MAD

NOVEMBER 2023

PROJECT ID: 6040-00-74

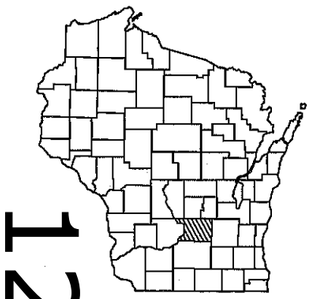
WITH: N/A

COUNTY: COLUMBIA

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control Plan)
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way Plat~~
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
~~Section No.~~	~~7~~	~~Sign Plates~~
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 200



12

DESIGN DESIGNATION

A.A.D.T.	(2023)	=	5,800
A.A.D.T.	(2043)	=	6,900
D.H.V.	(2043)	=	621
D.D.		=	- -
T.		=	29.2%
DESIGN SPEED		=	60 MPH
ESALS		=	4,100,000

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

PORTAGE - FOX LAKE

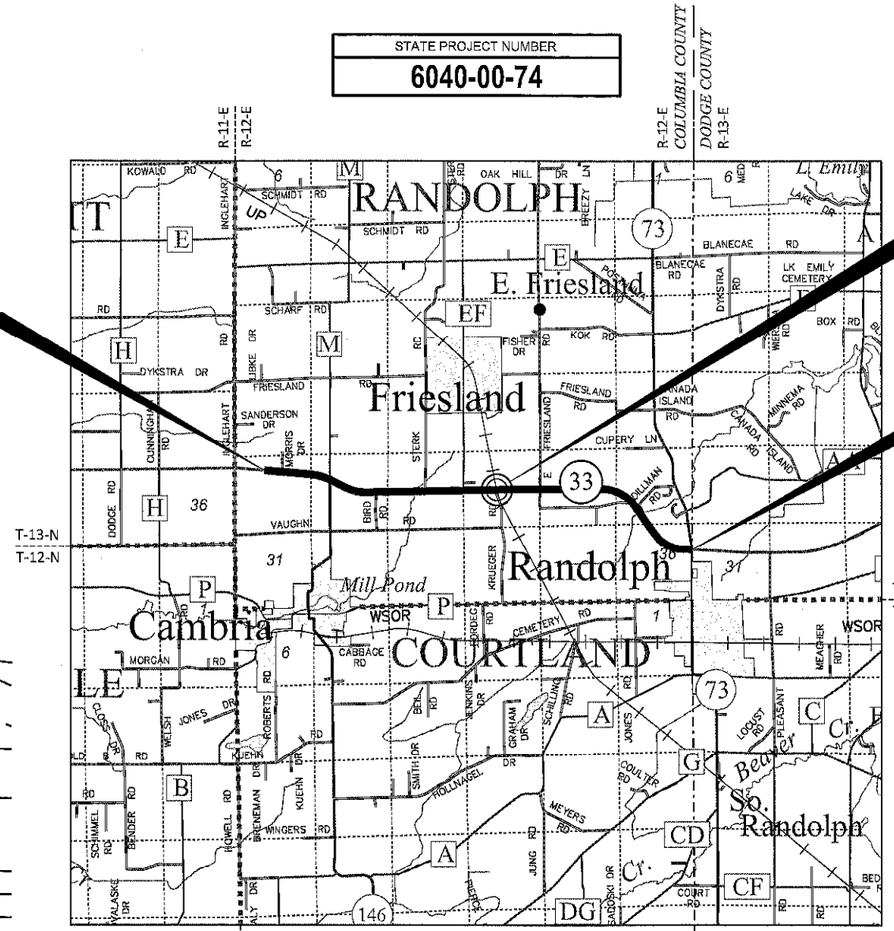
0.19 MI W OF MORRIS DRIVE TO STH 73

STH 33

COLUMBIA COUNTY

STATE PROJECT NUMBER
6040-00-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
6040-00-74	WISC 2024024	1



BEGIN PROJECT
STA. 2+97.40
Y=405,552.39
X=628,121.30

STRUCTURE B-11-066

END PROJECT
STA. 316+25.29

T-13-N
T-12-N

T-13-N
T-12-N

TOTAL NET LENGTH OF CENTERLINE = 5.933 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, COLUMBIA COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCE MAY BE USED AS GROUND DISTANCES.

ELEVATION SHOWN ON THIS PLAN ARE REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2012).

ORIGINAL PLANS PREPARED BY

JEWELL associates engineers, i
Engineers - Architects - Surveyors

WISCONSIN
ELLERY A. SCHAFFER
E-41742-6
SPRING GREEN, WI
PROFESSIONAL ENGINEER
7/24/23

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT / JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	MAHESH SHRESTHA, P.E.
Regional Examiner	SW REGION
Regional Supervisor	MARC SCHWEIGER, P.E.

APPROVED FOR THE DEPARTMENT

DATE: _____ Mahesh Shrestha {Signature}

E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\W11630 TITLE.DWG

PLOT DATE : 7/24/2023 2:45 PM

PLOT BY : CHLOE DIEHL

PLOT NAME :

2

GENERAL NOTES

THERE ARE UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE THEIR CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

IF THERE ARE UTILITY CONFLICTS WITH SIGNS OR OTHER WORK UNDER THIS PROJECT, THE CONTRACTOR SHALL WORK AROUND THE UTILITY FACILITIES.
NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EROSION CONTROL ITEMS IN THE MISC. QUAN. ARE SUGGESTED. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. MAINTAIN EROSION CONTROL ITEMS UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. PROTECT WETLANDS AND OTHER WATERWAYS THAT ARE PRESENT WITHIN THE PROJECT LIMITS.

DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX NO. 30), AND MULCH AS DIRECTED BY THE ENGINEER.

WHEN THE QUANTITY OF THE ITEM OF SELECT CRUSHED MATERIAL, BASE AGGREGATE DENSE, OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A VERTICAL EDGE MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

HMA PAVEMENT QUANTITIES WERE CALCULATED USING 112 LB/SY/IN.

6.75-INCHES OF HMA PAVEMENT SHALL BE CONSTRUCTED WITH A 2.75-INCH LOWER LAYER (FIRST) AND 2.25-INCH LOWER LAYER (SECOND) OF HMA PAVEMENT 3MT 58-28S AND 1.75-INCH UPPER LAYER OF HMA PAVEMENT 4MT 58-28S.

4-INCHES OF HMA PAVEMENT (SHOULDER) SHALL BE CONSTRUCTED WITH A 2.25-INCH LOWER LAYER OF HMA PAVEMENT 3MT 58-28S AND 1.75-INCH UPPER LAYER OF HMA PAVEMENT 4MT 58-28S.

PAVING LIMITS AT INTERSECTIONS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

THE EXACT LOCATIONS AND LIMITS OF PRIVATE ENTRANCES, COMMERCIAL, AND FIELD ENTRANCES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 25%.

ADJUST DITCH GRADING AS NECESSARY TO FIT FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER IN THE FIELD.

ALL RADII DIMENSIONS ON THE PLAN FOR CURB & GUTTER ARE TO THE FLANGE OF THE CURB & GUTTER.

THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, OR PASSING LANE.

THE LOW SIDE SHOULDER SLOPE ON SUPERELEVATED SECTIONS EQUALS THE SUPERELEVATION WHEN THE SUPERELEVATION IS GREATER THAN 0.04 FT./FT. IF THE SUPERELEVATION IS LESS THAN OR EQUALS 0.04 FT./FT., THEN THE LOW SIDE SHOULDER SLOPE IS 0.04 FT./FT. THE HIGH SIDE SHOULDER SLOPE ON THE SUPERELEVATED SECTION EQUALS THE SUPERELEVATION.

CURVE DATA IS BASED ON THE ARC DEFINITION.

CONTRACTOR TO PROTECT DQ5353 AND OM1256 GPS AND KEEP CONSTRUCTION EQUIPMENT AT LEAST 10 FEET AWAY FROM DQ5353 AND OM1256 GPS. NOTE OM1256 GPS IS LOCATED APPROXIMATELY 100 FEET NORTH OF THE END OF CONSTRUCTION ON CTH M (STA 11'C'+62.48)

ENSURE THAT DQ5353 AND OM1256 GPS IS/ARE NOT DISTURBED, BUMPED, OR MOVED DURING THE DURATION OF THE PROJECT. NOTIFY JACOB ROCKWEILER IMMEDIATELY IF DQ5353 AND OM1256 GPS IS/ARE DISTURBED, BUMPED OR MOVED DURING CONSTRUCTION OPERATIONS.

JACOB ROCKWEILER, P.E., WISCONSIN HEIGHT MODERNIZATION PROGRAM MANAGER WITH THE WISCONSIN DEPARTMENT OF TRANSPORTATION WHOSE PHONE NUMBER IS (608) 516-6362 AND EMAIL IS JACOB.ROCKWEILER@DOT.WI.GOV.

MILL AND PAVE ADJACENT TO MONUMENT WITHOUT DAMAGING THE MONUMENT.

A 20 FT. VERTICAL CLEARANCE IS REQUIRED FROM HIGHEST POINT ON THE PAVEMENT SURFACE TO THE LOWEST POINT OF THE OBSTACLE.

INLET AND OUTLET ELEVATIONS FOR CULVERT PIPES AS SHOWN ON THE PLANS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION:

WisDOT PROJECT MANAGER
2101 WRIGHT STREET
MADISON, WI 53704
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EMAIL: mahesh.shrestha@dot.wi.gov

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
ATTN: ELLERY SCHAFFER, P.E.
PH: (608) 459-6027
CELL: (608) 341-8159
EMAIL: ellery.schaffer@jewellassoc.com

WDNR LIAISON:

STATE OF WISCONSIN
DNR SOUTH CENTRAL REGION HQ
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: ANDY BARTA
PH: (608) 235-2955
EMAIL: andrew.barta@wisconsin.gov

UTILITIES

ELECTRICITY

ALLIANT ENERGY
ATTN: PERRY BOECK
120 EAST MAPLE AVENUE
BEAVER DAM, WI 53916
PH: (920) 887-6061
CELL: (920) 960-5219
EMAIL: perryboeck@alliantenergy.com

ADAMS-COLUMBIA ELECTRIC COOPERATIVE
ATTN: SHAWN PIETRZAK
401 E. LAKE STREET; P.O. BOX 70
FRIENDSHIP, WI 53934
PH: (800) 831-8629 EXT. 323
EMAIL: spietrzak@acecwi.com

WE ENERGIES
ATTN: DAN SANDE
333 W EVERETT ST, RM A299
MILWAUKEE, WI 53203
PH: (414) 221-4578
CELL: (414) 550-4993
EMAIL: dan.sande@we-energies.com

ELECTRICITY-TRANSMISSION

ATC MANAGEMENT, INC.
ATTN: DOUG VOSBERG
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
PH: (608) 877-7650
EMAIL: dvosberg@atcllc.com

COMMUNICATION LINE

LUMEN (CENTURYLINK)
ATTN: SCOTT HEINZELMAN
144 N PEARL STREET
BERLIN, WI 54923
PH: (608) 716-5964
CELL: (920) 757-4802
EMAIL: scott.heinzelman@lumen.com

CHARTER SPECTRUM
ATTN: NICK FRASE
1515 W WASHINGTON STREET
WEST BEND, WI 53095
PH: (920) 304-6797
EMAIL: Nick.Frase@charter.com

MARQUETTE ADAMS TELEPHONE COOP, INC.
ATTN: JASON SENGBUSCH
113 N OXFORD STREET; P.O. BOX 45
OXFORD, WI 53952
PH: (608) 586-7070
CELL: (608) 450-0707
EMAIL: jsengbusch@maadtelco.com

GAS/PETROLEUM

ALLIANT ENERGY
ATTN: PERRY BOECK
120 EAST MAPLE AVENUE
BEAVER DAM, WI 53916
PH: (920) 887-6061
CELL: (920) 960-5219
EMAIL: perryboeck@alliantenergy.com

DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

* DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE

ORDER OF SECTION 2 SHEETS:

- WRITTEN MATERIAL
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- EROSION CONTROL
- DETOUR PLAN

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	INV	Invert	RDWY	Roadway
AC	Acre	IP	Iron Pipe or Pin	SALV	Salvaged
AGG	Aggregate	IRS	Iron Rod Set	SAN S	Sanitary Sewer
AH	Ahead	JT	Joint	SEC	Section
<	Angle	JCT	Junction	SHLDR	Shoulder
ASPH	Asphaltic	LHF	Left-Hand Forward	SHR	Shrinkage
AVG	Average	L	Length of Curve	SW	Sidewalk
ADT	Average Daily Traffic	LIN FT or LF	Linear Foot	S	South
BAD	Base Aggregate Dense	LC	Long Chord of Curve	SQ	Square
BK	Back	MH	Manhole	SF or SQ FT	Square Feet
BF	Back Face	MB	Mailbox	SY or SQ YD	Square Yard
BM	Bench Mark	ML or M/L	Match Line	STD	Standard
BR	Bridge	N	North	SDD	Standard Detail Drawings
C or C/L	Center Line	Y	North Grid Coordinate	STH	State Trunk Highways
CC	Center to Center	OD	Outside Diameter	STA	Station
C.E.	Commercial Entrance	PLE	Permanent Limited Easement	SS	Storm Sewer
CTH	County Trunk Highway	PT	Point	SG	Subgrade
CR	Creek	PC	Point of Curvature	SE	Superelevation
CR	Crushed	PI	Point of Intersection	SL or S/L	Survey Line
CY or CU YD	Cubic Yard	PRC	Point of Reverse Curvature	SV	Septic Vent
CP	Culvert Pipe	PT	Point of Tangency	T	Tangent
C & G	Curb and Gutter	POC	Point On Curve	TEL	Telephone
D	Degree of Curve	POT	Point on Tangent	TEMP	Temporary
DHV	Design Hour Volume	PVC	Polyvinyl Chloride	TI	Temporary Interest
DIA	Diameter	PCC	Portland Cement Concrete	TLE	Temporary Limited Easement
E	East	LB	Pound	t	Ton
X	East Grid Coordinate	PSI	Pounds Per Square Inch	T or TN	Town
ELEC	Electric (al)	P.E.	Private Entrance	TRANS	Transition
EL or ELEV	Elevation	R	Radius	TL or T/L	Transit Line
ESALS	Equivalent Single Axle Loads	RR	Railroad	T	Trucks (percent of)
EBS	Excavation Below Subgrade	R	Range	TYP	Typical
FF	Face to Face	RL or R/L	Reference Line	UNCL	Unclassified
F.E.	Field Entrance	RP	Reference Point	UG	Underground Cable
F	Fill	RCCP	Reinforced Concrete Culvert Pipe	USH	United States Highway
FG	Finished Grade	REQD	Required	VAR	Variable
FL or F/L	Flow Line	RES	Residence or Residential	V	Velocity or Design Speed
FT	Foot	RW	Retaining Wall	VERT	Vertical
FTG	Footing	RT	Right	VC	Vertical Curve
GN	Grid North	RHF	Right-Hand Forward	VOL	Volume
HT	Height	R/W	Right-of-Way	WM	Water Main
CWT	Hundredweight	RD	Road	WV	Water Valve
HYD	Hydrant	R	River	W	West
INL	Inlet			WB	Westbound
ID	Inside Diameter			YD	Yard

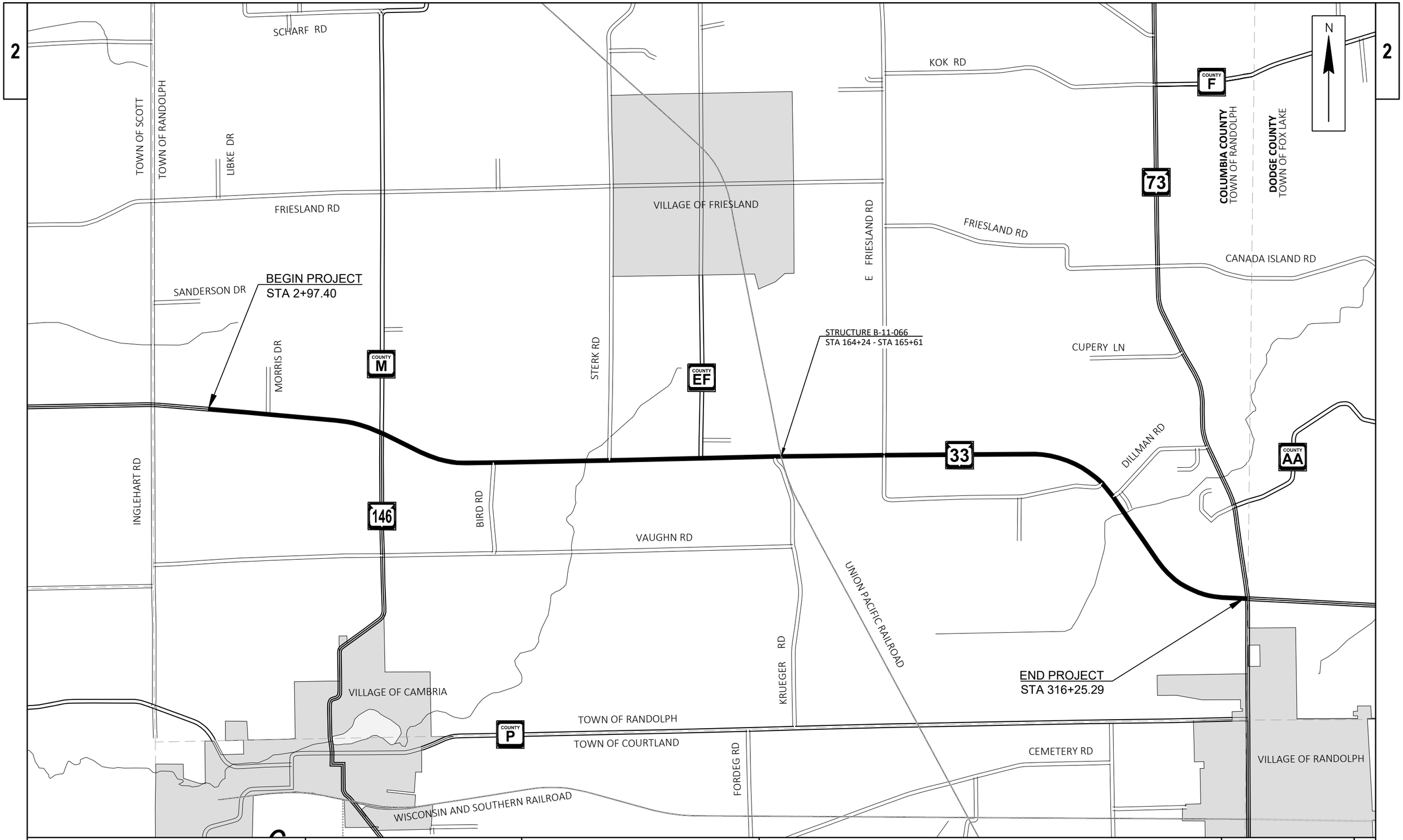
CONTROL POINTS

NO.	STA.	DESCRIPTION	Y	X	ELEV
1	46+79	2" ALUMINUM CAP, 62.46' LT.	404,962.57	632,456.23	987.58
2	114+20	¾" I.R.S., 64.73' LT.	404,188.36	638,991.85	993.46
3	168+82	¾" I.R.S., 28.42' RT.	404,221.75	644,453.75	1031.23
4	240+64	¾" I.R.S., 56.11' RT.	404,242.23	651,629.76	979.41
5	296+71	¾" I.R.S., 54.55' RT.	400,573.96	655,565.47	954.01

RUNOFF COEFFICIENT TABLE

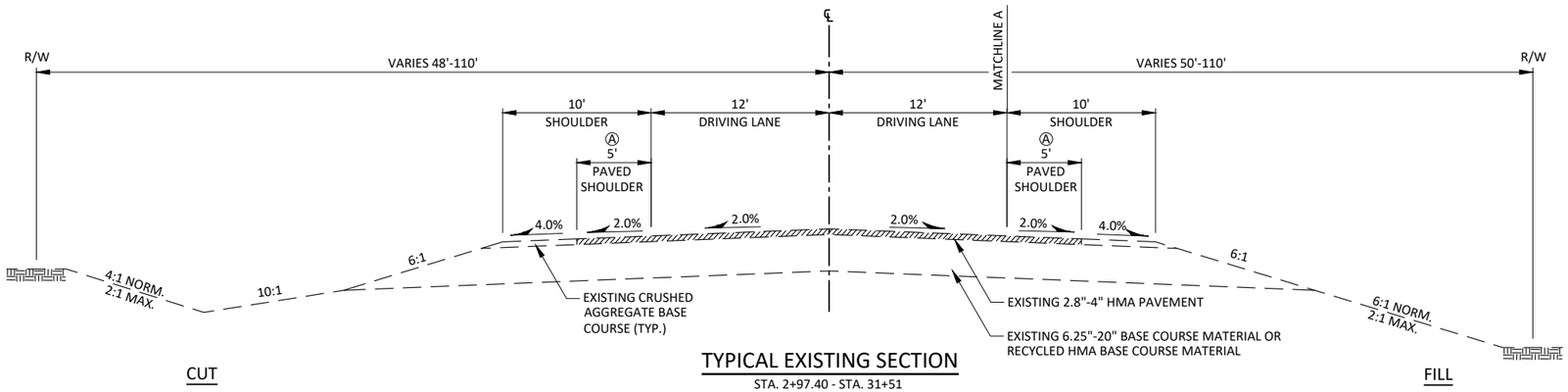
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA= 124.4 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 14.9 ACRES



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PROJECT OVERVIEW	SHEET 3	E

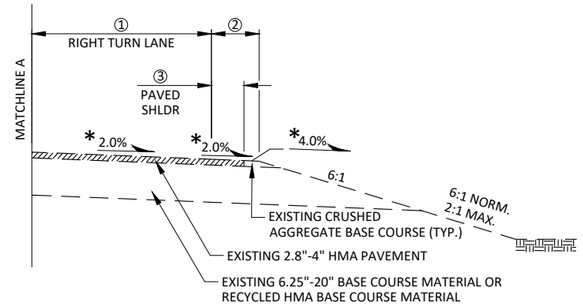
FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_PROJECT OVERVIEW.DWG PLOT DATE : 10/4/2022 11:01:45 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT1



TYPICAL EXISTING SECTION

STA. 2+97.40 - STA. 31+51
STA. 47+37 - STA. 58+29
STA. 74+23 - STA. 236+60
STA. 267+05 - STA. 287+77
STA. 313+33 - STA. 316+25.29

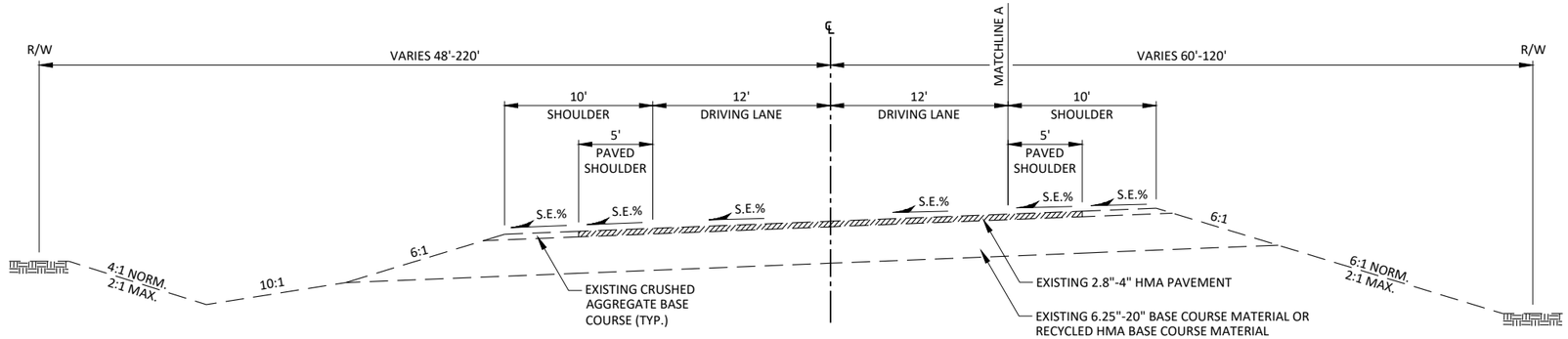
Ⓐ STA. 2+97.40 - STA. 9+58 PAVED SHOULDER WIDTH VARIES 3' - 5'



TYPICAL PARTIAL EXISTING SECTION

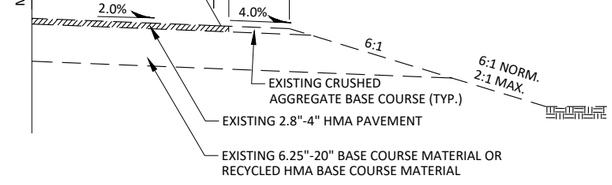
	① FT.	② FT.	③ FT.
* STA. 41+35 - STA. 48+68, RT.	11	3	0
* STA. 44+54 - STA. 50+71, LT.	11	3	0
STA. 139+16 - STA. 146+00, LT.	12	3	2

* STA. 41+35 - STA. 47+37, RT. - S.E.%
STA. 44+54 - STA. 47+37, LT. - S.E.%



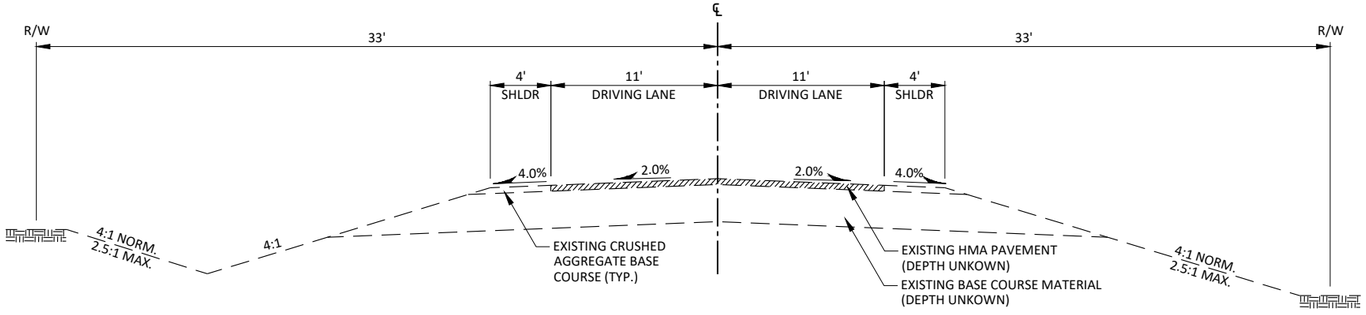
TYPICAL EXISTING SUPERELEVATED SECTION

STA. 31+51 - STA. 47+37
STA. 58+29 - STA. 74+23
STA. 236+60 - STA. 267+05
STA. 287+77 - STA. 313+33



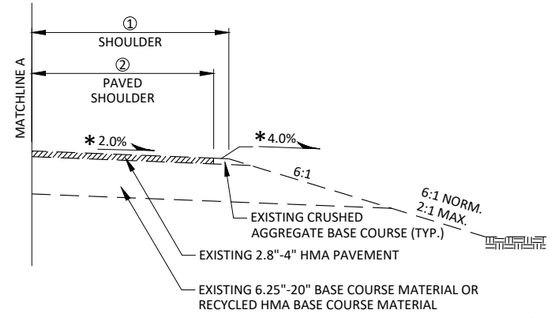
TYPICAL PARTIAL EXISTING SECTION

STA. 136+39 - STA. 147+63, RT.



TYPICAL EXISTING SECTION

BIRD ROAD

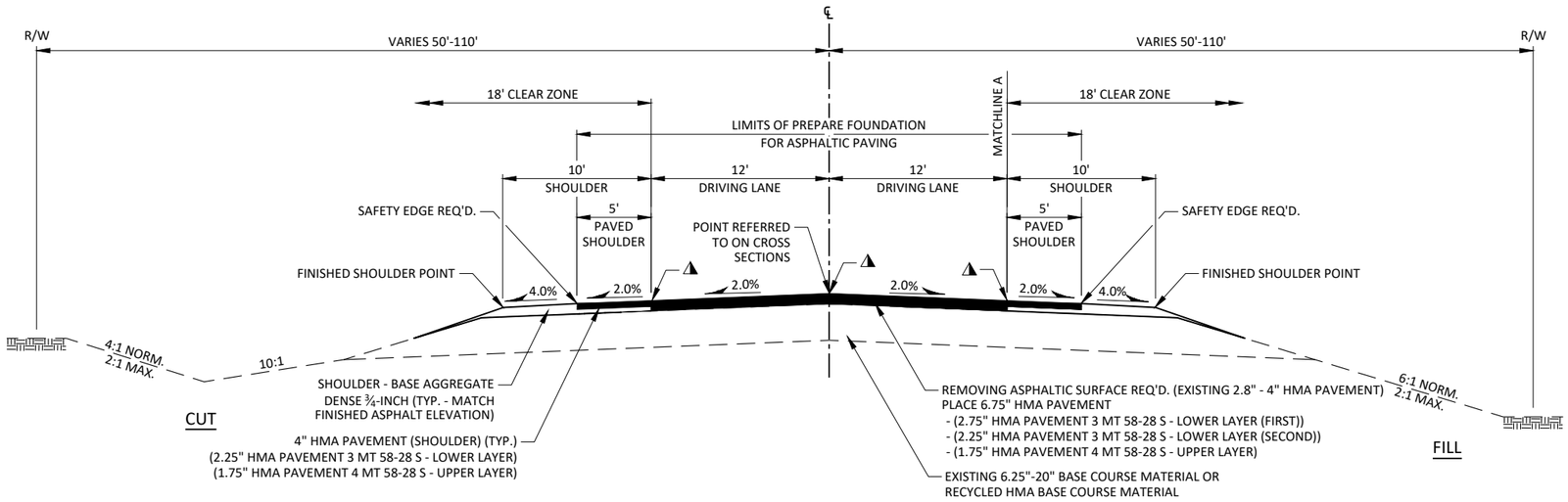


TYPICAL PARTIAL EXISTING SECTION

	① FT.	② FT.
* STA. 310+49 - STA. 316+25.29, RT.	12	11
* STA. 311+14 - STA. 316+25.29, LT.	13	12

* STA. 310+49 - STA. 313+33, RT. - S.E.%
STA. 311+14 - STA. 313+33, LT. - S.E.%

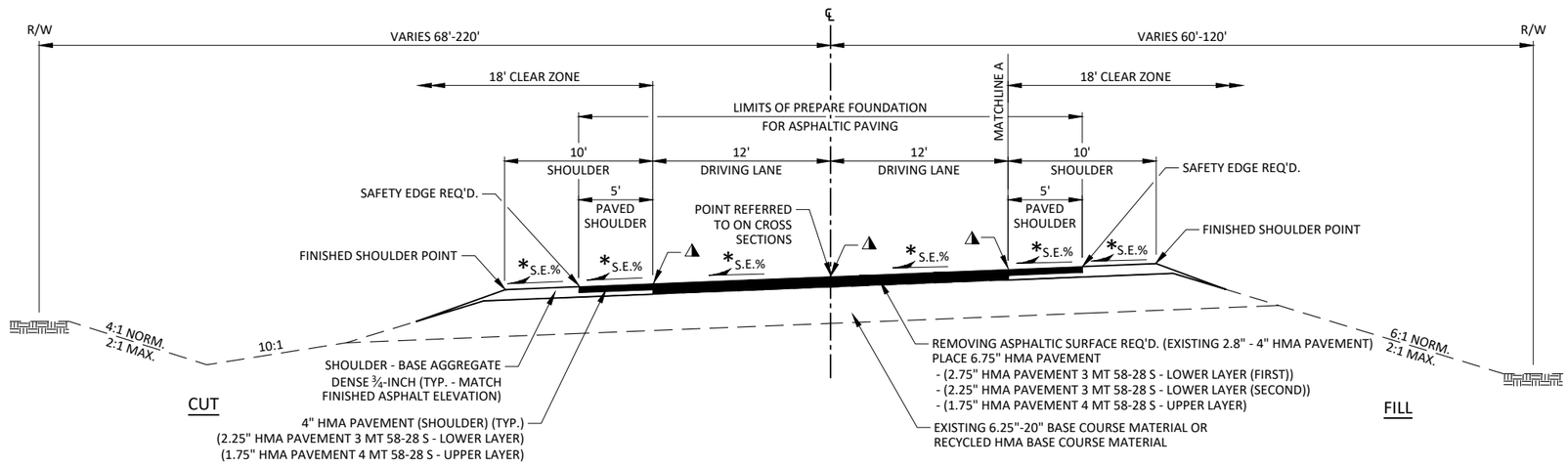
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	TYPICAL EXISTING SECTIONS	SHEET 4	E



TYPICAL FINISHED SECTION

STA. 2+97.40 - STA. 31+51
STA. 47+37 - STA. 57+00
STA. 112+00 - STA. 236+60
STA. 267+05 - STA. 287+77
STA. 313+33 - STA. 316+25.29

◭ ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL AND ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.

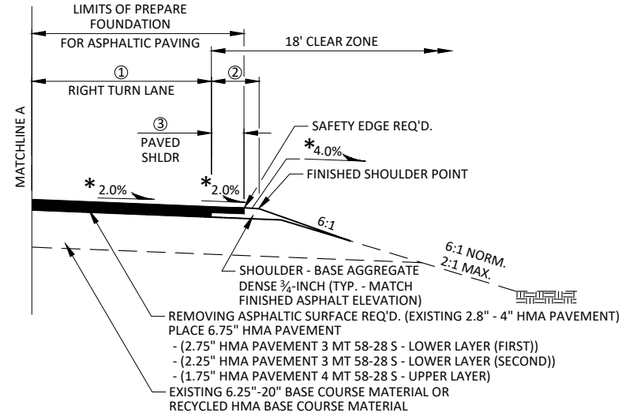


TYPICAL FINISHED SUPERELEVATED SECTION

STA. 31+51 - STA. 47+37
STA. 236+60 - STA. 267+05
STA. 287+77 - STA. 313+33

◭ ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL AND ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.

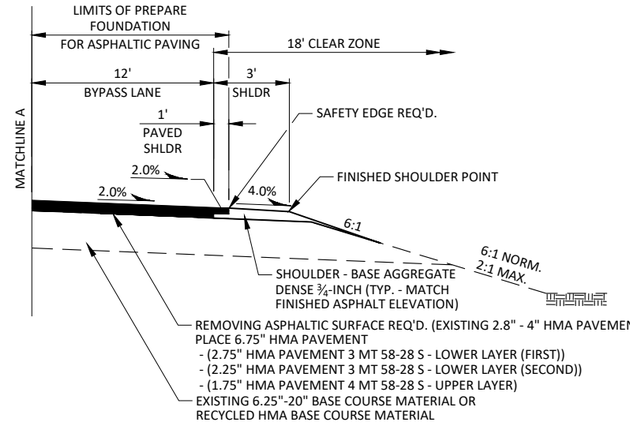
* SEE SUPERELEVATION TABLE



TYPICAL PARTIAL FINISHED SECTION

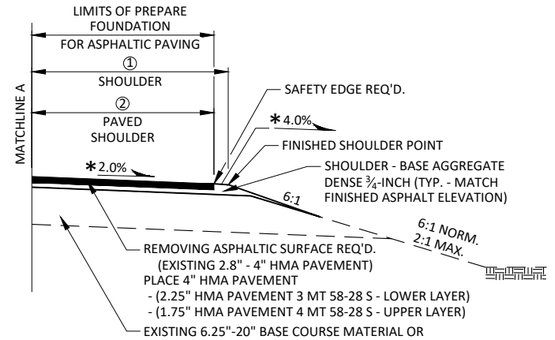
	① FT.	② FT.	③ FT.
* STA. 41+35 - STA. 48+68, RT.	11	3	0
* STA. 44+54 - STA. 50+71, LT.	11	3	0
STA. 139+16 - STA. 146+00, LT.	12	3	2

* STA. 41+35 - STA. 47+37, RT. - S.E.%
STA. 44+54 - STA. 47+37, LT. - S.E.%



TYPICAL PARTIAL FINISHED SECTION

STA. 136+39 - STA. 147+63, RT.

