2 5/16"	2 7/16"

NOTE: Deflections symmetrical about 0.5 point and do not include beam dead load.

PRESTRESSED BEAM DESIGN PARAMETERS	
AASHTO Specification	LRFD 9th Edition with 2023 Interims
Structure Type	Simple Span
Deck Concrete Strength	4000 psi
Deck Concrete Density	150 lb/ft ³
Prestressing Strand	270 ksi Low Relaxation - (0.500" or 0.600" diameter)
Shear Reinforcing	AASHTO M 31 Grade 60
Alternate Shear Reinforcing	Welded Wire Reinforcement - AASHTO M5S, M221, or MS4
Section Property Calculations	Gross Section
Prestress Loss Method	Approximate Losses per LRFD 5.9.3 and 5.9.3.3
Shear Computation Method	Sectional Model per LRFD 5.7.3
Beam / Slab Interface	Intentionally Roughened to 1/4" amplitude
Load Rating Requirements	AASHTO LRFR Design Load

NOTE: The Refined Loss Prestress Method should not be used.

PRESTRESSED BEAM LOAD TABLE		
LOAD TYPE	LOADS	APPLICATION METHOD
Barrier Load	0.411 kip/ft per rail	Equally to all beams
Future Wearing Surface	20 lb/ft^2 applied between curbs	Equally to all beams
Interior Diaphragm	1.87 kip/diaphragm	At point load
Exterior Diaphragm	0.93 kip/diaphragm	At point load
Additional Dead Load	----	----
Live Load	LRFD - HL-93	per AASHTO LRFD

SHEET NO.
B11

ERECTOR PLAN

BRIDGE OVER
LIBBY CREEK

AT STA.
106+27.61

FEDERAL AID PROJECT NO.
STPS 482-1(10)2

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02-23-26
02-20-26

L.R.K.
S.E.W.
M.L.C.

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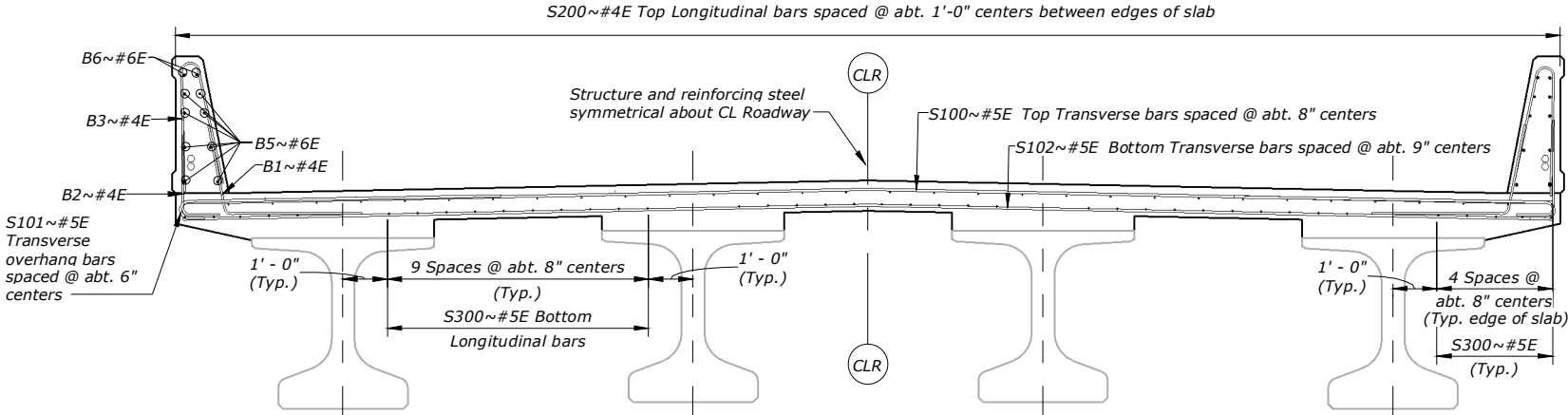
MDT STR. ID
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UPN NUMBER
10760000

DRAWING NO.
21170



SHEET NO. B12										SLAB DETAILS							
SCALE: As indicated										BRIDGE OVER LIBBY CREEK		FEDERAL AID PROJECT NO. STPS 482-1(10)2		AT STA. 106+27.61			
<div><div><div>MONTANA Department of Transportation</div></div><div><div>BRIDGE BUREAU</div></div></div> <div>ROUTE S-482</div> <div>REF POINT 2+0.589</div> <div>MDT STR. ID 06853</div> <div>UPN NUMBER 10760000</div> <div>DRAWING NO. 21171</div>										FILENAME: 10760000BRRTV1.VIT		5/27/2026 9:03:12 AM					
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DESIGNED		02-27-26		M.L.C.													



NOTE: See Std. Dwg. No. SBR-SS36R for barrier reinforcing details.

1 | TRANSVERSE SECTION REINFORCING

Scale ~ 1/4" = 1'-0"

SLAB REBAR REFERENCE

(FOR ENTIRE SLAB)

SEE SHEET NOS. B14 & B15 FOR BILL OF REINFORCING STEEL

(ALL DIMENSIONS ARE OUT TO OUT)

TYPE 27

TYPE 28

TYPE 33

TYPE 37

TYPE STR

TYPE S4

TYPE S5

TYPE T1

TYPE 905

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N	No. Lap
ABT1	#4E	13	28	4' - 6 1/2"	2'-6 1/2"	2'-0"	2'-6"	5 1/2"				
ABT2	#4E	13	STR	3' - 8"								
B1	#4E	632	28	5' - 0"	3'-0"	2'-0"	7"	2'-11 1/2"				
B2	#4E	630	37	2' - 11"		10"	2'-1"					
B3	#4E	632	33	5' - 8 1/2"	2'-6 1/2"	6 1/2"	2'-7 1/2"	2'-9"	2"		11"	
B4	#4E	13	33	5' - 5 1/2"	2'-4 1/2"	8"	2'-5"	2'-7"	2 1/2"		11"	
B5	#6E	16	27.1	319' - 2"		4'-5"	305'-5"	60'-0"	19'-2"			5
B6	#6E	4	27.1	318' - 3"		4'-5"	304'-6"	60'-0"	18'-3"			5
D1	#4E	90	S4	6' - 10"	5"	2'-8 1/2"	7"	2'-8 1/2"		5"		
D2	#4E	36	T1	4' - 9"	5"	1'-4 1/2"	7"	1'-4 1/2"	7"	5"		
D3	#4E	36	T1	5' - 3"	5"	1'-7 1/2"	7"	1'-7 1/2"	7"	5"		
D4	#6E	36	STR	6' - 11"								
D5	#4E	72	STR	6' - 11"								
D6	#6E	20	STR	6' - 0"								
D7	#4E	60	S5	5' - 6"	5"	2'-0 1/2"	7"	2'-0 1/2"		5"		
D8	#6E	24	STR	6' - 11"								
S1	#4E	60	STR	20' - 0"								
S100	#5E	455	STR	30' - 0"								
S101	#5E	1214	905	7' - 7"	6 1/2"	7'-0 1/2"						
S102	#5E	405	STR	30' - 0"								
S200	#4E	32	27.2	323' - 2"		2'-11"	303'-11"	40'-0"	43'-2"			7
S300	#5E	40	27.1	317' - 8"		3'-8"	303'-11"	60'-0"	17'-8"			5

NOTE: Type 27.1 and Type 27.2 are both Type 27 bars.

SHEET NO.
B13

SLAB DETAILS CONTINUED

BRIDGE OVER
LIBBY CREEK

AT STA.
106+27.61

FEDERAL AID PROJECT NO.
STPS 482-1(10)2

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S.E.W.
M.L.C.

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03-19-26
03-16-26

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06853

UPN NUMBER
10760000

DRAWING NO.
21172

STRUCTURE BILL OF REINFORCING STEEL																
Mark	Size	No.	Type	Length	A	B	C	D	E	G	N	No. Lap	Bend Type	Comments	Weight	
ABT1	#4E	13	28	4' - 6 1/2"	2'-6 1/2"	2'-0"	2'-6"	5 1/2"					Standard	Barrier rail end in backwall	39 lb	
ABT2	#4E	13	STR	3' - 8"									Standard	Barrier rail end in backwall	32 lb	
B1	#4E	632	28	5' - 0"	3'-0"	2'-0"	7"	2'-11 1/2"					Standard	Barrier rail bars	2108 lb	
B2	#4E	630	37	2' - 11"		10"	2'-1"						Standard	Barrier rail bars	1232 lb	
B3	#4E	632	33	5' - 8 1/2"	2'-6 1/2"	6 1/2"	2'-7 1/2"	2'-9"	2"		11"		Standard	Barrier rail bars	2415 lb	
B4	#4E	13	33	5' - 5 1/2"	2'-4 1/2"	8"	2'-5"	2'-7"	2 1/2"		11"		Standard	Barrier rail bars	48 lb	
B5	#6E	16	27.1	319' - 2"		4'-5"	305'-5"	60'-0"	19'-2"			5	Standard	Barrier rail longitudinal bars	7671 lb	
B6	#6E	4	27.1	318' - 3"		4'-5"	304'-6"	60'-0"	18'-3"			5	Standard	Barrier rail longitudinal bars	1912 lb	
BW1	#5	34	30	10' - 11"	7"	4'-8"	1'-4"	3'-8"	8"				Standard	Backwall hoops	387 lb	
BW2	#5	16	T1	8' - 6"	6"	2'-5"	1'-4"	2'-5"	1'-4"	6"			Stirrup / Tie	Backwall hoops	142 lb	
BW3	#5	16	T1	7' - 6"	6"	1'-11"	1'-4"	1'-11"	1'-4"	6"			Stirrup / Tie	Backwall hoops	125 lb	
BW4	#5	8	T1	13' - 0"	6"	4'-8"	1'-4"	4'-8"	1'-4"	6"			Stirrup / Tie	Backwall hoops	108 lb	
BW5	#7	10	STR	42' - 8"									Standard	Backwall FF	872 lb	
BW6	#7	2	STR	41' - 10 1/2"									Standard	Backwall FF	171 lb	
BW7	#7	4	STR	8' - 3"									Standard	Backwall NF	68 lb	
BW8	#7	6	STR	4' - 6"									Standard	Backwall NF	55 lb	
BW9	#7	4	STR	8' - 3 1/2"									Standard	Backwall NF	68 lb	
BW10	#7	6	STR	4' - 7"									Standard	Backwall NF	56 lb	
BW11	#7	12	STR	9' - 4"									Standard	Backwall NF	229 lb	
BW12	#7	18	STR	6' - 10"									Standard	Backwall NF	252 lb	
BW13	#7	4	STR	7' - 3"									Standard	Backwall NF	59 lb	
BW14	#7	6	STR	3' - 4"									Standard	Backwall NF	41 lb	
BW15	#7	8	STR	4' - 1 1/2"									Standard	Backwall hoops	67 lb	
BW16	#4E	4	29	9' - 11 1/2"	3'-3"	2'-5"	4'-3 1/2"	1'-1"	2'-2"	1'-10 1/2"	3'-10"		Standard	Backwall chamfer	27 lb	
BW17	#4E	8	29	11' - 10"	3'-3"	2'-5"	6'-2 1/2"	1'-1"	2'-2"	2'-8 1/2"	5'-7"		Standard	Backwall chamfer	63 lb	
BW18	#5E	8	STR	30' - 4"									Standard	Paving notch	253 lb	
BW19	#4E	64	37	6' - 0"		3'-0"	3'-0"						Standard	Backwall to Slab	257 lb	
BW20	#6	8	STR	6' - 0"									Standard	Beam web through bars	72 lb	
BW21	#7	26	STR	8' - 0"									Standard	BW/WW Interface straight bars	425 lb	
BW22	#4	112	T9	2' - 3"	5"	1'-5"				5"			Stirrup / Tie	BW/WW Interface Ties	168 lb	
C1	#5	116	T1	15' - 6"	6"	3'-8"	3'-7"	3'-8"	3'-7"	6"			Stirrup / Tie	Cap hoops	1875 lb	
C2	#5	30	394	15' - 8"	3'-8"	3'-7"	8"	1'-9"	3'-7"	1'-9"	8"		Standard	Cap hoops over piles	490 lb	
C3	#8	44	STR	30' - 0"									Standard	Cap longitudinal bars	3524 lb	
C4	#8	16	17	7' - 6 1/2"		1'-9"	4'-1"	1'-9"					Standard	U-bars between piles	323 lb	
C5	#4	12	17	7' - 7"		2'-0"	3'-7"	2'-0"					Standard	U-bars at end of cap	61 lb	
C6	#4	24	17	6' - 8"		2'-0"	3'-6"	1'-2"					Standard	U-bars at end of cap	107 lb	
C7	#4	40	17	6' - 0"		1'-2"	3'-8"	1'-2"					Standard	Beam seat U-bars	160 lb	
C8	#4	8	STR	11' - 8 1/2"									Standard	Beam seat straight bars	63 lb	
C9	#4	4	T2	10' - 2"	5"	4'-0"	8"	4'-0"	8"	5"			Stirrup / Tie	Beam seat hoops around dowel bars	27 lb	
C10	#5	60	T9	4' - 9"	6"	3'-9"				6"			Stirrup / Tie	Ties around piles	297 lb	
C11	#8W	20	17	5' - 3"		1'-8"	1'-11"	1'-8"					Standard	U-bars in the top of piles	280 lb	
D1	#4E	90	S4	6' - 10"	5"	2'-8 1/2"	7"	2'-8 1/2"		5"			Stirrup / Tie	Intermediate Diaphragm hoops - 5 per bay	411 lb	
D2	#4E	36	T1	4' - 9"	5"	1'-4 1/2"	7"	1'-4 1/2"	7"	5"			Stirrup / Tie	Intermediate Diaphragm hoops	114 lb	
D3	#4E	36	T1	5' - 3"	5"	1'-7 1/2"	7"	1'-7 1/2"	7"	5"			Stirrup / Tie	Intermediate Diaphragm hoops	126 lb	
D4	#6E	36	STR	6' - 11"									Standard	Intermediate Diaphragm straight bars	374 lb	
D5	#4E	72	STR	6' - 11"									Standard	Intermediate Diaphragm straight bars	333 lb	
D6	#6E	20	STR	6' - 0"									Standard	Pier and Intermediate Diaphragm straight bars	180 lb	
D7	#4E	60	S5	5' - 6"	5"	2'-0 1/2"	7"	2'-0 1/2"		5"			Stirrup / Tie	Pier diaphragm hoops - 5 per bay	221 lb	
D8	#6E	24	STR	6' - 11"									Standard	Pier diaphragm straight bars	249 lb	
P1	#5	96	T1	15' - 8"	6"	3'-8"	3'-8"	3'-8"	3'-8"	6"			Stirrup / Tie	Pier hoops	1569 lb	
P2	#5	4	T1	15' - 2"	6"	3'-5"	3'-8"	3'-5"	3'-8"	6"			Stirrup / Tie	Pier hoops	63 lb	
P3	#5	4	T1	14' - 8"	6"	3'-2"	3'-8"	3'-2"	3'-8"	6"			Stirrup / Tie	Pier hoops	61 lb	
P4	#5	4	T1	13' - 10"	6"	2'-9"	3'-8"	2'-9"	3'-8"	6"			Stirrup / Tie	Pier hoops	58 lb	
P5	#5	4	T1	12' - 6"	6"	2'-1"	3'-8"	2'-1"	3'-8"	6"			Stirrup / Tie	Pier hoops	52 lb	
P6	#5	4	T1	10' - 4"	6"	1'-0"	3'-8"	1'-0"	3'-8"	6"			Stirrup / Tie	Pier hoops	43 lb	
P7	#5	30	394	15' - 10"	3'-8"	3'-8"	8"	1'-9"	3'-8"	1'-9"	8"		Standard	Pier hoops over piles	495 lb	
P8	#8	4	STR	30' - 0"									Standard	Pier longitudinal bars	320 lb	
P9	#8	4	STR	29' - 7"									Standard	Pier longitudinal bars	316 lb	
P10	#8	4	STR	27' - 3"									Standard	Pier longitudinal bars	291 lb	
P11	#8	12	STR	28' - 11 1/2"									Standard	Pier longitudinal bars	928 lb	
P12	#8	16	17	7' - 7"		1'-9"	4'-1"	1'-9"					Standard	Pier longitudinal bars	324 lb	
P13	#8	20	STR	27' - 1"									Standard	Pier longitudinal bars	1446 lb	
P14	#4	12	10	10' - 2"	2'-4"	5'-6"	2'-4"		1'-9"	3'-6 1/2"			Standard	Pier curved bars at end of cap	81 lb	
P15	#4	16	17	7' - 6 1/2"		2'-0"	3'-6 1/2"	2'-0"					Standard	Pier U-bars at end of cap	81 lb	
P16	#4	8	17	6' - 8 1/2"			3'-6 1/2"	1'-2"					Standard	Pier U-bars at end of cap	36 lb	
P17	#4	52	17	6' - 0"		1'-2"	3'-8"	1'-2"					Standard	Beam seat U-bars	208 lb	
P18	#4	12	STR	15' - 4"									Standard	Beam seat straight bars	123 lb	
P19	#4	8	T2	10' - 2"	5"	8"	4'-0"	8"	4'-0"	5"			Stirrup / Tie	Beam seat hoops around anchor bars	54 lb	
P20	#5	48	T9	4' - 9"	6"	3'-9"				6"			Stirrup / Tie	Ties around piles	238 lb	
P21	#5	4	T9	4' - 6"	6"	3'-6"				6"			Stirrup / Tie	Ties around piles	19 lb	
P22	#5	4	T9	4' - 3"	6"	3'-3"				6"			Stirrup / Tie	Ties around piles	18 lb	
P23	#5	4	T9	3' - 10"	6"	2'-10"				6"			Stirrup / Tie	Ties around piles	16 lb	
P24	#8W	20	17	5' - 3"		1'-8"	1'-11"	1'-8"					Standard	U-bars in the top of piles	280 lb	

