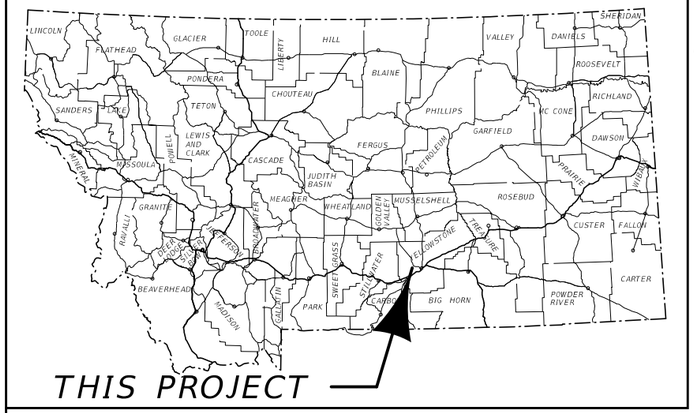
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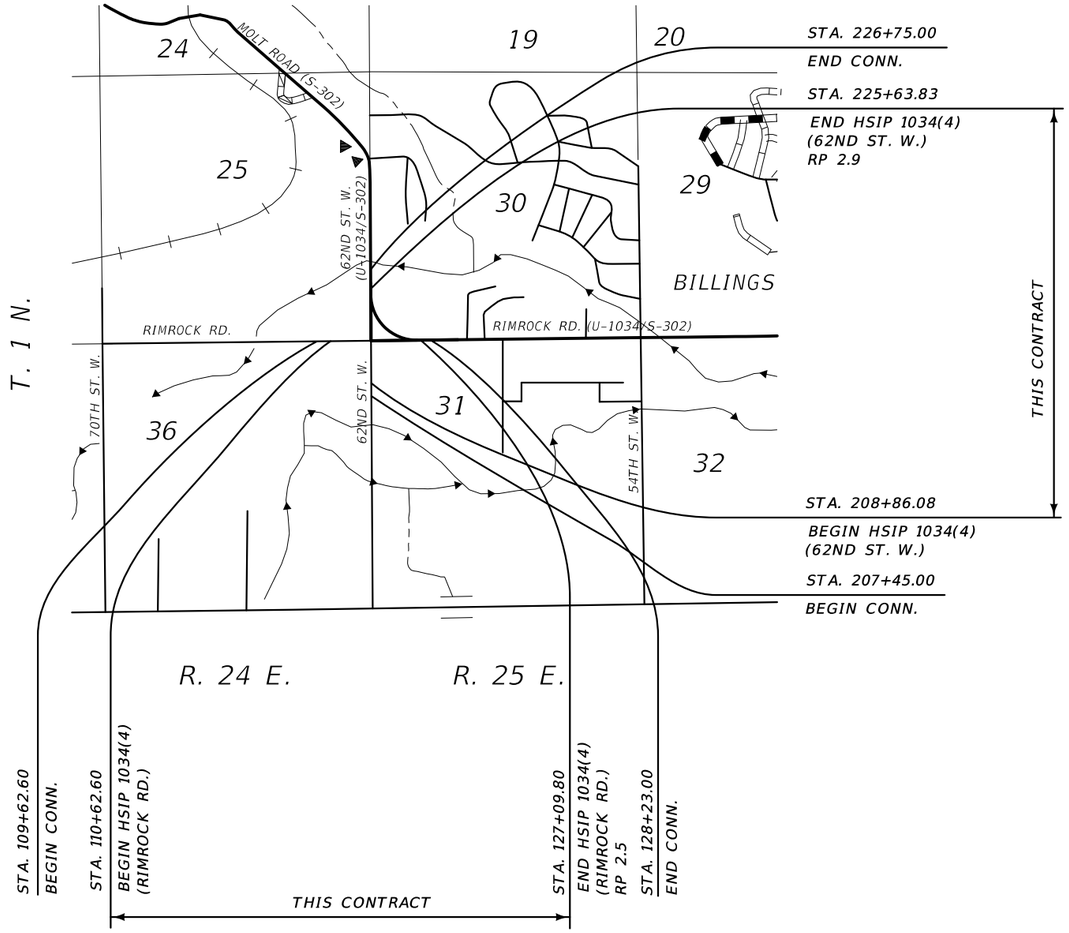


HSIP 1034(4)
GRADE, GRAVEL, & PL. MIX SURF. & C&G
SF169 RIMROCK & 62ND ST W-BLGS
YELLOWSTONE COUNTY

LETTING DATE - _____

LENGTH 0.6 MILES

SURFACING SOURCES - CONTRACTOR FURNISHED



YELLOWSTONE COUNTY

PROJECT DESIGN DATA

62ND STREET WEST (NORTH OF RIMROCK ROAD)

PRESENT 2019	A.D.T. =	5,560
LETTING 2020	A.D.T. =	5,720
DESIGN 2040	A.D.T. =	10,130
	D.H.V. =	1,140
	TRUCKS =	1.3%
	V. =	60 MPH
	18 KIP ESAL'S =	47 DAILY
	GROWTH RATE =	2.9% ANNUALLY

62ND STREET WEST (SOUTH OF RIMROCK ROAD)

PRESENT 2019	A.D.T. =	3,190
LETTING 2020	A.D.T. =	3,280
DESIGN 2040	A.D.T. =	5,690
	D.H.V. =	680
	TRUCKS =	0.8%
	V. =	60 MPH
	18 KIP ESAL'S =	19 DAILY
	GROWTH RATE =	2.8% ANNUALLY

RIMROCK ROAD (EAST OF 62ND STREET WEST)

PRESENT 2019	A.D.T. =	5,730
LETTING 2020	A.D.T. =	5,860
DESIGN 2040	A.D.T. =	9,240
	D.H.V. =	1,040
	TRUCKS =	1.2%
	V. =	60 MPH
	18 KIP ESAL'S =	39 DAILY
	GROWTH RATE =	2.3% ANNUALLY

RIMROCK ROAD (WEST OF 62ND STREET WEST)

PRESENT 2019	A.D.T. =	2,480
LETTING 2020	A.D.T. =	2,560
DESIGN 2040	A.D.T. =	4,900
	D.H.V. =	590
	TRUCKS =	0.9%
	V. =	60 MPH
	18 KIP ESAL'S =	19 DAILY
	GROWTH RATE =	3.3% ANNUALLY

PLANS PREPARED BY

SANDERSON STEWART
Enduring Community Design
1300 North Transtech Way
Billings, Montana 59102
Phone: 406.656.5255
www.sandersonstewart.com

SANDERSON STEWART

APPROVED BY:

CONSULTANT DESIGN ENGINEER

TESSA M. WERMERS 49506 PE PROFESSIONAL ENGINEER

DocuSigned by: Tessa Wermers 11/2/2023
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MONTANA DEPARTMENT OF TRANSPORTATION

RECEIVED BY: CONSULTANT DESIGN ENGINEER

DocuSigned by: Kelly Williams 10/31/2023
EF7F5DDAB5A7471... DATE

ASSOCIATED PROJECT AGREEMENT NUMBERS	
R / W	HSIP 1034(5)
I.C.	
P. E.	HSIP 1034(3)

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDTT05.dgn	DESIGNED BY			ROAD PLANS
2		10/24/2023	REVIEWED BY			UPN 9383001
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NOTES

BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

COMP. AGGREGATE WEIGHT	= 3750 LBS. PER CUBIC YARD
COMP. WEIGHT OF PL. MIX BIT. SURF.	= 4167 LBS. PER CUBIC YARD
ASPHALT CEMENT - COMMERCIAL	= 6.0% OF PL.MIX BIT.SURF.
ASPHALT CEMENT - GRADE S - 3/4" AGG.	= 5.4% OF PL.MIX BIT.SURF.
ASPHALT CEMENT - GRADE S - 3/8" AGG.	= 6.2% OF PL.MIX BIT.SURF.
HYDRATED LIME	= 1.4% OF PL.MIX BIT.SURF.
BITUMINOUS MATERIAL	= 8.5 LBS. PER GAL.
EMULSIFIED ASPHALT - TACK (ALL OTHER SURFACES)	= 0.05 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - TACK (CONCRETE SURFACES)	= 0.10 GAL. PER SQ.YARD (UNDILUTED)

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)

DO NOT DISTURB EXISTING VEGETATION

DO NOT DISTURB EXISTING VEGETATION INSIDE OF NEW RIGHT-OF-WAY AND CONSTRUCTION PERMITS BEYOND THE CONSTRUCTION LIMITS NECESSARY TO COMPLETE THE WORK.

STATIONING - REFERENCE POSTS

STATIONING ON THIS PROJECT RUNS FROM WEST TO EAST ALONG RIMROCK RD. AND REFERENCE POSTS RUN FROM EAST TO WEST ALONG U-1034/S-302.

STATIONING ON THIS PROJECT RUNS FROM SOUTH TO NORTH ALONG 62ND ST. W. AND REFERENCE POSTS RUN FROM SOUTH TO NORTH ALONG U-1034/S-302.

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.

SPECIAL BORROW

USE SPECIAL BORROW FOR ALL FILL. SEE SPECIAL BORROW DETAIL.

APPROACHES

CONSTRUCT APPROACHES TO A 24' FINISHED TOP ON A 35' SUBGRADE UNLESS NOTED OTHERWISE IN THE PLANS.

SURFACING SECTION A:
- 0.20' PLANT MIX BITUMINOUS SURF.
- 0.60' CRUSHED AGGREGATE COURSE

PLANT MIX SURFACE ALL PRIVATE APPROACHES TO R/W OR TO CONSTRUCTION LIMITS OF THE APPROACH, WHICHEVER IS GREATER.

GRAVEL SURFACE ALL FARM FIELD APPROACHES TO R/W WITH A 12' WIDE PLANT MIX STRIP ADJACENT AND PARALLEL TO THE ROADWAY.

PUBLIC LAND SURVEY MONUMENTS

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

MISC. TO BE MOVED OR REMOVED BY OTHERS

ALL PRIVATELY OWNED SIGNS TO BE REMOVED BY OWNER.

PLANT MIX SAW-CUTS

SAW CUT ALL PLANT MIX CONNECTIONS TO A NEAT EDGE. PAYMENT FOR SAWCUTS IS INCLUDED IN THE UNIT BID PRICE FOR PLANT MIX SURFACING.

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

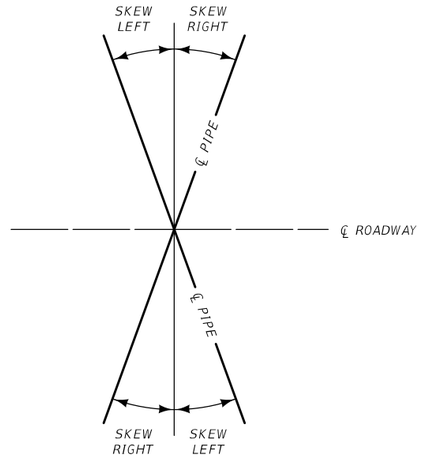
PERMANENT WETLAND IMPACTED AREAS

WETLAND DELINEATION

WETLAND DESIGNATION	STATION FROM	STATION TO	WETLAND AREA (acres) DELINEATED AREA	WETLAND AREA (acres) IMPACTED AREA (PERM.)	REMARKS
	RIMROCK RD.				
WETLAND 1E	109+64	114+48	0.206	0.127	LT.
WETLAND 1H	117+07	121+30	0.108	0.108	RT.
WETLAND 2	106+20	108+80	0.043	0.000	RT. # - BIRELY DRAIN
WETLAND 3	109+28	110+68	0.018	0.009	RT. #
WETLAND 4	118+81	120+18	0.034	0.000	RT.
	62ND ST. W.				
WETLAND 1A	219+62	222+10	0.084	0.000	RT.
WETLAND 1B	215+74	219+50	0.232	0.000	RT.
WETLAND 1C	215+01	220+18	1.497	0.441	RT.
WETLAND 1D	214+78	220+46	0.930	0.649	LT.
WETLAND 1F	208+64	214+50	0.416	0.306	LT.
WETLAND 1G	204+37	208+26	0.053	0.010	LT. #
WETLAND 5	204+37	206+92	0.018	0.000	RT. #
TOTAL			3.64	1.65	

AREA OF EXISTING WETLAND EXTENDS BEYOND PLAN LIMITS

SKEW DIAGRAM



CLEARING AND GRUBBING

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

APPROACHES (For Information Only/Incl in Additional Surfacing Frame)

STATION	TYPE	linear feet WIDTH	linear feet RADIUS LEFT	linear feet RADIUS RIGHT	linear feet LENGTH (CL TO R/W)	EXISTING SURFACING	PROPOSED SURFACING SECTION	PROPOSED SURFACING	tons COMM. PLANT MIX BIT. SURF. GR. S - 3/8" PG 58V-34 - MISC.	square yards AGG. TREAT.	cubic yards CRUSHED AGG. COURSE	gallons EMULSIFIED ASPHALT TACK ##	REMARKS
RIMROCK RD.													
120+25	FARM FIELD	24.0	25	25	63.1	GRAVEL	A	PAVE 12'	7	52	37	3	LT.
62ND ST. W.													
208+34	FARM FIELD	24.0	25	25	56.8	GRAVEL	A	PAVE 12'	8	58	41	3	RT.
208+43	FARM FIELD	24.0	25	25	63.1	GRAVEL	A	PAVE 12'	8	58	45	3	LT.
219+35	PRIVATE	24.0	25	25	51.5	GRAVEL	A	PAVE	59	427	189	21	RT. - INCLUDES QUANTITIES FOR TURNAROUND. SEE DETAILS
225+14	FARM FIELD	24.0	25	25	65.0	N/A	A	PAVE 12'	8	58	88	3	RT.
SUBTOTAL	PRIVATE								59	427	189	21	
SUBTOTAL	FARM FIELD								31	226	211	12	

APPROACHES

SANDERSON STEWART

MONTANA Department of Transportation

2	...\9383001\RD\9383001RDTTL.dgn	DESIGNED BY			ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1	10/24/2023	REVIEWED BY					
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LINEAR AND LEVEL DATA

LENGTH OF ROADWAY - RIMROCK RD.	1,647.20 ft
LENGTH OF ROADWAY - 62ND ST. W.	1,413.51 ft
TOTAL LENGTH OF HSIP 1034(4)	3060.71 ft

BEARING SOURCE

GRID -- MONTANA COORDINATE SYSTEM NAD 83-2011

LEVEL DATUM SOURCE

NAVD 88 (ELEVATIONS DERIVED FROM DIFFERENTIAL LEVELS HOLDING BMS A9383)

CONTROL NOTE

THIS PROJECT IS ON THE MONTANA COORDINATE SYSTEM NAD83. 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 DIVIDED BY CSF = GROUND DISTANCE). THE CSF FOR THIS PROJECT IS 0.99945586.

RIMROCK RD. CENTERLINE ALIGNMENT COORDINATE TABLE

STATION	DESCRIPTION	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
100+00.00	POT	565,727.749	2,177,534.094	
109+62.60	POT	565,747.152	2,178,496.501	BEGIN CONNECTION
110+62.60	POT	565,749.168	2,178,596.481	BEGIN HSIP 1034(4) (RIMROCK RD.)
114+69.00	PC	565,757.360	2,179,002.796	
115+15.23	PI	565,758.292	2,179,049.014	
115+61.34	PRC	565,764.892	2,179,094.768	
115+91.48	PI	565,769.197	2,179,124.604	
116+21.34	PT	565,766.286	2,179,154.609	
117+40.74	PC	565,754.755	2,179,273.451	
117+67.64	PI	565,752.157	2,179,300.227	
117+94.34	PT	565,755.315	2,179,326.942	
118+46.02	PC	565,761.382	2,179,378.265	
119+58.05	PI	565,774.533	2,179,489.523	
120+69.76	PRC	565,772.971	2,179,601.544	
122+05.76	PI	565,771.074	2,179,737.533	
123+41.74	PT	565,773.528	2,179,873.512	
127+09.80	POT	565,780.171	2,180,241.510	END HSIP 1034(4) (RIMROCK RD.)
128+23.00	POT	565,782.215	2,180,354.696	END CONNECTION
137+31.74	POT	565,798.616	2,181,263.286	

GPK NAME: J0Br83.GPK CHAIN NAME: RIMROCK_CL PROFILE NAME: P_RIMROCK

62ND ST. W. CENTERLINE ALIGNMENT COORDINATE TABLE

STATION	DESCRIPTION	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
200+00.00	POT	564,286.038	2,179,236.923	
207+45.00	POT	565,030.978	2,179,227.507	BEGIN CONNECTION
208+86.08	POT	565,172.043	2,179,225.724	BEGIN HSIP 1034(4) (62ND ST. W.)
209+00.00	PC	565,185.966	2,179,225.548	
209+77.90	PI	565,263.861	2,179,224.564	
210+55.80	PRC	565,341.762	2,179,224.591	
211+49.67	PI	565,435.629	2,179,224.623	
212+43.50	PCC	565,529.395	2,179,220.252	
213+02.58	PI	565,588.411	2,179,217.501	
213+61.45	PRC	565,646.382	2,179,206.111	
213+93.66	PI	565,677.993	2,179,199.900	
214+25.52	PT	565,710.146	2,179,201.905	
215+40.63	PC	565,825.033	2,179,209.072	
215+71.32	PI	565,855.662	2,179,210.982	
216+01.71	PRC	565,885.844	2,179,205.428	
216+78.92	PI	565,961.785	2,179,191.453	
217+55.76	PT	566,038.997	2,179,190.618	
225+63.83	POT	566,847.020	2,179,181.878	END HSIP 1034(4) (62ND ST. W.)
226+75.00	POT	566,958.182	2,179,180.675	END CONNECTION
232+55.76	POT	567,538.909	2,179,174.394	

GPK NAME: J0Br83.GPK CHAIN NAME: 62ND_CL PROFILE NAME: P_62ND

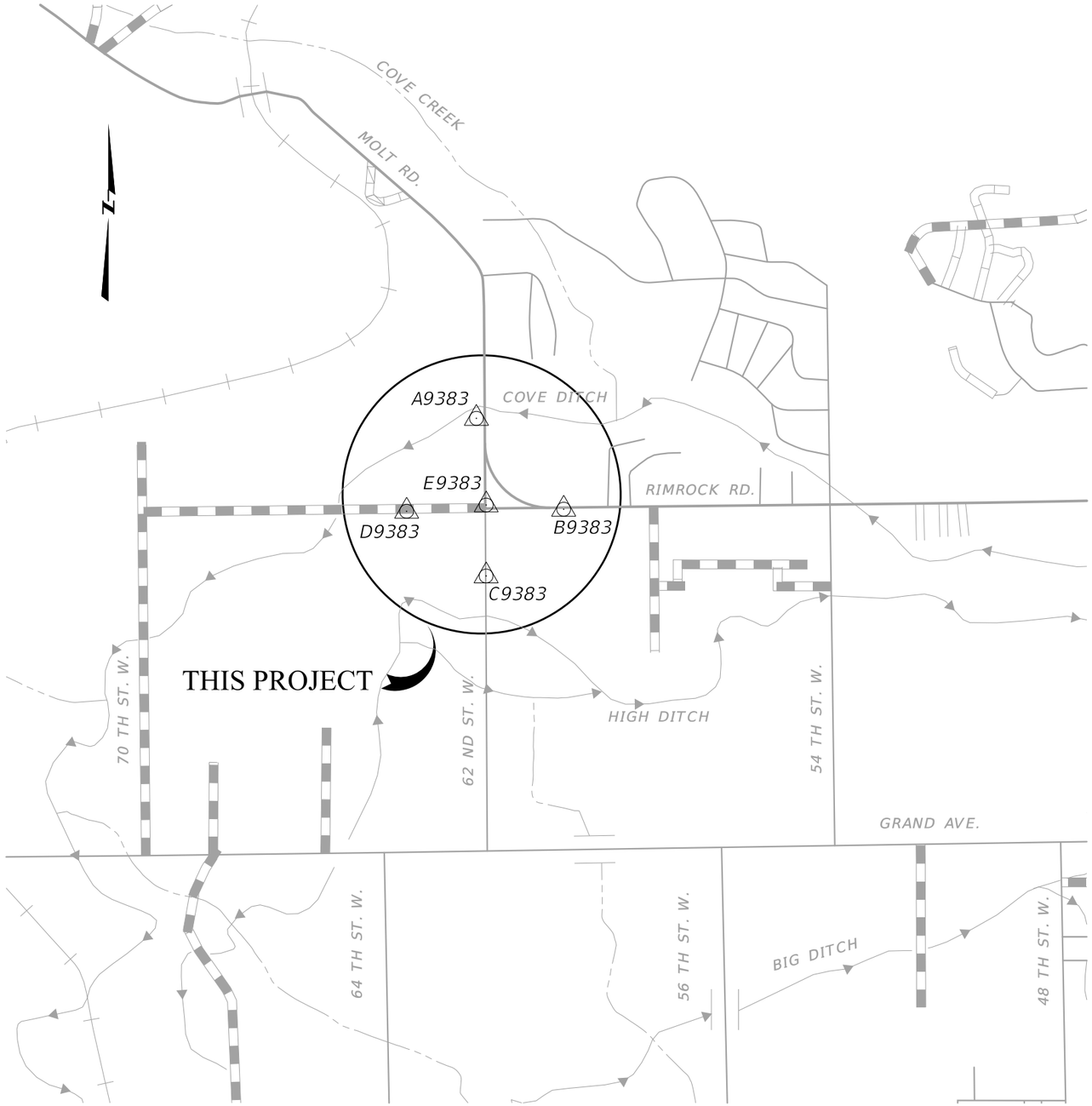
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CONTROL DIAGRAM

SCALE: 1"=1000'



CONTROL ABSTRACT				
POINT NAME/NUMBER	N OR Y COORDINATE INT. FT.	E OR X COORDINATE INT. FT.	POINT ELEVATION U.S. FT.	LOCATION AND DESCRIPTION
A9383	567,148.614	2,179,116.523	3,388.81	SET 2 INCH ALUMINUM CAP ON A 5/8 INCH BY 30 INCH REBAR FLUSH WITH GROUND STAMPED "A9383 2018". POINT IS LOCATED APPROXIMATELY 1,389 FEET NORTH OF THE INTERSECTION OF RIMROCK ROAD AND 62ND STREET WEST, 39.1 FEET WEST OF THE WESTERLY EDGE OF 62ND STREET WEST AND 79.7 FEET WEST OF THE CENTERLINE OF 62ND STREET WEST. SET WITNESS POST 1 FOOT WEST OF CONTROL MONUMENT.
B9383	565,739.446	2,180,469.921	3,373.33	SET 2 INCH ALUMINUM CAP ON A 5/8 INCH BY 30 INCH REBAR FLUSH WITH GROUND STAMPED "B9383 2018". POINT IS LOCATED APPROXIMATELY 1,253 FEET EAST OF THE INTERSECTION OF RIMROCK ROAD AND 62ND STREET WEST, 109.8 FEET EAST OF THE UTILITY POLE AND 33.2 FEET SOUTH OF THE SOUTHERN EDGE OF PAVEMENT ALONG RIMROCK ROAD. SET WITNESS POST 1 FOOT SOUTH OF CONTROL MONUMENT.
C9383	564,704.333	2,179,266.893	3,357.08	SET 2 INCH ALUMINUM CAP ON A 5/8 INCH BY 30 INCH REBAR FLUSH WITH GROUND STAMPED "C9383 2018". POINT IS LOCATED APPROXIMATELY 1,059 FEET SOUTH OF THE INTERSECTION OF RIMROCK ROAD AND 62ND STREET WEST, APPROXIMATELY 7 FEET NORTH OF THE GRAVEL APPROACH TO A PRIVATE RESIDENCE (2605 62ND STREET WEST) AND 4.2 FEET SOUTHEAST OF THE WHITE POST WIRE FENCE CORNER. SET WITNESS POST 3 FEET NORTH OF CONTROL MONUMENT ALONG FENCE.
D9383	565,707.682	2,178,033.552	3,372.17	SET 2 INCH ALUMINUM CAP ON A 5/8 INCH BY 30 INCH REBAR FLUSH WITH GROUND STAMPED "D9383 2018". POINT IS LOCATED APPROXIMATELY 1,185 FEET WEST OF THE INTERSECTION OF RIMROCK ROAD AND 62ND STREET WEST, APPROXIMATELY 1 FOOT SOUTH OF THE RIGHT-OF-WAY FENCE LOCATED TO THE SOUTH OF RIMROCK ROAD. SET WITNESS POST 1 FOOT SOUTH OF CONTROL MONUMENT.
E9383	565,804.800	2,179,267.436	3,366.97	SET 2 INCH ALUMINUM CAP ON A 5/8 INCH BY 30 INCH REBAR FLUSH WITH GROUND STAMPED "E9383 2018". POINT IS LOCATED NORTHEAST OF THE INTERSECTION OF RIMROCK ROAD AND 62ND STREET WEST, 39.2 FEET EAST OF THE EASTERLY EDGE OF PAVEMENT ALONG 62ND STREET WEST AND 29.6 FEET NORTH OF THE NORTHERN EDGE OF PAVEMENT ALONG RIMROCK ROAD. SET WITNESS POST 1 FOOT NORTH OF CONTROL MONUMENT.

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

DIMENSIONS SHOWN ON THE PLANS ARE GRID. ALL SURVEY AND STAKING REQUIRE THE USE OF A COMBINATION SCALE FACTOR (CSF) TO CONVERT GRID DIMENSIONS TO GROUND DIMENSIONS (GRID DISTANCE / CSF = GROUND DISTANCE).
THE CSF FOR THIS PROJECT IS 0.99945586.

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDT.DGN	DESIGNED BY			ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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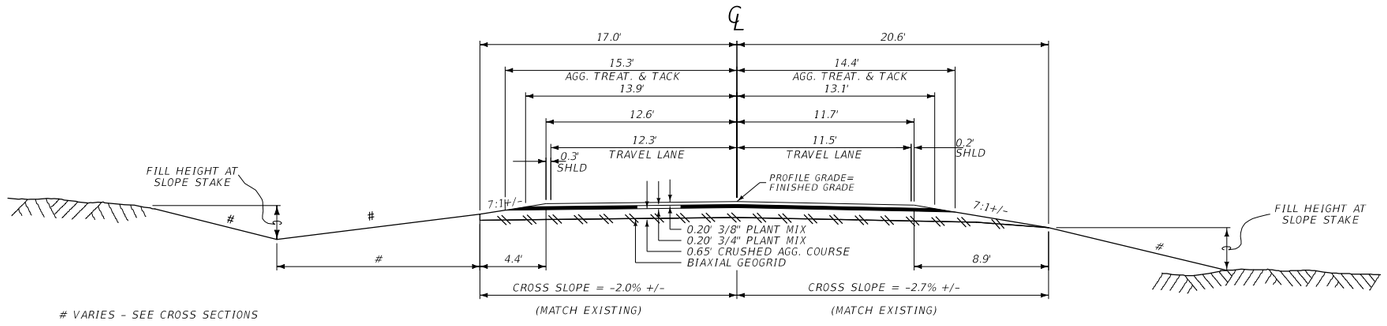
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TYPICAL SECTION NO. 1

RIMROCK RD. - WEST LEG

109+62.60 ONLY — TYP. NO. 1 (BEG. CONNECTION)
109+62.60 TO 110+62.60 — TRANS. TYP. NO. 1 TO TYP. NO. 2



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	5.13	5.67	21.87	square yards PER STATION	660	330	384
cubic yards PER STATION	19.0	21.0	81.0	tons PER STATION			
tons PER STATION	39.6	43.8		gallons PER STATION	33		
square yards PER STATION							

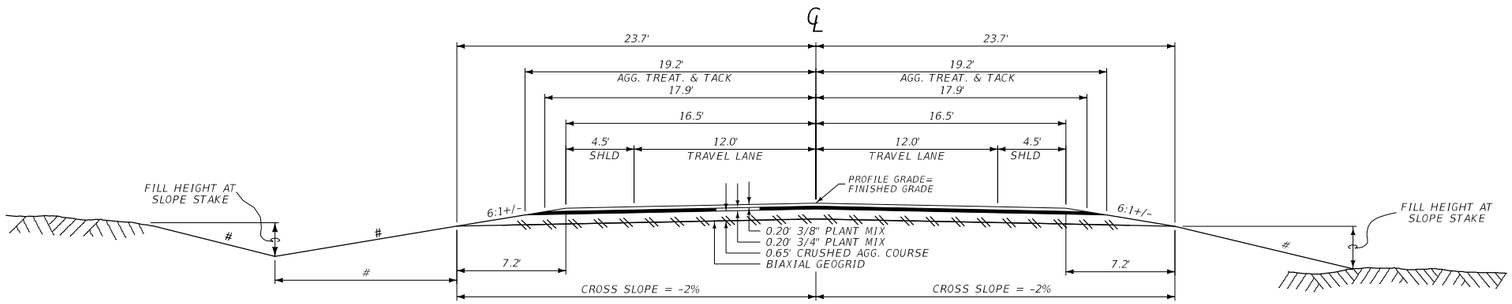
* BASED ON 2 APPLICATIONS

SEE CROSS SECTIONS FOR FILL SLOPES AND BACK SLOPES.

TYPICAL SECTION NO. 2

RIMROCK RD. - WEST LEG

110+62.60 ONLY — TYP. NO. 2 (END CONNECTION/BEG. PROJECT)
110+62.60 TO 112+32.61 — TRANS. TYP. NO. 2 TO TYP. NO. 3



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	6.88	7.42	27.89	square yards PER STATION	854	427	460
cubic yards PER STATION	25.5	27.5	103.3	tons PER STATION			
tons PER STATION	53.1	57.3		gallons PER STATION	43		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SEE CROSS SECTIONS FOR FILL SLOPES AND BACK SLOPES.

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP2.DGN	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	6
		9:47:59 AM kedam	CHECKED BY			

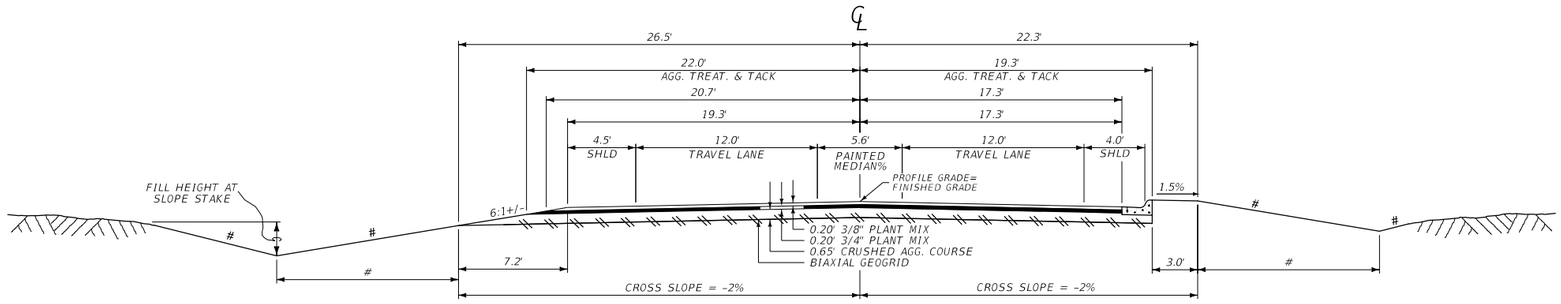
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TYPICAL SECTION NO. 3

RIMROCK RD. - WEST LEG

112+32.61 ONLY — TYP. NO. 3
112+32.61 TO 113+06.64 — TRANS. TYP. NO. 3 TO TYP. NO. 4



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS
% MEDIAN END TRANSITION. SEE DETAILS.

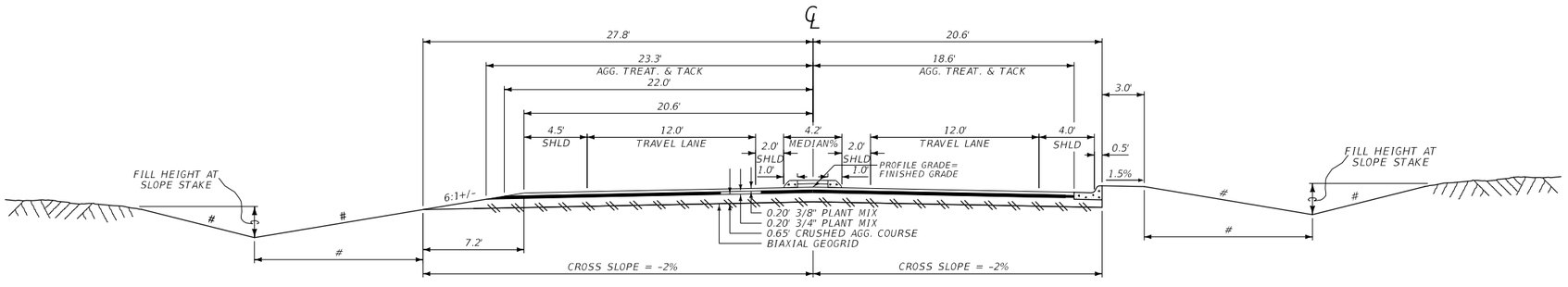
QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	7.46	7.73	28.31	square yards PER STATION	874	437	476
cubic yards PER STATION	27.6	28.6	104.9	tons PER STATION			
tons PER STATION	57.5	59.6		gallons PER STATION	44		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 4

RIMROCK RD. - WEST LEG

113+06.64 ONLY — TYP. NO. 4
113+06.64 TO 120+97.24 — SEE DETAILS



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS
% MEDIAN END TRANSITION. SEE DETAILS.

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	7.98	8.25	30.00	square yards PER STATION	932	466	504
cubic yards PER STATION	29.6	30.6	111.1	tons PER STATION			
tons PER STATION	61.7	63.8		gallons PER STATION	47		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP01.dgn	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	7
		9:48:00 AM kedam	CHECKED BY			

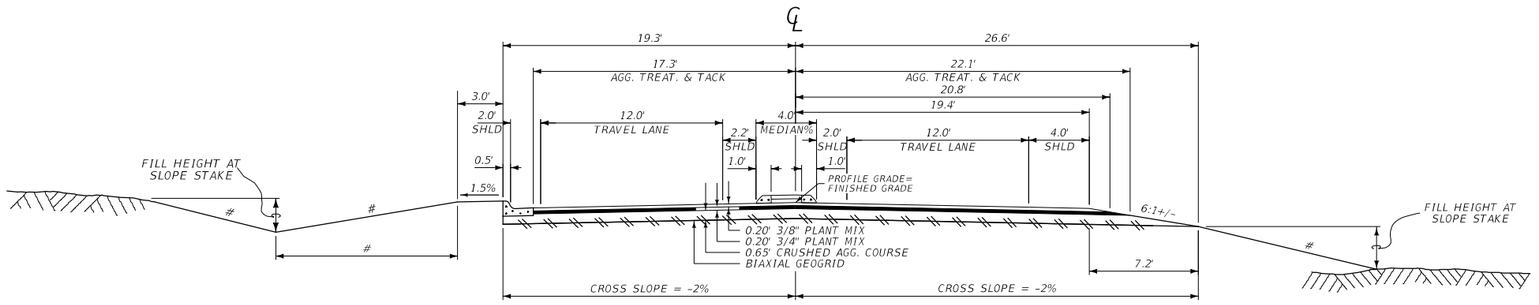
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TYPICAL SECTION NO. 5

RIMROCK RD. – EAST LEG

120+97.24	ONLY	TYP. NO. 5
120+97.24	TO 121+24.79	TRANS. TYP. NO. 5 TO TYP. NO. 6



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS
% MEDIAN END TRANSITION. SEE DETAILS.

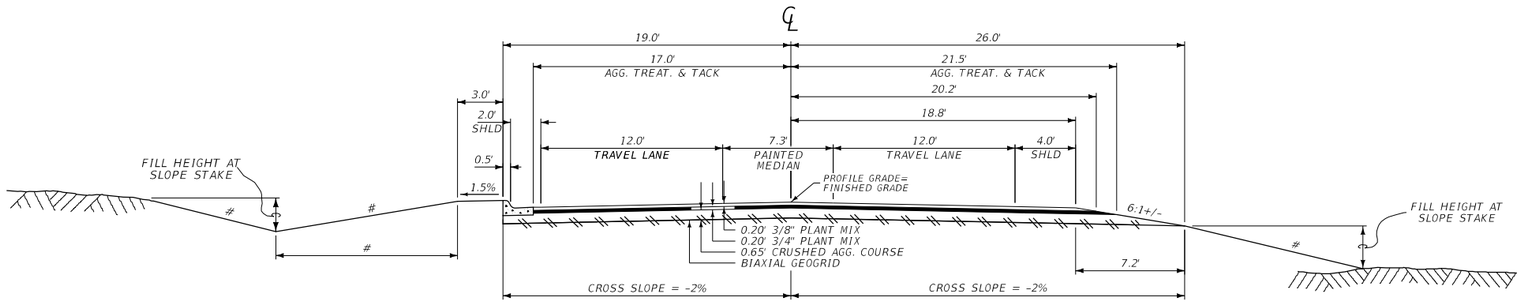
QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	7.48	7.62	28.37	square yards PER STATION	846	423	477
cubic yards PER STATION	27.7	28.2	105.1	tons PER STATION			
tons PER STATION	57.7	58.8		gallons PER STATION	42		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 6

RIMROCK RD. – EAST LEG

121+24.79	ONLY	TYP. NO. 6
121+24.79	TO 121+79.30	TRANS. TYP. NO. 6 TO TYP. NO. 7



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	7.30	7.57	27.14	square yards PER STATION	856	428	444
cubic yards PER STATION	27.0	28.0	100.5	tons PER STATION			
tons PER STATION	56.3	58.3		gallons PER STATION	43		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP05.DWG	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	8
		9:48:00 AM kedam	CHECKED BY			

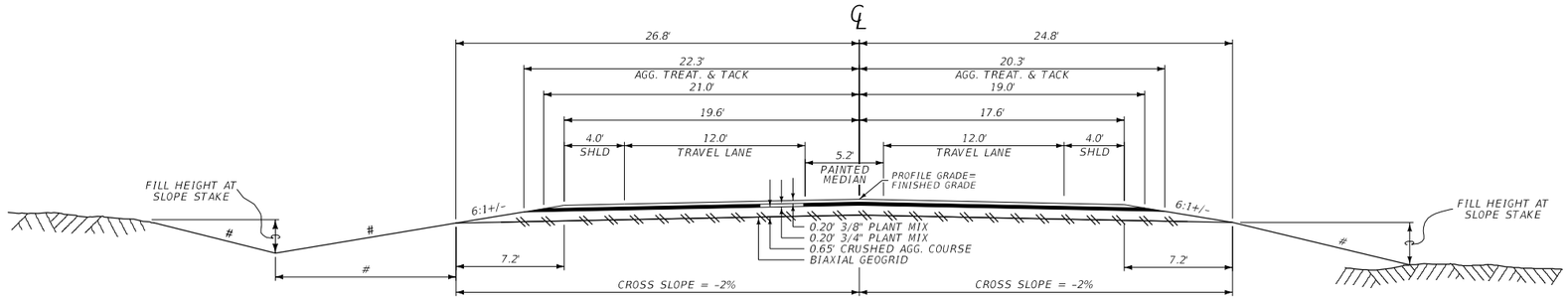
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TYPICAL SECTION NO. 7

RIMROCK RD. - EAST LEG

121+79.30 ONLY — TYP. NO. 7
121+79.30 TO 123+41.74 — TRANS. TYP. NO. 7 TO TYP. NO. 8



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

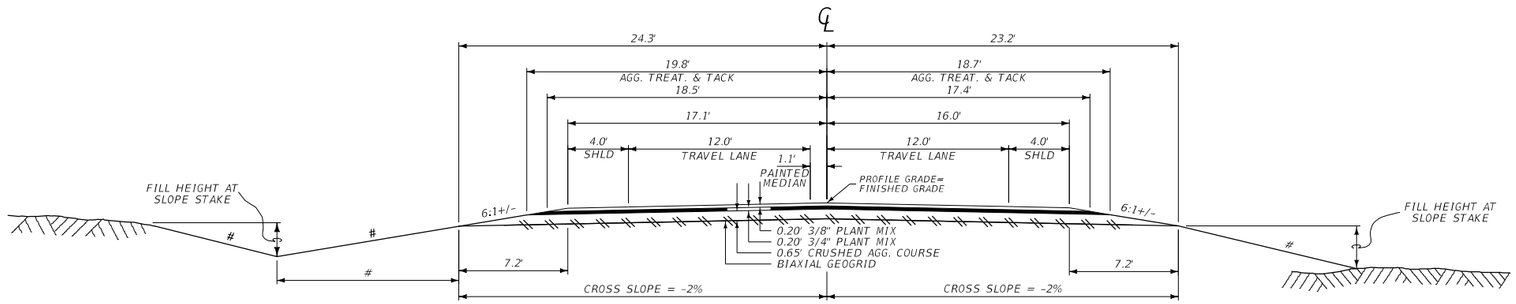
QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	7.72	8.26	30.62	square yards PER STATION	946	473	507
cubic yards PER STATION	28.6	30.6	113.4	tons PER STATION			
tons PER STATION	59.6	63.8		gallons PER STATION	47		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 8

RIMROCK RD. - EAST LEG

123+41.74 ONLY — TYP. NO. 8
123+41.74 TO 124+75.60 — TRANS. TYP. NO. 8 TO TYP. NO. 9



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	6.90	7.44	27.95	square yards PER STATION	856	428	461
cubic yards PER STATION	25.6	27.6	103.5	tons PER STATION			
tons PER STATION	53.3	57.5		gallons PER STATION	43		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

3 2	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP02.DGN 10/24/2023 9:48:02 AM kedam	DESIGNED BY DRAWN BY REVIEWED BY CHECKED BY		ROAD PLANS YELLOWSTONE COUNTY	SF169 RIMROCK & 62ND ST W-BLGS UPN 9383001	HSIP 1034(4) 9

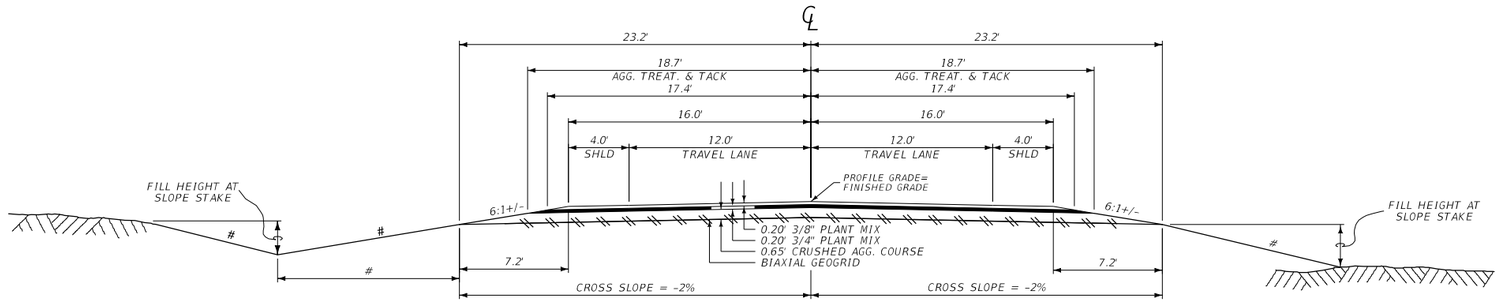
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TYPICAL SECTION NO. 9

RIMROCK RD. - EAST LEG

124+75.60	TO 127+09.80	TYP. NO. 9 (END PROJECT/BEG. CONNECTION)
127+09.80	TO 128+23.00	TRANS. TYP. NO. 9 TO TYP. NO. 10



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	6.68	7.22	27.24	square yards PER STATION	832	416	449
cubic yards PER STATION	24.7	26.7	100.9	tons PER STATION			
tons PER STATION	51.5	55.6		gallons PER STATION	42		
square yards PER STATION							

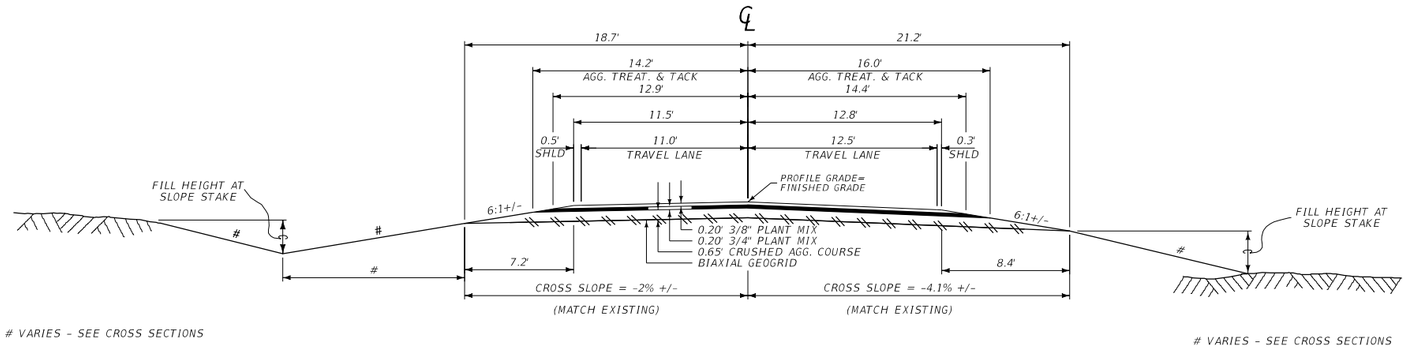
* BASED ON 2 APPLICATIONS

SEE CROSS SECTIONS FOR FILL SLOPES AND BACK SLOPES.

TYPICAL SECTION NO. 10

RIMROCK RD. - EAST LEG

128+23.00	ONLY	TYP. NO. 10 (END CONNECTION)



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	5.16	5.75	22.78	square yards PER STATION	672	336	377
cubic yards PER STATION	19.1	21.3	84.4	tons PER STATION			
tons PER STATION	39.8	44.4		gallons PER STATION	34		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP02.DGN	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	10
		9:48:03 AM kedam	CHECKED BY			

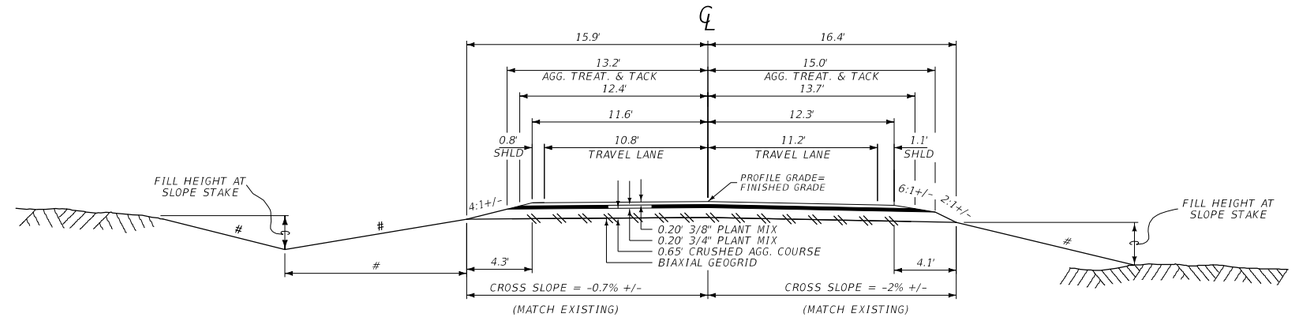
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TYPICAL SECTION NO. 11

62ND ST. W. – SOUTH LEG

207+45.00 ONLY — TYP. NO. 11 (BEG. CONNECTION)
207+45.00 TO 208+86.08 — TRANS. TYP. NO. 11 TO TYP. NO. 12



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

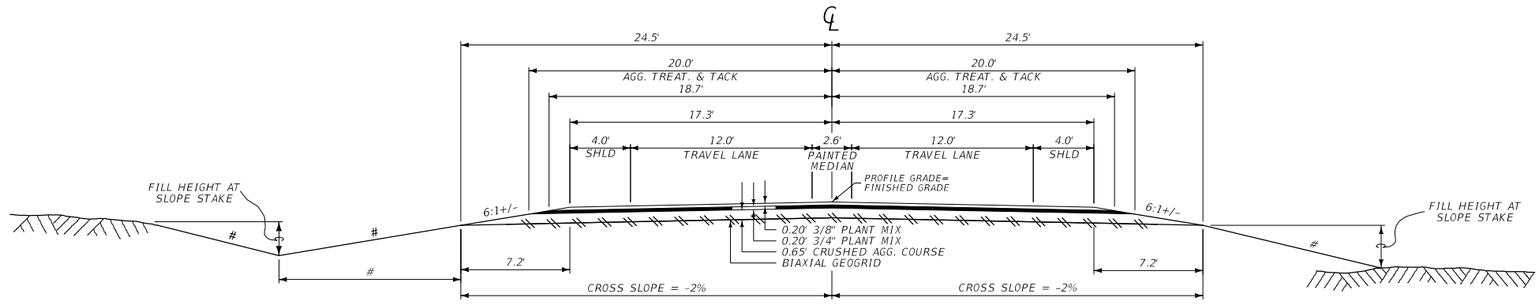
QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	5.00	5.43	19.66	square yards PER STATION	626	313	292
cubic yards PER STATION	18.5	20.1	72.8	tons PER STATION			
tons PER STATION	38.5	41.9		gallons PER STATION	31		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 12

62ND ST. W. – SOUTH LEG

208+86.08 ONLY — TYP. NO. 12 (END CONNECTION/BEG. PROJECT)
208+86.08 TO 209+62.21 — TRANS. TYP. NO. 12 TO TYP. NO. 13



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	7.20	7.74	28.93	square yards PER STATION	888	444	478
cubic yards PER STATION	26.7	28.7	107.1	tons PER STATION			
tons PER STATION	55.6	59.8		gallons PER STATION	44		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP02.DGN	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	11
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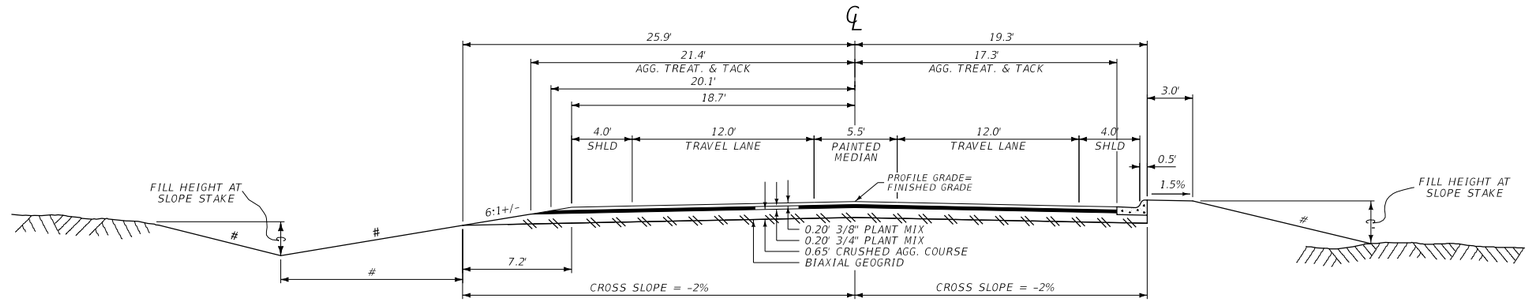
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TYPICAL SECTION NO. 13

62ND ST. W. – SOUTH LEG

209+62.21	ONLY	TYP. NO. 13
209+62.21	TO 210+16.75	TRANS. TYP. NO. 13 TO TYP. NO. 14



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

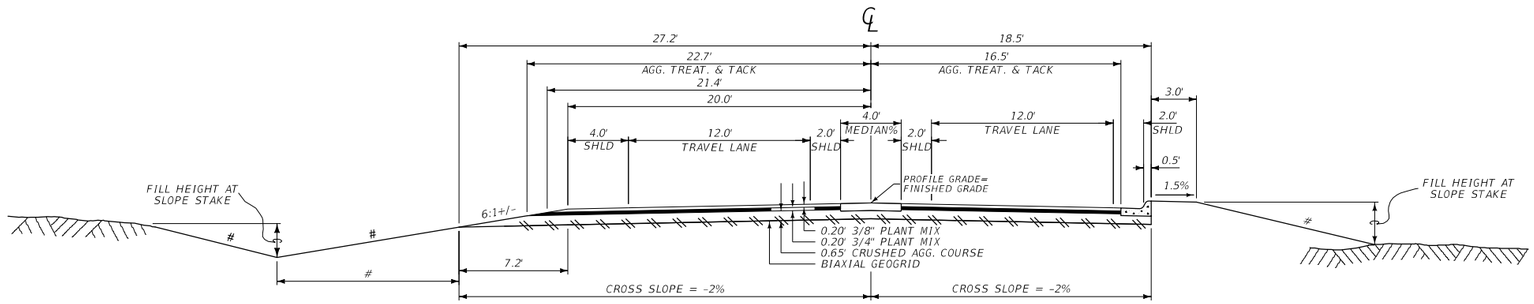
QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	7.34	7.61	27.92	square yards PER STATION	860	430	469
cubic yards PER STATION	27.2	28.2	103.4	tons PER STATION			
tons PER STATION	56.7	58.8		gallons PER STATION	43		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 14

62ND ST. W. – SOUTH LEG

210+16.75	ONLY	TYP. NO. 14
210+16.75	TO 218+92.27	SEE DETAILS



VARIES - SEE CROSS SECTIONS

% MEDIAN END TRANSITION. SEE DETAILS.

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	7.44	7.71	28.24	square yards PER STATION	872	436	474
cubic yards PER STATION	27.6	28.6	104.6	tons PER STATION			
tons PER STATION	57.5	59.6		gallons PER STATION	44		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP01.DGN	DESIGNED BY	ROAD PLANS		SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY		UPN 9383001	12
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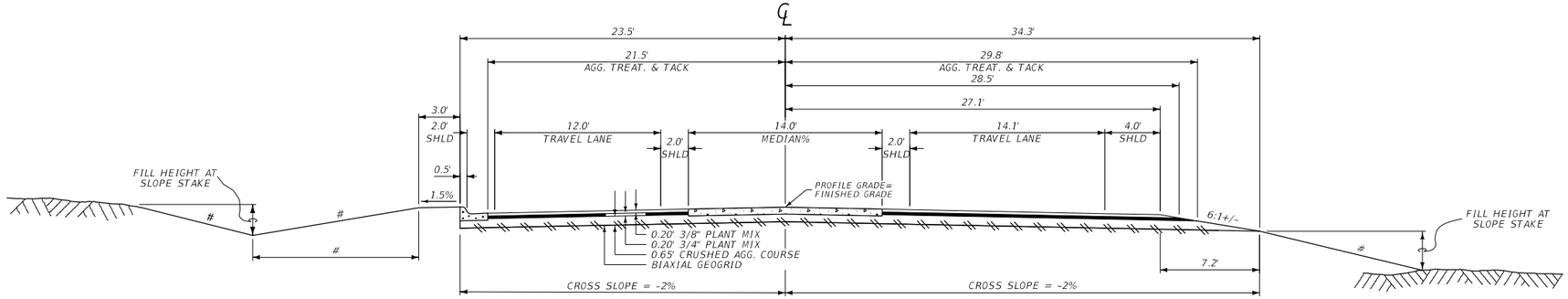
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TYPICAL SECTION NO. 15

62ND ST. W. – NORTH LEG

218+92.27	ONLY	TYP. NO. 15
218+92.27	TO 219+42.06	TRANS. TYP. NO. 15 TO TYP. NO. 16



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS
% MEDIAN END TRANSITION. SEE DETAILS.

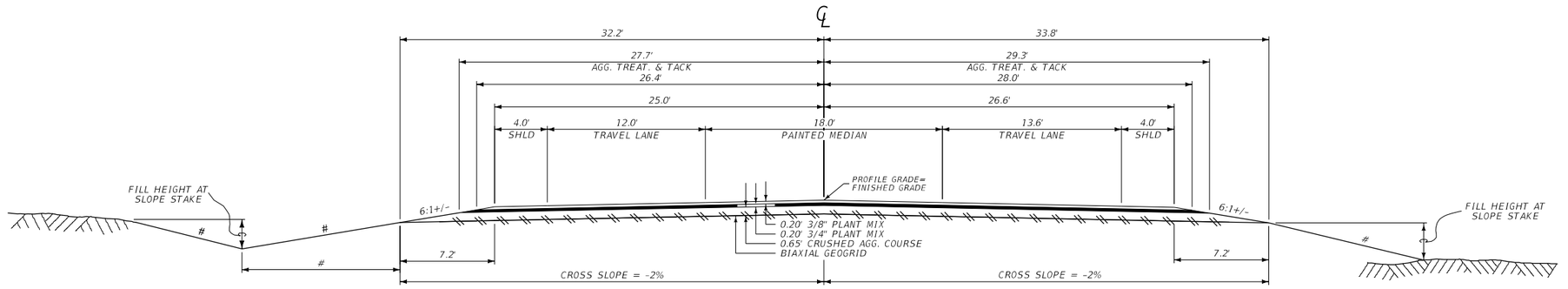
QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	9.86	10.13	36.11	square yards PER STATION	1140	570	609
cubic yards PER STATION	36.5	37.5	133.7	tons PER STATION			
tons PER STATION	76.0	78.1		gallons PER STATION	57		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 16

62ND ST. W. – NORTH LEG

219+42.06	ONLY	TYP. NO. 16
219+42.06	TO 221+28.14	TRANS. TYP. NO. 16 TO TYP. NO. 17



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	10.60	11.14	39.98	square yards PER STATION	1266	633	667
cubic yards PER STATION	39.3	41.3	148.1	tons PER STATION			
tons PER STATION	81.9	86.0		gallons PER STATION	63		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP01.DGN	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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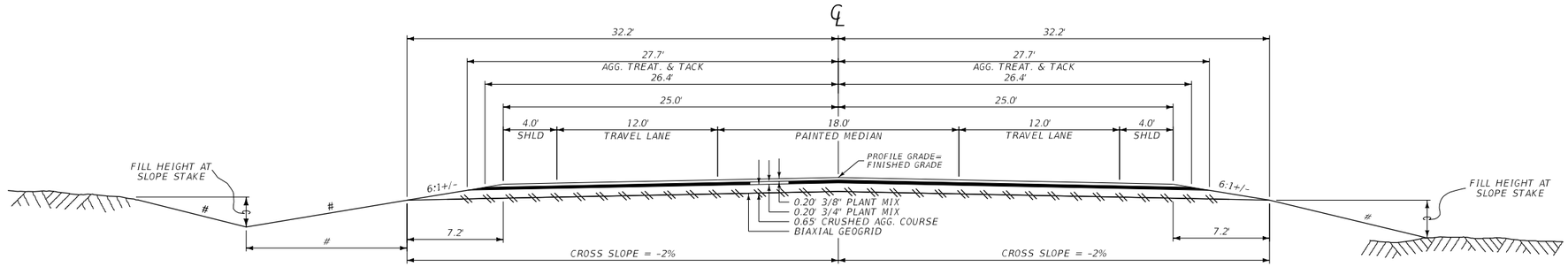
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TYPICAL SECTION NO. 17

62ND ST. W. – NORTH LEG

221+28.14 ONLY — TYP. NO. 17
221+28.14 TO 222+72.36 — TRANS. TYP. NO. 17 TO TYP. NO. 18



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

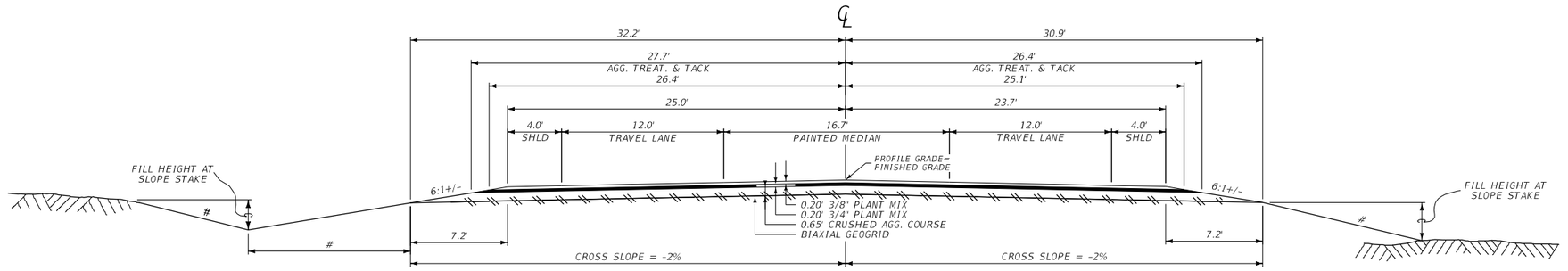
QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	10.28	10.82	38.94	square yards PER STATION	1232	616	649
cubic yards PER STATION	38.1	40.1	144.2	tons PER STATION			
tons PER STATION	79.4	83.5		gallons PER STATION	62		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 18

62ND ST. W. – NORTH LEG

222+72.36 ONLY — TYP. NO. 18
222+72.36 TO 225+63.83 — TRANS. TYP. NO. 18 TO TYP. NO. 19



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	10.02	10.56	38.09	square yards PER STATION	1202	601	634
cubic yards PER STATION	37.1	39.1	141.1	tons PER STATION			
tons PER STATION	77.3	81.5		gallons PER STATION	60		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP01.DGN	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	14
		9:48:08 AM kedam	CHECKED BY			

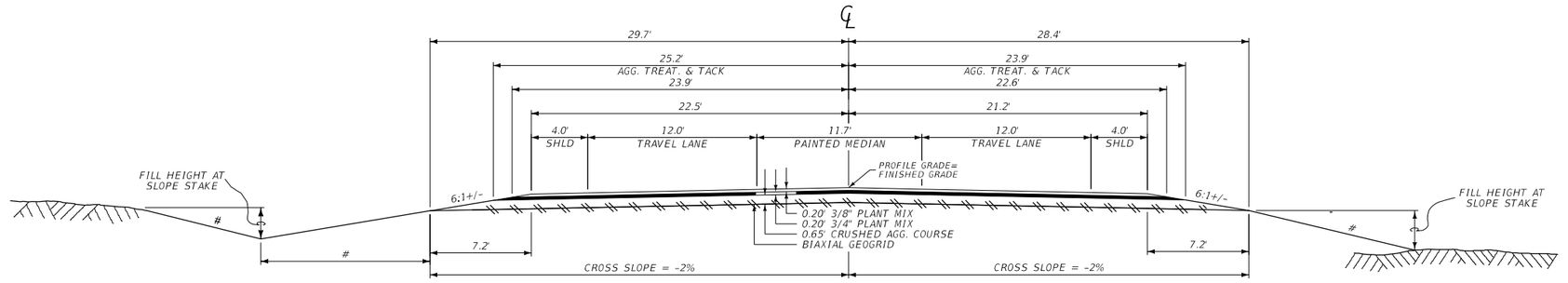
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TYPICAL SECTION NO. 19

62ND ST. W. – NORTH LEG

225+63.83	ONLY	TYP. NO. 19 (END PROJECT/BEG. CONNECTION)
225+63.83	TO 226+75.00	TRANS. TYP. NO. 19 TO TYP. NO. 20



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

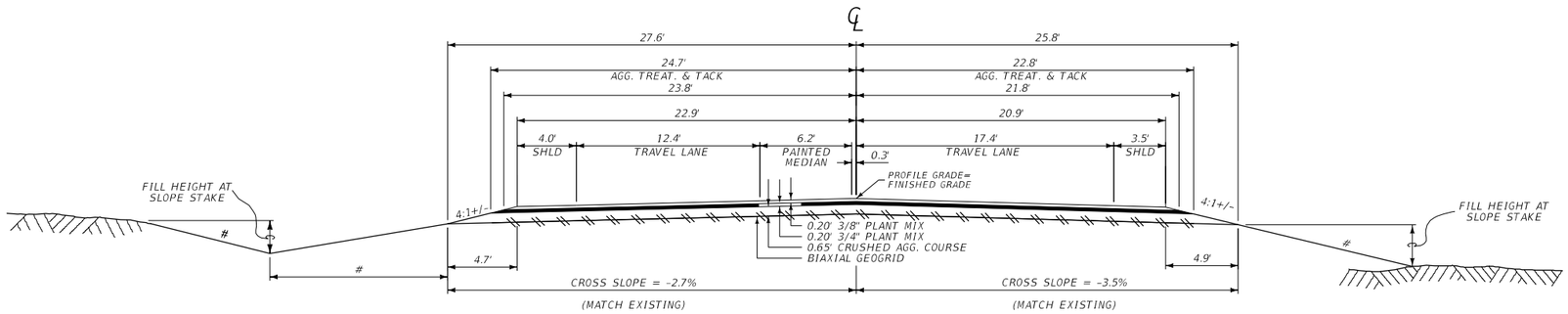
QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	9.02	9.56	34.84	square yards PER STATION	1092	546	579
cubic yards PER STATION	33.4	35.4	129.0	tons PER STATION			
tons PER STATION	69.6	73.8		gallons PER STATION	55		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

TYPICAL SECTION NO. 20

62ND ST. W. – NORTH LEG

226+75.00	ONLY	TYP. NO. 20 (END CONNECTION)



VARIES - SEE CROSS SECTIONS

VARIES - SEE CROSS SECTIONS

QUANTITIES							
UNIT	AGGREGATE			UNIT	BITUMINOUS MATERIAL		GEOGRID
	3/8" PLANT MIX	3/4" PLANT MIX	CR. AGG. COURSE		TACK*	AGG. TREATMENT	BIAXIAL BX TYPE 2
AREA square feet	8.94	9.31	32.79	square yards PER STATION	1056	528	527
cubic yards PER STATION	33.1	34.5	121.4	tons PER STATION			
tons PER STATION	69.0	71.9		gallons PER STATION	53		
square yards PER STATION							

* BASED ON 2 APPLICATIONS

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDTYP01.DGN	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	15
		9:48:09 AM kedam	CHECKED BY			

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SUMMARY

SURFACING

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR	AGGREGATE square yards P.C.C.P. 9" COLORED %	AGGREGATE square yards P.C.C.P. 9" %%	AGGREGATE tons COMM. PLANT MIX BIT. SURF. GR. S -3/8" PG 58V-34	AGGREGATE tons COMM. PLANT MIX BIT. SURF. GR. S -3/4" PG 58V-34	AGGREGATE tons COMM. PLANT MIX BIT. SURF. GR. S -3/4" PG 58V-34 -MISC.	AGGREGATE cubic yards CRUSHED AGG. COURSE	AGGREGATE cubic yards TRAFFIC GRAVEL	BITUMINOUS MATERIAL square yards AGG. TREAT.	BITUMINOUS MATERIAL gallons EMULSIFIED ASPHALT TACK	square yards GEOGRID BIAXIAL #	REMARKS
110+62.60	112+32.61	170.01	170.01			WEST LEG			94	99		177		734	74	796	TRANS. TYP. NO. 2 TO TYP. NO. 3
112+32.61	113+06.64	74.03	74.03			WEST LEG			101	46		80		334	34	363	TRANS. TYP. NO. 3 TO TYP. NO. 4
113+06.64	114+35.90	129.26	129.26			WEST LEG			84	85		146		673	92	593	WEST LEG - SEE DETAILS (QUANT. FROM SURFACE AREA)
114+35.90	115+31.98	96.08	96.08			WEST LEG			59	59		101		465	63	465	WEST LEG - SEE DETAILS (QUANT. FROM SURFACE AREA)
115+31.98	118+18.67	286.69	286.69			ROUNDABOUT	401	69	355	356		688		3,175	384	3,154	ROUNDABOUT - SEE DETAILS (QUANT. FROM SURFACE AREA)
118+18.67	120+97.24	278.57	278.57			EAST LEG			166	170		293		1,354	183	1,161	EAST LEG - SEE DETAILS (QUANT. FROM SURFACE AREA)
120+97.24	121+24.79	27.55	27.55			EAST LEG			16	16		28		117	12	127	TRANS. TYP. NO 5 TO TYP. NO. 6
121+24.79	121+79.30	54.51	54.51			EAST LEG			32	33		58		246	25	259	TRANS. TYP. NO. 6 TO TYP. NO 7
121+79.30	123+41.74	162.44	162.44			EAST LEG			92	99		176		732	73	786	TRANS. TYP. NO. 7 TO TYP. NO. 8
123+41.74	124+75.60	133.86	133.86			EAST LEG			70	76		137		565	57	609	TRANS. TYP. NO. 8 TO TYP. NO. 9
124+75.60	127+09.80	234.20	234.20			EAST LEG			121	130		236		974	98	1,052	TYP. NO. 9
208+86.08	209+62.21	76.13	76.13			SOUTH LEG			43	45		80		333	33	360	TRANS. TYP. NO. 12 TO TYP. NO. 13
209+62.21	210+16.73	54.52	54.52			SOUTH LEG			31	32		57		236	24	257	TRANS. TYP. NO. 13 TO TYP. NO. 14
210+16.73	212+64.91	248.18	248.18			SOUTH LEG			156	160		275		1,270	173	1,089	SOUTH LEG - SEE DETAILS (QUANT. FROM SURFACE AREA)
212+64.91	213+43.89	78.98	78.98			SOUTH LEG			42	42		73		335	45	335	SOUTH LEG - SEE DETAILS (QUANT. FROM SURFACE AREA)
																	ROUNDABOUT - SEE DETAILS
216+08.13	216+68.99	60.86	60.86			NORTH LEG			35	35		61		279	38	279	NORTH LEG - SEE DETAILS (QUANT. FROM SURFACE AREA)
216+68.99	218+92.27	223.28	223.28			NORTH LEG			165	168		286		1,321	181	1,159	NORTH LEG - SEE DETAILS (QUANT. FROM SURFACE AREA)
218+92.27	219+42.06	49.79	49.79			NORTH LEG			39	41		70		299	30	318	TRANS. TYP. NO. 15 TO TYP. NO. 16
219+42.06	221+28.14	186.08	186.08			NORTH LEG			150	158		272		1,162	116	1,224	TRANS. TYP. NO. 16 TO TYP. NO. 17
221+28.14	222+72.36	144.22	144.22			NORTH LEG			113	119		206		878	88	925	TRANS. TYP. NO. 17 TO TYP. NO. 18
222+72.36	225+63.83	291.47	291.47			NORTH LEG			214	226		394		1,672	168	1,768	TRANS. TYP. NO. 18 TO TYP. NO. 19
						ADDITIONAL SURFACING	0	0	241	261	90	863		2,589	227	2,048	
TOTAL		3,060.71	3,060.71	~	~		401	69	2,419	2,456	90	4,757	544	19,743	2,218	19,127	

% INCLUDES MOUNTABLE CURB ADJACENT TO TRUCK APRON
%% INCLUDES MOUNTABLE CURB ADJACENT TO MAINTENANCE ACCESS LANDING
# BX TYPE 2

ADDITIONAL SURFACING (INCLUDED IN SURFACING FRAME)

STATION FROM	STATION TO	linear feet GROSS	linear feet NET	linear feet +	linear feet -	FOR	AGGREGATE square yards P.C.C.P. 9" COLORED %	AGGREGATE square yards P.C.C.P. 9" %%	AGGREGATE tons COMM. PLANT MIX BIT. SURF. GR. S -3/8" PG 58V-34	AGGREGATE tons COMM. PLANT MIX BIT. SURF. GR. S -3/4" PG 58V-34	AGGREGATE tons COMM. PLANT MIX BIT. SURF. GR. S -3/8" PG 58V-34 -MISC.	AGGREGATE cubic yards CRUSHED AGG. COURSE	AGGREGATE cubic yards TRAFFIC GRAVEL	BITUMINOUS MATERIAL square yards AGG. TREAT.	BITUMINOUS MATERIAL gallons EMULSIFIED ASPHALT TACK	square yards GEOGRID BIAXIAL *	REMARKS
109+62.60	110+62.60	100.00	100.00			CONNECTION - WEST LEG			46	51		92		379	38	422	TRANS. TYP. NO. 1 TO TYP. NO. 2
127+09.80	128+23.00	113.20	113.20			CONNECTION - EAST LEG			52	57		105		426	43	468	TRANS. TYP. NO. 9 TO TYP. NO. 10
207+45.00	208+86.08	141.08	141.08			CONNECTION - SOUTH LEG			66	72		127		534	53	543	TRANS. TYP. NO. 11 TO TYP. NO. 12
225+63.83	226+75.00	111.17	111.17			CONNECTION - NORTH LEG			77	81		139		597	60	615	TRANS. TYP. NO. 19 TO TYP. NO. 20
						4 - FARM FIELD APPROACHES					31	211		226	12		
						1 - PRIVATE APPROACHES					59	189		427	21		
SUBTOTAL		~	~	~	~		0	0	241	261	90	863	~	2,589	227	2,048	

% INCLUDES MOUNTABLE CURB ADJACENT TO TRUCK APRON
%% INCLUDES MOUNTABLE CURB ADJACENT TO MAINTENANCE ACCESS LANDING
* BX TYPE 2

SANDERSON STEWART

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SUMMARY

GRADING

STATION		cubic yards			REMARKS
		UNCL. EXC. ##	EXCESS EXC.	SPECIAL BORROW - NEAT LINE *	
FROM	TO				
110+62.60	115+31.98	1,831		4,713	RIMROCK RD. - WEST LEG
115+31.98	118+18.67	415		7,084	ROUNDABOUT
118+18.67	127+09.80	3,774		5,092	RIMROCK RD. - EAST LEG
208+86.08	213+43.89	1,719		4,665	62ND ST. W. - SOUTH LEG
216+08.13	225+63.83	6,459		6,579	62ND ST. W. - NORTH LEG
TOTAL		14,198	#14,198	28,133	

\# FOR INFORMATION ONLY
MATERIAL IS NOT SUITABLE FOR FILL AND WILL BE WASTED. QUANTITY INCLUDES SUBEXCAVATION AND ROADWAY SURFACING EXCAVATION.
* SEE SPECIAL PROVISION FOR EMBANKMENT FOUNDATION AND SUBGRADE TREATMENT WITH GEOSYNTHETICS AND SPECIAL BORROW.

EMBANKMENT FOUNDATION AND SUBGRADE TREATMENT*

STATION		square yards		REMARKS
		STABILIZATION GEOTEXTILE #	GEOGRID - BIAXIAL ##	
FROM	TO			
109+62.60	110+62.60	480	480	WEST LEG - CONNECTION
110+62.60	115+31.98	3,406	3,406	WEST LEG
115+31.98	118+18.67	5,915	5,915	ROUNDABOUT
118+18.67	127+09.80	6,357	6,357	EAST LEG
127+09.80	128+23.00	608	608	EAST LEG - CONNECTION
207+45.00	208+86.08	683	683	SOUTH LEG - CONNECTION
208+86.08	213+43.89	3,658	3,658	SOUTH LEG
216+08.13	225+63.83	8,552	8,552	NORTH LEG
225+63.83	226+75.00	983	983	NORTH LEG - CONNECTION
TOTAL		30,642	30,642	

\# NON-WOVEN
BX TYPE 2
* SEE SPECIAL PROVISION FOR EMBANKMENT FOUNDATION AND SUBGRADE TREATMENT WITH GEOSYNTHETICS AND SPECIAL BORROW.

CONCRETE CAP

STATION		square yards	REMARKS
		CONCRETE CAP #	
FROM	TO	3"	
RIMROCK RD.			
113+00.60	114+46.26	70.7	WEST LEG
114+53.26	115+31.98	46.1	WEST LEG
115+31.98	118+18.67	236.7	ROUNDABOUT
118+18.67	121+03.21	117.2	EAST LEG
62ND ST. W.			
210+16.75	213+43.89	195.0	SOUTH LEG
216+08.13	217+27.99	71.3	NORTH LEG
217+34.99	218+92.27	211.8	NORTH LEG
TOTAL		948.8	

\# INCLUDES THE QUANTITY OF CRUSHED GRAVEL BASE FROM BOTTOM OF CURB AND GUTTER TO BOTTOM OF CONCRETE CAP AND MEDIAN END TRANSITION.

ADDITIONAL GRADING

STATION		cubic yards INCL. IN ROADWAY		REMARKS
		UNCL. EXC. #	SPECIAL BORROW - NEAT LINE	
FROM	TO			
109+62.60	110+62.60	490	323	BEGIN PROJECT CONNECTION - WEST LEG
109+62.60	128+23.00		1,940	TOPSOIL REPLACEMENT
120+25		5	15	FARM FIELD APPROACH - LT.
127+09.80	128+23.00	518	370	END PROJECT CONNECTION - EAST LEG
207+45.00	208+86.08	607	461	BEGIN PROJECT CONNECTION - SOUTH LEG
207+45.00	226+75.00		1,710	TOPSOIL REPLACEMENT (INCLUDES CURVE. SEE DETAIL)
208+34		5	15	FARM FIELD APPROACH - RT.
208+43		20		FARM FIELD APPROACH - LT.
219+35		195	250	PRIVATE APPROACH - RT.
225+14			235	FARM FIELD APPROACH - RT.
225+63.83	226+75.00	684	529	END PROJECT CONNECTION - NORTH LEG
TOTAL		~	~	

\# MATERIAL IS NOT SUITABLE FOR FILL AND WILL BE WASTED

CURB

STATION		linear feet				REMARKS
		CONCRETE CURB AND GUTTER #		CONCRETE MEDIAN CURB - TYPE A		
FROM	TO	LEFT	RIGHT	LEFT	RIGHT	
RIMROCK RD.						
112+32.61	115+31.98		565.9			INCL. 2-94.5 FT. R., 197.5 FT. R. AND 483.5 FT. R.
113+06.64	114+46.26			151.4	151.4	
114+35.90	115+11.96	276.8				INCL. 199.5 FT. R., 174.5 FT. R. AND 74.5 FT. R.
114+53.26	115+31.98			83.0	83.6	
115+31.98	118+18.67	106.3	90.6	315.3	325.1	ROUNDABOUT TYPE A MEDIAN CURB RT. & LT., AND ROUNDABOUT SPILL CURB
117+89.74			156.3			INCL. 77.5 FT. R. AND 347.5 FT. R.
118+18.67	120+97.24			288.8	286.7	
118+18.67	121+79.30	615.4				INCL. 347.5 FT. R., 197.5 FT. R. AND 102.5 FT. R.
62ND ST. W.						
209+62.21	213+43.86		384.8			
210+22.73	213+43.89			329.7	330.8	
216+08.13	219+42.06	337.2				
216+08.13	217+27.99			125.4	126.6	
217+34.99	218+86.27			173.7	175.4	
SUBTOTAL		1,335.7	1,197.6	1,467.3	1,479.6	
TOTAL		2,533.3		2,946.9		

\# INCLUDES THE LENGTH OF CURB FOR CURB TERMINAL ENDS AND CONCRETE DRAINAGE CHUTES. SEE DETAILS.

SIDEWALK

STATION		square yards				linear feet	REMARKS
		CONCRETE SIDEWALK		DETECTABLE WARNING DEVICES		WIDTH	
		4"		TYPE 1			
FROM	TO	LEFT	RIGHT	LEFT	RIGHT		
115+55.77 RT.			136.3		7.1	8.0	INCL. 2 ADA RAMPS & SPLITTER ISLAND CROSSWALK INCL. 87.5 FT R. AND 190.5 FT. R.
115+61.24 LT.		132.7		7.1		8.0	INCL. 2 ADA RAMPS & SPLITTER ISLAND CROSSWALK INCL. 192.5 FT R., 167.5 FT. R. AND 67.5 FT. R.
117+84.84 RT.			129.5		7.1	8.0	INCL. 2 ADA RAMPS & SPLITTER ISLAND CROSSWALK INCL. 70.5 FT R. AND 340.5 FT. R.
117+89.61 LT.		137.3		7.1		8.0	INCL. 2 ADA RAMPS & SPLITTER ISLAND CROSSWALK INCL. 190.5 FT. R. AND 95.5 FT. R.
SUBTOTAL		270.0	265.8	14.2	14.2	~	
TOTAL		535.8		28.4		~	

SANDERSON STEWART

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SUMMARY

CULVERT SUMMARY RECAP

BASIC BID	linear feet		square yards	cubic yards			
	NEW PIPE (TOTAL)	REMOVE PIPE CULVERT	NONWOVEN STABILIZATION GEOTEXTILE	FOUNDATION MATERIAL	BEDDING *	SPECIAL BACKFILL	LOW PERMEABILITY BACKFILL
18" RCP	234						
24" RCP	80						
RCPA 24 IN EQ DIA	138						
RCPA 48 IN EQ DIA	240						
TOTAL	~	402.1	1,083	159	108	266	56

*FOR INFORMATION ONLY. INCLUDED IN THE COST OF THE CULVERT

CULVERTS (INCLUDED IN CULVERT SUMMARY RECAP)

STATION	linear feet		END SECTIONS ##		linear feet	linear feet	square yards	cubic yards				SKEW ANGLE	CULVERT IN PL. in x ft	REMARKS
	RCPA # CLASS 3	RCP CLASS 4			REMOVE PIPE CULVERT	HEIGHT OF COVER	NONWOVEN STABILIZATION GEOTEXTILE	FOUNDATION MATERIAL	BEDDING *	SPECIAL BACKFILL	LOW PERMEABILITY BACKFILL			
	58.5"x36"	24"	LEFT	RIGHT										
RIMROCK RD.														
115+24		80	RACET	RACET		1.4	119	16	7	5	21	1° LT.		RACET- SEE DETAIL
115+26					48.5								15 x 48.5 CSP	REMOVE
116+48					50.9								18 x 50.9 CSP	REMOVE
116+70	240		FETS	FETS		4.8	964	143	101	261	35	41° RT.		RCPA 48 IN EQ. DIA.
128+38													8 x 3.2 CSP	53.3' RT. - DO NOT D!STURB
128+40													12 x 4.0 RCP	61.5' RT. - DO NOT D!STURB
129+22													18 x 56.8 RCP	DO NOT DISTURB
129+26													24 x 55.3 RCP	DO NOT DISTURB
129+29													18 x 56.6 RCP	DO NOT DISTURB
62ND ST. W.														
211+69					22.5								24 x 22.5 CSP	REMOVE - RT.
215+44					37.7								12 x 37.7 CSP	REMOVE
218+56													36 x 63.7 CSP	190.3' RT. - DO NOT DISTURB
220+05					45.0								24 x 45.0 CSP	REMOVE
220+31													24 x 70.1 RCP	88.1' RT. - DO NOT D!STURB
220+73													15 x 126.0 CSP	74.7' RT. - DO NOT D!STURB
TOTAL	~	~	~	~	~	~	~	~	~	~	~	~	~	

NOTE: SSES = SAFETY SLOPE END SECTION
SEE JOINT WRAP SPECIAL PROVISION.
END SECTION INCLUDED IN LENGTH OF PIPE
*FOR INFORMATION ONLY. INCLUDED IN THE COST OF THE CULVERT

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 LENGTH OF PIPE	CONCRETE-CLASS 3	CONCRETE-CLASS 4	LEFT	RIGHT	HEIGHT OF COVER	REMOVE PIPE CULVERT			
RIMROCK RD.											
114+69								43.5		8 x 43.5 PVC	21.0' LT. - REMOVE
120+25	18	76	-	18	RACET	RACET	1.0				39.4' LT. - APP. DR.
120+32								37.2		20 x 37.2 CSP	19.3' LT. - REMOVE
128+47										36 x 25.0 CSP	30.4' RT. - DO NOT DISTURB
128+67										12 x 46.4 RCP/CSP	54.0' RT. - DO NOT DISTURB
62ND ST. W.											
208+34	28.5 X 18	74	-	28.5 X 18	RACET	RACET	0.6		7° RT.		28.6' RT. - APP. DR. RCPA 24 IN EQ. DIA.
208+43	18	64	-	18	RACET	RACET	0.5	53.7	7° LT.	20 x 53.7 RCP	32.9' LT. - APP. DR., 20.2' LT. - REMOVE
210+72								63.1		12 x 63.1 CSP	17.2' RT. - REMOVE
219+35	28.5 X 18	64	-	28.5 X 18	RACET	RACET	0.9				45.0' RT. - APP. DR. RCPA 24 IN EQ. DIA.
219+53										12 x 20.2 CSP	179.2' RT. - DO NOT DISTURB
225+14	18	94	18	18	RACET	RACET	3.9		1° RT.		54.7' RT. - APP. DR.
TOTAL	~	~	~	~	~	~	~	~	~	~	

END SECTION INCLUDED IN LENGTH OF PIPE
SEE JOINT WRAP SPECIAL PROVISION.

SANDERSON STEWART

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SUMMARY

STORM DRAIN PIPE

PIPE SECTION		ALLOWABLE PIPE MATERIALS					linear feet			square yards	cubic yards					each	REMARKS
		PVC		RCP			STORM DRAIN PIPE			NONWOVEN STABILIZATION GEOTEXTILE	CONTROLLED LOW STRENGTH MATERIAL - EXCAVATABLE	FOUNDATION MATERIAL	GRANULAR BEDDING #	SPECIAL BACKFILL	LOW PERMEABILITY BACKFILL	RACET ##	
FROM	TO	PROFILE WALL*	SOLID WALL SDR 35**	CLASS 2	CLASS 3	CLASS 4	12"	18"	30"								
I-1B	I-1A					X	10.0			12			2				
I-1A	I-2A	X	X			X	43.0			29			4	3	14		
I-2B	I-2A	X	X			X	10.0			18			3				
I-2A	O-1				X	X		27.9		38			6			1	
I-3A	I-3B	X	X			X	10.0			12			2				
I-3B	O-3					X	18.8			23			3			1	
I-4	O-4					X	18.4			23			3			1	
MH-1	O-2			X	X	X			119.4	325	5	40	33	46	16	1	
MH-2	MH-1	X	X	X	X	X			133.5	493		60	49	78			
INT-1	MH-2	X	X		X	X		34.5		17			3	2	10	1	
MH-3	MH-2				X	X			97.0	359		44	36	25			
I-5A	I-5B	X	X			X	17.7			22			3	2			
I-5B	MH-3	X	X			X	20.2			12			3	3			
TOTAL		~	~	~	~	~	148.1	62.4	349.9	1,384	5	144	~	159	40	~	

#QUANTITY REPRESENTS RIGID PIPE. GRANULAR BEDDING MATERIAL INCIDENTAL TO PIPE BID ITEMS. SEE TRENCH DETAIL FOR BEDDING DETAILS.
##FOR INFORMATION ONLY - RACET INCLUDED IN LENGTH OF PIPE. SEE RACET DETAIL.
*PROFILE WALL PIPE TO MEET REQUIREMENTS IN STANDARD SPECIFICATIONS SECTION 708.05.4
**SOLID WALL PIPE TO MEET REQUIREMENTS IN STANDARD SPECIFICATIONS SECTION 708.05.2 OR 708.05.3.

STORM DRAIN STRUCTURE SCHEDULE

NAME	STATION	each								vertical feet		REMARKS
		STORM DRAIN STRUCTURE				MANHOLE LID & FRAME	CURB INLET FRAME & GRATE		DROP INLET FRAME & GRATE	ADDITIONAL BARREL		
		COB CURB INLET #	MANHOLE BASE 48"	MANHOLE BASE 60"	MANHOLE BASE 96"		COB TYPE II	COB TYPE III	TYPE 1	60"	96"	
RIMROCK RD.												
I-1A	114+41	1					1					21.5' LT., 0.75' SUMP
I-2A	114+41	1					1					21.5' RT., 0.75' SUMP
I-1B	114+51	1					1					21.5' LT., 0.75' SUMP
I-2B	114+51	1					1					21.4' RT., 0.75' SUMP
I-3A	118+93	1					1					18.4' LT., 0.75' SUMP
I-3B	119+03	1					1					18.5' LT., 0.75' SUMP
62ND ST. W.												
I-4	212+00	1						1				20.1' RT., 0.75' SUMP
MH-1	214+98			1		1				3		37.0' LT., TYPE 3
MH-2	216+35				1	1					2	11.0' LT., TYPE 3
I-5A	217+14	1					1					19.5' LT., 0.75' SUMP
MH-3	217+31			1		1				1		0.0' RT., TYPE 3
I-5B	217+32		1						1			20.1' LT., 0.75' SUMP
SUBTOTAL		8	1	2	1	3	7	1	1	4	2	
TOTAL		8	1	2	1	3	8		1	4	2	

STRUCTURE PAID FOR AS CURB INLET - SPECIAL DESIGN. SEE DETAIL.

PERMANENT EROSION CONTROL

STATION		cubic yards			square yards			REMARKS
		RANDOM RIPRAP	CONCRETE - CLASS GENERAL	CRUSHED AGG. COURSE	HIGH SURV. GEOTEXTILE	EROSION CONTROL BLANKET	TURF. REIN. MAT	
FROM	TO	CLASS 1			CLASS C	LONG TERM	SYNTHETIC FIBER	
RIMROCK RD.								
114+36 LT.						25.0		
114+82 RT.						87.7		
115+27 RT.		14.7			49.5			
115+60 RT.							53.1	
115+79 RT.		17.6			26.5			
117+97 RT.						25.0		
119+03 LT.						16.7		
62ND ST. W.								
209+65 RT.			1.6	1		20.3		6.0' WIDE DRAINAGE CHUTE
211+97 LT.						25.0		8" IRRIGATION OUTFALL DRAIN
212+00 RT.						16.7		
212+68 LT.			2.2	2		24.4		6.0' WIDE DRAINAGE CHUTE
216+48 LT.						16.7		
216+66 RT.			1.8	2		21.4		6.0' WIDE DRAINAGE CHUTE
217+31 LT.						33.3		
220+25 RT.	222+25 RT.					177.9		
TOTAL		32.3	5.6	5	76.0	490.1	53.1	

IRRIGATION FACILITIES

STATION		linear feet			each								square yards	cubic yards				REMARKS
		REMOVE PIPE CULVERT	8" HDPE DR 7 IRRIGATION PIPE #	15" SDR 35 PVC CASING ####	REMOVE WATER VALVE BOX	GATE VALVE	CONNECT TO EX. PIPE	BENDS			AIR RELEASE VALVE ASSEMBLY	HDPE TEE WITH THURST BLOCK 8"x8"x8" ###	NONWOVEN STABILIZATION GEOTEXTILE	FOUNDATION MATERIAL	GRANULAR BEDDING ##	SPECIAL BACKFILL (CAC)	LOW PERMEABILITY BACKFILL	
FROM	TO					8"		11.25°	22.5°	45°								
62ND ST. W.																		
208+84.90	225+86.34	1170.3	1803.5		1	2	1	4	3	3	1	1	4516	480	507	50	71	
213+06.54	213+35.82			64.6														
214+55.15	214+99.82			51.4														
TOTAL		1170.3	1803.5	116.0	1	2	1	~	~	~	1	1	4516	480	~	50	71	

#PAID FOR AS PRESSURIZED WATER PVC PIPE.
##GRANULAR BEDDING MATERIAL INCIDENTAL TO PIPE BID ITEMS. SEE TRENCH DETAIL FOR BEDDING DETAILS.
###PAID AS PVC TEE ASSEMBLY.
INCLUDES CASING SPACERS, SKIDS, END SEALS, MECHANICAL JOINTS, AND BENDS. CASING PIPE TO MEET REQUIREMENTS IN STANDARD SPECIFICATIONS 708.05.2. PAID FOR AS 15 IN ENCASEMENT PIPE.