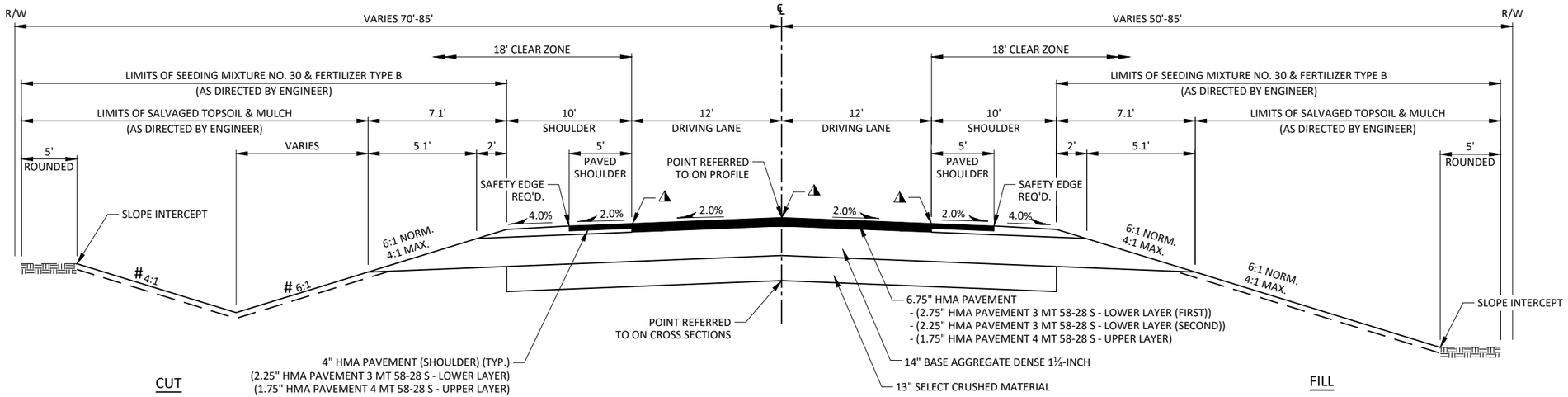


TYPICAL PARTIAL FINISHED SECTION

	① FT.	② FT.
* STA. 310+49 - STA. 316+25.29, RT.	12	11
* STA. 311+14 - STA. 316+25.29, LT.	13	12

* STA. 310+49 - STA. 313+33, RT. - S.E.%
STA. 311+14 - STA. 313+33, LT. - S.E.%

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	TYPICAL FINISHED SECTIONS	SHEET 5	E

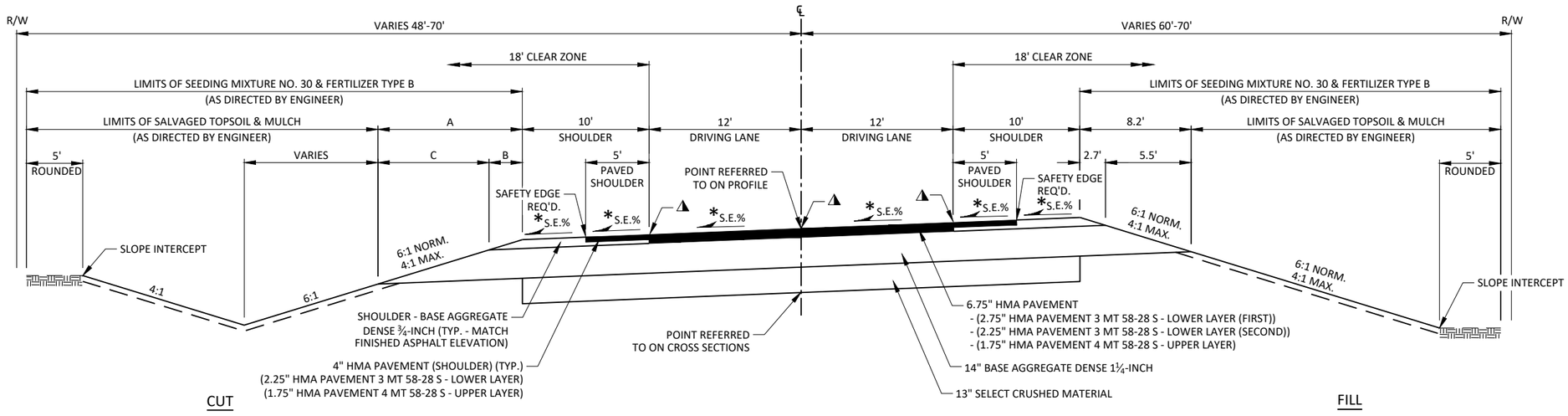


TYPICAL FINISHED SECTION

STA. 57+00 - STA. 58+29
STA. 74+23 - STA. 112+00

◭ ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL AND ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.

\# STA. 95+50 - STA. 102+50, LT. - 6:1 (FORESLOPE)/2.9:1 MAX (BACKSLOPE)
STA. 95+50 - STA. 102+50, RT. - VARIES 4:1 - 6:1 (FORESLOPE)/3.5:1 MAX (BACKSLOPE)



TYPICAL FINISHED SUPERELEVATED SECTION

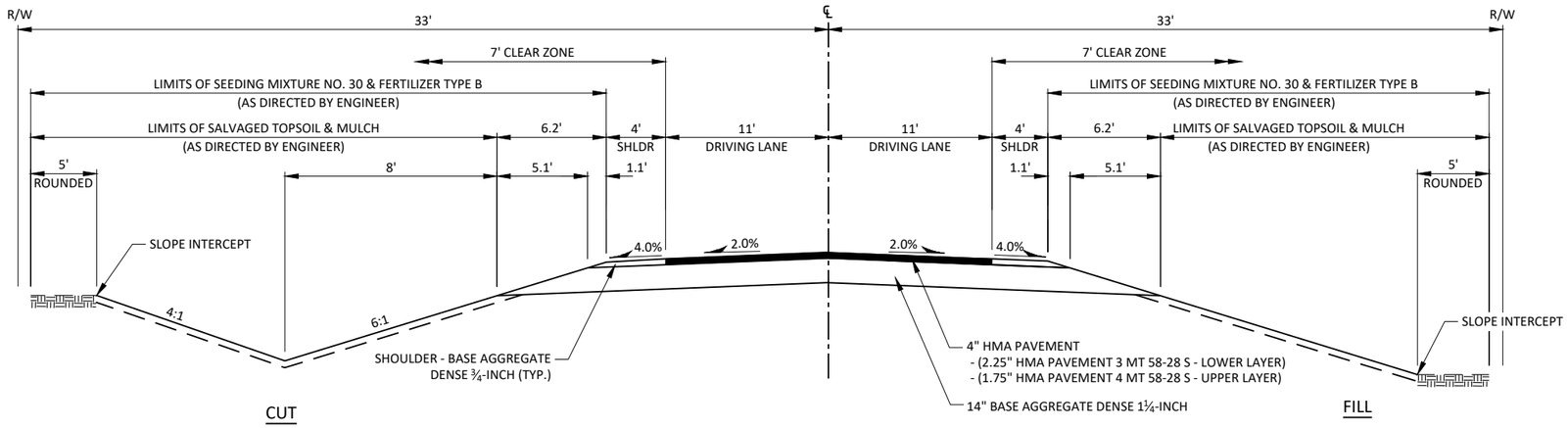
STA. 58+29 - STA. 74+23

◭ ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL AND ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL REQ'D. SEE MISCELLANEOUS QUANTITIES AND STANDARD DETAIL DRAWINGS FOR DETAILS.

* SEE SUPERELEVATION TABLE

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	TYPICAL FINISHED SECTIONS	SHEET 6	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\TYPICALS\W11630 TYPICALS.DWG
PLOT DATE : 9/30/2022 2:09:40 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : FINISHED (2)



TYPICAL FINISHED SECTION

BIRD ROAD

SUPERELEVATION TABLE-CURVE 1

STATION	LEFT(%)	RIGHT(%)
31+51	2.0	2.0
32+00	0.2	2.0
32+05	0.0	2.0
32+50	1.7	2.0
32+59	2.0	2.0
33+00	3.5	3.5
33+04	3.7	3.7
FULL SUPERELEVATION		
45+84	3.7	3.7
46+00	3.1	3.1
46+29	2.0	2.0
46+50	1.2	2.0
46+83	0.0	2.0
47+00	0.7	2.0
47+37	2.0	2.0

SUPERELEVATION TABLE-CURVE 2

STATION	LEFT(%)	RIGHT(%)	A (FT)	B (FT)	C (FT)
58+29	2.0	2.0	11.1	3.2	7.9
58+50	2.0	1.2	11.1	3.2	7.9
58+82	2.0	0.0	11.1	3.2	7.9
59+00	2.0	0.7	11.1	3.2	7.9
59+35	2.0	2.0	11.1	3.2	7.9
59+50	2.6	2.6	11.7	3.5	8.2
60+00	4.4	4.4	14.1	4.6	9.5
60+02	4.5	4.5	14.2	4.6	9.6
FULL SUPERELEVATION					
72+50	4.5	4.5	8.4	2.7	5.7
73+00	2.6	2.6	7.4	2.2	5.2
73+17	2.0	2.0	7.1	2.0	5.1
73+50	2.0	0.8	7.1	2.0	5.1
73+70	2.0	0.0	7.1	2.0	5.1
74+00	2.0	1.1	7.1	2.0	5.1
74+23	2.0	2.0	7.1	2.0	5.1

NOTE: STA. 58+29 - STA. 69+00 FORESLOPE 6:1
STA. 70+00 - STA. 112+00 FORESLOPE 4:1

SUPERELEVATION TABLE-CURVE 3

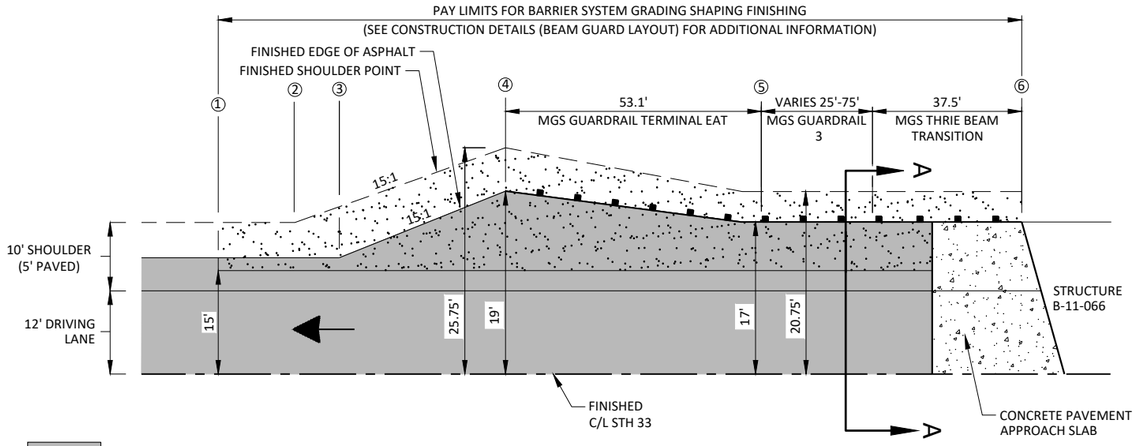
STATION	LEFT(%)	RIGHT(%)
236+60	2.0	2.0
237+00	0.5	2.0
237+13	0.0	2.0
237+50	1.4	2.0
237+67	2.0	2.0
238+00	3.3	3.3
238+33	4.5	4.5
FULL SUPERELEVATION		
265+32	4.5	4.5
265+50	3.8	3.8
266+00	2.0	2.0
266+50	0.1	2.0
266+52	0.0	2.0
267+00	1.8	2.0
267+05	2.0	2.0

SUPERELEVATION TABLE-CURVE 4

STATION	LEFT(%)	RIGHT(%)
287+77	2.0	2.0
288+00	2.0	1.2
288+30	2.0	0.0
288+50	2.0	0.7
288+84	2.0	2.0
289+00	2.6	2.6
289+50	4.5	4.5
289+61	4.9	4.9
FULL SUPERELEVATION		
311+49	4.9	4.9
311+50	4.9	4.9
312+00	3.0	3.0
312+26	2.0	2.0
312+50	2.0	1.1
312+80	2.0	0.0
313+00	2.0	0.8
313+33	2.0	2.0

SOIL BORING DATA

BORING	STATION	OFFSET FROM C/L (FT)	EXISTING		
			HMA PVMT (IN)	BASE COURSE MATERIAL (IN)	RECYCLED HMA BASE COURSE MATERIAL (IN)
1	2+87.10	10' RT.	4	20	0
2	13+43	2' LT	3.75	NO DATA	NO DATA
3	23+99	4' RT.	3	12.75	0
4	45+11	2' RT.	3.75	14.5	0
5	66+23	10' LT.	3.5	7.25	0
6	76+79	12' RT.	3.25	6.25	0
7	97+91	4' RT.	3.1	16.9	0
8	108+47	10' LT.	3	NO DATA	NO DATA
9	134+87	9' LT.	4	10	9" BELOW 2' OF FILL
10	145+43	2' RT.	3.3	NO DATA	NO DATA
11	161+27	6' RT.	3.5	0	14.5
12	171+83	12' LT.	3	0	13
13	187+67	4' RT.	3.3	0	10.75
14	198+23	10' RT.	3	NO DATA	NO DATA
15	214+07	9' RT.	3.5	0	11
16	224+63	6' RT.	3	0	14
17	240+47	4' LT.	3.5	0	12.5
18	251+03	6' LT.	3.5	NO DATA	NO DATA
19	266+87	3' LT.	3.8	0	12.75
20	282+71	6' LT.	4.3	0	9.25
21	293+27	9' RT.	3.5	0	9
22	303+83	6' RT.	2.8	NO DATA	NO DATA
23	303+83+	9' LT.	4	20	0



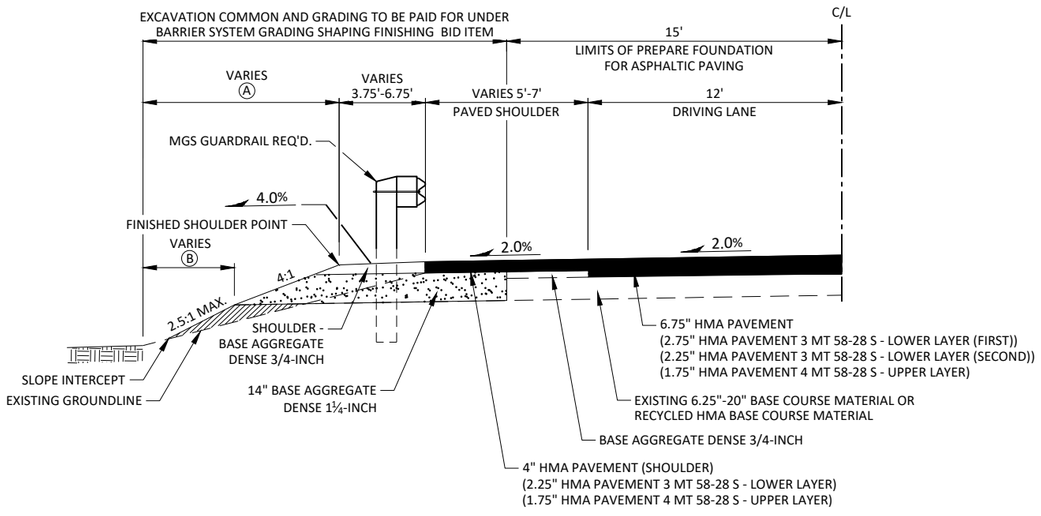
LIMITS OF HMA PAVEMENT

LIMITS OF BASE AGGREGATE DENSE 1¼-INCH

BEAMGUARD LAYOUT DETAIL

BEAMGUARD LAYOUT TABLE

STATION-STATION	LOCATION	STATION ①	②	③	④	⑤	⑥
161+00 - 164+10	MAINLINE, LT.	161+00	162+38	162+64	162+94	163+47	164+10
165+68 - 168+58	MAINLINE, LT.	168+58	167+89	167+62	167+34	166+81	165+68



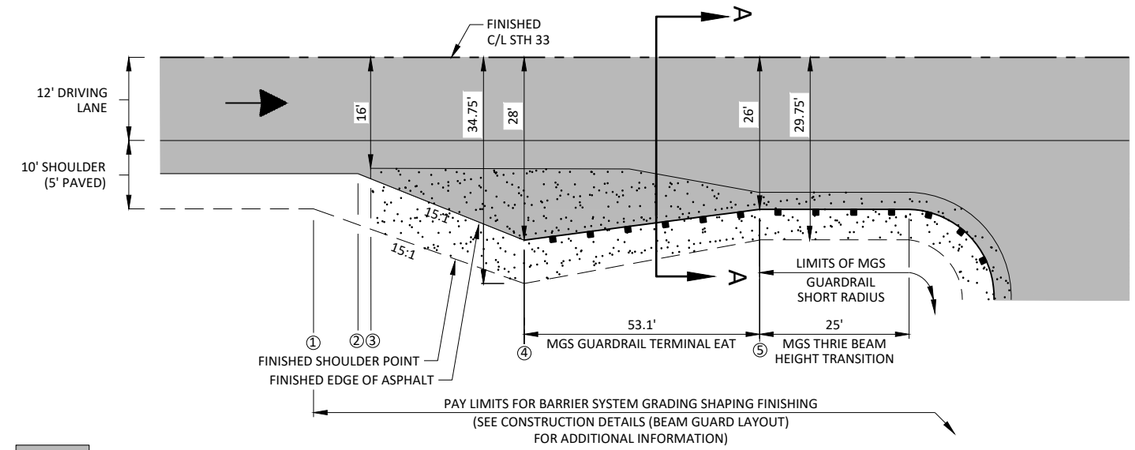
SECTION A-A

LIMITS OF BASE AGGREGATE DENSE 1¼-INCH

BORROW MATERIAL (PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING)

Ⓐ LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 30, AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

Ⓑ LIMITS OF SALVAGED TOPSOIL AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.



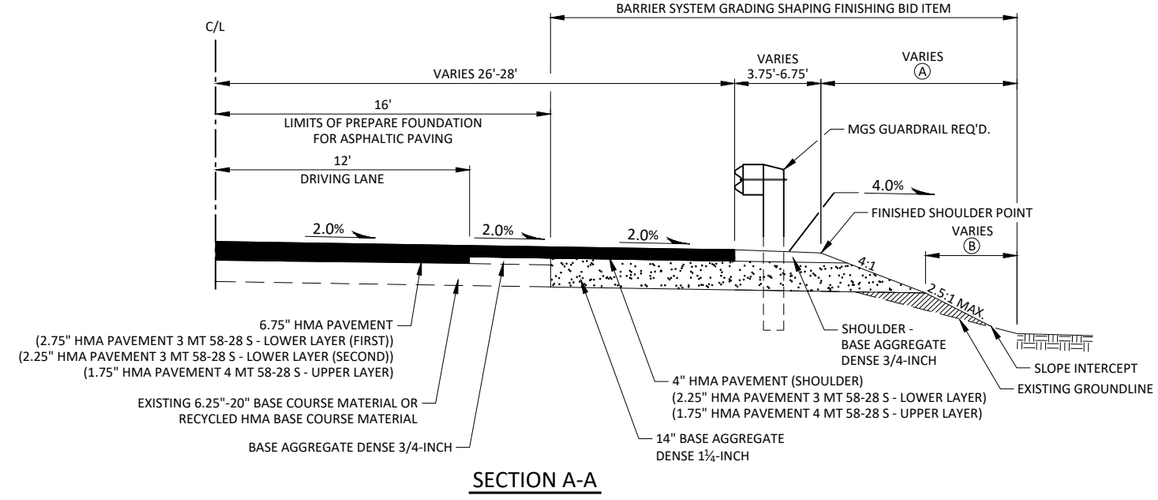
LIMITS OF HMA PAVEMENT

LIMITS OF BASE AGGREGATE DENSE 1¼-INCH

BEAMGUARD LAYOUT DETAIL

BEAMGUARD LAYOUT TABLE

STATION-STATION	LOCATION	STATION ①	②	③	④	⑤
159+61 - 162+06	MAINLINE, RT.	159+61	159+88	159+96	161+53	162+06



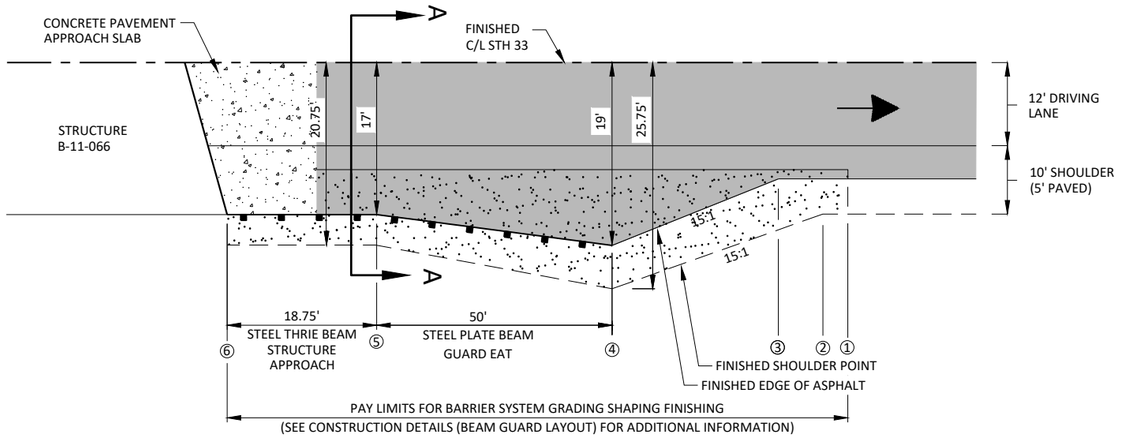
SECTION A-A

LIMITS OF BASE AGGREGATE DENSE 1¼-INCH

BORROW MATERIAL (PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING)

Ⓐ LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 30, AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

Ⓑ LIMITS OF SALVAGED TOPSOIL AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.



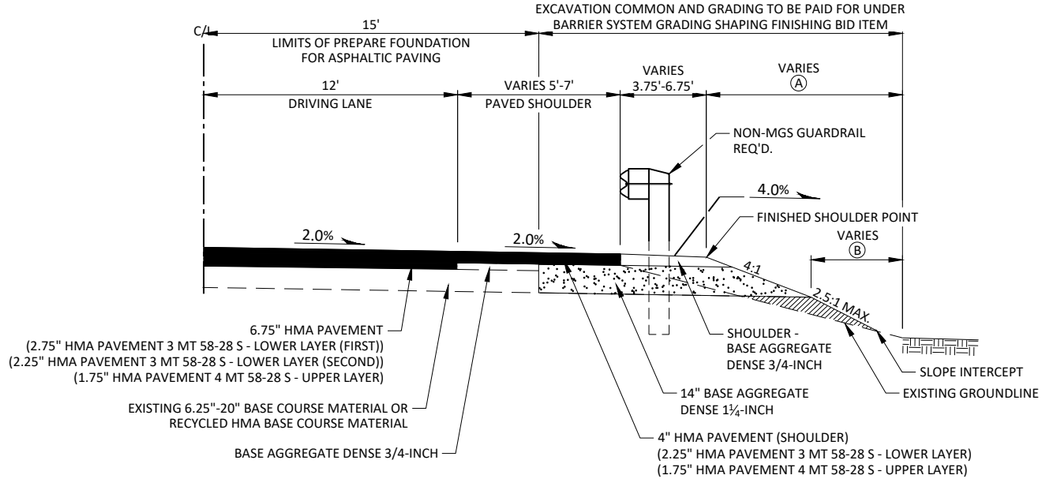
LIMITS OF HMA PAVEMENT

LIMITS OF BASE AGGREGATE DENSE 1¼-INCH

BEAMGUARD LAYOUT DETAIL

BEAMGUARD LAYOUT TABLE

STATION-STATION	LOCATION	STATION ①	②	③	④	⑤	⑥
165+75 - 167+57	MAINLINE, RT.	167+57	167+00	166+74	166+44	165+94	165+75



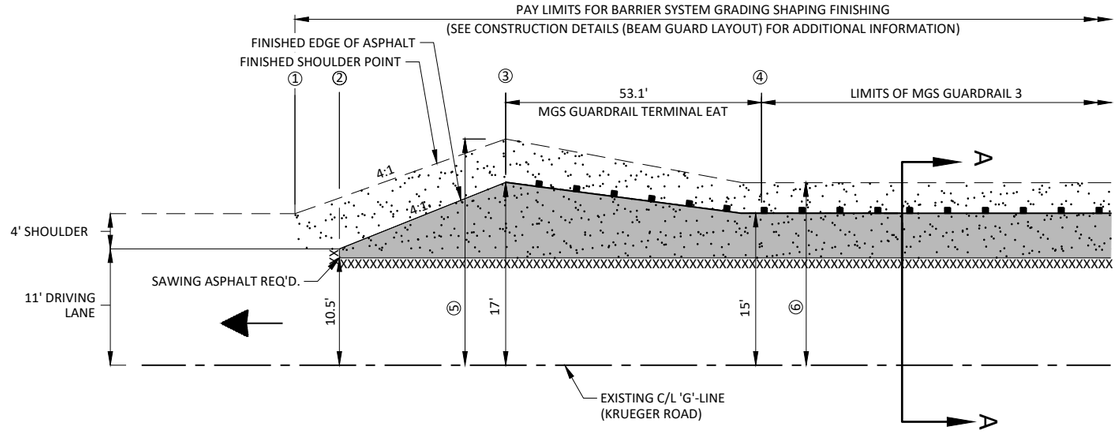
SECTION A-A

LIMITS OF BASE AGGREGATE DENSE 1¼-INCH

BORROW MATERIAL (PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING)

Ⓐ LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 30, AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

Ⓑ LIMITS OF SALVAGED TOPSOIL AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

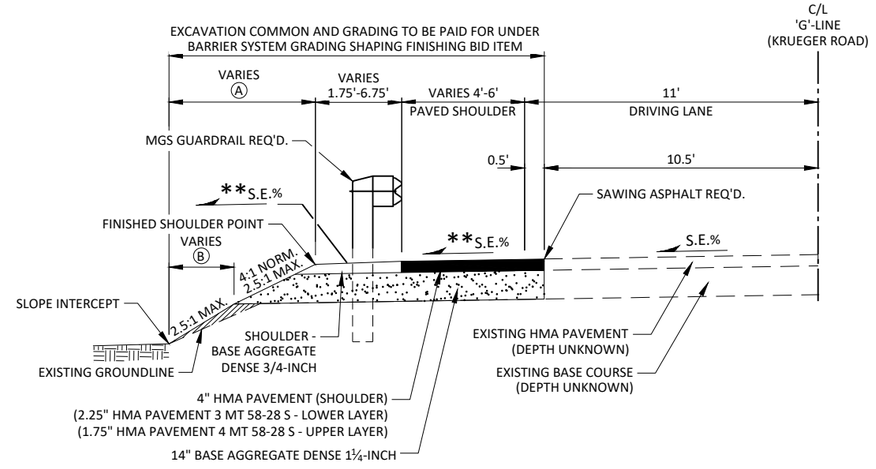


LIMITS OF HMA PAVEMENT

BEAMGUARD LAYOUT DETAIL

BEAMGUARD LAYOUT TABLE

STATION-STATION	LOCATION	STATION ①	②	③	④	⑤	⑥
4'G'+80 - 5'G'+56	KRUEGER RD	4'G'+80	4'G'+80	5'G'+04	5'G'+56	20.75'	VARIES 16.75'-18.75'
5'G'+88 - 6'G'+78	KRUEGER RD	5'G'+88	5'G'+97	6'G'+22	6'G'+78	23.75'	18.75'



SECTION A-A

LIMITS OF BASE AGGREGATE DENSE 1¼-INCH

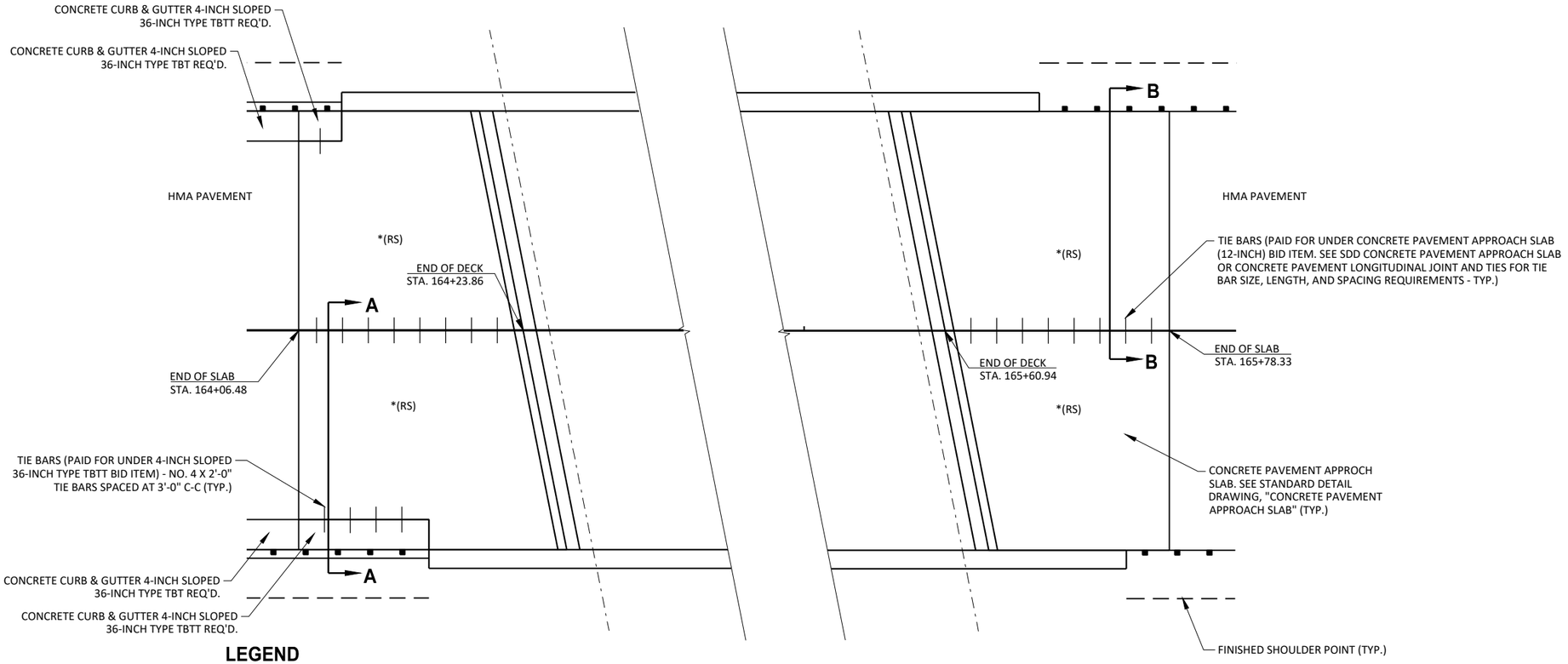
BORROW MATERIAL (PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING)

** MATCH EXISTING SUPERELEVATION

Ⓐ LIMITS OF FERTILIZER TYPE B, SEEDING MIXTURE NO. 30, AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

Ⓑ LIMITS OF SALVAGED TOPSOIL AND EROSION MAT URBAN CLASS I TYPE B (AS DIRECTED BY THE ENGINEER). PAID FOR UNDER BARRIER SYSTEM GRADING SHAPING FINISHING BID ITEM.