NOTE: Type 27.1 and Type 27.2 are both Type 27 bars.

BAR BENDING DIAGRAMS

(ALL DIMENSIONS ARE OUT TO OUT)

REINFORCING STEEL BAR MARK LOCATIONS	
MARK	LOCATION
ABT	BARRIER RAIL END
B	BARRIER RAIL
BW	BACKWALL
C	ABUTMENT CAP
D	DIAPHRAGM
P	PIER CAP
S	SLAB
WW	WINGWALL

SHEET NO.

B14

STRUCTURE BILL OF REINFORCING STEEL

SCALE: No Scale

BRIDGE OVER LIBBY CREEK

AT STA. 106+27.61

FEDERAL AID PROJECT NO. STPS 482-1(10)2

COUNTY LINCOLN

REVISIONS

REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED
				05-13-26	03-19-26	03-16-26
				L.A.K.	S.E.W.	M.L.C.

FILENAME: 1076000BRV1-R.VT

MONTANA Department of Transportation

BRIDGE BUREAU

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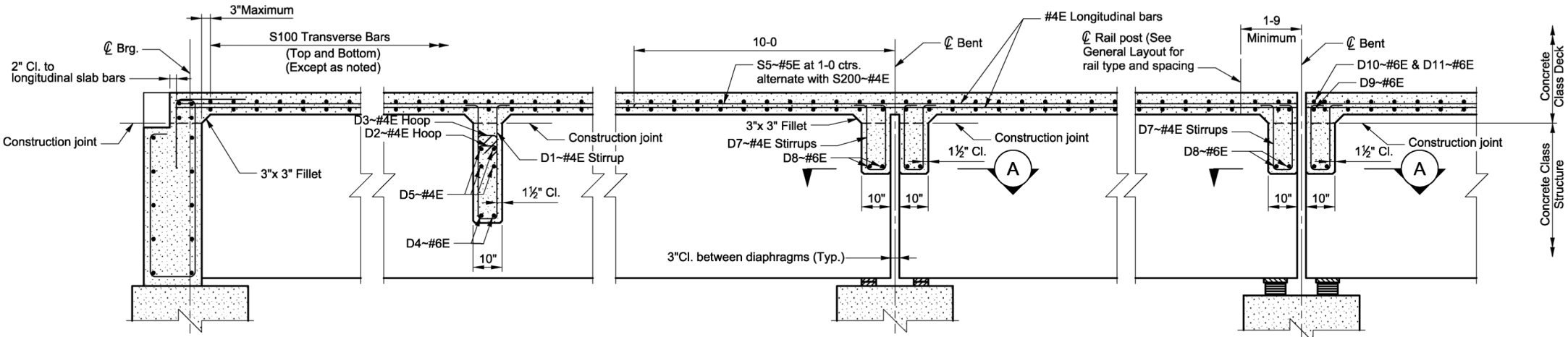
ROUTE S-482

REF POINT 2+0.589

MDT STR. ID 06853

UPN NUMBER 10760000

DRAWING NO. 21173



DETAIL AT FIXED END BENT

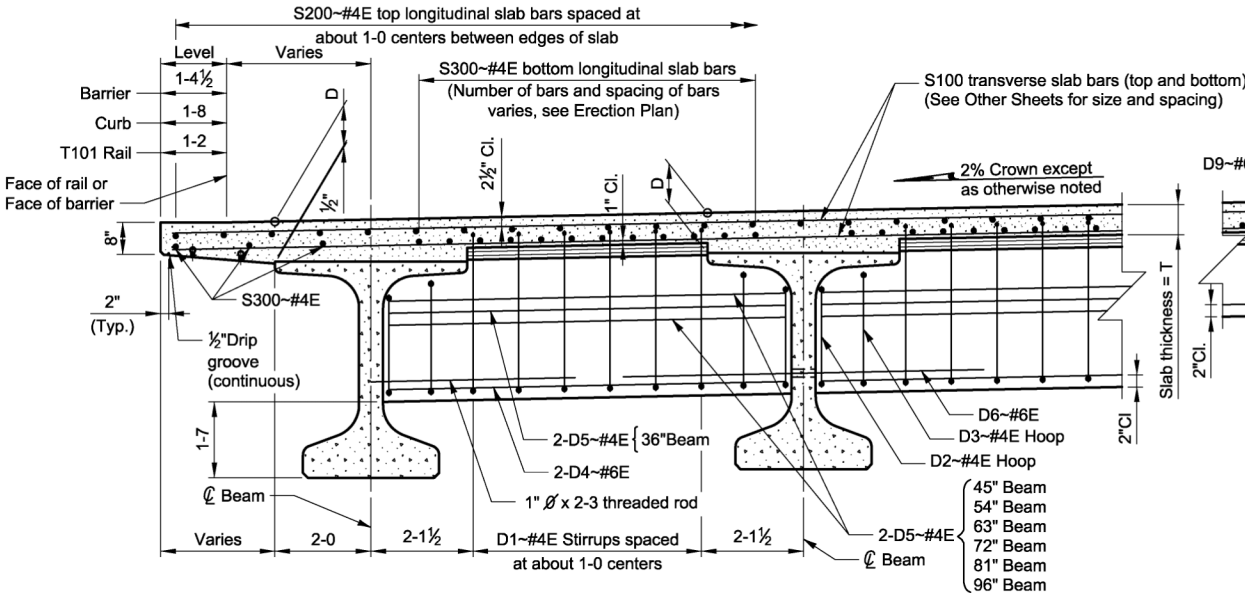
INTERMEDIATE DIAPHRAGM

CONTINUOUS SLAB AT INTERMEDIATE BENT

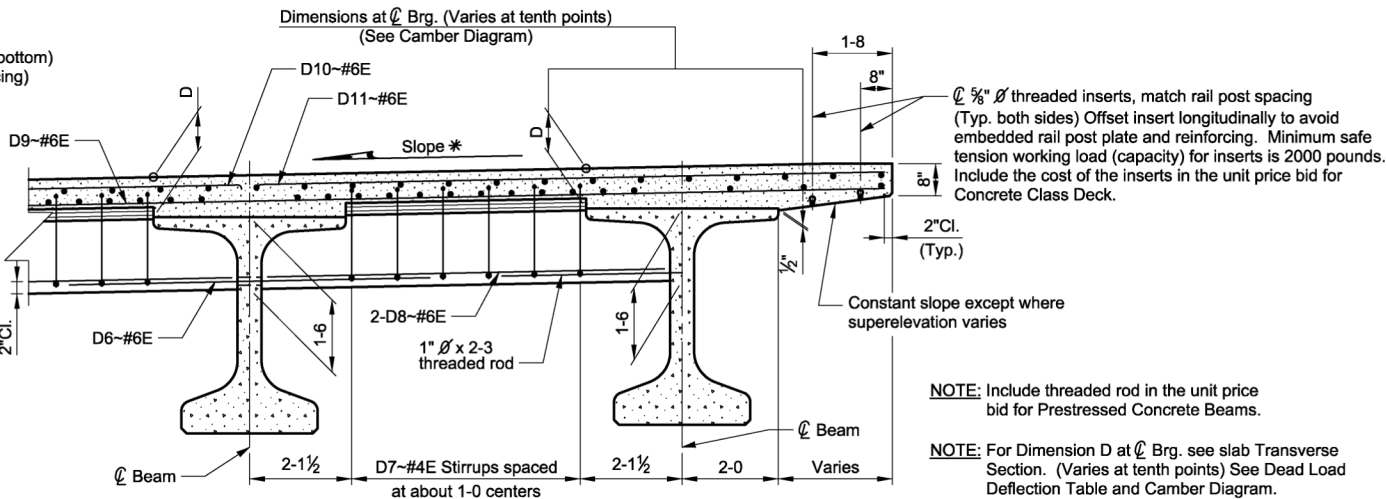
EXPANSION JOINT AT INTERMEDIATE BENT

LONGITUDINAL SECTION

**NOTE: Use a detail for end bents with expansion joints similar to the detail for an expansion joint at an intermediate bent.

