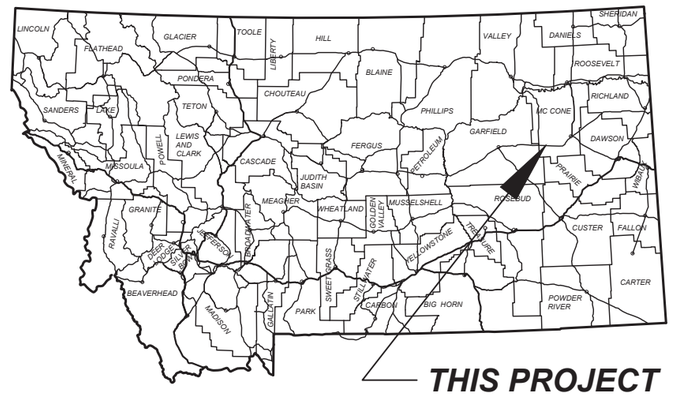
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MONTANA DEPARTMENT OF TRANSPORTATION

FEDERAL AID PROJECT NH-HSIP 57-6(22)254
GRADE, GRAVEL, CTB, PMBS, & CULVERTS
WEST OF BROCKWAY - WEST
MCCONE COUNTY

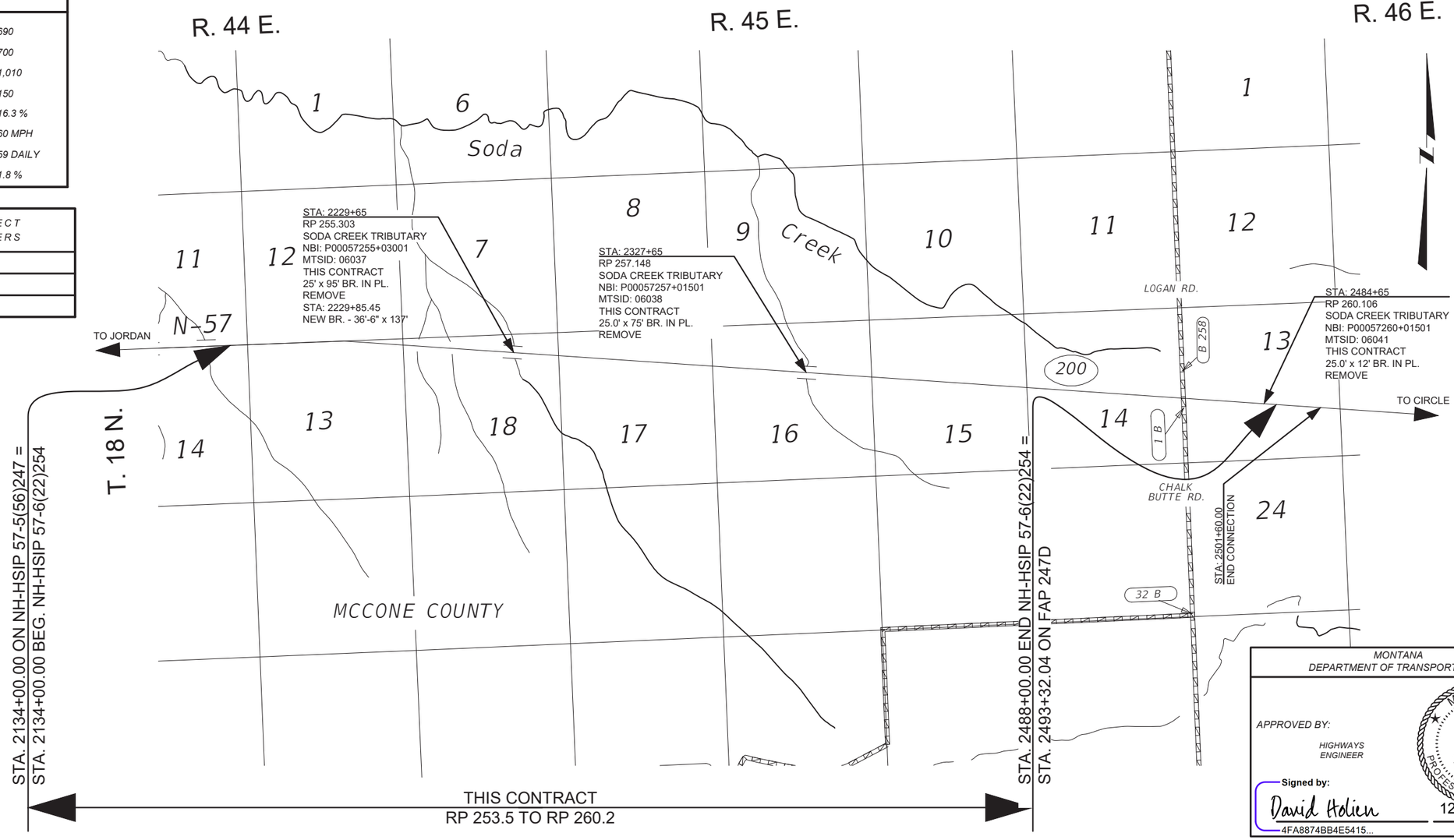
LENGTH 6.7 MILES

SURFACING SOURCES - CONTRACTOR FURNISHED

PROJECT DESIGN DATA

PRESENT	2024	A.D.T. =	690
LETTING	2025	A.D.T. =	700
DESIGN	2045	A.D.T. =	1,010
		D.H.V. =	150
		TRUCKS =	16.3 %
		V. =	60 MPH
		18 KIP ESAL'S =	59 DAILY
		ANNUAL GROWTH RATE =	1.8 %

ASSOCIATED PROJECT AGREEMENT NUMBERS	
R/W	NH 57-6(25)254
I.C.	NH 57-6(26)254
P.E.	NH 57-6(21)254



MONTANA
DEPARTMENT OF TRANSPORTATION

APPROVED BY:

HIGHWAYS ENGINEER

MONTANA DAVID HOLIEN 20186PE LICENSED PROFESSIONAL ENGINEER

Signed by: David Holien 4FA8874BB4E5415...

12/4/2025
DATE

SHEET NO. 01

TITLE SHEET

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
9727000RDTTL001.DWG

MONTANA Department of Transportation

ROAD PLANS

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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 BINDER - GRADE S - 3/4" AGG.	= 5.3% OF PL.MIX BIT.SURF.
HYDRATED LIME	= 1.4% OF PL.MIX BIT.SURF.
ASPHALT BINDER	= 3.0% OF RECYCLED PL.MIX (50% RAP)
HYDRATED LIME	= 1.4% OF RECYCLED 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 - TACK (CONCRETE SURFACES)	= 0.10 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)
SEAL	= 0.42 GAL. PER SQ.YARD
COVER	= 25 LBS. PER SQ.YARD
CURING SEAL	= 0.2 GAL. PER SQ.YARD
CTB	= 3620 LBS. PER CUBIC YARD
BLOTTER	= 15 LBS. PER SQ.YARD
PORTLAND CEMENT	= 4% OF CTB DRY WT.

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 UNCLASSIFIED EXCAVATION.

SOILS INFORMATION

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

BORING NUMBER



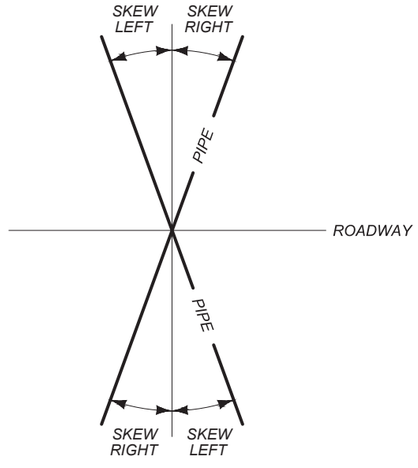
(GEOTECHNICAL BORING)

SOIL SURVEY NUMBER (SS-#)



(DISTRICT SOIL SURVEY)

SKEW DIAGRAM



SHEET NO. 02

TABLE OF CONTENTS & NOTES

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
9727000RDTTL001.DWG

MONTANA Department of Transportation

ROAD PLANS

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NOTES

DO NOT DISTURB

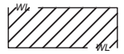
DO NOT DISTURB THE FOLLOW AREA:
FROM STATION 2279+09 TO 2279+90 OFFSET FROM 167' LT. TO 256' LT.

DO NOT DISTURB AND WARP SLOPES AROUND THE FOLLOWING UTILITY POLES:

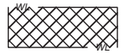
2157+96	83' RT.
2170+58	74' RT.
2172+92	87' RT.
2206+99	100' RT.
2222+07	99' RT.
2225+43	99' RT.
2228+98	101' RT.
2300+61	101' RT.
2304+50	101' RT.
2323+44	100' RT.
2344+48	100' RT.
2347+12	99' RT.
2351+06	99' RT.

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.



DELINEATED WETLAND AREAS



PERMANENT WETLAND IMPACTED AREAS



TEMPORARY WETLAND IMPACT AREAS

WETLAND DELINEATION TABLE

WETLAND DESIGNATION	STATION FROM	STATION TO	WETLAND AREA (acres) DELINEATED AREA	WETLAND AREA (acres) TEMPORARY IMPACTED AREA ◆	WETLAND AREA (acres) PERMANENT IMPACTED AREA	REMARKS
SITE 1	2225+50	2232+07	0.856	0.013	0.039	LT. & RT.
SITE 2	2358+80	2362+45	0.113		0.077	LT. & RT.
TOTAL			0.97	0.01	0.12	

◆ *TEMPORARY IMPACT AREAS ARE ESTIMATED AND PROVIDED FOR INFORMATIONAL PURPOSES ONLY. TEMPORARY WETLAND IMPACTS SHOWN IN THE TABLE AND ANY OTHER IMPACTS ASSOCIATED WITH CONTRACTOR OPERATIONS ARE TO BE PERMITTED BY CONTRACTOR.*

APPROACHES (FOR INFORMATION ONLY)

STATION	TYPE	linear feet WIDTH	RADIUS ◆ LEFT	RADIUS ◆ RIGHT	LENGTH ▲	EXISTING SURFACING	feet PMS THK.	feet CAC THK.	PROPOSED SURFACE ●	sq. yards COVER TYPE 1	tons PLANT MIX BIT. SURF. GR. S - 3/4"	tons PLANT MIX BIT. SURF. GR. S - MISC.	cu. yards CRUSHED AGG. COURSE	tons ASPHALT CEMENT PG 58H-34	tons EMUL. ASPHALT CHFRS-2P	gallons EMUL. ASPHALT TACK COAT	REMARKS
2139+50	PRIVATE	24	75	75	141.2	GRAVEL	0.2	0.6	ASPHALT		71		151	3.8		27	LT. - JOINT USE
2139+50	FARM FIELD	24	25	25	127.8	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	82	0.4		3	RT. - JOINT USE
2171+05	FARM FIELD	24	25	25	147.8	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	101	0.4		3	LT.
2171+05	FARM FIELD	24	25	25	142.0	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	97	0.4		3	RT.
2185+72	FARM FIELD	24	25	25	128.5	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	89	0.4		3	RT.
2192+90	FARM FIELD	24	25	25	157.4	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	87	0.4		3	LT. - JOINT USE
2220+90	FARM FIELD	24	25	25	98.0	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	70	0.4		3	LT.
2220+90	FARM FIELD	24	25	25	126.0	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	87	0.4		3	RT.
2240+90	FARM FIELD	24	25	25	118.0	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	82	0.4		3	LT.
2250+60	FARM FIELD	24	25	25	143.5	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	98	0.4		3	LT.
2250+60	FARM FIELD	24	25	25	307.7	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			9	200	0.5		4	RT.
2285+03	FARM FIELD	24	25	25	152.4	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			9	124	0.5		4	LT.
2285+03	FARM FIELD	24	25	25	204.3	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			9	171	0.5		4	RT.
2298+15	PRIVATE	24	75	75	462.3	GRAVEL	0.2	0.6	ASPHALT/GRAVEL		72		349	3.9		28	LT.
2298+15	PRIVATE	24	75	75	324.5	GRAVEL	0.2	0.6	ASPHALT/GRAVEL		77		266	4.2		30	RT.
2320+35	FARM FIELD	24	25	25	219.3	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	145	0.4		3	LT.
2320+35	FARM FIELD	24	25	25	109.4	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	85	0.4		3	RT.
2340+20	FARM FIELD	24	25	25	94.0	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	67	0.4		3	LT.
2348+12	FARM FIELD	24	25	25	204.9	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	136	0.4		3	RT.
2355+00	FARM FIELD	24	25	25	191.6	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	127	0.4		3	LT.
2355+00	FARM FIELD	24	25	25	168.8	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	114	0.4		3	RT.
2369+23	FARM FIELD	24	25	25	143.4	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	98	0.4		3	LT.
2379+10	FARM FIELD	24	25	25	118.0	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	81	0.4		3	LT.
2379+10	FARM FIELD	24	25	25	112.1	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	78	0.4		3	RT.
2401+50	FARM FIELD	24	25	25	124.1	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	86	0.4		3	LT.
2401+50	FARM FIELD	24	25	25	181.3	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	121	0.4		3	RT.
2424+75	FARM FIELD	24	25	25	114.0	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	80	0.4		3	LT.
2424+75	FARM FIELD	24	25	25	102.0	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	72	0.4		3	RT.
2442+24	FARM FIELD	24	25	25	190.7	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	127	0.4		3	LT.
2442+24	PRIVATE	24	75	75	472.5	GRAVEL	0.2	0.6	ASPHALT/GRAVEL		74		361	4.0		29	RT.
2457+30	PUBLIC	24	75	75	383.3	GRAVEL	0.2	0.6	ASPHALT	1,357	174		323	9.4	2.4	68	LT. - LOGAN RD
2457+30	PUBLIC	24	75	75	383.3	GRAVEL	0.2	0.6	ASPHALT	1,356	174		323	9.4	2.4	68	RT. - CHALK BUTTE RD
2485+80	FARM FIELD	24	25	25	207.9	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			7	138	0.4		3	LT.
2485+80	FARM FIELD	24	25	25	124.3	GRAVEL	0.2	0.6	12' ASPHALT STRIP/GRAVEL			8	86	0.4		3	RT. MIN ELEVATION 2775.93'
SUBTOTAL	**FARM FIELD**	~	~	~	~	~	~	~	~	~	~	**226**	**2,929**	**11.5**	~	**87**	
SUBTOTAL	**PRIVATE**	~	~	~	~	~	~	~	~	~	**294**	~	**1,127**	**15.9**	~	**114**	
SUBTOTAL	**PUBLIC**	~	~	~	~	~	~	~	~	**2,713**	**348**	~	**646**	**18.8**	**4.8**	**136**	

APPROACHES NOT INCLUDED IN THIS LIST ARE USE IN PLACE
◆ ALL RADII MEASURED TO EDGE OF ASPHAULT
▲ MEASURED ON CADD
● FOR PRIVATE APPROACHES: ASPHALT SURFACE TO R/W AND GRAVEL SURFACE THE REMAINDER

SHEET NO. 03

NOTES

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
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MONTANA Department of Transportation

ROAD PLANS

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CENTERLINE COORDINATE TABLE

CENTERLINE COORDINATE TABLE				
STATION	DESCRIPTION	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
2134+00.00	POT	1,139,772.889	2,819,273.963	
2134+00.00	POT	1,139,772.889	2,819,273.963	BEGIN NH-HSIP 57-6(22)254
2166+09.32	PC	1,139,903.395	2,822,480.632	
2172+28.30	PI	1,139,928.566	2,823,099.096	RADIUS = 12,000' (RT.)
2178+46.18	PT	1,139,889.969	2,823,716.868	
2488+00.00	POT	1,137,959.842	2,854,610.453	END NH-HSIP 57-6(22)254, BEGIN CONNECTION
2488+00.01	PC	1,137,959.842	2,854,610.458	
2491+39.50	PI	1,137,938.673	2,854,949.296	RADIUS = 11,500' (LT.)
2494+78.81	PC	1,137,937.529	2,855,288.796	
2494+78.81	PT	1,137,937.529	2,855,288.793	
2498+18.31	PI	1,137,936.385	2,855,628.292	RADIUS = 11,500' (RT.)
2501+57.61	PT	1,137,915.215	2,855,967.130	
2501+60.00	POT	1,137,915.066	2,855,969.517	END CONNECTION
2521+50.00	POT	1,137,790.980	2,857,955.645	

ALIGNMENT NAME: 9727000_RD_PA_MAINLINE

PROFILE NAME: 9727000_RD_PP_MAINLINE

SHEET NO. 04

CENTERLINE COORDINATE TABLE

PROJECT NAME: WEST OF BROCKWAY - WEST

COUNTY: MCCONE

PROJECT ID: NH-HSIP 57-6(22)254

UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023

REVIEWED BY:

CHECKED BY: J. SOLIDAY 06/2025

9727000RDTTL001.DWG

MONTANA Department of Transportation

ROAD PLANS

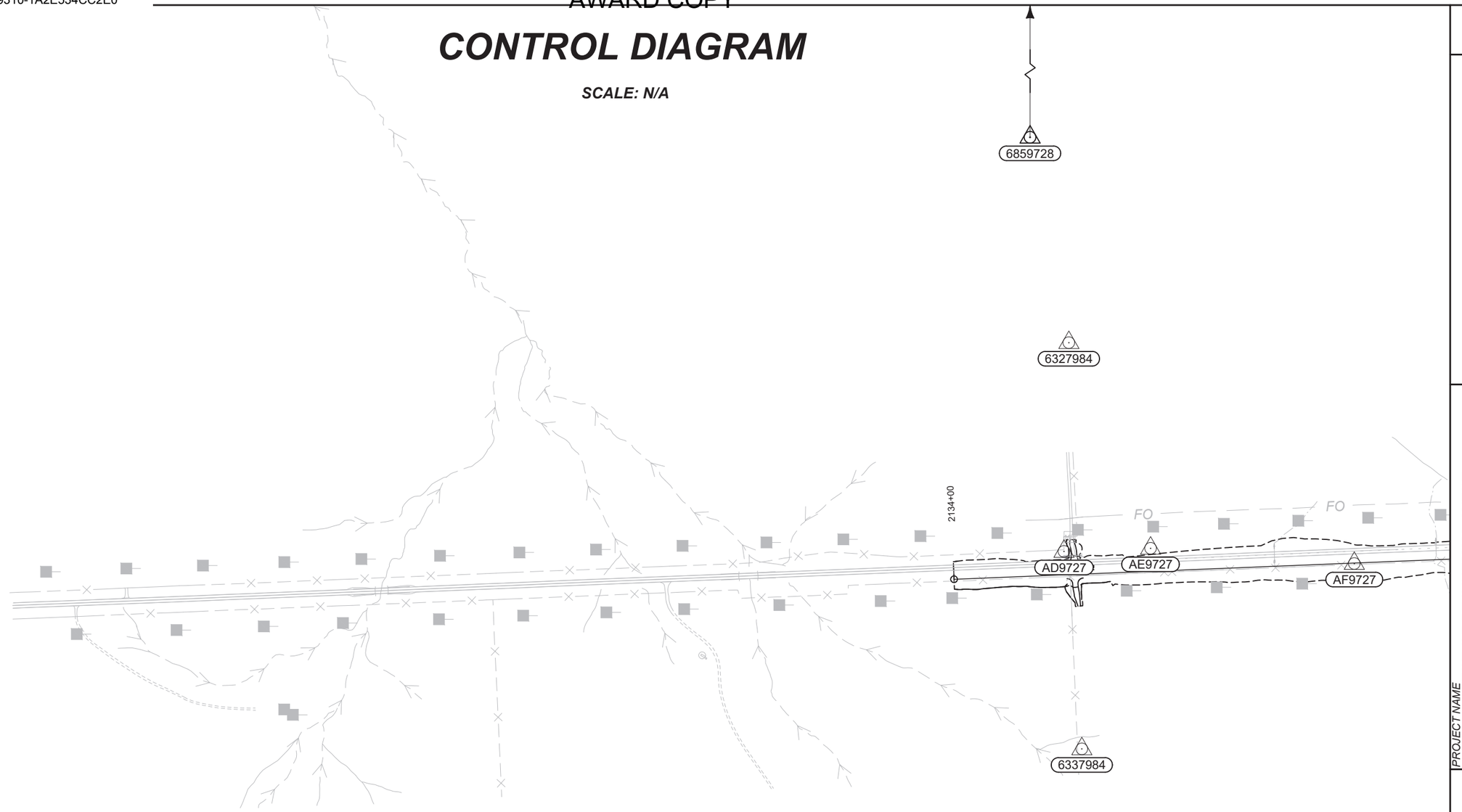
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CONTROL DIAGRAM

SCALE: N/A



NOTE:

BEARING SOURCE - 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 0.99928388.

LEVEL DATUM SOURCE - NAVD 88 ELEVATIONS DERIVED FROM DIFFERENTIAL LEVELS HOLDING NGS PUBLISHED ELEVATION AT W164.

CONTROL ABSTRACT

POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
6327984	1,140,848.527	2,819,795.924	2,603.41
6337984	1,139,001.674	2,819,854.914	2,581.78
6859728	1,143,354.991	2,819,617.776	2,562.75
AD9727	1,139,899.685	2,819,773.861	2,604.47
AE9727	1,139,913.551	2,820,167.395	2,616.25
AF9727	1,139,844.443	2,821,093.476	2,615.07

SHEET NO. 05

CONTROL DIAGRAM

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA Department of Transportation

ROAD PLANS

6/3/2025 8:40 AM

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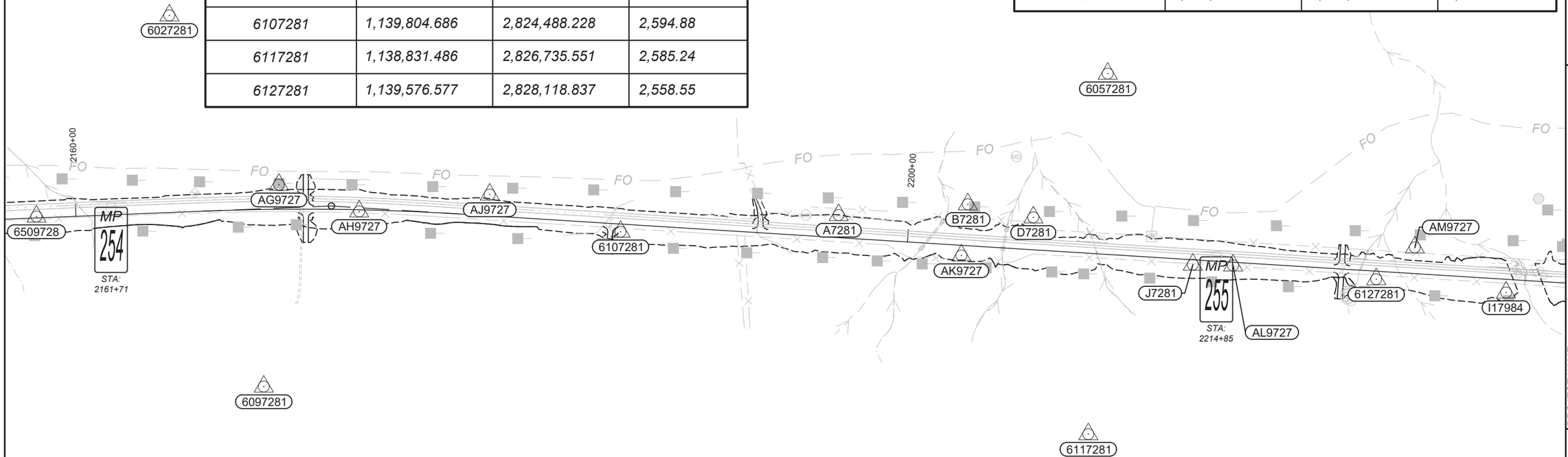
Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

CONTROL DIAGRAM

SCALE: N/A

CONTROL ABSTRACT			
POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
6027281	1,140,844.921	2,822,320.555	2,630.02
6057281	1,140,564.953	2,826,828.917	2,574.68
6097281	1,139,060.414	2,822,774.310	2,651.95
6107281	1,139,804.686	2,824,488.228	2,594.88
6117281	1,138,831.486	2,826,735.551	2,585.24
6127281	1,139,576.577	2,828,118.837	2,558.55

CONTROL ABSTRACT			
POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
6509728	1,139,877.568	2,821,682.163	2,609.11
A7281	1,139,884.677	2,825,535.882	2,580.25
AG9727	1,140,030.693	2,822,846.942	2,642.78
AH9727	1,139,902.142	2,823,232.483	2,637.89
AJ9727	1,139,983.400	2,823,859.709	2,618.99
AK9727	1,139,690.422	2,826,125.803	2,558.41



CONTROL ABSTRACT			
POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
AL9727	1,139,642.478	2,827,430.979	2,585.40
AM9727	1,139,728.826	2,828,304.639	2,556.01
B7281	1,139,936.524	2,826,156.755	2,560.24
D7281	1,139,873.692	2,826,471.346	2,557.62
I17984	1,139,512.444	2,828,742.302	2,552.62
J7281	1,139,646.468	2,827,237.783	2,586.74

SHEET NO. 06

CONTROL DIAGRAM

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	REVIEWED BY	CHECKED BY
C. PERIMAN 09/2023		J. SOLIDAY 06/2025

9727000RDTRV001.DWG

MONTANA Department of Transportation

ROAD PLANS

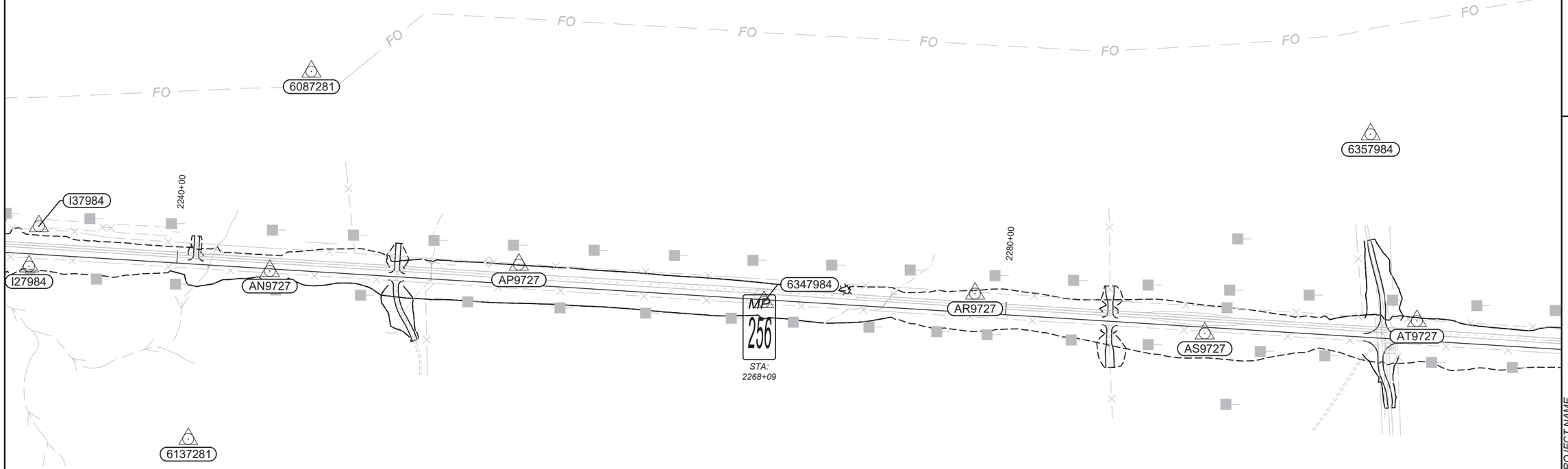
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AWARD COPY

CONTROL DIAGRAM

SCALE: N/A



CONTROL ABSTRACT			
POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
6087281	1,140,428.922	2,830,507.161	2,628.34
6137281	1,138,658.240	2,829,913.665	2,571.33
6347984	1,139,318.577	2,832,687.050	2,649.05
6357984	1,140,126.881	2,835,609.082	2,716.36
6367984	1,138,155.702	2,835,770.301	2,704.26
AN9727	1,139,467.876	2,830,306.523	2,596.48

CONTROL ABSTRACT			
POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
AP9727	1,139,498.497	2,831,506.397	2,603.52
AR9727	1,139,358.836	2,833,703.828	2,711.40
AS9727	1,139,166.613	2,834,810.164	2,757.22
AT9727	1,139,226.782	2,835,832.032	2,704.51
I27984	1,139,490.108	2,829,146.806	2,564.85
I37984	1,139,683.454	2,829,194.101	2,566.84

SHEET NO. 07

CONTROL DIAGRAM

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA Department of Transportation

ROAD PLANS

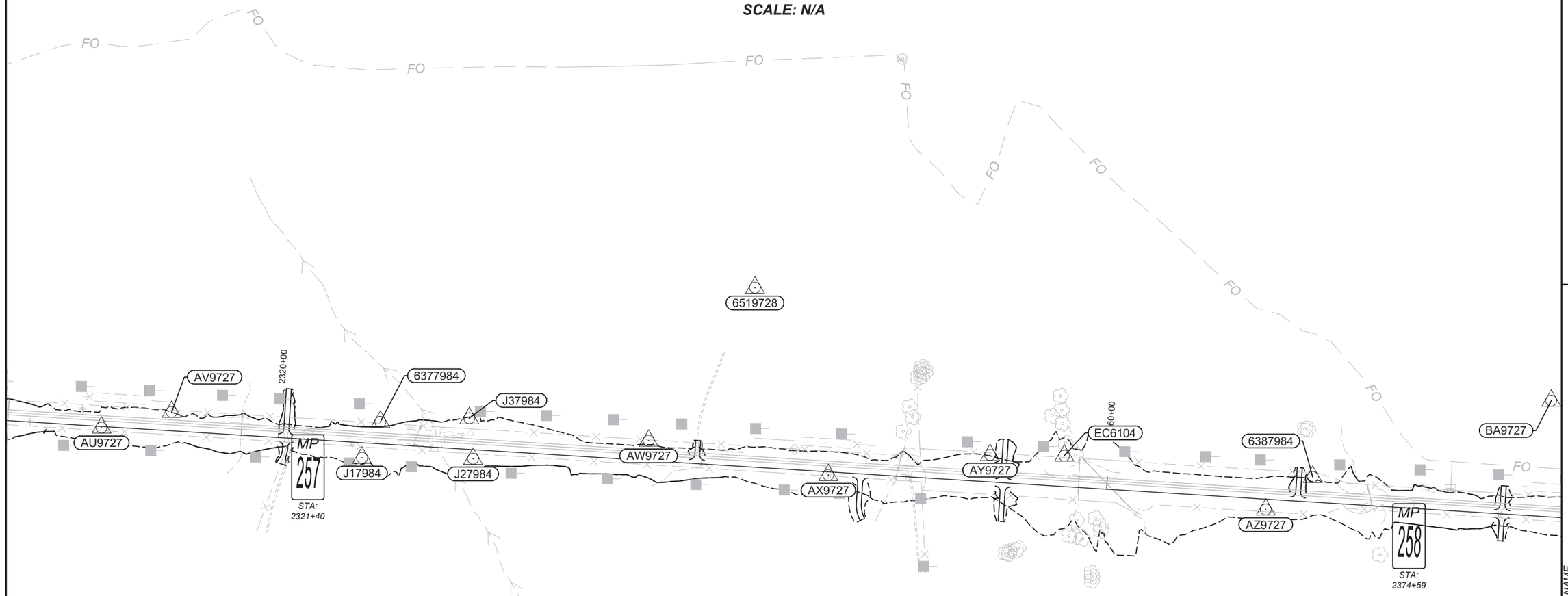
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CONTROL DIAGRAM

SCALE: N/A



CONTROL ABSTRACT

POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
6377984	1,139,082.873	2,838,333.997	2,672.42
6387984	1,138,816.873	2,842,829.298	2,723.95
6519728	1,139,729.236	2,840,140.354	2,721.06
6529728	1,138,010.937	2,840,942.693	2,757.48
AU9727	1,139,054.966	2,836,989.718	2,703.85
AV9727	1,139,130.755	2,837,327.673	2,699.73
AW9727	1,138,991.752	2,839,627.314	2,721.13
AX9727	1,138,826.490	2,840,493.836	2,748.95

CONTROL ABSTRACT

POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
AY9727	1,138,923.222	2,841,273.302	2,727.22
AZ9727	1,138,660.206	2,842,602.953	2,737.70
BA9727	1,139,184.996	2,843,979.238	2,756.32
EC6104	1,138,919.778	2,841,631.429	2,707.58
J17984	1,138,909.519	2,838,245.998	2,695.85
J27984	1,138,904.862	2,838,781.294	2,676.14
J37984	1,139,100.241	2,838,762.740	2,673.71

SHEET NO. 08

CONTROL DIAGRAM

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA Department of Transportation

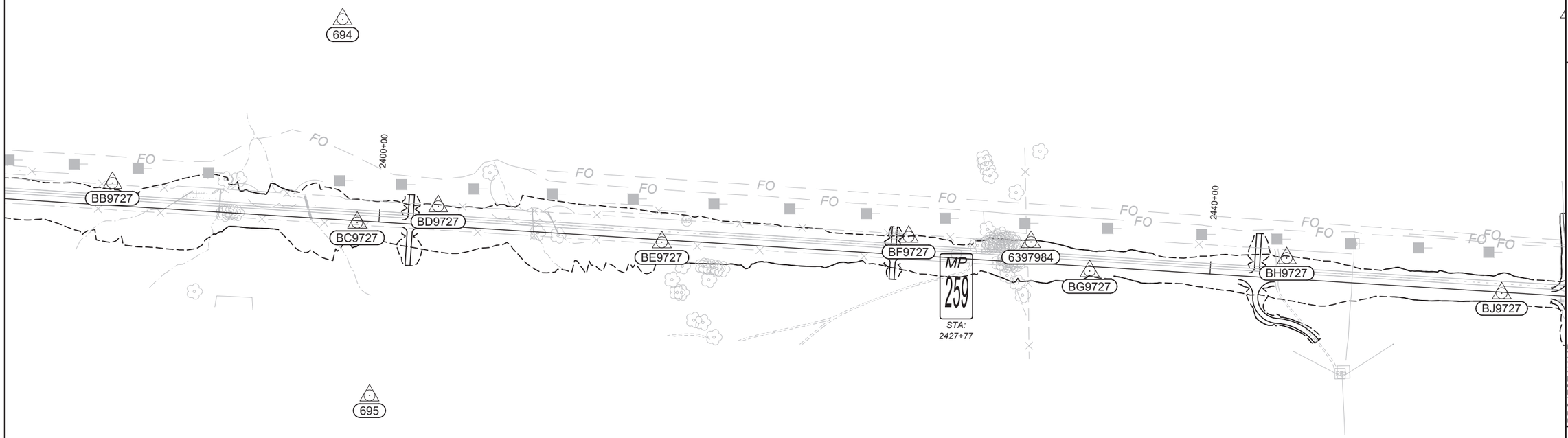
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CONTROL DIAGRAM

SCALE: N/A



CONTROL ABSTRACT			
POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
694	1,139,483.169	2,845,652.905	2,690.11
695	1,137,675.323	2,845,781.892	2,752.49
6397984	1,138,412.999	2,848,959.825	2,792.82
BB9727	1,138,696.058	2,844,546.607	2,741.84
BC9727	1,138,506.079	2,845,722.696	2,726.54
BD9727	1,138,584.756	2,846,112.115	2,739.68

CONTROL ABSTRACT			
POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
BE9727	1,138,411.801	2,847,186.578	2,744.74
BF9727	1,138,438.434	2,848,372.489	2,796.29
BG9727	1,138,273.055	2,849,241.911	2,821.93
BH9727	1,138,335.565	2,850,188.671	2,856.67
BJ9727	1,138,166.768	2,851,221.656	2,816.22

SHEET NO. 09

CONTROL DIAGRAM

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA Department of Transportation

ROAD PLANS

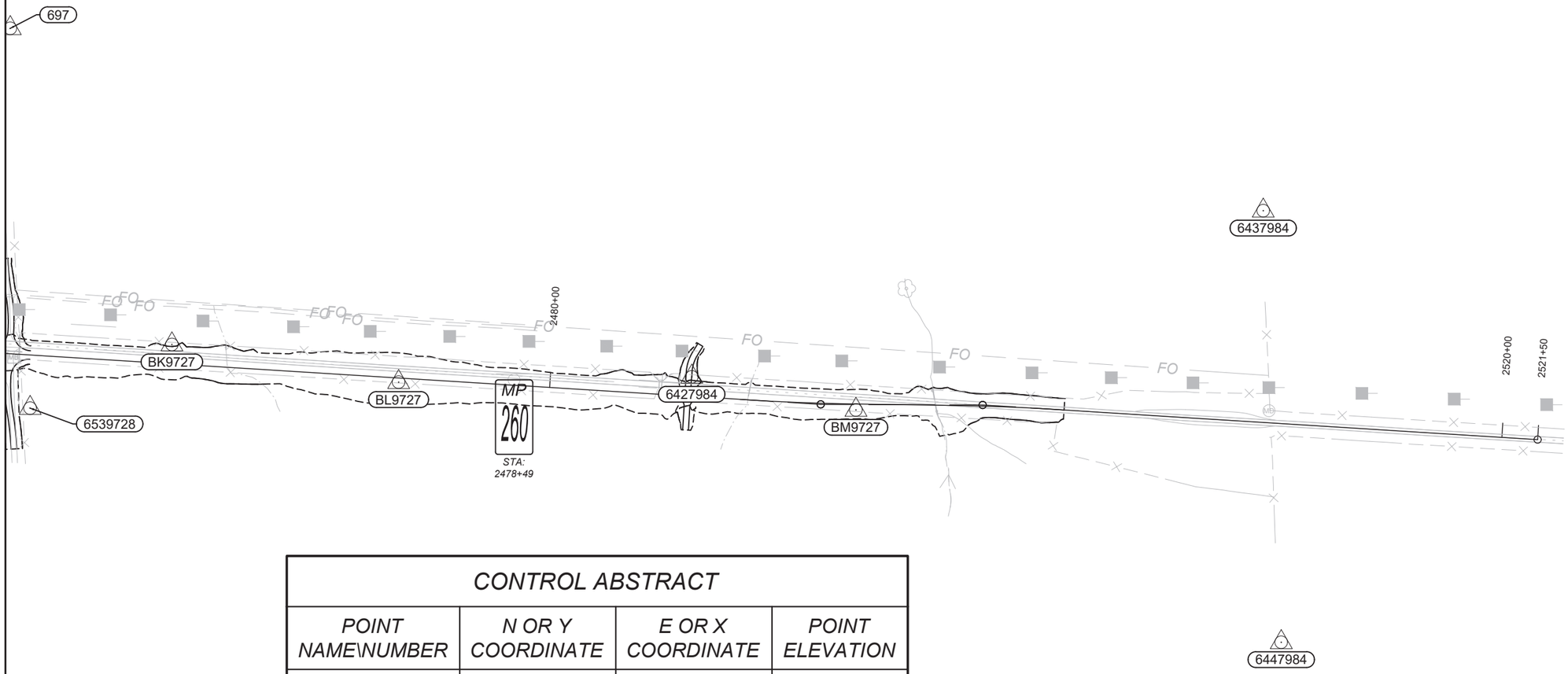
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CONTROL DIAGRAM

SCALE: N/A



CONTROL ABSTRACT			
POINT NAME\NUMBER	N OR Y COORDINATE	E OR X COORDINATE	POINT ELEVATION
697	1,139,516.423	2,851,550.042	2,789.74
6427984	1,138,054.353	2,854,408.142	2,769.57
6437984	1,138,751.247	2,856,805.036	2,756.96
6447984	1,136,940.794	2,856,880.557	2,804.28
6539728	1,137,923.089	2,851,633.260	2,819.66
BK9727	1,138,190.135	2,852,227.891	2,796.97
BL9727	1,138,031.861	2,853,178.737	2,816.43
BM9727	1,137,915.469	2,855,096.809	2,765.88

SHEET NO. 10

CONTROL DIAGRAM

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA Department of Transportation

ROAD PLANS

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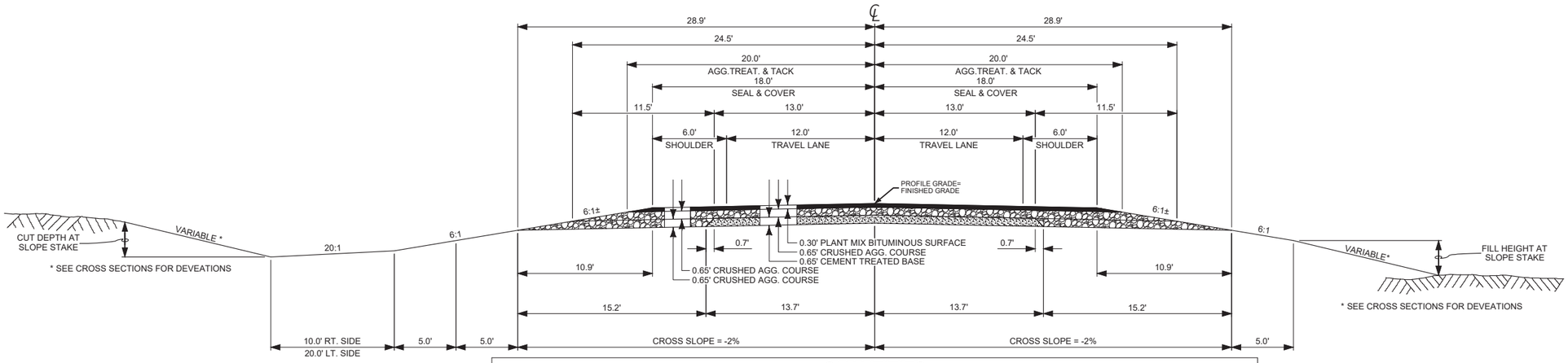
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TYPICAL SECTION NO. 1

MAINLINE

2134+00.00 TO 2227+08.61 THEN TO TYP. NO. 2
2232+62.29 TO 2488+00.00



QUANTITIES									
UNIT	AGGREGATE				UNIT	BITUMINOUS MATERIAL			AGG. TREAT.
	COVER	PLANT MIX	CRUSHED AGG. COURSE	CEMENT TR. BASE		ASPHALT BINDER	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK▲	
AREA square feet		11.40	46.23	17.36	square yards PER STATION		400	889	444
cubic yards PER STATION		42.2	171.2	64.3	tons PER STATION	4.31	0.71		
tons PER STATION		81.3		# 116.4	gals PER STATION			44	
square yards PER STATION	400								

▲ BASED ON 2 APPLICATIONS
FOR INFORMATION ONLY

* FILL SLOPES	
0' - 10'	6:1
10' - 20'	4:1
OVER 20'	3:1

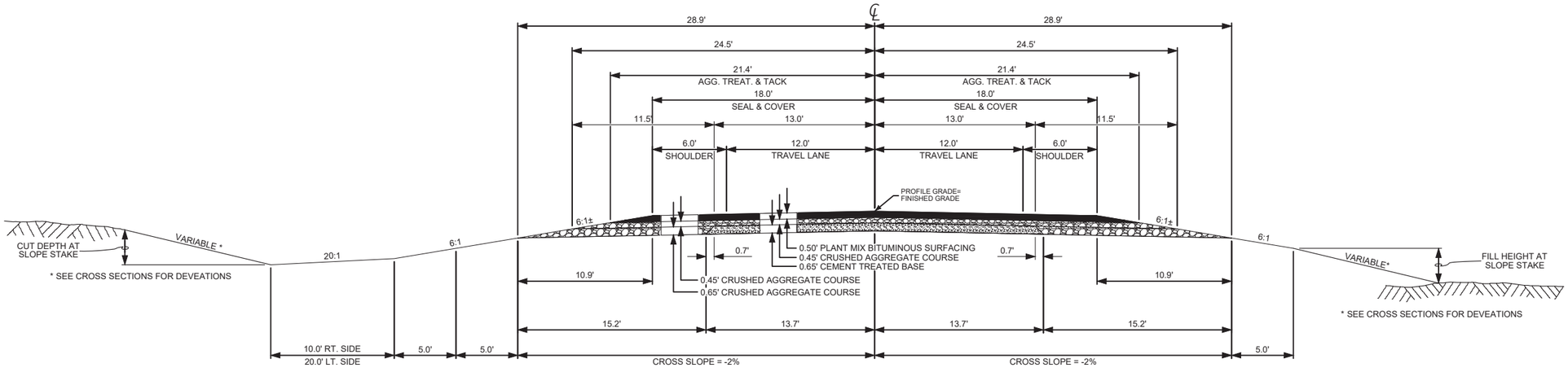
*BACK SLOPE	
0' - 5'	5:1
5' - 10'	4:1
OVER 10'	3:1

* SEE CROSS SECTIONS FOR DEVIATIONS

TYPICAL SECTION NO. 2

MAINLINE BRIDGE END

2227+08.61 TO 2228+08.61
2228+08.61 TO 2228+28.61 TRANS. TYP. NO. 2 TO TYP. NO. 3
2231+62.29 TO 2232+62.29 THEN TO TYP. NO. 1



QUANTITIES									
UNIT	AGGREGATE				UNIT	BITUMINOUS MATERIAL			AGG. TREAT.
	COVER	PLANT MIX	CRUSHED AGG. COURSE	CEMENT TR. BASE		ASPHALT BINDER	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK▲	
AREA square feet		19.70	37.22	17.36	square yards PER STATION		400	1,427	476
cubic yards PER STATION		73.0	137.9	64.3	tons PER STATION	7.46	0.71		
tons PER STATION		140.7		# 116.4	gals PER STATION			71	
square yards PER STATION	400								

▲ BASED ON 3 APPLICATIONS
FOR INFORMATION ONLY

SHEET NO. 11

TYPICAL SECTIONS

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

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MONTANA Department of Transportation

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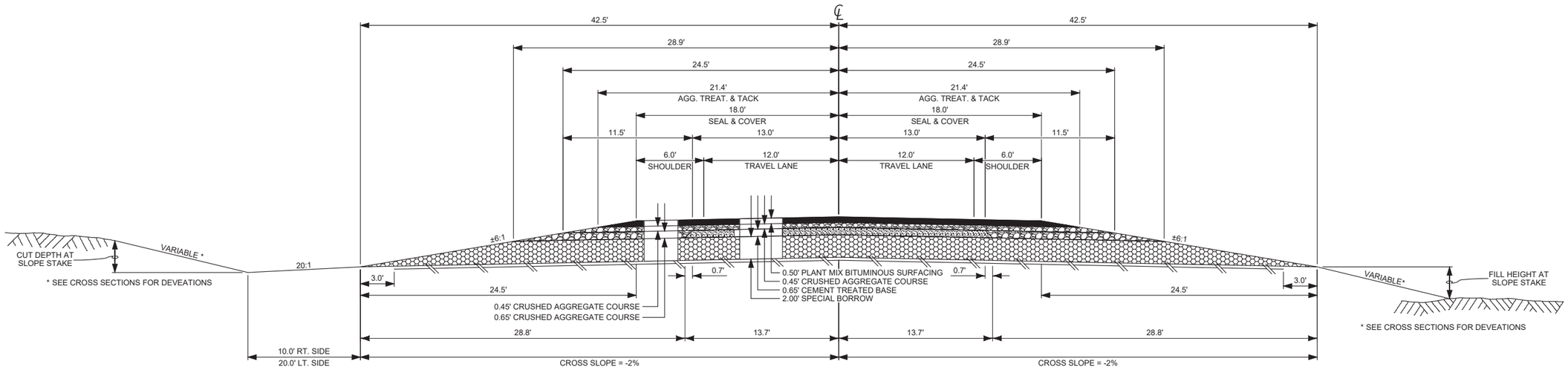
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TYPICAL SECTION NO. 3

MAINLINE BRIDGE END

2228+28.61 TO 2229+17.00 B.E.
2230+53.90 B.E. TO 2231+42.29
2231+42.29 2231+62.29 TRANS TYP. NO. 3 TO TYP. NO. 2



QUANTITIES

UNIT	AGGREGATE					UNIT	BITUMINOUS MATERIAL			AGG. TREAT.	GEOTEXTILE
	COVER	PLANT MIX	CRUSHED AGG. COURSE	CEMENT TR. BASE	SPECIAL BORROW		ASPHALT BINDER	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK▲		
AREA square feet		19.70	37.22	17.36	142.80	square yards PER STATION		400	1,427	476	878
cubic yards PER STATION		73.0	137.9	64.3	528.9	tons PER STATION	7.46	0.71			
tons PER STATION		140.7		# 116.4		gals PER STATION			71		
square yards PER STATION	400										

▲ BASED ON 3 APPLICATIONS
FOR INFORMATION ONLY

* FILL SLOPES	
0' - 10'	6:1
10' - 20'	4:1
OVER 20'	3:1

*BACK SLOPE	
0' - 5'	5:1
5' - 10'	4:1
OVER 10'	3:1

* SEE CROSS SECTIONS FOR DEVIATIONS

SHEET NO. 12

TYPICAL SECTIONS

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA Department of Transportation
ROAD PLANS

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GRADING

STATION	cubic yards			REMARKS
	UNCL. EXC.	EXCESS EXC.	EMB.+	
2134+00.00				
	876,693		842,868	MAINLINE TEMPLATE
2488+00.00				
	28,260		53,115	ADDITIONAL GRADING
TOTAL	**904,953**	**◆ 8,970**	**◆ 895,983**	

◆ FOR INFORMATION ONLY

TOPSOIL & SEEDING

STATION		cubic yards	acres						REMARKS
		TOPSOIL SALVAGING & PLACING	SEED			FERTILIZER		MULCH - COMPOST	
FROM	TO		NO. 1	NO. 2	NO.3	NO. 1	NO. 2		
2134+00.00	2150+00.00	1,897	5.5		1.1	5.5			
2150+00.00	2175+00.00	3,444	8.8	0.1	1.7	8.8	0.1	0.1	
2175+00.00	2200+00.00	3,106	17.2	0.2	1.7	17.2	0.2	0.2	
2200+00.00	2225+00.00	3,704	12.5	0.7	1.7	12.5	0.7	0.7	
2225+00.00	2250+00.00	3,511	9.9	0.1	1.8	9.9	0.1	0.1	
2250+00.00	2275+00.00	3,969	9.9	0.7	1.7	9.9	0.7	0.7	
2275+00.00	2300+00.00	5,031	9.5		1.7	9.5			
2300+00.00	2325+00.00	3,828	11.4	0.1	1.7	11.4	0.1	0.1	
2325+00.00	2350+00.00	4,493	9.8	0.2	1.7	9.8	0.2	0.2	
2350+00.00	2375+00.00	7,021	10.6	1.3	1.7	10.6	1.3	1.3	
2375+00.00	2400+00.00	5,534	15.4	3.9	1.7	15.4	3.9	3.9	
2400+00.00	2425+00.00	5,516	12.9	1.8	1.7	12.9	1.8	1.8	
2425+00.00	2450+00.00	3,730	12.1	1.3	1.7	12.1	1.3	1.3	
2450+00.00	2475+00.00	3,214	10.5	0.1	1.7	10.5	0.1	0.1	
2475+00.00	2488+00.00	1,671	8.3		0.9	8.3			
2488+00.00	2501+60.00	1,493	10.6	0.1	0.9	10.6	0.1	0.1	CONNECTION
TOTAL		**61,162**	**174.9**	**10.6**	**25.1**	**174.9**	**10.6**	**10.6**	

PAVEMENT MARKINGS

ITEM	UNIT	INTERIM APPLICATION ◆	FINAL APPLICATION	TOTAL
STRIPING - WHITE PAINT	gallon	486		**486**
STRIPING - YELLOW PAINT	gallon	366		**366**
WORDS & SYMBOLS - WHITE PAINT	gallon	2		**2**
STRIPING - WHITE EPOXY	gallon		324	**324**
STRIPING - YELLOW EPOXY	gallon		244	**244**
WORDS & SYMBOLS - WHITE EPOXY	gallon		1	**1**
TEMPORARY STRIPING ◆	linear feet			**106,608**
FINAL SWEEP AND BROOM	course mile			**7.0**

◆ BASED ON 2 APPLICATIONS

ADDITIONAL GRADING

STATION		cubic yards			REMARKS
		INCL. IN GRADING		ADD. UNCL. EXC.	
		UNCL. EXC.	EMB.+		
FROM	TO				
2134+00.00	2488+00.00	~	~		TOPSOIL REPLACEMENT ▼
2139+50.00		135	395		PRIVATE APP. LT. (JOINT USE)
2139+50.00		15	210		FARM FIELD APP. RT. (JOINT USE)
2145+40.00	2148+27.95	~	~		DITCH GRADING RT. (BACK) ▼
2148+27.95	2151+20.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2157+40.00	2160+70.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2171+05.00		700	230		FARM FIELD APP. LT.
2171+05.00		1,000	130		FARM FIELD APP. RT.
2185+72.00		290	115		FARM FIELD APP. RT.
2192+90.00		170	225		FARM FIELD APP. LT. (JOINT USE)
2199+40.00	2199+80.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2201+70.00	2203+90.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2202+40.00	2203+90.00	~	~		DITCH GRADING LT. (BACK) ▼
2220+90.00		70	175		FARM FIELD APP. LT.
2220+90.00		20	600		FARM FIELD APP. RT.
2221+60.00	2229+40.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2229+17.00 B.E.	2230+53.90 B.E.	1,040	565		BRIDGE END RIPRAP LAYOUT GRADING
2230+53.90	2231+40.00	~	~		DITCH GRADING LT. (BACK) ▼
2232+00.00	2234+70.00	~	~		DITCH GRADING LT. (BACK) ▼
2240+60.00	2241+00.00	~	~		DITCH GRADING LT. (BACK) ▼
2241+00.00	2241+30.00	~	~		DITCH GRADING LT. (AHEAD) ▼
2240+90.00		75	195		FARM FIELD APP. LT.
2245+00.00	2250+20.00	~	~		DITCH GRADING LT. (AHEAD) ▼
2250+60.00		35	1,060		FARM FIELD APP. LT.
2250+60.00		20	6,580		FARM FIELD APP. RT.
2272+30.00			30		DITCH BLOCK - LT. (ELEV. 2669.80')
2272+40.00	2275+80.00	~	~		DITCH GRADING LT. (BACK) ▼
2285+03.00		805	310		FARM FIELD APP. LT.
2285+03.00		3,745	155		FARM FIELD APP. RT.
2295+00.00	2307+20.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2298+15.00		40	17,705		PRIVATE APP. LT.
2298+15.00		70	4,040		PRIVATE APP. RT.
2308+71.00			5		DITCH BLOCK - RT. (ELEV. 2704.10')
2320+35.00		30	730		FARM FIELD APP. LT.
2320+35.00		40	225		FARM FIELD APP. RT.
2324+42.97	2325+90.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2327+90.00	2335+70.00	~	~		DITCH GRADING LT. (BACK) ▼
2340+20.00		15	275		FARM FIELD APP. LT.
2345+70.00	2347+90.00	~	~		DITCH GRADING RT. (BACK) ▼
2347+90.00	2351+90.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2348+12.00		1,340	240		FARM FIELD APP. RT.
2351+00.00	2358+20.00	~	~		DITCH GRADING LT. (AHEAD) ▼
2354+40.00	2359+90.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2355+00.00		170	1,345		FARM FIELD APP. LT.
2355+00.00		280	755		FARM FIELD APP. RT.
2358+80.00	2362+70.00	~	~		DITCH GRADING LT. (BACK) ▼
2359+90.00	2365+90.00	~	~		DITCH GRADING RT. (BACK) ▼
2367+50.00	2369+60.00	~	~		DITCH GRADING LT. (BACK) ▼
2369+23.00		55	740		FARM FIELD APP. LT.
2370+00.00	2373+10.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2372+50.00	2373+60.00	~	~		DITCH GRADING LT. (BACK) ▼
2373+10.00	2373+40.00	~	~		DITCH GRADING RT. (BACK) ▼
2379+10.00		55	280		FARM FIELD APP. LT.
2379+10.00		30	320		FARM FIELD APP. RT.
2383+90.00	2392+00.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2388+50.00	2392+40.00	~	~		DITCH GRADING LT. (AHEAD) ▼
2395+30.00	2397+90.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2396+20.00	2398+60.00	~	~		DITCH GRADING LT. (BACK) ▼
2397+90.00	2398+30.00	~	~		DITCH GRADING RT. (BACK) ▼
2401+50.00		300	305		FARM FIELD APP. LT.
2401+50.00		2,275	155		FARM FIELD APP. RT.
2404+00.00	2405+50.00	~	~		DITCH GRADING LT. (AHEAD) ▼
2406+10.00	2408+00.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2406+70.00	2422+80.00	~	~		DITCH GRADING LT. (BACK) ▼
2408+00.00	2413+40.00	~	~		DITCH GRADING RT. (BACK) ▼
2424+75.00		165	260		FARM FIELD APP. LT.
2424+75.00		100	175		FARM FIELD APP. RT.
2442+24.00		1,415	315		FARM FIELD APP. LT.
2442+24.00		870	660		PRIVATE APP. RT.
2457+30.00		60	2,495		PUBLIC APP. LT. - LOGAN RD
2457+30.00		1,340	500		PUBLIC APP. RT. - CHALK BUTTE RD
2482+70.00	2485+00.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2485+00.00	2485+40.00	~	~		DITCH GRADING RT. (BACK) ▼
2485+80.00		20	1,145		FARM FIELD APP. LT.
2485+80.00		40	335		FARM FIELD APP. RT.
2487+50.00	2489+20.00	~	~		DITCH GRADING RT. (AHEAD) ▼
2488+00.00	2501+60.00	11,430	9,135		CONNECTION
2488+00.00	2501+60.00	~	~		TOPSOIL REPLACEMENT (INCL. IN CONN.)
2494+60.00	2495+50.00	~	~		DITCH GRADING RT. (AHEAD) (INCL. IN CONN.)
2496+80.00	2497+50.00	~	~		DITCH GRADING RT. (BACK) (INCL. IN CONN.)
SUBTOTAL		**28,260**	**53,115**	**0**	
TOTAL		~	~	**0**	