SANDERSON STEWART

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SUMMARY

TOPSOIL & SEEDING

STATION		cubic yards		acres					square yards	REMARKS
		TOPSOIL SALVAGING & PLACING	TOPSOIL	SEED			FERTILIZER		LONG TERM EROSION CONTROL BLANKET #	
FROM	TO			NO. 1	NO. 2	NO. 3	NO. 1	NO. 2		
109+62.60	115+31.98	434		0.6		0.3	0.6	0.0		WEST LEG
115+31.98	118+18.67	583		0.8		0.0	0.8	0.0		ROUNDABOUT
118+18.67	128+23.00	747		1.5	0.1	0.6	1.5	0.1	0.1	EAST LEG
207+45.00	213+43.89	552		0.9	0.1	0.3	0.9	0.1	0.1	SOUTH LEG
215+47.09	219+20.45		269	0.5			0.5			CURVE. SEE DETAIL
216+08.13	226+75.00	917		1.4		0.6	1.4	0.0		NORTH LEG
219+57.63	222+03.02	86		0.2			0.2			CURVE. SEE DETAIL
TOTAL		3,319	269	5.9	0.2	1.8	5.9	0.2	0.2	

#SEE MULCH REQUIREMENTS IN SPECIAL PROVISIONS.

FENCING

STATION		linear feet		each		REMARKS
		FARM FENCE		FARM FENCE PANEL DOUBLE		
FROM	TO	TYPE F2M-32WW	REMOVE FENCE #	FM	DEADMAN	
RIMROCK RD.						
109+62.60	114+50.96	493	489	3		RT. -TIE TO EX. FENCE
TOTAL		493	~	3	1	

#FOR INFORMATION ONLY. REMOVAL COST IS INCIDENTAL TO NEW FENCE BID ITEMS.

PVC SLEEVES

STATION		feet	REMARKS
		4" DIAMETER SCHEDULE 40 PVC	
FROM	TO		
115+93.09	116+51.42	80	RT. SEE ROUNDABOUT DRAINAGE DETAIL
TOTAL		80	

MONUMENT BOX

STATION	each	REMARKS
	MONUMENT & BOX	
116+82.04	1	1.23' LT. (RIMROCK ROAD) - SECTION CORNER
TOTAL	1	

REMOVE BITUMINOUS PAVEMENT

STATION		square yards	REMARKS
		REMOVE BITUMINOUS PAVEMENT	
FROM	TO		
215+47.09	219+20.45	2,392	CURVE. SEE DETAIL.
219+57.63	222+03.02	729	CURVE. SEE DETAIL.
TOTAL		3,121	

SUBSURFACE DRAIN

STATION		linear feet				square yards	cubic yards		each		vertical feet	each	REMARKS
		POLYVINYL CHLORIDE DRAINAGE PIPE			REMOVE/SALVAGE TEMPORARY SUBSURFACE DRAIN #	SUBSURFACE DRAINAGE GEOTEXTILE FILTER FABRIC	OPEN GRADED GRANULAR BEDDING	LOW PERMEABILITY BACKFILL	STRUCTURE	MANHOLE LID & FRAME	ADDITIONAL BARREL	CLEAN OUT ##	
FROM	TO	8" PERFORATED SMOOTH-WALLED PVC	8" NON-PERFORATED SMOOTH-WALLED PVC	TEMPORARY SUBSURFACE DRAIN		HIGH SURV. NONWOVEN CLASS C			MANHOLE BASE 48"		48"		
RIMROCK RD.													
109+62.60	114+41.38	453	26			313	34	11				2	
114+41.38	114+65.98			25	25							1	
114+65.98	115+34.19	66				56	8					1	
115+28.26	115+63.66	29	65			27	4					1	
116+71.13	120+75.07	417	8			465	83		1	1	4	1	MH-4
62ND ST. W.													
211+60.00	214+38.05	246	42			331	65					1	
214+90.10	216+30.80	155	20			192	36	11				2	
216+30.80	218+50.00			238	238								RT.
216+30.80	218+93.56			268	268								LT.
216+34.82	220+50.00	379	48			280	36					2	RT.
217+31.50	220+50.00	313	4			260	38					1	LT.
SUBTOTAL		2058	213	531	531	1924	305	22	1	1	4	12	
TOTAL		2802			531	1924	305	22	1	1	4	12	

#PAID FOR AS REMOVE AND SALVAGE CULVERT
##PAID FOR AS IRRIGATION CLEAN OUT
###PIPE BENDS ARE INCLUDED IN LENGTH OF PIPE

MAILBOXES

STATION	each	REMARKS
	MAILBOXES	
219+58	1	168.9' RT. (62ND ST. W.)
TOTAL	1	

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SUMMARY

PAVEMENT MARKINGS

ITEM	UNIT	INTERIM APPLICATION #	FINAL APPLICATION #	TOTAL
STRIPING -WHITE PAINT	gallon	28		28
STRIPING -YELLOW PAINT	gallon	36		36
WORDS & SYMBOLS -WHITE PAINT	gallon	2		2
WORDS & SYMBOLS -YELLOW PAINT	gallon	12		12
STRIPING -WHITE EPOXY	gallon		37	37
STRIPING -YELLOW EPOXY	gallon		48	48
WORDS & SYMBOLS -WHITE EPOXY	gallon		3	3
WORDS & SYMBOLS -YELLOW EPOXY	gallon		15	15
CURB EPOXY	gallon		26	26
TEMPORARY STRIPING	linear feet			10,519

#BASED ON 1 APPLICATION.

LANDSCAPING

STATION		lump sum	REMARKS
FROM	TO	LANDSCAPING #	
116+40.07	117+04.07	1	ROUNDABOUT CENTER: SEE DETAILS
TOTAL		1	

#BID ITEM INCLUDES THE COST ASSOCIATED WITH LABOR, MATERIAL, EQUIPMENT, ETC. REQUIRED TO INSTALL LANDSCAPING AND IRRIGATION IN ROUNDABOUT CENTER ISLAND.

WATER VALVE BOXES

STATION	each							REMARKS
	ADJUST WATER VALVE BOX		RESET WATER VALVE BOX		REMOVE WATER VALVE BOX		VALVE EXTENSION ##	
	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	EACH	
RIMROCK RD.								
106+48.73	1							8.9' LT.
108+71.23	1							6.6' LT.
111+47.92	1						1	8.5' LT.
116+50.61			1				1	3.8' LT.
116+86.22						1		24.1' RT.
116+90.69		1					1	26.8' RT.
117+10.91	1						1	10.8' LT.
SUBTOTAL	4	1	1	0	0	1	4	
TOTAL	5		1		1		~	

#PERCENT COST SHARE BETWEEN THE STATE AND CITY (75% MDT/25% CITY)
##FOR INFORMATION ONLY - INCLUDED IN THE COST OF ADJUST WATER VALVE BOX

SANITARY SEWER

STATION		linear feet			square yards	cubic yards					each							vertical feet		REMARKS
		SDR 35 PVC		REMOVE SANITARY SEWER	NONWOVEN STABILIZATION GEOTEXTILE	FILL AND ABANDON PIPE	CONTROLLED LOW STRENGTH MATERIAL - EXCAVATABLE	GRANULAR BEDDING MATERIAL *	TRENCH EXC. *	FOUNDATION MATERIAL	SPECIAL BACKFILL (CAC)	REMOVE MANHOLE	ADJUST MANHOLE ##		STRUCTURE		MANHOLE LID & FRAME	CONNECT TO EXISTING PIPE	ADDITIONAL BARREL		
FROM	TO	18"	24"										LEFT	RIGHT	MANHOLE BASE 48"	MANHOLE BASE 84"	TYPE I		48"	84"	
RIMROCK RD.																					
111+71.73														1							10.2' RT.
116+68.11															1		1	1	6		MH-A 39.2' LT.
116+68.11	117+13.67		64.3		221		1	27	72	24	71										MH-A TO MH-B
116+68.64	117+13.67	45.3		45.3	141		1	18	52	15	43							1			C-1 TO MH-B
116+73.57												1									10.7' RT.
117+13.67																1	1	1		7	MH-B 6.1' RT.
120+78.00														1							14.6' RT.
124+81.60														1							10.4' RT.
62ND ST. W.																					
214+66.03	215+16.22					6															
218+25.14														1							11.2' RT.
221+01.89														1							12.3' RT.
223+90.88													1								23.9' LT.
SUBTOTAL		45.3	64.3	45.3	362	6	2	44	124	39	115	1	1	5	1	1	2	3	6	7	
TOTAL		45.3	64.3	45.3	362	6	2	~	~	39	115	1	6		1	1	2	3	6	7	

* FOR INFORMATION ONLY
#PERCENT COST SHARE BETWEEN THE STATE AND CITY (75% MDT/25% CITY)
##ADJUST MANHOLES TO PROVIDE THE STANDARD 7-INCH FRAME AND MAINTAIN ADJUSTING RING DEPTH BETWEEN THE ALLOWABLE 2-INCH MINIMUM AND 12-INCH MAXIMUM. REPLACE A SECTION OF BARREL IF NECESSARY.

WATER LINE

STATION	each						linear feet			square yards		cubic yards			REMARKS
	ADJUST HYDRANT	NEW HYDRANT ASSEMBLY	REMOVE HYDRANT	WATER SERVICE	FITTINGS ## %		BURY DEPTH %	6" PVC PIPE %	1.5" WATER SERVICE ##	INSULATION	NONWOVEN STABILIZATION GEOTEXTILE ##	GRANULAR BEDDING ##	FOUNDATION MATERIAL ##	SPECIAL BACKFILL ##	
	LEFT	LEFT	RIGHT		12" x 6" TEE	CAP				2" THK.					
RIMROCK RD.															
111+47.76	1														25.9' LT.
114+49.38										32					6.4' LT.
115+65.38				1					58	32	137	12	15	41	29.0' RT.
116+02.96		1			1		12.5	43			96	8	10	53	41.9' LT.
116+10.72										32					0.6' RT.
116+55.03			1			1									27.4' RT.
TOTAL	1	1	1	1	~	~	~	~	~	96	~	~	~	~	

#PERCENT COST SHARE BETWEEN THE STATE AND CITY (75% MDT/25% CITY)
##INCLUDE IN BID PRICE FOR WATER SERVICE
% FOR INFORMATION ONLY - INCLUDED IN THE COST OF NEW HYDRANT ASSEMBLY

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HYDRAULIC DATA SUMMARY *

STATION	STREAM NAME (IF NAMED) (6)	SIZE / TYPE STRUCTURE (1)(1A)(4)	DESIGN FLOOD			BASE FLOOD (1%)		OVERTOPPING FLOOD (2)(3)			REMARKS (FLOOD OF RECORD, Qp(max), etc.) (5)
			MAGNITUDE (cfs)	FREQUENCY (%)	H.W. ELEV. (ft.)	MAGNITUDE (cfs)	H.W. ELEV. (ft.)	MAGNITUDE (cfs)	APPROX. FREQUENCY (%)	H.W. ELEV. (ft.)	
116+97	UNNAMED FLOODWATERS	58.5" x 36" RCPA	72.1	2%	3,367.61	91.7	3,368.11	89.4	1.1	3,368.06	OVERTOPPING LOCATION IS SAG IN NORTH LEG AT STA 217+30.60

NOTES :

* H.W. ELEVATIONS SHOWN ARE BASED UPON PEAK FLOW ANALYSIS UNLESS NOTED IN REMARKS COLUMN.

(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.)

(1A) BRIDGE LENGTH SHOWN EQUALS THE WATER SURFACE WIDTH IN THE OPENING AT THE DESIGN H.W. ELEVATION MEASURED NORMAL TO FLOW.

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

(3) FOR THOSE CROSSINGS NOTED BY Qp(max) IN THE REMARKS COLUMN OVERTOPPING DOES NOT OCCUR AND THE FLOOD MAGNITUDE LISTED CORRESPONDS TO THE FLOOD OF SECTION 650.115 (a) (1) (ii) OF FEDERAL-AID POLICY GUIDE; SUBCHAPTER G, PART 650, SUBPART A (DEC. 1991)
THE FLOOD SPECIFIED IS SUBJECT TO STATE-OF-THE-ART CAPABILITY TO ESTIMATE THE EXCEEDANCE PROBABILITY.
(PIPES 0.5%; BRIDGE 0.2%)

(4) HIGH WATER ELEVATIONS MAY VARY SLIGHTLY DEPENDING UPON THE PIPE OPTION SELECTED.

(5) PROCEDURE MEMORANDUM NO.10, HYDRAULICS MANUAL CHAPTER 9 APPENDIX H.

(6) VALUES ARE FOR DRAINAGE WATER ONLY AND DO NOT INCLUDE ANY IRRIGATION FLOWS.

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

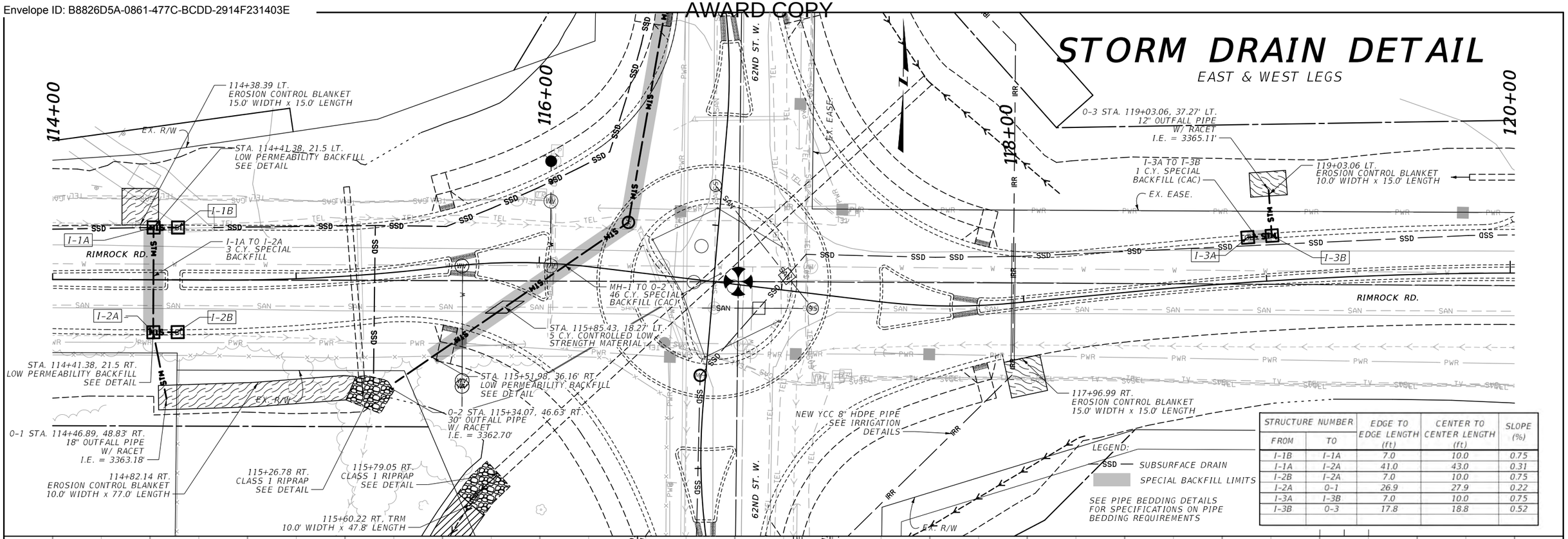
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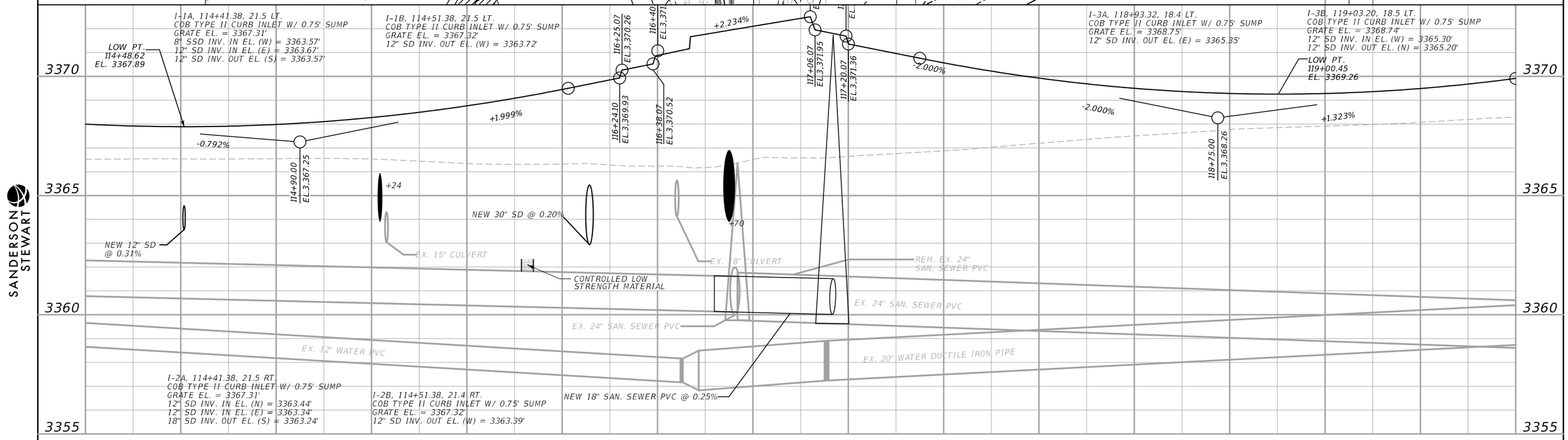
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STORM DRAIN DETAIL

EAST & WEST LEGS



STRUCTURE NUMBER		EDGE TO EDGE LENGTH (ft)	CENTER TO CENTER LENGTH (ft)	SLOPE (%)
FROM	TO			
I-1B	I-1A	7.0	10.0	0.75
I-1A	I-2A	41.0	43.0	0.31
I-2B	I-2A	7.0	10.0	0.75
I-2A	0-1	26.9	27.9	0.22
I-3A	I-3B	7.0	10.0	0.75
I-3B	0-3	17.8	18.8	0.52



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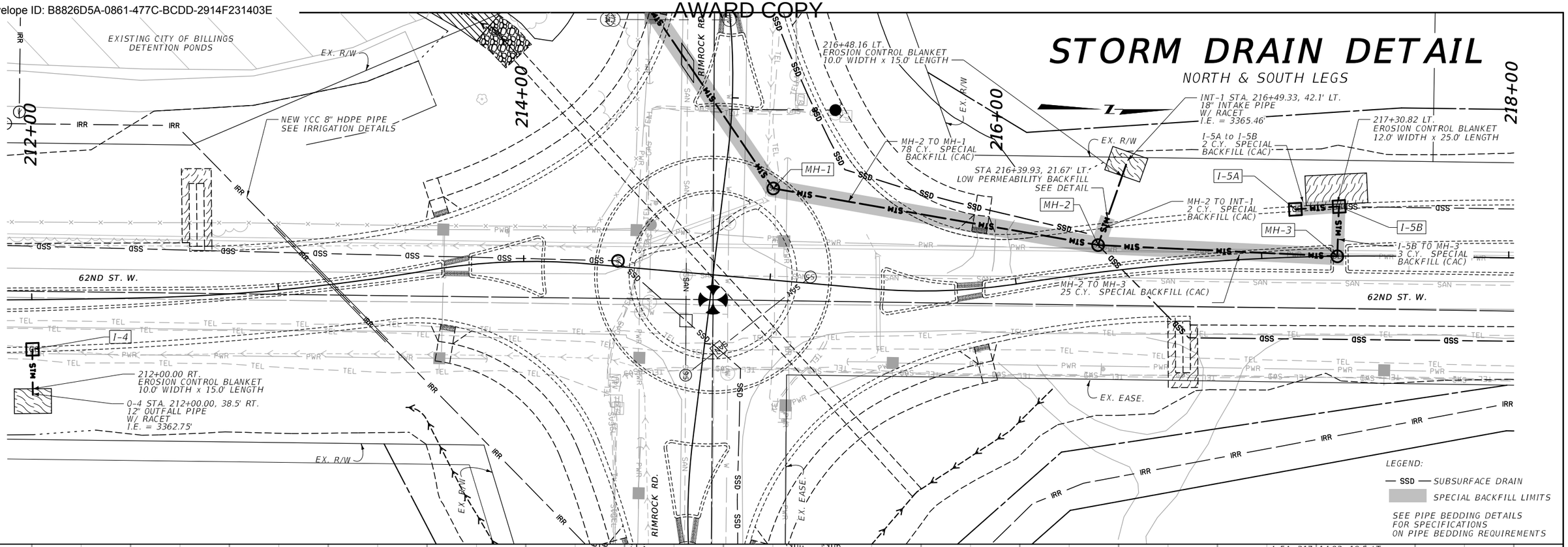
3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS / HSIP 1034(4)
2		10/24/2023	REVIEWED BY			
		9:48:27 AM kedam	CHECKED BY		YELLOWSTONE COUNTY	UPN 9383001 / 23

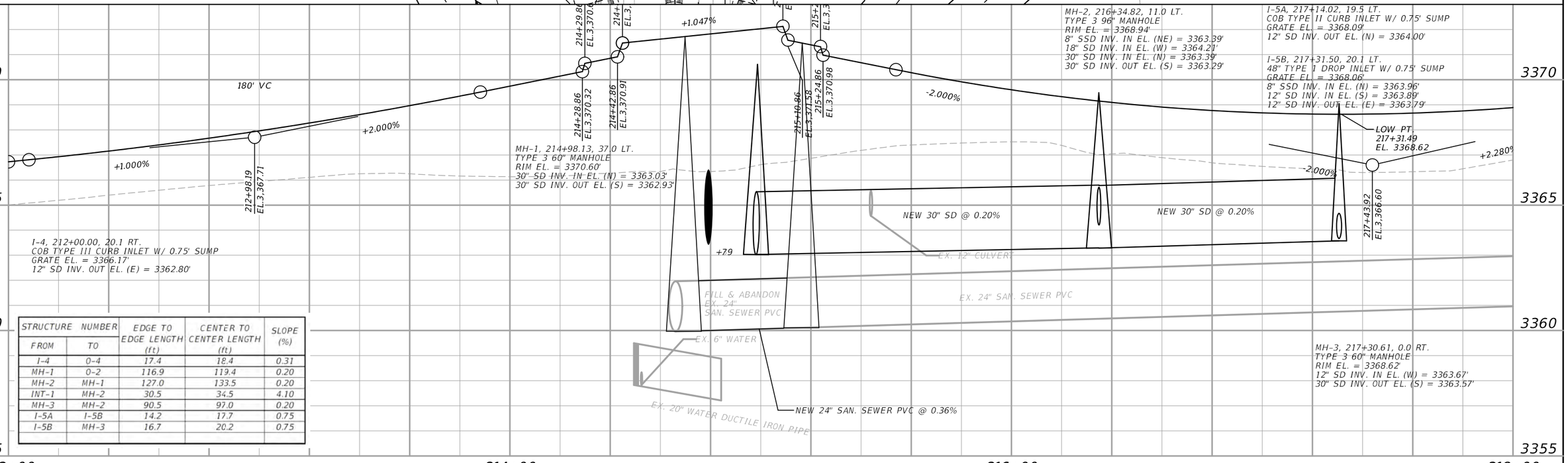
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STORM DRAIN DETAIL

NORTH & SOUTH LEGS





STRUCTURE NUMBER		EDGE TO EDGE LENGTH (ft)	CENTER TO CENTER LENGTH (ft)	SLOPE (%)
FROM	TO			
I-4	0-4	17.4	18.4	0.31
MH-1	0-2	116.9	119.4	0.20
MH-2	MH-1	127.0	133.5	0.20
INT-1	MH-2	30.5	34.5	4.10
MH-3	MH-2	90.5	97.0	0.20
I-5A	I-5B	14.2	17.7	0.75
I-5B	MH-3	16.7	20.2	0.75

SANDERSON STEWART

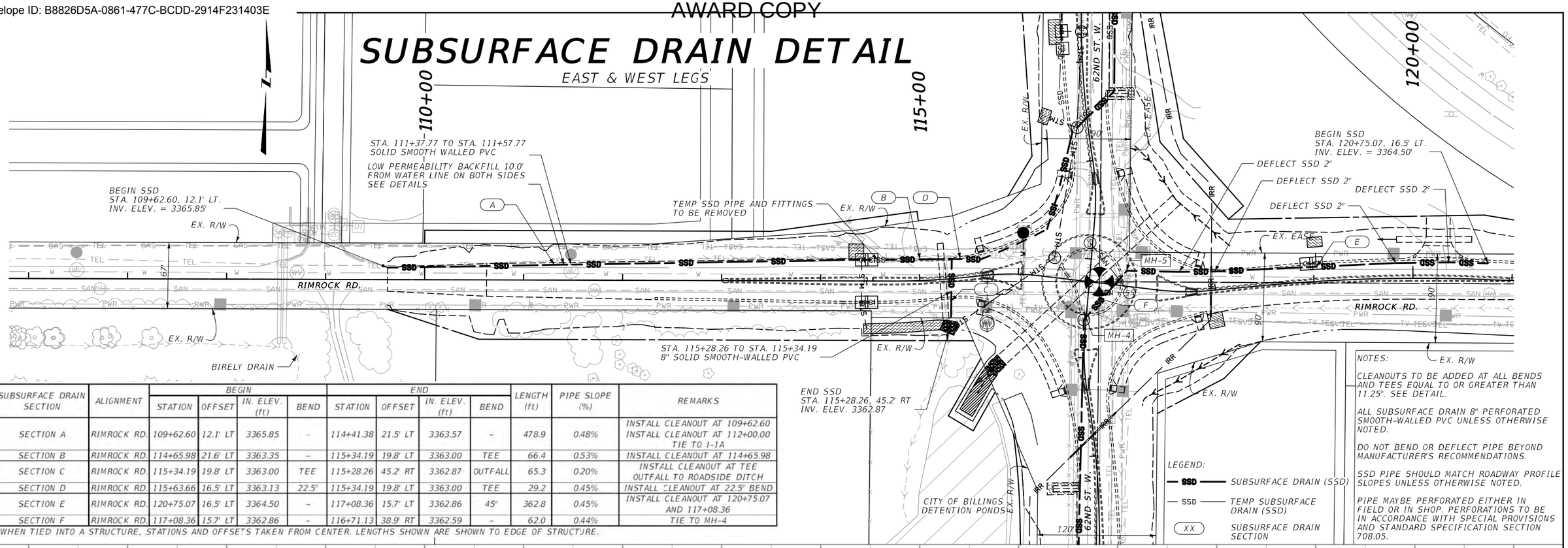
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1		10/24/2023	REVIEWED BY				
		9:48:28 AM kedam	CHECKED BY	YELLOWSTONE COUNTY		UPN 9383001	24

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SUBSURFACE DRAIN DETAIL

EAST & WEST LEGS



SUBSURFACE DRAIN SECTION	ALIGNMENT	BEGIN STATION	BEGIN OFFSET	BEGIN IN. ELEV. (ft)	BEGIN BEND	END STATION	END OFFSET	END IN. ELEV. (ft)	END BEND	LENGTH (ft)	PIPE SLOPE (%)	REMARKS
SECTION A	RIMROCK RD.	109+62.60	12.1' LT	3365.85	-	114+41.38	21.5' LT	3363.57	-	478.9	0.48%	INSTALL CLEANOUT AT 109+62.60 INSTALL CLEANOUT AT 112+00.00 TIE TO I-1A
SECTION B	RIMROCK RD.	114+65.98	21.6' LT	3363.35	-	115+34.19	19.8' LT	3363.00	TEE	66.4	0.53%	INSTALL CLEANOUT AT 114+65.98
SECTION C	RIMROCK RD.	115+34.19	19.8' LT	3363.00	TEE	115+28.26	45.2' RT	3362.87	OUTFALL	65.3	0.20%	INSTALL CLEANOUT AT TEE OUTFALL TO ROADSIDE DITCH
SECTION D	RIMROCK RD.	115+63.66	16.5' LT	3363.13	22.5°	115+34.19	19.8' LT	3363.00	TEE	29.2	0.45%	INSTALL CLEANOUT AT 22.5° BEND
SECTION E	RIMROCK RD.	120+75.07	16.5' LT	3364.50	-	117+08.36	15.7' LT	3362.86	45°	362.8	0.45%	INSTALL CLEANOUT AT 120+75.07 AND 117+08.36
SECTION F	RIMROCK RD.	117+08.36	15.7' LT	3362.86	-	116+71.13	38.9' RT	3362.59	-	62.0	0.44%	TIE TO MH-4

*WHEN TIED INTO A STRUCTURE, STATIONS AND OFFSETS TAKEN FROM CENTER. LENGTHS SHOWN ARE SHOWN TO EDGE OF STRUCTURE.

NOTES:

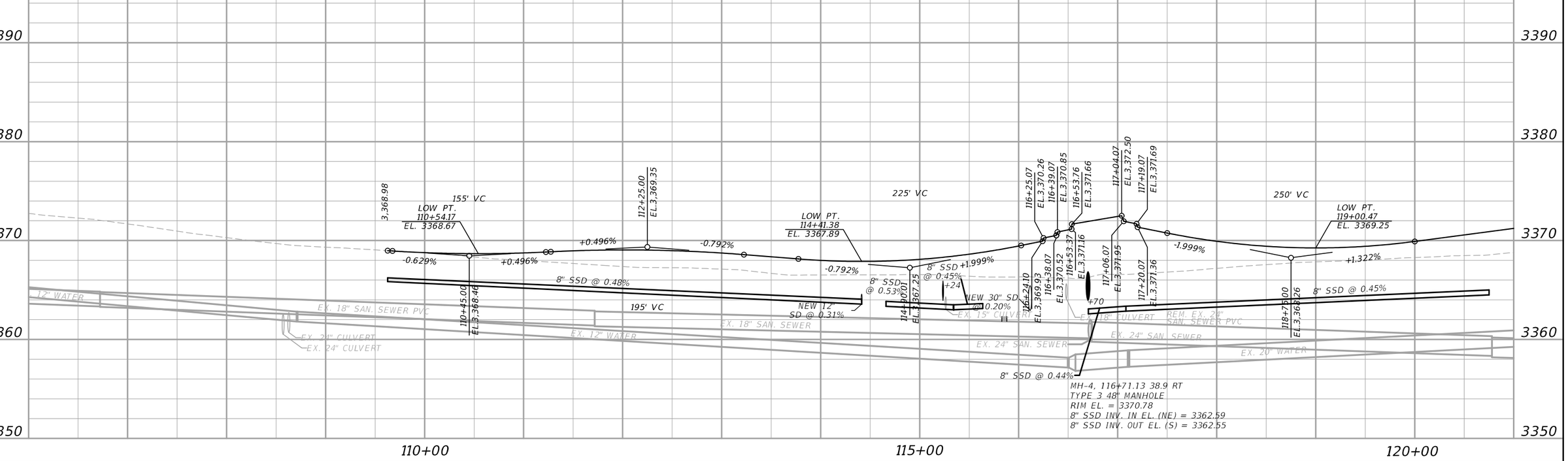
CLEANOUTS TO BE ADDED AT ALL BENDS AND TEES EQUAL TO OR GREATER THAN 11.25°. SEE DETAIL.

ALL SUBSURFACE DRAIN 8" PERFORATED SMOOTH-WALLED PVC UNLESS OTHERWISE NOTED.

DO NOT BEND OR DEFLECT PIPE BEYOND MANUFACTURER'S RECOMMENDATIONS.

SSD PIPE SHOULD MATCH ROADWAY PROFILE SLOPES UNLESS OTHERWISE NOTED.

PIPE MAYBE PERFORATED EITHER IN FIELD OR IN SHOP. PERFORATIONS TO BE IN ACCORDANCE WITH SPECIAL PROVISIONS AND STANDARD SPECIFICATION SECTION 708.05.



SANDERSON STEWART

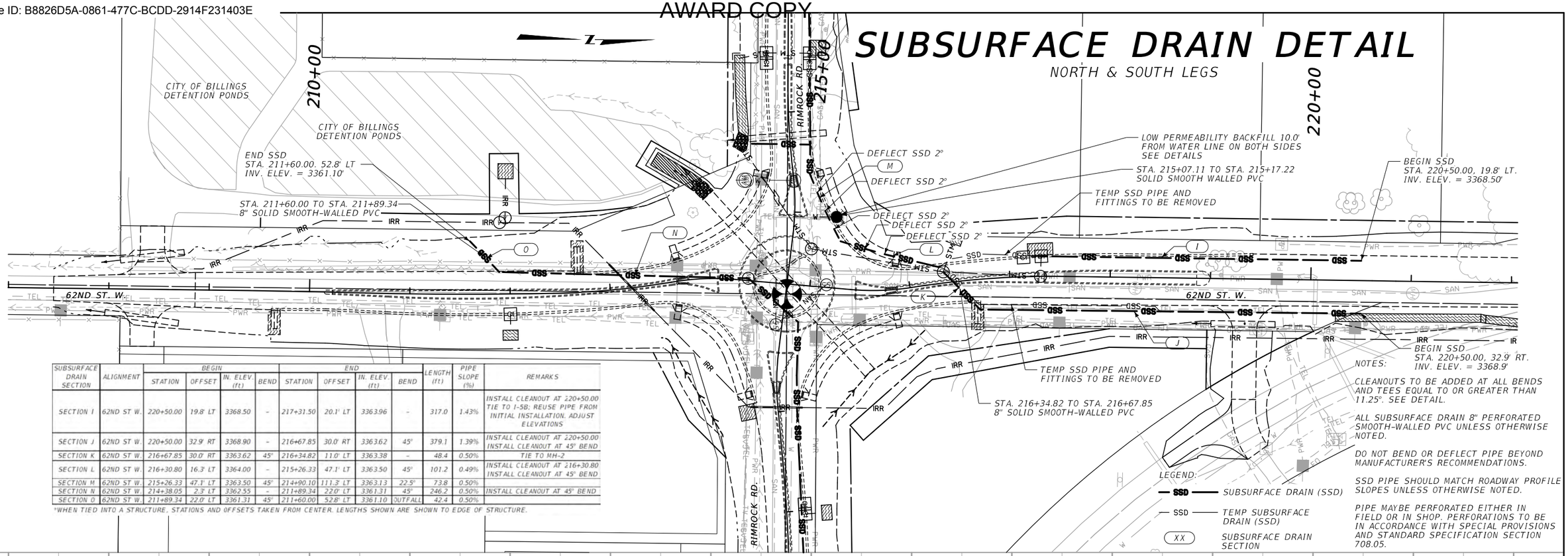
3	MONTANA Department of Transportation	...\9383001\RD\9383001RDDET_SHEET	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	25
		9:48:29 AM kedam	CHECKED BY				

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SUBSURFACE DRAIN DETAIL

NORTH & SOUTH LEGS



SUBSURFACE DRAIN SECTION	ALIGNMENT	BEGIN STATION	BEGIN OFFSET	BEGIN IN. ELEV. (ft)	BEGIN BEND	END STATION	END OFFSET	END IN. ELEV. (ft)	END BEND	LENGTH (ft)	PIPE SLOPE (%)	REMARKS
SECTION I	62ND ST W.	220+50.00	19.8' LT	3368.50	-	217+31.50	20.1' LT	3363.96	-	317.0	1.43%	INSTALL CLEANOUT AT 220+50.00 TIE TO I-58; REUSE PIPE FROM INITIAL INSTALLATION. ADJUST ELEVATIONS
SECTION J	62ND ST W.	220+50.00	32.9' RT	3368.90	-	216+67.85	30.0' RT	3363.62	45°	379.1	1.39%	INSTALL CLEANOUT AT 220+50.00 INSTALL CLEANOUT AT 45° BEND
SECTION K	62ND ST W.	216+67.85	30.0' RT	3363.62	45°	216+34.82	11.0' LT	3363.38	-	48.4	0.50%	TIE TO MH-2
SECTION L	62ND ST W.	216+30.80	16.3' LT	3364.00	-	215+26.33	47.1' LT	3363.50	45°	101.2	0.49%	INSTALL CLEANOUT AT 216+30.80 INSTALL CLEANOUT AT 45° BEND
SECTION M	62ND ST W.	215+26.33	47.1' LT	3363.50	45°	214+90.10	111.3' LT	3363.13	22.5°	73.8	0.50%	
SECTION N	62ND ST W.	214+38.05	2.3' LT	3362.55	-	211+89.34	22.0' LT	3361.31	45°	246.2	0.50%	INSTALL CLEANOUT AT 45° BEND
SECTION O	62ND ST W.	211+89.34	22.0' LT	3361.31	45°	211+60.00	52.8' LT	3361.10	OUTFALL	42.4	0.50%	

*WHEN TIED INTO A STRUCTURE, STATIONS AND OFFSETS TAKEN FROM CENTER. LENGTHS SHOWN ARE SHOWN TO EDGE OF STRUCTURE.

NOTES:

CLEANOUTS TO BE ADDED AT ALL BENDS AND TEES EQUAL TO OR GREATER THAN 11.25°. SEE DETAIL.

ALL SUBSURFACE DRAIN 8" PERFORATED SMOOTH-WALLED PVC UNLESS OTHERWISE NOTED.

DO NOT BEND OR DEFLECT PIPE BEYOND MANUFACTURER'S RECOMMENDATIONS.

SSD PIPE SHOULD MATCH ROADWAY PROFILE SLOPES UNLESS OTHERWISE NOTED.

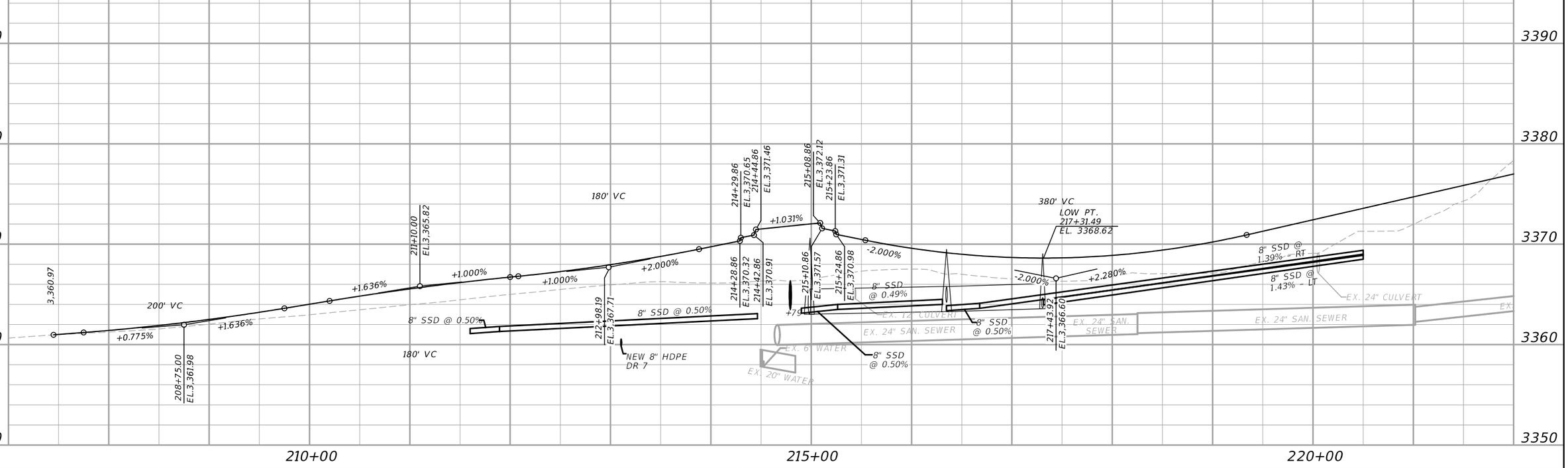
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LEGEND:

SSD — SUBSURFACE DRAIN (SSD)

SSD — TEMP SUBSURFACE DRAIN (SSD)

XX SUBSURFACE DRAIN SECTION



SANDERSON STEWART

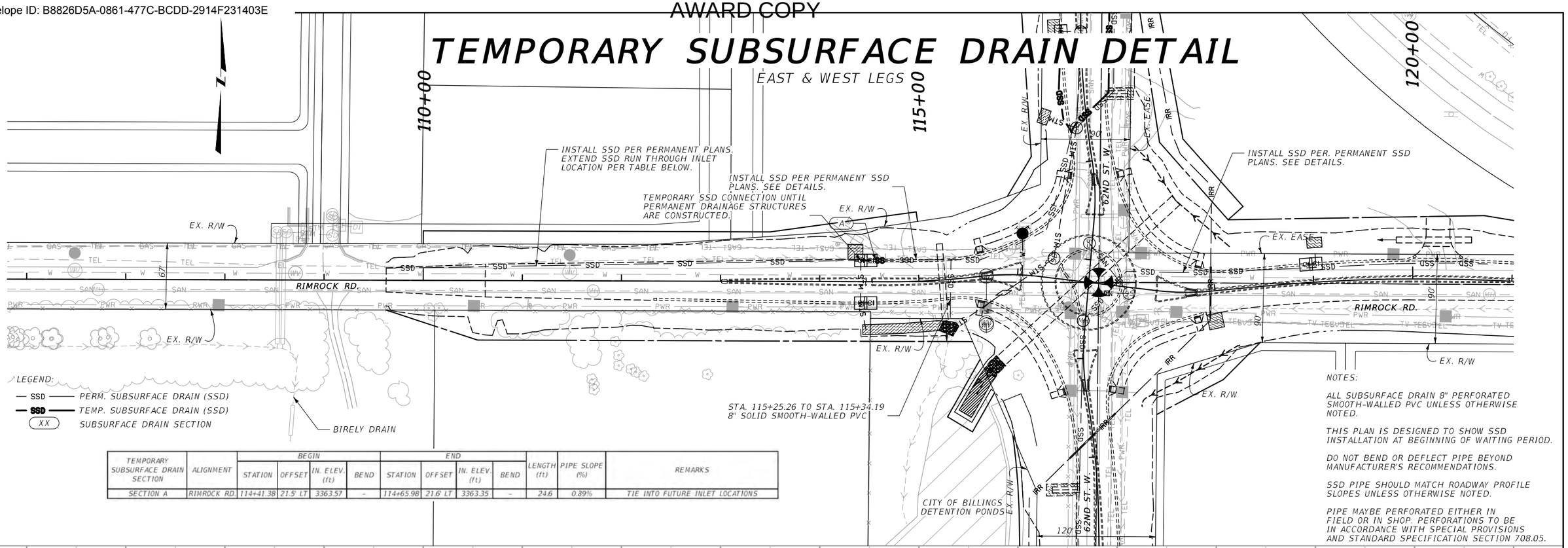
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1		10/24/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	26
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TEMPORARY SUBSURFACE DRAIN DETAIL

EAST & WEST LEGS



TEMPORARY SUBSURFACE DRAIN SECTION	ALIGNMENT	BEGIN				END				LENGTH (ft)	PIPE SLOPE (%)	REMARKS
		STATION	OFFSET	IN. ELEV. (ft)	BEND	STATION	OFFSET	IN. ELEV. (ft)	BEND			
SECTION A	RIMROCK RD.	114+41.38	21.5' LT	3363.57	–	114+65.98	21.6' LT	3363.35	–	24.6	0.89%	TIE INTO FUTURE INLET LOCATIONS

NOTES:

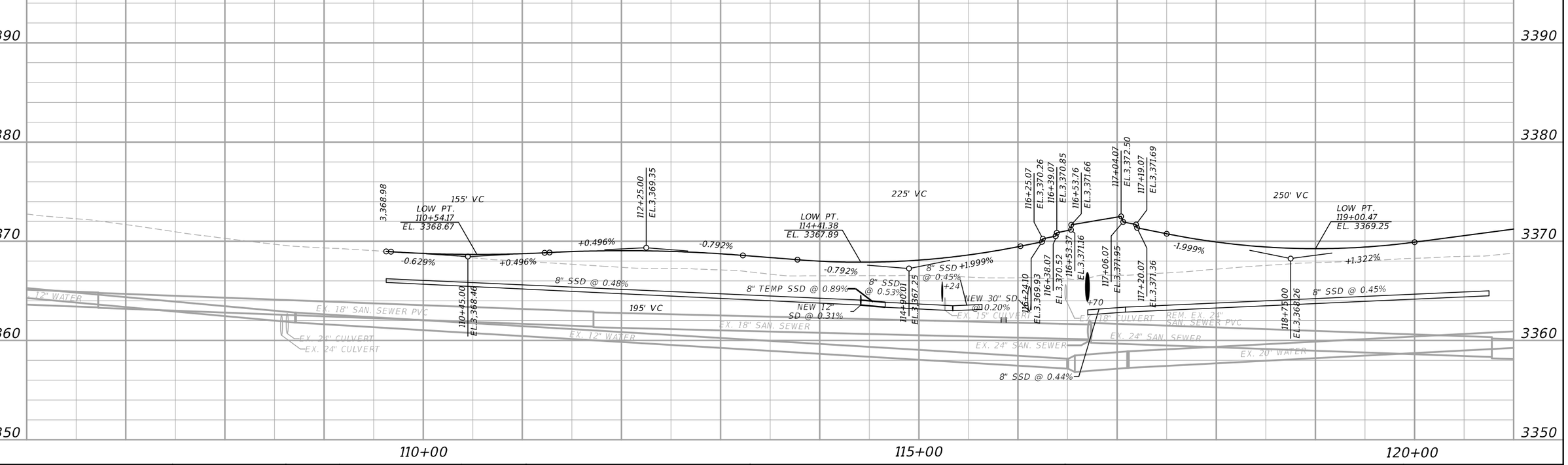
ALL SUBSURFACE DRAIN 8" PERFORATED SMOOTH-WALLED PVC UNLESS OTHERWISE NOTED.

THIS PLAN IS DESIGNED TO SHOW SSD INSTALLATION AT BEGINNING OF WAITING PERIOD.

DO NOT BEND OR DEFLECT PIPE BEYOND MANUFACTURER'S RECOMMENDATIONS.

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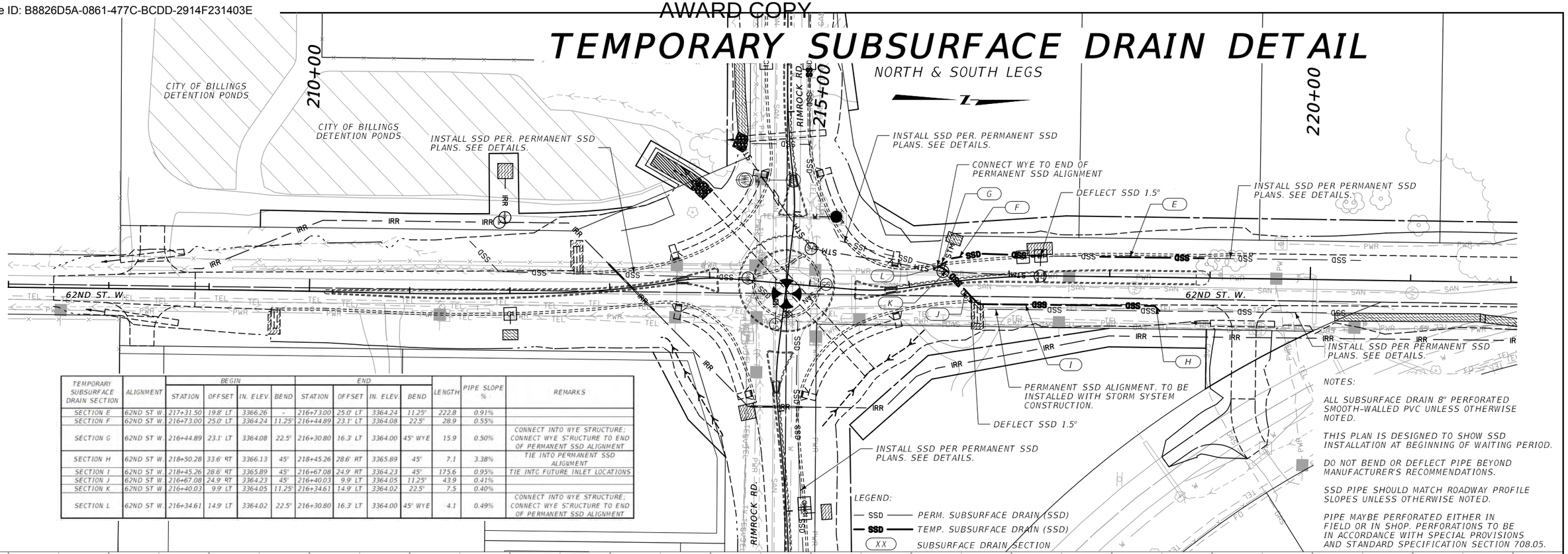
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2		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	27
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TEMPORARY SUBSURFACE DRAIN DETAIL

NORTH & SOUTH LEGS



TEMPORARY SUBSURFACE DRAIN SECTION	ALIGNMENT	BEGIN				END				LENGTH	PIPE SLOPE %	REMARKS
		STATION	OFFSET	IN. ELEV.	BEND	STATION	OFFSET	IN. ELEV.	BEND			
SECTION E	62ND ST W.	217+31.50	19.8' LT	3366.26	-	216+73.00	25.0' LT	3364.24	11.25°	222.8	0.91%	
SECTION F	62ND ST W.	216+73.00	25.0' LT	3364.24	11.25°	216+44.89	23.1' LT	3364.08	22.5°	28.9	0.55%	
SECTION G	62ND ST W.	216+44.89	23.1' LT	3364.08	22.5°	216+30.80	16.3' LT	3364.00	45° WYE	15.9	0.50%	CONNECT INTO WYE STRUCTURE; CONNECT WYE STRUCTURE TO END OF PERMANENT SSD ALIGNMENT
SECTION H	62ND ST W.	218+50.28	33.6' RT	3366.13	45°	218+45.26	28.6' RT	3365.89	45°	7.1	3.38%	TIE INTO PERMANENT SSD ALIGNMENT
SECTION I	62ND ST W.	218+45.26	28.6' RT	3365.89	45°	216+67.08	24.9' RT	3364.23	45°	175.6	0.95%	TIE INTO FUTURE INLET LOCATIONS
SECTION J	62ND ST W.	216+67.08	24.9' RT	3364.23	45°	216+40.03	9.9' LT	3364.05	11.25°	43.9	0.41%	
SECTION K	62ND ST W.	216+40.03	9.9' LT	3364.05	11.25°	216+34.61	14.9' LT	3364.02	22.5°	7.5	0.40%	
SECTION L	62ND ST W.	216+34.61	14.9' LT	3364.02	22.5°	216+30.80	16.3' LT	3364.00	45° WYE	4.1	0.49%	CONNECT INTO WYE STRUCTURE; CONNECT WYE STRUCTURE TO END OF PERMANENT SSD ALIGNMENT

NOTES:

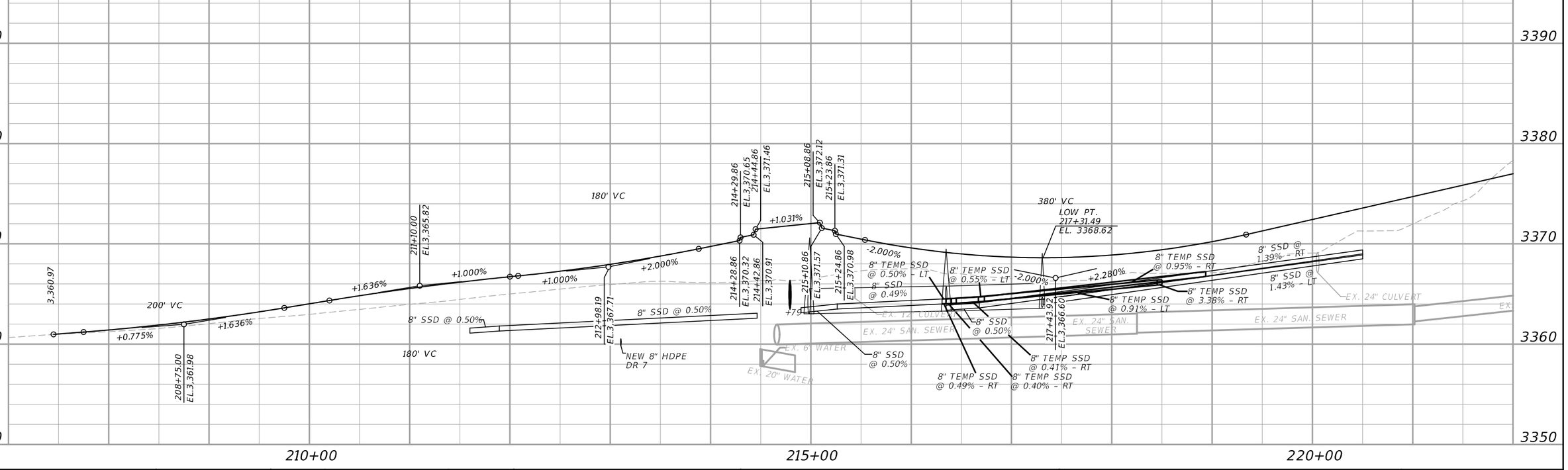
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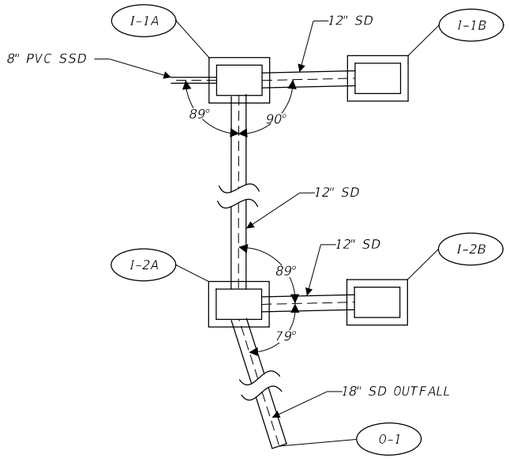


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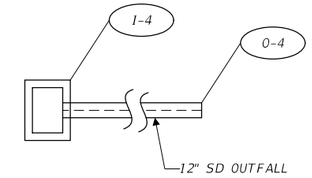
STORM DRAIN PLAN VIEW DETAIL



STORM DRAIN PLAN VIEW
STA. 114+41.38 TO STA. 114+51.38

NOT TO SCALE

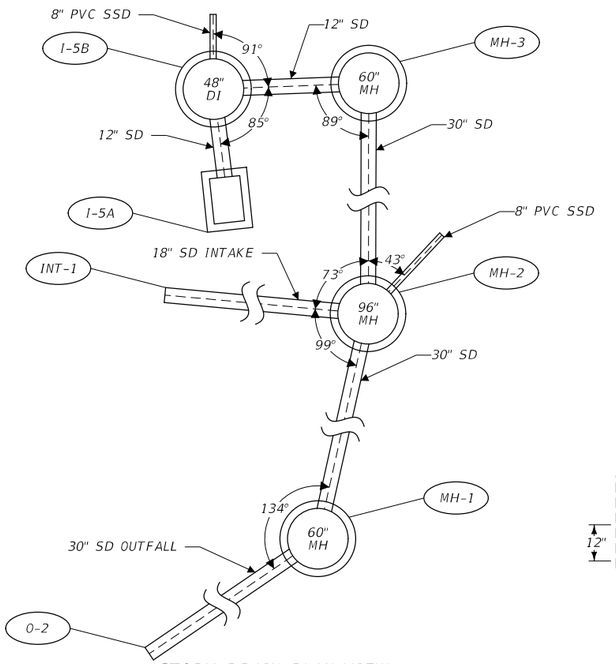
INLET/MANHOLE COORDINATE TABLE					
INLET/MANHOLE NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	RIM/GRATE/INVERT ELEVATION (ft.)
I-1A	114+41.38	LT.	565,778.298	2,178,974.745	3,367.31
I-1B	114+51.38	LT.	565,778.499	2,178,984.709	3,367.32
I-2A	114+41.38	RT.	565,735.305	2,178,975.612	3,367.31
I-2B	114+51.38	RT.	565,735.581	2,178,985.431	3,367.32
0-1	114+46.89	RT.	565,708.094	2,178,981.673	3,363.18



STORM DRAIN PLAN VIEW
STA. 212+00.00

NOT TO SCALE

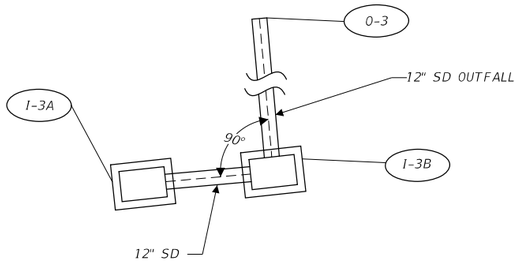
INLET/MANHOLE COORDINATE TABLE					
INLET/MANHOLE NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	RIM/GRATE/INVERT ELEVATION (ft.)
I-4	212+00.00	RT.	565,486.648	2,179,242.094	3,366.17
0-4	212+00.00	RT.	565,487.306	2,179,260.517	3,362.75



STORM DRAIN PLAN VIEW
STA. 214+23.50 TO STA. 217+31.50

NOT TO SCALE

INLET/MANHOLE COORDINATE TABLE					
INLET/MANHOLE NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	RIM/GRATE/INVERT ELEVATION (ft.)
I-5B	217+31.50	LT.	566,013.990	2,179,171.121	3,368.06
I-5A	217+14.02	LT.	565,996.171	2,179,172.537	3,368.09
MH-3	217+30.61		566,013.858	2,179,191.275	3,368.62
INT-1	216+50.00	LT.	565,927.974	2,179,154.736	3,365.35
MH-2	216+34.82	LT.	565,916.921	2,179,189.171	3,368.94
MH-1	214+98.13	LT.	565,784.917	2,179,169.547	3,370.60
0-2	115+34.07	RT.	565,715.131	2,179,072.688	3,362.70



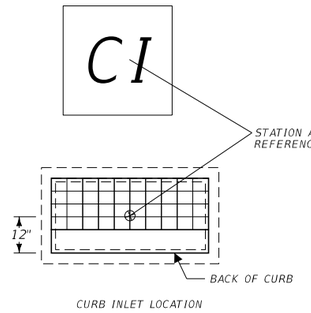
STORM DRAIN PLAN VIEW
STA. 118+93.32 TO STA. 119+03.20

NOT TO SCALE

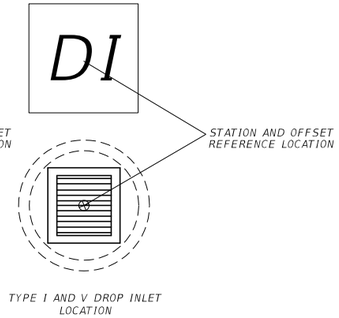
INLET/MANHOLE COORDINATE TABLE					
INLET/MANHOLE NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	RIM/GRATE/INVERT ELEVATION (ft.)
I-3A	118+93.32	LT.	565,784.605	2,179,423.664	3,368.75
I-3B	119+03.20	LT.	565,785.559	2,179,433.616	3,368.74
0-3	119+03.06	LT.	565,804.265	2,179,431.887	3,365.11

KEY

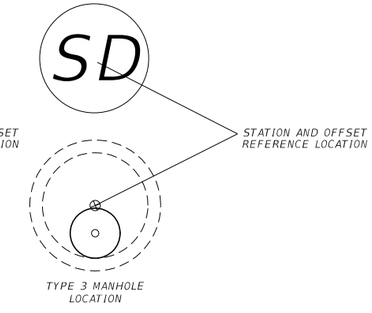
48" DI	NEW DROP INLET - INSIDE DIAMETER NOTED
60" MH	NEW MANHOLE - INSIDE DIAMETER NOTED
	COB CURB INLET- SEE DETAIL
MI	NEW MEDIAN INLET - SEE DETAIL
I-X	NEW INLET ID
MH-X	MANHOLE ID
0-X	OUTFALL ID
INT-X	INTAKE ID



CURB INLET LOCATION



TYPE I AND V DROP INLET LOCATION



TYPE 3 MANHOLE LOCATION

NOTES:

SEE PLANS FOR LOCATIONS AND QUANTITIES.

PLAN STATION AND OFFSET IS CENTER OF STRUCTURE.

STANDARD UNLESS OTHERWISE NOTED ON PLANS.

SET ALL FINAL INLET GRATE ELEVATIONS TO ENSURE THAT POSITIVE DRAINAGE IS PROVIDED.

WHEN USED AS A COMBINATION M.H. AND THE DEPTH IS GREATER THAN 4' (1200), OFFSET THE ACCESS HOLE/GRATE OVER THE M.H. STEPS.

SEE QUALIFIED PRODUCTS LIST FOR APPROVED GRATES.

SEE DETAIL DRAWING NO.604-02 FOR REINFORCING REQUIREMENTS

STATION AND OFFSET REFERENCE

STORM DRAIN PLAN VIEW DETAIL

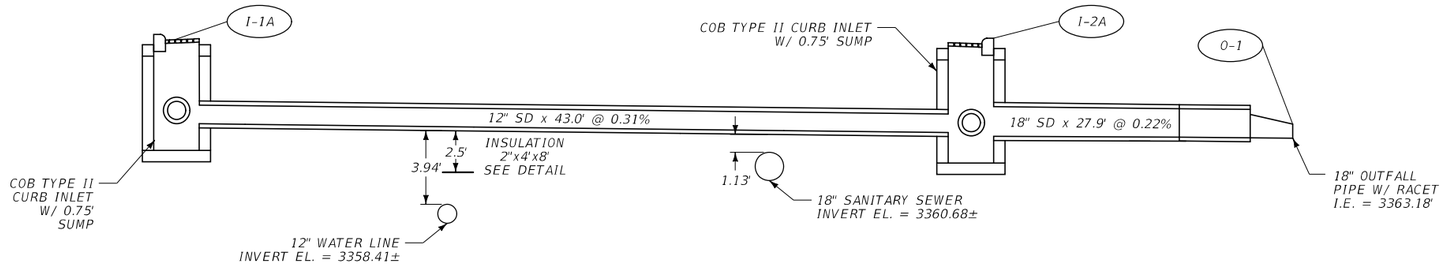
SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.MXD	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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STORM DRAIN CROSS SECTION DETAIL



STORM DRAIN CROSS SECTION
I-1A TO I-2A

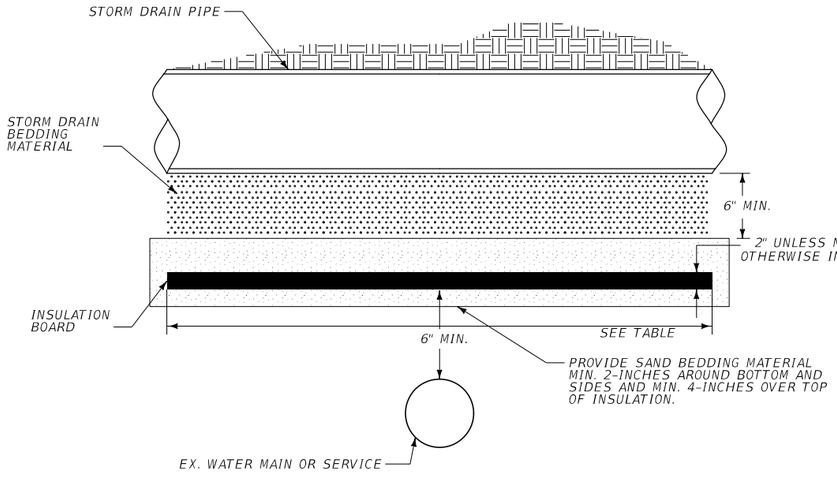
NOT TO SCALE

NOTES:

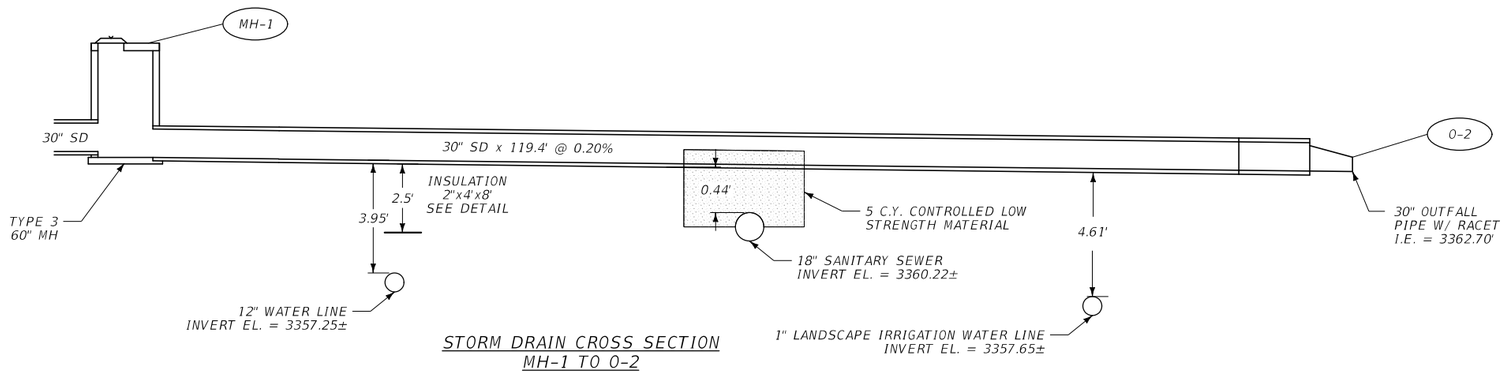
WIDTH IS MEASURED PERPENDICULAR TO WATER LINE AND LENGTH IS MEASURED PARALLEL TO WATER LINE.

STATION AND OFFSET ARE CALLED OUT TO CENTER OF INSULATION.

INSULATION DIMENSIONS			
STATION	OFFSET	WIDTH (FT)	LENGTH (FT)
114+49.38	6.41 LT.	4	8
115+65.38	28.98 RT.	4	8
116+10.72	0.58 RT.	4	8



WATER LINE / STORM DRAIN INSULATION DETAIL



STORM DRAIN CROSS SECTION
MH-1 TO O-2

NOT TO SCALE

STORM DRAIN CROSS SECTION DETAIL

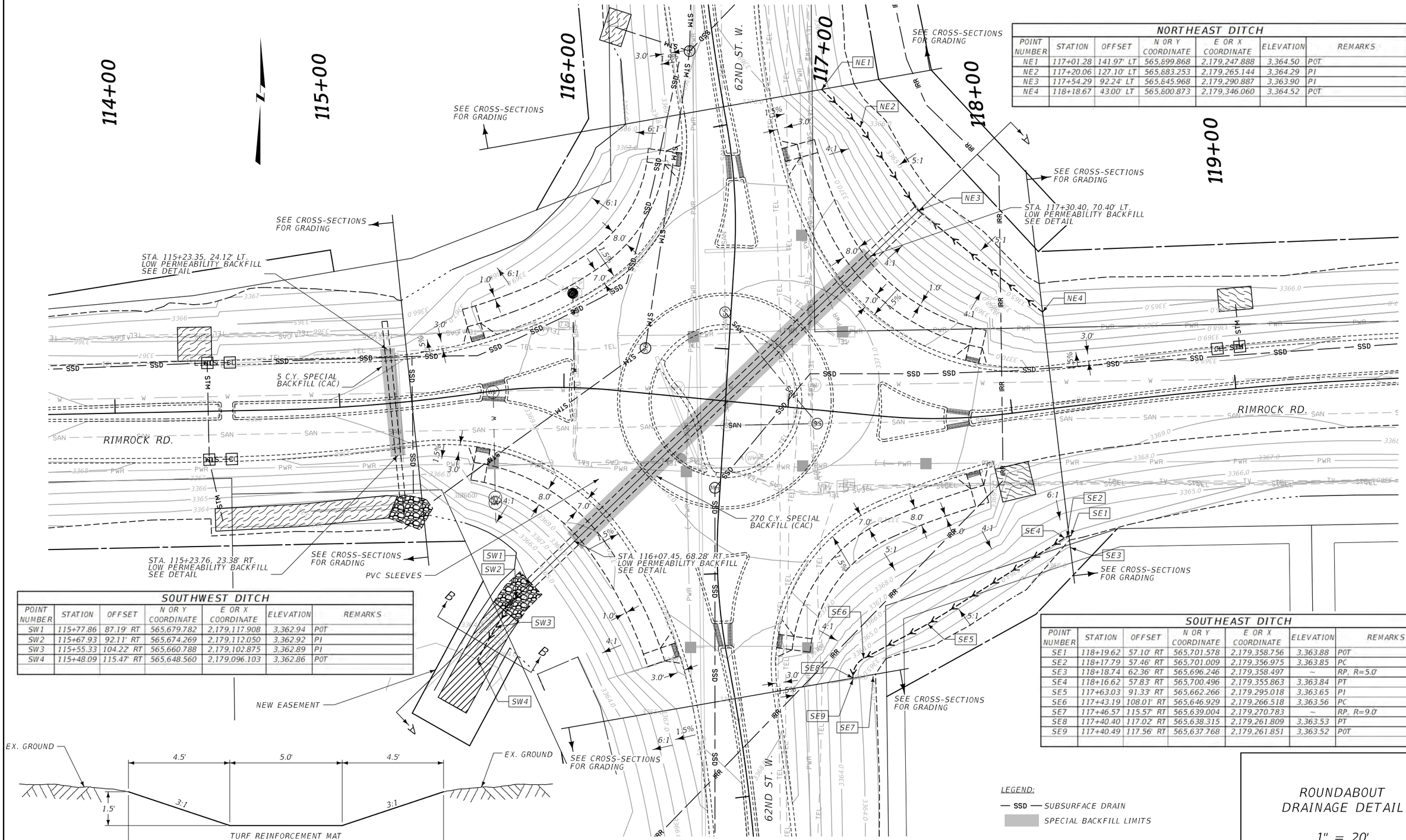
INSULATION DETAIL

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDDET.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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NORTHEAST DITCH						
POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
NE1	117+01.28	141.97' LT	565,899.868	2,179,247.888	3,364.50	POT
NE2	117+20.06	127.10' LT	565,883.253	2,179,265.144	3,364.29	PI
NE3	117+54.29	92.24' LT	565,845.968	2,179,290.887	3,363.90	PI
NE4	118+18.67	43.00' LT	565,800.873	2,179,346.060	3,364.52	POT

SOUTHWEST DITCH						
POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
SW1	115+77.86	87.19' RT	565,679.782	2,179,117.908	3,362.94	POT
SW2	115+67.93	92.11' RT	565,674.269	2,179,112.050	3,362.92	PI
SW3	115+55.33	104.22' RT	565,660.788	2,179,102.875	3,362.89	PI
SW4	115+48.09	115.47' RT	565,648.560	2,179,096.103	3,362.86	POT

SOUTHEAST DITCH						
POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
SE1	118+19.62	57.10' RT	565,701.578	2,179,358.756	3,363.88	POT
SE2	118+17.79	57.46' RT	565,701.009	2,179,356.975	3,363.85	PC
SE3	118+18.74	62.36' RT	565,696.246	2,179,358.497	~	RP, R=5.0'
SE4	118+16.62	57.83' RT	565,700.496	2,179,355.863	3,363.84	PT
SE5	117+63.03	91.33' RT	565,662.266	2,179,295.018	3,363.65	PI
SE6	117+43.19	108.01' RT	565,646.929	2,179,266.518	3,363.56	PC
SE7	117+46.57	115.57' RT	565,639.004	2,179,270.783	~	RP, R=9.0'
SE8	117+40.40	117.02' RT	565,638.315	2,179,261.809	3,363.53	PT
SE9	117+40.49	117.56' RT	565,637.768	2,179,261.851	3,363.52	POT

SECTION B-B OUTFALL DITCH CROSS SECTION

LEGEND:

— SSD — SUBSURFACE DRAIN

SPECIAL BACKFILL LIMITS

ROUNDABOUT DRAINAGE DETAIL

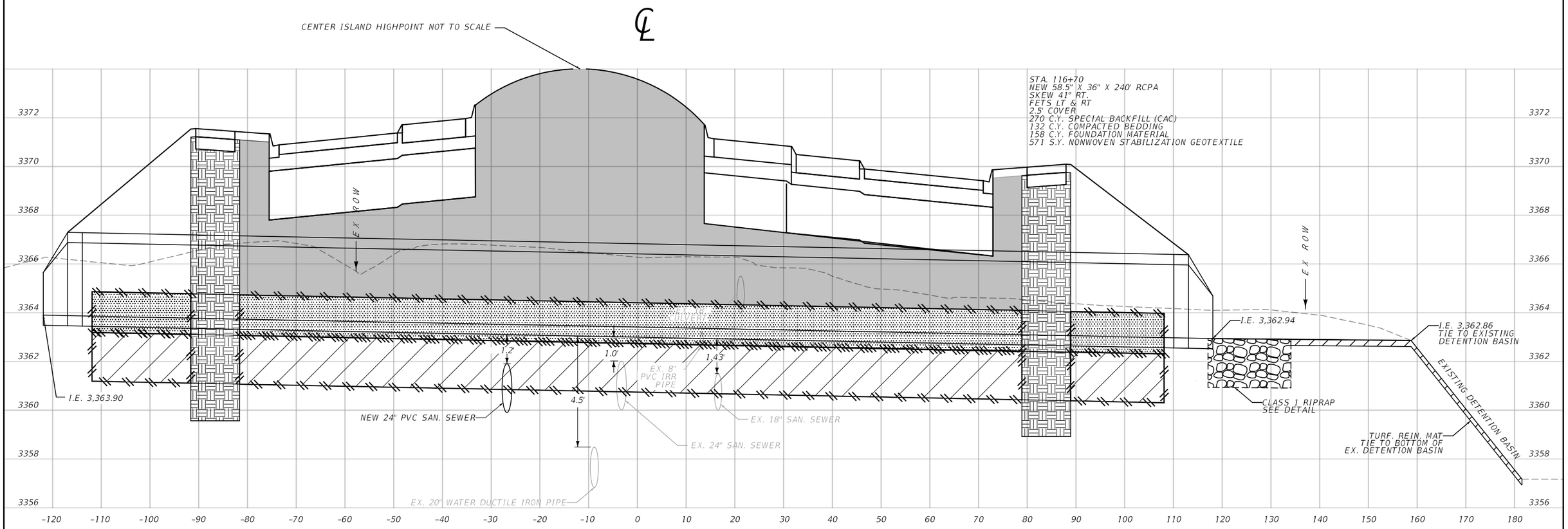
1" = 20'

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.DGN	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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NOTE:
OFFSET IS BASED OFF OF THE CENTERLINE OF THE RIMROCK ALIGNMENT

SECTION A-A
116+70 DR PIPE PROFILE

LEGEND:
- SPECIAL BACKFILL
- BEDDING MATERIAL
- FOUNDATION MATERIAL
- LOW PERMEABILITY BACKFILL

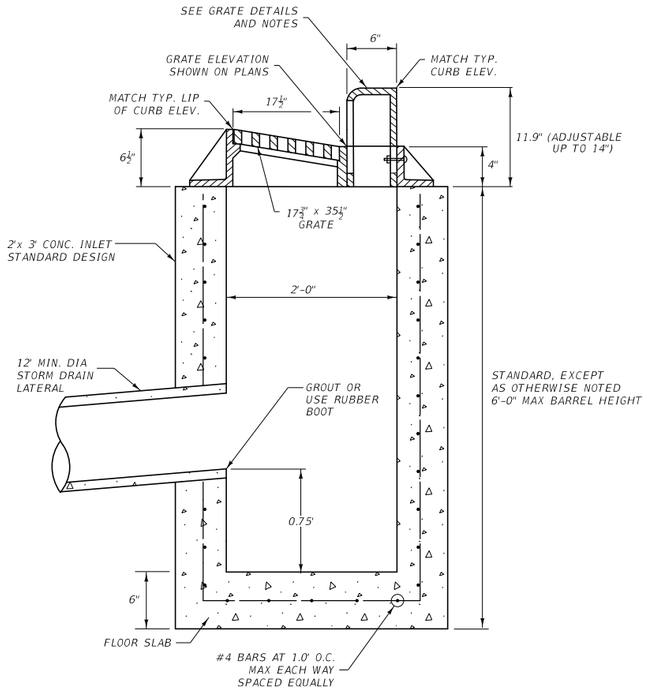
SANDERSON STEWART

RCPA DRAINAGE PIPE PROFILE DETAIL

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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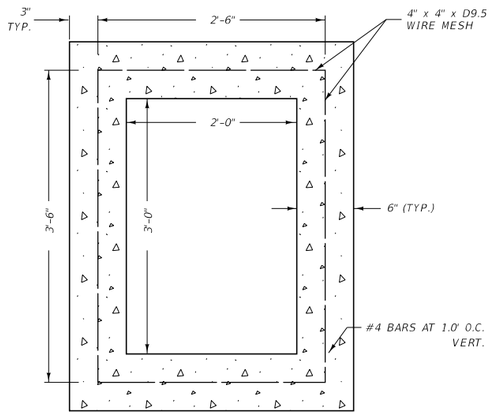
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CITY OF BILLINGS (COB) CURB INLET W/ 0.75' SUMP COB STD. DWG. Sm_M02720-1a

(ELEVATION)



CITY OF BILLINGS (COB) CURB INLET BASIN

(PLAN)

NOTES:

-ALL CONCRETE IS CLASS GENERAL OR APPROVED EQUAL.

-PROVIDE THE SEDIMENTATION BASIN ON ALL INLETS AND COMBINATION MANHOLE/INLETS.

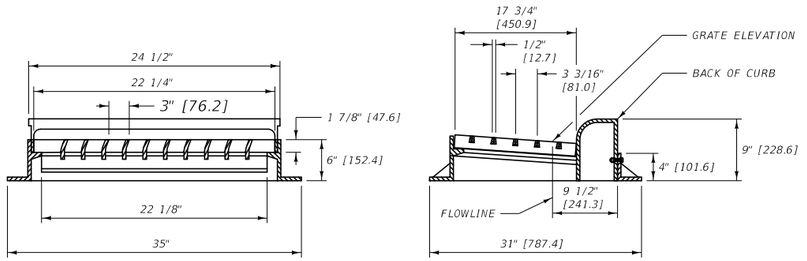
-USE TYPE III GRATES FOR ON-GRADE INLETS. USE TYPE II GRATES IN SAGS.

-PROVIDE TWO 2" ADJUSTING RINGS FOR FUTURE GRADE ADJUSTMENT ON ALL NEW INLETS, MANHOLES, AND COMB. MANHOLE/INLETS.

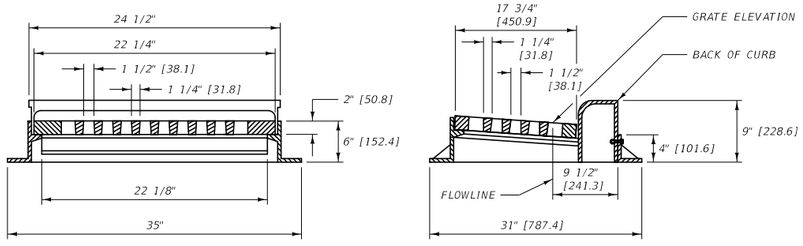
-PROVIDE CONCRETE COLLARS ON ALL NEW STORM DRAIN MANHOLES AND RISERS IN ACCORD-ANCE WITH STD. DET. DWG. 621-05. COST OF COLLAR IS INCIDENTAL TO THE COST OF THE MANHOLE.

-USE CITY OF BILLINGS STANDARD STORM DRAIN MANHOLE COVERS.

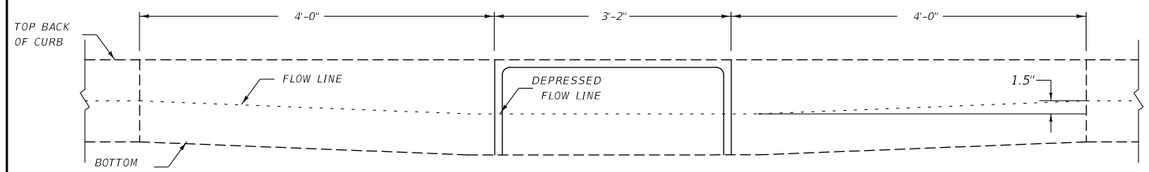
*SEE QUALIFIED PRODUCTS LIST FOR APPROVED GRATES



TYPE III CURVED VANE STYLE *



TYPE II STRAIGHT BAR STYLE *



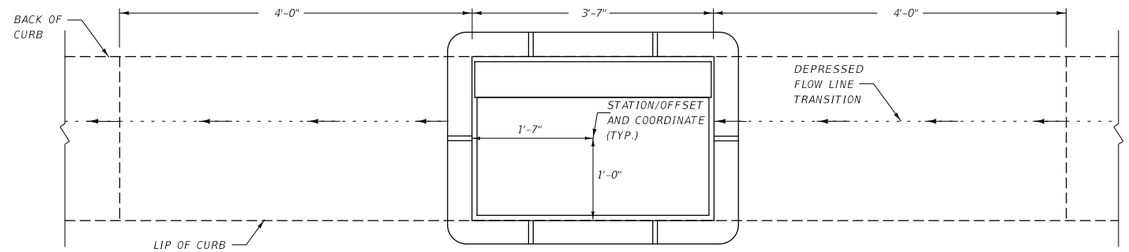
* DRAWING AND DIMENSIONS ARE DEPICTED AT BACK OF CURB.

DEPRESSED FLOW LINE TRANSITION AT CURB INLETS

(ELEVATION)

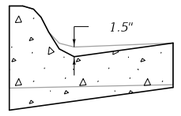
NOTE:

-WHERE TWO INLETS OCCUR 10-ft. APART, CONTINUE USING THE DEPRESSED CURB AND GUTTER SECTION BETWEEN INLETS.



DEPRESSED FLOW LINE TRANSITION AT CURB INLETS

(PLAN)



DEPRESSED CURB SECTION

MISC. STORM DRAIN DETAILS

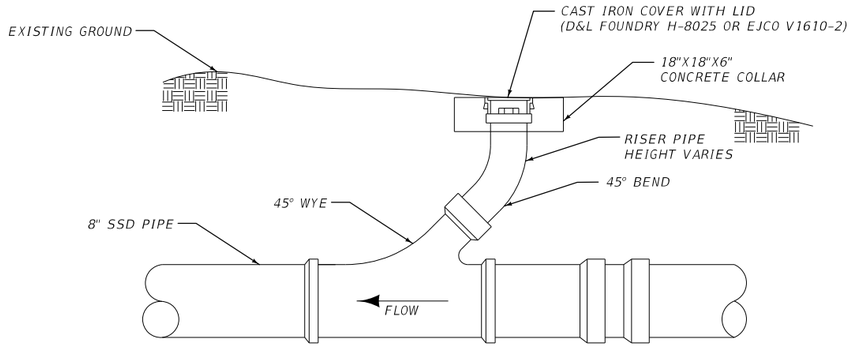
SANDERSON STEWART

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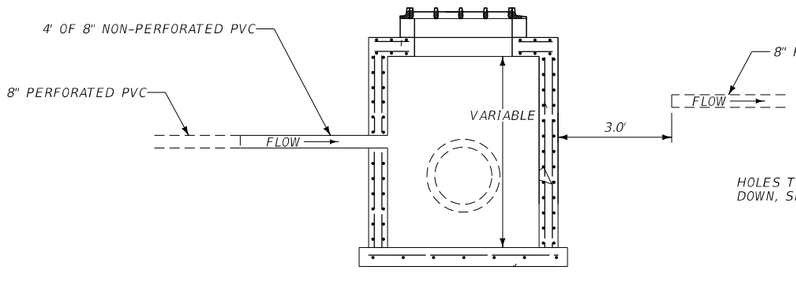
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SUBSURFACE DRAIN DETAILS

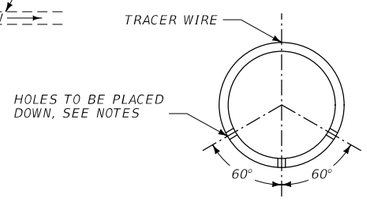


SUBSURFACE DRAIN CLEAN-OUT DETAIL

NOT TO SCALE



SUBSURFACE DRAIN INLET CONNECTION DETAIL
NOT TO SCALE



PIPE PERFORATION DETAIL
NOT TO SCALE

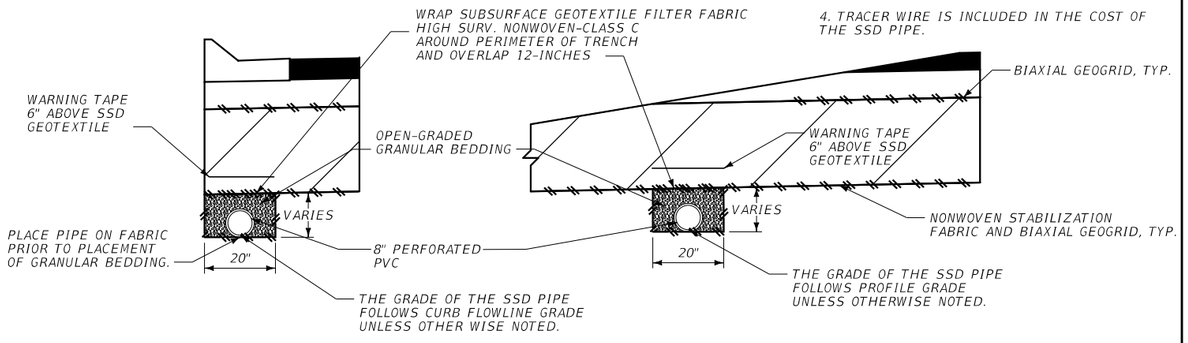
NOTES:

1. TWO (2) OR THREE (3) HOLE PATTERN MAYBE USED PER MDT STANDARD SPECIFICATION 708.05 AND ASTM D2729 IF PIPE IS PLACED DIRECTLY ON FILTER FABRIC.

2. IF ANY GRANULAR BEDDING IS PLACED PRIOR TO PLACEMENT OF PIPE, ONLY THE TWO (2) HOLE PATTERN IS TO BE USED.

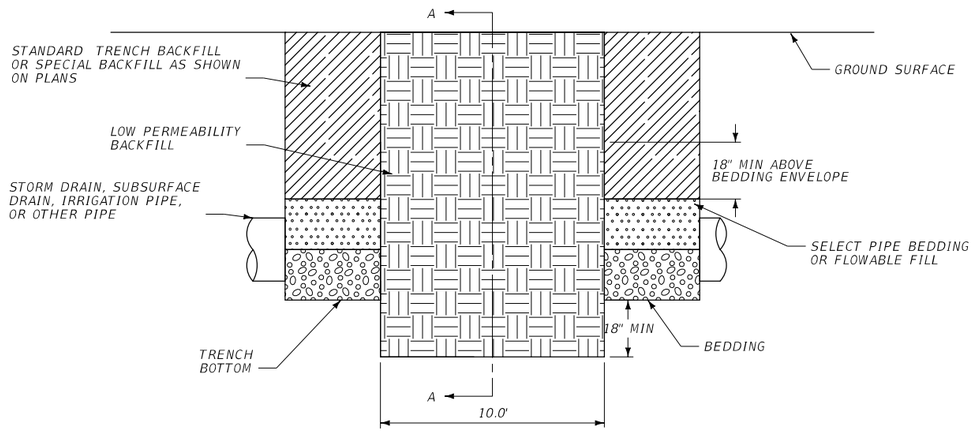
3. HOLES (PERFORATIONS) IS TO PLACED SUCH THAT HOLES ARE FACING DOWN.

4. TRACER WIRE IS INCLUDED IN THE COST OF THE SSD PIPE.

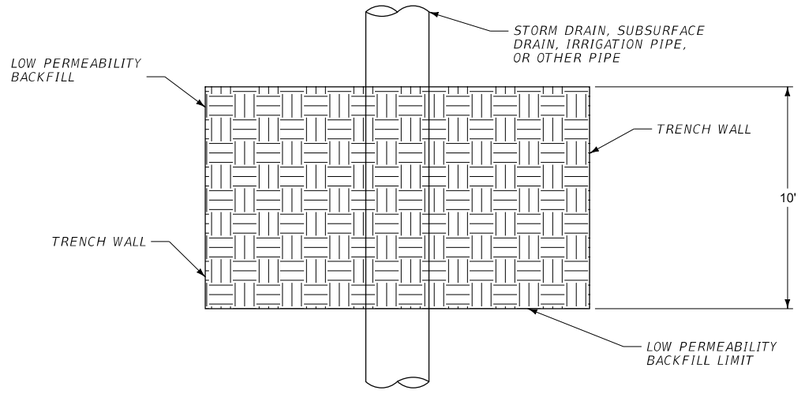


SUBSURFACE DRAIN DETAIL
NOT TO SCALE

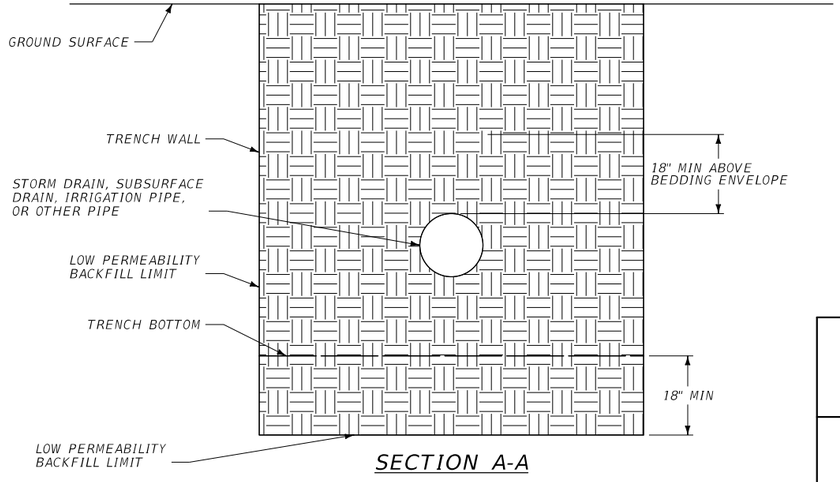
LOW PERMEABILITY BACKFILL DETAIL



PROFILE VIEW



PLAN VIEW



SECTION A-A

LOW PERMEABILITY BACKFILL

STA. 111+37.77 LT.
STA. 111+57.77 LT.
STA. 114+41.38 RT.
STA. 114+41.38 LT.
STA. 115+23.35 LT.
STA. 115+23.76 RT.
STA. 115+51.98 RT.
STA. 116+07.45 RT.
STA. 117+30.40 LT.
STA. 213+01.01 LT.
STA. 213+40.43 LT.
STA. 214+51.72 RT.
STA. 215+03.01 RT
STA. 215+07.11 LT.
STA. 215+17.22 LT.
STA. 216+39.93 LT.
STA. 219+19.22 RT.
STA. 219+50.22 RT.