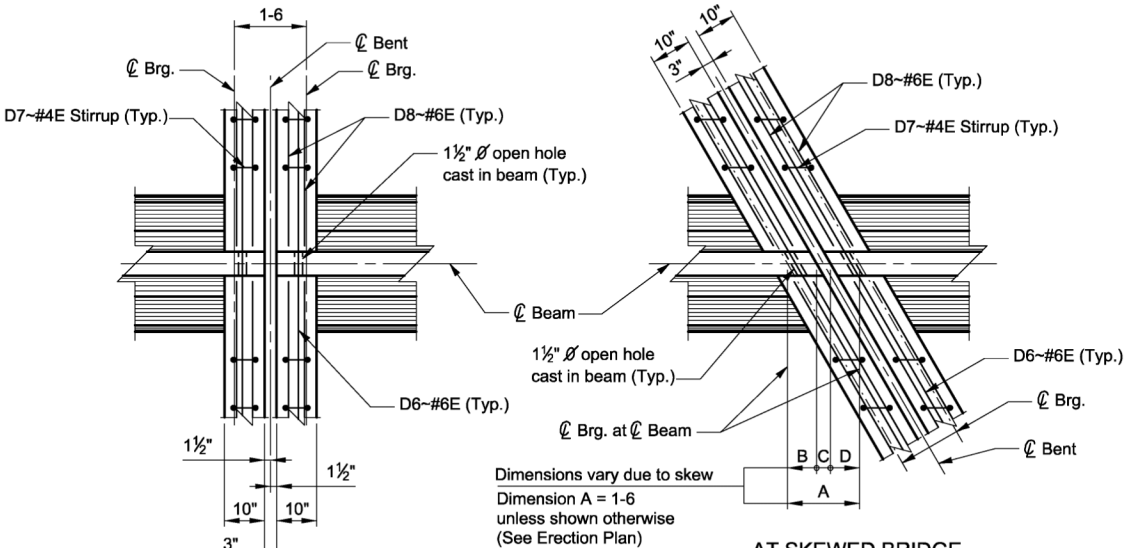


TRANSVERSE SECTION NEAR INTERMEDIATE DIAPHRAGM AT LOW SIDE



TRANSVERSE SECTION NEAR INTERMEDIATE BENT AT HIGH SIDE

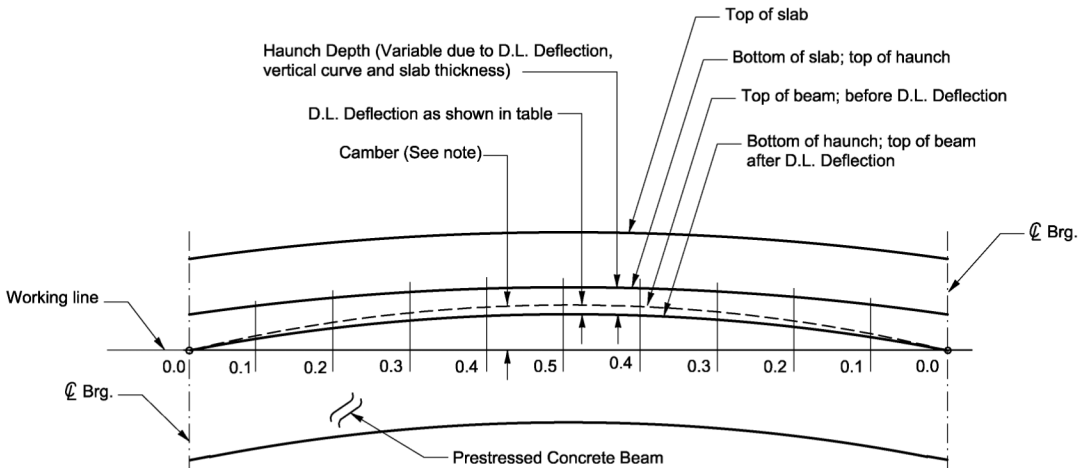
*NOTE: Detail shown is for superelevations other than normal crown.



AT SQUARE BRIDGE

SECTION A

AT SKEWED BRIDGE



NOTE: See Erection plan for theoretical D.L. Deflection Table for Prestressed Concrete Beams.

CAMBER DIAGRAM

NOTE: Camber is noted as the distance from the working line to the top of beam and may vary from theoretically calculated D.L. deflection.

NOTES

Use details shown on this sheet only as they apply to the project. See the General Layout or Other Sheets for beam spacing, slab thickness, size and spacing of S100 bars, number and spacing of S200 and S300-#4 bars, deck joint arrangement, rail and curb length, rail post spacing, bill of reinforcing steel and roadway width.

When adjoining spans have a different number of longitudinal slab bars, make the longitudinal bars of the shorter span continuous over the bent and extend them 3'-0" into the longer span.

If the bridge is skewed, place the transverse slab reinforcing steel as shown on Other Sheets.

See Standard Bridge Rail drawings for rail details.

The suffix E denotes epoxy coated reinforcing.

STANDARD SLAB AND DIAPHRAGM DETAILS

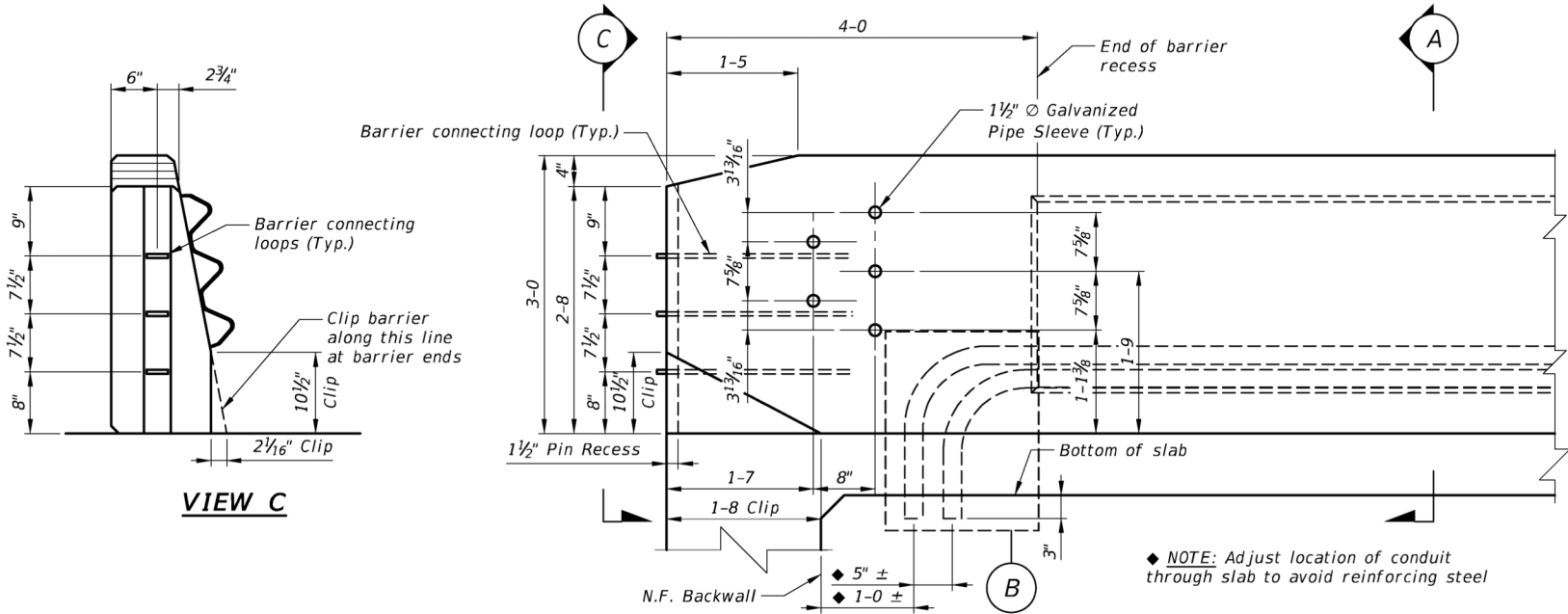
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OF TRANSPORTATION

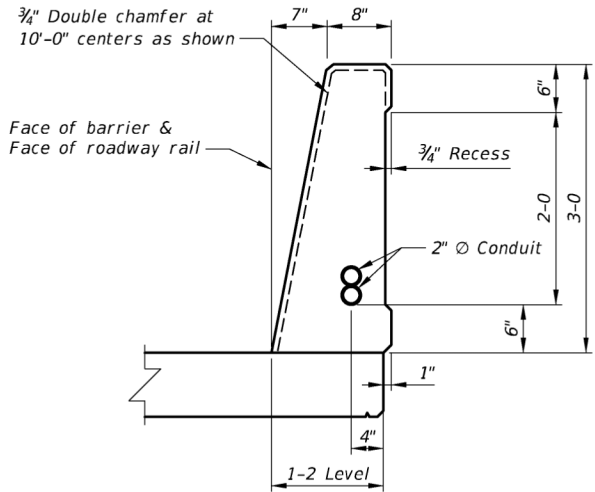


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REVIS	5-20-14	D.F.J.		
REVIS	3-6-12	D.F.J.		
CHECK	3-6-12	D.F.J.		
DRAWN	3-6-12	T.J.B.		

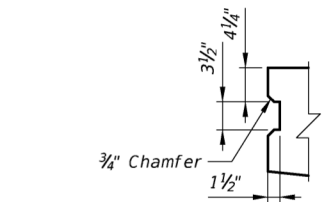
DRAWING NO.
SL-8



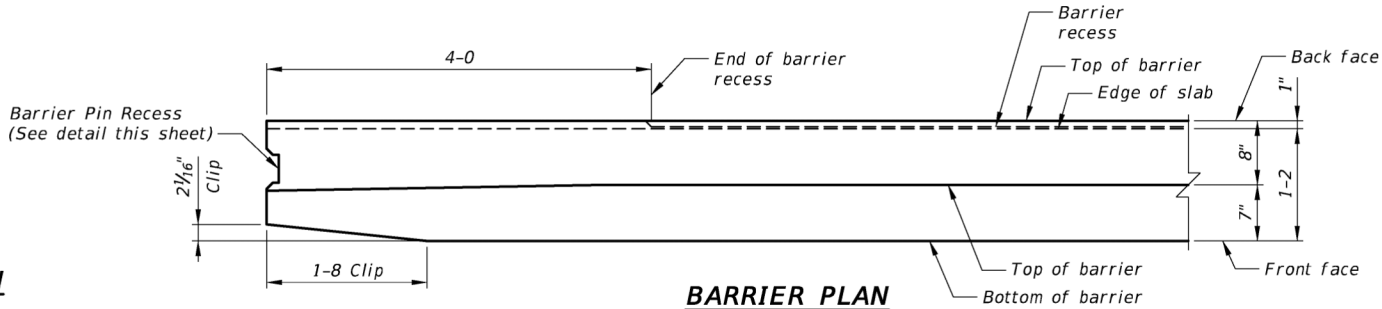
BARRIER INSIDE ELEVATION



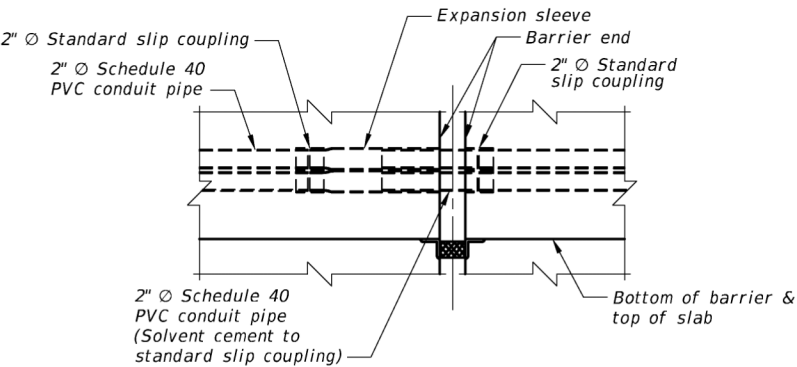
SECTION A



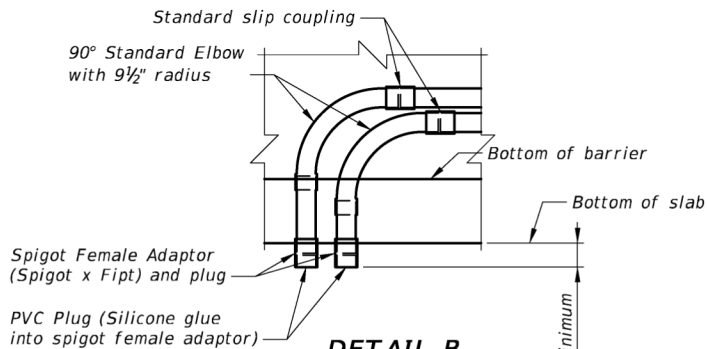
BARRIER PIN RECESS PLAN



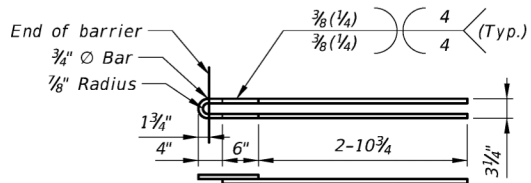
BARRIER PLAN



CONDUIT EXPANSION JOINT DETAIL



DETAIL B

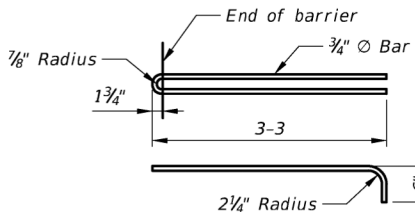


LOOP DETAIL

NOTE: Use reinforcing steel conforming to ASTM A 706, Grade 60 for rebar being welded to loops.

NOTE: Loop ends and the optional loop detail consist of smooth round bars conforming to AASHTO M 270, Grade 36.

NOTE: Cold bend the loops by using a jig that will produce an accurate radius without marring the bar. Do not heat the bar to facilitate bending.



OPTIONAL LOOP DETAIL

NOTE: Weld rebar to loops using 1/8" x E8018 rod. Do not tack weld the pieces together prior to welding. Use a certified welder in accordance with the current edition of AWS D1.4. Do not place the welded assembly in the form until it has been inspected.