▼ QUANTITY INCLUDED IN MAINLINE TEMPLATE

SHEET NO. 13

SUMMARIES

PROJECT NAME: WEST OF BROCKWAY - WEST

COUNTY: MCCONE

PROJECT ID: NH-HSIP 57-6(22)254

UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023

REVIEWED BY:

CHECKED BY: J. SOLIDAY 06/2025

9727000RDSUM001.DWG

MONTANA Department of Transportation

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SURFACING

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR	tons HYDRATED LIME	AGGREGATE square yards COVER TYPE 1	AGGREGATE tons PLANT MIX BIT. SURF. GR. S - 3/4"	AGGREGATE tons PLANT MIX BIT. SURF. GR. S - MISC.	AGGREGATE cubic yards CEMENT TREATED BASE	AGGREGATE cubic yards CRUSHED AGG. COURSE	AGGREGATE cubic yards TRAFFIC GRAVEL	AGGREGATE cubic yards SPECIAL BORROW	BITUMINOUS MATERIAL tons ASPHALT BINDER PG 58H-34	BITUMINOUS MATERIAL tons EMULSIFIED ASPHALT CHFRS-2P	BITUMINOUS MATERIAL gallons EMULSIFIED ASPHALT TACK	square yards AGG. TREAT.	square yards SEPA-RATION GEO-TEXTILE	REMARKS
2134+00.00	2227+08.61	9,308.61	9,308.61					37,234	7,568		5,985	15,936			401.2	66.1	4,096	41,330		TYP. NO. 1
2227+08.61	2228+08.61	100.00	100.00					400	141		64	138			7.5	0.7	71	476		TYP. NO. 2
2228+08.61	2228+28.61	20.00	20.00					80	28		13	28		53	1.5	0.1	14	95	145	TRANS. TYP. 2 TO TYP. NO. 3
2228+28.61																				
2229+17.00 B.E.	2230+53.90 B.E.				136.90	BRIDGE														
	2231+42.29	313.68	176.78					707	249		114	244		935	13.2	1.3	126	841	1,552	TYP. NO. 3
2231+42.29	2231+62.29	20.00	20.00					80	28		13	28		53	1.5	0.1	14	95	145	TRANS. TYP. 3 TO TYP NO. 2
2231+62.29	2232+62.29	100.00	100.00					400	141		64	138			7.5	0.7	71	476		TYP. NO. 2
2232+62.29	2488+00.00	25,537.71	25,537.71					102,151	20,762		16,421	43,721			1100.7	181.3	11,237	113,387		TYP. NO. 1
						ADDITIONAL SURFACING		6,445	1,433	226		6,351	15,000		88.2	11.5	778	4,359		
TOTAL		**35,400.00**	**35,263.10**		**136.90**		**428**	**147,497**	**30,350**	**226**	**22,674**	**66,584**	**15,000**	**1,041**	**1,621.3**	**261.8**	**16,407**	**161,059**	**1,842**	

ADDITIONAL SURFACING (INCLUDED IN SURFACING FRAME)

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR	tons HYDRATED LIME	AGGREGATE square yards COVER TYPE 1	AGGREGATE tons PLANT MIX BIT. SURF. GR. S - 3/4"	AGGREGATE tons PLANT MIX BIT. SURF. GR. S - MISC.	AGGREGATE cubic yards CEMENT TREATED BASE	AGGREGATE cubic yards CRUSHED AGG. COURSE	AGGREGATE cubic yards TRAFFIC GRAVEL	AGGREGATE cubic yards SPECIAL BORROW	BITUMINOUS MATERIAL tons ASPHALT CEMENT PG 58H-34	BITUMINOUS MATERIAL tons EMULSIFIED ASPHALT CHFRS-2P	BITUMINOUS MATERIAL gals. EMULSIFIED ASPHALT TACK	square yards AGG. TREAT.	square yards SEPA-RATION GEO-TEXTILE	REMARKS
2227+17.67	2229+25.39 B.E.					GUARDRAIL WIDENING						6								RT.
2228+08.89	2229+08.63 B.E.					GUARDRAIL WIDENING						11								LT.
2228+65.13	2229+08.63 B.E.					EMB. PROT. WIDENING			3						0.2		2			LT.
2228+81.89	2229+25.39 B.E.					EMB. PROT. WIDENING			3						0.2		2			RT.
2230+45.51 B.E.	2232+53.23					GUARDRAIL WIDENING						28								LT.
2230+45.51 B.E.	2230+83.51					EMB. PROT. WIDENING			2						0.1		2			LT.
2230+62.29 B.E.	2231+62.00					GUARDRAIL WIDENING						7								RT.
2230+62.29 B.E.	2231+05.00					EMB. PROT. WIDENING			3						0.2		2			RT.
2484+81.00						STOCKPASS						11								
2488+00.00	2489+50.00					CONNECTION		500	103			202			5.5	0.9	57	570		TRANS. CONN. TYP. NO. 1 TO CONN. TYP. NO. 2
2489+50.00	2501+00.00					CONNECTION		3,071	643			1,316			34.0	5.5	357	3,600		CONN. TYP. NO. 2
2501+00.00	2501+60.00					CONNECTION		161	34			68			1.8	0.3	19	189		TRANS. CONN. TYP. NO. 2 TO CONN. TYP. NO. 3
						(28) FARM FIELD APPROACHES				226		2,929			11.5		87			
						(4) PRIVATE APPROACHES			294			1,127			15.9		114			
						(2) PUBLIC APPROACHES		2,713	348			646			18.8	4.8	136			
						TRAFFIC GRAVEL							15,000							
SUBTOTAL		~	~	~	~		~	**6,445**	**1,433**	**226**	~	**6,351**	**15,000**	~	**88.2**	**11.5**	**778**	**4,359**	~	

BRIDGE END BACKFILL

STATION FROM	STATION TO	cubic yards BRIDGE END BACKFILL TYPE 3	square yards GEOTEXT. STAB. HIGH SURV.	REMARKS
2228+25.00	2229+15.00 B.E.	1,297	1,052	
2230+55.90 B.E.	2231+35.90	1,394	1,073	
TOTAL		**2,691**	**2,125**	

SURFICIAL VOIDS ◆

STATION FROM	STATION TO	cubic yards DIGOUT EXCAVATION	cubic yards SPECIAL BACKFILL	OFFSET	REMARKS
2361±50	2361±95	40	40	13' RT.	3.0' x 65.0' x 3' DEEP IN EXISTING RIPRAP CHUTE
2362±10		5	5	13' RT.	3.0' DIAMETER x 8' DEEP
TOTAL		**45**	**45**	~	

SEE SPECIAL PROVISIONS.
◆ SEE DETAILS

SUMMARIES

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
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MONTANA Department of Transportation

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CULVERTS (INCLUDED IN CULVERT SUMMARY RECAP)

STATION	BASIC BID ITEMS											PIPE OPTIONS in		END SECTIONS		cubic yards				sq. yards	linear feet		SKEW ANGLE	CULVERT IN PL. in x ft	REMARKS
	CULVERT PIPE in	linear feet			cubic yards					sq. yards	each					cubic yards									
		LENGTH OF PIPE	RELAY PIPE CULVERT	REMOVE PIPE CULVERT	FOUND-ATION MATERIAL	GRAN-ULAR BEDDING MATERIAL	SPECIAL BACKFILL	CONC. - CLASS GENERAL	CULVERT INFILL ★	GEO-TEXT. STAB.	PLUG ENDS & ABANDON PIPE	STEEL - 2 2/3" x 1/2" CORR. CONCRETE ALUMINUM - 3" x 1" CORR.	CLASS OR THK.	LEFT	RIGHT	FOUND-ATION MATERIAL	GRAN-ULAR BEDDING MATERIAL	SPECIAL BACKFILL	CONC. - CLASS GENERAL	GEO-TEXT. STAB.	SPECIAL INSTAL-LATION	HEIGHT OF COVER			
2148+60				52.1																				24 x 52.1 CMP	
2155+95				48.7																				24 x 48.7 CMP	
2160+14				61.0																				24 x 61 CMP	
2160+29	42	134										42 CSP ▶ 42 CAP 42 RCP	0.079" 0.075" CL. 2	FETS FETS FETS	FETS FETS FETS							4.6	31° LT		DR.
2185+72				52.3																				24 x 52.3 CMP	
2192+76				48.7																				24 x 48.7 CMP	
2200+87	120	36	36	104.0	74	92	476	17.6		254		120 CSP - 5" x 1" CORR. ▲	0.138"	● ◆ ■	● ◆ ■							7.2	35° RT	120 x 188.0 CMP	DR.
2204+62	120	36	54	74.0	93	115	665	14.4	14	319		120 CSP - 5" x 1" CORR. ▲	0.138"	▼ ◆ ■	▼ ◆ ■							7.0	6° RT	120 x 112.0 CMP	DR.
2208+96				72.7																				24 x 72.7 CMP	
2221+92				84.9																				48 x 84.9 CMP	
2223+47				60.4																				24 x 60.4 CMP	
2241+46	48	212										48 CAP 48 RCP	0.075" CL. 3	FETS FETS	FETS FETS							14.9	25° RT		DR.
2241+69				80.9																				24 x 80.9 CMP	
2251+94	42	180										42 CAP 36 RCP	0.075" CL. 3	FETS FETS	FETS FETS							14.5	17° RT		DR.
2252+25				60.9																				36 x 60.9 CMP	
2272+35	36 EQ.	130										42" x 29" CSPA ▶ 43 3/4" x 26 5/8" RCPA	0.079" CL. 3	FETS FETS	FETS FETS							7.1	12° RT		DR.
2274+31				61.2																				24 x 61.2 CMP	
2298+13				49.0																				24 x 49 CMP	
2306+92				64.6																				24 x 64.6 CMP	
2307+09	30	168										30 CSP ▶ 30 CAP - 2 2/3" x 1/2" CORR. 30 RCP	0.079" 0.075" CL. 3	FETS FETS FETS	FETS FETS FETS							13.0			DR.
2318+19				85.3																				30 x 85.3 CMP	
2318+21	36	166										36 CSP ▶ 36 CAP 36 RCP	0.079" 0.075" CL. 3	FETS FETS FETS	FETS FETS FETS							13.8			DR.
2326+29	48	240										48 CAP 48 RCP	0.075" CL. 5	FETS FETS	FETS FETS							24.7	19° RT		DR.
2326+64				83.6																				24 x 83.6 CMP	
2327+87	90	262			249	313	1,807	5.6		864		90 RCP	CL. 5	FETS ■	FETS ■							26.5	30° LT		DR. - EMBEDDED 0.8' LT. & RT.
2340+43				53.1																				24 x 53.1 CMP	
2349+83											1													24 x 101.1 CMP	

▲ COATING PER 709.05
▶ COATING PER 709.05 OR 709.12
▼ 2:1 STEP BEVEL
● 2:1 SKEW STEP BEVEL
■ WITH CUTOFF WALLS
◆ WITH CONCRETE EDGE PROTECTION
★ FOR INFORMATION ONLY - USE SALVAGED CHANNEL MATERIAL. PLACE FILL IN THE BOTTOM OF THE CULVERT TO A 12" CENTER DEPTH WITH A LEVEL TOP SURFACE.

SHEET NO.
15

SUMMARIES

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA Department of Transportation
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CULVERTS (CONTINUED) (INCLUDED IN CULVERT SUMMARY RECAP)

STATION	BASIC BID ITEMS: CULVERT PIPE in	linear feet: LENGTH OF PIPE	linear feet: RELAY PIPE CULVERT	linear feet: REMOVE PIPE CULVERT	cubic yards: FOUND-ATION MATERIAL	cubic yards: GRAN-ULAR BEDDING MATERIAL	cubic yards: SPECIAL BACKFILL	cubic yards: CONC. - CLASS GENERAL	cubic yards: CULVERT INFILL ★	sq. yards: GEO-TEXT. STAB.	each: PLUG ENDS & ABANDON PIPE	PIPE OPTIONS in: STEEL - 2 2/3" x 1/2" CORR. CONCRETE ALUMINUM - 3" x 1" CORR.	PIPE OPTIONS in: CLASS OR THK.	END SECTIONS: LEFT	END SECTIONS: RIGHT	cubic yards: FOUND-ATION MATERIAL	cubic yards: GRAN-ULAR BEDDING MATERIAL	cubic yards: SPECIAL BACKFILL	cubic yards: CONC. - CLASS GENERAL	sq. yards: GEO-TEXT. STAB.	linear feet: SPECIAL INSTAL-LATION	linear feet: HEIGHT OF COVER	SKEW ANGLE	CULVERT IN PL. in x ft	REMARKS
2358+64											1													36 x 145.3 SCP	
2359+24	60	354			261	282		4.4		941		60 RCP 60 SCP	CL. 5 0.625"	FETS ■ SQ. END ◆ ■	FETS ■ SQ. END ◆ ■	49	43		9.0	178	◄280.7	43.9	22° LT		DR. - EMBEDDED 0.5' LT. & RT.
2360+29											1													36 x 310.5 SCP	
2372+69	48	228			123					461		48 CAP 48 RCP	0.075" CL. 4	FETS FETS	FETS FETS	135				498		22.4	22° LT		DR.
2372+70				85.4																				36 x 85.4 CMP	
2390+23				138.2																				24 x 138.2 CMP	
2392+31				85.2																				48 x 85.2 CMP	
2392+34	60	244				146		8.0				60 CAP 54 RCP	0.075" CL. 5	▼ ◆ ■ FETS ■	▼ ◆ ■ FETS ■		170		3.6			28.0	18° RT		DR. - EMBEDDED 0.5' LT. & RT.
2396+72				194.8																				48 x 97.4 DBL CMP	
2396+99	78	274				273		4.2				78 RCP	CL. 5	FETS ■	FETS ■							24.4	39° LT		DR. - EMBEDDED 0.67' LT. & RT.
2407+32	66	250				174		8.6				66 CAP 54 RCP	0.075" CL. 4	▼ ◆ ■ FETS ■	▼ ◆ ■ FETS ■		174		3.6			21.5	33° LT		DR. - EMBEDDED 0.5' LT. & RT.
2407+44				93.5																				24 x 93.5 CMP	
2408+40				89.1																				48 x 89.1 CMP	
2430+13				89.2																				24 x 89.2 CMP	
2430+21	48	212										48 CAP 48 RCP	0.075" CL. 4	FETS FETS	FETS FETS							20.1	22° LT		DR.
2457+70				49.2																				36 x 49.2 CMP	
2466+33	36	142										36 CSP ► 36 CAP 36 RCP	0.079" 0.075" CL. 2	FETS FETS FETS	FETS FETS FETS							10.1			DR.
2466+40				60.4																				30 x 60.4 CMP	
2484+81	96	108			96	107	617	12.8		336		96 CSP ► 3" x 1" CORR. OR 5" x 1" CORR.	0.109"	▼ ◆ ■	▼ ◆ ■							3.4	15° LT		DR. - EMBEDDED 0.83' LT. & RT. COMBINATION DRAIN/STOCKPASS SEE DTL. DWG. NO. 603-36
2488+38				48.7																				24 x 48.7 CMP	
2496+21				81.2																				36 x 81.2 CMP	
2496+32	60	210				167		4.0				60 RCP	CL. 5	FETS ■	FETS ■							9.2	12° LT		DR. - PIPE IS INTENTIONALLY LENGTHENED FOR A FUTURE PROJECT - EMBEDDED 0.5' LT. & RT.
SUBTOTAL	~	~	**90**	**2,212.3**	**896**	**1,669**	**3,565**	**79.6**	**14**	**3,175**	**3**	~	~	~	~	~	~	~	~	~	~	~	~	~	

▲ COATING PER 709.05
► COATING PER 709.05 OR 709.12
▼ 2:1 STEP BEVEL
● 2:1 SKEW STEP BEVEL
■ WITH CUTOFF WALLS
◆ WITH CONCRETE EDGE PROTECTION
◄280.7 LNFT OF SPECIAL INSTALLATION OF PIPE FOR SCP OPTION. INCLUDE IN THE COST OF THE CULVERT.
★ FOR INFORMATION ONLY - USE SALVAGED CHANNEL MATERIAL. PLACE FILL IN THE BOTTOM OF THE CULVERT TO A 12" CENTER DEPTH WITH A LEVEL TOP SURFACE.

SUMMARIES

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

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APPROACH PIPE (INCLUDED IN CULVERT SUMMARY RECAP)

STATION	BASIC BID ITEMS			PIPE OPTIONS in					END SECTIONS		linear feet	SKEW ANGLE	CULVERT IN PL. in x ft	REMARKS
	CULVERT PIPE in	linear feet		STEEL - 2 2/3 x 1/2 CORR. 0.064 THK.	RCP		ALUMINUM - 2 2/3 x 1/2 CORR. 0.060 THK.	CORRUGATED POLY-ETHYLENE PIPE			HEIGHT OF COVER			
		LENGTH OF PIPE	REMOVE PIPE CULVERT		CLASS 3	CLASS 4			LEFT	RIGHT				
2139+50	18	78	61.6	18		18	18		FETS	FETS	1.5		15 x 61.6 CMP	LT.
2185+72	18	48				18			FETS	FETS	1.0			RT.
2192+90	18	58		18		18	18		FETS	FETS	1.6			LT.
2285+03	18	76		18	18		18	18	FETS	FETS	3.2			LT.
2285+03	18	60		18	18		18	18	FETS	FETS	2.0			RT.
2298+15	24	136		24	24		24	24	FETS	FETS	7.2			RT.
2340+20	18	62		18	18		18	18	FETS	FETS	2.2			LT.
2355+00	18	90		18	18		18	18	FETS	FETS	5.9			LT.
2355+00	18	100		18	18		18		FETS	FETS	1.7			RT.
2379+10	18	52		18		18	18		FETS	FETS	1.6			LT.
2401+50	18	72		18	18		18	18	FETS	FETS	3.4			LT.
2401+50	18	58		18	18		18	18	FETS	FETS	2.2			RT.
2424+75	18	62		18	18		18	18	FETS	FETS	2.1			LT.
2424+75	18	56		18		18	18		FETS	FETS	1.5			RT.
2442+24	18	74		18	18		18	18	FETS	FETS	3.6			LT.
2442+24	18	88		18		18	18		FETS	FETS	1.5			RT.
2457+30	30 EQ.	84	51.2			30 ◆			FETS	FETS	0.7		18 x 51.2 CMP	RT.
SUBTOTAL	~	~	112.8	~	~	~	~	~	~	~	~	~	~	

◆ RCPA

CULVERT SUMMARY RECAP

BASIC BID	linear feet			cubic yards				square yards	each
	NEW PIPE (TOTAL)	RELAY PIPE CULVERT	REMOVE PIPE CULVERT	FOUND-ATION MATERIAL	GRANULAR BEDDING MATERIAL	SPECIAL BACKFILL	CONCRETE - CLASS GENERAL	GEOTEXT. STAB.	PLUG ENDS & ABANDON PIPE
DRAINAGE PIPE 18 IN	1,034								
DRAINAGE PIPE 24 IN	136								
RCPA 30 IN EQ. DIA.	84								
DRAINAGE PIPE 30 IN	168								
DRAINAGE PIPE 36 IN	308								
DRAINAGE PIPE ARCH 36 IN EQ. DIA.	130								
DRAINAGE PIPE 42 IN	314								
DRAINAGE PIPE 48 IN	892								
DRAINAGE PIPE 60 IN	598								
RCP 60 IN	210								
DRAINAGE PIPE 66 IN	250								
RCP 78 IN	274								
RCP 90 IN	262								
CSP 96 IN	108								
CSP 120 IN	72								
TOTAL	~	90	2,325.1	896	1,669	3,565	80	3,175	3

RUMBLE STRIPS

STATION		miles		gallons	REMARKS
		RUMBLE STRIPS		EMULSIFIED ASPHALT FOG SEAL	
FROM	TO	INTER-MITTENT	CENTERLINE TYPE 3		
2134+00.00	2501+60.00	7.0		817	LT.
2134+00.00	2501+60.00		7.0	817	
2134+00.00	2501+60.00	7.0		817	RT.
TOTAL		14.0	7.0	◆ 2,451	

◆ FOR INFORMATION ONLY, INCLUDE IN THE COST OF RUMBLE STRIPS

RANDOM RIPRAP

STATION		cubic yards	square yards		REMARKS
		RANDOM RIPRAP	GEOTEXTILE		
			PERM. EROS. CNTRL.	RIPRAP REVEGE-TATION	
FROM	TO	CL. 2	HIGH SURV. CLASS C		
2229+15.00 B.E.		504.4	759	69	BRIDGE END
2230+55.90 B.E.		527.3	793	62	BRIDGE END
TOTAL		1,031.7	1,552	131	

SHEET NO. 17

SUMMARIES

PROJECT NAME WEST OF BROCKWAY - WEST

COUNTY MCCONE

PROJECT ID NH-HSIP 57-6(22)254

UPN 9727000

DESIGNED BY C. PERIMAN 09/2023

REVIEWED BY

CHECKED BY J. SOLIDAY 06/2025

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MONTANA Department of Transportation

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GUARDRAIL

STATION		linear feet								REMARKS
		REMOVE GUARDRAIL		BOX BEAM GUARDRAIL		MBEAT BOX BEAM TERMINAL SECTION		BOX BEAM BRIDGE APPROACH SECTION TYPE 4		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
NEW RAIL										
2227+35.51	2227+47.45						1			
2227+47.45	2228+73.45				126					
2228+73.45	2229+25.39 B.E.								1	
2228+26.73	2228+38.67					1				
2228+38.67	2228+56.67			18						
2228+56.67	2229+08.61 B.E.							1		
2230+45.51 B.E.	2230+97.45							1		
2230+97.45	2232+23.45			126						
2232+23.45	2232+35.39					1				
2230+62.29 B.E.	2231+14.23								1	
2231+14.23	2231+32.23				18					
2231+32.23	2231+44.17						1			
REMOVE RAIL										
2228+27.43	2229+05.66	78.3								
2228+44.99	2229+23.96		79.0							
2230+03.95	2230+81.74	77.8								
2230+20.95	2230+99.76		78.9							
2326+41.72	2327+22.98		81.3							
2326+42.21	2327+22.61	80.4								
2327+99.06	2328+80.71	81.7								
2327+99.15	2328+80.92		81.9							
2483+72.12	2484+48.00	75.9								
2483+72.60	2484+48.35		75.8							
2484+75.11	2485+37.71	96.3								
2484+74.73	2485+37.63		94.6							
SUBTOTAL		490.4	491.5	144	144	2	2	2	2	
TOTAL		981.9		288		4		4		

EMBANKMENT PROTECTORS

STATION		linear feet				cubic yards	REMARKS
		EMBANKMENT PROTECTOR 18"		CONCRETE CURB 4"		ANCILLARY ARMOR	
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	CLASS 1	
2228+65.13	2229+08.63 B.E.			43.5			
2228+81.89	2229+25.39 B.E.				43.5		
2228+70.13		72				1.9	θ = 22.5°
2228+86.89			50				θ = 22.5°
2230+45.51 B.E.	2230+83.51			38.0			
2230+62.29 B.E.	2231+05.00				42.7		
2230+50.51		48					θ = 22.5°
2230+72.00			54			1.9	θ = 26.0°
SUBTOTAL		120	104	81.5	86.2	3.8	
TOTAL		224		167.7		3.8	

REMOVE STRUCTURE ◆

STATION	lump sum REMOVE STRUCTURE	REMARKS
2229+65	0.52	NBI: P00057255+03001; MTSID: 06037
2327+65	0.41	NBI: P00057257+01501; MTSID: 06038
2484+65	0.07	NBI: P00057260+01501; MTSID: 06041
TOTAL	1	

◆ FWP SALVAGE - SEE SPECIAL PROVISIONS

MAILBOXES

STATION	each MAILBOX EXTRA LARGE	REMARKS
2297+79	1	RT. - OFFSET 38.0'
2457+66	1	LT. - OFFSET 38.0'
TOTAL	2	

PERMANENT EROSION CONTROL ▲

STATION		square yards			REMARKS
		VEGETATED CONCRETE BLOCK MAT	EROSION CONTROL BLANKET HIGH PERFORM.	OUTLET APRON	
FROM	TO				
2134+00	2139+00		1,832		ECB LINED DITCH LT.
2139+90	2144+00		1,324		ECB LINED DITCH LT.
2140+63	2144+00		930		ECB LINED DITCH RT.
2158+00	2169+00		2,774		ECB LINED DITCH RT.
2159+90	2169+00		3,063		ECB LINED DITCH LT.
2160+29				22	OUTLET APRON LT.
2172+90	2178+09		1,259		ECB LINED DITCH RT.
2173+00	2192+63		6,654		ECB LINED DITCH LT.
2182+30	2185+50		856		ECB LINED DITCH RT.
2186+10	2195+15		2,160		ECB LINED DITCH RT.
2193+21	2199+70		1,846		ECB LINED DITCH LT.
2197+00	2200+50	892			VCBM LINED DITCH RT.
2199+70	2201+60	1,098			VCBM LINED DITCH LT.
2204+70	2208+10		1,217		ECB LINED DITCH LT.
2205+23	2212+60		1,803		ECB LINED DITCH RT.
2215+40	2220+78		1,372		ECB LINED DITCH RT.
2215+80	2220+70		1,688		ECB LINED DITCH LT.
2221+06	2227+80		1,309		ECB LINED DITCH RT.
2227+80	2229+50	300			VCBM LINED DITCH RT.
2229+80	2231+40	363			VCBM LINED DITCH LT.
2231+40	2240+53		3,213		ECB LINED DITCH LT.
2231+90	2233+00	401			VCBM LINED DITCH RT.
2233+00	2239+60		1,489		ECB LINED DITCH RT.
2241+10	2247+00		1,933		ECB LINED DITCH LT.
2241+46				28	OUTLET APRON RT.
2253+00	2271+96		4,728		ECB LINED DITCH LT.
2269+90	2284+69		3,409		ECB LINED DITCH RT.
2272+45	2284+58		3,548		ECB LINED DITCH LT.
2285+34	2287+40		578		ECB LINED DITCH LT.
2298+87	2307+30		1,703		ECB LINED DITCH RT.
2307+09				11	OUTLET APRON LT.
2313+30	2318+40		1,241		ECB LINED DITCH RT.
2315+20	2316+20		356		ECB LINED DITCH LT.
2318+21				16	OUTLET APRON LT.
2322+30	2326+10	744			VCBM LINED DITCH RT.
2323+10	2327+80		811		ECB LINED DITCH LT.
2326+29				28	OUTLET APRON LT.
2326+90	2333+00		1,584		ECB LINED DITCH RT.
2327+80	2336+70	2,192			VCBM LINED DITCH LT.
2336+70	2339+84		1,045		ECB LINED DITCH LT.
2338+20	2343+10		1,248		ECB LINED DITCH RT.
2340+46	2343+10		816		ECB LINED DITCH LT.
2348+60	2353+10		1,325		ECB LINED DITCH RT.
2351+00	2354+53		710		ECB LINED DITCH LT.
2353+10	2354+68	339			VCBM LINED DITCH RT.
2355+63	2367+00	2,438			VCBM LINED DITCH RT.
2355+65	2364+00	2,227			VCBM LINED DITCH LT.
2369+23	2371+20		429		ECB LINED DITCH RT.
2371+20	2373+80	506			VCBM LINED DITCH RT.
2372+16	2374+30	415			VCBM LINED DITCH LT.
2372+69				28	OUTLET APRON LT.
2374+80	2378+83	996			VCBM LINED DITCH LT.
2382+99	2387+60	990			VCBM LINED DITCH RT.
2384+10	2387+00		868		ECB LINED DITCH LT.
2387+00	2393+00	1,360			VCBM LINED DITCH LT.
2387+60	2392+20		773		ECB LINED DITCH RT.
2394+60	2398+30	758			VCBM LINED DITCH RT.
2394+70	2400+70	1,384			VCBM LINED DITCH LT.
2406+10	2424+38		5,347		ECB LINED DITCH LT.
2408+80	2424+42		3,230		ECB LINED DITCH RT.
2424+98	2435+30		2,489		ECB LINED DITCH RT.
2425+00	2427+90		869		ECB LINED DITCH LT.
2430+21				28	OUTLET APRON LT.
2437+02	2441+00		1,040		ECB LINED DITCH RT.
2437+60	2441+00		1,188		ECB LINED DITCH LT.
2446+50	2456+90		2,650		ECB LINED DITCH RT.
2457+80	2459+70		411		ECB LINED DITCH RT.
2466+33				16	OUTLET APRON LT.
2475+00	2481+35		2,254		ECB LINED DITCH LT.
2475+10	2482+00		1,495		ECB LINED DITCH RT.
2482+00	2484+40	499			VCBM LINED DITCH RT.
2484+40	2485+27		206		ECB LINED DITCH RT.
2486+10	2488+00		466		ECB LINED DITCH RT.
TOTAL		17,902	83,539	177	

▲ SEE DETAILS

SHEET NO. 18

SUMMARIES

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
9727000RDSUM001.DWG

MONTANA Department of Transportation

ROAD PLANS

9/24/2025 4:47 PM

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FENCING

STATION		linear feet		each			linear feet	REMARKS
		FARM FENCE		FARM FENCE PANEL		DEADMAN	FARM GATE	
		TYPE F2M-32 IN WW	TYPE F-4M	SINGLE	DOUBLE		WIRE TYPE G-2	
FROM	TO			FM	FM			
LEFT								
2191+66.75	2193+15.45	204		4				CROSS FENCE
2191+66.75								TIE TO EXISTING FENCE 327' LT.
2191+80.19							16	GATE IN CROSS FENCE 327' LT.
2192+85.00	2297+14.04	10,298		30	19			MAINLINE FENCE (15 R/W BREAKS)
2193+15.45								TIE TO CROSS FENCE
2220+90.00				2			16	
2240+90.00				2			16	
2248+46.89				1				CROSS FENCE CONNECTION
2250+60.00				2			40	
2284+75.34				1			40	
2284+93.88				2			40	GATE IN CROSS FENCE 154' LT.
2285+15.34				1			40	
2297+12.96				1			16	GATE IN CROSS FENCE 132' LT.
2297+14.04								TIE TO CROSS FENCE
2298+40.41	2299+34.65	227		1				CROSS FENCE
2298+40.41								TIE TO EXISTING FENCE 348' LT.
2299+31.54				1			16	GATE IN CROSS FENCE 131' LT.
2299+34.65	2431+00.00	13,169		54	20			MAINLINE FENCE (27 R/W BREAKS)
2299+34.65								TIE TO CROSS FENCE
2320+35.00				2			16	
2340+20.00				2			16	
2350+87.86				1				CROSS FENCE CONNECTION
2350+95.86				2			16	NO APPROACH
2355+00.00				2			16	
2369+23.00				2			16	
2379+10.00				2			16	
2401+50.00				2			30	
2424+75.00				2			16	
2431+00.00								TIE TO CROSS FENCE
2457+30.00	2457+90.00		297	4				CROSS FENCE; LOGAN RD. (2 R/W BREAKS)
2457+30.00								TIE TO EXISTING FENCE 398' LT.
2457+90.00	2503+15.09		4,312	22	5			MAINLINE FENCE (11 R/W BREAKS)
2457+90.00								TIE TO CROSS FENCE
2483+10.35			174	2				TIE TO STRUCTURE
2484+51.06								OPEN FOR STUCTURE ACCESS
2484+92.75			48	2				TIE TO STRUCTURE
2485+81.37				2			40	
2503+15.09								TIE TO EXISTING FENCE

FENCING (CONTINUED)

STATION		linear feet		each			linear feet	REMARKS
		FARM FENCE		FARM FENCE PANEL		DEADMAN	FARM GATE	
		TYPE F2M-32 IN WW	TYPE F-4M	SINGLE	DOUBLE		WIRE TYPE G-2	
FROM	TO			FM	FM			
RIGHT								
2139+28.63	2297+77.59	15,647		69	26			MAINLINE FENCE (34 R/W BREAKS)
2139+28.63								TIE TO CROSS FENCE
2139+60.25				2			30	
2171+05.00				2			40	
2185+72.00				2			16	
2191+91.92				1				CROSS FENCE CONNECTION
2192+27.01				1				CROSS FENCE CONNECTION
2220+90.00				2			40	
2250+69.11				2			40	
2252+08.27				1				CROSS FENCE CONNECTION
2284+90.37				2			40	
2285+10.18				1				CROSS FENCE CONNECTION
2285+29.99				1			40	
2297+77.59								TIE TO CROSS FENCE
2297+77.59	2298+30.14	148			1			CROSS FENCE
2297+80.14				1			16	GATE IN CROSS FENCE 154' RT.
2298+30.14								TIE TO EXISTING FENCE 302' RT.
2299+03.39	2431+32.96	13,270		61	21			MAINLINE FENCE (30 R/W BREAKS)
2299+04.19				1			16	GATE IN CROSS FENCE 154' RT.
2320+12.45				2			16	
2320+18.27				1			16	GATE IN CROSS FENCE 128' RT.
2320+28.45				1			16	
2348+12.00				2			16	
2351+20.60				2			16	GATE IN CROSS FENCE 154' RT.
2355+00.00				2			16	
2379+10.00				2			40	
2401+50.00				2			30	
2424+75.00				2			16	
2431+32.96								TIE TO CROSS FENCE
2458+20.00	2458+20.00		310	2				CROSS FENCE; CHALK BUTTE RD. (1 R/W BREAK)
2458+20.00								TIE TO EXISTING FENCE 410' RT.
2458+20.00	2501+24.47		4,157	18	4			MAINLINE FENCE (9 R/W BREAKS)
2458+20.00								TIE TO CROSS FENCE
2484+46.33				88	2			TIE TO STRUCTURE
2485+01.46				98	2		16	GATE FOR STRUCTURE ACCESS
2485+60.09				108	2			TIE TO STRUCTURE
2485+80.00					2		40	
2501+24.47								TIE TO EXISTING FENCE
TOTAL		52,963	9,592	344	96	63	938	

SHEET NO.
19

SUMMARIES

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
9727000RDSUM001.DWG

MONTANA
Department of Transportation

ROAD PLANS

9/15/2025 8:51 AM

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STATION	STREAM NAME (IF NAMED)	DRAINAGE AREA (mi^2)	SIZE/TYPE STRUCTURE ① ② ⑤	DESIGN FLOOD			BASE FLOOD (1%)		OVERTOPPING FLOOD ③ ④			REMARKS (FLOOD OF RECORD), Qp(max), etc.) ⑥
				MAGNITUDE (cfs)	FREQUENCY (%)	H.W. ELEV. (ft)	MAGNITUDE (cfs)	H.W. ELEV. (ft)	MAGNITUDE (cfs)	APPROX. FREQUENCY (%)	H.W. ELEV. (ft)	
2160+29		0.08	42" CMP	78	2	2610.36	106	2611.46	86	1.6	2610.85	
2229+83	Soda Creek tributary	4.90	137' Single Span Bridge	934	2	2539.05	1,298	2539.52	-	<0.2	>2553	Qp(max)
2241+46		0.03	48" CAP	45	2	2576.33	61	2576.98	159	<1	2582.30	Qp(max)
2251+93		0.14	42" CAP	108	2	2599.79	145	2600.05	93	2.7	2599.52	OT DITCH DIVIDE LT
2272+35		0.01	36" CMPA	27	2	2669.90	37	2670.90	19	3.8	2669.80	OT DITCH BLOCK LT
2307+09		0.02	30" CMP	35	2	2703.98	49	2704.45	37	1.9	2704.10	OT DITCH BLOCK RT
2318+21		0.04	36" CMP	55	2	2680.05	75	2681.58	67	1.3	2681.16	
2326+29		0.02	48" CAP	38	2	2660.62	52	2661.18	171	<1	2671.26	Qp(max)
2327+87		0.42	90" RCP	302	2	2659.09	427	2661.47	860	<0.5	2680.12	Qp(max)
2359+24		0.12	60" RCP	98	2	2677.79	132	2678.71	408	<1	2717.58	Qp(max)
2372+69		0.06	48" CAP	64	2	2718.57	87	2719.51	173	<1	2728.06	Qp(max)
2392+34		0.04	60" CAP	52	2	2702.21	71	2702.80	286	<1	2718.05	Qp(max)
2396+99		0.14	78" RCP	109	2	2698.29	146	2699.06	578	<1	2718.05	Qp(max)
2407+32		0.08	66" CAP	75	2	2714.49	102	2715.19	315	<1	2726.96	Qp(max)
2430+21		0.02	48" CAP	31	2	2793.20	43	2793.70	163	<1	2800.04	Qp(max)
2466+33		0.04	36" CMP	56	2	2800.71	76	2801.27	56	2.0	2800.73	
2484+81		0.06	96" CMP	63	2	2771.75	86	2772.28	310	<1	2775.93	Qp(max), COMBINATION DRAIN/STOCKPASS
2496+26		0.18	60" RCP	123	2	2752.92	164	2754.36	362	<1	2773.73	Qp(max)

NOTES:
* H.W. ELEVATIONS SHOWN ARE BASED UPON PEAK FLOW ANALYSIS UNLESS NOTED IN REMARKS COLUMN.
ADDITIONAL GUIDANCE ON THE HYDRAULIC DATA SUMMARY SHEET CAN BE FOUND IN SECTION 11.8.2 OF THE HYDRAULICS MANUAL.

① STRUCTURE SIZE OR TYPE AND RELATED HYDRAULIC DATA MAY NOT REFLECT CHANGES MADE DUE TO R/W OR OTHER CONSIDERATIONS (I.E. STOCKPASS ADDED, STRUCTURE SIZE OR TYPE CHANGED, ROAD GRADE CHANGED DURING CONSTRUCTION, ETC.)

② BRIDGE TOP LENGTH AND NUMBER OF SPANS OR BASE BID CULVERT SIZE AND SHAPE.

③ OVERTOPPING IS DEFINED AS FLOW OVER THE ROAD, FLOW THROUGH A SIGNIFICANT RELIEF STRUCTURE OR FLOW OVER THE BASIN DIVIDE WHICHEVER IS LOWER.

④ FOR THOSE CROSSINGS NOTED BY Qp(max) IN THE REMARKS COLUMN, OVERTOPPING DOES NOT OCCUR THROUGH THE Qp(max) EVENT. Qp(max) IS THE 200 YEAR EVENT FOR CULVERTS AND THE 500 YEAR EVENT FOR BRIDGES.

⑤ HEAD WATER ELEVATIONS MAY VARY SLIGHTLY DEPENDING UPON THE PIPE OPTION SELECTED.

⑥ NOTE ANY CULVERTS THAT WERE SIZED USING THE HEADWATER EXCEPTION PROCEDURE PER SECTION 11.3.1.3.2 OF THE HYDRAULICS MANUAL. (FORMERLY CALLED PM10.)

EXCEEDANCE PROBABILITY

25 YEAR	4% CHANCE
50 YEAR	2% CHANCE
100 YEAR	1% CHANCE
200 YEAR	0.5% CHANCE
500 YEAR	0.2% CHANCE

SHEET NO. 20

HYDRAULIC DATA SUMMARY

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	08/2024
E. SUHR	
REVIEWED BY	08/2024
G METZGER	
CHECKED BY	06/2025
J. SOLIDAY	

MONTANA Department of Transportation

ROAD PLANS

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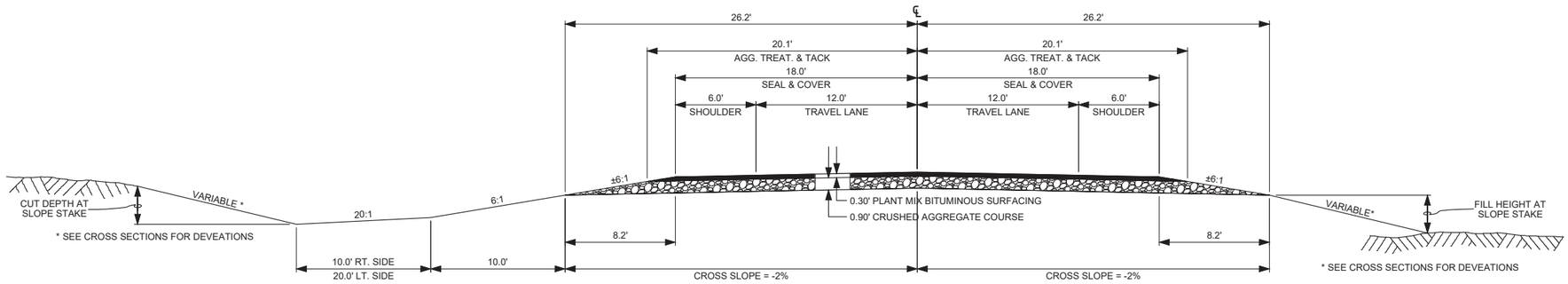
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CONNECTION TYPICAL SECTION NO. 1

CONNECTION

2488+00.00 ONLY
2488+00.00 TO 2489+50.00 TRANS. CONN. TYP. NO. 1 TO CONN. TYP. NO. 2



QUANTITIES								
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL			AGG. TREAT.
	COVER	PLANT MIX	CRUSHED AGG. COURSE		ASPHALT BINDER	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK▲	
AREA square feet		11.44	41.71	square yards PER STATION		400	893	447
cubic yards PER STATION		42.4	154.5	tons PER STATION	4.33	0.71		
tons PER STATION		81.7		gals PER STATION			45	
square yards PER STATION	400							

▲ BASED ON 2 APPLICATIONS
FOR INFORMATION ONLY

* FILL SLOPES	
0' - 10'	6:1
10' - 20'	4:1
OVER 20'	3:1

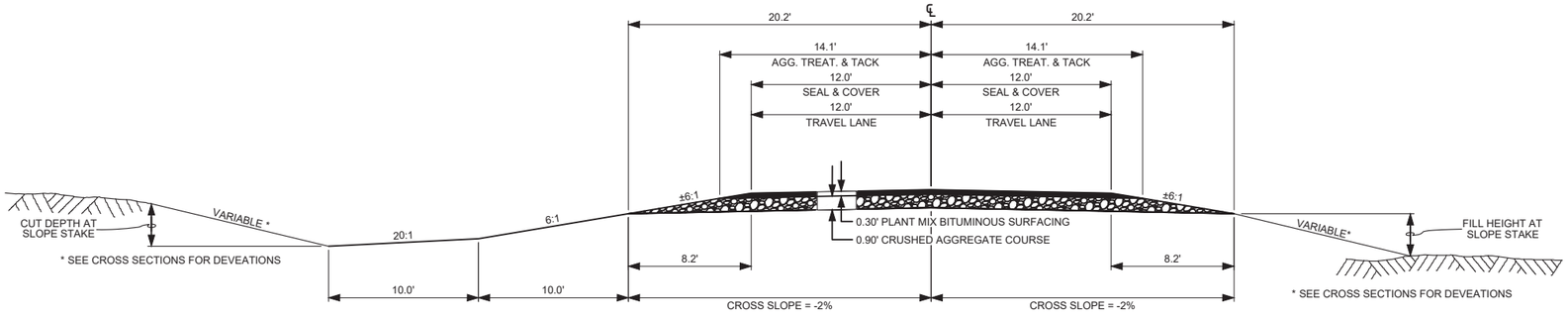
*BACK SLOPE	
0' - 5'	5:1
5' - 10'	4:1
OVER 10'	3:1

* SEE CROSS SECTIONS FOR DEVIATIONS

CONNECTION TYPICAL SECTION NO. 2

CONNECTION

2489+50.00 TO 2501+00.00
2501+00.00 TO 2501+60.00 TRANS. CONN. TYP. NO. 2 TO CONN. TYP. NO. 3



QUANTITIES								
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL			AGG. TREAT.
	COVER	PLANT MIX	CRUSHED AGG. COURSE		ASPHALT BINDER	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK▲	
AREA square feet		7.84	30.88	square yards PER STATION		267	627	313
cubic yards PER STATION		29.0	114.4	tons PER STATION	2.96	0.48		
tons PER STATION		55.9		gals PER STATION			31	
square yards PER STATION	267							

▲ BASED ON 2 APPLICATIONS
FOR INFORMATION ONLY

SHEET NO. 21

DETAIL
CONNECTION TYPICALS *(NO SCALE)*

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY		CHECKED BY	
C. PERIMAN	09/2023	J. SOLIDAY	06/2025
REVIEWED BY		9727000RDDET001.DWG	

MONTANA Department of Transportation

ROAD PLANS

6/3/2025 4:31 PM

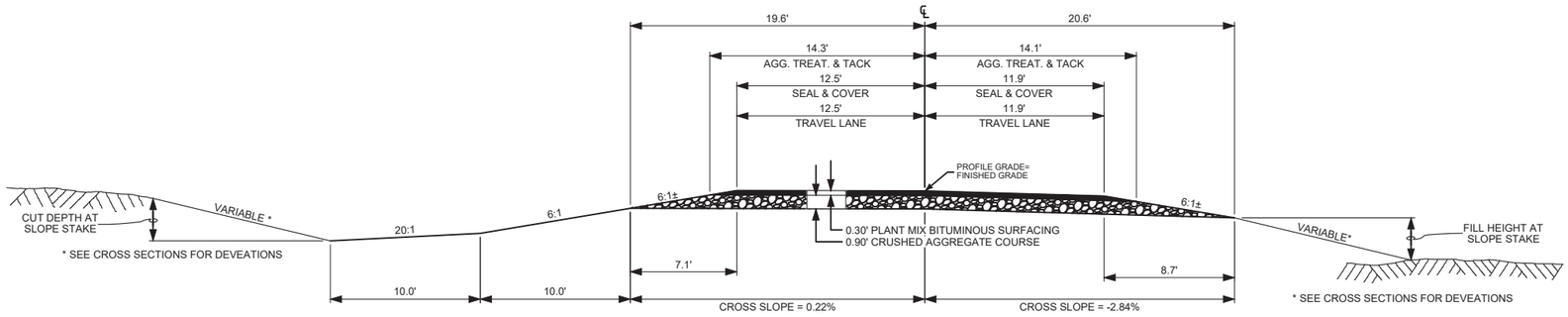
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CONNECTION TYPICAL SECTION NO. 3

CONNECTION

2501+60.00 ONLY



QUANTITIES								
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL			
	COVER	PLANT MIX	CRUSHED AGG. COURSE		ASPHALT BINDER	EMULSIFIED ASPHALT SEAL	EMULSIFIED ASPHALT TACK▲	AGG. TREAT.
AREA square feet		7.92	30.34	square yards PER STATION		271	631	316
cubic yards PER STATION		29.3	112.4	tons PER STATION	2.99	0.48		
tons PER STATION		56.5		gals PER STATION			32	
square yards PER STATION	271							

▲ BASED ON 2 APPLICATIONS
FOR INFORMATION ONLY

* FILL SLOPES	
0' - 10'	6:1
10' - 20'	4:1
OVER 20'	3:1

*BACK SLOPE	
0' - 5'	5:1
5' - 10'	4:1
OVER 10'	3:1

* SEE CROSS SECTIONS FOR DEVIATIONS

SHEET NO. 22

DETAIL
CONNECTION TYPICALS
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

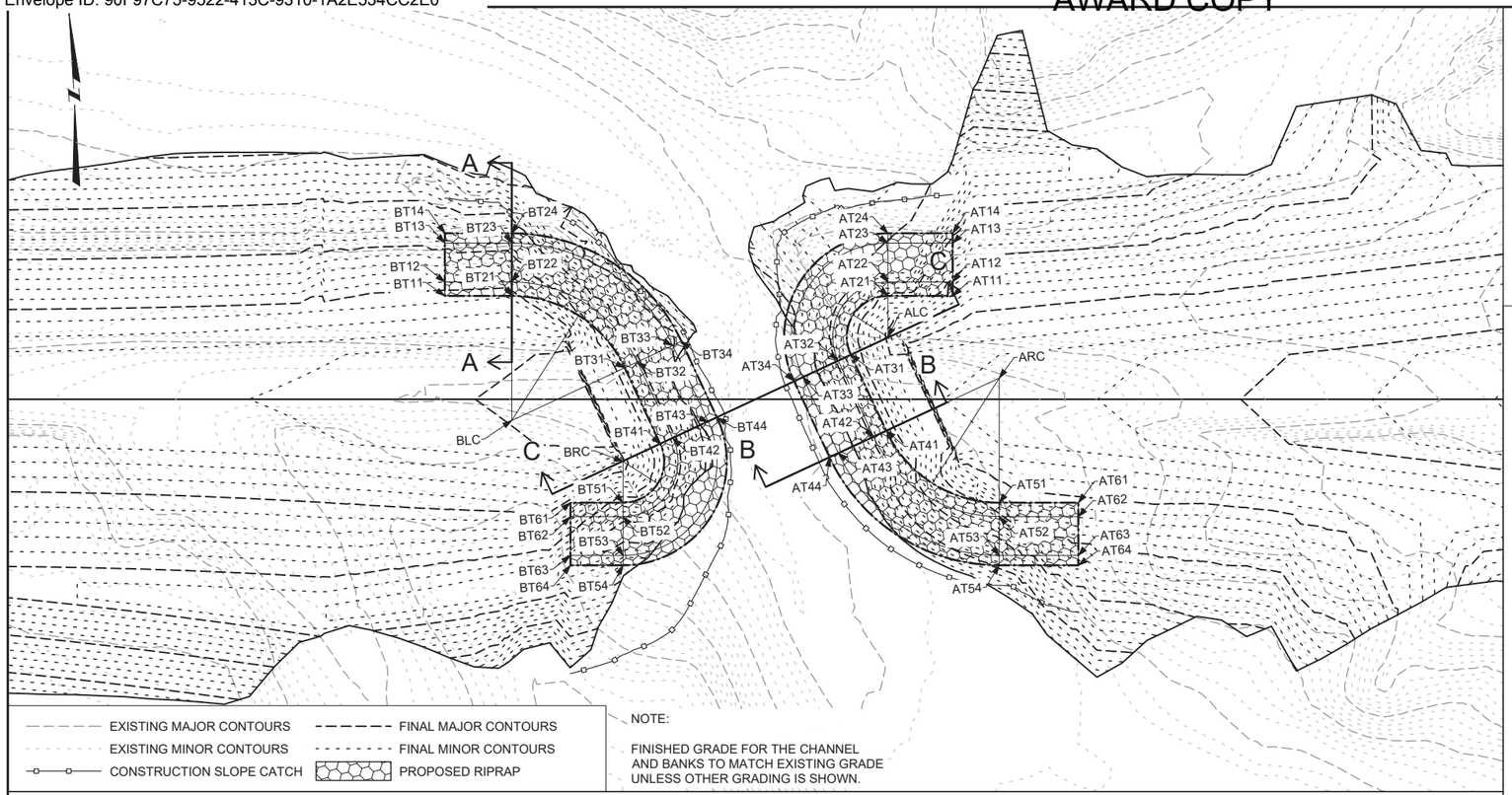
DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

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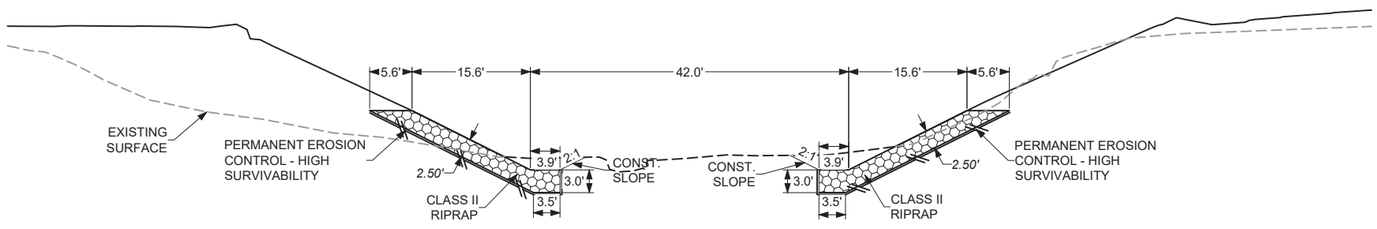
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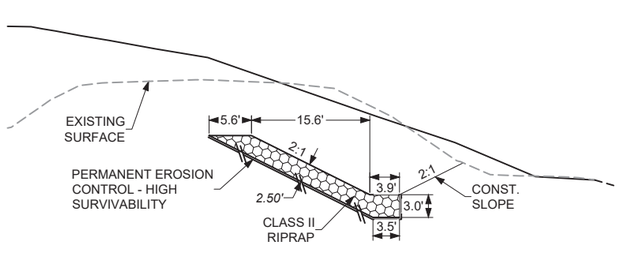


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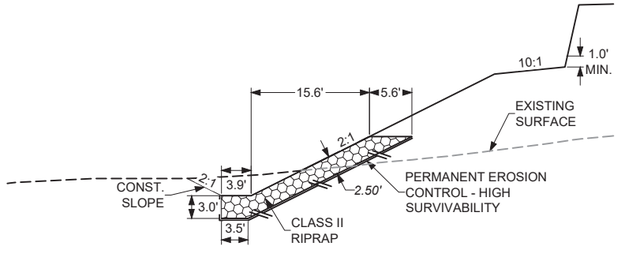
FINISHED GRADE FOR THE CHANNEL AND BANKS TO MATCH EXISTING GRADE UNLESS OTHER GRADING IS SHOWN.