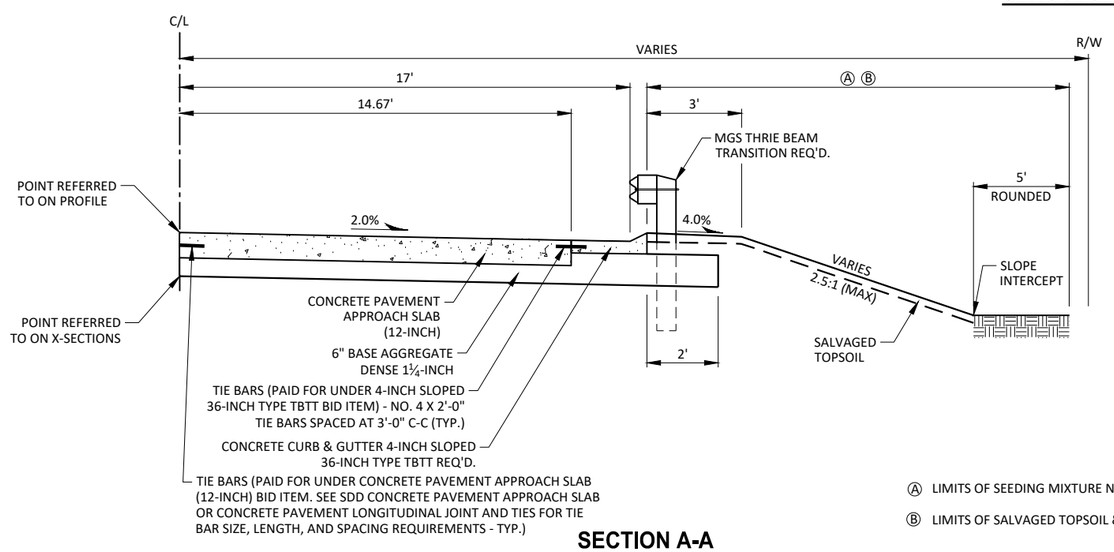
2



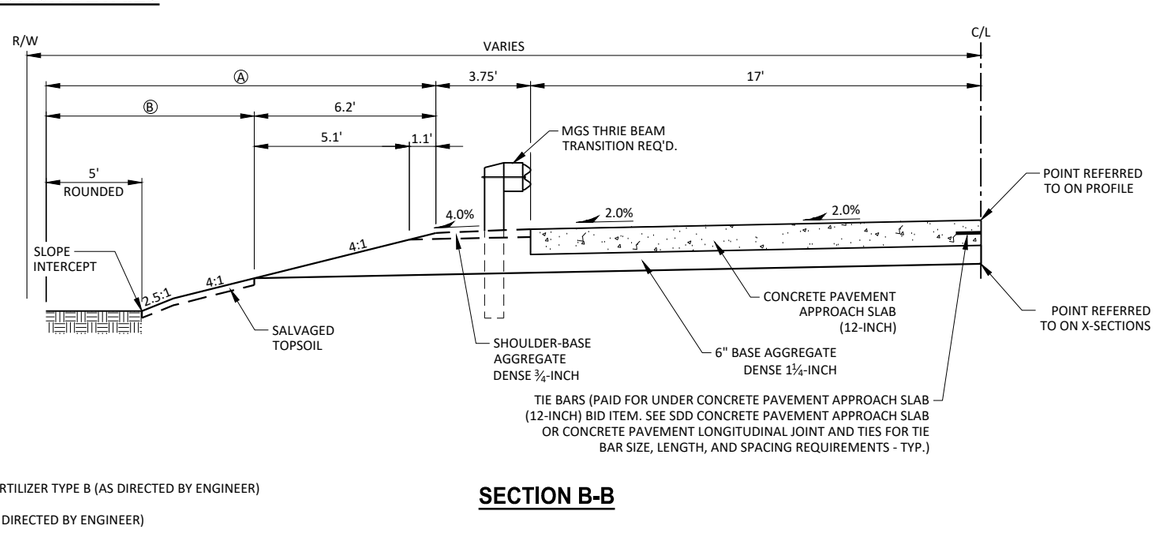
LEGEND

*(RS) = REINFORCED CONCRETE SLAB

STRUCTURE APPROACH DETAILS



SECTION A-A

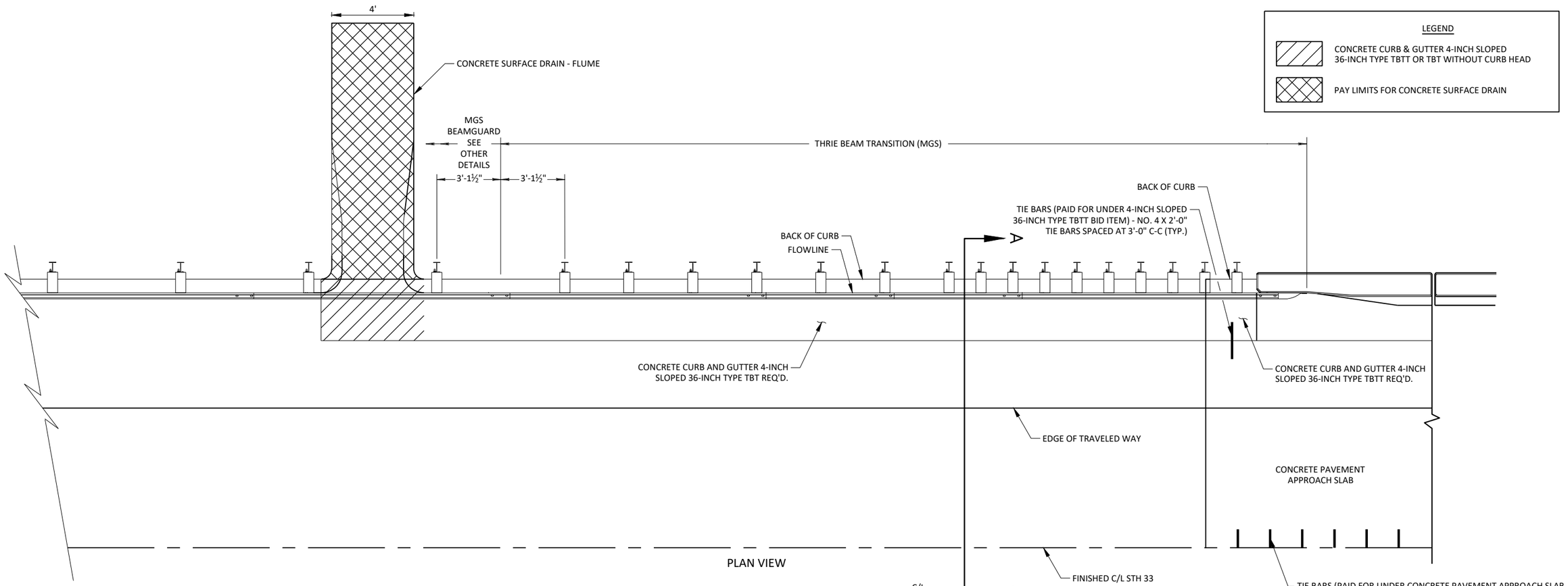


SECTION B-B

Ⓐ LIMITS OF SEEDING MIXTURE NO. 30 AND FERTILIZER TYPE B (AS DIRECTED BY ENGINEER)

Ⓑ LIMITS OF SALVAGED TOPSOIL & MULCH (AS DIRECTED BY ENGINEER)

2

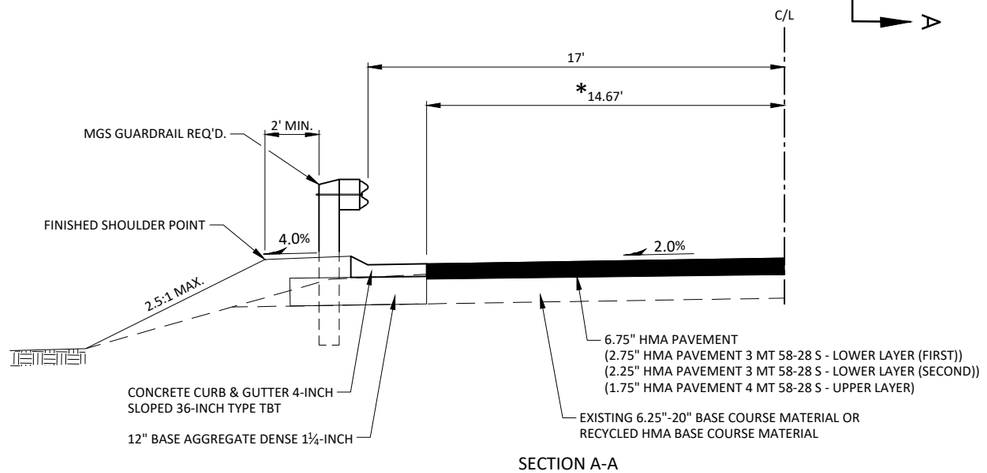


PLAN VIEW

LEGEND

CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT OR TBT WITHOUT CURB HEAD

PAY LIMITS FOR CONCRETE SURFACE DRAIN



SECTION A-A

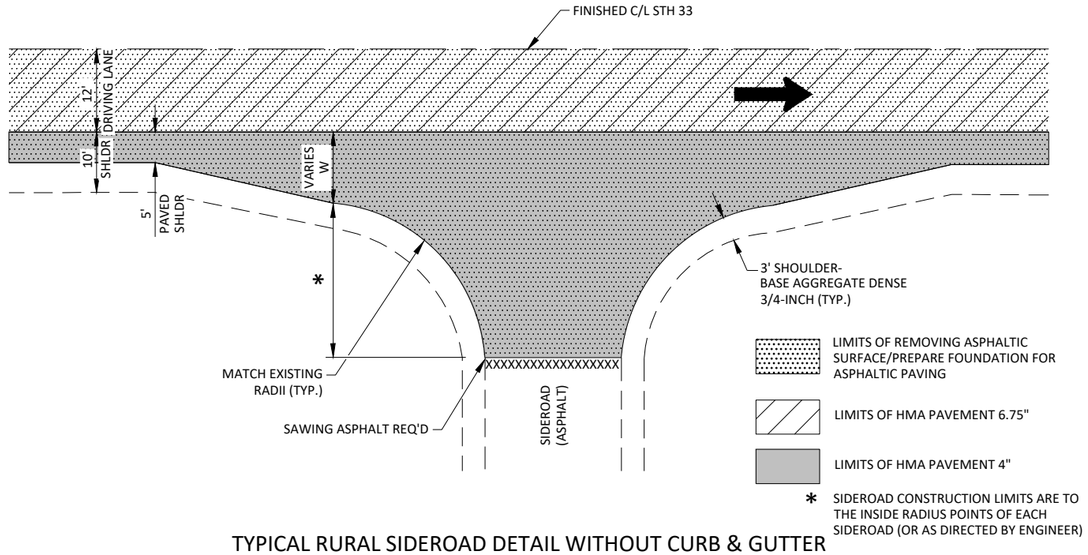
CONCRETE SURFACE DRAIN

STA. 163+75, LT.
STA. 163+81, RT.

* REDUCE EXISTING BASE WIDTH TO REMAIN FROM 15' TO 14.67'
- STA. 163+75 - STA. 164+06.48, LT.
- STA. 163+81 - STA. 164+06.48, RT.

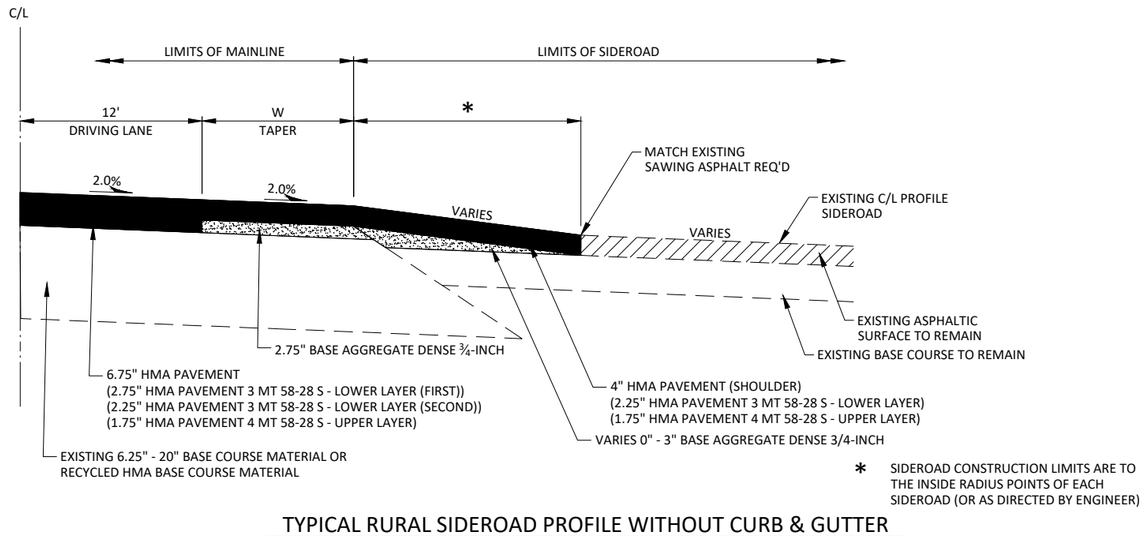
NOTES
THIS DETAIL IS FOR SHOWING PAY LIMITS ONLY.
SEE THE FOLLOWING SDD FOR SPECIFIC DETAILS:
- SDD MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
- SDD MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
- SDD MIDWEST GUARDRAIL SYSTEM (MGS) GUADRDRAIL
- SDD CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
- SDD CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
- SDD CONCRETE CURB & GUTTER

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CONSTRUCTION DETAILS	SHEET 11	E



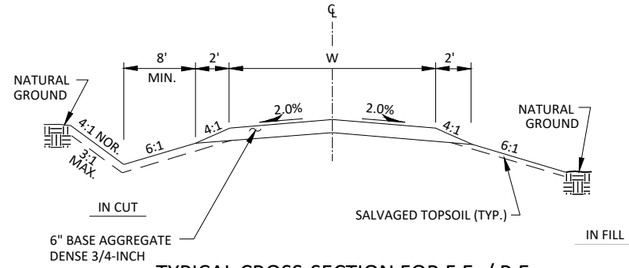
TYPICAL RURAL SIDEROAD DETAIL WITHOUT CURB & GUTTER

	W (FT)
MORRIS DRIVE	VARIES 27' - 28'
KRUEGER ROAD	VARIES 17.83' - 26'

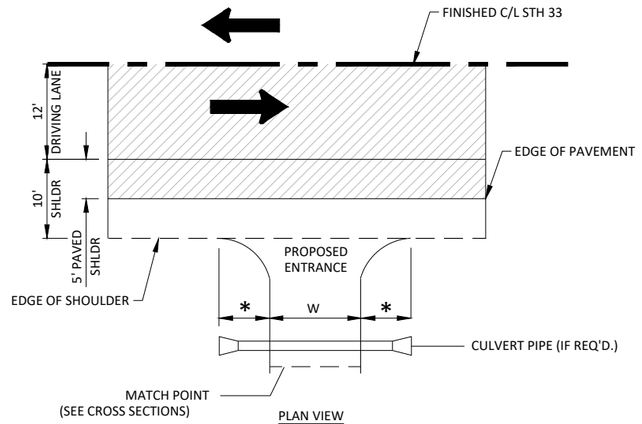


TYPICAL RURAL SIDEROAD PROFILE WITHOUT CURB & GUTTER

DETAILS WITHIN SUBGRADE IMPROVEMENT SECTION

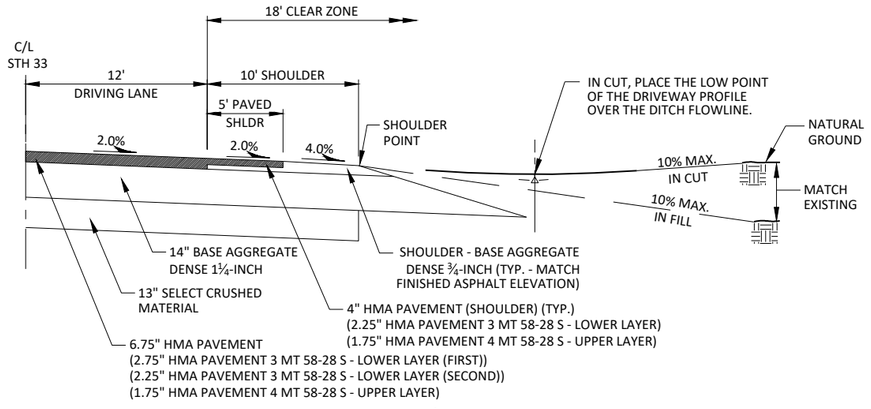


TYPICAL CROSS-SECTION FOR F.E. / P.E.

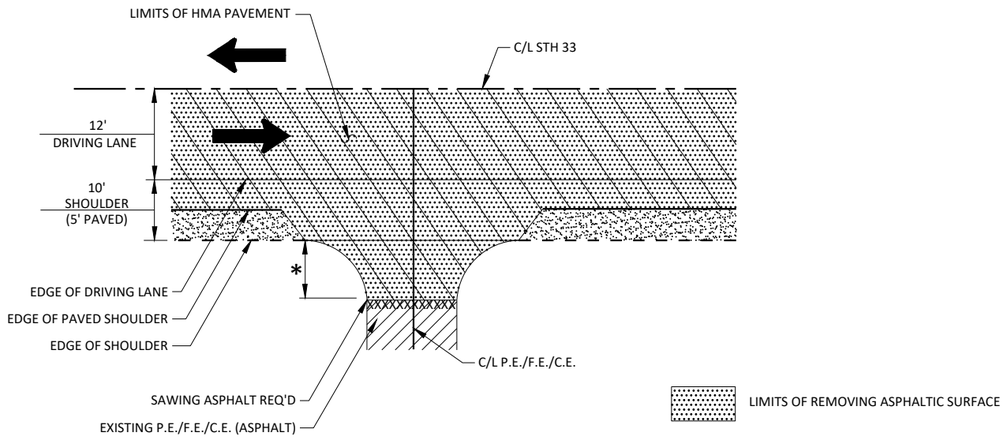


STATION	LOCATION	DRIVEWAY TYPE	W (FT.)	* (FT.)
64+40	MAINLINE. RT.	P.E.	11	20
69+53	MAINLINE, LT.	F.E.	12	10
72+11	MAINLINE, LT.	P.E.	14	10
74+36	MAINLINE, LT.	P.E.	18	20
80+47	MAINLINE, LT.	P.E.	13	20
88+53	MAINLINE, RT.	F.E.	17	10
104+75	MAINLINE, RT.	F.E.	16	10
106+70	MAINLINE ,LT.	P.E.	14	20

APPROACH AT F.E. / P.E.

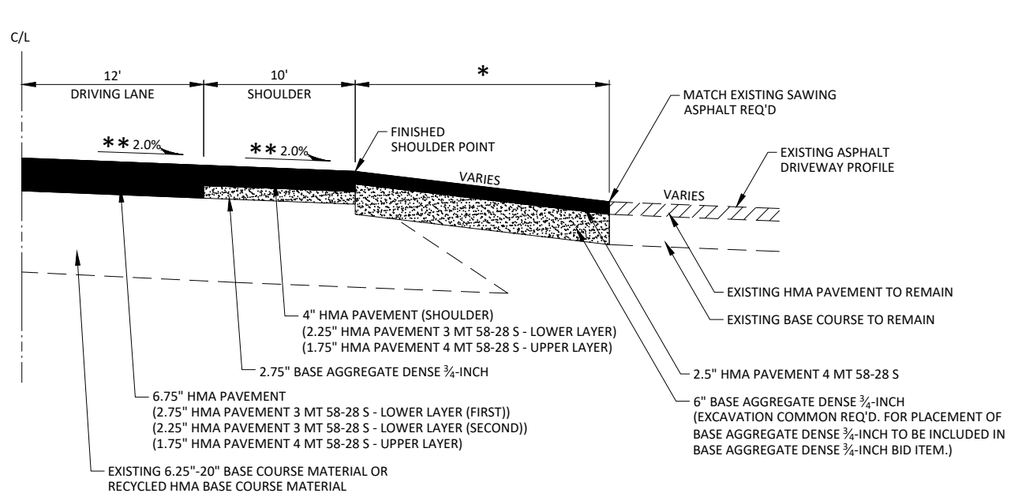


TYPICAL F.E./P.E. PROFILE



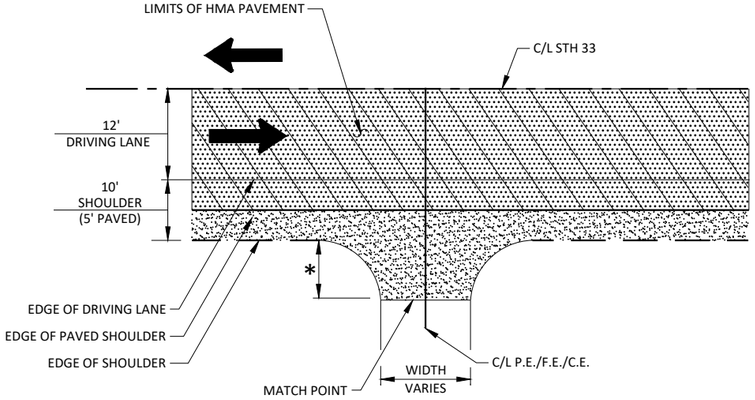
P.E./F.E./C.E. (EXISTING ASPHALT) DRIVEWAY DETAIL-RURAL

* REPLACE IN KIND TO THE RADIUS POINTS OF EACH DRIVEWAY (OR AS DIRECTED BY ENGINEER)



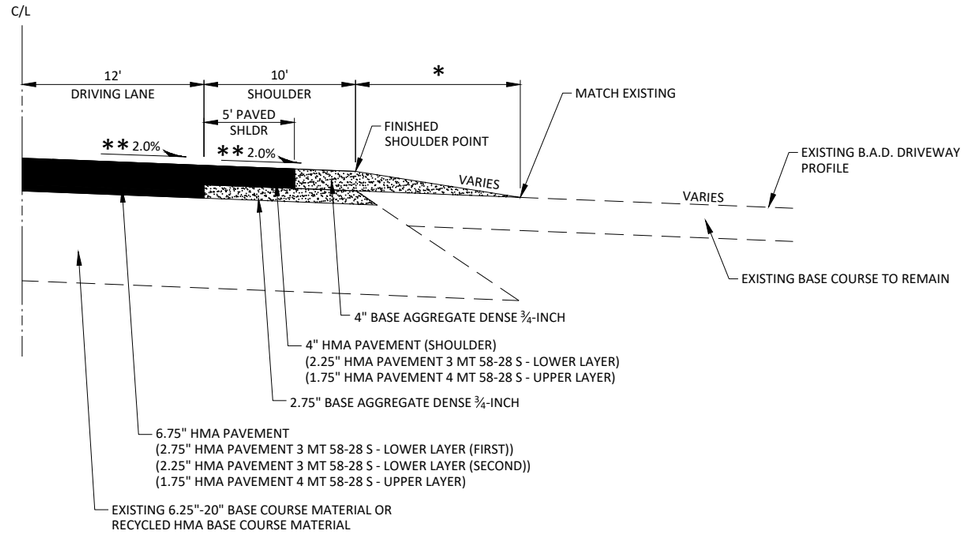
P.E./F.E./C.E. (EXISTING ASPHALT) PROFILE

** N.C. UNLESS NOTED OTHERWISE
-SEE SUPERELEVATION TABLE



P.E./F.E./C.E. (EXISTING B.A.D.) DRIVEWAY DETAIL-RURAL

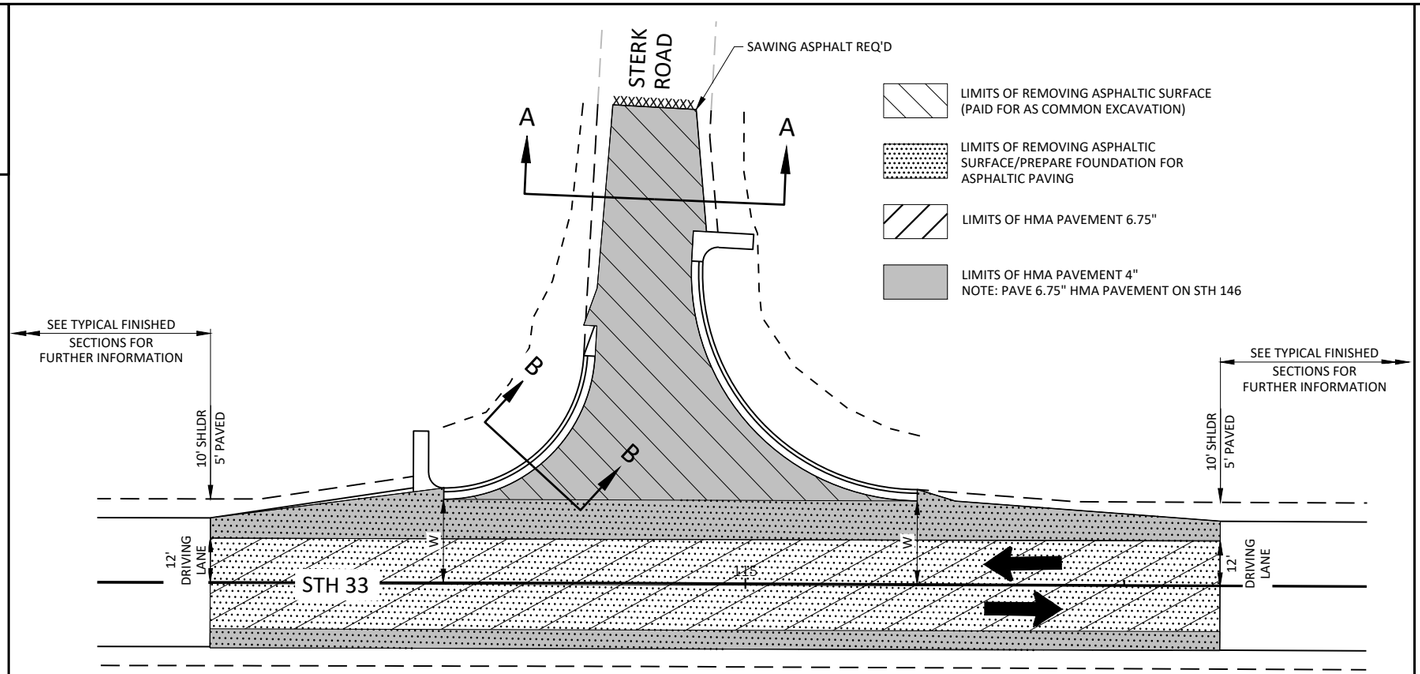
* REPLACE IN KIND TO THE RADIUS POINTS OF EACH DRIVEWAY (OR AS DIRECTED BY ENGINEER)



P.E./F.E./C.E. (EXISTING B.A.D.) PROFILE

** N.C. UNLESS NOTED OTHERWISE
-SEE SUPERELEVATION TABLE

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CONSTRUCTION DETAILS	SHEET 13	E

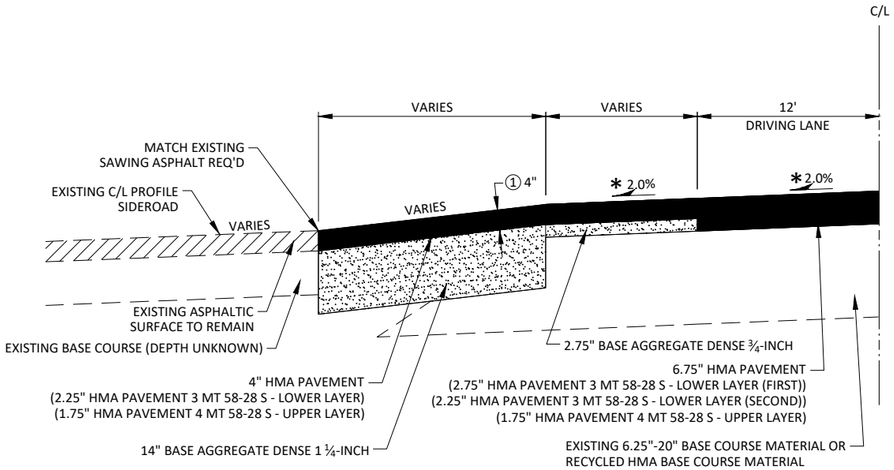


TYPICAL RURAL SIDEROAD WITH CURB & GUTTER

STERK ROAD SHOWN. STH 146, CTH M, CTH EF, E FRIESLAND ROAD (SOUTH), E FRIESLAND ROAD (NORTH), E FRIESLAND ROAD (EAST), & DILLMAN ROAD NOT SHOWN BUT SIMILAR

SIDE ROAD	W (FT.)
STH 146	24
CTH M	VARIES 24 - 28
STERK ROAD	22
CTH EF	24

SIDE ROAD	W (FT.)
E FRIESLAND ROAD (SOUTH)	22
E FRIESLAND ROAD (NORTH)	22
E FRIESLAND ROAD (EAST)	22
DILLMAN ROAD	22

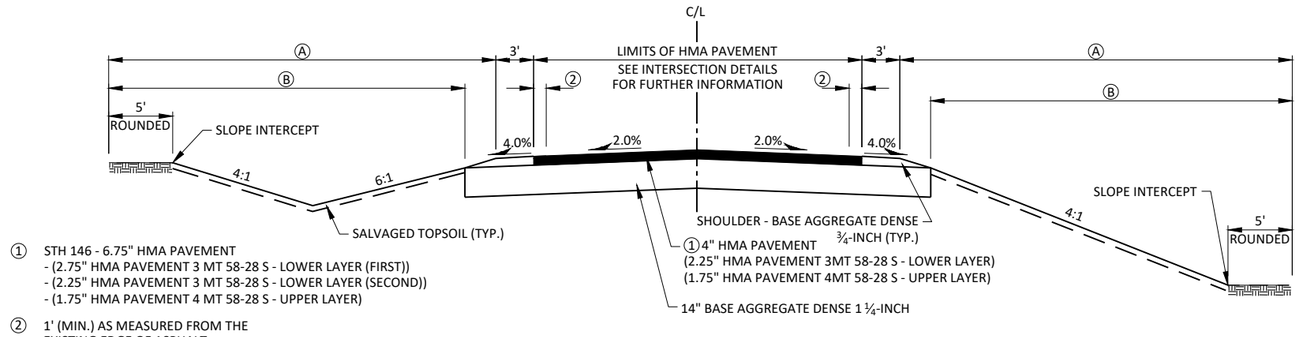


* NORMAL CROWN (N.C.) UNLESS NOTED OTHERWISE - SEE SUPERELEVATION TABLE

① STH 146 - 6.75" HMA PAVEMENT
- (2.75" HMA PAVEMENT 3 MT 58-28 S - LOWER LAYER (FIRST))
- (2.25" HMA PAVEMENT 3 MT 58-28 S - LOWER LAYER (SECOND))
- (1.75" HMA PAVEMENT 4 MT 58-28 S - UPPER LAYER)

TYPICAL SIDEROAD PROFILE WITH CURB & GUTTER

NOTE: SEE SIDEROAD PLAN & PROFILE SHEETS FOR MORE INFORMATION



① STH 146 - 6.75" HMA PAVEMENT
- (2.75" HMA PAVEMENT 3 MT 58-28 S - LOWER LAYER (FIRST))
- (2.25" HMA PAVEMENT 3 MT 58-28 S - LOWER LAYER (SECOND))
- (1.75" HMA PAVEMENT 4 MT 58-28 S - UPPER LAYER)

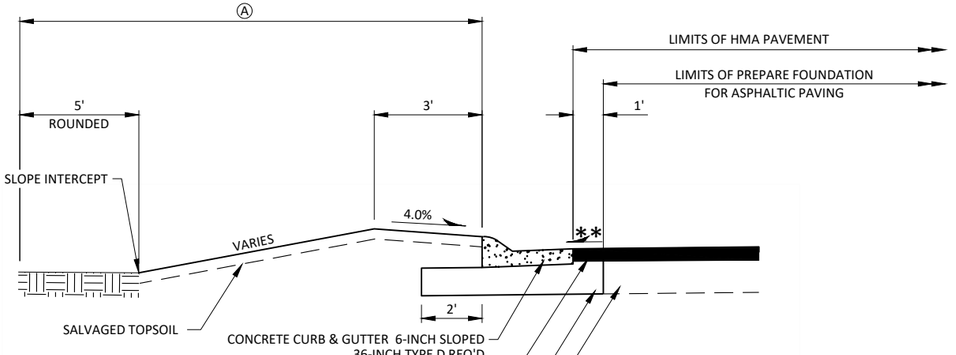
② 1' (MIN.) AS MEASURED FROM THE EXISTING EDGE OF ASPHALT

Ⓐ LIMITS OF SEEDING MIXTURE NO. 30 AND FERTILIZER TYPE B (AS DIRECTED BY THE ENGINEER IN THE FIELD)

Ⓑ LIMITS OF SALVAGED TOPSOIL AND MULCH (AS DIRECTED BY THE ENGINEER IN THE FIELD)

NOTE: SEE SIDEROAD PLAN & PROFILE SHEETS FOR ROADWAY WIDTHS

SECTION A-A



① STH 146 - 6.75" HMA PAVEMENT
- (2.75" HMA PAVEMENT 3 MT 58-28 S - LOWER LAYER (FIRST))
- (2.25" HMA PAVEMENT 3 MT 58-28 S - LOWER LAYER (SECOND))
- (1.75" HMA PAVEMENT 4 MT 58-28 S - UPPER LAYER)

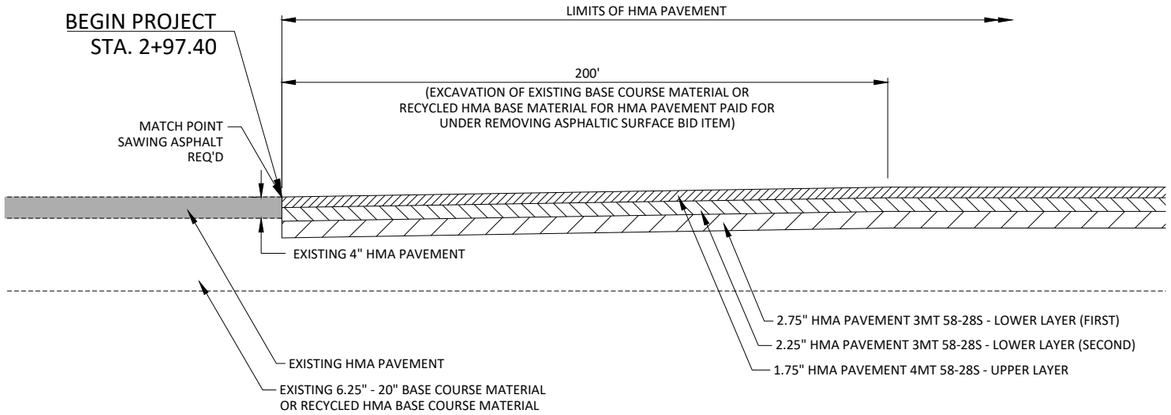
** SLOPE VARIES

Ⓐ LIMITS OF SEEDING MIXTURE NO. 30, SALVAGED TOPSOIL, MULCH, AND FERTILIZER TYPE B (AS DIRECTED BY THE ENGINEER IN THE FIELD)

SECTION B-B

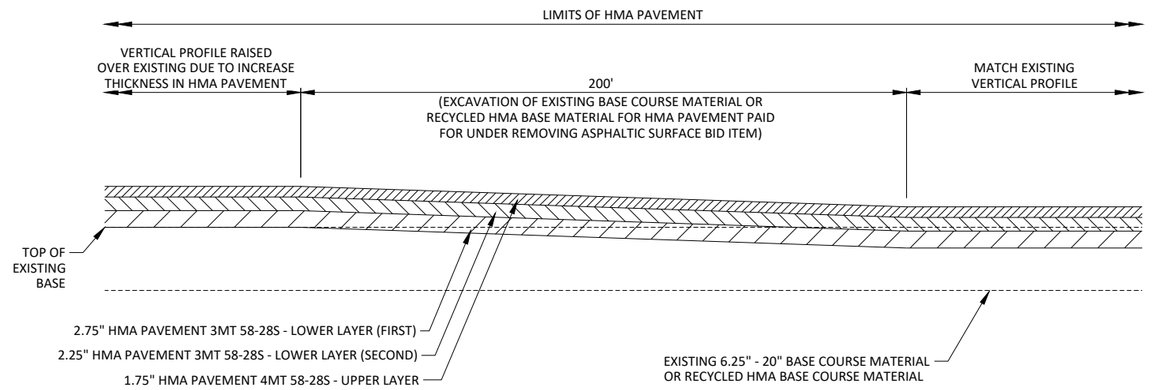
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CONSTRUCTION DETAILS	SHEET 14	E