SUBSURFACE DRAIN DETAILS

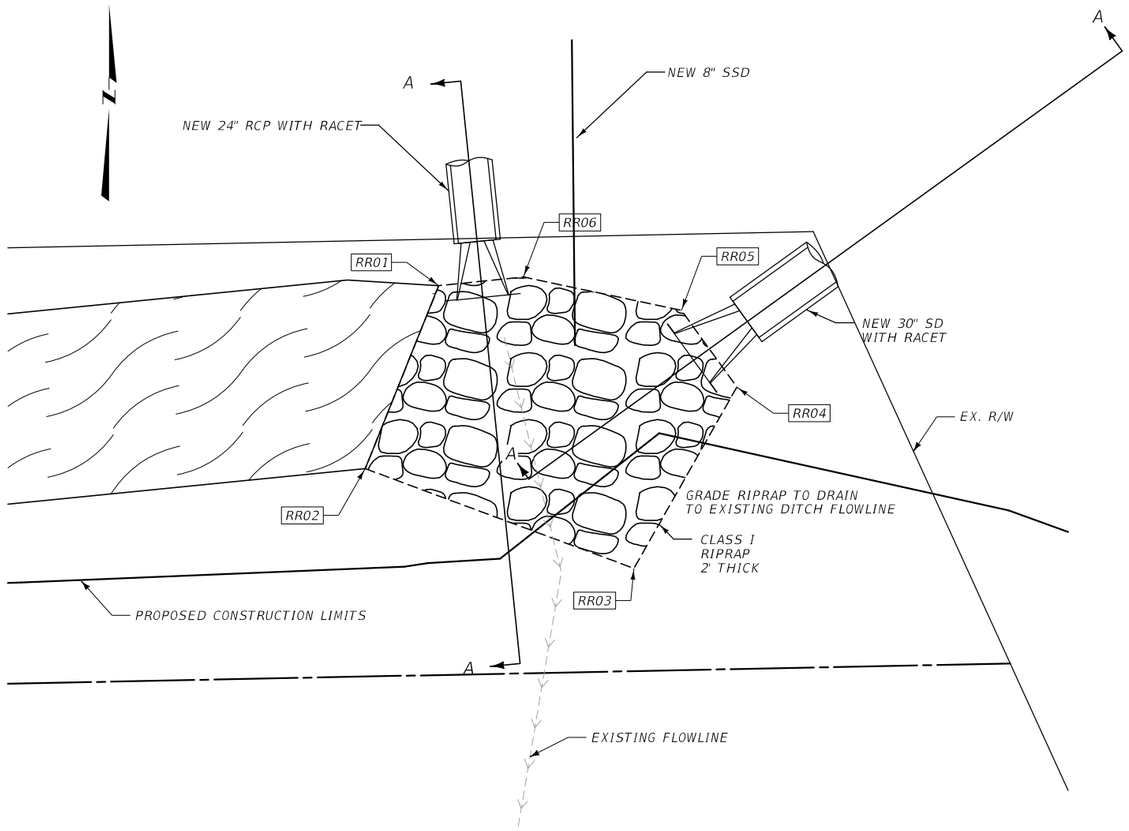
LOW PERMEABILITY BACKFILL DETAIL

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDDET01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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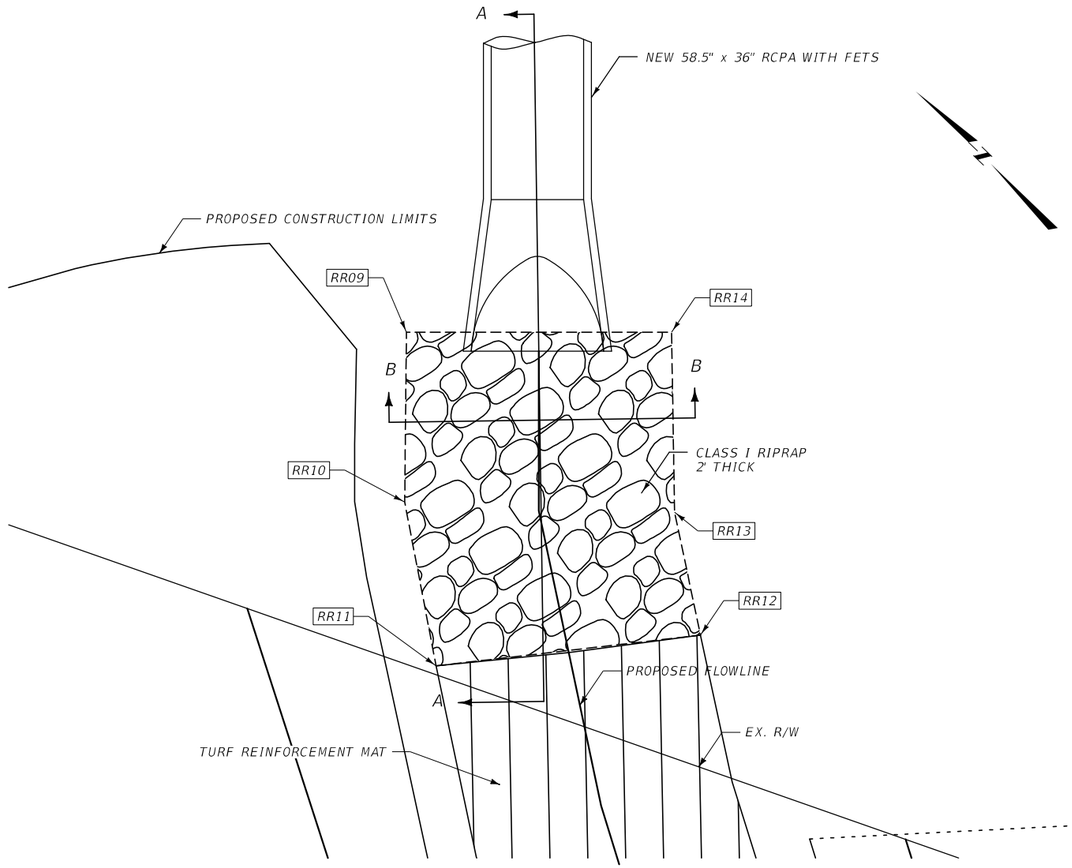
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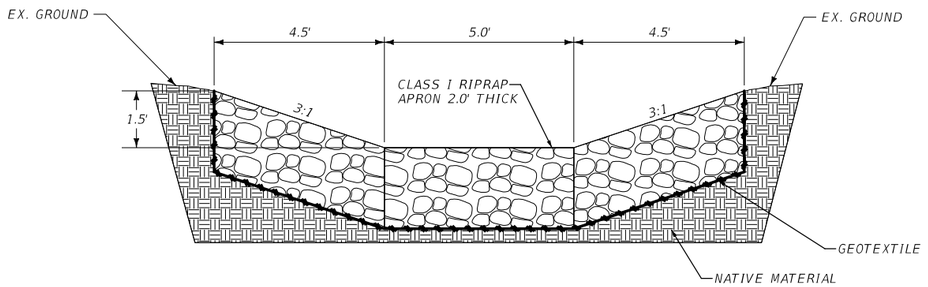
RIPRAP DETAIL
STA. 115+26.78 RT.

OUTLET PROTECTION					
POINT	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
RR01	115+21.77	41.40 RT.	565,719.047	2,179,059.216	RIPRAP
RR02	115+17.33	50.70 RT.	565,709.382	2,179,055.335	RIPRAP
RR03	115+30.06	57.25 RT.	565,704.122	2,179,069.528	RIPRAP
RR04	115+36.05	48.31 RT.	565,713.688	2,179,074.961	RIPRAP
RR05	115+33.72	43.96 RT.	565,717.744	2,179,072.038	RIPRAP
RR06	115+26.03	41.36 RT.	565,719.507	2,179,063.692	RIPRAP

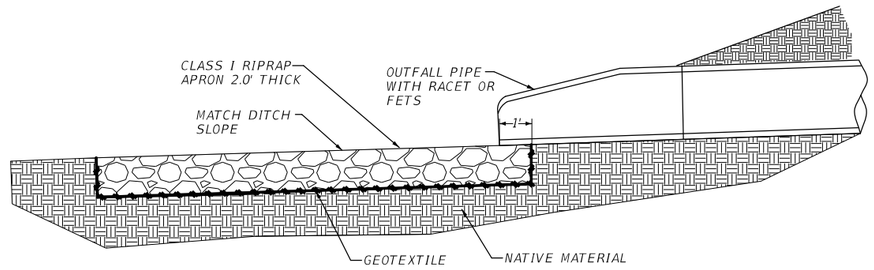


RIPRAP DETAIL
STA. 115+79.05 RT.

OUTLET PROTECTION					
POINT	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
RR09	115+72.43	81.11 RT.	565,685.516	2,179,113.787	RIPRAP
RR10	115+61.56	86.43 RT.	565,679.366	2,179,107.253	RIPRAP
RR11	115+56.07	92.84 RT.	565,672.181	2,179,102.162	RIPRAP
RR12	115+67.36	103.18 RT.	565,663.233	2,179,113.006	RIPRAP
RR13	115+74.53	98.12 RT.	565,668.713	2,179,116.737	RIPRAP
RR14	115+86.12	91.88 RT.	565,675.418	2,179,123.486	RIPRAP



SECTION B-B OUTFALL DITCH CROSS SECTION



SECTION A-A

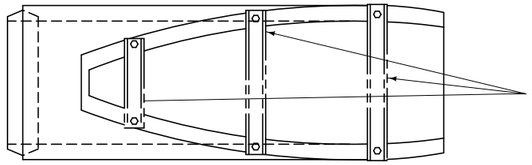
OUTFALL RIPRAP DETAILS

SANDERSON STEWART

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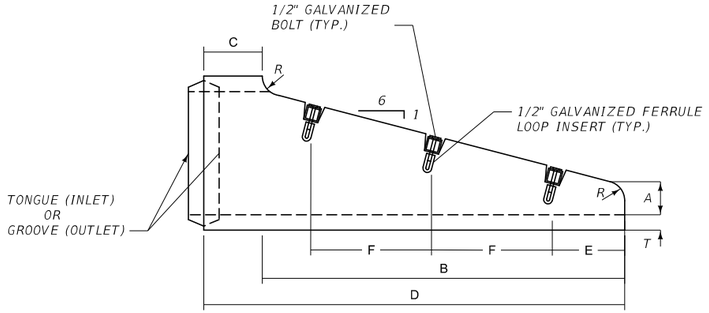
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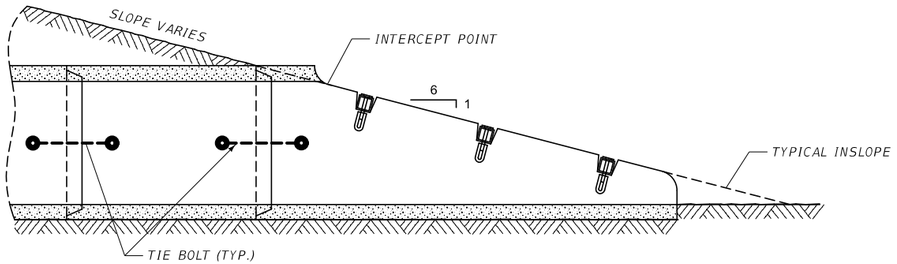
PROVIDE HSS 2.5 X 2.5 X .1875 STRUCTURAL STEEL TUBING IN CONFORMANCE WITH ASTM A500M GRADE B OR 3" DIAMETER SCHEDULE 40 PIPE IN CONFORMANCE WITH ASTM A53, GRADE B.

BARS AND ASSOCIATED EQUIPTMENT INCLUDED IN LENGTH OF PIPE

TOP VIEW



SIDE VIEW



ELEVATION VIEW

RACET DIMENSIONS												
					6:1 SLOPE		4:1 SLOPE					
DIA. (in.)	T (in.)	R (in.)	A (in.)	C (in.)	B (in.)	D (in.)	B (in.)	D (in.)	E (in.)	F (in.)	NO. SECTIONS	NO. BARS
12	2	3	6	9	36	45	24	33	6	24	1	1
24	3	3	6	9	***	***	72	81	6	24	1 OR 2	3
24**	3.5	3	6	9	72	81	48	57	6	24	1 OR 2	3
30	3.5	3.5	7.5	9	135	144	90	99	6	24	1 OR 2	5

**RCPA EQUIVALENT DIAMETER OF CIRCULAR RCP
***SEE MDT DTL. DWG. 603-12

GENERAL NOTES:

1. THE LENGTH OF CONCRETE PIPE SHOWN ON THE PLANS INCLUDES THE RACETS.
2. BARS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.

RACET DETAIL

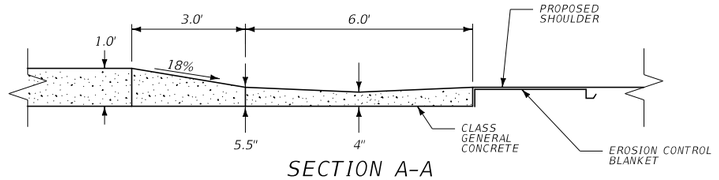
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SANDERSON STEWART

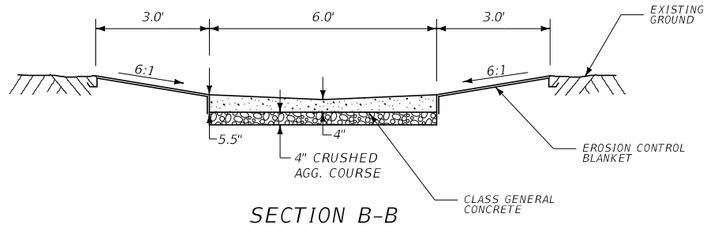
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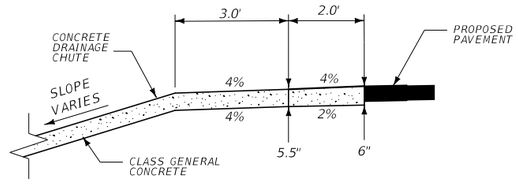
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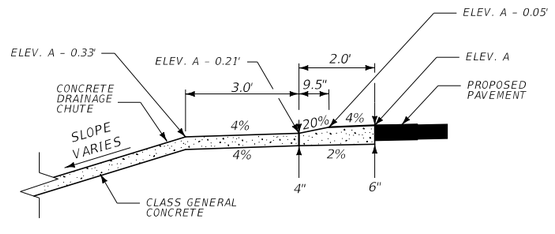
SECTION A-A
END OF CURB



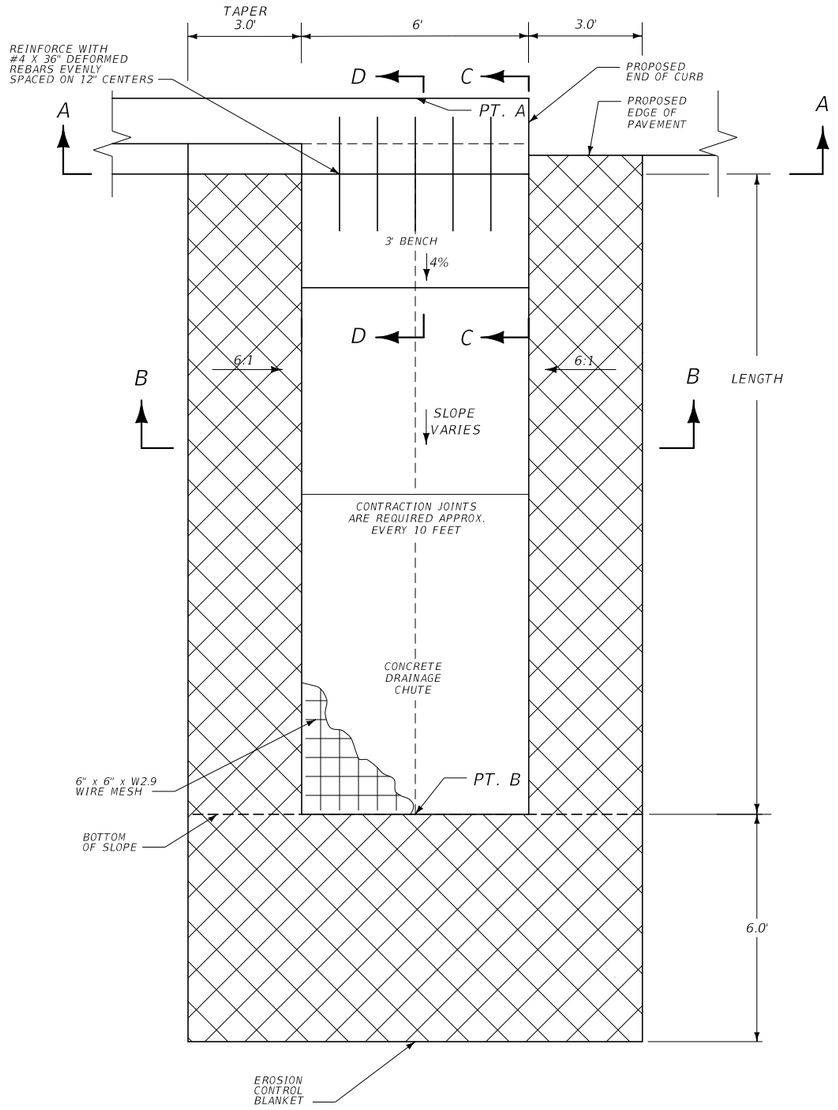
SECTION B-B



SECTION C-C



SECTION D-D



CONCRETE DRAINAGE CHUTE DETAIL
END OF CURB

NOTES:

INSTALL REINFORCEMENT AT ALL CONSTRUCTION JOINTS.

CONTRACTION JOINTS ARE 1/8" MIN. AND 3/8" MAX. IN WIDTH. FORM JOINTS BY SAWING OR SCORING TO A MINIMUM DEPTH OF 1". FORM SCORED JOINTS WITH A TOOL WHICH WILL LEAVE ROUNDED CORNERS AND DESTROY AGGREGATE INTERLOCK TO A MINIMUM DEPTH OF 1".

USE LONG TERM BLANKET - 100% NATURAL FIBER MEETING MDT SUPPLEMENTAL SPECIFICATION 713.12. SECURE WITH 1" x 1" x 1 FT WOODEN STAKES.

COST OF WIRE MESH IS INCIDENTAL TO THE COST OF THE CONCRETE.

CONCRETE DRAINAGE CHUTE DETAIL

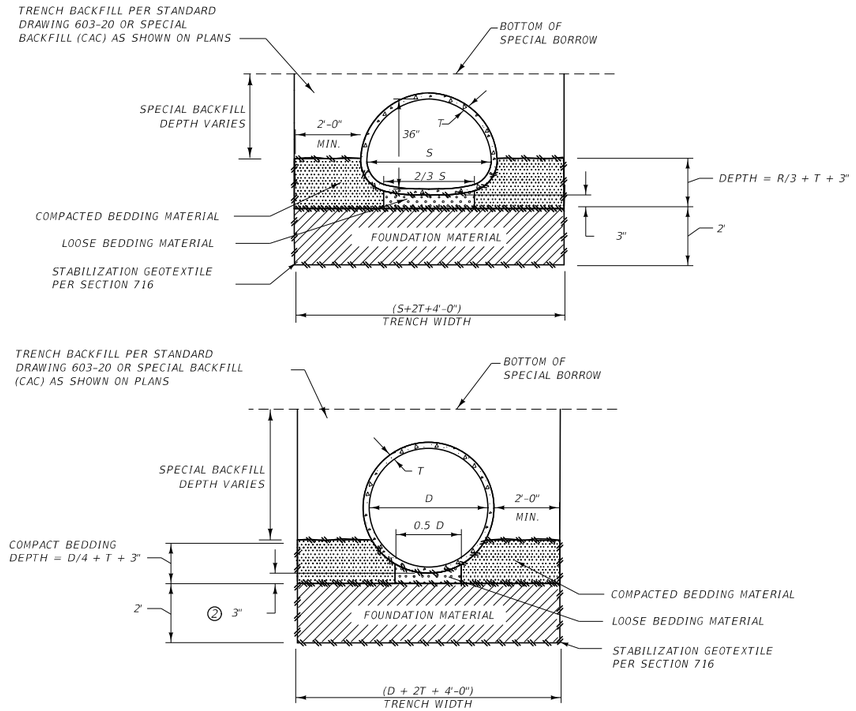
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SANDERSON STEWART

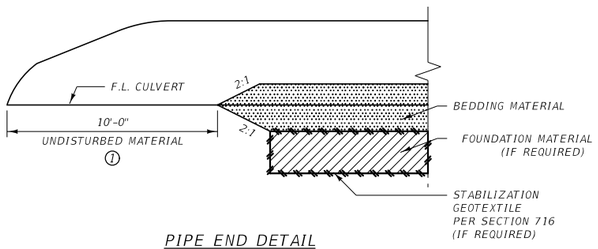
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TRENCH/BEDDING DETAIL FOR CULVERTS



PIPE END DETAIL

NOTES:

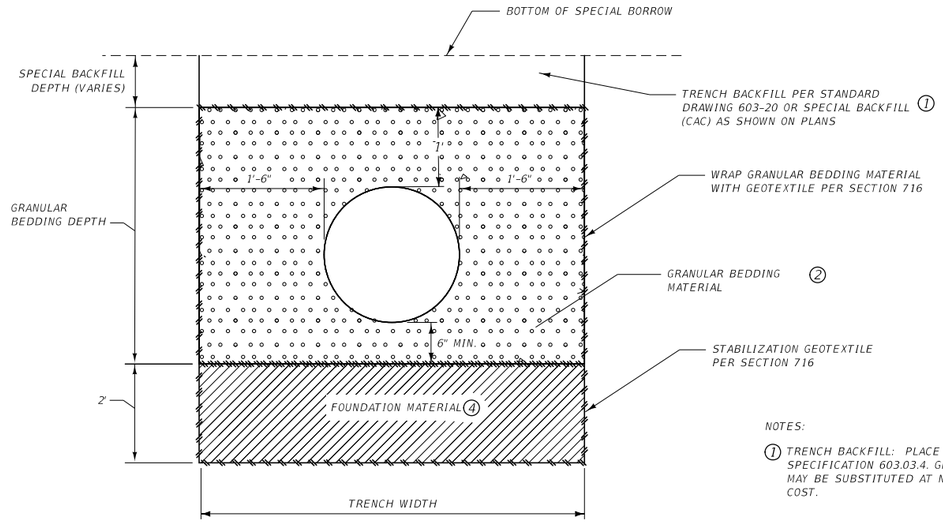
① DO NOT EXTEND BEDDING MATERIAL TO THE END OF THE PIPE. LEAVE 10' OF UNDISTURBED MATERIAL AT EACH END UNLESS OTHERWISE NOTED IN PLANS. SEE PIPE END DETAIL (THIS ALSO APPLIES TO THE IRRIGATION AND SANITARY SEWER DETAILS)

② PLACE LOOSE BEDDING MATERIAL UNIFORMLY IN THE BOTTOM OF THE TRENCH AND SHAPE TO FIT BOTTOM OF PIPE. THE MINIMUM THICKNESS BEFORE PLACING PIPE IS 3". 42" AND 48" RCP IRR. REQUIRE 4" DEPTH OF LOOSE BEDDING MATERIAL TO ACCOMODATE BELL THICKNESS. AFTER LAYING CULVERT, COMPACT BEDDING MATERIAL AT HAUNCHES AND SIDES OF PIPE.

③ FURNISH BEDDING AND FOUNDATION MATERIAL PER SECTION 701.

④ DIMENSIONS D, S AND R ARE INSIDE PIPE DIAMETER, SPAN AND RISE. DIMENSION T IS THE CULVERT WALL THICKNESS FOR CONCRETE OR CORRUGATION DEPTH FOR METAL.

⑤ EXCAVATE A SUFFICIENT AMOUNT TO PROVIDE A SAFE WORKING ENVIRONMENT AND TO ALLOW ACHIEVEMENT OF ALL CULVERT INSTALLATION AND COMPACTION REQUIREMENTS. SLOPE, BENCH OR PROVIDE SHORING FOR ALL EXCAVATIONS IN ACCORDANCE WITH THE U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.



TRENCH/BEDDING DETAIL FOR IRRIGATION, SANITARY SEWER, WATER LINE, AND FLEXIBLE STORM DRAIN (SEE NOTE 4 FOR STORM DRAIN LESS THAN 30")

NOTES:

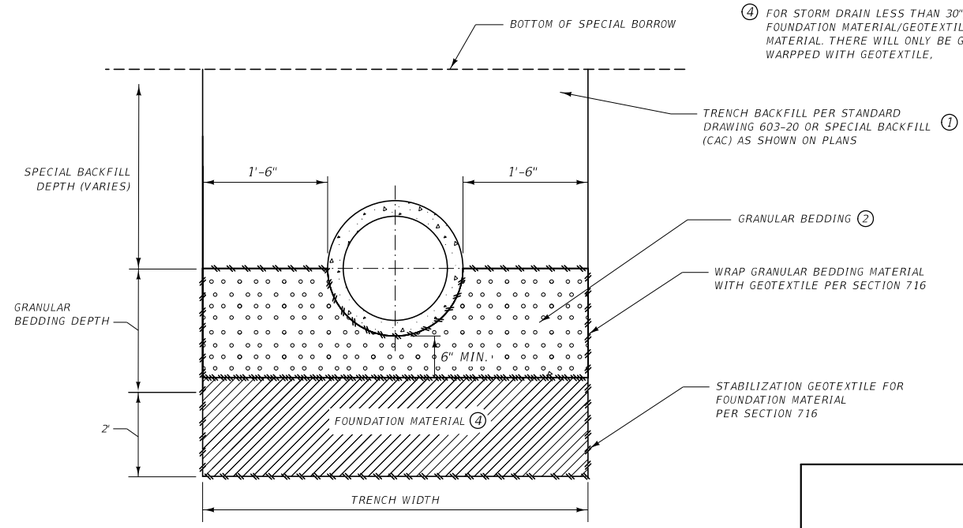
① TRENCH BACKFILL: PLACE PER STANDARD SPECIFICATION 603.03.4. GRANULAR BEDDING MAY BE SUBSTITUTED AT NO ADDITIONAL COST.

② THE BEDDING MATERIAL DIRECTLY UNDERNEATH THE PIPE SHOULD BE LEFT UNCOMPACTED TO FACILITATE THE INSTALLATION OF THE PIPE.

COMPACT GRANULAR BEDDING BY PROOF ROLLING WITH VIBRATORY COMPACTOR IN 8 INCH [200] LIFTS OR BY USING A METHOD APPROVED BY THE PROJECT MANAGER.

③ EXCAVATE A SUFFICIENT AMOUNT TO PROVIDE A SAFE WORKING ENVIRONMENT AND TO ALLOW ACHIEVEMENT OF ALL CULVERT INSTALLATION AND COMPACTION REQUIREMENTS. SLOPE, BENCH OR PROVIDE SHORING FOR ALL EXCAVATIONS IN ACCORDANCE WITH THE U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.

④ FOR STORM DRAIN LESS THAN 30", THERE WILL BE NO FOUNDATION MATERIAL/GEOTEXTILE FOR FOUNDATION MATERIAL. THERE WILL ONLY BE GRANULAR BEDDING WARPPED WITH GEOTEXTILE,



TRENCH/BEDDING DETAIL FOR RIGID 30" STORM DRAIN (SEE NOTE 4 FOR STORM DRAIN LESS THAN 30")

TRENCH DETAILS

SANDERSON STEWART

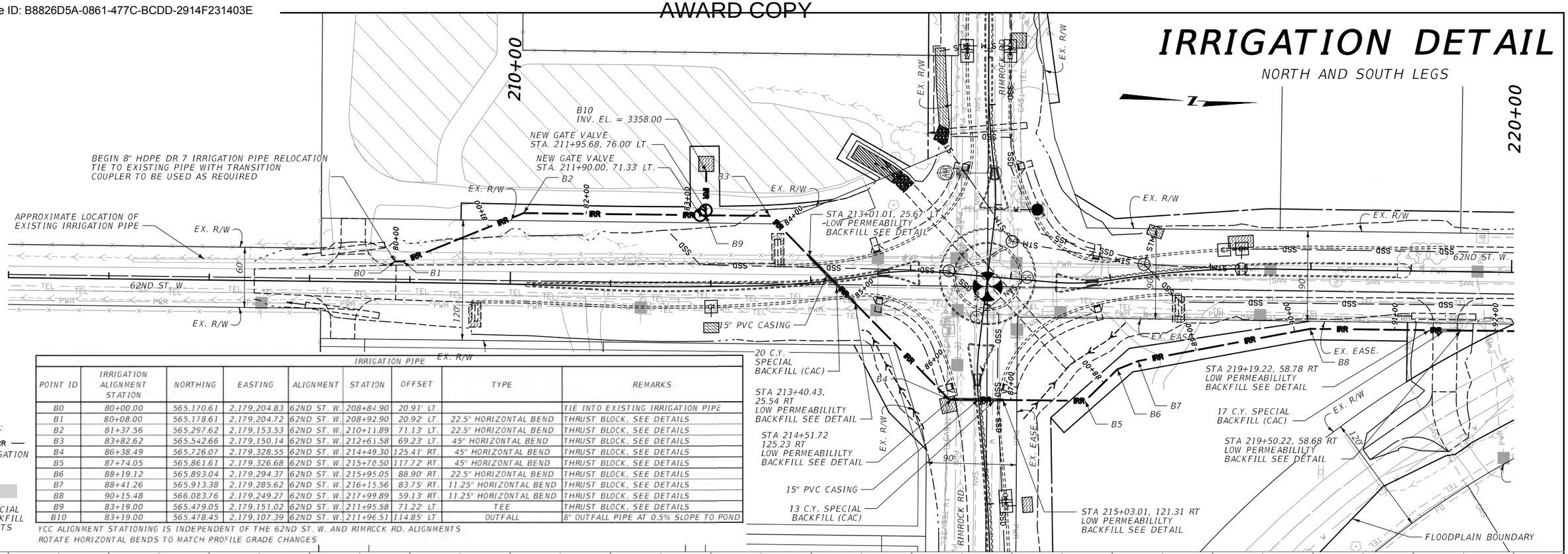
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2		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	38
		9:48:47 AM kedam	CHECKED BY				

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IRRIGATION DETAIL

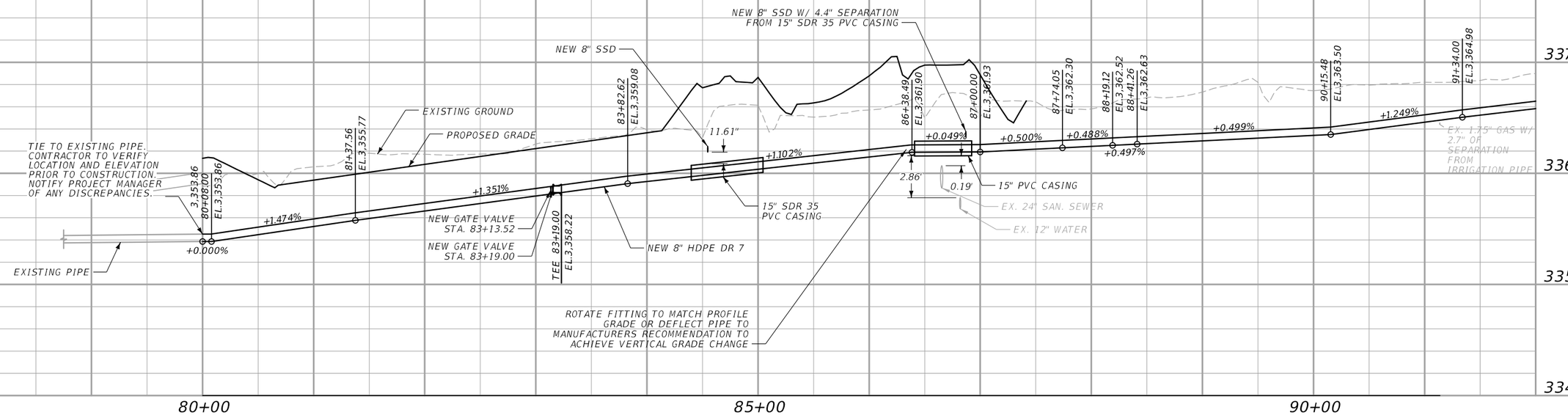
NORTH AND SOUTH LEGS



IRRIGATION PIPE								
POINT ID	IRRIGATION ALIGNMENT STATION	NORTHING	EASTING	ALIGNMENT	STATION	OFFSET	TYPE	REMARKS
B0	80+00.00	565,170.61	2,179,204.83	62ND ST. W.	208+84.90	20.91' LT.		TIE INTO EXISTING IRRIGATION PIPE
B1	80+08.00	565,178.61	2,179,204.72	62ND ST. W.	208+92.90	20.92' LT.	22.5° HORIZONTAL BEND	THRUST BLOCK, SEE DETAILS
B2	81+37.56	565,297.62	2,179,153.53	62ND ST. W.	210+11.89	71.13' LT.	22.5° HORIZONTAL BEND	THRUST BLOCK, SEE DETAILS
B3	83+82.62	565,542.66	2,179,150.14	62ND ST. W.	212+61.58	69.23' LT.	45° HORIZONTAL BEND	THRUST BLOCK, SEE DETAILS
B4	86+38.49	565,726.07	2,179,328.55	62ND ST. W.	214+49.30	125.41' RT.	45° HORIZONTAL BEND	THRUST BLOCK, SEE DETAILS
B5	87+74.05	565,861.61	2,179,326.68	62ND ST. W.	215+70.50	117.72' RT.	45° HORIZONTAL BEND	THRUST BLOCK, SEE DETAILS
B6	88+19.12	565,893.04	2,179,294.37	62ND ST. W.	215+95.05	88.90' RT.	22.5° HORIZONTAL BEND	THRUST BLOCK, SEE DETAILS
B7	88+41.26	565,913.38	2,179,285.62	62ND ST. W.	216+15.56	83.75' RT.	11.25° HORIZONTAL BEND	THRUST BLOCK, SEE DETAILS
B8	90+15.48	566,083.76	2,179,249.27	62ND ST. W.	217+99.89	59.13' RT.	11.25° HORIZONTAL BEND	THRUST BLOCK, SEE DETAILS
B9	83+19.00	565,479.05	2,179,151.02	62ND ST. W.	211+95.58	71.22' LT.	TEE	THRUST BLOCK, SEE DETAILS
B10	83+19.00	565,478.45	2,179,107.39	62ND ST. W.	211+96.51	114.85' LT.	OUTFALL	8" OUTFALL PIPE AT 0.5% SLOPE TO POND

YCC ALIGNMENT STATIONING IS INDEPENDENT OF THE 62ND ST. W. AND RIMROCK RD. ALIGNMENTS
ROTATE HORIZONTAL BENDS TO MATCH PROFILE GRADE CHANGES

LEGEND:
— IRR — IRRIGATION PIPE
SPECIAL BACKFILL LIMITS



SANDERSON STEWART

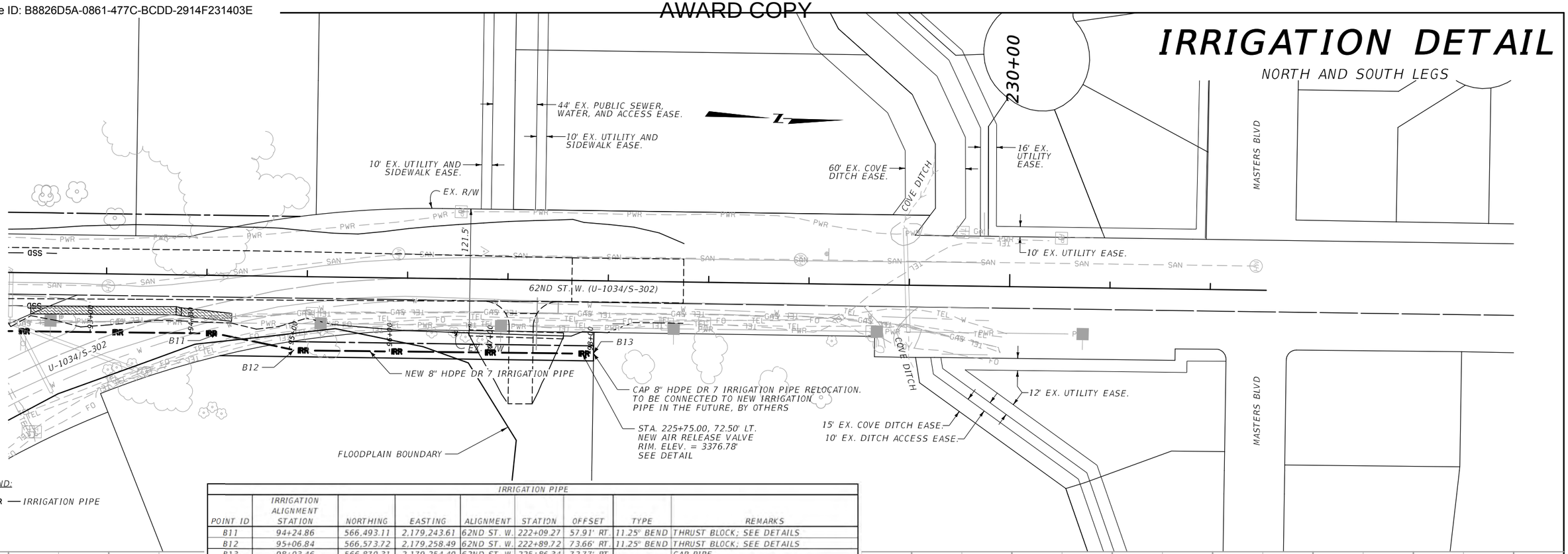
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		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001 / 39
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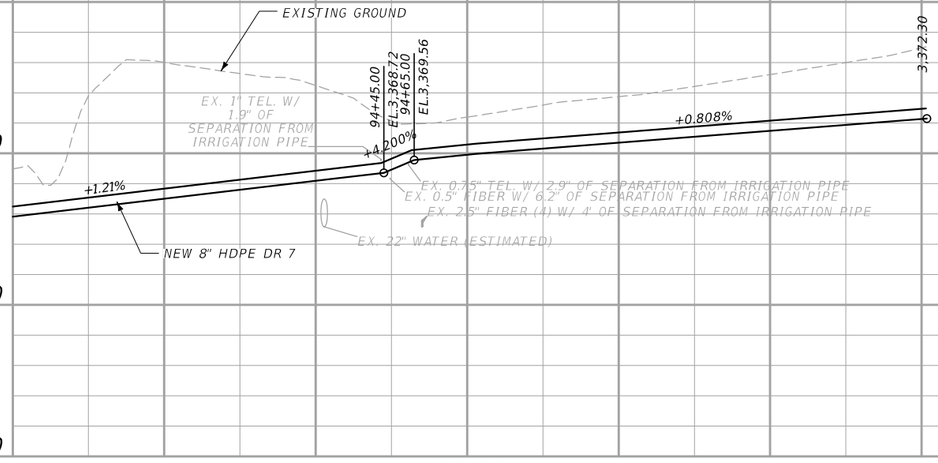
IRRIGATION DETAIL

NORTH AND SOUTH LEGS



IRRIGATION PIPE								
POINT ID	IRRIGATION ALIGNMENT STATION	NORTHING	EASTING	ALIGNMENT	STATION	OFFSET	TYPE	REMARKS
B11	94+24.86	566,493.11	2,179,243.61	62ND ST. W.	222+09.27	57.91' RT.	11.25° BEND	THRUST BLOCK; SEE DETAILS
B12	95+06.84	566,573.72	2,179,258.49	62ND ST. W.	222+89.72	73.66' RT.	11.25° BEND	THRUST BLOCK; SEE DETAILS
B13	98+03.46	566,870.31	2,179,254.40	62ND ST. W.	225+86.34	72.77' RT.		CAP PIPE

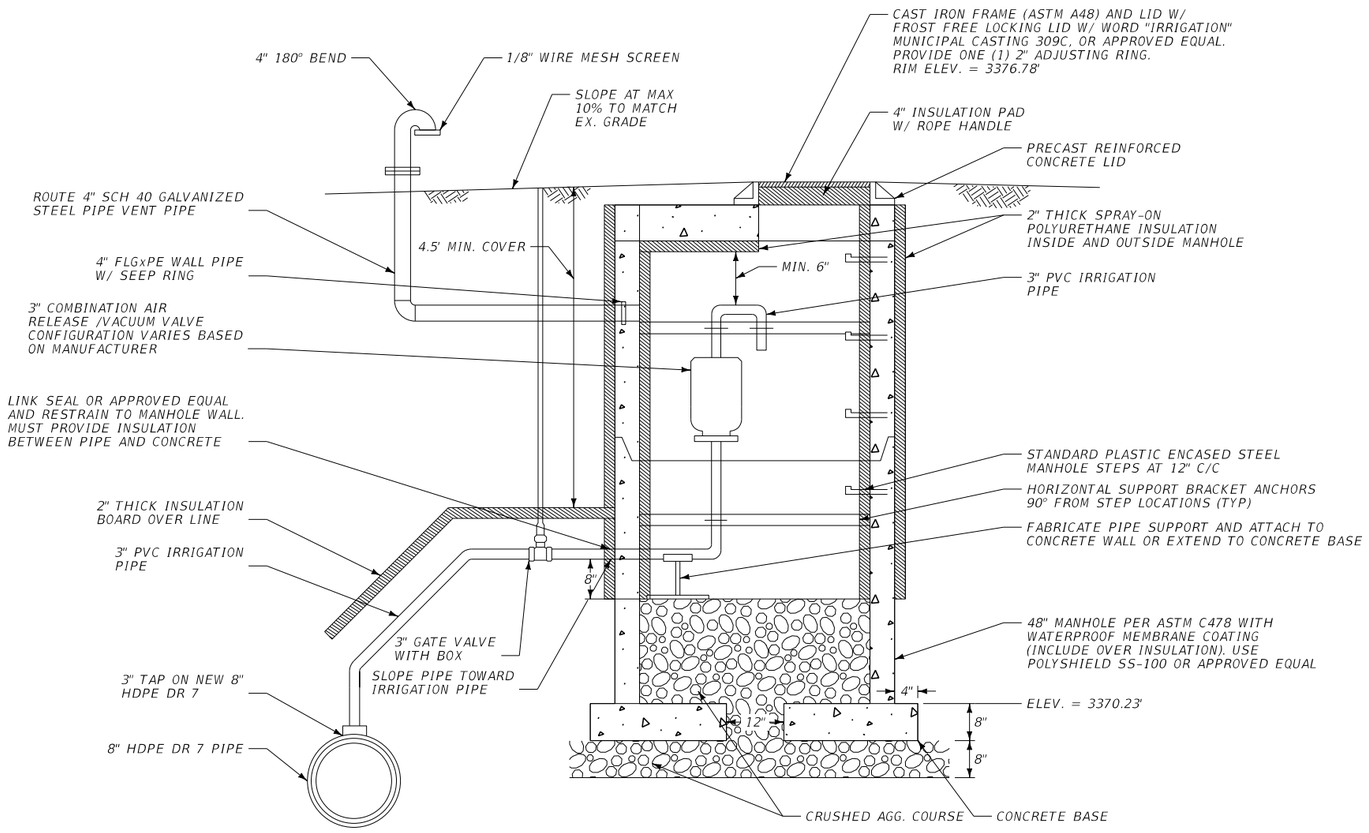
YCC ALIGNMENT STATIONING IS INDEPENDENT OF THE 62ND ST. W. AND RIMROCK RD. ALIGNMENTS
ROTATE HORIZONTAL BENDS TO MATCH PROFILE GRADE CHANGES



SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDD.DGN	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	40
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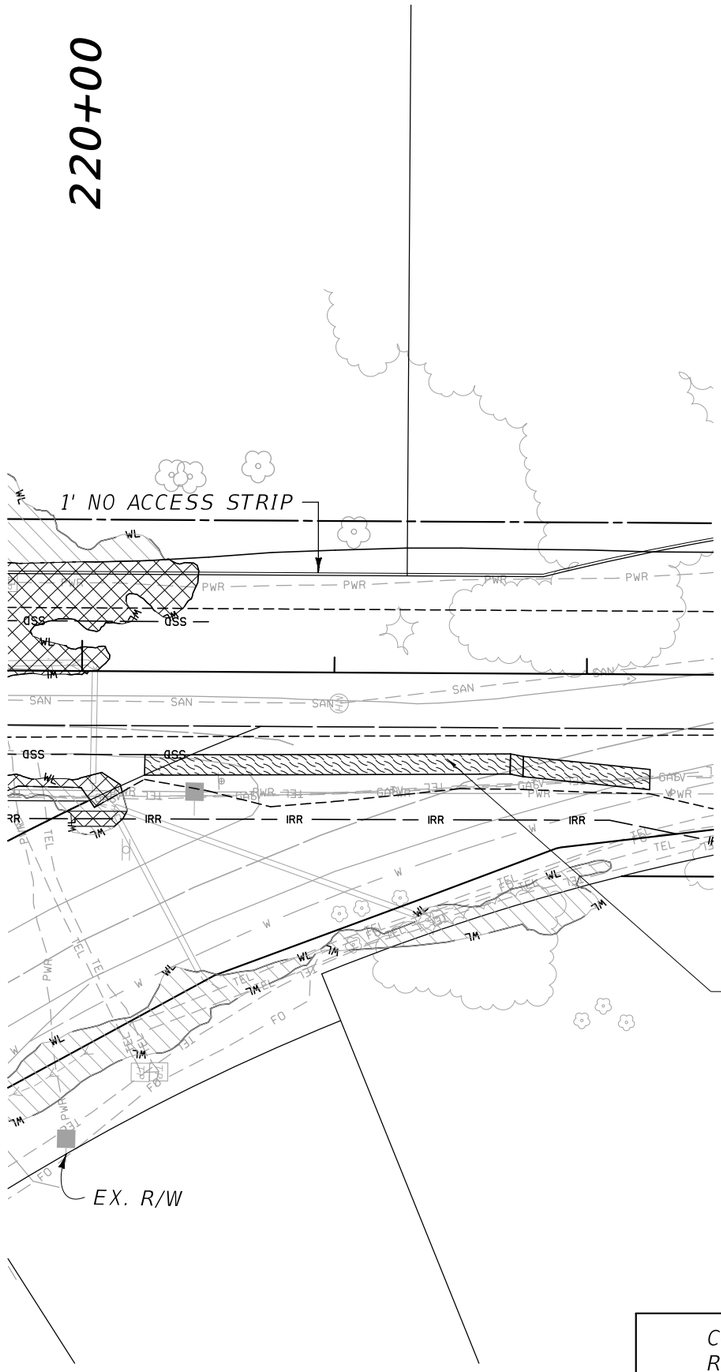


NOTES:
1. A 6'x6' CONCRETE INSULATION BLANKET SHALL BE INCLUDED. THE BLANKET SHALL BE DRAPED OVER AIR/VACUUM ASSEMBLY WHEN COMPLETED.
2. ALL FASTENERS SHALL BE STAINLESS STEEL.
3. LOCATE COMBINATION AIR RELEASE/VACUUM VALVE, INFLOW PREVENTER, PIPE, AND ASSOCIATED APPURTENANCES SUCH THAT MIN. 2' CLEAR ACCESS IS MAINTAINED IN THE MANHOLE (USE BENDS AS NECESSARY)

COMBINATION AIR RELEASE/VACUUM ASSEMBLY
STA. 225+75.00

NOT TO SCALE

220+00



COMBINATION AIR RELEASE/VACUUM ASSEMBLY DETAIL

NORTH LEG EROSION CONTROL BLANKET DETAIL

SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.DGN	DESIGNED BY		ROAD PLANS		SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY		UPN 9383001	41
		9:48:49 AM kedam	CHECKED BY					

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THRUST BLOCK NOTES:

1. THIS TABLE IS BASED ON A 5.5-FT BURY DEPTH, 50 PSI TEST PRESSURE, & A 1,450 POUND PER SQUARE FOOT SOIL BEARING PRESSURE. THE THRUST BLOCK SIZING CALCULATIONS INCLUDE A FACTOR OF SAFETY OF 1.50. THE SOIL BEARING PRESSURE IS BASED ON NATIVE CLAY AND SILT SOILS. IF SOIL CONDITIONS AT THE THRUST BLOCK LOCATION ARE DIFFERENT THAN CLAY OR SILT, NOTIFY THE PROJECT MANAGER AND THRUST BLOCK SIZES MAY BE MODIFIED AS DETERMINED BY THE PROJECT MANAGER BASED ON ACTUAL SOIL CONDITIONS ENCOUNTERED IN THE FIELD.

2. WRAP ALL FITTINGS WITH POLYETHYLENE.

3. FORM ALL THRUST BLOCKS PER MPWSS STANDARD DRAWING NO. 02660-1. UNFORMED BLOCKS WILL BE REJECTED. THE MAX FLARE ANGLE IS 45 DEGREES FROM THE FITTING TO THE BACK OF THE TRENCH WALL.

4. BLOCK HEIGHT SHOULD BE EQUAL TO OR LESS THAN ONE-HALF THE TOTAL DEPTH TO THE BOTTOM OF THE BLOCK, BUT NOT LESS THAN THE PIPE DIAMETER. ADJUST BLOCK DIMENSIONS AS NEEDED TO MEET THIS REQUIREMENT WHILE MAINTAINING THE EQUIVALENT BLOCK AREA SHOWN IN THE DETAIL. CHOOSE A BLOCK HEIGHT SO THAT THE CALCULATED BLOCK WIDTH VARIES BETWEEN ONE AND TWO TIMES THE HEIGHT.

5. THRUST BLOCKS ARE REQUIRED AT ALL TEES, PLUGS, REDUCERS, CAPS & AT BENDS DEFLECTING 11.25° OR MORE REGARDLESS OF WHETHER THEY ARE WITHIN A RESTRAINED JOINT SECTION OF PIPE.

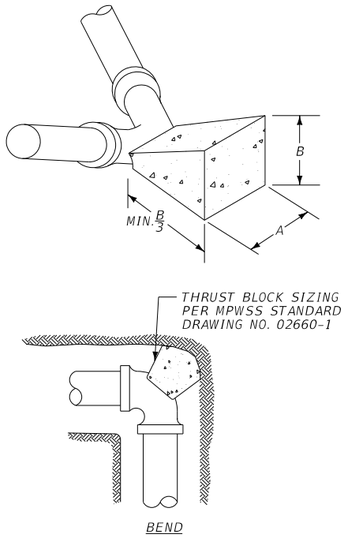
6. ENSURE THAT THE TRENCH WALL WHERE THE THRUST BLOCK IS BEARING AGAINST IS UNDISTURBED AND HAS A SOIL BEARING PRESSURE GREATER THAN OR EQUAL TO THE DESIGN SOIL BEARING PRESSURE REFERENCED IN NOTE ONE. IF THE TRENCH WALL IS DISTURBED OR HAS A SOIL BEARING PRESSURE LESS THAN THAT REFERENCED IN NOTE ONE, INSTALL AND COMPACT STRUCTURAL FILL WHERE THE THRUST BLOCK WILL BE BEARING AGAINST, AS RECOMMENDED BY THE PROJECT MANAGER.

THRUST BLOCK SIZING FOR 8" PIPE				
BEND	11.25°	22.5°	45°	TEE
A - DIMENSION (FT)	1.2	1.7	2.3	2.7
B - DIMENSION (FT)	0.6	0.9	1.2	2.5



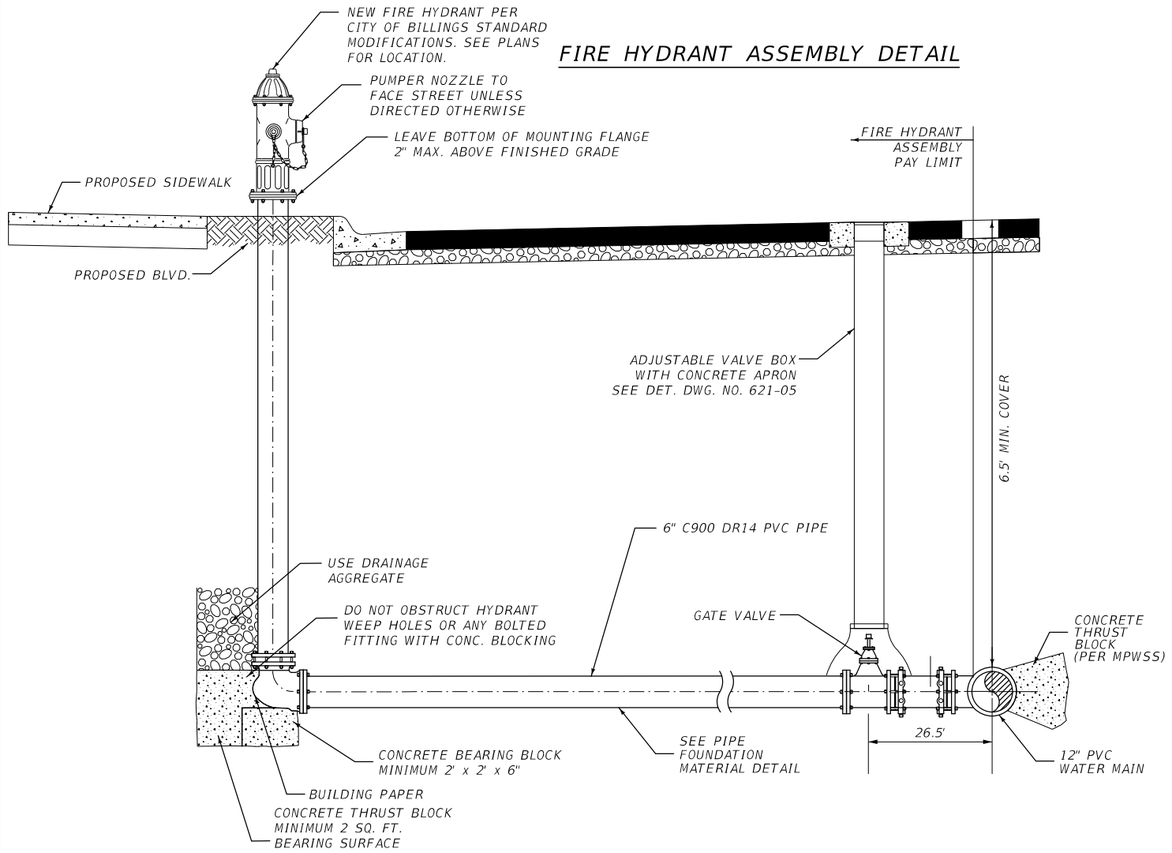
TEE DETAIL

NOT TO SCALE

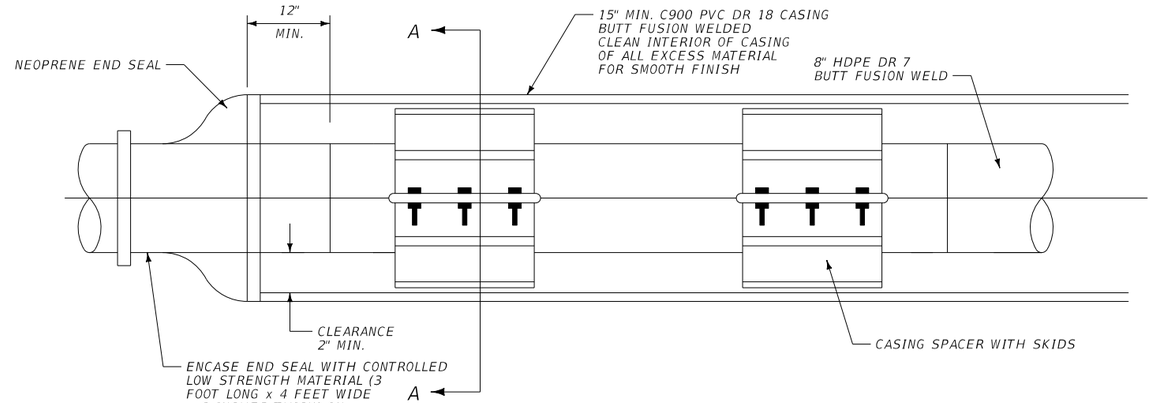


TEE THRUST BLOCK DETAIL

NOT TO SCALE



FIRE HYDRANT ASSEMBLY DETAIL



CASING NOTES:

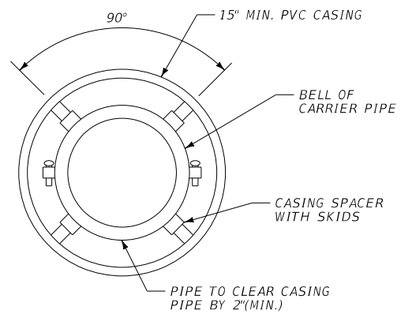
1. SUPPORT CARRIER PIPE WITH CASING SPACERS AT NO MORE THAN 6-FEET BETWEEN SPACERS IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS. INSTALL A SPACER TO SUPPORT THE CARRIER PIPE WITHIN 2-FEET OF THE END OF THE CASING PIPE.

2. PROVIDE 8-INCHES WIDE SPACERS MANUFACTURED OF MINIMUM 14-GUAGE TYPE 304 STAINLESS STEEL. BOLT CASING SPACERS ON STYLE SPLIT SHELLS WITH ALL NUTS AND BOLTS MADE OF HIGH STRENGTH, LOW ALLOY MEETING AWWA C111. NUTS AND BOTS MUST BE CORROSION RESISTANT AND COMPATIABLE WITH THE RESPECTIVE STEEL BAND.

3. FURNISH EACH SPACER WITH A MINIMUM OF FOUR RUNNER SUPPORTS MANUFACTURED OF A HIGH MOLECULAR WEIGHT POLYMER PLASTIC WITH INHERENT HIGHABRASION RESISTANCE AND A LOW COEFFICENT OF FRICTION.

4. INSTALL RUNNER SUPPORTS TO PROVIDE ADEQUATE HEIGHT TO POSITION THE CARRIER PIPE IN THE CENTER OF THE CASING WITH A MINIMUM TOP CLEARANCE OF 1/2-INCH BETWEEN THE UPPER RUNNERS AND INSIDE OF THE CASING.

5. INSTALL CASING END SEALS TO COMPLETELY CLOSE BOTH OPENINGS WITH A WATERTIGHT SEAL ON EITHER SIDE OF THE CASING. PROVIDE END SEALS THAT PULL ON (SEAMLESS) OR WRAP AROUND WITH STAINLESS STEEL STRAPS FOR SECURING TO THE CARRIER PIPE AND THE CASING. FURNISH END SEALS WITH SPECIFICALLY COMPOUNDED SYNTHETIC RUBBER WITH A MINIMUM THICKNESS OF 1/8-INCH. SPLIT SEALS ARE NOT ACCEPTABLE.



SECTION A - A

CASED CROSSING DETAIL FOR IRRIGATION PIPE

NOT TO SCALE

WATERLINE NOTES:

EXISTING UNDERGROUND INSTALLATIONS & PRIVATE UTILITIES SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. MDT AND THE ENGINEER DO NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. SERVICE LINES (WATER, POWER, GAS, STORM, SEWER, TELEPHONE, & TELEVISION) MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THE PLANS. STATE LAW REQUIRES CONTRACTOR TO CALL ALL UTILITY COMPANIES BEFORE EXCAVATION FOR EXACT LOCATIONS.

ALL WATER AND SEWER IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE CITY OF BILLINGS STANDARD MODIFICATIONS TO THE MPWSS.

CONSTRUCT THRUST BLOCKS AT ALL TEES, PLUGS, REDUCERS, CAPS, AND AT BENDS DEFLECTING 11.25 DEGREES OR MORE. SIZE THRUST BLOCKS PER MPWSS STANDARD DRAWING NO. 02660-1. CALCULATE THRUST BLOCK SIZES FOR 11.25 DEGREE BENDS USING HALF THE BEARING SURFACE AREA (A * B) REQUIRED FOR A 22.5 DEGREE BEND.

PROVIDE 18" MIN. SEPARATION BETWEEN STORM DRAIN/SANITARY SEWER AND WATER MAIN.

FIELD VERIFY THE SIZE OF EXISTING WATER AND SEWER MAINS PRIOR TO ORDERING CONNECTION FITTINGS AT LOCATIONS WHERE PROPOSED IMPROVEMENTS CONNECT TO EX. FACILITIES.

COUPLINGS, GASKETS, AND ALL OTHER MATERIALS NECESSARY TO MAKE CONNECTIONS TO EXISTING WATER AND SEWER PIPING IS CONSIDERED INCIDENTAL TO THE COST OF EACH CONNECTION.

FITTINGS ARE TO BE PAID FOR WITH HYDRANT RELOCATION.

INCLUDE THE COST OF FURNISHING AND PLACING GRANULAR BEDDING, NONWOVEN STABILIZATION GEOTEXTILE, FOUNDATION, AND SPECIAL BACKFILL MATERIAL FOR WATER IN THE UNIT PRICE BID PER NEW HYDRANT ASSEMBLY BID ITEM.

ALL IMPROVEMENTS SHALL BE PERFORMED IN ACCORDANCE WITH MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS 6TH EDITION, APRIL, 2010, AND THE CITY OF BILLINGS STANDARD MODIFICATIONS, DATED JANUARY, 2021, INCLUDING ALL ADDENDUM.

THRUST BLOCK DETAIL

CASED CROSSING DETAIL FOR IRRIGATION PIPE

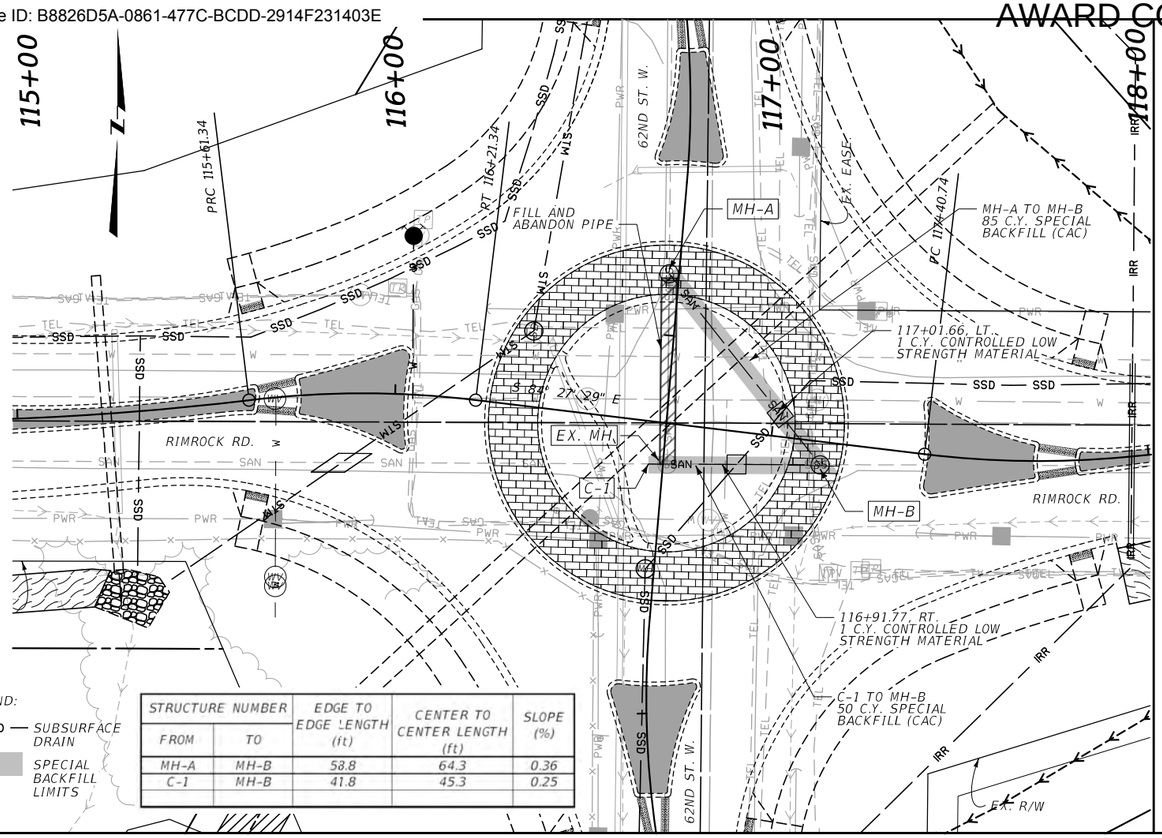
FIRE HYDRANT DETAIL

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3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.DGN	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	42
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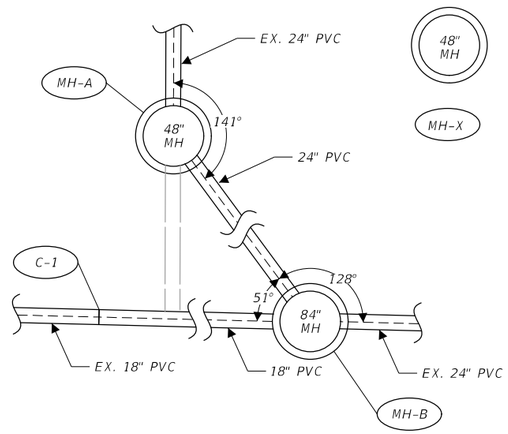
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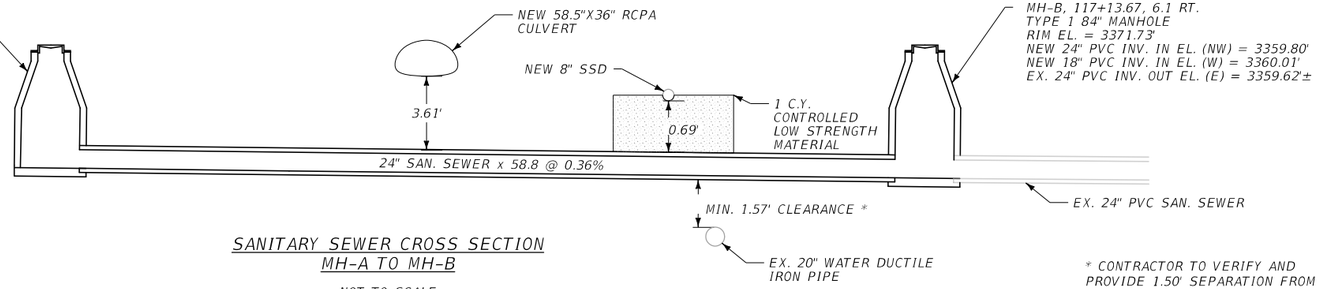
STRUCTURE NUMBER		EDGE TO EDGE LENGTH (ft)	CENTER TO CENTER LENGTH (ft)	SLOPE (%)
FROM	TO			
MH-A	MH-B	58.8	64.3	0.36
C-1	MH-B	41.8	45.3	0.25

SANITARY SEWER DETAIL



STRUCTURE COORDINATE TABLE					
STRUCTURE NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	RIM/GRATE ELEVATION (ft.)
C-1	116+68.64	RT.	565,750.449	2,179,200.594	
MH-A	116+68.11	LT.	565,800.827	2,179,204.952	3,371.42
MH-B	117+13.67	RT.	565,751.312	2,179,245.920	3,371.73

MH-A, 116+68.11, 39.2 LT.
TYPE 1 48" MANHOLE
RIM EL. = 3371.42'
EX. 24" PVC INV. IN EL. = 3360.11'±
NEW 24" PVC INV. OUT EL. = 3360.01'

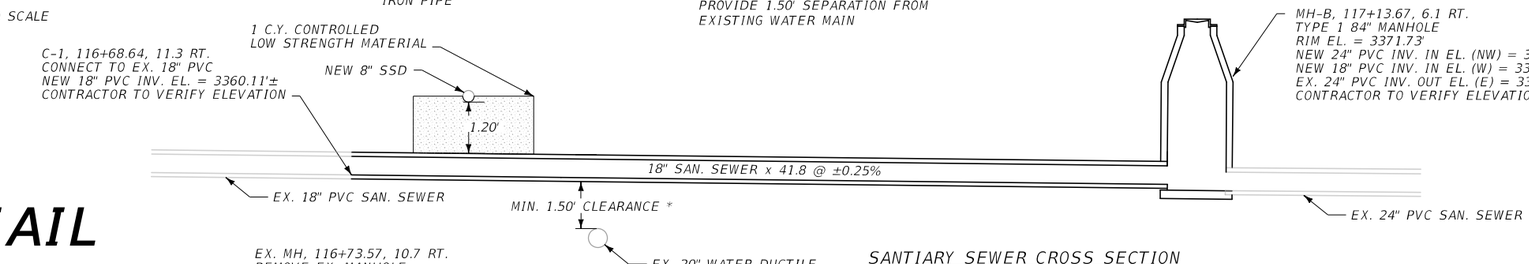


MH-B, 117+13.67, 6.1 RT.
TYPE 1 84" MANHOLE
RIM EL. = 3371.73'
NEW 24" PVC INV. IN EL. (NW) = 3359.80'
NEW 18" PVC INV. IN EL. (W) = 3360.01'
EX. 24" PVC INV. OUT EL. (E) = 3359.62'±

SANITARY SEWER CROSS SECTION
MH-A TO MH-B

NOT TO SCALE

* CONTRACTOR TO VERIFY AND PROVIDE 1.50' SEPARATION FROM EXISTING WATER MAIN



MH-B, 117+13.67, 6.1 RT.
TYPE 1 84" MANHOLE
RIM EL. = 3371.73'
NEW 24" PVC INV. IN EL. (NW) = 3359.80'
NEW 18" PVC INV. IN EL. (W) = 3360.01'
EX. 24" PVC INV. OUT EL. (E) = 3359.62'±
CONTRACTOR TO VERIFY ELEVATION

EX. MH, 116+73.57, 10.7 RT.
REMOVE EX. MANHOLE
EX. RIM EL. = 3366.51'
EX. 18" PVC INV. IN EL. (W) = 3360.11'±
EX. 24" PVC INV. IN EL. (N) = 3359.96'±
EX. 24" PVC INV. OUT EL. (E) = 3359.77'±

SANTIARY SEWER CROSS SECTION
C-1 TO MH-B

NOT TO SCALE

SANITARY SEWER CROSS SECTION DETAIL

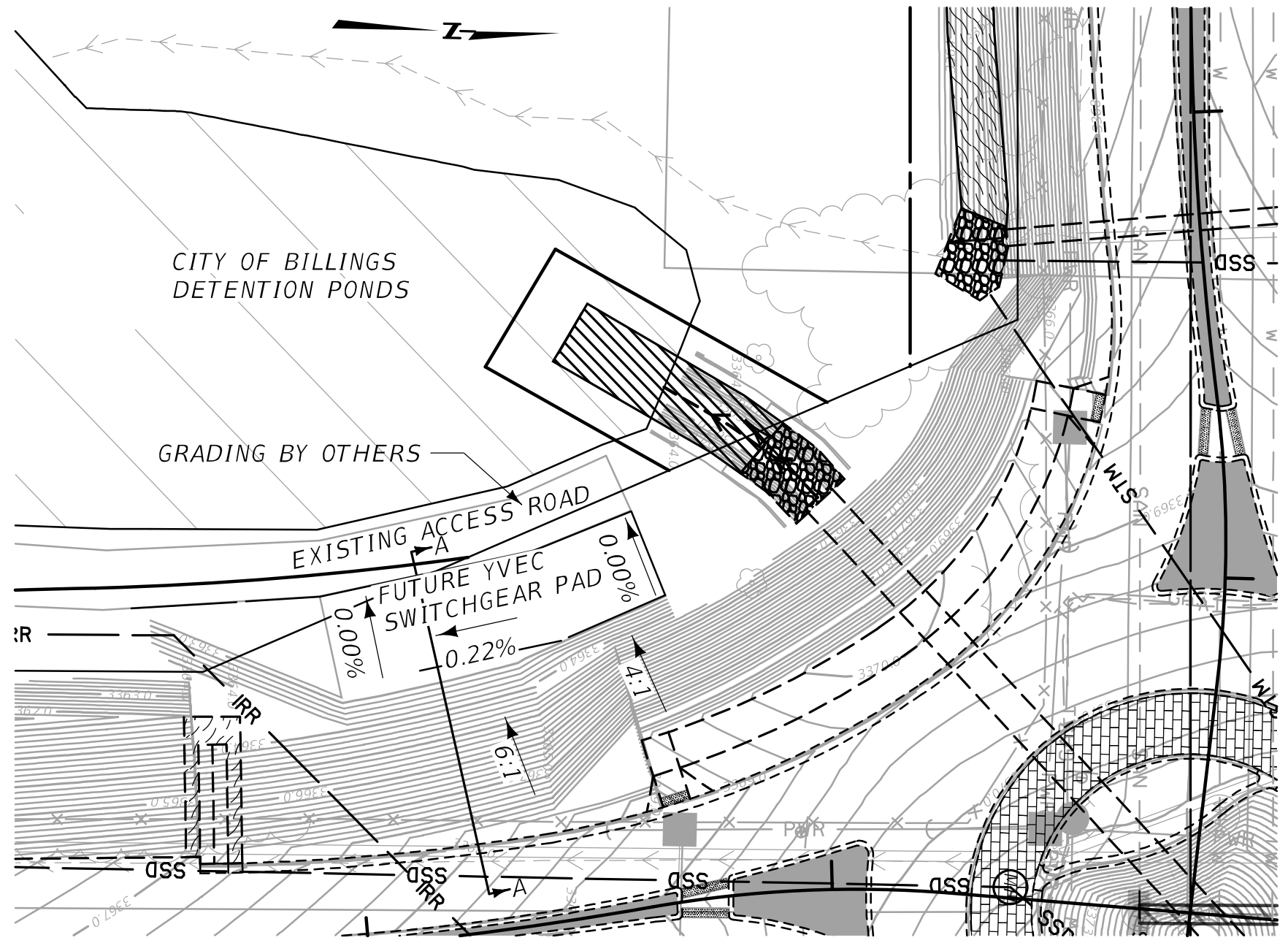
NOTES:
1. CONTRACTOR WILL PROVIDE MEANS TO KEEP SANITARY SEWER LINE IN SERVICE DURING CONSTRUCTION OF NEW SANITARY SEWER. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

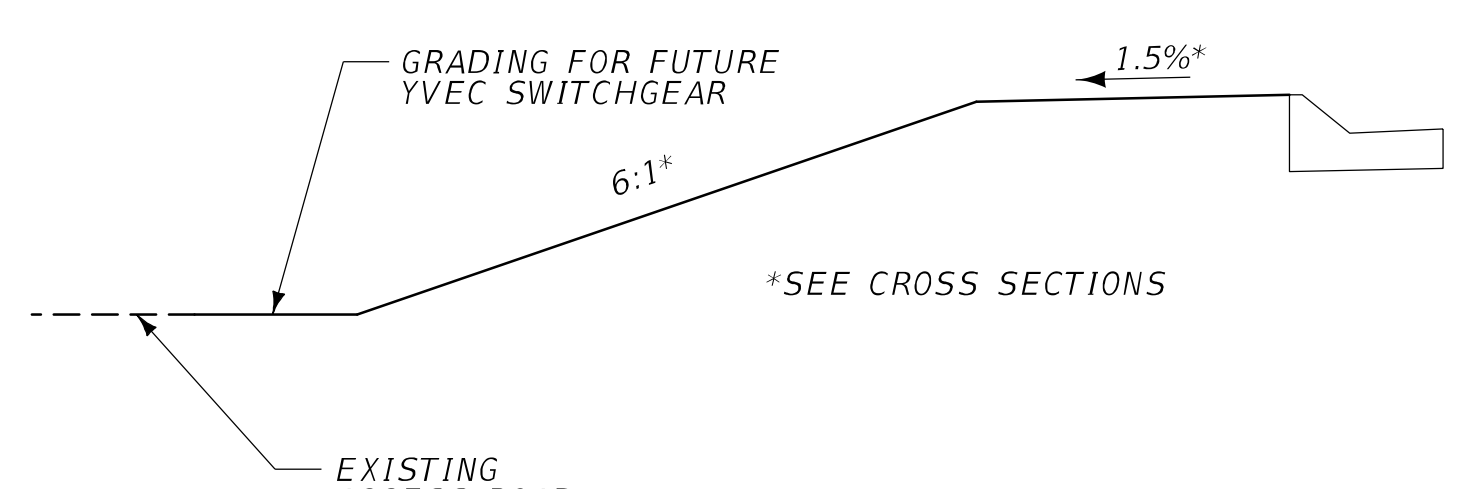
2. CONTRACTOR WILL VERIFY ALL ELEVATIONS PRIOR TO START OF CONSTRUCTION. SLOPE OF PIPE MAY VARY BASED ON AS BUILT CONDITIONS.

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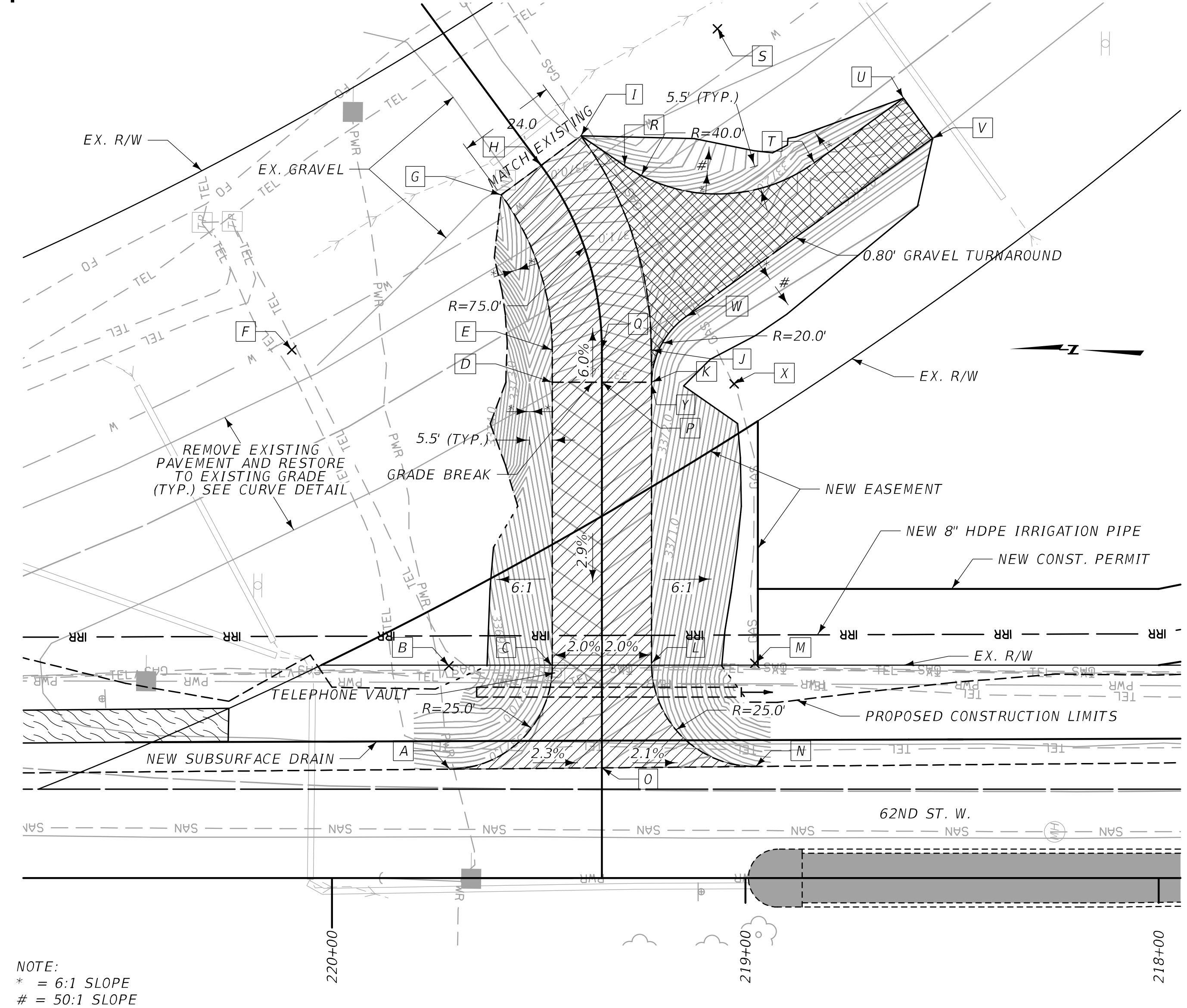


SECTION A-A

NOT TO SCALE

NOTE:
ENSURE YVEC SWITCHGEAR IS PLACED
OUTSIDE OF ROADWAY CLEAR ZONE.

YVEC SWITCHGEAR
GRADING
DETAIL



NOTE:
* = 6:1 SLOPE
# = 50:1 SLOPE

COORDINATE TABLE						
POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
A	219+71.50	26.37 RT	566,255.008	2,179,214.649	3,371.26	FG - PC
B	219+71.72	51.37 RT	566,255.497	2,179,239.644	-	RP (R=25.0')
C	219+46.72	51.37 RT	566,230.498	2,179,239.915	3,370.89	FG - PT
D	219+46.72	120.00 RT	566,231.240	2,179,308.545	3,372.92	FG - POT
E	219+46.72	127.84 RT	566,231.325	2,179,316.380	3,372.45	FG - PC
F	220+09.72	127.84 RT	566,294.321	2,179,315.699	-	RP (R=63.0', 75.0' 87.0')
G	219+59.09	165.33 RT	566,244.101	2,179,353.737	3,370.03	FG - PT (MATCH EXISTING)
H	219+49.45	172.47 RT	566,234.535	2,179,360.983	3,369.82	FG - PT (MATCH EXISTING)
I	219+39.80	179.61 RT	566,224.970	2,179,368.228	3,369.42	FG - PC (MATCH EXISTING)
J	219+22.72	127.84 RT	566,207.326	2,179,316.640	3,372.45	FG - PT
K	219+22.72	120.00 RT	566,207.242	2,179,308.805	3,372.92	FG - POT
L	219+22.72	52.01 RT	566,206.506	2,179,240.820	3,370.90	FG - PC
M	218+97.72	52.01 RT	566,181.508	2,179,241.090	-	RP (R=25.0')
N	218+97.50	27.01 RT	566,181.019	2,179,216.095	3,369.63	FG - PT
O	219+34.72	26.69 RT	566,218.232	2,179,215.368	3,370.41	FG - POT
P	219+34.72	120.00 RT	566,219.241	2,179,308.675	3,373.16	FG - POT
Q	219+34.72	127.84 RT	566,219.326	2,179,316.510	3,372.69	FG - PC
R	219+29.20	172.43 RT	566,214.289	2,179,361.160	3,370.14	FG - PC (GRAVEL TURNAROUND)
S	219+06.77	205.55 RT	566,192.215	2,179,394.520	-	RP (R=40.0, GRAVEL TURNAROUND)
T	218+83.34	173.13 RT	566,168.438	2,179,362.350	3,372.75	FG - PT (GRAVEL TURNAROUND)
U	218+61.73	188.74 RT	566,147.004	2,179,378.197	3,372.10	FG - POT (MATCH EXISTING, GRAVEL TURNAROUND)
V	218+54.70	179.01 RT	566,139.871	2,179,368.548	3,373.04	FG - POT (MATCH EXISTING, GRAVEL TURNAROUND)
W	219+14.43	135.85 RT	566,199.128	2,179,324.744	3,372.93	FG - PC (GRAVEL TURNAROUND)
X	219+02.72	119.64 RT	566,187.239	2,179,308.661	-	RP (R=20.0', GRAVEL TURNAROUND)
Y	219+22.72	119.64 RT	566,207.238	2,179,308.445	3,372.90	FG - PT (GRAVEL TURNAROUND)

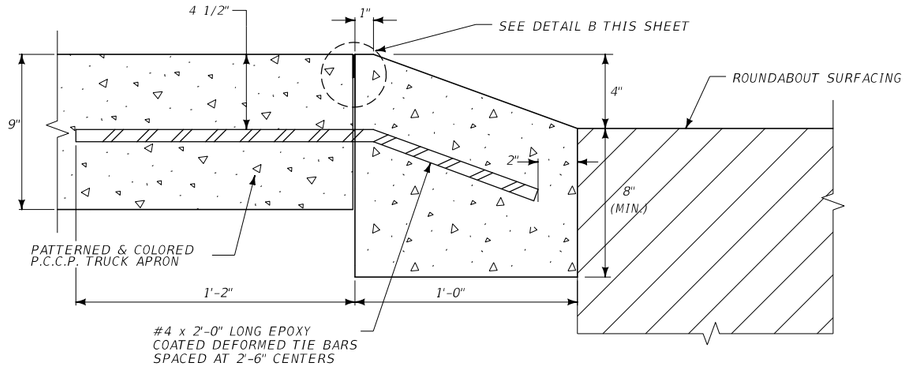
NOTE: ALL STATIONS ARE MAINLINE UNLESS OTHERWISE NOTED

LEGEND:
EOP = EDGE OF PAVEMENT
FG = FINISHED GRADE
RP = RADIUS POINT
TBC = TOP BACK OF CURB
= NEW PMS
= NEW CRUSHED AGG. COURSE

STA. 219+35 RT.
APPROACH DETAIL

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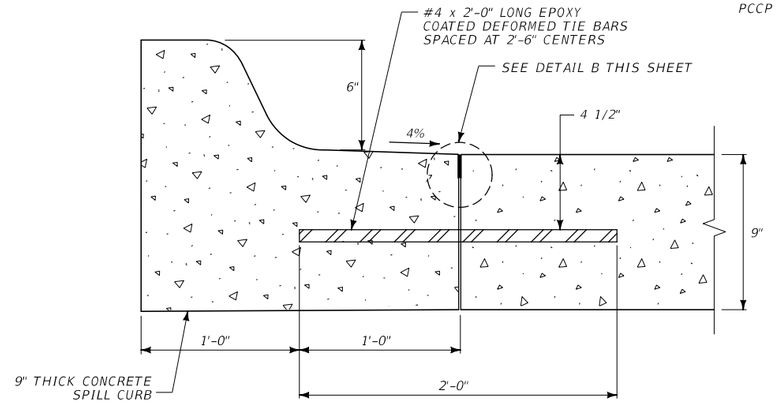
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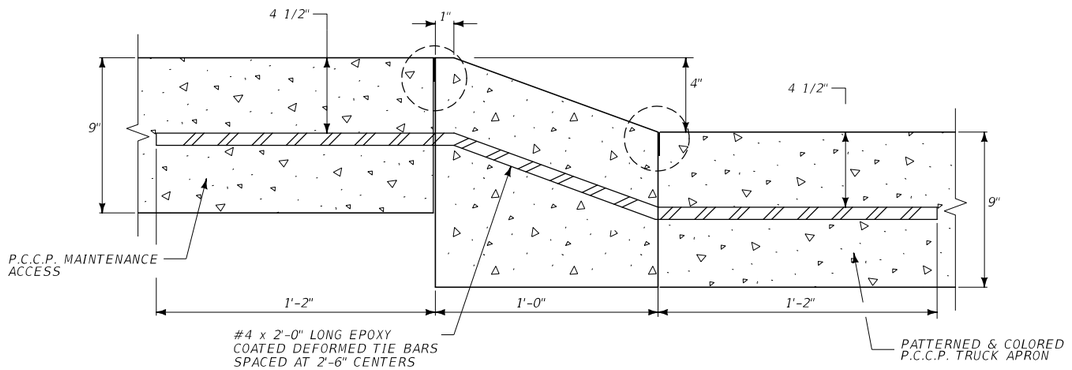
MOUNTABLE CURB JOINT

NOTE: ALIGN CURB JOINTS WITH JOINTS IN PCCP. DO NOT EXCEED 10'-0" BETWEEN CURB JOINTS. WHERE PCCP JOINT EXCEEDS 10'-0" SPACING, ADD ANOTHER CURB JOINT MIDWAY BETWEEN PCCP JOINTS

NOTE: ALIGN CURB JOINTS WITH JOINTS IN PCCP. DO NOT EXCEED 10'-0" BETWEEN CURB JOINTS. WHERE PCCP JOINT EXCEEDS 10'-0" SPACING, ADD ANOTHER CURB JOINT MIDWAY BETWEEN PCCP JOINTS



SPILL CURB OR
CURB & GUTTER JOINT



MOUNTABLE CURB JOINT AT MAINTENANCE ACCESS

NOTE: ALIGN CURB JOINTS WITH JOINTS IN PCCP. DO NOT EXCEED 10'-0" BETWEEN CURB JOINTS. WHERE PCCP JOINT EXCEEDS 10'-0" SPACING, ADD ANOTHER CURB JOINT MIDWAY BETWEEN PCCP JOINTS

NOTE:

1. SEE DETAILED DRAWINGS IN SECTION 501 FOR P.C.C.P. JOINT LOCATIONS AND JOINT DETAILS
2. TEMPORARILY BEND DOWN ANY REBAR POSING A HAZARD TO TRAFFIC DURING P.C.C.P AND CURB OPERATIONS.
3. USE TAPER OR OTHER REMOVABLE MARKINGS WHERE TEMPORARY PAVEMENT MARKINGS ARE NEEDED ON NEW P.C.C.P DO NOT USE PAINT OR EPOXY FOR TEMPORARY APPLICATIONS.