SECTION
C - C



SECTION
A - A



SECTION
B - B

RIPRAP COORDINATE TABLE

POINT NUMBER	N OR Y COORD.	E OR X COORD.	TOP OF RIPRAP ELEVATION	FINISHED GRADE ELEVATION	REMARKS
BT11	1,139,618.854	2,828,721.873	2,540.50	2,550.55	
BT12	1,139,624.434	2,828,722.221	2,540.50	2,549.11	
BT13	1,139,640.023	2,828,723.195	2,532.69	2,544.75	
BT14	1,139,643.926	2,828,723.439	2,532.69	2,543.66	
BT21	1,139,617.179	2,828,748.691	2,540.50	2,550.73	
BT22	1,139,622.758	2,828,749.040	2,540.50	2,548.69	
BT23	1,139,638.348	2,828,750.014	2,532.69	2,543.33	
BT24	1,139,642.250	2,828,750.257	2,532.69	2,542.02	
BT31	1,139,585.540	2,828,792.118	2,540.50	2,543.30	
BT32	1,139,587.582	2,828,797.322	2,540.50	2,540.50	
BT33	1,139,593.288	2,828,811.863	2,532.69	2,535.10	
BT34	1,139,594.716	2,828,815.502	2,532.69	2,534.49	
BT41	1,139,554.051	2,828,804.475	2,540.50	2,543.10	
BT42	1,139,556.093	2,828,809.678	2,540.50	2,540.50	
BT43	1,139,561.799	2,828,824.219	2,532.69	◆ 2,534.22	
BT44	1,139,563.227	2,828,827.859	2,532.69	◆ 2,534.29	
BT51	1,139,531.556	2,828,788.086	2,540.50	2,543.82	
BT52	1,139,525.977	2,828,787.737	2,540.50	2,541.02	
BT53	1,139,510.387	2,828,786.763	2,532.69	2,541.81	
BT54	1,139,506.485	2,828,786.520	2,532.69	2,543.11	
BT61	1,139,532.872	2,828,767.016	2,540.50	2,549.36	
BT62	1,139,527.293	2,828,766.668	2,540.50	2,547.26	
BT63	1,139,511.703	2,828,765.694	2,532.69	2,541.46	
BT64	1,139,507.801	2,828,765.450	2,532.69	2,541.46	
BLC	1,139,567.276	2,828,745.573			CENTER POINT
BRC	1,139,548.024	2,828,789.115			CENTER POINT
AT11	1,139,606.148	2,828,925.259	2,540.50	2,552.18	
AT12	1,139,611.727	2,828,925.607	2,540.50	2,550.51	
AT13	1,139,627.316	2,828,926.581	2,532.69	2,545.83	
AT14	1,139,631.219	2,828,926.825	2,532.69	2,544.66	
AT21	1,139,607.769	2,828,899.298	2,540.50	2,545.53	
AT22	1,139,613.349	2,828,899.647	2,540.50	2,542.73	
AT23	1,139,628.938	2,828,900.621	2,532.69	2,540.06	
AT24	1,139,632.841	2,828,900.865	2,532.69	2,539.86	
AT31	1,139,585.274	2,828,882.910	2,540.50	2,543.11	
AT32	1,139,583.232	2,828,877.706	2,540.50	2,540.50	
AT33	1,139,577.527	2,828,863.165	2,532.69	◆ 2,534.99	
AT34	1,139,576.099	2,828,859.525	2,532.69	◆ 2,534.65	
AT41	1,139,553.785	2,828,895.266	2,540.50	2,543.30	
AT42	1,139,551.743	2,828,890.062	2,540.50	2,540.50	
AT43	1,139,546.037	2,828,875.522	2,532.69	◆ 2,535.39	
AT44	1,139,544.609	2,828,871.882	2,532.69	◆ 2,535.17	
AT51	1,139,522.146	2,828,938.693	2,540.50	2,552.18	
AT52	1,139,516.567	2,828,938.345	2,540.50	2,549.38	
AT53	1,139,500.977	2,828,937.371	2,532.69	2,542.09	
AT54	1,139,497.075	2,828,937.127	2,532.69	2,540.53	
AT61	1,139,520.165	2,828,970.402	2,540.50	2,554.59	
AT62	1,139,514.586	2,828,970.054	2,540.50	2,553.09	
AT63	1,139,498.996	2,828,969.080	2,532.69	2,548.58	
AT64	1,139,495.094	2,828,968.836	2,532.69	2,547.45	
ALC	1,139,591.302	2,828,898.269			CENTER POINT
ARC	1,139,572.049	2,828,941.811			CENTER POINT

◆ FINISH GRADE = EXISTING GRADE

SHEET NO.
23

DETAIL
RIPRAP LAYOUT
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

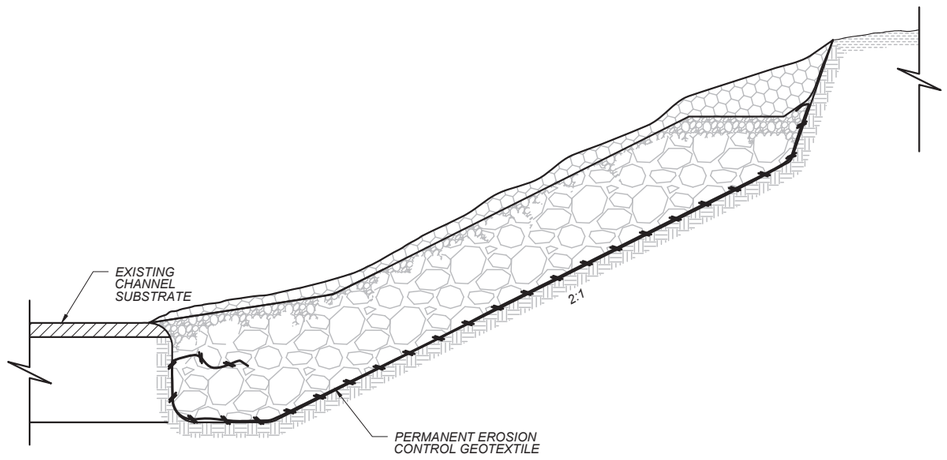
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RIPRAP REVEGETATION TYPICAL

NOTES:

1. THIS DETAIL IS TO BE USED AS A VISUAL GUIDE FOR RIPRAP REVEGETATION. REFER TO THE PLAN SHEETS AND CROSS SECTIONS FOR SPECIFIC ELEVATIONS AND GEOMETRIC CONFIGURATION OF THE RIPRAP LAYOUT.
2. PLACE RIPRAP INFILL AND TOPSOIL AS REQUIRED BY THE SPECIAL PROVISION AND APPROVED BY THE PROJECT MANAGER.
3. REFER TO THE SPECIAL PROVISIONS FOR PLANTING AND SEEDING SPECIFICATIONS.

LEGEND

- TOPSOIL WITH EROSION CONTROL BLANKET/MULCH COVER
- RANDOM RIPRAP
- RIPRAP INFILL
- EXISTING CHANNEL SUBSTRATE
- EXISTING GROUND
- PERMANENT EROSION CONTROL GEOTEXTILE
- EXCAVATION

SHEET NO. 24

DETAIL
RIPRAP REVEGETATION (NO SCALE)

PROJECT NAME WEST OF BROCKWAY - WEST
COUNTY MCCONE
PROJECT ID NH-HSIP 57-6(22)254
UPN 9727000

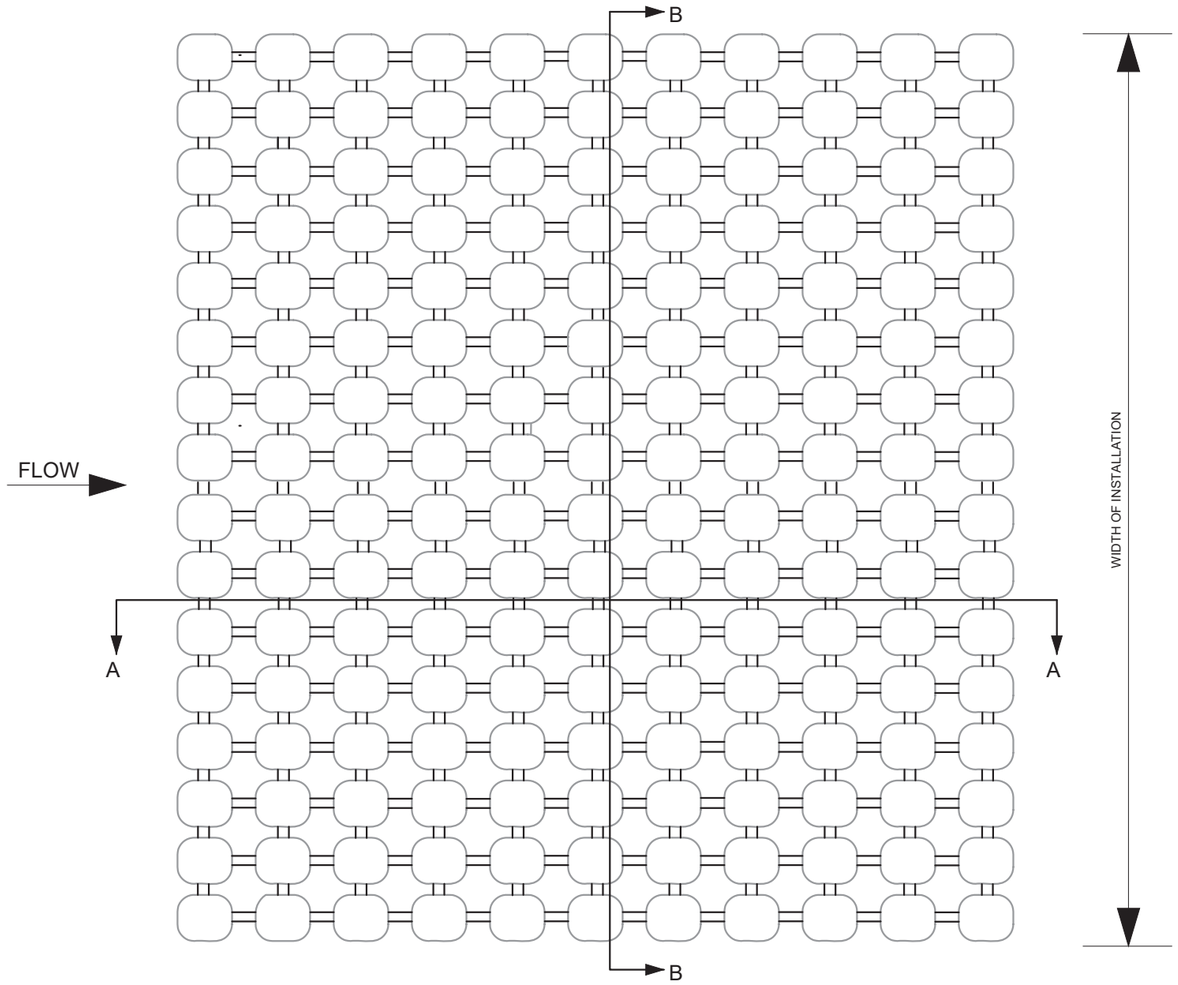
DESIGNED BY C. PERIMAN 09/2023
REVIEWED BY
CHECKED BY J. SOLIDAY 06/2025
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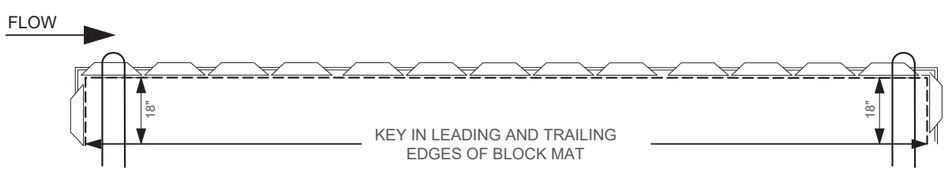
MONTANA Department of Transportation
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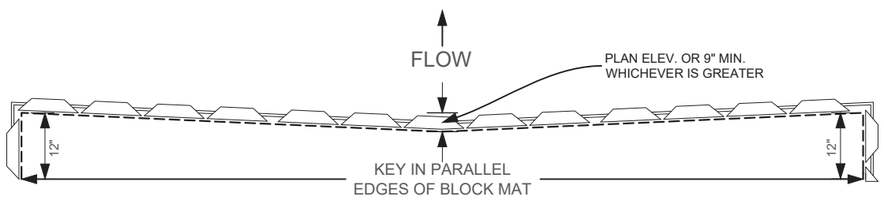
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SECTION A-A



SECTION B-B

NOTES:

1. GRADE DRAINAGE CHANNEL OR CHUTE SO THAT WATER WILL FLOW DOWN THE CHUTE AND BE CONFINED TO THE MAT. ALL SUBGRADE SURFACES PREPARES FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND. THE PREPARED SURFACE SHALL PROVIDE A FIRM, UNYIELDING FOUNDATION FOR THE MATS.

2. APPLY SEED DIRECTLY TO THE PREPARED SOIL PRIOR TO VEGETATED CONCRETE BLOCK INSTALLATION. USE SEED PER RIPRAP REVEGETATION SPECIFICATIONS.

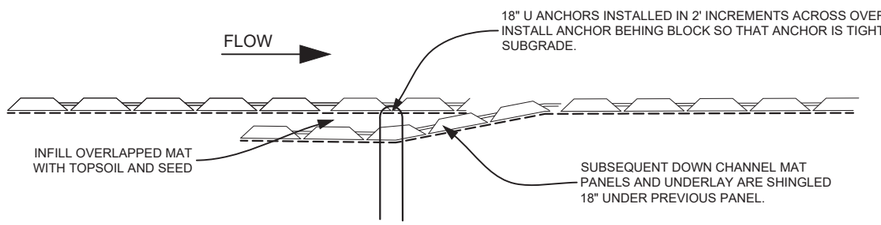
3. AT THE TOP OF THE DRAINAGE CHUTE. THE INITIAL LEADING EDGE OF VEGETATED CONCRETE BLOCK EXPOSED TO CONCENTRATED FLOWS SHALL BE EMBEDDED 18" PERPENDICULAR INTO THE SUBGRADE TO SERVE AS AN ANCHOR TRENCH. THE TRENCH SHALL BE FILLED AND COMPACTED WITH SUITABLE FILL. FOR CULVERT OR RCB OUTLET PROTECTION INSTALLATIONS, A GROUTED PAD OF 4,000 PSI CONCRETEE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF THE FETS OR OUTLET WING WALLS. REFER TO THE CULVERT AND RCB OUTLET PROTECTION DETAIL FOR ADDITIONAL DETAILS.

4. FOR ADDITIONAL SECTIONS OF VEGETATED CONCRETE BLOCK, OVERLAP THE DOWNSTREAM SECTION 18" WITH UPSTREAM SECTION OF MAT. PRIOR TO INSTALLING OVERLAP, FLIP UPSTREAM MAT BACK 24". EXCAVATE 2.25" OF SOIL 18" FROM END OF UPSTREAM MAT. DOWNSTREAM SECTION IS LAID IN THE SHALLOW TRENCH. LIGHTLY SPREAD TOPSOIL, SEED, AND FERTILIZER OVER INITIAL EDGE. FLIP END OF UPSTREAM MAT OVER THE SOIL COVERED INITIAL LEADING EDGE OF DOWNSTREAM MAT.

5. AT THE END OF THE ARMORED DRAINAGE CHUTE, EMBED THE MAT 18" PERPENDICULAR INTO THE SUBGRADE TO SERVE AS AN ACNHOR TRENCH. THE TRENCH SHALL BE FILLED AND COMPACTED WITH SUITABLE FILL.

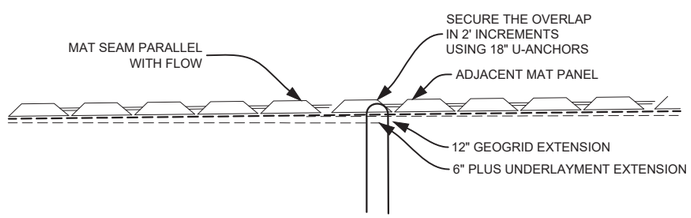
6. ANCHOR TRENCHES ARE NOT MEASURED FOR PAYMENT

7. INSTALL "U" ANCHORS 2' ON CENTER ALONG ALL SEAMS AND LEADING AND TRAILING EDGES OF BLOCK MAT. "U" ANCHORS TO PENETRATE THROUGH VEGETATED CONCRETE BLOCK MAT. "U" ANCHOR TO BE TIGHT WITH SUBGRADE. "U" ANCHORS CONSIST OF #3 REBAR BENT INTO A "U" WITH 18" LEGS.



OVERLAP DETAIL FOR SEAMS PERPENDICULAR TO FLOW

NO SCALE



OVERLAP DETAIL FOR SEAMS PARALLEL TO FLOW

NO SCALE

SHEET NO.
25

DETAIL
VEGETATED CONCRETE BLOCK MAT
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
9727000RDDET003.DWG

MONTANA
Department of Transportation

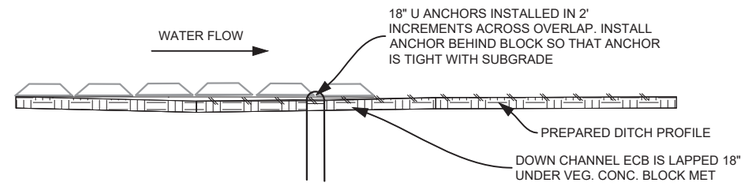
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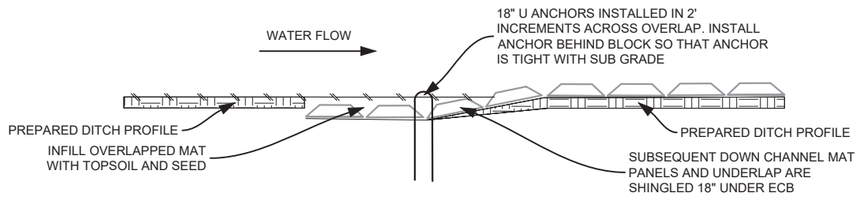
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NOTES:

1. PLACE ECB OUTSIDE OF THE OVERLAP AREA IN ACCORDANCE WITH DETAIL DRAWING 610-05.



OVERLAP DETAIL - ECB TO VEGETATED CONC. BLOCK MAT



OVERLAP DETAIL - VEGETATED CONC. BLOCK MAT TO ECB

SHEET NO.
26

DETAIL
VEG. CONC. BLOCK MAT TO TRM/ECB OVERLAP DETAIL
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

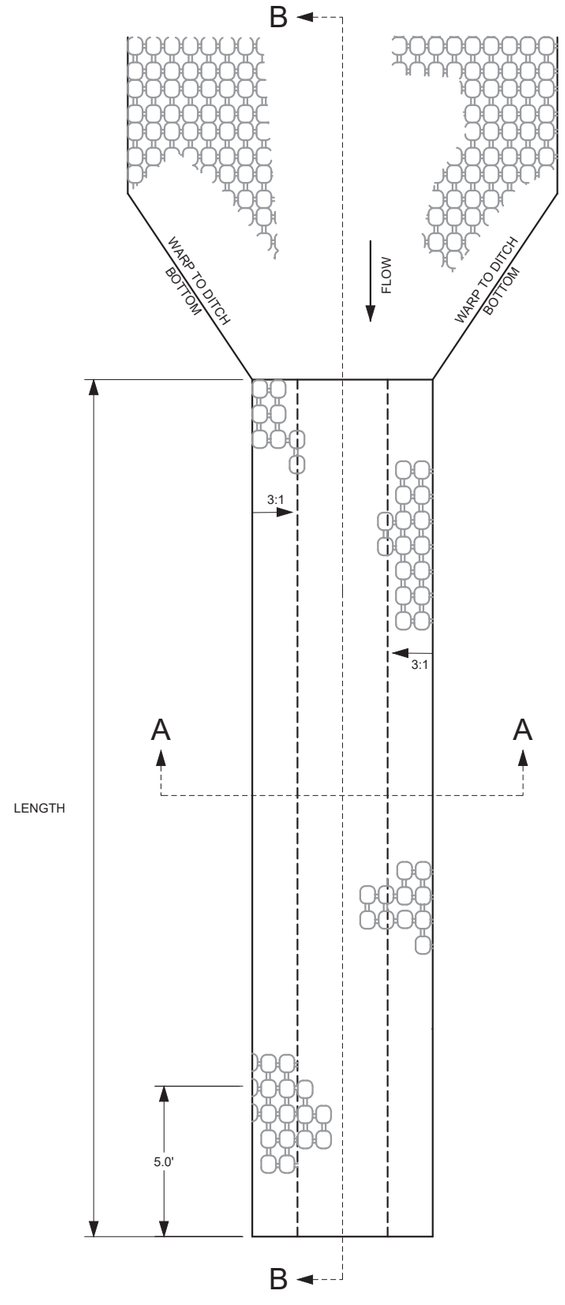
DESIGNED BY	REVIEWED BY	CHECKED BY
C. PERIMAN 09/2023		J. SOLIDAY 06/2025

MONTANA
Department of Transportation

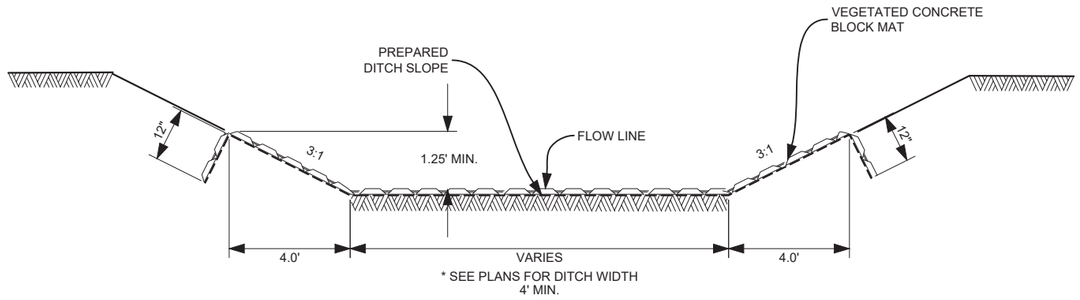
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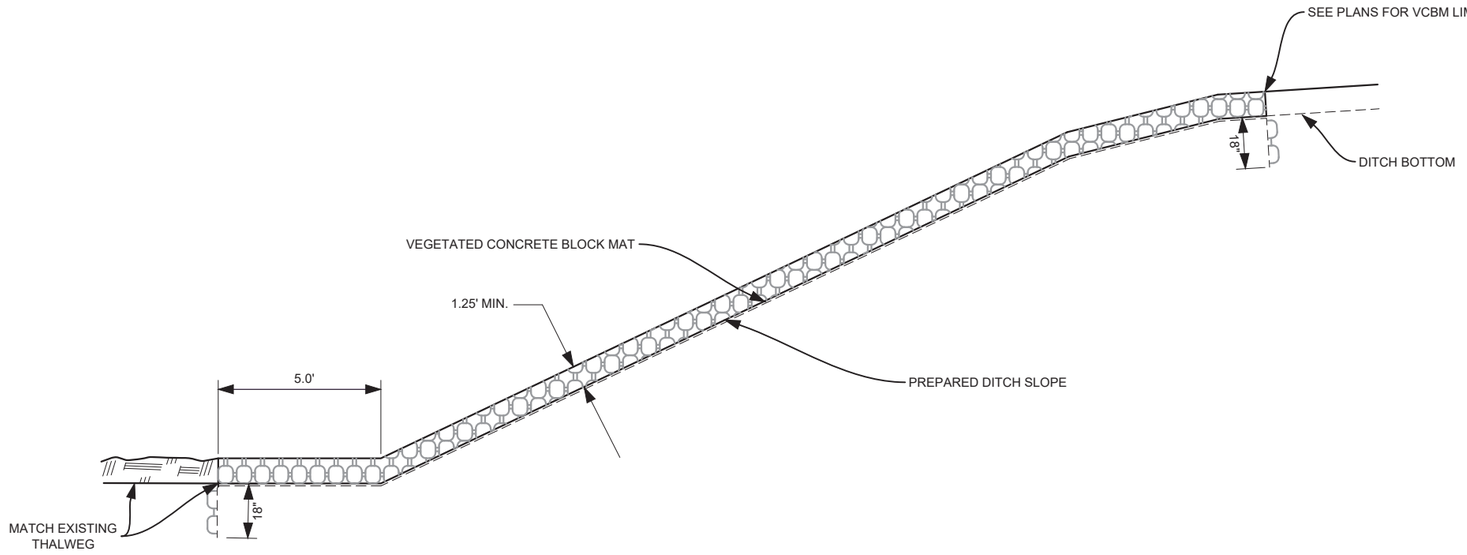
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PLAN VIEW



SECTION A-A



SECTION B-B

SHEET NO. 27

DETAIL
VEGETATED CONCRETE BLOCK DRAINAGE CHUTE
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY		REVIEWED BY		CHECKED BY	
C. PERIMAN	09/2023			J. SOLIDAY	06/2025

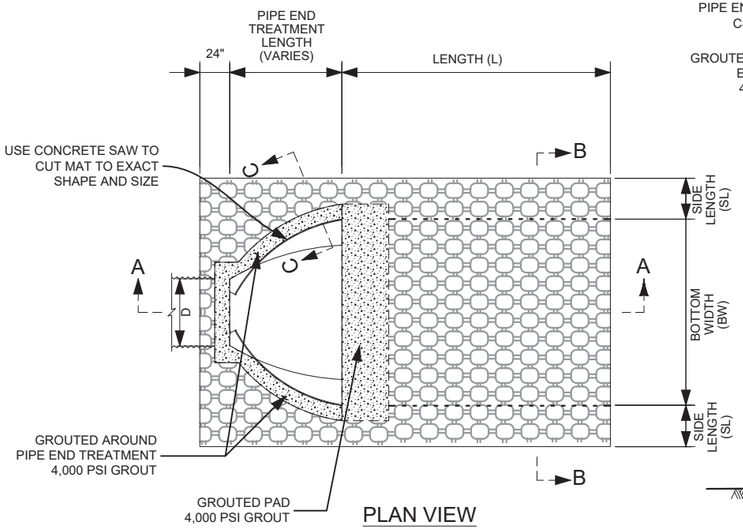
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MONTANA Department of Transportation

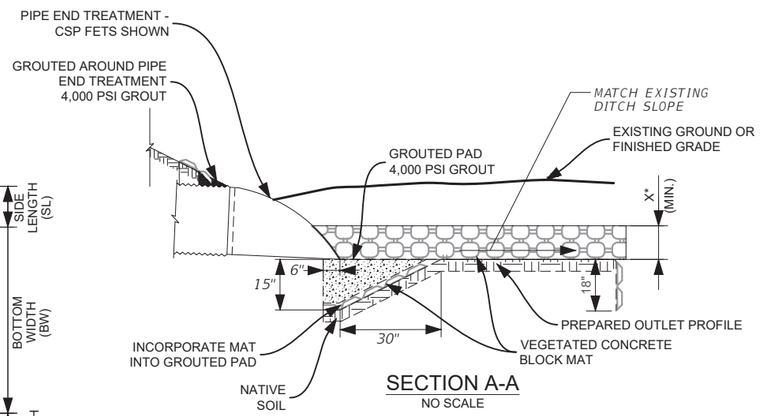
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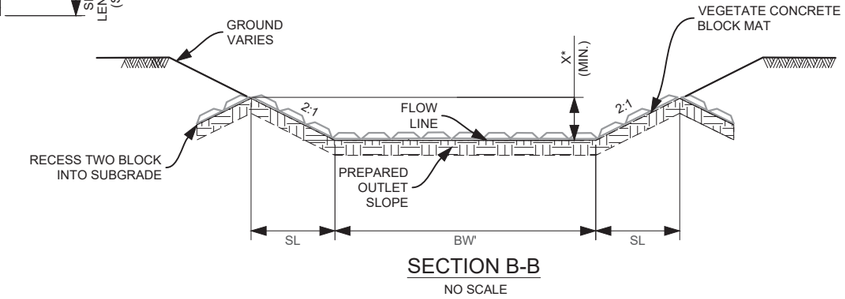
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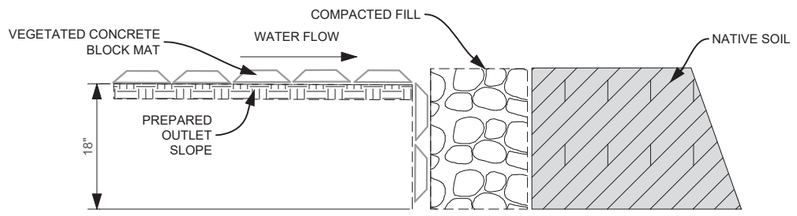
PLAN VIEW
NO SCALE



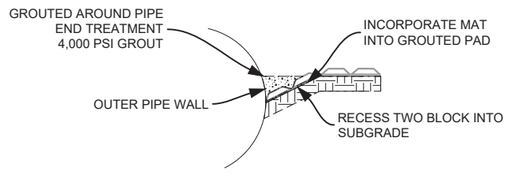
SECTION A-A
NO SCALE



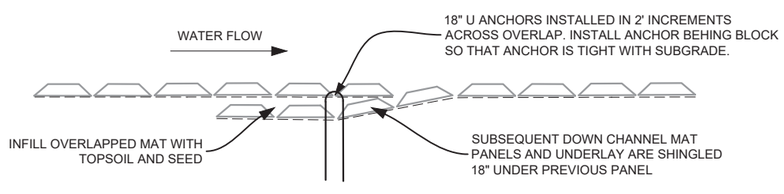
SECTION B-B
NO SCALE



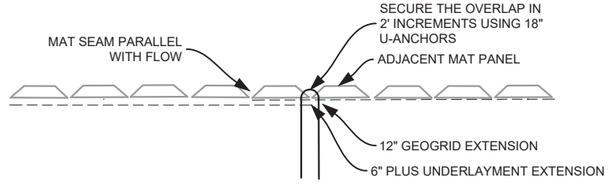
UPSTREAM OR DOWNSTREAM ANCHOR TRENCH
NO SCALE



SECTION C-C
NO SCALE



OVERLAP DETAIL FOR SEAMS PERPENDICULAR TO FLOW
NO SCALE



OVERLAP DETAIL FOR SEAMS PARALLEL TO FLOW
NO SCALE

CULVERT OUTLET VEGETATED CONCRETE BLOCK WITH DITCH DIMENSIONS AND ESTIMATED QUANTITIES

VEGETATED CONCRETE BLOCK					
CULVERT DIA OR SPAN D (in.)	LENGTH OF APRON L (ft.)	BOTTOM WIDTH BW (ft.)	SIDE LENGTH SL (ft.)	X (ft.)	APRON AREA ① (yd2)
30	15	5.0	2.6	1.3	17
36	18	6.0	3.0	1.5	24
42	21	7.0	3.6	1.8	33
48	24	8.0	4.0	2.0	43

① - APRON AREA DOES NOT INCLUDE ADDITIONAL AREA FOR INSTALLATION AROUND THE FETS, ANCHOR TRENCHES, OR OVERLAPS. FOR INFORMATION ONLY - INCLUDE IN THE COST OF OUTLET APRON (YD^2)

NOTES:

* IF NO DITCH OR NATURAL DRAINAGE CHANNEL IS PRESENT, GRADE SO THAT CHANNEL DEPTH "X" IS A MINIMUM OF 6".

1. INSTALL CULVERT OUTLET PROTECTION AT THE LOCATIONS LISTED IN THE PLANS. GROUT ASSOCIATED WITH CULVERT OUTLET PROTECTION TO BE INCLUDED IN OTHER ITEMS.

2. SEE VEGETATED CONCRETE BLOCK MAT DETAIL FOR ADDITIONAL INSTALLATION DETAILS AND REQUIREMENTS.

SHEET NO. 28

DETAIL
OUTLET APRON - VCBM OPTION
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

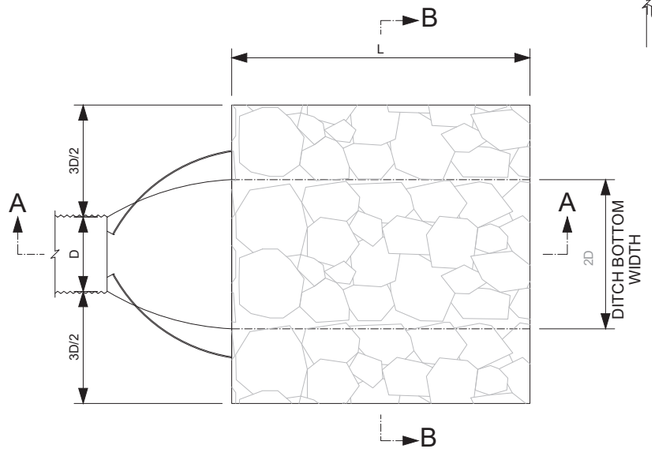
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MONTANA Department of Transportation

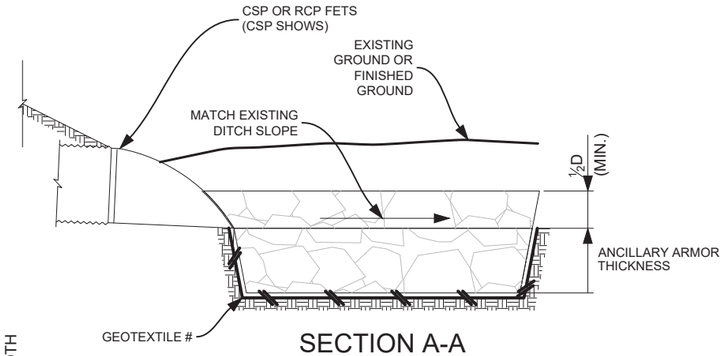
ROAD PLANS

6/6/2025 10:52 AM

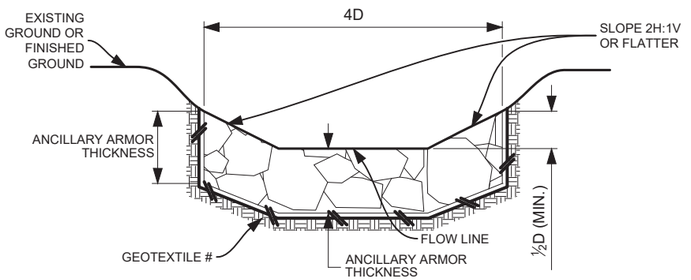
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PLAN VIEW
NO SCALE



SECTION A-A
NO SCALE



SECTION B-B
NO SCALE

CULVERT OUTLET ANCILLARY ARMOR

ANCILLARY ARMOR CLASS II (2.5' THICK)			
CULVERT DIA OR SPAN D (in.)	LENGTH OF APRON L (ft.)	ANCILLARY ARMOR ① (yd^3)	GEOTEXTILE ① ② (yd^2)
30	15	13.9	33
36	18	20.0	43
42	21	27.2	55
48	24	35.6	68

① - FOR INFORMATION ONLY; INCLUDE IN THE COST OF OUTLET APRON (yd^2)
② - PERMANENT EROSION CONTROL GEOTEXTILE - HIGH SURVIVABILITY

SHEET NO. 29

DETAIL
OUTLET APRON - RIPRAP OPTION
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
9727000RDDET003.DWG

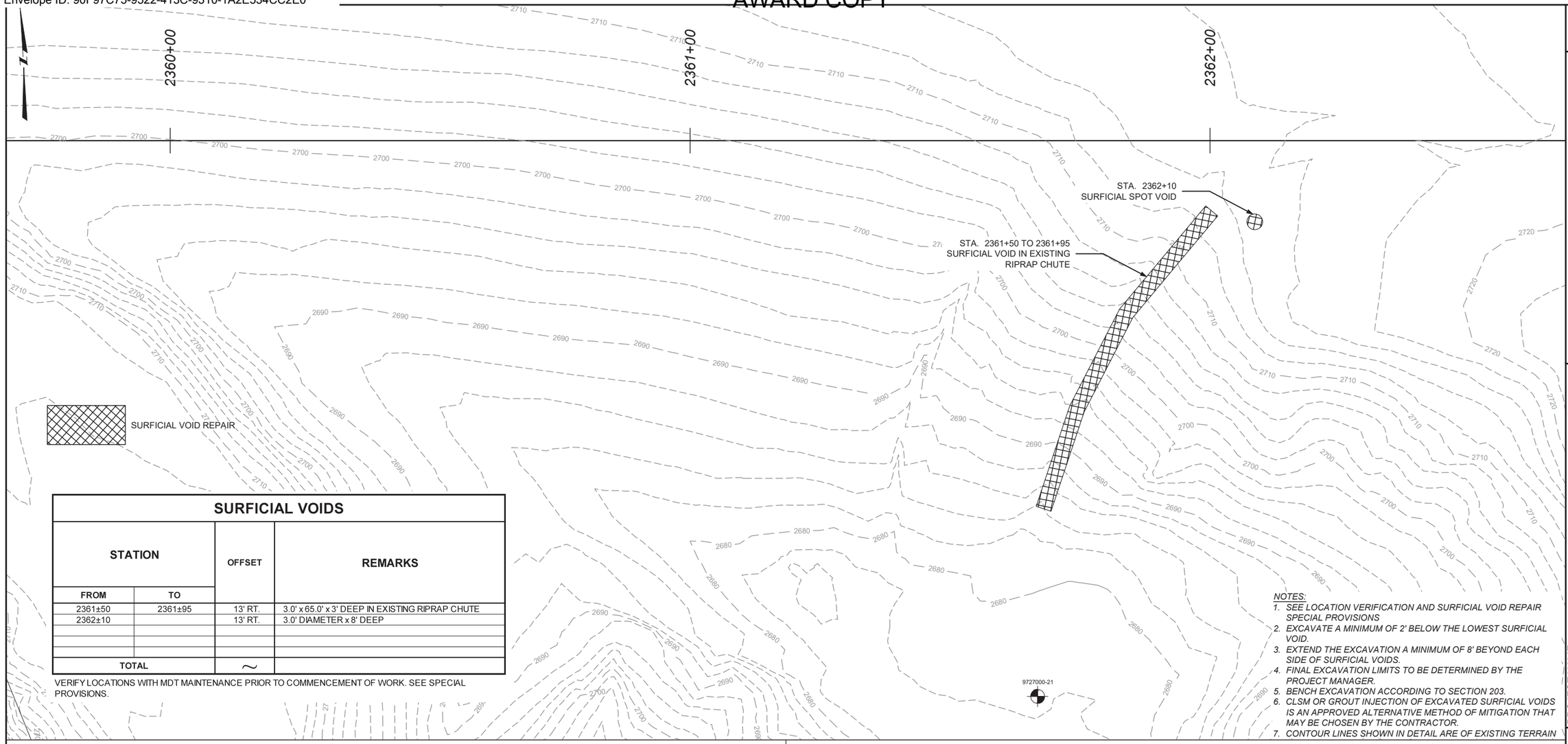
MONTANA Department of Transportation

ROAD PLANS

6/6/2025 10:52 AM

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AWARD COPY

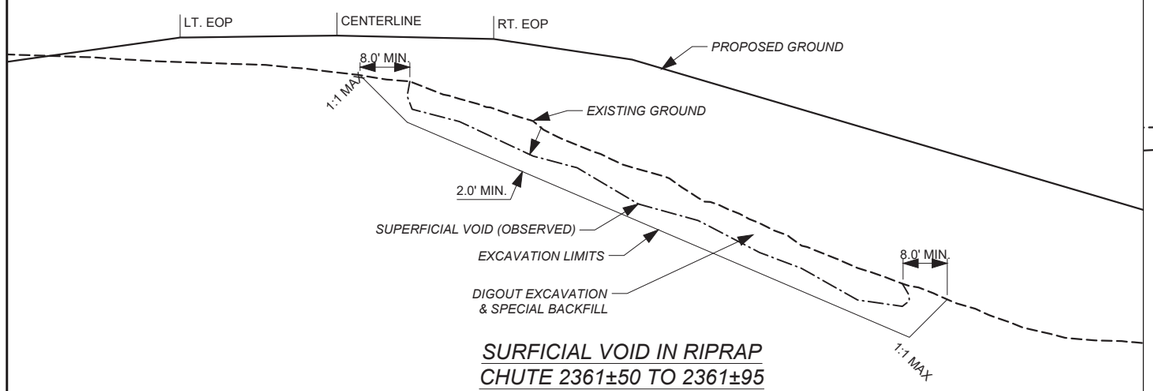


SURFICIAL VOIDS

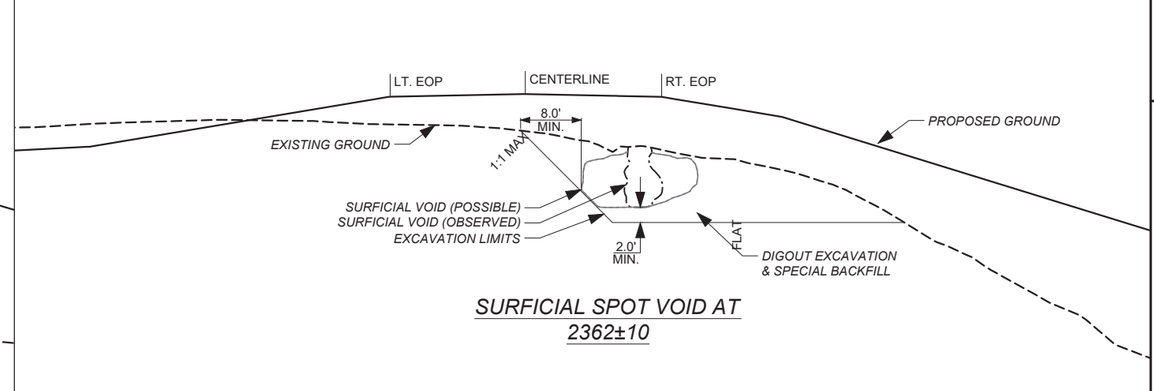
STATION FROM	STATION TO	OFFSET	REMARKS
2361±50	2361±95	13' RT.	3.0' x 65.0' x 3' DEEP IN EXISTING RIPRAP CHUTE
2362±10		13' RT.	3.0' DIAMETER x 8' DEEP
TOTAL		~	

VERIFY LOCATIONS WITH MDT MAINTENANCE PRIOR TO COMMENCEMENT OF WORK. SEE SPECIAL PROVISIONS.

NOTES:
1. SEE LOCATION VERIFICATION AND SURFICIAL VOID REPAIR SPECIAL PROVISIONS
2. EXCAVATE A MINIMUM OF 2' BELOW THE LOWEST SURFICIAL VOID.
3. EXTEND THE EXCAVATION A MINIMUM OF 8' BEYOND EACH SIDE OF SURFICIAL VOIDS.
4. FINAL EXCAVATION LIMITS TO BE DETERMINED BY THE PROJECT MANAGER.
5. BENCH EXCAVATION ACCORDING TO SECTION 203.
6. CLSM OR GROUT INJECTION OF EXCAVATED SURFICIAL VOIDS IS AN APPROVED ALTERNATIVE METHOD OF MITIGATION THAT MAY BE CHOSEN BY THE CONTRACTOR.
7. CONTOUR LINES SHOWN IN DETAIL ARE OF EXISTING TERRAIN



SURFICIAL VOID IN RIPRAP CHUTE 2361±50 TO 2361±95



SURFICIAL SPOT VOID AT 2362±10

DETAIL
SURFICIAL VOID REPAIR (NO SCALE)

SHEET NO. 30

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
9727000RDDET002.DWG

MONTANA Department of Transportation

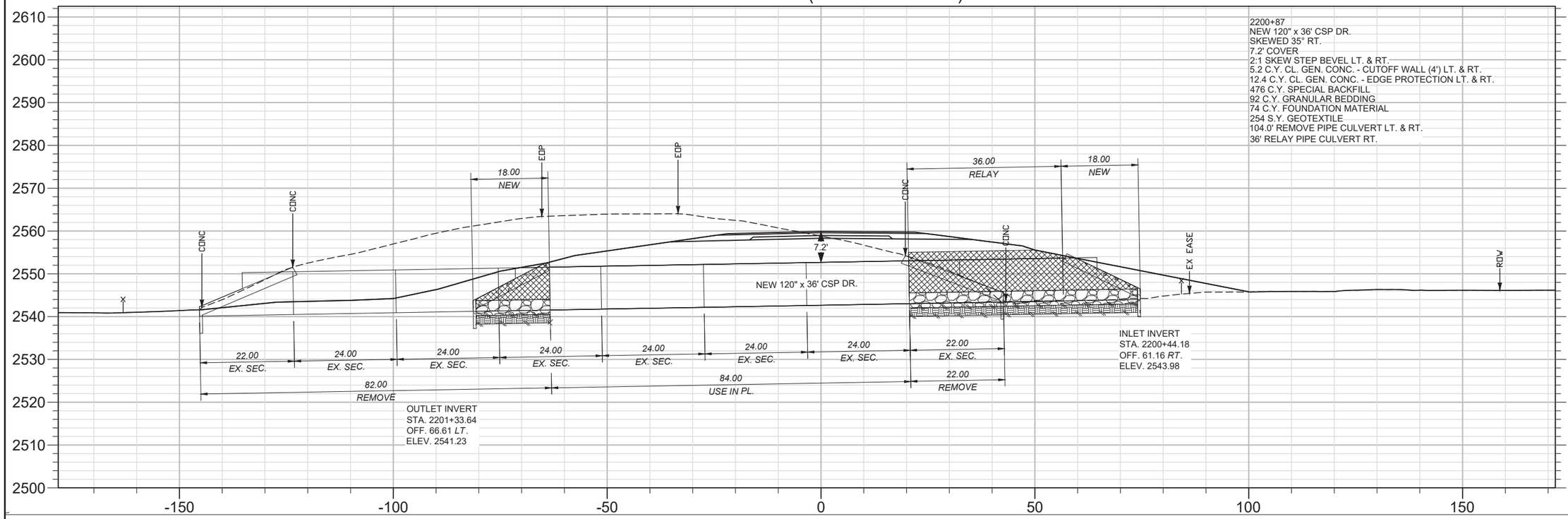
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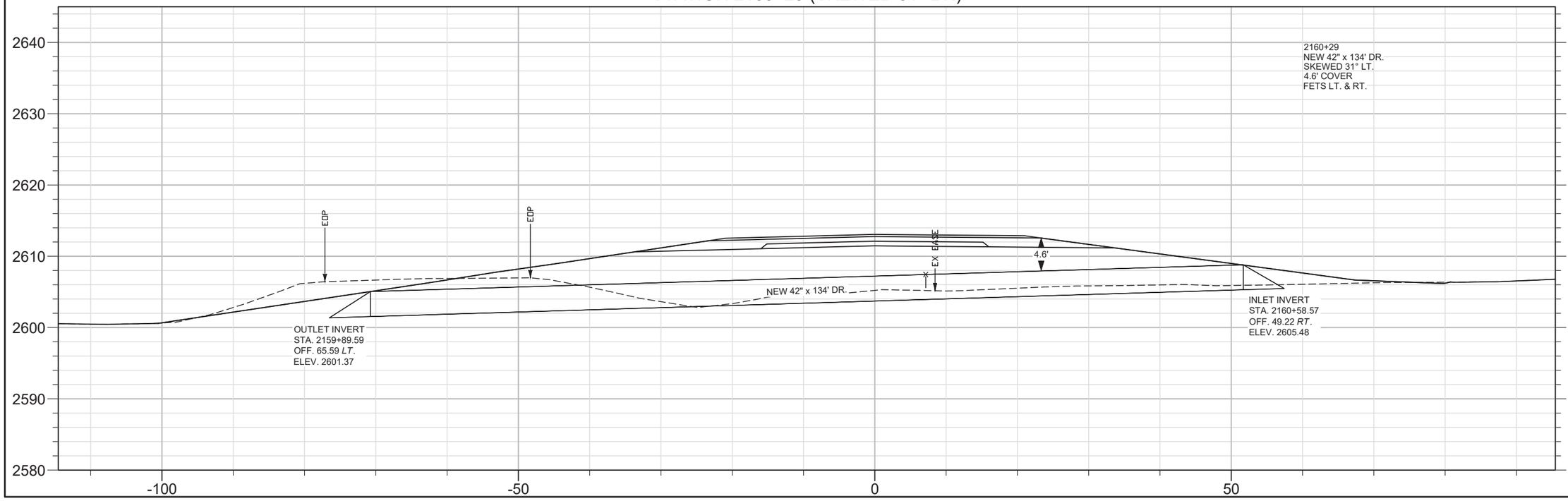
AWARD COPY

STATION 2200+87 (SKEWED 35° RT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2160+29 (SKEWED 31° LT.)



SHEET NO. 31

DETAIL
CULVERT CROSS SECTION 2160+29 & 2200+87 (NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

9727000RDDET005.DWG

MONTANA Department of Transportation

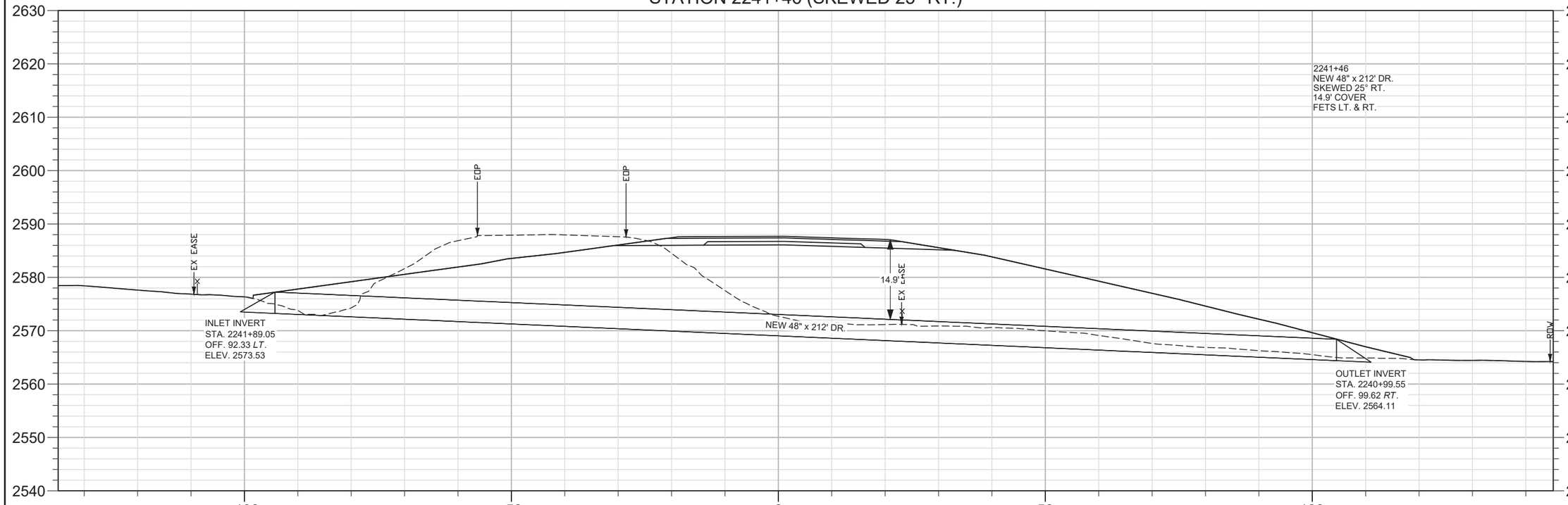
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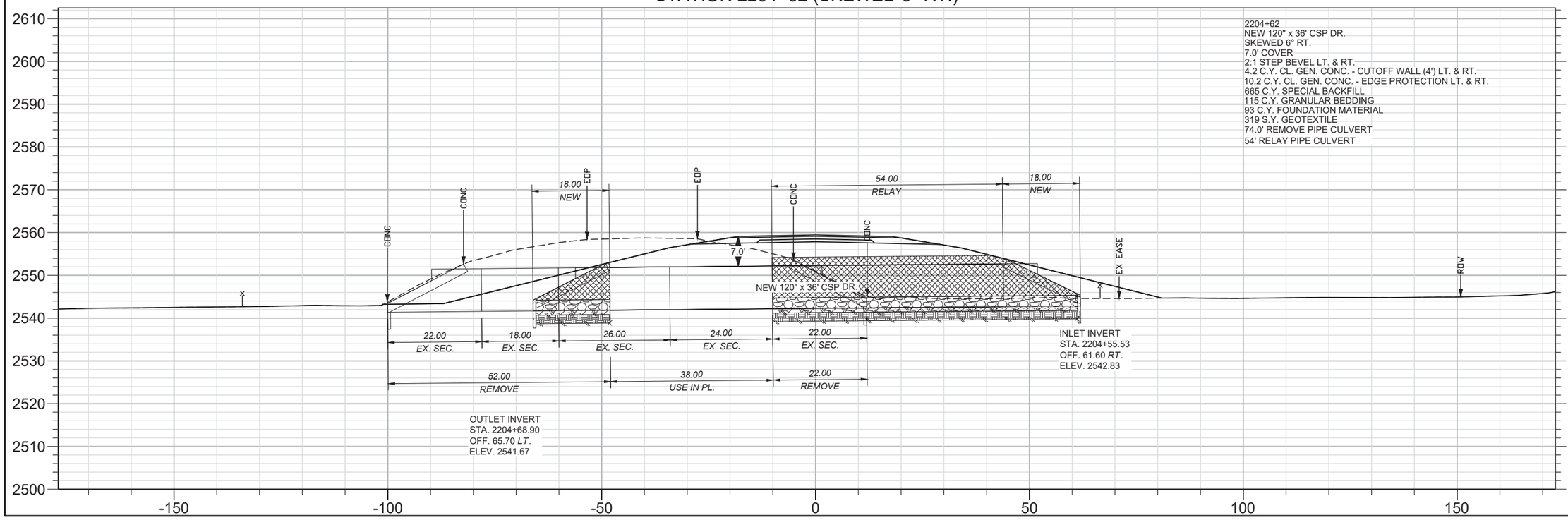
AWARD COPY

STATION 2241+46 (SKEWED 25° RT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2204+62 (SKEWED 6° RT.)



SHEET NO. 32

DETAIL

CULVERT CROSS SECTION 2204+62 & 2241+46 *(NO SCALE)*

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN	09/2023	REVIEWED BY:	
CHECKED BY: J. SOLIDAY	06/2025	9727000RDDET005.DWG	

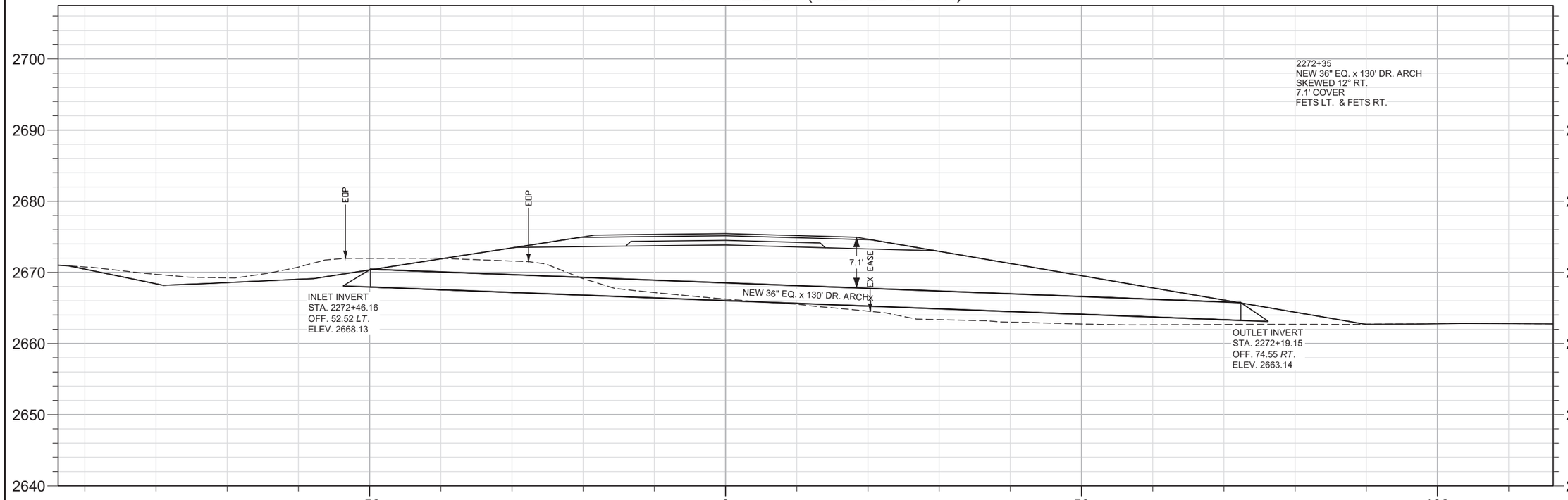
MONTANA Department of Transportation

ROAD PLANS

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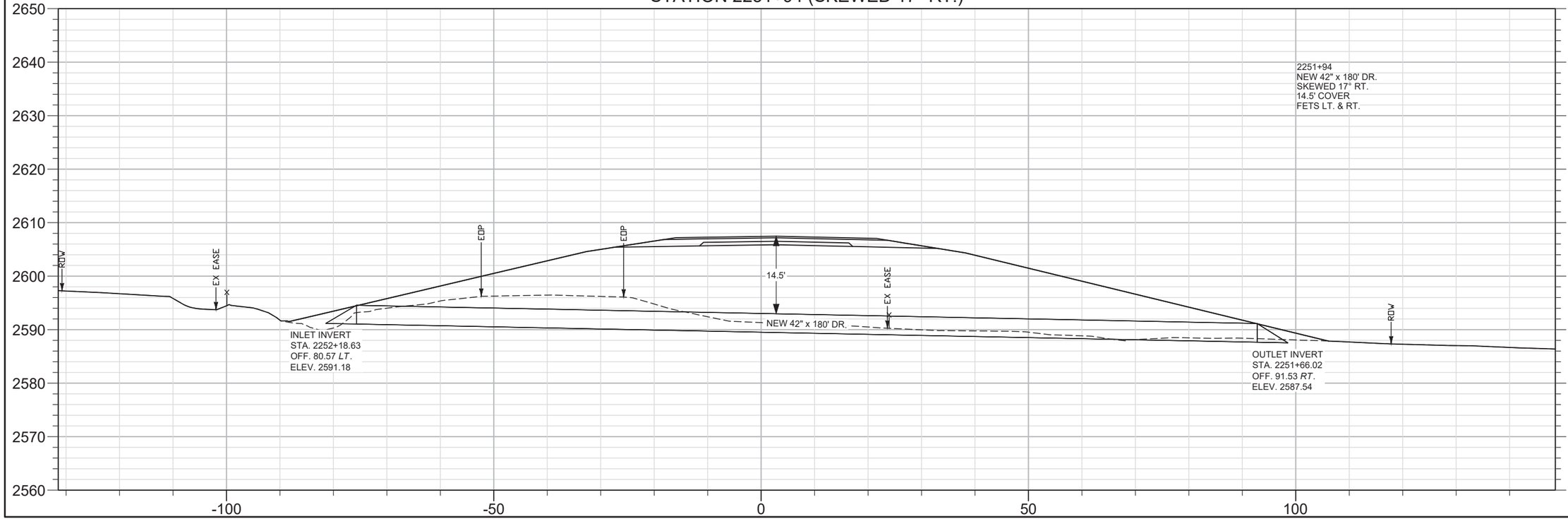
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STATION 2272+35 (SKEWED 12° RT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2251+94 (SKEWED 17° RT.)