2



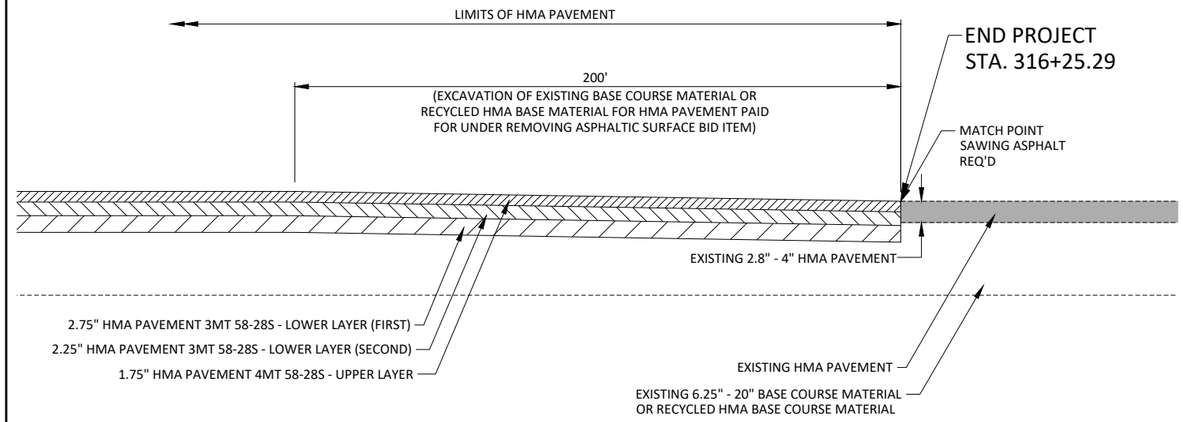
REMOVING ASPHALTIC SURFACE - STH 33

STA. 2+97.40 - STA. 4+97.40



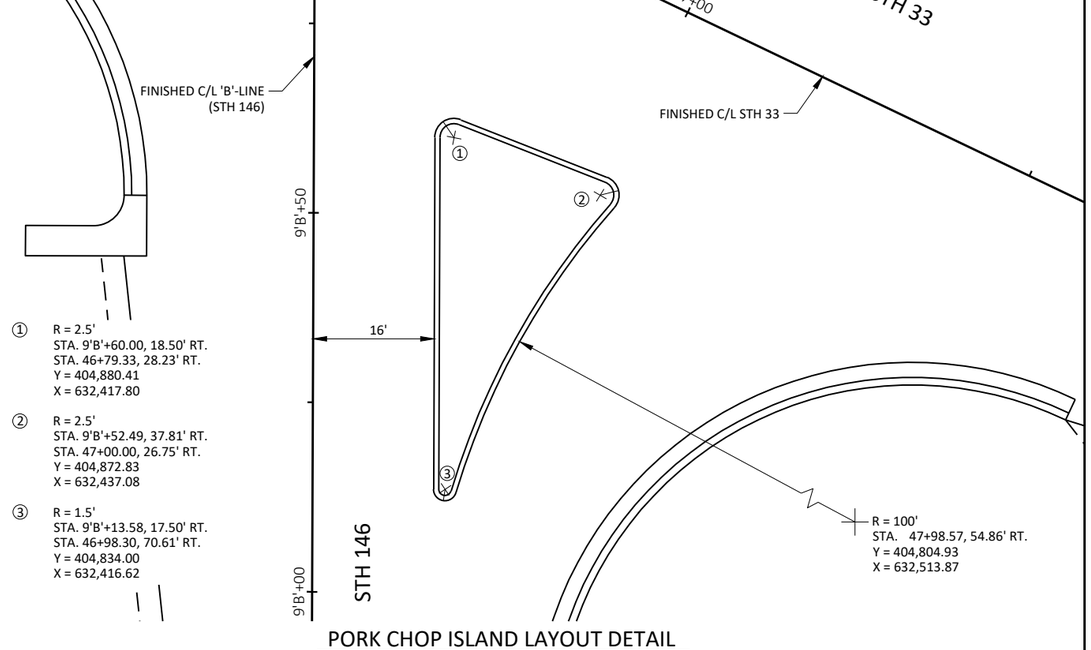
REMOVING ASPHALTIC SURFACE - STH 33

STA. 157+96 - STA. 159+96
STA. 168+58 - STA. 170+58



REMOVING ASPHALTIC SURFACE - STH 33

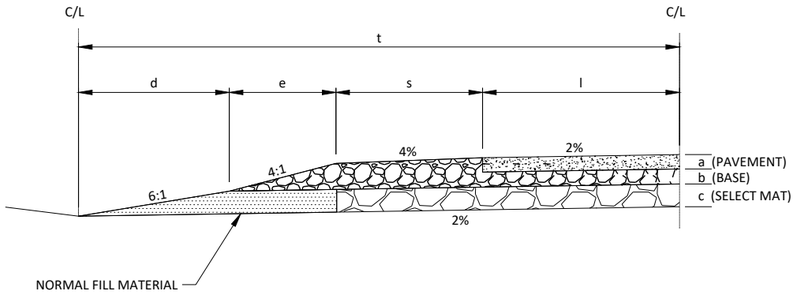
STA. 314+25.29 - STA. 316+25.29



PORK CHOP ISLAND LAYOUT DETAIL

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CONSTRUCTION DETAILS	SHEET 15	E

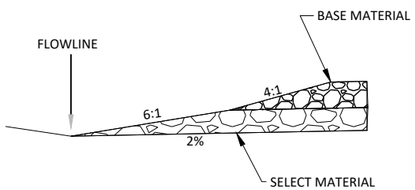
TYPICAL HALF SECTION WITH SELECT MATERIALS
(OUTSIDE DITCH)



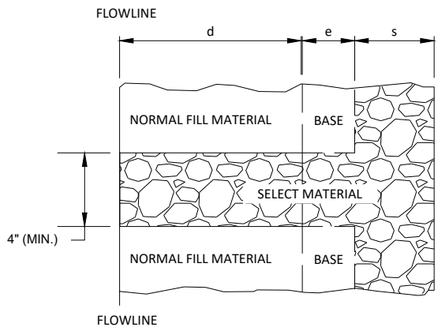
e = 4.35 (a + b-0.2s)

d = 6.82c @ 6:1

d = 4.35c @ 4:1

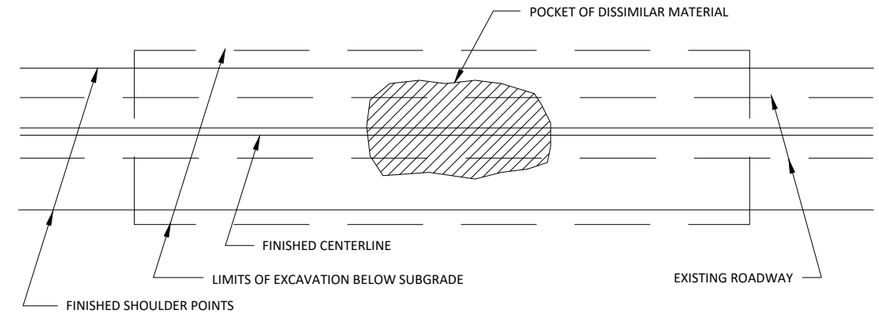


* RELIEF TRENCH DETAIL
PROFILE VIEW

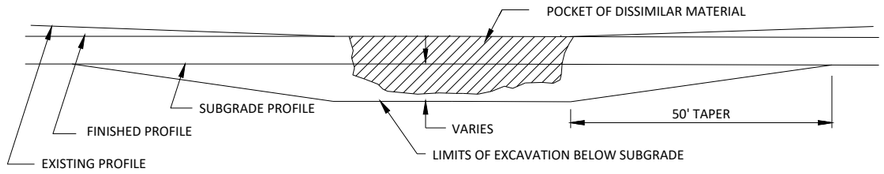


RELIEF TRENCH DETAIL PLAN VIEW THROUGH
SELECT MATERIAL

* CONSTRUCT RELIEF TRENCH AT SAG
POINTS OR EVERY 250 FEET

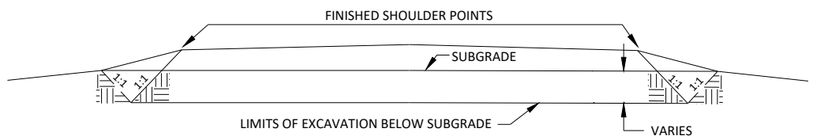


PLAN VIEW



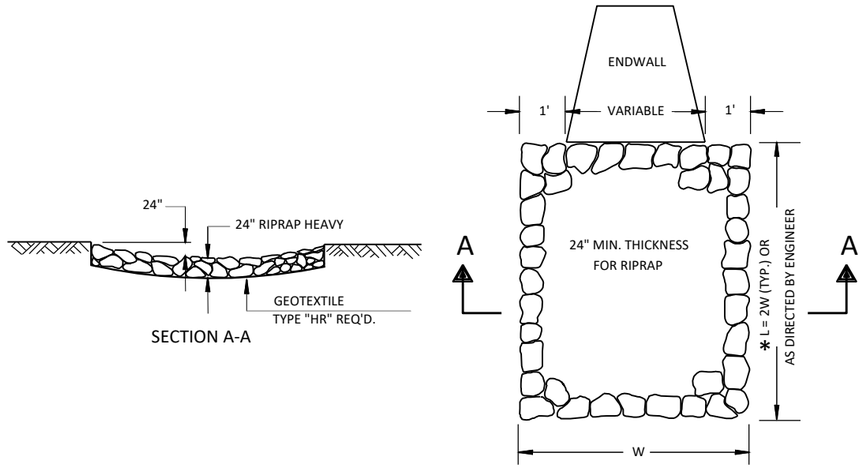
PROFILE VIEW

RURAL EXCAVATION BELOW SUBGRADE (E.B.S.)



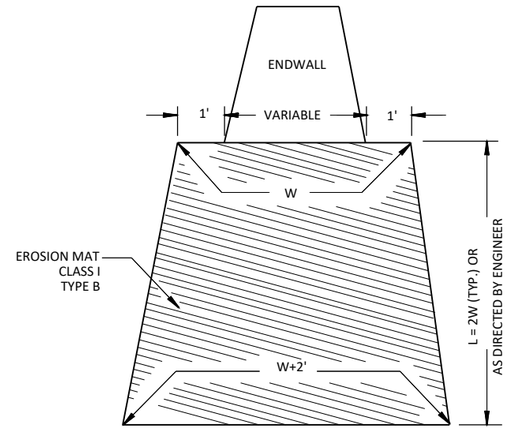
CROSS SECTION VIEW

1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.



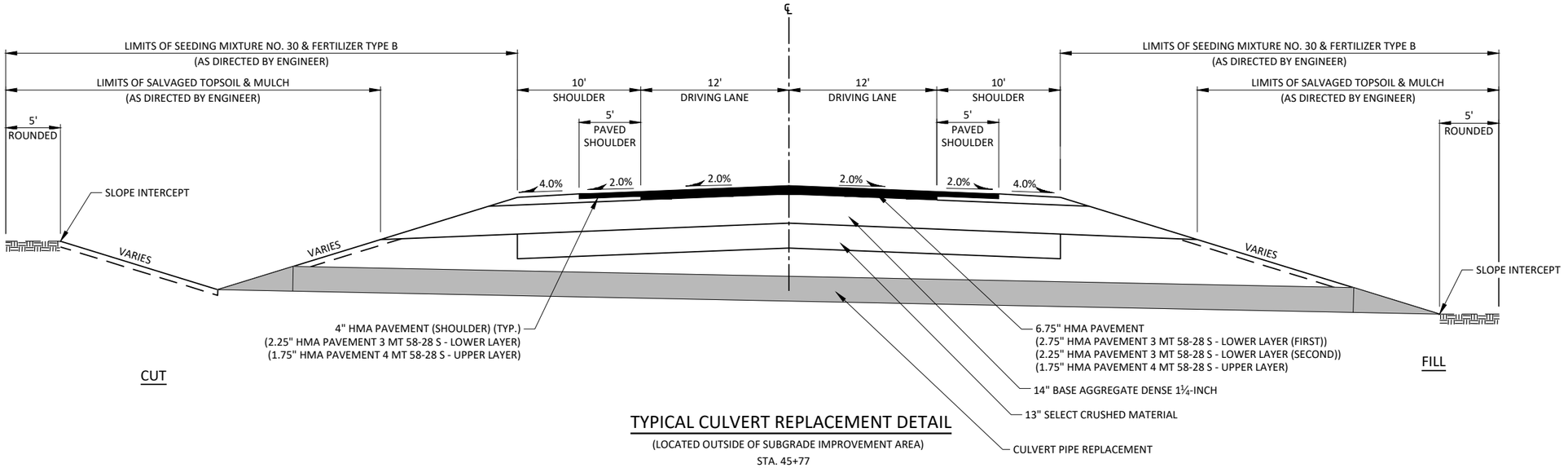
RIPRAP HEAVY TREATMENT AT CULVERTS

* STA. 155+01, RT. - L=11'



EROSION MAT CLASS I TYPE B TREATMENT AT CULVERTS

SEE EROSION CONTROL PLAN
SHEET FOR LOCATION AND DIMENSIONS



TYPICAL CULVERT REPLACEMENT DETAIL

(LOCATED OUTSIDE OF SUBGRADE IMPROVEMENT AREA)

STA. 45+77
STA. 46+90
STA. 51+22
STA. 155+01
STA. 194+51

2

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- DIRECTION OF TRAVEL
- LIMITS OF HMA PAVEMENT
- LIMITS OF BASE AGGREGATE DENSE 1¼-INCH (SEE BEAMGUARD LAYOUT CONSTRUCTION DETAILS AND CROSS SECTIONS FOR FURTHER INFORMATION)

* PAY LIMITS OF MGS GUARDRAIL 3

** PAY LIMITS MGS GUARDRAIL SHORT RADIUS

① 25' MGS THRIE BEAM HEIGHT TRANSITION (PAID FOR UNDER MGS GUARDRAIL SHORT RADIUS)

② DO NOT INSTALL THE HEIGHT TRANSITION BETWEEN THE MGS GUARDRAIL SHORT RADIUS

③ PAY LIMITS FOR BARRIER SYSTEM GRADING SHAPING FINISHING

UNITED WISCONSIN GRAIN PRODUCERS, LLC.

STA. 163+75 - STA. 164+06.48, LT.
CONCRETE CURB & GUTTER TBT REQ'D.

STA. 164+06.48 - STA. 164+11, LT.
CONCRETE CURB & GUTTER TBTT REQ'D.

STA. 163+77, LT.
CONCRETE SURFACE DRAIN REQ'D
SEE CONSTRUCTION DETAILS

STA. 162+07 - STA. 164+12, LT.
REMOVING GUARDRAIL REQ'D.

N

CHICAGO & NORTHWESTERN RR CO.

ALLIANT ENERGY

ATC MANAGEMENT, INC.

WE ENERGIES

ALLIANT ENERGY

R/W

RIPRAP HEAVY OVER GEOTEXTILE TYPE HR (TYP.)

CONCRETE PAVEMENT APPROACH SLAB REQ'D.

PAY LIMITS FOR BARRIER SYSTEM GRADING SHAPING FINISHING

SLOPE INTERCEPTS

POST 1 STA. 162+94 19.0' LT.

POST 5 STA. 163+19 18.0' LT.

POST 9 STA. 163+44 17.0' LT.

END TAPER STA. 162+38

37.5' MGS THRIE BEAM TRANSITION

53.1' MGS GUARDAIL TERMINAL EAT

25'

PI: 164+00.00

STA. 164+06 14.7' LT.

STA. 164+06 14.7' RT.

N88°46'13"E

MATCHLINE STA. 164+50

10' SHOULDER

5' PAVED SHLDR

12' DRIVING LANE

FINISHED C/L STH 33

STA. 161+00 15.0' LT.

110'

15:1

159

160

161

162

163

164

N88°28'55"E

N88°23'50"E

STH 33

16'

22'

26'

STA. 162+31 22.0' RT.

STA. 163+72 15.0' RT.

17'

N11°36'10"W

STA. 159+96 16.0' RT.

PI: 161+00.00

STA. 161+53 16.0' RT.

STA. 162+03 22.0' RT.

①

②

③

**

R = 50'

R = 70'

MGS GUARDRAIL TERMINAL EAT

POST 1 STA. 161+53 28.0' RT.

POST 5 STA. 161+78 27.0' RT.

POST 9 STA. 162+03 26.0' RT.

STA. 9'G'+19 10.5' LT.

STA. 9'G'+19 10.5' RT.

15'

PT: 9'G'+25.15

STA. 8'G'+95

STRUCTURE B-11-066 REQ'D.

STA. 163+77.84, 70.0' RT. = STA. 9'G'+19.23, 65.0' RT.
Y=404,173.93
X=643,951.39

STA. 163+40 - STA. 164+16, RT.
REMOVING GUARDRAIL REQ'D.

END TAPER STA. 159+61

LUMEN (CENTURYLINK) (TYP.)

STA. 162+30.69, 96.0' RT. = STA. 9'G'+19.18, 85.0' LT.
Y=404,140.82
X=643,805.12

END CONSTRUCTION
STA. 9'G'+77.66
Y=404,216.83
X=643,876.21

MGS GUARDRAIL 3

225'

212.5'

96.00'

MATCHLINE STA. 8'G'+50

ALLIANT ENERGY

MYRNA ALSUM FAMILY TRUST

STA. 163+81 - STA. 164+06.48, RT.
CONCRETE CURB & GUTTER TBT REQ'D.

STA. 164+06.48 - STA. 164+16, RT.
CONCRETE CURB & GUTTER TBTT REQ'D.

STA. 163+83, RT.
CONCRETE SURFACE DRAIN REQ'D
SEE CONSTRUCTION DETAILS

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CONSTRUCTION DETAILS (BEAM GUARD LAYOUT)	SHEET 18	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_BEAMGUARD LAYOUT DETAILS.DWG

PLOT DATE : 5/5/2023 2:37:02 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : SHEET - (8)

2

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- DIRECTION OF TRAVEL
- LIMITS OF HMA PAVEMENT
- LIMITS OF BASE AGGREGATE DENSE 1¼-INCH (SEE BEAMGUARD LAYOUT CONSTRUCTION DETAILS AND CROSS SECTIONS FOR FURTHER INFORMATION)

N

RJZ NURSERY, INC.

STA. 165+68 - STA. 167+64, LT.
REMOVING GUARDRAIL REQ'D.

WE ENERGIES

ALLIANT ENERGY / ADAMS-COLUMBIA ELECTRIC COOPERATIVE

PAY LIMITS FOR BARRIER SYSTEM GRADING SHAPING FINISHING

R/W

UP RR

ALLIANT ENERGY

POST 9 STA. 166+84 17.0' LT.

POST 5 STA. 167+09 18.0' LT.

POST 1 STA. 167+34 19.0' LT.

SLOPE INTERCEPTS

END TAPER STA. 167+89

37.5'. MGS THRIE BEAM TRANSITION

75' MGS GUARDRAIL 3

53.1' MGS GUARDAIL TERMINAL EAT

CONCRETE PAVEMENT APPROACH SLAB REQ'D.

PI: 167+57.69

15:1

STA. 168+58
15.0' LT.

10' SHOULDER

5' PAVED SHLDR

80'

MATCHLINE STA. 164+50

STA. 165+78
15.0' LT.

165

N88°46'13"E

166

167

168

169

N89°33'05"E

170

15'

12' DRIVING LANE

STH 33

STA. 165+78
15.0' RT.

STA. 167+57
15.0' RT.

60'

90'

STRUCTURE B-11-066 REQ'D.

18.75'

50' STEEL PLATE BEAM GUARD EAT

STEEL THRIE BEAM STRUCTURE APPROACH

POST 9 STA. 165+94 17.0' RT.

POST 5 STA. 166+19 18.0' RT.

POST 1 STA. 166+44 19.0' RT.

END TAPER STA. 167+00

SLOPE INTERCEPTS

PAY LIMITS FOR BARRIER SYSTEM GRADING SHAPING FINISHING

STA. 165+75 - STA. 166+52, RT.
REMOVING GUARDRAIL REQ'D.

LUMEN (CENTURYLINK) (TYP.)

UP RR

CHICAGO & NORTHWESTERN RR CO.

DENNIS F. SWEENEY

HOUSE

GARAGE

EXISTING GARAGE TO REMAIN

MACHINE SHED

EXISTING MACHINE SHED TO REMAIN

EXISTING BARN TO REMAIN

BARN

EXISTING SEPTIC MOUND TO REMAIN

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CONSTRUCTION DETAILS (BEAM GUARD LAYOUT)	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_BEAMGUARD LAYOUT DETAILS.DWG PLOT DATE : 9/30/2022 2:11:13 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (10)

2

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- DIRECTION OF TRAVEL
- LIMITS OF HMA PAVEMENT
- LIMITS OF BASE AGGREGATE DENSE 1¼-INCH (SEE BEAMGUARD LAYOUT CONSTRUCTION DETAILS AND CROSS SECTIONS FOR FURTHER INFORMATION)

MATCHLINE STA. 8'G'+50

P.L.

SLOPE INTERCEPTS

PAY LIMITS FOR BARRIER SYSTEM GRADING SHAPING FINISHING

212.5' MGS GUARDRAIL 3

CURVE 6

6'G+00

9.8

ALLIANT ENERGY

LUMEN (CENTURYLINK) (TYP.)

ALLIANT ENERGY

R/W

225' MGS GUARDRAIL 3

PC: 7'G+41.76

N46°37'39"W

6'G+00

10.5'

10.5'

10:1

STA. 6'G'+81 18.75' RT.

STA. 6'G'+61 16.75' RT.

SLOPE INTERCEPTS

PAY LIMITS FOR BARRIER SYSTEM GRADING SHAPING FINISHING

STA. 6'G'+51 - STA. 9'G'+51, LT.
REMOVING GUARDRAIL REQ'D.

POST 9 STA. 6'G'+75 15.0' LT.

PT: 6'G'+70.11

53.1' MGS GUARDRAIL TERMINAL EAT

POST 5 STA. 6'G'+49 16.0' LT.

ATC MANAGEMENT, INC.

POST 1 STA. 6'G'+22 17.0' LT.

END TAPER STA. 5'G'+88

CURVE 6
PI STA. = 8'G'+36.42
Y = 404,072.67
X = 643,905.81
R = 300.00
D = 19°05'55"
DELTA = 35°01'29"
L = 183.39
T = 94.66
C = 180.55
PC STA. = 7'G'+41.76
Y = 404,007.66
X = 643,974.62
PT STA. = 9'G'+25.15
Y = 404,165.40
X = 643,886.77
S.E. = MATCH EXISTING
R.O. = N/A
TRANS. = N/A

CURVE 5
PI STA. = 5'G'+99.48
Y = 403,907.86
X = 644,080.26
R = 290.00
D = 19°45'26"
DELTA = 28°30'42"
L = 144.31
T = 73.68
C = 142.83
PC STA. = 5'G'+25.80
Y = 403,837.83
X = 644,103.17
PT STA. = 6'G'+70.11
Y = 403,958.46
X = 644,026.70
S.E. = MATCH EXISTING
R.O. = N/A
TRANS. = N/A

MYRNA ALSUM
FAMILY TRUST

CURVE 5

5'G+00

9.8

MGS GUARDRAIL TERMINAL EAT

53.1'

(ASPHALT)

FINISHED C/L 'G'-LINE (KRUEGER ROAD)

R/W

PC: 5'G'+25.80

N18°09'57"W

5'G+00

KRUEGER ROAD

BEGIN CONSTRUCTION
STA. 4'G'+80
Y=403,794.30
X=644,117.41

EXISTING F.E. TO REMAIN

125' MGS GUARDRAIL 3K

P.L.

GARAGE

EXISTING GARAGE TO REMAIN

MACHINE SHED

EXISTING MACHINE SHED TO REMAIN

CHICAGO & NORTHWESTERN RR CO.

STA. 5'G'+47 - STA. 9'G'+62, RT.
REMOVING GUARDRAIL REQ'D.

BARN

EXISTING BARN TO REMAIN

N

DENNIS F. SWEENEY

POST 9 STA. 5'G'+53 15.0' RT.

POST 5 STA. 5'G'+29 16.0' RT.

POST 1 STA. 5'G'+04 17.0' RT.

END TAPER STA. 4'G'+80

150'

R/W

P.L.

2

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CONSTRUCTION DETAILS (BEAM GUARD LAYOUT)	SHEET 20	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_BEAMGUARD LAYOUT DETAILS.DWG PLOT DATE : 8/1/2023 9:58:10 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : SHEET - (9)

2

N

SANDERSON PRAIRIE FARMS INC

SANDERSON PRAIRIE FARMS INC

DOUGLAS & HEATHER TESSMAN

MORRIS DR

R/W

PI: 8+00.00

PI: 13+00.00

80'

50'

50'

3 4 5 6 S85°11'21"E 7 8 9 10 S85°04'20"E 11 12 13 14 S85°01'07"E 15

STH 33

80'

R/W

R/W

BEGIN PROJECT
STA. 2+97.40
Y=405,552.39
X=628,121.30

DOUGLAS & HEATHER TESSMAN

DOUGLAS & HEATHER TESSMAN

MATCHLINE STA. 15+25

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- WETLANDS
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

2

N

DOUGLAS & HEATHER TESSMAN

ANDREW, BLAINE, RANDALL, SARAH & VIRGIL KEMPENAAR

MATCHLINE STA. 15+25

PI: 20+00.00

PI: 25+00.00

PI: 30+25.00

R/W

80'

16 17 S85°01'07"E 18 19 20 21 22 S84°49'41"E 23 24 25 26 27 S84°44'41"E 28 29 30

STH 33

80'

R/W

DOUGLAS & HEATHER TESSMAN

ANDREW, BLAINE, RANDALL, SARAH & VIRGIL KEMPENAAR

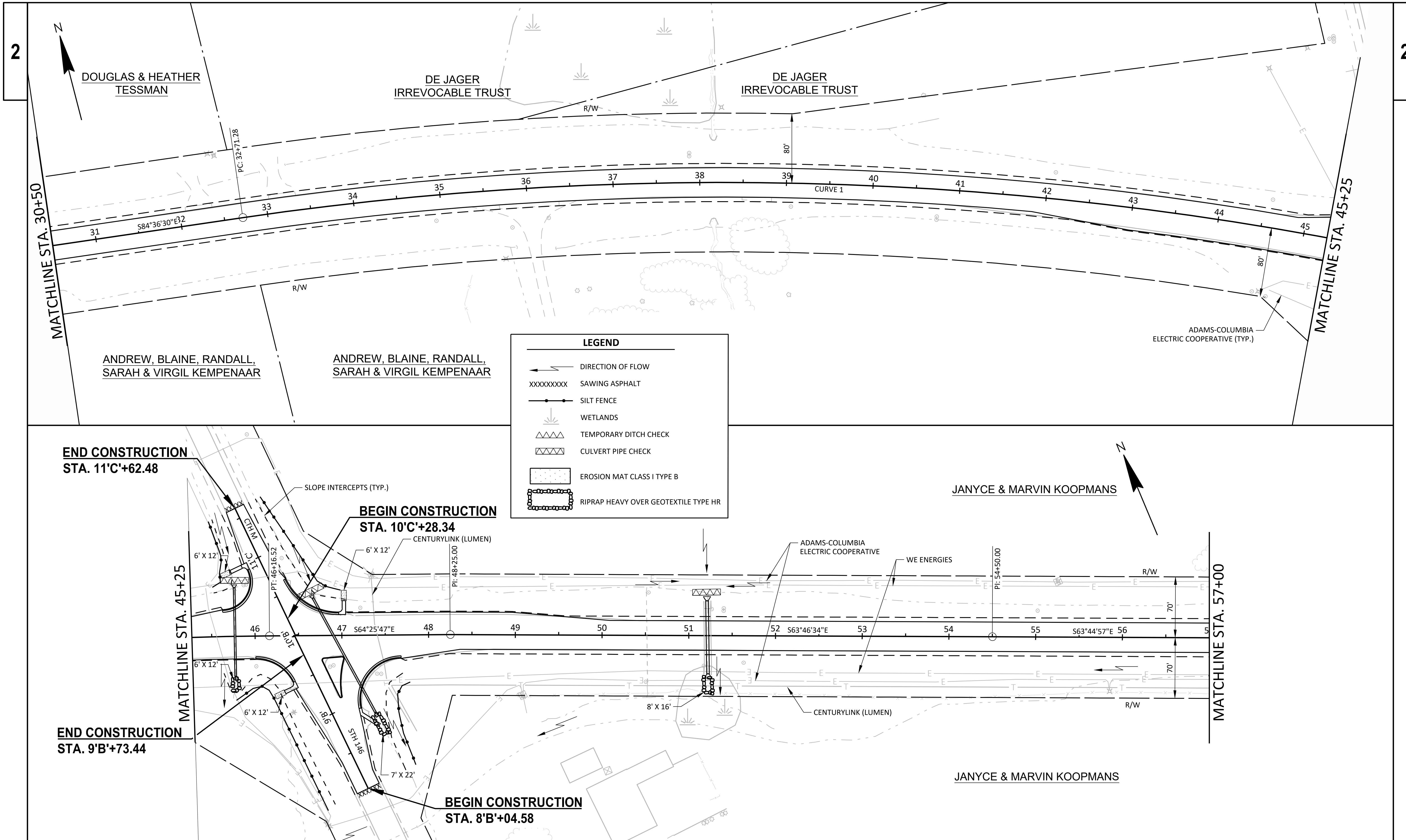
ANDREW, BLAINE, RANDALL, SARAH & VIRGIL KEMPENAAR

DOUGLAS & HEATHER TESSMAN

MATCHLINE STA. 30+50

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:46:35 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (1)



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 8/1/2023 9:59:53 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : SHEET - (2)

2

N

JANYCE & MARVIN KOOPMANS

WETLAND DETERMINATION

JANYCE & MARVIN KOOPMANS

WE ENERGIES

SLOPE INTERCEPTS

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

FINISHED C/L STH 33

MATCHLINE STA. 57+00

PC: 59+61.55

R/W

58 59 60 61 62 63 64 65 66 67 68 69 70 71

70'

70'

R/W

LUMEN (CENTURYLINK)

EXISTING 36" CMP TO REMAIN

SANDERSON TRUST

JANYCE & MARVIN KOOPMANS

MARIA & RAUL GUERRERO

JANYCE & MARVIN KOOPMANS

MATCHLINE STA. 72+00

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- WETLANDS
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

JAMES & BARBARA BRAAKSMA REVOCABLE TRUST

DENICE & JOHN OFT

N

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

FINISHED C/L STH 33

SLOPE INTERCEPTS

END CONSTRUCTION STA. 9'D'+77.92

MATCHLINE STA. 72+00

PT: 72+90.43

PI: 74+25.00

PI: 85+50.00

R/W

73 N89°40'23"E 74 75 76 77 78 79 N88°52'51"E 80 81 82 83 84 85 86

60'

70'

70'

85'

6' X 12'

6' X 12'

6' X 12'

9'D'

R/W

R/W

WE ENERGIES

MATCHLINE STA. 87+00

SANDERSON TRUST

DANIEL & MAXINE DEYOUNG

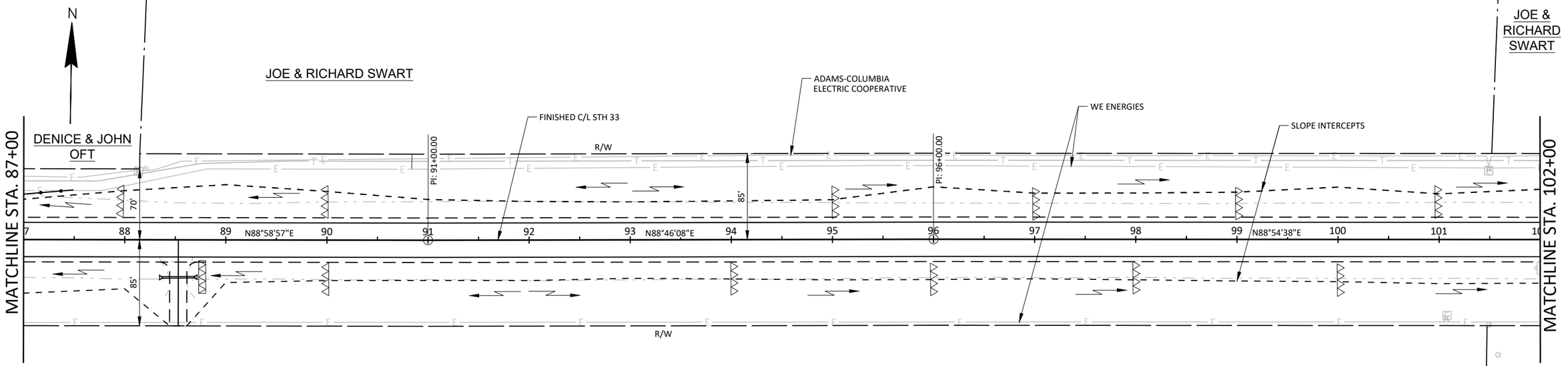
BEGIN CONSTRUCTION STA. 8'D'+46.82

BIRD RD

SARAH & TODD LEYSTRA

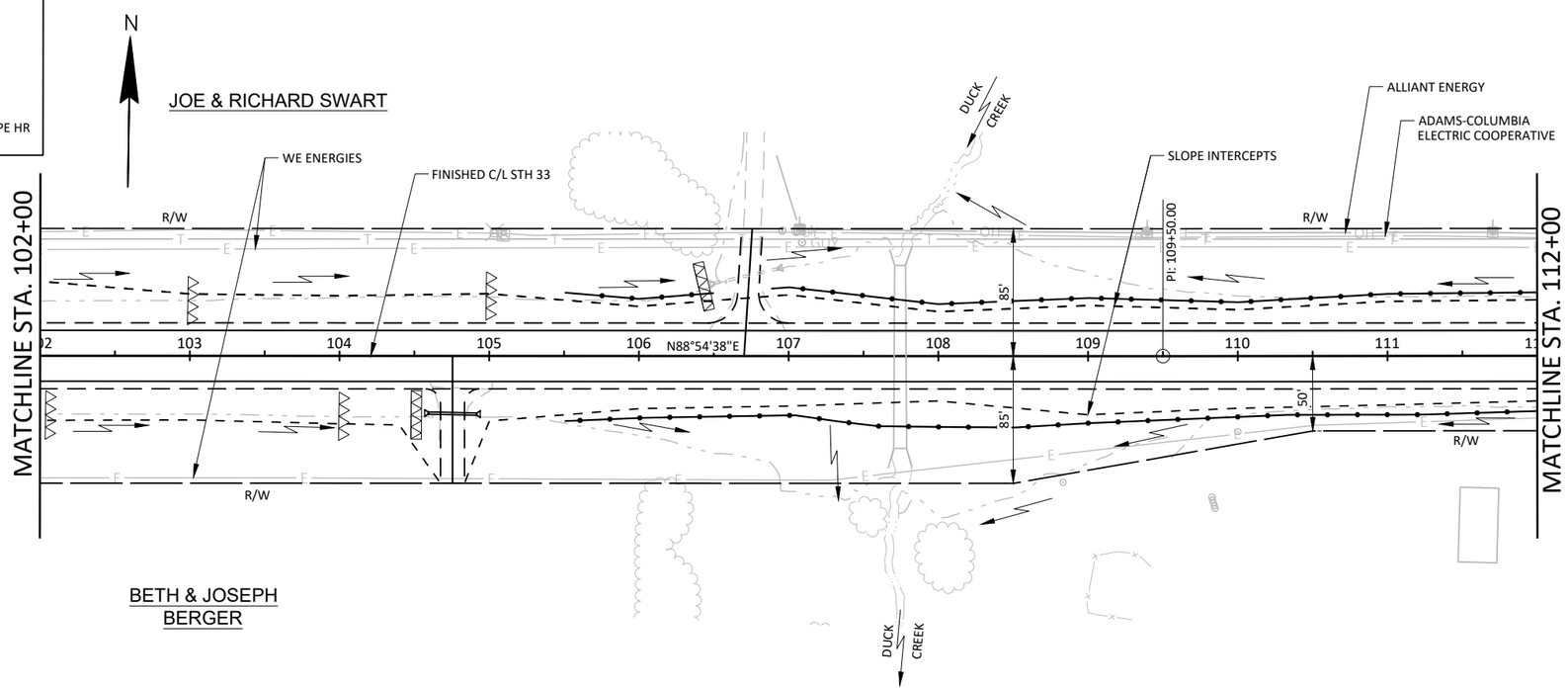
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET 23	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:46:53 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (3)



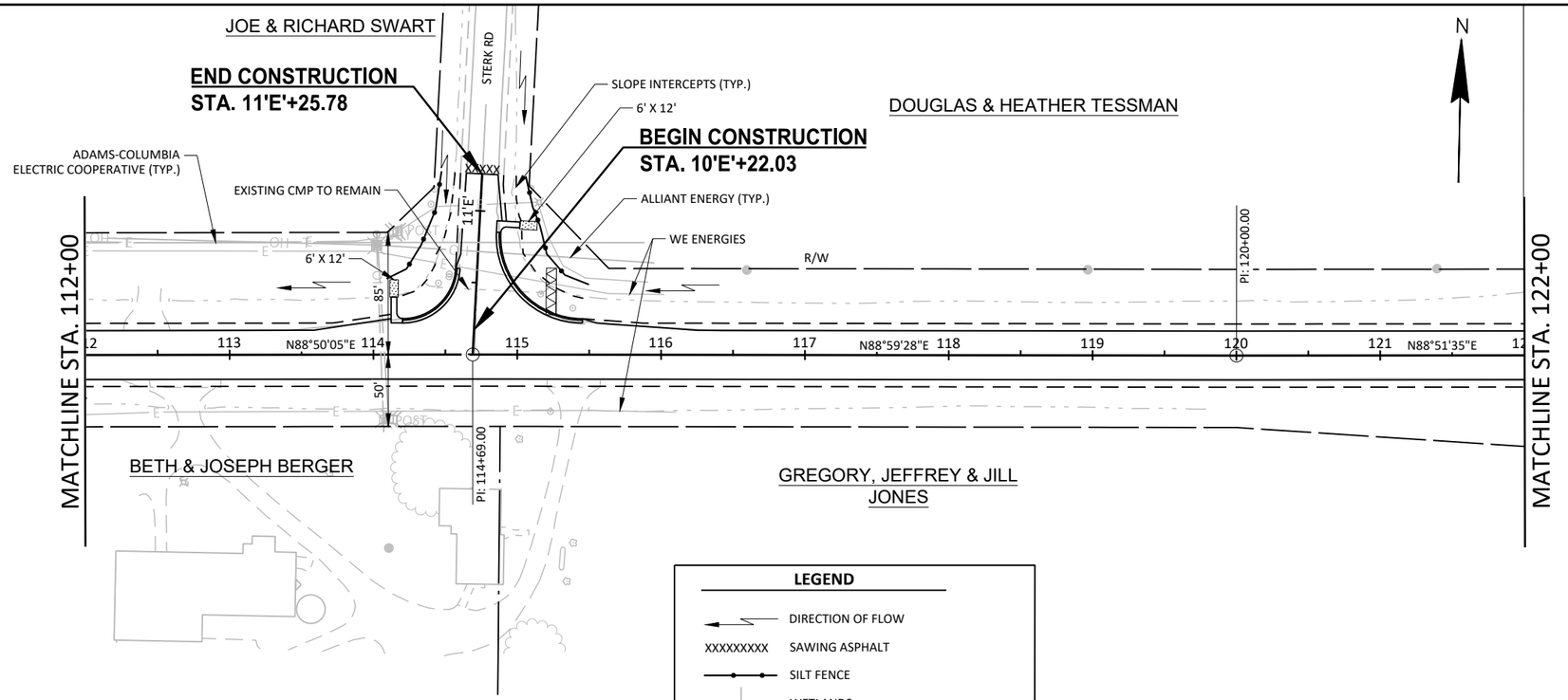
LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- WETLANDS
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET 24	E

2



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET 25	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:47:13 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (5)

2

MATCHLINE STA. 137+25

N

DOUGLAS & HEATHER TESSMAN

CTH EF

ALLIANT ENERGY

ALLIANT ENERGY

END CONSTRUCTION
STA. 11'F'+34.76

UNITED WISCONSIN GRAIN PRODUCERS LLC

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

WE ENERGIES

BEGIN CONSTRUCTION
STA. 10'F'+24.03

6' X 12'

11'F'

SLOPE INTERCEPTS (TYP.)