ROUNDABOUT P.C.C.P JOINT DETAILS

(NOT TO SCALE)

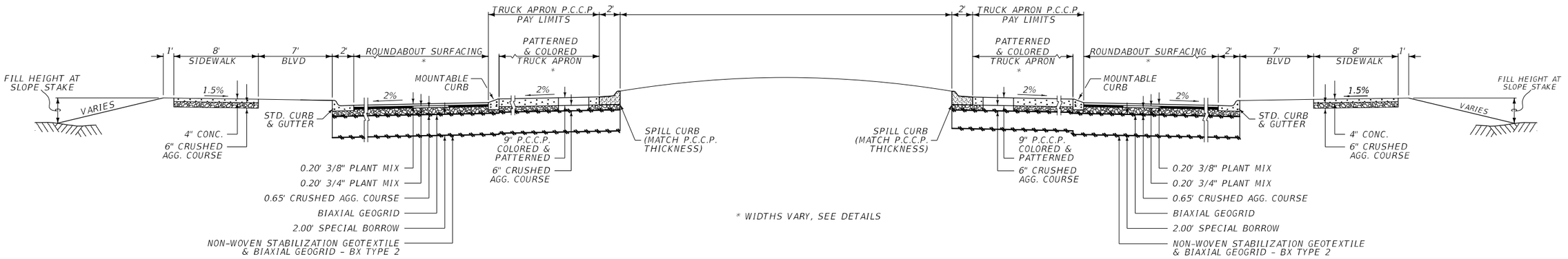
SANDERSON STEWART

3 2	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.DGN 10/24/2023 9:48:54 AM kedam	DESIGNED BY REVIEWED BY CHECKED BY		ROAD PLANS YELLOWSTONE COUNTY		SF169 RIMROCK & 62ND ST W-BLGS UPN 9383001	HSIP 1034(4) 45

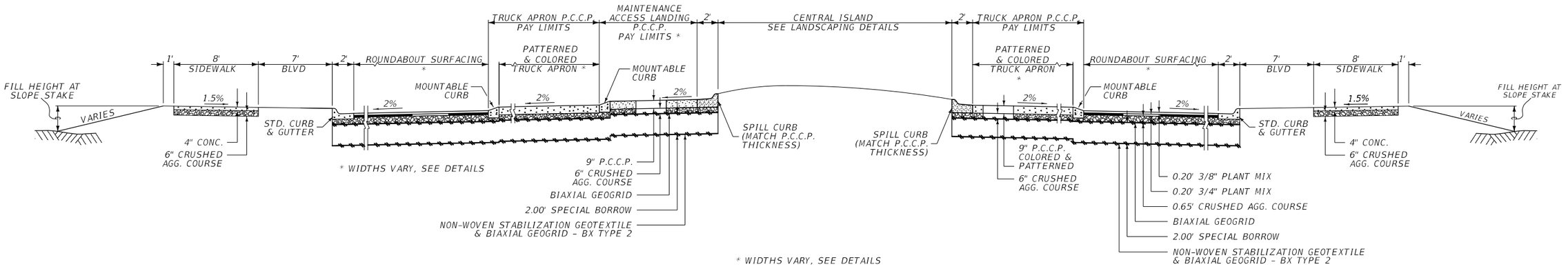
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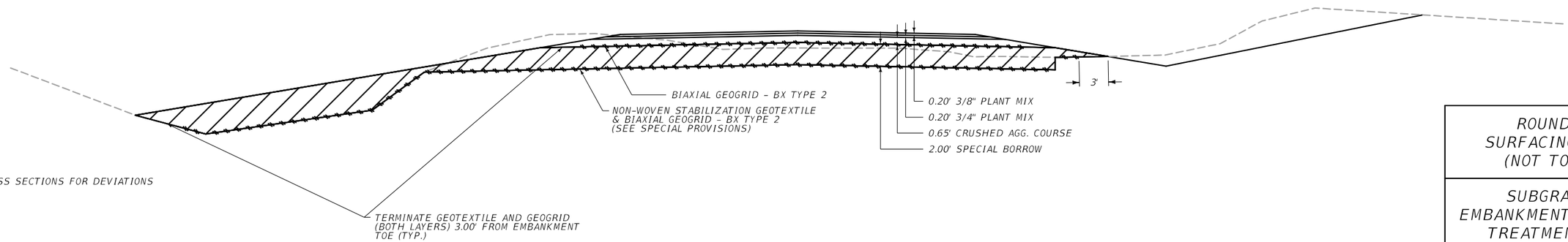
ROUNDABOUT SURFACING DETAIL



ROUNDABOUT MAINTENANCE ACCESS LANDING SURFACING DETAIL



SUBGRADE AND EMBANKMENT FOUNDATION TREATMENT DETAIL



NOTE:
SEE CROSS SECTIONS FOR DEVIATIONS

ROUNDABOUT SURFACING DETAILS (NOT TO SCALE)

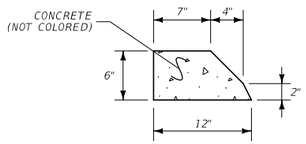
SUBGRADE AND EMBANKMENT FOUNDATION TREATMENT DETAIL

SANDERSON STEWART

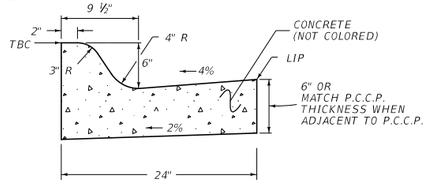
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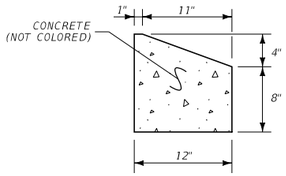


CONCRETE MEDIAN CURB - TYPE A DETAIL

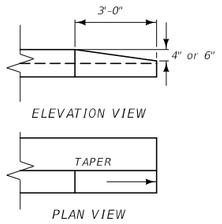


TBC = LIP OF CURB EL. + 0.45'

STANDARD CURB DETAIL

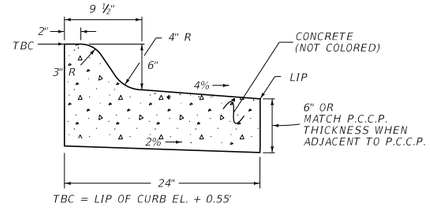


MOUNTABLE CURB DETAIL



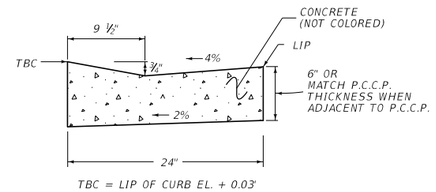
CURB TERMINAL END DETAIL

NOTE: USE CURB TERMINAL END AT CURB ENDS. SEE ROUNDABOUT GRADING DETAILS



TBC = LIP OF CURB EL. + 0.55'

SPILL CURB DETAIL

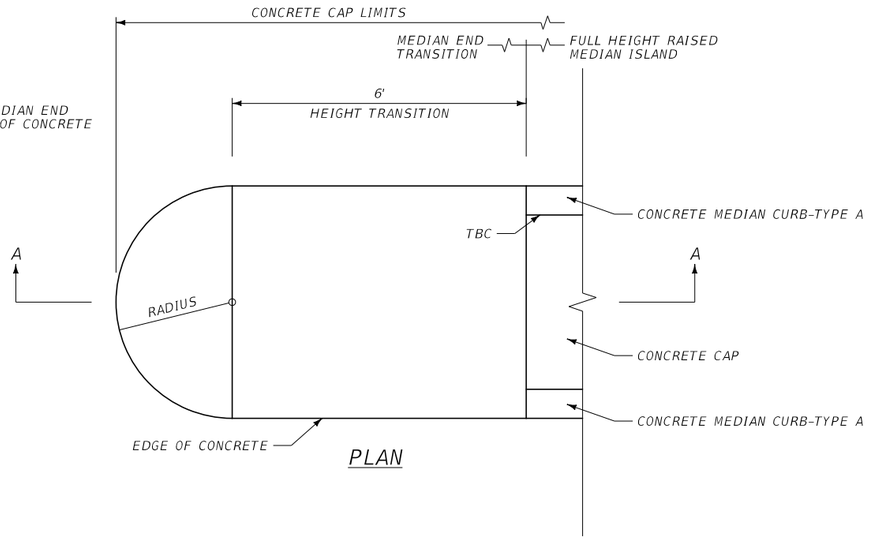


TBC = LIP OF CURB EL. + 0.03'

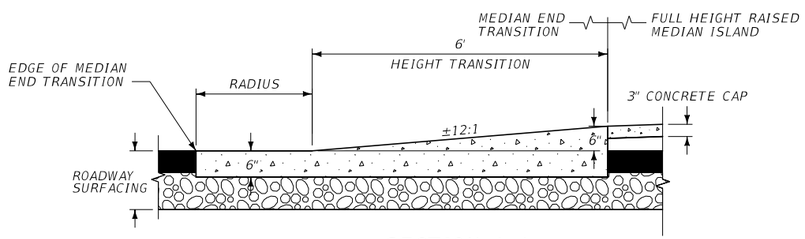
STANDARD ADA RAMP LAYDOWN CURB DETAIL

MEDIAN END TRANSITION DETAIL

NOTE: INCLUDE THE COST OF THE MEDIAN END TRANSITION IN THE UNIT BID PRICE OF CONCRETE CAP - 3 INCH

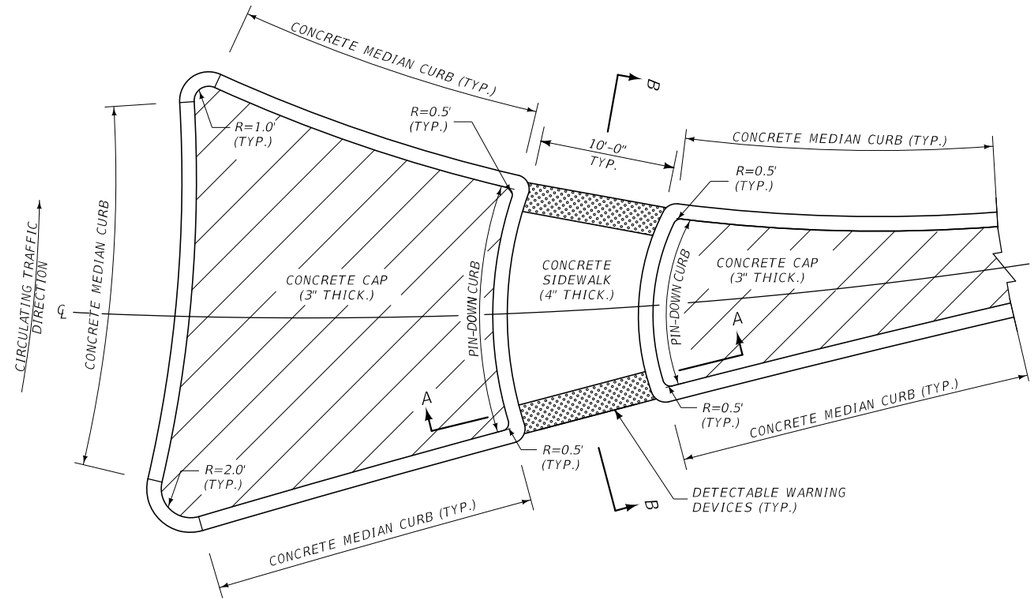


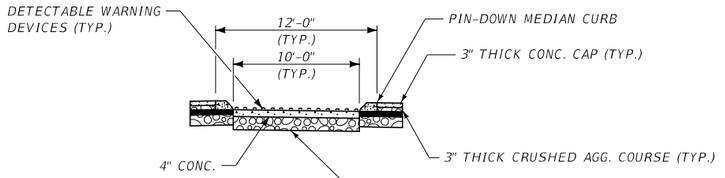
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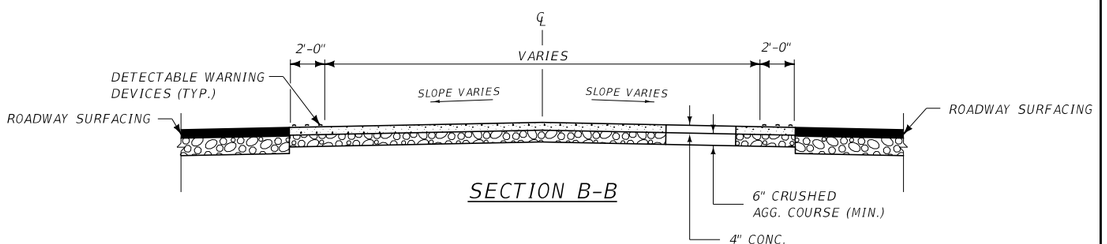
SECTION A-A

SPLITTER ISLAND CROSSWALK DETAIL





SECTION A-A



SECTION B-B

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MISCELLANEOUS CURBS DETAIL

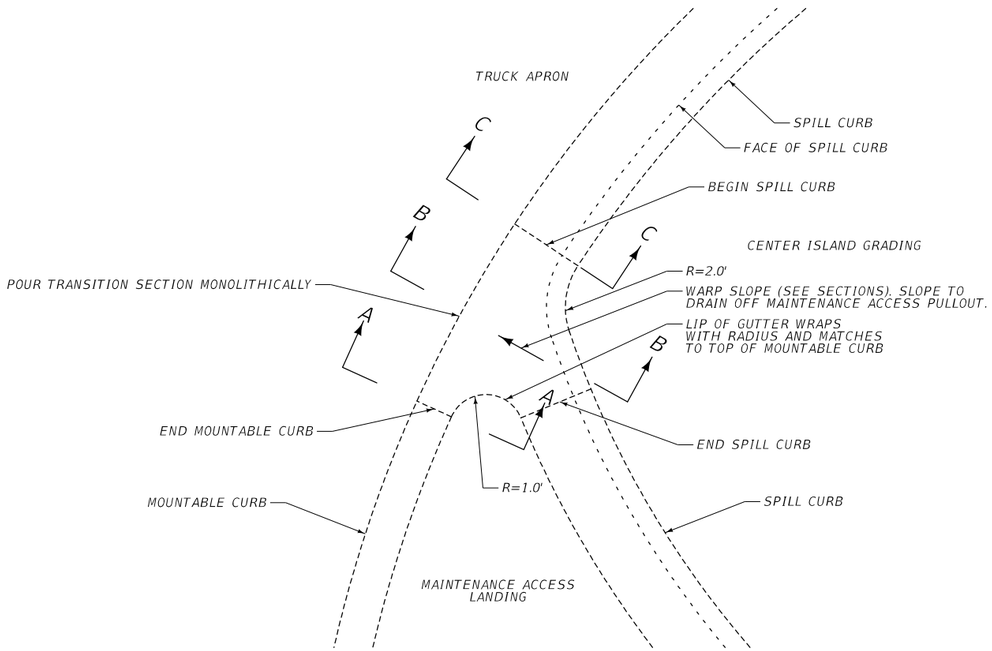
MEDIAN END TRANSITION DETAIL

SPLITTER ISLAND CROSSWALK DETAIL

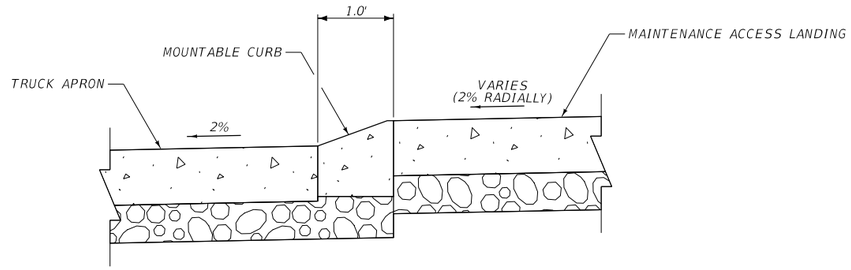
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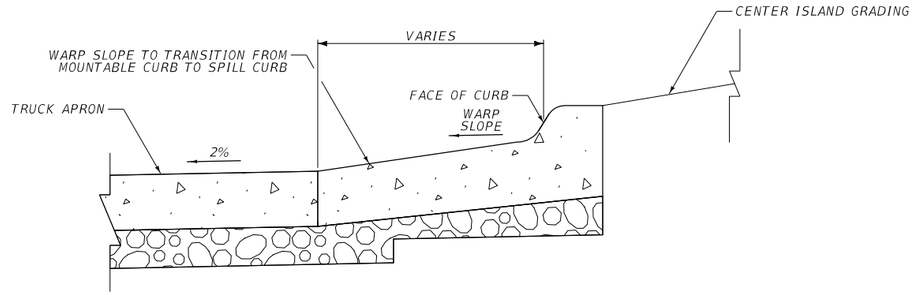
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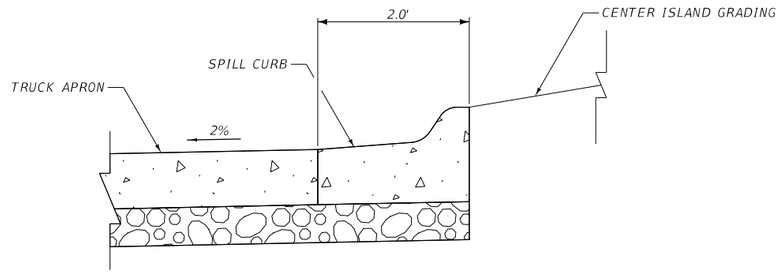
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SECTION A-A



SECTION B-B



SECTION C-C

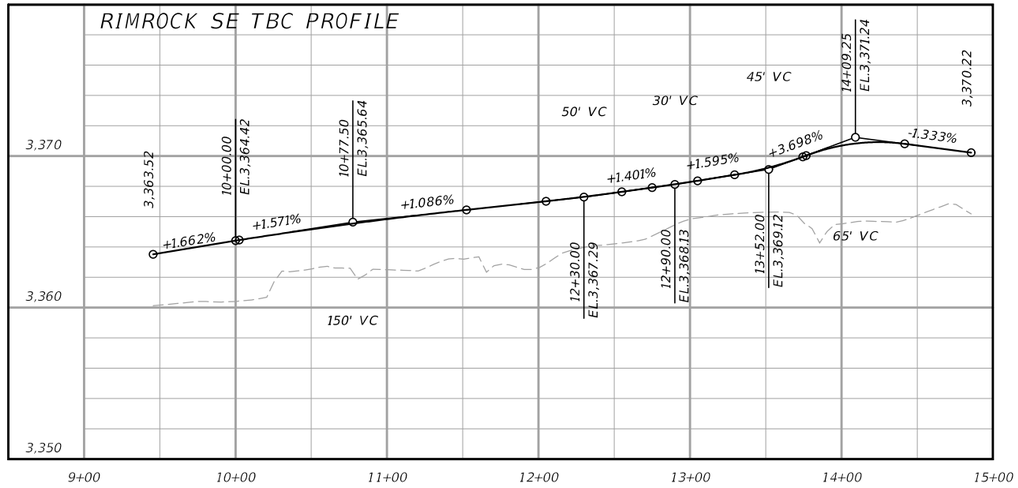
SANDERSON STEWART

MAINTENANCE ACCESS DETAILS

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY			ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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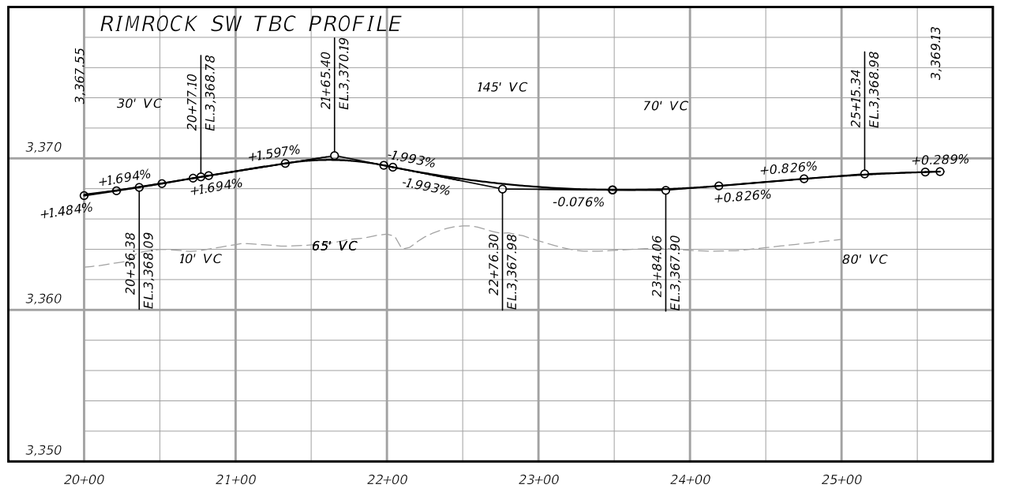
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CENTERLINE COORDINATE TABLE					
STATION	DESCRIPTION	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
9+45.61	POT	565,248.318	2,179,244.202	3363.52	
10+00.00	PC	565,302.695	2,179,243.144	3364.42	R=8485.5'
10+30.79	PI	565,333.479	2,179,243.776	N/A	
10+61.58	PRC	565,364.257	2,179,244.632	3365.33	R=8485.5', R=1517.5'
11+96.42	PI	565,499.048	2,179,248.379	N/A	
13+30.56	PRC	565,632.389	2,179,228.300	3368.78	R=1517.5', R=77.5'
13+90.06	PI	565,691.227	2,179,219.439	N/A	
14+32.05	PCC	565,714.984	2,179,273.992	3370.90	R=77.5', R=347.5'
14+58.90	PI	565,725.706	2,179,298.613	N/A	
14+85.65	PT	565,732.518	2,179,324.589	3370.22	R=347.5'



9+45.61 = STA. 209+62.21 ON 62ND ST. W. ALIGNMENT

CENTERLINE COORDINATE TABLE					
STATION	DESCRIPTION	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
20+00.00	PC	565,549.291	2,179,198.905	3367.55	R=483.5'
20+37.63	PI	565,586.921	2,179,197.802	N/A	
20+75.14	PCC	565,623.927	2,179,190.887	3368.75	R=483.5', R=197.5'
21+18.57	PI	565,666.622	2,179,182.910	N/A	
21+60.65	PCC	565,702.030	2,179,157.756	3369.90	R=197.5', R=94.5'
22+00.95	PI	565,734.973	2,179,134.530	N/A	
22+36.84	PCC	565,741.011	2,179,094.678	3368.84	R=94.5', R=94.5'
22+50.42	PI	565,743.045	2,179,081.252	N/A	
22+63.82	PRC	565,741.216	2,179,067.797	3368.44	R=94.5', R=765.5'
23+07.85	PI	565,735.287	2,179,024.165	N/A	
23+51.79	PT	565,734.399	2,178,980.142	3367.93	R=765.5'
23+75.21	PI	565,733.927	2,178,956.722	3367.95	Δ=00°57'17"
25+15.34	PI	565,735.437	2,178,816.587	3368.98	
25+65.09	POT	565,733.263	2,178,766.840	3369.13	



20+00.00 = STA. 212+64.91 ON 62ND ST. W. ALIGNMENT

NOTES:
1. THE CENTERLINE COORDINATES LISTED ARE FOR THE TOP BACK OF CURB (TBC) ALIGNMENTS SHOWN ON THE ROUNDABOUT DETAILS. THE CURVE DATA IS LISTED ON THE ASSOCIATED PLAN VIEW DETAIL SHEETS.
2. PROFILE ELEVATIONS ARE AT TBC, NORMAL FULL HEIGHT LOCATION. FOR APPROACH LAYDOWN OR CURB RAMP LAYDOWN LOCATIONS, REFER TO THE DETAILED DRAWINGS FOR RELATIVE TBC ELEVATION DROPS THROUGH THE LAYDOWN SECTION.
3. ALL DIMENSIONS AND ELEVATIONS ARE FEET UNLESS OTHERWISE NOTED.

ROUNDABOUT CURB & GUTTER PROFILES

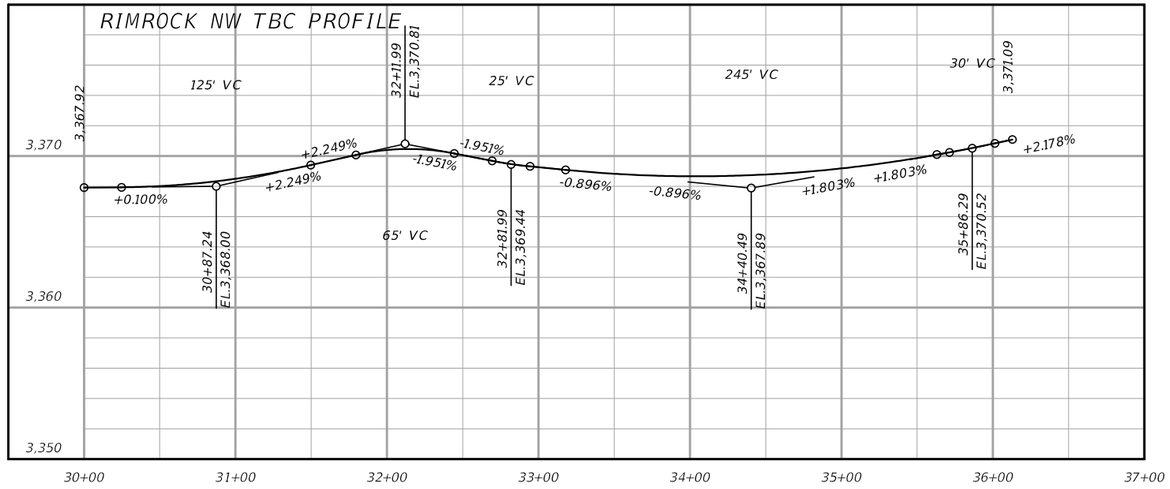
SANDERSON STEWART

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CENTERLINE COORDINATE TABLE

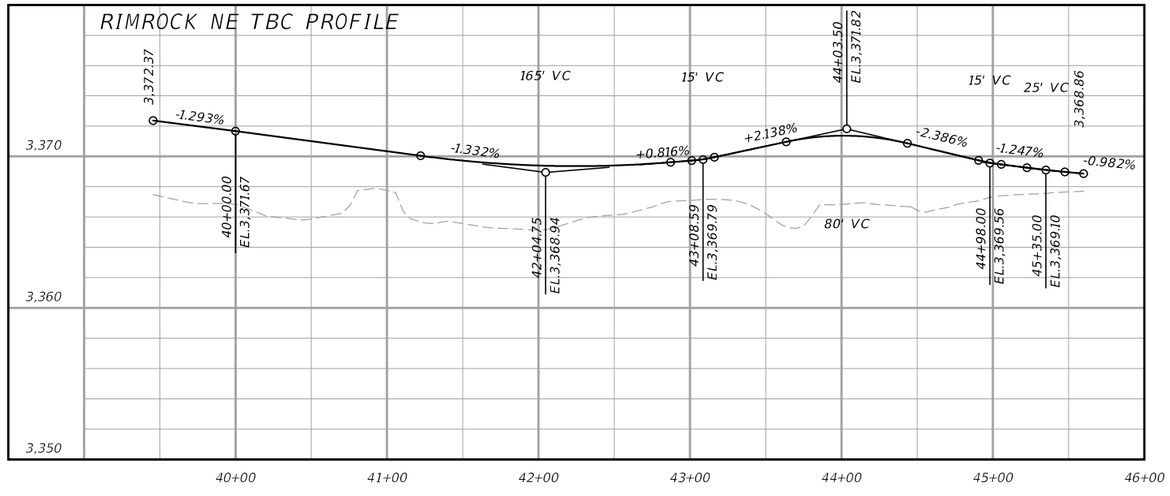
STATION	DESCRIPTION	NORTHING COORDINATE	EASTING COORDINATE	ELEVATION	REMARKS
30+00.00	POT	565,779.188	2,178,969.251	3367.92	
30+74.82	PC	565,780.696	2,179,044.054	3368.21	R=199.5'
31+07.55	PI	565,781.356	2,179,076.775	N/A	
31+39.70	PT	565,792.435	2,179,107.570	3369.19	R=199.5'
31+45.48	PC	565,794.393	2,179,113.011	3369.31	R=174.5'
31+68.87	PI	565,802.310	2,179,135.018	N/A	
31+91.98	PCC	565,815.743	2,179,154.163	3370.31	R=174.5', R=74.5'
32+38.73	PI	565,842.599	2,179,192.439	N/A	
32+75.49	PRC	565,888.745	2,179,184.898	3369.58	R=74.5', R=1416.5'
33+82.76	PI	565,994.614	2,179,167.597	N/A	
34+89.63	PT	566,101.881	2,179,166.436	3369.08	R=1416.5'
35+62.99	PI	566,175.244	2,179,165.643	3370.10	Δ=02° 17' 59"
36+12.82	POT	566,225.008	2,179,163.105	3371.09	



30+00.00 = STA. 114+35.90 ON RIMROCK RD. ALIGNMENT

CENTERLINE COORDINATE TABLE

STATION	DESCRIPTION	NORTHING COORDINATE	EASTING COORDINATE	ELEVATION	REMARKS
39+45.61	POT	565,792.261	2,179,711.100	3372.37	
40+00.00	PC	565,791.351	2,179,656.720	3371.67	R=8485.5'
40+20.54	PI	565,791.828	2,179,636.184	N/A	
40+41.08	PRC	565,792.405	2,179,615.652	3371.12	R=8485.5', R=1514.5'
41+51.65	PI	565,795.510	2,179,505.131	N/A	
42+61.82	PT	565,782.530	2,179,395.332	3369.45	R=1514.5'
43+08.59	PC	565,777.039	2,179,348.879	3369.81	R=102.5'
43+80.80	PI	565,768.562	2,179,277.168	N/A	
44+34.41	PCC	565,833.235	2,179,245.046	3371.06	R=102.5', R=197.5'
44+56.86	PI	565,853.340	2,179,235.061	N/A	
44+79.11	PT	565,875.172	2,179,229.842	3370.02	R=197.5'
44+85.02	PC	565,880.916	2,179,228.469	3369.87	R=347.5'
45+22.54	PI	565,917.407	2,179,219.746	N/A	
45+59.77	PT	565,954.919	2,179,219.013	3368.86	R=347.5'



39+45.61 = STA. 121+79.30 ON RIMROCK RD. ALIGNMENT

NOTES:
1. THE CENTERLINE COORDINATES LISTED ARE FOR THE TOP BACK OF CURB (TBC) ALIGNMENTS SHOWN ON THE ROUNDABOUT DETAILS. THE CURVE DATA IS LISTED ON THE ASSOCIATED PLAN VIEW DETAIL SHEETS.
2. PROFILE ELEVATIONS ARE AT TBC, NORMAL FULL HEIGHT LOCATION. FOR APPROACH LAYDOWN OR CURB RAMP LAYDOWN LOCATIONS, REFER TO THE DETAILED DRAWINGS FOR RELATIVE TBC ELEVATION DROPS THROUGH THE LAYDOWN SECTION.
3. ALL DIMENSIONS AND ELEVATIONS ARE FEET UNLESS OTHERWISE NOTED.

ROUNDABOUT CURB & GUTTER PROFILES

SANDERSON STEWART

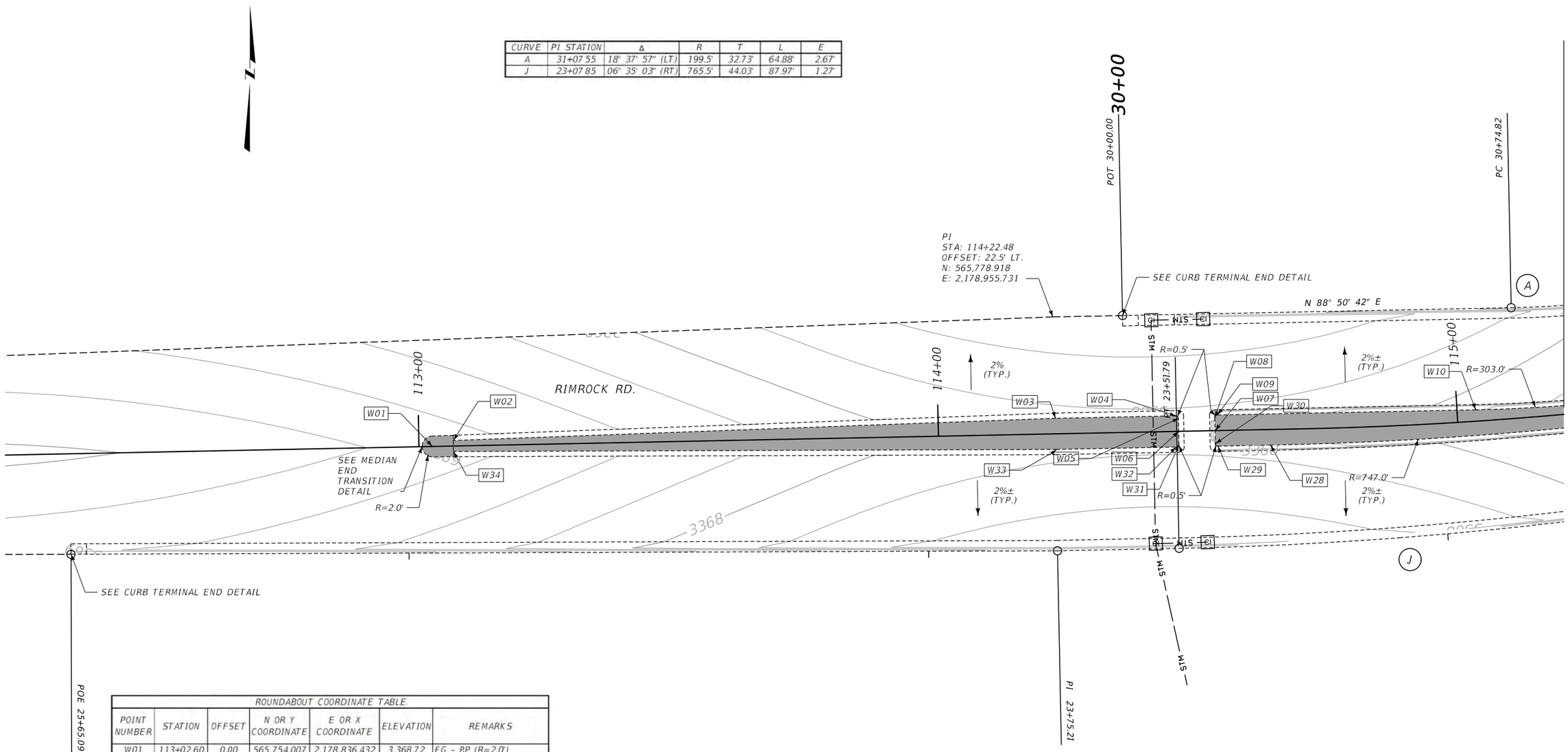
MONTANA Department of Transportation

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1	10/24/2023	REVIEWED BY					
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CURVE	PI STATION	Δ	R	T	L	E
A	31+07.55	18° 37' 57" (LT)	199.5'	32.73'	64.88'	2.67'
J	23+07.85	06° 35' 03" (RT)	765.5'	44.03'	87.97'	1.27'



ROUNDABOUT COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
W01	113+02.60	0.00	565,754.007	2,178,836.432	3,368.72	FG - RP (R=2.0')
W02	113+06.64	1.07 LT	565,755.154	2,178,840.443	3,369.17	TBC - POT
W03	114+22.61	3.00 LT	565,759.425	2,178,956.416	3,368.35	TBC - PI
W04	114+45.76	3.00 LT	565,759.891	2,178,979.500	3,368.33	TBC - PC (R=0.5')
W05	114+46.26	2.50 LT	565,759.401	2,178,980.010	3,368.18	TBC - PT (R=0.5')
W06	114+46.26	0.00	565,756.902	2,178,980.060	3,368.23	TBC - POT
W07	114+53.26	0.00	565,757.043	2,178,987.059	3,368.39	TBC - POT
W08	114+53.26	2.50 LT	565,759.542	2,178,987.009	3,368.35	TBC - PC (R=0.5')
W09	114+53.76	3.00 LT	565,760.052	2,178,987.498	3,368.34	TBC - PT (R=0.5')
W10	115+03.61	2.20 LT	565,761.055	2,179,037.225	3,368.58	TBC - PC (R=303.0')
W28	114+63.88	3.00 RT	565,754.257	2,178,997.740	3,368.36	TBC - PT (R=747.0')
W29	114+53.76	3.00 RT	565,754.053	2,178,987.619	3,368.34	TBC - PC (R=0.5')
W30	114+53.26	2.50 RT	565,754.543	2,178,987.109	3,368.35	TBC - PT (R=0.5')
W31	114+46.26	2.50 RT	565,754.402	2,178,980.111	3,368.33	TBC - PC (R=0.5')
W32	114+45.76	3.00 RT	565,753.892	2,178,979.621	3,368.33	TBC - PT (R=0.5')
W33	114+22.46	3.00 RT	565,753.426	2,178,956.520	3,368.35	TBC - PI
W34	113+06.64	1.07 RT	565,754.087	2,178,840.486	3,369.17	TBC - POT

*ALL STATIONS ARE MAINLINE UNLESS OTHERWISE NOTED

LEGEND:
FG = FINISH GRADE
RP = RADIUS POINT
TBC = TOP BACK OF CURB
R## = COORD. POINT NO. AT ROUNDABOUT
S## = COORD. POINT NO. SOUTH OF ROUNDABOUT
N## = COORD. POINT NO. NORTH OF ROUNDABOUT
W## = COORD. POINT NO. WEST OF ROUNDABOUT
E## = COORD. POINT NO. EAST OF ROUNDABOUT

–CONC. MEDIAN CAP

NOTES:
1. MAINLINE STATIONING IS LABELED FOR REFERENCE PURPOSES. REFER TO THE CURVE DATA TABLES ON EACH OF THE DETAIL SHEETS FOR CURB LINE ALIGNMENT DATA. THE CENTERLINE COORDINATES FOR THE CURB LINE ALIGNMENTS ALONG WITH THE PROFILES ARE LISTED TOGETHER ON SHEETS FOLLOWING THESE PLAN VIEW DETAILS.
2. ALL RADII AND DIMENSIONS OF CURB AND GUTTER AND SPILL CURB ARE AT BACK OF CURB. ELEVATIONS LISTED FOR CURB AND GUTTER OR SPILL CURB ARE ALSO AT TOP BACK OF CURB (TBC). NORMAL FULL HEIGHT LOCATION.
3. ALL DIMENSIONS AND ELEVATIONS ARE FEET UNLESS OTHERWISE NOTED.

ROUNDABOUT GRADING DETAIL RIMROCK RD. (SHEET 1 OF 5) 1" = 10'

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDDET01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
		10/24/2023	REVIEWED BY				
		9:49:02 AM kedam	CHECKED BY		YELLOWSTONE COUNTY	UPN 9383001	51

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CURVE	PI STATION	Δ	R	T	L	E
A	31+07.55	18° 37' 57" (LT)	199.5'	32.73'	64.88'	2.67'
B	31+68.87	15° 16' 02" (LT)	174.5'	23.39'	46.50'	1.56'
C	32+38.73	64° 13' 36" (LT)	74.5'	46.76'	83.51'	13.46'
F	44+56.86	12° 58' 08" (RT)	197.5'	22.45'	44.70'	1.27'
G	43+80.80	70° 19' 44" (RT)	102.5'	72.21'	125.82'	22.88'
J	23+07.85	06° 35' 03" (RT)	765.5'	44.03'	87.97'	1.27'
K	22+50.42	16° 21' 16" (LT)	94.5'	13.58'	26.97'	0.97'
L	22+00.95	46° 11' 57" (LT)	94.5'	40.31'	76.20'	8.24'
M	21+18.57	24° 48' 21" (LT)	197.5'	43.43'	85.51'	4.72'
Q	13+90.06	75° 01' 52" (RT)	77.5'	59.50'	101.49'	20.21'
R	14+58.90	08° 50' 16" (RT)	347.5'	26.85'	53.60'	1.04'

ROUNDABOUT COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
E01	117+41.66	0.00	565,754.667	2,179,274.370	3,371.42	TBC - POC (R=69.0')
E02	117+40.01	12.94 LT	565,767.702	2,179,273.970	3,371.48	TBC - PRC (R=69.0'; 1.0')
E03	117+41.48	14.05 LT	565,768.668	2,179,275.503	3,371.45	TBC - PRC (R=1.0'; 78.0')
E04	117+69.60	4.20 LT	565,757.829	2,179,302.194	3,370.75	TBC - PRC (R=78.0'; 0.5')
E05	117+69.98	3.59 LT	565,757.230	2,179,302.582	3,370.74	TBC - PRC (R=0.5'; 16.0')
E06	117+69.53	0.00	565,753.629	2,179,302.201	3,370.74	TBC - POC (R=16.0')
E07	117+81.56	0.00	565,754.139	2,179,314.219	3,370.50	TBC - POC (R=4.0')
E08	117+81.70	0.60 LT	565,754.748	2,179,314.326	3,370.50	TBC - PRC (R=4.0'; 12.0')
E09	117+82.02	1.74 LT	565,755.903	2,179,314.562	3,370.50	TBC - PRC (R=12.0'; 0.5')
E10	117+82.56	2.12 LT	565,756.326	2,179,315.073	3,370.49	TBC - PRC (R=0.5'; 78.0')
E11	117+94.47	1.50 LT	565,756.820	2,179,326.903	3,370.26	TBC - PT (R=78.0')
E17	117+82.32	2.92 RT	565,751.282	2,179,315.177	3,370.47	TBC - PRC (R=1503.0'; 0.5')
E18	117+81.78	2.50 RT	565,751.671	2,179,314.609	3,370.48	TBC - PRC (R=0.5'; 12.0')
E19	117+81.60	1.54 RT	565,752.606	2,179,314.369	3,370.49	TBC - PRC (R=12.0'; 4.0')
E20	117+69.97	3.95 RT	565,749.688	2,179,302.726	3,370.70	TBC - PRC (R=16.0'; 0.5')
E21	117+69.57	4.56 RT	565,749.067	2,179,302.325	3,370.71	TBC - PRC (R=0.5'; 1503.0')
E22	117+43.88	10.16 RT	565,744.345	2,179,275.721	3,371.29	TBC - PRC (R=1503.0'; 2.0')
E23	117+41.43	8.05 RT	565,746.670	2,179,273.386	3,371.37	TBC - PRC (R=2.0'; 69.0')
N01	215+46.32	0.00	565,830.716	2,179,209.361	3,371.05	TBC - POC (R=69.0')
N02	215+45.82	6.80 LT	565,830.490	2,179,202.544	3,370.98	TBC - PRC (R=69.0'; 1.0')
N03	215+47.16	7.87 LT	565,831.839	2,179,201.526	3,370.94	TBC - PRC (R=1.0'; 78.0')
N30	215+48.52	9.01 RT	565,832.635	2,179,218.445	3,371.07	TBC - PC (R=2.0')
N31	215+46.14	6.90 RT	565,830.258	2,179,216.251	3,371.12	TBC - PRC (R=2.0'; 69.0')

*ALL STATIONS ARE MAINLINE UNLESS OTHERWISE NOTED

ROUNDABOUT COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
W11	115+62.60	2.90 LT	565,767.939	2,179,095.622	3,369.22	TBC - PRC (R=0.5')
W12	115+63.13	2.48 LT	565,767.603	2,179,096.205	3,369.24	TBC - PT (R=0.5')
W13	115+63.20	2.07 LT	565,767.206	2,179,096.332	3,369.24	TBC - PC (R=4.5')
W14	115+63.08	0.00	565,765.135	2,179,096.493	3,369.28	TBC - POC (R=4.5')
W15	115+75.20	0.00	565,766.490	2,179,108.534	3,369.48	TBC - POC (R=16.5')
W16	115+74.92	3.91 LT	565,770.360	2,179,107.913	3,369.43	TBC - PRC (R=0.5')
W17	115+75.32	4.50 LT	565,770.980	2,179,108.267	3,369.43	TBC - PRC (R=0.5')
W18	116+00.78	11.66 LT	565,779.089	2,179,134.258	3,369.95	TBC - PRC (R=303.0'; 2.0')
W19	116+03.36	9.46 LT	565,776.830	2,179,136.903	3,370.03	TBC - PRC (R=2.0'; 69.0')
W20	116+02.44	0.00	565,767.398	2,179,135.751	3,370.00	TBC - POC (R=69.0')
W21	116+03.38	13.38 RT	565,754.004	2,179,136.349	3,369.95	TBC - PRC (R=69.0'; 1.0')
W22	116+01.85	14.43 RT	565,752.981	2,179,134.887	3,369.91	TBC - PRC (R=1.0'; 78.0')
W23	115+74.76	4.96 RT	565,761.510	2,179,108.544	3,369.40	TBC - PRC (R=0.5')
W24	115+74.39	4.32 RT	565,762.118	2,179,108.124	3,369.40	TBC - PRC (R=0.5')
W25	115+63.05	0.11 RT	565,765.020	2,179,096.473	3,369.27	TBC - PT (R=4.5')
W26	115+62.26	2.46 RT	565,762.584	2,179,096.027	3,369.23	TBC - PC (R=0.5')
W27	115+61.73	2.80 RT	565,762.174	2,179,095.551	3,369.21	TBC - PRC (R=0.5')
S07	213+78.83	0.00	565,663.545	2,179,203.354	3,369.82	TBC - POT
S08	213+79.13	3.05 LT	565,663.462	2,179,200.294	3,369.77	TBC - PC (R=0.5')
S09	213+79.55	3.50 LT	565,663.833	2,179,199.797	3,369.77	TBC - PRC (R=0.5')
S10	214+05.22	9.29 LT	565,689.675	2,179,192.178	3,370.22	TBC - PRC (R= 501.0'; 2.0')
S11	214+07.71	7.15 LT	565,692.281	2,179,194.285	3,370.31	TBC - PRC (R=2.0'; 69.0')
S12	214+07.29	0.00	565,691.919	2,179,201.434	3,370.39	TBC - POC (R=69.0')
S13	214+08.29	12.10 RT	565,693.001	2,179,213.524	3,370.54	TBC - PRC (R=69.0'; 1.0')
S14	214+06.80	13.17 RT	565,691.597	2,179,214.608	3,370.49	TBC - PRC (R=1.0'; 78.0')
S15	213+78.87	4.26 RT	565,664.112	2,179,207.576	3,369.79	TBC - PRC (R=78.0'; 0.5')
S16	213+78.46	3.72 RT	565,663.646	2,179,207.091	3,369.79	TBC - PT (R=0.5')

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NOTES:
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2. ALL RADII AND DIMENSIONS OF CURB AND GUTTER AND SPILL CURB ARE AT BACK OF CURB. ELEVATIONS LISTED FOR CURB AND GUTTER OR SPILL CURB ARE ALSO AT TOP BACK OF CURB (TBC), NORMAL FULL HEIGHT LOCATION.
3. ALL DIMENSIONS AND ELEVATIONS ARE FEET UNLESS OTHERWISE NOTED.

LEGEND:
FG = FINISH GRADE
TBC = TOP BACK OF CURB
R## = COORD. POINT NO. AT ROUNDABOUT
S## = COORD. POINT NO. SOUTH OF ROUNDABOUT
N## = COORD. POINT NO. NORTH OF ROUNDABOUT
W## = COORD. POINT NO. WEST OF ROUNDABOUT
E## = COORD. POINT NO. EAST OF ROUNDABOUT
-PATTERNED & COLORED CONCRETE
-CONC. MEDIAN CAP

ROUNDABOUT GRADING DETAIL RIMROCK RD. (SHEET 2 OF 5) 1" = 10'

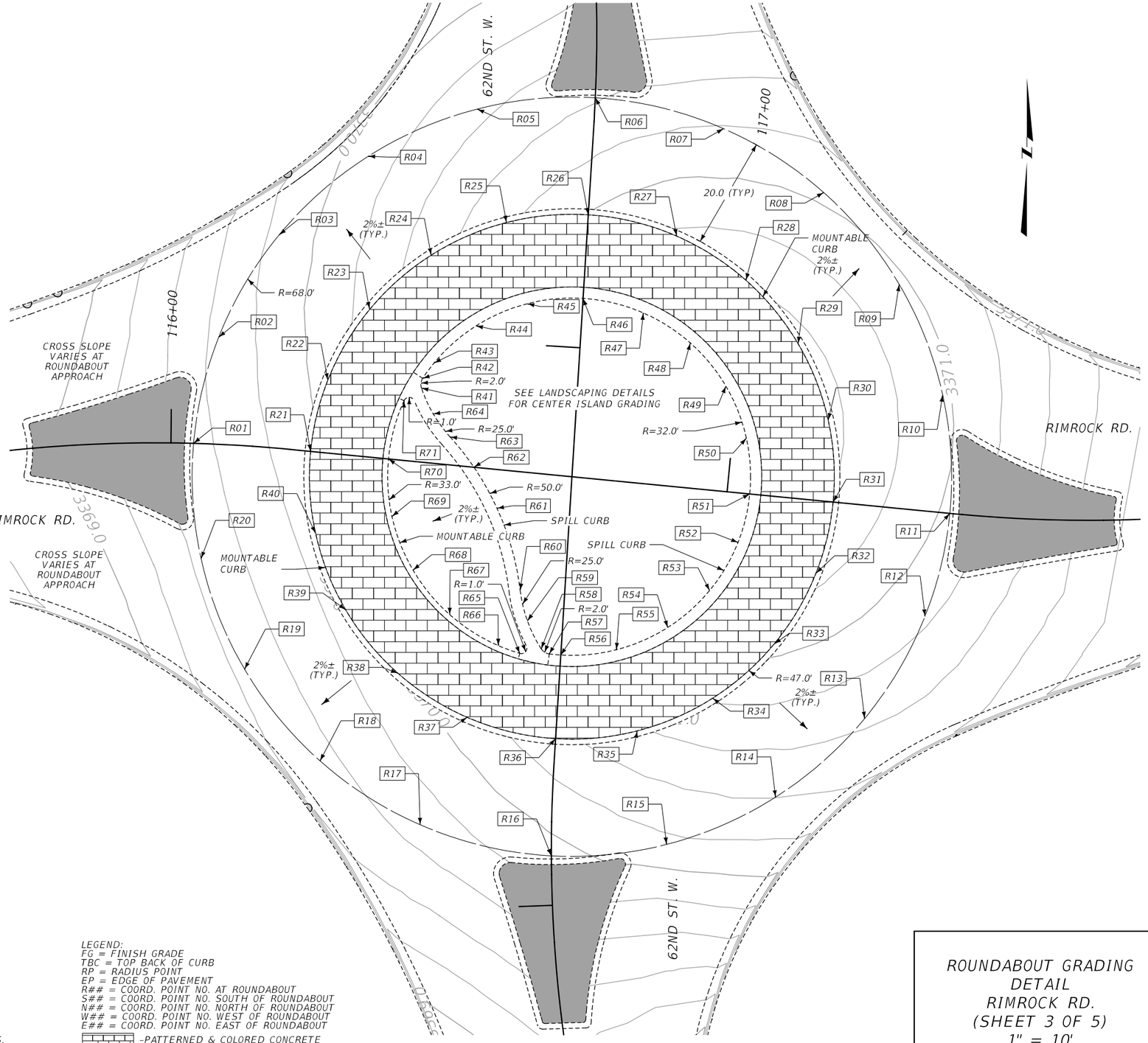
SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDDET02.dgn	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS		HSIP 1034(4)
1		10/24/2023	REVIEWED BY			UPN 9383001	52
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ROUNDABOUT COORDINATE TABLE						
POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
R01	116+04.06	0.00	565,767.359	2,179,137.364	3,369.53	FG - POC (R=68.0')
R02	116+07.75	19.17 LT	565,786.385	2,179,141.863	3,369.66	FG - POC (R=68.0')
R03	116+16.46	38.11 LT	565,804.703	2,179,152.684	3,369.85	FG - POC (R=68.0')
R04	116+30.23	53.61 LT	565,818.781	2,179,168.635	3,370.09	FG - POC (R=68.0')
R05	116+48.84	63.86 LT	565,827.187	2,179,188.169	3,370.34	FG - POC (R=68.0')
R06	116+69.69	67.96 LT	565,829.257	2,179,209.299	3,370.58	FG - POC (R=68.0')
R07	116+93.08	64.67 LT	565,823.727	2,179,232.262	3,370.81	FG - POC (R=68.0')
R08	117+12.04	55.01 LT	565,812.282	2,179,250.197	3,370.96	FG - POC (R=68.0')
R09	117+27.08	39.97 LT	565,795.856	2,179,263.718	3,371.04	FG - POC (R=68.0')
R10	117+36.74	21.01 LT	565,776.056	2,179,271.500	3,371.04	FG - POC (R=68.0')
R11	117+40.07	0.00	565,754.819	2,179,272.784	3,370.96	FG - POC (R=68.0')
R12	117+37.43	18.78 RT	565,736.388	2,179,268.340	3,370.83	FG - POC (R=68.0')
R13	117+28.43	38.05 RT	565,718.069	2,179,257.520	3,370.64	FG - POC (R=68.0')
R14	117+13.91	53.61 RT	565,703.991	2,179,241.568	3,370.40	FG - POC (R=68.0')
R15	116+95.30	63.91 RT	565,695.532	2,179,222.048	3,370.16	FG - POC (R=68.0')
R16	116+74.97	67.94 RT	565,693.486	2,179,201.423	3,369.92	FG - POC (R=68.0')
R17	116+51.06	64.67 RT	565,699.046	2,179,177.941	3,369.69	FG - POC (R=68.0')
R18	116+32.10	55.01 RT	565,710.490	2,179,160.006	3,369.54	FG - POC (R=68.0')
R19	116+16.24	39.93 RT	565,726.917	2,179,146.486	3,369.46	FG - POC (R=68.0')
R20	116+06.14	20.59 RT	565,746.717	2,179,138.703	3,369.45	FG - POC (R=68.0')
R21	116+25.07	0.00	565,765.925	2,179,158.321	3,370.26	TBC (R=47.0')
R22	116+26.90	12.98 LT	565,778.665	2,179,161.393	3,370.39	TBC (R=47.0')
R23	116+33.12	26.30 LT	565,791.326	2,179,168.871	3,370.59	TBC (R=47.0')
R24	116+43.15	37.05 LT	565,801.056	2,179,179.897	3,370.83	TBC (R=47.0')
R25	116+56.02	44.17 LT	565,806.904	2,179,193.389	3,371.08	TBC (R=47.0')
R26	116+70.45	46.97 LT	565,808.295	2,179,208.028	3,371.31	TBC (R=47.0')
R27	116+86.59	44.70 LT	565,804.474	2,179,223.874	3,371.55	TBC (R=47.0')
R28	116+99.70	38.02 LT	565,796.564	2,179,236.270	3,371.69	TBC (R=47.0')
R29	117+10.09	27.63 LT	565,785.211	2,179,245.616	3,371.77	TBC (R=47.0')
R30	117+16.77	14.52 LT	565,771.525	2,179,250.995	3,371.77	TBC (R=47.0')
R31	117+19.07	0.00	565,756.847	2,179,251.882	3,371.69	TBC (R=47.0')
R32	117+17.24	12.98 RT	565,744.108	2,179,248.810	3,371.57	TBC (R=47.0')
R33	117+11.02	26.30 RT	565,731.447	2,179,241.332	3,371.37	TBC (R=47.0')
R34	117+00.99	37.05 RT	565,721.716	2,179,230.307	3,371.14	TBC (R=47.0')
R35	116+88.12	44.17 RT	565,715.869	2,179,216.814	3,370.89	TBC (R=47.0')
R36	116+73.69	46.97 RT	565,714.478	2,179,202.175	3,370.65	TBC (R=47.0')
R37	116+57.55	44.70 RT	565,718.298	2,179,186.329	3,370.42	TBC (R=47.0')
R38	116+44.44	38.02 RT	565,726.208	2,179,173.933	3,370.27	TBC (R=47.0')
R39	116+34.05	27.63 RT	565,737.562	2,179,164.588	3,370.19	TBC (R=47.0')
R40	116+27.37	14.52 RT	565,751.247	2,179,159.208	3,370.19	TBC (R=47.0')
R41	116+43.72	13.20 LT	565,777.264	2,179,178.164	3,371.27	TBC - PCC (R=2.0'; 25.0')
R42	116+43.78	14.96 LT	565,779.006	2,179,178.389	3,371.29	TBC - PCC (R=2.0'; 32.0')
R43	116+45.55	17.91 LT	565,781.771	2,179,180.434	3,371.40	TBC (R=32.0')
R44	116+52.38	25.23 LT	565,788.396	2,179,187.941	3,371.64	TBC (R=32.0')
R45	116+61.14	30.08 LT	565,792.377	2,179,197.127	3,371.89	TBC (R=32.0')
R46	116+70.97	31.98 LT	565,793.324	2,179,207.094	3,372.12	TBC (R=32.0')
R47	116+81.96	30.43 LT	565,790.723	2,179,217.883	3,372.36	TBC (R=32.0')
R48	116+90.88	25.89 LT	565,785.337	2,179,226.323	3,372.50	TBC (R=32.0')
R49	116+97.96	18.81 LT	565,777.607	2,179,232.686	3,372.58	TBC (R=32.0')
R50	117+02.50	9.89 LT	565,768.290	2,179,236.348	3,372.58	TBC (R=32.0')
R51	117+04.07	0.00	565,758.296	2,179,236.952	3,372.50	TBC (R=32.0')
R52	117+02.83	8.84 RT	565,749.622	2,179,234.861	3,372.38	TBC (R=32.0')
R53	116+98.59	17.91 RT	565,741.002	2,179,229.769	3,372.18	TBC (R=32.0')
R54	116+91.76	25.23 RT	565,734.377	2,179,222.262	3,371.95	TBC (R=32.0')
R55	116+83.00	30.08 RT	565,730.396	2,179,213.076	3,371.70	TBC (R=32.0')
R56	116+73.17	31.98 RT	565,729.448	2,179,203.109	3,371.46	TBC (R=32.0')
R57	116+71.09	31.99 RT	565,729.645	2,179,201.041	3,371.47	TBC - PCC (R=32.0'; 2.0')
R58	116+69.58	31.22 RT	565,730.550	2,179,199.611	3,371.37	TBC - PCC (R=2.0'; 25.0')
R59	116+66.64	26.46 RT	565,735.573	2,179,197.137	3,371.69	TBC - MID POINT (R=25.0')
R60	116+64.82	21.17 RT	565,741.020	2,179,195.843	3,371.70	TBC - PRC (R=25.0'; 50.0')
R61	116+59.27	6.92 RT	565,755.738	2,179,191.698	3,371.65	TBC - MID POINT (R=50.0')
R62	116+54.45	0.00	565,763.088	2,179,187.563	3,371.67	TBC (R=50.0')
R63	116+49.68	4.99 LT	565,768.514	2,179,183.299	3,371.64	TBC - PRC (R=50.0'; 25.0')
R64	116+46.28	8.79 LT	565,772.626	2,179,180.283	3,371.62	TBC - MID POINT (R=25.0')
R65	116+65.83	32.40 RT	565,729.736	2,179,195.761	3,371.09	TBC - PCC (R=1.0'; 33.0')
R66	116+61.87	31.38 RT	565,731.133	2,179,191.921	3,371.00	TBC (R=33.0')
R67	116+52.67	26.70 RT	565,736.687	2,179,183.217	3,370.86	TBC (R=33.0')
R68	116+45.37	19.40 RT	565,744.658	2,179,176.656	3,370.78	TBC (R=33.0')
R69	116+40.68	10.20 RT	565,754.267	2,179,172.879	3,370.78	TBC (R=33.0')
R70	116+39.07	0.00	565,764.573	2,179,172.256	3,370.85	TBC (R=33.0')
R71	116+40.84	10.67 LT	565,775.018	2,179,175.049	3,371.01	TBC - PCC (R=33.0'; 1.0')

*ALL STATIONS ARE MAINLINE UNLESS OTHERWISE NOTED



LEGEND:
FG = FINISH GRADE
TBC = TOP BACK OF CURB
RP = RADIUS POINT
EP = EDGE OF PAVEMENT
R## = COORD. POINT NO. AT ROUNDABOUT
S## = COORD. POINT NO. SOUTH OF ROUNDABOUT
N## = COORD. POINT NO. NORTH OF ROUNDABOUT
W## = COORD. POINT NO. WEST OF ROUNDABOUT
E## = COORD. POINT NO. EAST OF ROUNDABOUT

-PATTERNED & COLORED CONCRETE

-CONC. MEDIAN CAP

NOTES:
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ROUNDABOUT GRADING DETAIL RIMROCK RD. (SHEET 3 OF 5) 1" = 10'

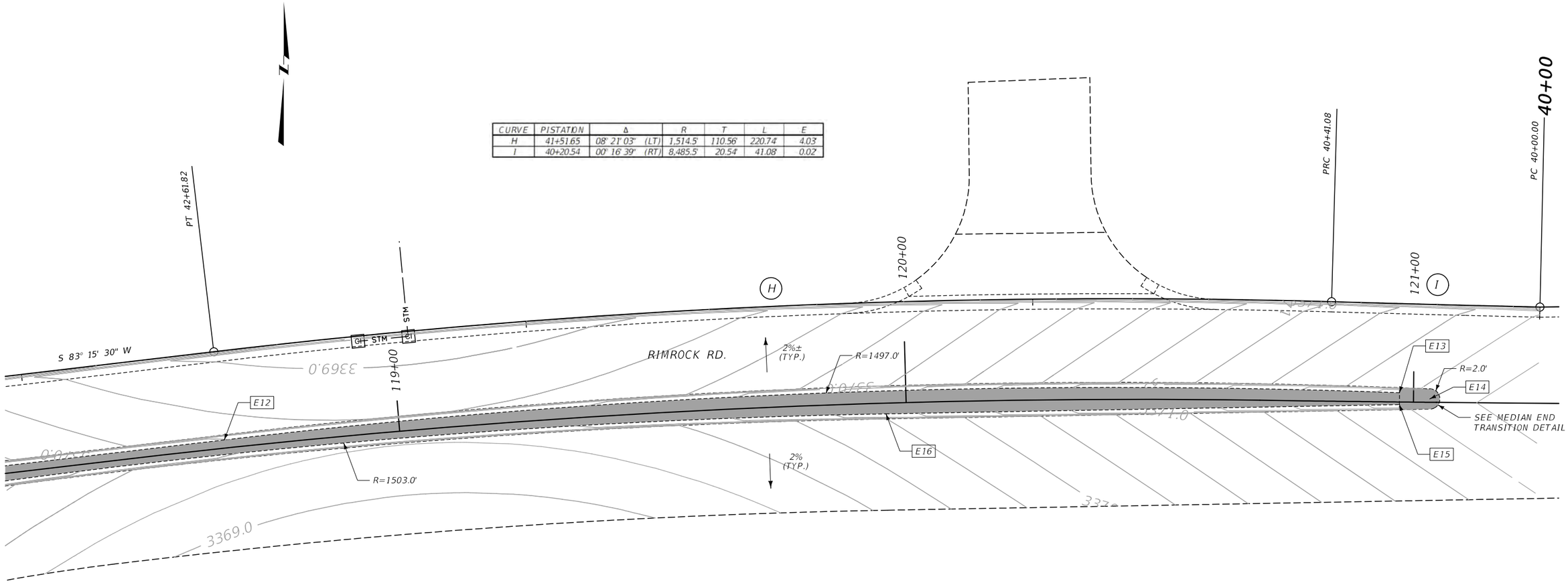
SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDD03.DGN	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY				
		9:49:04 AM kedam	CHECKED BY		YELLOWSTONE COUNTY	UPN 9383001	53

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CURVE	PISTATION	Δ	R	T	L	E
H	41+51.65	08° 21' 03" (LT)	1,514.5'	110.56'	220.74'	4.03'
I	40+20.54	00° 16' 39" (RT)	8,485.5'	20.54'	41.08'	0.02'



ROUNDABOUT COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	NORY COORDINATE	EORX COORDINATE	ELEVATION	REMARKS
E12	118+65.43	1.61 LT	565,765.151	2,179,397.386	3,369.80	TBC -PC (R=1497.0')
E13	120+97.24	1.83 LT	565,774.457	2,179,629.044	3,371.66	TBC -PT (R=1497.0')
E14	121+03.21	0.65 LT	565,773.222	2,179,635.000	3,371.27	FG -RP (R=2.0')
E15	120+97.24	0.52 RT	565,772.114	2,179,629.019	3,371.69	TBC -POT
E16	119+95.97	2.11 RT	565,770.287	2,179,527.829	3,370.32	TBC -PC (R=1503.0')

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-CONC. MEDIAN CAP

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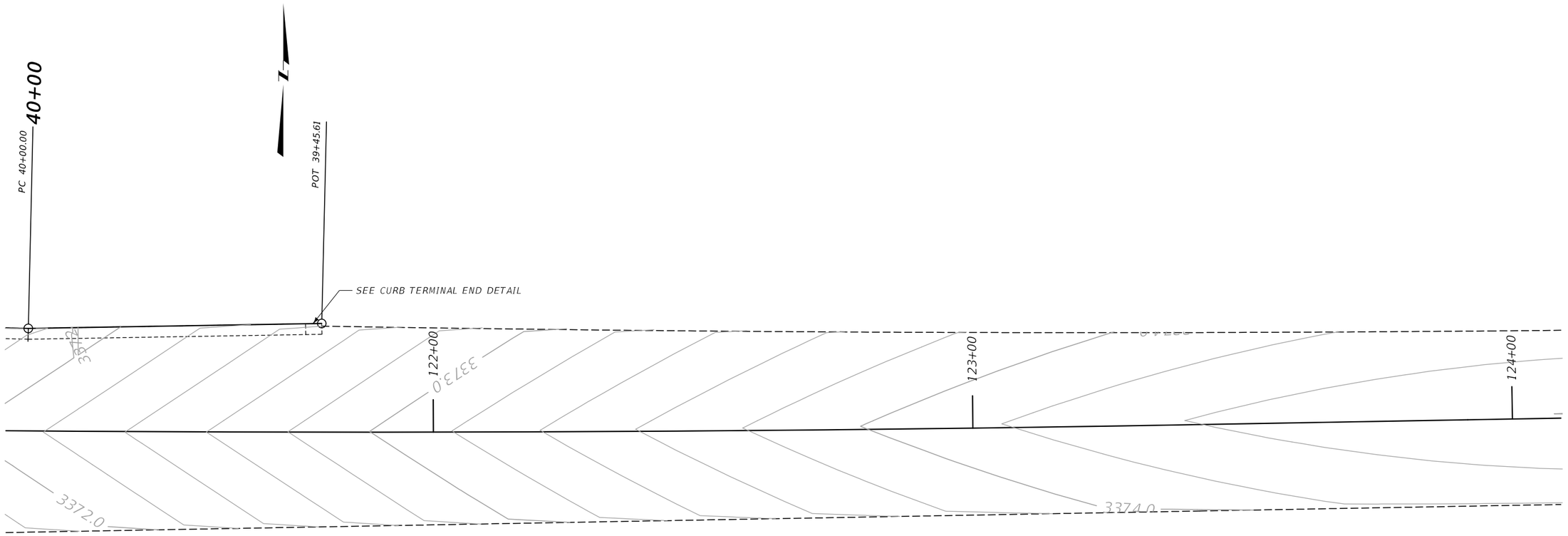
ROUNDABOUT GRADING DETAIL RIMROCK RD. (SHEET 4 OF 5) 1" = 10'

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD...	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	54
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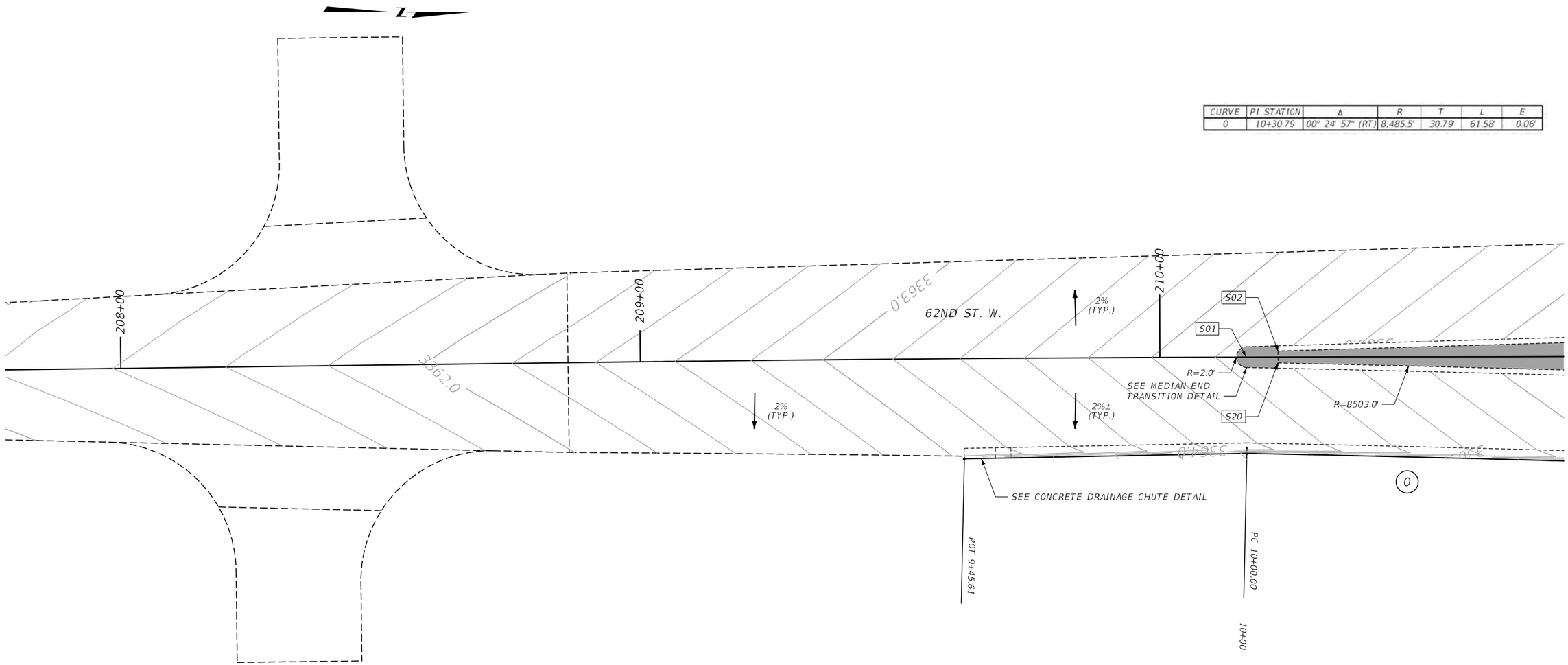
ROUNDABOUT GRADING DETAIL RIMROCK RD. (SHEET 5 OF 5) 1" = 10'

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDDET01.dgn 10/24/2023 9:49:09 AM kedam	DESIGNED BY REVIEWED BY CHECKED BY		ROAD PLANS YELLOWSTONE COUNTY		SF169 RIMROCK & 62ND ST W-BLGS UPN 9383001	HSIP 1034(4) 55

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CURVE	PI STATION	Δ	R	T	L	E
0	10+30.75	00° 24' 57" (RT)	8,485.5'	30.79'	61.58'	0.06'

SANDERSON STEWART

ROUNDABOUT COORDINATE TABLE						
POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
S01	210+16.75	0.00	565,302.716	2,179,224.641	3,364.30	FC - RP (R=2.0')
S02	210+22.73	1.16 LT	565,308.689	2,179,223.465	3,364.87	TEC - POT
S20	210+22.73	1.14 RT	565,308.695	2,179,225.766	3,364.87	TEC - PT (R=8503.0')

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S## = COORD. POINT NO. SOUTH OF ROUNDABOUT
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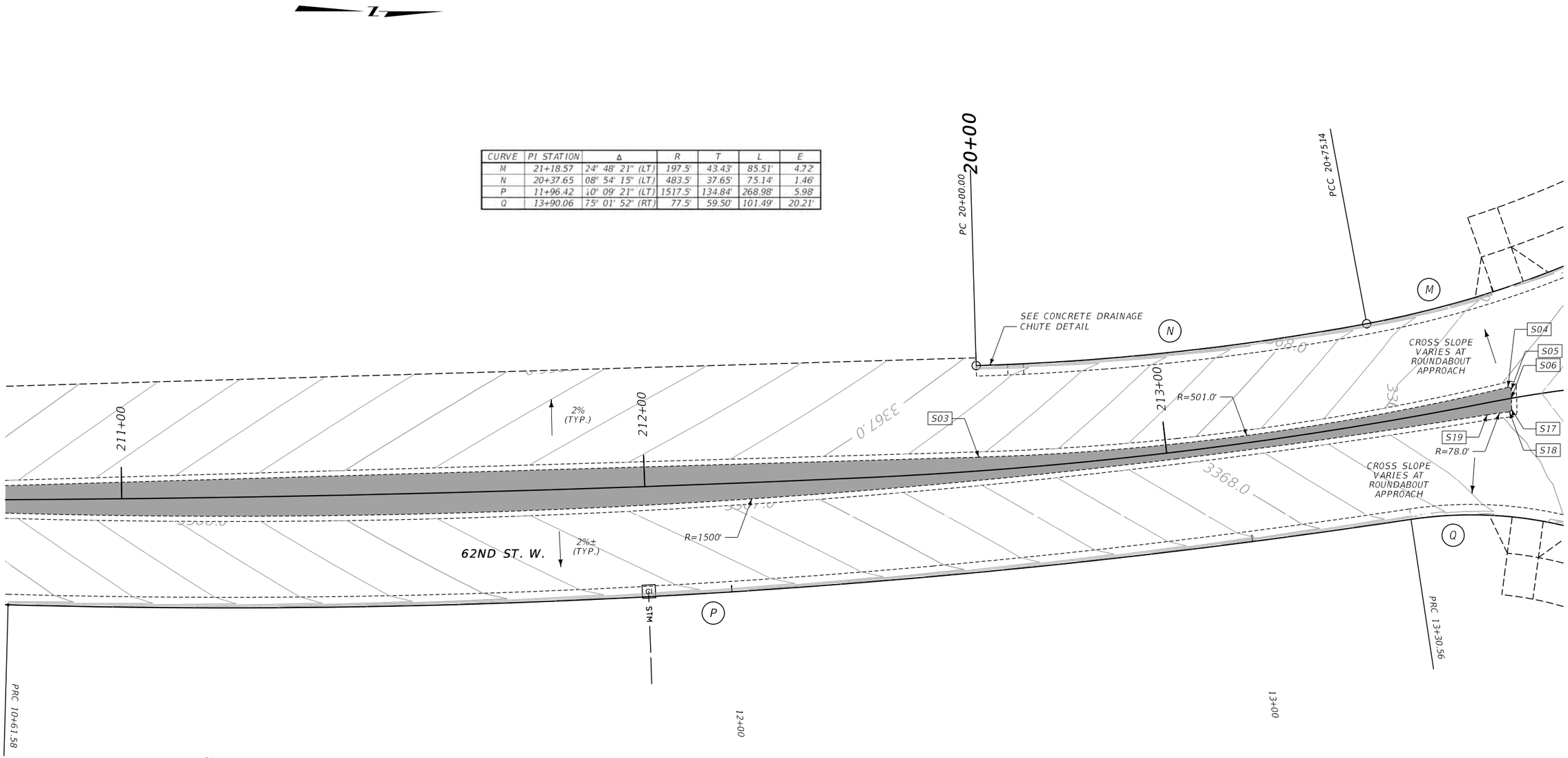
ROUNDABOUT GRADING DETAIL 62ND ST. W. (SHEET 1 OF 4) 1" = 10'

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY			ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS / HSIP 1034(4)
1		10/24/2023	REVIEWED BY			YELLOWSTONE COUNTY	UPN 9383001 / 56
		9:49:12 AM kedam	CHECKED BY				

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CURVE	PI STATION	Δ	R	T	L	E
M	21+18.57	24° 48' 21" (LT)	197.5'	43.43'	85.51'	4.72'
N	20+37.65	08° 54' 15" (LT)	483.5'	37.65'	75.14'	1.46'
P	11+96.42	10° 09' 21" (LT)	1517.5'	134.84'	268.98'	5.98'
Q	13+90.06	75° 01' 52" (RT)	77.5'	59.50'	101.49'	20.21'



ROUNDABOUT COORDINATE TABLE						
POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
S03	212+64.14	2.64 LT	565,549.804	2,179,216.397	3,367.90	TBC - PC (R=501.0')
S04	213+66.46	2.18 LT	565,650.929	2,179,203.044	3,369.54	TBC - PRC (R=501.0'; 0.5')
S05	213+66.98	1.61 LT	565,651.544	2,179,203.518	3,369.56	TBC - PT (R=0.5')
S06	213+66.74	0.00	565,651.588	2,179,205.145	3,369.59	TBC - POT
S17	213+66.43	2.06 RT	565,651.643	2,179,207.228	3,369.56	TBC - PC (R=0.5')
S18	213+65.90	2.49 RT	565,651.196	2,179,207.738	3,369.54	TBC - PRC (R=0.5'; 78.0')
S19	213+61.56	2.27 RT	565,646.929	2,179,208.311	3,369.46	TBC - PRC (R=78.0'; 1500.0')

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ROUNDABOUT GRADING DETAIL 62ND ST. W. (SHEET 2 OF 4) 1" = 10'

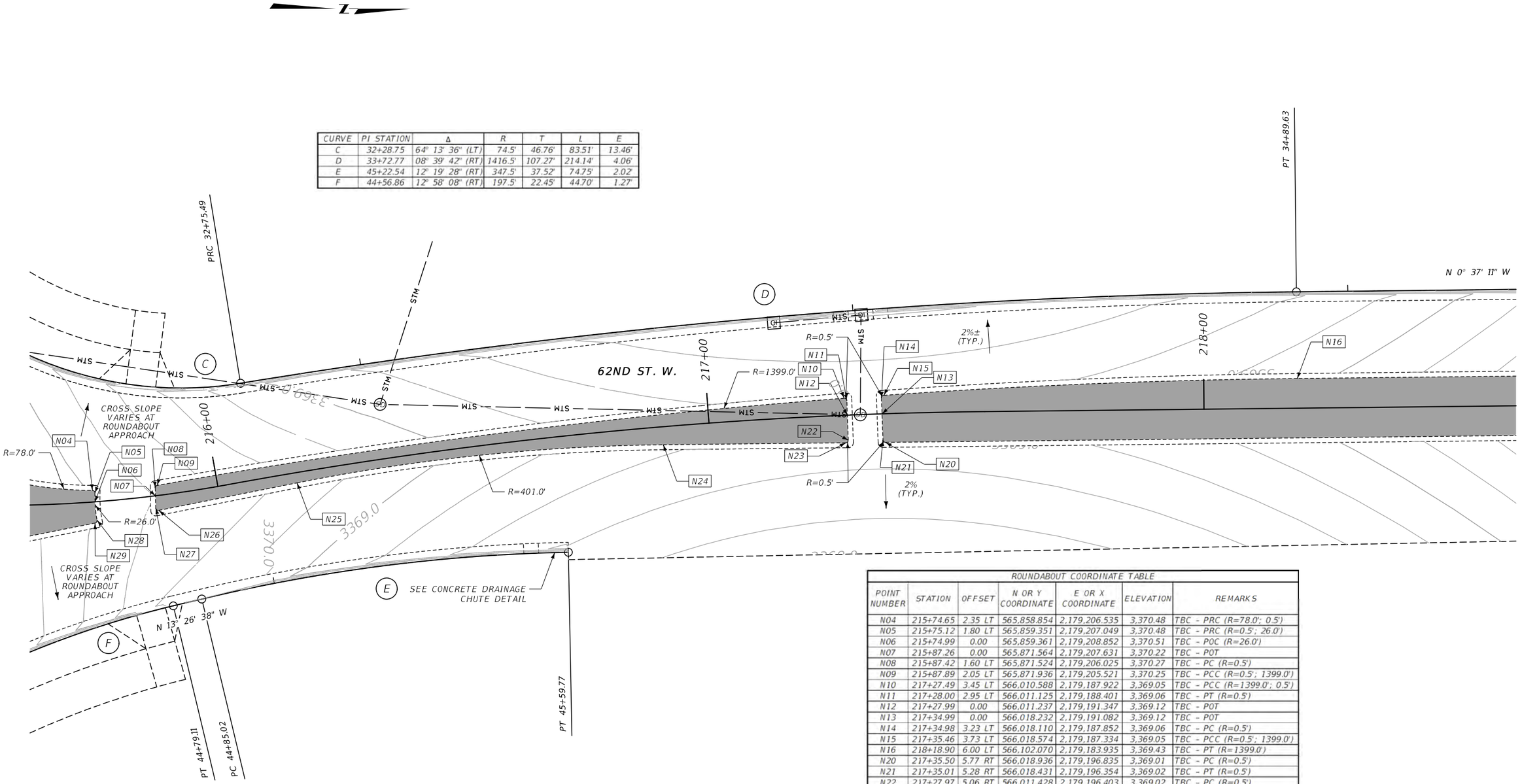
SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY				
		9:49:15 AM kedam	CHECKED BY		YELLOWSTONE COUNTY	UPN 9383001	57

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CURVE	PI STATION	Δ	R	T	L	E
C	32+28.75	64° 13' 36" (LT)	74.5'	46.76'	83.51'	13.46'
D	33+72.77	08° 39' 42" (RT)	1416.5'	107.27'	214.14'	4.06'
E	45+22.54	12° 19' 28" (RT)	347.5'	37.52'	74.75'	2.02'
F	44+56.86	12° 58' 08" (RT)	197.5'	22.45'	44.70'	1.27'



ROUNDABOUT COORDINATE TABLE						
POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
N04	215+74.65	2.35 LT	565,858.854	2,179,206.535	3,370.48	TBC - PRC (R=78.0'; 0.5')
N05	215+75.12	1.80 LT	565,859.351	2,179,207.049	3,370.48	TBC - PRC (R=0.5'; 26.0')
N06	215+74.99	0.00	565,859.361	2,179,208.852	3,370.51	TBC - POC (R=26.0')
N07	215+87.26	0.00	565,871.564	2,179,207.631	3,370.22	TBC - POT
N08	215+87.42	1.60 LT	565,871.524	2,179,206.025	3,370.27	TBC - PC (R=0.5')
N09	215+87.89	2.05 LT	565,871.936	2,179,205.521	3,370.25	TBC - PCC (R=0.5'; 1399.0')
N10	217+27.49	3.45 LT	566,010.588	2,179,187.922	3,369.05	TBC - PCC (R=1399.0'; 0.5')
N11	217+28.00	2.95 LT	566,011.125	2,179,188.401	3,369.06	TBC - PT (R=0.5')
N12	217+27.99	0.00	566,011.237	2,179,191.347	3,369.12	TBC - POT
N13	217+34.99	0.00	566,018.232	2,179,191.082	3,369.12	TBC - POT
N14	217+34.98	3.23 LT	566,018.110	2,179,187.852	3,369.06	TBC - PC (R=0.5')
N15	217+35.46	3.73 LT	566,018.574	2,179,187.334	3,369.05	TBC - PCC (R=0.5'; 1399.0')
N16	218+18.90	6.00 LT	566,102.070	2,179,183.935	3,369.43	TBC - PT (R=1399.0')
N20	217+35.50	5.77 RT	566,018.936	2,179,196.835	3,369.01	TBC - PC (R=0.5')
N21	217+35.01	5.28 RT	566,018.431	2,179,196.354	3,369.02	TBC - PT (R=0.5')
N22	217+27.97	5.06 RT	566,011.428	2,179,196.403	3,369.02	TBC - PC (R=0.5')
N23	217+27.45	5.56 RT	566,010.934	2,179,196.922	3,369.01	TBC - PT (R=0.5')
N24	216+90.45	3.64 RT	565,974.076	2,179,197.320	3,369.14	TBC - PC (R=401.0')
N25	216+15.88	2.07 RT	565,900.146	2,179,205.009	3,369.83	TBC - PT (R=401.0')
N26	215+87.54	2.99 RT	565,872.223	2,179,210.566	3,370.26	TBC - PC (R=0.5')
N27	215+87.01	2.45 RT	565,871.626	2,179,210.088	3,370.28	TBC - PT (R=0.5')
N28	215+75.12	3.71 RT	565,859.776	2,179,212.540	3,370.48	TBC - PRC (R=26.0'; 0.5')
N29	215+74.70	4.26 RT	565,859.382	2,179,213.122	3,370.49	TBC - PT (R=0.5')

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LEGEND:
FG = FINISH GRADE
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-CONC. MEDIAN CAP

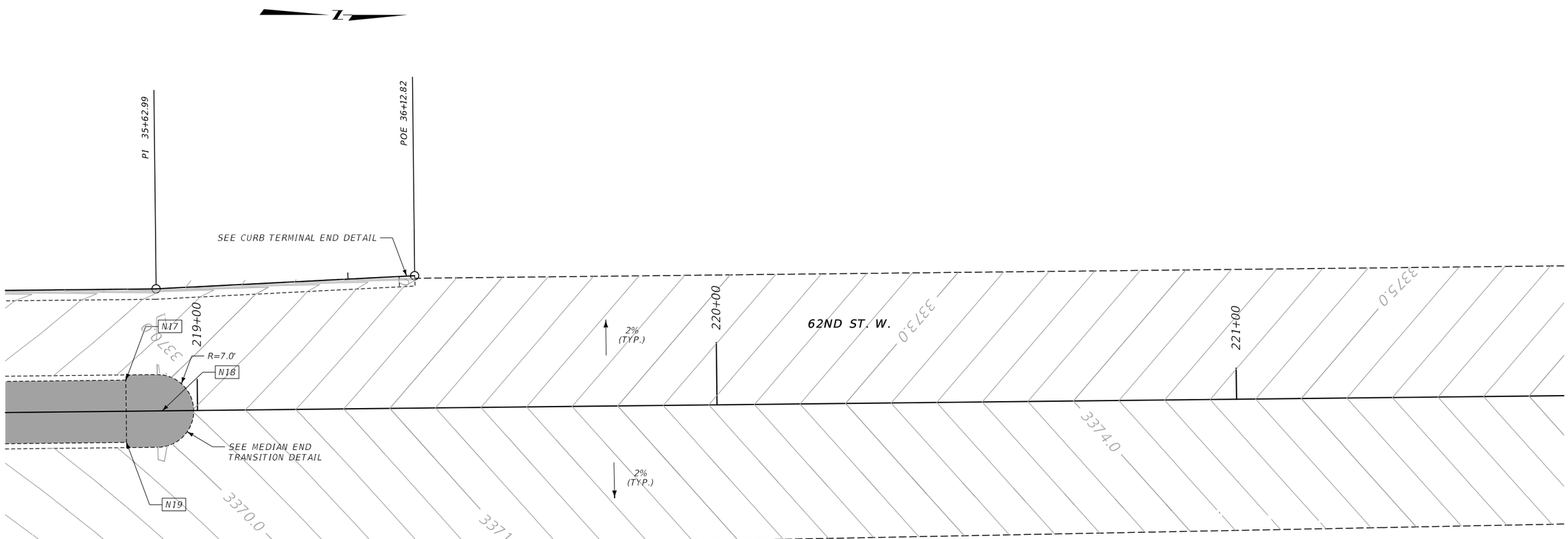
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ROUNDABOUT GRADING DETAIL
62ND ST. W.
(SHEET 3 OF 4)
1" = 10'

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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ROUNDABOUT COORDINATE TABLE

POINT NUMBER	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
N17	218+86.27	6.00 LT	566,169.433	2,179,183.207	3,370.35	TBC - POT
N18	218+92.27	0.00	566,175.494	2,179,189.141	3,370.08	FG - RP (R=7.0')
N19	218+86.27	6.00 RT	566,169.563	2,179,195.206	3,370.35	TBC - POT

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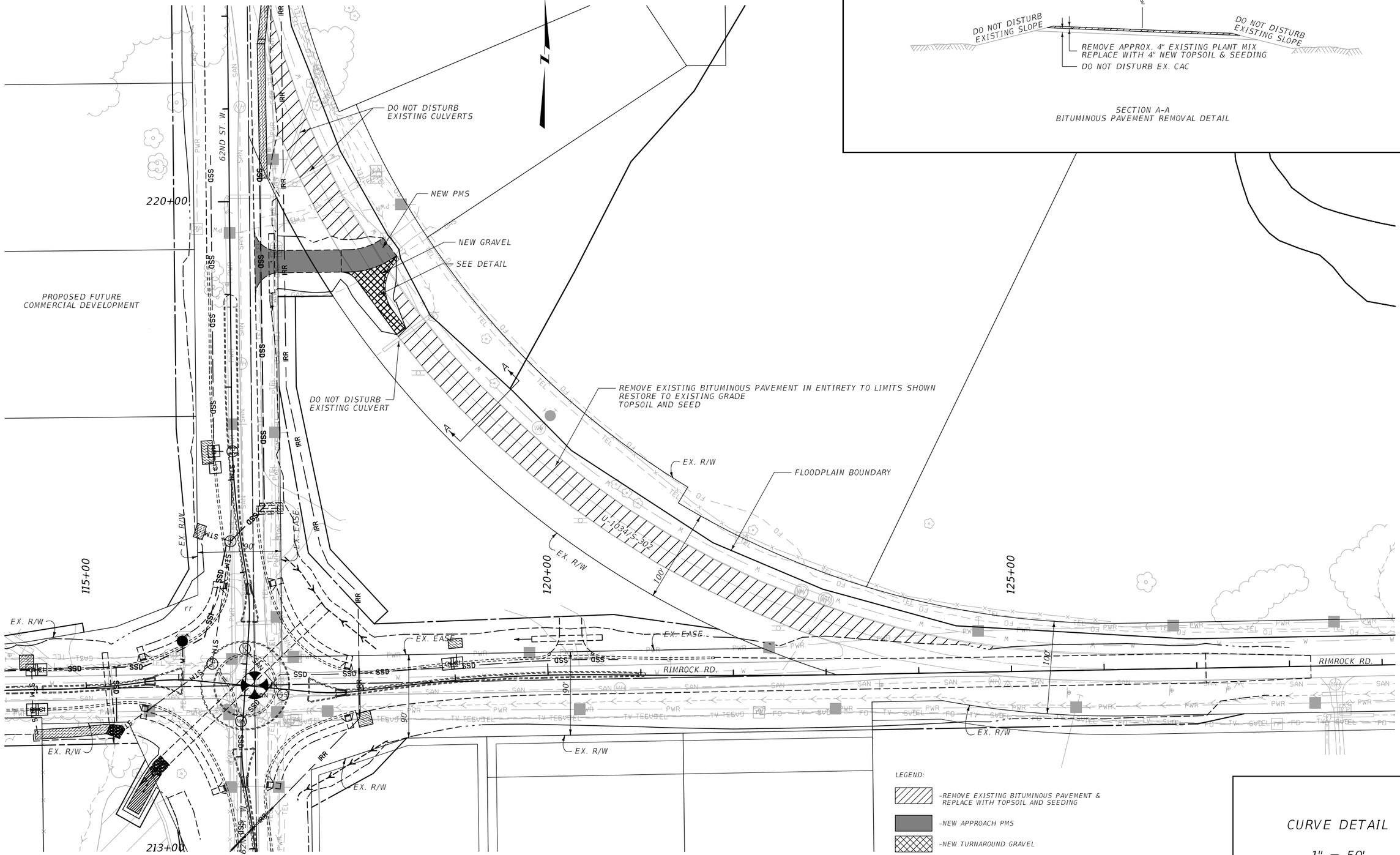
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ROUNDABOUT GRADING DETAIL 62ND ST. W. (SHEET 4 OF 4) 1" = 10'

SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS		HSIP 1034(4)
1		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY		UPN 9383001	59
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SECTION A-A
BITUMINOUS PAVEMENT REMOVAL DETAIL

SANDERSON STEWART

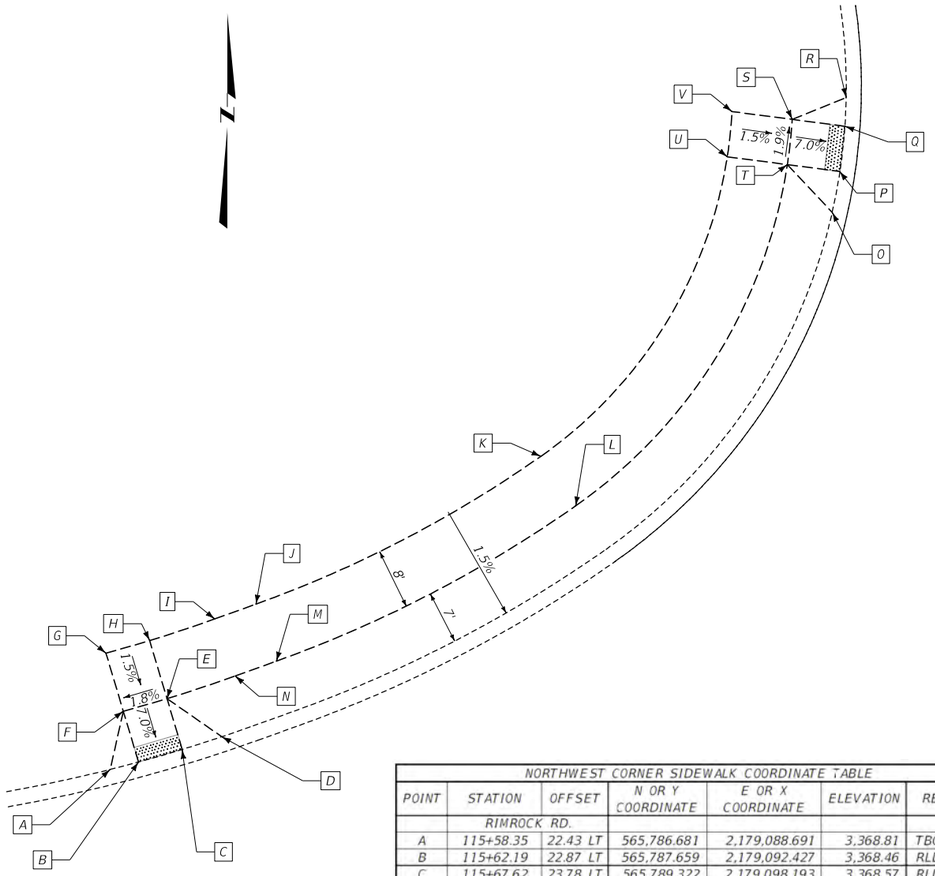
CURVE DETAIL

1" = 50'

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDDET.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY				
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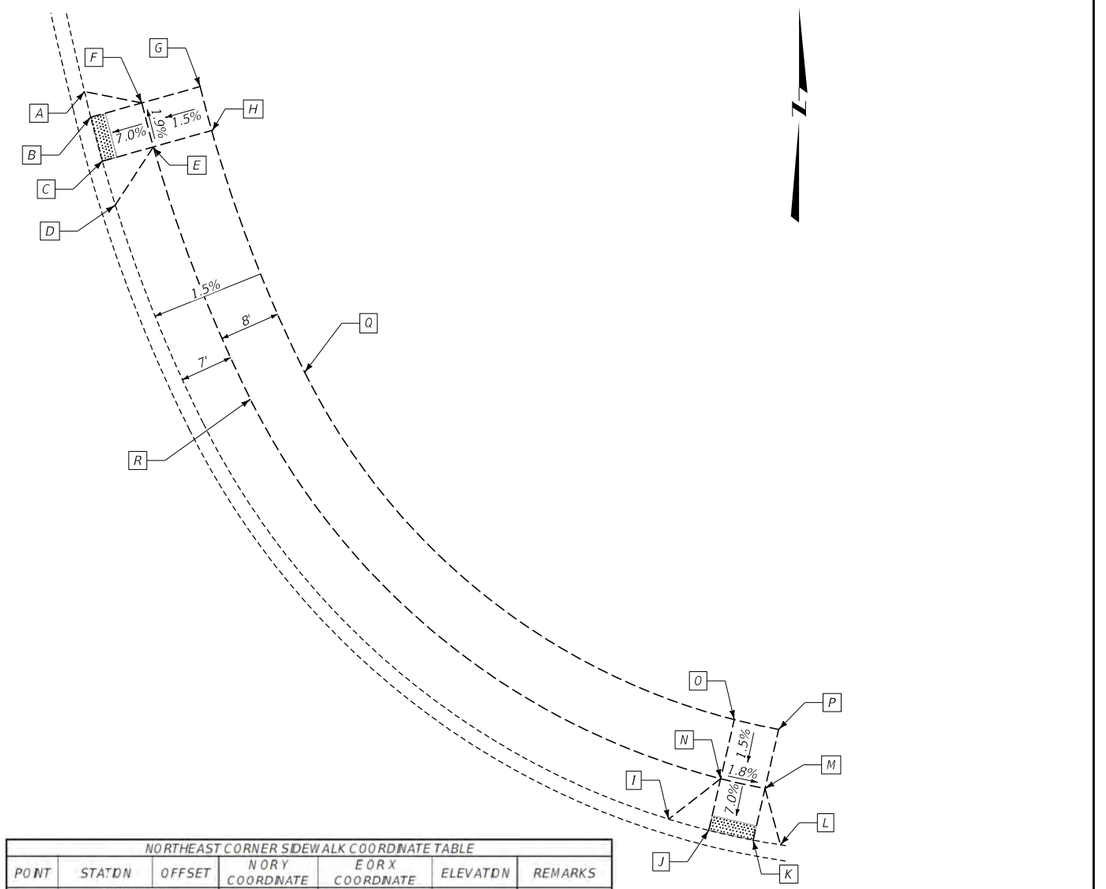
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NORTHWEST CORNER SIDEWALK COORDINATE TABLE						
POINT	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
	RIMROCK RD.					
A	115+58.35	22.43 LT	565,786.681	2,179,088.691	3,368.81	TBC - POT
B	115+62.19	22.87 LT	565,787.659	2,179,092.427	3,368.46	RLD - POT
C	115+67.62	23.78 LT	565,789.322	2,179,098.193	3,368.57	RLD - POT
D	115+72.53	24.88 LT	565,790.998	2,179,103.432	3,369.10	TBC - POT
E	115+66.55	30.68 LT	565,796.029	2,179,096.189	3,369.06	EW - POC
F	115+61.24	29.79 LT	565,794.368	2,179,090.423	3,368.95	EW - PT
G	115+60.01	37.71 LT	565,802.036	2,179,088.132	3,369.18	EW - PC
H	115+65.39	38.56 LT	565,803.694	2,179,093.899	3,369.07	EW - POC
I	115+73.04	40.45 LT	565,806.550	2,179,102.492	3,369.42	EW - PT
J	115+77.84	41.92 LT	565,808.507	2,179,107.933	3,369.54	EW - PC
K	116+09.29	60.93 LT	565,828.022	2,179,145.547	3,370.53	EW - PCC
L	116+13.32	54.66 LT	565,821.473	2,179,150.142	3,370.41	EW - PCC
M	115+79.71	34.22 LT	565,800.980	2,179,110.642	3,369.42	EW - PT
N	115+74.79	32.70 LT	565,799.022	2,179,105.200	3,369.30	EW - PC
	62ND ST. W.					
O	215+78.01	24.68 LT	565,860.223	2,179,184.022	3,370.13	TBC - POT
P	215+83.85	23.13 LT	565,865.627	2,179,185.041	3,369.60	RLD - POT
Q	215+90.26	21.75 LT	565,871.593	2,179,185.696	3,369.49	RLD - POT
R	215+94.35	21.04 LT	565,875.390	2,179,185.861	3,369.83	TBC - POT
S	215+92.34	28.51 LT	565,872.498	2,179,178.741	3,369.98	EW - PC
T	215+85.74	29.92 LT	565,866.531	2,179,178.098	3,370.09	EW - POC
U	215+88.05	37.67 LT	565,867.565	2,179,170.163	3,370.21	EW - POC
V	215+94.88	36.22 LT	565,873.540	2,179,170.787	3,370.10	EW - PT

NOTES
CROSS SLOPES SHOWN ON PLANS TO BE CONSTRUCTED FOR ENTIRE WIDTH OF TURNING SPACE.