SHEET NO. 33

DETAIL

CULVERT CROSS SECTION 2251+94 & 2272+35 (NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST

COUNTY: MCCONE

PROJECT ID: NH-HSIP 57-6(22)254

UPN: 9727000

DESIGNED BY	REVIEWED BY	CHECKED BY
C. PERIMAN 09/2023		J. SOLIDAY 06/2025

9727000RDDET005.DWG

MONTANA Department of Transportation

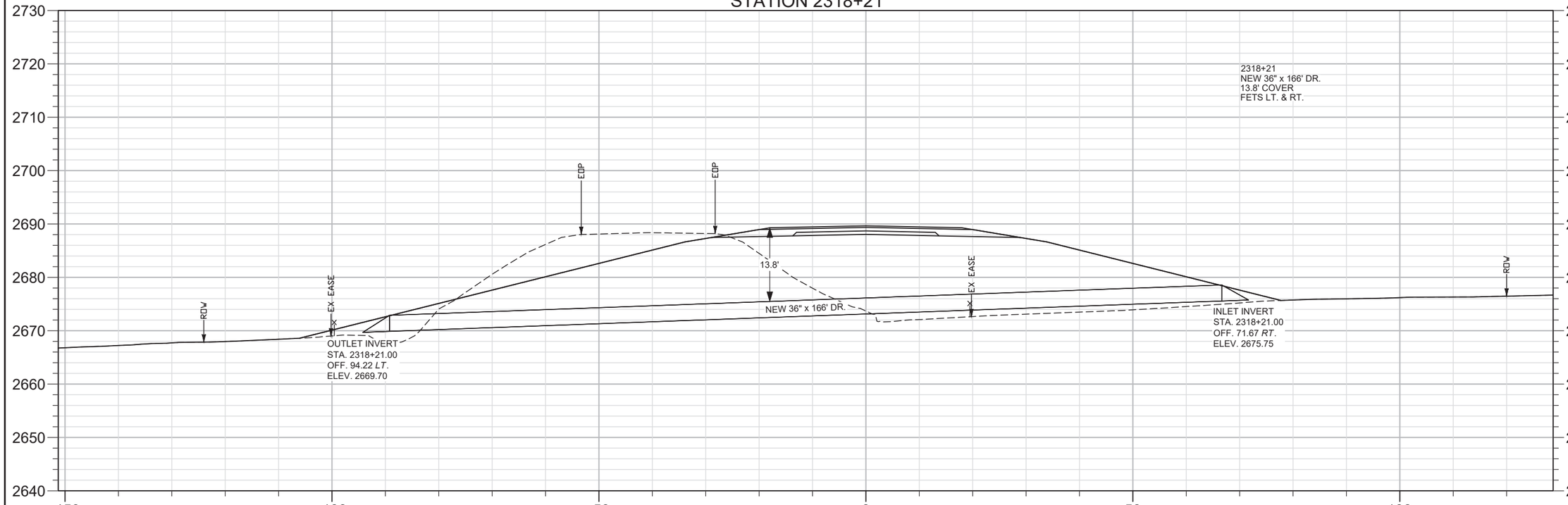
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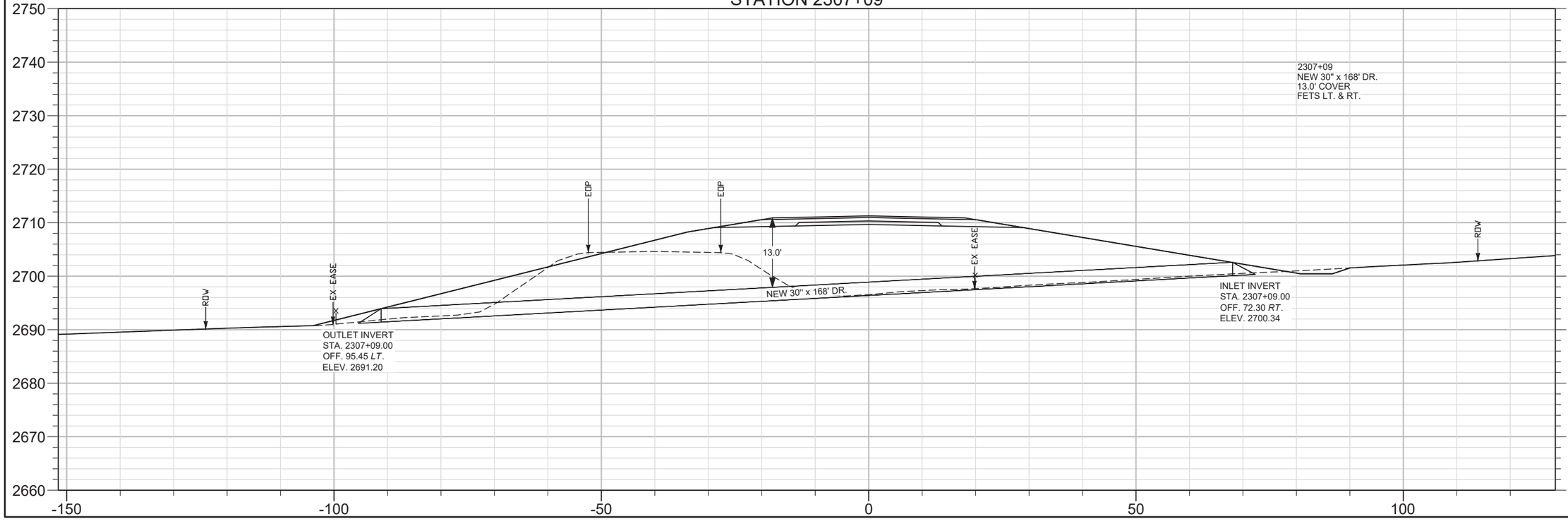
AWARD COPY

STATION 2318+21



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2307+09



SHEET NO. 34

DETAIL

CULVERT CROSS SECTION
2307+09 & 2318+21
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	REVIEWED BY	CHECKED BY
C. PERIMAN 09/2023		J. SOLIDAY 06/2025

9727000RDDET005.DWG

MONTANA
Department of Transportation

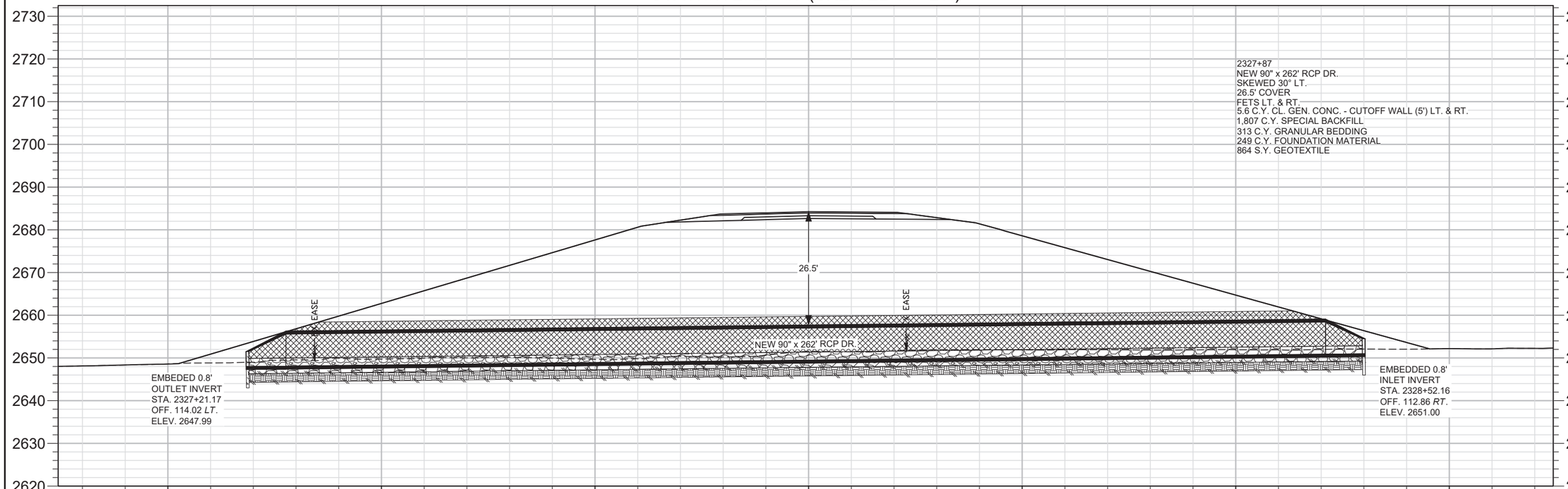
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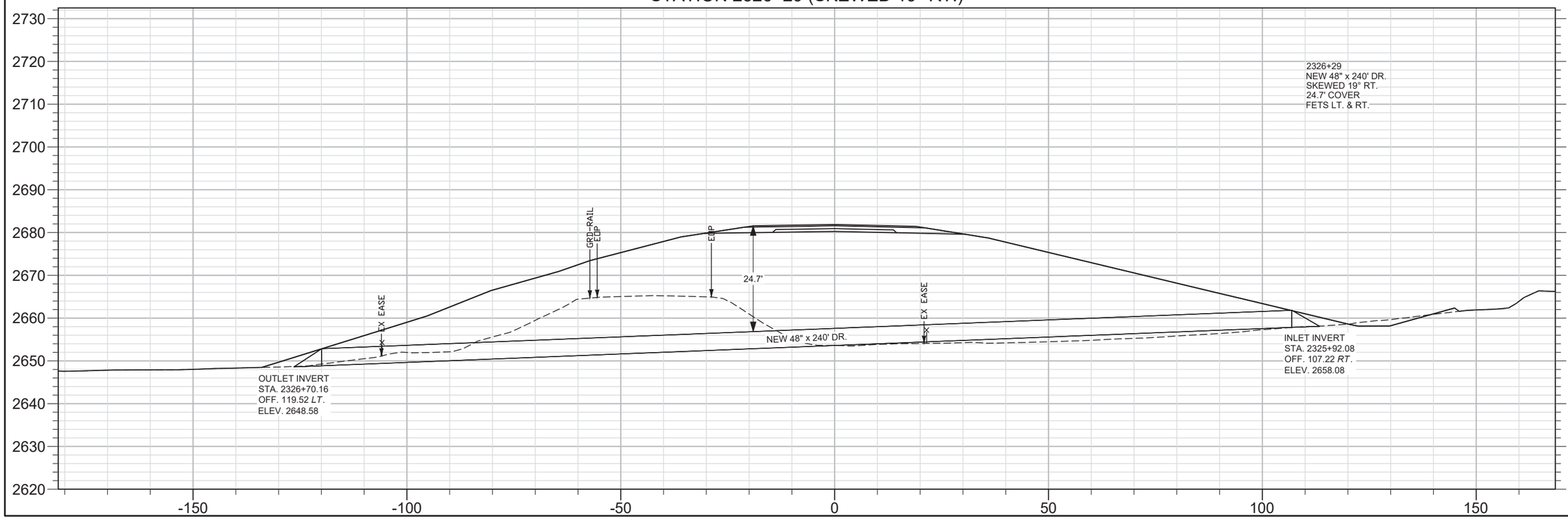
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STATION 2327+87 (SKEWED 30° LT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2326+29 (SKEWED 19° RT.)



SHEET NO. 35

DETAIL

CULVERT CROSS SECTION
2326+29 & 2327+87
(NO SCALE)

PROJECT NAME: **WEST OF BROCKWAY - WEST**
COUNTY: **MCCONE**
PROJECT ID: **NH-HSIP 57-6(22)254**
UPN: **9727000**

DESIGNED BY	09/2023	REVIEWED BY	
C. PERIMAN			
CHECKED BY	06/2025		
J. SOLIDAY			

9727000RDDET005.DWG

MONTANA
Department of Transportation

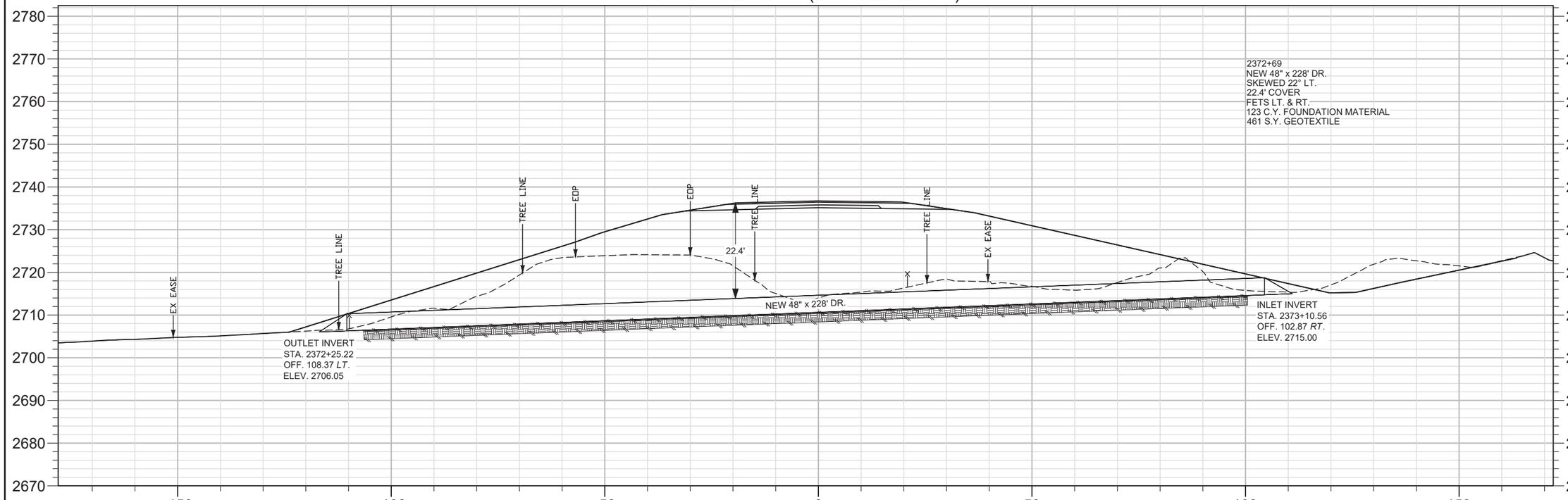
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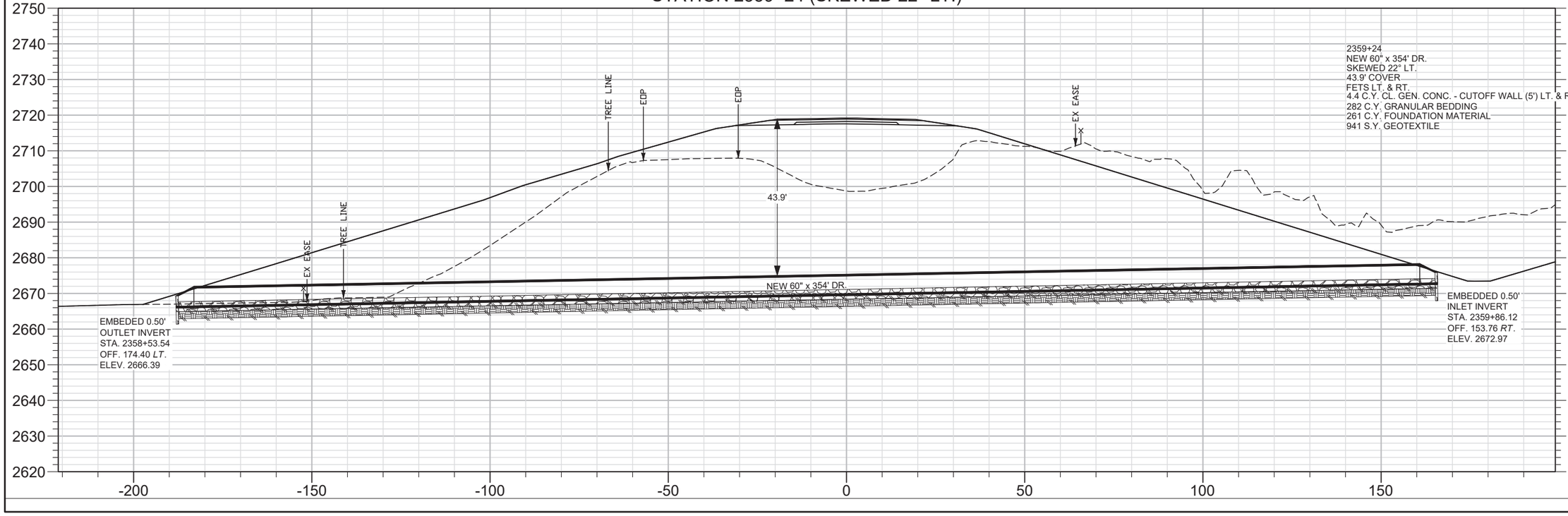
AWARD COPY

STATION 2372+69 (SKEWED 22° LT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2359+24 (SKEWED 22° LT.)



SHEET NO. 36

DETAIL

CULVERT CROSS SECTION 2359+24 & 2372+69 *(NO SCALE)*

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	09/2023	REVIEWED BY	CHECKED BY	06/2025
C. PERIMAN			J. SOLIDAY	9727000RDDET005.DWG

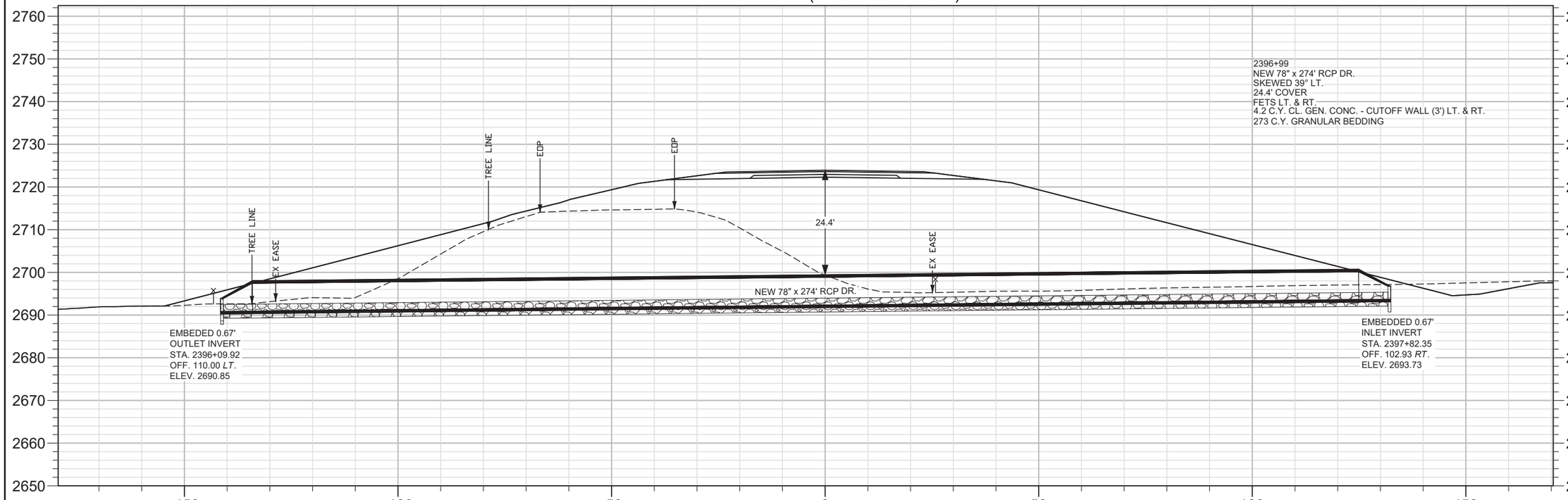
MONTANA Department of Transportation

ROAD PLANS

9/15/2025 11:10 AM

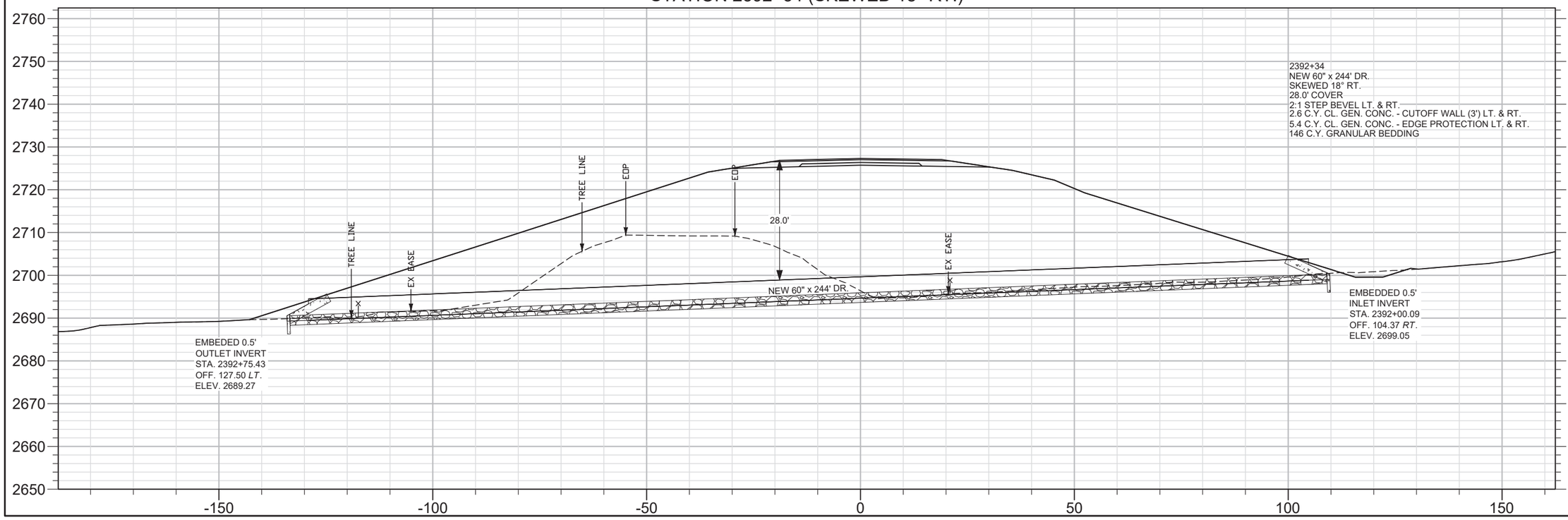
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STATION 2396+99 (SKEWED 39° LT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2392+34 (SKEWED 18° RT.)



SHEET NO. 37

DETAIL

CULVERT CROSS SECTION
2392+34 & 2396+99
(NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025
9727000RDDET005.DWG

MONTANA
Department of Transportation

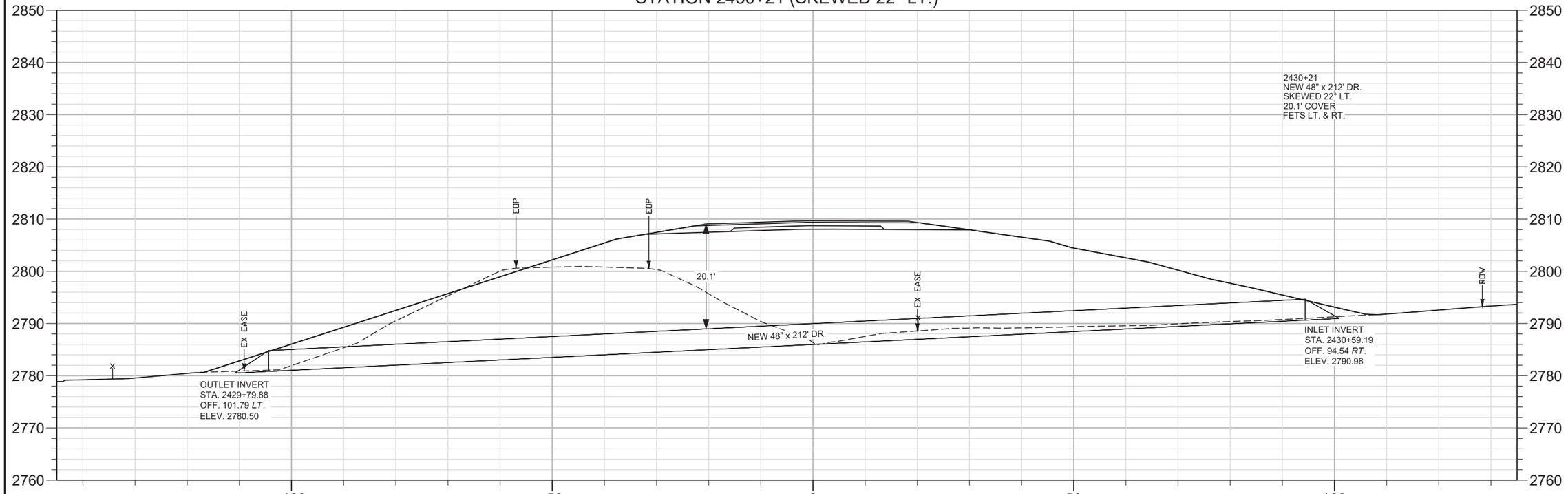
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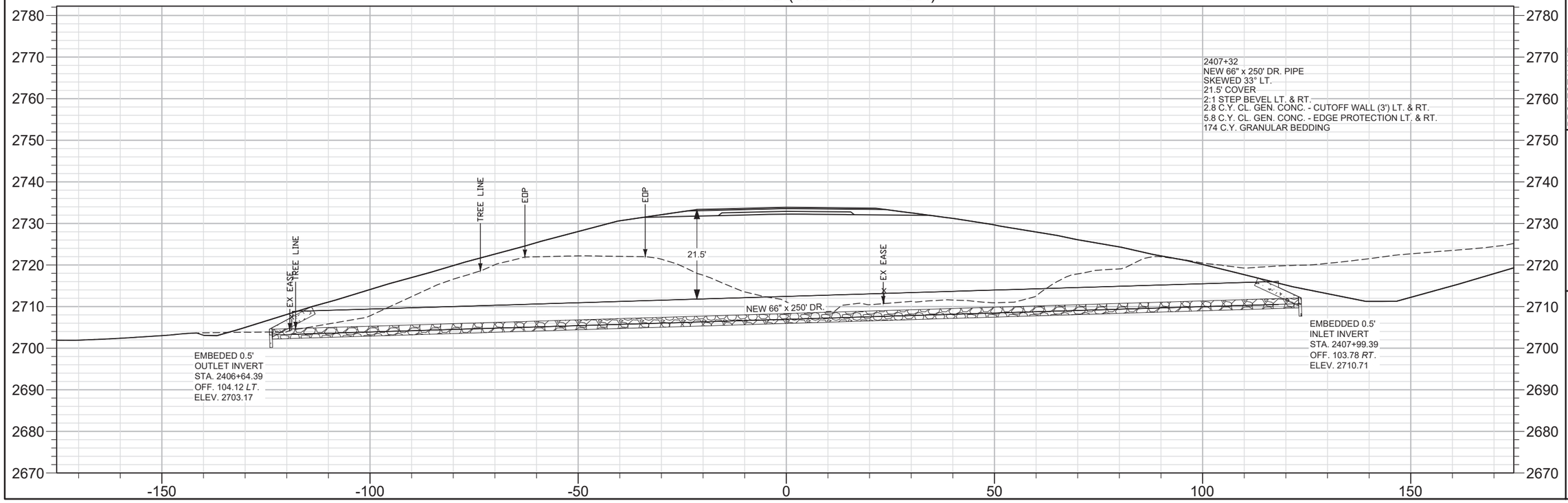
AWARD COPY

STATION 2430+21 (SKEWED 22° LT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2407+32 (SKEWED 33° LT.)



SHEET NO. 38

DETAIL

CULVERT CROSS SECTION
2407+32 & 2430+21
(NO SCALE)

PROJECT NAME: **WEST OF BROCKWAY - WEST**
COUNTY: **MCCONE**
PROJECT ID: **NH-HSIP 57-6(22)254**
UPN: **9727000**

DESIGNED BY	09/2023	REVIEWED BY	
C. PERIMAN			
CHECKED BY	06/2025		
J. SOLIDAY			

9727000RDDET005.DWG

MONTANA
Department of Transportation

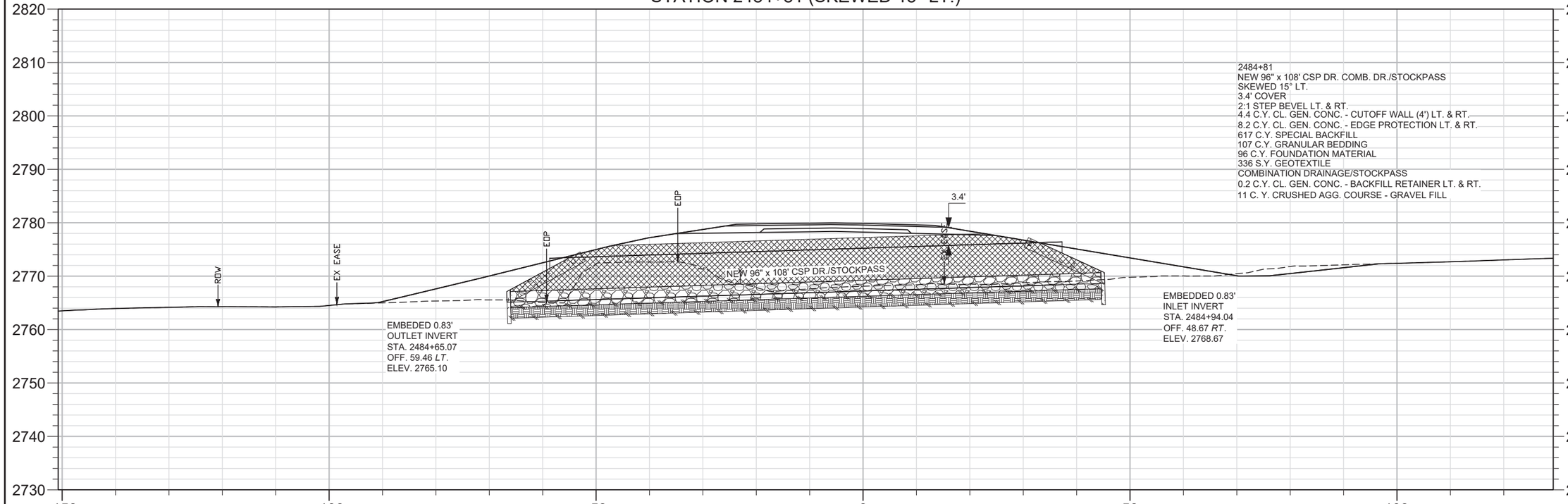
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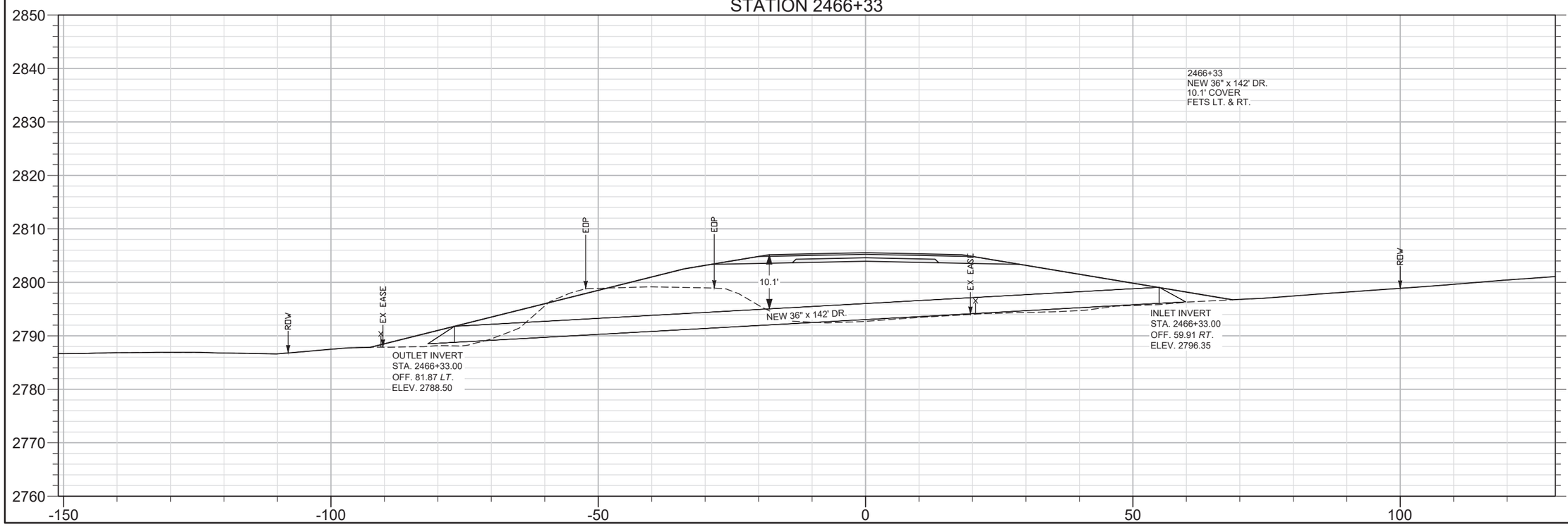
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STATION 2484+81 (SKEWED 15° LT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

STATION 2466+33



SHEET NO. 39

DETAIL

CULVERT CROSS SECTION 2466+33 & 2484+81 (NO SCALE)

PROJECT NAME: WEST OF BROCKWAY - WEST

COUNTY: MCCONE

PROJECT ID: NH-HSIP 57-6(22)254

UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023

REVIEWED BY:

CHECKED BY: J. SOLIDAY 06/2025

9727000RDDET005.DWG

MONTANA Department of Transportation

ROAD PLANS

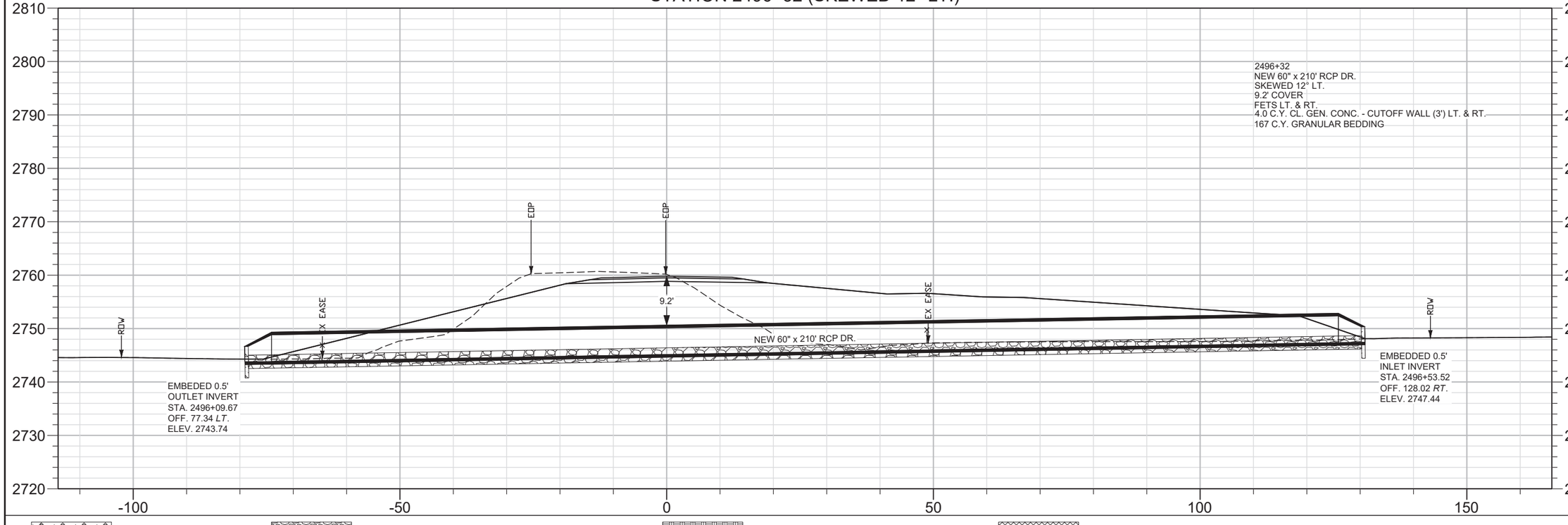
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Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

SHEET NO.
40

DETAIL
CULVERT CROSS SECTION
2496+32 (NO SCALE)

STATION 2496+32 (SKEWED 12° LT.)



CONC. CL. GEN. | GRANULAR BEDDING MATERIAL | FOUNDATION MATERIAL | SPECIAL BACKFILL | GEOTEXTILE STABILIZATION

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA
Department of Transportation

ROAD PLANS

9/15/2025 11:10 AM
9727000RDDET005.DWG

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

T. 18 N R. 44 E

EROSION CONTROL BLANKET (ECB)

VEGETATED CONC. BLOCK MAT (VCBM)

2134+00 2140+00 2150+00

BOA 2134+00.00

SEC. 14 SEC. 13

SEC. 11
SEC. 14

EX. R/W

FO PWR-OH

DSS-1 DSS-2

MONTANA 200

N 87° 40' 10" E

EX. EASE.

170' 120' 126'

STA. 2134+00.00
BEGIN NH-HSIP 57-6(22)254

2139+50
-15" CMP APP. IN PL. LT.
REMOVE
NEW 18" APP. PIPE LT.

R/W 2139+39.59
124.00'
SECTION LINE=R/W

R/W 2142+00.00
124.00'

R/W 2142+96.00
100.00'

2148+60
24" CMP IN PL.
REMOVE

2155+95
24" CMP IN PL.
REMOVE

2134+00 TO 2139+00
ECB LINED DITCH LT.

2139+50
PRIVATE APP. LT.
JOINT USE
2139+50
FARM FIELD APP. RT.
JOIN USE

2139+90 TO 2144+00
ECB LINED DITCH LT.

2140+63 TO 2144+00
ECB LINED DITCH RT.

2145+40.00 TO 2148+27.95
DITCH GRADING RT. (BACK)

2148+27.95 TO 2151+20.00
DITCH GRADING RT. (AHEAD)

2143+50.00
EL.2622.51

2134+00.00
EL. 2584.79

3.971% -0.880% -0.880%

EX. PTW

1500' VC
K VALUE: 309.26

2670 2660 2650 2640 2630 2620 2610 2600 2590 2580

2130+00 2135 2140 2145 2150 2155 2158+00

SHEET NO. 41

PLAN & PROFILE

PROJECT NAME: **WEST OF BROCKWAY - WEST**
COUNTY: **MCCONE**
PROJECT ID: **NH-HSIP 57-6(22)254**
UPN: **9727000**

DESIGNED BY		REVIEWED BY		CHECKED BY	
C. PERIMAN	09/2023			J. SOLIDAY	06/2025

9727000RDPLP001.DWG

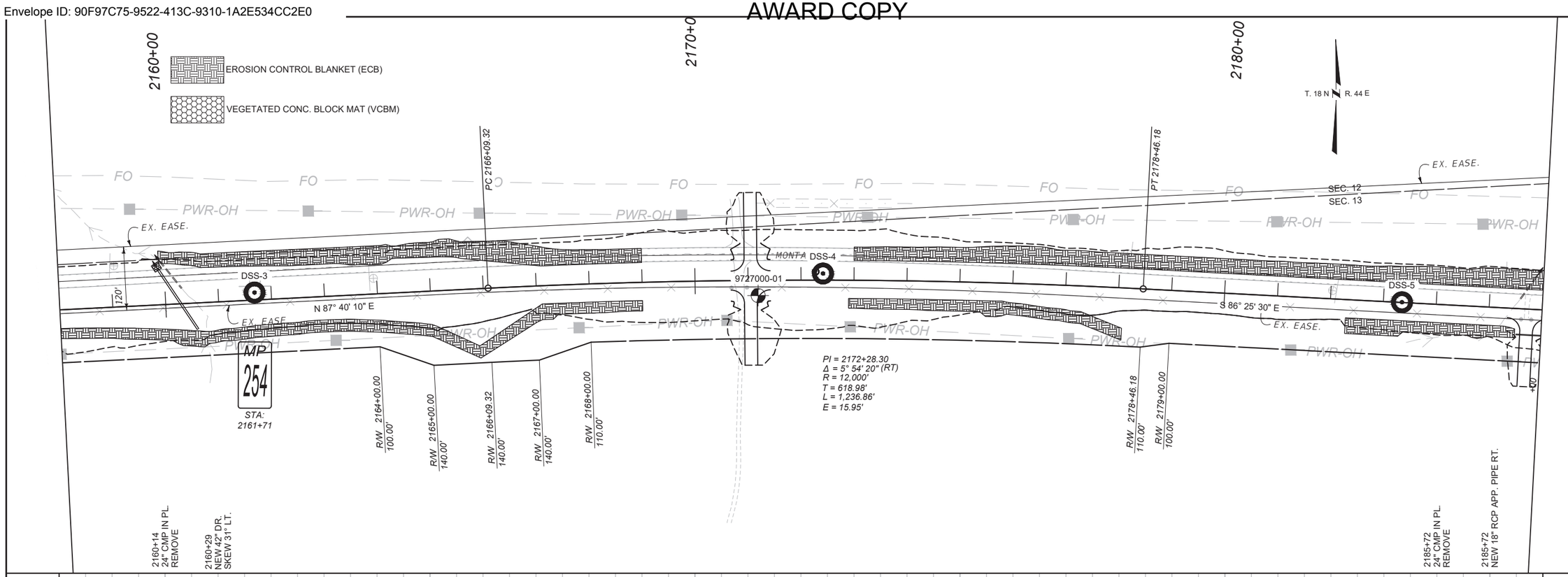
MONTANA Department of Transportation

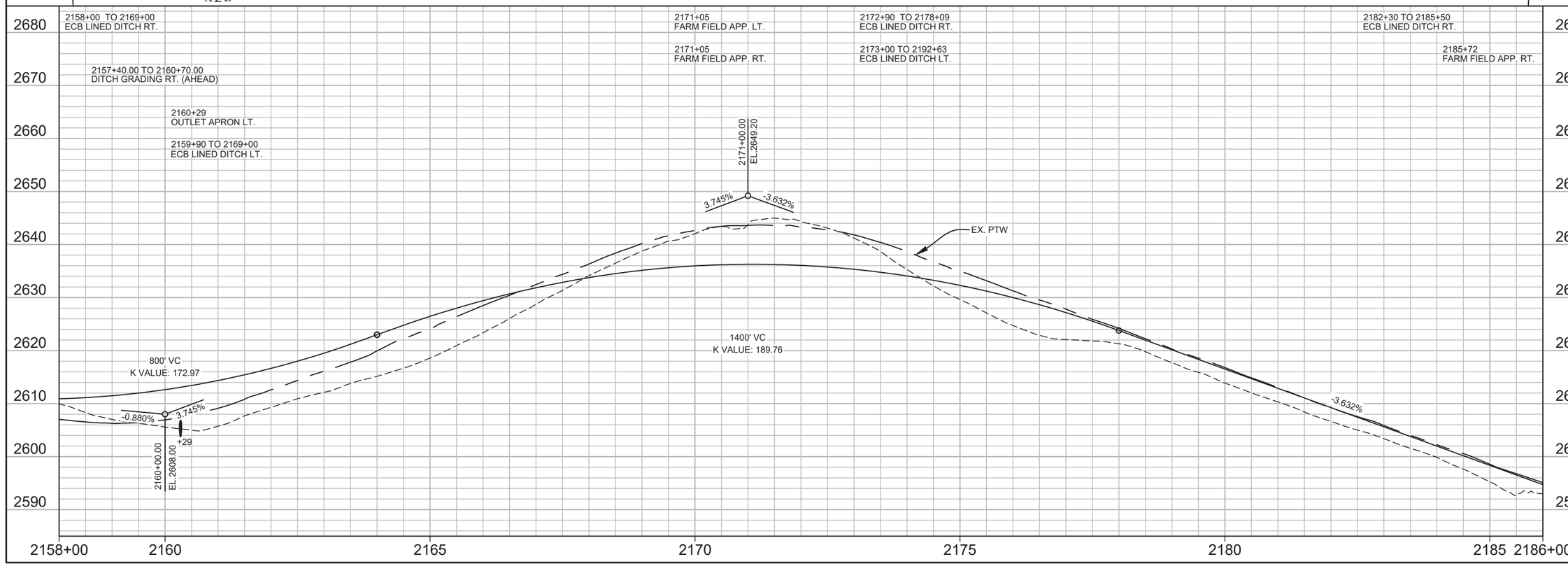
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7/8/2025 11:42 AM

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

AWARD COPY





SHEET NO. 42

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	DATE	REVIEWED BY	CHECKED BY	DATE
C. PERIMAN	09/2023		J. SOLIDAY	06/2025

9727000RDPLP001.DWG

MONTANA
Department of Transportation

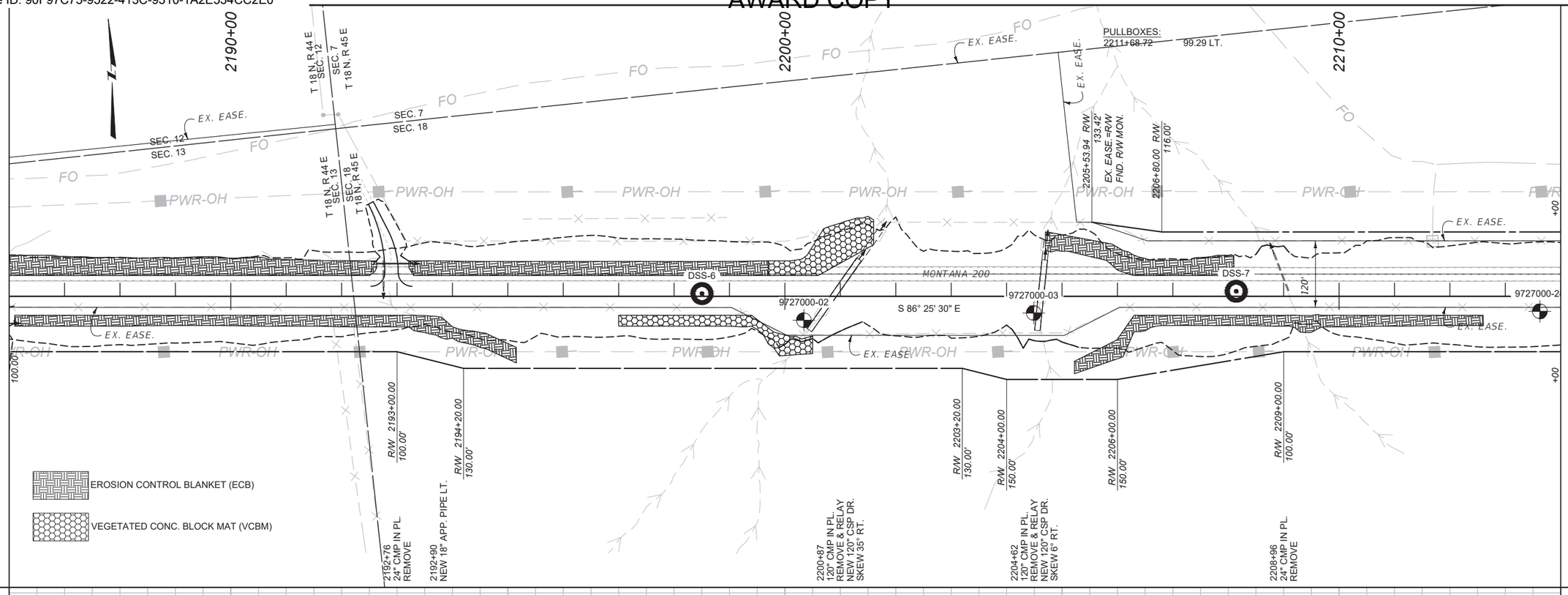
ROAD PLANS

7/8/2025 11:42 AM

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

AWARD COPY

PLAN & PROFILE



2186+10 TO 2195+15
ECB LINED DITCH RT.

2193+21 TO 2199+70
ECB LINED DITCH LT.

2192+90
FARM FIELD APP. LT.
JOINT USE

2197+00 TO 2200+50
VCBM LINED DITCH RT.

2199+70 TO 2201+60
VCBM LINED DITCH LT.

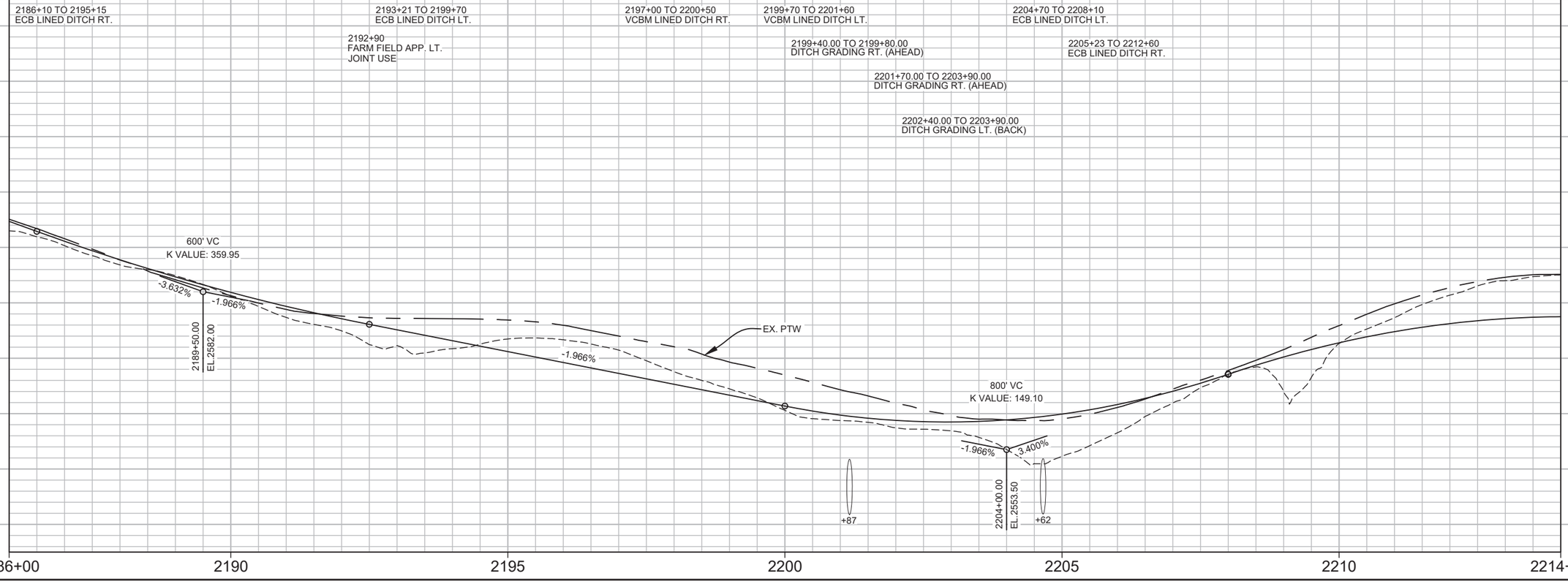
2199+40.00 TO 2199+80.00
DITCH GRADING RT. (AHEAD)

2201+70.00 TO 2203+90.00
DITCH GRADING RT. (AHEAD)

2202+40.00 TO 2203+90.00
DITCH GRADING LT. (BACK)

2204+70 TO 2208+10
ECB LINED DITCH RT.

2205+23 TO 2212+60
ECB LINED DITCH RT.



PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	REVIEWED BY	CHECKED BY
C. PERIMAN 09/2023		J. SOLIDAY 06/2025

9727000RDPLP001.DWG

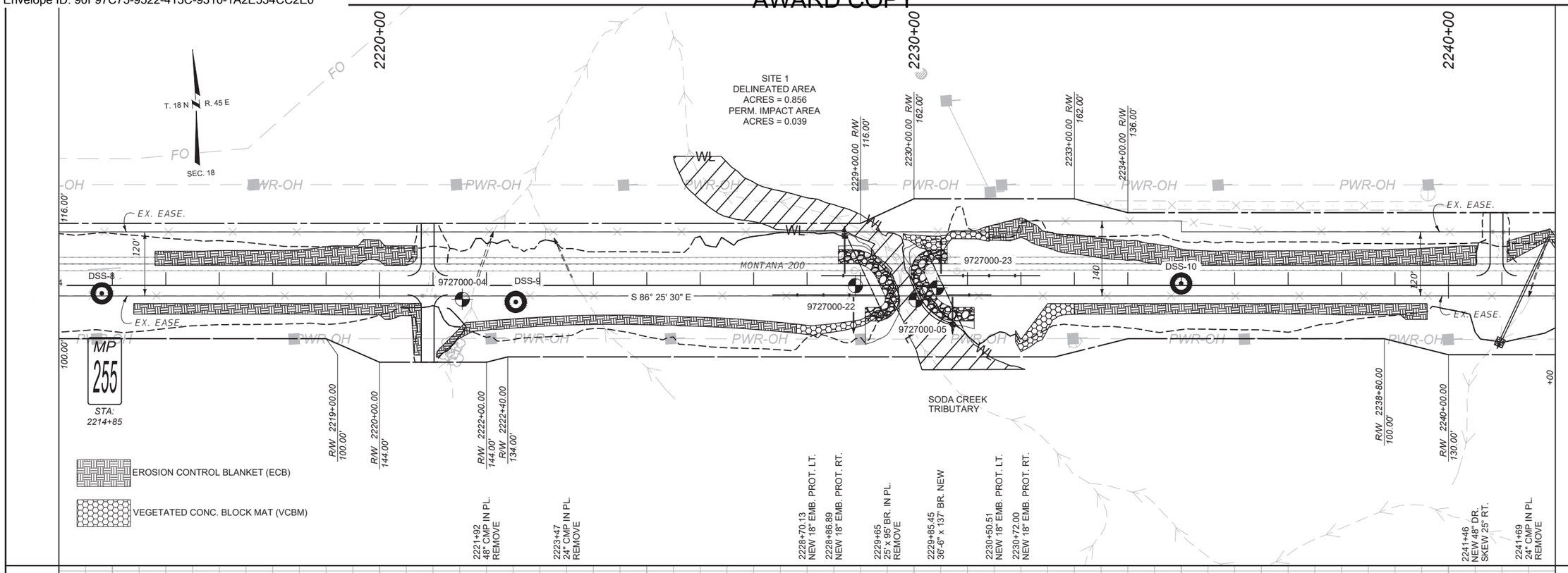
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Department of Transportation

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SHEET NO. 44

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

MONTANA Department of Transportation

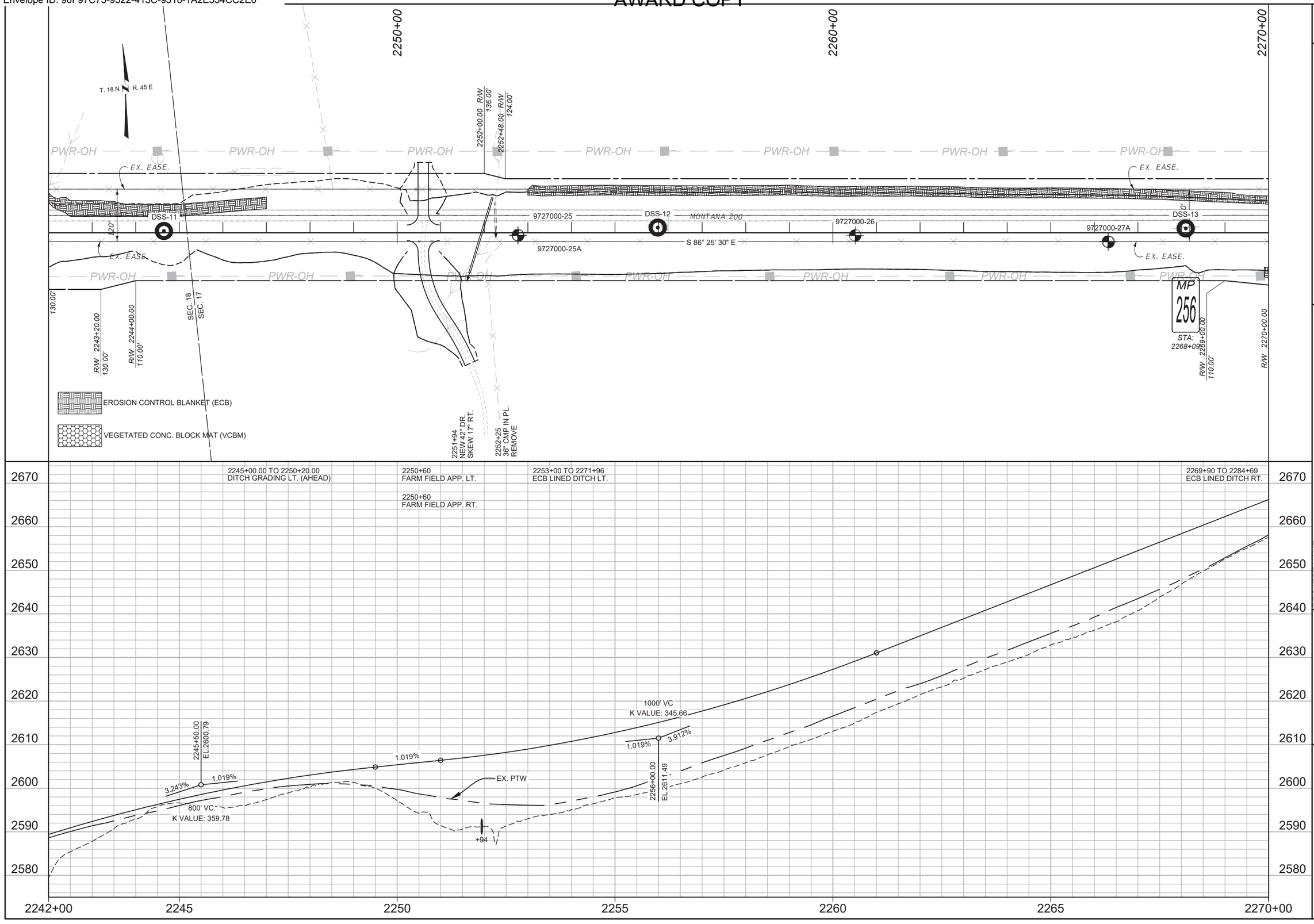
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9727000RDPLP001.DWG

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SHEET NO.
45

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	DATE	REVIEWED BY		CHECKED BY	DATE
C. PERIMAN	09/2023			J. SOLIDAY	06/2025

9727000RDPLP001.DWG

MONTANA
Department of Transportation

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7/8/2025 11:42 AM

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EROSION CONTROL BLANKET (ECB)

VEGETATED CONC. BLOCK MAT (VCBM)

POWER CROSSINGS:
2290+53.18 UNKNOWN CLEARANCE

FIBER OPTIC CROSSING:
2297+93.59 UNKNOWN DEPTH

T. 18 N R. 45 E

SEC. 17

SEC. 16

DO NOT DISTURB AREA

2278+00.00 R/W 124.00'

2278+40.00 R/W 134.00'

2288+60.00 R/W 134.00'

2289+00.00 R/W 124.00'

PWR-OH

EX. EASE.

9727000-28

DSS-14

DSS-15

MONTANA 200

120'

S 86° 25' 30" E

9727000-06

EX. EASE.

2272+35
NEW 36" EQ. DR.
SKEW 12° RT.

2274+31
24" CMP IN PL.
REMOVE

2285+03
NEW 18" APP. PIPE LT.

2285+03
NEW 18" APP. PIPE RT.

R/W 2273+00.00 120.00'

R/W 2274+00.00 100.00'

R/W 2282+00.00 100.00'

R/W 2287+00.00 170.00'

R/W 2295+00.00 170.00'

R/W 2296+60.00 146.00'

120.00'

2272+30
DITCH BLOCK LT.
ELEV. 2669.80'

2272+40.00 TO 2275+80.00
DITCH GRADING LT. (BACK)

2272+45 TO 2284+58
ECB LINED DITCH LT.

EX. PTW

3.912%

+35

2285+03
FARM FIELD APP. LT.

2285+03
FARM FIELD APP. RT.

2285+34 TO 2287+40
ECB LINED DITCH LT.

2295+00.00 TO 2307+20.00
DITCH GRADING RT. (AHEAD)

2290+00.00
EL2744.50

3.912%

-1.944%

EX. PTW

1800' VC
K VALUE: 307.35

2740 2730 2720 2710 2700 2690 2680 2670 2660 2650

2780 2770 2760 2750 2740 2730 2720 2710 2700 2690

2270+00 2275 2280 2285 2290 2295 2298+00

SHEET NO.
46

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	09/2023
C. PERIMAN	
REVIEWED BY	
CHECKED BY	06/2025
J. SOLIDAY	9727000RDPLP001.DWG

MONTANA
Department of Transportation

ROAD PLANS

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PLAN & PROFILE

2300+00 2310+00 2320+00

T. 18 N R. 45 E

MAILBOXES:
2297+79 38.0' RT.

EROSION CONTROL BLANKET (ECB)

VEGETATED CONC. BLOCK MAT (VCBM)

PWR-OH

EX. EASE.

124.00'

120'

DSS-16 DSS-17 DSS-18

MONTANA 200

S 86° 25' 30" E

9727000-20

MP 257
STA: 2321+40

2324+00.00 R/W 124.00'

R/W 146.00'

SEC. 17 SEC. 16

2298+13 24" CMP IN PL. REMOVE
2298+15 NEW 24" APP. PIPE RT.

R/W 2305+00.00 146.00'

R/W 2308+00.00 100.00'

2306+92 24" CMP IN PL. REMOVE 2307+09 NEW 30" DR.

R/W 2316+20.00 100.00'

R/W 2317+00.00 120.00'

2318+19 30" CMP IN PL. REMOVE 2318+21 NEW 36" DR.

R/W 2323+00.00 120.00'

R/W 2325+00.00 166.00'

2298+15
PRIVATE APP. LT.

2298+15
PRIVATE APP. RT.

2298+87 TO 2307+30
ECB LINED DITCH RT.

2307+09.00
OUTLET APRON LT.

2308+71
DITCH BLOCK RT.
ELEV. 2704.10'

2313+30 TO 2318+40
ECB LINED DITCH RT.

2315+20 TO 2316+10
ECB LINED DITCH LT.

2318+21.00
OUTLET APRON LT.

2320+35
FARM FIELD APP. LT.

2320+35
FARM FIELD APP. RT.

3222+30 TO 2326+10
VCBM LINED DITCH RT.

2323+10 TO 2327+80
ECB LINED DITCH LT.

2324+42.97 TO 2325+90.00
DITCH GRADING RT. (AHEAD)

-1.944%

+09

EX. PTW

+21

1000' VC
K VALUE: 176.38

-1.944%

2326+00.00
EL.2674.50

2740 2730 2720 2710 2700 2690 2680 2670 2660 2650

2298+00 2300 2305 2310 2315 2320 2325 2326+00

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

9727000RDPLP001.DWG

MONTANA
Department of Transportation

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EROSION CONTROL BLANKET (ECB)

VEGETATED CONC. BLOCK MAT (VCBM)

T. 18 N R. 45 E

SEC. 16 SEC. 15

2327+00.00 R/W 200.00'

2330+00.00 R/W 200.00'

2334+00.00 R/W 112.00'

2348+72.00 R/W 112.00'

2350+00.00 R/W 154.00'

2354+00.00 R/W

PWR-OH

EX. EASE.

120'

200'

9727000-07

DSS-19

DSS-20

DSS-21

9727000-08

MONTANA 200

S 86° 25' 30" E

RW 2330+00.00 166.00'

RW 2332+00.00 130.00'

RW 2348+96.00 130.00'

RW 2349+00.00 146.00'

RW 2354+00.00

2326+29 NEW 48" DR. SKEW 19° RT.

2326+64 24" CMP IN PL. REMOVE

2327+65 25' x 75' BR. IN PL. REMOVE

2327+87 NEW 102" DR. SKEW 30° LT.

2340+20 NEW 18" APP. PIPE LT.

2340+43 24" CMP IN PL. REMOVE

2349+83 24" CMP IN PL. PLUG ENDS & ABANDON

2326+29 OUTLET APRON LT.

2326+42.21 TO 2327+22.61 REMOVE GUARDRAIL LT.

2326+41.72 TO 2327+22.98 REMOVE GUARDRAIL RT.

2326+90 TO 2333+00 ECB LINED DITCH RT.

2327+80 TO 2336+70 VCBM LINED DITCH LT.

2327+90 TO 2335+70 DITCH GRADING LT. (BACK)

2327+99.06 TO 2328+80.71 REMOVE GUARDRAIL LT.

2327+99.15 TO 2328+80.92 REMOVE GUARDRAIL RT.

2336+70 TO 2339+84 ECB LINED DITCH LT.

2338+20 TO 2343+10 ECB LINED DITCH RT.

2340+20 FARM FIELD APP. LT.

2340+46 TO 2343+10 ECB LINED DITCH LT.

2345+70.00 TO 2347+90.00 DITCH GRADING RT. (BACK)

2347+90.00 TO 2351+90.00 DITCH GRADING RT. (AHEAD)

2348+12 FARM FIELD APP. RT.

2348+60 TO 2353+10 ECB LINED DITCH RT.

2351+00 TO 2354+53 ECB LINED DITCH LT.

2353+10 TO 2354+17 VCBM LINED DITCH RT.

2351+00.00 TO 2358+20.00 DITCH GRADING LT. (AHEAD)

1000' VC
K VALUE: 176.38

3.725%

2326+00.00
EL 2674.50

+29

+87

EX. PTW

1500' VC
K VALUE: 235.15

2346+00.00
EL.2749.00

3.725%

-2.654%

-2.654%

2740 2730 2720 2710 2700 2690 2680 2670 2660 2650

2780 2770 2760 2750 2740 2730 2720 2710 2700 2690

2326+00 2330 2335 2340 2345 2350 2354+00

SHEET NO.
48

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	DATE	REVIEWED BY		CHECKED BY	DATE
C. PERIMAN	09/2023			J. SOLIDAY	06/2025

9727000RDPLP001.DWG

MONTANA
Department of Transportation

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PLAN & PROFILE

EROSION CONTROL BLANKET (ECB)

VEGETATED CONC. BLOCK MAT (VCBM)

T. 18 N R. 45 E SEC. 15

PULLBOXES:
2276+55.00 100.05 LT.

2360+00 2370+00 2380+00

2357+00.00 R/W 303.00'
2360+00.00 R/W 303.00'
2363+00.00 R/W 154.00'
2369+00.00 R/W 154.00'
2371+00.00 R/W 196.00'
2373+00.00 R/W 196.00'
2375+58.00 R/W 136.00'

154.00'
146.00'

EX. EASE.
PWR-OH
FO
MONTANA 200

DSS-22
DSS-23
DSS-24
9727000-21
9727000-32
9727000-29
9727000-33
S 86° 25' 30" E

200'
250'
120'

MP 258
STA: 2374+59

SITE 2
DELINEATED AREA
ACRES = 0.113
PERM. IMPACT AREA
ACRES = 0.077

R/W 2366+00.00 120.00'
R/W 2370+00.00 120.00'
R/W 2372+00.00 172.00'
R/W 2373+50.00 172.00'
R/W 2376+00.00 106.00'

2355+00 NEW 18" APP. PIPE LT.
2355+00 NEW 18" APP. PIPE RT.
2358+64 36" SCP IN PL. PLUG ENDS & ABANDON
2359+24 NEW 60" DR. SKEW 22" LT.
2360+29 36" CMP IN PL. PLUG ENDS & ABANDON
2372+69 NEW 48" DR. SKEW 22" LT.
2372+70 36" CMP IN PL. REMOVE
2379+10 NEW 18" APP. PIPE LT.

2354+40.00 TO 2359+90.00
DITCH GRADING RT. (AHEAD)

2355+00
FARM FIELD APP. LT.

2355+00
FARM FIELD APP. RT.

2355+63 TO 2367+00
VCBM LINED DITCH RT.

2355+65 TO 2364+00
VCBM LINED DITCH LT.

2358+80.00 TO 2362+70.00
DITCH GRADING LT. (BACK)

2359+90.00 TO 2365+90.00
DITCH GRADING RT. (BACK)

2361±50 TO 2361±95
SURFICIAL VOID REAPIR RT.

2362±10
SURFICIAL VOID REAPIR RT.

2367+50.00 TO 2369+60.00
DITCH GRADING LT. (BACK)

2369+23
FARM FIELD APP. LT.

2369+23 TO 2371+20
ECB LINED DITCH RT.

2370+00.00 TO 2373+10.00
DITCH GRADING RT. (AHEAD)

2371+20 TO 2373+80
VCBM LINED DITCH RT.

2372+69
OUTLET APRON LT.

2372+16 TO 2374+30
VCBM LINED DITCH LT.

2372+50.00 TO 2373+60.00
DITCH GRADING LT. (BACK)

2373+10.00 TO 2373+40.00
DITCH GRADING RT. (BACK)

2374+80 TO 2378+83
VCBM LINED DITCH LT.

2379+10
FARM FIELD APP. LT.

2379+10
FARM FIELD APP. RT.

-2.654%
1.625%
900' VC
K VALUE: 210.34
2359+00.00
EL.2714.50
+24
+69
EX. PTW

2760 2750 2740 2730 2720 2710 2700 2690 2680 2670

2354+00 2355 2360 2365 2370 2375 2380 2382+00

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: C. PERIMAN 09/2023
REVIEWED BY:
CHECKED BY: J. SOLIDAY 06/2025

9727000RDPLP001.DWG

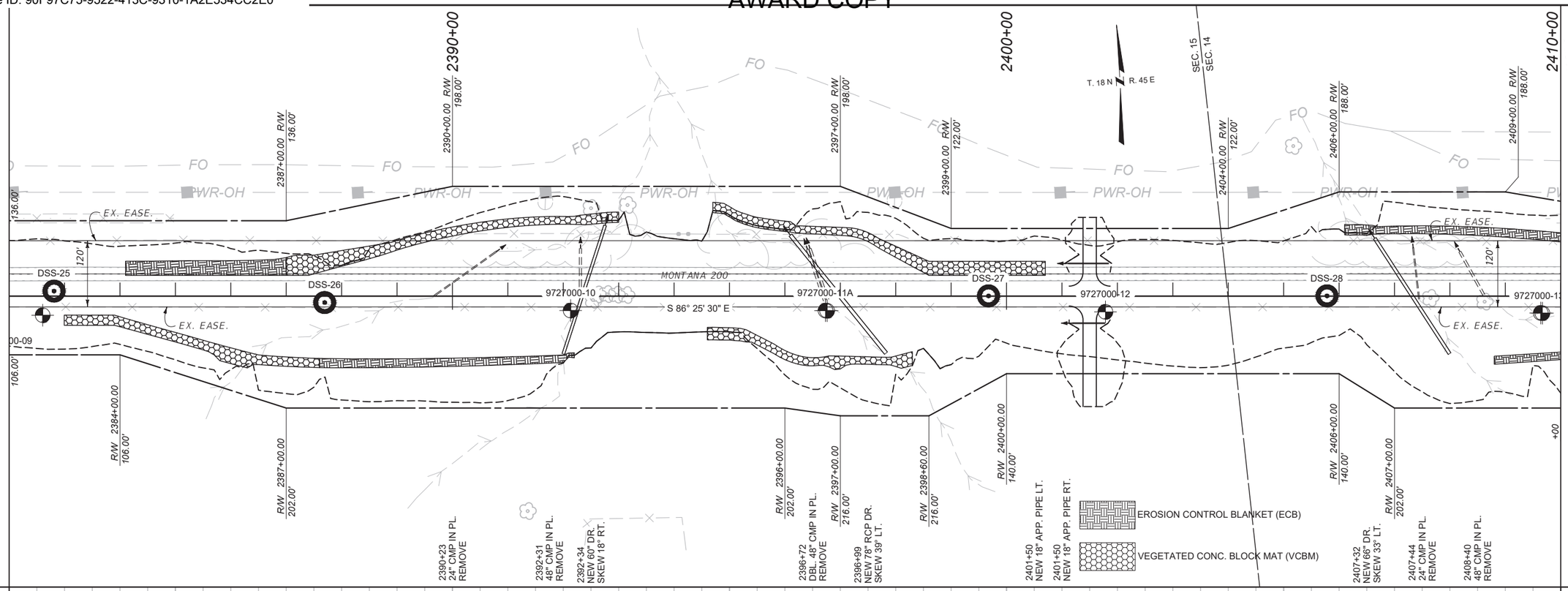
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2383+90.00 TO 2392+00.00
DITCH GRADING RT. (AHEAD)

2387+00 TO 2393+00
VCBM LINED DITCH LT.

2382+99 TO 2387+60
VCBM LINED DITCH RT.

2387+60 TO 2392+20
ECB LINED DITCH RT.

2384+10 TO 2387+00
ECB LINED DITCH LT.

2388+50.00 TO 2392+40.00
DITCH GRADING LT. (AHEAD)

2394+60 TO 2398+30
VCBM LINED DITCH RT.

2397+90.00 TO 2398+30.00
DITCH GRADING RT. (BACK)

2401+50
FARM FIELD APP. LT.

2404+00.00 TO 2405+50.00
DITCH GRADING LT. (AHEAD)

2394+70 TO 2400+70
VCBM LINED DITCH LT.

2395+30.00 TO 2397+90.00
DITCH GRADING RT. (AHEAD)

2396+20.00 TO 2398+60.00
DITCH GRADING LT. (BACK)

2401+50
FARM FIELD APP. RT.

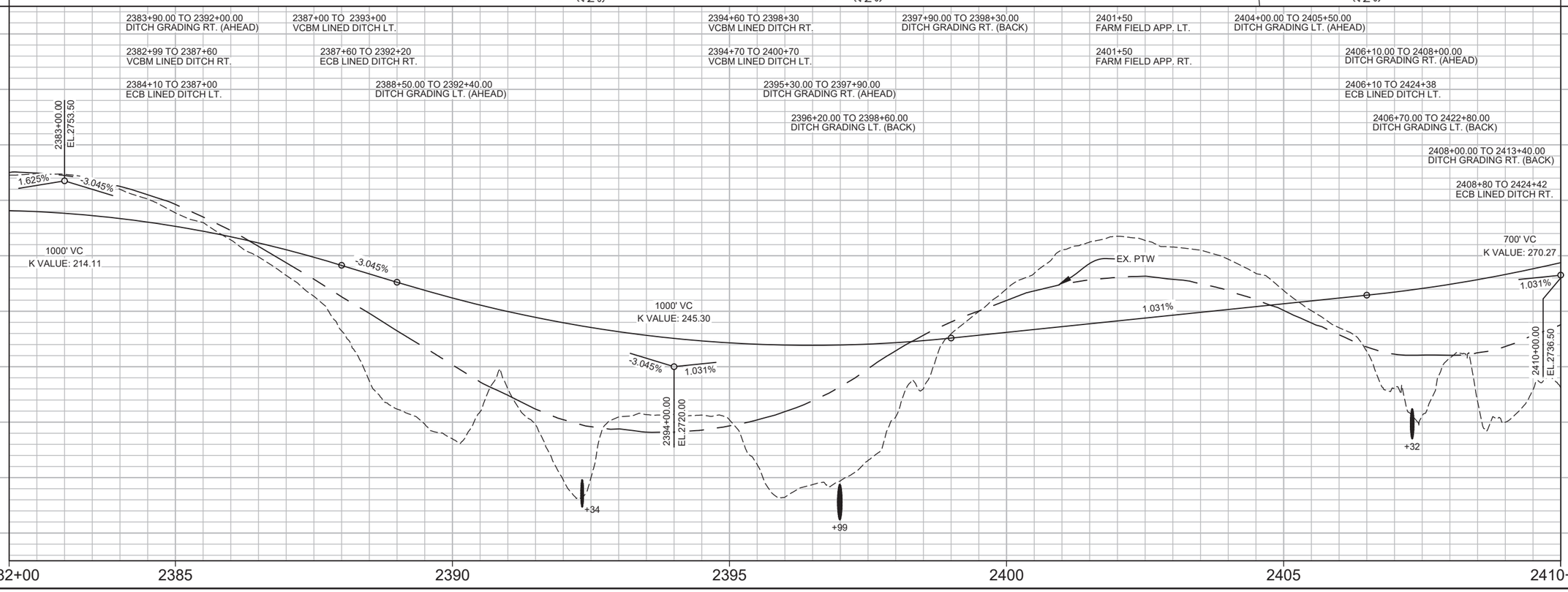
2406+10.00 TO 2408+00.00
DITCH GRADING RT. (AHEAD)

2406+10 TO 2424+38
ECB LINED DITCH LT.

2406+70.00 TO 2422+80.00
DITCH GRADING LT. (BACK)

2408+00.00 TO 2413+40.00
DITCH GRADING RT. (BACK)

2408+80 TO 2424+42
ECB LINED DITCH RT.



SHEET NO. 50

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	DATE	REVIEWED BY	DATE	CHECKED BY	DATE
C. PERIMAN	09/2023			J. SOLIDAY	06/2025

9727000RDPLP001.DWG

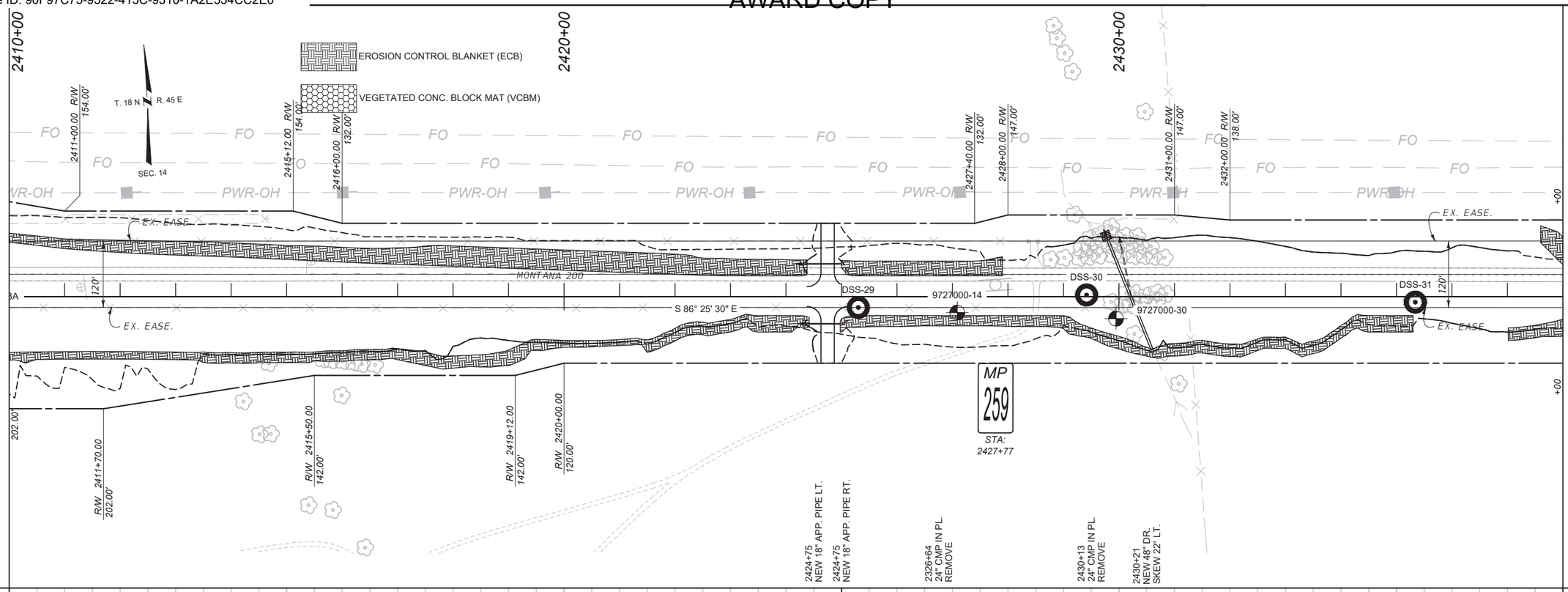
MONTANA
Department of Transportation

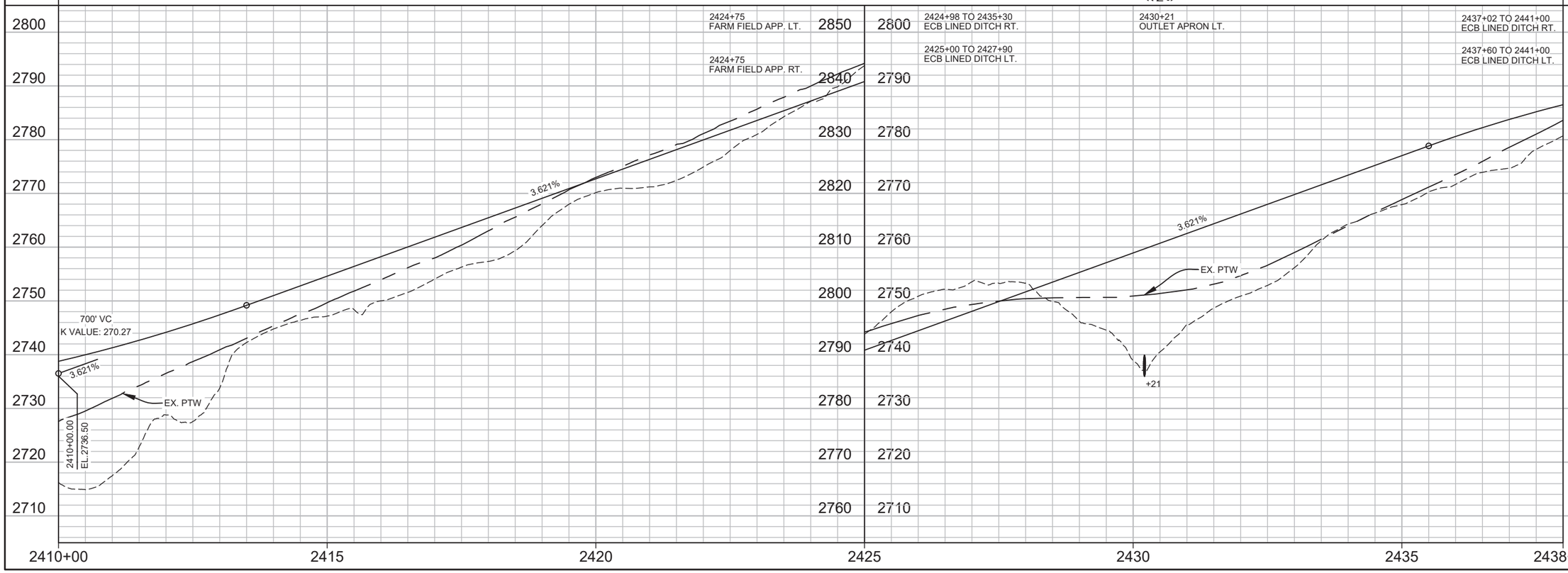
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SHEET NO. 51

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	09/2023	REVIEWED BY		CHECKED BY	06/2025	9727000RDPLP001.DWG
C. PERIMAN				J. SOLIDAY		

MONTANA Department of Transportation

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PULLBOXES:
2446+81.61 189.29 LT.

FIBER OPTIC CROSSING:
2446+83.24 UNKNOWN DEPTH

MAILBOXES:
2457+66 38.0' LT.

2440+00 2450+00 2460+00

SEC. 14 SEC. 13

T. 18 N R. 45 E

FO PWR-OH EX. EASE.

2444+00.00 R/W 138.00'
2444+64.00 R/W 122.00'
2447+00.00 R/W 122.00'
2447+56.00 R/W 108.00'

138.00' 120' 120' 110'

MONTANA 200

9727000-15 DSS-32 DSS-33 9727000-16

S 86° 25' 30" E

120.00'

R/W 2440+52.00 120.00'
R/W 2441+00.00 132.00'
R/W 2447+00.00 132.00'
R/W 2448+28.00 100.00'

2442+24 NEW 18" APP. PIPE LT.
2442+24 NEW 18" APP. PIPE RT.

EROSION CONTROL BLANKET (ECB)
VEGETATED CONC. BLOCK MAT (VCBM)

2457+30 18" APP. PIPE. IN PL. RT. REMOVE NEW 30" EQ. RCPA APP. PIPE RT.

2457+70 36" CMP IN PL. REMOVE

CHALK BUTTE ROAD 60'

2442+24
FARM FIELD APP. LT.

2442+24
PRIVATE APP. RT.

2446+50 TO 2456+90
ECB LINED DITCH RT.

2457+30
PUBLIC APP. LT.
LOGAN RD.

2457+30
PUBLIC APP. RT.
CHALK BUTTE RD.

2457+80 TO 2459+70
ECB LINED DITCH RT.

2443+00.00 EL. 2856.00

3.621% -3.062% -3.062% -0.200%

EX. PTW

1500' VC
K VALUE: 224.43

1000' VC
K VALUE: 349.34

2459+00.00 EL. 2807.00

2880 2870 2860 2850 2840 2830 2820 2810 2800 2790

2438+00 2440 2445 2450 2455 2460 2465 2466+00

SHEET NO.
52

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY C. PERIMAN 09/2023
REVIEWED BY
CHECKED BY J. SOLIDAY 06/2025
9727000RDPLP001.DWG

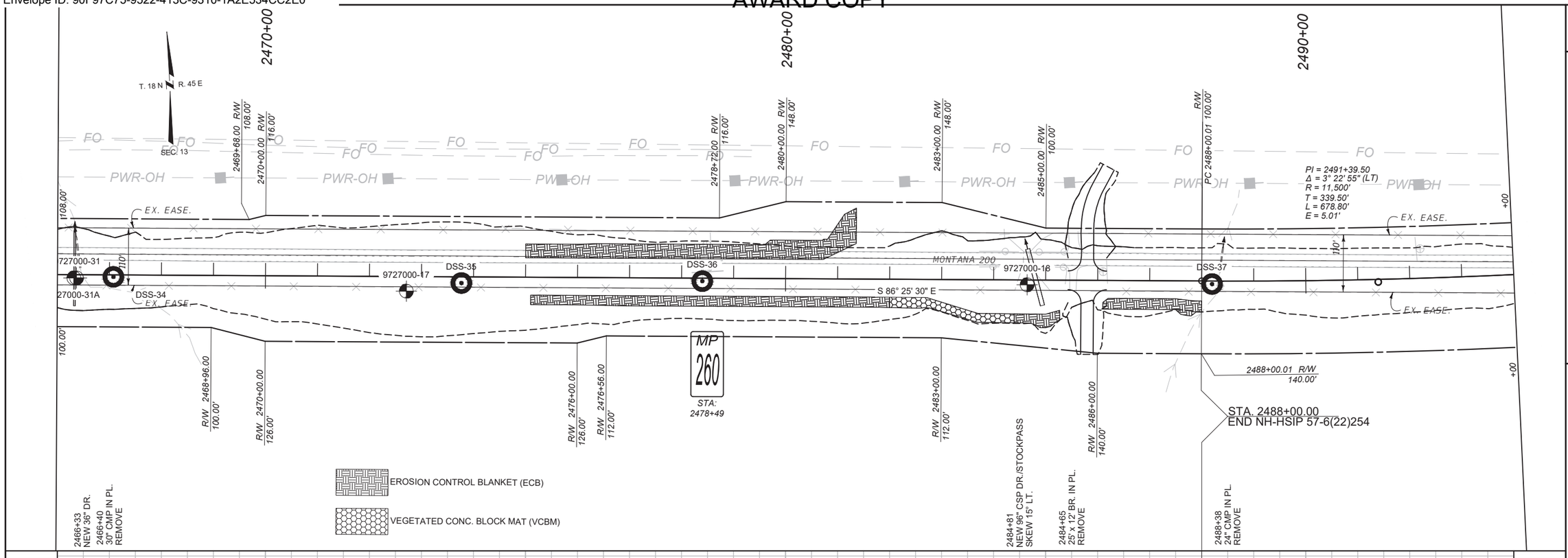
MONTANA Department of Transportation

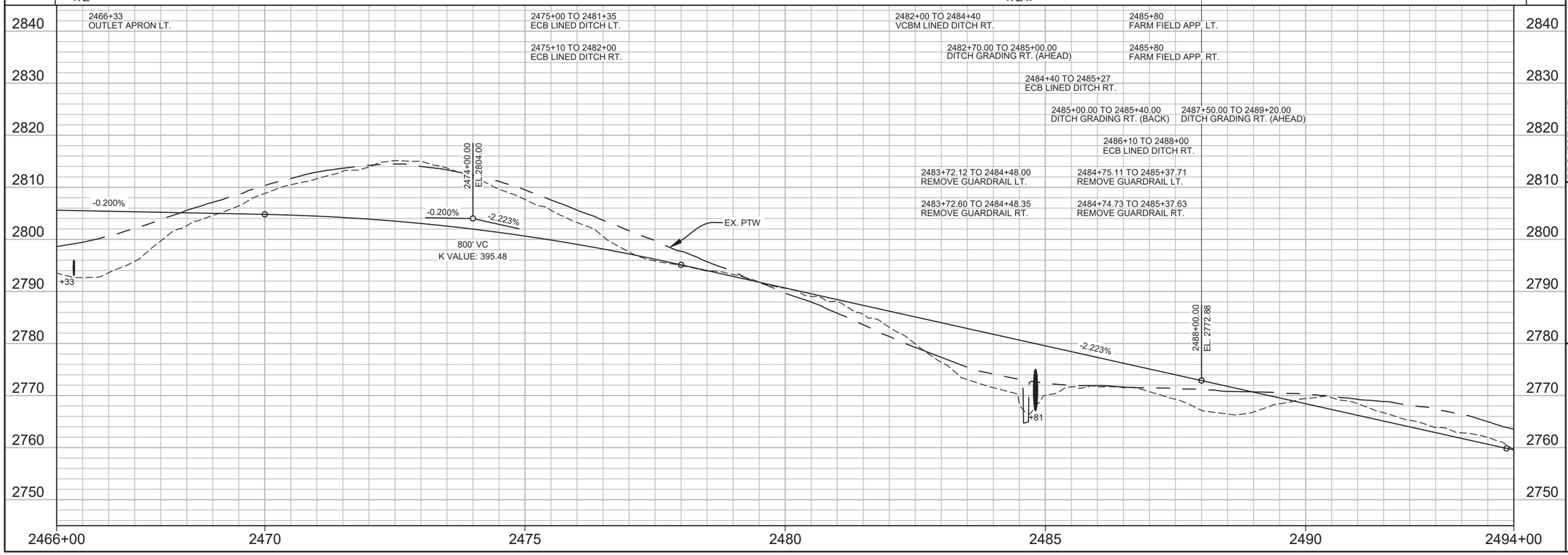
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SHEET NO. 53

PLAN & PROFILE

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	REVIEWED BY	CHECKED BY
C. PERIMAN 09/2023		J. SOLIDAY 06/2025

9727000RDPLP001.DWG

MONTANA Department of Transportation

ROAD PLANS

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2500+00 2510+00 2520+00 2521+50

PT 2494+78.81 PC 2494+78.81 R/W 100.00'

PT 2501+57.61 2502+00.00 R/W 100.00'

2504+00.00 R/W 50.14' R/W=EX. EASE.

EOA 2521+50.00

FO PWR-OH

100.00' 110' EX. EASE.

MONTANA 200

9727000-19

S 86° 25' 30" E

2504+00.00 R/W 59.73' R/W=EX. EASE.

2502+00.00 R/W 140.00'

PI = 2498+18.31
Δ = 3° 22' 55" (RT)
R = 11,500'
T = 339.50'
L = 678.80'
E = 5.01'

140.00' R/W 2494+78.81 140.00'

R/W 2501+57.61 140.00'

STA. 2501+60.00
END CONNECTION

T 18 N, R 45 E SEC. 13

SEC. 18 T 18 N, R 46 E

2496+21 36" CMP IN PL. REMOVE

2496+26 NEW 60" RCP SKEW 12° LT.

EROSION CONTROL BLANKET (ECB)

VEGETATED CONC. BLOCK MAT (VCBM)

2494+60.00 TO 2495+50.00
DITCH GRADING RT. (AHEAD)

2496+80.00 TO 2497+50.00
DITCH GRADING RT. (BACK)

2501+60.00 EL. 2790.62

6.935%

EX. PTW

500' VC
K VALUE: 54.60

-2.223%

6.935%

+26 2496+36.19 EL. 2754.29

2830 2820 2810 2800 2790 2780 2770 2760 2750 2740

2494+00 2495 2500 2505 2510 2515 2520 2521+50

SHEET NO. 54

PLAN & PROFILE

PROJECT NAME WEST OF BROCKWAY - WEST

COUNTY MCCONE

PROJECT ID NH-HSIP 57-6(22)254

UPN 9727000

DESIGNED BY C. PERIMAN 09/2023

REVIEWED BY

CHECKED BY J. SOLIDAY 06/2025

9727000RDPLP001.DWG

MONTANA Department of Transportation

ROAD PLANS

7/8/2025 11:42 AM

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NOTES AND ABBREVIATIONS:

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

SEE LOCATION AND SPECIFICATION SHEETS FOR PORTIONS OF PROJECT NOT INCLUDED WITHIN SIGNING PLAN SHEETS.

SIGN POSTS SYMBOLS SHOWN ARE FOR REFERENCE ONLY TO SHOW EXISTING SIGNS THAT REQUIRE NO ACTION.

SIGNING LOCATIONS ARE APPROXIMATE. PROJECT MANAGER TO FIELD ADJUST AS NECESSARY.

ADOPT A HIGHWAY: IF SIGNS N7-1/N7-1P EXIST, CONTRACTOR WILL CONFIRM THAT THE GROUP NAME ON THE SIGN(S) EXISTING AT THE TIME OF CONSTRUCTION CORRESPONDS TO THE GROUP NAME ON THE SIGN(S) SHOWN IN PLANS. IF NAME IS DIFFERENT, PROJECT MANAGER WILL CONTACT TRAFFIC & SAFETY BUREAU SIGNING SECTION WITH THE CORRECT NAME AND A NEW SIGN DESIGN WILL BE PROVIDED.

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

▲ = SINGLE SQUARE TUBE REQUIRED. MOUNTED IN HEAVY DUTY STUB.

★ = TELESCOPED SQUARE TUBES (2-1/4" & 2-1/2") WITH SLIP BASE BREAKAWAY REQUIRED. MOUNTED IN HEAVY DUTY STUB.

▮ = FRANGIBLE SIGN POST. BREAKAWAY DEVICE REQUIRED.

1 AIR = 1 OR 2 ANGLE IRONS REQUIRED
2 AIR = 2 1/2" x 2 1/2" x 3/8" x 6'-4" (37 lbs.EACH)
IF Y POST DOES NOT REACH TOP 6" OF PANEL, 2 ANGLE IRONS REQUIRED.

BBR = BACKBRACING REQUIRED:
- FOR WOOD POLE SEE DET. DWG 619-22
- FOR STEEL POST 2" X 2" X 1/4" REQUIRED. SEE DET. DWG 619-16
- FOR STRUCTURAL STEEL POST 2 3/4" X 2 3/8" EXTRUDED "T" SECTION BACKBRACE REQUIRED. SEE DET. DWG 619-19
- FOR CANTILEVER POST, SEE DET. DWG 619-18
- FOR GUIDE SIGN PANELS, USE EXTRUDED "T" SECTION BACKBRACE. SEE DET. DWG 619-04

USE HARDWARE MEETING REQUIREMENTS OF SECTION 704

FY = FLUORESCENT YELLOW SHEETING REQUIRED

FYG = FLUORESCENT YELLOW-GREEN SHEETING REQUIRED

BGR = BEHIND GUARDRAIL

MBB = MOUNT BACK TO BACK

RSFO = REPLACE SIGN FACE ONLY

SUMMARY
SIGNING & DELINEATION QUANTITIES

MATERIAL	TOTALS	UNIT
SIGNS-SHEET ALUM SHT INCR XI	67.5	SQFT
SIGNS-ALUM REFL SHEET XI	147.5	SQFT
REMOVE SIGN	26	EACH
REMOVE SIGN-GUIDE	2	EACH
POSTS-STEEL U SIGN	154	LB
POSTS-STEEL STRUCTURAL SIGN	392	LB
POLES-TREATED WOOD 4 IN	238	LNFT
FRANG SIGN POST BKWY-S4 X 7.7 (S100X11)	4	EACH
DELINEATOR TYPE 1	182	EACH

DELINEATION SPECIFICATIONS

SYMBOL	DESIGN	TOTALS
⊣	A	178
⊣⊣	D	4

SHEET NO. S1

SIGNING SUMMARY
FRAMES AND NOTES

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: S. WATSON 01/2025
REVIEWED BY:
CHECKED BY: N. STYREN 1/2025

MONTANA Department of Transportation

SIGNING PLANS

6/3/2025 3:56 PM 9727000SISUM001.DWG

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

SIGN LOCATION				SIGN PANEL SPECIFICATIONS						SIGN ASSEMBLY SPECIFICATIONS											SIGN ASSEMBLY QUANTITIES										ADDITIONAL INFORMATION	
STATION / R.P.		DIRECTION	RAMP NO.	SIGN NO. (MUTCD)	PANEL SIZE (INCHES)	FY OR FYG	BACK BRACING REQ'D ANGLE IRON REQ'D	MOUNT BACK TO BACK	REPLACE SIGN FACE ONLY	FEET		FEET									PANEL (SQ. FT.)		WOOD POLE (LNR. FT.)		STEEL POST (LBS.)				REMOVE		RESET			
LFT	MDN	RGT			W X H					CLEARANCE/OFFSET (SHOULDER TO EDGE OF SIGN)	TYPE OF SUPPORT	SIGN SUPPORT SPACING	MOUNTING HEIGHT	SIGN HEIGHT + GAPS	FOUNDATION DEPTH	SUPPORT LENGTH (ESTIMATED) X	Y	Z	CANTILEVER	BREAKAWAY TYPE	BEHIND GUARDRAIL	SHEET ALUMINUM	SHEET ALUMINUM INCREMENT	4" TOP DIA.	5" TOP DIA.	ROUND TUBULAR	SQUARE TUBULAR	STRUCTURAL STEEL	"U" POST	SIGN	GUIDE	SIGN	GUIDE	SIGN IMAGE	SIGN STATUS & REMARKS
2154+08		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
		X																															
2159+00		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
X																																	
2161+61		EB		D10-3	10 X 36			MBB		4.0	2.0lb Steel U Post		4.0		3.0	10.7					5.0								22	1				REPLACE
		X																															
2164+84		EB		W1-2R	30 X 30	FY				10.0	4" Treated Wood Pole		5.0		3.0	13.3					6.3		14							1				REPLACE
		X																															
2179+72		EB		W1-2L	30 X 30	FY				10.0	4" Treated Wood Pole		5.0		3.0	13.3					6.3		14							1				REPLACE
X																																	
2181+90		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
		X																															
2185+30		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
X																																	
2214+84		EB		D10-3	10 X 36			MBB		4.0	2.0lb Steel U Post		4.0		3.0	10.7					5.0								22	1				REPLACE
		X																															
2256+09		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
		X																															
2268+06		EB		D10-3	10 X 36			MBB		4.0	2.0lb Steel U Post		4.0		3.0	10.7					5.0								22	1				REPLACE
		X																															
2272+67		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
X																																	
2285+87		EB		W2-1																										1				REMOVE
		X																															
2300+64		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
		X																															
2305+73		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
X																																	
2307+92		EB		G57-256A	96 X 54		BBR			20.0	S4x7.7 Structural Steel	4.0	7.0		3.5	13.2	13.2			■		36.0			204			1				Circle 23 Glendive 70 Sidney 97	REPLACE
		X																															
2310+42		EB		G57-256B	108 X 42		BBR			20.0	S4x7.7 Structural Steel	5.0	7.0		3.5	12.2	12.2			■		31.5			188			1				Jordan 44 Lewistown 174	REPLACE
X																																	
2321+33		EB		D10-3	10 X 36			MBB		4.0	2.0lb Steel U Post		4.0		3.0	10.7					5.0								22	1				REPLACE
		X																															
2356+74		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
X																																	
2374+55		EB		D10-3	10 X 36			MBB		4.0	2.0lb Steel U Post		4.0		3.0	10.7					5.0								22	1				REPLACE
		X																															
2411+18		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3					5.5		14							1				REPLACE
		X																															

SHEET NO.
S2

SIGN LOCATIONS AND SPECIFICATIONS

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: S. WATSON 01/2025
REVIEWED BY:
CHECKED BY: N. STYREN 1/2025

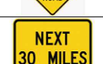
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MONTANA Department of Transportation

SIGNING PLANS

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SIGN LOCATION				SIGN PANEL SPECIFICATIONS						SIGN ASSEMBLY SPECIFICATIONS										SIGN ASSEMBLY QUANTITIES												ADDITIONAL INFORMATION	
STATION / R.P.		DIRECTION	RAMP NO.	SIGN NO. (MUTCD)	PANEL SIZE (INCHES)	FY OR FYG	BACK BRACING REQ'D ANGLE IRON REQ'D	MOUNT BACK TO BACK	REPLACE SIGN FACE ONLY	FEET	TYPE OF SUPPORT	FEET						CANTILEVER	BREAKAWAY TYPE	BEHIND GUARDRAIL	PANEL (SQ. FT.)		WOOD POLE (LNR. FT.)		STEEL POST (LBS.)				REMOVE		RESET		SIGN IMAGE	SIGN STATUS & REMARKS
LFT	MDN	RGT			W X H					CLEARANCE/OFFSET (SHOULDER TO EDGE OF SIGN)		SIGN SUPPORT SPACING	MOUNTING HEIGHT	SIGN HEIGHT + GAPS	FOUNDATION DEPTH	SUPPORT LENGTH (ESTIMATED) X	Y	Z				SHEET ALUMINUM	SHEET ALUMINUM INCREMENT	4" TOP DIA.	5" TOP DIA.	ROUND TUBULAR	SQUARE TUBULAR	STRUCTURAL STEEL	"U" POST	SIGN	GUIDE	SIGN	GUIDE		
2415+30		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3						5.5		14						1					REPLACE
X																																	
2427+77		EB		D10-3	10 X 36			MBB		4.0	2.0lb Steel U Post		4.0		3.0	10.7						5.0							22	1					REPLACE
		X																															
2456+87		EB		D3 (2x)	30 X 12			MBB		6.0	4" Treated Wood Pole		5.0		3.0	12.8						5.0		14						1					REPLACE
X																																	
				R1-1	30 X 30																	6.3											REPLACE
2457+55		EB		D3 (2x)	42 X 12			MBB		6.0	4" Treated Wood Pole		5.0		3.0	12.8						7.0		14						1					REPLACE
		X																															
				R1-1	30 X 30																	6.3											REPLACE
2460+50		EB		W14-3 48x48x36	48 X 36	FY	BBR			10.0	4" Treated Wood Pole		5.0		3.0	12.3						5.5		14						1					REPLACE
X																																	
2478+24		EB		W8-8MT	30 X 30					10.0	4" Treated Wood Pole		5.0		3.0	13.9						6.3		14						1					REPLACE
		X																															
				W7-3A	24 X 18																	3.0											REPLACE (10 MILES WITH 7 MILES)
2478+24		EB		W8-8MT																										1				REMOVE
X																																	
				W7-3A																														REMOVE
2478+48		EB		D10-3	10 X 36			MBB		4.0	2.0lb Steel U Post		4.0		3.0	10.7						5.0							22	1					REPLACE
		X																															
PROJECT TOTALS																					147.5	67.5	238				392	154	26	2				

SHEET NO.
S3

SIGN LOCATIONS AND SPECIFICATIONS

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY: S. WATSON 01/2025
REVIEWED BY:
CHECKED BY: N. STYREN 1/2025
9727000SISUM001.DWG

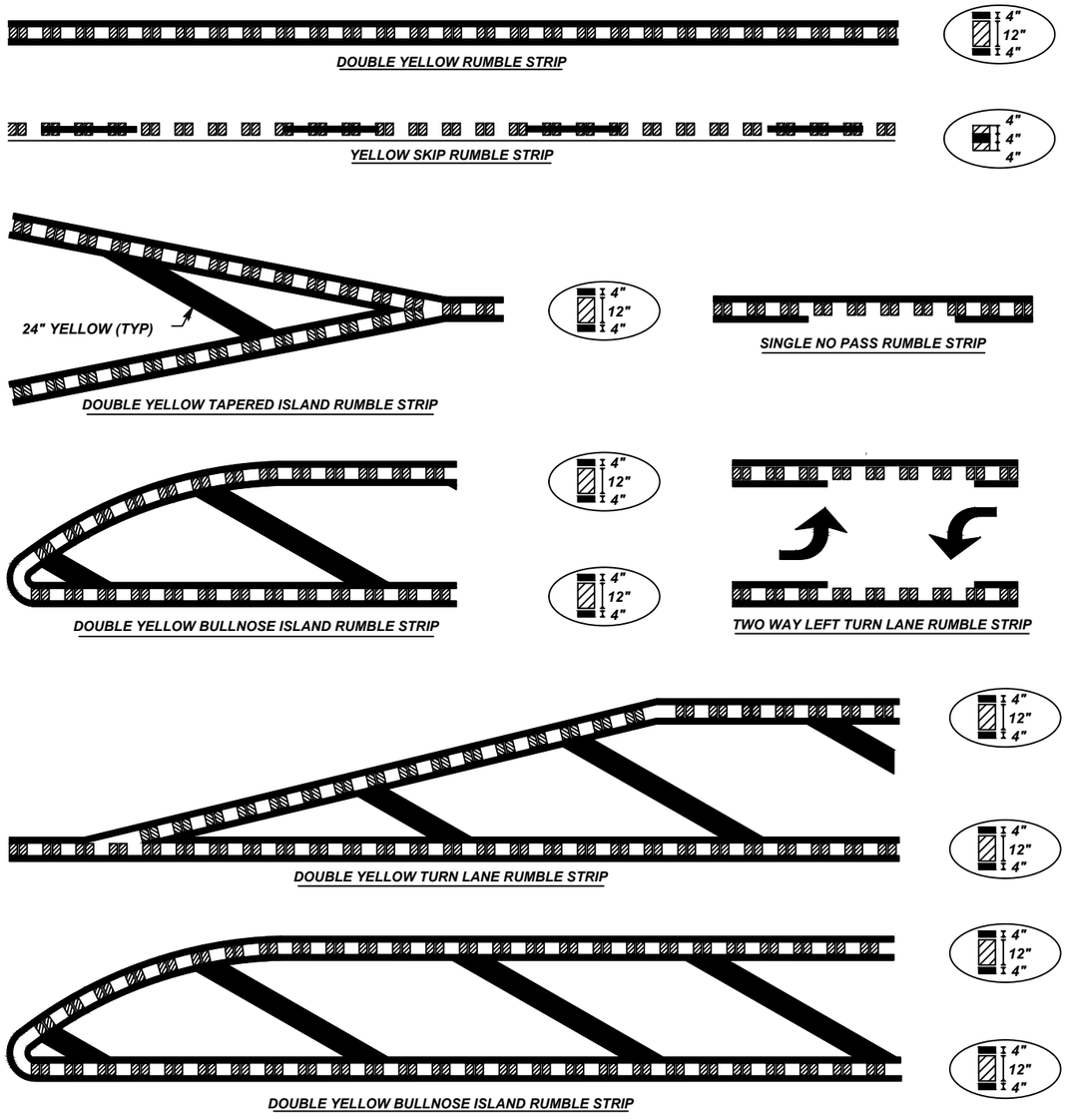
MONTANA Department of Transportation

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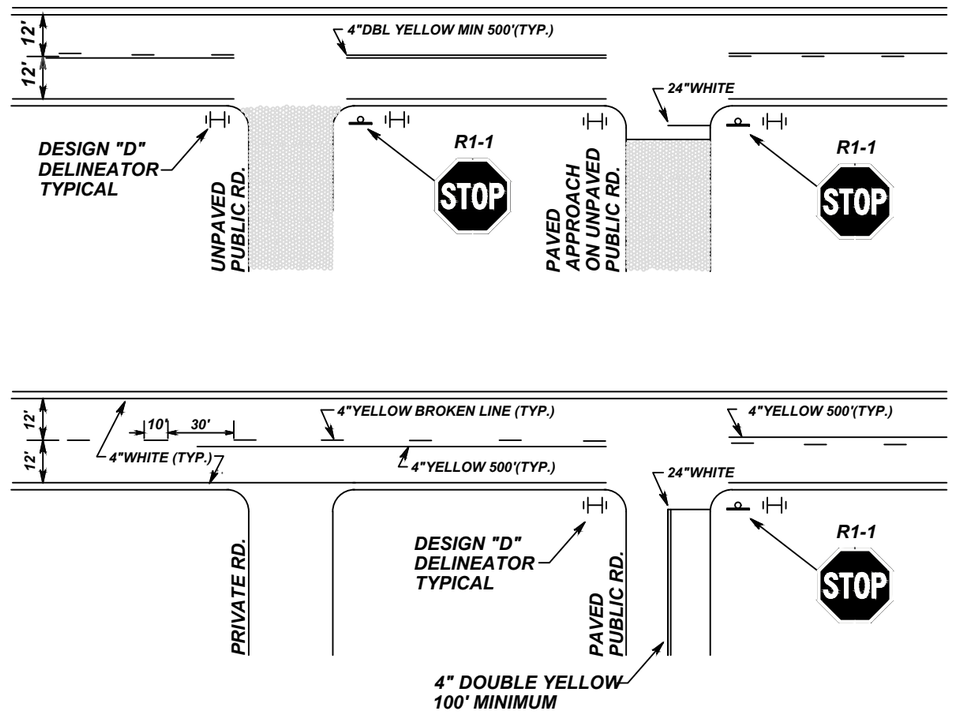
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TYPICAL RURAL CENTERLINE PAVEMENT MARKINGS AND RUMBLE STRIPS. SEE ROAD DESIGN PLANS FOR RUMBLE STRIP QUANTITY (IF USED)



TYPICAL RURAL PAVEMENT MARKINGS

NO SCALE



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

ALL PAVEMENT MARKINGS TO BE EPOXY UNLESS OTHERWISE SPECIFIED.