NOTE: No additional welding is permitted on the smooth round bars or reinforcing steel.

NOTES

PLACEMENT: Do not disturb the deck cure to construct the concrete barrier.

CONCRETE STRENGTH: Do not place construction vehicles or equipment on the deck until the concrete has reached 90% of its specified 28-Day compressive strength or without approval from the Project Manager.

Do not open bridge to traffic for at least 14 days after placement of concrete barrier or until concrete in barrier has reached 90% of its specified 28-Day compressive strength.

CONTROL JOINT: Do not place 3/4" double chamfer in the barrier recess or the bottom outside edge of the barrier.

REFLECTOR: Place a white reflector on the top of barrier rail at 30-foot spacing between the barrier ends. See Dtl. Dwg. No. 605-00 for reflector detail.

TOLERANCES: Construct the concrete bridge rail to the same tolerances specified for concrete barrier rail, see Section 564 of the Standard Specifications.

REINFORCING STEEL: See Std. Dwg. No. SBR-SS36R for reinforcing steel locations.

GALVANIZING: Galvanize pipe sleeves in accordance with AASHTO M 111.

RADIUS: A 3/4" radius may be substituted for the 3/4" chamfers and fillets shown.

PAYMENT: Include all costs associated with the barrier as shown on this sheet in the unit price bid for 36 IN SS Concrete Barrier Rail-Br. See Std. Dwg. No. SBR-SS36R for reinforcing steel payment.

EXCEPTIONS: Use details shown on this drawing only as they apply to the project. Refer to other drawings for variations in these details.

CONDUIT: Omit conduit in any barrier not located at the edge of slab.

RAIL WEIGHT: For informational purposes only and based on Section A dimensions.
Rail weight = 411 lb/ft
Rail Volume = 2.74 ft3/ft

CRASH TEST: This rail has been evaluated and approved to be of equal strength to railings with like geometry, which have been crash tested to meet MASH TL-4 criteria.

RAIL DESIGN CAPACITY

	Interior Region	End Region
Rw	100 kips	67 kips
Lc	16'-9"	5'-9"
Mc	106 kip*in/ft	209 kip*in/ft

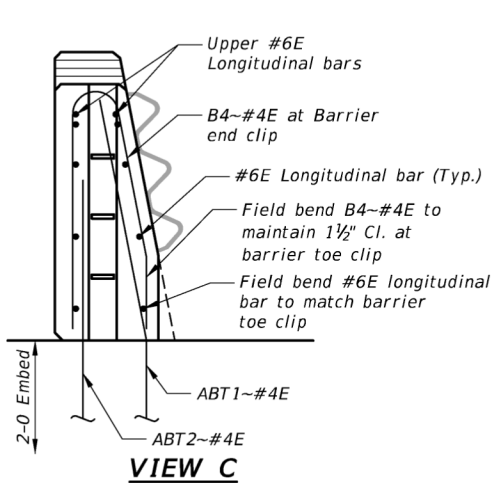
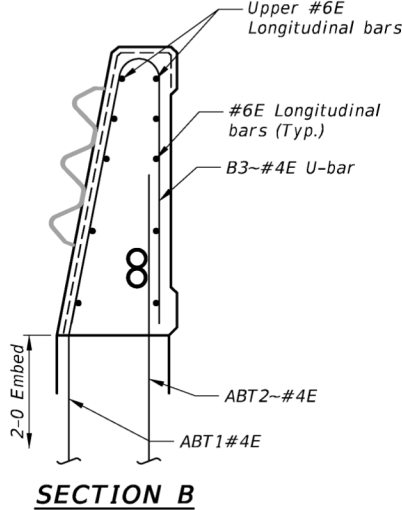
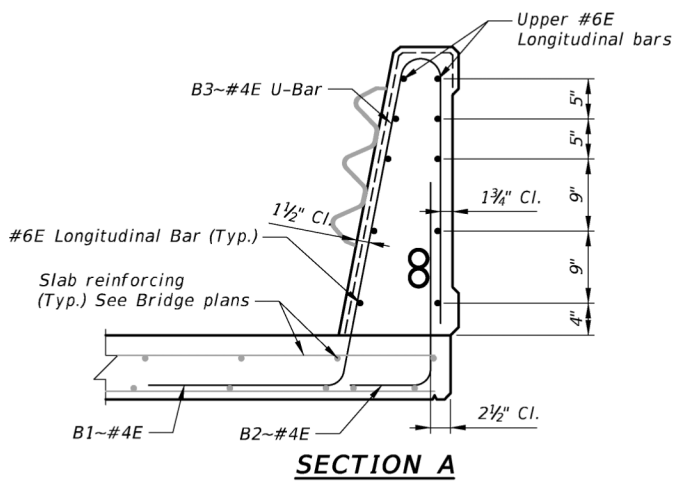
STANDARD BRIDGE RAIL
TYPE SINGLE SLOPE 36"

MDTA
DEPARTMENT OF TRANSPORTATION

BRIDGE BUREAU

REVISED	REVISED	REVISED	APPROVED	CHECKED	DRAWN	DATE	BY	APP. BY
			9-27-18	6-28-18	5-8-18	9/28/2018	J.S.O.	T.J.B.
DRAWING NO.						SBR-SS36		

No Scale



BILL OF REINFORCING STEEL

(ALL DIMENSIONS ARE OUT TO OUT)

TYPE 28

TYPE 37

TYPE 33

TYPE STR

NOTE: See Bridge Plans for number of bars required and longitudinal bars.

Mark	Size	Type	Length	A	B	C	D	E	G	N
B1	#4E	28	5-0	3-0	2-0	6¾"	2-11¼"			
B2	#4E	37	2-11¼"		10"	2-1¼"				
B3	#4E	33	5-9¼"	2-6½"	7¼"	2-7½"	2-9"	2"		11"
B4	#4E	33	5-5¾"	2-4¼"	8¼"	2-5¼"	2-7"	2¼"		11¼"
ABT1	#4E	28	4-6½"	2-6½"	2-0	2-6"	5¾"			
ABT2	#4E	STR	3-8							

NOTES

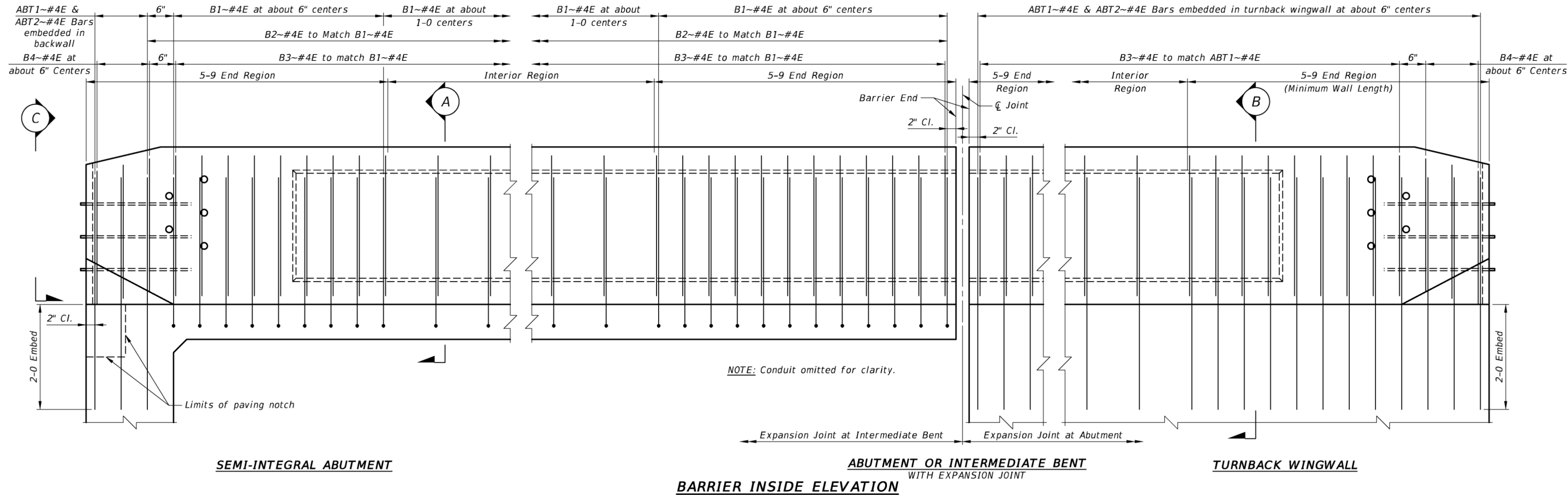
REINFORCING STEEL: All barrier reinforcing steel is epoxy coated.

DETAILS: See Std. Dwg. No SBR-SS36 for barrier details not shown on this drawing.


PAYMENT: Include all costs associated with furnishing and placing reinforcing steel in the barrier in the unit price bid for Reinforcing Steel - Epoxy Coated.


EXCEPTIONS: Use details shown on this drawing only as they apply to the project. Anchorage details may vary. Refer to other drawings for variations in these details.

UPPER LONGITUDINAL BARS: Adjust the lap length by approximately 10 1/2" at the tapered ends of the barrier.



STANDARD BRIDGE RAIL
TYPE SINGLE SLOPE 36"
REINFORCING


MONTANA
DEPARTMENT OF TRANSPORTATION


BRIDGE BUREAU

REVISED
REVISED
REVISED
APPROVED
CHECKED
DRAWN

9-27-18
6-28-18
5-8-18

J.S.O.
T.W.S.
T.J.B.

9/28/2018 9:52:44 AM ...ENGLISH REF:SS36R02716.STD

DRAWING NO.
SBR-SS36R

No Scale

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8	MONT.	S325(1)	1	9

NOTES

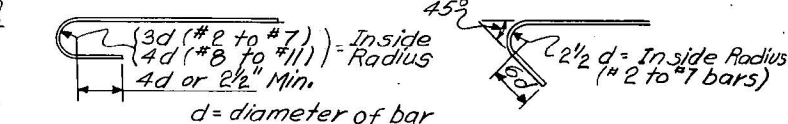
SPECIFICATIONS - Montana State Highway Commission Standard Specifications for Road and Bridge Construction, 1959 Edition, and any amendments thereto, and Special Provisions shall govern unless otherwise noted. Design prepared in accordance with A.A.S.H.O. Specifications 1957 Edition.

LIVE LOAD - Standard HS-20 loading.

FINISHED GRADE - Finished plan grade of bridge is same as profile grade shown on Road Plans.

CAST IN PLACE CONCRETE - All cast in place concrete of superstructure and as noted on Bents No. 1 and No. 3 shall be Class "AD". All other concrete in Bents No. 1, No. 3 and Pier No. 2 shall be Class "A". An "Air Entraining Agent" shall be added to all cast in place concrete. Chamfer all exposed edges of concrete $\frac{3}{4}$ " and fillet entrant angles $\frac{3}{4}$ " unless otherwise noted. Quantities of Class "AD" concrete have been computed using pretensioned beams. Quantities of Class "AD" concrete and reinforcing steel will vary slightly using post-tensioned beams.

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 dimension shown in the following sketches except as otherwise noted.



STRUCTURAL STEEL (Method of Measurement & Payment) - The 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 rules and assumptions specified in the Standard Specifications. The computed weight of each shipping unit shall be shown on the shop drawings. This weight may or may not be checked at the time the drawings are checked.

SETTING OF MASONRY PLATES - Care shall be taken in placing reinforcing steel so as to clear anchor bolts. Contractor shall finish concrete under beam masonry plates 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.

WELDS - All welds shall be continuous fillet shopwelds unless otherwise noted. Welds shall be paid for at the unit price bid for Reinforcing Steel and the weights shall be computed in accordance with the following: $\frac{1}{4}$ " at .160 $\frac{1}{16}$ " ft. & $\frac{3}{8}$ " at .359 $\frac{1}{16}$ " ft.

ARMORED JOINTS AND GUARD ANGLES - Slab guard angles, pier nose angles, armored joint material and steel shoes shall be paid for at the unit price bid for reinforcing steel.

FOUNDATION PILES - For bidding purposes only, pile lengths have been estimated as noted on the details of the bents and piers. All piling shall be driven as set forth in the Special Provisions.

PEELING OF PILES - All piles shall be peeled in accordance with the Standard Specifications soon after cutting. All peeling shall be accomplished by such means as will not damage, destroy or remove any of the sapwood.

TEST PILES - For Test Pile requirements see Special Provisions.

STRUCTURE EXCAVATION - Only the excavation below Elevation 2345.00 for Pier No. 2 need be restricted to the area inside the cofferdams. All boulders and large rocks taken out of holes in excavating for bents and pier shall be placed back around the bent or pier from which they were taken in such a manner as to provide the best protection against scour. The cost of this backfilling shall be included in the unit price bid for Structure Excavation. Only that excavation below the limits of the channel clearing shall be paid for as Structure Excavation.

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

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

PRECAST PRESTRESSED CONCRETE - All precast prestressed concrete shall have a minimum compressive strength of 5000 psi. at the age of 28 days. (See Special Provisions for Precast Prestressed Concrete Beams.) An "Air Entraining Agent" may be added to any precast prestressed concrete. Chamfer all exposed edges of concrete $\frac{3}{4}$ " and don't fillet entrant angles unless otherwise noted.

STRUCTURAL STEEL - For requirements governing structural steels and their fabrication, see the Standard Specifications. To avoid oversight, these requirements shall be clearly noted on the shop drawings. Structural steel shall receive 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, on all surfaces not in contact with the concrete, except as noted in the Standard Specifications.