NORTHWEST ROUNDABOUT SIDEWALK DETAIL



NORTHEAST CORNER SIDEWALK COORDINATE TABLE						
POINT	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
	62ND ST. W.					
A	215+89.71	22.29 RT	565,876.977	2,179,229.410	3,369.97	TBC -POT
B	215+86.52	22.67 RT	565,873.579	2,179,230.230	3,369.63	RLD -POT
C	215+81.09	23.56 RT	565,867.776	2,179,231.762	3,369.75	RLD -POT
D	215+75.71	24.75 RT	565,862.003	2,179,233.476	3,370.34	TBC -POT
E	215+82.17	30.46 RT	565,869.666	2,179,238.502	3,370.24	EW -POC
F	215+87.47	29.60 RT	565,875.469	2,179,236.973	3,370.12	EW -PC
G	215+88.50	37.52 RT	565,877.629	2,179,244.680	3,370.24	EW -PC
H	215+83.34	38.34 RT	565,871.825	2,179,246.205	3,370.36	EW -POC
	RIMROCK RD.					
I	117+74.94	27.15 LT	565,780.917	2,179,306.527	3,370.71	TBC -POT
J	117+80.77	25.39 LT	565,779.432	2,179,311.824	3,370.17	RLD -POT
K	117+87.14	23.66 LT	565,778.138	2,179,317.683	3,370.06	RLD -POT
L	117+91.02	22.70 LT	565,777.519	2,179,321.284	3,370.38	TBC -POT
M	117+89.61	30.31 LT	565,784.964	2,179,319.259	3,370.55	EW -PT
N	117+83.07	32.09 LT	565,786.254	2,179,313.399	3,370.66	EW -POC
O	117+85.88	39.73 LT	565,794.051	2,179,315.200	3,370.78	EW -POC
P	117+92.63	37.88 LT	565,792.766	2,179,321.061	3,370.67	EW -PT
Q	117+17.62	83.31 LT	565,839.907	2,179,258.481	3,371.28	EW -PCC
R	117+10.83	79.08 LT	565,836.349	2,179,251.316	3,371.16	EW -PCC

NOTES
CROSS SLOPES SHOWN ON PLANS TO BE CONSTRUCTED FOR ENTIRE WIDTH OF TURNING SPACE.

NORTHEAST ROUNDABOUT SIDEWALK DETAIL

LEGEND:

EW = EDGE OF WALK
RLD = RAMP LAYDOWN CURB
TBC = TOP BACK OF CURB

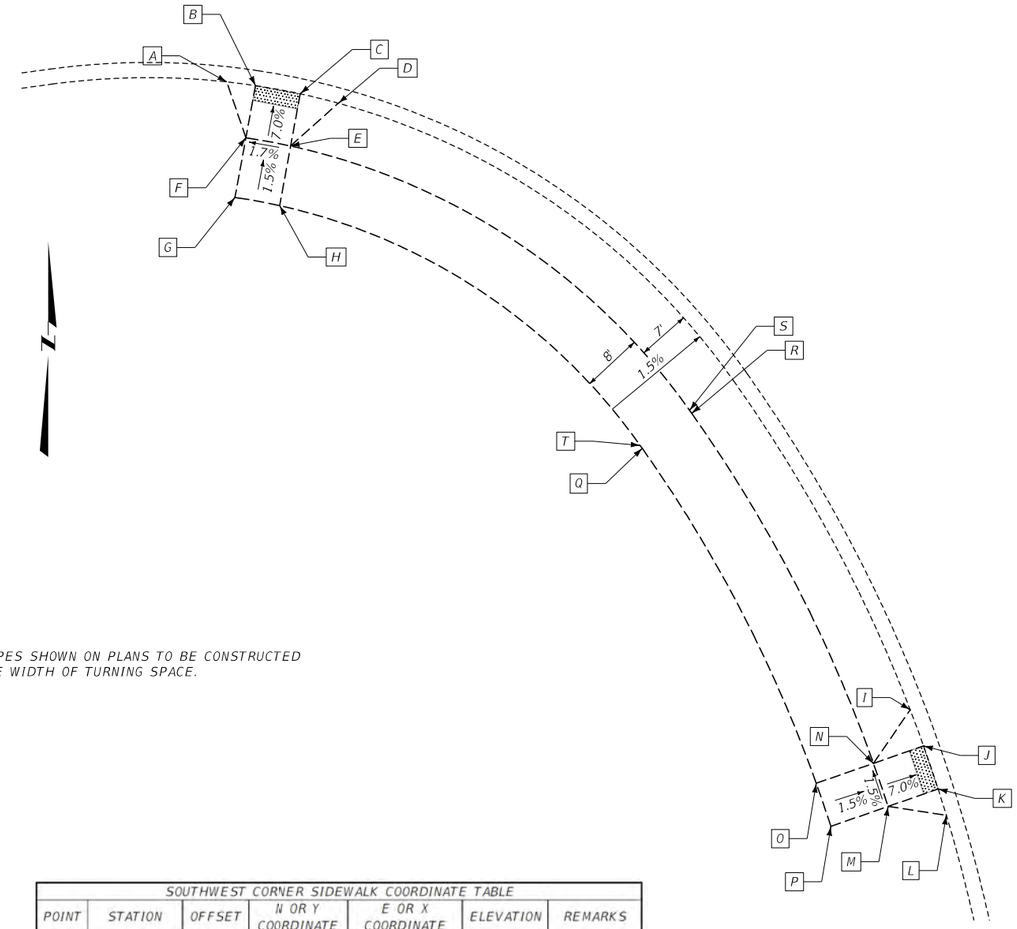
NORTHWEST SIDEWALK DETAIL

NORTHEAST SIDEWALK DETAIL

SANDERSON STEWART

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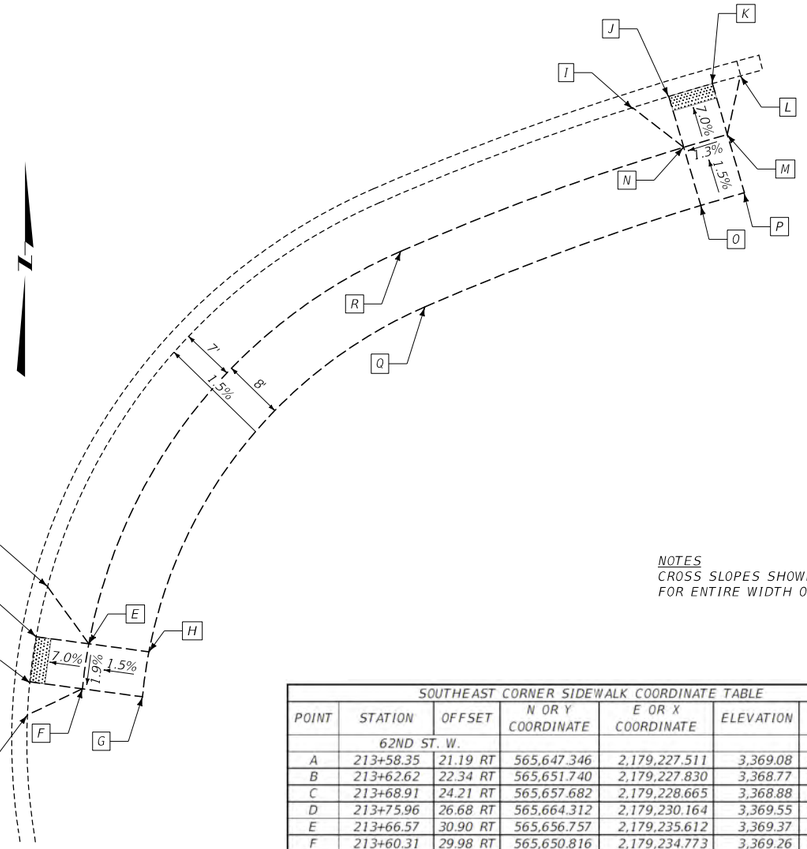
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NOTES
CROSS SLOPES SHOWN ON PLANS TO BE CONSTRUCTED FOR ENTIRE WIDTH OF TURNING SPACE.

SOUTHWEST CORNER SIDEWALK COORDINATE TABLE						
POINT	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
	RIMROCK RD.					
A	115+54.31	22.61 RT	565,741.514	2,179,090.821	3,368.75	TBC - POT
B	115+57.89	23.61 RT	565,741.020	2,179,094.617	3,368.40	RLD - POT
C	115+63.71	25.51 RT	565,739.937	2,179,100.518	3,368.50	RLD - POT
D	115+69.14	27.36 FT	565,738.697	2,179,105.569	3,369.01	TBC - POT
E	115+61.24	32.16 RT	565,733.048	2,179,099.254	3,368.99	EW - POC
F	115+55.77	30.27 RT	565,734.131	2,179,093.353	3,368.89	EW - PC
G	115+53.39	37.88 RT	565,726.257	2,179,091.908	3,369.01	EW - PC
H	115+58.81	39.75 RT	565,725.175	2,179,097.810	3,369.11	EW - POC
	62ND ST. W.					
I	213+76.90	22.75 LT	565,658.630	2,179,181.052	3,369.32	TBC - POT
J	213+72.32	21.67 LT	565,653.845	2,179,182.824	3,368.82	RLD - POT
K	213+66.86	20.68 LT	565,648.162	2,179,184.749	3,368.73	RLD - POT
L	213+63.53	20.23 LT	565,644.696	2,179,185.830	3,369.09	TBC - POT
M	213+65.84	27.59 LT	565,645.861	2,179,178.136	3,369.22	EW - PT
N	213+71.17	28.55 LT	565,651.545	2,179,176.213	3,369.31	EW - POC
O	213+69.92	36.43 LT.	565,648.917	2,179,168.657	3,369.43	EW - POC
P	213+64.74	35.50 LT	565,643.232	2,179,170.578	3,369.34	EW - PT
Q	214+08.76	55.74 LT	565,693.127	2,179,145.681	3,370.12	EW - PC
R	214+12.60	49.23 LT	565,697.751	2,179,152.210	3,370.00	EW - PC
S	214+12.93	49.51 LT	565,698.147	2,179,151.929	3,370.00	EW - PT
T	214+09.08	56.02 LT	565,693.523	2,179,145.400	3,370.12	EW - PT

SOUTHWEST ROUNDABOUT SIDEWALK DETAIL



NOTES
CROSS SLOPES SHOWN ON PLANS TO BE CONSTRUCTED FOR ENTIRE WIDTH OF TURNING SPACE.

SOUTHEAST CORNER SIDEWALK COORDINATE TABLE						
POINT	STATION	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	ELEVATION	REMARKS
	62ND ST. W.					
A	213+58.35	21.19 RT	565,647.346	2,179,227.511	3,369.08	TBC - POT
B	213+62.62	22.34 RT	565,651.740	2,179,227.830	3,368.77	RLD - POT
C	213+68.91	24.21 RT	565,657.682	2,179,228.665	3,368.88	RLD - POT
D	213+75.96	26.68 RT	565,664.312	2,179,230.164	3,369.55	TBC - POT
E	213+66.57	30.90 RT	565,656.757	2,179,235.612	3,369.37	EW - POC
F	213+60.31	29.98 RT	565,650.816	2,179,234.773	3,369.26	EW - PC
G	213+57.87	36.57 RT	565,649.760	2,197,242.708	3,369.38	EW - PC
H	213+63.72	38.53 RT	565,655.700	2,197,243.550	3,369.49	EW - POC
	RIMROCK RD.					
I	117+73.80	26.23 RT	565,727.534	2,179,307.402	3,370.46	TBC - POT
J	117+78.20	24.95 RT	565,729.021	2,179,312.195	3,369.97	RLD - POT
K	117+83.54	23.64 RT	565,730.707	2,179,317.953	3,369.89	RLD - POT
L	117+86.98	22.92 RT	565,731.732	2,179,321.644	3,370.26	TBC - POT
M	117+84.84	30.49 RT	565,723.989	2,179,319.921	3,370.38	EW - PT
N	117+79.63	31.77 RT	565,722.303	2,179,314.162	3,370.46	EW - POC
O	117+81.18	39.57 RT	565,714.625	2,179,316.411	3,370.58	EW - POC
P	117+86.26	38.32 RT	565,716.311	2,179,322.169	3,370.50	EW - PT
Q	117+50.37	52.87 RT	565,701.231	2,179,279.981	3,371.12	EW - PCC
R	117+47.32	45.75 RT	565,708.566	2,179,276.787	3,371.00	EW - PCC

SOUTHEAST ROUNDABOUT SIDEWALK DETAIL

LEGEND:

EW = EDGE OF WALK
RLD = RAMP LAYDOWN CURB
TBC = TOP BACK OF CURB

SOUTHWEST SIDEWALK DETAIL

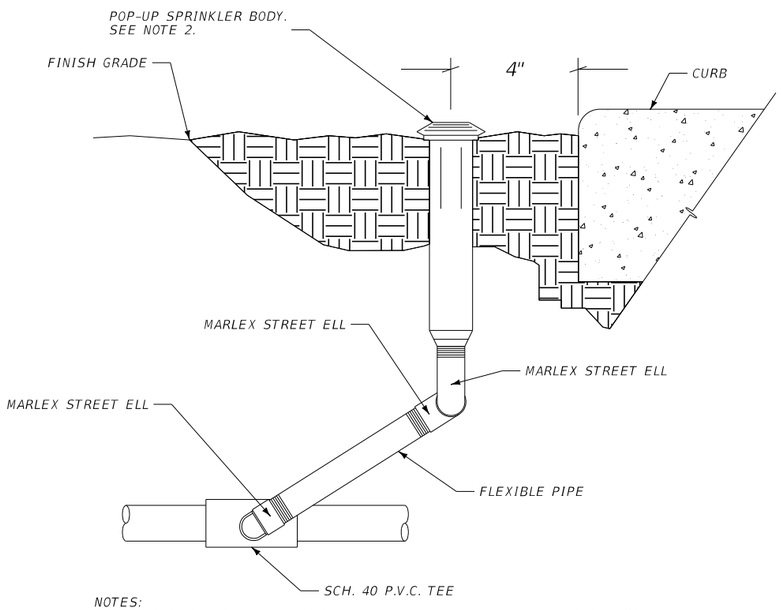
SOUTHEAST SIDEWALK DETAIL

SANDERSON STEWART

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1		$DATE$	REVIEWED BY					
		$TIME$ $username$	CHECKED BY			YELLOWSTONE COUNTY	UPN 9383001	62

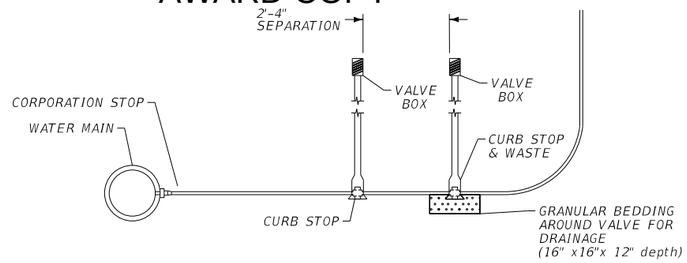
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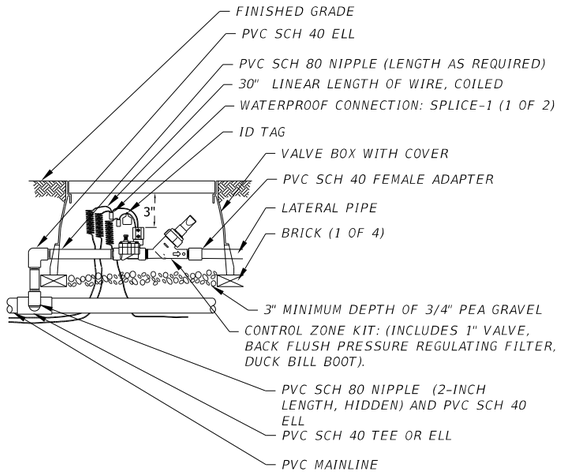


NOTES:
1. NIPPLE AND STREET ELL DIAMETERS SHALL EQUAL INLET SIZE SPRAY BODY.
2. SPRINKLER HEADS SHOULD BE HUNTER I-20 WITH SPRAY RADIUS OF 30 FT AT 45 PSI AND 1.5 GPM PER HEAD OR SIMILAR AS APPROVED BY PROJECT MANAGER.

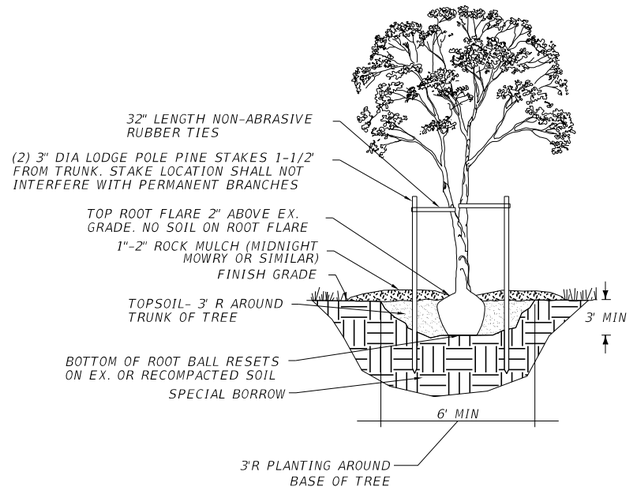
POP-UP SPRAY HEAD



CURB STOP AND WASTE VALVE DETAIL

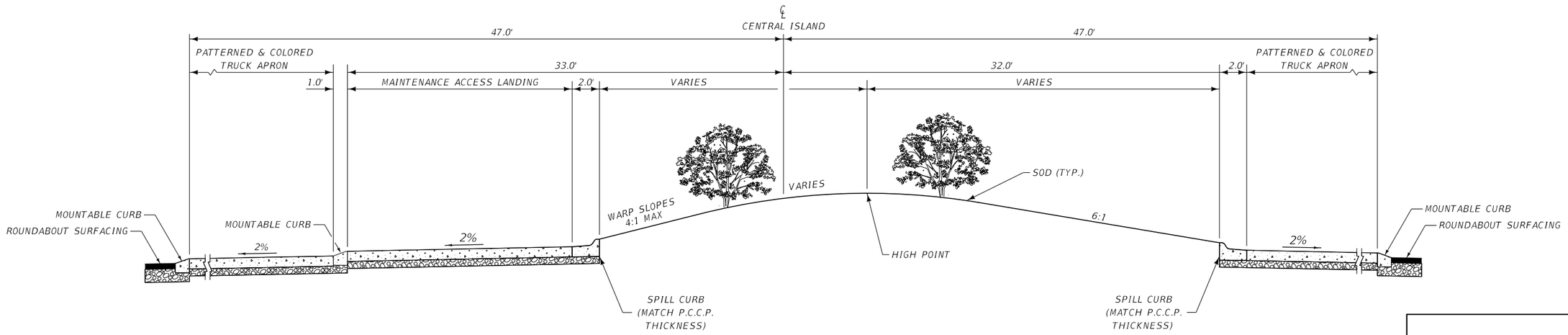


1" DRIP ZONE KIT



NOTES:
1. REMOVE NURSERY STAKES.
2. PRUNE DEAD OR DAMAGED LIMBS IMMEDIATELY AFTER PLANTING
3. REMOVE WIRE TIES AND BURLAP FROM ROOT BALL
4. PRIOR TO MULCHING, LIGHTLY TAMP SOIL AROUND ROOT BALL IN 6" LIFTS TO BRACE TREE. DO NOT OVER COMPACT. WHEN PLANTING PIT HAS BEEN BACKFILLED, POUR WATER AROUND ROOT BALL TO SETTLE THE SOIL.
5. BACKFILL WITH AMENDED SOIL.
6. REMOVE STAKES FOLLOWING FIRST GROWING SEASON.
7. SCARIFY SUBGRADE 12", RAKE SUBGRADE AND REMOVE ALL DEBRIS GREATER THAN 1/2" IN DIA. INCLUDING ROCKS, CONCRETE, ORGANIC DEBRIS, AND OR CONSTRUCTION DEBRIS.
8. PROVIDE SUPPLEMENTAL WATER FOR THE FIRST YEAR FOLLOWING INSTALLATION.

DECIDUOUS TREE



ROUNDABOUT ELEVATION

SANDERSON STEWART

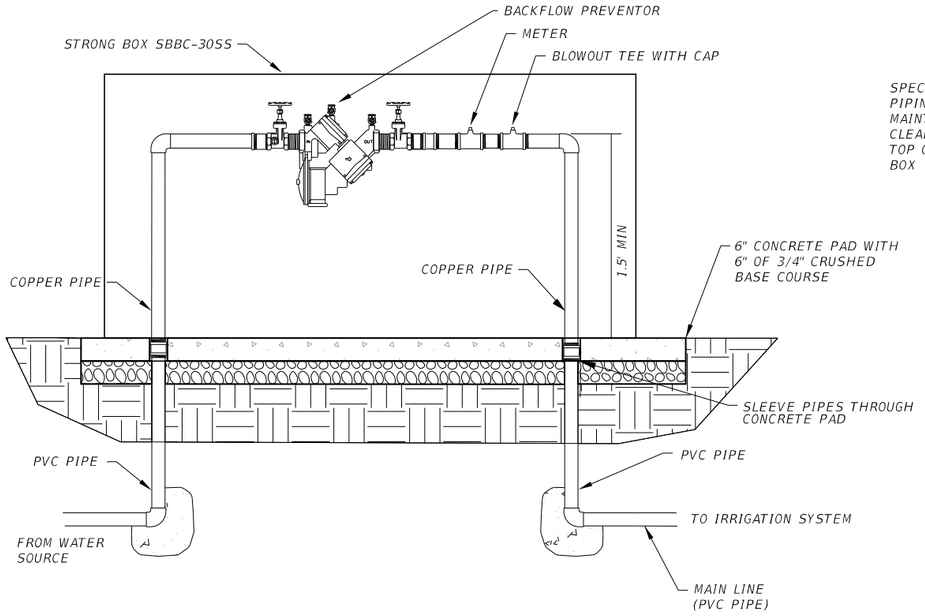
LANDSCAPING IRRIGATION DETAILS

CENTER ISLAND GRADING DETAIL

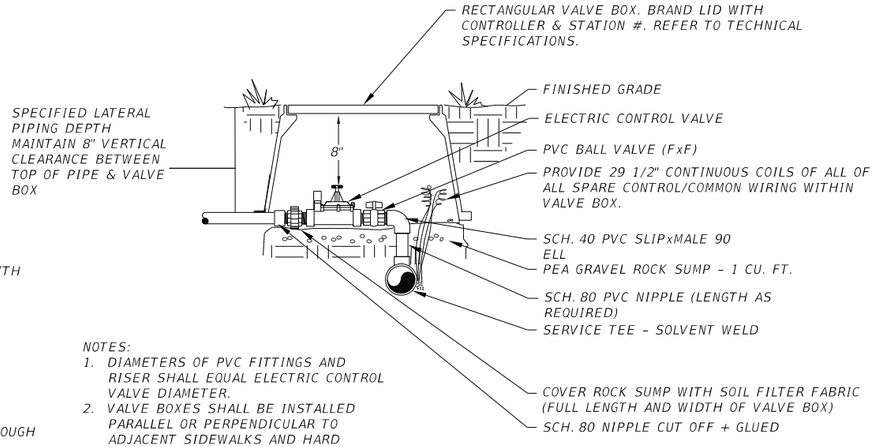
NOT TO SCALE

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDLS01.DGN	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY				
		9:49:35 AM kedam	CHECKED BY		YELLOWSTONE COUNTY	UPN 9383001	63

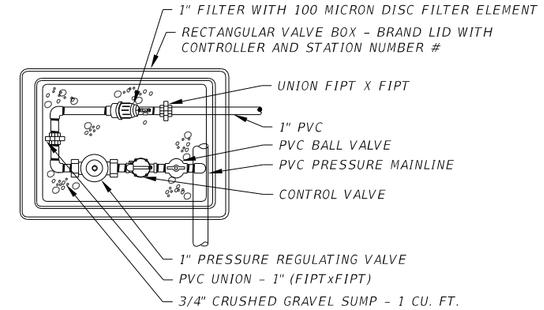
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POINT OF CONNECTION

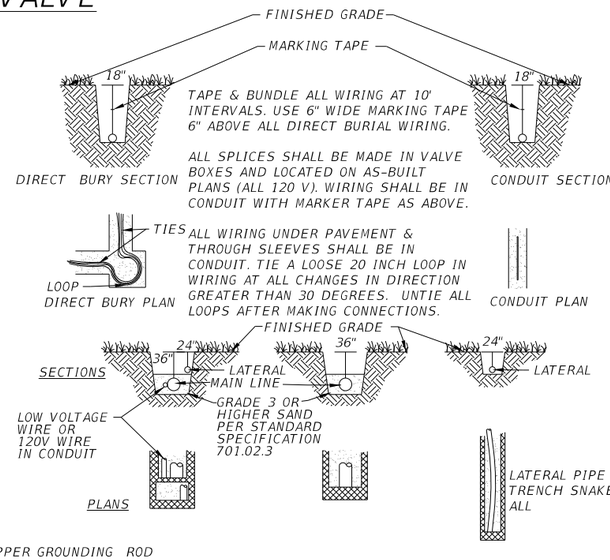


NOTES:
1. DIAMETERS OF PVC FITTINGS AND RISER SHALL EQUAL ELECTRIC CONTROL VALVE DIAMETER.
2. VALVE BOXES SHALL BE INSTALLED PARALLEL OR PERPENDICULAR TO ADJACENT SIDEWALKS AND HARD SURFACES WHERE APPLICABLE.
3. PROVIDE 4 FT. MIN. SEPARATION BETWEEN ALL BOXES.
4. SEE MANUFACTURER'S SPECIFICATION FOR CONTROL VALVE INSTALLATION.

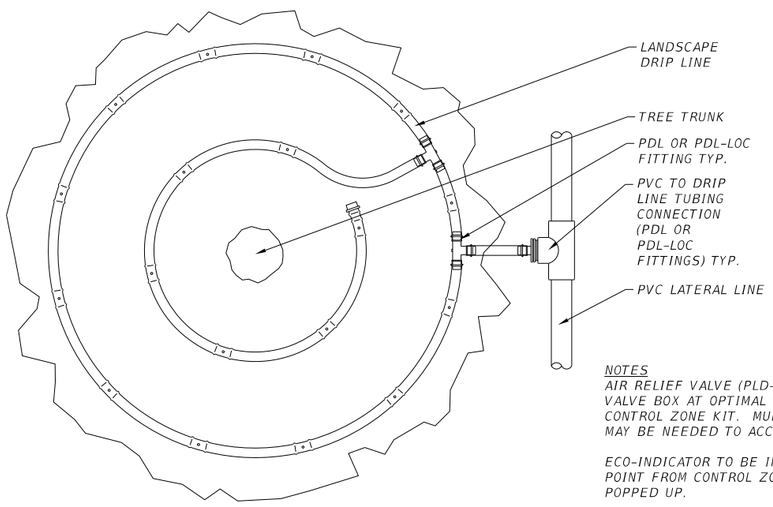


NOTES:
1. INSTALL ASSEMBLY TO REST ON GRAVEL SUMP. CONTAIN ENTIRE ASSEMBLY WITHIN BOX. VALVE BOX TO BE FLUSH WITH FINISH GRADE.

ELECTRIC CONTROL VALVE



TRENCHING DETAILS



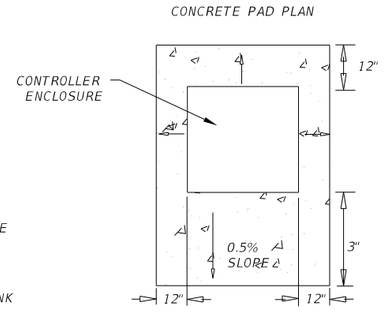
NOTES
AIR RELIEF VALVE (PLD-AVR) INSTALLED IN VALVE BOX AT OPTIMAL HIGHEST POINT FROM CONTROL ZONE KIT. MULTIPLE AIR RELIEF VALVES MAY BE NEEDED TO ACCOMMODATE DIFFERENCES IN GRADE.

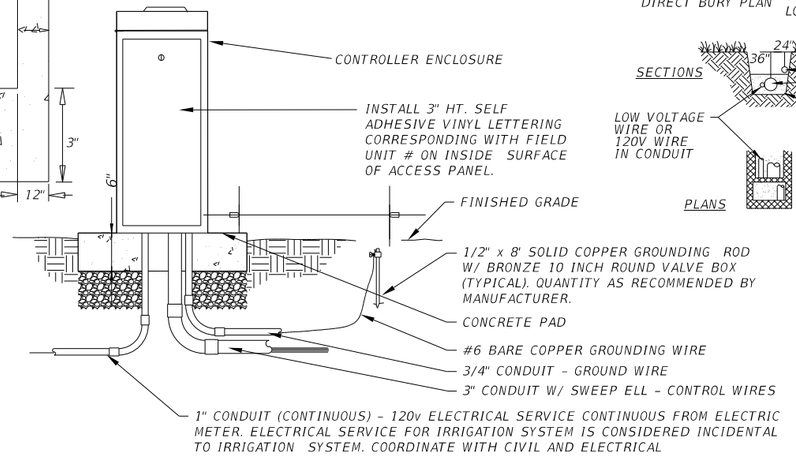
ECO-INDICATOR TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT IN CLEAR VIEW WHEN POPPED UP.

FLUSH POINT TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT TO ALLOW FOR MAXIMUM DEBRIS FLUSH IN SYSTEM.

TREE RING DRIPLINE

CONCRETE PAD PLAN





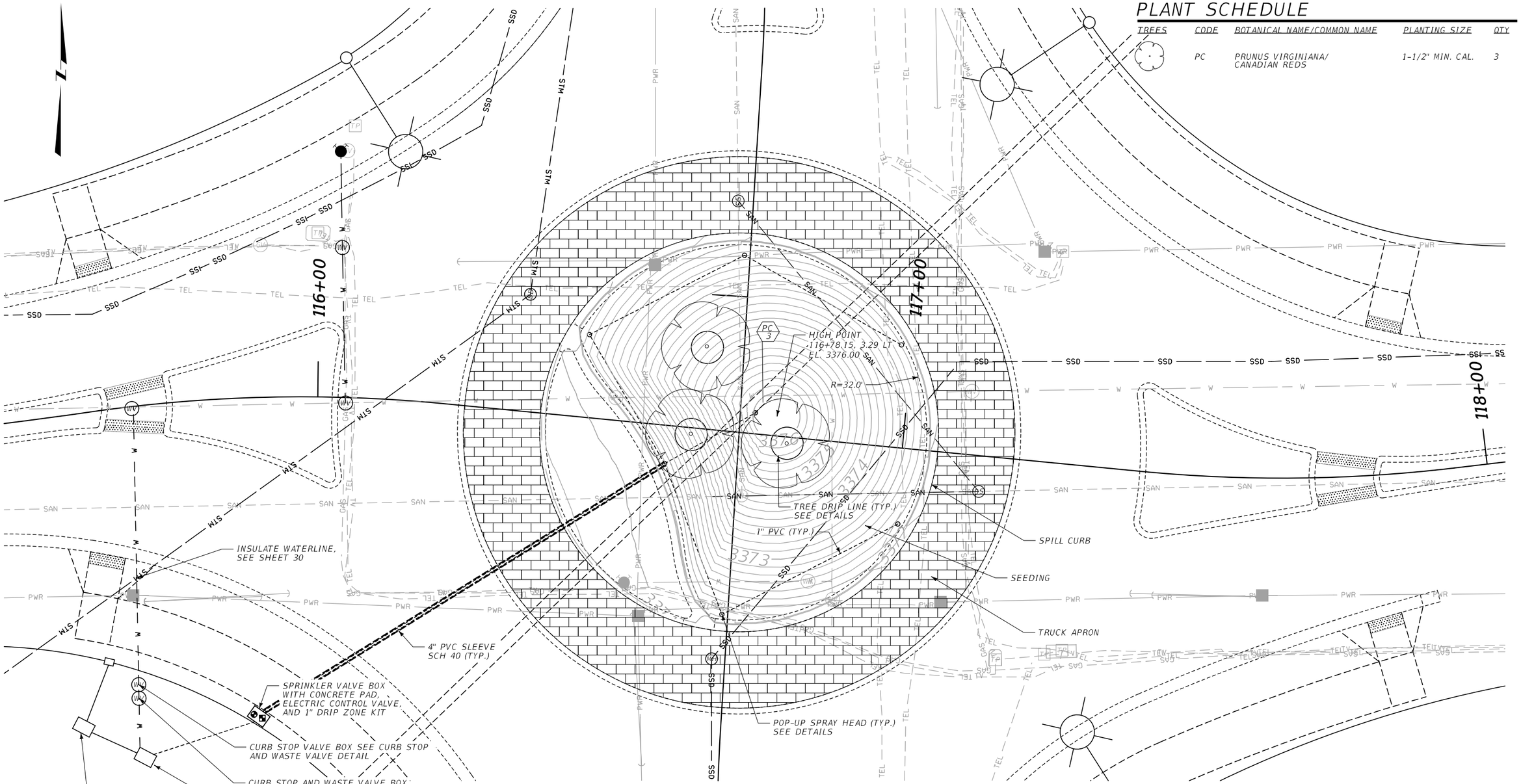
CONTROLLER WITH PAD

LANDSCAPING IRRIGATION DETAILS (NOT TO SCALE)

SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDL50.DGN	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	64
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PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME/COMMON NAME	PLANTING SIZE	QTY
	PC	PRUNUS VIRGINIANA/ CANADIAN REDS	1-1/2" MIN. CAL.	3

MISC. ITEMS INCL. IN LANDSCAPING LUMP SUM

ITEM	UNIT	QTY
TREES	EACH	3
PLANT MAINTENANCE 2ND YEAR	LUMP SUM	1
ROCK MULCH (MIDNIGHT MOWRY OR SIMILAR)	CUBIC YARDS	2.5
TOP SOIL	CUBIC YARDS	50
SOD	SQUARE YARDS	290
MULCH	CUBIC YARDS	2.5

MISC. ITEMS INCL. IN LANDSCAPING LUMP SUM CONT.

ITEM	UNIT	QTY
1" DIA. PVC	LINEAR FEET	165
BACKFLOW PREVENTOR/METER/BLOWOUT TEE WITH CAP/CABINET/PAD/ METER LOOP/DRAINS/APPURTENACES	EACH	1
QUICK COUPLER & VALVE BOX	EACH	1
TREE RING DRIPLINE	EACH	3
POP-UP SPRAY HEAD	EACH	7
SPRINKLER CONTROLLER WITH PAD	EACH	1
ELECTRIC CONTROL VALVE - LAWN ZONE	EACH	1
1" ELECTRIC CONTROL VALVE DRIP ZONE KIT	EACH	1
CURB STOP AND WASTE VALVE	EACH	2

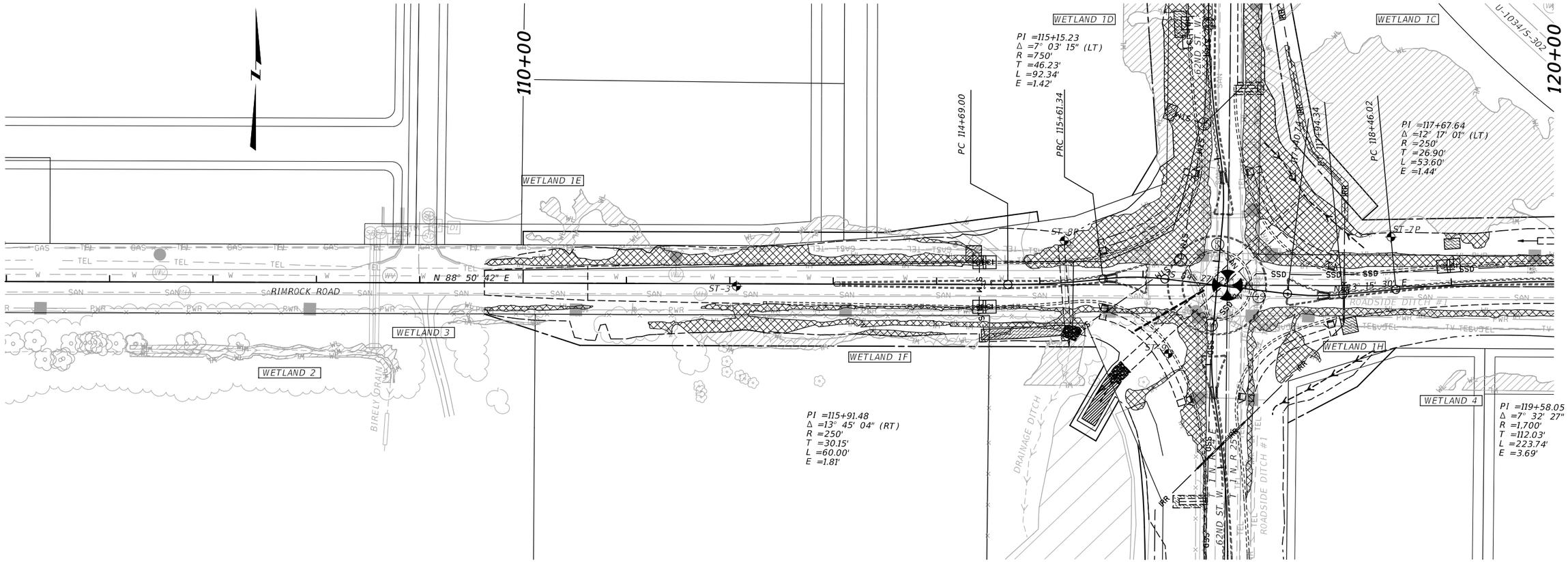
LEGEND
- ELECTRIC CONTROL VALVE - LAWN ZONE
- ELECTRIC CONTROL VALVE DRIP ZONE

ROUNDABOUT LANDSCAPING AND IRRIGATION DETAILS

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDL50.DGN	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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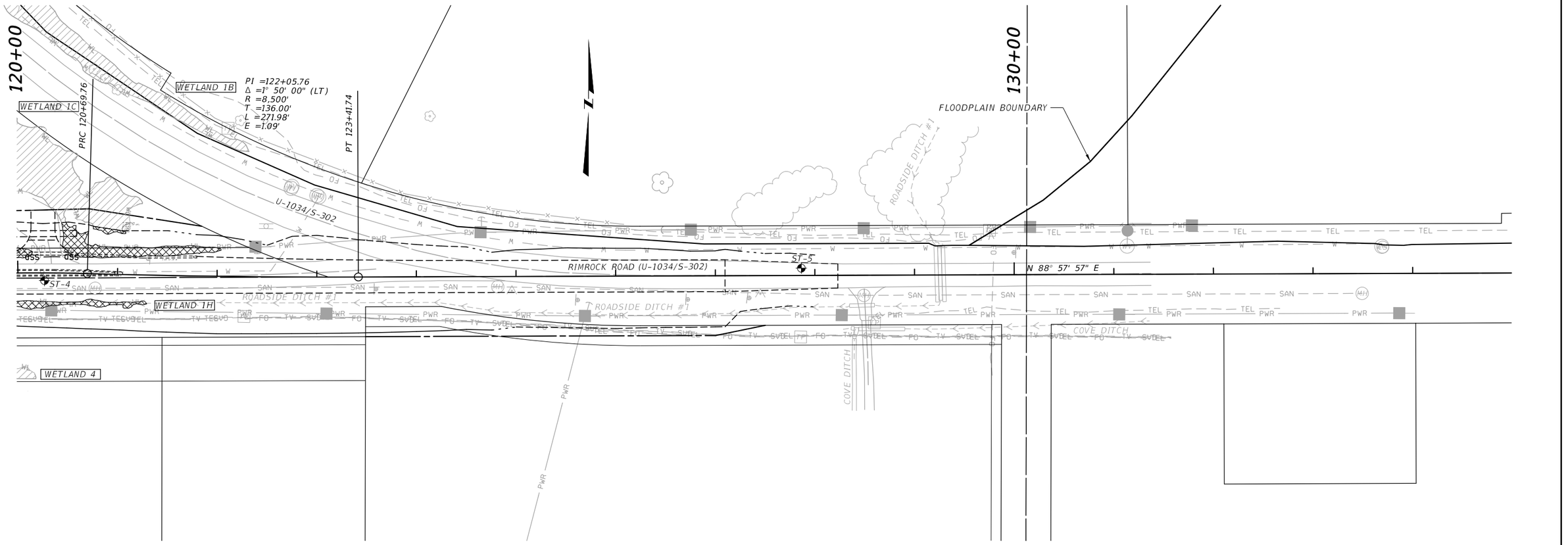


SANDERSON STEWART

WETLAND DETAIL RIMROCK RD.

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDDETAIL.mxd	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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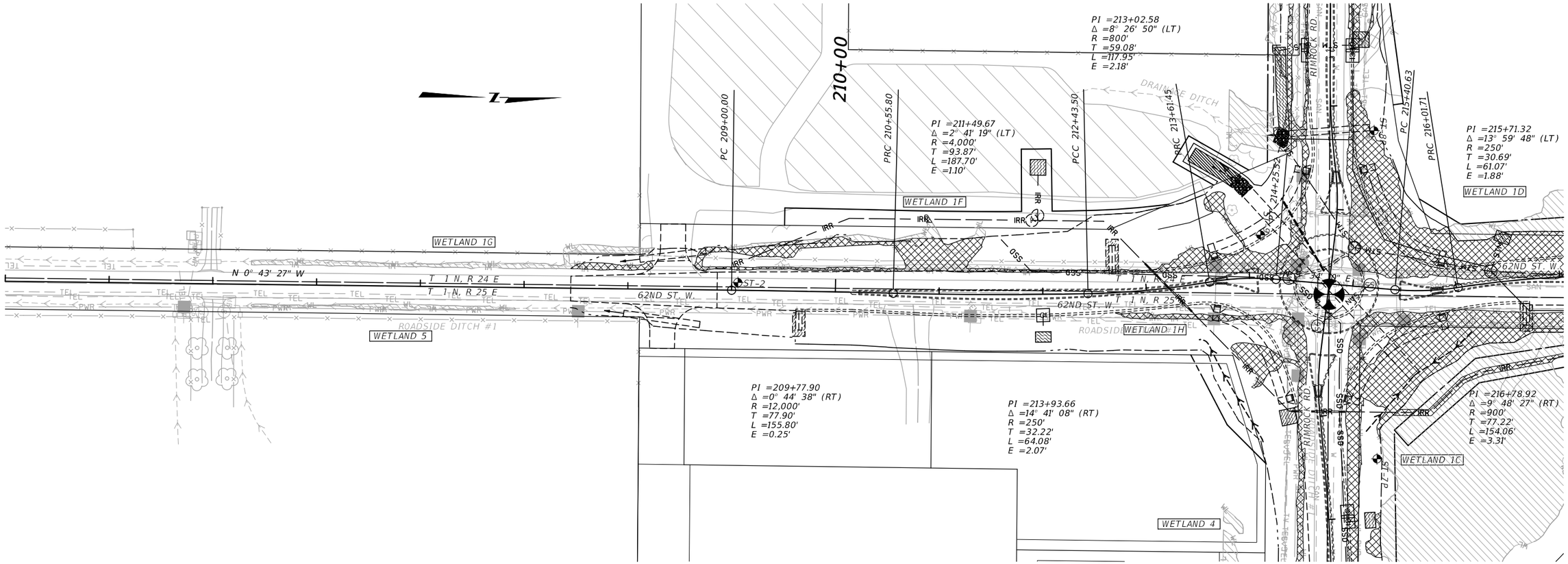
SANDERSON STEWART

WETLAND DETAIL
RIMROCK RD.

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDDET.DGN	DESIGNED BY			ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
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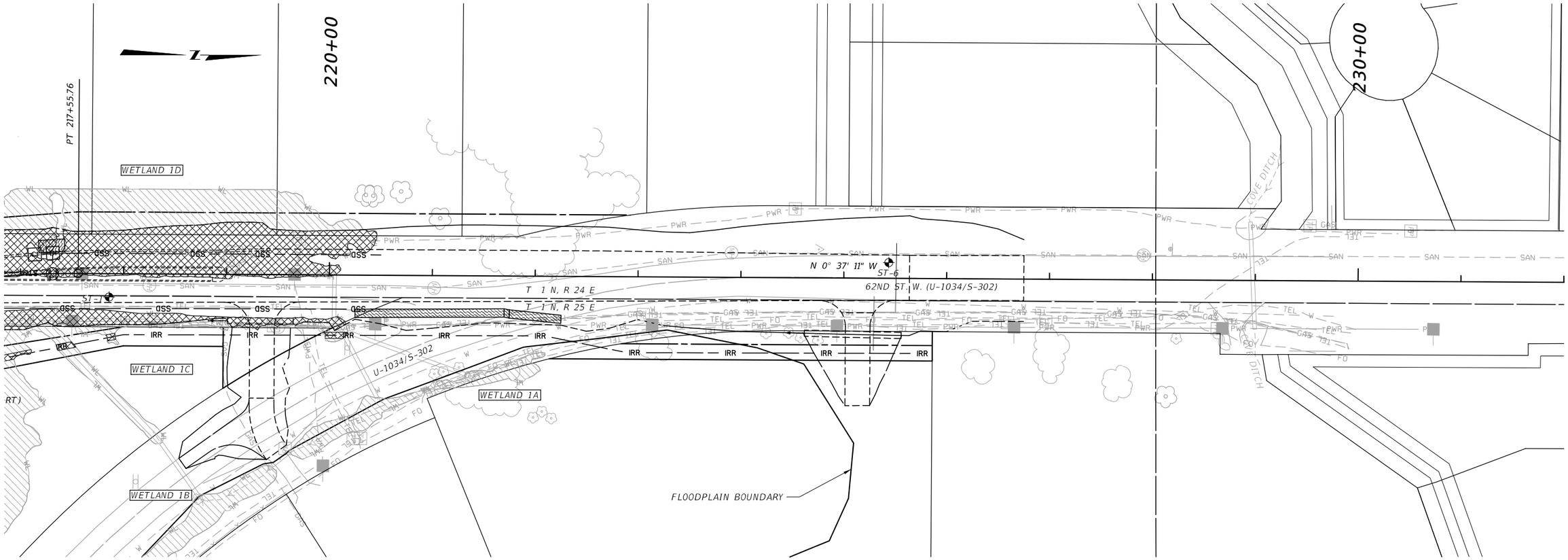


SANDERSON STEWART

WETLAND DETAIL
62ND ST. W.

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY			ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY			YELLOWSTONE COUNTY	UPN 9383001	68
		9:49:41 AM kedam	CHECKED BY					

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SANDERSON STEWART

WETLAND DETAIL
62ND ST. W.

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDD01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY				
		9:49:42 AM kedam	CHECKED BY		YELLOWSTONE COUNTY	UPN 9383001	69

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UTILITY CROSSINGS

115+67	12" WATER X-ING – 7.66' DEPTH
116+05	6" GAS X-ING – UNKNOWN DEPTH
116+06	U.G. CABLE TV X-ING – UNKNOWN DEPTH
116+06	U.G. TEL X-ING – UNKNOWN DEPTH
116+17	12" WATER X-ING – 7.94' DEPTH
116+56	O.H. POWER X-ING (4 LINES) – 26' CLR
116+72	24" SEWER X-ING – 4.34' DEPTH
116+88	20" WATER X-ING – UNKNOWN DEPTH
117+00	U.G. TEL X-ING – UNKNOWN DEPTH
117+04	U.G. TEL X-ING – UNKNOWN DEPTH
117+10	4" GAS X-ING – UNKNOWN DEPTH
117+11	U.G. CABLE TV X-ING – UNKNOWN DEPTH
117+11	U.G. TEL X-ING – UNKNOWN DEPTH
119+95	20" WATER X-ING – 7.78' DEPTH

8' EX. UTILITY EASE.
8' EX. UTILITY EASE.
8' EX. UTILITY EASE. FOR SEWER SERVICE TO LOT 2A
8' EX. UTILITY EASE.
34' WIDE EX. ACCESS
1' NO ACCESS STRIP
EX. R/W
1' NO ACCESS STRIP
EX. R/W
67'
RIMROCK RD.
N 88° 50' 42" E
WETLAND 1E
WETLAND 3
WETLAND 2
WETLAND 1F
WETLAND 1D
WETLAND 1C
WETLAND 1H
WETLAND 4
BIRELY DRAIN
DRAINAGE DITCH
ROADSIDE DITCH #1
110+00
120+00
110+00.00 BEG. CONST. PMT.

MANHOLES IN PL. – ADJ. TO GRADE 111+71.73 10.2 RT (SEW) EX. RIM EL./PROP. RIM EL. 3367.29/3368.98
MANHOLES IN PL. – REMOVE MANHOLE 116+73.57 10.7 RT (SEW) EX. RIM EL. 3366.51
HYDRANTS – NEW ASSEMBLY 116+02.96 41.9 LT
HYDRANTS – REMOVE 116+55.03 27.4 RT
MONUMENT & BOX 116+82.04 LT
HYDRANTS – ADJ. TO GRADE 111+47.76 25.9 LT

10' EX. UTILITY AND SIDEWALK EASE.
10' EX. UTILITY AND SIDEWALK EASE.
44' EX. PUBLIC SEWER, WATER, AND ACCESS EASE.
20' EX. STORMWATER EASE. NEW SUBSURFACE DRAIN

113+50.00, 50.00' CONST. PMT.
PC 114+69.00
115+00.00, 70.00' CONST. PMT.
115+01.14, 60.34' CONST. PMT.
END CONST. PMT.
115+39.20
63.18' FND. R/W MON.
PRC 115+61.34
115+90.00 R/W 78.92'
EX. R/W = R/W 116+14.45
92.38' CALC. R/W MON.
1' NO ACCESS STRIP
EX. R/W

PI =115+15.23
Δ =7° 03' 15" (LT)
R =750'
T =46.23'
L =92.34'
E =1.42'

PI =115+91.48
Δ =13° 45' 04" (RT)
R =250'
T =30.15'
L =60.00'
E =1.81'

PI =117+67.64
Δ =12° 17' 01" (LT)
R =250'
T =26.90'
L =53.60'
E =1.44'
PC 118+46.02
BEG. 20' CONST. PMT.
118+20.00 R/W 70.00'
117+40.74 EX. R/W
117+94.34 EX. R/W
EX. EASE.

PI =119+58.05
Δ =7° 32' 27" (RT)
R =1,700'
T =112.03'
L =223.74'
E =3.69'

WATER VALVE BOXES – ADJ. TO GRADE
111+47.92 8.5 LT
116+90.69 26.8 RT
117+10.91 10.8 LT

WATER VALVE BOXES – RESET 116+50.61 3.8 RT
WATER VALVE BOXES – REMOVE 116+86.22 24.1 RT

R/W 109+62.60 29.98' EX. R/W = R/W
110+11.78 29.98' CALC. R/W MON.
R/W 110+55.00 60.00'
R/W 115+40.70 40.60' FND. R/W MON.
R/W 115+47.79 64.49' R/W = EX. R/W
R/W 118+40.42 56.49' R/W = EX. R/W CALC. R/W MON
R/W 118+00.00 90.00'

108+54 24" CSP IN PL. DO NOT DISTURB
108+59 24" CSP IN PL. DO NOT DISTURB
108+68, 141.6 RT. 48" CSP IN PL. DO NOT DISTURB
114+69 8" PVC IN PL. LT. REMOVE
115+24 NEW 24" RCP
115+26 15" CSP IN PL. REMOVE
116+48 8" CSP IN PL. REMOVE
115+53.00, 83.00' EX. R/W = EASE.
115+20.00, 138.00' EASE.
115+40.00, 155.00' EASE.
115+63.39, 118.30' EASE. = EX. R/W
EX. R/W
116+70 NEW 58.5" X 36" RCPA
20' EX. UTILITY EASE.
8' EX. UTILITY EASE.
FUTURE YVEC SWITCHGEAR/ ACCESS AREA
62ND ST. W.
120'
ROADSIDE DITCH #1
8" P.V.C. IRRIGATION
TEL
TV
SSD
SAN
PWR
GAS
W
IRR
SWR
SIGN
ST-3
ST-8P
ST-7P
ST-5
ST-6
ST-4
U-10341/5-302

POT 109+62.60
BEG. CONNECTION
POT 110+62.60
BEG. HSIP 1034(4)

3,368.98
155' VC
LOW PT. 110+54.17 EL. 3368.67
-0.629%
+0.496%
110+45.00 EL.3,368.46
112+25.00 EL.3,369.35
+0.496%
-0.792%
195' VC
LOW PT. 114+41.38 EL. 3367.89
-0.792%
+1.999%
114+90.01 EL.3,367.25
225' VC
+00.60
NEW CONC. MEDIAN CAP
+46.26
116+25.07 EL.3,370.26
116+39.07 EL.3,370.85
116+53.76 EL.3,371.66
117+04.07 EL.3,372.50
117+19.07 EL.3,371.69
116+24.10 EL.3,369.93
116+38.07 EL.3,370.52
116+53.37 EL.3,371.16
117+06.07 EL.3,371.95
117+20.07 EL.3,371.36
+24
EX. 15" CULVERT
+70
EX. 18" CULVERT
-1.999%
+18.67
NEW CONC. MEDIAN CAP
250' VC
LOW PT. 119+00.47 EL. 3369.25
+1.322%
118+75.00 EL.3,368.26
EX. 24" CULVERT
EX. 24" CULVERT

NEW CONC. SIDEWALK LT. INCL. 2 ADA RAMPS, SPLITTER ISLAND CROSSWALKS, 192.5 FT R., 167.5 FT. R. AND 67.5 FT. R.
+61.24
NEW CONC. SIDEWALK LT. INCL. 2 ADA RAMPS, SPLITTER ISLAND CROSSWALKS, 190.5 FT. R. AND 95.5 FT. R.
+89.61
NEW CONC. CURB & GUTTER LT. INCL. 199.5 FT. R., 174.5 FT. R. AND 74.5 FT. R.
+06.64
+35.90
+11.96
NEW CONC. CURB & GUTTER LT. INCL. 347.5 FT. R., 197.5 FT. R. AND 102.5 FT. R.
+18.67
NEW TYPE A MEDIAN CURB LT.
+18.67
NEW TYPE A MEDIAN CURB LT.
+46.26
+53.26
NEW TYPE A MEDIAN CURB LT. AND CONC. MEDIAN CAP
+31.98
NEW TYPE A MEDIAN CURB RT.
+06.64
+46.26
+53.26
NEW TYPE A MEDIAN CURB RT. AND CONC. MEDIAN CAP
+31.98
NEW TYPE A MEDIAN CURB RT. & LT.
+18.67
ROUNDABOUT RT. & LT. (RIMROCK RD. & 62ND ST. W.) TYPE A MEDIAN CURB RT. & LT., CONC. MEDIAN CAP, & SPILL CURB
+32.61
NEW CONC. CURB & GUTTER RT. INCL. 2-94.5 FT. R., 197.5 FT. R. AND 483.5 FT. R.
+55.77
NEW CONC. SIDEWALK RT. INCL. 2 ADA RAMPS, SPLITTER ISLAND CROSSWALKS, 87.5 FT R. AND 190.5 FT. R.
+89.74
NEW CONC. CURB & GUTTER RT. INCL. 77.5 FT. R. AND 347.5 FT. R.
+84.84
NEW CONC. SIDEWALK RT. INCL. 2 ADA RAMPS, SPLITTER ISLAND CROSSWALKS, 70.5 FT R. AND 340.5 FT. R.

3390
3380
3370
3360
3350
105+00
110+00
115+00
120+00

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDPLS01.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W–BLGS / HSIP 1034(4)
2		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001 / 70
		9:49:43 AM kedam	CHECKED BY			

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120+00

130+00

EX. R/W

WETLAND 1B

PI =122+05.76
Δ =1° 50' 00" (LT)
R =8,500'
T =136.00'
L =271.98'
E =1.09'

WETLAND 1C

PRC 120+69.76

R/W 65.00

100'

121+83.89 R/W
50.00' R/W = EX. R/W
122+31.58
29.27'
FND. R/W MON

PT 123+41.74

FLOODPLAIN BOUNDARY

U-1034/S-302

EX. EASE.

ST-4

90'

WETLAND 1H

ROADSIDE DITCH #1

EX. R/W

WETLAND 4

1' NO ACCESS STRIP

8' EX. UTILITY EASE.

44' WIDE EX. ACCESS

44' EX. RECIPROCAL ACCESS EASE.

RIMROCK ROAD (U-1034/S-302)

100'

ST-5

N 88° 57' 57" E

RIMROCK RD.

ROADSIDE DITCH #1

EX. R/W

COVE DITCH

20' EX. UTILITY EASE.

10' EX. UTILITY EASE.

UTILITY CROSSINGS
120+42 20" WATER X-ING - 7.72' DEPTH

MANHOLES IN PL. -	ADJ. TO GRADE		EX. RIM EL./PROP. RIM EL.
120+78.00	14.6 RT	(SEW)	3368.35/3370.65
124+81.60	10.4 RT	(SEW)	3374.58/3374.40

120+25 NEW 18" APP. PIPE LT.

120+32 20" CSP IN PL. LT. REMOVE

R/W 123+48.75
59.97'
EX. R/W = R/W
FND. PROP. CORNER

R/W 127+00.00
60.00'

R/W 127+50.00
R/W = EX. R/W

128+38 53.3 RT. 8" CSP IN PL. DO NOT DISTURB

128+40 61.5 RT. 12" RCP IN PL. DO NOT DISTURB

128+47 36" CSP IN PL. RT. DO NOT DISTURB

128+67 12" RCP (WEST END)/CSP (EAST END) IN PL. RT. DO NOT DISTURB

129+22 18" RCP IN PL. DO NOT DISTURB

129+26 24" RCP IN PL. DO NOT DISTURB

129+29 18" RCP IN PL. DO NOT DISTURB

120+25 FARM FIELD APP. LT.

POT 127+09.80
END HSIP 1034(4)

POT 128+23.00
END CONNECTION

NEW CONC. CURB & GUTTER LT. INCL. 347.5 FT. R., 197.5 FT. R. AND 102.5 FT. R.

+79.30

NEW TYPE A MEDIAN CURB LT.

+97.24

NEW CONC. MEDIAN CAP

+03.21

NEW TYPE A MEDIAN CURB RT.

+97.24

123+90.00
EL.3,375.07

+1.322%

-0.400%

180' VC

LOW PT.
126+34.51
EL. 3374.26

-0.400%

+0.452%

3,374.90

300' VC

126+40.00
EL.3,374.07

EX. 18" CULVERT
EX. 24" CULVERT
EX. 18" CULVERT

3390
3380
3370
3360
3350

120+00
125+00
130+00
135+00

SANDERSON STEWART

3 / 1	MONTANA Department of Transportation	...\9383001\RD\9383001RDPLS01.dgn 10/24/2023 9:49:44 AM kedam	DESIGNED BY DRAWN BY REVIEWED BY CHECKED BY		ROAD PLANS YELLOWSTONE COUNTY		SF169 RIMROCK & 62ND ST W-BLGS UPN 9383001	HSIP 1034(4) 71

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UTILITY CROSSINGS

213+67	O.H. POWER X-ING (4 LINES) - 22' CLR
214+46	U.G. TEL X-ING - UNKNOWN DEPTH
214+47	U.G. CABLE TV X-ING - UNKNOWN DEPTH
214+47	O.H. POWER X-ING (4 LINES) - 26' CLR
214+47	6" GAS X-ING - UNKNOWN DEPTH
214+51	20" WATER X-ING - UNKNOWN DEPTH
214+66	18" SEWER X-ING - 4.72' DEPTH
214+82	24" SEWER X-ING - 4.34' DEPTH
214+83	20" WATER X-ING - 7.46' DEPTH
215+02	U.G. TEL X-ING - UNKNOWN DEPTH
215+07	O.H. POWER X-ING - 29' CLR
216+11	24" SEWER X-ING - 5.11' DEPTH

N

210+00

PC 209+00.00

209+50.00 BEG. EASE.

PRC 210+55.80 EASE.

PI =211+49.67
Δ =2° 41' 19" (LT)
R =4,000'
T =93.87'
L =187.70'
E =1.10'

211+80.80 EASE.

212+10.00 EASE.

PCC 212+43.50 EASE.

213+32.55 END EASE.

PRC 213+61.45

PI =213+02.58
Δ =8° 26' 50" (LT)
R =800'
T =59.08'
L =117.95'
E =2.18'

DRAINAGE DITCH

EX. R/W

PC 215+40.63

PRC 216+01.71

216+13.00 R/W 60.00'

PI =215+71.32
Δ =13° 59' 48" (LT)
R =250'
T =30.69'
L =61.07'
E =1.88'

WETLAND 1D

1' NO ACCESS STRIP

WETLAND 1F

WETLAND 1G

WETLAND 5

WETLAND 1H

WETLAND 1C

WETLAND 4

62ND ST. W.

N 0° 43' 27" W

T 1 N, R 24 E

T 1 N, R 25 E

RIMROCK RD.

214+25.55

ST-2

60'

80'

120'

90'

48' 15

IRR

SSD

STM

WTR

TEL

PWR

WL

GAS

SAN

1' NO ACCESS STRIP

8' EX. UTILITY EASE.

PI =209+77.90
Δ =0° 44' 38" (RT)
R =12,000'
T =77.90'
L =155.80'
E =0.25'

PI =213+93.66
Δ =14° 41' 08" (RT)
R =250'
T =32.22'
L =64.08'
E =2.07'

44' EX. RECIPROCAL ACCESS EASE.

50' EX. STORMWATER RETENTION EASE.

20' EX. UTILITY EASE.

8' EX. UTILITY EASE.

EX. EASE

208+34 NEW 28.5" X 18" APP. PIPE RT.

208+43 NEW 18" APP. PIPE LT.

208+11.64 56.84' FND. PROP. CORNER

208+43 20" RCP IN PL. LT. REMOVE

209+65.23 RT. CONCRETE DRAINAGE CHUTE SEE DETAIL

210+72 12" CSP IN PL. RT. REMOVE

211+69 24" CSP IN PL. RT. REMOVE

212+67.98 LT. CONCRETE DRAINAGE CHUTE SEE DETAIL

R/W 213+34.00 66.69' EX. R/W = R/W

213+75.67 73.19' FND. PROP. CORNER

EX. R/W

215+56.75, 149.31' BEG. 20' CONST. PMT.

215+10.06 37.71' FND. R/W MON.

216+08.00, 93.81' CONST. PMT.

215+44 12" CSP IN PL. R/W 216+08.00 70.00' REMOVE

216+65.93 RT. CONCRETE DRAINAGE CHUTE SEE DETAIL

PI =216+78.92
Δ =9° 48' 27" (RT)
R =900'
T =77.22'
L =154.06'
E =3.31'

208+34 FARM FIELD APP. RT.

208+43 FARM FIELD APP. LT.

POT 207+45.00
BEG. CONNECTION

POT 208+86.08
BEG. HSIP 1034(4)

3,360.97

200' VC

+1.636%

+0.775%

+1.636%

208+75.00
EL.3,361.98

211+10.00
EL.3,365.82

+1.000%

+1.000%

+2.000%

212+98.19
EL.3,367.71

+1.031%

-2.000%

214+29.86 EL.3,370.65
214+44.86 EL.3,371.46

214+28.86 EL.3,370.32
214+42.86 EL.3,370.91

215+08.86 EL.3,372.12
215+23.86 EL.3,371.31

215+10.86 EL.3,371.57
215+24.86 EL.3,370.98

+79

EX. 12" CULVERT

+22.73 NEW TYPE A MEDIAN CURB LT. +43.89

+16.75 NEW CONC. MEDIAN CAP +43.89

180' VC

+22.73 NEW TYPE A MEDIAN CURB RT. +43.89

180' VC

+62.21 NEW CONC. CURB & GUTTER RT. +43.86

+08.13 NEW CONC. CURB & GUTTER LT.

+08.13 NEW TYPE A MEDIAN CURB LT. AND CONC. MEDIAN CAP

+08.13 NEW TYPE A MEDIAN CURB RT. AND CONC. MEDIAN CAP

3390
3380
3370
3360
3350

205+00
210+00
215+00

SANDERSON STEWART

2	MONTANA Department of Transportation	...\9383001\RD\9383001RDPLDZ.dgn	DESIGNED BY		ROAD PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
1		10/24/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	72
		9:49:44 AM kedam	CHECKED BY				

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220+00

230+00

MAILBOXES
219+58, 168.9 RT

MANHOLES IN PL. – ADJ. TO GRADE — EX. RIM EL./PROP. RIM EL.
218+25.14 — 11.2 RT (SEW) — 3368.73/3368.89
221+01.89 — 12.3 RT (SEW) — 3376.14/3374.51
223+90.88 — 23.9 LT (SEW) — 3382.42/3380.87

UTILITY CROSSINGS
217+38 O.H. POWER X-ING (4 LINES) – UNKNOWN CLR
219+02 O.H. POWER X-ING (4 LINES) – UNKNOWN CLR
219+69 U.G. POWER X-ING – UNKNOWN DEPTH
222+00 18" SEWER X-ING – 13.52' DEPTH

PT 217+55.76
R/W 60.00'
WETLAND 1D
40' EX. ACCESS
EX. R/W
1' NO ACCESS STRIP
221+82.58 CALC. R/W MON. 38.44' RT
222+91.93 R/W 60.00' R/W = EX. R/W
224+33.58 CALC. R/W MON. 69.92' RT
44' EX. PUBLIC SEWER, WATER, AND ACCESS EASE.
10' EX. UTILITY AND SIDEWALK EASE.
10' EX. UTILITY AND SIDEWALK EASE.
EX. R/W
121.5'
N 0° 37' 11" W
ST-6
T 1 N, R 24 E
T 1 N, R 25 E
60' EX. COVE DITCH EASE.
16' EX. UTILITY EASE.
1' NO ACCESS STRIP
10' EX. UTILITY EASE.
62ND ST. W.
MASTERS BLVD
EX. EASE.
WETLAND 1C
EX. R/W
1' NO ACCESS STRIP
12' EX. UTILITY EASE.
15' EX. COVE DITCH EASE
10' EX. DITCH ACCESS EASE.
R/W 218+00.00 51.51' R/W = EX. R/W
218+00.00 70.00' CONST. PMT.
218+97.00 51.51' BEG. EASE.
218+97.00 110.62' END CONST. PMT.
EASE = EX. R/W
20'
EX. R/W
WETLAND 1B
WETLAND 1A
220+02.63 51.51' END EASE FND. R/W MON.
222+14.21, 80.00' BEG. EASE.
R/W 222+83.82 65.00' EX. R/W = R/W EASE. 15'
224+39.42 51.51' FND. R/W MON.
R/W = PROP. LINE 65.00' END 15' EASE.
R/W 225+86.34 51.51' R/W = EX. R/W
228+66.19 51.52' FND. R/W MON.
218+56 190.2 RT. 26" CSP IN PL. DO NOT DISTURB
219+35 NEW 28.5" X 18" APP. PIPE RT.
219+53 179.2 RT. 12" CSP IN PL. RT. DO NOT DISTURB
220+05 24" CSP IN PL. REMOVE
220+31, 88.1 RT. 24" RCP IN PL. DO NOT DISTURB
220+95.68 119.38' FND. R/W MON.
220+73, 74.7 RT. 15" CSP IN PL. DO NOT DISTURB
APPROXIMATE LOCATION OF EXISTING 8" PLASTIC IRRIGATION PIPE
FLOODPLAIN BOUNDARY
225+14 NEW 18" APP. PIPE RT.
3,387.83

219+35
PRIVATE APP. RT.

225+14
FARM FIELD APP. RT.

POT 226+75.00
END CONNECTION

POT 225+63.83
END HSIP 1034(4)

EX. 32" CULVERT

NEW CONC. CURB & GUTTER LT. +42.06

NEW TYPE A MEDIAN CURB LT. AND CONC. MEDIAN CAP
+27.99 +34.99 +86.27

NEW TYPE A MEDIAN CURB LT. +34.99 +92.27

NEW CONC. MEDIAN CAP

380' VC
LOW PT.
217+31.49
EL. 3368.62

-2.000% +2.280% +2.280%

217+43.92
EL.3,366.60

EX. 24" CULVERT

220+25 TO 222+25 RT.
EROSION CONTROL BLANKET

NEW TYPE A MEDIAN CURB RT. +27.99 +34.99 +86.27

NEW TYPE A MEDIAN CURB RT. AND CONC. MEDIAN CAP

3390
3380
3370
3360
3350

220+00
225+00
230+00

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\RD\9383001RDPLN01.DGN	DESIGNED BY	ROAD PLANS	SF169 RIMROCK & 62ND ST W–BLGS	HSIP 1034(4)
2		10/24/2023	REVIEWED BY			
		9:49:45 AM kedam	CHECKED BY	YELLOWSTONE COUNTY	UPN 9383001	73

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ELECTRICAL QUANTITY SUMMARY

ITEM NO.	MATERIAL	TOTAL	UNIT
616 343 914	CONDUIT-PLASTIC 1.5 IN	2,355	LNFT
616 343 920	CONDUIT-PLASTIC 2 IN	274	LNFT
616 783 006	PULL BOX- COMPOSITE TYPE 1	8	EACH
617 000 000	FOUNDATION-CONRETE	8.4	CUYD
617 123 108	CONDUCTOR-COPPER AWG8-600V	5,276	LNFT
617 123 110	CONDUCTOR-COPPER AWG10-600V	2,629	LNFT
617 123 112	CONDUCTOR-COPPER AWG12-600V	781	LNFT
617 183 056	STANDARD-STL TYPE 10-A-500-6	16	EACH
617 303 300	HIGH EFFICACY LUMINAIRE LED	16	EACH
617 333 105	ELEC SERV ASSEMBLY	1	EACH

SANDERSON STEWART

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MONTANA
Department of Transportation

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ELECTRICAL PLANS
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SF169 RIMROCK & 62ND ST W-BLGS
UPN 9383001

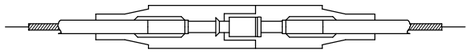
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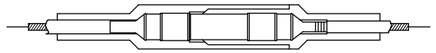
WATERTIGHT CONNECTORS

TYPES 1,6,11 & 16



NON-FUSED BREAKAWAY

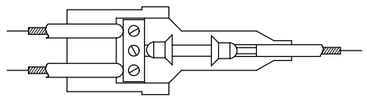
TYPES 2,7,12 & 17



FUSED BREAKAWAY

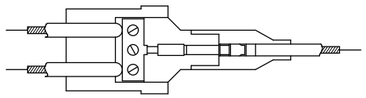
IDENTITY NO.	DESCRIPTIVE SYMBOL & WIRE SIZES
1	8 — 8
2	8 — 10
3	8 — 10, 8
4	8, 8 — 8
5	8, 8 — 8
6	6 — 6
7	6 — 10
8	6 — 10, 6
9	6, 6 — 6
10	6, 6 — 6
11	4 — 4
12	4 — 10
13	4 — 10, 4
14	4, 4 — 4
15	4, 4 — 4
16	10 — 10
17	10 — 10
18	10, 10 — 10
19	10, 10 — 10
20	10, 10 — 10
21	VARIES — VARIES, VARIES

TYPES 3,8,13 & 18



FUSED BREAKAWAY

TYPES 4,9,14 & 19



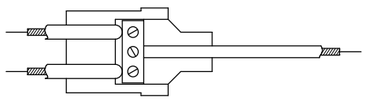
NON-FUSED BREAKAWAY

PROVIDE A PLUG AND RECEPTACLE HOUSED IN WATER-RESISTANT, SYNTHETIC RUBBER CAPABLE OF BURIAL IN THE GROUND OR INSTALLATION IN SUNLIGHT. THE HOUSING, CONSISTING OF 2 SECTIONS, PROVIDES A WATERTIGHT SEAL AROUND THE CABLE AND A WATERTIGHT SEAL BETWEEN THE TWO SECTIONS AT THE POINT OF DISCONNECTION. SUPPLY EACH KIT WITH SUFFICIENT SILICONE COMPOUND TO LUBRICATE METAL PARTS AND THE RUBBER HOUSINGS FOR EASY ASSEMBLY.

WHERE INDICATED, CRIMP A COPPER PIN AND A COPPER RECEPTACLE TO THE CABLE. THE RECEPTACLE IS TO ESTABLISH CONTACT PRESSURE WITH THE PIN THROUGH THE USE OF A COPPER BERYLLIUM SPRING AND BE EQUIPPED WITH A DISPOSABLE MOUNTING PIN. THE PIN IS TO BE CONSTRUCTED OF AT LEAST HALF-HARD MATERIAL. THE CRIMPING PORTION IS TO BE FULLY ANNEALED WHILE THE REST OF THE PIN IS MAINTAINED IN ITS ORIGINAL STATE OF HARDNESS. THE RECEPTACLE IS TO BE FULLY ANNEALED. THE PIN AND RECEPTACLE ARE TO LOCK TOGETHER SO THE CONNECTION IS MAINTAINED WHEN A MINIMUM FORCE OF 20 POUNDS TENSION IS APPLIED TO THE ATTACHED CABLES.

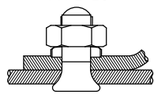
PROVIDE FUSED CONNECTOR KITS CONTAINING A PAIR OF SPRING LOADED 90% CONDUCTIVITY CONTACTS FOR GRIPPING A STANDARD MIDGET FERRULE TYPE FUSE. THE CONTACTS MUST BE FULLY ANNEALED AND ADAPTED TO BE CRIMPED TO THE CABLE.

TYPES 5,10,15 & 20

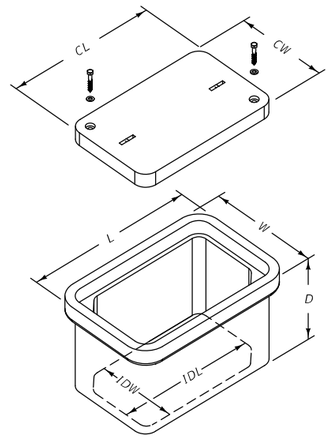


NON-FUSED NON-BREAKAWAY

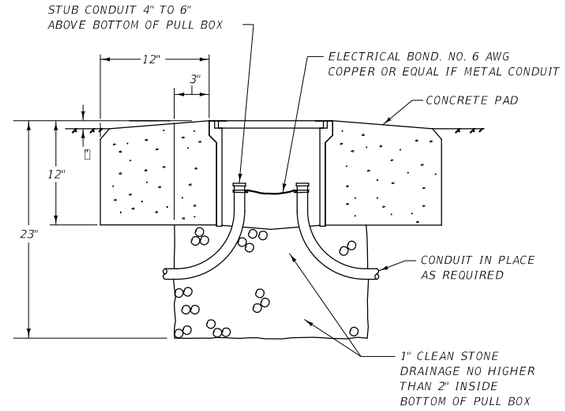
TYPE 21



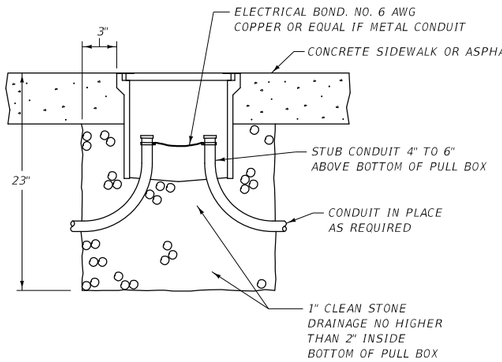
COPPER SPLIT BOLT - MAKE WATERTIGHT USING SELF ADHERING MASTIC



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"
I D L = 17"	I D L = 21"	I D L = 28"
I D W = 10"	I D W = 11"	I D W = 15"
C L = 18"	C L = 23"	C L = 30"
C W = 11"	C W = 13"	C W = 17"



PULL BOX INSTALLED IN DIRT



PULL BOX INSTALLED IN A SIDEWALK OR ASPHALT

ELECTRICAL DETAIL DRAWING

WATER TIGHT CONNECTORS

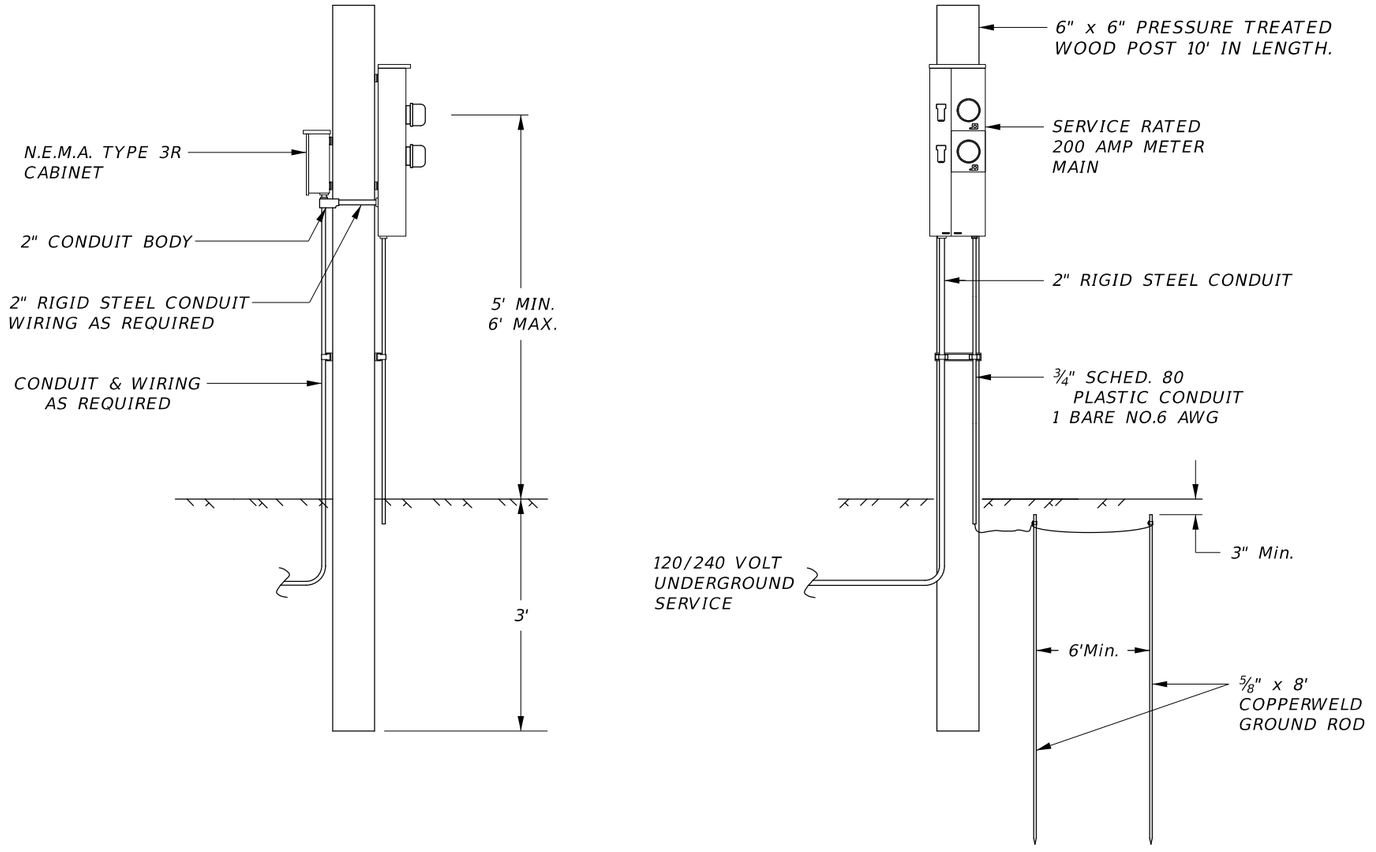
PULL BOX-COMPOSITE TYPE 1, 2 & 3

NO SCALE

SANDERSON STEWART

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SIDE

FRONT

UNDERGROUND SERVICE ASSEMBLY DETAIL

SANDERSON STEWART

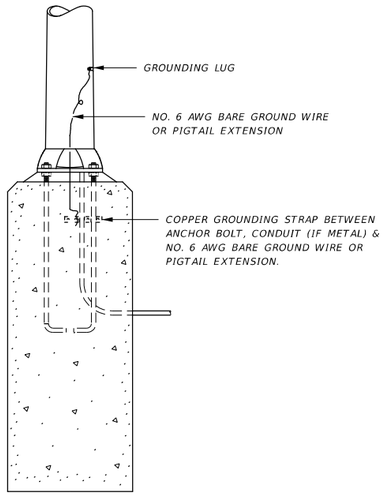
ELECTRICAL DETAIL DRAWING
SERVICE ASSEMBLY DETAIL
WOOD POLE
NO SCALE

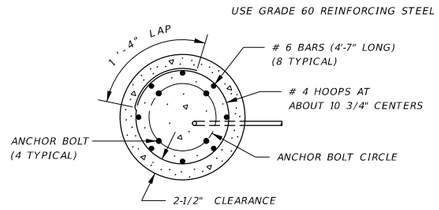
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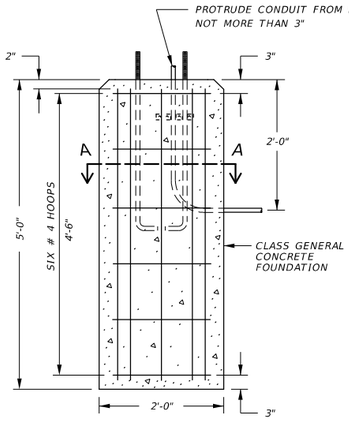
WELDING INSPECTION REQUIREMENTS:
25% OF ALL PARTIAL PENETRATION GROOVE AND FILLET WELDS PER PIECE REQUIRES MAGNETIC-PARTICLE TESTING PER AWS D1.1.

100% OF ALL FULL PENETRATION GROOVE WELDS, INCLUDING BASE CONNECTION WELD REQUIRE MAGNETIC-PARTICLE TESTING PER AWS D1.1.





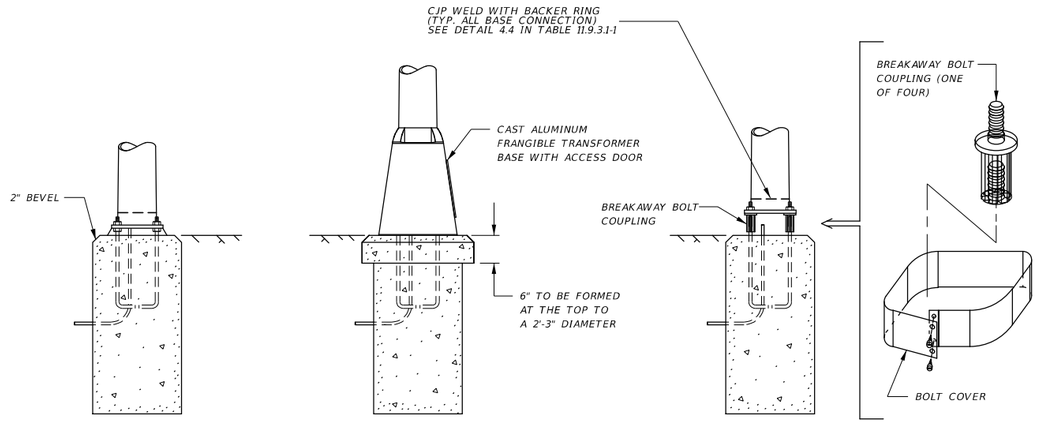
SECTION A-A



FACTORY INSTALLED CANISTER VIBRATION DAMPER TO BE INSTALLED INSIDE THE POLE TWO THIRDS POLE HEIGHT FROM THE BASE. PROVIDE MANUFACTURER'S PRODUCT DATA SHEET FOR MDT APPROVAL.

BASE PLATE REQUIREMENTS:
BASE PLATES TO BE 1" THICK AND MEET THE REQUIREMENTS OF AASHTO M270 GRADE 50. HOLES TO ACCEPT 1" DIA. ANCHOR BOLTS WITH A BOLT CIRCLE OF 13 1/2" FOR STANDARDS WITH 15 FT. ARMS AND A MOUNTING HEIGHT OF 40 FT. USE A BOLT CIRCLE OF 15" FOR STANDARDS WITH ARMS UP TO 25 FT. IN LENGTH AND MOUNTING HEIGHTS OF UP TO 45 FT.