NOTES:

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

SHEET NO.
S4

DETAIL SHEET

PROJECT NAME WEST OF BROCKWAY - WEST
COUNTY MCCONE
PROJECT ID NH-HSIP 57-6(22)254
UPN 9727000

DESIGNED BY	DATE
S. WATSON	01/2025
REVIEWED BY	
CHECKED BY	1/2025
N. STYREN	9727000SIDET001.DWG

MONTANA Department of Transportation

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2134+00

2140+00

BOA 2134+00.00

BEGIN NH 57-6(22)254

2150+00

2160+00

Ref Stationing: 2154+08
Assembly Status:Replace
Sign Name:W14-3

Ref Stationing: 2159+00
Assembly Status:Replace
Sign Name:W14-3

Ref Stationing: 2161+61
Assembly Status:Replace
Sign Name:D10-3 (254)

SHEET NO.
S5

PLAN SHEET

PROJECT NAME
WEST OF BROCKWAY - WEST

COUNTY
MCCONE

PROJECT ID
NH-HSIP 57-6(22)254

UPN
9727000

DESIGNED BY
S. WATSON 01/2025

REVIEWED BY

CHECKED BY
N. STYREN 1/2025

9727000SIPLN001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

6/3/2025 3:57 PM

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

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2170+00

PC 2166+09.32

Ref Stationing: 2164+84
Assembly Status:Replace
Sign Name:W1-2R

RADIUS = 12000'
300', 400' DELINEATOR
SPACING

2180+00

PT 2178+46.18

Ref Stationing: 2179+72
Assembly Status:Replace
Sign Name: W1-2L

Ref Stationing: 2181+90
Assembly Status:Replace
Sign Name: W14-3

Ref Stationing: 2185+30
Assembly Status:Replace
Sign Name: W14-3

2190+00

SHEET NO.
S6

PLAN SHEET

PROJECT NAME **WEST OF BROCKWAY - WEST**
COUNTY **MCCONE**
PROJECT ID **NH-HSIP 57-6(22)254**
UPN **9727000**

DESIGNED BY		DRAWN BY		CHECKED BY	
S. WATSON	01/2025	REVIEWED BY		N. STYREN	1/2025

9727000SIPLN001.DWG

MONTANA
Department of Transportation

SIGNING PLANS

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AWARD COPY

2200+00

2210+00

2220+00

N

Ref Stationing: 2214+84
Assembly Status:Replace
Sign Name:D10-3 (255)

SHEET NO.
S7

PLAN SHEET

MONTANA
Department of Transportation

SIGNING PLANS

6/3/2025 3:57 PM

DESIGNED BY	S. WATSON 01/2025
REVIEWED BY	
CHECKED BY	N. STYREN 1/2025
PROJECT NAME	WEST OF BROCKWAY - WEST
COUNTY	MCCONE
PROJECT ID	NH-HSIP 57-6(22)254
UPN	9727000
	9727000SIPLN001.DWG

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

AWARD COPY

2230+00

2240+00

2250+00

N

N

SHEET NO.
S8

PLAN SHEET

PROJECT NAME
WEST OF BROCKWAY - WEST

COUNTY
MCCONE

PROJECT ID
NH-HSIP 57-6(22)254

UPN
9727000

DESIGNED BY
S. WATSON 01/2025

REVIEWED BY

CHECKED BY
N. STYREN 1/2025

MONTANA
Department of Transportation

SIGNING PLANS

6/3/2025 3:57 PM

9727000SIPLN001.DWG

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

AWARD COPY

2260+00

Ref Stationing: 2256+09
Assembly Status:Replace
Sign Name:W14-3

2270+00

Ref Stationing: 2272+67
Assembly Status:Replace
Sign Name:W14-3

2280+00

Ref Stationing: 2288+06
Assembly Status:Replace
Sign Name:D10-3 (256)

SHEET NO.
S9

PLAN SHEET

MONTANA
Department of Transportation

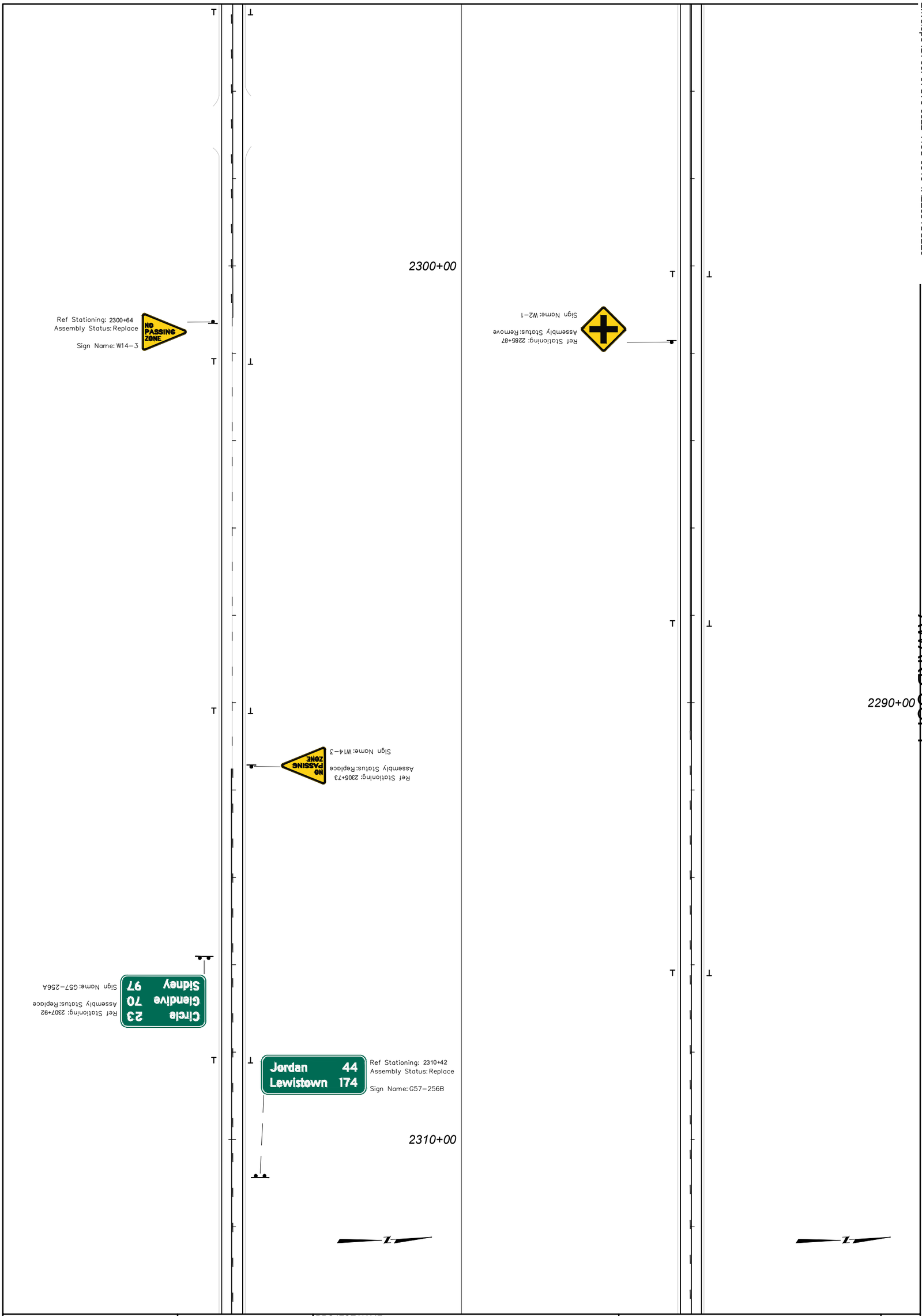
SIGNING PLANS

6/3/2025 3:57 PM

DESIGNED BY	S. WATSON 01/2025
REVIEWED BY	
CHECKED BY	N. STYREN 1/2025
PROJECT NAME	WEST OF BROCKWAY - WEST
COUNTY	MCCONE
PROJECT ID	NH-HSIP 57-6(22)254
UPN	9727000
	9727000SIPLN001.DWG

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

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MONTANA Department of Transportation	DESIGNED BY: S. WATSON 01/2025	PROJECT NAME: WEST OF BROCKWAY - WEST	PLAN SHEET
SIGNING PLANS	REVIEWED BY:	COUNTY: MCCONE	SHEET NO. S10
6/3/2025 3:57 PM	CHECKED BY: N. STYREN 1/2025	PROJECT ID: NH-HSIP 57-6(22)254	
9727000SIPLN001.DWG		UPN: 9727000	

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

AWARD COPY

2320+00

2330+00

2340+00



SHEET NO.
S11

PLAN SHEET

PROJECT NAME	**WEST OF BROCKWAY - WEST**
COUNTY	**MCCONE**
PROJECT ID	**NH-HSIP 57-6(22)254**
UPN	**9727000**

DESIGNED BY	S. WATSON	01/2025	
REVIEWED BY			
CHECKED BY	N. STYREN	1/2025	

MONTANA
Department of Transportation

SIGNING PLANS

6/3/2025 3:57 PM

9727000SIPLN001.DWG

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

AWARD COPY

2350+00

Ref Stationing: 2356+74
Assembly Status:Replace
Sign Name:W14-3

NO PASSING ZONE

2360+00

2370+00

SHEET NO.
S12

PLAN SHEET

PROJECT NAME	**WEST OF BROCKWAY - WEST**
COUNTY	**MCCONE**
PROJECT ID	**NH-HSIP 57-6(22)254**
UPN	**9727000**

DESIGNED BY		
S. WATSON	01/2025	
REVIEWED BY		
CHECKED BY		
N. STYREN	1/2025	

MONTANA
Department of Transportation

SIGNING PLANS

6/3/2025 3:57 PM

9727000SIPLN001.DWG

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

AWARD COPY

2380+00

2390+00

2400+00

Ref Stationing: 2374+55
Assembly Status:Replace
Sign Name:D10-3 (258)

SHEET NO.
S13

PLAN SHEET

PROJECT NAME	**WEST OF BROCKWAY - WEST**
COUNTY	**MCCONE**
PROJECT ID	**NH-HSIP 57-6(22)254**
UPN	**9727000**

DESIGNED BY	S. WATSON 01/2025
REVIEWED BY	
CHECKED BY	N. STYREN 1/2025

MONTANA
Department of Transportation

SIGNING PLANS

6/3/2025 3:57 PM

9727000SIPLN001.DWG

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

AWARD COPY

2410+00

Ref Stationing: 2415+30
Assembly Status:Replace
Sign Name:W14-3

NO PASSING ZONE

Ref Stationing: 2411+18
Assembly Status:Replace
Sign Name:W14-3

NO PASSING ZONE

2420+00

2430+00

Ref Stationing: 2427+77
Assembly Status:Replace
Sign Name:D10-3 (259)

MILE 259

SHEET NO.
S14

PLAN SHEET

MONTANA
Department of Transportation

SIGNING PLANS

DESIGNED BY	S. WATSON	01/2025	
REVIEWED BY			
CHECKED BY	N. STYREN	1/2025	

PROJECT NAME: **WEST OF BROCKWAY - WEST**
COUNTY: **MCCONE**
PROJECT ID: **NH-HSIP 57-6(22)254**
UPN: **9727000**

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2440+00

2450+00

2460+00

Ref Stationing: 2460+50
Assembly Status:Replace
Sign Name:W14-3

Ref Stationing: 2456+87
Assembly Status:Proposed
Sign Name:D3-1 (Logan Rd)
Sign Name:R1-1

Ref Stationing: 2457+55
Assembly Status:Proposed
Sign Name:D3-1 (Chalk Butte Rd)
Sign Name:R1-1

SHEET NO.
S15

PLAN SHEET

PROJECT NAME **WEST OF BROCKWAY - WEST**
COUNTY **MCCONE**
PROJECT ID **NH-HSIP 57-6(22)254**
UPN **9727000**

DESIGNED BY S. WATSON 01/2025
REVIEWED BY
CHECKED BY N. STYREN 1/2025

MONTANA
Department of Transportation

SIGNING PLANS

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2470+00

2480+00

2490+00

PC 2488+00.01

END NH 57-6(22)254

ROUGH NARROW ROAD
NEXT 2 MILES
Sign Name: W7-3a
Ref Stationing: 2478+24
Assembly Status: Replace

Sign Name: W99-1
Ref Stationing: 2478+24
Assembly Status: Replace

Sign Name: D10-3 (260)
Ref Stationing: 2478+48
Assembly Status: Replace

ROUGH NARROW ROAD
NEXT 30 MILES
Sign Name: W7-3a (30)
Sign Name: W99-1
Ref Stationing: 2478+24
Assembly Status: Remove

SHEET NO.
S16

PLAN SHEET

MONTANA
Department of Transportation

SIGNING PLANS

DESIGNED BY	S. WATSON	01/2025	
REVIEWED BY			
CHECKED BY	N. STYREN	1/2025	

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

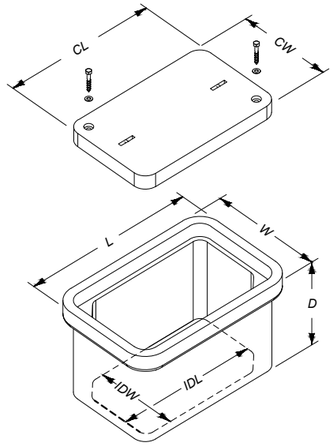
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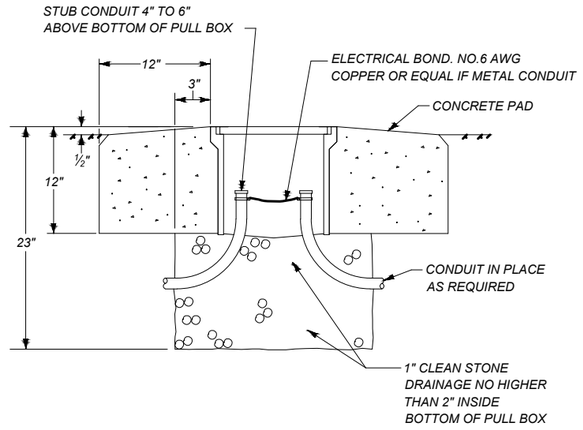
ELECTRICAL QUANTITY SUMMARY

ITEM NO.	MATERIAL	UNIT	TOTAL
616343920	CONDUIT-PLASTIC 2 IN	LNFT	68
616783007	PULL BOX-COMPOSITE TYPE 2	EACH	1
617123106	CONDUCTOR-COPPER AWG6-600V	LNFT	204
617123110	CONDUCTOR-COPPER AWG10-600V	LNFT	68
617333000	SERV ASSEMBLY-MODIFY	EACH	1
699010025	ROAD WEATHER INFORMATION SYSTEM (RWIS)	LS	1

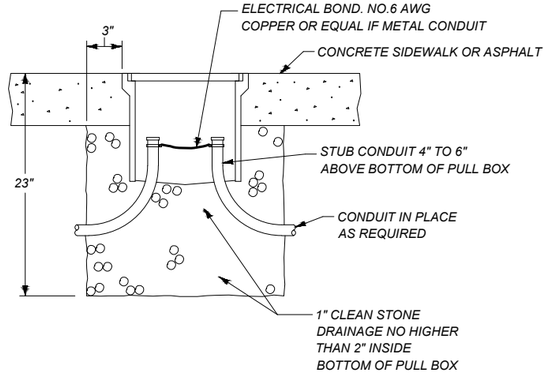


PULL BOX - COMPOSITE MINIMUM DIMENSIONS

TYPE 1		TYPE 2		TYPE 3	
L =	20"	L =	25"	L =	32"
W =	13"	W =	15"	W =	19"
D =	12"	D =	12"	D =	12"
IDL =	17"	IDL =	21"	IDL =	28"
IDW =	10"	IDW =	11"	IDW =	15"
CL =	18"	CL =	23"	CL =	30"
CW =	11"	CW =	13"	CW =	17"



PULL BOX INSTALLED IN DIRT



PULL BOX INSTALLED IN A SIDEWALK OR ASPHALT

PULL BOX-COMPOSITE

TYPE 1,2 & 3

NO SCALE

PB2

REVISED: 15-APR-2014

SHEET NO.
E01

ELECTRICAL PLANS

PROJECT NAME WEST OF BROCKWAY - WEST
COUNTY MCCONE
PROJECT ID NH-HSIP 57-6(22)254
UPN 9727000

DESIGNED BY	1/23/2025
BEN MOELLER	
REVIEWED BY	1/23/2025
JOE DEGROAT	
CHECKED BY	

MONTANA
Department of Transportation

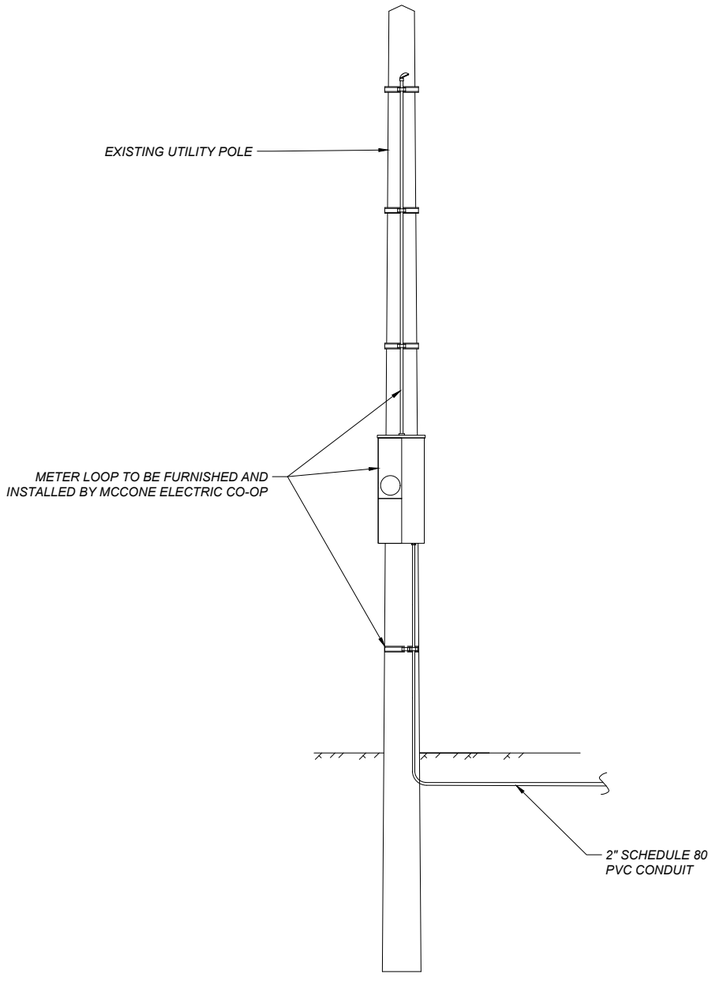
Electrical

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6/2/2025 7:43 AM

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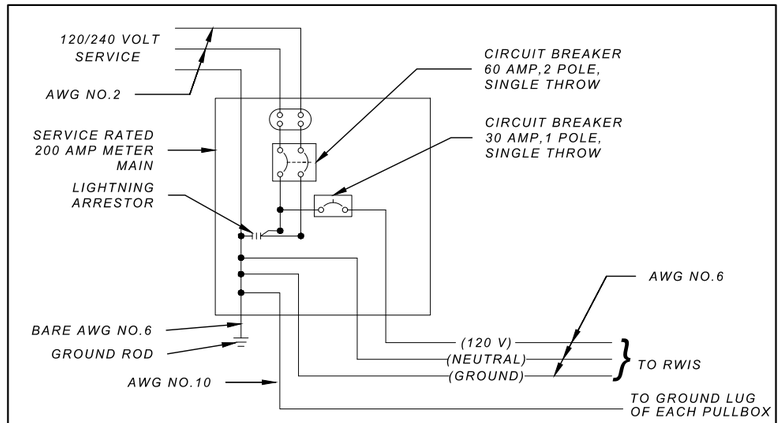
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SERVICE ASSEMBLY DETAIL

WOOD POLE

NO SCALE



RWIS SERVICE WIRING DIAGRAM

SHEET NO.

E02

ELECTRICAL PLANS

PROJECT NAME ***WEST OF BROCKWAY - WEST***

COUNTY ***MCCONE***

PROJECT ID ***NH-HSIP 57-6(22)254***

UPN ***9727000***

DESIGNED BY	*BEN MOELLER*	*1/23/2025*
REVIEWED BY	*JOE DEGROAT*	*1/23/2025*
CHECKED BY		

MONTANA *Department of Transportation*

ELECTRICAL

9727000ELMAP001.DWG

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AWARD COPY

JORDAN

BROCKWAY

PWR-OH

2288+60.00 RW 134.00'

2289+00.00 RW 124.00'

2290+00

2292+65.17 APPROX. RP 256.5

RWIS

Existing Right of Way

Construction Limits

New Right-of-Way

RW 2287+00.00 170.00'

RW 2295+00.00 170.00'

RW 2296+60.00 146.00'

N

SHEET NO.
E03

ELECTRICAL PLANS

PROJECT NAME **WEST OF BROCKWAY - WEST**
COUNTY **MCCONE**
PROJECT ID **NH-HSIP 57-6(22)254**
UPN **9727000**

DESIGNED BY	BEN MOELLER	1/23/2025
REVIEWED BY	JOE DEGROAT	1/23/2025
CHECKED BY		

MONTANA
Department of Transportation

ELECTRICAL

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CONDUIT AND WIRE SCHEDULE	
A	NEW 1 OF 2" PLASTIC CONDUIT
	NEW 3 OF AWG NO. 6 CONDUCTOR (RWIS)
	NEW 1 OF AWG NO. 10 CONDUCTOR (GROUND)

PWR-OH PWR-OH PWR-OH PWR-OH PWR-OH PWR-OH PWR-OH PWR-OH

RWIS

A

METER LOOP TO BE INSTALLED BY MCCONE ELECTRIC COOP CONTACT FOR INSTALLATION. FINAL LOCATION TO BE DETERMINED IN THE FIELD.

PB

NEW ROAD WEATHER INFORMATION SYSTEM (RWIS)FINAL LOCATION TO BE DETERMINED IN THE FIELD.

NEW TYPE 2 PULL BOX TO BE INSTALLED NEAR FINAL RWIS LOCATION.

RWIS LOCATION (APPROXIMATE)			
STATION	OFFSET	NORTHING	EASTING
2292+65.17	175	1139043.2	2835105.2

SHEET NO.
E04

ELECTRICAL PLANS

PROJECT NAME: WEST OF BROCKWAY - WEST
COUNTY: MCCONE
PROJECT ID: NH-HSIP 57-6(22)254
UPN: 9727000

DESIGNED BY	1/23/2025	BEN MOELLER
REVIEWED BY	1/23/2025	JOE DEGROAT
CHECKED BY		

MONTANA Department of Transportation

ELECTRICAL

6/2/2025 7:43 AM

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ASSOCIATED PROJECT AGREEMENT NUMBERS	
P.E.	NH 57-6(21)254

MONTANA DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS AND QUANTITIES

FEDERAL AID PROJECT NH-HSIP 57-6(22)254

WEST OF BROCKWAY-WEST

MCCONE COUNTY

BRIDGE IDENTIFICATION		
MDT STR ID	EXISTING NBI NUMBER	NEW NBI NUMBER
06037	P00057255+03001	000000202506037

Signed by: Andin Cullison
BY 49429C814AE44D1...
DATE 12/10/2025

MONTANA
ANDIN CULLISON
39000 PE
LICENSED PROFESSIONAL ENGINEER

SCALES SHOWN ON BRIDGE PLANS SHEETS ARE FOR HALF SIZE (11X17) PRINTS
FULL SIZE PRINTS ARE APPROXIMATELY TWICE ORIGINAL SCALE

LIST OF DRAWINGS

SHEET NO.	DWG. NO.	TITLE
B1	21076	LIST OF DRAWINGS AND ESTIMATED BRIDGE PLAN QUANTITIES
B2	21077	STRUCTURAL NOTES AND SPECIFICATIONS
B3	21078	GENERAL LAYOUT
B4	21079	FOOTING PLAN
B5	21080	BENT NO. 1
B6	21081	BENT NO. 1 DETAILS
B7	21082	BENT NO. 1 BILL OF REINFORCING STEEL
B8	21083	BENT NO. 2
B9	21084	BENT NO. 2 DETAILS
B10	21085	BENT NO. 2 BILL OF REINFORCING STEEL
B11	21086	CURB END DETAILS
B12	21087	ERECTION PLAN
B13	21088	SLAB DETAILS
B14	21089	TRANSVERSE SECTION
B15	21090	SLAB BILL OF REINFORCING STEEL
B16	21091	BEAM END DETAILS
B17	21092	BRIDGE RAIL TYPE OPEN RAIL 42 INCH - SHEET 1
B18	21093	BRIDGE RAIL TYPE OPEN RAIL 42 INCH - SHEET 2
B19	21094	BRIDGE RAIL TYPE OPEN RAIL 42 INCH - SHEET 3
B20	21095	PILE SPLICE DETAILS AND PILE TIPS

LIST OF STANDARD DRAWINGS

DWG NO.	DATE	TITLE
MTS	REVISED 5-20-14	STANDARD PRESTRESSED CONCRETE BEAM TYPE MTS
SL-8	REVISED 3-15-17	STANDARD SLAB AND DIAPHRAGM DETAILS

MDT STRUCTURE ID NUMBER	ROUTE	FEATURE INTERSECTED	REFERENCE POINT	LOCATION	CONCRETE - CLASS STRUCTURE (YD³)	CONCRETE - CLASS STRUCTURE LOW SLUMP (YD³)	TRANSVERSE DECK GROOVING (YD²)	PRESTRESSED BEAM - TYPE MTS-72 (LN.FT.)	REINFORCING STEEL (LB.)	REINFORCING STEEL-EPOXY COATED (LB.)	42 IN OPEN RAIL-BR-CSC (LN.FT.)	RE-DRIVE TEST PILE (EACH)	DYNAMIC LOAD TEST (EACH)	FURN STEEL PILE-PIPE (LB.)	DRIVE STEEL PILE (LN.FT.)	PILE CUTTING SHOE (EACH)
06037	MT-200	SODA CREEK	255.3	BENT NO. 1	43.4				4044.4	977.6		1	1	13956.8	127.5	4
				BENT NO. 2	43.6				4098.7	895.2		1	1	16536.0	152.3	4
				SUPERSTRUCTURE	11.7	152.9	527.6	548.0		35941.1	279.9					
				TOTAL	98.7	152.9	527.6	548.0	8143.1	37813.9	279.9	2	2	30492.8	279.8	8

SHEET NO. B1

LIST OF DRAWINGS AND ESTIMATED BRIDGE PLAN QUANTITIES

REVISED	REVISED	REVISED	REVISED	CHECKED	8-20-25
				DRAWN	12-18-24
				DESIGNED	12-12-24

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MONTANA Department of Transportation
BRIDGE BUREAU

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UPN NUMBER 9727000

DRAWING NO. 21076

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GENERAL NOTES:

Finished Grade at centerline roadway is the same as the Profile Grade shown on the Road Plans.

The current version of the Standard and Supplemental Specifications for Road and Bridge Construction, adopted by the Montana Department of Transportation, applies.

The design was prepared in accordance with AASHTO LRFD Bridge Design Specifications, ninth edition - 2020, with standard HL-93 loading.

Include structure excavation in the unit price bid for Concrete - Class Structure.

See Special Provisions and/or Standard Specifications for Traffic Control and Sequence of Operations.

Remove the existing structure (See Road Plan sheets and Special Provisions).

Stations and coordinates shown on the bridge plans are Montana State Plane Grid based on NAD83-2011.

Elevations shown on the bridge plans are NAVD88 Elevations. See Road Plans for additional Elevation Datum information.

Dimensions shown on the bridge plans are horizontal ground distances and not Montana State Plane Grid distances. The combination scale factor (CSF) at this location is 0.99928388

Horizontal ground distance x CSF = Grid Distance
Grid Distance / CSF = Horizontal ground distance (Distance to stake)

FOUNDATION NOTES:

The Footing Plan shows points where the State of Montana, Department of Transportation drilled boreholes.

See the Special Provisions for boring logs and subsurface information.

Contact the MDT Geotechnical Section at (406)444-6281 if pile tip elevations deviate more than 1 foot from the elevation indicated.

If the project manager requires a re-drive of the test pile or service pile, re-drive the pile in accordance with Section 559.

See Sheet No.B20 for pile splice and pile tip weld details.

REINFORCING STEEL NOTES:

Use new deformed type reinforcing steel meeting the requirements of AASHTO M 31 Grade 60. Include all costs associated with furnishing and placing new reinforcing steel in the unit price bid for either Reinforcing Steel or Reinforcing Steel - Epoxy Coated.

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 2 ½"
Bottom of Abutment Caps 3"
Concrete Barriers and Curbs 1 ½"

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

Ensure reinforcing steel does not interfere with anchorage placement.

The suffix E denotes epoxy coated reinforcing steel.

CONCRETE NOTES:

Unless otherwise approved or specified, use Concrete - Class Structure for all substructure concrete and Concrete - Class Structure Low Slump for all superstructure concrete.

Use f'c=4000 p.s.i. for Concrete - Class Structure. Use f'c=4000 p.s.i. for Concrete - Class Structure Low Slump.

Forming straight across the underside of the bay containing the crown break will be permitted. Pay quantities are based on the section shown. Any additional concrete is not paid for.

ABUTMENT NOTES:

Include all costs associated with furnishing and placing the expansion joint filler, tarpaper and neoprene waterstop in the unit price bid for Concrete - Class Structure.

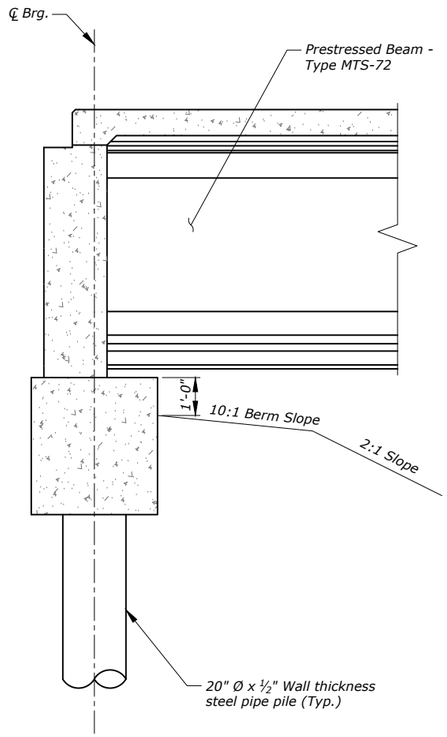
Securely nail expansion joint filler to pile cap concrete and hold in proper position while placing backwall concrete.

Finish beam seats level to the elevations shown on Sheet Nos. B5 & B8.

Slope areas between beam seats as shown on Sheet Nos. B5 & B8.

ABBREVIATIONS

N.F.	Near Face
F.F.	Fill Face
E.F.	Each Face
Brg.	Bearing
CL	Centerline



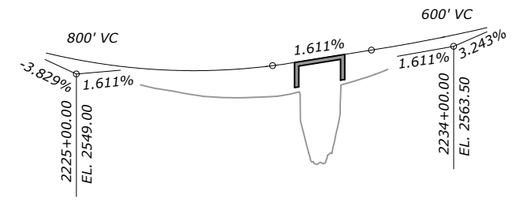
A / B3 **Section**
Scale: 1/4" = 1'-0"

REBAR LAP LENGTHS			
BAR DIAMETER	PLAIN	EPOXY (E)	SEISMIC (W)
#3	1'-10"	2'-3"	1'-10"
#4	2'-5"	2'-11"	2'-5"
#5	3'-0"	3'-8"	3'-0"
#6	3'-7"	4'-5"	3'-7"
#7	4'-6"	5'-6"	4'-6"
#8	5'-11"	7'-2"	5'-11"
#9	7'-6"	9'-1"	7'-6"
#10	9'-6"	11'-6"	9'-6"
#11	11'-8"	14'-2"	11'-8"
#14	Mechanical Splice Only	Mechanical Splice Only	Mechanical Splice Only
#18	Mechanical Splice Only	Mechanical Splice Only	Mechanical Splice Only

4" Additional length per lap splice has been provided for the construction tolerances for all slab and curb reinforcing steel.

HYDRAULIC DATA	
Drift:	None
Ice:	Light
Low Scour Elevation (Q500)	2530.78'
Drainage Area:	4.90 sq. mi.
Q2 Elevation:	2537.57'
Q100 Flow:	1298 cfs
Q100 Elevation:	2539.52'
Q100 Velocity:	8.54 fps
Actual Low Beam Elevation:	2548.44
Allowable Low Beam Elevation:	2540.52'

Also see Road Plans Hydraulic Data Summary sheet.
Q100 Elevation includes backwater.



PROFILE GRADE
No Scale

SHEET NO. B2

STRUCTURAL NOTES AND SPECIFICATIONS

SCALE: As Shown

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

	REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED
					D.C.M.	D.G.G.	J.E.S.
					8-20-25	12-18-24	12-12-24

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MONTANA Department of Transportation — BRIDGE BUREAU

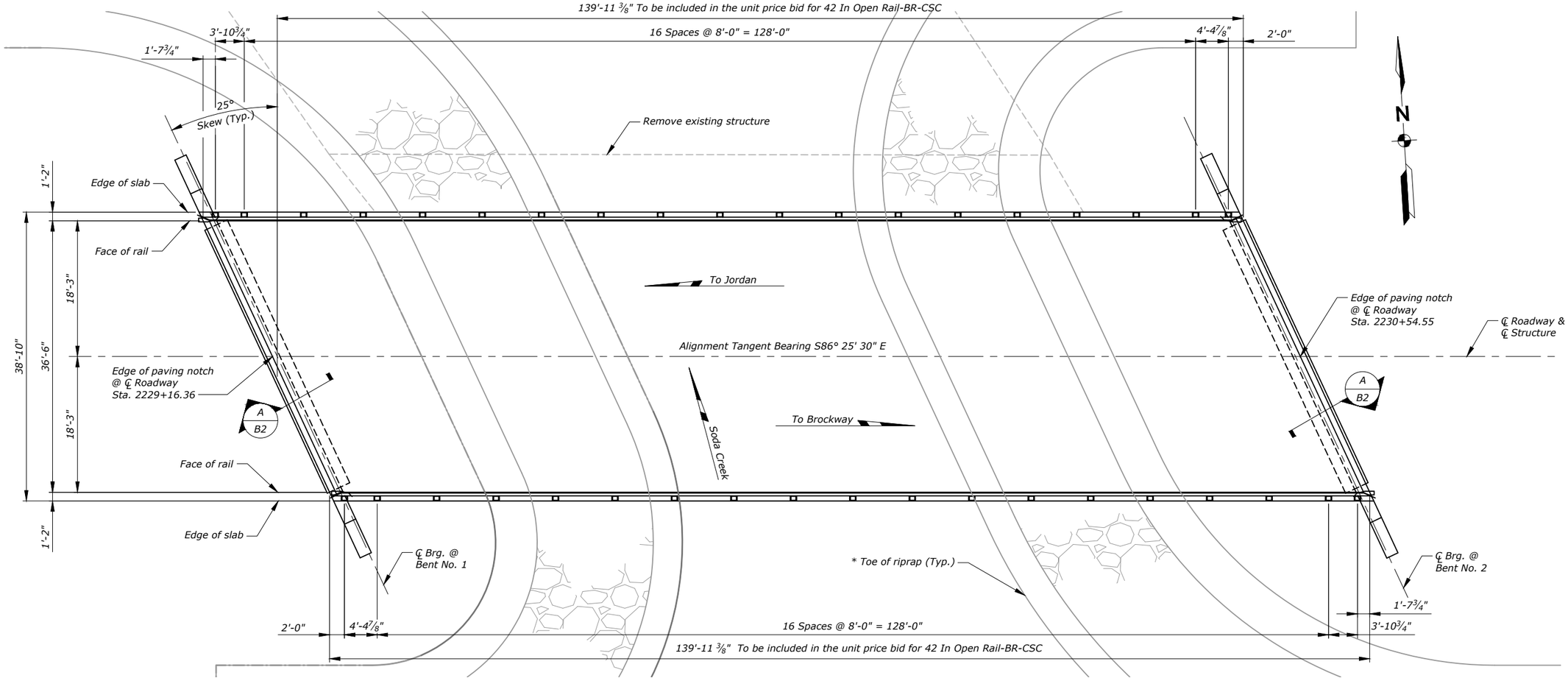
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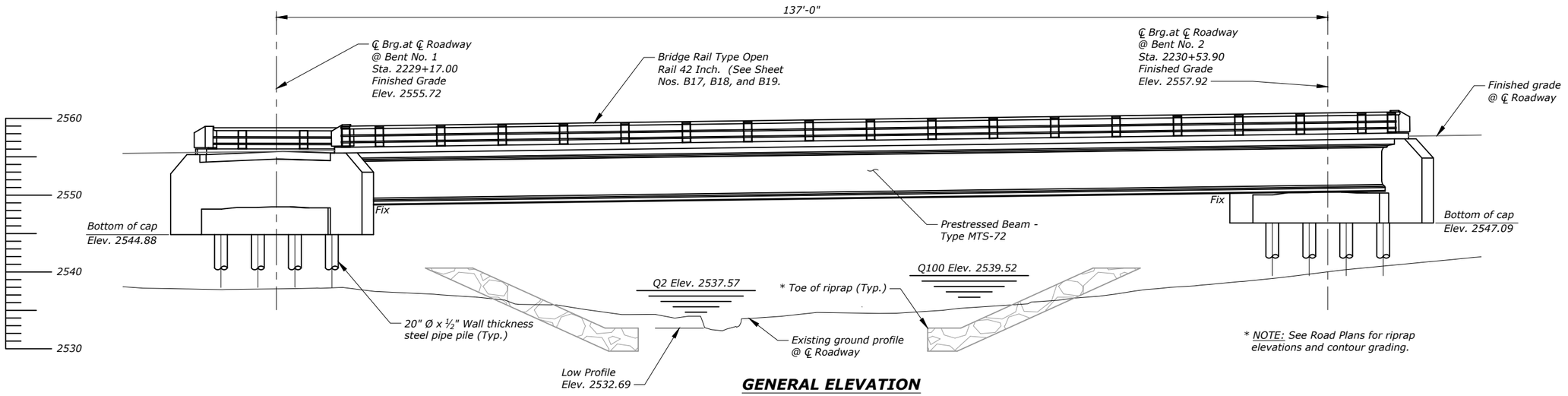
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GENERAL PLAN



GENERAL ELEVATION

SHEET NO. B3

GENERAL LAYOUT

SCALE: 1" = 15'-0"

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

	REVISED	REVISED	REVISED	CHECKED	D.C.M.	8-20-25
				DRAWN	D.G.G.	12-18-24
				DESIGNED	J.E.S.	12-12-24

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MONTANA Department of Transportation — BRIDGE BUREAU

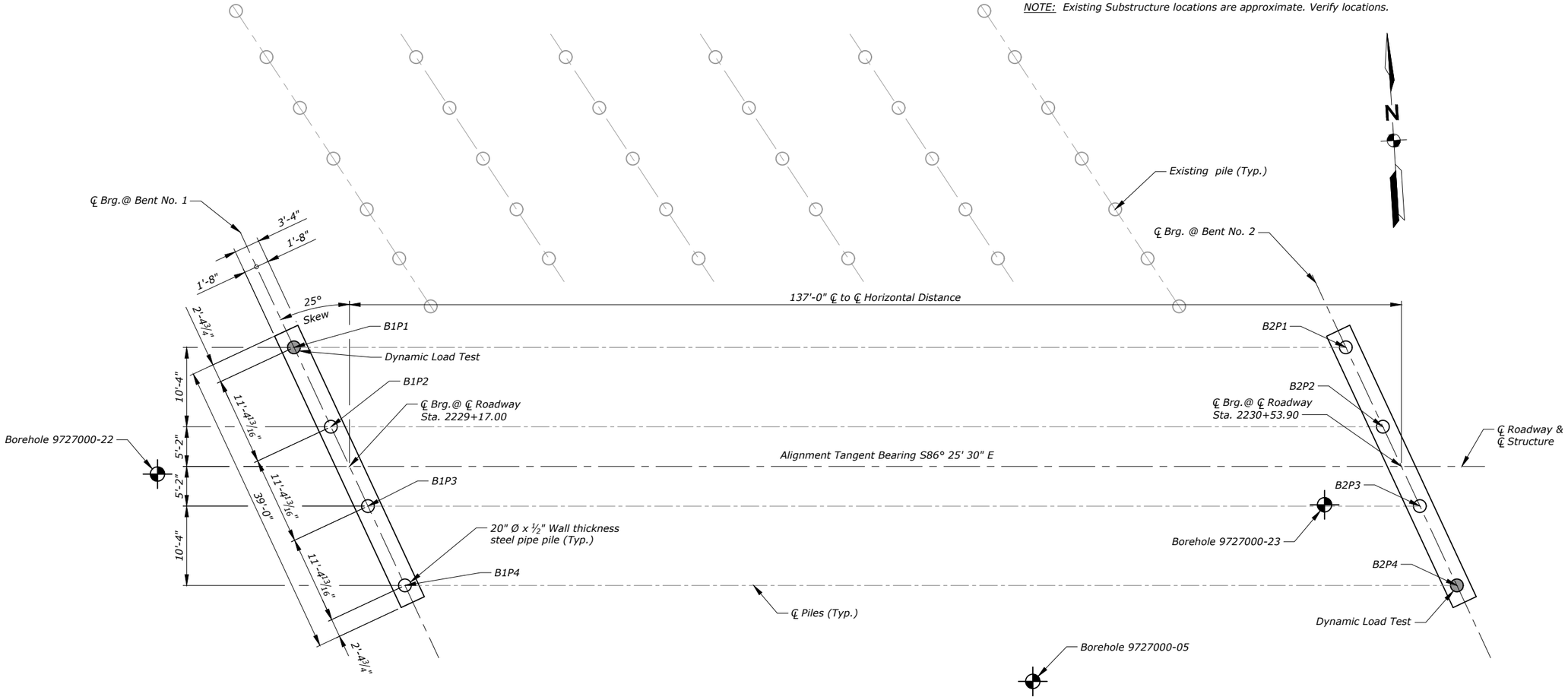
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UPN NUMBER 9727000

DRAWING NO. 21078

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NOTE: Dimensions shown for Bent No. 1 are typical for Bent No. 2.

FOOTING PLAN

PILE INFORMATION

LOCATION	DESIGN PILE TIP ELEVATION (ft.)	MAXIMUM PILE CUT-OFF ELEVATION (ft.)	PILE TIP TREATMENT	REQUIRED BEARING RESISTANCE DURING DRIVING (KIP)	MAXIMUM PILE REACTION SERVICE I (KIP)
BENT NO. 1	2513	2546.55	Cutting Shoe	715	330
BENT NO. 2	2509	2548.75	Cutting Shoe	715	330

COORDINATE TABLE

POINT NAME	N OR Y COORDINATE	E OR X COORDINATE	DESCRIPTION
B1P1	1139589.687	2828771.578	BENT 1 LT EXTERIOR PILE
B1P2	1139579.081	2828775.739	BENT 1 LT INTERIOR PILE
B1P3	1139568.475	2828779.901	BENT 1 RT INTERIOR PILE
B1P4	1139557.869	2828784.063	BENT 1 RT EXTERIOR PILE
B2P1	1139581.150	2828908.211	BENT 2 LT EXTERIOR PILE
B2P2	1139570.544	2828912.373	BENT 2 LT INTERIOR PILE
B2P3	1139559.938	2828916.535	BENT 2 RT INTERIOR PILE
B2P4	1139549.332	2828920.697	BENT 2 RT EXTERIOR PILE

NOTE: All pile coordinates are at center of pile.

SHEET NO. B4

FOOTING PLAN

SCALE: 1" = 15'-0"

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

REVISED	CHECKED	D.C.M. 8-20-25
REVISED	DRAWN	D.G.G. 12-18-24
REVISED	DESIGNED	I.E.S. 12-21-24

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MONTANA Department of Transportation — BRIDGE BUREAU

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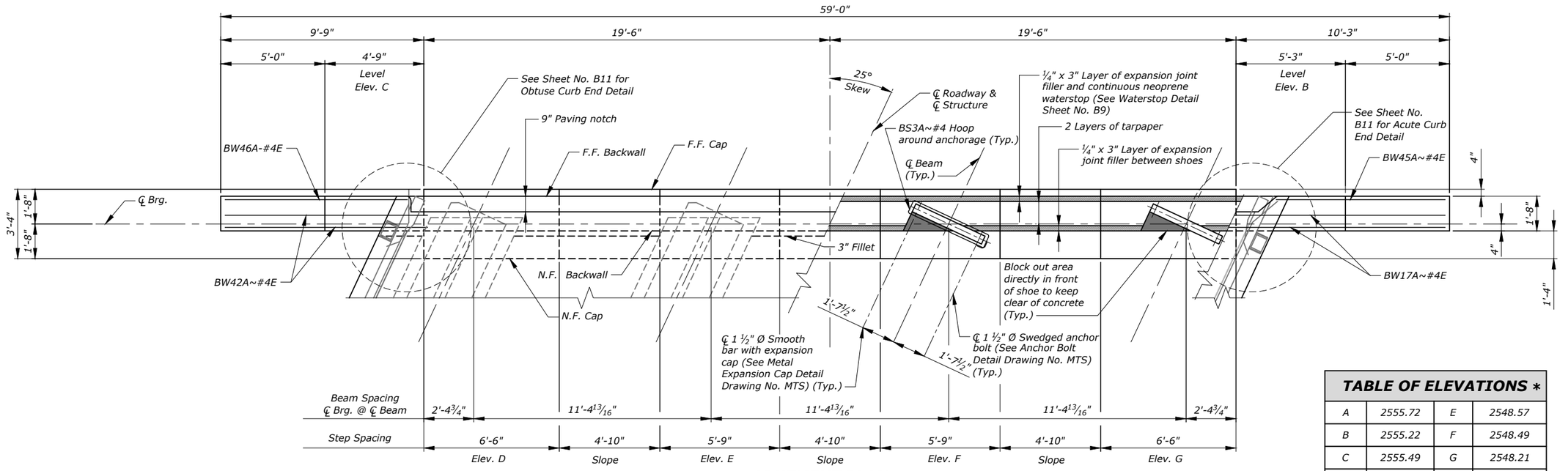


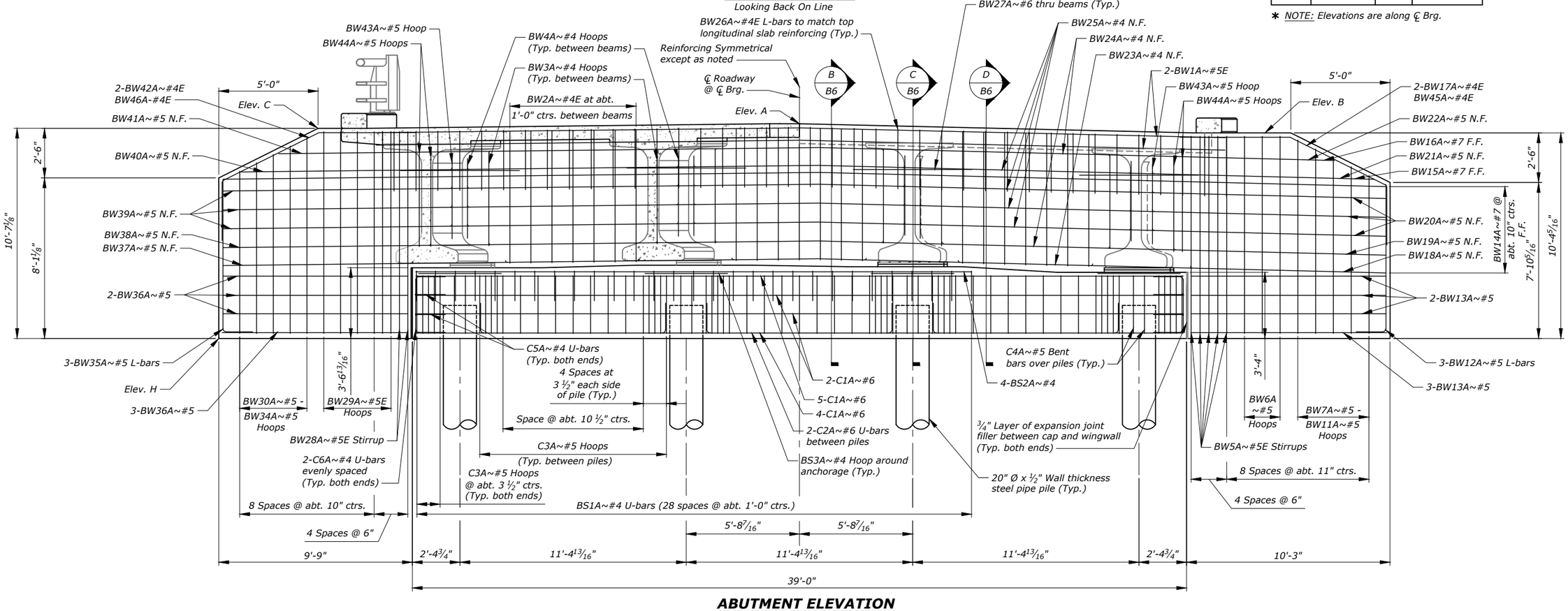
TABLE OF ELEVATIONS *

A	2555.72	E	2548.57
B	2555.22	F	2548.49
C	2555.49	G	2548.21
D	2548.44	H	2544.88

* NOTE: Elevations are along ℄ Brg.

ABUTMENT PLAN

Looking Back On Line



ABUTMENT ELEVATION

Looking Back On Line

SHEET NO. B5

BENT NO. 1

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

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

REVISED	REVISED	REVISED	REVISED	CHECKED	D.C.M.	8-20-25
				DRAWN	D.G.G.	12-18-24
				DESIGNED	J.E.S.	12-21-24

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MONTANA Department of Transportation — BRIDGE BUREAU

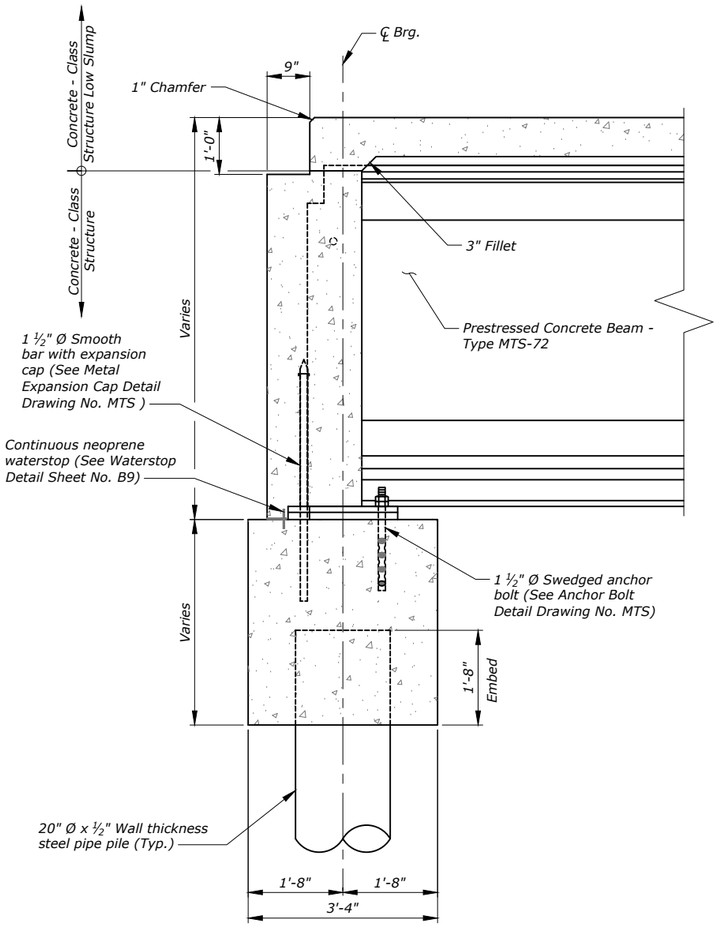
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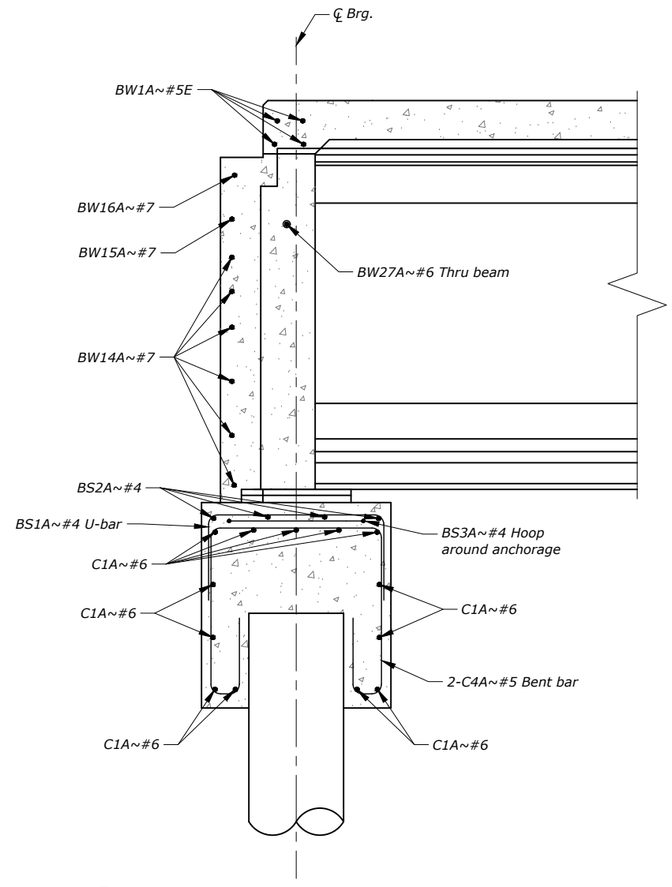
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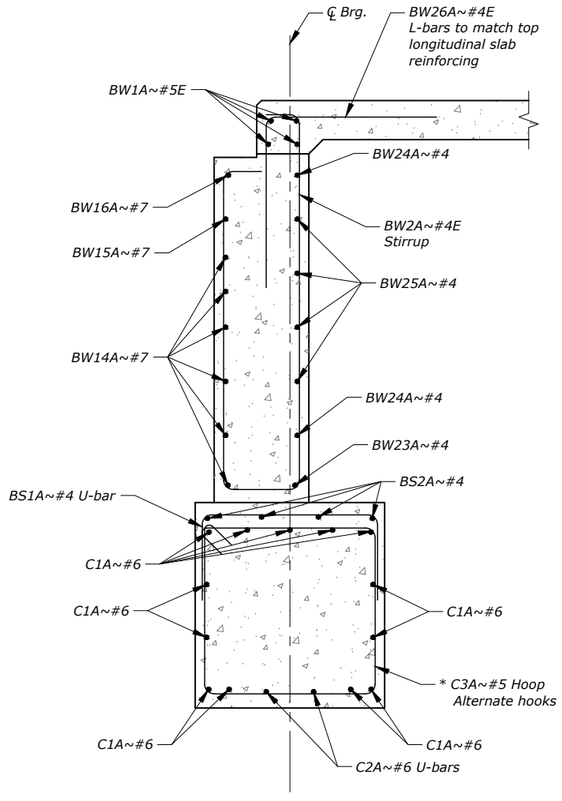
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B / B5 **ABUTMENT SECTION**
Scale: 3/8" = 1'-0"



C / B5 **ABUTMENT REINFORCING AT PILES**
Scale: 3/8" = 1'-0"



D / B5 **ABUTMENT REINFORCING BETWEEN PILES**
Scale: 3/8" = 1'-0"

* NOTE: Alternate the orientation of the Type T1 bars such that the end hooks are not located at the same corner on two consecutive hoops.