OTHER NOTES - For other notes see Dwg. No. 5192 & No. 5194.

STATE OF MONTANA STATE HIGHWAY COMMISSION BRIDGE OVER LIBBY CREEK

STA. 40+08.00

FED. AID SECONDARY PROJ. NO. S325(1)

LINCOLN COUNTY

GENERAL LAYOUT

Scale: 1"=10'-0"

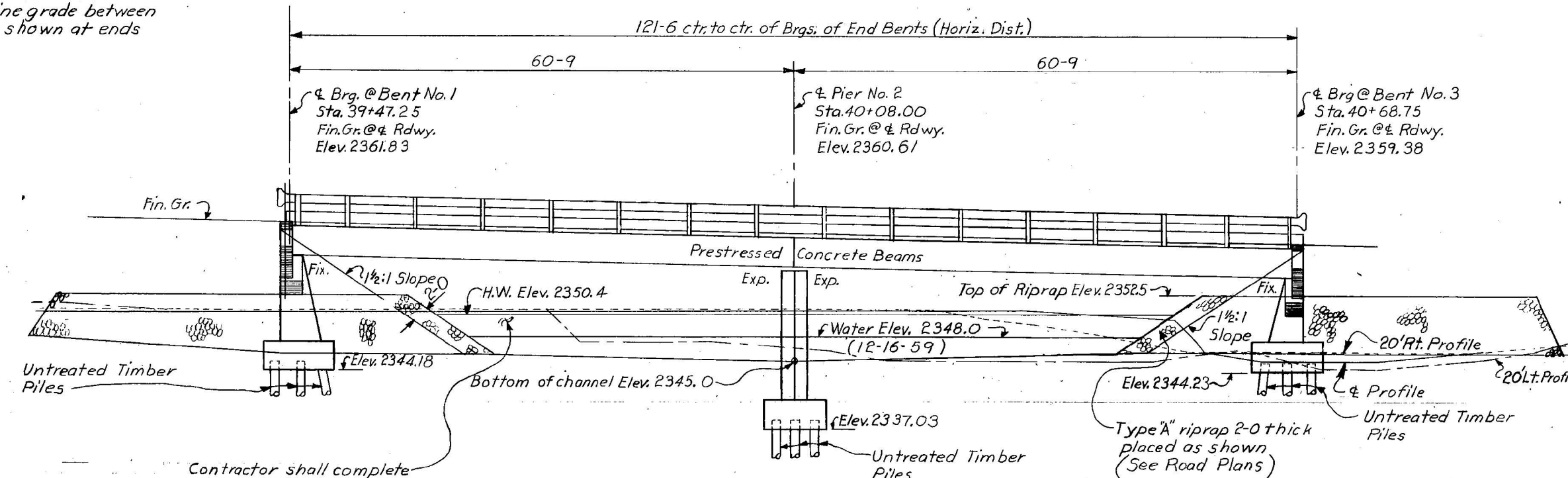
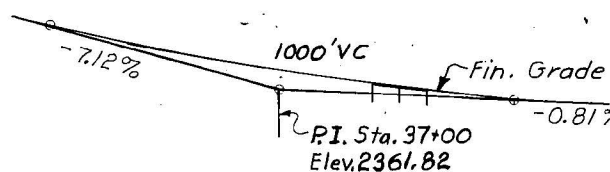
APPROVED BY

[Signature]
BRIDGE ENGINEER

DRAWING NO. 5191

DESIGNED	DRAWN	TRACED	CHECKED	REVISED
	K.E.M.		J.J.W.	
			T.J.B.	

AWARD COPY

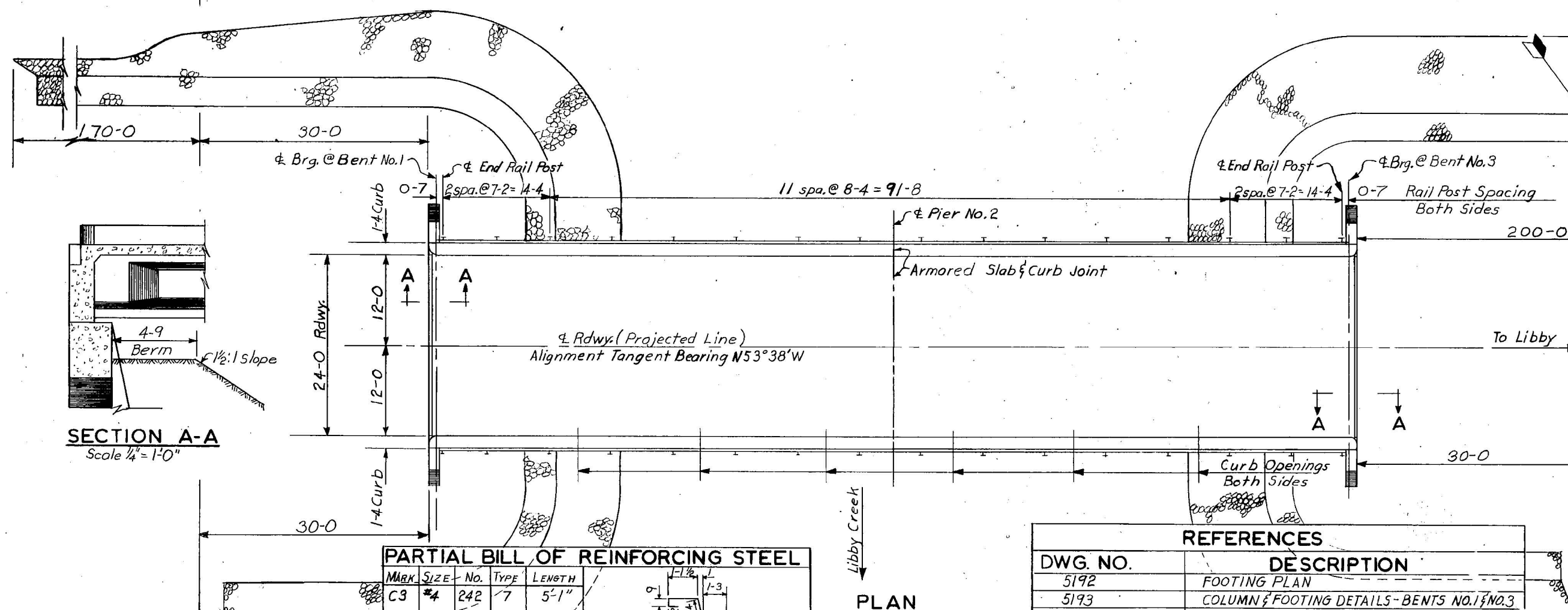


ELEVATION

STREAM DATA

Ice - Medium
Drift - Light
Scour - Medium
Subsoil - See Borings on Footing Plan

Contractor shall complete channel clearing before structure excavation is started on Pier No. 2



PLAN

MARK	SIZE	NO.	TYPE	LENGTH
C9	#4	242	7	5'-1"

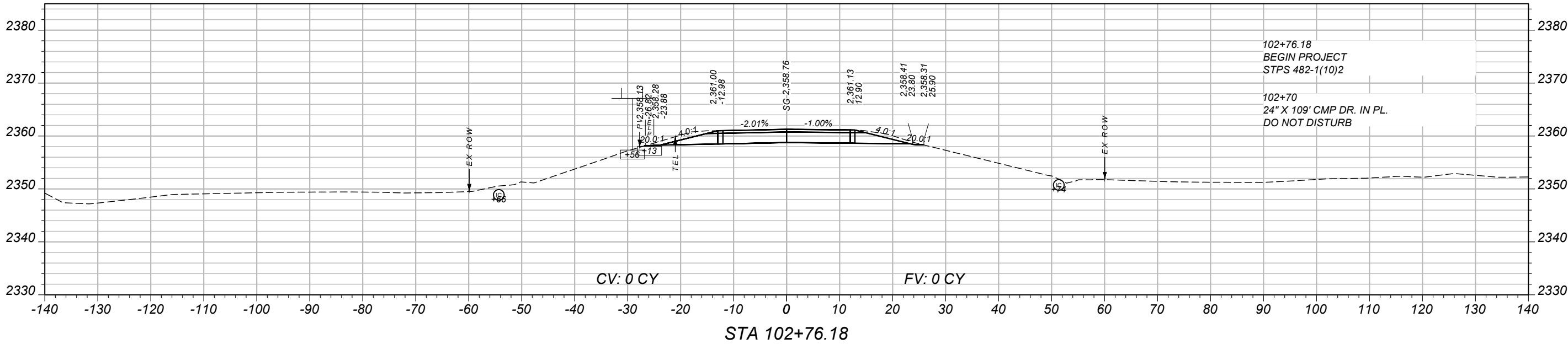
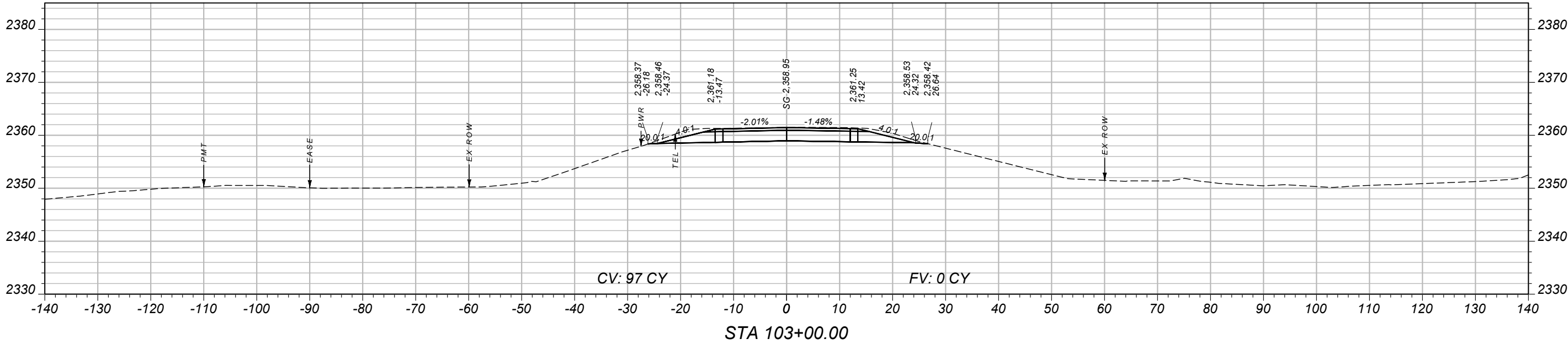
The Partial Bill of Reinforcing Steel shown above shall be used in conjunction with the Bill of Reinforcing Steel shown on Dwg. No. 5192 to 5194.

DWG. NO.	DESCRIPTION
5192	FOOTING PLAN
5193	COLUMN & FOOTING DETAILS - BENTS NO. 1 & NO. 3
5194	PIER NO. 2
E.B. 30 TO 60-R24-L2 (Rev. 1-10-61)	STANDARD END BENT FOR PRESTRESSED CONCRETE BEAMS
PRES-BEAM STD. NO. 1 TYPE A (Rev. 7-1-61)	STANDARD PRE-TENSIONED & POST-TENSIONED PRESTRESSED CONCRETE BEAMS
SLAB 30 TO 75-R24-L2 (Rev. 1-10-61)	STANDARD SLAB, CURB & DIAPHRAGM FOR PRESTRESSED CONCRETE BEAMS
PRES-S&C JOINTS (Rev. 1-10-61)	STANDARD SLAB & CURB JOINTS FOR PRESTRESSED CONCRETE BEAMS
5BBR (Rev. 1-10-61)	STEEL BEAM BRIDGE RAIL & DETAILS

THIS CONTRACT: STPS 482-1(60)