TYPICAL OF ALL FOUNDATIONS



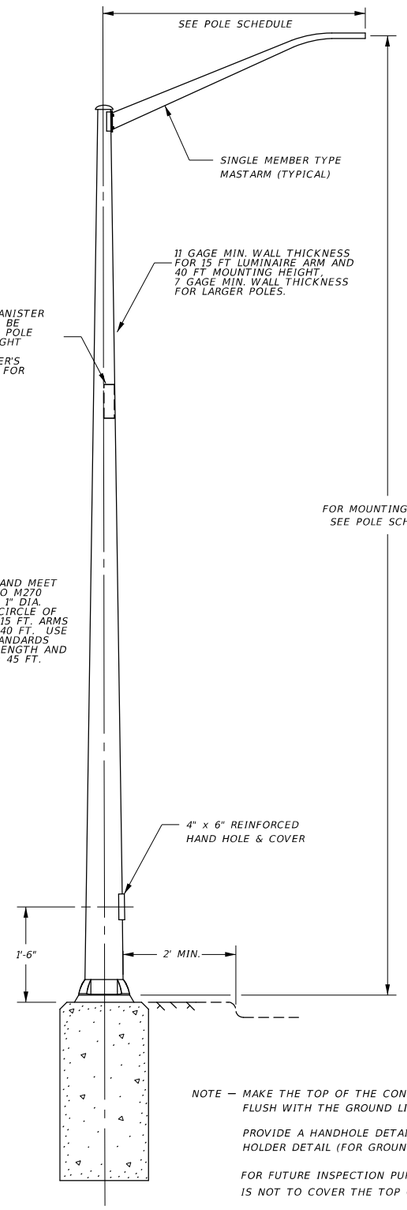
ANCHOR (DOUBLE NUT CONNECTION REQUIRED)

TRANSFORMER (BREAKAWAY TYPE)

BOLT COUPLING (BREAKAWAY TYPE)

BASE TYPES FOR LUMINAIRE STANDARDS

NOTE – INSTALL AND PRETENSION ABCHOR BOLTS PER 15.6.3 OF THE SPECIFICATIONS



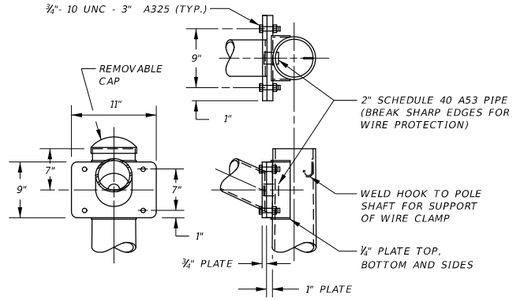
NOTE – MAKE THE TOP OF THE CONCRETE FOUNDATION FLUSH WITH THE GROUND LINE.

PROVIDE A HANDHOLE DETAIL AND A ½" NUT HOLDER DETAIL (FOR GROUNDING) .

FOR FUTURE INSPECTION PURPOSES, FILL MATERIAL IS NOT TO COVER THE TOP OF THE FOUNDATIONS

TYPE 10-A POLE

LUMINAIRE ARM CONNECTION REQUIRES 4 BOLT DESIGN WITH A325 BOLTS, NUTS AND WASHERS (FULLY TENSIONED) TUBE TO PLATE CONNECTION TO BE SOCKET TYPE CONNECTION WITH TWO FILLET WELDS PER 14.4.4.6 OF THE SPECIFICATIONS.



NOTE – FOR ARMS BETWEEN 16 FT. AND 25 FT. IN LENGTH, USE AN 11" SQUARE PLATE WITH A BOLT SPACING OF 9 IN. VERTICAL AND 9" HORIZONTAL

DESIGN, FABRICATE, ERECT, AND INSPECT STANDARDS IN ACCORDANCE WITH THE CURRENT EDITION AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (AND ANY AMENDMENTS THERETO).

DESIGN PARAMETERS:

DESIGN WEIGHT = DEAD LOAD, ICE.

DESIGN AREA = AREA WITH MAXIMUM WIND LOAD (WIND IS PERPENDICULAR TO STANDARD, AS SHOWN).

DIRECTIONAL FACTOR Kd = 0.95, GUST FACTOR = 1.14 DRAG COEFFICIENTS LFRD TABLE 3.8.7-1

HEIGHT AND EXPOSURE FACTOR Kz
zg = TAKEN AS 900 FEET FOR EXPOSURE C
α= 9.5
z = 16 FEET

DESIGN WIND VELOCITY 700 YEAR MRI BASIC WIND SPEED (115 MPH)

ELECTRICAL DETAIL DRAWING

NO SCALE
TYPE 10-A LUMINAIRE STANDARDS,

POLE BASES & FOUNDATION DETAILS

NO SCALE

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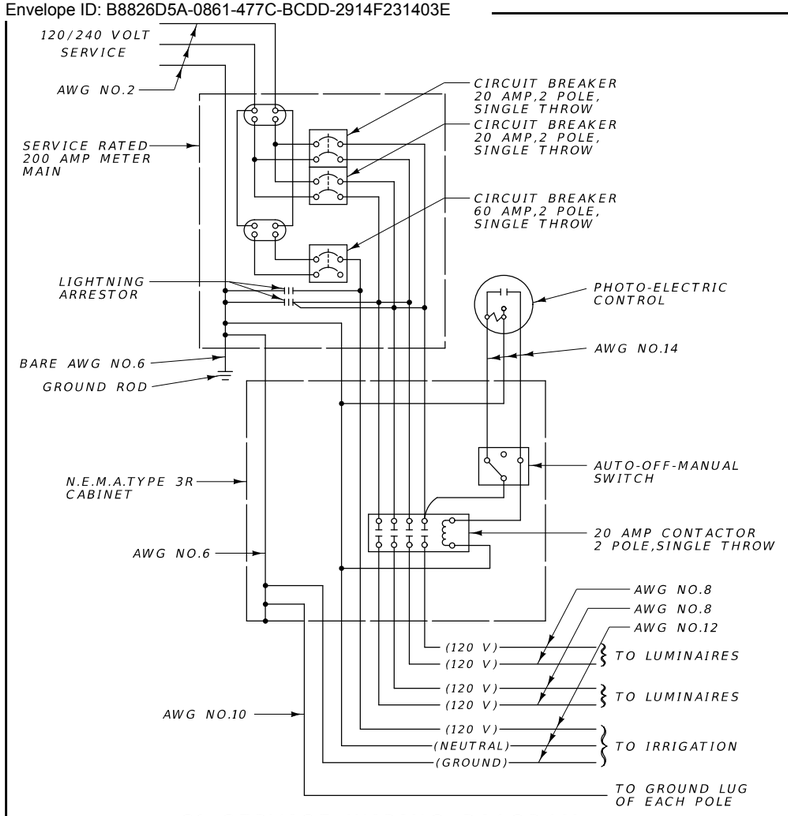
POLE SCHEDULE

POLE NO.	POLE TYPE	STATION	OFFSET	N OR Y COORDINATES	E OR X COORDINATES	LUMINAIRE MOUNTING HEIGHT	MAST ARM LENGTH	LUMINAIRE	FOUNDATION DIA.X DEPTH	TYPE POLE BASE
1	10-A-500-6	111+93.8	34.0' RT	565717.845	2178728.380	40'	15'	LED	2'-0"x4'-6"	BREAKAWAY
2	10-A-500-6	113+63.8	41.0' LT	565796.342	2178896.776	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
3	10-A-500-6	115+36.5	37.0' RT	565724.943	2179074.172	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
4	10-A-500-6	116+03.4	57.9' LT	565825.240	2179138.174	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
5	10-A-500-6	213+62.2	36.5' LT	565640.197	2179170.180	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
6	10-A-500-6	216+11.3	34.9' LT	565889.380	2179169.369	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
7	10-A-500-6	211+65.6	41.5' LT	565450.418	2179181.667	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
8	10-A-500-6	217+84.0	39.1' RT	566067.725	2179229.369	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
9	10-A-500-6	209+82.1	32.5' LT	565267.913	2179192.278	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
10	10-A-500-6	219+39.1	36.4' LT	566221.878	2179152.236	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
11	10-A-500-6	213+29.4	33.8' RT	565620.042	2179245.034	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
12	10-A-500-6	215+48.6	55.4' RT	565831.249	2179264.781	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
13	10-A-500-6	117+45.0	60.2' RT	565694.354	2179272.875	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
14	10-A-500-6	118+11.3	36.2' LT	565793.192	2179339.557	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
15	10-A-500-6	119+87.2	33.0' RT	565739.106	2179520.131	↓	↓	↓	2'-0"x4'-6"	BREAKAWAY
16	10-A-500-6	121+64.4	35.1' LT	565807.243	2179696.268	40'	15'	LED	2'-0"x4'-6"	BREAKAWAY

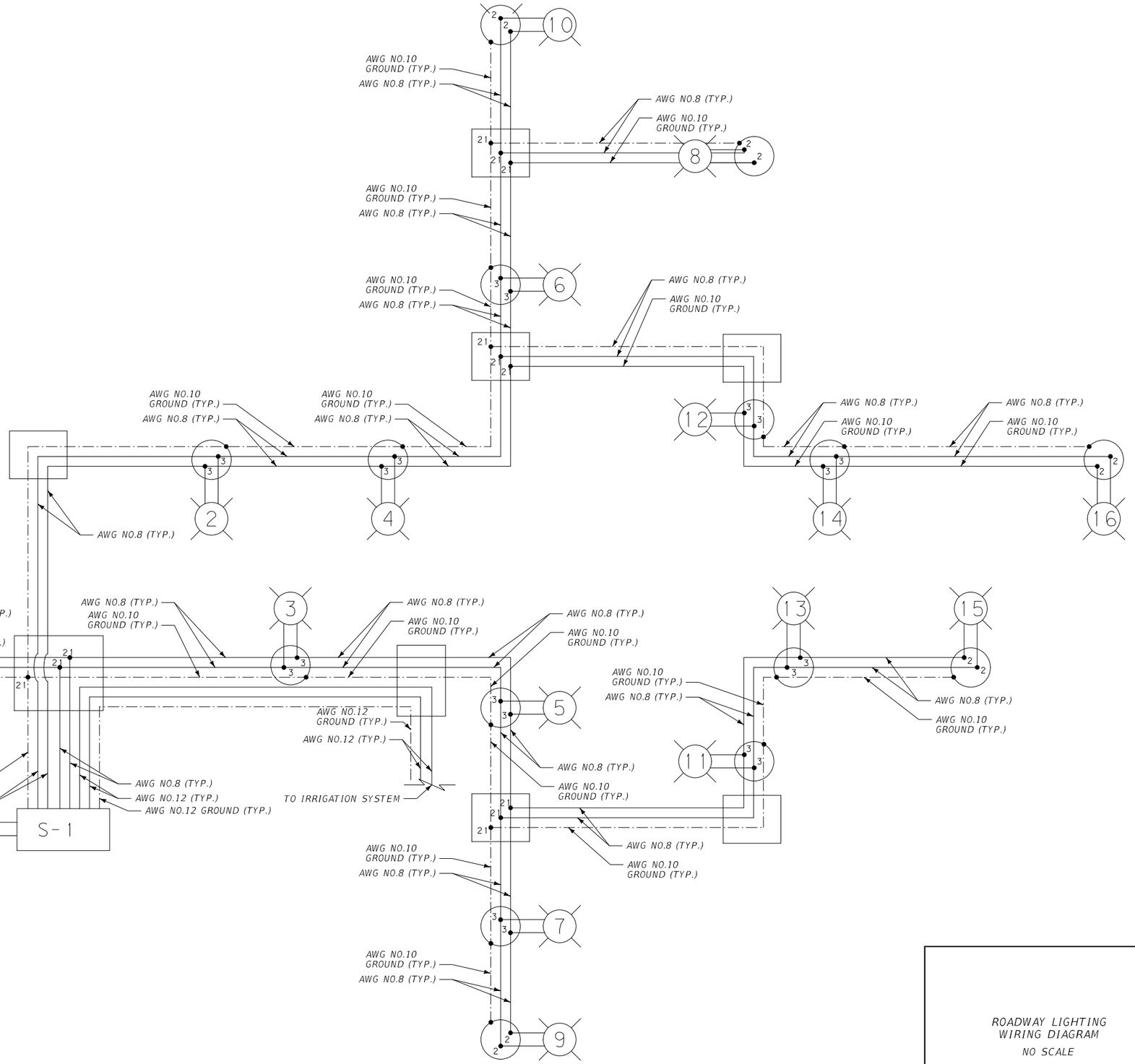
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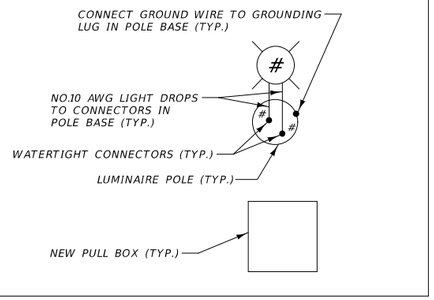
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S1 SERVICE WIRING DIAGRAM



INDICATES WATERTIGHT CONNECTOR PER DETAIL ON THIS SHEET. UTILIZE FUSES RATED AT 6 AMPS. WIRE NUTS ARE NOT ACCEPTABLE. UTILIZE NO.10 AWG LIGHT DROPS TO WATERTIGHT CONNECTORS IN POLE BASE (TYP.)



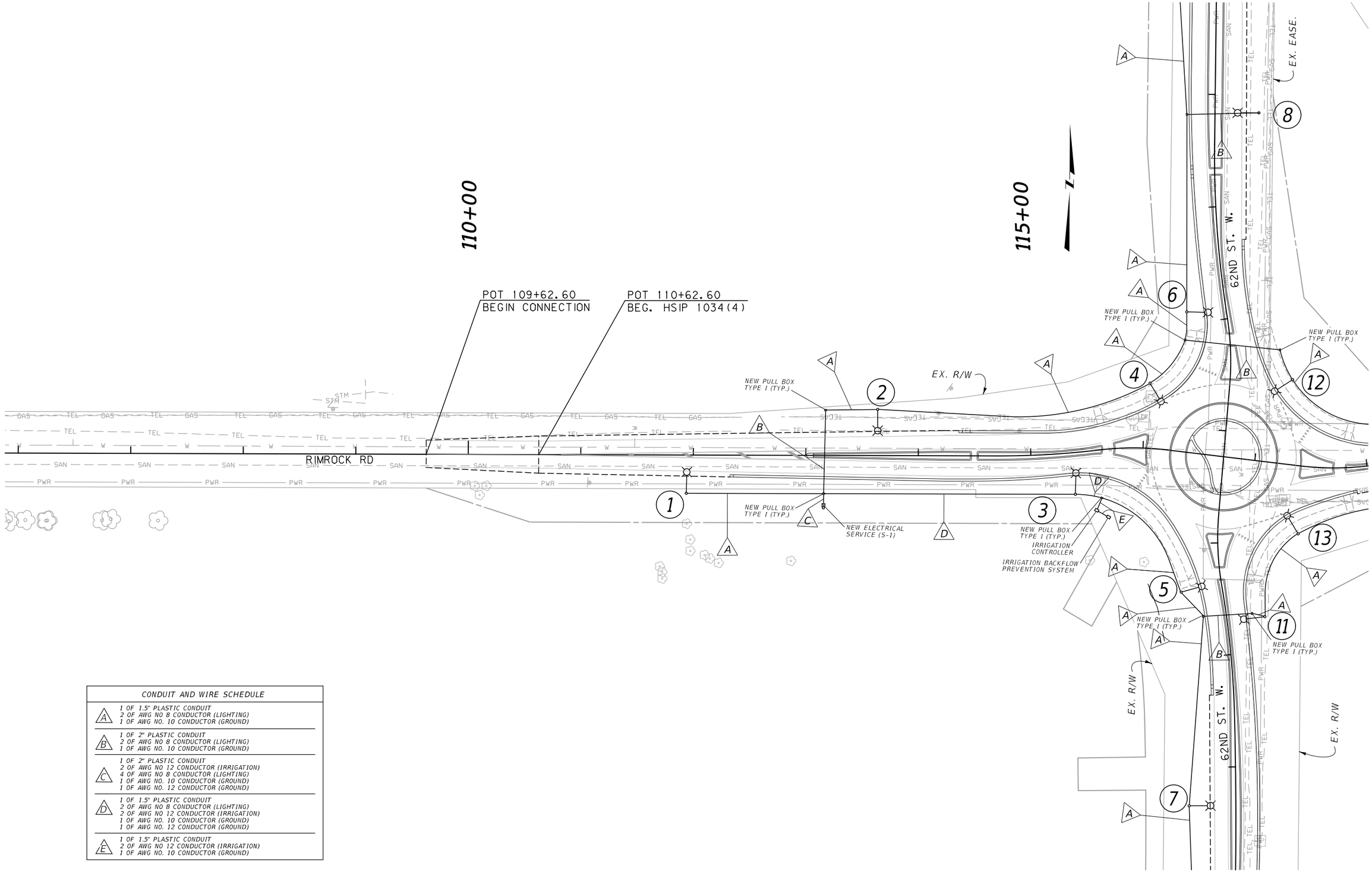
ROADWAY LIGHTING WIRING DIAGRAM

NO SCALE

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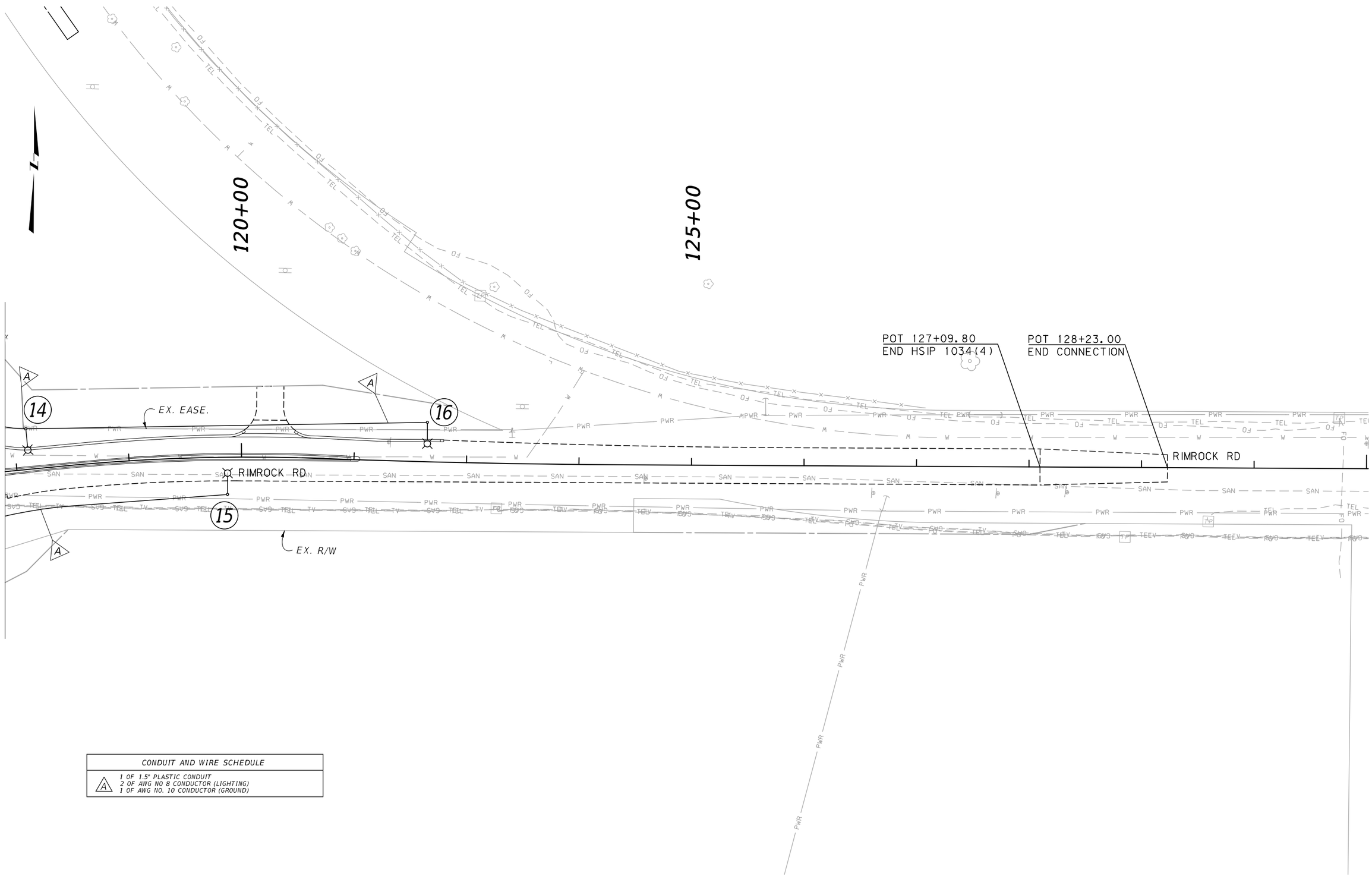


CONDUIT AND WIRE SCHEDULE	
A	1 OF 1.5" PLASTIC CONDUIT 2 OF AWG NO 8 CONDUCTOR (LIGHTING) 1 OF AWG NO. 10 CONDUCTOR (GROUND)
B	1 OF 2" PLASTIC CONDUIT 2 OF AWG NO 8 CONDUCTOR (LIGHTING) 1 OF AWG NO. 10 CONDUCTOR (GROUND)
C	1 OF 2" PLASTIC CONDUIT 2 OF AWG NO 12 CONDUCTOR (IRRIGATION) 4 OF AWG NO 8 CONDUCTOR (LIGHTING) 1 OF AWG NO. 10 CONDUCTOR (GROUND) 1 OF AWG NO. 12 CONDUCTOR (GROUND)
D	1 OF 1.5" PLASTIC CONDUIT 2 OF AWG NO 8 CONDUCTOR (LIGHTING) 2 OF AWG NO 12 CONDUCTOR (IRRIGATION) 1 OF AWG NO. 10 CONDUCTOR (GROUND) 1 OF AWG NO. 12 CONDUCTOR (GROUND)
E	1 OF 1.5" PLASTIC CONDUIT 2 OF AWG NO 12 CONDUCTOR (IRRIGATION) 1 OF AWG NO. 10 CONDUCTOR (GROUND)

SANDERSON STEWART

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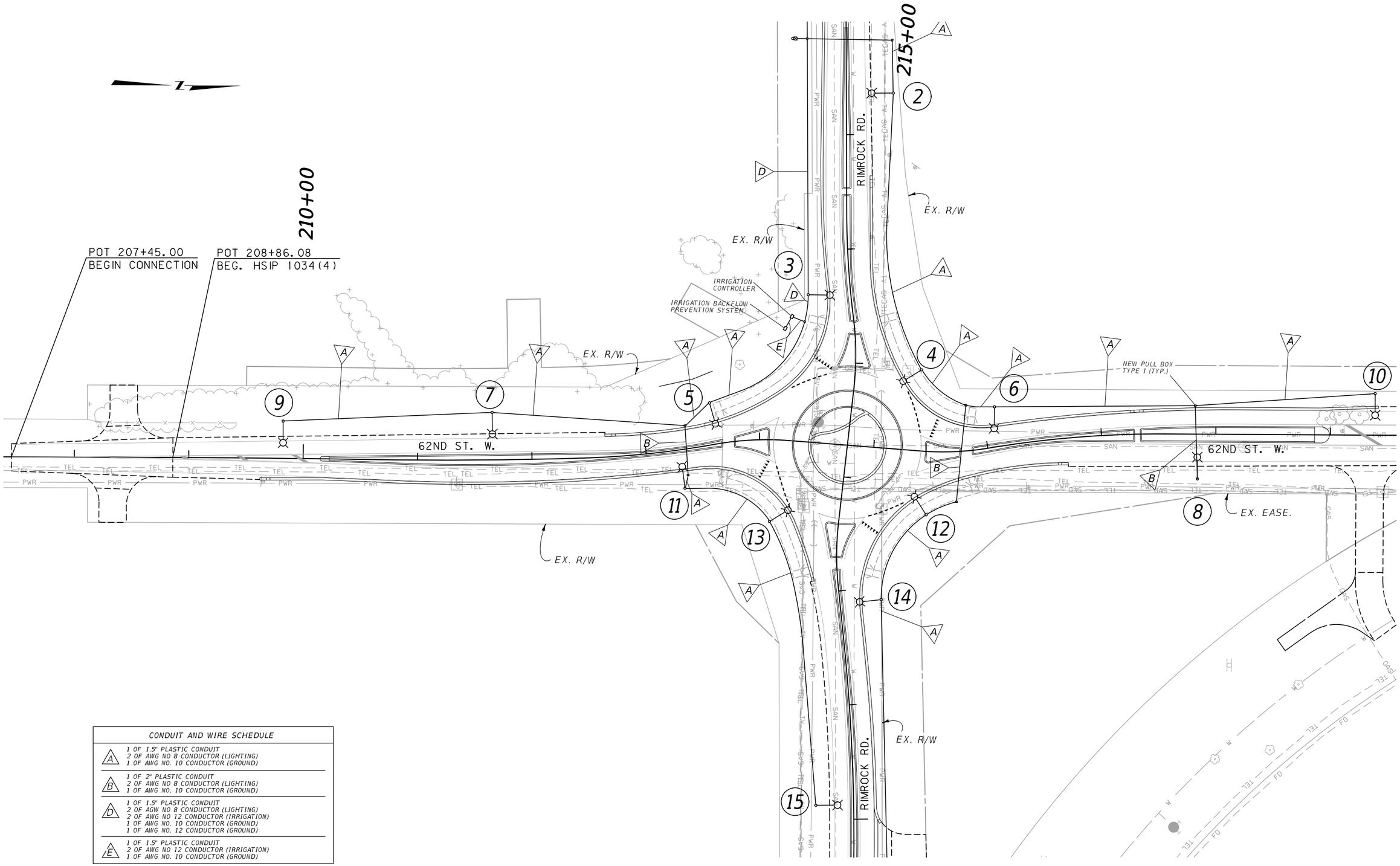


CONDUIT AND WIRE SCHEDULE
A — 1 OF 1.5" PLASTIC CONDUIT 2 OF AWG NO 8 CONDUCTOR (LIGHTING) 1 OF AWG NO. 10 CONDUCTOR (GROUND)

SANDERSON STEWART

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CONDUIT AND WIRE SCHEDULE	
A	1 OF 1.5" PLASTIC CONDUIT 2 OF AWG NO 8 CONDUCTOR (LIGHTING) 1 OF AWG NO. 10 CONDUCTOR (GROUND)
B	1 OF 2" PLASTIC CONDUIT 2 OF AWG NO 8 CONDUCTOR (LIGHTING) 1 OF AWG NO. 10 CONDUCTOR (GROUND)
D	1 OF 1.5" PLASTIC CONDUIT 2 OF AGW NO 8 CONDUCTOR (LIGHTING) 2 OF AWG NO 12 CONDUCTOR (IRRIGATION) 1 OF AWG NO. 10 CONDUCTOR (GROUND) 1 OF AWG NO. 12 CONDUCTOR (GROUND)
E	1 OF 1.5" PLASTIC CONDUIT 2 OF AWG NO 12 CONDUCTOR (IRRIGATION) 1 OF AWG NO. 10 CONDUCTOR (GROUND)

SANDERSON STEWART

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220+00

225+00

230+00

POT 225+63.83
END HSIP 1034(4)

POT 226+75.00
END CONNECTION

62ND ST. W.

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SUMMARY

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SIGNING & DELINEATION QUANTITIES

MATERIAL	TOTALS	UNIT
SIGNS-ALUM REFL SHEET IV	20.0	SQFT
SIGNS-ALUM REFL SHEET XI	207.9	SQFT
RESET SIGNS	1	EACH
REMOVE SIGN	21	EACH
POSTS-TUBULAR STEEL-SQ-PERF	1,493	LB
POLES-TREATED WOOD 4 IN	84	LNFT
POLES-TREATED WOOD 5 IN	16	LNFT
SQ TUBLR SLIP BASE BKWY-3 IN (76MM)	8	EACH
DELINEATOR DES A	16	EACH
DELINEATOR-FLEX SURF MTD WH	8	EACH
DELINEATOR-FLEX SURF MTD YLW	16	EACH

SANDERSON STEWART

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SIGN LOCATION AND SPECIFICATION

Lt.	STATION / M.P.	Rt.	RAMP NO.	SIGN NO.	PANEL SIZE	REFL SHTG TYPE BACK-GRND	REFL SHTG TYPE LEGEND	FEET CLEARANCE	FEET SIGN SUPPORT SPACING	TYPE OF SUPPORT	CANTILEVER	FEET SUPPORT LENGTH (ESTIMATED)	FEET SUPPORT LENGTH (INSTALLED)	FEET MOUNTING HEIGHT	FEET FOUNDATION DEPTH	SIGN PANEL (SQ. FT.) SHEET ALUMINUM IV	ALUM. SHEET INCREMENT IV	SHEET ALUMINUM XI	ALUM. SHEET INCREMENT XI	ALUMINUM SHT OVERLAY	TIMBER POLE (LINEAR FT.) 4" TOP DIA.	5" TOP DIA.	6" TOP DIA.	STEEL POST (LBS.) ROUND TUBULAR	SQUARE TUBULAR	STRUCTURAL STEEL	"U" POST	BREAKAWAY	SIGNS REMOVE	SIGNS RESET	GUIDE REMOVE	GUIDE RESET		Solar Panels	Radar Sensors	48" Support Strip	60" Support Strip	REMARKS
RIMROCK ROAD																																						
108+51.82				W 2-6	2-6 X 2-6	XI				4.0"								6.3															FY					
Rt.				W 13-1	1-6 X 1-6	XI		10-0		POLE		13-9		5-7	3-0			2.3			14											FY					15 MPH
111+07.69																													1								
Rt.				W 3-1A	REMOVE																																	
113+65.00										2.5"																											
Med.				R4-7R	2-0 X 2-6	XI		1-0		SqTUBE		11-0		7-0	3-0			5.0							58												
115+51.16				W 11-2	3-0X3-0	XI				2.5"								9.0														FY					
Rt.				W 16-7PL	2-0X1-0	XI		2-0		SqTUBE		11-4		7-1	3-0			2.0							67							FY					
115+73.63				W 11-2	3-0X3-0	XI				2.5"								9.0														FY					
Lt.				W 16-7PL	2-0X1-0	XI		2-0		SqTUBE		11-4		7-1	3-0			2.0							67							FY					
115+93.20										2.0"																											
Rt.				R1-2	3-0X3-0X3-0	XI	XI	2-0		SqTUBE		11-6		7-0	3-0			3.9							46												
116+00.73				(2) D3-1	3-0X0-10	IV	IV			2.5"						5.0																					"RIMROCK RD"
Rt.				R1-2	3-0X3-0X3-0	XI	XI	2-0		SqTUBE		12-5		7-0	3-0			3.9							62												
116+45.80										2.5"																											
Rt.				R6-4	2-6 X 2-0	XI		2-0		SqTUBE		10-6		7-0	3-0			5.0							56								FY				
116+46.11																													1								
Rt.				R1-1	REMOVE																																	
116+97.78										2.5"																											
Lt.				R6-4	2-6 X 2-0	XI		2-0		SqTUBE		10-6		7-0	3-0			5.0							56								FY				
117+27.14				(2) D3-1	REMOVE																																	"RIMROCK ROAD"
Lt.				(2) D3-1	REMOVE																																	"62ND ST W"
				R1-1	REMOVE																																	
117+42.15				(2) D3-1	3-0X0-10	IV	IV			2.5"						5.0													1								"RIMROCK RD"
Lt.				R1-2	3-0X3-0X3-0	XI	XI	2-0		SqTUBE		12-5		7-0	3-0			3.9							62												
117+48.20										2.0"																											
Lt.				R1-2	3-0X3-0X3-0	XI	XI	2-0		SqTUBE		11-6		7-0	3-0			3.9							46												
117+72.63				W 11-2	3-0X3-0	XI				2.5"								9.0														FY					
Rt.				W 16-7PL	2-0X1-0	XI		2-0		SqTUBE		11-4		7-1	3-0			2.0							67							FY					
117+96.74				W 11-2	3-0X3-0	XI				2.5"								9.0														FY					
Lt.				W 16-7PL	2-0X1-0	XI		2-0		SqTUBE		11-4		7-1	3-0			2.0							67							FY					
120+80.00										2.5"																											
Med.				R4-7R	1-6X2-0	XI		1-0		SqTUBE		10-6		7-0	3-0			3.0							58												
121+30.41																													1								
Lt.				W 3-1A	REMOVE																																	
123+59.44				D3-1	REMOVE																																	
Rt.				R1-1	REMOVE																																	"RIMROCK RD"
124+95.80				W 1-8L																																	
Rt.				W 1-8R	REMOVE																																	
124+95.81				W 2-6	2-6X2-6	XI				4.0"								6.3														FY					
Lt.				W 13-1	1-6X1-6	XI		10-0		POLE		12-2						2.3			14											FY					15 MPH
125+61.74										4.0"																											
Rt.				R2-1	2-0 X 2-6	XI		10-0		POLE		12-2		5-0	3-0			5.0			14																	55 MPH
126+72.37				W 11-1	2-6 X 2-6	XI				5.0"								6.3											X								
Rt.				W 16-1	2-0 X 2-6	XI		10-0		POLE		15-7		6-7	3-6			5.0				16								1								
127+33.92																																					
Rt.				CITY-1	USE AS IS																																	NO CELL PHONES
127+45.20				W 1-8L	REMOVE																																	
Rt.				W 1-8R	REMOVE																																	
129+99.82																																					
Lt.				W 1-2R	REMOVE																																	
CURVE (RIMROCK STATIONING)																																					
116+73.06				W 1-8L	REMOVE																																	
Lt.				W 1-8R	REMOVE																																	
118+90.40				W 1-8L	REMOVE																																	
Lt.				W 1-8R	REMOVE																																	
118+94.30				FATALITY																																	
Lt.				CROSS	BY OTHERS																																	

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

BBR = BACKBRACING REQUIRED

X STANDARD BREAKAWAY DEVICE:
-FOR WOOD POST SEE DETAILED DRAWING 619-20.
-FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-14.

★ TELESCOPED SQUARE TUBES (2.25 in & 2.50 in) WITH SLIP BASE BREAKAWAY REQUIRED. MOUNTED IN HEAVY DUTY STUB.

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

FY = TYPE XI FLUORESCENT YELLOW SHEEING REQUIRED

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\SI\9383001SISUMZ01.dgn	DESIGNED BY		SIGNING PLANS	SF169 RIMROCK & 62ND ST W-BLGS / HSIP 1034(4)
2		10/24/2022	REVIEWED BY			
1		3:05:38 PM jpavia	CHECKED BY		YELLOWSTONE COUNTY	UPN 9383001 / S2

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SIGN LOCATION AND SPECIFICATION

Lt.	STATION / M.P.	Rt.	RAMP NO.	SIGN NO.	PANEL SIZE	REFL SHTG TYPE BACK-GRND	REFL SHTG TYPE LEGEND	FEET CLEARANCE	FEET SIGN SUPPORT SPACING	TYPE OF SUPPORT	CANTILEVER	FEET SUPPORT LENGTH (ESTIMATED)	FEET SUPPORT LENGTH (INSTALLED)	FEET MOUNTING HEIGHT	FEET FOUNDATION DEPTH	SIGN PANEL (SQ. FT.) SHEET ALUMINUM N	ALUM. SHEET INCREMENT N	SHEET ALUMINUM XI	ALUM. SHEET INCREMENT XI	ALUMINUM SHT OVERLAY	TIMBER POLE (LINEAR FT.) 4" TOP DIA.	5" TOP DIA.	6" TOP DIA.	STEEL POST (LBS.) ROUND TUBULAR	SQUARE TUBULAR	STRUCTURAL STEEL	"U" POST	BREAKAWAY	SIGNS REMOVE	SIGNS RESET	GUIDE REMOVE	GUIDE RESET		Solar Panels	Radar Sensors	48" Support Strp	60" Support Strp	REMARKS
Lt	120+35.94			W 1-8L W 1-8R	REMOVE REMOVE																								1									
Lt	122+48.88			W 1-8L W 1-8R	REMOVE REMOVE																								1									
62ND STREET WEST																																					
Rt	207+80.95			W 2-6 W 13-1	2-6 X 2-6 1-6 X 1-6	XI XI		10-0		4.0" POLE		13-9		5-7	3-0			6.3 2.3			14											FY FY						15 MPH
Rt	209+65.04			W 2-1	REMOVE																								1									
Med.	210+40.00			R4-7R	2-0 X 2-6	XI		1-0		2.5" SqTUBE		11-0		7-0	3-0			5.0							58													
Rt	213+55.01			W 11-2 W 16-7PL	3-0X3-0 2-0X1-0	XI XI		2-0		2.5" SqTUBE		11-4		7-1	3-0			9.0 2.0							67									FY FY					
																									67												
Lt	213+62.20			COUNTY-1	RESET			12-0		MOUNT ON LUMINAIRE POLE				7-0																1								NO TRUCK TRAFFIC
Lt	213+77.95			W 11-2 W 16-7PL	3-0X3-0 2-0X1-0	XI XI		2-0		2.5" SqTUBE		11-4		7-1	3-0			9.0 2.0							67									FY FY					
Rt	213+94.40			R1-2	3-0X3-0X3-0	XI	XI	2-0		2.0" SqTUBE		11-6		7-0	3-0			3.9							46													
Rt	214+05.66			(2) D3-1 R1-2	3-0X0-10 3-0X3-0X3-0	IV XI	IV XI	2-0		2.5" SqTUBE		12-5		7-0	3-0	5.0		3.9							62													"62ND ST W"
Rt	214+50.77			R6-4	2-6 X 2-0	XI		2-0		2.5" SqTUBE		10-6		7-0	3-0			5.0							56									FY					
Lt	215+03.90			R6-4	2-6 X 2-0	XI		2-0		2.5" SqTUBE		10-6		7-0	3-0			5.0							56									FY					
Lt	215+03.90			(2) D3-1 R1-2	3-0X0-10 3-0X3-0X3-0	IV XI	IV XI	2-0		2.5" SqTUBE		12-5		7-0	3-0	5.0		3.9							62													"62ND ST W"
Lt	215+56.67			R1-2	3-0X3-0X3-0	XI	XI	2-0		2.0" SqTUBE		11-6		7-0	3-0			3.9							48													
Rt	215+75.71			W 11-2 W 16-7PL	3-0X3-0 2-0X1-0	XI XI		2-0		2.5" SqTUBE		11-4		7-1	3-0			9.0 2.0							67									FY FY					
Lt	215+97.25			W 11-2 W 16-7PL	3-0X3-0 2-0X1-0	XI XI		2-0		2.5" SqTUBE		11-4		7-1	3-0			9.0 2.0							67									FY FY					
Rt	216+30.67			W 3-1A	REMOVE																								1									
Med.	218+86.16			R4-7R	2-0 X 2-6	XI		2-0		2.5" SqTUBE		11-0		7-0	3-0			5.0							58													
Lt	219+10.63			W 2-1	REMOVE																								1									
Lt	220+47.49			W 2-6 W 13-1	2-6 X 2-6 1-6 X 1-6	XI XI		10-0		4.0" POLE		13-9		5-7	3-0			6.3 2.3			14																	15 MPH
Rt	220+55.57			(2) D3-1 (2) D3-1 R1-1	REMOVE REMOVE REMOVE																								1								"62ND ST W" "RIMROCK RD"
Rt	222+16.47			W 1-8L W 1-8R	REMOVE REMOVE																								1									
Lt	224+75.75			W 1-8L W 1-8R	REMOVE REMOVE																								1									
Rt	225+00.00			R2-1	2-0 X 2-6	XI		10-0		4.0" POLE		13-3		5-0	3-0			5			14																	55 MPH
Lt	228+17.50			W 2-3L	REMOVE																								1									
Lt	228+26.99			FATALITY CROSS	BY OTHERS																																	
TOTALS																20.0		212.9			84.0	16			1,493				21	1							

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

BBR = BACKBRACING REQUIRED

X — STANDARD BREAKAWAY DEVICE:
-FOR WOOD POST SEE DETAILED DRAWING 619-20.
-FOR STRUCTURAL STEEL SEE DETAILED DRAWING 619-14.

★ — TELESCOPED SQUARE TUBES (2.25 in & 2.50 in) WITH SLIP BASE BREAKAWAY REQUIRED. MOUNTED IN HEAVY DUTY STUB.

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

FY = TYPE XI FLUORESCENT YELLOW SHEEING REQUIRED

DELINEATOR LEGEND		
⬟	WHITE FLEXIBLE SURFACE MOUNT DELINEATOR	8
▲	YELLOW FLEXIBLE SURFACE MOUNT DELINEATOR	16
⊣	DESIGN A DELINEATOR	16

SQUARE TUBE SUPPORT		
TUBE SIZE	WEIGHT	WALL THICKNESS
2"	2.42 lbs/ft	0.105" (12 GAUGE)
2.25"	2.77 lbs/ft	0.105" (12 GAUGE)
2.5"	3.14 lbs/ft	0.105" (12 GAUGE)

SQUARE TUBE ANCHOR		
TUBE SIZE	WEIGHT	WALL THICKNESS
2.5"	18.36 lbs ea.	0.135"
3"	22.98 lbs ea.	0.188"

For estimating purposes only.

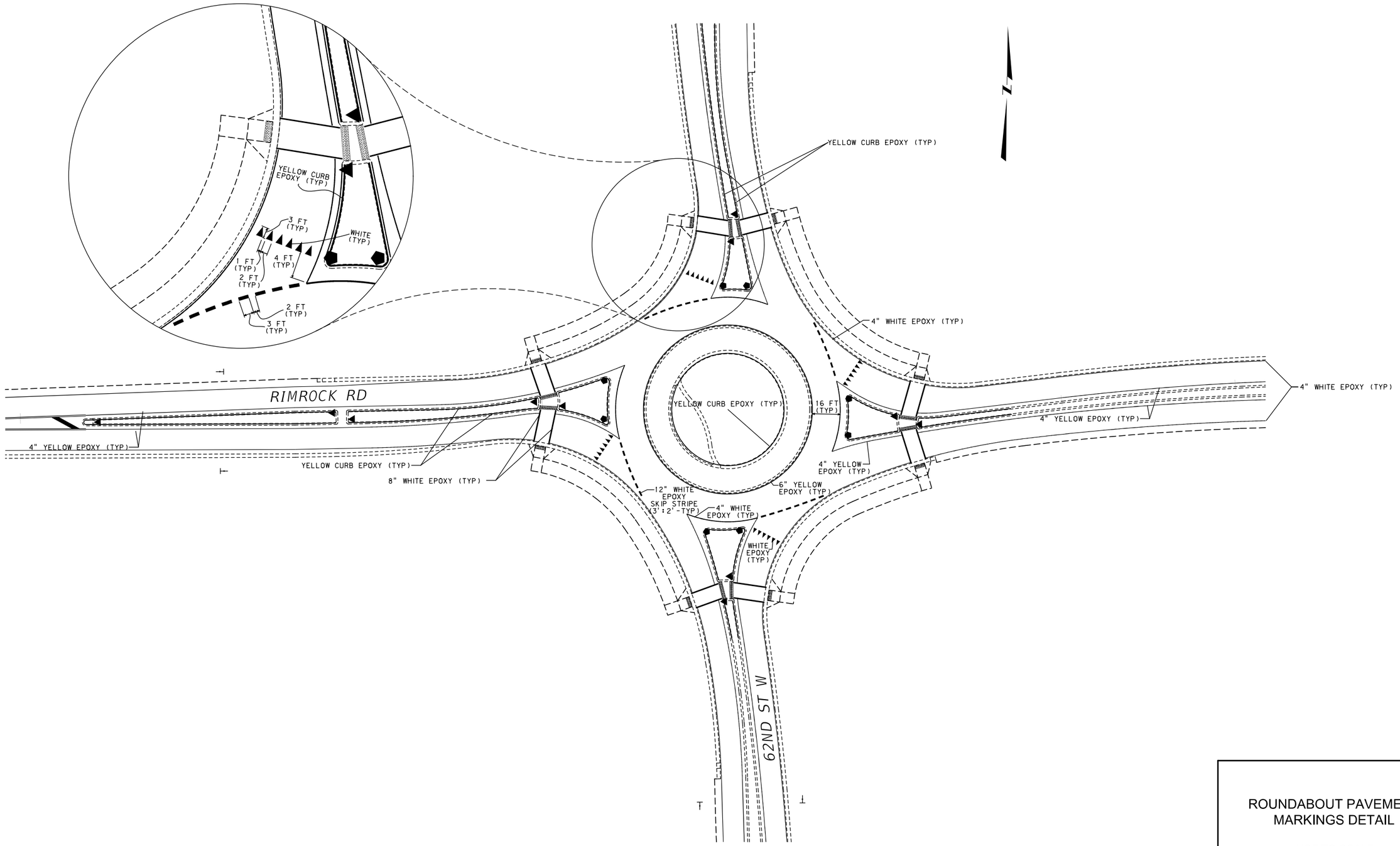
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ROUNDABOUT PAVEMENT MARKINGS DETAIL

ALL PAVEMENT MARKINGS EPOXY



SANDERSON STEWART

ROUNDABOUT PAVEMENT MARKINGS DETAIL

NOT TO SCALE

3	MONTANA Department of Transportation	...\9383001\SI\9383001SIDETZ01.dgn	DESIGNED BY			SIGNING PLANS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2022	REVIEWED BY					
1		3:05:48 PM jpavia	CHECKED BY			YELLOWSTONE COUNTY	UPN 9383001	S4

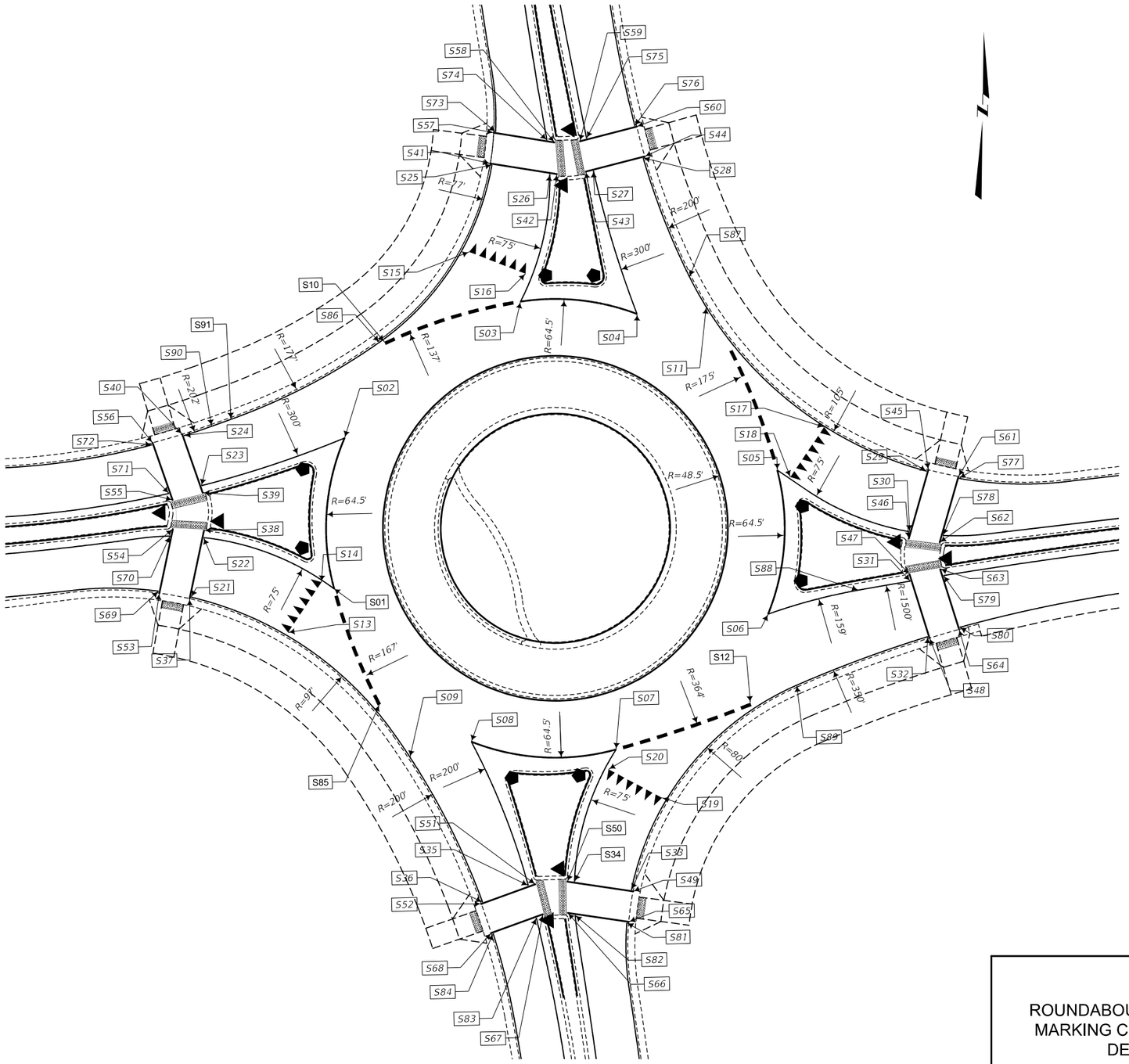
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ROUNDABOUT COORDINATE TABLE

POINT NUMBER	STATION*	OFFSET	N OR Y COORDINATE	E OR X COORDINATE	REMARKS
S01	116+10.62	22.62	565744.506	2179142.700	YIELD LINE TERMINUS
S02	116+11.42	-19.86	565786.880	2179145.853	CIRCULATION LANE PAVEMENT MARKINGS
S03	116+56.14	-62.50	565825.134	2179195.280	YIELD LINE TERMINUS
S04	116+89.10	-62.21	565821.662	2179228.061	CIRCULATION LANE PAVEMENT MARKINGS
S05	117+32.60	-22.29	565777.725	2179267.498	YIELD LINE TERMINUS
S06	117+33.93	18.25	565737.244	2179264.913	CIRCULATION LANE PAVEMENT MARKINGS
S07	116+95.07	60.26	565699.186	2179222.173	YIELD LINE TERMINUS
S08	116+54.33	62.01	565701.377	2179181.454	CIRCULATION LANE PAVEMENT MARKINGS
S09	116+27.57	54.14	565711.801	2179155.585	YIELD LINE TERMINUS
S10	116+19.67	-47.15	565813.398	2179157.189	YIELD LINE TERMINUS
S11	117+16+37	-54.49	565811.347	2179254.456	YIELD LINE TERMINUS
S12	117+31.58	43.98	565711.868	2179260.088	YIELD LINE TERMINUS
S13	115+96.52	35.35	565732.100	2179129.913	SHARKS TEETH YIELD LINE
S14	116+06.84	21.02	565746.262	2179139.330	SHARKS TEETH YIELD LINE
S15	116+40.41	-75.03	565839.118	2179180.833	SHARKS TEETH YIELD LINE
S16	116+56.79	-70.45	565832.983	2179196.695	SHARKS TEETH YIELD LINE
S17	117+45.18	-35.62	565789.874	2179280.682	SHARKS TEETH YIELD LINE
S18	117+36.42	-20.72	565775.794	2179271.155	SHARKS TEETH YIELD LINE
S19	117+09.23	72.53	565685.610	2179235.081	SHARKS TEETH YIELD LINE
S20	116+93.51	66.03	565693.597	2179220.066	SHARKS TEETH YIELD LINE
S21	115+66.36	23.72	565742.017	2179102.662	SHOULDER STRIPE TERMINUS AT CROSSWALK
S22	115+72.10	7.46	565758.774	2179106.196	MEDIAN STRIPE TERMINUS AT CROSSWALK
S23	115+72.90	-7.13	565773.376	2179105.559	MEDIAN STRIPE TERMINUS AT CROSSWALK
S24	115+69.63	-21.65	565787.456	2179100.619	SHOULDER STRIPE TERMINUS AT CROSSWALK
S25	116+44.42	-100.00	565863.585	2179187.243	SHOULDER STRIPE TERMINUS AT CROSSWALK
S26	116+60.87	-98.98	565860.988	2179203.519	MEDIAN STRIPE TERMINUS AT CROSSWALK
S27	116+73.01	-101.10	565861.922	2179215.803	MEDIAN STRIPE TERMINUS AT CROSSWALK
S28	116+86.60	-106.04	565865.532	2179229.801	SHOULDER STRIPE TERMINUS AT CROSSWALK
S29	117+78.10	-23.55	565777.448	2179309.524	SHOULDER STRIPE TERMINUS AT CROSSWALK
S30	117+72.21	-6.74	565760.426	2179304.688	MEDIAN STRIPE TERMINUS AT CROSSWALK
S31	117+72.07	7.14	565746.551	2179304.951	MEDIAN STRIPE TERMINUS AT CROSSWALK
S32	117+76.15	22.94	565730.920	2179309.853	SHOULDER STRIPE TERMINUS AT CROSSWALK
S33	117+03.20	99.15	565659.690	2179226.506	SHOULDER STRIPE TERMINUS AT CROSSWALK
S34	116+87.00	98.37	565662.038	2179210.466	MEDIAN STRIPE TERMINUS AT CROSSWALK
S35	116+74.18	100.72	565660.933	2179197.471	MEDIAN STRIPE TERMINUS AT CROSSWALK
S36	116+61.82	106.61	565656.265	2179184.609	SHOULDER STRIPE TERMINUS AT CROSSWALK
S37	115+65.84	24.08	565741.603	2179102.234	CROSSWALK STRIPE TERMINUS
S38	115+72.39	5.49	565760.769	2179106.276	CROSSWALK STRIPE TERMINUS
S39	115+73.05	-5.13	565771.400	2179105.899	CROSSWALK STRIPE TERMINUS
S40	115+69.23	-22.07	565787.828	2179100.135	CROSSWALK STRIPE TERMINUS
S41	116+43.95	-100.36	565863.992	2179186.805	CROSSWALK STRIPE TERMINUS
S42	116+62.86	-99.19	565861.006	2179205.519	CROSSWALK STRIPE TERMINUS
S43	116+70.92	-100.69	565861.717	2179213.677	CROSSWALK STRIPE TERMINUS
S44	116+86.94	-106.53	565865.977	2179230.194	CROSSWALK STRIPE TERMINUS
S45	117+78.63	-23.92	565777.843	2179309.983	CROSSWALK STRIPE TERMINUS
S46	117+71.92	-4.74	565758.418	2179304.464	CROSSWALK STRIPE TERMINUS
S47	117+71.89	5.23	565748.452	2179304.704	CROSSWALK STRIPE TERMINUS
S48	117+76.56	23.34	565730.541	2179310.321	CROSSWALK STRIPE TERMINUS
S49	117+03.66	99.51	565659.290	2179226.936	CROSSWALK STRIPE TERMINUS
S50	116+85.01	98.60	565661.995	2179208.463	CROSSWALK STRIPE TERMINUS
S51	116+76.09	100.18	565661.290	2179199.432	CROSSWALK STRIPE TERMINUS
S52	116+61.52	107.12	565655.782	2179184.253	CROSSWALK STRIPE TERMINUS
S53	115+57.30	21.36	565743.172	2179093.707	CROSSWALK STRIPE TERMINUS
S54	115+63.54	4.09	565761.144	2179097.498	CROSSWALK STRIPE TERMINUS
S55	115+64.56	-4.07	565769.368	2179097.428	CROSSWALK STRIPE TERMINUS
S56	115+61.33	-20.74	565785.418	2179091.797	CROSSWALK STRIPE TERMINUS
S57	116+44.07	-109.03	565872.615	2179187.763	CROSSWALK STRIPE TERMINUS
S58	116+61.30	-107.97	565869.895	2179204.810	CROSSWALK STRIPE TERMINUS
S59	116+68.41	-109.00	565870.230	2179211.983	CROSSWALK STRIPE TERMINUS
S60	116+83.93	-114.65	565874.356	2179227.981	CROSSWALK STRIPE TERMINUS
S61	117+87.77	-21.42	565775.961	2179318.457	CROSSWALK STRIPE TERMINUS
S62	117+80.73	-3.33	565757.406	2179313.185	CROSSWALK STRIPE TERMINUS
S63	117+80.38	4.13	565749.937	2179313.295	CROSSWALK STRIPE TERMINUS
S64	117+84.32	21.43	565732.978	2179318.639	CROSSWALK STRIPE TERMINUS
S65	117+03.29	108.17	565650.709	2179225.728	CROSSWALK STRIPE TERMINUS
S66	116+86.00	107.33	565653.215	2179208.604	CROSSWALK STRIPE TERMINUS
S67	116+79.02	108.38	565652.842	2179201.557	CROSSWALK STRIPE TERMINUS
S68	116+65.08	115.03	565647.573	2179187.036	CROSSWALK STRIPE TERMINUS
S69	115+57.15	20.80	565743.708	2179093.480	SHOULDER STRIPE TERMINUS AT CROSSWALK
S70	115+62.51	5.91	565759.204	2179096.748	MEDIAN STRIPE TERMINUS AT CROSSWALK
S71	115+63.83	-6.01	565771.191	2179096.436	MEDIAN STRIPE TERMINUS AT CROSSWALK
S72	115+61.09	-20.21	565784.859	2179091.640	SHOULDER STRIPE TERMINUS AT CROSSWALK
S73	116+44.56	-109.34	565872.870	2179188.277	SHOULDER STRIPE TERMINUS AT CROSSWALK
S74	116+59.15	-108.44	565870.566	2179202.718	MEDIAN STRIPE TERMINUS AT CROSSWALK
S75	116+70.19	-110.00	565871.057	2179213.857	MEDIAN STRIPE TERMINUS AT CROSSWALK
S76	116+83.35	-114.80	565874.555	2179227.419	SHOULDER STRIPE TERMINUS AT CROSSWALK
S77	117+87.93	-20.86	565775.419	2179318.649	SHOULDER STRIPE TERMINUS AT CROSSWALK
S78	117+81.78	-5.23	565759.370	2179314.089	MEDIAN STRIPE TERMINUS AT CROSSWALK
S79	117+81.19	6.04	565748.092	2179314.248	MEDIAN STRIPE TERMINUS AT CROSSWALK
S80	117+84.54	20.87	565733.547	2179318.828	SHOULDER STRIPE TERMINUS AT CROSSWALK
S81	117+02.79	108.48	565650.449	2179225.204	SHOULDER STRIPE TERMINUS AT CROSSWALK
S82	116+88.11	107.76	565652.578	2179210.660	MEDIAN STRIPE TERMINUS AT CROSSWALK
S83	116+77.32	109.56	565651.830	2179199.744	MEDIAN STRIPE TERMINUS AT CROSSWALK
S84	116+65.66	115.12	565647.425	2179187.606	SHOULDER STRIPE TERMINUS AT CROSSWALK
S85	116+32.57	62.02	565703.475	2179159.797	PC/PT
S86	116+18.32	-47.31	565813.696	2179155.599	PC/PT
S87	117+02.77	-74.05	565832.123	2179242.807	PC/PT
S88	117+57.93	9.68	565744.006	2179290.337	PC/PT
S89	117+43.50	37.36	565717.278	2179272.998	PC/PT
S90	115+76.98	-23.52	565790.083	2179108.416	PC/PT
S91	115+82.06	-25.09	565792.041	2179113.858	PC/PT

* ALL STATIONS ARE CALCULATED WITH THE RIMROCK ROAD ALIGNMENT



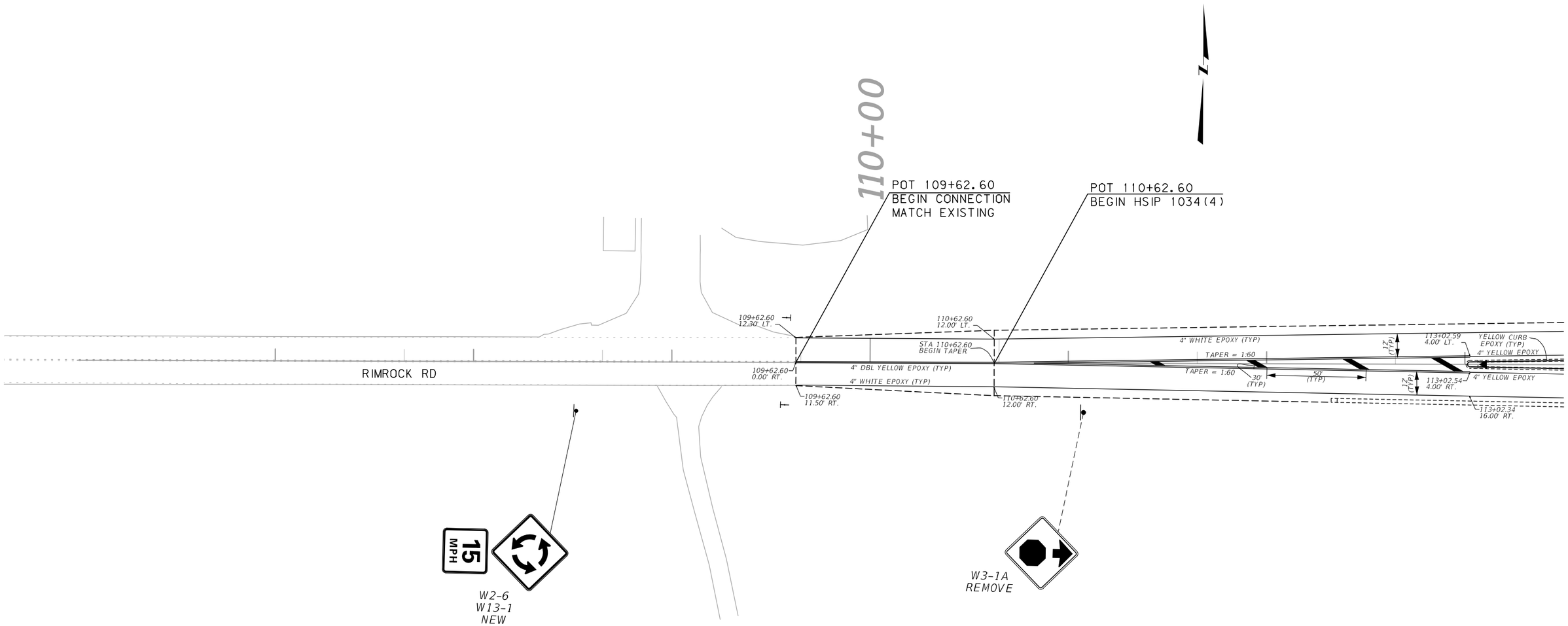
ROUNDABOUT PAVEMENT MARKING COORDINATES DETAIL

NOT TO SCALE

SANDERSON STEWART

3	MONTANA Department of Transportation	...\9383001\SI\9383001SIDETZ01.dgn	DESIGNED BY			SIGNING PLANS		SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
2		10/24/2022	REVIEWED BY					UPN 9383001	S5
1		3:05:49 PM jpavia	CHECKED BY			YELLOWSTONE COUNTY			

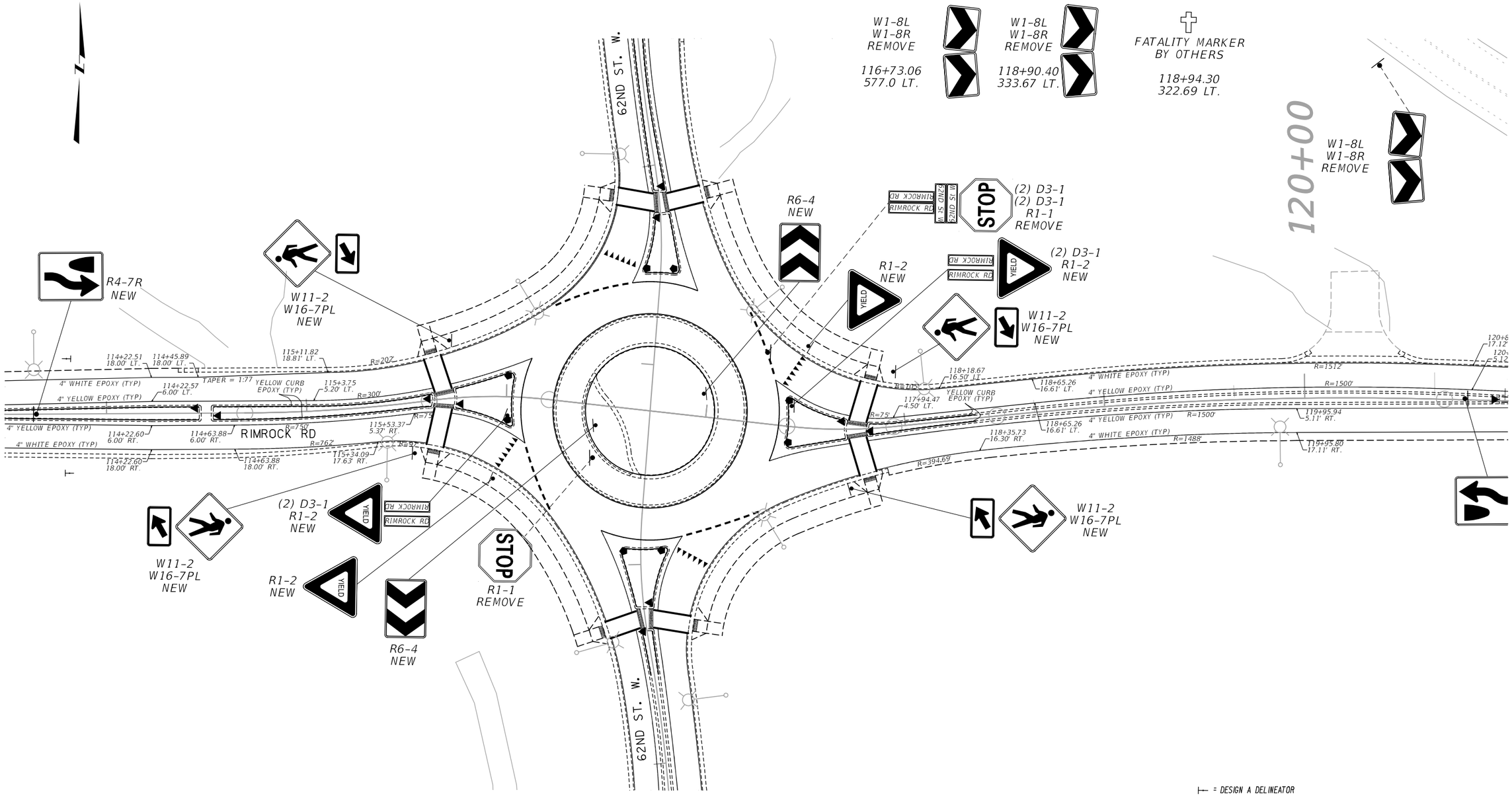
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SANDERSON STEWART

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2	Department of Transportation	10/24/2022	REVIEWED BY					
1		3:05:53 PM jpavia	CHECKED BY			YELLOWSTONE COUNTY	UPN 9383001	S7

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N

W3-1A
REMOVE

W1-8L
W1-8R
REMOVE

U-1034/S-302

W2-6
W13-1
NEW

15 MPH

W1-2R
REMOVE

129+99.82
22.21 LT

POT 127+09.80
END HSIP 1034(4)

POT 128+23.00
END CONNECTION
MATCH EXISTING

120+83.59
17.12' LT.
120+83.40
5.12' LT.
121+03.29
4.81' LT.
TAPER = 1:77
50'
(TYP)
17'
(TYP)
4" WHITE EPOXY (TYP)
4" DBL YELLOW EPOXY (TYP)
YELLOW CURB
EPOXY (TYP)
30'
(TYP)
24" YELLOW
EPOXY (TYP)
TAPER = 1:94
4" WHITE EPOXY (TYP)
124+75.59
END TAPER
121+03.32
3.35' RT.
121+03.66
15.34' RT.
RIMROCK RD (U-1034/S-302)

R4-7R
NEW

STOP
RIMROCK RD

D3-1
R1-1
REMOVE

W1-8L
W1-8R
REMOVE

SPEED
LIMIT
55

R2-1
REPLACE

SHARE
THE
ROAD

W11-1
W16-1
REPLACE

HAND-HELD
PHONE USE
PROHIBITED
WHILE DRIVING

CITY-1
USE AS IS

W1-8L
W1-8R
REMOVE

⊢ = DESIGN A DELINEATOR

⬟ = WHITE FLEXIBLE DELINEATOR

▲ = YELLOW FLEXIBLE DELINEATOR

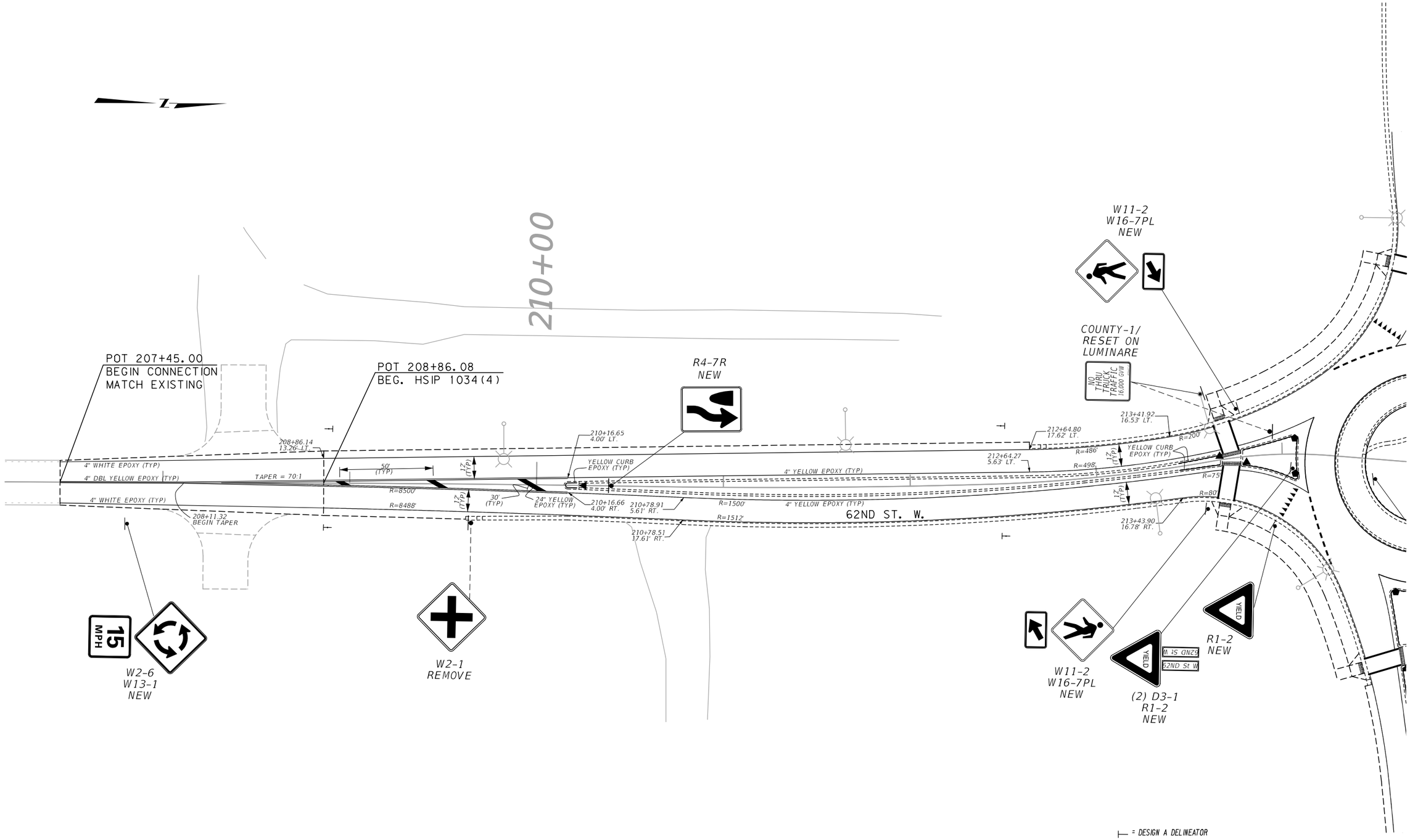
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0 25 50

SANDERSON STEWART

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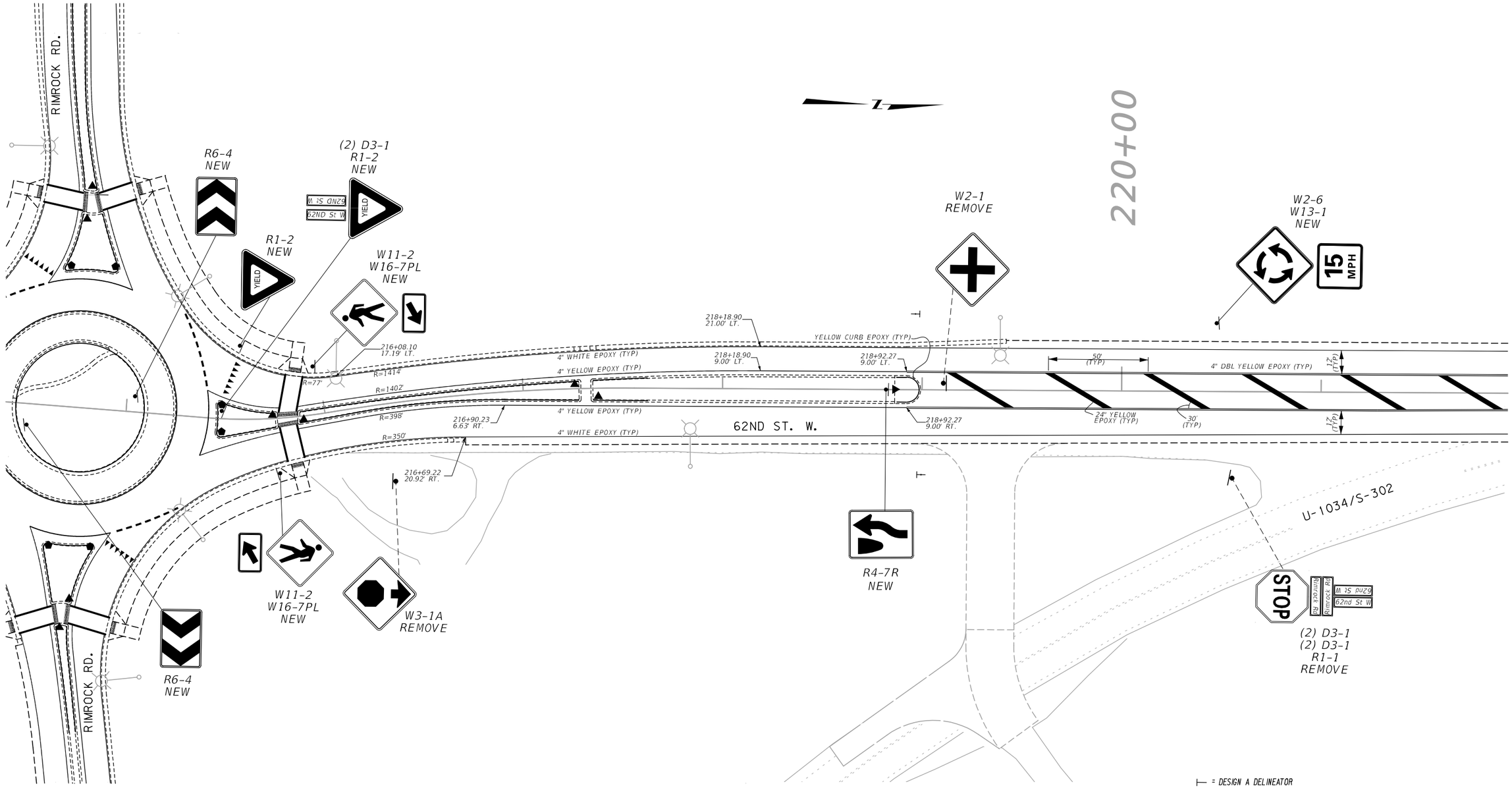
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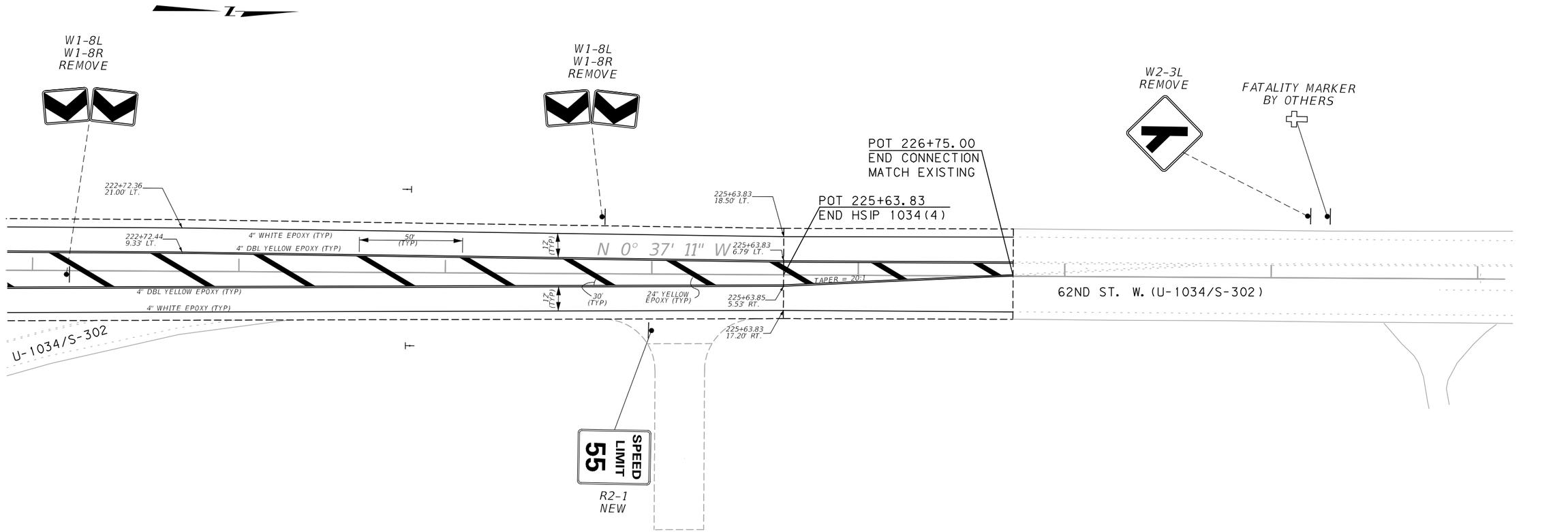
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▲ = YELLOW FLEXIBLE DELINEATOR

SCALE: 1"=25'

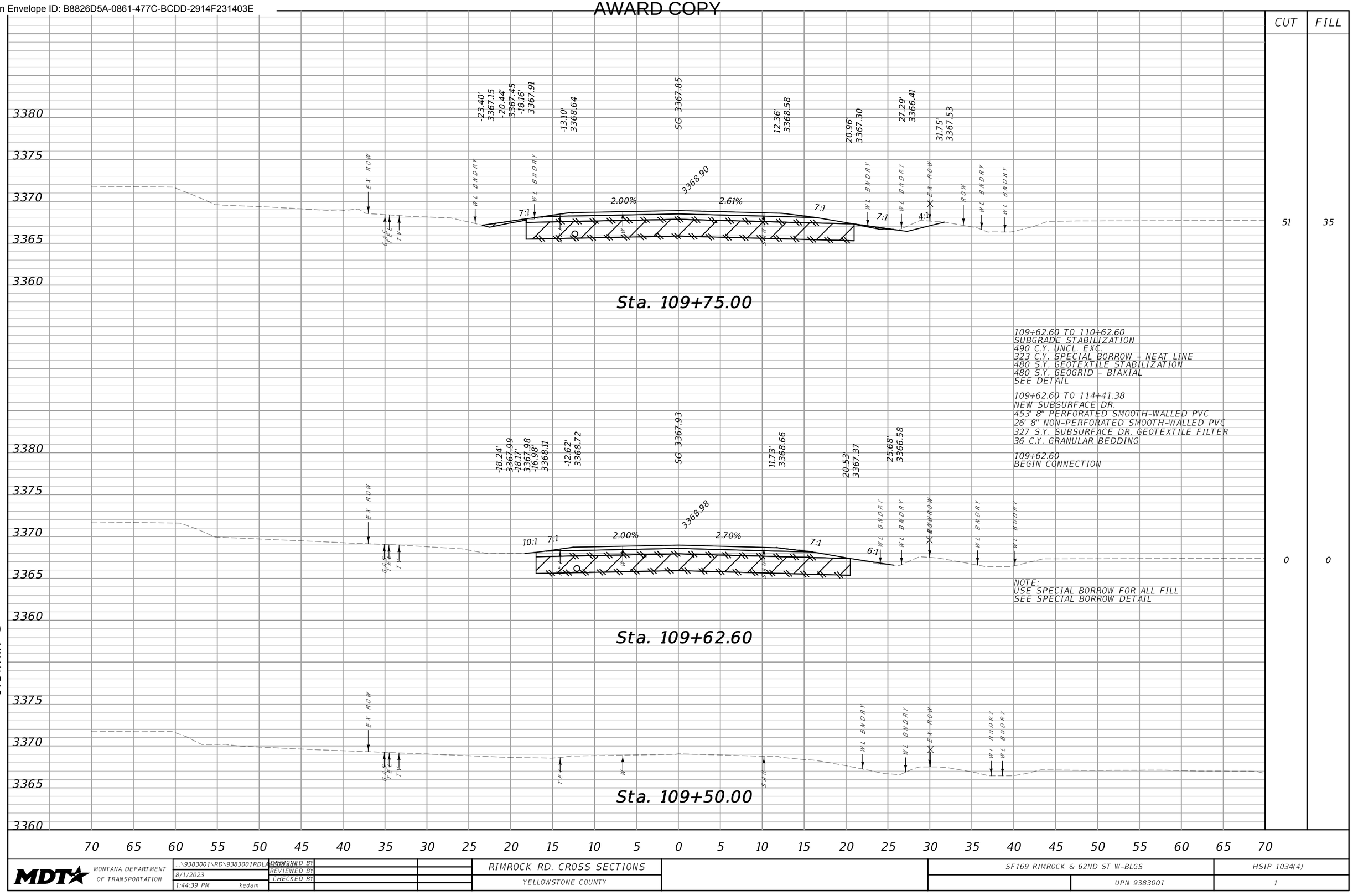
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SANDERSON STEWART

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CUT	FILL
51	35
0	0

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MDT MONTANA DEPARTMENT OF TRANSPORTATION

...\9383001\RD\9383001RDLAYOUT.dgn
8/1/2023
1:44:39 PM kedam

DESIGNED BY
REVIEWED BY
CHECKED BY

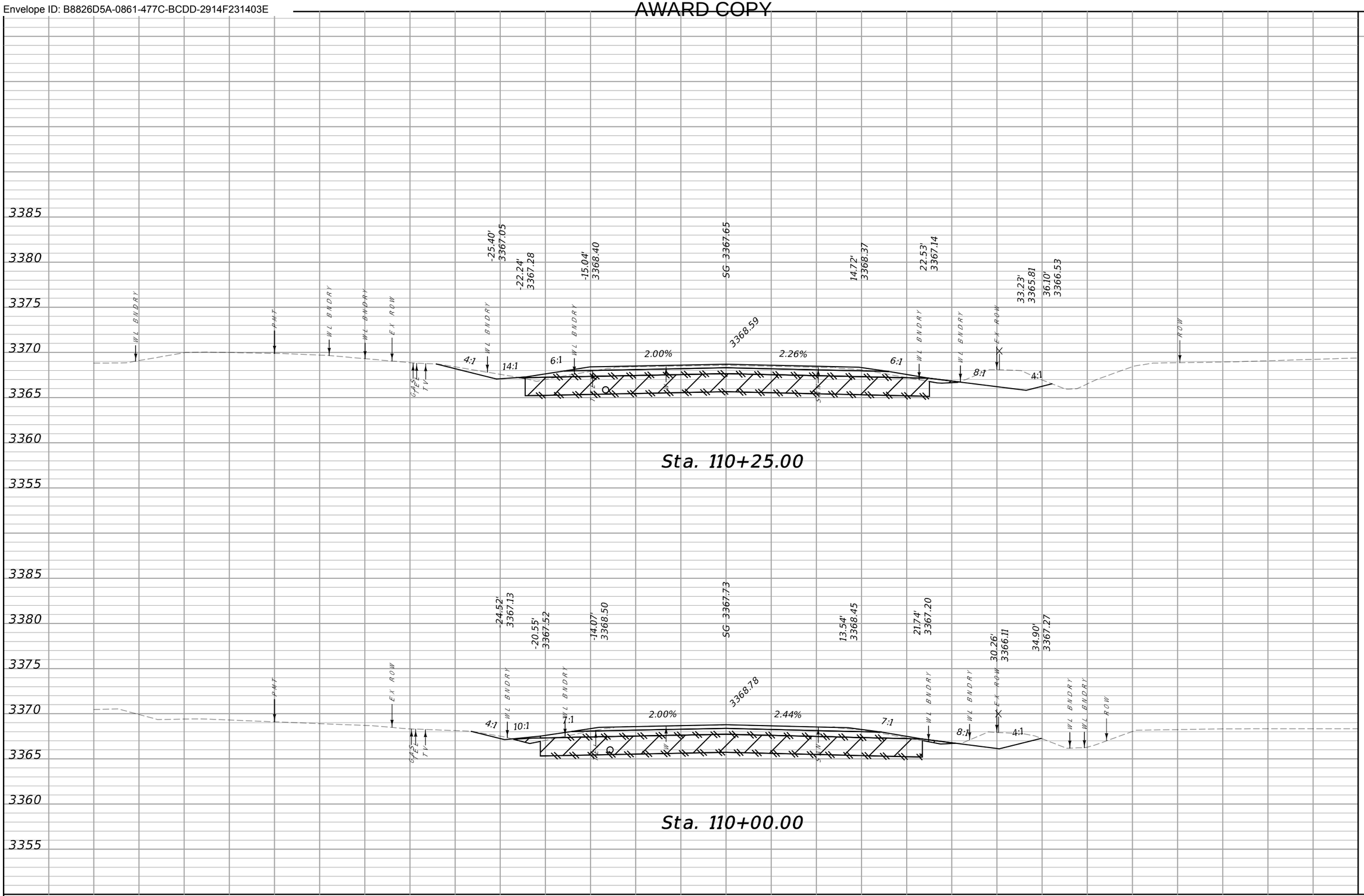
RIMROCK RD. CROSS SECTIONS
YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS
UPN 9383001

HSIP 1034(4)
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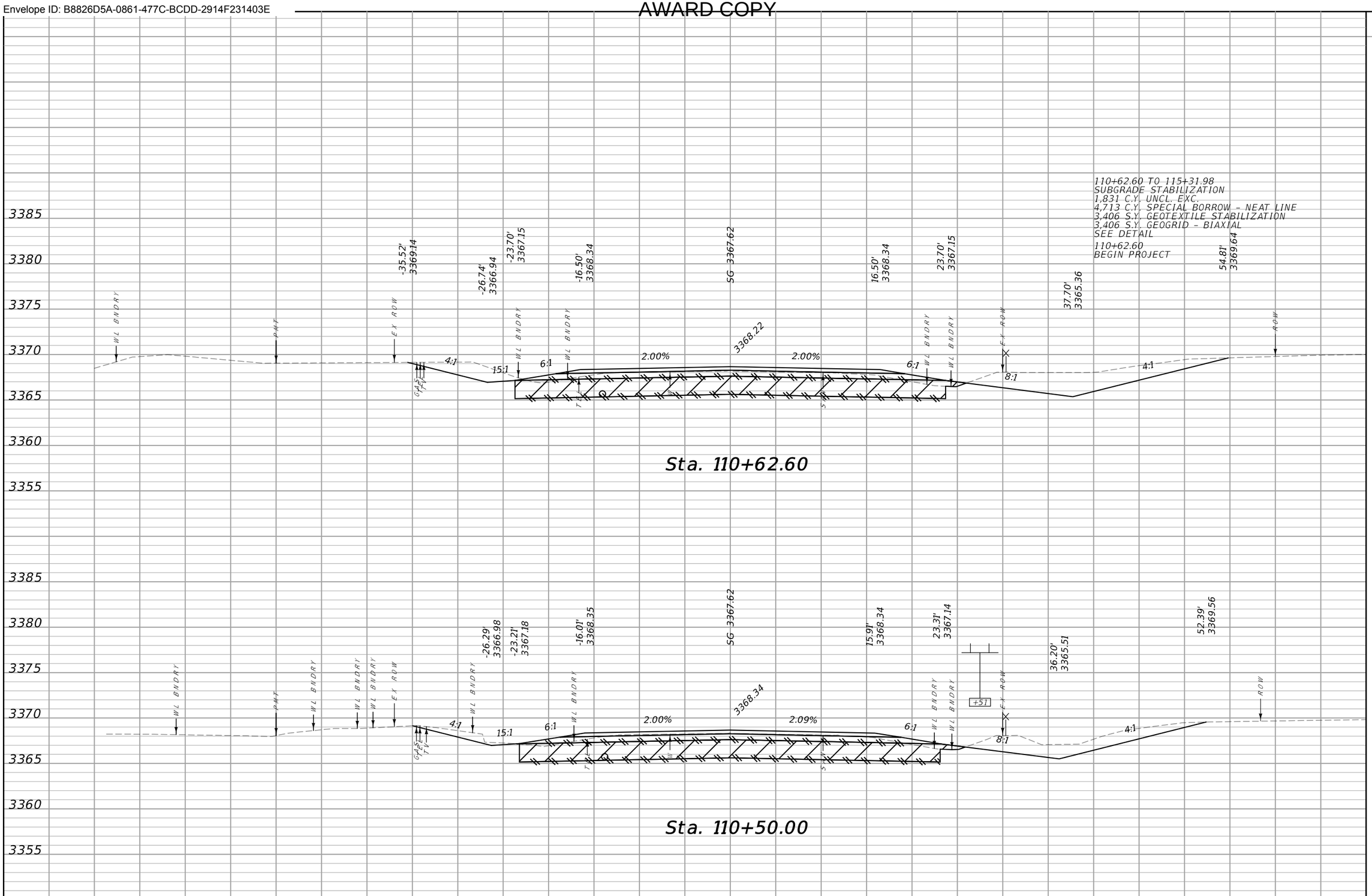
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121	81
112	78