6' X 12'

R/W

POST

85'

PI: 146+50.00

R/W

R/W

138 139 N88°37'00"E 140 141 142 143 144 N88°23'29"E 145 146 147 148 149 N88°28'55"E 150 151 152

70'

R/W

PI: 141+42.23

DARRELL & SHELLY WIERSMA

PMJ INC

JASON & SARAH ASLUM

MATCHLINE STA. 152+50

2

MATCHLINE STA. 152+50

UNITED WISCONSIN GRAIN PRODUCERS LLC

EXISTING RIPRAP TO REMAIN

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

WE ENERGIES

ALLIANT ENERGY

EXISTING RIPRAP TO REMAIN

ATC MANAGEMENT, INC.

WE ENERGIES

RJZ NURSERY INC

ALLIANT ENERGY / ADAMS-COLUMBIA ELECTRIC COOPERATIVE

PI: 161+00.00

110'

6' X 60'

PI: 164+00.00

R/W

80'

PI: 167+57.69

153 154 155 156 N88°28'55"E 157 158 159 160 161 162 N88°23'50"E 163 164 165 N88°46'13"E 166 167

110'

60'

62'-10"

26'-4½"

6' WIDTH

SLOPE INTERCEPTS (TYP.)

PT: 9'G'+25.15

UNION PACIFIC RAILROAD

DENNIS SWEENEY

7' X 9'-8"

R/W

LUMEN (CENTURYLINK) (TYP.)

ALLIANT ENERGY (TYP.)

ALLIANT ENERGY

MYRNA ALSUM FAMILY TRUST

END CONSTRUCTION
STA. 9'G'+77.66

RUTGER RD

PC: 7'G'+41.76

PT: 6'G'+70.11

PC: 5'G'+25.80

5'G'

N

JASON & SARAH ALSUM

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- WETLANDS
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

MATCHLINE STA. 167+75

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:47:23 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (6)

2

MATCHLINE STA. 167+75

N

RJZ NURSERY INC

R/W

80'

80'

58'

PI: 181+06.90

ROBERT & SHERRY KOOPMANS

168 169 170 171 172 N89°33'05"E 173 174 175 176 177 178 179 180 181 182 N89°30'05"E

80'

65'

R/W

MYRNA ALSUM FAMILY TRUST

PMJ INC

PMJ INC

MATCHLINE STA. 183+00

MATCHLINE STA. 183+00

N

ROBERT & SHERRY KOOPMANS

R/W

R/W

79'

65'

R/W

R/W

PMJ INC

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- WETLANDS
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

END CONSTRUCTION
STA. 11'H'+33.70

BEGIN CONSTRUCTION
STA. 10'H'+22.01

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

6' X 12'

9' X 17'-10"

E FRIESLAND RD (NORTH)

11'H'

PI: 195+01.20

ROBERT & SHERRY KOOPMANS

ALLIANT ENERGY

6' X 12'

WILLIAM WERNER

ALLIANT ENERGY

58'

184 185 186 187 188 N89°30'05"E 189 190 191 192 193 194 195 196 197 N89°30'55"E 198

6' X 12'

80'

LUMEN (CENTURYLINK)

6' X 12'

9'I'

END CONSTRUCTION
STA. 9'I'+78.00

SLOPE INTERCEPTS (TYP.)

E FRIESLAND RD (SOUTH)

DIXIE & WAYNE GAASTRA

BEGIN CONSTRUCTION
STA. 8'I'+61.92

MATCHLINE STA. 198+25

2

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET 27	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:47:33 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (7)

2

MATCHLINE STA. 198+25

N

ROBERT & SHERRY KOOPMANS

DIXIE & WAYNE GAASTRA

AMERICAN TRANSMISSION, INC.

R/W

R/W

73'

PI: 208+19.03

199 200 201 202 N89°30'55"E 203 204 205 206 207 208 209 210 211 N89°30'00"E 212 213

80'

R/W

DIXIE & WAYNE GAASTRA

DYKSTRA FARM, INC

OH

OH

OH

MATCHLINE STA. 213+50

2

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- WETLANDS
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

MATCHLINE STA. 213+50

N

DIXIE & WAYNE GAASTRA

AMERICAN TRANSMISSION, INC.

DYKSTRA FARM, INC

OH

92'

PI: 220+00.00

70'

214 215 216 217 N89°30'00"E 218 219 220 221 222 223 224 225 N89°30'47"E 226 227 228

110'

80'

DYKSTRA FARM, INC

DYKSTRA FARM, INC

MATCHLINE STA. 228+75

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET 28	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:47:43 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (8)

2

N

DYKSTRA FARM, INC

DYKSTRA FARM, INC

THERESA ANDERSON

THERESA ANDERSON

R/W

PC: 237+93.25

R/W

90'

MATCHLINE STA. 228+75

229 230 231 232 233 N89°30'47"E 234 235 236 237 238 239 240 241 242 243

80'

R/W

R/W

MATCHLINE STA. 244+00

DYKSTRA FARM, INC

THERESA ANDERSON

2

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- WETLANDS
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

N

THERESA ANDERSON

THERESA ANDERSON

THERESA ANDERSON

R/W

90'

244 245 246 247 248 249 250 251 CURVE 3 252 253 254 255 256 257 258 259

100'

R/W

MATCHLINE STA. 244+00

MATCHLINE STA. 259+25

THERESA ANDERSON

THERESA ANDERSON

JEFFERY & JUNE TOLSMA

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET 29	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:47:53 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (9)

2

CALVIN & CYNTHIA VAN BEEK

THERESA ANDERSON

END CONSTRUCTION
STA. 11'K'+50.22

DILLMAN RD

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

IRMA & LAWRENCE JOHN CRESCIO

ELIZABETH & JAMES VANDER GALIEN

COLUMBIA COUNTY

JILL & ROSS VAN BAREN

6' X 12'

BEGIN CONSTRUCTION
STA. 10'K'+22.01

PT: 265+72.38

11'K'

6' X 12'

ALLIANT ENERGY (TYP.)

ALLIANT ENERGY

END CONSTRUCTION
STA. 9'J'+77.85

ALLIANT ENERGY

90'

80'

R/W

SMALL CREEK

MATCHLINE STA. 259+25

260 261 262 263 264 265 266 267 268 S34°54'16"E 269 270 271 272 273 274

MATCHLINE STA. 274+50

6' X 12'

6' X 12'

60'

R/W

IRMA & LAWRENCE JOHN CRESCIO

100'

90'

PT: 9'J'+03.14

ALLIANT ENERGY

LUMEN (CENTURYLINK)

R/W

EXISTING C-11-023 TO REMAIN
(8' X 7' X 74' SINGLE CELL BOX CULVERT

IRMA & LAWRENCE JOHN CRESCIO

SMALL CREEK

BEGIN CONSTRUCTION
STA. 8'J'+44.15

E FRIESLAND RD (EAST)

IRMA & LAWRENCE JOHN CRESCIO

BRIAN & SHEILA HUGHES

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- SILT FENCE
- WETLANDS
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- EROSION MAT CLASS I TYPE B
- RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

JILL & ROSS VAN BAREN

R/W

80'

70'

R/W

PC: 289+17.70

MATCHLINE STA. 274+50

275 276 277 278 279 280 281 S34°54'16"E 282 283 284 285 286 287 288 289

MATCHLINE STA. 289+75

60'

80'

R/W

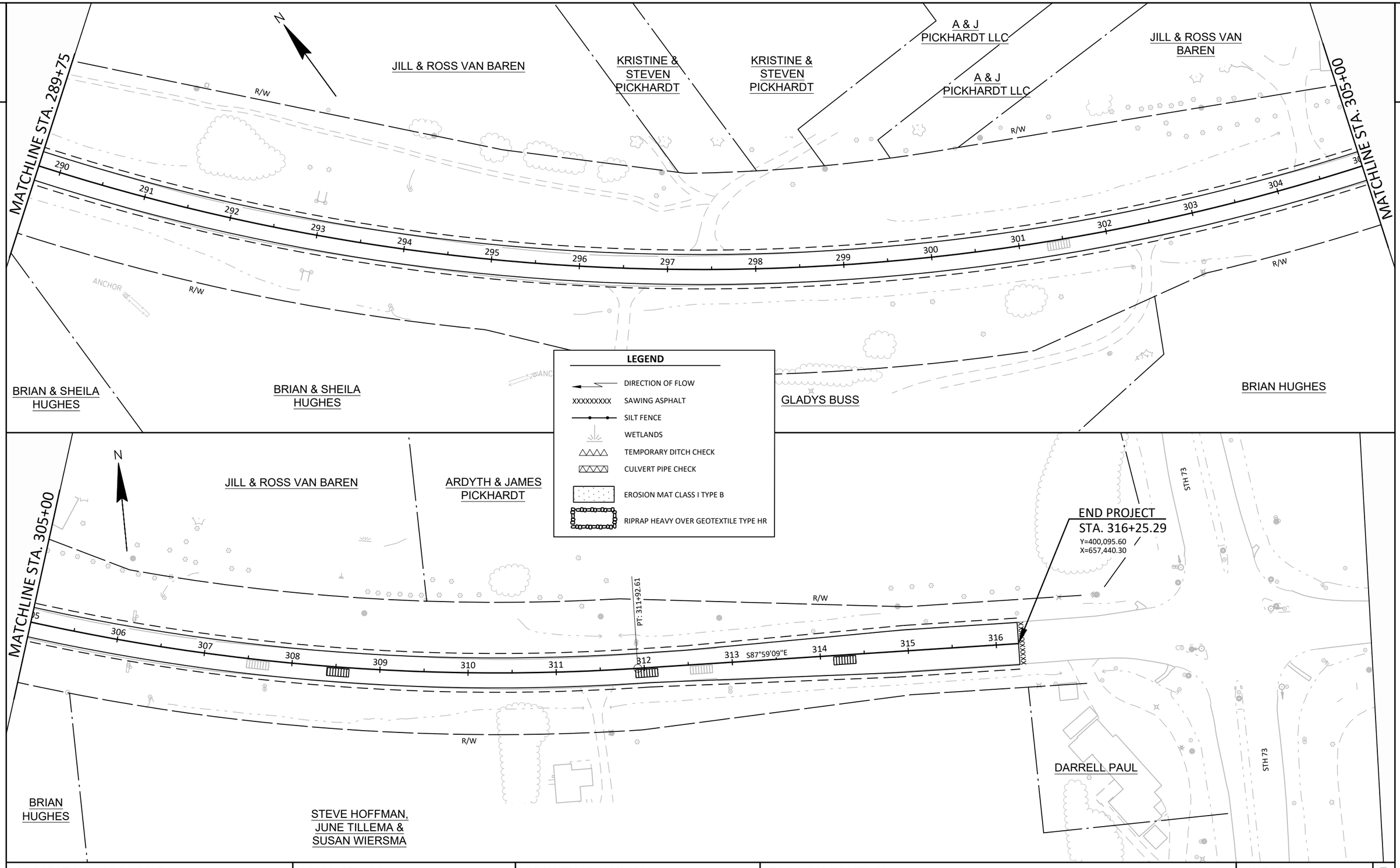
R/W

BRIAN & SHEILA HUGHES

BRIAN & SHEILA HUGHES

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET 30	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:48:03 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (10)



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	EROSION CONTROL	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_EROSION CONTROL.DWG PLOT DATE : 9/30/2022 2:48:13 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (11)

SEE DETAIL C

SEE DETAIL B

BEGIN PROJECT
SEE DETAIL A

SEE DETAIL H

END PROJECT
SEE DETAIL G

SEE DETAIL D

SEE DETAIL E

SEE DETAIL F

COLUMBIA COUNTY

DODGE COUNTY

PCMS

N

LEGEND

DETOUR ROUTE

WORK ZONE

SIGN ON PERMANENT SUPPORT

M4-8 24"X12"	DETOUR EAST	DETOUR WEST	M4-8 24"X12"
M3-2 24"X12"			M3-4 24"X12"
M1-6 24"X24"	33	33	M1-6 24"X24"
	1	2	

PCMS TRAFFIC CONTROL SIGNS PCMS PLACED AT BEGIN AND END OF PROJECT LIMITS FOR 7 CALENDAR DAYS PRIOR TO BEGINNING OF PROJECT

ROAD CLOSED BEGINS	{DAY} {DATE}

NOTE: FOR SIDEROAD SIGNING WITHIN THE WORK ZONE, REFER TO SDD BARRICADES AND SIGNS FOR SIDEROAD CLOSURES, DETAIL 4.

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	DETOUR PLAN	SHEET 32	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_DETOUR ROUTE.DWG
PLOT DATE : 9/30/2022 2:13:21 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT1

LEGEND

WORK ZONE

COVER SIGN

DETOUR ROUTE

(A) 33 — M1-6, 24"X24", 36" x 36" ON USH 151

(B) MO6-1, 21"X21", 30" x 30" ON USH 151

(C) MO6-1, 21"X21", 30" x 30" ON USH 151

(D) MO6-1, 21"X21", 30" x 30" ON USH 151

(E) MO6-2, 21"X21", 30" x 30" ON USH 151

(F) MO6-2, 21"X21", 30" x 30" ON USH 151

(G) MO5-1R, 21"X21", 30" x 30" ON USH 151

(H) MO5-1L, 21"X21", 30" x 30" ON USH 151

(I) MO5-2R, 21"X21", 30" x 30" ON USH 151

(J) MO5-2L, 21"X21", 30" x 30" ON USH 151

(K) END DETOUR — M4-8A, 24"X18"

(L) DETOUR — M4-8, 24"X12", 36" x 18" ON USH 151

(M) DETOUR AHEAD — W20-2A

(N) ROAD CLOSED TO THRU TRAFFIC XX MILES AHEAD — R11-3, 60"X30"

SIGN ON PERMANENT SUPPORT

EXISTING SIGN ON SINGLE POST

EXISTING SIGN ON DOUBLE POST

TYPE III BARRICADE W/ ATTACHED SIGN AND W/ TRAFFIC CONTROL LIGHTS TYPE A

BARRICADES TYPE III

* SIGN READS "ROAD CLOSED ½ MILES AHEAD"

** SIGN READS "ROAD CLOSED 6 ½ MILES AHEAD"

*** SIGN READS "ROAD CLOSED 9 ½ MILES AHEAD"

\# SIGN READS "BRIDGE OUT ½ MILES AHEAD"

SIGN READS "NEXT 40 MILES"

▲ PLACE SIGN PAST 1ST RAMP

GENERAL NOTES:

THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

"WO" AND "MO" SERIES SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

THE EXACT LOCATION OF PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

(O) EAST — M3-2, 24"X12", 36" x 18" ON USH 151

(P) WEST — M3-4, 24"X12", 36" x 18" ON USH 151

(Q) DETOUR — M4-9R, 30"X24"

(R) ROAD CLOSED TO THRU TRAFFIC — R11-4, 60"X30"

(S) BRIDGE OUT — R11-2B, 48"X30"

(T) BRIDGE OUT XX MILES AHEAD — R11-3C, 60"X24"

(U) DETOUR NEXT X MILES — G20-51, 60"X24"

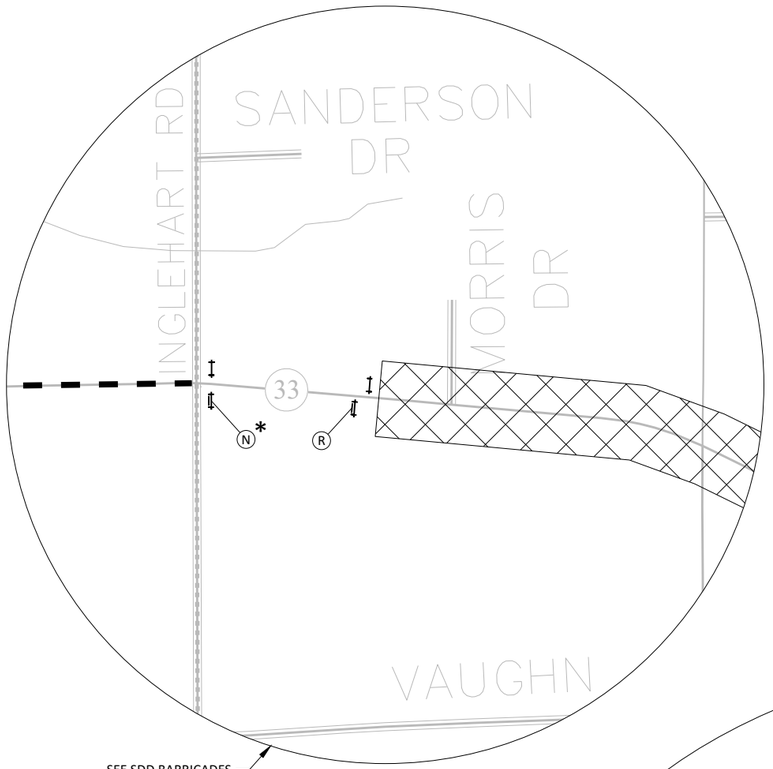
(V) MO7-2, 12"X9"

(W) MO7-1, 12"X9"

(X) MO7-1, 12"X9"

(Y) ROAD CLOSED AHEAD — W020-3A

BEGIN PROJECT

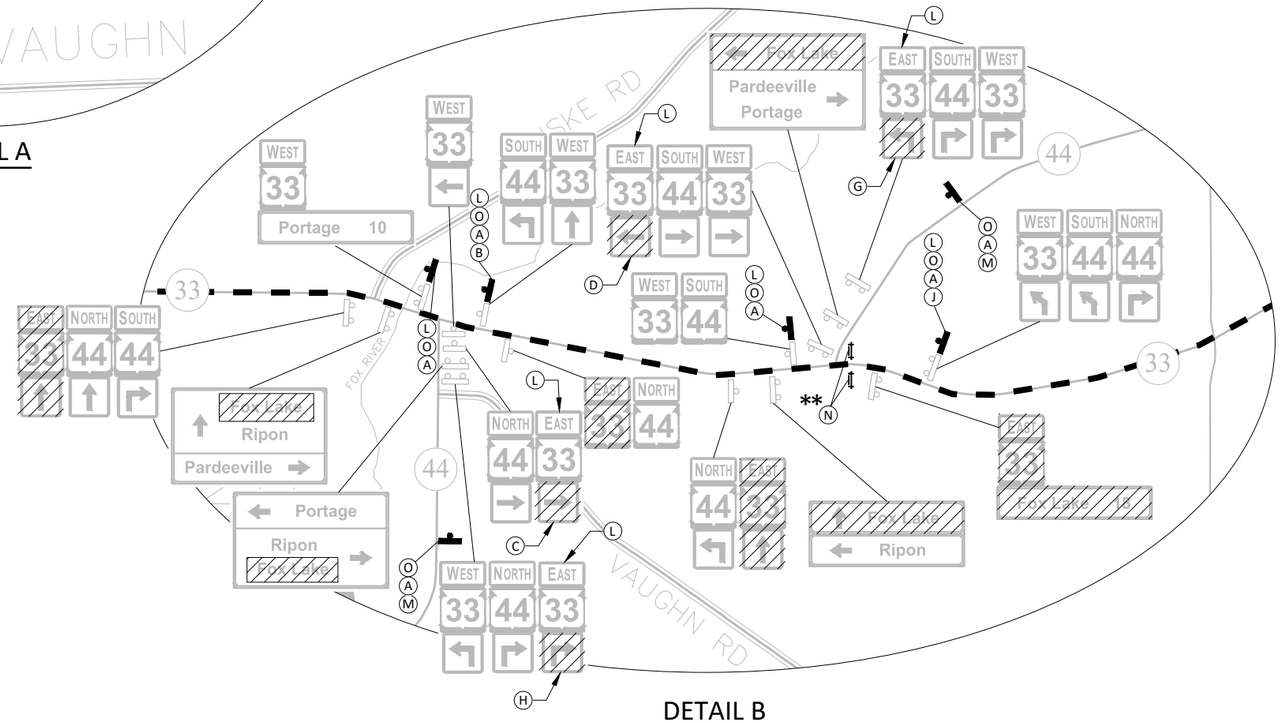


SEE SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES

DETAIL A

N

STH 33/STH 44 INTERSECTIONS



DETAIL B

2

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	DETOUR PLAN	SHEET 33	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_DETOUR ROUTE.DWG PLOT DATE : 10/4/2022 11:03:51 AM PLOT BY : KARTER ZAJICEK PLOT SCALE : 1" = 1' LAYOUT : LAYOUT1 (2)

LEGEND

WORK ZONE

COVER SIGN

DETOUR ROUTE

SIGN ON PERMANENT SUPPORT

EXISTING SIGN ON SINGLE POST

EXISTING SIGN ON DOUBLE POST

TYPE III BARRICADE W/ ATTACHED SIGN AND W/ TRAFFIC CONTROL LIGHTS TYPE A

BARRICADES TYPE III

* SIGN READS "ROAD CLOSED ½ MILES AHEAD"

** SIGN READS "ROAD CLOSED 6 ½ MILES AHEAD"

*** SIGN READS "ROAD CLOSED 9 ½ MILES AHEAD"

\# SIGN READS "BRIDGE OUT ½ MILES AHEAD"

SIGN READS "NEXT 40 MILES"

▲ PLACE SIGN PAST 1ST RAMP

(A) 33 — M1-6, 24"X24", 36" x 36" ON USH 151

(B) MO6-1, 21"X21", 30" x 30" ON USH 151

(C) MO6-1, 21"X21", 30" x 30" ON USH 151

(D) MO6-1, 21"X21", 30" x 30" ON USH 151

(E) MO6-2, 21"X21", 30" x 30" ON USH 151

(F) MO6-2, 21"X21", 30" x 30" ON USH 151

(G) MO5-1R, 21"X21", 30" x 30" ON USH 151

(H) MO5-1L, 21"X21", 30" x 30" ON USH 151

(I) MO5-2R, 21"X21", 30" x 30" ON USH 151

(J) MO5-2L, 21"X21", 30" x 30" ON USH 151

(K) END DETOUR — M4-8A, 24"X18"

(L) DETOUR — M4-8, 24"X12", 36" x 18" ON USH 151

(M) DETOUR AHEAD — W2O-2A

(N) ROAD CLOSED TO THRU TRAFFIC XX MILES AHEAD — R11-3, 60"X30"

(O) EAST — M3-2, 24"X12", 36" x 18" ON USH 151

(P) WEST — M3-4, 24"X12", 36" x 18" ON USH 151

(Q) DETOUR — M4-9R, 30"X24"

(R) ROAD CLOSED TO THRU TRAFFIC — R11-4, 60"X30"

(S) BRIDGE OUT — R11-2B, 48"X30"

(T) BRIDGE OUT XX MILES AHEAD — R11-3C, 60"X24"

(U) DETOUR NEXT X MILES — G20-51, 60"X24"

(V) MO7-2, 12"X9"

(W) MO7-1, 12"X9"

(X) MO7-1, 12"X9"

(Y) ROAD CLOSED AHEAD — W2O-3A

GENERAL NOTES:

THE EXACT LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

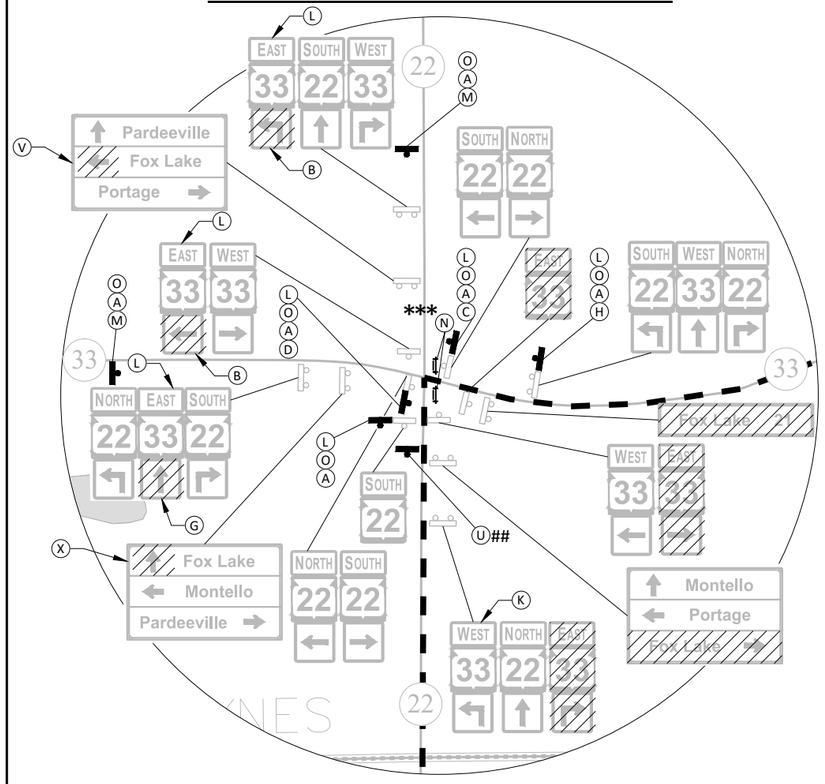
"WO" AND "MO" SERIES SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

THE EXACT LOCATION OF PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

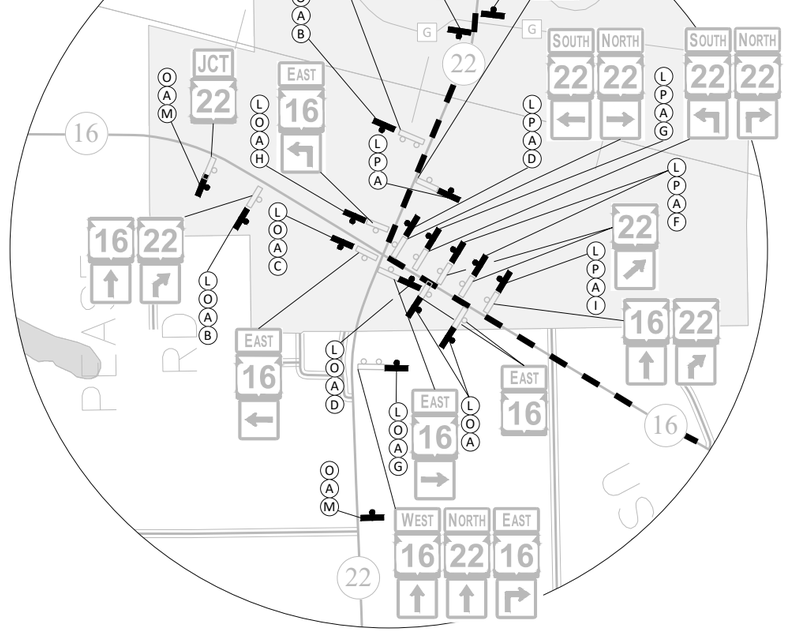
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

STH 33/STH 22 INTERSECTION



DETAIL C

STH 22/STH 16 INTERSECTION



DETAIL D

N

2

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	DETOUR PLAN	SHEET 34	E

LEGEND

WORK ZONE

COVER SIGN

DETOUR ROUTE

SIGN ON PERMANENT SUPPORT

EXISTING SIGN ON SINGLE POST

EXISTING SIGN ON DOUBLE POST

TYPE III BARRICADE W/ ATTACHED SIGN AND W/ TRAFFIC CONTROL LIGHTS TYPE A

BARRICADES TYPE III

* SIGN READS "ROAD CLOSED ½ MILES AHEAD"

** SIGN READS "ROAD CLOSED 6 ½ MILES AHEAD"

*** SIGN READS "ROAD CLOSED 9 ½ MILES AHEAD"

\# SIGN READS "BRIDGE OUT ½ MILES AHEAD"

SIGN READS "NEXT 40 MILES"

▲ PLACE SIGN PAST 1ST RAMP

(A) 33 — M1-6, 24"X24", 36" x 36" ON USH 151

(B) MO6-1, 21"X21", 30" x 30" ON USH 151

(C) MO6-1, 21"X21", 30" x 30" ON USH 151

(D) MO6-1, 21"X21", 30" x 30" ON USH 151

(E) MO6-2, 21"X21", 30" x 30" ON USH 151

(F) MO6-2, 21"X21", 30" x 30" ON USH 151

(G) MO5-1R, 21"X21", 30" x 30" ON USH 151

(H) MO5-1L, 21"X21", 30" x 30" ON USH 151

(I) MO5-2R, 21"X21", 30" x 30" ON USH 151

(J) MO5-2L, 21"X21", 30" x 30" ON USH 151

(K) END DETOUR — M4-8A, 24"X18"

(L) DETOUR — M4-8, 24"X12", 36" x 18" ON USH 151

(M) DETOUR AHEAD — W20-2A

(N) ROAD CLOSED TO THRU TRAFFIC XX MILES AHEAD — R11-3, 60"X30"

(O) EAST — M3-2, 24"X12", 36" x 18" ON USH 151

(P) WEST — M3-4, 24"X12", 36" x 18" ON USH 151

(Q) DETOUR — M4-9R, 30"X24"

(R) ROAD CLOSED TO THRU TRAFFIC — R11-4, 60"X30"

(S) BRIDGE OUT — R11-2B, 48"X30"

(T) BRIDGE OUT XX MILES AHEAD — R11-3C, 60"X24"

(U) DETOUR NEXT X MILES — G20-51, 60"X24"

(V) MO7-2, 12"X9"

(W) MO7-1, 12"X9"

(X) MO7-1, 12"X9"

(Y) ROAD CLOSED AHEAD — W020-3A

GENERAL NOTES:

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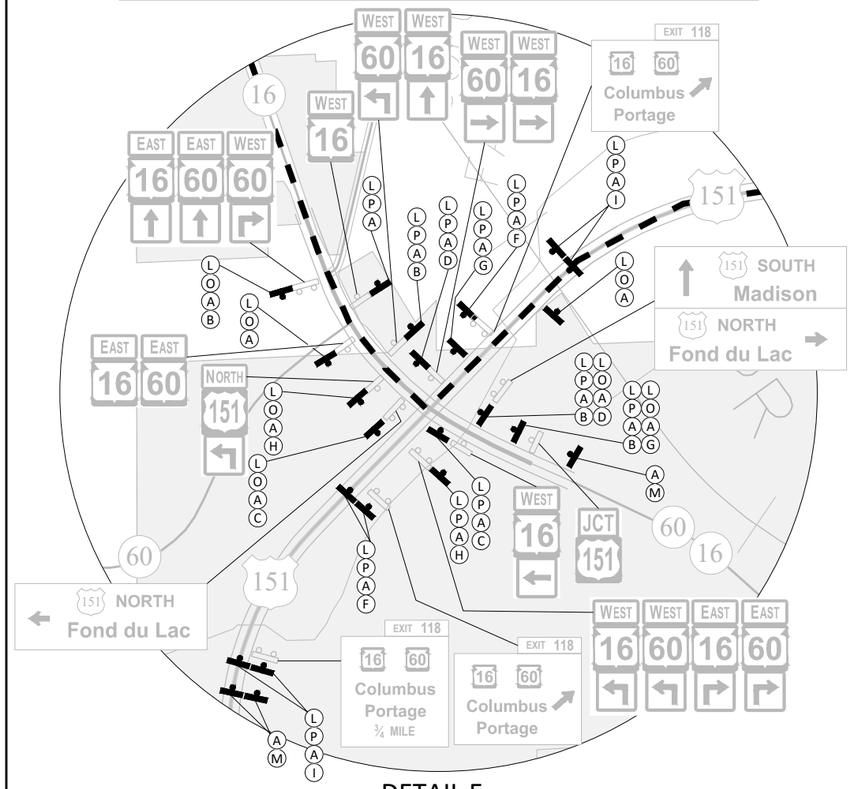
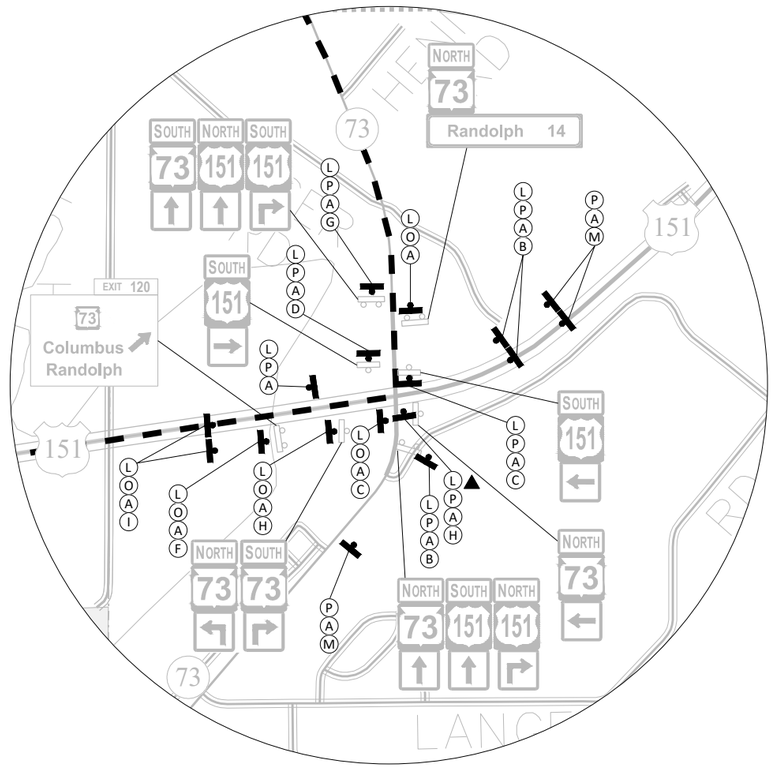
STH 16 & STH 60/USH 151 INTERCHANGE