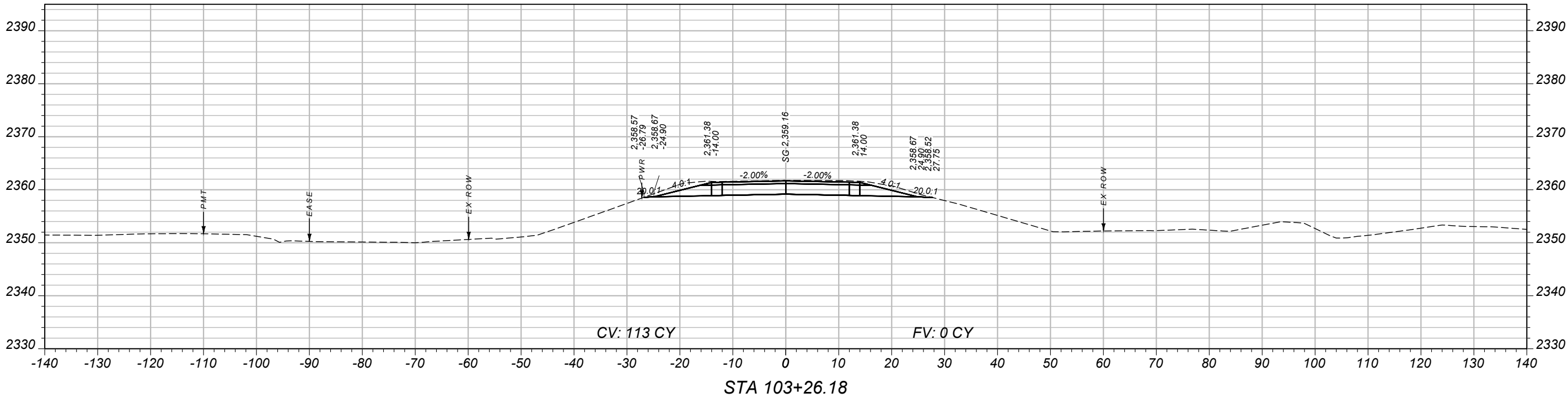
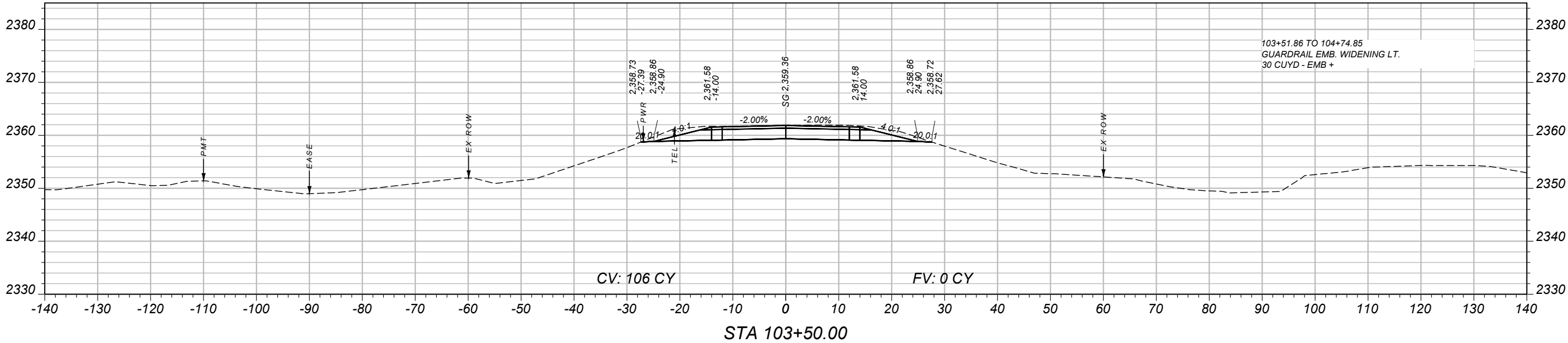
REVISED BRIDGE RAIL, HMMW DECK & NEW EXPANSION JOINTS (SEE DWG. NO. 21120)

MAINLINE CROSS SECTIONS



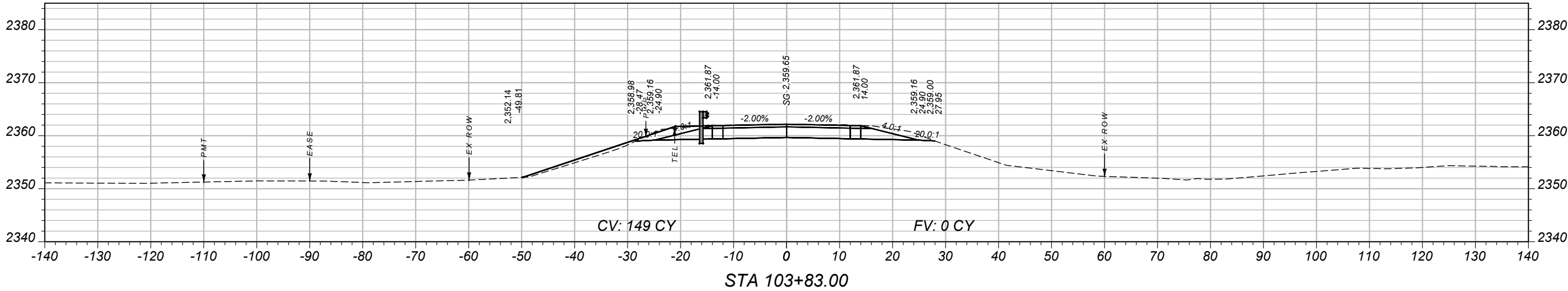
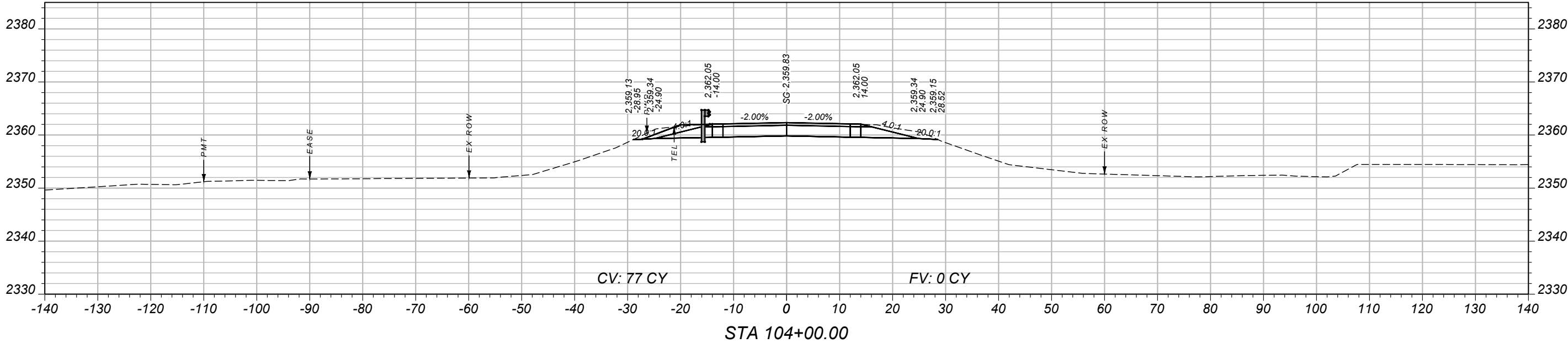
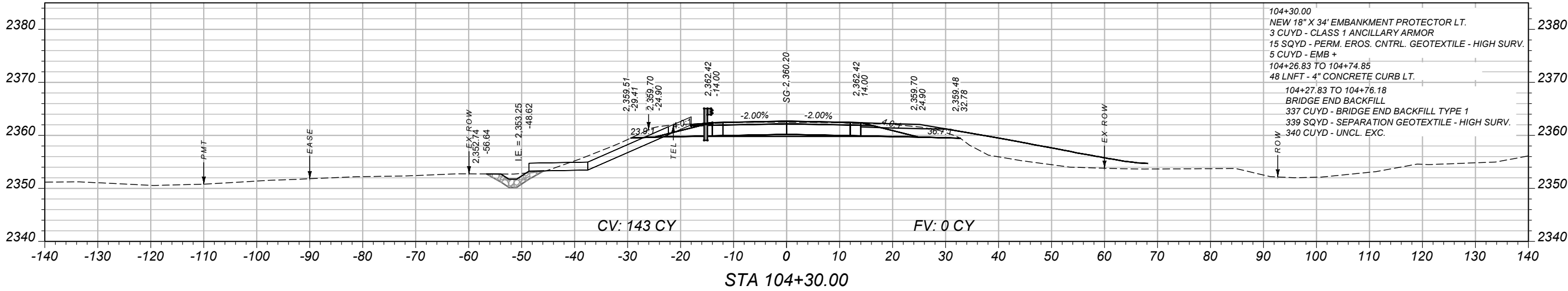
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COUNTY		LINCOLN	
PROJECT ID		STPS 482-1(10)2	
UPN		107600000	
DESIGNED BY	04/26	REVIEWED BY	04/26
L. HARK		J. DOLD	
CHECKED BY		FIRST INITIAL LAST NAME	MM/YYYY
			107600000RDXSF001.DWG
MONTANA Department of Transportation		S-482 CROSS SECTIONS	
		5/27/2026 11:16 AM	

MAINLINE CROSS SECTIONS



PROJECT NAME		S-482 REPAIR - S OF LIBBY	
COUNTY		LINCOLN	
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COUNTY LINCOLN

PROJECT ID

STPS 482-1(10)2

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DESIGNED BY L. HARK 04/26

REVIEWED BY J. DOLD 04/26

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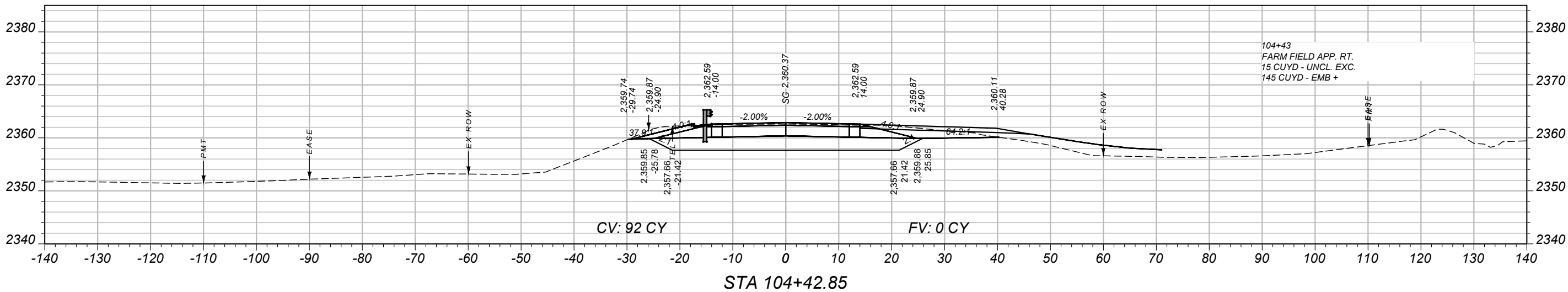
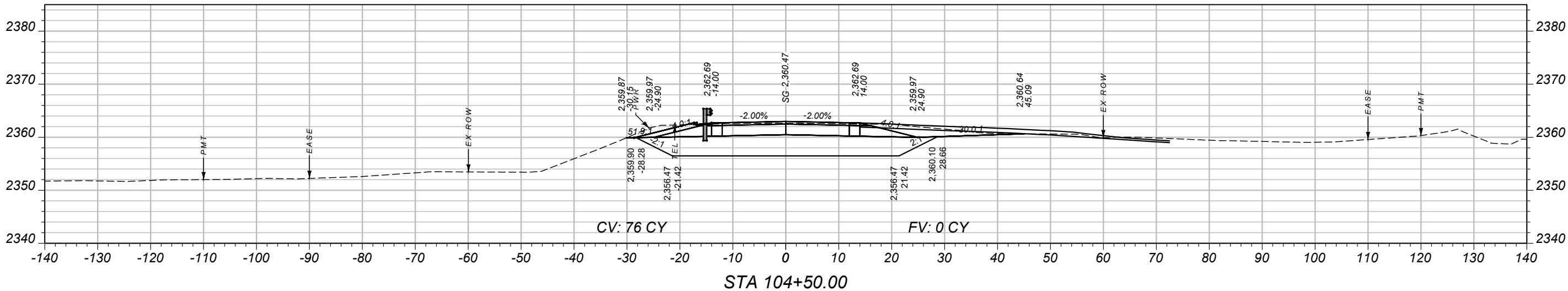
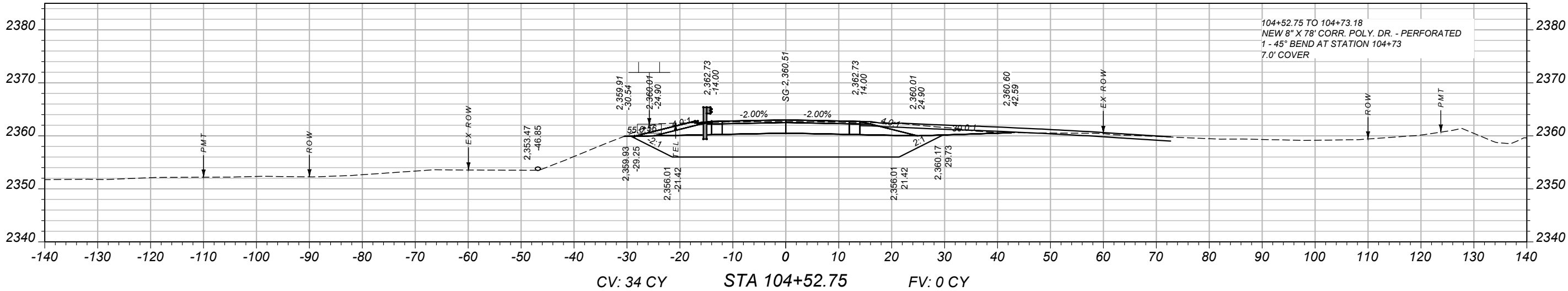
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PROJECT NAME S-482 REPAIR - S OF LIBBY

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REVIEWED BY

04/26

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FIRST INITIAL LAST NAME MM/YYYY