SANDERSON STEWART

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CUT	FILL
75	44
131	85

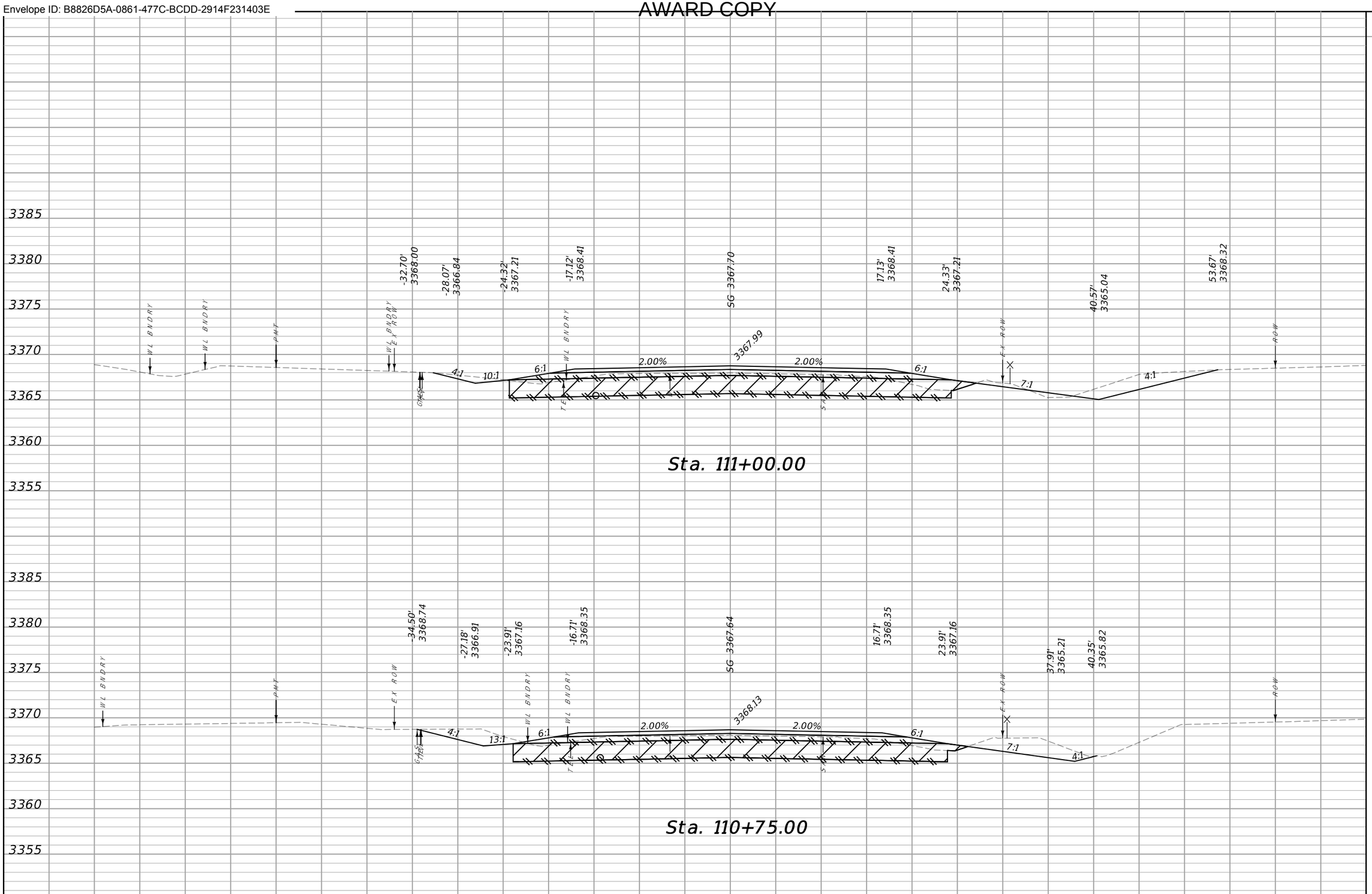
SANDERSON STEWART

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8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001 / 3
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CUT	FILL
119	92
70	44

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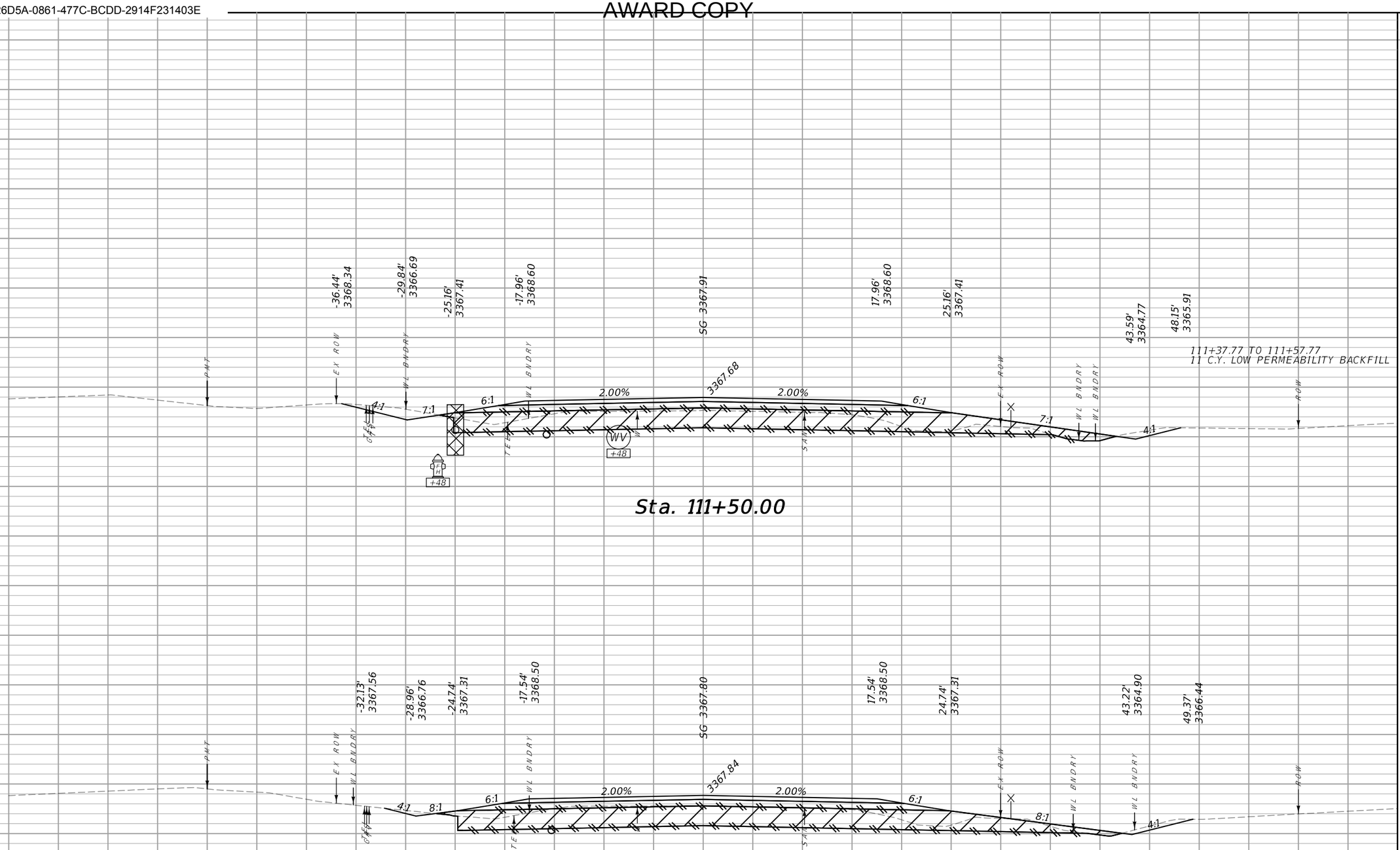
MDT MONTANA DEPARTMENT OF TRANSPORTATION

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8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001 / 4
1:44:43 PM kedam	CHECKED BY		

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CUT	FILL
87	110
103	102



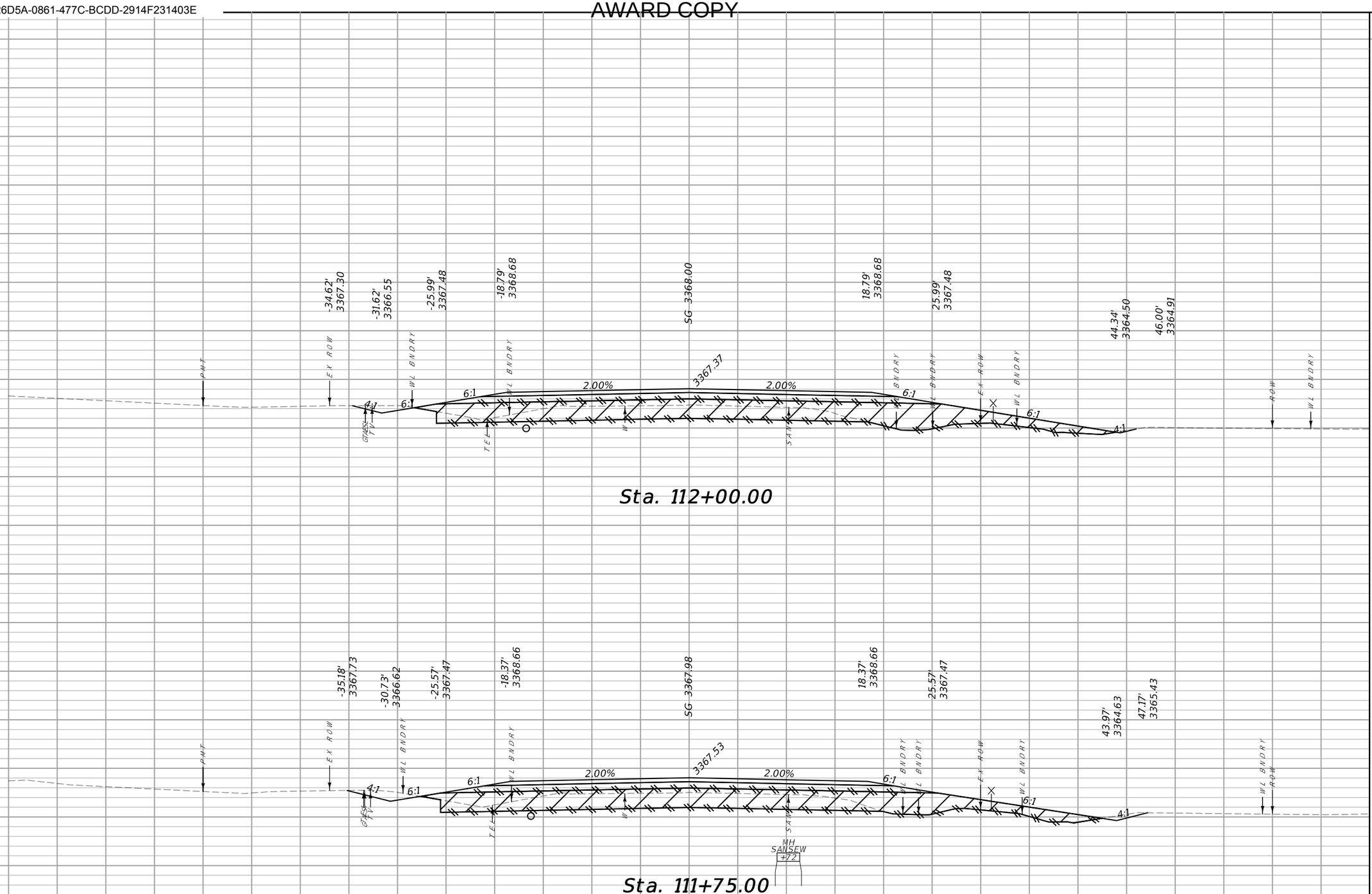
SANDERSON STEWART

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CUT	FILL
55	115
70	111

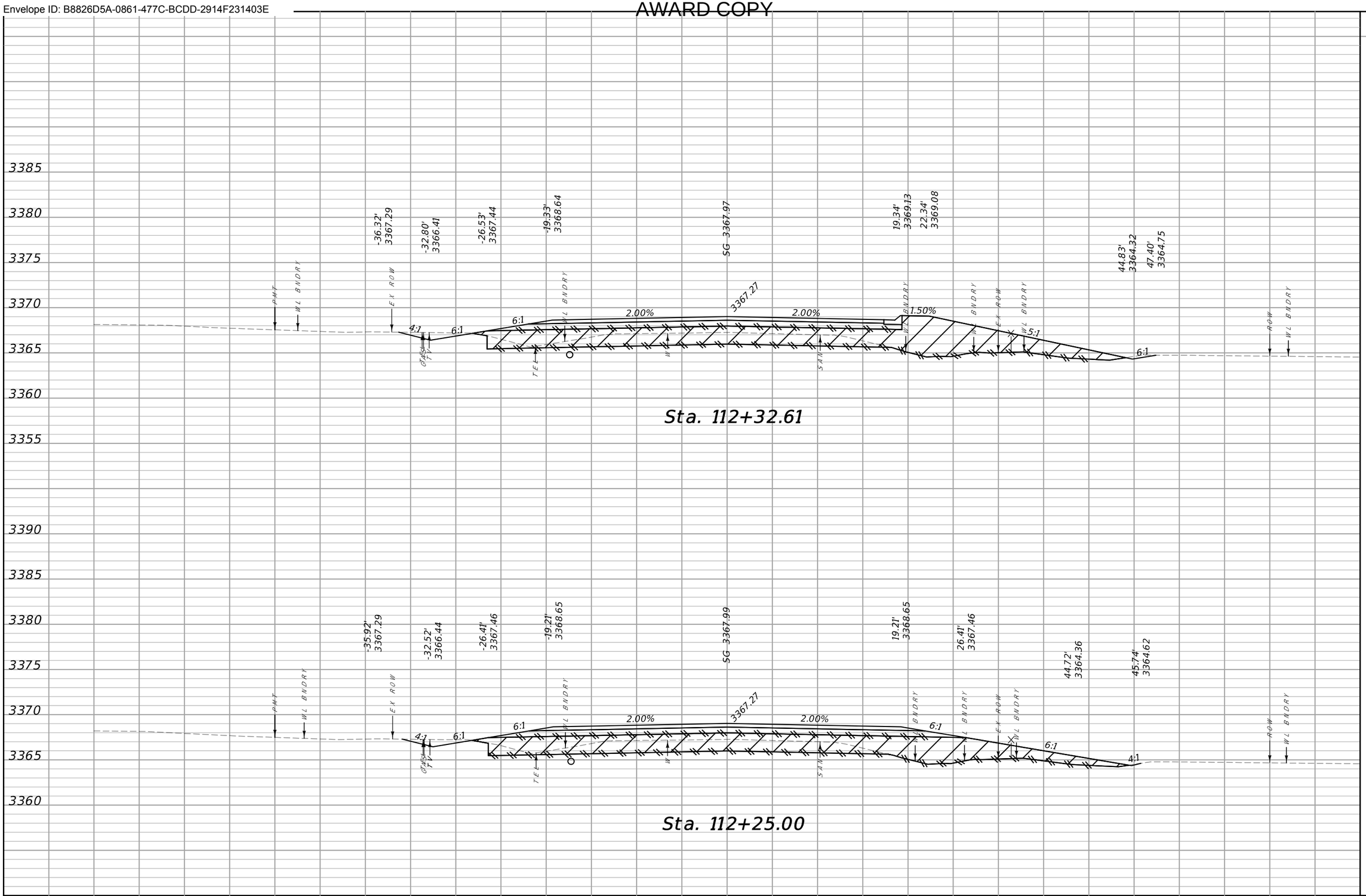


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CUT	FILL
14	40
48	121

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8/1/2023
1:44:46 PM kedam

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CHECKED BY

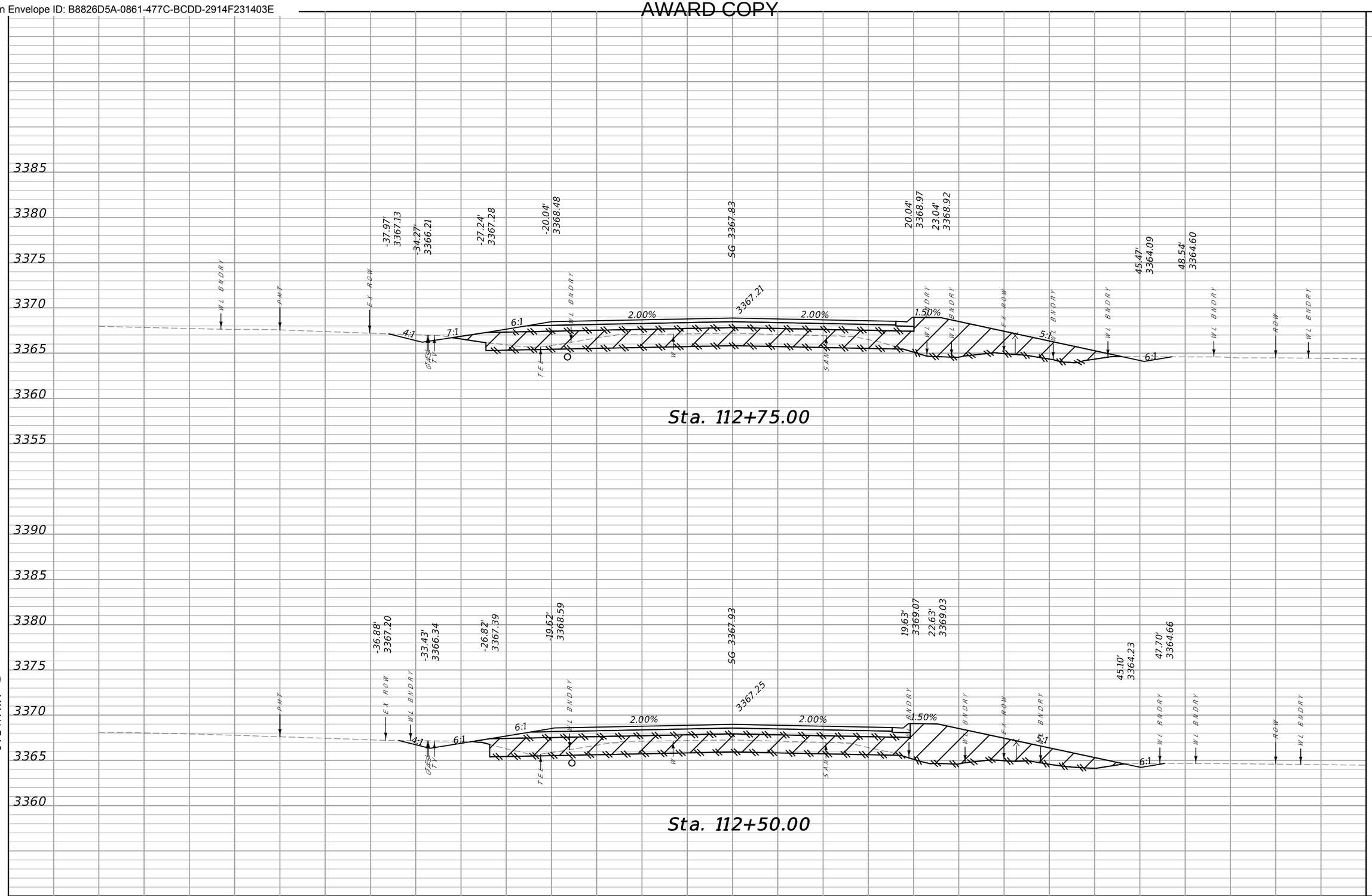
RIMROCK RD. CROSS SECTIONS
YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS
UPN 9383001

HSIP 1034(4)
7

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CUT	FILL
49	141
33	97

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8/1/2023
1:44:47 PM kedam

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REVIEWED BY
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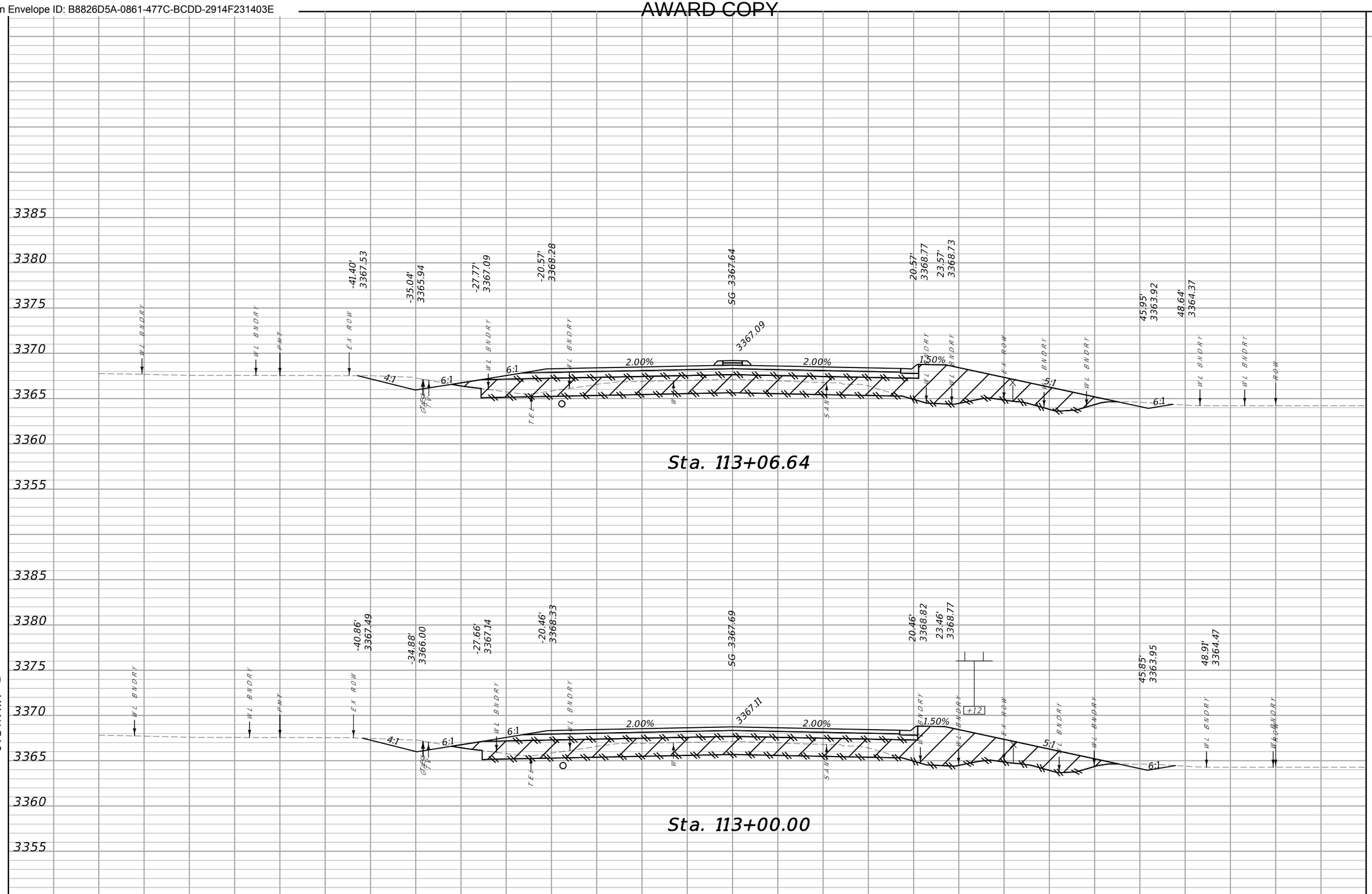
RIMROCK RD. CROSS SECTIONS
YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS
UPN 9383001

HSIP 1034(4)
8

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CUT	FILL
15	38
53	143

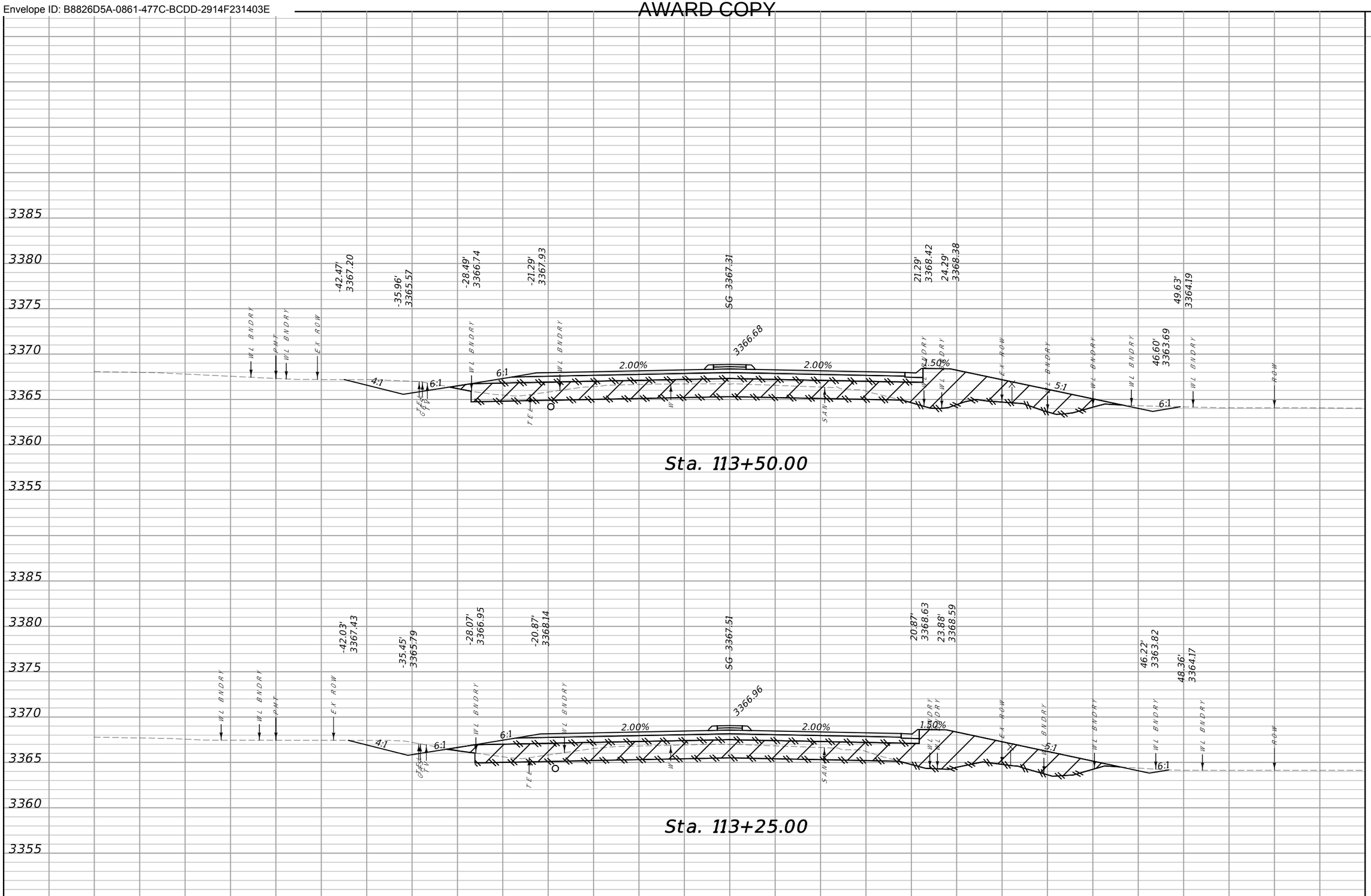
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CUT	FILL
61	143
43	106

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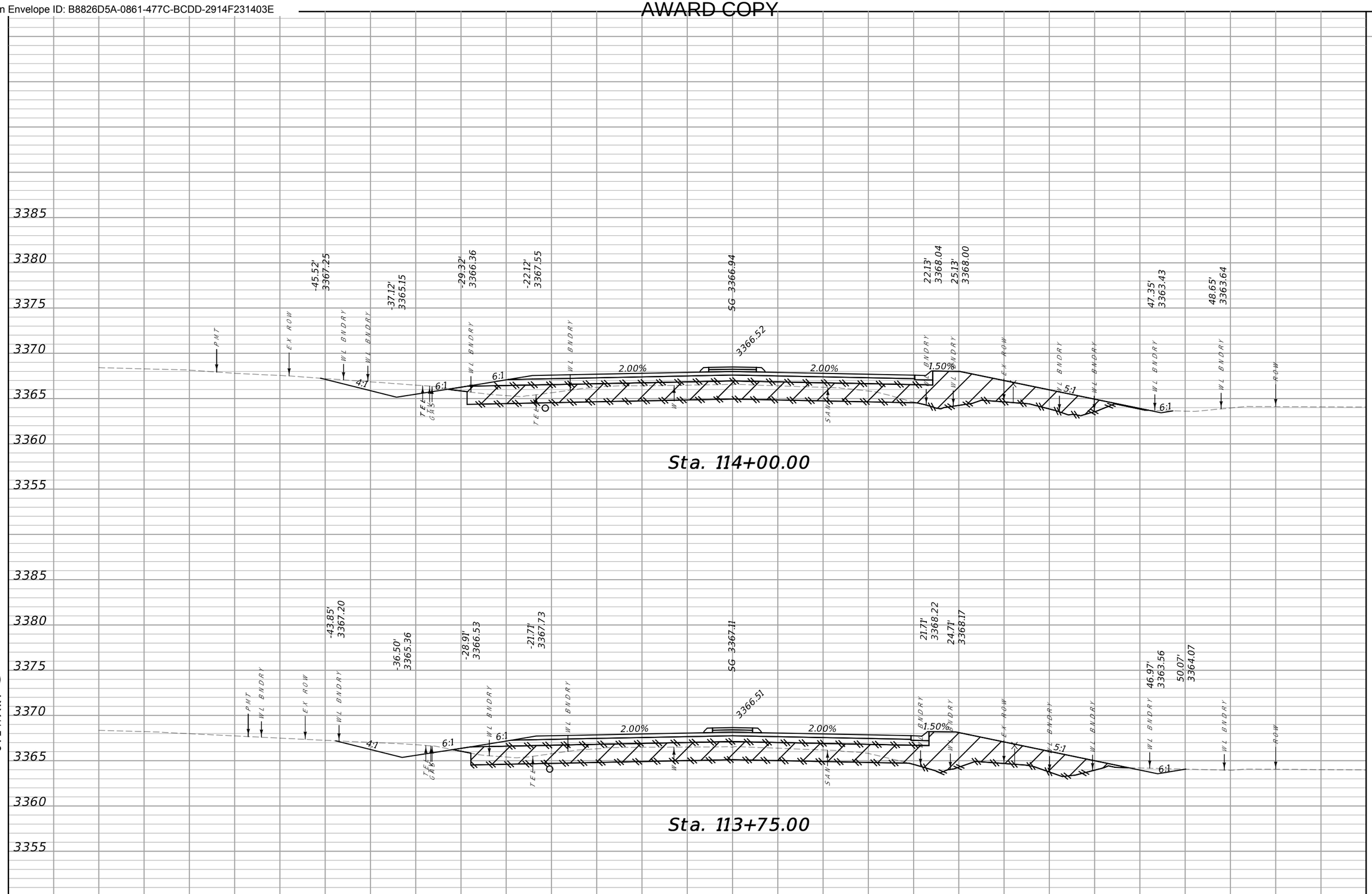
RIMROCK RD. CROSS SECTIONS
YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS
UPN 9383001

HSIP 1034(4)
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CUT	FILL
70	141
65	142

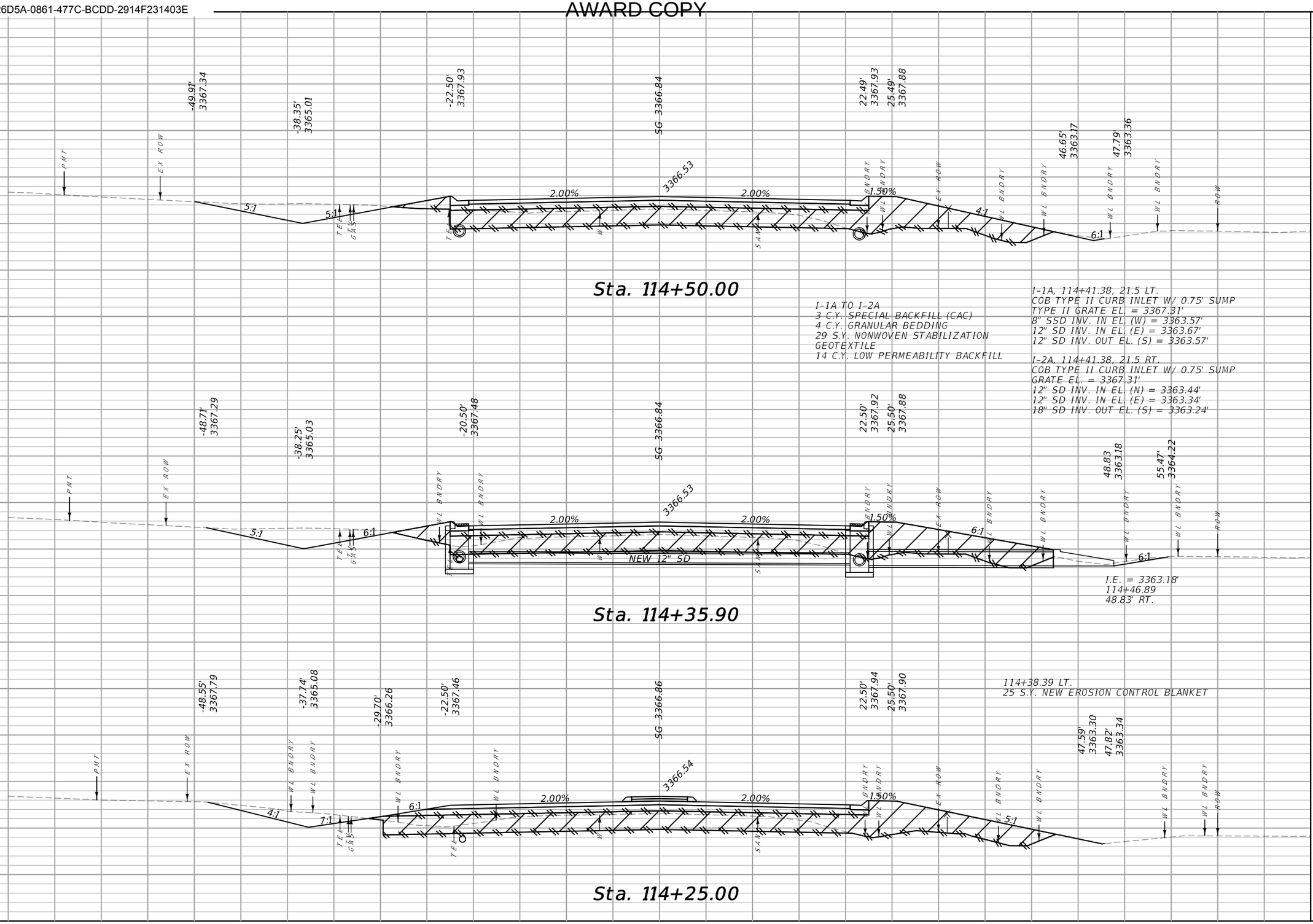
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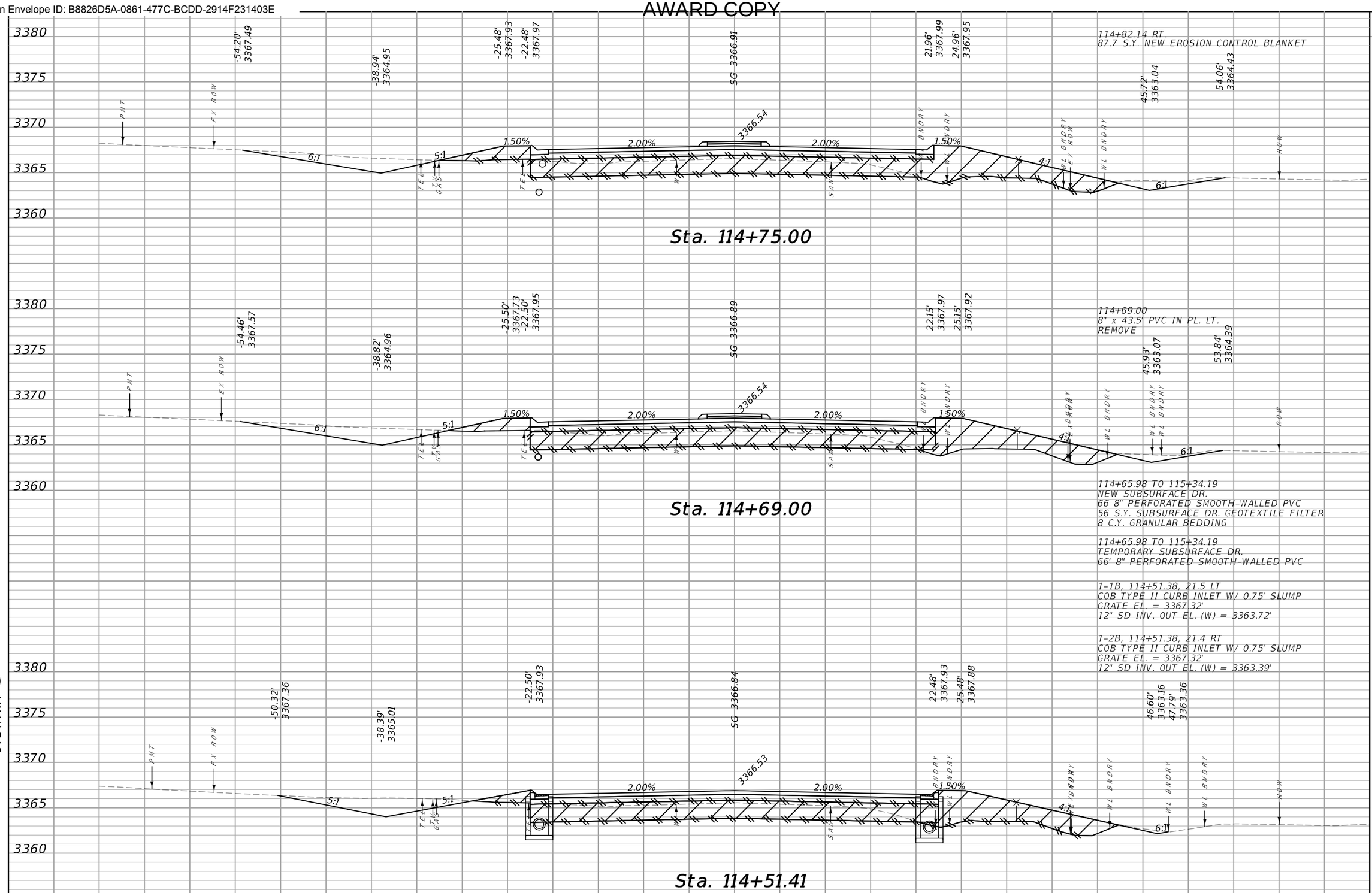
CUT	FILL
14	22
66	119
76	141

SANDERSON STEWART

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CUT	FILL
20	32
59	93
4	7

SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION

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1:44:53 PM kedam	CHECKED BY		

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	CUT	FILL
	3	10
	57	150
	74	143

SANDERSON STEWART

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SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
UPN 9383001	14

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CUT	FILL

116+73.57
REMOVE EX. MANHOLE
10.7' RT.

MH-4, 116+71.13, 38.9' RT.
TYPE 3 48" MANHOLE
RIM EL. = 3370.78
8" SSD INV. IN. EL. (NE) = 3362.59
8" SSD INV. OUT EL. (S) = 3362.55

115+28.26 TO 115+63.66
NEW SUBSURFACE DR.
29' 8" PERFORATED SMOOTH-WALLED PVC
65' 8" NON-PERFORATED SMOOTH-WALLED PVC
27 S.Y. SUBSURFACE DR. GEOTEXTILE FILTER
4 C.Y. GRANULAR BEDDING

116+71.13 TO 120+75.07
NEW SUBSURFACE DR.
417' 8" PERFORATED SMOOTH-WALLED PVC
8' 8" NON-PERFORATED SMOOTH-WALLED PVC
465 S.Y. SUBSURFACE DR. GEOTEXTILE FILTER
83 C.Y. GRANULAR BEDDING

116+70
NEW 58.5" x 36" x 240' RCPA
FETS LT. & RT.
4.8' COVER
SKEW 41 DEG. RT
261 C.Y. SPECIAL BACKFILL (CAC)
101 C.Y. COMPACTED BEDDING
964 S.Y. NONWOVEN STABILIZATION GEOTEXTILE
143 C.Y. FOUNDATION MATERIAL
35 C.Y. LOW PERMEABILITY BACKFILL

MH-A, 116+68.11, 39.2' LT
TYPE 1 48" MANHOLE
RIM EL. = 3371.42
EX. 24" PVE INV. EL. = 3360.11 +/-
NEW 24" PVC INV. OUT EL. = 3360.01'

116+48
18" x 50.9' CSP IN PL.
REMOVE

115+79.01 RT.
17.6 C.Y. CL. 1 RIPRAP
SEE DETAIL

115+60.22 RT.
53 S.Y. TURF REIN. MAT
10.0' WIDTH x 47.8' LENGTH

115+31.98 TO 118+18.67
ROUNDABOUT
SEE DETAILS

115+31.98 TO 118+18.67
SUBGRADE STABILIZATION
415 C.Y. UNCL. EXC.
7,084 C.Y. SPECIAL BORROW - NEAT LINE
5,915 S.Y. GEOTEXTILE STABILIZATION
5,915 S.Y. GEOGRID BIAXIAL
SEE DETAIL

MH-1 TO 0-2
5 C.Y. CONTROLLED LOW STRENGTH MATERIAL
46 C.Y. SPECIAL BACKFILL (CAC)
33 C.Y. GRANULAR BEDDING
40 C.Y. FOUNDATION MATERIAL
325 S.Y. NONWOVEN STABILIZATION
16 C.Y. LOW PERMEABILITY BACKFILL

116+68.64, RT.
C-1 TO MH-B
1 C.Y. CONTROLLED LOW STRENGTH MATERIAL
43 C.Y. SPECIAL BACKFILL (CAC)
15 C.Y. FOUNDATION MATERIAL
18 C.Y. GRANULAR BEDDING MATERIAL
141 S.Y. NONWOVEN STABILIZATION GEOTEXTILE

W — W
116+88 20" WATER LINE X-ING

SAN — SAN
116+72 24" SAN. SEWER X-ING

PWR — PWR
116+56 O.H. PWR. LINE X-ING (4 LINES)

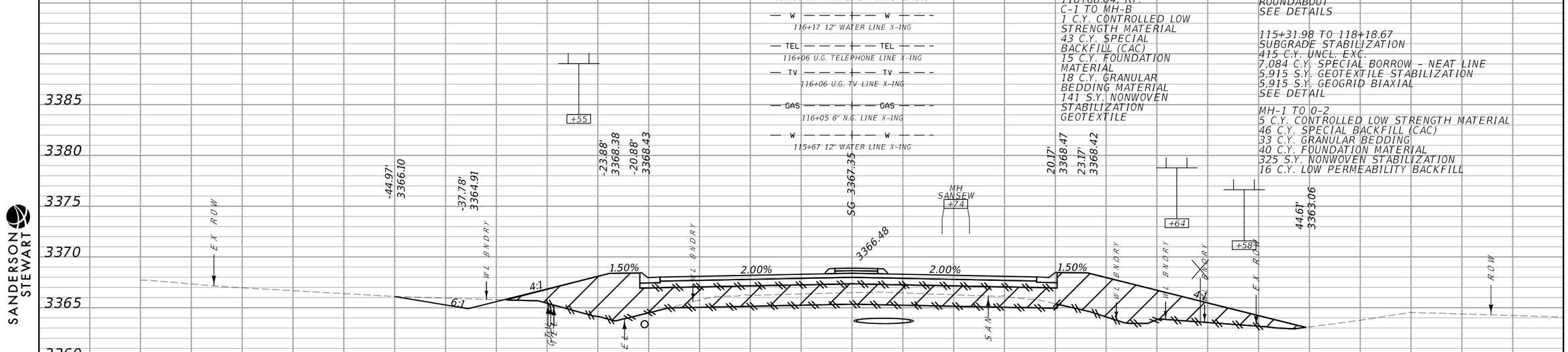
W — W
116+17 12" WATER LINE X-ING

TEL — TEL
116+06 U.G. TELEPHONE LINE X-ING

TV — TV
116+06 U.G. TV LINE X-ING

GAS — GAS
116+05 6" N.G. LINE X-ING

W — W
115+67 12" WATER LINE X-ING



Sta. 115+31.98

13 47

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\9383001\RD\9383001RDLAYOUT.dgn 8/1/2023 1:44:55 PM kedam	DESIGNED BY REVIEWED BY CHECKED BY	RIMROCK RD. CROSS SECTIONS YELLOWSTONE COUNTY	SF169 RIMROCK & 62ND ST W-BLGS UPN 9383001	HSIP 1034(4) 15

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CUT	FILL
0	0

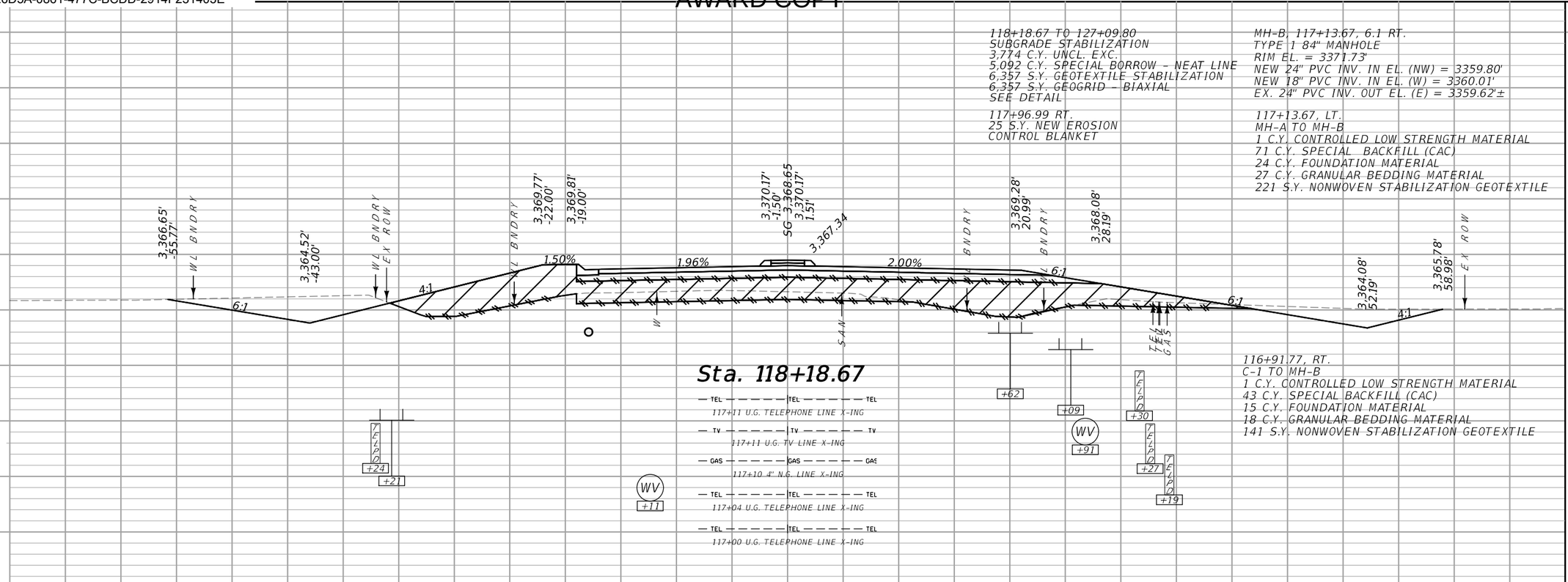
118+18.67 TO 127+09.80
SUBGRADE STABILIZATION
3,774 C.Y. UNCL. EXC.
5,092 C.Y. SPECIAL BORROW - NEAT LINE
6,357 S.Y. GEOTEXTILE STABILIZATION
6,357 S.Y. GEOGRID - BIAXIAL
SEE DETAIL

117+96.99 RT.
25 S.Y. NEW EROSION
CONTROL BLANKET

MH-B, 117+13.67, 6.1 RT.
TYPE 1 84" MANHOLE
RIM EL. = 3371.73'
NEW 24" PVC INV. IN EL. (NW) = 3359.80'
NEW 18" PVC INV. IN EL. (W) = 3360.01'
EX. 24" PVC INV. OUT EL. (E) = 3359.62'±

117+13.67, LT.
MH-A TO MH-B
1 C.Y. CONTROLLED LOW STRENGTH MATERIAL
71 C.Y. SPECIAL BACKFILL (CAC)
24 C.Y. FOUNDATION MATERIAL
27 C.Y. GRANULAR BEDDING MATERIAL
221 S.Y. NONWOVEN STABILIZATION GEOTEXTILE

116+91.77, RT.
C-1 TO MH-B
1 C.Y. CONTROLLED LOW STRENGTH MATERIAL
43 C.Y. SPECIAL BACKFILL (CAC)
15 C.Y. FOUNDATION MATERIAL
18 C.Y. GRANULAR BEDDING MATERIAL
141 S.Y. NONWOVEN STABILIZATION GEOTEXTILE



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SANDERSON STEWART

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CUT	FILL
14	23
66	122
9	18

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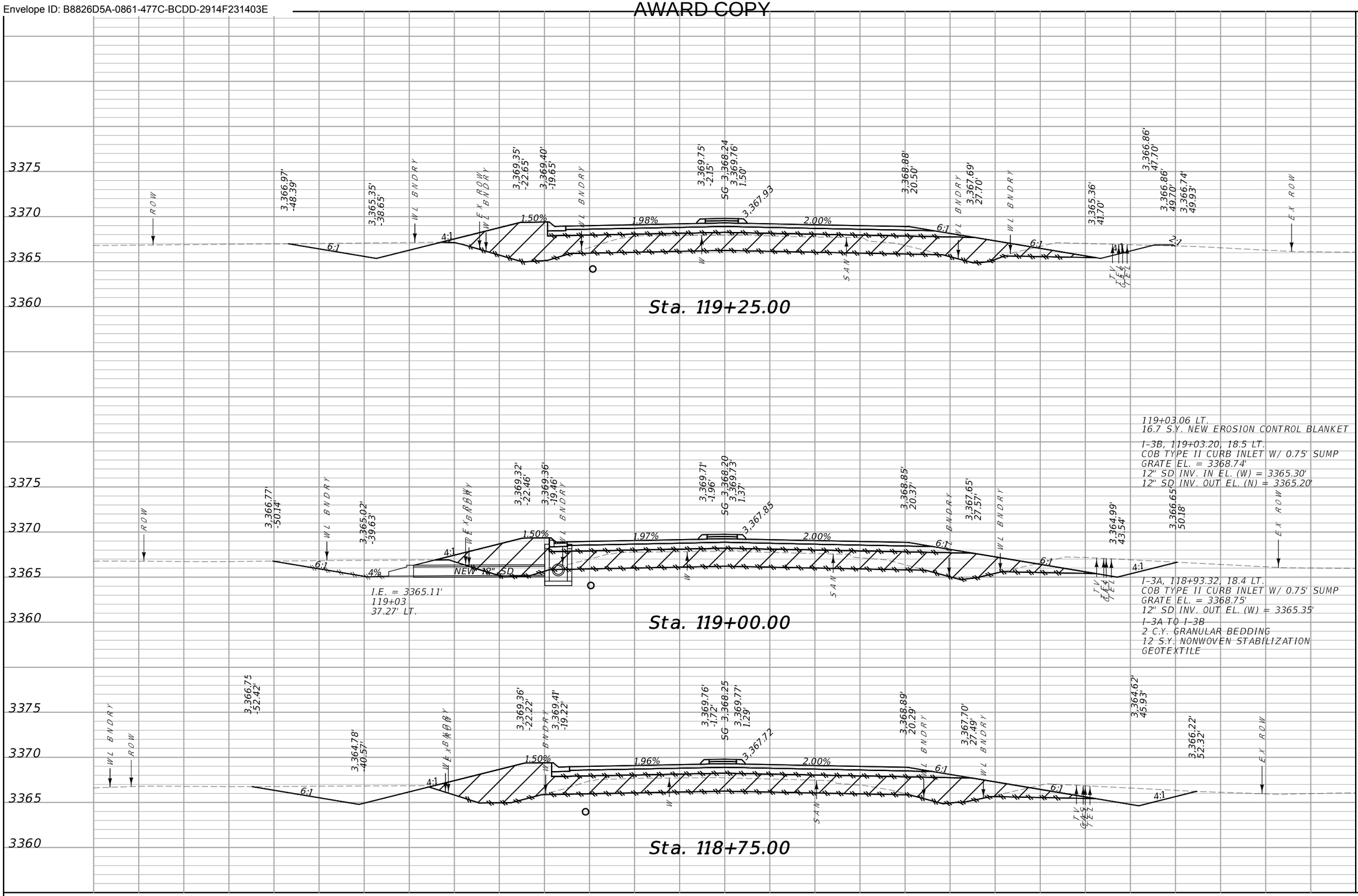
RIMROCK RD. CROSS SECTIONS
YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS
UPN 9383001

HSIP 1034(4)

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CUT	FILL
87	133
91	137
88	143

119+03.06 LT.
16.7 S.Y. NEW EROSION CONTROL BLANKET

I-3B, 119+03.20, 18.5 LT.
COB TYPE II CURB INLET W/ 0.75' SUMP
GRATE EL. = 3368.74'
12" SD INV. IN EL. (W) = 3365.30'
12" SD INV. OUT EL. (N) = 3365.20'

I-3A, 118+93.32, 18.4 LT.
COB TYPE II CURB INLET W/ 0.75' SUMP
GRATE EL. = 3368.75'
12" SD INV. OUT EL. (W) = 3365.35'

I-3A TO I-3B
2 C.Y. GRANULAR BEDDING
12 S.Y. NONWOVEN STABILIZATION GEOTEXTILE

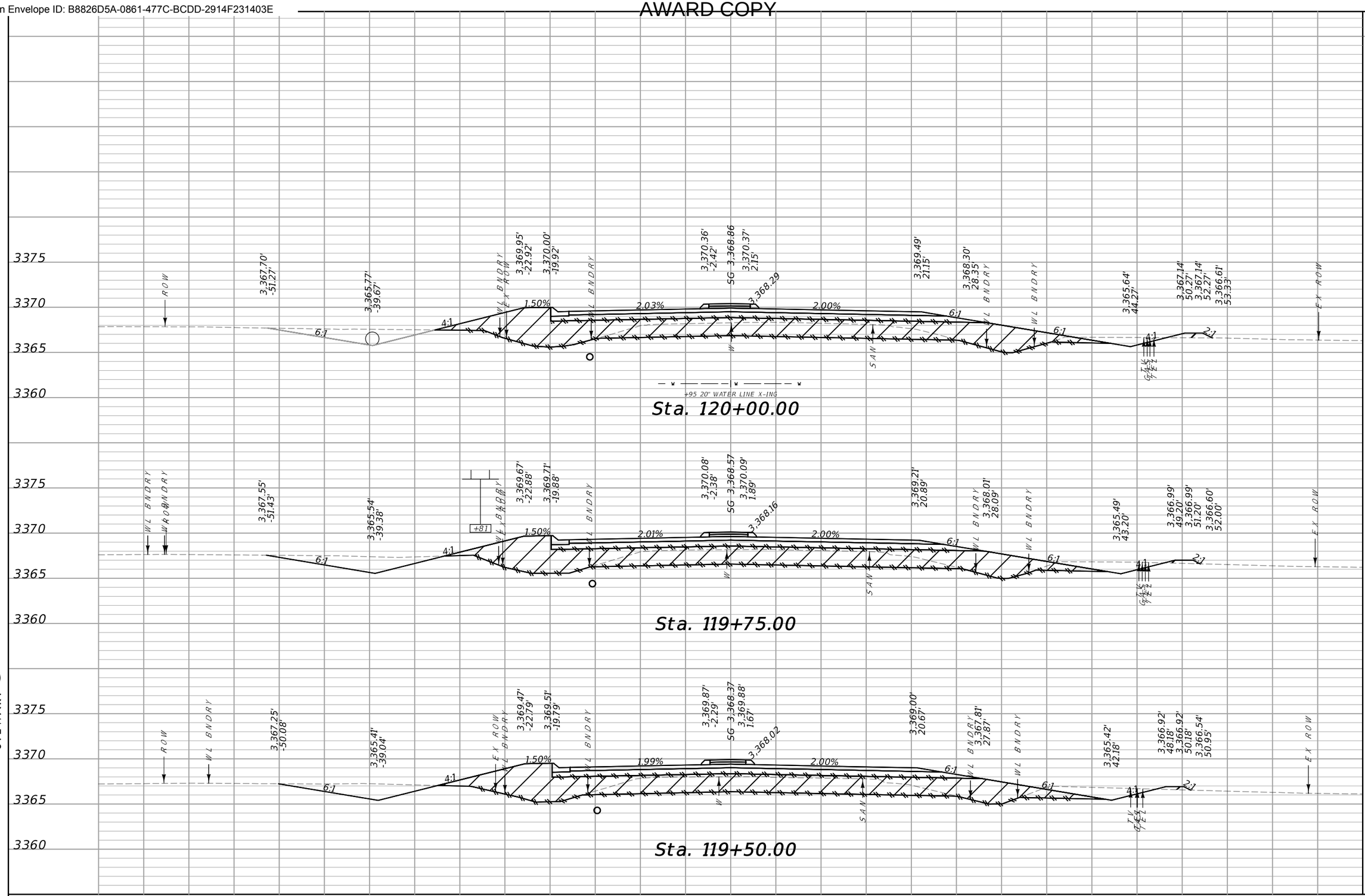
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			18

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CUT	FILL
74	137
81	135
83	133

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RIMROCK RD. CROSS SECTIONS

YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS

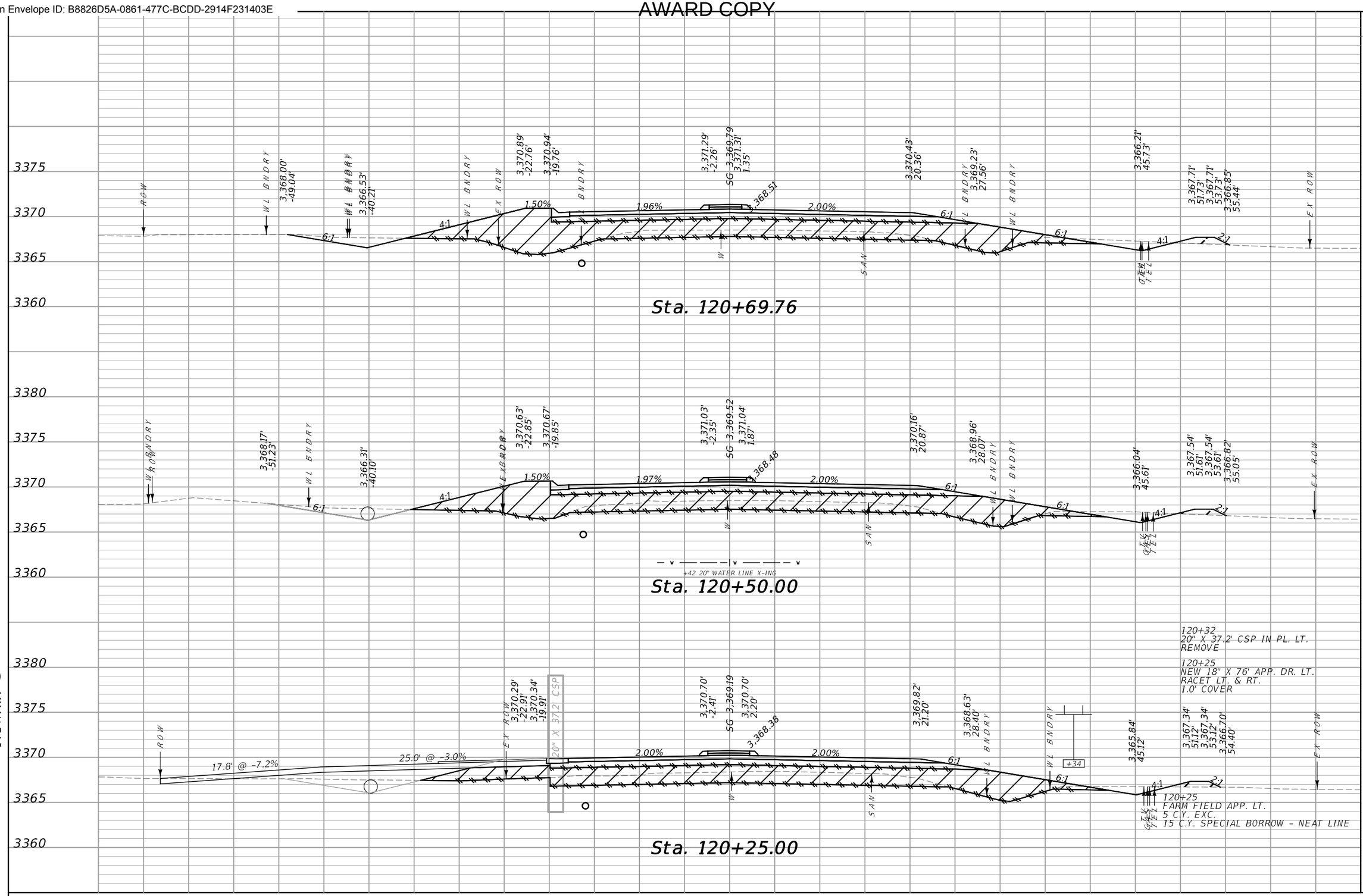
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CUT	FILL
36	117
56	138
66	136

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RIMROCK RD. CROSS SECTIONS

YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS

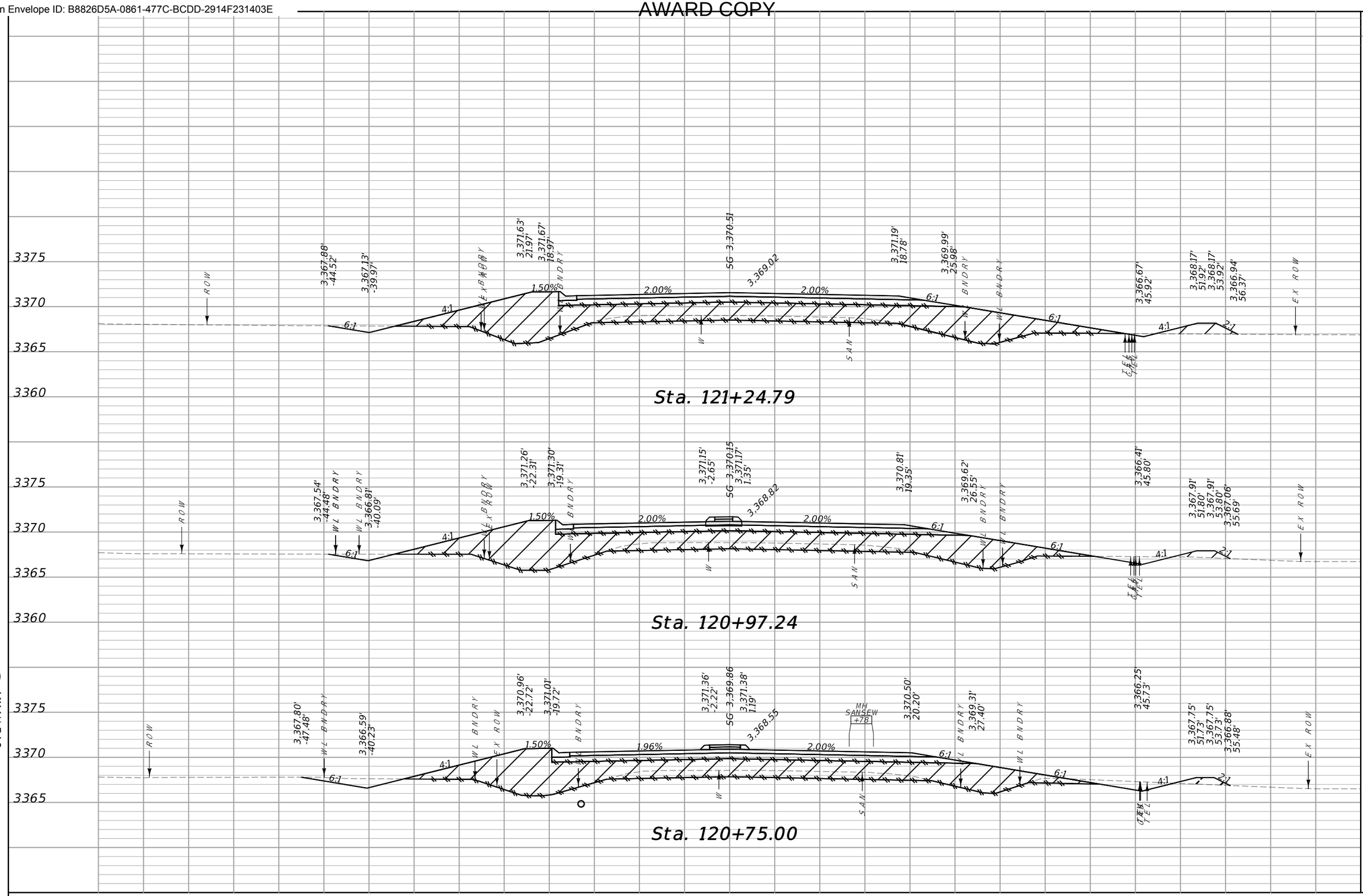
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CUT	FILL
18	148
34	183
8	33

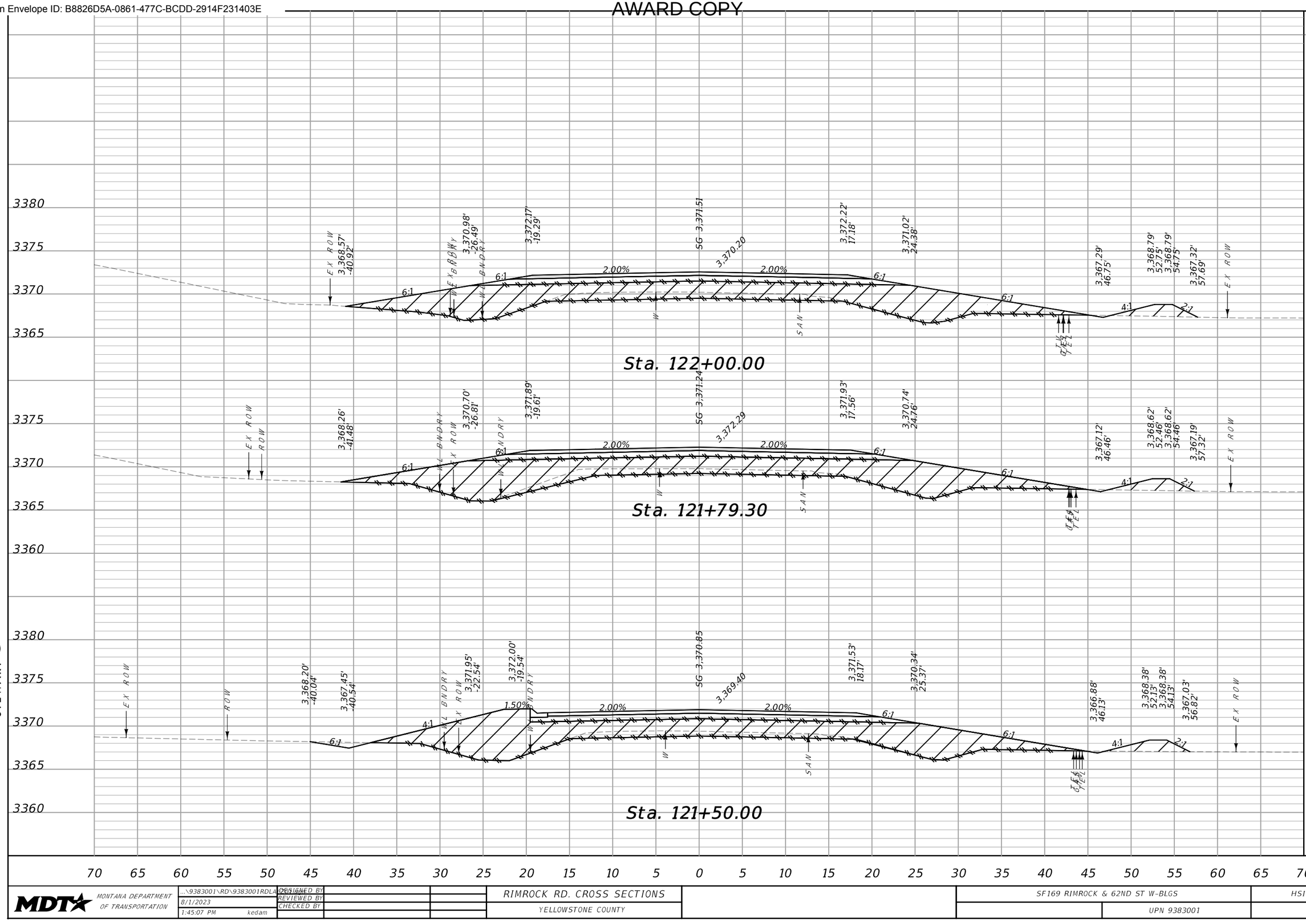
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CUT	FILL
18	153
25	222
20	184

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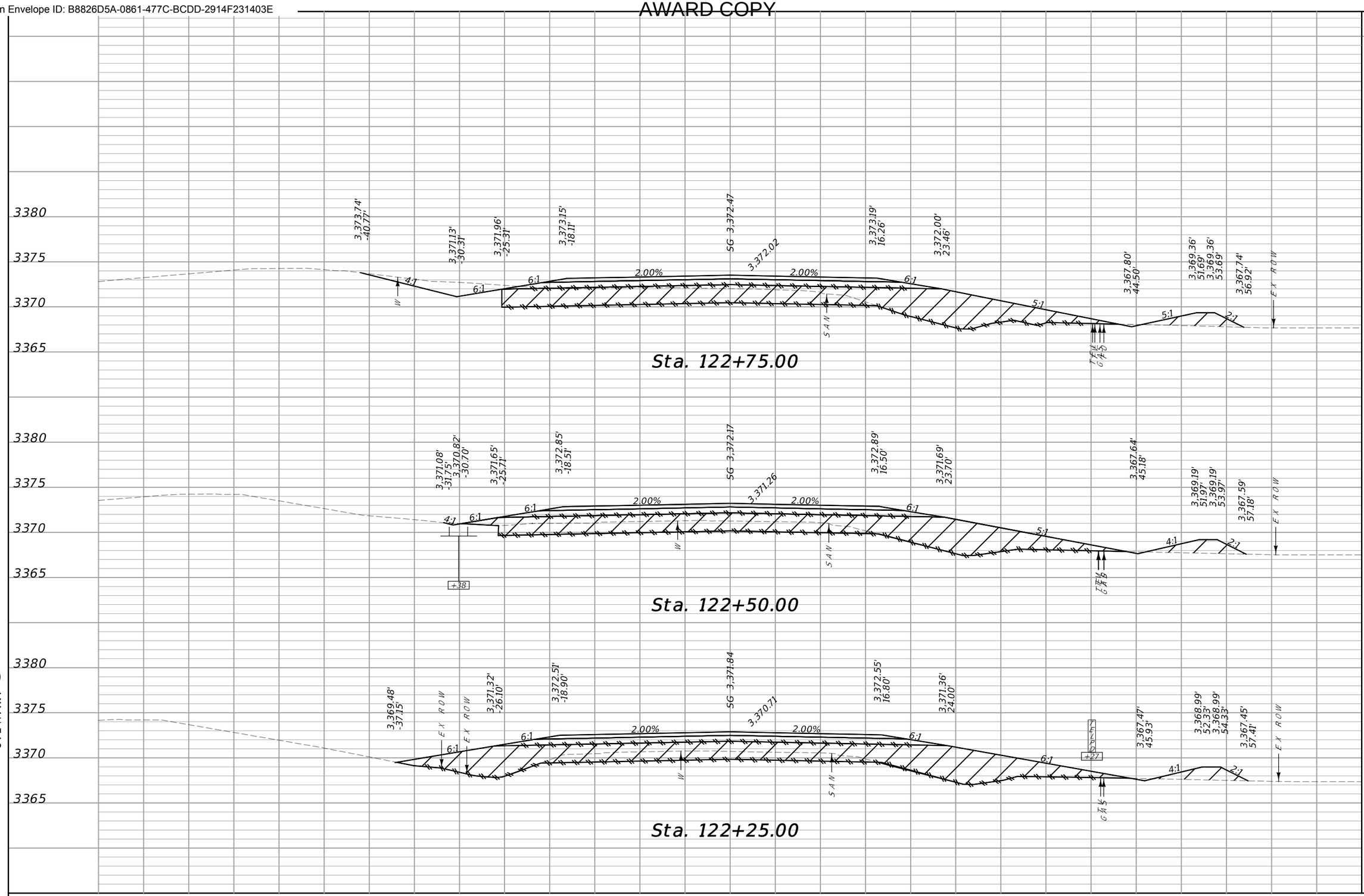
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			22

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	CUT	FILL
Sta. 122+75.00	60	143
Sta. 122+50.00	36	155
Sta. 122+25.00	26	173

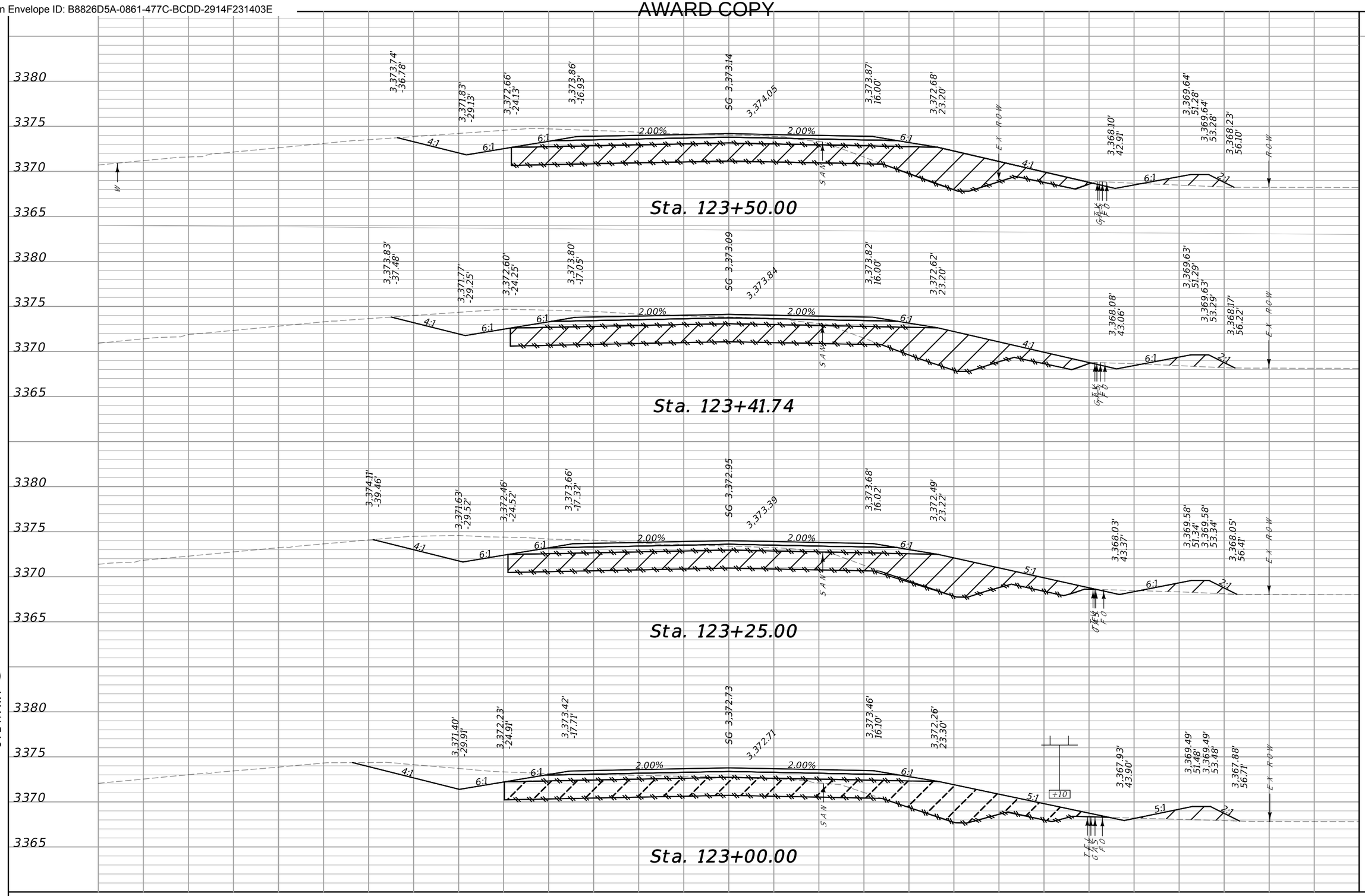


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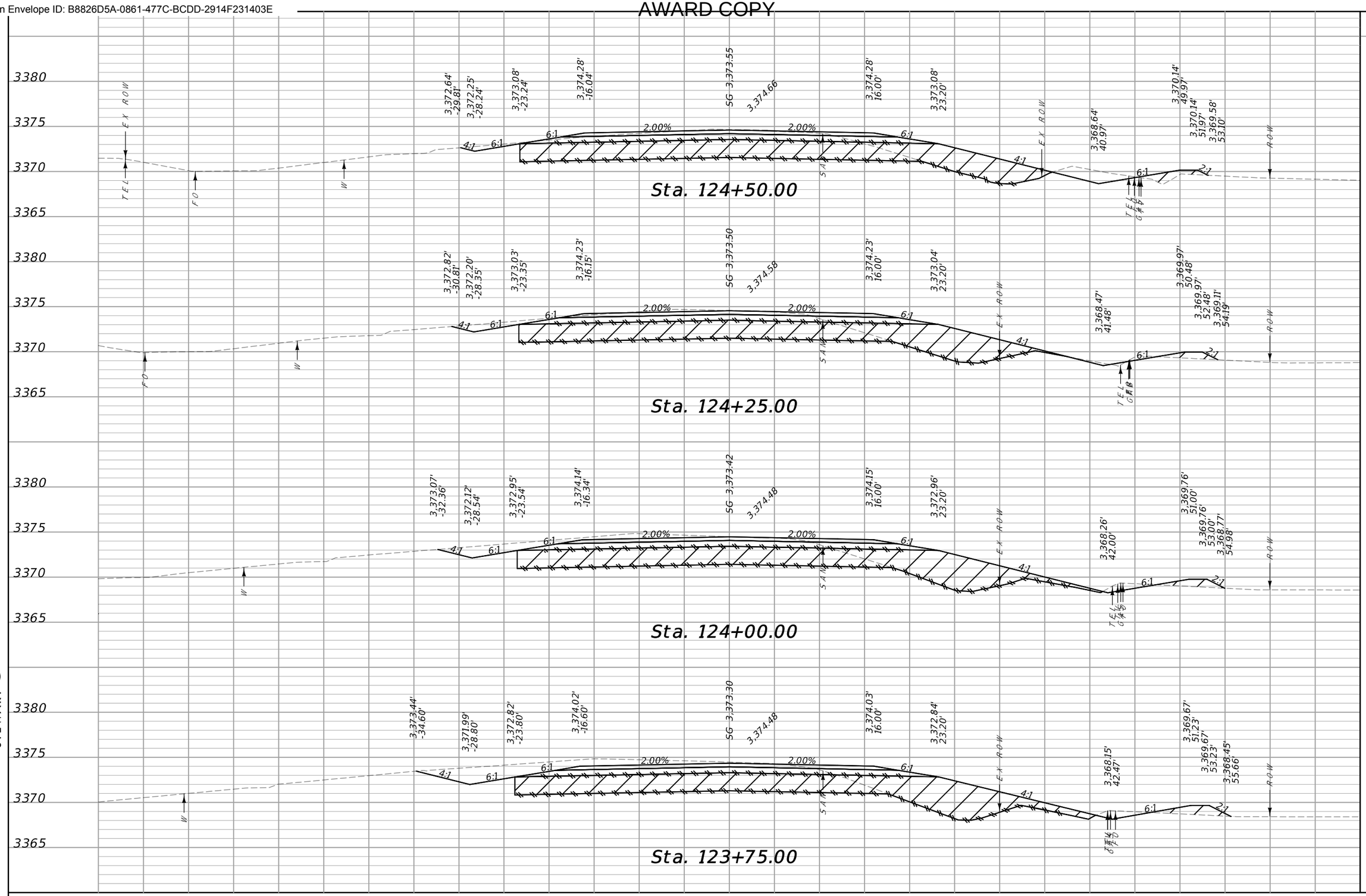
CUT	FILL
44	44
87	92
116	140
90	141

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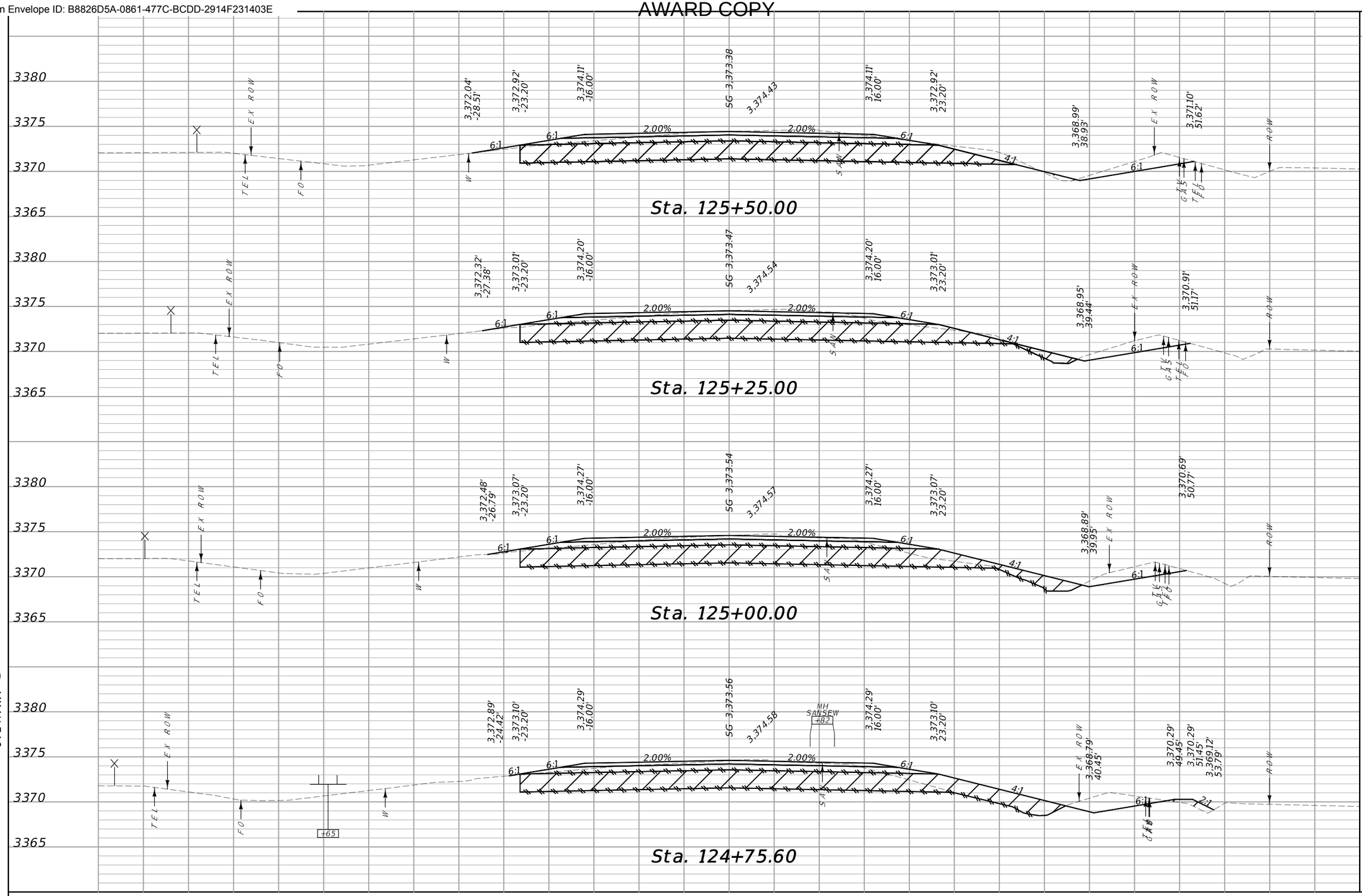
CUT | FILL

SANDERSON STEWART

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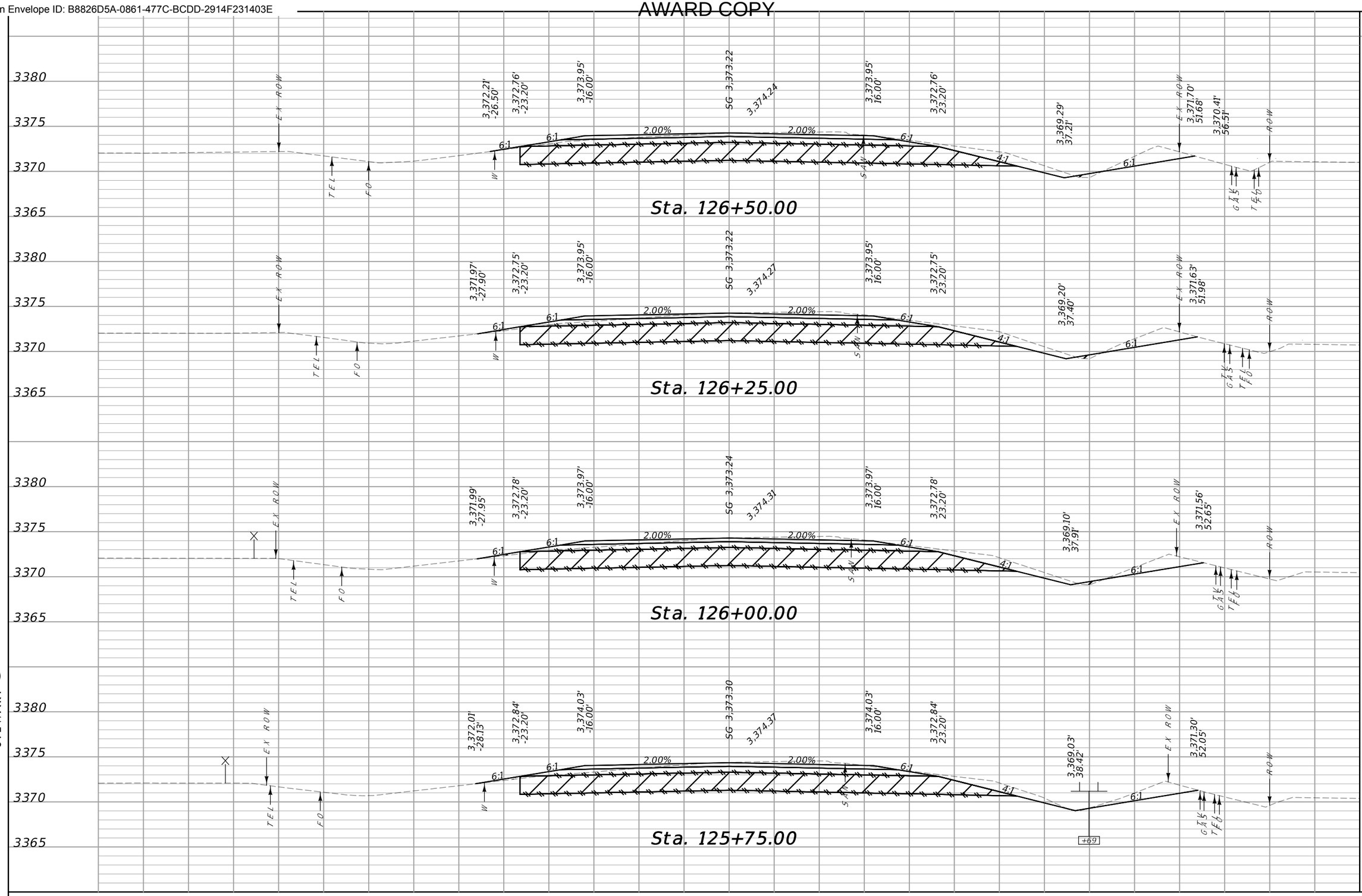
CUT	FILL
136	100
128	105
119	103
119	115

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CUT	FILL
150	95
148	95
145	95
143	95

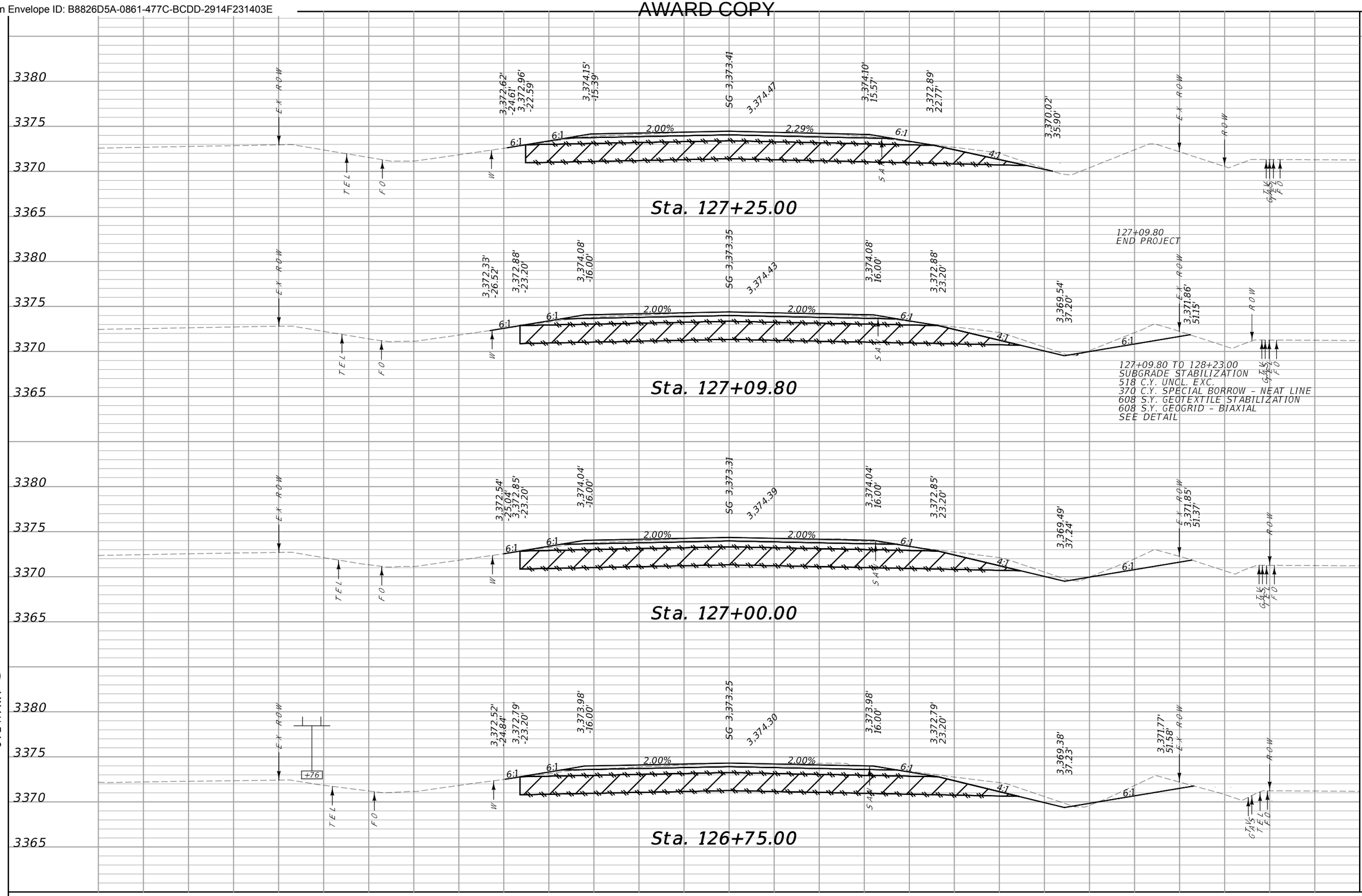
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CUT	FILL
40	30
57	37
147	94
149	95