DETAIL E

USH 151/STH 73 INTERCHANGE



DETAIL F

N

LEGEND

WORK ZONE

COVER SIGN

DETOUR ROUTE

SIGN ON PERMANENT SUPPORT

EXISTING SIGN ON SINGLE POST

EXISTING SIGN ON DOUBLE POST

TYPE III BARRICADE W/ ATTACHED SIGN AND W/ TRAFFIC CONTROL LIGHTS TYPE A

BARRICADES TYPE III

* SIGN READS "ROAD CLOSED ½ MILES AHEAD"

** SIGN READS "ROAD CLOSED 6 ½ MILES AHEAD"

*** SIGN READS "ROAD CLOSED 9 ½ MILES AHEAD"

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SIGN READS "NEXT 40 MILES"

▲ PLACE SIGN PAST 1ST RAMP

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(C) MO6-1, 21"X21", 30" x 30" ON USH 151

(D) MO6-1, 21"X21", 30" x 30" ON USH 151

(E) MO6-2, 21"X21", 30" x 30" ON USH 151

(F) MO6-2, 21"X21", 30" x 30" ON USH 151

(G) MO5-1R, 21"X21", 30" x 30" ON USH 151

(H) MO5-1L, 21"X21", 30" x 30" ON USH 151

(I) MO5-2R, 21"X21", 30" x 30" ON USH 151

(J) MO5-2L, 21"X21", 30" x 30" ON USH 151

(K) END DETOUR — M4-8A, 24"X18"

(L) DETOUR — M4-8, 24"X12", 36" x 18" ON USH 151

(M) DETOUR AHEAD — W20-2A

(N) ROAD CLOSED TO THRU TRAFFIC XX MILES AHEAD — R11-3, 60"X30"

(O) EAST — M3-2, 24"X12", 36" x 18" ON USH 151

(P) WEST — M3-4, 24"X12", 36" x 18" ON USH 151

(Q) DETOUR — M4-9R, 30"X24"

(R) ROAD CLOSED TO THRU TRAFFIC — R11-4, 60"X30"

(S) BRIDGE OUT — R11-2B, 48"X30"

(T) BRIDGE OUT XX MILES AHEAD — R11-3C, 60"X24"

(U) DETOUR NEXT X MILES — G20-51, 60"X24"

(V) MO7-2, 12"X9"

(W) MO7-1, 12"X9"

(X) MO7-1, 12"X9"

(Y) ROAD CLOSED AHEAD — W20D-3A

GENERAL NOTES:

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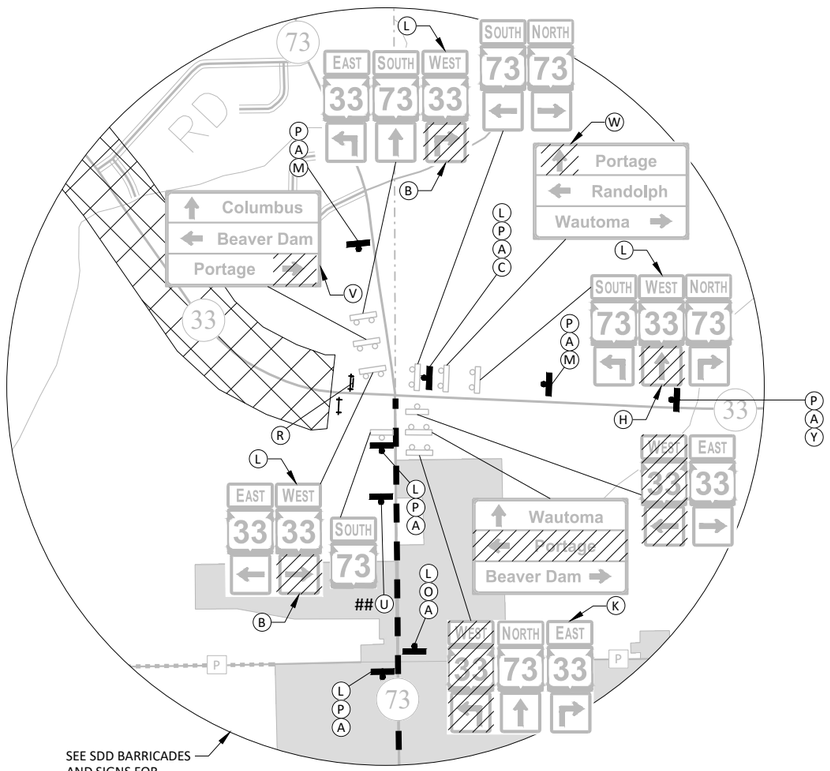
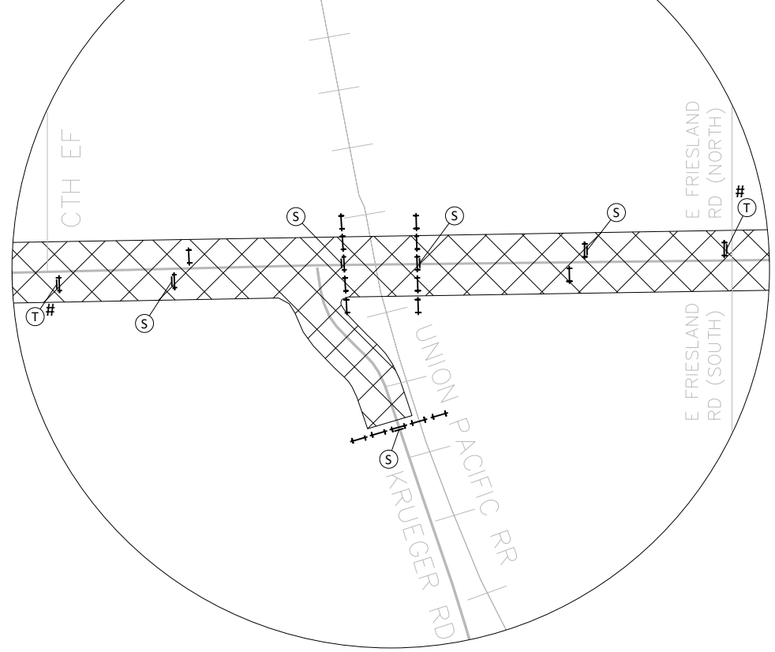
END PROJECT & STH 33/STH 73 INTERSECTION



DETAIL G

STH 33/UNION PACIFIC RAILROAD



DETAIL H

N

6040-00-74

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	8.000	8.000
0004	203.0100	Removing Small Pipe Culverts	EACH	11.000	11.000
0006	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-11-66	EACH	1.000	1.000
0008	203.0220	Removing Structure (structure) 01. B-11-66	EACH	1.000	1.000
0010	203.0220	Removing Structure (structure) 02. Sta. 51+22	EACH	1.000	1.000
0012	203.0330	Debris Containment (structure) 01. B-11-66	EACH	1.000	1.000
0014	204.0110	Removing Asphaltic Surface	SY	103,100.000	103,100.000
0016	204.0150	Removing Curb & Gutter	LF	1,510.000	1,510.000
0018	204.0165	Removing Guardrail	LF	1,300.000	1,300.000
0020	204.0180	Removing Delineators and Markers	EACH	12.000	12.000
0022	205.0100	Excavation Common	CY	29,900.000	29,900.000
0024	206.1001	Excavation for Structures Bridges (structure) 01. B-11-66	EACH	1.000	1.000
0026	210.1500	Backfill Structure Type A	TON	360.000	360.000
0028	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 6040-00-74	EACH	1.000	1.000
0030	213.0100	Finishing Roadway (project) 01. 6040-00-74	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	22,400.000	22,400.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	34,100.000	34,100.000
0036	312.0110	Select Crushed Material	TON	19,400.000	19,400.000
0038	371.2000.S	QMP Base Aggregate Dense 1 1/4-Inch Compaction	EACH	16.000	16.000
0040	415.0410	Concrete Pavement Approach Slab	SY	140.000	140.000
0042	455.0605	Tack Coat	GAL	11,100.000	11,100.000
0044	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	2.000	2.000
0046	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	3.000	3.000
0048	460.2005	Incentive Density PWL HMA Pavement	DOL	34,780.000	34,780.000
0050	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	6,270.000	6,270.000
0052	460.2010	Incentive Air Voids HMA Pavement	DOL	43,400.000	43,400.000
0054	460.6223	HMA Pavement 3 MT 58-28 S	TON	30,480.000	30,480.000
0056	460.6224	HMA Pavement 4 MT 58-28 S	TON	12,920.000	12,920.000
0058	465.0315	Asphaltic Flumes	SY	205.000	205.000
0060	465.0520	Asphaltic Rumble Strips, Shoulder	LF	55,060.000	55,060.000
0062	465.0560	Asphaltic Rumble Strips, Centerline	LF	27,530.000	27,530.000
0064	465.0580	Asphaltic Rumble Strips, Transverse	SY	105.000	105.000
0066	502.0100	Concrete Masonry Bridges	CY	243.000	243.000
0068	502.3200	Protective Surface Treatment	SY	531.000	531.000
0070	502.3210	Pigmented Surface Sealer	SY	158.000	158.000
0072	502.4204	Adhesive Anchors No. 4 Bar	EACH	72.000	72.000
0074	502.4205	Adhesive Anchors No. 5 Bar	EACH	110.000	110.000
0076	502.4206	Adhesive Anchors No. 6 Bar	EACH	24.000	24.000
0078	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	51,230.000	51,230.000
0080	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	10.000	10.000
0082	506.7050.S	Removing Bearings (structure) 01. B-11-66	EACH	10.000	10.000
0084	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0086	517.0901.S	Preparation and Coating of Top Flanges (structure) 01. B-11-66	EACH	1.000	1.000
0088	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	8.000	8.000
0090	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	8.000	8.000
0092	520.1030	Apron Endwalls for Culvert Pipe 30-Inch	EACH	2.000	2.000
0094	520.1036	Apron Endwalls for Culvert Pipe 36-Inch	EACH	4.000	4.000
0096	520.3318	Culvert Pipe Class III-A 18-Inch	LF	124.000	124.000
0098	520.3324	Culvert Pipe Class III-A 24-Inch	LF	456.000	456.000

6040-00-74

Line	Item	Item Description	Unit	Total	Qty
0100	520.3336	Culvert Pipe Class III-A 36-Inch	LF	84.000	84.000
0102	520.4130	Culvert Pipe Class IV 30-Inch	LF	168.000	168.000
0104	520.4136	Culvert Pipe Class IV 36-Inch	LF	80.000	80.000
0106	601.0120	Concrete Curb Type J	LF	125.000	125.000
0108	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	1,441.000	1,441.000
0110	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	58.000	58.000
0112	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	15.000	15.000
0114	602.3010	Concrete Surface Drains	CY	4.000	4.000
0116	604.0500	Slope Paving Crushed Aggregate	SY	380.000	380.000
0118	606.0300	Riprap Heavy	CY	140.000	140.000
0120	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	180.000	180.000
0122	614.0010	Barrier System Grading Shaping Finishing	EACH	5.000	5.000
0124	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0126	614.0200	Steel Thrie Beam Structure Approach	LF	20.000	20.000
0128	614.0370	Steel Plate Beam Guard Energy Absorbing Terminal	EACH	1.000	1.000
0130	614.2300	MGS Guardrail 3	LF	540.000	540.000
0132	614.2330	MGS Guardrail 3 K	LF	125.000	125.000
0134	614.2350	MGS Guardrail Short Radius	LF	260.000	260.000
0136	614.2500	MGS Thrie Beam Transition	LF	80.000	80.000
0138	614.2610	MGS Guardrail Terminal EAT	EACH	5.000	5.000
0140	618.0100	Maintenance And Repair of Haul Roads (project) 01. 6040-00-74	EACH	1.000	1.000
0142	619.1000	Mobilization	EACH	1.000	1.000
0144	624.0100	Water	MGAL	835.000	835.000
0146	625.0500	Salvaged Topsoil	SY	34,220.000	34,220.000
0148	627.0200	Mulching	SY	34,220.000	34,220.000
0150	628.1104	Erosion Bales	EACH	25.000	25.000
0152	628.1504	Silt Fence	LF	13,200.000	13,200.000
0154	628.1520	Silt Fence Maintenance	LF	52,800.000	52,800.000
0156	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
0158	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0160	628.2004	Erosion Mat Class I Type B	SY	170.000	170.000
0162	628.7504	Temporary Ditch Checks	LF	220.000	220.000
0164	628.7555	Culvert Pipe Checks	EACH	46.000	46.000
0166	629.0210	Fertilizer Type B	CWT	25.000	25.000
0168	630.0130	Seeding Mixture No. 30	LB	810.000	810.000
0170	630.0200	Seeding Temporary	LB	1,220.000	1,220.000
0172	630.0500	Seed Water	MGAL	1,010.000	1,010.000
0174	633.5200	Markers Culvert End	EACH	16.000	16.000
0176	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0178	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	28.000	28.000
0180	638.2102	Moving Signs Type II	EACH	30.000	30.000
0182	638.3000	Removing Small Sign Supports	EACH	30.000	30.000
0184	642.5001	Field Office Type B	EACH	1.000	1.000
0186	643.0300	Traffic Control Drums	DAY	250.000	250.000
0188	643.0420	Traffic Control Barricades Type III	DAY	14,170.000	14,170.000
0190	643.0705	Traffic Control Warning Lights Type A	DAY	16,930.000	16,930.000
0192	643.0900	Traffic Control Signs	DAY	82,800.000	82,800.000
0194	643.0920	Traffic Control Covering Signs Type II	EACH	17.000	17.000
0196	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000

6040-00-74

Line	Item	Item Description	Unit	Total	Qty
0198	643.3105	Temporary Marking Line Paint 4-Inch	LF	3,348.000	3,348.000
0200	643.3120	Temporary Marking Line Epoxy 4-Inch	LF	1,674.000	1,674.000
0202	643.3165	Temporary Marking Line Paint 6-Inch	LF	120,078.000	120,078.000
0204	643.5000	Traffic Control	EACH	1.000	1.000
0206	645.0111	Geotextile Type DF Schedule A	SY	78.000	78.000
0208	645.0120	Geotextile Type HR	SY	200.000	200.000
0210	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	270.000	270.000
0212	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	105,636.000	105,636.000
0214	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	700.000	700.000
0216	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	1,674.000	1,674.000
0218	646.6120	Marking Stop Line Epoxy 18-Inch	LF	200.000	200.000
0220	648.0100	Locating No-Passing Zones	MI	5.940	5.940
0222	650.4500	Construction Staking Subgrade	LF	7,140.000	7,140.000
0224	650.5000	Construction Staking Base	LF	7,140.000	7,140.000
0226	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,639.000	1,639.000
0228	650.6000	Construction Staking Pipe Culverts	EACH	11.000	11.000
0230	650.6501	Construction Staking Structure Layout (structure) 01. B-11-66	EACH	1.000	1.000
0232	650.7000	Construction Staking Concrete Pavement	LF	34.000	34.000
0234	650.8000	Construction Staking Resurfacing Reference	LF	25,830.000	25,830.000
0236	650.9911	Construction Staking Supplemental Control (project) 01. 6040-00-74	EACH	1.000	1.000
0238	650.9920	Construction Staking Slope Stakes	LF	7,140.000	7,140.000
0240	690.0150	Sawing Asphalt	LF	1,120.000	1,120.000
0242	715.0502	Incentive Strength Concrete Structures	DOL	1,446.000	1,446.000
0244	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0246	740.0440	Incentive IRI Ride	DOL	23,630.000	23,630.000
0248	801.0117	Railroad Flagging Reimbursement	DOL	26,450.000	26,450.000
0250	999.2000.S	Installing and Maintaining Bird Deterrent System (station) 01. 164+90.90	EACH	1.000	1.000
0252	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	800.000	800.000
0254	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0256	SPV.0060	Special 01. Verify Landmark Reference Monuments	EACH	4.000	4.000
0258	SPV.0060	Special 02. Landmark Reference Monuments Special	EACH	4.000	4.000

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

3

GRUBBING

STATION - STATION	LOCATION	201.0205 GRUBBING (STA)
67+00 - 68+00	MAINLINE, RT	1
69+00 - 70+00	MAINLINE, LT	1
71+00 - 74+00	MAINLINE, LT	3
165+00 - 168+00	MAINLINE, RT	3
	TOTAL =	8

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	DESCRIPTION	203.0100 EACH
45+77	MAINLINE	24" CMP; L=97'	1
46+90	MAINLINE	24" CMP; L=150'	1
50+52	MAINLINE	24" CMP; L=102'	1
64+40	MAINLINE, RT.	18" CMP; L=32'	1
69+53	MAINLINE, LT.	18" CMP; L=30'	1
77+56	MAINLINE	24" CMP; L=101'	1
88+53	MAINLINE, RT.	18" CMP; L=32'	1
104+75	MAINLINE, RT.	18" CMP; L=32'	1
155+01	MAINLINE	30" CMP; L=164'	1
194+51	MAINLINE	24" CMP; L=75'	1
9'D'+40	BIRD RD	DIA. UNKNOWN CMP, L=70'	1
		TOTAL =	11

REMOVING DELINEATORS AND MARKERS

STATION	LOCATION	204.0180 (EACH)
45+77	MAINLINE, LT.	1
45+77	MAINLINE, RT.	1
46+67	MAINLINE, LT.	1
47+39	MAINLINE, RT.	1
50+52	MAINLINE, LT.	1
50+52	MAINLINE, RT.	1
77+56	MAINLINE, LT.	1
77+56	MAINLINE, RT.	1
155+01	MAINLINE, LT.	1
155+01	MAINLINE, RT.	1
194+51	MAINLINE, LT.	1
194+51	MAINLINE, RT.	1
	TOTAL =	12

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)
2+97.40 - 57+00	MAINLINE	3,745	-
57+00 - 112+00	MAINLINE	3,965	26,760
112+00 - 164+23.86	MAINLINE	3,745	-
165+60.94 - 316+25.29	MAINLINE	10,570	-
159+61- 5'G'+88	MAINLINE, RT	-	750
4'G'+80- 164+16	MAINLINE, RT	-	510
161+00-164+25	MAINLINE, LT	-	30
164+06.48 - 164+23.86	MAINLINE	-	60
165+60.94 - 165+78.33	MAINLINE	-	60
165+68-168+58	MAINLINE, LT	-	250
165+75-167+57	MAINLINE, RT	-	170
-	SIDEROADS	-	5,510
-	DRIVEWAYS	375	-
	TOTALS =	22,400	34,100

CONCRETE PAVEMENT APPROACH SLAB

STATION - STATION	LOCATION	415.0410 (SY)	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT (LF)
164+06.48 - 164+23.86	MAINLINE	70	17
165+60.94 - 165+78.33	MAINLINE	70	17
	TOTAL =	140	34

CONCRETE SURFACE DRAINS

STATION	LOCATION	602.3010 (CY)
163+77	MAINLINE, LT.	2
163+83	MAINLINE, RT.	2
	TOTAL =	4

RIPRAP & GEOTEXTILE

STATION - STATION	LOCATION	606.0300 RIPRAP HEAVY (CY)	645.0120 GEOTEXTILE TYPE HR (SY)
45+77	MAINLINE, RT.	8	10
47+39	MAINLINE, RT.	15	23
51+22	MAINLINE, RT.	13	18
155+01	MAINLINE, RT.	8	10
163+77	MAINLINE, LT.	35	50
163+83	MAINLINE, RT.	39	59
194+51	MAINLINE, RT.	14	20
9'D'+38	BIRD RD, LT.	8	10
	TOTALS =	140	200

REMOVING STRUCTURE (STA. 25+89)

STATION	LOCATION	DESCRIPTION	203.0220 (EACH)	COMMENTS
51+22	MAINLINE	REINFORCED CONCRETE BOX CUVLERT	1	8' x 6' x 66'
		TOTAL =	1	

SELECT CRUSHED MATERIAL

STATION - STATION	LOCATION	312.0110 (TON)
57+00 - 112+00	MAINLINE	19,400
	TOTAL =	19,400

EARTHWORK SUMMARY

STATION - STATION	LOCATION	(1) 205.0100 COMMON EXCAVATION CUT (2) (CY)	AVAILABLE MATERIAL (CY) (3)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.25 (4)	MASS ORDINATE +/- (CY) (5)	WASTE (CY)
57+00 - 112+00	MAINLINE	27120	27120	329	411	26709	26709
8'B'+04.58 - 9'B'+73.44	STH 146	410	410	110	138	273	273
10'C'+28.34 - 11'C'+62.48	CTH M	300	300	14	18	283	283
8'D'+46.82 - 9'D'+77.92	BIRD ROAD	580	580	275	344	236	236
10'E'+22.03 - 11'E'+25.78	STERK ROAD	195	195	17	21	174	174
10'F'+24.03 - 11'F'+34.76	CTH EF	305	305	24	30	275	275
10'H'+22.01 - 11'H'+33.70	E FRIESLAND ROAD (NORTH)	230	230	25	31	199	199
8'I'+61.92 - 9'I'+78.00	E FRIESLAND ROAD (SOUTH)	240	240	24	30	210	210
8'J'+44.15 - 9'J'+77.85	E FRIESLAND ROAD(EAST)	250	250	25	31	219	219
10'K'+22.01 - 11'K'+50.22	DILLMAN ROAD	270	270	31	39	231	231
TOTALS =		29900	29900	874	1093	28808	28808

NOTES:
1.) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2.) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
3.) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
4.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL - (ROCK *ROCK FACTOR))*1.25
5.) THE MASS ORDINATE+ OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0150 (LF)
9'B'+53 - 9'B'+99	STH 146, LT.	58
8'B'+93 - 9'B'+29	STH 146, RT.	83
9'B'+11 - 9'B'+60	STH 146, RT.	123
10'C'+03 - 10'C'+52	CTH M, RT.	64
10'C'+57 - 10'C'+92	CTH M, LT.	65
9'D'+21 - 9'D'+70	BIRD RD, LT.	79
9'D'+32 - 9'D'+80	BIRD RD, RT.	71
10'E'+19 - 10'E'+63	STERK RD, LT.	66
10'E'+25 - 10'E'+85	STERK RD, RT.	99
10'F'+22 - 10'F'+76	CTH EF, LT.	79
10'F'+29 - 10'F'+81	CTH EF, RT.	87
10'H'+22 - 10'H'+71	E FRIESLAND RD (NORTH), LT.	76
10'H'+24 - 10'H'+78	E FRIESLAND RD (NORTH), RT.	88
9'I'+23 - 9'I'+77	E FRIESLAND RD (SOUTH), LT.	85
9'I'+30 - 9'I'+78	E FRIESLAND RD (SOUTH), RT.	76
9'J'+12 - 9'J'+66	E FRIESLAND RD (EAST), LT.	94
9'J'+38 - 9'J'+82	E FRIESLAND RD (EAST), RT.	64
10'K'+20 - 10'K'+80	DILLMAN RD, RT.	91
10'K'+23 - 10'K'+63	DILLMAN RD, LT.	62
	TOTAL =	1,510

REMOVING ASPHALTIC SURFACE

STATION - STATION	LOCATION	204.0110 (SY)
2+97.40 - 57+00	MAINLINE	22,000
112+00 - 164+23.86	MAINLINE	21,000
165+60.94 - 316+25.29	MAINLINE	59,000
-	INTERSECTIONS	1,100
	TOTAL =	103,100

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 (LF)
162+07 - 164+12	MAINLINE, LT.	210
165+68 - 167+64	MAINLINE, LT.	200
165+75 - 166+52	MAINLINE, RT.	80
5'G'+47 - 9'G'+62	KRUEGER RD, RT.	310
6'G'+51 - 9'G'+51	KRUEGER RD, LT.	500
	TOTAL =	1,300

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

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HMA PAVEMENT

STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	460.0105.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP VOLUMETRICS (EACH)	460.0110.S HMA PERCENT WITHIN LIMITS (PWL) TEST STRIP DENSITY (EACH)	460.6223 HMA PAVEMENT 3 MT 58-28 S (TON)	460.6224 HMA PAVEMENT 4 MT 58-28 S (TON)
-	MAINLINE	-	2	3	-	-
2+97.40 - 57+00	*MAINLINE	1650	-	-	4,950	1755
2+97.40 - 57+00	SHOULDER, LT & RT	315	-	-	850	670
57+00 - 112+00	MAINLINE	1525	-	-	4,350	1550
57+00 - 112+00	SHOULDER, LT & RT	320	-	-	900	725
112+00 - 164+23.86	MAINLINE	1625	-	-	4,550	1605
112+00 - 164+23.86	SHOULDER, LT & RT	300	-	-	20	15
165+60.94 - 316+25.29	MAINLINE	4195	-	-	11,820	4200
165+60.94 - 316+25.29	SHOULDER, LT & RT	870	-	-	2,240	1750
-	SIDEROADS	300	-	-	800	650
	TOTALS =	11,100	2	3	30,480	12,920

*INLCUDES STH 146

RUMBLE STRIPS

STATION - STATION	LOCATION	465.0520 ASPHALTIC RUMBLE STRIPS SHOULDER (LF)	465.0580 ASPHALTIC RUMBLE STRIPS TRANSVERSE (SY)	465.0560 ASPHALTIC RUMBLE STRIPS CENTERLINE (LF)
2+97.40 - 164+06.48	MAINLINE	-	-	14,100
2+97.40 - 164+06.48	MAINLINE, LT.	14,100	-	-
2+97.40 - 164+06.48	MAINLINE, RT.	14,100	-	-
165+78.33 - 316+25.29	MAINLINE	-	-	13,430
165+78.33 - 316+25.29	MAINLINE, LT.	13,430	-	-
165+78.33 - 316+25.29	MAINLINE, RT.	13,430	-	-
308+40 - 308+65	MAINLINE, RT.	-	35	-
311+90 - 312+15	MAINLINE, RT.	-	35	-
314+15 - 318+40	MAINLINE, RT.	-	35	-
	TOTALS=	55,060	105	27,530

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PWL MIXTURE USE TABLE

The following acceptance criteria are applicable for this project:

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR: MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12 foot Driving Lanes	2+97.40 - 164+23.86, 165+60.94 - 316+25.29	Upper Layer	3 MT 58-28 S	4 MT 58-28 S	9,110	1.75"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12 foot Driving Lanes	2+97.40 - 164+23.86, 165+60.94 - 316+25.29	Lower Layer (second)	3 MT 58-28 S	3 MT 58-28 S	11,550	2.25"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12 foot Driving Lanes	2+97.40 - 164+23.86, 165+60.94 - 316+25.29	Lower Layer (first)	Base Aggregate	3 MT 58-28 S	14,120	2.75"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
Shoulders, Bypass Lanes, & Right Turn Lanes, Side Roads	2+97.40 - 164+23.86, 165+60.94 - 316+25.29	Upper Layer	3 MT 58-28 S	4 MT 58-28 S	3,810	1.75"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for the incentive or disincentive
Shoulders, Bypass Lanes, & Right Turn Lanes, Side Roads	2+97.40 - 164+23.86, 165+60.94 - 316+25.29	Lower Layer	Base Aggregate	3 MT 58-28 S	4,810	2.25"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department; Not eligible for the incentive or disincentive

WATER

LOCATION	624.0100 (MGAL)
PROJECT	835
TOTALS =	835

LOCATE NO-PASSING ZONES

STATION	648.0100 (MI)
PROJECT	5.94
TOTAL	5.94

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
6040-00-74	10	5
TOTALS =	10	5

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	650.8000 RESURFACING REFERENCE (LF)	650.9911 SUPPLEMENTAL CONTROL (01. 6040-00-74) (EACH)	650.9920 SLOPE STAKES (LF)
2+97.40 - 57+00	MAINLINE	-	-	5,405	-	-
57+00 - 112+00	MAINLINE	5,500	5,500	-	-	5,500
112+00 - 316+25.29	MAINLINE	-	-	20,425	-	-
8'B'+04.58 - 9'B'+73.44	STH 146	169	169	-	-	169
10'C'+28.34 - 11'C'+62.48	CTH M	134	134	-	-	134
8'D'+46.82 - 9'D'+77.62	BIRD RD	131	131	-	-	131
10'E'+22.03 - 11'E'+25.78	STERK RD	104	104	-	-	104
10'F'+24.03 - 11'F'+34.76	CTH EF	111	111	-	-	111
4'G'+80 - 9'G'+77.76	KRUEGER RD	501	501	-	-	501
10'H'+22.01 - 11'H'+33.70	E FRIESLAND RD (NORTH)	112	112	-	-	112
8'I'+61.92 - 9'I'+78.00	E FRIESLAND RD (SOUTH)	116	116	-	-	116
8'J'+44.15 - 9'J'+77.85	E FRIESLAND RD (EAST)	134	134	-	-	134
10'K'+22.01 - 11'K'+50.22	DILLMAN RD	128	128	-	-	128
	PROJECT	-	-		1	-
	TOTALS =	7,140	7,140	25,830	1	7,140

TRAFFIC CONTROL

LOCATION	643.0300 DRUMS (DAY)	643.0420 BARRICADES TYPE III EACH*	643.0420 BARRICADES TYPE III (DAY)	643.0705 WARNING LIGHTS TYPE A EACH*	643.0705 WARNING LIGHTS TYPE A (DAY)	643.0900 SIGNS EACH*	643.0900 SIGNS (DAY)	643.0920 COVERING SIGNS TYPE II (EACH)	643.1050 PCMS EACH*	643.1050 PCMS (DAY)	643.5000 TRAFFIC CONTROL (EACH)
MAINLINE AND DETOUR	-	27	4,920	32	5,890	380	69,920	17 (1 cycle)	2	14	-
STH 146	-	5	925	6	1,104	7	1,288	-	-	-	-
CTH M	-	5	925	6	1,104	7	1,288	-	-	-	-
BIRD RD	-	5	925	6	1,104	7	1,288	-	-	-	-
STERK RD	-	5	925	6	1,104	7	1,288	-	-	-	-
CTH EF	-	5	925	6	1,104	7	1,288	-	-	-	-
KRUEGER RD	-	5	925	6	1,104	7	1,288	-	-	-	-
E FRIESLAND RD (NORTH)	-	5	925	6	1,104	7	1,288	-	-	-	-
E FRIESLAND RD (SOUTH)	-	5	925	6	1,104	7	1,288	-	-	-	-
E FRIESLAND RD (EAST)	-	5	925	6	1,104	7	1,288	-	-	-	-
DILLMAN RD	-	5	925	6	1,104	7	1,288	-	-	-	-
PROJECT	250	-	-	-	-	-	-	-	-	-	1
TOTALS =	250		14,170		16,930		82,800	17		14	1

*FOR INFORMATION ONLY

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

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CULVERT PIPE

STATION	LOCATION	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH (EACH)	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH (EACH)	520.1030 APRON ENDWALLS FOR CULVERT PIPE 30-INCH (EACH)	520.1036 APRON ENDWALLS FOR CULVERT PIPE 36-INCH (EACH)	520.3318 CULVERT PIPE CLASS III-A 18-INCH (LF)	520.3324 CULVERT PIPE CLASS III-A 24-INCH (LF)	520.3336 CULVERT PIPE CLASS III-A 36-INCH (LF)	520.4130 CULVERT PIPE CLASS IV 30-INCH (LF)	520.4136 CULVERT PIPE CLASS IV 36-INCH (LF)	628.7555 CULVERT PIPE CHECKS (EACH)	633.5200 MARKERS CULVERT END (EACH)	650.6000 CONSTRUCTION STAKING CULVERT PIPES (EACH)
45+77	MAINLINE	-	2	-	-	-	102	-	-	-	3	2	1
46+90	MAINLINE	-	2	-	-	-	150	-	-	-	3	2	1
51+22	MAINLINE	-	-	-	2	-	-	84	-	-	7	2	1
64+40	MAINLINE	2	-	-	-	30	-	-	-	-	-		1
69+53	MAINLINE	2	-	-	-	30	-	-	-	-	-		1
77+56	MAINLINE	-	2	-	-	-	102	-	-	-	3	2	1
88+53	MAINLINE	2	-	-	-	32	-	-	-	-	-		1
88+75	MAINLINE	-	-	-	-	-	-	-	-	-	3	-	-
104+50	MAINLINE	-	-	-	-	-	-	-	-	-	3	-	-
104+75	MAINLINE	2	-	-	-	32	-	-	-	-	-	-	1
106+50	MAINLINE	-	-	-	-	-	-	-	-	-	3	-	-
107+75	MAINLINE	-	-	-	-	-	-	-	-	-	-	2	-
115+25	MAINLINE	-	-	-	-	-	-	-	-	-	3	-	-
155+01	MAINLINE	-	-	2	-	-	-	-	168	-	5	2	1
194+51	MAINLINE	-	-	-	2	-	-	-	-	80	7	2	1
9'D'+46	BIRD RD	-	2	-	-	-	102	-	-	-	3	2	1
11'H'+30	E. FRIESLAND RD	-	2	-	-	-	-	-	-	-	3	-	-
	TOTALS =	8	8	2	4	124	456	84	168	80	46	16	11

MINIMUM THICKNESS (INCHES)

PIPE SIZE	STEEL	ALUMINUM
18-INCH	0.064	0.06
24-INCH	0.064	0.075
30-INCH	0.079	0.075
36-INCH	0.079	0.105

EROSION MAT

STATION - STATION	LOCATION	628.2004 EROSION MAT CLASS I TYPE B (SY)
47+00 - 47+06	MAINLINE, LT.	8
114+11 - 114+17	MAINLINE, LT.	8
142+28 - 142+34	MAINLINE, LT.	8
195+69 - 195+75	MAINLINE, RT.	8
261+59 - 261+65	MAINLINE, RT.	8
266+79 - 266+85	MAINLINE, LT.	8
9'B'+43 - 9'B'+49	STH 146, RT.	8
10'C'+96 - 11'C'+02	CTH M, LT.	8
9'D'+08 - 9'D'+14	BIRD RD, LT.	8
9'D'+24 - 9'D'+30	BIRD RD, RT.	8
10'E'+89 - 10'E'+95	STERK RD, RT.	8
10'F'+74 - 10'F'+80	CTH EF, LT.	8
10'H'+73 - 10'H'+79	E FRIESLAND RD, (NORTH), LT.	8
10'H'+89 - 11'H'+01	E FRIESLAND RD, (NORTH),RT.	8
9'I'+13 - 9'I'+19	E FRIESLAND RD, (SOUTH), LT.	8
8'J'+98 - 9'J'+05	E FRIESLAND RD, (EAST), LT.	8
10'K'+66 - 10'K'+72	DILLMAN RD, LT.	8
	UNDISTRIBUTED	34
	TOTALS =	170

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BEAM GUARD

STATION-STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH (LF)	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL (EACH)	614.2300 MGS GUARDRAIL 3 (LF)	614.2330 MGS GUARDRAIL 3 K (LF)	614.2350 MGS GUARDRAIL SHORT RADIUS (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
159+61 - 5'G'+85	MAINLINE, RT	-	-	-	-	-	-	-
161+00 - 164+25	MAINLINE, LT	-	-	-	-	-	-	-
162+06 - 163+05	MAINLINE, RT	-	-	-	-	147	-	-
163+34 - 163+79	MAINLINE, RT	-	-	-	-	113	-	1
163+47 - 163+72	MAINLINE, LT	-	-	25	-	-	-	1
163+72 - 164+10	MAINLINE, LT	-	-	-	-	-	40	-
165+69 - 166+06	MAINLINE, LT	-	-	-	-	-	40	-
165+75 - 165+94	MAINLINE, RT	20	1	-	-	-	-	-
166+06 - 166+81	MAINLINE, LT	-	-	75	-	-	-	1
4'G'+80 - 164+16	KRUEGER RD, RT.	-	-	-	-	-	-	-
5'G'+56 - 6'G'+81	KRUEGER RD, RT.	-	-	-	125	-	-	1
6'G'+70 - 8'G'+95	KRUEGER RD, LT.	-	-	225	-	-	-	1
6'G'+83 - 8'G'+95	KRUEGER RD, RT.	-	-	215	-	-	-	-
	TOTALS =	20	1	540	125	260	80	5