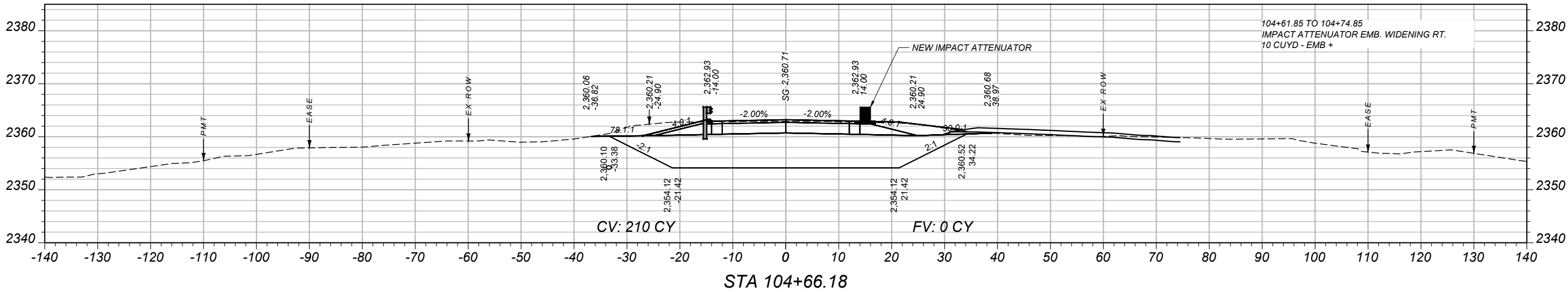
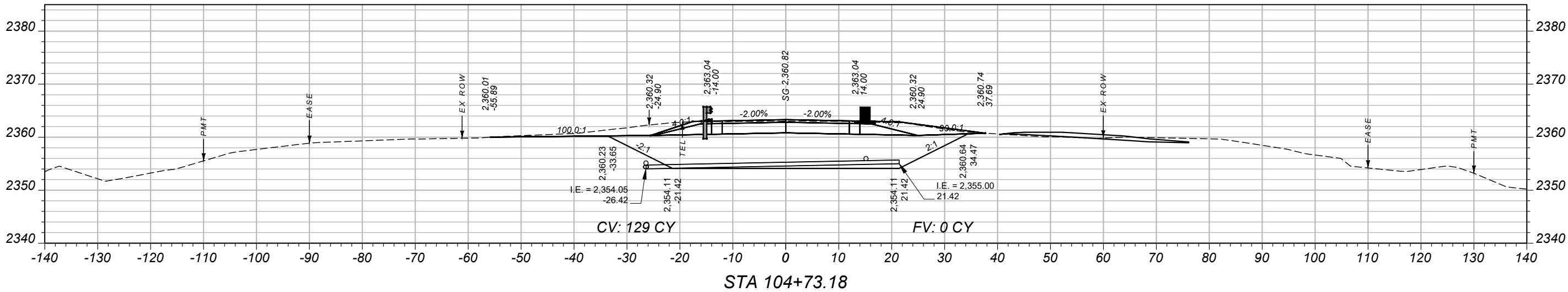
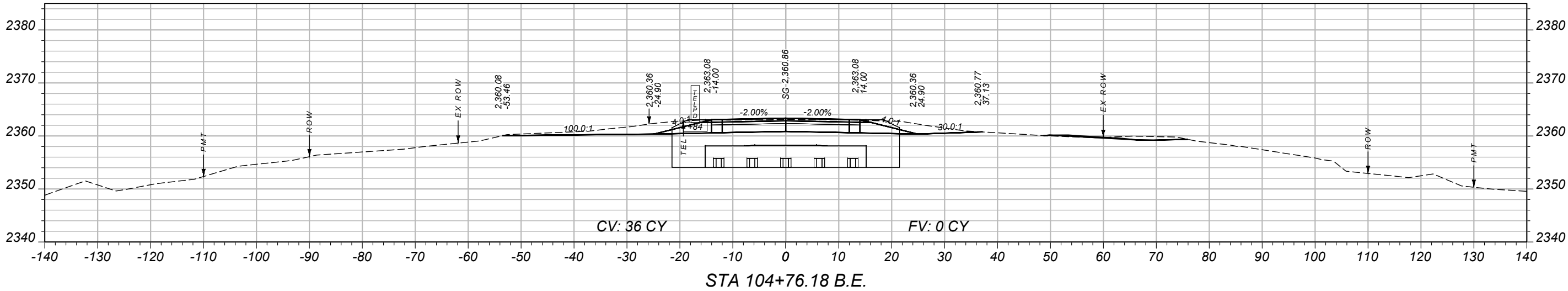
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Department of Transportation

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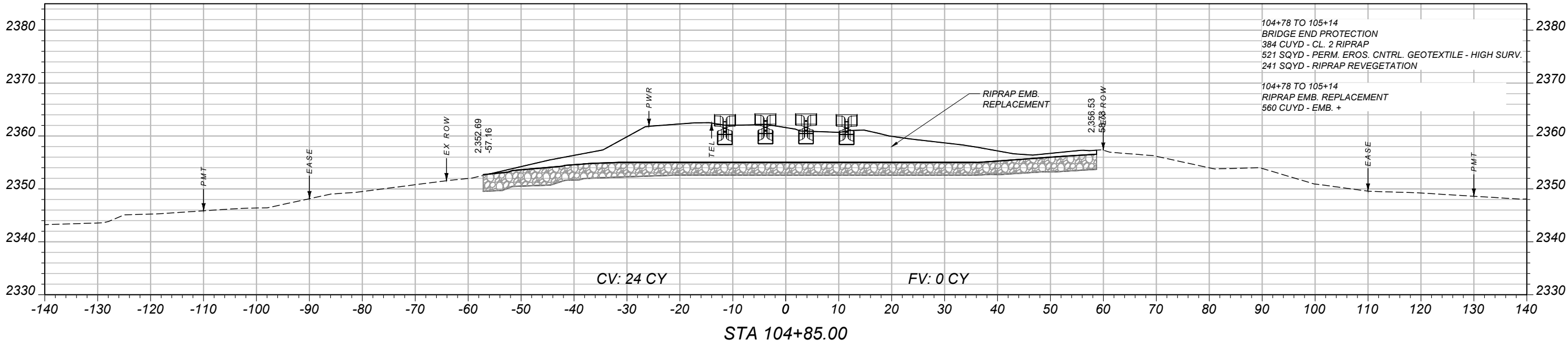
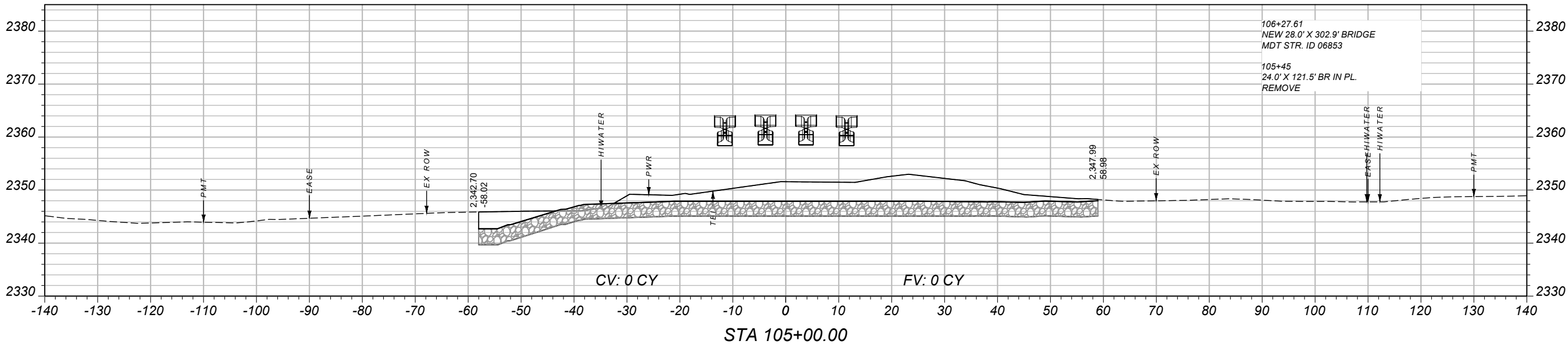
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MONTANA Department of Transportation

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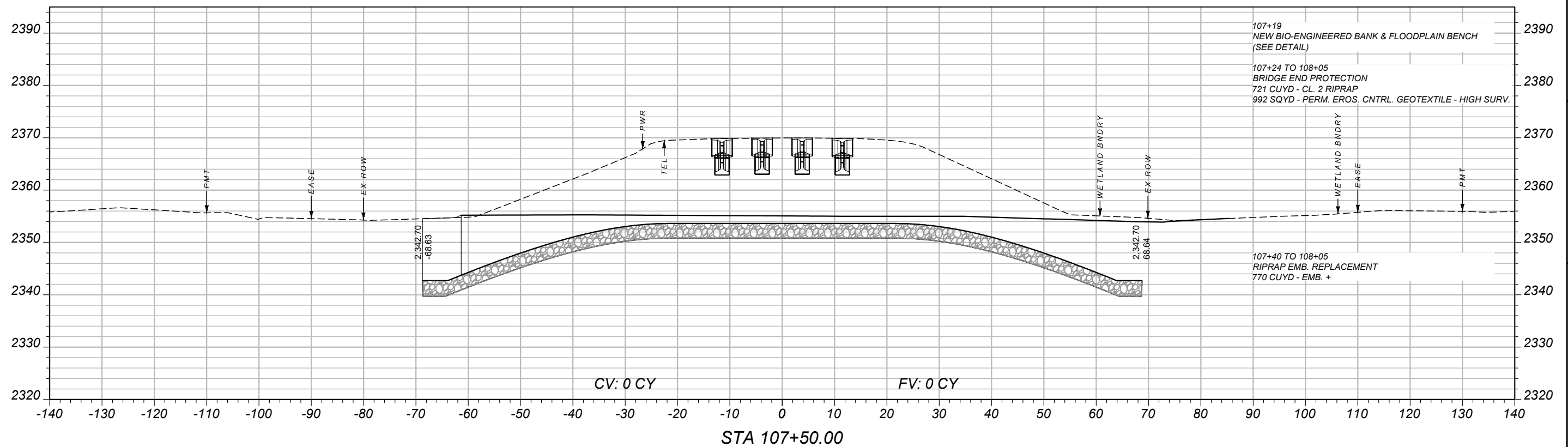
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L. HARK		J. DOLD	
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MONTANA Department of Transportation		S-482 CROSS SECTIONS	
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MAINLINE CROSS SECTIONS



LINCOLN

STPS 482-1(10)2

10760000

PROJECT ID

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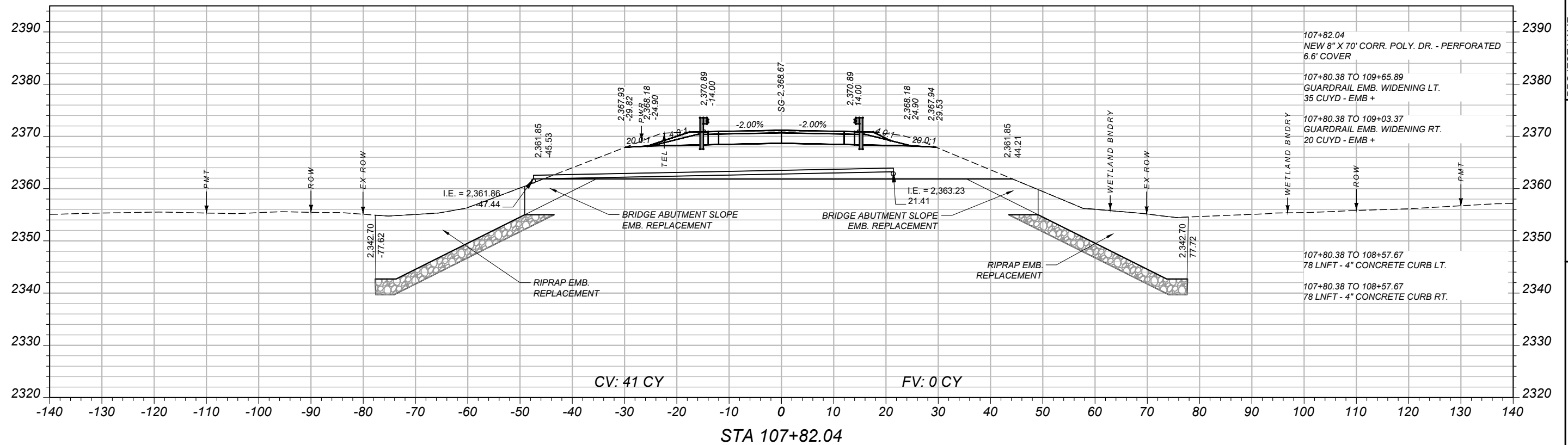
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MONTANA
Department of Transportation