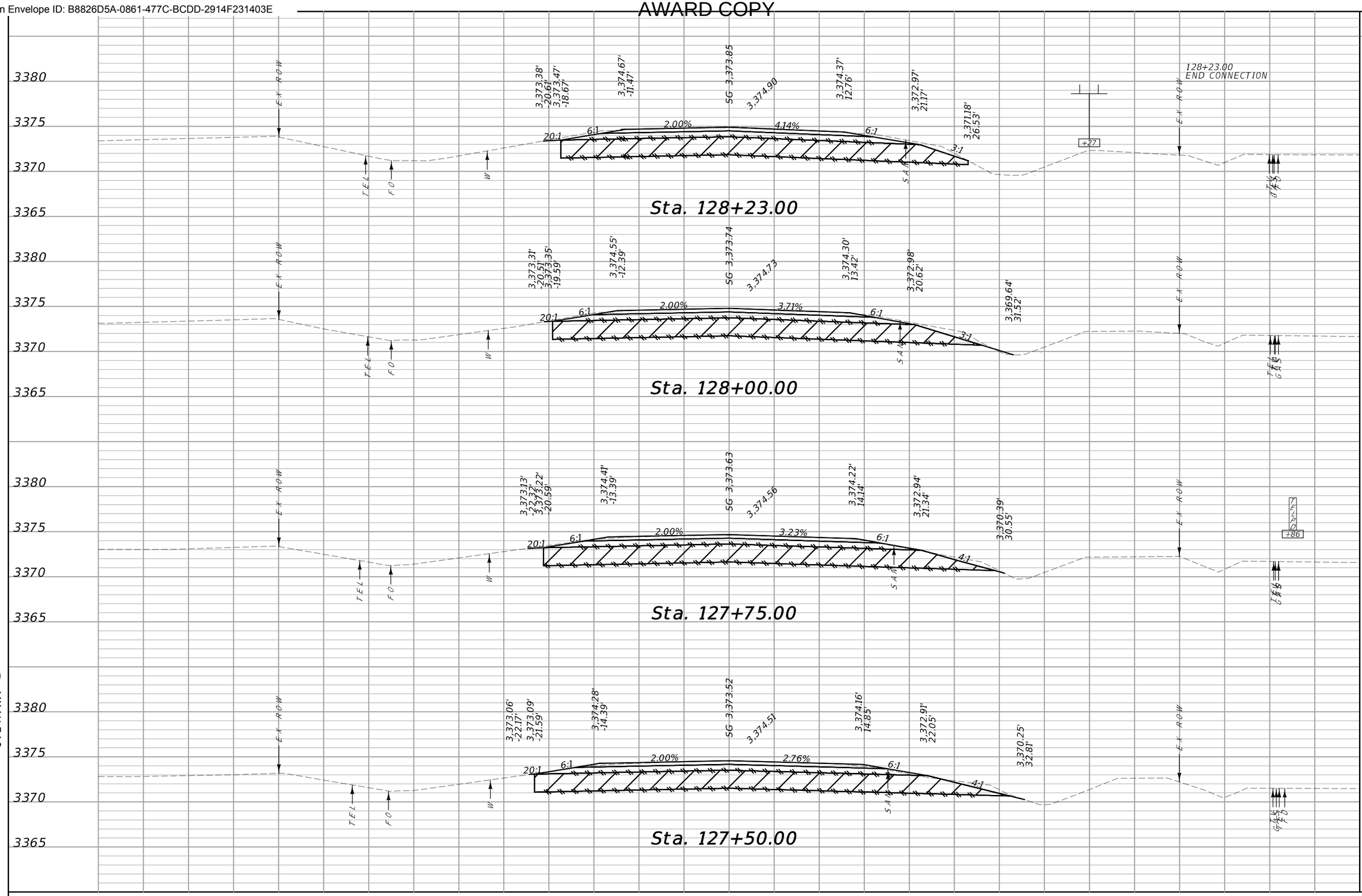
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CUT	FILL
108	74
119	84
122	88
129	94

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

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1:45:17 PM kedam

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REVIEWED BY
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YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS
UPN 9383001

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29

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CUT	FILL

SANDERSON STEWART

3380
3375
3370
3365

EX ROW
+49
TEL
FO
W
SAW
MH
SANSEW
+49
36" X 25.0' CSP
+60
EX ROW
12" X 46.4' RCP/CSP

Sta. 128+50.00

129+29
18" X 56.6' RCP IN PL.
DO NOT DISTURB

129+26
24" X 55.3' RCP IN PL.
DO NOT DISTURB

129+22
18" X 56.8' RCP IN PL.
DO NOT DISTURB

128+67, 54.0' RT.
12" X 46.4' RCP (WEST END)/
CSP (EAST END) IN PL.
DO NOT DISTURB

128+47, 30.4' RT.
36" X 25.0' CSP IN PL.
DO NOT DISTURB

128+40, 61.5' RT.
12" X 4.0' RCP IN PL.
DO NOT DISTURB

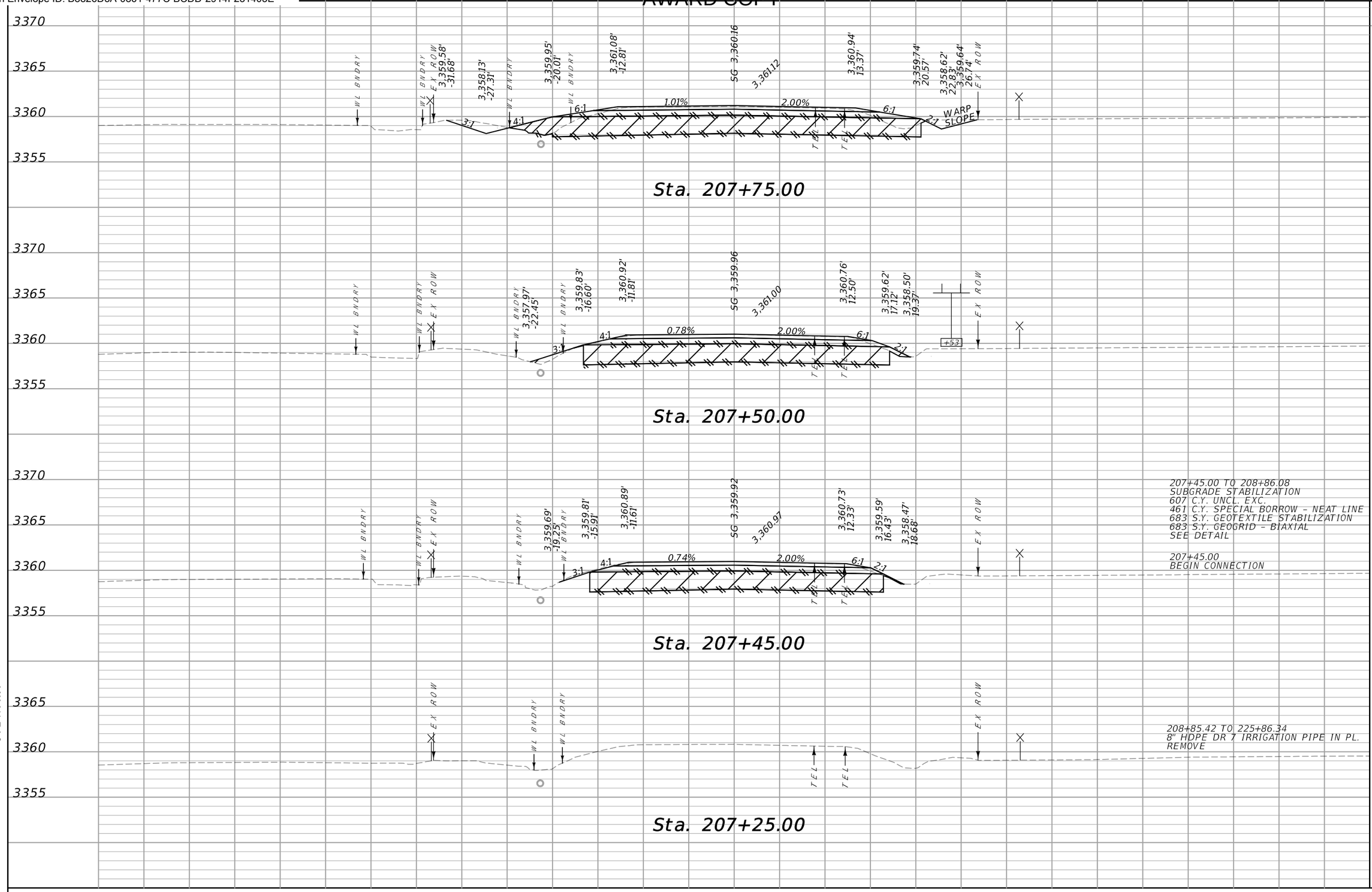
128+38, 53.3' RT.
8" X 3.2' CSP IN PL.
DO NOT DISTURB

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CUT	FILL
96	74
9	6
0	0

207+45.00 TO 208+86.08
SUBGRADE STABILIZATION
607 C.Y. UNCL. EXC.
461 C.Y. SPECIAL BORROW - NEAT LINE
683 S.Y. GEOTEXTILE STABILIZATION
683 S.Y. GEOGRID - BIAXIAL
SEE DETAIL

207+45.00
BEGIN CONNECTION

208+85.42 TO 225+86.34
8" HDPE DR 7 IRRIGATION PIPE IN PL.
REMOVE

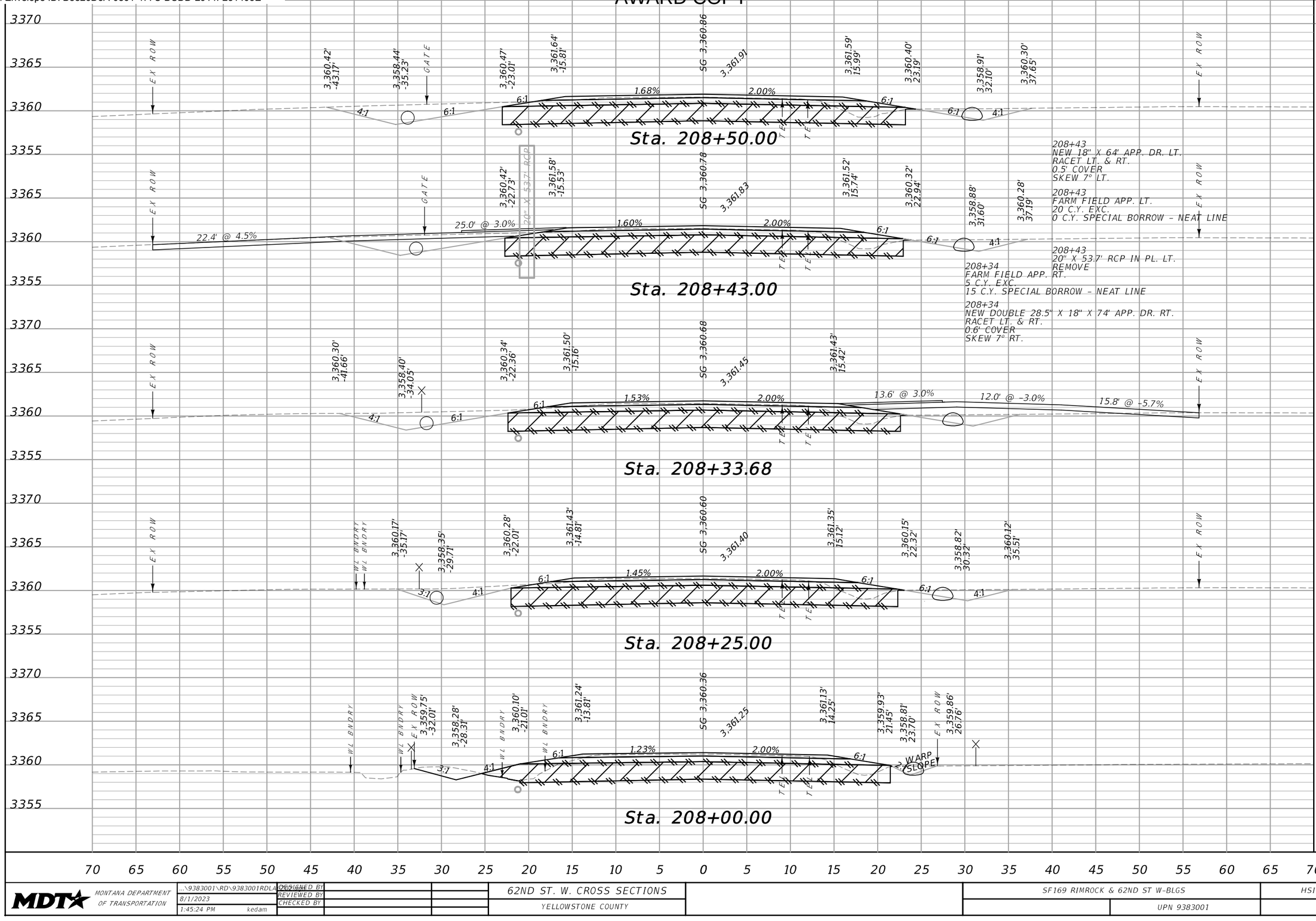
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CUT	FILL
51	24
59	32
56	29
104	84
100	83

SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION

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CUT	FILL
102	101
27	27
61	41
106	88

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

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62ND ST. W. CROSS SECTIONS

YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W–BLGS

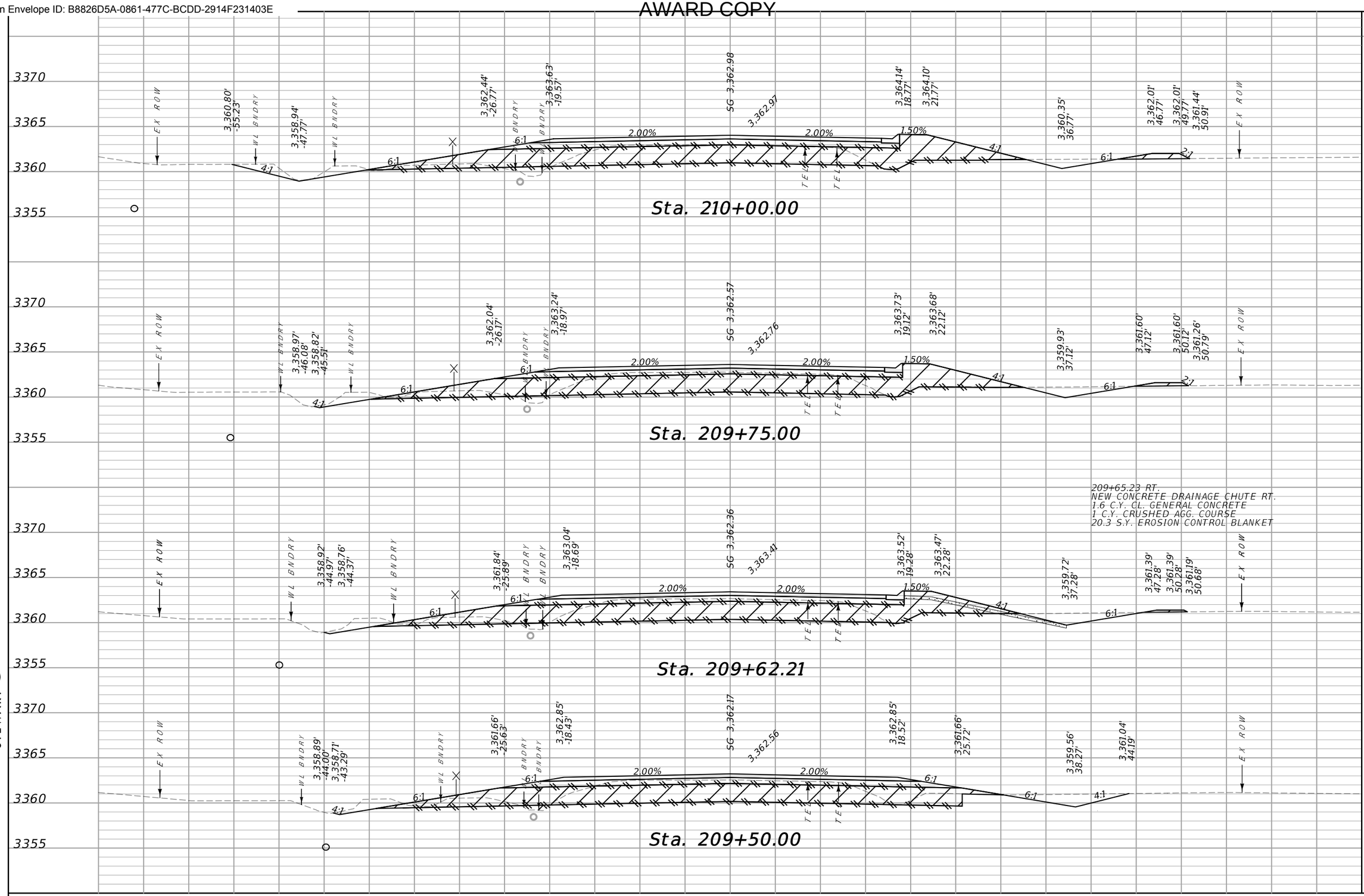
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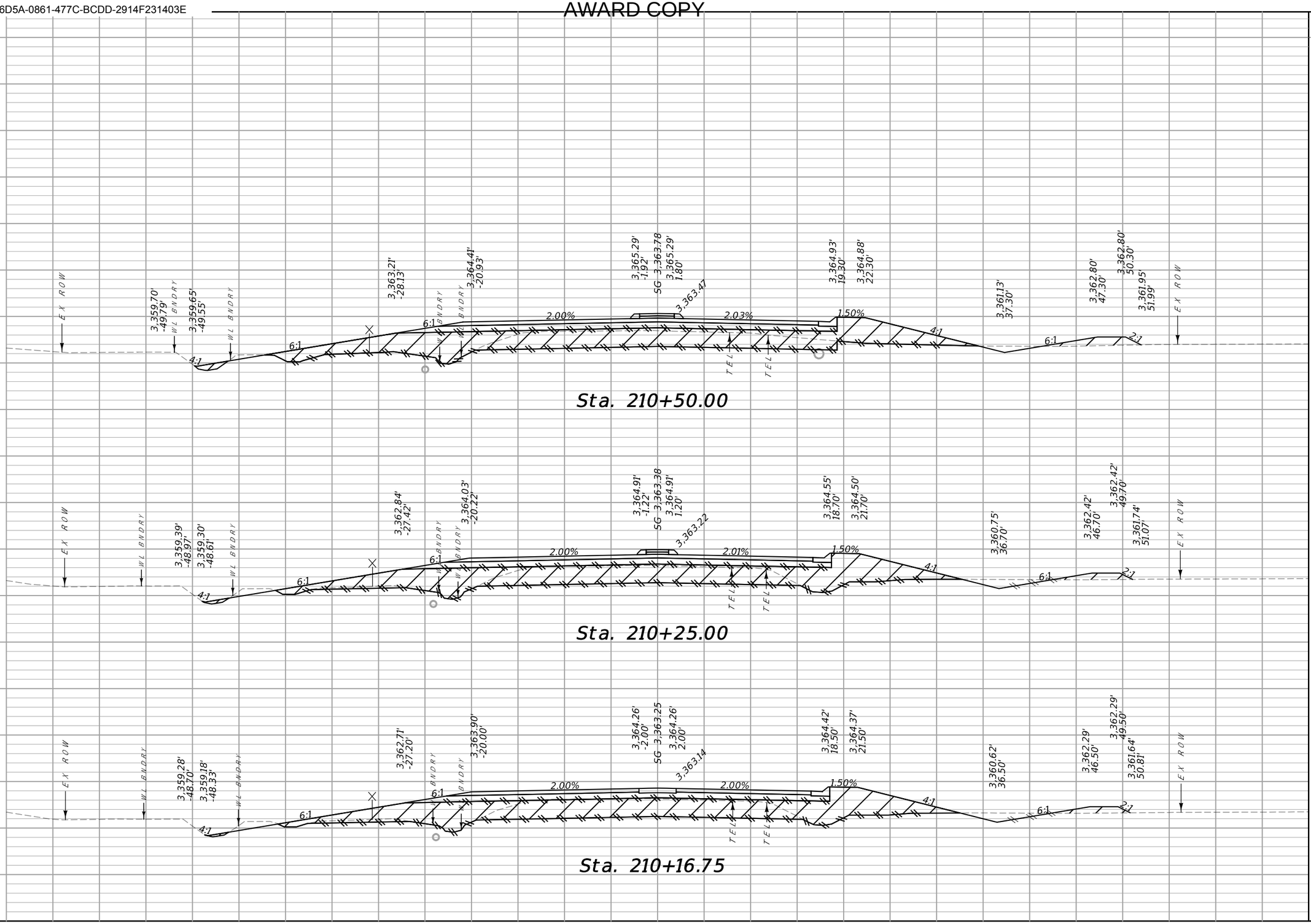
CUT	FILL
80	123
21	31
25	27
104	109

SANDERSON STEWART

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CUT	FILL
51	162
43	113
14	33

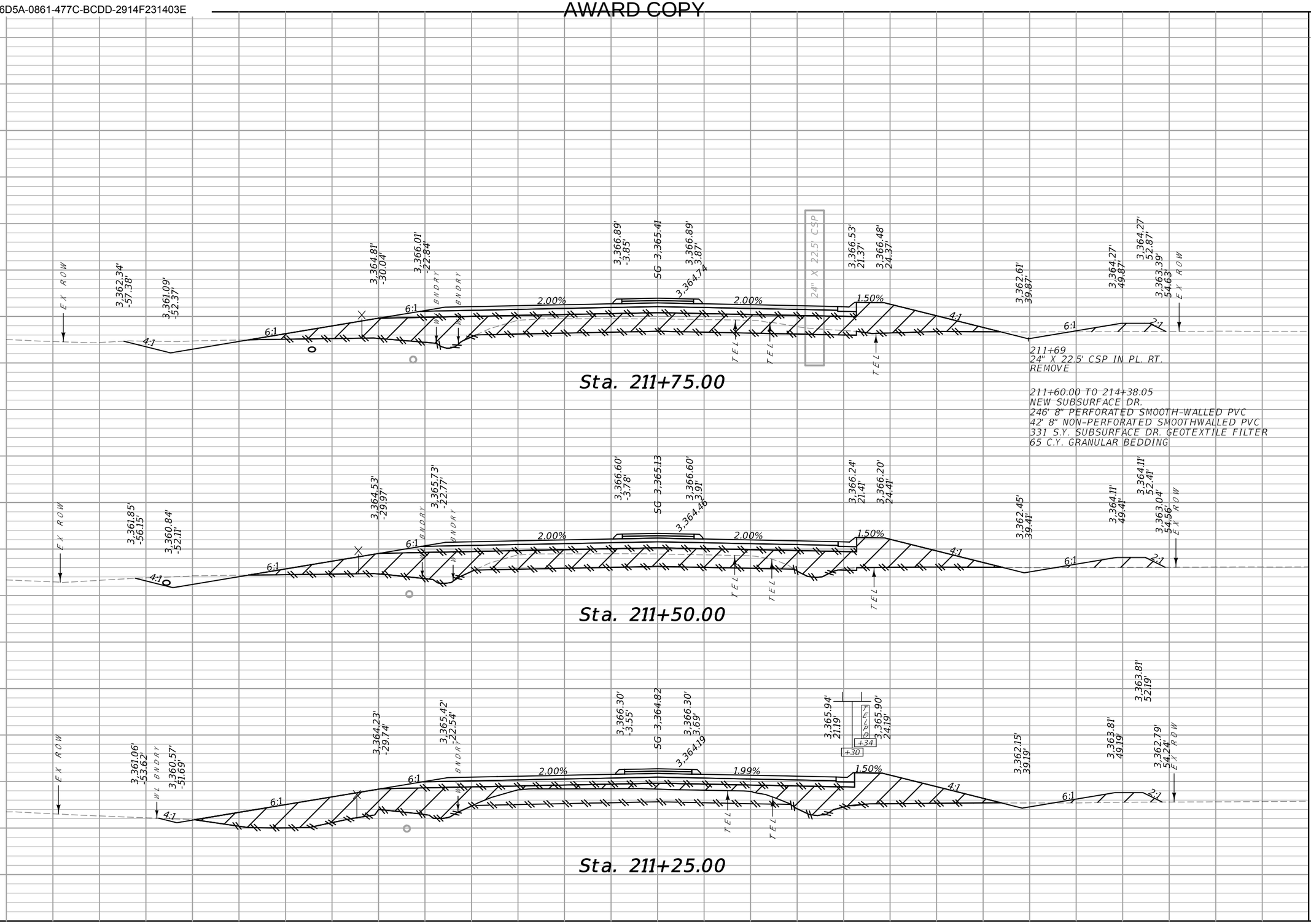
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SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION	..\9383001\RD\9383001RDLA_DESIGN.dgn	DESIGNED BY	62ND ST. W. CROSS SECTIONS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
	8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	36
	1:45:33 PM kedam	CHECKED BY			

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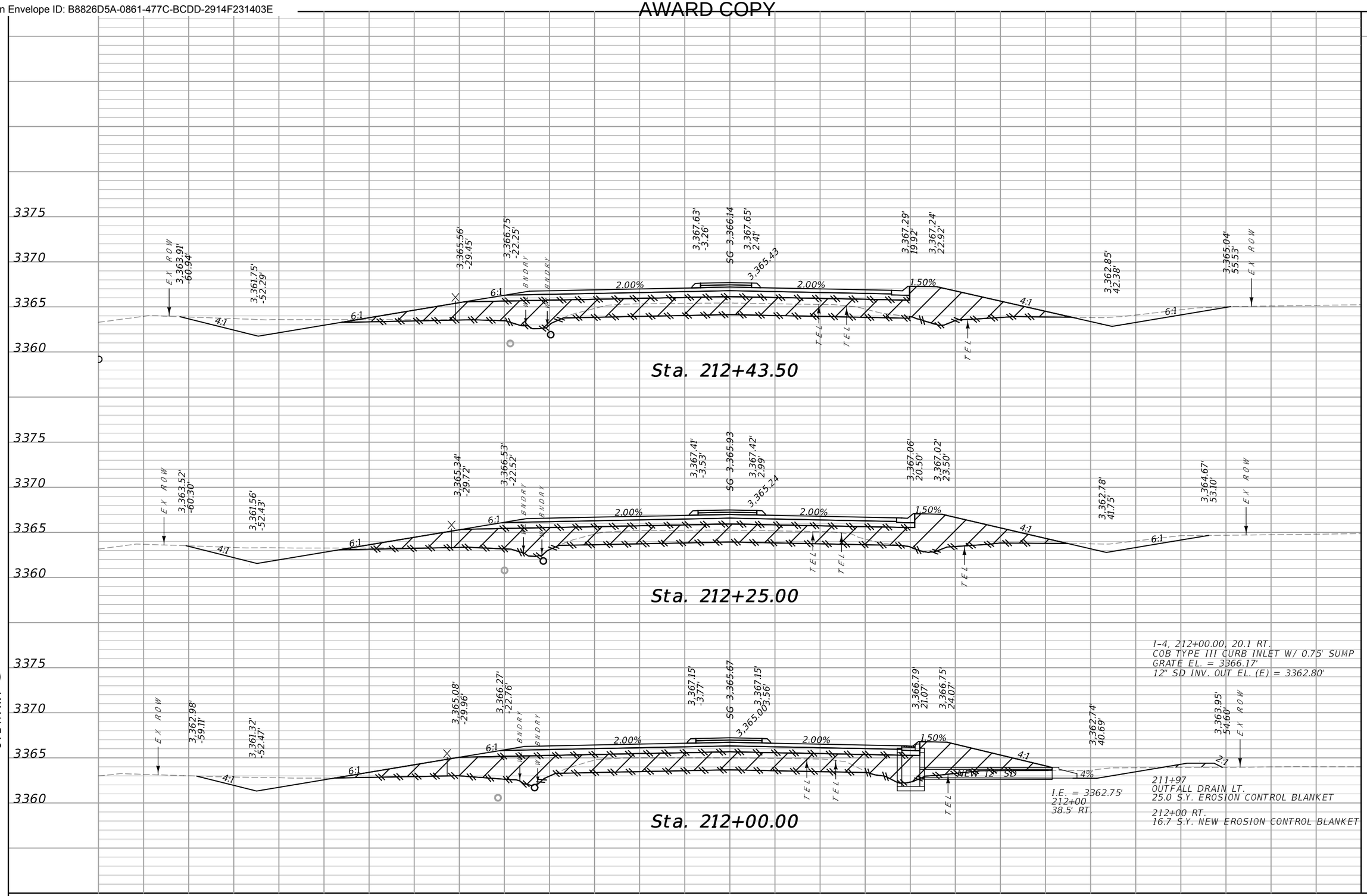
CUT	FILL
52	151
26	145
23	156

SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\9383001\RD\9383001RDLA02.dgn	DESIGNED BY		62ND ST. W. CROSS SECTIONS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
	8/1/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	37
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	CUT	FILL
Sta. 212+43.50	49	107
Sta. 212+25.00	61	146
Sta. 212+00.00	56	148

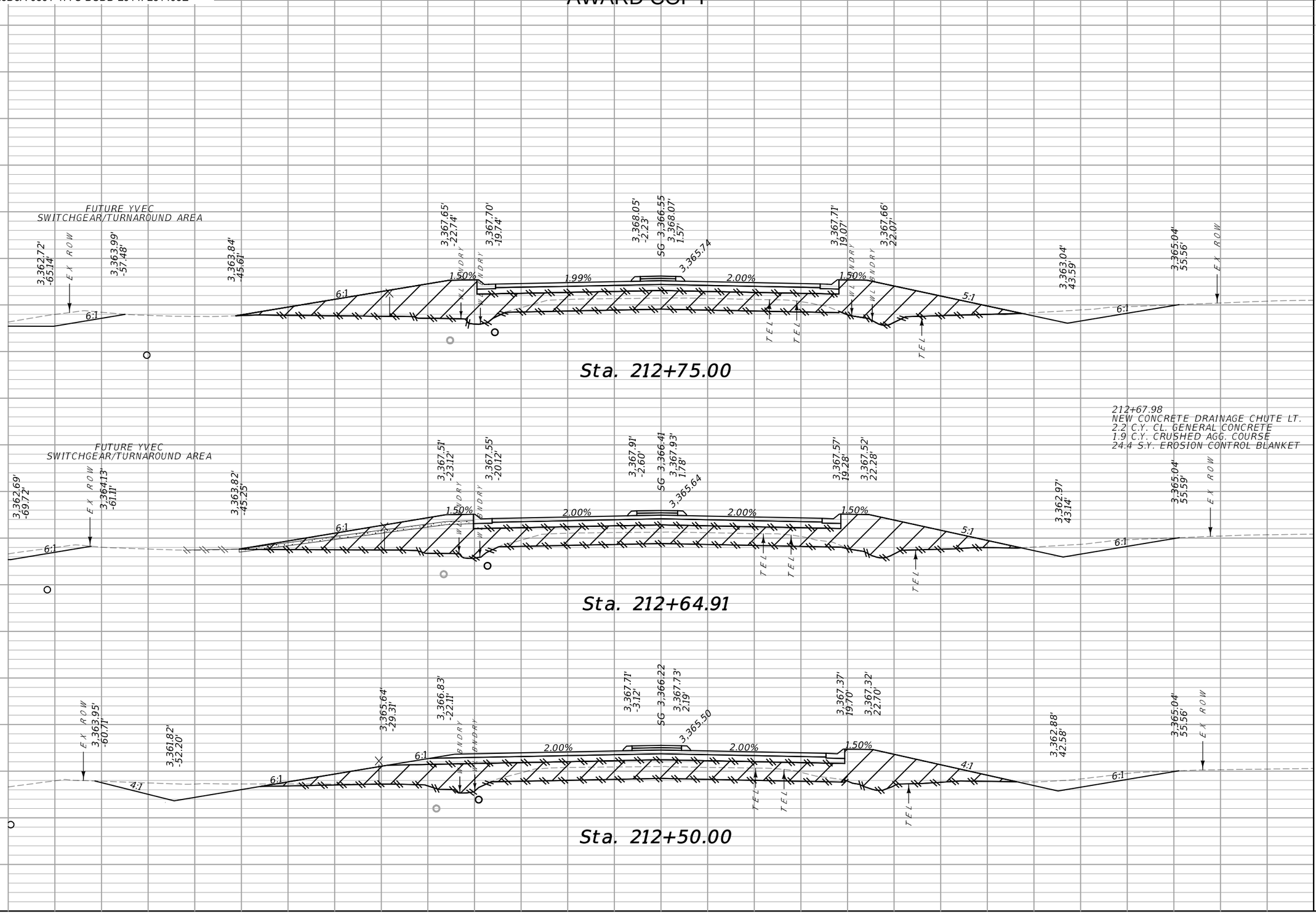
SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION

...\9383001\RD\9383001RDLAY02.dgn	DESIGNED BY	62ND ST. W. CROSS SECTIONS	SF169 RIMROCK & 62ND ST W-BLGS
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1:45:37 PM kedam	CHECKED BY		HSIP 1034(4)
			38

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CUT	FILL
25	68
36	94
18	38

MDT MONTANA DEPARTMENT OF TRANSPORTATION	..\9383001\RD\9383001RDLA.dgn	DESIGNED BY		62ND ST. W. CROSS SECTIONS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
	8/1/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	39
	1:45:39 PM kedam	CHECKED BY				

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W — W
214+83 20" WATER LINE X-ING

SAN — SAN
214+82 24" SAN. SEWER X-ING

SAN — SAN
214+66 18" SAN. SEWER X-ING

W — W
214+51 20" WATER LINE X-ING

GAS — GAS
214+47 6" N.G. LINE X-ING

PWR — PWR
214+47 O.H. PWR. LINE X-ING (4 LINES)

TV — TV
214+47 U.G. TV LINE X-ING

TEL — TEL
214+46 U.G. TELEPHONE LINE X-ING

PWR — PWR
213+67 O.H. PWR. LINE X-ING (4 LINES)

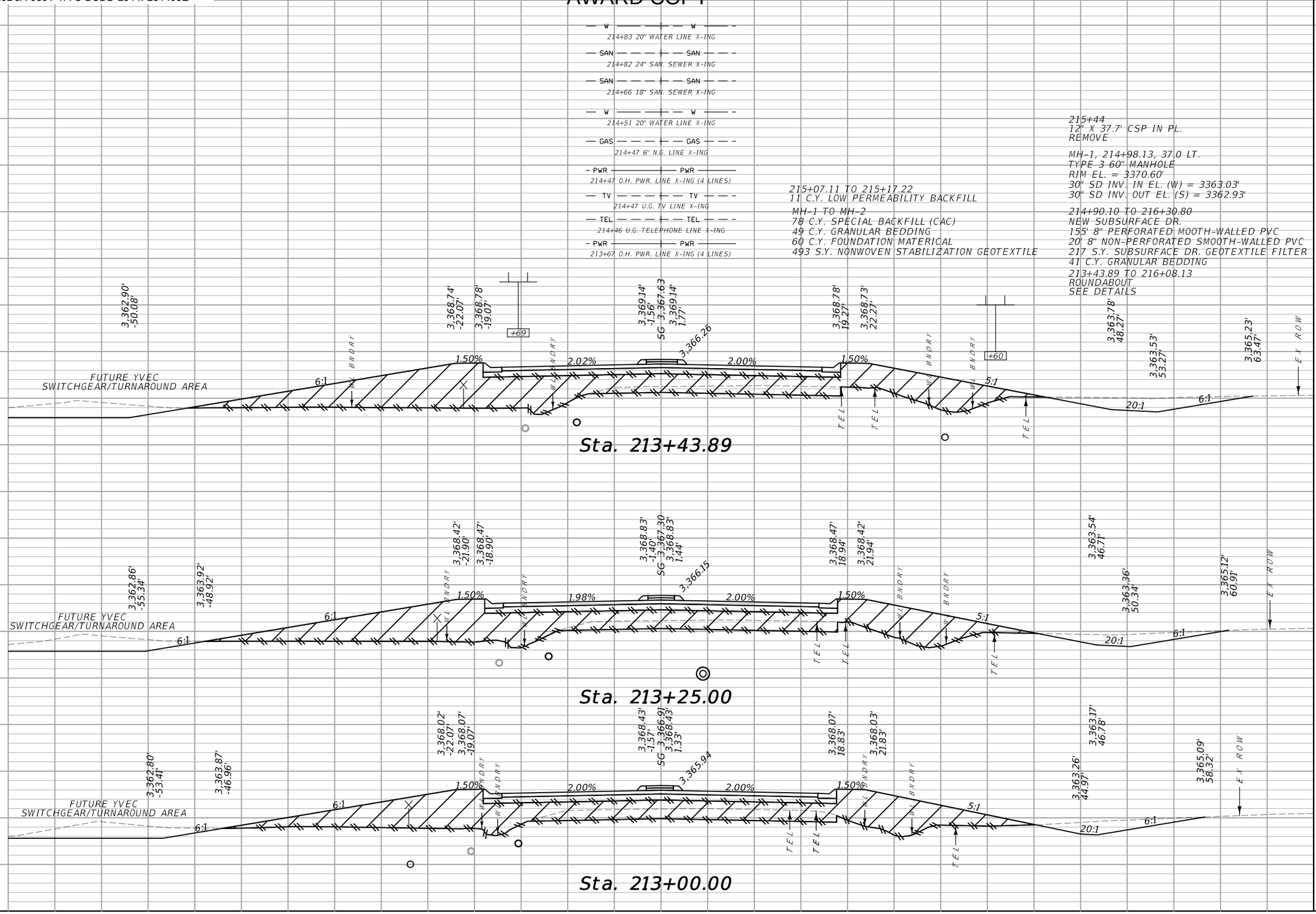
215+07.11 TO 215+17.22
11 C.Y. LOW PERMEABILITY BACKFILL

MH-1 TO MH-2
78 C.Y. SPECIAL BACKFILL (CAC)
49 C.Y. GRANULAR BEDDING
60 C.Y. FOUNDATION MATERICAL
493 S.Y. NONWOVEN STABILIZATION GEOTEXTILE

215+44
12" X 37.7' CSP IN PL.
REMOVE

MH-1, 214+98.13, 37.0 LT.
TYPE 3 60" MANHOLE
RIM EL. = 3370.60'
30" SD INV. IN EL. (W) = 3363.03'
30" SD INV. OUT EL. (S) = 3362.93'

214+90.10 TO 216+30.80
NEW SUBSURFACE DR.
155' 8" PERFORATED MOOTH-WALLED PVC
20' 8" NON-PERFORATED SMOOTH-WALLED PVC
217 S.Y. SUBSURFACE DR. GEOTEXTILE FILTER
41 C.Y. GRANULAR BEDDING
213+43.89 TO 216+08.13
ROUNDABOUT
SEE DETAILS



CUT	FILL
24	73
65	186
62	175

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

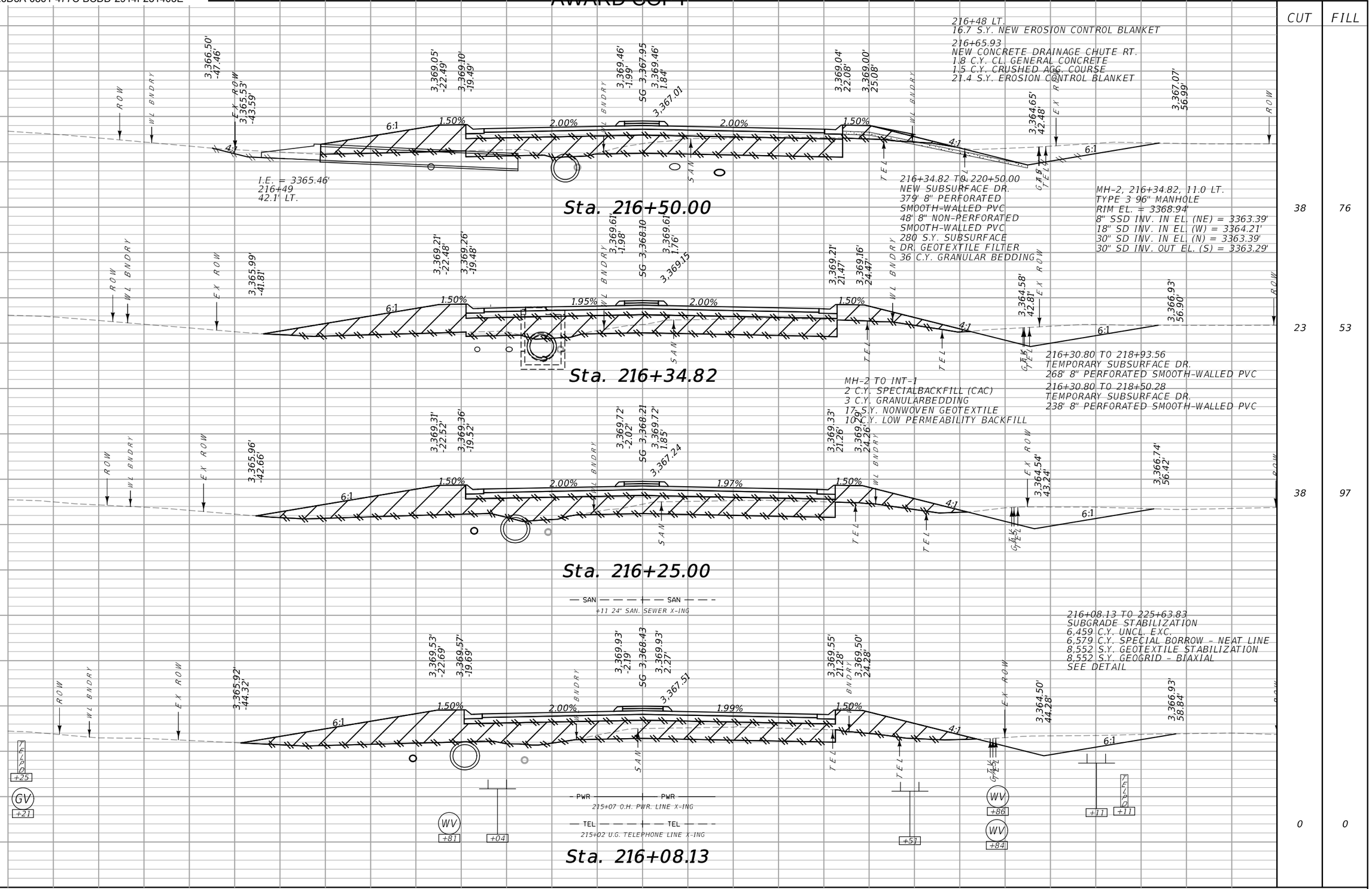
SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION	..\9383001\RD\9383001RDLA.dgn	DESIGNED BY	62ND ST. W. CROSS SECTIONS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
	8/1/2023	REVIEWED BY			
	1:45:41 PM kedam	CHECKED BY	YELLOWSTONE COUNTY	UPN 9383001	40

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	CUT	FILL
Sta. 216+50.00	38	76
Sta. 216+34.82	23	53
Sta. 216+25.00	38	97
Sta. 216+08.13	0	0



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MDT MONTANA DEPARTMENT OF TRANSPORTATION

..\9383001\RD\9383001RDLA01.dgn	DESIGNED BY	
8/1/2023	REVIEWED BY	
1:45:43 PM kedam	CHECKED BY	

62ND ST. W. CROSS SECTIONS

YELLOWSTONE COUNTY

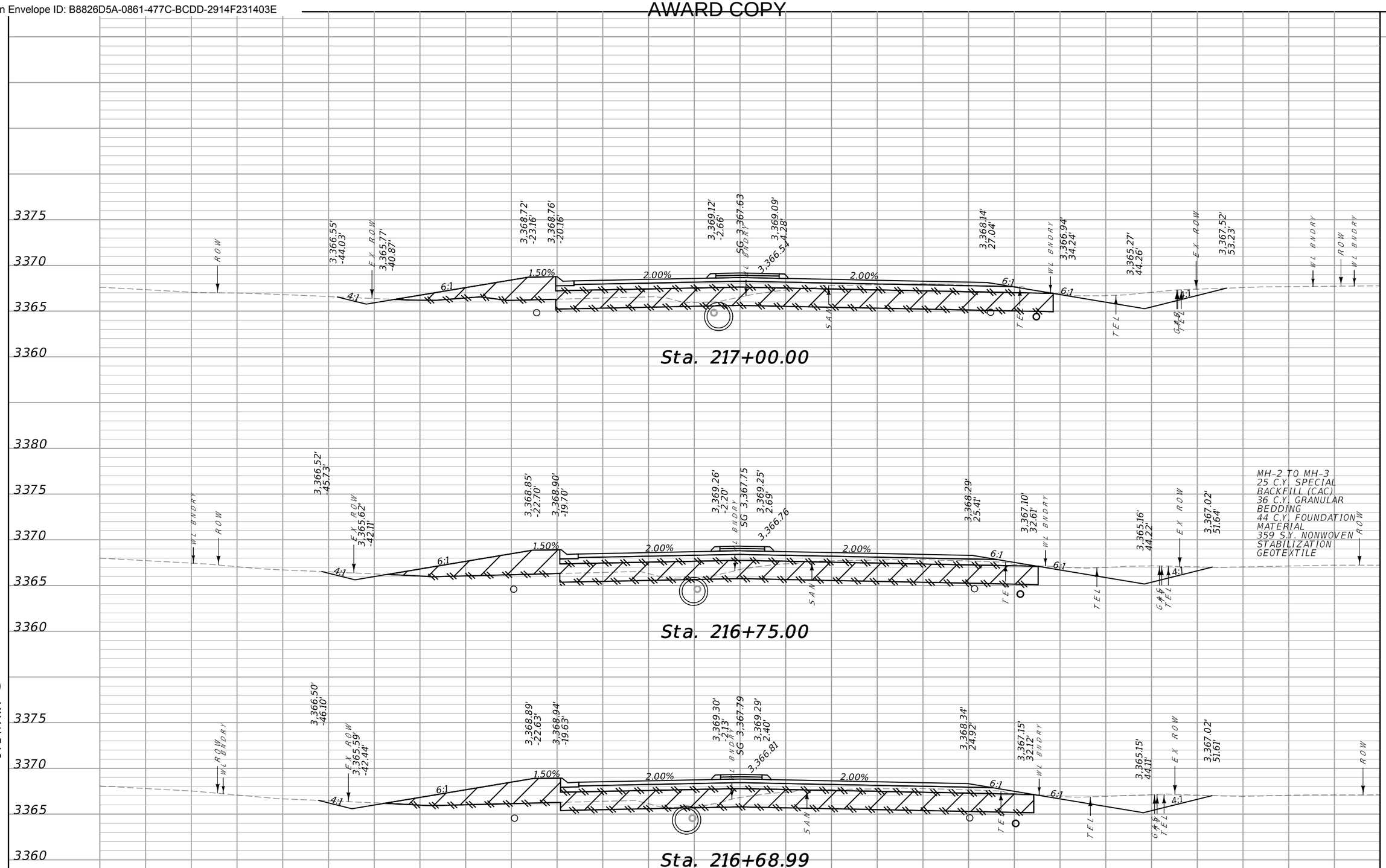
SF169 RIMROCK & 62ND ST W-BLGS

UPN 9383001

HSIP 1034(4)

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	CUT	FILL
	101	125
	22	30
	59	93

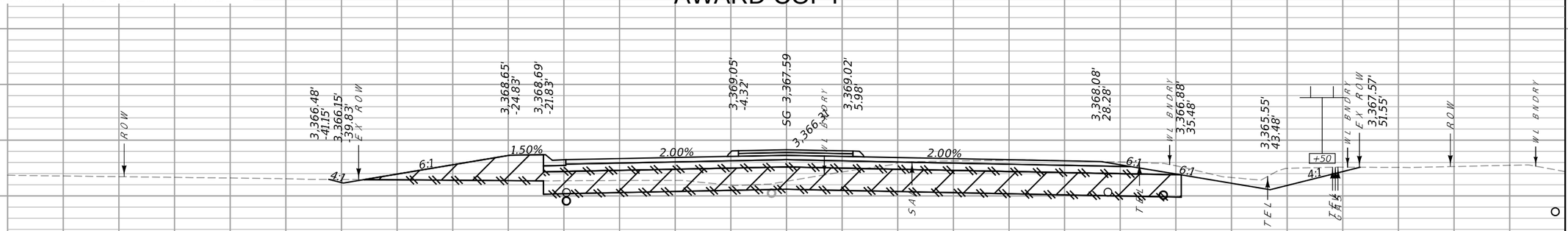
SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\9383001\RD\9383001RDLAD23.dgn	DESIGNED BY		62ND ST. W. CROSS SECTIONS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
	8/1/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	42
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CUT	FILL
88	89
31	30
110	122



Sta. 217+50.00

217+31.50 TO 220+50.00
NEW SUBSURFACE DR.
313' 8" PERFORATED SMOOTH-WALLED PVC
4' 8" NON-PERFORATED SMOOTH-WALLED PVC
260 S.Y. SUBSURFACE DR. GEOTEXTILE FILTER
38 C.Y. GRANULAR BEDDING

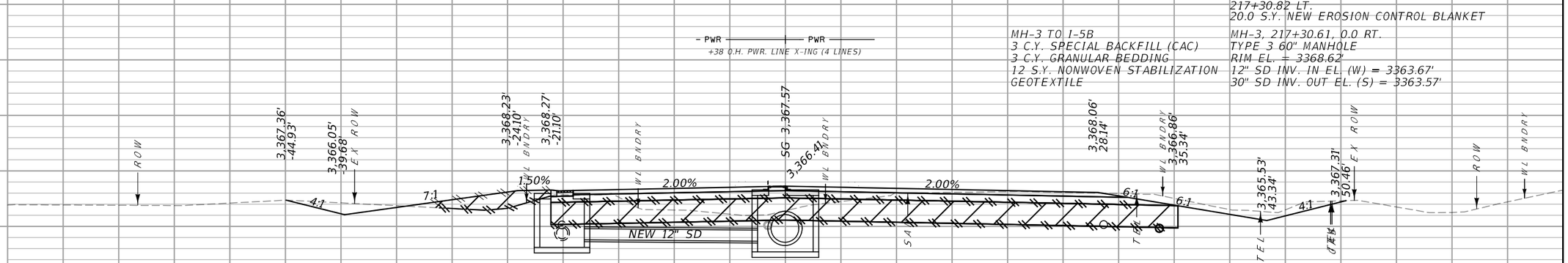
I-5B, 217+31.50, 20.1 LT.
48" TYPE 1 DROP INLET W/ 0.75' SUMP
GRATE EL. = 3368.06'
8" SSD INV. IN EL. (N) = 3363.96'
12" SD INV. IN EL. (S) = 3363.89'
12" SD INV. OUT EL. (E) = 3363.79'

217+30.82 LT.
20.0 S.Y. NEW EROSION CONTROL BLANKET

PWR PWR
+38 O.H. PWR. LINE X-ING (4 LINES)

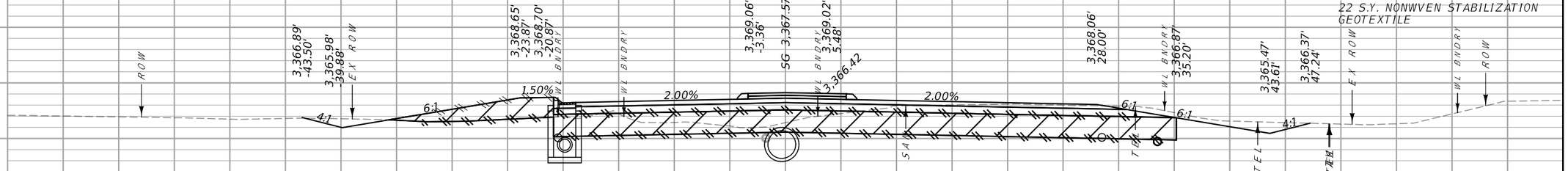
MH-3 TO I-5B
3 C.Y. SPECIAL BACKFILL (CAC)
3 C.Y. GRANULAR BEDDING
12 S.Y. NONWOVEN STABILIZATION GEOTEXTILE

MH-3, 217+30.61, 0.0 RT.
TYPE 3 60" MANHOLE
RIM EL. = 3368.62'
12" SD INV. IN EL. (W) = 3363.67'
30" SD INV. OUT EL. (S) = 3363.57'



Sta. 217+31.49

I-5B TO I-5A
2 C.Y. SPECIALBACKFILL (CAC)
3 C.Y. GRANULAR BEDDING
22 S.Y. NONWVEN STABILIZATION GEOTEXTILE



Sta. 217+25.00

I-5A, 217+14.02, 19.5 LT.
COB TYPE II CURB INLET W/ 0.75' SUMP
GRATE EL. = 3368.09'
12" SD INV. OUT EL. (N) = 3364.00'

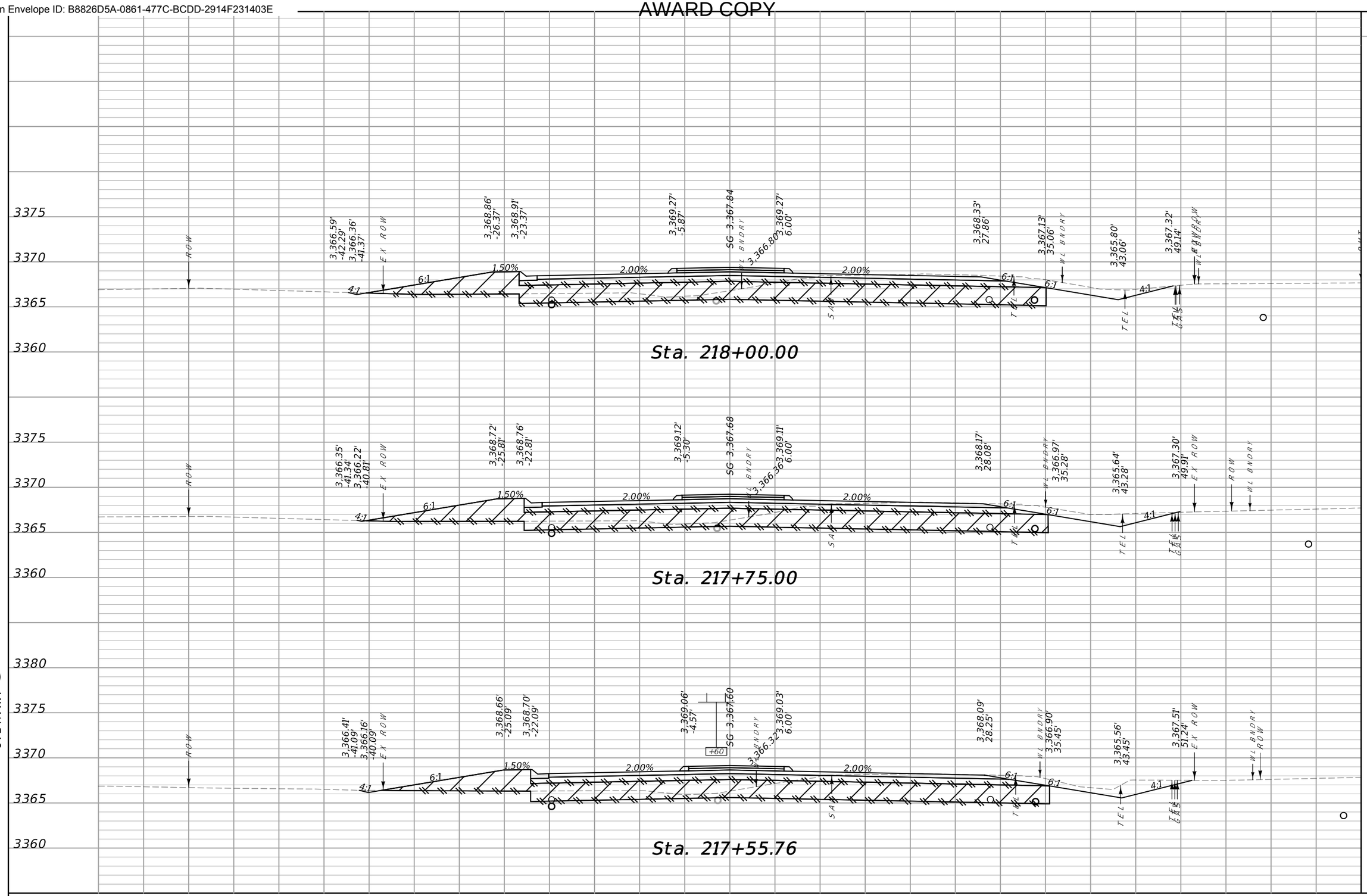
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SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\9383001\RD\9383001RDLA_DESIGN.dgn	DESIGNED BY	62ND ST. W. CROSS SECTIONS		SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
	8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY		UPN 9383001	43
	1:45:47 PM kedam	CHECKED BY				

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CUT	FILL
114	131
86	100
26	29

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	8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY			UPN 9383001
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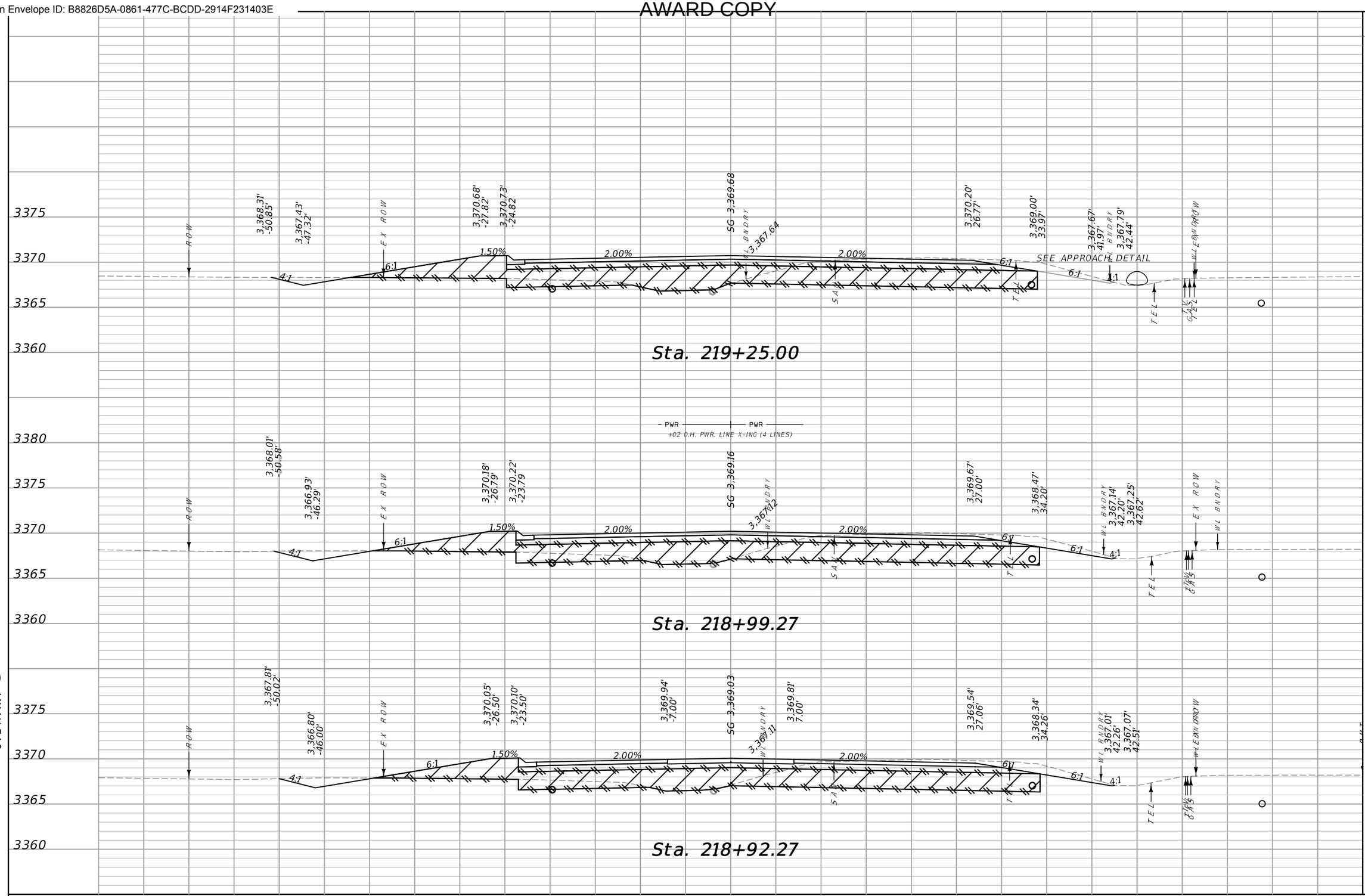
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	8/1/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	45
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CUT	FILL
104	138
30	41
75	101

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION	..\9383001\RD\9383001RDLA.DGN	DESIGNED BY	62ND ST. W. CROSS SECTIONS	SF169 RIMROCK & 62ND ST W-BLGS	HSIP 1034(4)
	8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	46
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	8/1/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	47
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CUT	FILL
80	120
20	31
91	138

SANDERSON STEWART

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..\9383001\RD\9383001RDLA.DGN	DESIGNED BY	
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62ND ST. W. CROSS SECTIONS

YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS

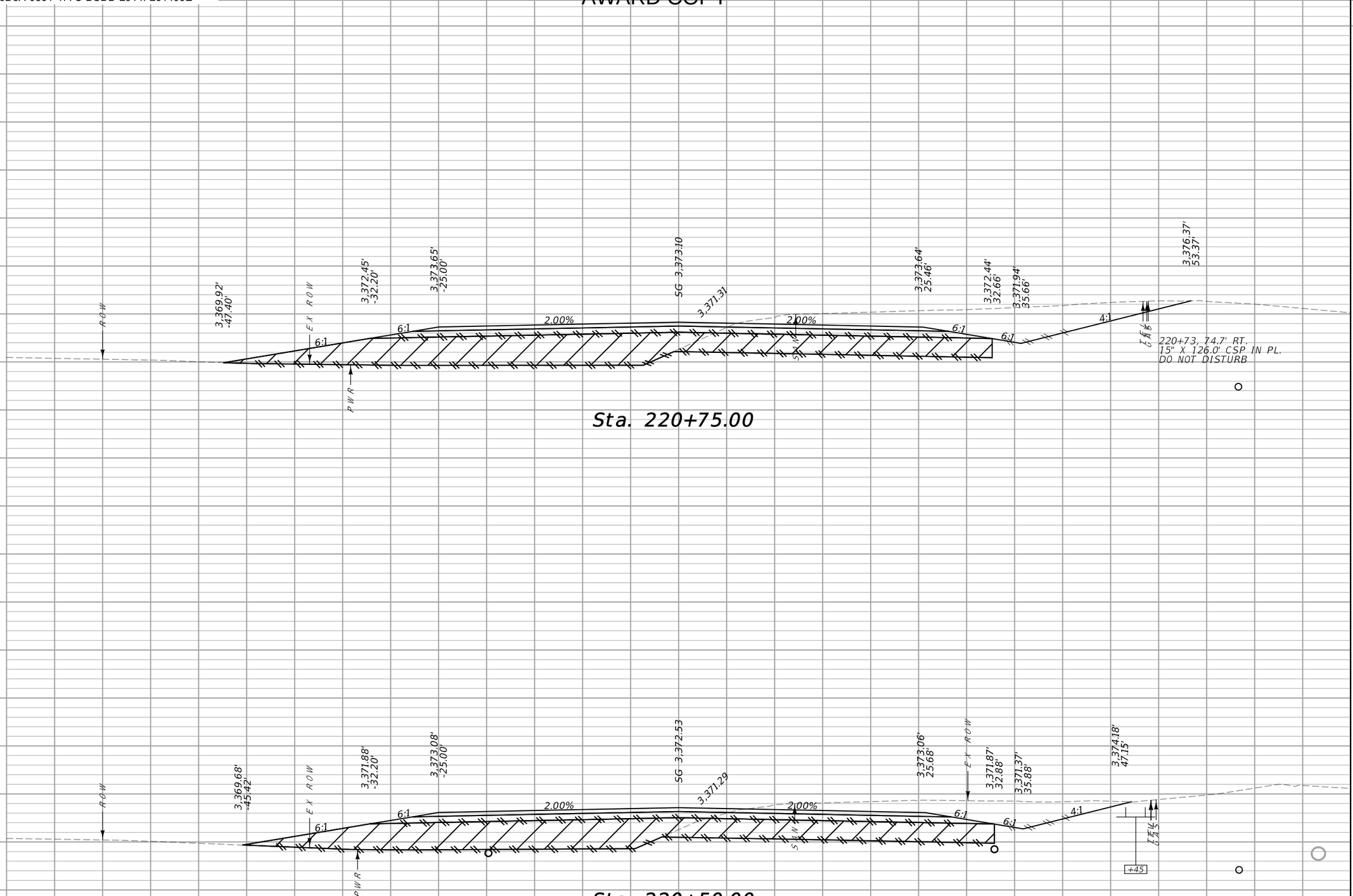
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HSIP 1034(4)

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CUT	FILL
146	167
120	157

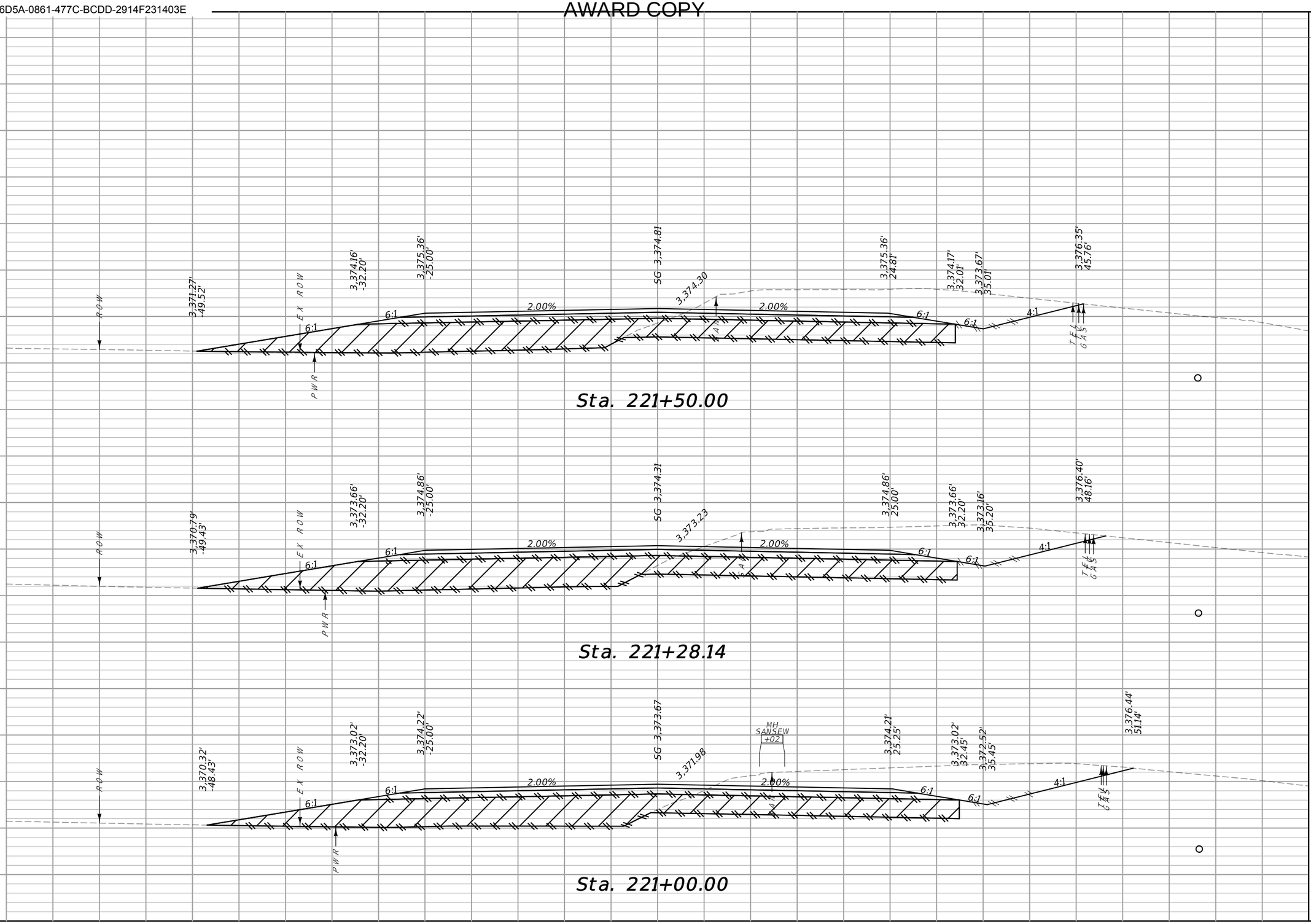
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SANDERSON STEWART

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CUT	FILL
156	153
198	197
166	172

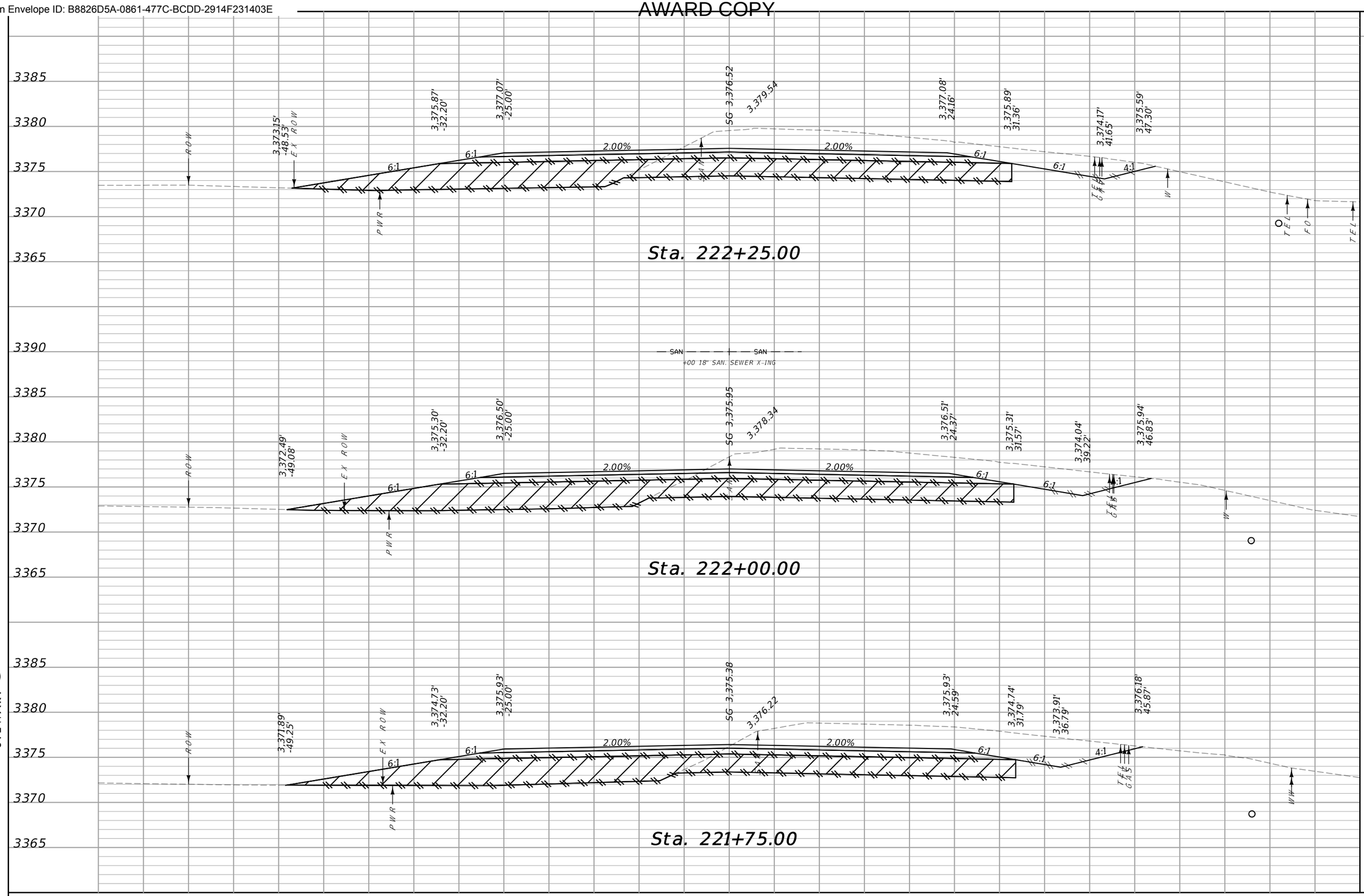
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	8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	50
	1:46:02 PM kedam	CHECKED BY			

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	8/1/2023	REVIEWED BY			YELLOWSTONE COUNTY	UPN 9383001	51
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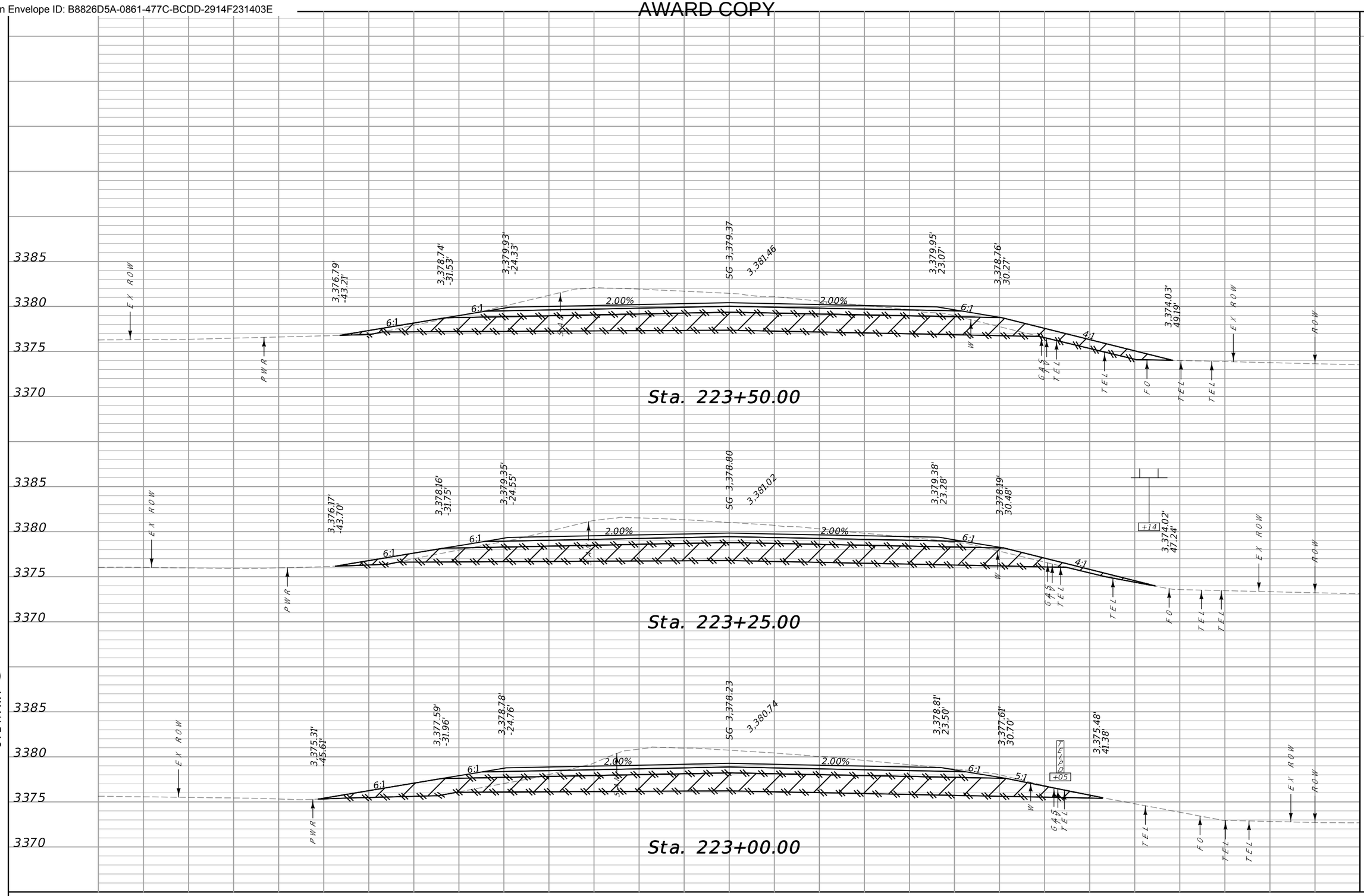
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	8/1/2023	REVIEWED BY		YELLOWSTONE COUNTY	UPN 9383001	52
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CUT	FILL
202	131
200	130
217	157

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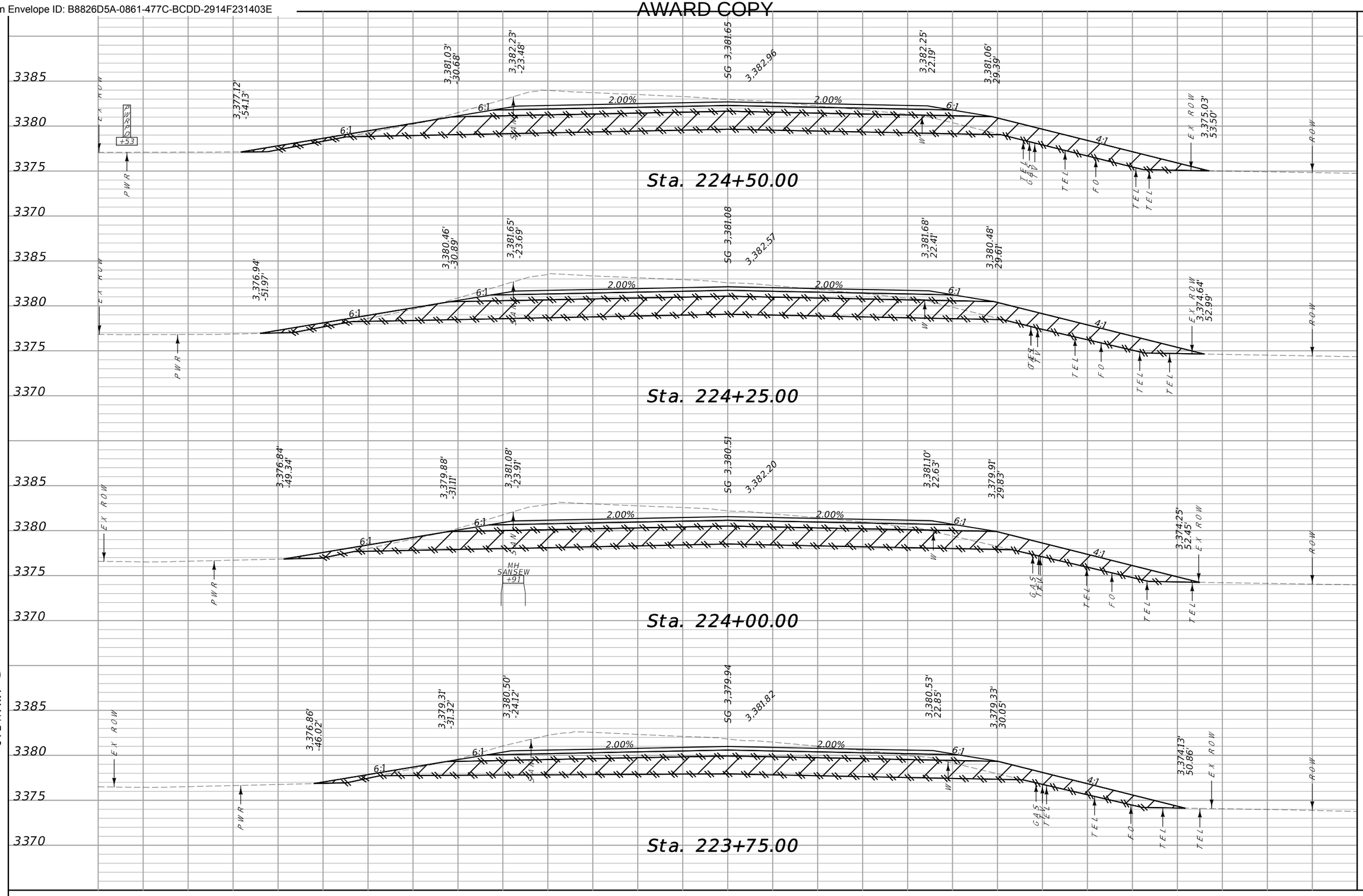
SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION

...\9383001\RD\9383001RDLA02.dgn	DESIGNED BY	62ND ST. W. CROSS SECTIONS	SF169 RIMROCK & 62ND ST W-BLGS / HSIP 1034(4)
8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001 / 53
1:46:08 PM kedam	CHECKED BY		

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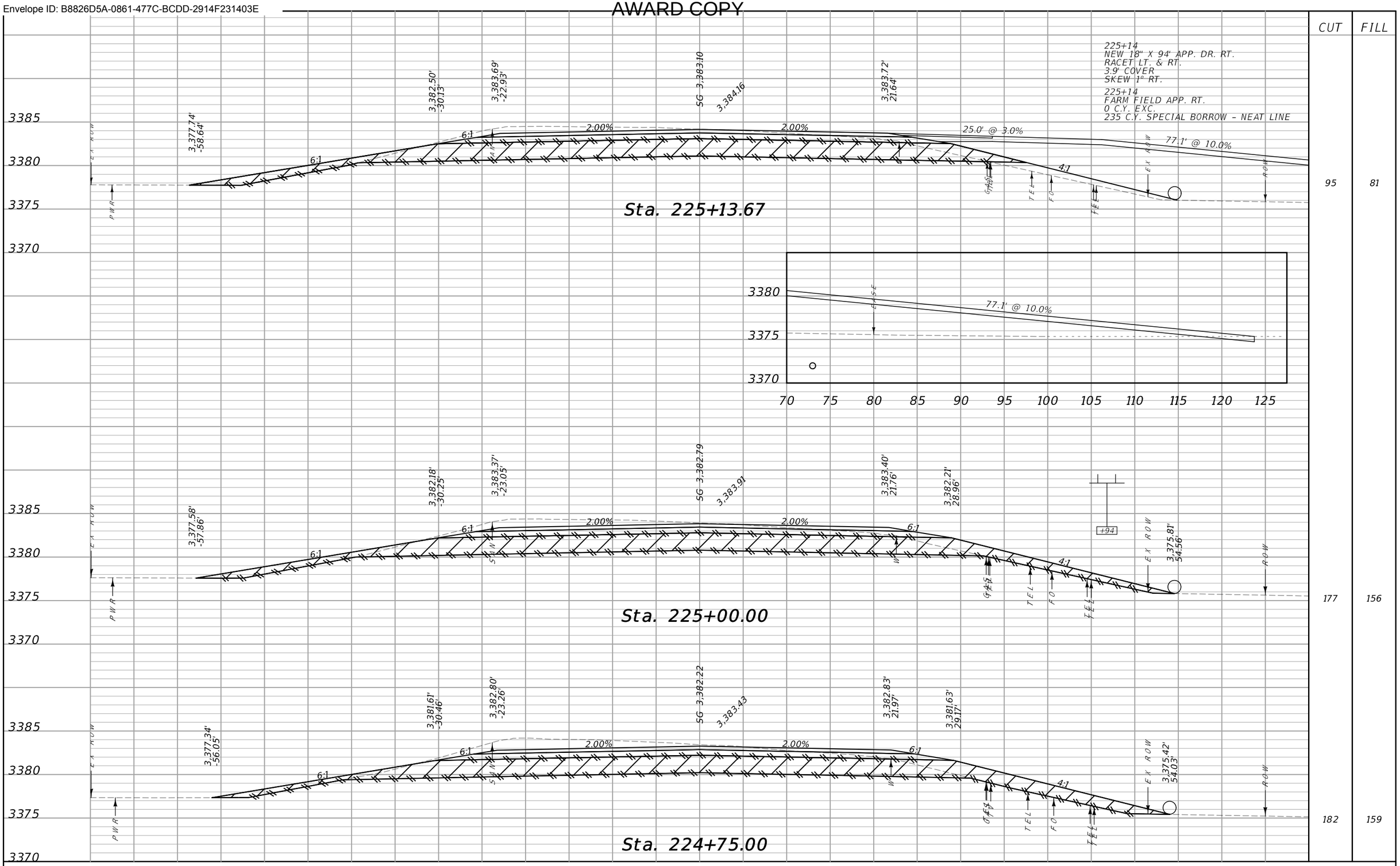
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	CUT	FILL
Sta. 225+13.67	95	81
Sta. 225+00.00	177	156
Sta. 224+75.00	182	159

225+14
NEW 18" X 94' APP. DR. RT.
RACET LT. & RT.
3.9' COVER
SKEW 1° RT.

225+14
FARM FIELD APP. RT.
0 C.Y. EXC.
235 C.Y. SPECIAL BORROW - NEAT LINE



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	8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY			UPN 9383001
	1:46:12 PM kedam	CHECKED BY				55

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CUT	FILL
89	91
165	160
77	71

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION

..\9383001\RD\9383001RDLA.DGN	DESIGNED BY	
8/1/2023	REVIEWED BY	
1:46:14 PM kedam	CHECKED BY	

62ND ST. W. CROSS SECTIONS

YELLOWSTONE COUNTY

SF169 RIMROCK & 62ND ST W-BLGS

UPN 9383001

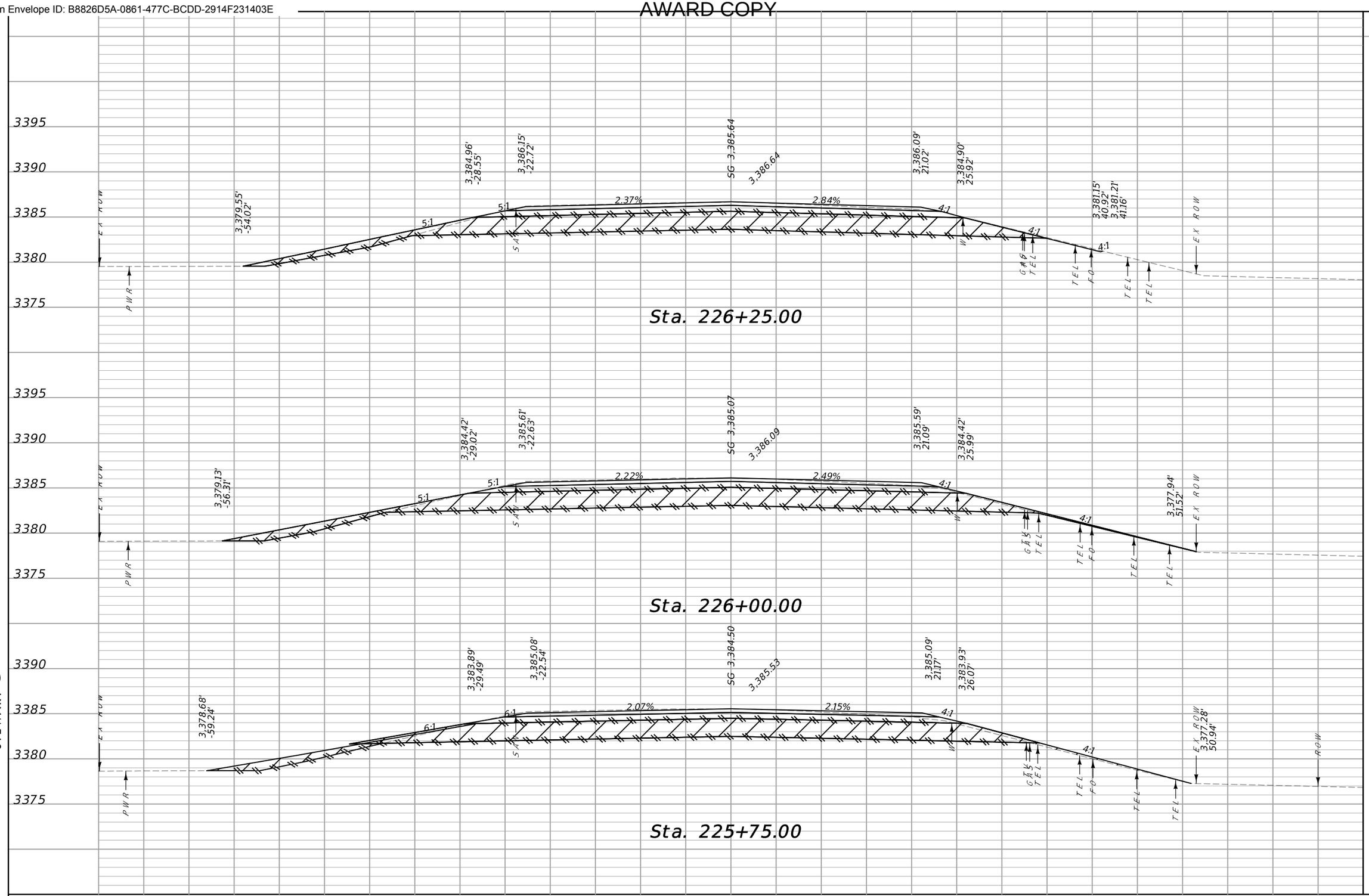
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56

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AWARD COPY

CUT	FILL
125	129
127	134
36	30



SANDERSON STEWART

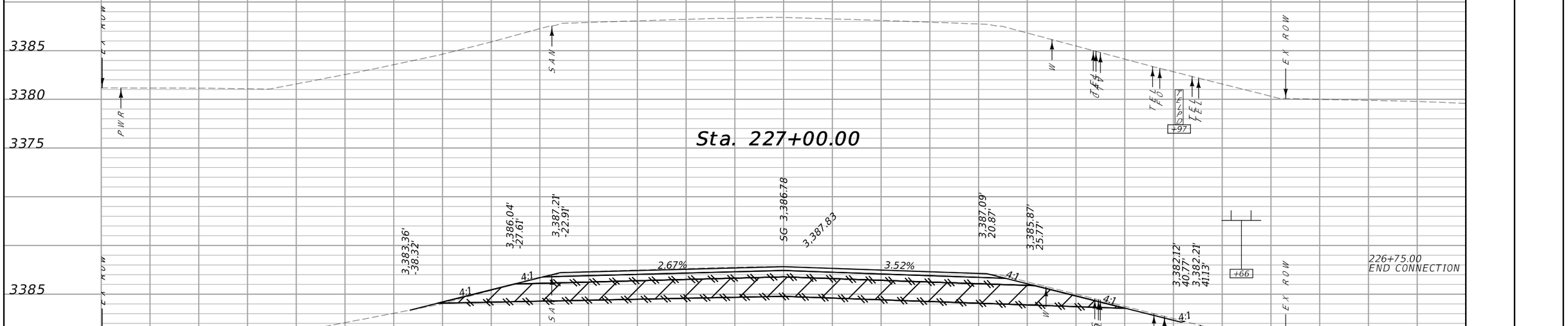
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	8/1/2023	REVIEWED BY	YELLOWSTONE COUNTY	UPN 9383001	57
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CUT	FILL
122	114
123	122

Sta. 227+00.00



Sta. 226+75.00

Sta. 226+50.00

70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70

SANDERSON STEWART

MDT MONTANA DEPARTMENT OF TRANSPORTATION	...\9383001\RD\9383001RDLAYOUT.dgn 8/1/2023 1:46:18 PM kedam	DESIGNED BY REVIEWED BY CHECKED BY	62ND ST. W. CROSS SECTIONS YELLOWSTONE COUNTY	SF169 RIMROCK & 62ND ST W-BLGS UPN 9383001	HSIP 1034(4) 58