SHEET NO. B6

BENT NO. 1 DETAILS

SCALE: As Shown

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

REVISED	D.C.M.	8-20-25
REVISED	D.G.G.	12-18-24
REVISED	J.E.S.	12-21-24
REVISED	CHECKED	
	DRAWN	
	DESIGNED	

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MONTANA Department of Transportation

BRIDGE BUREAU

9/24/2025 8:26:14 AM

UPN NUMBER 9727000

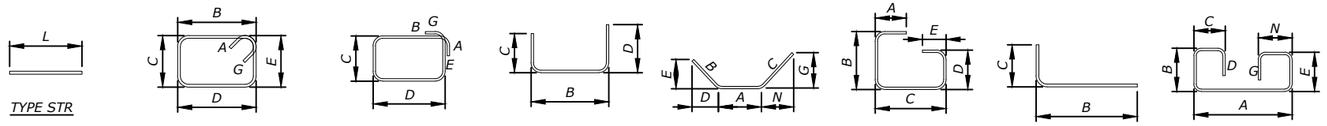
DRAWING NO. 21081

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0

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BILL OF REINFORCING STEEL

(ALL DIMENSIONS ARE OUT TO OUT)



TYPE STR | TYPE T1 | TYPE T2 | TYPE 17 | TYPE 29 | TYPE 30 | TYPE 37 | TYPE 394

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
C1A	#6	13	STR	38'-8"							
C2A	#6	6	17	12'-5"		9'-5"	1'-6"	1'-6"			
C3A	#5	61	T1	12'-9"	0'-5 ½"	3'-0"	2'-11"	3'-0"	2'-11"	0'-5 ½"	
C4A	#5	8	394	12'-6"	3'-0"	2'-11"	0'-6"	1'-4"	2'-11"	1'-4"	0'-6"
C5A	#4	4	17	5'-11"		2'-11"	1'-6"	1'-6"			
C6A	#4	4	17	5'-9 ½"		2'-9 ½"	1'-6"	1'-6"			
BS1A	#4	29	17	6'-0"		3'-0"	1'-6"	1'-6"			
BS2A	#4	4	STR	28'-0"							
BS3A	#4	4	T2	10'-1"	0'-4 ½"	4'-0"	0'-8"	4'-0"	0'-8"	0'-4 ½"	
BW1A	#5E	4	STR	42'-4"							
BW2A	#4E	21	30	14'-9"	0'-7"	6'-7"	1'-4"	5'-7"	0'-8"		
BW3A	#4	6	T1	12'-9"	0'-4 ½"	1'-4"	4'-8"	1'-4"	4'-8"	0'-4 ½"	
BW4A	#4	6	T1	11'-5"	0'-4 ½"	1'-4"	4'-0"	1'-4"	4'-0"	0'-4 ½"	
BW5A	#5E	5	30	21'-5"	0'-7"	9'-11"	1'-4"	8'-11"	0'-8"		
BW6A	#5	3	T1	23'-5"	0'-5 ½"	1'-4"	9'-11"	1'-4"	9'-11"	0'-5 ½"	
BW7A	#5	1	T1	23'-1"	0'-5 ½"	1'-4"	9'-9"	1'-4"	9'-9"	0'-5 ½"	
BW8A	#5	1	T1	22'-3"	0'-5 ½"	1'-4"	9'-4"	1'-4"	9'-4"	0'-5 ½"	
BW9A	#5	1	T1	21'-3"	0'-5 ½"	1'-4"	8'-10"	1'-4"	8'-10"	0'-5 ½"	
BW10A	#5	1	T1	20'-5"	0'-5 ½"	1'-4"	8'-5"	1'-4"	8'-5"	0'-5 ½"	
BW11A	#5	1	T1	19'-5"	0'-5 ½"	1'-4"	7'-11"	1'-4"	7'-11"	0'-5 ½"	
BW12A	#5	3	37	8'-11"		7'-5"	1'-6"				
BW13A	#5	9	STR	9'-10"							
BW14A	#7	12	STR	31'-7"							
BW15A	#7	2	STR	30'-10"							
BW16A	#7	2	STR	28'-10"							
BW17A	#4E	2	29	13'-11 ½"	5'-5"	3'-0"	5'-6 ½"	1'-4"	2'-8"	2'-5"	4'-11 ½"

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
BW18A	#5	1	STR	10'-9"							
BW19A	#5	1	STR	11'-3"							
BW20A	#5	3	STR	11'-9"							
BW21A	#5	1	STR	11'-2"							
BW22A	#5	1	STR	8'-0"							
BW23A	#4	3	STR	7'-10"							
BW24A	#4	6	STR	9'-3"							
BW25A	#4	12	STR	10'-5"							
BW26A	#4E	39	37	6'-0"		3'-0"	3'-0"				
BW27A	#6	4	STR	6'-0"							
BW28A	#5E	2	30	21'-10"	0'-7"	10'-1 ½"	1'-4"	9'-1 ½"	0'-8"		
BW29A	#5E	6	T1	23'-10"	0'-5 ½"	1'-4"	10'-1 ½"	1'-4"	10'-1 ½"	0'-5 ½"	
BW30A	#5	1	T1	23'-3"	0'-5 ½"	1'-4"	9'-10"	1'-4"	9'-10"	0'-5 ½"	
BW31A	#5	1	T1	22'-5"	0'-5 ½"	1'-4"	9'-5"	1'-4"	9'-5"	0'-5 ½"	
BW32A	#5	1	T1	21'-7"	0'-5 ½"	1'-4"	9'-0"	1'-4"	9'-0"	0'-5 ½"	
BW33A	#5	1	T1	20'-9"	0'-5 ½"	1'-4"	8'-7"	1'-4"	8'-7"	0'-5 ½"	
BW34A	#5	1	T1	19'-11"	0'-5 ½"	1'-4"	8'-2"	1'-4"	8'-2"	0'-5 ½"	
BW35A	#5	3	37	9'-1"		7'-7 "	1'-6"				
BW36A	#5	9	STR	9'-4"							
BW37A	#5	1	STR	10'-0"							
BW38A	#5	1	STR	10'-8"							
BW39A	#5	3	STR	11'-5"							
BW40A	#5	1	STR	9'-2"							
BW41A	#5	1	STR	7'-0"							
BW42A	#4E	2	29	13'-4"	5'-5"	4'-11"	3'-0"	4'-4 ½"	2'-2"	2'-8"	1'-4"
BW43A	#5	2	T1	11'-7"	0'-5 ½"	1'-4"	4'-0"	1'-4"	4'-0"	0'-5 ½"	
BW44A	#5	4	T1	12'-11"	0'-5 ½"	1'-4"	4'-8"	1'-4"	4'-8"	0'-5 ½"	
BW45A	#4E	1	29	11'-9"	5'-5"	3'-0"	3'-4"	1'-5 ½"	2'-11 ½"	1'-4"	2'-8"
BW46A	#4E	1	29	12'-4"	5'-5"	3'-11"	3'-0"	3'-6"	· 1'-9"	2'-8"	1'-4"

SHEET NO. B7

BENT NO. 1 BILL OF REINFORCING STEEL

SCALE: No Scale

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

	REVISED	REVISED	REVISED	REVISED	CHECKED	D.C.M.	8-20-25
					DRAWN	D.G.G.	12-18-24
					DESIGNED	J.E.S.	12-21-24

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MONTANA Department of Transportation — BRIDGE BUREAU

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UPN NUMBER 9727000

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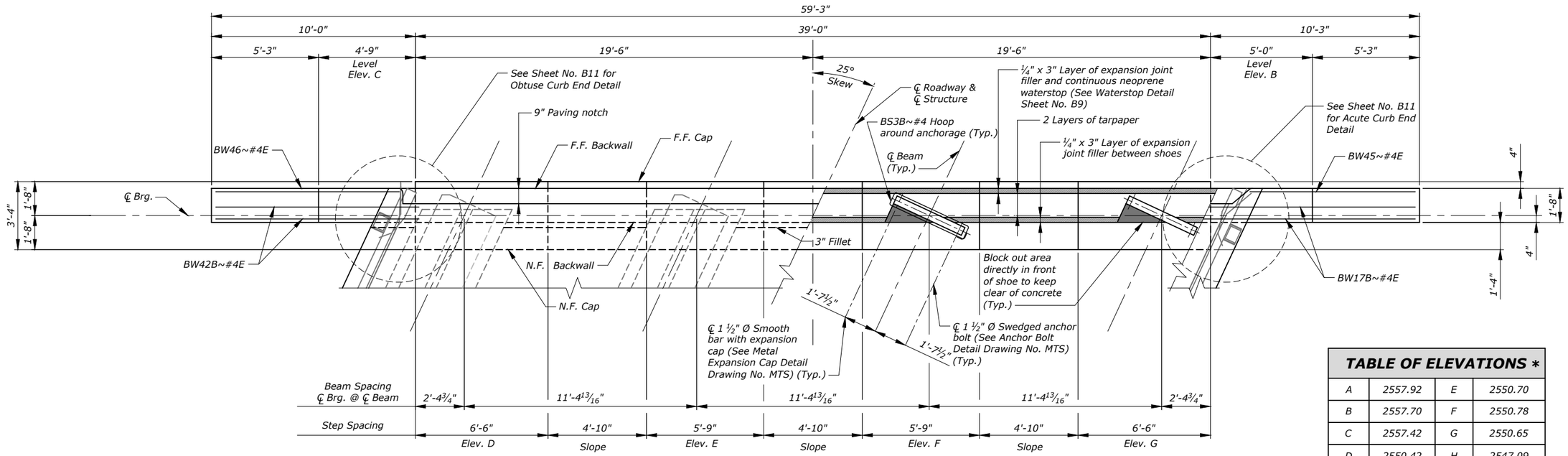
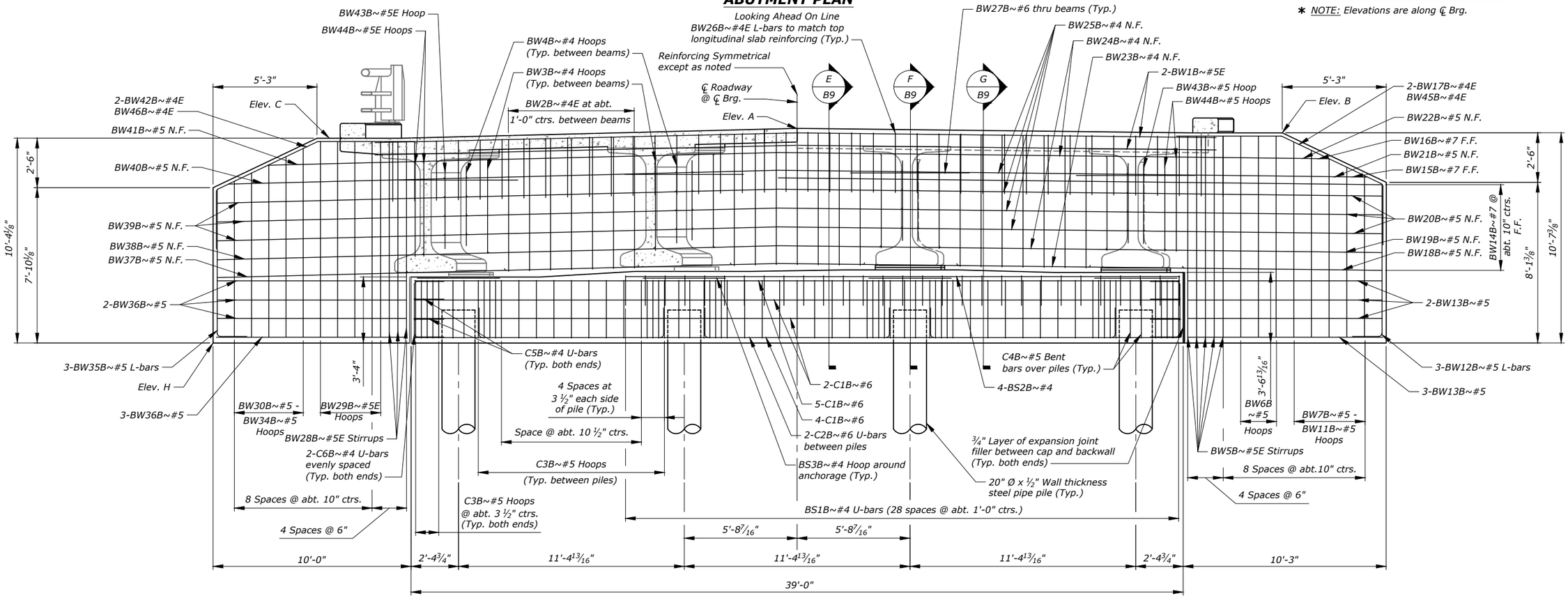


TABLE OF ELEVATIONS *			
A	2557.92	E	2550.70
B	2557.70	F	2550.78
C	2557.42	G	2550.65
D	2550.42	H	2547.09

* NOTE: Elevations are along ℄ Brg.

ABUTMENT PLAN



ABUTMENT ELEVATION

Looking Ahead On Line

SHEET NO. B8

BENT NO. 2

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

BRIDGE OVER **SODA CREEK**

AT STA. **2229+84.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

REVISED	D.C.M.	8-20-25
REVISED	D.G.G.	12-18-24
REVISED	J.E.S.	12-21-24
CHECKED		
DRAWN		
DESIGNED		

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MONTANA Department of Transportation — BRIDGE BUREAU

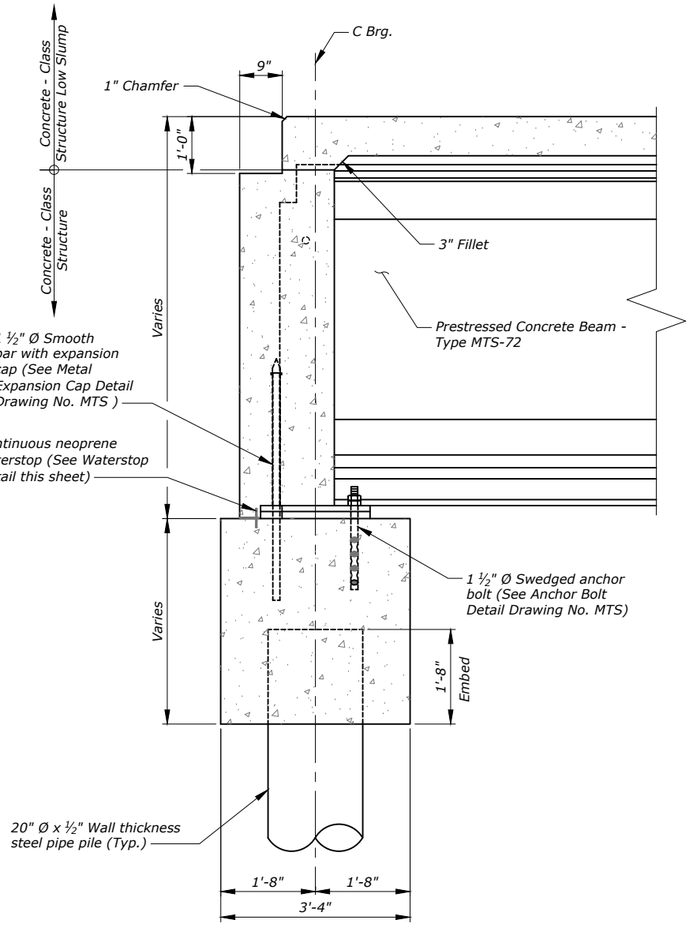
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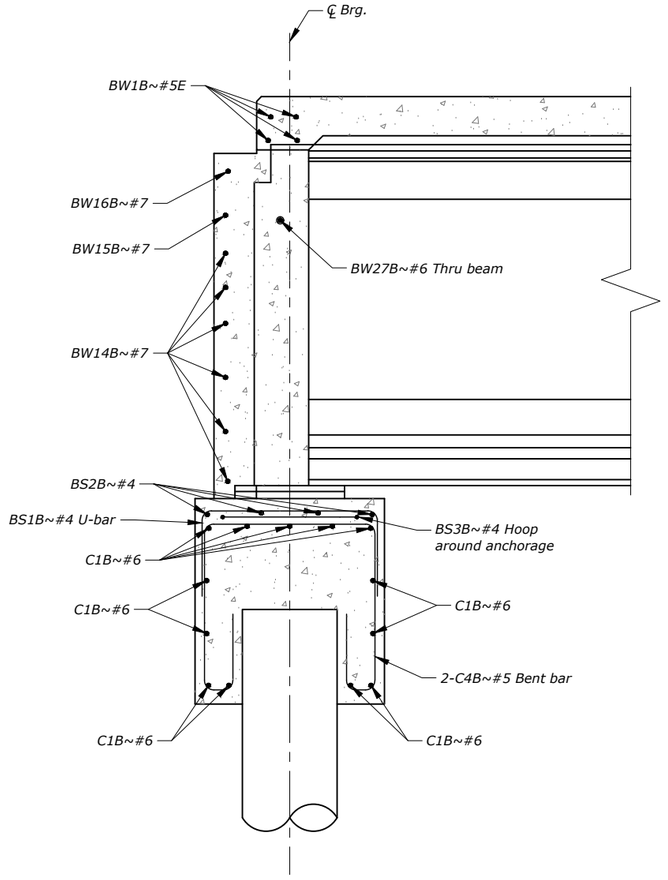
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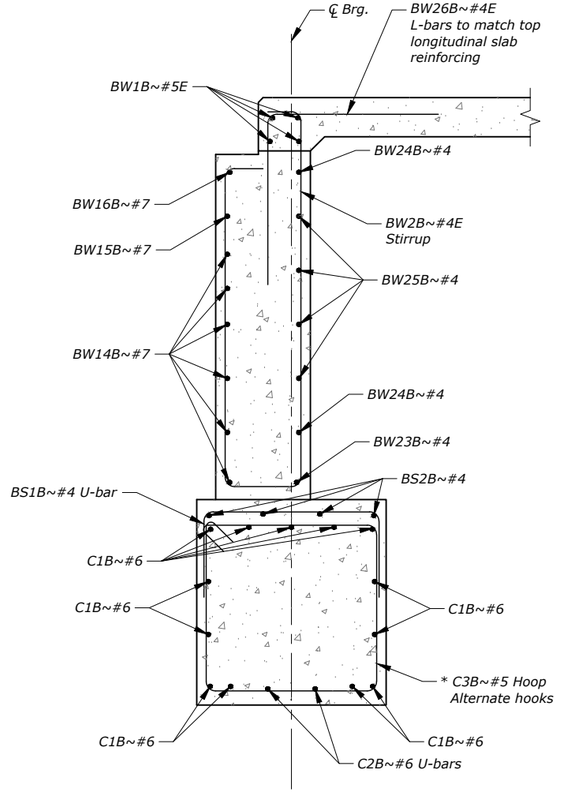
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E / B8 **ABUTMENT SECTION**
Scale: 3/8" = 1'-0"

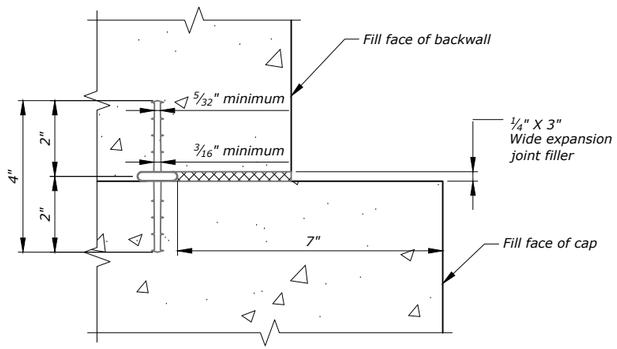


F / B8 **ABUTMENT REINFORCING AT PILES**
Scale: 3/8" -= 1'-0"



G / B8 **ABUTMENT REINFORCING BETWEEN PILES**
Scale: 3/8" = 1'-0"

* NOTE: Alternate the orientation of the Type T1 bars such that the end hooks are not located at the same corner on two consecutive hoops.



WATERSTOP DETAIL
No Scale

NOTE: Hold waterstop in accurate position while placing concrete

SHEET NO. B9

BENT NO. 2 DETAILS

SCALE: As Shown

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

	REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED
					D.C.M.	D.G.G.	J.E.S.
					8-20-25	12-18-24	12-21-24

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MONTANA Department of Transportation — BRIDGE BUREAU

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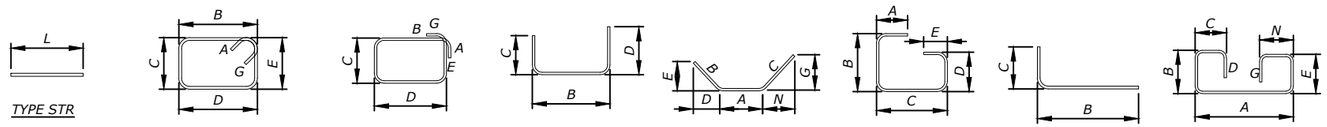
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BILL OF REINFORCING STEEL

(ALL DIMENSIONS ARE OUT TO OUT)



Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
C1B	#6	13	STR	38'-8"							
C2B	#6	6	17	12'-5"		9'-5"	1'-6"	1'-6"			
C3B	#5	61	T1	12'-9"	0'-5 ½"	3'-0"	2'-11"	3'-0"	2'-11"	0'-5 ½"	
C4B	#5	8	394	12'-6"	3'-0"	2'-11"	0'-6"	1'-4"	2'-11"	1'-4"	0'-6"
C5B	#4	4	17	5'-11"		2'-11"	1'-6"	1'-6"			
C6B	#4	4	17	5'-9 ½"		2'-9 ½"	1'-6"	1'-6"			
BS1B	#4	29	17	6'-0"		3'-0"	1'-6"	1'-6"			
BS2B	#4	4	STR	28'-0"							
BS3B	#4	4	T2	10'-1"	0'-4 ½"	4'-0"	0'-8"	4'-0"	0'-8"	0'-4 ½"	
BW1B	#5E	4	STR	42'-4"							
BW2B	#4E	21	30	14'-9"	0'-7"	6'-7"	1'-4"	5'-7"	0'-8"		
BW3B	#4	6	T1	12'-9"	0'-4 ½"	1'-4"	4'-8"	1'-4"	4'-8"	0'-4 ½"	
BW4B	#4	6	T1	11'-5"	0'-4 ½"	1'-4"	4'-0"	1'-4"	4'-0"	0'-4 ½"	
BW5B	#5E	5	30	21'-10"	0'-7"	10'-1 ½"	1'-4"	9'-1 ½"	0'-8"		
BW6B	#5	3	T1	23'-10"	0'-5 ½"	1'-4"	10'-1 ½"	1'-4"	10'-1 ½"	0'-5 ½"	
BW7B	#5	1	T1	23'-3"	0'-5 ½"	1'-4"	9'-10"	1'-4"	9'-10"	0'-5 ½"	
BW8B	#5	1	T1	22'-5"	0'-5 ½"	1'-4"	9'-5"	1'-4"	9'-5"	0'-5 ½"	
BW9B	#5	1	T1	21'-7"	0'-5 ½"	1'-4"	9'-0"	1'-4"	9'-0"	0'-5 ½"	
BW10B	#5	1	T1	20'-9"	0'-5 ½"	1'-4"	8'-7"	1'-4"	8'-7"	0'-5 ½"	
BW11B	#5	1	T1	19'-9"	0'-5 ½"	1'-4"	8'-1"	1'-4"	8'-1"	0'-5 ½"	
BW12B	#5	3	37	9'-2"		7'-8"	1'-6"				
BW13B	#5	9	STR	9'-10"							
BW14B	#7	12	STR	31'-8 ½"							
BW15B	#7	2	STR	30'-11 ½"							
BW16B	#7	2	STR	28'-11 ½"							
BW17B	#4E	2	29	13'-11"	5'-8"	3-0"	5'-3"	1'-4"	2'-9"	2'-3"	4'-9 ½"

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
BW18B	#5	1	STR	10'-8"							
BW19B	#5	1	STR	11'-2"							
BW20B	#5	3	STR	12'-0"							
BW21B	#5	1	STR	11'-3 ½"							
BW22B	#5	1	STR	9'-0"							
BW23B	#4	3	STR	7'-10"							
BW24B	#4	6	STR	9'-3"							
BW25B	#4	12	STR	10'-5"							
BW26B	#4E	39	37	6'-0"		3'-0"	3'-0"				
BW27B	#6	4	STR	6'-0"							
BW28B	#5E	3	30	21'-5"	0'-7"	9'-11"	1'-4"	8'-11"	0'-8"		
BW29B	#5E	5	T1	23'-5"	0'-5 ½"	1'-4"	9'-11"	1'-4"	9'-11"	0'-5 ½"	
BW30B	#5	1	T1	22'-8"	0'-5 ½"	1'-4"	9'-6 ½"	1'-4"	9'-6 ½"	0'-5 ½"	
BW31B	#5	1	T1	21'-10"	0'-5 ½"	1'-4"	9'-1 ½"	1'-4"	9'-1 ½"	0'-5 ½"	
BW32B	#5	1	T1	21'-0"	0'-5 ½"	1'-4"	8'-8 ½"	1'-4"	8'-8 ½"	0'-5 ½"	
BW33B	#5	1	T1	20'-2"	0'-5 ½"	1'-4"	8'-3 ½"	1'-4"	8'-3 ½"	0'-5 ½"	
BW34B	#5	1	T1	19'-4"	0'-5 ½"	1'-4"	7'-10 ½"	1'-4"	7'-10 ½"	0'-5 ½"	
BW35B	#5	3	37	8'-11"		7'-5"	1'-6"				
BW36B	#5	9	STR	9'-7"							
BW37B	#5	1	STR	10'-5"							
BW38B	#5	1	STR	10'-11"							
BW39B	#5	3	STR	11'-8"							
BW40B	#5	1	STR	11'-2"							
BW41B	#5	1	STR	8'-8"							
BW42B	#4E	2	29	13'-7"	5'-8"	4'-11"	3'-0"	4'-5"	2'-1"	2'-8"	1'-3"
BW43B	#5	2	T1	11'-7"	0'-5 ½"	1'-4"	4'-0"	1'-4"	4'-0"	0'-5 ½"	
BW44B	#5	4	T1	12'-11"	0'-5 ½"	1'-4"	4'-8"	1'-4"	4'-8"	0'-5 ½"	
BW45B	#4E	1	29	11'-8"	5'-8"	3-0"	3'-0"	1'-3 ½"	2'-8 ½"	1'-3 ½"	2'-8 ½"
BW46B	#4E	1	29	12'-7"	5'-8"	3'-11"	3'-0"	2'-8 ½"	1'-3 ½"	3'-6 ½"	1'-8"

SHEET NO.
B10

BENT NO. 2 BILL OF REINFORCING STEEL

SCALE: No Scale

BRIDGE OVER
SODA CREEK

AT STA.
2229+85.45

FEDERAL AID PROJECT
NH-HSIP 57-6(22)254

COUNTY
MCCONE

REVISED	REVISED	REVISED	REVISED	CHECKED	D.C.M.	8-20-25
				DRAWN	D.G.G.	12-18-24
				DESIGNED	J.E.S.	12-21-24

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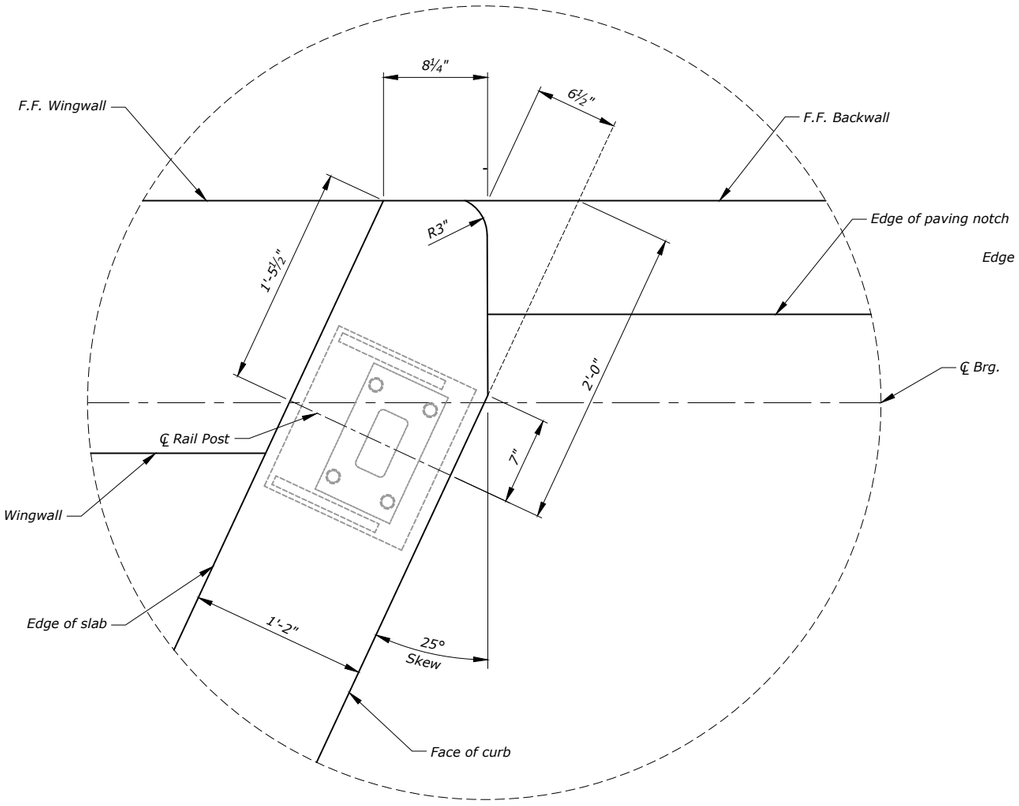
MONTANA Department of Transportation
BRIDGE BUREAU

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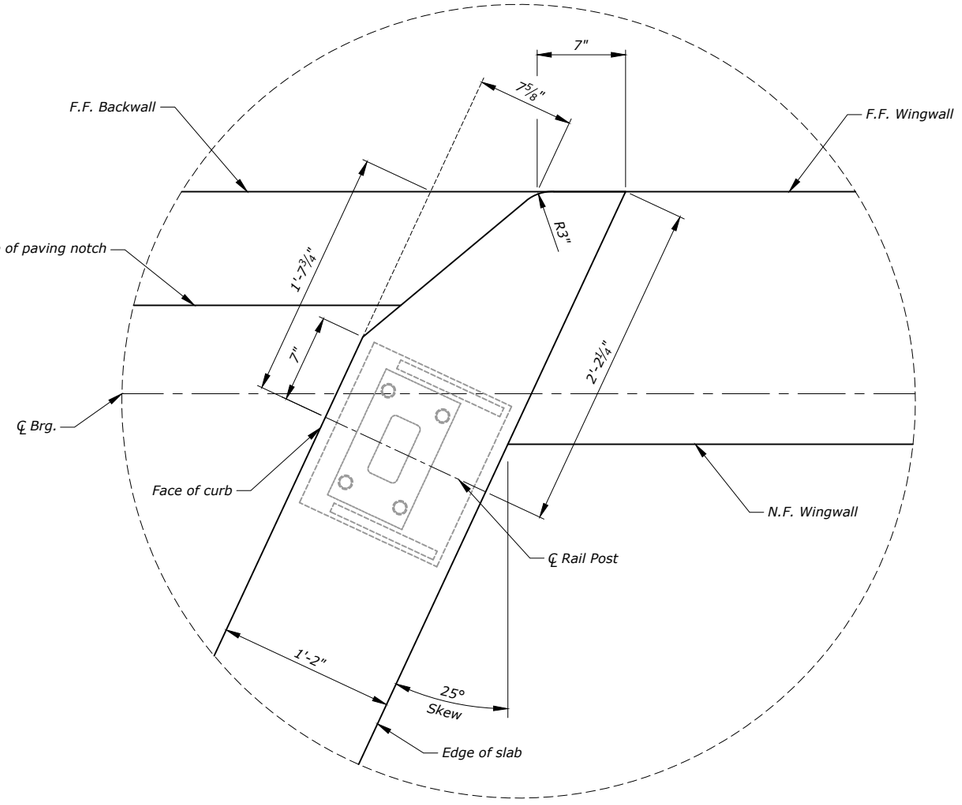
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21085

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OBTUSE CURB END DETAIL



ACUTE CURB END DETAIL

NOTE: For bridge rail post spacing see General Layout Sheet No. B3.

NOTE: For curb details and curb reinforcing steel see Sheet Nos. B17, B18, and B19.

SHEET NO. B11

CURB END DETAILS

SCALE: 1" = 1'-0"

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

REVISED					CHECKED	D.C.M.	8-20-25
REVISED					DRAWN	D.G.G.	12-18-24
REVISED					DESIGNED	J.E.S.	12-21-24

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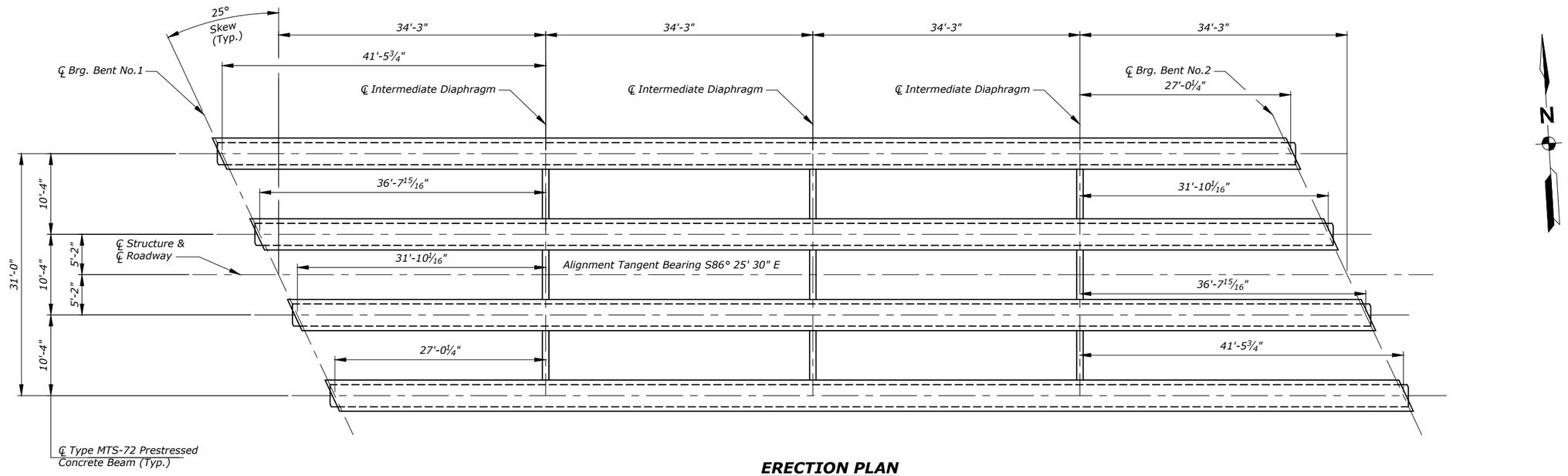
MONTANA Department of Transportation — BRIDGE BUREAU

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UPN NUMBER 9727000

DRAWING NO. 21086

Docusign Envelope ID: 90F97C75-9522-413C-9310-1A2E534CC2E0



ERECTION PLAN

DEAD LOAD DEFLECTION TABLE					
TYPE MTS-72 PRESTRESSED CONCRETE BEAM					
SPAN LENGTH 137'-0"					
	TENTH POINT				
	0.1	0.2	0.3	0.4	0.5
INTERIOR	1 1/16"	2"	2 3/4"	3 1/4"	3 3/8"
EXTERIOR	15/16"	1 3/4"	2 7/16"	2 13/16"	2 15/16"

PRESTRESSED BEAM LOAD TABLE		
LOAD TYPE	**LOADS**	**APPLICATION METHOD**
Barrier Load	0.184 kip/ft per rail	Equally to all beams
Future Wearing Surface	10 lb/sq ft applied between curbs	Equally to all beams
Interior Diaphragm	5.50 kip/diaphragm	At point load
Exterior Diaphragm	2.75 kip/ diaphragm	At point load
Additional Dead Load	--------	--------
Live Load	LRFD - HL-93	per AASHTO LRFD

PRESTRESSED BEAM DESIGN PARAMETERS	
AASHTO Specification	LRFD 9th Edition with 2020 Interims
Structure Type	Simple Span
Deck Concrete Strength	4000 psi
Deck Concrete Density	150 lb/cu ft
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
Prestess 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 ¼" amplitude (Do Not add any surface treatment to the top of beam)
Load Rating Requirements	AASHTO LRFR Design Load

NOTE: ADTT Reduction factor per AASHTO LRFD C6.6.6.6.2.

SHEET NO. B12

ERECTION PLAN

SCALE: 1" = 15'-0"

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

REVISED				CHECKED	D.C.M.	8-20-25
REVISED				DRAWN	D.G.G.	12-18-24
REVISED				DESIGNED	T.E.S.	12-21-24

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MONTANA Department of Transportation — BRIDGE BUREAU

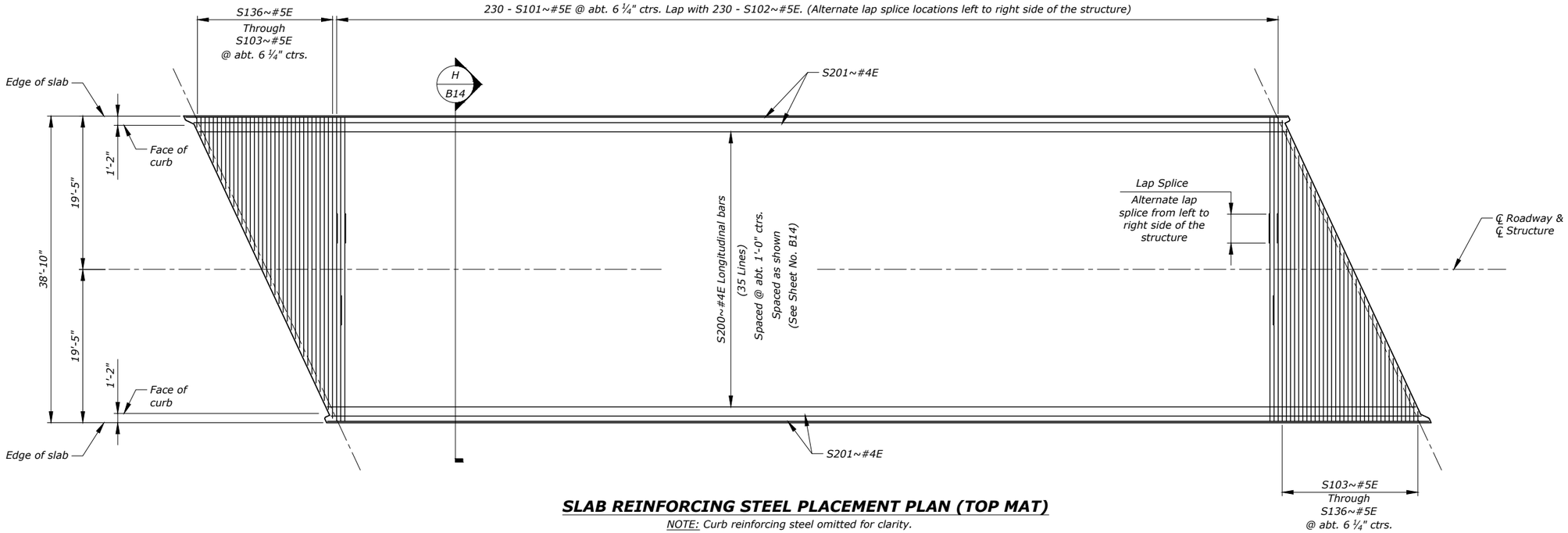
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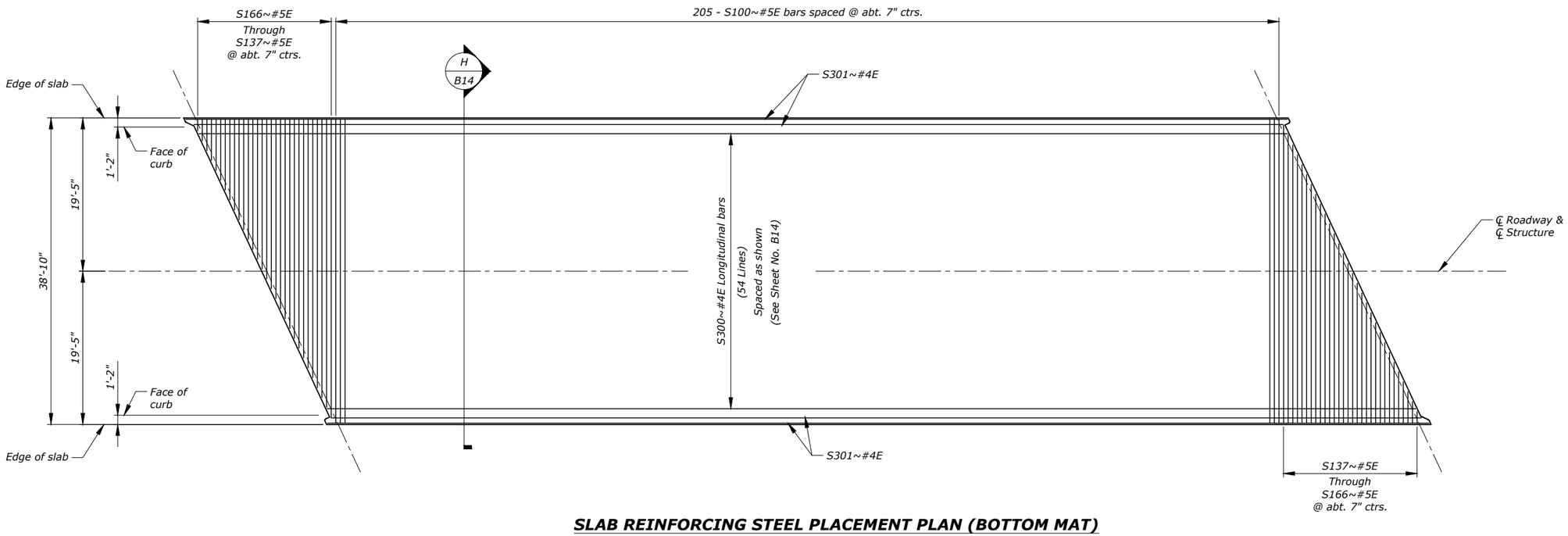
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SLAB REINFORCING STEEL PLACEMENT PLAN (TOP MAT)

NOTE: Curb reinforcing steel omitted for clarity.



SLAB REINFORCING STEEL PLACEMENT PLAN (BOTTOM MAT)

SHEET NO.
B13

SLAB DETAILS

SCALE: 1" = 15'-0"

BRIDGE OVER
SODA CREEK

AT STA.
2229+85.45

FEDERAL AID PROJECT
NH-HSIP 57-6(22)254

COUNTY
MCCONE

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REVISED	T.E.S.	12-21-24
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MONTANA Department of Transportation
BRIDGE BUREAU

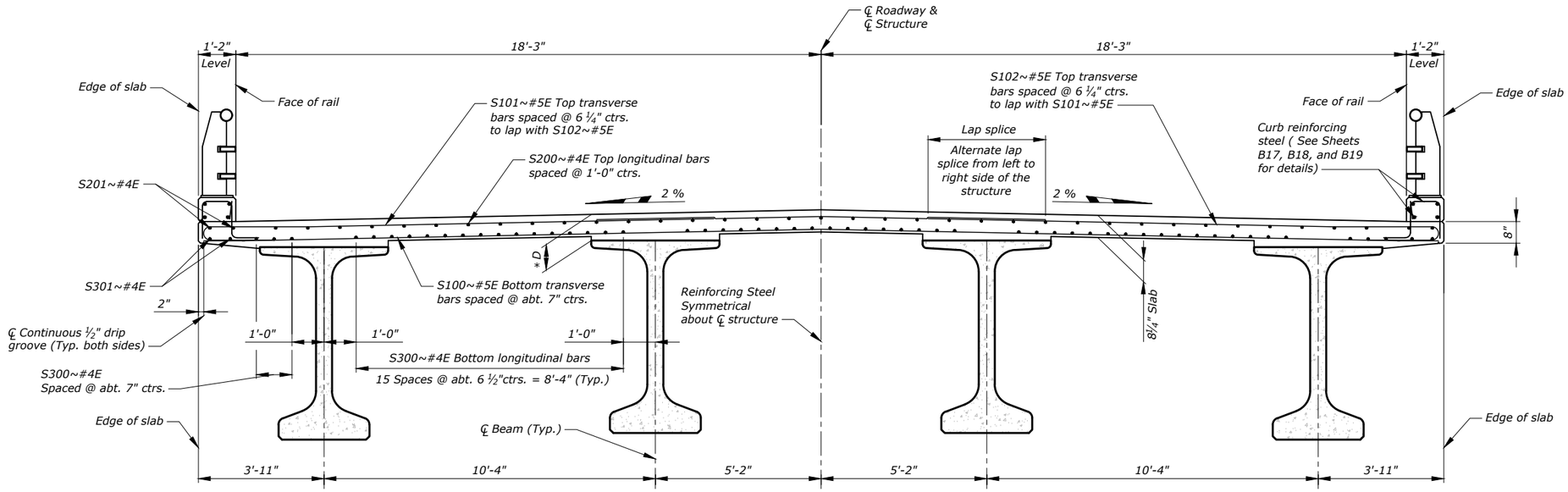
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21088

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H
B13

TRANSVERSE SECTION

Scale: 3/8" - 1'-0"

∗ NOTE: Dimension D = 9 3/4" at CL Brg. except as otherwise noted on Erection Plan (Varies at tenth points). See Dead Load Deflection Table Sheet No. B12 and Camber Diagram Dwg. No. SL-8.

SHEET NO.
B14

TRANSVERSE SECTION

SCALE: As Shown

BRIDGE OVER
SODA CREEK

AT STA.
2229+85.45

FEDERAL AID PROJECT
NH-HSIP 57-6(22)254

COUNTY
MCCONE

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CHECKED	D.C.M.	8-20-25
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MONTANA Department of Transportation
BRIDGE BUREAU

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UPN NUMBER
9727000

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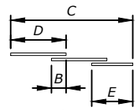
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BILL OF REINFORCING STEEL

(ALL DIMENSIONS ARE OUT TO OUT)

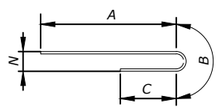


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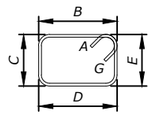


N = Number of laps

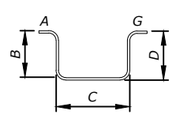
TYPE 27



TYPE DG1



TYPE T1



TYPE S4

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
S100	#5E	206	STR	38'-6"							
S101	#5E	230	DG1	29'-0"	26'-4 ½"	0'-8"	2'- 0"				0'- 5"
S102	#5E	230	DG1	18'-8 ½"	16'-0 ½"	0'-8"	2'- 0"				0'- 5"
S103	#5E	2	DG1	40'-5 ½"	37'-9 ½"	0'-8"	2'- 0"				0'- 5"
S104	#5E	2	DG1	39'-3"	36'-7"	0'-8"	2'- 0"				0'- 5"
S105	#5E	2	DG1	38'-1 ½"	35'-5 ½"	0'-8"	2'- 0"				0'- 5"
S106	#5E	2	DG1	37'-0"	34'-4"	0'-8"	2'- 0"				0'- 5"
S107	#5E	2	DG1	35'-10 ½"	33'-2 ½"	0'-8"	2'- 0"				0'- 5"
S108	#5E	2	DG1	34'-9 ½"	32'-1 ½"	0'-8"	2'- 0"				0'- 5"
S109	#5E	2	DG1	33'-8"	31'-0"	0'-8"	2'- 0"				0'- 5"
S110	#5E	2	DG1	32'-7 ½"	29'-11 ½"	0'-8"	2'- 0"				0'- 5"
S111	#5E	2	DG1	31'-6"	28'-10"	0'-8"	2'- 0"				0'- 5"
S112	#5E	2	DG1	30'-5"	27'-9"	0'-8"	2'- 0"				0'- 5"
S113	#5E	2	DG1	29'-3 ½"	26'-7 ½"	0'-8"	2'- 0"				0'- 5"
S114	#5E	2	DG1	28'-2 ½"	25'-6 ½"	0'-8"	2'- 0"				0'- 5"
S115	#5E	2	DG1	27'-1"	24'-5"	0'-8"	2'- 0"				0'- 5"
S116	#5E	2	DG1	25'-11 ½"	23'-3 ½"	0'-8"	2'- 0"				0'- 5"
S117	#5E	2	DG1	24'-10"	22'-2"	0'-8"	2'- 0"				0'- 5"
S118	#5E	2	DG1	23'-9"	21'-1"	0'-8"	2'- 0"				0'- 5"
S119	#5E	2	DG1	22'-7 ½"	19'-11 ½"	0'-8"	2'- 0"				0'- 5"
S120	#5E	2	DG1	21'-6"	18'-10"	0'-8"	2'- 0"				0'- 5"
S121	#5E	2	DG1	20'-5"	17'-9"	0'-8"	2'- 0"				0'- 5"
S122	#5E	2	DG1	19'-4"	16'-8"	0'-8"	2'- 0"				0'- 5"
S123	#5E	2	DG1	18'-2 ½"	15'-6 ½"	0'-8"	2'- 0"				0'- 5"
S124	#5E	2	DG1	17'-1 ½"	14'-5 ½"	0'-8"	2'- 0"				0'- 5"
S125	#5E	2	DG1	16'-0"	13'-4"	0'-8"	2'- 0"				0'- 5"
S126	#5E	2	DG1	14'-10"	12'-2"	0'-8"	2'- 0"				0'- 5"
S127	#5E	2	DG1	13'-9"	11'-1"	0'-8"	2'- 0"				0'- 5"
S128	#5E	2	DG1	12'-7 ½"	9'-11 ½"	0'-8"	2'- 0"				0'- 5"
S129	#5E	2	DG1	11'-5 ½"	8'-9 ½"	0'-8"	2'- 0"				0'- 5"
S130	#5E	2	DG1	10'-4 ½"	7'-8 ½"	0'-8"	2'- 0"				0'- 5"
S131	#5E	2	DG1	9'-3"	6'-7"	0'-8"	2'- 0"				0'- 5"
S132	#5E	2	DG1	8'-2"	5'-6"	0'-8"	2'- 0"				0'- 5"
S133	#5E	2	DG1	7'-0 ½"	4'-4 ½"	0'-8"	2'- 0"				0'- 5"
S134	#5E	2	DG1	5'-11"	3'-3"	0'-8"	2'- 0"				0'- 5"
S135	#5E	2	DG1	4'-10"	2'-2"	0'-8"	2'- 0"				0'- 5"
S136	#5E	2	DG1	2'-9"	1'-0 ½"	0'-8"	1'- 0 ½"				0'- 5"
S137	#5E	2	STR	37'-8"							
S138	#5E	2	STR	36'-5"							
S139	#5E	2	STR	35'-2"							
S140	#5E	2	STR	33'-11"							
S141	#5E	2	STR	32'-8"							
S142	#5E	2	STR	31'-5"							
S143	#5E	2	STR	30'-2"							
S144	#5E	2	STR	28'-11"							
S145	#5E	2	STR	27'-8"							
S146	#5E	2	STR	26'-5"							
S147	#5E	2	STR	25'-2"							
S148	#5E	2	STR	23'-11"							
S149	#5E	2	STR	22'-8"							
S150	#5E	2	STR	21'-5"							
S151	#5E	2	STR	20'-2"							
S152	#5E	2	STR	18'-11"							
S153	#5E	2	STR	17'-8"							
S154	#5E	2	STR	16'-5"							
S155	#5E	2	STR	15'-2"							
S156	#5E	2	STR	13'-11"							
S157	#5E	2	STR	12'-8"							
S158	#5E	2	STR	11'-5"							
S159	#5E	2	STR	10'-2"							
S160	#5E	2	STR	8'-11"							
S161	#5E	2	STR	7'-8"							
S162	#5E	2	STR	6'-5"							
S163	#5E	2	STR	5'-2"							
S164	#5E	2	STR	3'-11"							
S165	#5E	2	STR	2'-8"							
S166	#5E	2	STR	1'-5"							
S200	#4E	35	27	147'-8"		3'-3"	137'-11"	40'-0"	27'-8"		3
S201	#4E	4	27	149'-4"		3'-3"	139'-7"	40'-0"	29'-4"		3
S300	#4E	54	27	147'-8"		3'-3"	137'-11"	40'-0"	27'-8"		3
S301	#4E	4	27	149'-4"		3'-3"	139'-7"	40'-0"	29'-4"		3
D1	#4E	63	S4	10'-9"	0'-4 ½"	4'-8 ½"	0'-7"	4'-8 ½"		0'-4 ½"	
D2	#4E	18	T1	8'-7"	0'-4 ½"	0'-7"	3'-4"	0'-7"	3'-4"	0'-4 ½"	
D3	#4E	18	T1	9'-7"	0'-4 ½"	0'-7"	3'-10"	0'-7"	3'-10"	0'-4 ½"	
D4	#6E	18	STR	9'-6"							
D5	#4E	36	STR	9'-6"							
D6	#6E	6	STR	6'-0"							

SHEET NO.
B15

SLAB BILL OF REINFORCING STEEL

SCALE: No Scale

BRIDGE OVER
SODA CREEK

AT STA.
2229+85.45

FEDERAL AID PROJECT
NH-HSIP 57-6(22)254

COUNTY
MCCONE

REVISED	REVISED	REVISED	REVISED	CHECKED	D.C.M.	8-20-25
				DRAWN	D.G.G.	12-18-24
				DESIGNED	J.E.S.	12-21-24

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MONTANA Department of Transportation
BRIDGE BUREAU

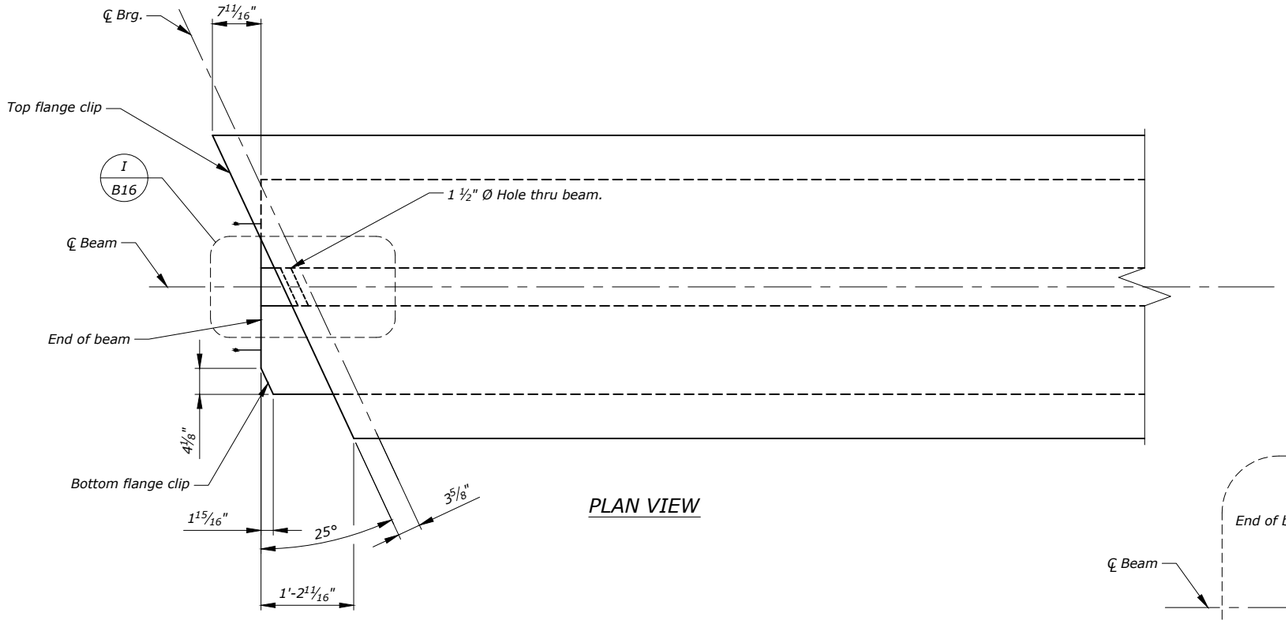
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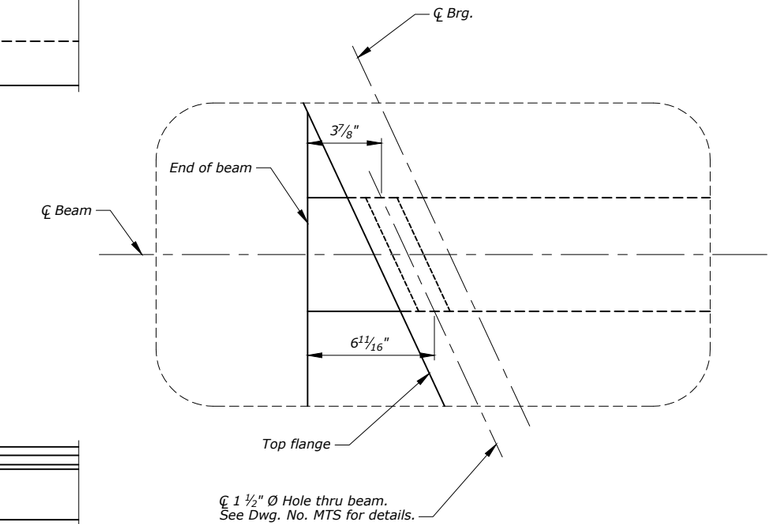
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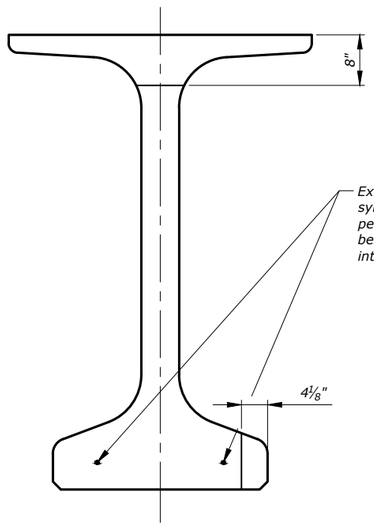


PLAN VIEW

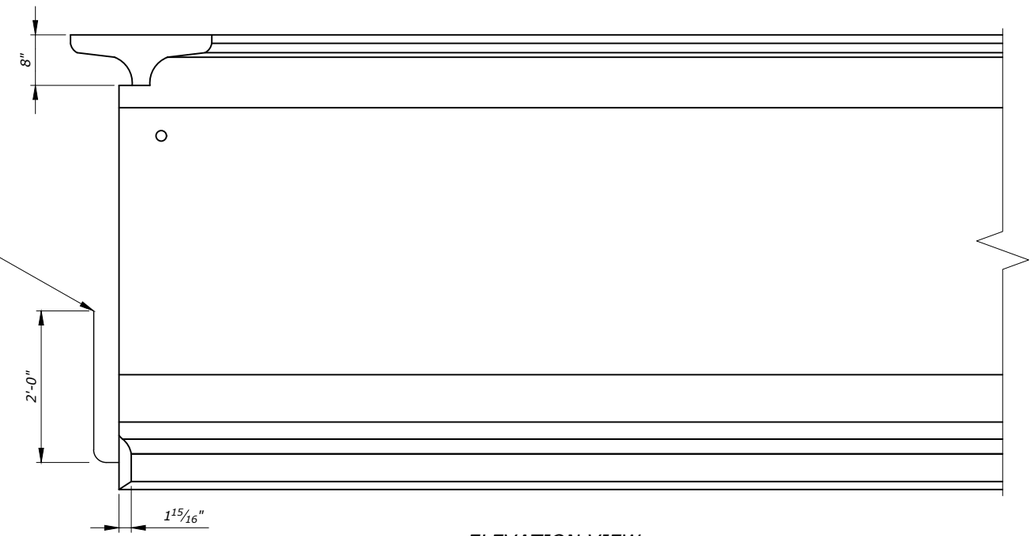


I / B16 **BEAM HOLE DETAIL**

Scale: 1 1/2" = 1'-0"



END VIEW



ELEVATION VIEW

BEAM END DETAIL

Scale ~ ½" = 1'-0"

SHEET NO. B16

BEAM END DETAILS

SCALE: As Shown

BRIDGE OVER **SODA CREEK**

AT STA. **2229+85.45**

FEDERAL AID PROJECT **NH-HSIP 57-6(22)254**

COUNTY **MCCONE**

	REVISED	REVISED	REVISED	REVISED	CHECKED	DRAWN	DESIGNED
					D.C.M.	D.G.G.	L.E.S.
					8-20-25	12-18-24	12-21-24

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GENERAL NOTES:

PLACEMENT: Do not disturb the deck cure to construct the curb and rail.