S-482 CROSS SECTIONS

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MAINLINE CROSS SECTIONS



LINCOLN

STPS 482-1(10)2

10760000

REVIEWED BY	
J. DOLD	04/26

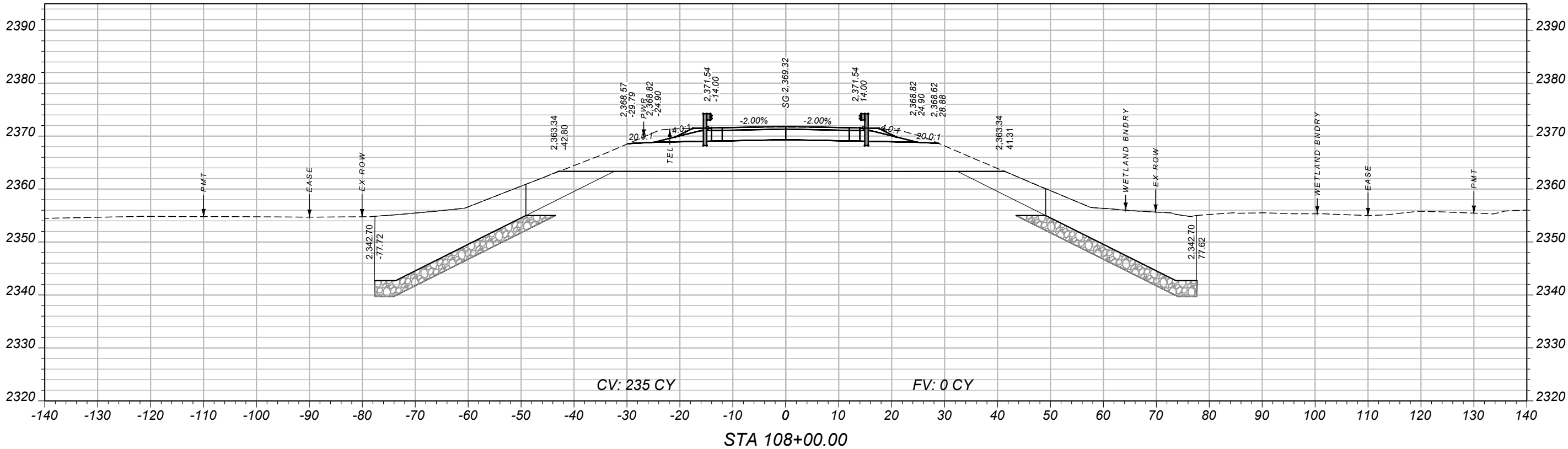
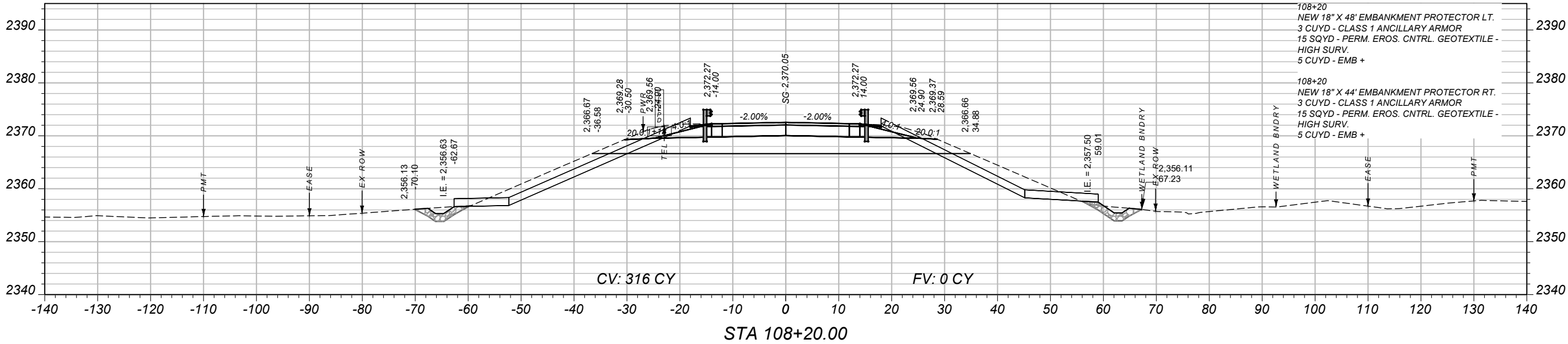
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PROJECT NAME
S-482 REPAIR - S OF LIBBY

COUNTY
LINCOLN

PROJECT ID
STPS 482-1(10)2

UPN
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DESIGNED BY
L. HARK

04/26

REVIEWED BY
J. DOLD

04/26

CHECKED BY
FIRST INITIAL LAST NAME MM/YYYY

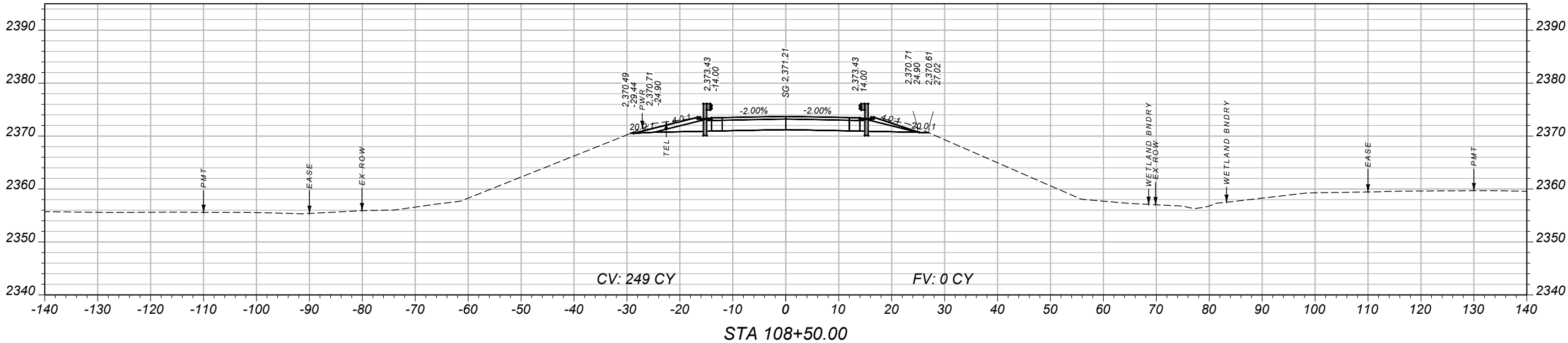
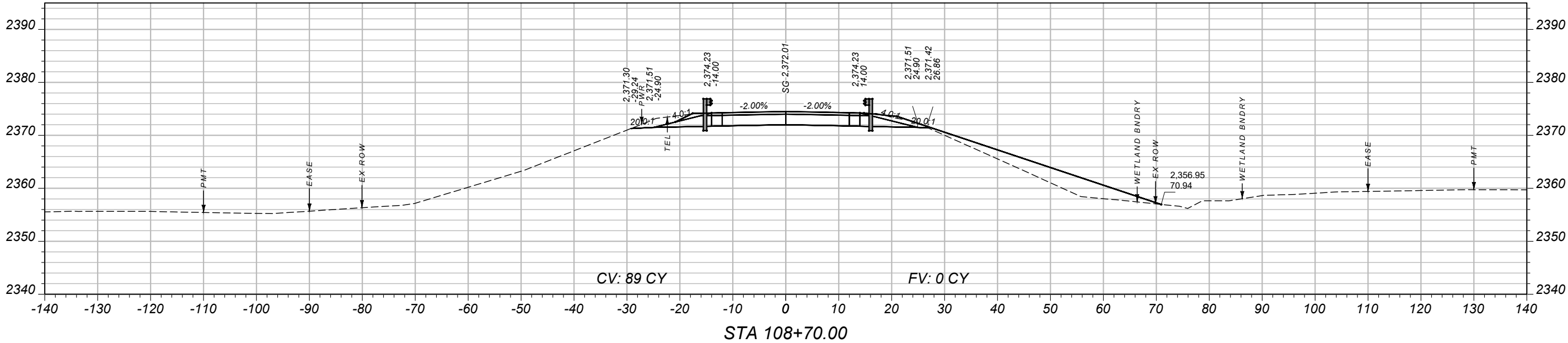
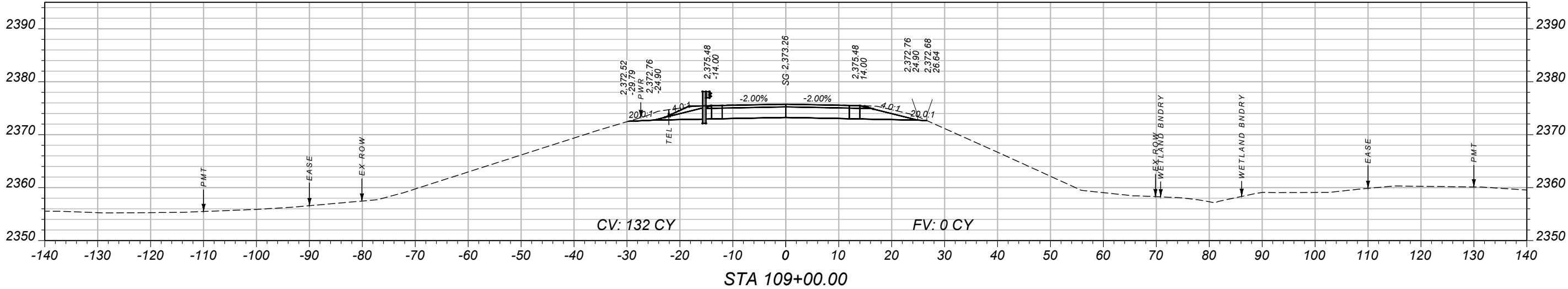
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S-482 CROSS SECTIONS

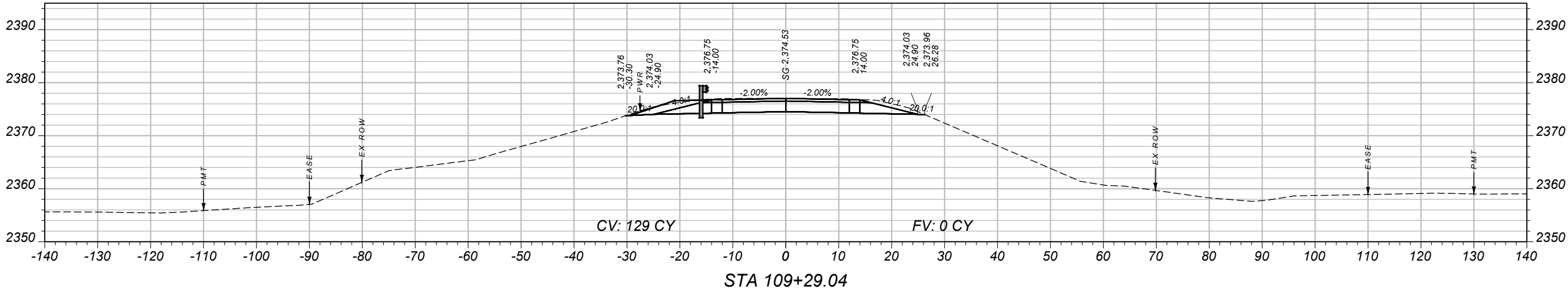
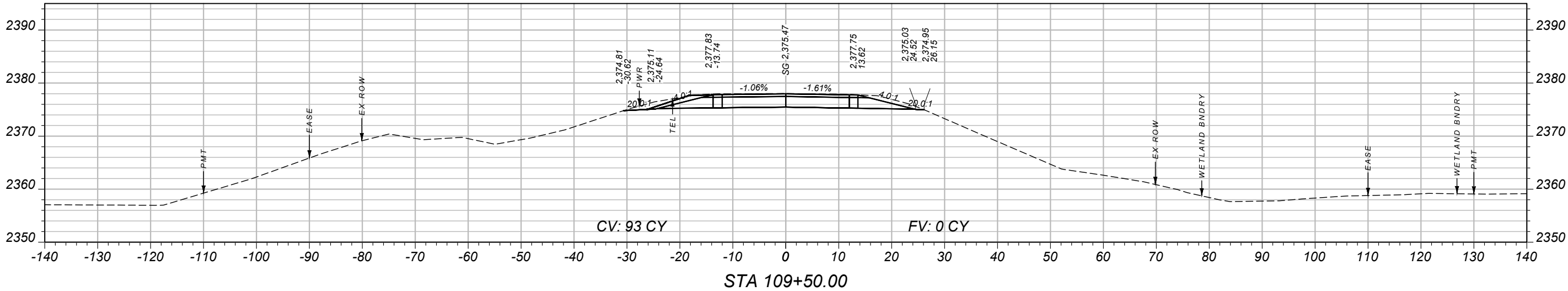
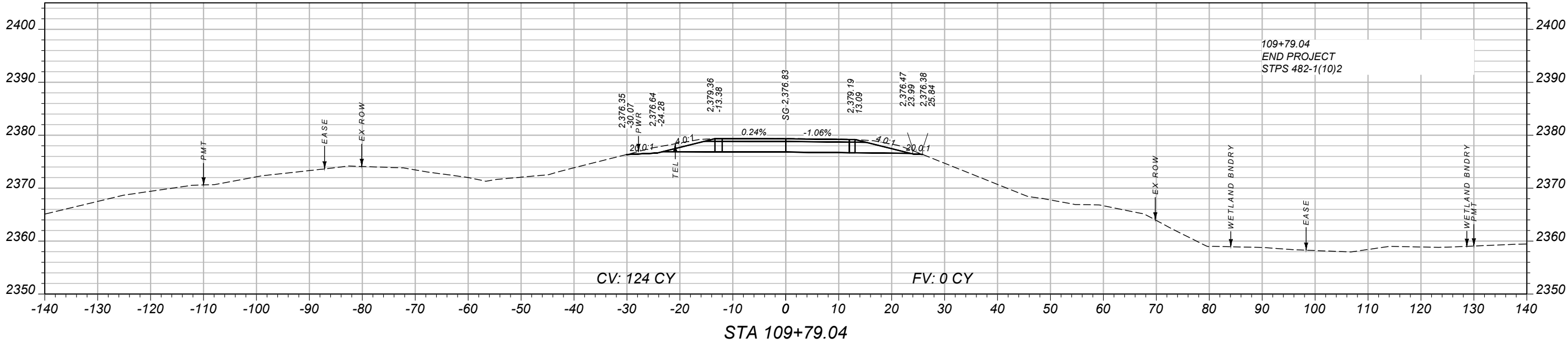
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MAINLINE CROSS SECTIONS



PROJECT NAME		S-482 REPAIR - S OF LIBBY	
COUNTY		LINCOLN	
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L. HARK		J. DOLD	
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MAINLINE CROSS SECTIONS



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