TEMPORARY DITCH CHECKS

STATION	LOCATION	628.7504 (LF)
9'D'+00	BIRD RD, RT.	10
83+00	MAINLINE, RT.	10
85+00	MAINLINE, RT.	10
88+00	MAINLINE, LT.	10
90+00	MAINLINE, LT.	10
90+00	MAINLINE, RT.	10
94+00	MAINLINE, RT.	10
95+00	MAINLINE, LT.	10
96+00	MAINLINE, RT.	10
97+00	MAINLINE, LT.	10
98+00	MAINLINE, RT.	10
99+00	MAINLINE, LT.	10
100+00	MAINLINE, RT.	10
101+00	MAINLINE, LT.	10
102+00	MAINLINE, RT.	10
103+00	MAINLINE, LT.	10
104+00	MAINLINE, RT.	10
105+00	MAINLINE, LT.	10
	UNDISTRIBUTED	40
	TOTAL =	220

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

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FINISHING ITEMS

STATION - STATION	LOCATION	*625.0500 SALVAGED TOPSOIL (SY)	*627.0200 MULCHING (SY)	*629.0210 FERTILIZER TYPE B (CWT)	*630.0130 SEEDING MIXTURE NO. 30 (LB)	*630.0200 SEEDING TEMPORARY (LB)	*630.0500 SEED WATER (MGAL)
57+00 - 112+00	MAINLINE	22,820	22,820	18	562	-	-
8'B'+04.58 - 9'B'+73.44	STH 146	1,141	1,141	1	21	-	-
10'C'+28.34 - 11'C'+62.48	CTH M	590	590	0	11	-	-
10'E'+22.03 - 11'E'+25.78	STERK RD	423	423	0	8	-	-
10'F'+24.03 - 11'F'+34.76	CTH EF	478	478	0	9	-	-
10'H'+22.01 - 11'H'+33.70	E FRIESLAND RD (NORTH)	442	442	0	8	-	-
8'I'+61.92 - 9'I'+78.00	E FRIESLAND RD (SOUTH)	445	445	0	8	-	-
8'J'+44.15 - 9'J'+77.85	E FRIESLAND RD (EAST)	518	518	0	10	-	-
10'K'+22.01 - 11'K'+50.22	DILLMAN RD	522	522	0	10	-	-
UNDISTRIBUTED	PROJECT	6,841	6,841	5	163	1,220	1,010
	TOTALS=	34,220	34,220	25	810	1,220	1,010

* NOTE: BIRD RD ('D'-LINE) INCLUDED IN MAINLINE QUANTITIES

EROSION BALES

LOCATION	628.1104 (EACH)
PROJECT	25
TOTAS =	25

PERMANENT SIGNING

APPROX. STATION	LOCATION	POSITIION	SIGN CODE	SIGN DESCRIPTION	POSTS WOOD 4X6-INCH 634.0614 14 FT (EACH)	POSTS WOOD 4X6-INCH 634.0616 16 FT (EACH)	638.2102 MOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)
46+00	MAINLINE	RIGHT	J2-2	STATE & COUNTY ROUTE, CARDINAL DIRECTION, DIRECTIONAL ARROWS	-	1	1	1
59+00	MAINLINE	LEFT	J4-1	STATE ROUTE AND COUNTY ROUTE JCT	-	2	1	1
59+61	MAINLINE	RIGHT	D2-1	DESTINATION DISTANCE	-	2	1	2
67+75	MAINLINE	RIGHT	M6-4	DIRECTIONAL ARROW	-	1	1	1
80+30	MAINLINE	RIGHT	W14-3	NO PASSING ZONE	-	1	1	1
86+05	MAINLINE	LEFT	W14-3	NO PASSING ZONE	-	1	1	1
102+00	MAINLINE	RIGHT	W14-3	NO PASSING ZONE	-	1	1	1
164+15	MAINLINE	LEFT	W5-52L	BRIDGE HASH MARKS	1	-	1	1
164+25	MAINLINE	RIGHT	W5-52R	BRIDGE HASH MARKS	1	-	1	1
165+60	MAINLINE	LEFT	W5-52R	BRIDGE HASH MARKS	1	-	1	1
165+65	MAINLINE	RIGHT	W5-52L	BRIDGE HASH MARKS	1	-	1	1
310+00	MAINLINE	LEFT	W3-1	STOP AHEAD	-	1	1	1
310+00	MAINLINE	RIGHT	W3-1	STOP AHEAD	-	1	1	1
316+50	MAINLINE	LEFT	J4-1	WEST; STH 33	-	1	1	-
9'B'+50	STH 146	RIGHT	R1-1	STOP SIGN	-	1	1	1
9'B'+50	STH 147	RIGHT	J2-2	STATE & COUNTY ROUTE, CARDINAL DIRECTION, DIRECTIONAL ARROWS	-	1	1	1
9'B'+19	STH 146	RIGHT	R1-1	STOP SIGN	-	1	1	1
9'B'+19	STH 147	RIGHT	J3-1	STATE ROUTE, CARDINAL DIRECTION, DIRECTIONAL ARROWS	-	1	1	1
9'B'+20	STH 146	RIGHT	W12-1D	DOUBLE ARROW SIGN	-	1	1	1
10'C'+78	CTH M	LEFT	R1-1	STOP SIGN	-	1	1	1
10'C'+78	CTH M	LEFT	J12-1	STATE ROUTE & DOUBLE DIRECTION ARROWS	-	1	1	1
9'D'+51	BIRD RD	RIGHT	R1-1	STOP SIGN	-	1	1	1
10'E'+48	STERK RD	RIGHT	R1-1	STOP SIGN	-	1	1	1
10'F'+36	CTH EF	RIGHT	J12-1	COUNTY ROUTE SIGN & DIRECTIONAL ARROW	-	1	1	1
10'F'+57	CTH EF	LEFT	R1-1	STOP SIGN	-	1	1	1
10'F'+57	CTH EF	LEFT	J12-1	STATE ROUTE & DOUBLE DIRECTION ARROWS	-	1	1	1
9'G'+45	KRUEGER RD	RIGHT	R1-1	STOP SIGN	-	1	1	1
10'H'+43	FRIESLAND RD (NORTH)	RIGHT	R1-1	STOP SIGN	-	1	1	1
9'I'+39	FRIESLAND RD (SOUTH)	RIGHT	R1-1	STOP SIGN	-	1	1	1
9'J'+48	FRIESLAND RD (EAST)	RIGHT	R1-1	STOP SIGN	-	1	1	1
10'K'+69	DILLMAN RD	RIGHT	R1-1	STOP SIGN	-	1	1	1
				TOTALS =	4	28	30	30

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
57+00 - 69+34	MAINLINE, LT	1,224	4,896
57+00 - 64+26	MAINLINE, RT.	740	2,960
64+59 - 77+48	MAINLINE, RT.	1,323	5,292
69+69 - 71+76	MAINLINE, LT	229	916
72+07 - 80+33	MAINLINE, LT	847	3,388
77+66 - 80+67	MAINLINE, RT.	364	1,456
80+55 - 87+49	MAINLINE, LT	695	2,780
81+44 - 82+50	MAINLINE, RT.	116	464
105+50 - 106+50	MAINLINE, LT	100	400
105+50 - 112+00	MAINLINE, RT.	650	2,600
106+88 - 112+00	MAINLINE, LT	512	2,048
159+54 - 164+87	MAINLINE, RT.	671	2,684
161+16 - 164+10	MAINLINE, LT	333	1,332
165+67 - 168+61	MAINLINE, LT	305	1,220
165+71 - 166+65	MAINLINE, RT.	106	424
166+91 - 167+60	MAINLINE, RT.	69	276
8'B'+01 - 9'B'+66	STH 146, LT.	198	792
8'B'05 - 8'B'+94	STH 146, RT.	106	424
10'C'+25 - 11'C'+62	CTH M, RT.	147	588
10'C'+92 - 11'C'+62	CTH M, LT.	84	336
10'E'+50 - 11'E'+26	STERK RD, LT.	89	356
10'E'+53 - 11'E'+26	STERK RD, RT.	94	376
10'F'+46 - 11'F'+38	CTH EF, LT.	109	436
10'F'+59 - 11'F'+34	CTH EF, RT.	96	384
4'G'+79 - 9'G'+42	KRUEGER RD, RT.	473	1,892
10'H'+51 - 11'H'+31	E FRIESLAND RD (NORTH), LT.	94	376
10'H'+53 - 10'H'+65	E FRIESLAND RD (NORTH), RT.	37	148
10'H'+80 - 10'H'+34	E FRIESLAND RD (NORTH), RT.	57	228
8'I'+61 - 9'I'+51	E FRIESLAND RD (SOUTH), RT.	113	452
8'I'+62 - 9'I'+48	E FRIESLAND RD (SOUTH), LT.	109	436
8'J'+44 - 9'J'+44	E FRIESLAND RD (EAST), LT.	116	464
8'J'+45 - 9'J'02	E FRIESLAND RD (EAST), RT.	67	268
9'J'+16 - 9'J'+56	E FRIESLAND RD (EAST), RT.	55	220
10'K'+47 - 11'K'+42	DILLMAN RD, LT.	104	416
10'K'+50 - 11'K'+48	DILLMAN RD, RT.	129	516
	UNDISTIBUTED	2,639	10,556
	TOTALS =	13,200	52,800

ASPHALTIC FLUMES

STATION	LOCATION	465.0315 (SY)
8'B'+90	STH 146, RT.	13
9'B'+50	STH 146, LT.	9
10'C'+00	CTH M, RT.	9
11'C'+00	CTH M, LT.	11
9'D'+10	BIRD RD, LT.	9
9'D'+30	BIRD RD, RT.	9
10'E'+20	STERK RD, LT.	10
10'E'+90	STERK RD, RT.	9
10'F'+30	CTH EF, RT.	9
10'F'+80	CTH EF, LT.	9
10'F'+90	CTH EF, RT.	41
10'H'+70	E FRIESLAND RD (NORTH), LT.	9
10'H'+80	E FRIESLAND RD (NORTH), RT.	6
9'I'+20	E FRIESLAND RD (SOUTH), LT.	7
9'I'+80	E FRIESLAND RD (SOUTH), RT.	9
9'J'+00	E FRIESLAND RD (EAST), LT.	9
9'J'+80	E FRIESLAND RD (EAST), RT.	9
10'K'+20	DILLMAN RD, RT.	9
10'K'+70	DILLMAN RD, LT.	9
	TOTAL =	205

REFERENCE MONUMENTS

STATION - STATION	LOCATION	VERIFY LANDMARK REFERENCE MONUMENTS SPV.0060.01 (EACH)	LANDMARK REFERENCE MONUMENTS SPECIAL SPV.0060.02 (EACH)
88+08.98	MAINLINE, LT	1	1
114+88.64	MAINLINE, LT	1	1
141+45.36	MAINLINE, LT	1	1
195+04.80	MAINLINE, LT	1	1
	TOTAL =	4	4

BARRIER SYSTEM GRADING SHAPING FINISHING

		614.0010	FOR INFORMATIONAL PURPOSES ONLY								
		BARRIER SYSTEM GRADING SHAPING FINISHING	EXCAVATION COMMON	BORROW	SALVAGED TOPSOIL	MULCHING	EROSION MAT URBAN CLASS I TYPE B	FERTILIZER TYPE B	SEEDING MIXTURE NO. 30	SEED WATER	CONSTRUCTION STAKING SLOPE STAKES
STA. - STA.	LOCATION	(EACH)	(CY)	(CY)	(SY)	(SY)	(SY)	(CWT)	(LB)	(MGAL)	(LF)
159+00 - 5'G'+88	MAINLINE, RT.	1	215	2450	4400	0	4400	2.5	80.0	98	770
161+00 - 164+25	MAINLINE, LT.	1	140	10	1530	0	1530	0.9	30.0	34	325
165+68 - 168+58	MAINLINE, LT.	1	275	0	970	0	970	0.5	18.0	22	290
165+75 - 167+57	MAINLINE, RT.	1	85	25	620	0	620	0.3	12.0	14	185
4'G'+80 - 164+16	'G'-LINE, RT.	1	200	435	2300	0	2300	1.3	42.0	52	545
	TOTALS =	5	915	2920	9820	0	9820	5.5	182	220	2115

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150 SAWING ASPHALT (LF)
2+97.40	MAINLINE	34
316+25.29	MAINLINE	48
10'A'+63	MORRIS DRIVE	21
8'B'+04.58	STH 146	28
11'C'+62.48	CTH M	22
8'D'+46.82	BIRD RD	22
11'E'+25.78	STERK RD	22
11'F'+34.76	CTH EF	42
4'G'+80 - 9'G'+19	KRUEGER RD, RT.	438
5'G'+97 - 9'G'+19	KRUEGER RD, LT.	330
9'G'+19	KRUEGER RD	21
11'H'+33.70	E FRIESLAND RD (NORTH)	22
8'I'+61.92	E FRIESLAND RD (SOUTH)	24
8'J'+44.15	E FRIESLAND RD (EAST)	24
11'K'+50.22	DILLMAN RD	22
	TOTAL=	1,120

CONCRETE CURB & GUTTER

STATION-STATION	LOCATION	601.0120 CONCRETE CURB TYPE J (LF)	601.0557 6-INCH SLOPED 36-INCH TYPE D (LF)	601.0588 4-INCH SLOPED 36-INCH TYPE TBT (LF)	601.0590 4-INCH SLOPED 36-INCH TYPE TBTT (LF)	650.5500 CONSTRUCTION STAKING CURB & GUTTER (LF)
163+75 - 164+06.48	MAINLINE, LT.	-	-	32	-	32
163+81 - 164+06.48	MAINLINE, RT.	-	-	26	-	26
164+06.48 - 164+11	MAINLINE, LT.	-	-	-	5	5
164+06.48 - 164+16	MAINLINE, RT.	-	-	-	10	10
8'B'+91 - 9'B'+31	STH 146, RT.	-	90	-	-	90
9'B'+12 - 9'B'+63	STH 146, RT.	125	-	-	-	125
9'B'+52 - 9'B'+97	STH 146, LT.	-	57	-	-	57
10'C'+01 - 10'C'+64	CTH M, RT.	-	80	-	-	80
10'C'+57 - 10'C'+92	CTH M, LT.	-	70	-	-	70
9'D'+17 - 9'D'+72	BIRD RD, LT.	-	92	-	-	92
9'D'+33 - 9'D'+83	BIRD RD, RT.	-	75	-	-	75
10'E'+19 - 10'E'+59	STERK RD, LT.	-	61	-	-	61
10'E'+26 - 10'E'+86	STERK RD, RT.	-	98	-	-	98
10'F'+21 - 10'F'+71	CTH EF, LT.	-	77	-	-	77
10'F'+28 - 10'F'+83	CTH EF, RT.	-	90	-	-	90
10'H'+20 - 10'H'+70	E FRIESLAND RD (NORTH), LT.	-	78	-	-	78
10'H'+24 - 10'H'+79	E FRIESLAND RD (NORTH), RT.	-	88	-	-	88
9'I'+22 - 9'I'+77	E FRIESLAND RD (SOUTH), LT.	-	88	-	-	88
9'I'+29 - 9'I'+79	E FRIESLAND RD (SOUTH), RT.	-	78	-	-	78
9'J'+08 - 9'J'+67	E FRIESLAND RD (EAST), LT.	-	103	-	-	103
9'J'+44 - 9'J'+84	E FRIESLAND RD (EAST), RT.	-	59	-	-	59
10'K'+20 - 10'K'+80	DILLMAN RD, RT.	-	93	-	-	93
10'K'+23 - 10'K'+63	DILLMAN RD, LT.	-	64	-	-	64
	TOTALS =	125	1441	58	15	1639

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_MISC QUANTS.DWG PLOT DATE : 9/30/2022 2:14:20 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : LAYOUT1 (5)

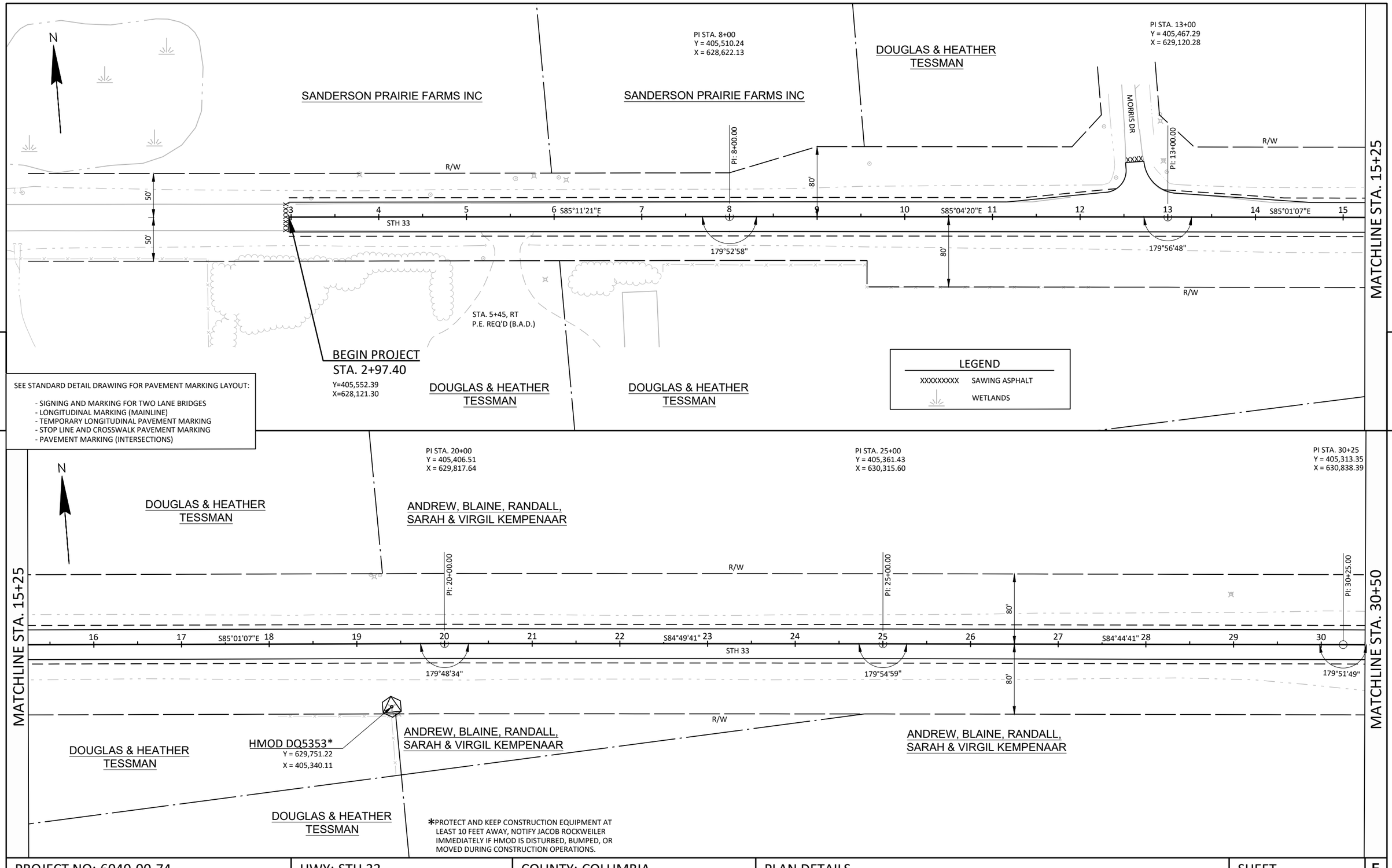
ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

PAVEMENT MARKING

STATION - STATION	LOCATION	DESCRIPTION	MARKING LINE										
			*643.3105 TEMPORARY MARKING LINE PAINT 4-INCH	643.3120 TEMPORARY MARKING LINE EPOXY 4-INCH	**643.3165 TEMPORARY MARKING LINE PAINT 6-INCH		646.1040 GROOVED WET REF EPOXY 4-INCH	646.2040 GROOVED WET REF EPOXY 6-INCH				646.4040 GROOVED WET REF EPOXY 10-INCH	646.4520 SAME DAY EPOXY 4-INCH	646.6120 STOP LINE EPOXY 18-INCH
			YELLOW SOLID (LF)	YELLOW SOLID (LF)	YELLOW SOLID (LF)	YELLOW DASHED (LF)	WHITE SOLID (LF)	WHITE SOLID (LF)	WHITE DASHED (LF)	YELLOW SOLID (LF)	YELLOW DASHED (LF)	(LF)	YELLOW SOLID (LF)	(LF)
2+97.40 - 316+25.29	MAINLINE, LT.	WHITE EDGELINE	-	-	-	-	-	31,332	-	-	-	-	-	-
2+97.40 - 316+25.29	MAINLINE, RT.	WHITE EDGELINE	-	-	-	-	-	31,332	-	-	-	-	-	-
2+97.40 - 71+00	MAINLINE	DOUBLE YELLOW	-	-	40,815	-	-	-	-	13,605	-	-	-	-
43+00 - 46+00	MAINLINE, RT.	RIGHT TURN LANE	-	-	-	-	-	-	-	-	-	300	-	-
47+00 - 49+00	MAINLINE, LT.	RIGHT TURN LANE	-	-	-	-	-	-	-	-	-	200	-	-
71+00 - 80+75	MAINLINE, LT.	CENTERLINE	-	-	975	-	-	-	-	975	-	-	-	-
71+00 - 80+75	MAINLINE, RT.	CENTERLINE	-	-	-	400	-	-	-	-	244	-	-	-
80+75 - 85+50	MAINLINE	CENTERLINE	-	-	-	195	-	-	-	-	119	-	-	-
85+50 - 91+00	MAINLINE, LT.	CENTERLINE	-	-	-	226	-	-	-	-	138	-	-	-
85+50 - 91+00	MAINLINE, RT.	CENTERLINE	-	-	1,650	-	-	-	-	550	-	-	-	-
91+00 - 96+75	MAINLINE	CENTERLINE	-	-	-	236	-	-	-	-	144	-	-	-
96+75 - 101+75	MAINLINE, LT.	CENTERLINE	-	-	1,500	-	-	-	-	500	-	-	-	-
96+75 - 101+75	MAINLINE, RT.	CENTERLINE	-	-	-	205	-	-	-	-	125	-	-	-
101+75 - 115+25	MAINLINE	CENTERLINE	-	-	-	554	-	-	-	-	338	-	-	-
115+25 - 125+75	MAINLINE, LT.	CENTERLINE	-	-	-	431	-	-	-	-	263	-	-	-
115+25 - 125+75	MAINLINE, RT.	CENTERLINE	-	-	3,150	-	-	-	-	1,050	-	-	-	-
125+75 - 146+50	MAINLINE	DOUBLE YELLOW	-	-	12,450	-	-	-	-	4,150	-	-	-	-
140+00 - 142+50	MAINLINE, RT.	BYPASS LANE	-	-	-	-	-	-	64	-	-	-	-	-
142+25 - 144+25	MAINLINE, LT.	RIGHT TURN LANE	-	-	-	-	-	-	-	-	-	200	-	-
146+50 - 163+25	MAINLINE, LT.	CENTERLINE	-	-	-	687	-	-	-	-	419	-	-	-
146+50 - 163+25	MAINLINE, RT.	CENTERLINE	-	-	5,025	-	-	-	-	1,675	-	-	-	-
163+25 - 166+75	MAINLINE	DOUBLE YELLOW	-	-	2,100	-	-	-	-	700	-	-	-	-
166+75 - 177+00	MAINLINE, LT.	CENTERLINE	-	-	3,075	-	-	-	-	1,025	-	-	-	-
166+75 - 177+00	MAINLINE, RT.	CENTERLINE	-	-	-	421	-	-	-	-	257	-	-	-
177+00 - 230+50	MAINLINE	CENTERLINE	-	-	-	2,198	-	-	-	-	1,340	-	-	-
230+50 - 242+00	MAINLINE, LT.	CENTERLINE	-	-	-	472	-	-	-	-	288	-	-	-
230+50 - 242+00	MAINLINE, RT.	CENTERLINE	-	-	3,450	-	-	-	-	1,150	-	-	-	-
242+00 - 261+25	MAINLINE	DOUBLE YELLOW	-	-	11,550	-	-	-	-	3,850	-	-	-	-
261+25 - 272+00	MAINLINE, LT.	CENTERLINE	-	-	3,225	-	-	-	-	1,075	-	-	-	-
261+25 - 272+00	MAINLINE, RT.	CENTERLINE	-	-	-	441	-	-	-	-	269	-	-	-
272+00 - 275+00	MAINLINE	DOUBLE YELLOW	-	-	1,800	-	-	-	-	600	-	-	-	-
275+00 - 286+00	MAINLINE, LT.	CENTERLINE	-	-	-	451	-	-	-	-	275	-	-	-
275+00 - 286+00	MAINLINE, RT.	CENTERLINE	-	-	3,300	-	-	-	-	1,100	-	-	-	-
286+00 - 316+25.29	MAINLINE	DOUBLE YELLOW	-	-	18,161	-	-	-	-	6,051	-	-	-	-
8'B'+04.58 - 9'B'+60	STH 146	DOUBLE YELLOW	-	-	933	-	-	-	-	311	-	-	-	-
8'B'+04.58 - 8'B'+90	STH 146, RT.	WHITE EDGELINE	-	-	-	-	-	82	-	-	-	-	-	-
8'B'+04.58 - 9'B'+45	STH 146, LT.	WHITE EDGELINE	-	-	-	-	-	140	-	-	-	-	-	-
9'B'+10 - 9'B'+50	STH 146, RT.	WHITE EDGELINE	-	-	-	-	-	100	-	-	-	-	-	-
9'B'+25	STH 146	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	32
9'B'+60	STH 146	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	16
10'C'+65 - 11'C'+62.48	CTH M, RT.	WHITE EDGELINE	-	-	-	-	99	-	-	-	-	-	-	-
10'C'+75	CTH M	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	20
10'C'+75 - 11'C'+62.48	CTH M	DOUBLE YELLOW	350	175	-	-	-	-	-	-	-	-	175	-
11'C'+00 - 11'C'+62.48	CTH M, LT.	WHITE EDGELINE	-	-	-	-	63	-	-	-	-	-	-	-
9'D'+50	BIRD RD	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	14
10'E'+50	STERK RD	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	14
10'F'+50	CTH EF	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	22
10'F'+50 - 11'F'+34.76	CTH EF	DOUBLE YELLOW	340	170	-	-	-	-	-	-	-	-	170	-
10'F'+80 - 11'F'+34.76	CTH EF, RT.	WHITE EDGELINE	-	-	-	-	52	-	-	-	-	-	-	-
10'F'+80 - 11'F'+34.76	CTH EF, LT.	WHITE EDGELINE	-	-	-	-	56	-	-	-	-	-	-	-
4'G'+80 - 9'G'+50	KRUEGER RD	DOUBLE YELLOW	1,880	940	-	-	-	-	-	-	-	-	940	-
9'G'+50	KRUEGER RD	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	18
10'H'+50	E FRIESLAND RD (NORTH)	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	18
8'I'+61.92 - 9'I'+50	E FRIESLAND RD (SOUTH)	DOUBLE YELLOW	354	177	-	-	-	-	-	-	-	-	177	-
9'I'+50	E FRIESLAND RD (SOUTH)	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	14
8'J'+44.15 - 9'J'+50	E FRIESLAND RD (EAST)	DOUBLE YELLOW	424	212	-	-	-	-	-	-	-	-	212	-
9'J'+50	E FRIESLAND RD (EAST)	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	16
10'K'+50	DILLMAN RD	STOP BAR	-	-	-	-	-	-	-	-	-	-	-	16
		SUBTOTALS =	3,348	1,674	113,159	6,919	270	62,986	64	38,367	4,219	700	1,674	200
		TOTALS=	3,348	1,674	120,078		270	105,636				700	1,674	200

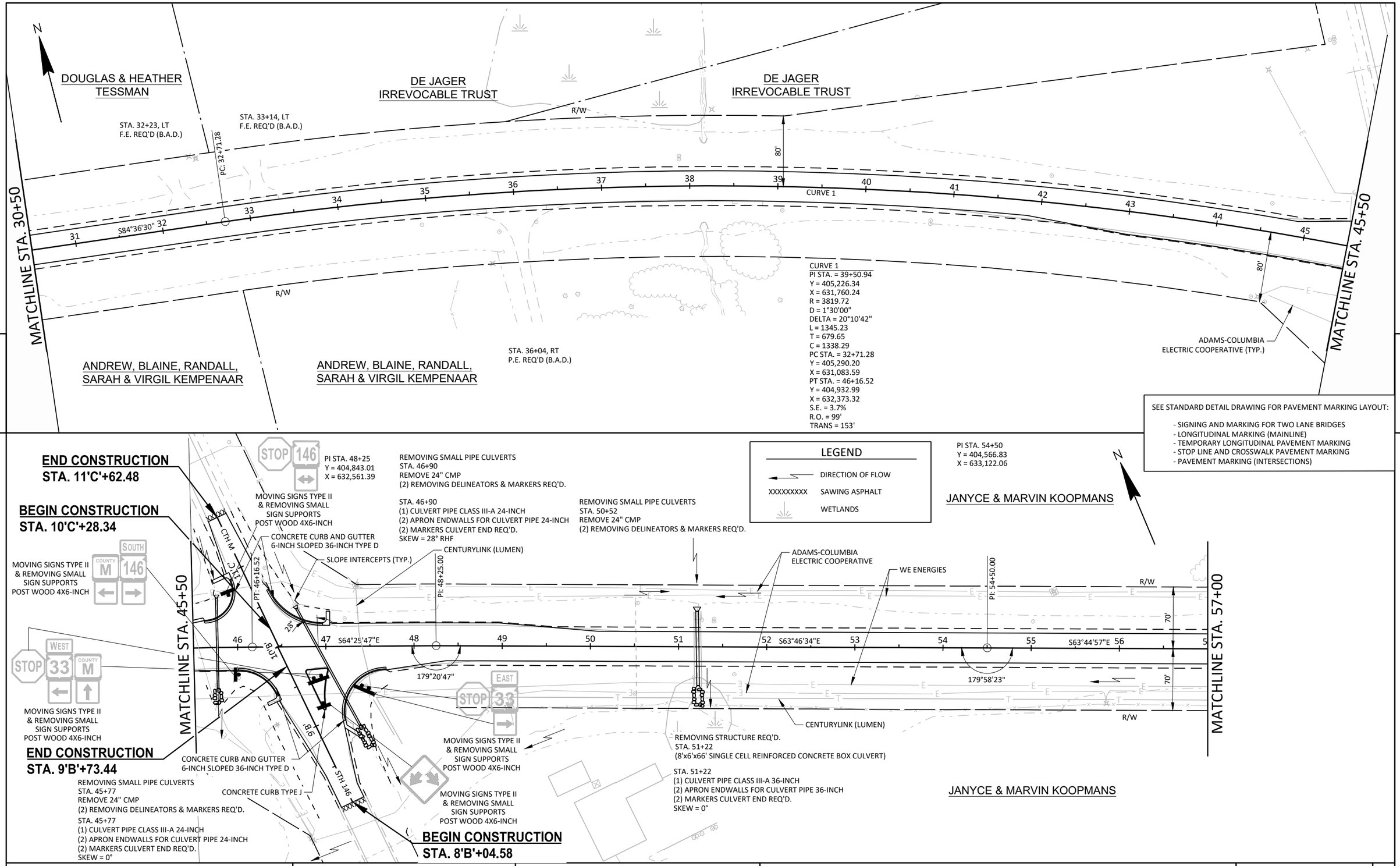
*ITEM TO BE PLACED TWICE DURING CONSTRUCTION ON LOWER LAYERS

**ITEM TO BE PLACED TWICE DURING CONSTRUCTION ON LOWER LAYERS AND ONCE ON FINAL LIFT



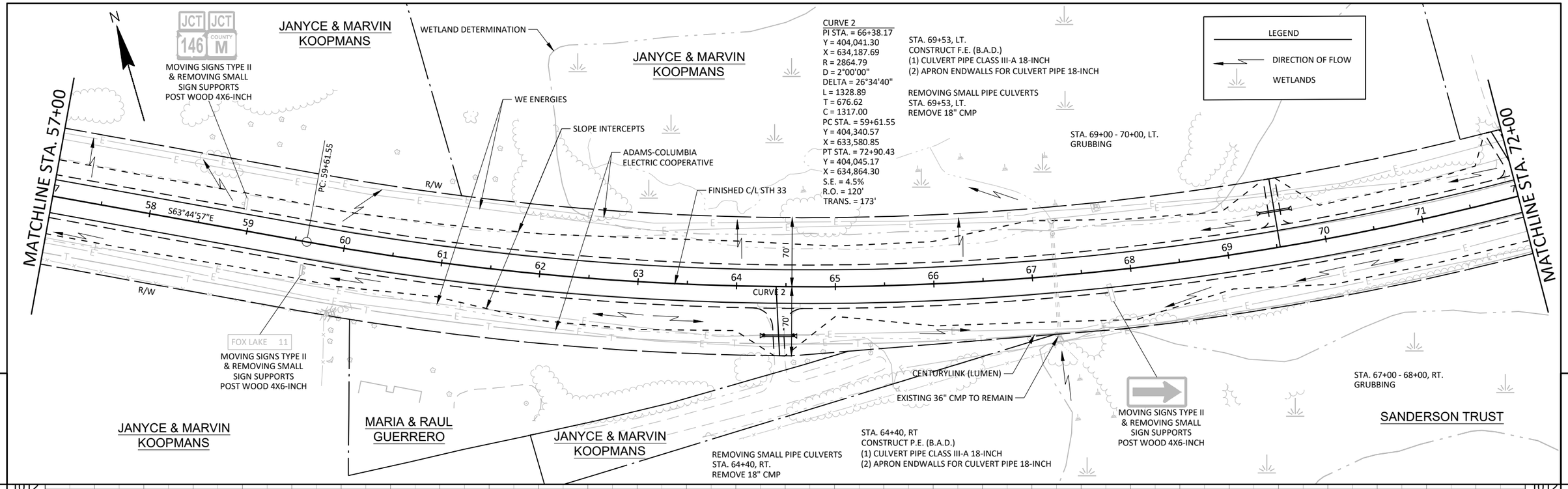
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET 46	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_PLAN DETAILS.DWG PLOT DATE : 9/30/2022 2:48:34 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (1)