ERECTION: Place rail posts as shown in details, perpendicular to adjacent roadway grade and vertical in relation to roadway cross slopes. Adjust the completed railing to compensate for any unevenness in the structure. Do not place railing on a span until centering or falsework is removed.

REFLECTORS: Place a white reflector on top of the top tube rail at equal spacing (not to exceed 30 foot spacing) between ends of rail. See Dtl. Dwg. No. 605-00 for reflector detail. Mount the reflector on the tube rail with an approved adhesive. Include the cost of reflectors in the unit price bid for 42 IN Open Rail - BR - CSC.

PAYMENT: Payment for 42 IN Open Rail - BR - CSC per linear foot includes compensation for the cost of Concrete - Class Structure Low Slump in the curb and for all resources necessary to complete the work. See the General Layout for the number of linear feet for payment of 42 IN Open Rail - BR - CSC.

RAIL WEIGHT: For informational purposes only, the rail weight is approximately:
Curb weight = 131.3 lb/ft
Curb volume = 0.875 cu. ft / ft
Rail weight = 52.9 lb/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.

FABRICATION: For the purposes of fabrication, this rail system is considered an ancillary item. The requirements of subsection 1.3.7 of AASHTO/AWS D1.5 apply.

EXCEPTIONS: Use details shown on these sheets (Bridge Rail Type Open Rail 42" Sheet 1 - Bridge Rail Type Open Rail 42" Sheet 3) only as they apply to the project. Anchorage details may vary. Refer to other drawings for variations in these details.

MATERIALS: Use rail post plates and base plates conforming to AASHTO M 270 Grade 50 T3. Use AASHTO M 270 Grade 50 for all other plates and ASTM A500 Grade B for structural tubing.

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.

GALVANIZING: Galvanize all bolts, nuts, washers and pipe sleeves in accordance with ASTM F 2329.

PAINTING: Paint all posts, structural tubing and plates (except as noted) in accordance with the Standard Specifications. Galvanizing the posts, structural tubing and plates in accordance with AASHTO M 111 will be allowed.

FIBER REINFORCED PADS: Use fiber reinforced pads meeting the requirements of subsection 711.16 of the Standard Specifications. Size and position the pads such that not less than ½" of the pad protrudes on all sides of the base plates. Punch holes in the pads to match base plate.

ANCHOR BOLTS: Use ⅞" Ø x 11½" Galvanized high strength bolts (ASTM F 3125 Grade A325) with heavy hex nut and galvanized hardened washer (2" thread, wrench tight, 4 required per post) for anchor bolts.

FINISHING: Finish top of curb under each rail post to a smooth and uniform surface to assure a proper alignment of the post and a tight fit between the fiber reinforced pad and concrete. Bush hammering is acceptable only to remove high spots.

RAILING:
Locate the splice on either side of post. Tube shop splices are not allowed. Do not provide a tube splice in first panel unless it crosses an expansion joint. Place expansion splice in rail such that it is positioned between the same rail posts as expansion joint.

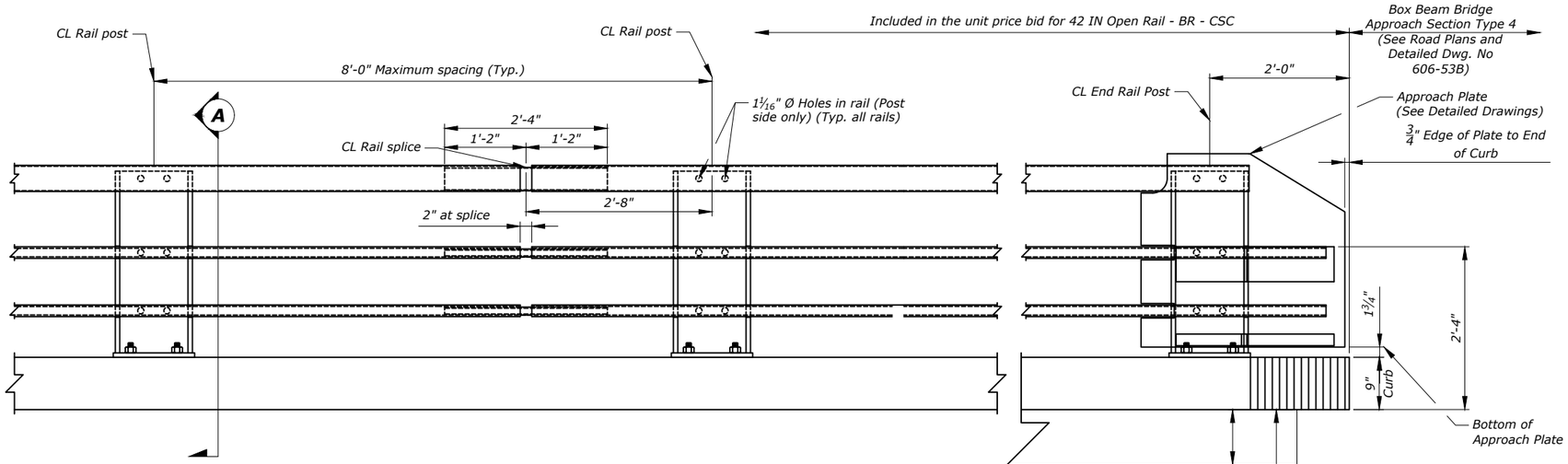
Attach panel lengths of tube members continuously to minimum of two posts (except at abutments with expansion joints).

Show vent and pickup holes in rail and sleeves on Fabricator's shop drawings. Place vent holes on the underside of the rail members as installed.

For Approach Plate details see detailed drawings.

For curb end reinforcing details see Bridge Rail Type Open Rail 42" Sheet 3.

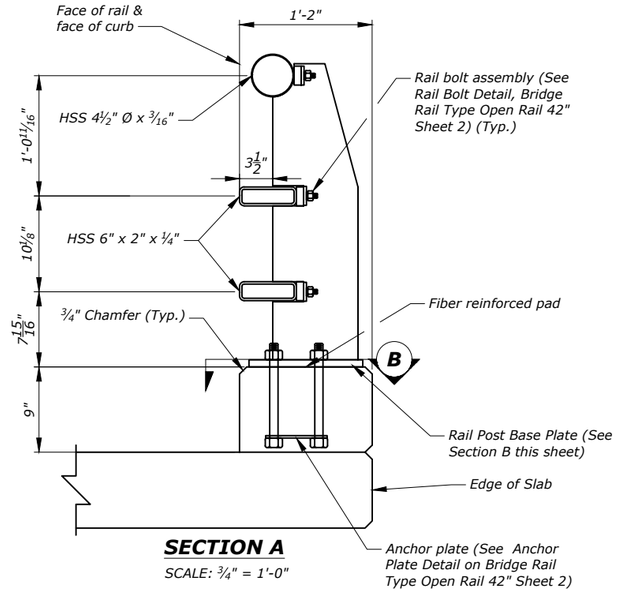
Fabricate rail tubing on a curve when face of rail radius is 600 feet or less.



INSIDE ELEVATION OF RAIL

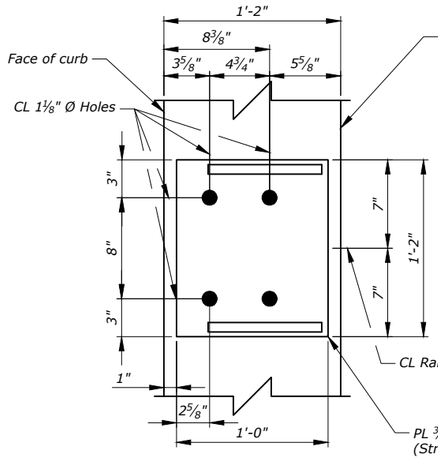
SCALE: ½" = 1'-0"

APPROACH PLATE END



SECTION A

SCALE: ¾" = 1'-0"

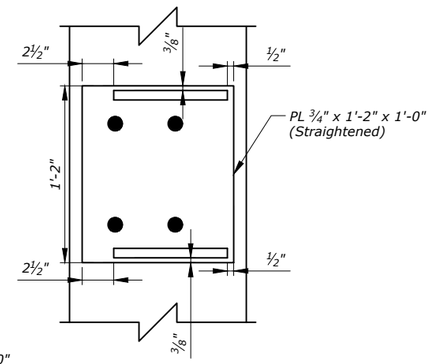


HOLE DETAILS

(Anchor bolts not shown)

SECTION B

SCALE: 1" = 1'-0"



RAIL POST BASE PLATE DETAILS

SHEET NO. B17

BRIDGE RAIL TYPE OPEN RAIL 42 INCH - SHEET 1

SCALE: AS NOTED

BRIDGE OVER SODA CREEK

AT STA. 2229+85.45

FEDERAL AID PROJECT NH-HSIP 57-6(22)254

COUNTY MCCONE

REVISED				
REVISED				
REVISED			S.E.W.	12-04-24
REVISED			D.C.M.	8-20-25
CHECKED			T.J.B	08-29-23
DRAWN			J.E.S.	12-12-24
DESIGNED				

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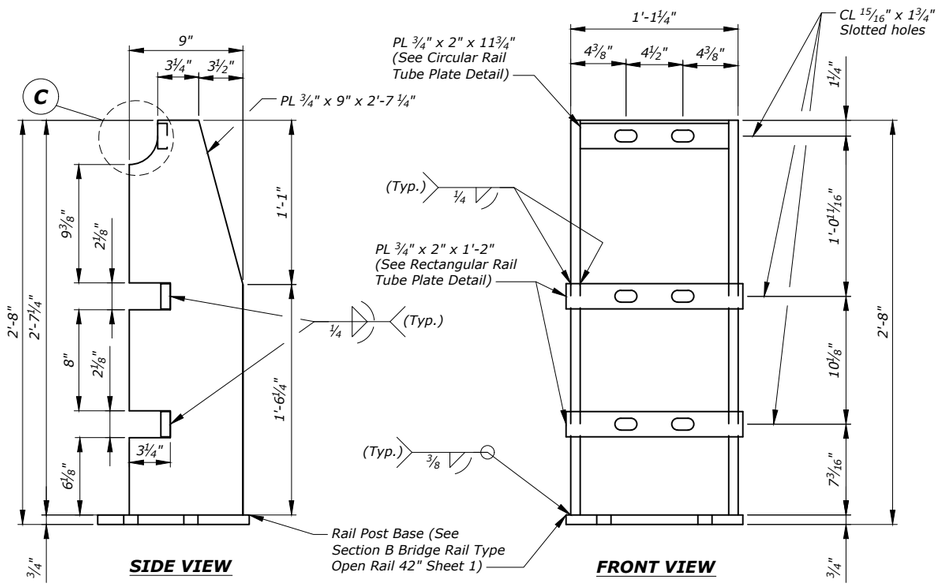
BRIDGE BUREAU

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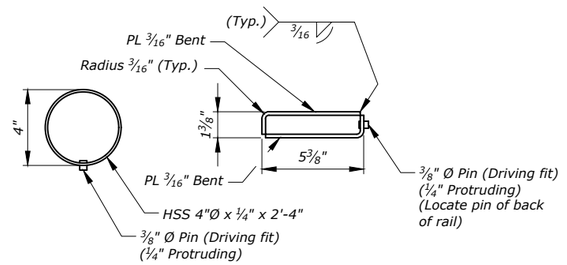
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SIDE VIEW **FRONT VIEW**

RAIL POST DETAIL

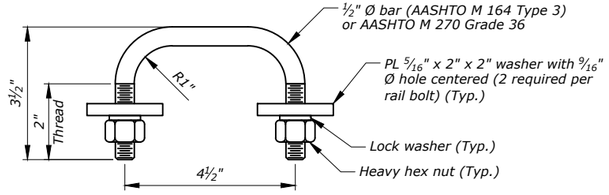
SCALE: 1" = 1'-0"



NOTE: Locate ⅜" Ø Pin at mid-length of sleeve.

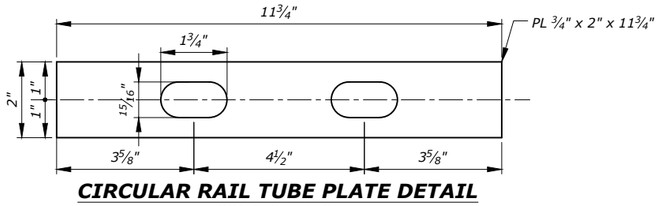
SLEEVE FABRICATION DETAILS

SCALE: 1 ½" = 1'-0"



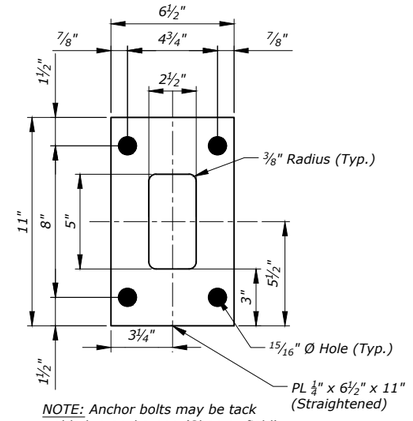
RAIL BOLT DETAIL

SCALE: 3" = 1'-0"



CIRCULAR RAIL TUBE PLATE DETAIL

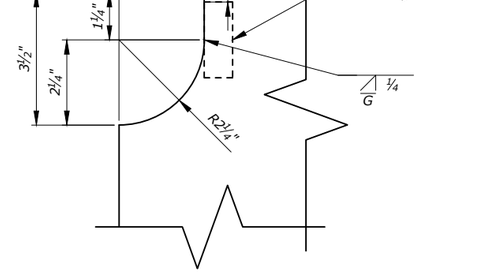
SCALE: 3" = 1'-0"



NOTE: Anchor bolts may be tack welded to anchorage (Shop or field)

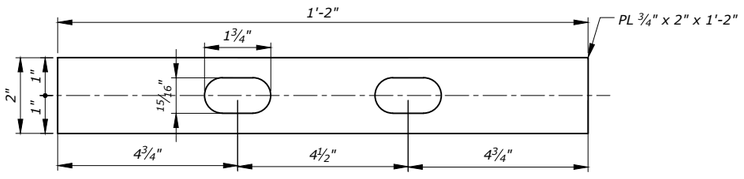
ANCHOR PLATE DETAIL

SCALE: 1" = 1'-0"



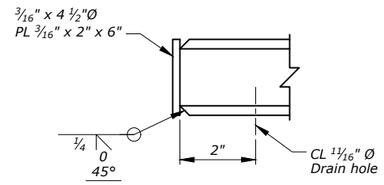
DETAIL C

SCALE: 3" = 1'-0"



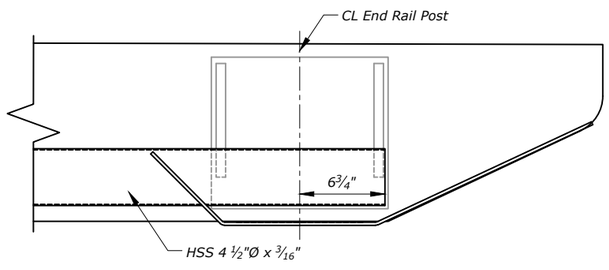
RECTANGULAR RAIL TUBE PLATE DETAIL

SCALE: 3" = 1'-0"



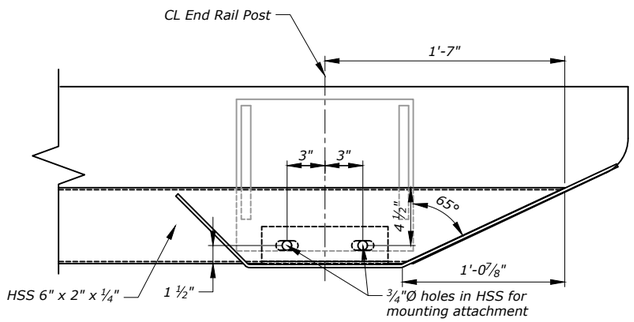
RAIL CAP DETAIL

SCALE: 3" = 1'-0"



RAIL END DETAIL HSS 4 ½"Ø x ³⁄16"

SCALE: 1" = 1'-0"



RAIL END DETAIL HSS 6" x 2" x ¼"

SCALE: 1" = 1'-0"

SHEET NO. B18

BRIDGE RAIL TYPE OPEN RAIL 42 INCH - SHEET 2

SCALE: AS NOTED

BRIDGE OVER SODA CREEK

AT STA. 2229+85.45

FEDERAL AID PROJECT NH-HSIP 57-6(22)254

COUNTY MCCONE

REVISED				S.E.W.	12-04-24
REVISED				D.C.M.	8-20-25
REVISED				T.J.B	08-29-23
REVISED				J.F.S.	12-12-24
CHECKED					
DRAWN					
DESIGNED					

9727000BRSTD001.dwg | SBR-OR42-2

MONTANA Department of Transportation

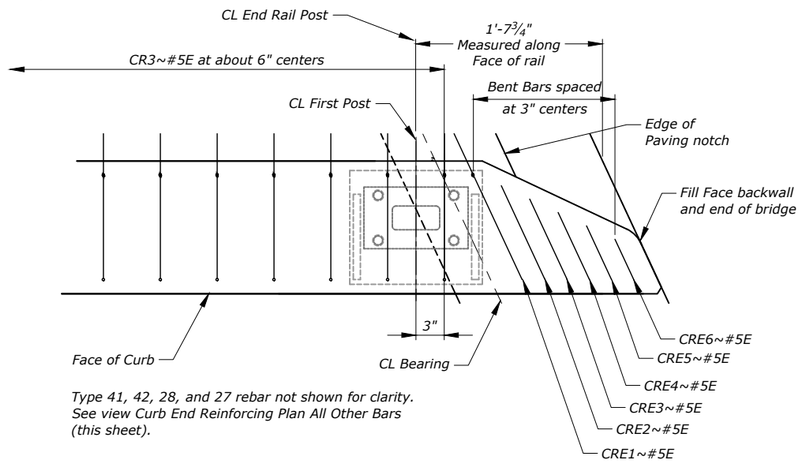
BRIDGE BUREAU

9/24/2025 8:26:09 AM

UPN NUMBER 9727000

DRAWING NO. 21093

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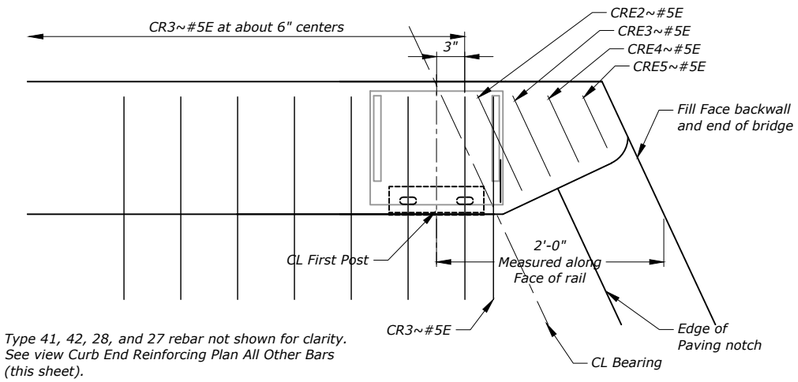


Type 41, 42, 28, and 27 rebar not shown for clarity. See view Curb End Reinforcing Plan All Other Bars (this sheet).

CURB END REINFORCING PLAN TYPE 526 BARS

Acute side

SCALE: ¾" = 1'-0"

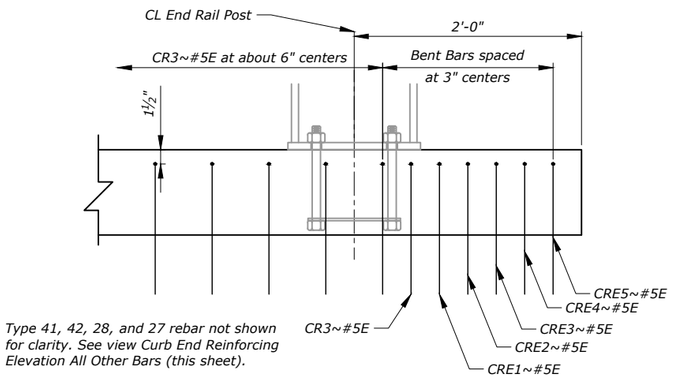


Type 41, 42, 28, and 27 rebar not shown for clarity. See view Curb End Reinforcing Plan All Other Bars (this sheet).

CURB END REINFORCING PLAN TYPE 526 BARS

Obtuse side

SCALE: ¾" = 1'-0"

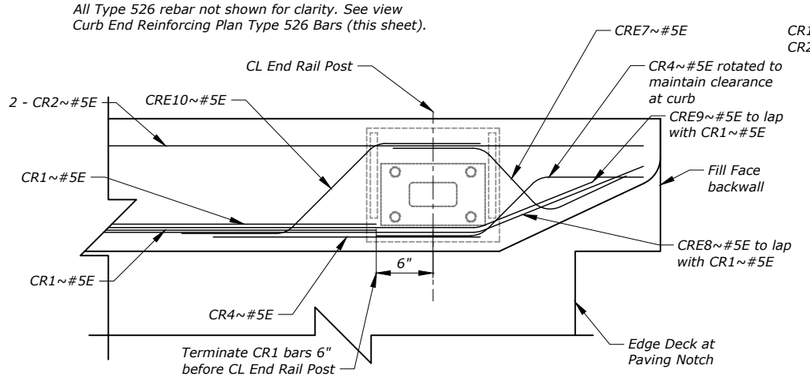


Type 41, 42, 28, and 27 rebar not shown for clarity. See view Curb End Reinforcing Elevation All Other Bars (this sheet).

CURB END REINFORCING ELEVATION TYPE 526 BARS

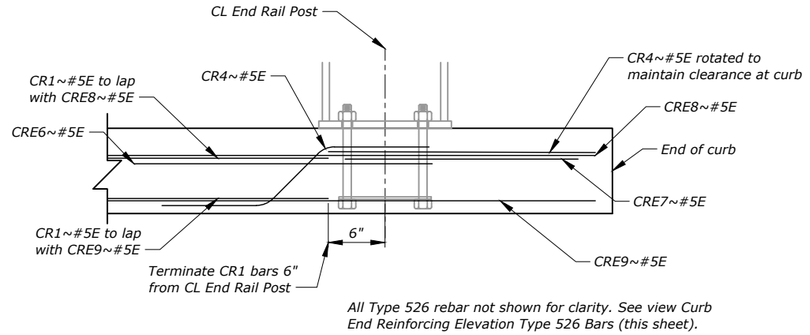
SCALE: ¾" = 1'-0"

All Type 526 rebar not shown for clarity. See view Curb End Reinforcing Plan Type 526 Bars (this sheet).



CURB END REINFORCING PLAN ALL OTHER BARS

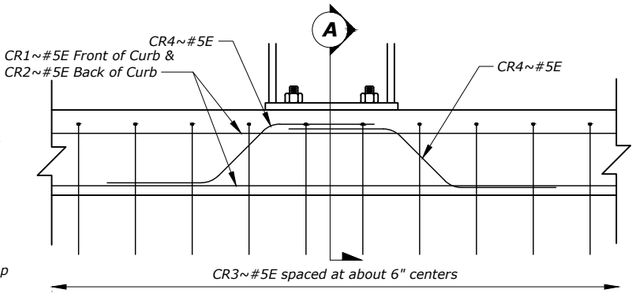
SCALE: ¾" = 1'-0"



All Type 526 rebar not shown for clarity. See view Curb End Reinforcing Elevation Type 526 Bars (this sheet).

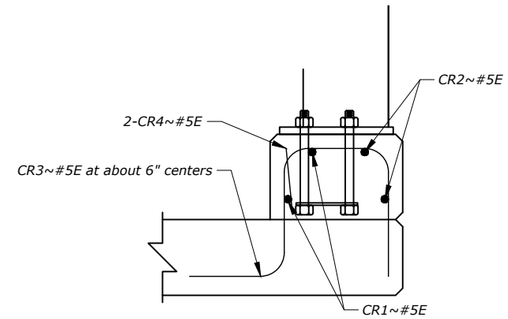
CURB END REINFORCING ELEVATION ALL OTHER BARS

SCALE: ¾" = 1'-0"



CURB REINFORCING AT RAIL POST ELEVATION

SCALE: ¾" = 1'-0"

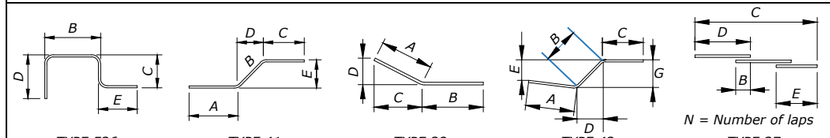


SECTION A

SCALE: ¾" = 1'-0"

BILL OF REINFORCING STEEL

FOR ONE SIDE ONLY
(ALL DIMENSIONS ARE OUT TO OUT)



TYPE 526 | TYPE 41 | TYPE 28 | TYPE 42 | TYPE 27

Mark	Size	No.	Type	Length	A	B	C	D	E	G	N
CR1	#5E	2	27	147'-3 ½"		4'-0"	135'-3 ½"	40'-0"	27'-3 ½"		3
CR2	#5E	2	27	151'-6 ½"		4'-0"	139'-6 ½"	40'-0"	31'-6 ½"		3
CR3	#5E	126	526	4'-0 ½"		0'-11"	1'-2"	1'-2"	0'-9 ½"		
CR4	#5E	18	41	2'-5"	0'-9 ½"	0'-10"	0'-9 ½"	0'-8"	0'-6"		
CRE1	#5E	2	526	5'-8 ½"		1'-0"	2'-11"	1'-2"	0'-7 ½"		
CRE2	#5E	2	526	5'-7 ½"		0'-11"	2'-11"	1'-2"	0'-7 ½"		
CRE3	#5E	2	526	5'-6"		0'-9 ½"	2'-11"	1'-2"	0'-7 ½"		
CRE4	#5E	2	526	5'-4 ½"		0'-8"	2'-11"	1'-2"	0'-7 ½"		
CRE5	#5E	2	526	5'-2 ½"		0'-6"	2'-11"	1'-2"	0'-7 ½"		
CRE6	#5E	2	526	5'-1 ½"		0'-4 ½"	2'-11"	1'-2"	0'-7 ½"		
CRE7	#5E	2	42	2'-5"	0'-9 ½"	0'- 10"	0'-9½"	0'-7"	0'-3 ½"	0'-7 ½"	
CRE8	#5E	2	28	6'-1 ½"	1'-3 ½"	4'-10"	1'-5"	0'-6 ½"			
CRE9	#5E	2	28	6'-1"	1'-0"	5'-1"	1'-1"	0'-5"			
CRE10	#5E	2	41	2'-6 ½"	0'-9½"	11 ½"	0'-9½"	0'-8"	0'-8"		

SHEET NO. B19

BRIDGE RAIL TYPE OPEN RAIL 42 INCH - SHEET 3

SCALE: AS NOTED

BRIDGE OVER SODA CREEK

AT STA. 2229+85.45

FEDERAL AID PROJECT NH-HSIP 57-6(22)254

COUNTY MCCONE

			S.E.W.	12-04-24	REVISED
			D.C.M.	8-20-25	REVISED
			T.J.B	08-29-23	REVISED
			J.E.S.	12-12-24	CHECKED
					DRAWN
					DESIGNED

9727000BRSTD001.dwg | SBR-ORM2-3 (2)

MONTANA Department of Transportation — BRIDGE BUREAU

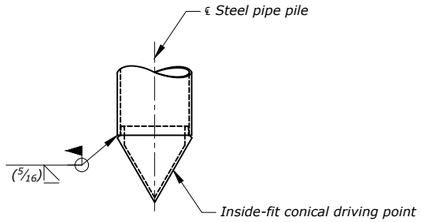
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UPN NUMBER 9727000

DRAWING NO. 21094

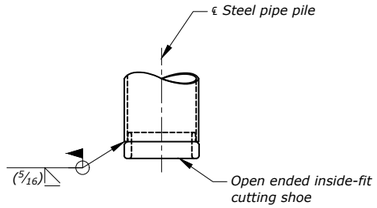
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AWARD COPY



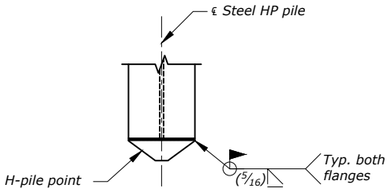
CONICAL DRIVING POINT WELD DETAIL

Slip driving point inside pipe



CUTTING SHOE WELD DETAIL

Slip driving point inside pipe



H-PILE POINT WELD DETAIL

Do not weld web or inside of flanges

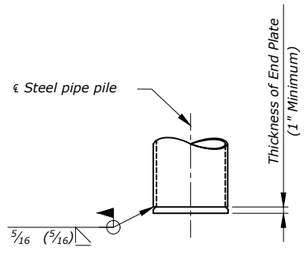
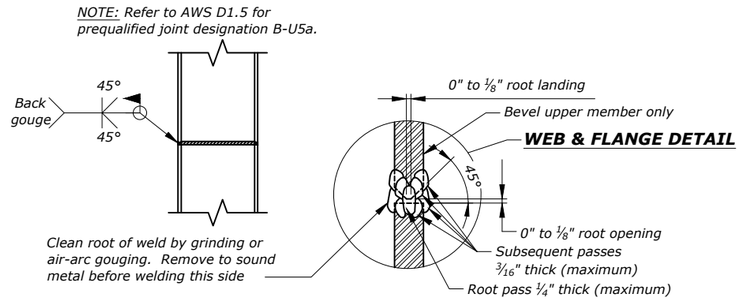


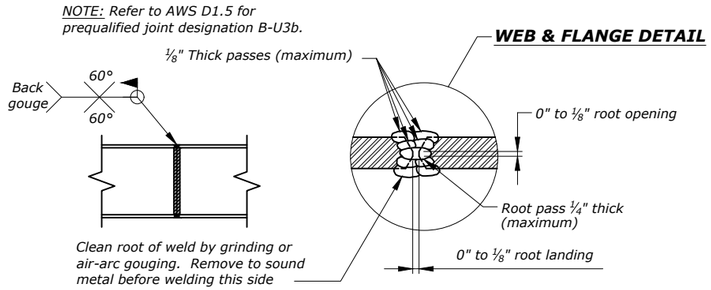
PLATE END WELD DETAIL

Align plate with outside of pipe



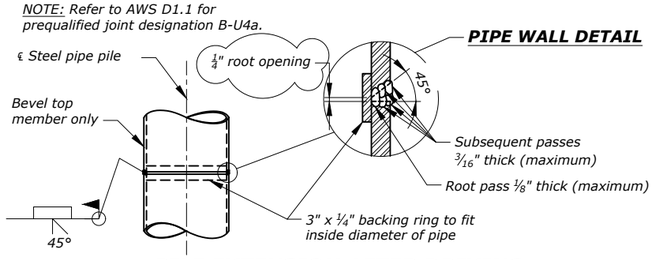
PILE EXTENSION AFTER DRIVING

(Pile Vertical)



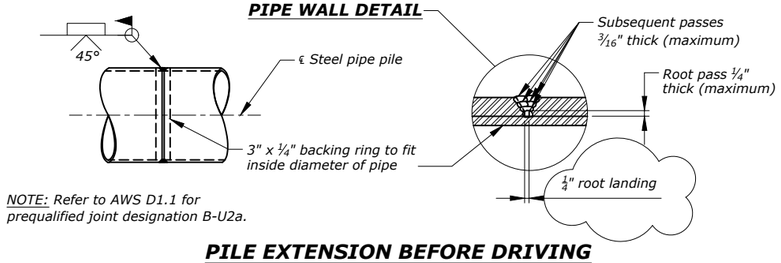
PILE EXTENSION BEFORE DRIVING

WELDED SPLICES FOR STEEL HP PILES



PILE EXTENSION AFTER DRIVING

(Pile Vertical)



PILE EXTENSION BEFORE DRIVING

WELDED SPLICES FOR STEEL PIPE PILES

NOTES:

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.

PILE TIPS: Use only 7018 series electrodes to attach pile tips.

PILE TYPE: See Footing Plan sheets for correct pile type, pile tim and pile tip elevations.

PIPE PILE WEIGHTS

PIPE PILE DIAMETER	WALL THICKNESS	WEIGHT (LBS / FT)
12"	½"	62
16"	½"	83
20"	½"	104
24"	½"	126
24"	¾"	186
30"	¾"	235

SHEET NO. B20

PILE SPLICE DETAILS AND PILE TIPS

SCALE: NO SCALE

BRIDGE OVER SODA CREEK

AT STA. 2229+85.45

FEDERAL AID PROJECT NH-HSIP 57-6(22)254

COUNTY MCCONE

UPDATED 10-29-24 S.E.W.

REVISED		
REVISED		
REVISED		
CHECKED	1-30-15	D.F.J.
DRAWN	1-30-15	D.F.J.
DESIGNED	1-23-15	T.J.B.

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9/24/2025 8:26:22 AM

MONTANA Department of Transportation

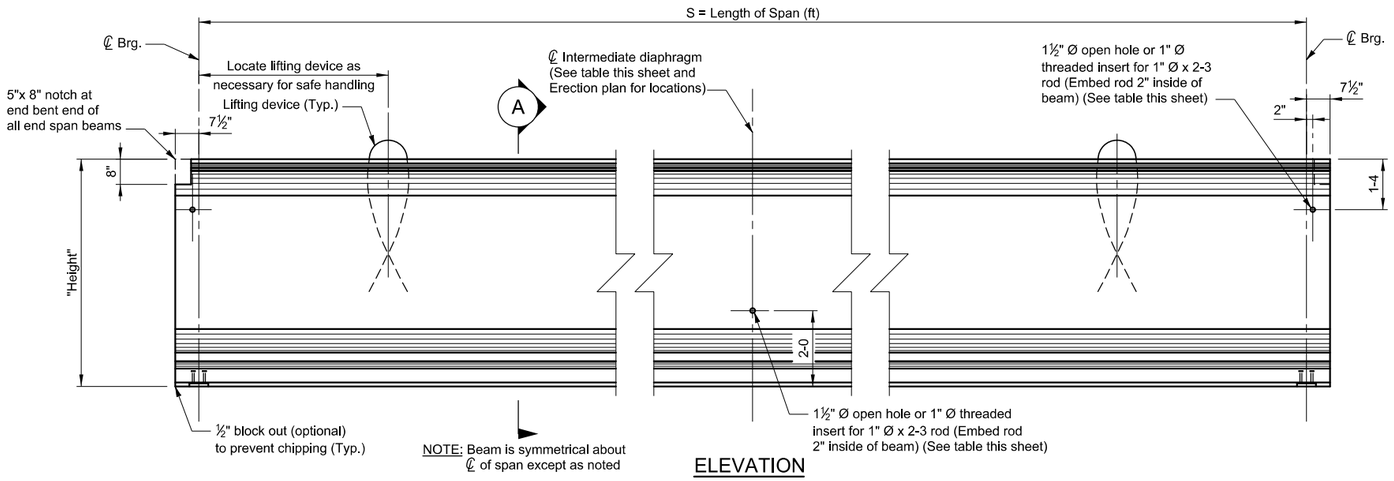
BRIDGE BUREAU

UPN NUMBER 9727000

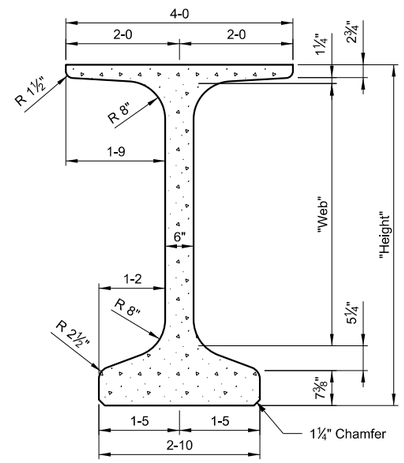
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ELEVATION



SECTION A

NOTES

SPECIFICATIONS: For design specifications, see General Layout. Design and fabricate the beam to support the dead load and live load stresses and provide a minimum ultimate moment capacity shown on the Erection Plan. Show stresses in the beam under each loading condition that is anticipated in the manufacture, handling and service life of the beam.

PRESTRESSING STEEL: Use 0.500" diameter or 0.600" diameter, 7 wire strand prestressing steel.

HARDWARE: Threaded inserts, hold down devices, lifting devices and any other hardware which is to be incorporated in the beam will be approved by the Engineer before fabrication is begun.

DIAPHRAGMS: See Erection Plan for location of diaphragms when structure is skewed.

BEAM LENGTH: Increase the overall length of the beam to allow for elastic shortening, shrinkage and creep.

SHOES: Paint shoes in accordance to Standard Specifications. See details on Bridge Plans if expansion shoes are required. See General layout for type of shoes required.

REINFORCING STEEL: See General Layout. The suffix E denotes epoxy coated reinforcing.

SHEAR REINFORCING: Fabricator will provide shear and end reinforcement to meet the requirements of the AASHTO code specified on the General Layout.

PAYMENT: Include all costs to furnish and install anchor bolts, nuts, smooth bars, metal expansion caps, shoes, fiber-reinforced pads and embedded plates in the unit price bid for Prestressed Beams Type MTS.

STRUCTURAL STEEL: Use structural steel meeting the requirements of AASHTO M 270 Grade 36 for embedded plates, smooth bars and shoes. Use structural steel meeting the requirements of AASHTO M 314 Grade 55 for anchor bolts. Galvanize the anchor bolts meeting the requirements of AASHTO M 232. Use headed shear studs meeting the requirements of AASHTO M 169 Grades 1010 through 1020.

HORIZONTAL INTERFACE SHEAR REINFORCEMENT: Fabricator will provide spacing that meets the requirements of the AASHTO code specified on the General Layout.

MONTANA SUPER GIRDER PROPERTIES

NAME	Girder Depth "Height"	"Web"	A (in²)	Ycg (in)	Ixo (in⁴)	Sx (Top) (in³)	Sx (Bot) (in³)	Weight (lb/ft)
MTS-36	36"	19⅜"	670	16.44	112 100	5 732	6 818	700
MTS-45	45"	28⅜"	724	20.28	197 679	7 998	9 746	755
MTS-54	54"	37⅜"	778	24.22	312 050	10 477	12 886	810
MTS-63	63"	46⅜"	832	28.22	457 505	13 155	16 210	865
MTS-72	72"	55⅜"	886	32.29	636 312	16 024	19 706	925
MTS-81	81"	64⅜"	940	36.41	850 718	19 077	23 368	980
MTS-96	96"	79⅜"	1030	43.36	1 293 240	24 566	29 829	1075

DIAPHRAGM LOCATIONS

SPAN LENGTH	DIAPHRAGM LOCATION
0 - 40 ft	NONE
40 - 80 ft	½ S
80 - 120 ft	⅓ S
120 - 160 ft	¼ S
greater than 160 ft	See Erection Plan

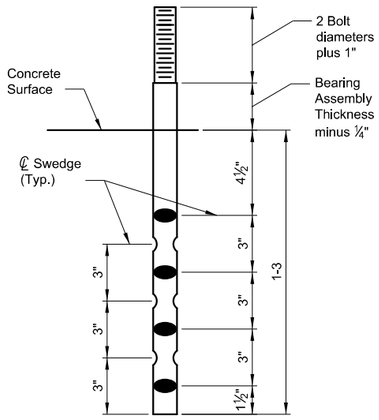
ANCHOR BOLT DIAMETERS

SPAN LENGTH	ANCHOR BOLT OR SMOOTH BAR DIAMETER	EXPANSION CAP DIAMETER
0 - 50 ft	1"	1⅛"
50 - 100 ft	1¼"	1⅜"
100 - 150 ft	1½"	1⅝"
greater than 150 ft	1¾"	1⅞"

WEB THREADED INSERT / HOLE

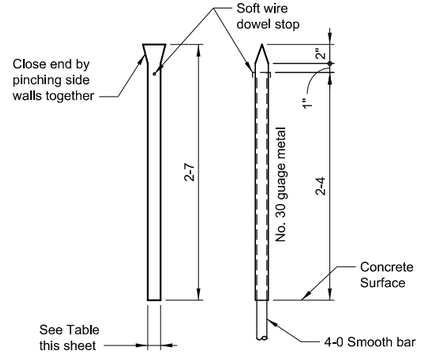
CONDITION	EXTERIOR BEAM	INTERIOR BEAM
End Bent Fixed Bearing	Open Hole	Open Hole
End Bent Exp Bearing	Threaded Insert	Open Hole
Intermediate Bent	Threaded Insert	Open Hole
Intermediate Diaphragm	Threaded Insert	Open Hole

NOTE: Place threaded inserts at diaphragm face of beam only.

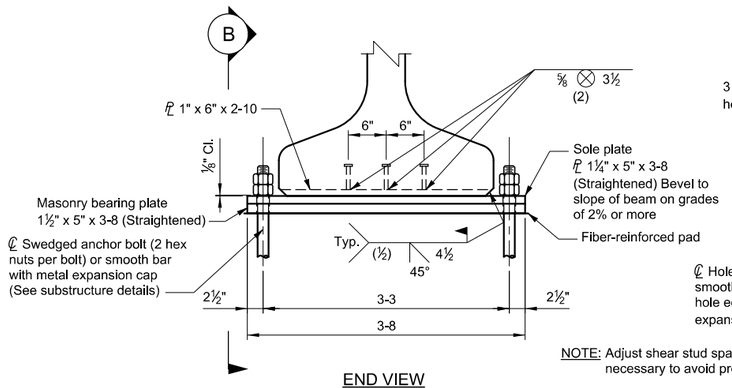


NOTE: Make swedge deformations 3/16" deep minimum without removing metal.

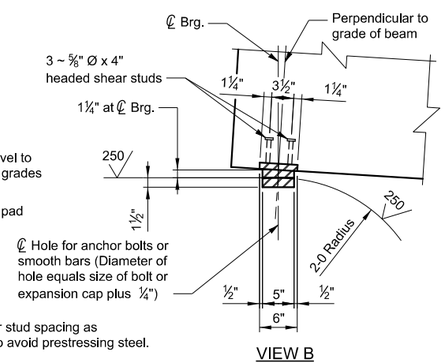
ANCHOR BOLT DETAIL



METAL EXPANSION CAP DETAIL



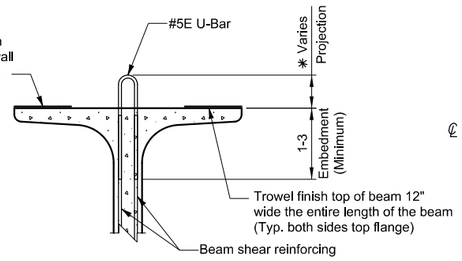
END VIEW



NOTE: Adjust shear stud spacing as necessary to avoid prestressing steel.

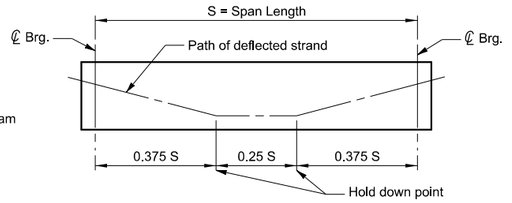
VIEW B

FIXED BEARING DETAILS



HORIZONTAL INTERFACE SHEAR REINFORCEMENT

✱NOTE: Extend horizontal interface shear reinforcement such that is located between top and bottom deck mat reinforcing layers.



TYPICAL DEFLECTED STRAND FOR PRE-TENSIONING SYSTEM

STANDARD PRESTRESSED CONCRETE BEAM TYPE MTS

No Scale

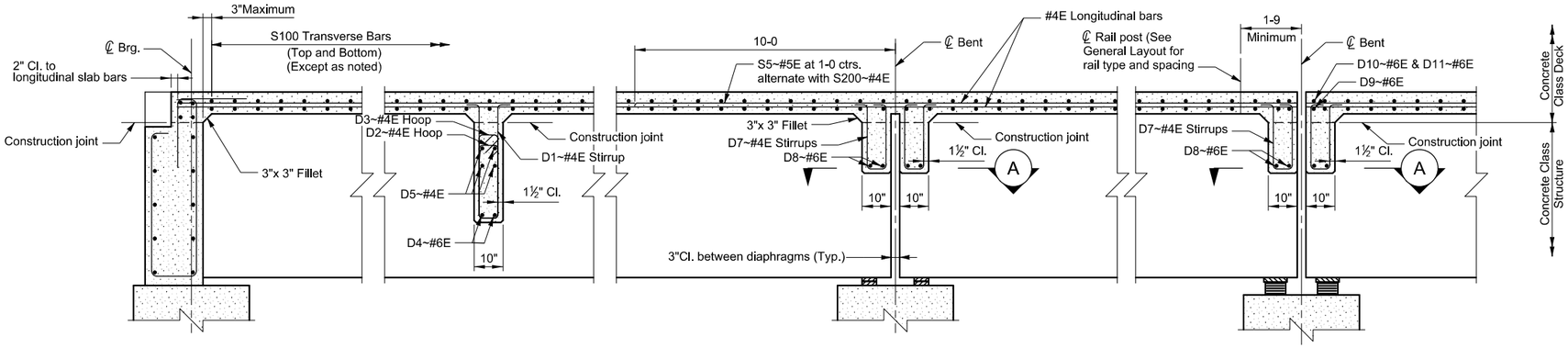
MDT MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

REVISED	REVISED	REVISED	REVISED	APPROVED	CHECKED	DRAWN	$DATE$
			5-20-14	3-6-12	3-6-12	3-6-12	$TIME$
			D.F.J.	D.F.J.	D.F.J.	T.J.B.	$FILEABBREV$

DRAWING NO. MTS

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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.

NOTES

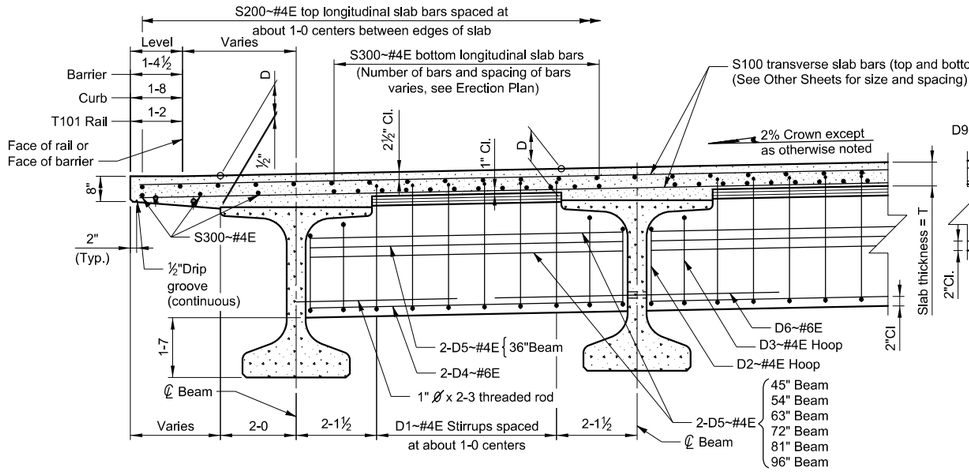
Use details shown on this sheet only as they apply to the project. See the General Layout or Other Sheets for beam spacing, slab thickness, size and spacing of S100 bars, number and spacing of S200 and S300~#4 bars, deck joint arrangement, rail and curb length, rail post spacing, bill of reinforcing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

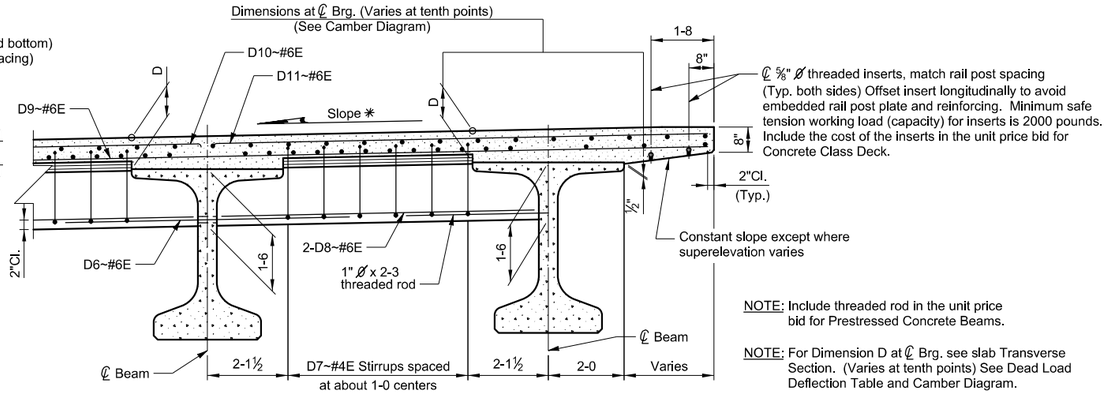
If the bridge is skewed, place the transverse slab reinforcing steel as shown on Other Sheets.

See Standard Bridge Rail drawings for rail details.

The suffix E denotes epoxy coated reinforcing.



TRANSVERSE SECTION NEAR INTERMEDIATE DIAPHRAGM AT LOW SIDE

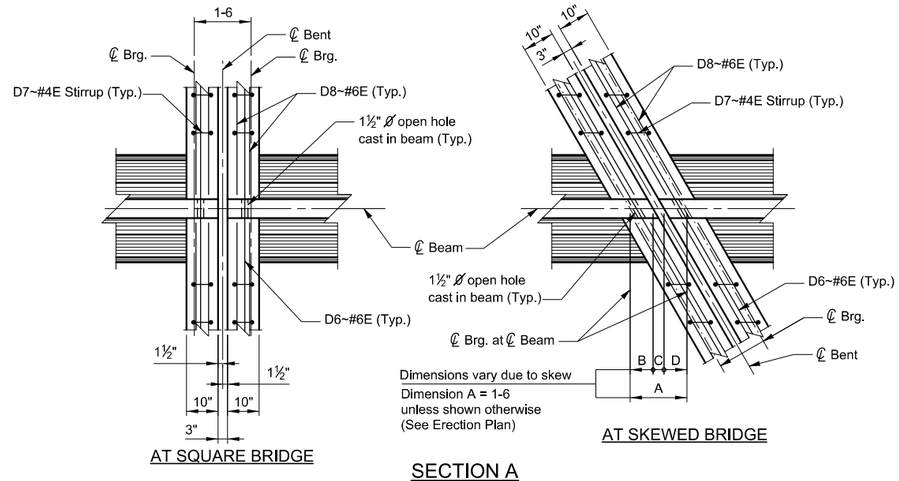


NOTE: Include threaded rod in the unit price bid for Prestressed Concrete Beams.

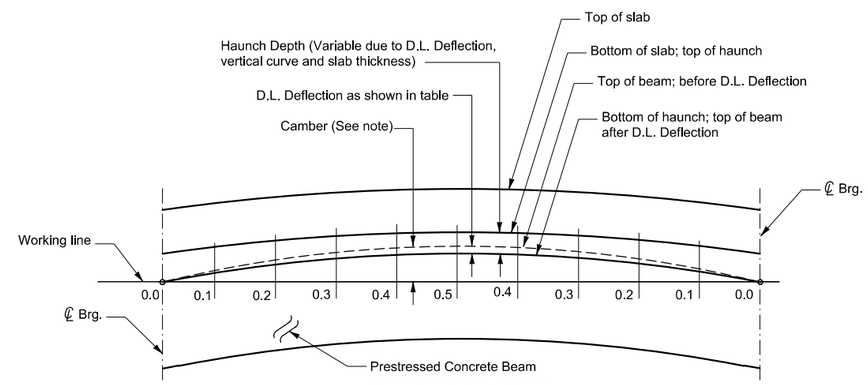
NOTE: For Dimension D at ℄ Brg. see slab Transverse Section. (Varies at tenth points) See Dead Load Deflection Table and Camber Diagram.

TRANSVERSE SECTION NEAR INTERMEDIATE BENT AT HIGH SIDE

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



SECTION A



CAMBER DIAGRAM

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

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.

STANDARD SLAB AND DIAPHRAGM DETAILS

No Scale

MDT MONTANA DEPARTMENT OF TRANSPORTATION — BRIDGE BUREAU

REVISED			
REVISED			
REVISED	3-15-17	D.F.J.	
REVISED	5-20-14	D.F.J.	
APPROVED	3-6-12	D.F.J.	
CHECKED	3-6-12	D.F.J.	
DRAWN	3-6-12	T.J.B.	SFILEABBREVS
$DATE$		$TIME$	

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SL-8