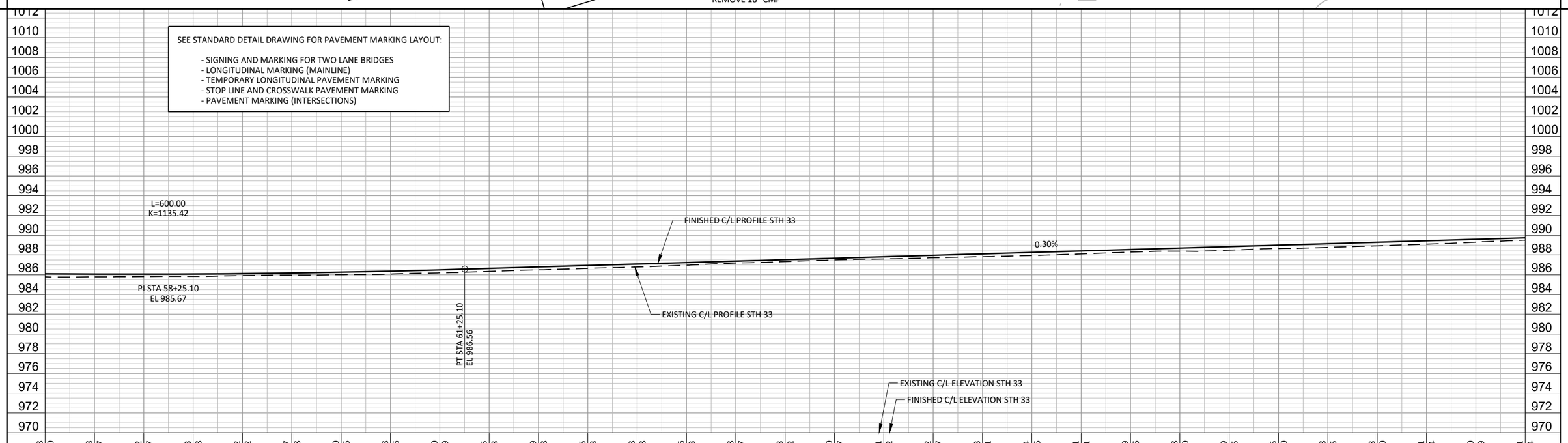
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET 47	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_PLAN DETAILS.DWG
PLOT DATE : 8/1/2023 10:00:59 AM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : SHEET - (2)



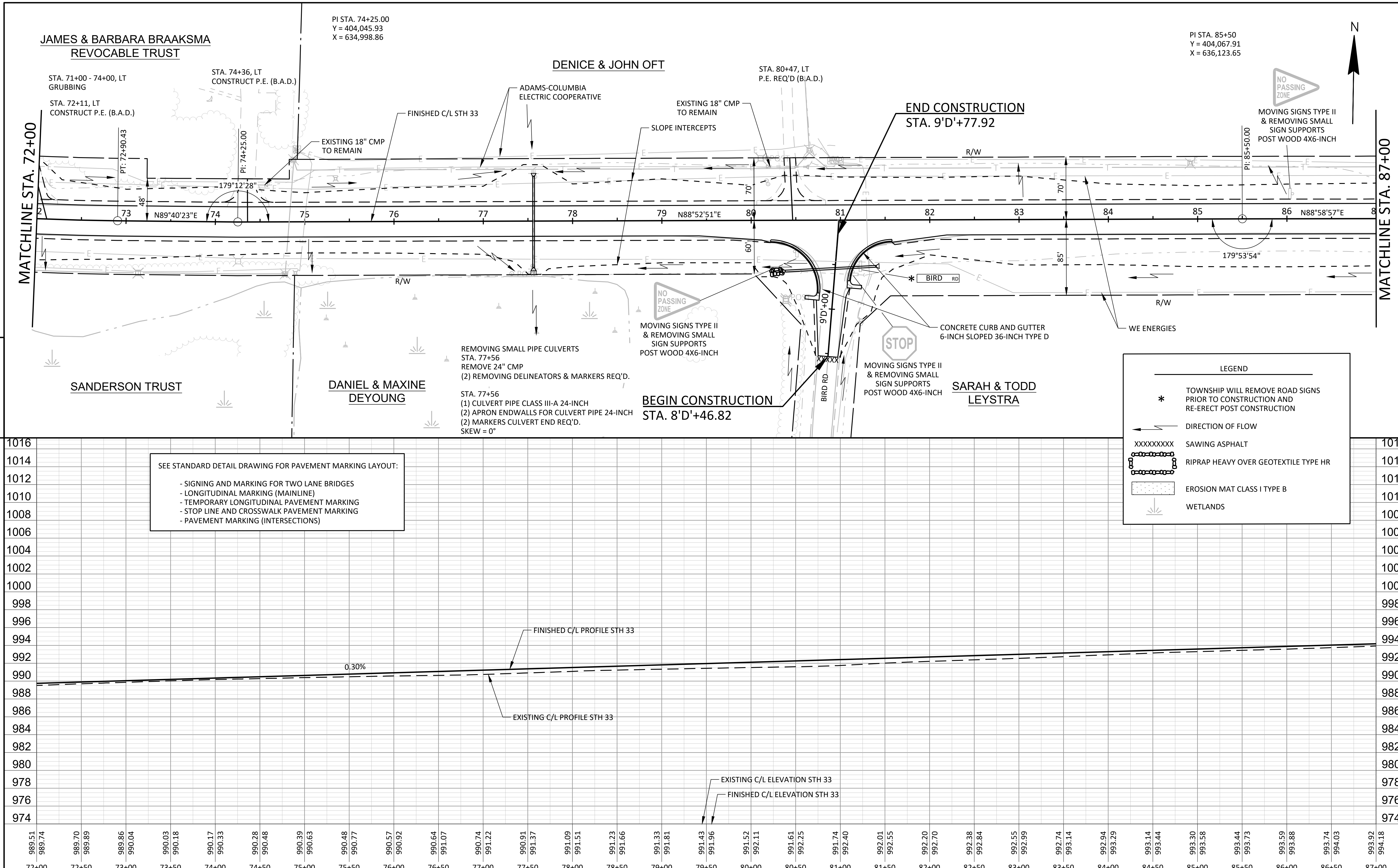
SEE STANDARD DETAIL DRAWING FOR PAVEMENT MARKING LAYOUT:

- SIGNING AND MARKING FOR TWO LANE BRIDGES
- LONGITUDINAL MARKING (MAINLINE)
- TEMPORARY LONGITUDINAL PAVEMENT MARKING
- STOP LINE AND CROSSWALK PAVEMENT MARKING
- PAVEMENT MARKING (INTERSECTIONS)



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE	SHEET 48	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11630_PLAN & PROFILE.DWG PLOT DATE : 8/21/2023 11:59:00 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : SHEET - (3)



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE	SHEET 49	E

N

PI STA. 91+00
Y = 404,077.67
X = 636,673.56

PI STA. 96+00
Y = 404,088.42
X = 637,173.44

LEGEND
DIRECTION OF FLOW

JOE & RICHARD SWART

JOE & RICHARD SWART

DENICE & JOHN OFT

LANDMARK REFERENCE MONUMENTS SPECIAL AND VERIFY LANDMARK REFERENCE MONUMENTS REQ'D.

FINISHED C/L STH 33

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

WE ENERGIES

SLOPE INTERCEPTS

MATCHLINE STA. 87+00

MATCHLINE STA. 102+00

PI: 91+00.00

PI: 96+00.00

R/W

70'

85'

179°47'11"

179°51'30"

N88°58'57"E

N88°46'08"E

N88°54'38"E

STA. 88+53, RT
CONSTRUCT F.E. (B.A.D.)

STA. 88+53, RT.
CONSTRUCT F.E. (B.A.D.)
(1) CULVERT PIPE CLASS III-A 18-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 18-INCH

REMOVING SMALL PIPE CULVERTS
STA. 88+53, RT.
REMOVE 18" CMP

SARAH & TODD LEYSTRA

NO PASSING ZONE

MOVING SIGNS TYPE II
& REMOVING SMALL
SIGN SUPPORTS
POST WOOD 4X6-INCH

BETH & JOSEPH BERGER

SEE STANDARD DETAIL DRAWING FOR PAVEMENT MARKING LAYOUT:

- SIGNING AND MARKING FOR TWO LANE BRIDGES
- LONGITUDINAL MARKING (MAINLINE)
- TEMPORARY LONGITUDINAL PAVEMENT MARKING
- STOP LINE AND CROSSWALK PAVEMENT MARKING
- PAVEMENT MARKING (INTERSECTIONS)

PC STA 89+88.67
EL 995.03

FINISHED C/L PROFILE STH 33

EXISTING C/L PROFILE STH 33

PI STA 95+63.67
EL 996.73

L=1150.00
K=672.01

PT STA 101+38.67
EL 988.59

-1.42%

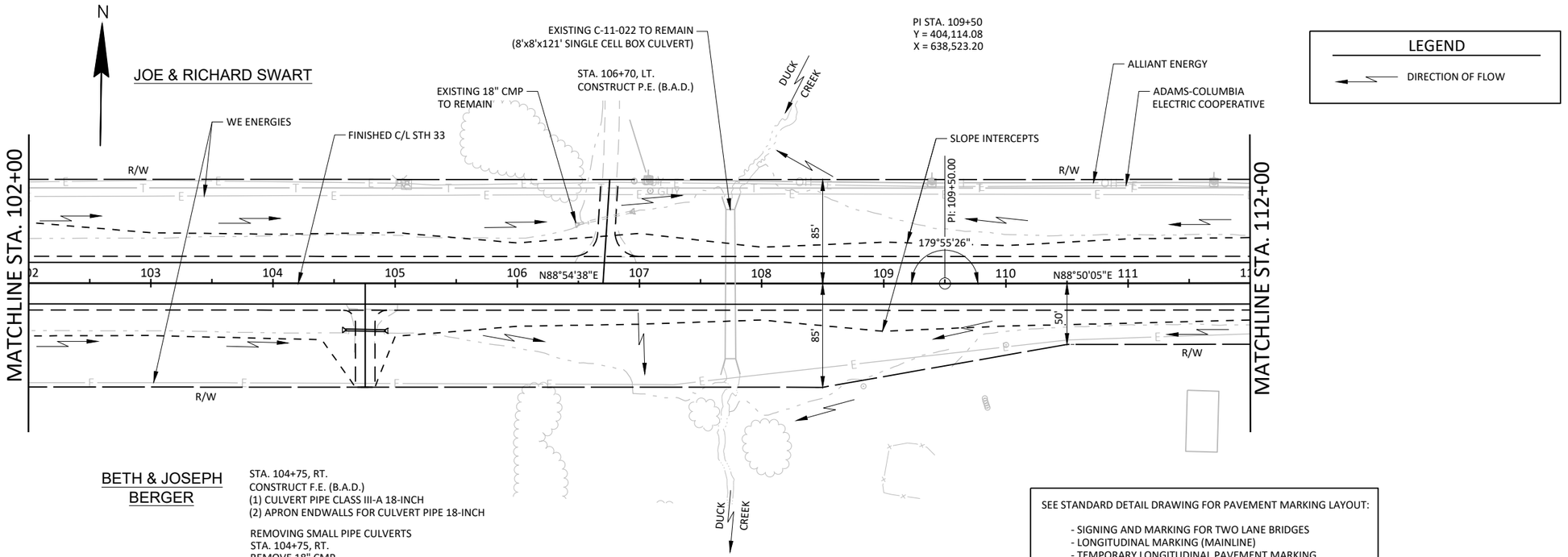
EXISTING C/L ELEVATION STH 33

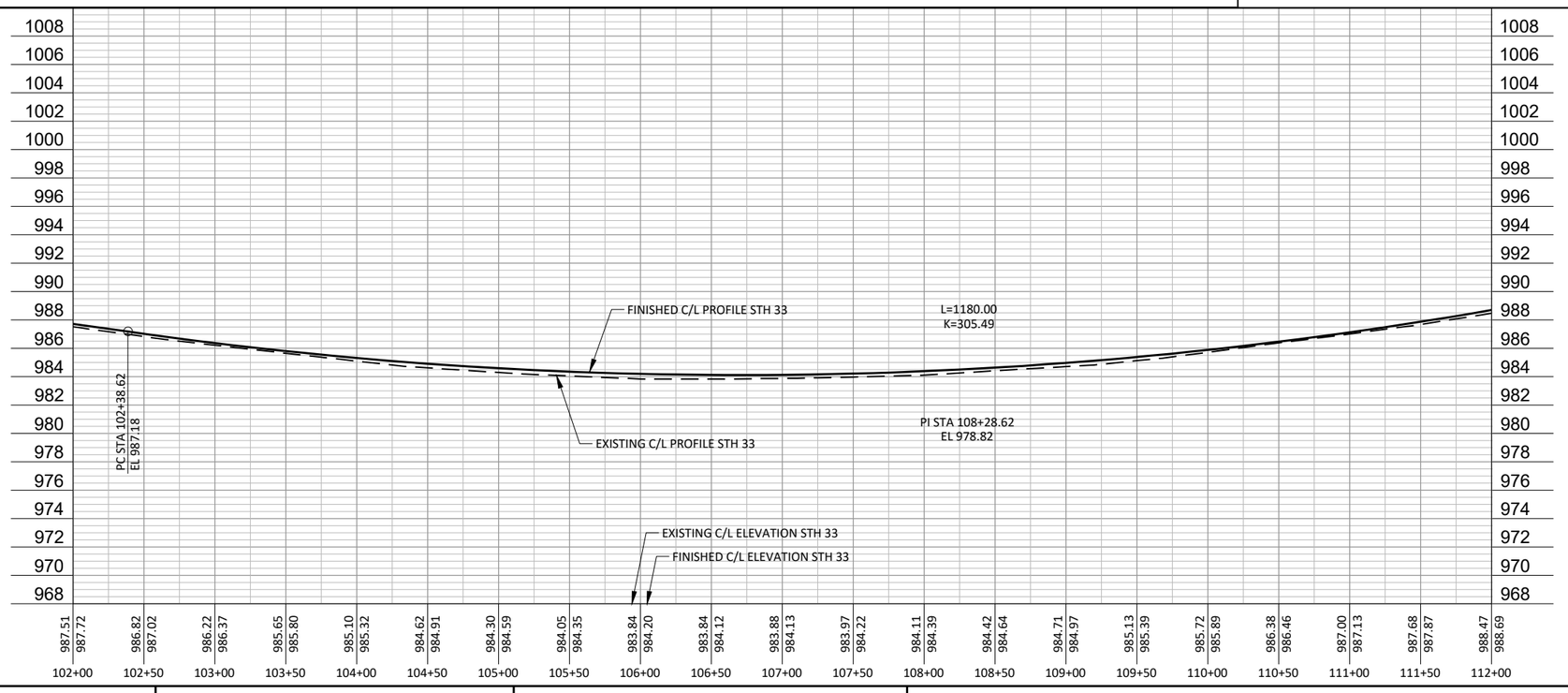
FINISHED C/L ELEVATION STH 33

87+00	87+50	88+00	88+50	89+00	89+50	90+00	90+50	91+00	91+50	92+00	92+50	93+00	93+50	94+00	94+50	95+00	95+50	96+00	96+50	97+00	97+50	98+00	98+50	99+00	99+50	100+00	100+50	101+00	101+50	102+00
993.92	994.13	994.35	994.52	994.63	994.65	994.72	994.87	995.06	995.11	995.14	995.05	994.95	994.84	994.72	994.57	994.33	994.05	993.79	993.55	993.19	992.81	992.30	991.78	991.29	990.75	990.16	989.50	988.82	988.21	987.51
994.18	994.32	994.47	994.62	994.77	994.91	995.06	995.18	995.27	995.31	995.32	995.29	995.23	995.13	994.99	994.81	994.60	994.34	994.06	993.73	993.37	992.97	992.53	992.06	991.54	991.00	990.41	989.79	989.13	988.43	987.72

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE	SHEET	E

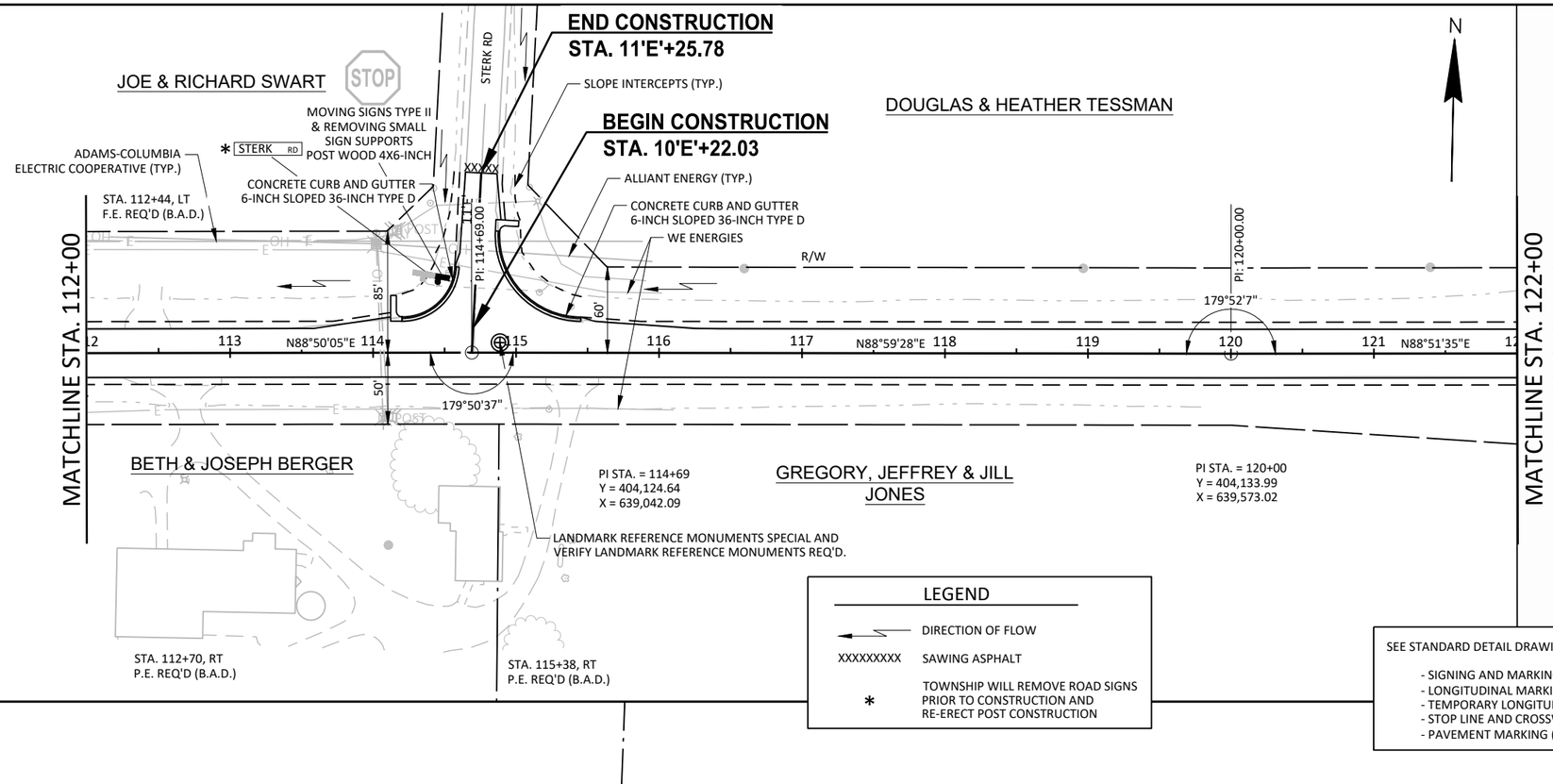
FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11630_PLAN & PROFILE.DWG
PLOT DATE : 10/14/2022 3:47:58 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'
LAYOUT : SHEET - (5)





PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11630_PLAN & PROFILE.DWG
PLOT DATE : 10/14/2022 3:48:18 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'
LAYOUT : SHEET - (6)



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET 52	E

MATCHLINE STA. 137+25

MATCHLINE STA. 152+50

DOUGLAS & HEATHER TESSMAN

ALLIANT ENERGY

ALLIANT ENERGY

END CONSTRUCTION
STA. 11'F'+34.76

UNITED WISCONSIN GRAIN PRODUCERS LLC

STA. 146+28, LT
F.E. REQ'D (B.A.D.)

CONCRETE CURB AND GUTTER
6-INCH SLOPED 36-INCH TYPE D

CTH EF

ADAMS-COLUMBIA
ELECTRIC COOPERATIVE

WE ENERGIES

BEGIN CONSTRUCTION
STA. 10'F'+24.03

SLOPE INTERCEPTS (TYP.)

PI: 141+42.23

PI: 146+50.00

179°46'30"

179°54'34"

85'

80'

70'

R/W

138 139 140 141 142 143 144 145 146 147 148 149 150 151 152

N88°37'00"E

N88°23'29"E

N 149 J'55"E

LEGEND

* TOWNSHIP WILL REMOVE ROAD SIGNS PRIOR TO CONSTRUCTION AND RE-ERECT POST CONSTRUCTION

XXXXXXXXX SAWING ASPHALT

DIRECTION OF FLOW

DARRELL & SHELLY WIERSMA

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

LANDMARK REFERENCE MONUMENTS SPECIAL AND VERIFY LANDMARK REFERENCE MONUMENTS REQ'D.

STA. 141+85, RT
F.E. REQ'D (B.A.D.)

PI STA. 141+42.23
Y = 404,180.46
X = 641,714.73

PMJ INC

PI STA. = 146+50
Y = 404,194.71
X = 642,222.30

STA. 148+48, RT
F.E. REQ'D (B.A.D.)

JASON & SARAH ASLUM

SEE STANDARD DETAIL DRAWING FOR PAVEMENT MARKING LAYOUT:

- SIGNING AND MARKING FOR TWO LANE BRIDGES
- LONGITUDINAL MARKING (MAINLINE)
- TEMPORARY LONGITUDINAL PAVEMENT MARKING
- STOP LINE AND CROSSWALK PAVEMENT MARKING
- PAVEMENT MARKING (INTERSECTIONS)

ELECTRICAL SUBSTATION

STA. 163+77, LT.
CONCRETE SURFACE DRAIN REQ'D

STA. 163+83, RT.
CONCRETE SURFACE DRAIN REQ'D

RJZ NURSERY INC

STRUCTURE B-11-066
REQ'D (SEE STRUCTURE PLANS FOR FURTHER INFORMATION)

PI STA. = 164+00
Y = 404,241.51
X = 643,971.68

PI STA. = 167+57.69
Y = 404,249.19
X = 644,329.28

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

EXISTING RIPRAP TO REMAIN

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

WE ENERGIES

ALLIANT ENERGY

UNITED WISCONSIN GRAIN PRODUCERS LLC

EXISTING RIPRAP TO REMAIN

ATC MANAGEMENT, INC.

WE ENERGIES

ALLIANT ENERGY / ADAMS-COLUMBIA ELECTRIC COOPERATIVE

PI: 161+00.00

PI: 164+00.00

PI: 167+57.69

110'

80'

60'

179°54'55"

179°37'37"

179°13'08"

153 154 155 156 157 158 159 160 161 162 163 164 165 166 167

N88°28'55"E

N88°23'50"E

N88°46'13"E

REMOVAL AND DISPOSAL OF EXISTING RIPRAP TO BE PAID FOR UNDER CULVERT PIPE CLASS IV 30-INCH BID ITEM

SLOPE INTERCEPTS (TYP.)

KRUEGER RD

DENNIS SWEENEY

PT: 9'G'+25.15

REMOVING SMALL PIPE CULVERTS
STA. 155+01
REMOVE 30" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 155+01
(1) CULVERT PIPE CLASS IV 30-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 30-INCH
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

CENTURYLINK (LUMEN) (TYP.)

ALLIANT ENERGY (TYP.)

ALLIANT ENERGY

UNION PACIFIC RAILROAD

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

STA. 166+77, RT
P.E. REQ'D (ASPHALT)

STA. 165+00 - 168+00, RT.
GRUBBING

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

JASON & SARAH ASLUM

MYRNA ALSUM FAMILY TRUST

PI STA. = 161+00
Y = 404,233.12
X = 643,671.79

END CONSTRUCTION
STA. 9'G'+77.66

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_PLAN DETAILS.DWG PLOT DATE : 8/21/2023 8:17:42 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : SHEET - (8)

MATCHLINE STA. 167+75

MATCHLINE STA. 183+00

5

5

N

RJZ NURSERY INC

STA. 176+36, LT
P.E. REQ'D (B.A.D.)

PI STA. = 181+06.90
Y = 404,259.75
X = 645,678.45

ROBERT & SHERRY
KOOPMANS

R/W

80'

80'

58'

PI: 181+06.90

179°57'0"

168 169 170 171 172 N89°33'05"E 173 174 175 176 177 178 179 180 181 182 N89°30'05"E

65'

90'

R/W

STA. 179+33, RT
F.E. REQ'D (B.A.D.)

MYRNA ALSUM FAMILY TRUST

PMJ INC

PMJ INC

SEE STANDARD DETAIL DRAWING FOR PAVEMENT MARKING LAYOUT:

- SIGNING AND MARKING FOR TWO LANE BRIDGES
- LONGITUDINAL MARKING (MAINLINE)
- TEMPORARY LONGITUDINAL PAVEMENT MARKING
- STOP LINE AND CROSSWALK PAVEMENT MARKING
- PAVEMENT MARKING (INTERSECTIONS)

N

END CONSTRUCTION
STA. 11'H'+33.70

ROBERT & SHERRY
KOOPMANS

PI STA. = 195+01.20
Y = 404,271.88
X = 647,072.70

STOP

MOVING SIGNS TYPE II
& REMOVING SMALL
SIGN SUPPORTS
POST WOOD 4X6-INCH

E FRIESLAND RD (NORTH)

ALLIANT ENERGY

CONCRETE CURB AND GUTTER
6-INCH SLOPED 36-INCH TYPE D

LANDMARK REFERENCE MONUMENTS SPECIAL AND
VERIFY LANDMARK REFERENCE MONUMENTS REQ'D.

WILLIAM WERNER

ADAMS-COLUMBIA
ELECTRIC COOPERATIVE

BEGIN CONSTRUCTION
STA. 10'H'+22.01

ROBERT & SHERRY
KOOPMANS

11'H'

PI: 195+01.20

ALLIANT ENERGY

* E FRIESLAND RD

R/W

R/W

79'

58'

183 184 185 186 187 188 N89°30'05"E 189 190 191 192 193 194 195 196 197 N89°30'55"E 198

179°59'10"

80'

65'

CENTURYLINK (LUMEN)

END CONSTRUCTION
STA. 9'I'+78.00

9'I'

CONCRETE CURB AND GUTTER
6-INCH SLOPED 36-INCH TYPE D

CONCRETE CURB AND GUTTER
6-INCH SLOPED 36-INCH TYPE D

STOP

MOVING SIGNS TYPE II
& REMOVING SMALL
SIGN SUPPORTS
POST WOOD 4X6-INCH

DIXIE & WAYNE GAASTRA

BEGIN CONSTRUCTION
STA. 8'I'+61.92

E FRIESLAND RD (SOUTH)

SLOPE INTERCEPTS (TYP.)

LEGEND

DIRECTION OF FLOW

XXXXXXXXX SAWING ASPHALT

REMOVING SMALL PIPE CULVERTS
STA. 194+51
REMOVE 24" CMP
(2) REMOVING DELINEATORS & MARKERS REQ'D.

STA. 194+51
(1) CULVERT PIPE CLASS IV 36-INCH
(2) APRON ENDWALLS FOR CULVERT PIPE 36-INCH
(2) MARKERS CULVERT END REQ'D.
SKEW = 0°

PMJ INC

MATCHLINE STA. 183+00

MATCHLINE STA. 198+25

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET 54	E

MATCHLINE STA. 198+25

MATCHLINE STA. 213+50

ROBERT & SHERRY KOOPMANS

DIXIE & WAYNE GAASTRA

DYKSTRA FARM, INC

AMERICAN TRANSMISSION, INC.

PI STA. = 208+19.03
Y = 404,283.03
X = 648,390.48

STA. 208+29, LT
F.E. REQ'D (B.A.D.)

STA. 208+18, RT
F.E. REQ'D (B.A.D.)

PI: 208+19.03

179°59'5"

73'

80'

R/W

N89°30'55"E

N89°30'00"E

199 200 201 202 203 204 205 206 207 208 209 210 211 212 213

OH

SEE STANDARD DETAIL DRAWING FOR PAVEMENT MARKING LAYOUT:

- SIGNING AND MARKING FOR TWO LANE BRIDGES
- LONGITUDINAL MARKING (MAINLINE)
- TEMPORARY LONGITUDINAL PAVEMENT MARKING
- STOP LINE AND CROSSWALK PAVEMENT MARKING
- PAVEMENT MARKING (INTERSECTIONS)

MATCHLINE STA. 213+50

MATCHLINE STA. 228+75

DIXIE & WAYNE GAASTRA

DYKSTRA FARM, INC

AMERICAN TRANSMISSION, INC.

STA. 223+00, LT
F.E. REQ'D (B.A.D.)

EXISTING OVERHEAD POWERLINE TOWER TO REMAIN

PI: 220+00.00

179°59'13"

92'

70'

110'

80'

N89°30'00"E

N89°30'47"E

214 215 216 217 218 219 220 221 222 223 224 225 226 227 228

LEGEND

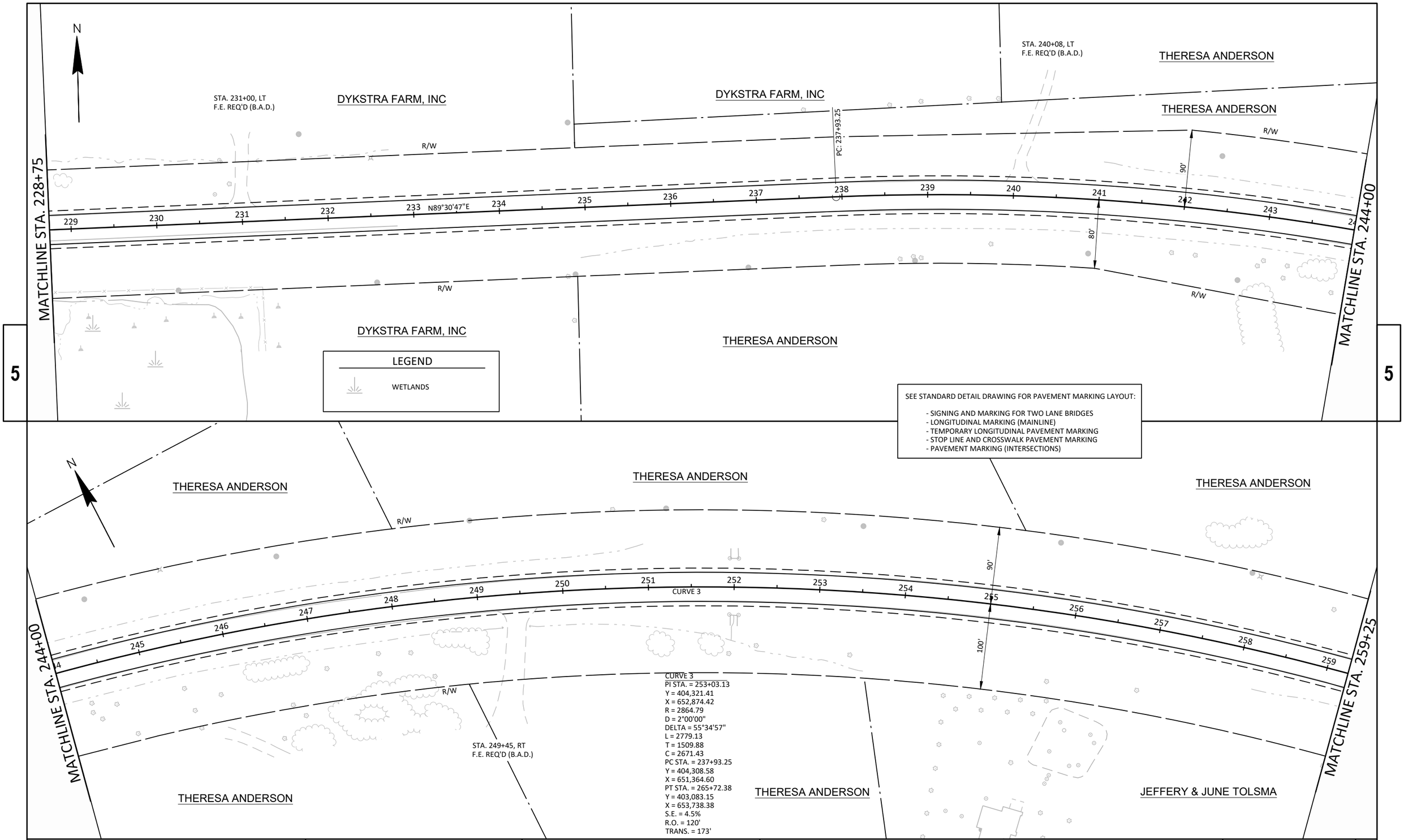
WETLANDS

PI STA. = 220+00.00
Y = 404,293.34
X = 649,571.41

STA. 222+98, RT
F.E. REQ'D (B.A.D.)

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_PLAN DETAILS.DWG PLOT DATE : 9/30/2022 2:50:23 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (10)



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_PLAN DETAILS.DWG PLOT DATE : 9/30/2022 2:50:33 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (11)

CALVIN & CYNTHIA VAN BEEK

THERESA ANDERSON

END CONSTRUCTION
STA. 11'K'+50.22

DILLMAN RD

IRMA & LAWRENCE JOHN CRESCIO

ELIZABETH & JAMES VANDER GALIEN

ADAMS-COLUMBIA ELECTRIC COOPERATIVE

SLOPE INTERCEPTS (TYP.)

CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D

COLUMBIA COUNTY

JILL & ROSS VAN BAREN

BEGIN CONSTRUCTION
STA. 10'K'+22.01

11'K

ALLIANT ENERGY (TYP.)

ALLIANT ENERGY

END CONSTRUCTION
STA. 9'J'+77.85

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

* DILLMAN RD

ALLIANT ENERGY

90'

80'

R/W

SMALL CREEK

MATCHLINE STA. 259+25

260 261 262 263 264 265 266 267 268 S34°54'16"E 269 270 271 272 273 274

MATCHLINE STA. 274+50

60'

* E FRIESLAND RD

R/W

IRMA & LAWRENCE JOHN CRESCIO

STOP

MOVING SIGNS TYPE II & REMOVING SMALL SIGN SUPPORTS POST WOOD 4X6-INCH

PT: 265+72.38

IRMA & LAWRENCE JOHN CRESCIO

EXISTING C-11-023 TO REMAIN
(8' X 7' X 74' SINGLE CELL BOX CULVERT

100'

PT: 9'J'+03.14

90'

ALLIANT ENERGY

CENTURYLINK (LUMEN)

CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D

BEGIN CONSTRUCTION
STA. 8'J'+44.15

E FRIESLAND RD (EAST)

IRMA & LAWRENCE JOHN CRESCIO

SMALL CREEK

BRIAN & SHEILA HUGHES

5

5

LEGEND

- DIRECTION OF FLOW
- XXXXXXXXX SAWING ASPHALT
- WETLANDS
- * TOWNSHIP WILL REMOVE ROAD SIGNS PRIOR TO CONSTRUCTION AND RE-ERECT POST CONSTRUCTION

SEE STANDARD DETAIL DRAWING FOR PAVEMENT MARKING LAYOUT:

- SIGNING AND MARKING FOR TWO LANE BRIDGES
- LONGITUDINAL MARKING (MAINLINE)
- TEMPORARY LONGITUDINAL PAVEMENT MARKING
- STOP LINE AND CROSSWALK PAVEMENT MARKING
- PAVEMENT MARKING (INTERSECTIONS)

STA. 280+81, LT
F.E. REQ'D (B.A.D.)

STA. 287+04, LT
P.E. REQ'D (B.A.D.)

JILL & ROSS VAN BAREN

MATCHLINE STA. 274+50

R/W

80'

70'

PC: 289+17.70

275 276 277 278 279 280 281 S34°54'16"E 282 283 284 285 286 287 288 289

MATCHLINE STA. 289+75

60'

80'

R/W

R/W

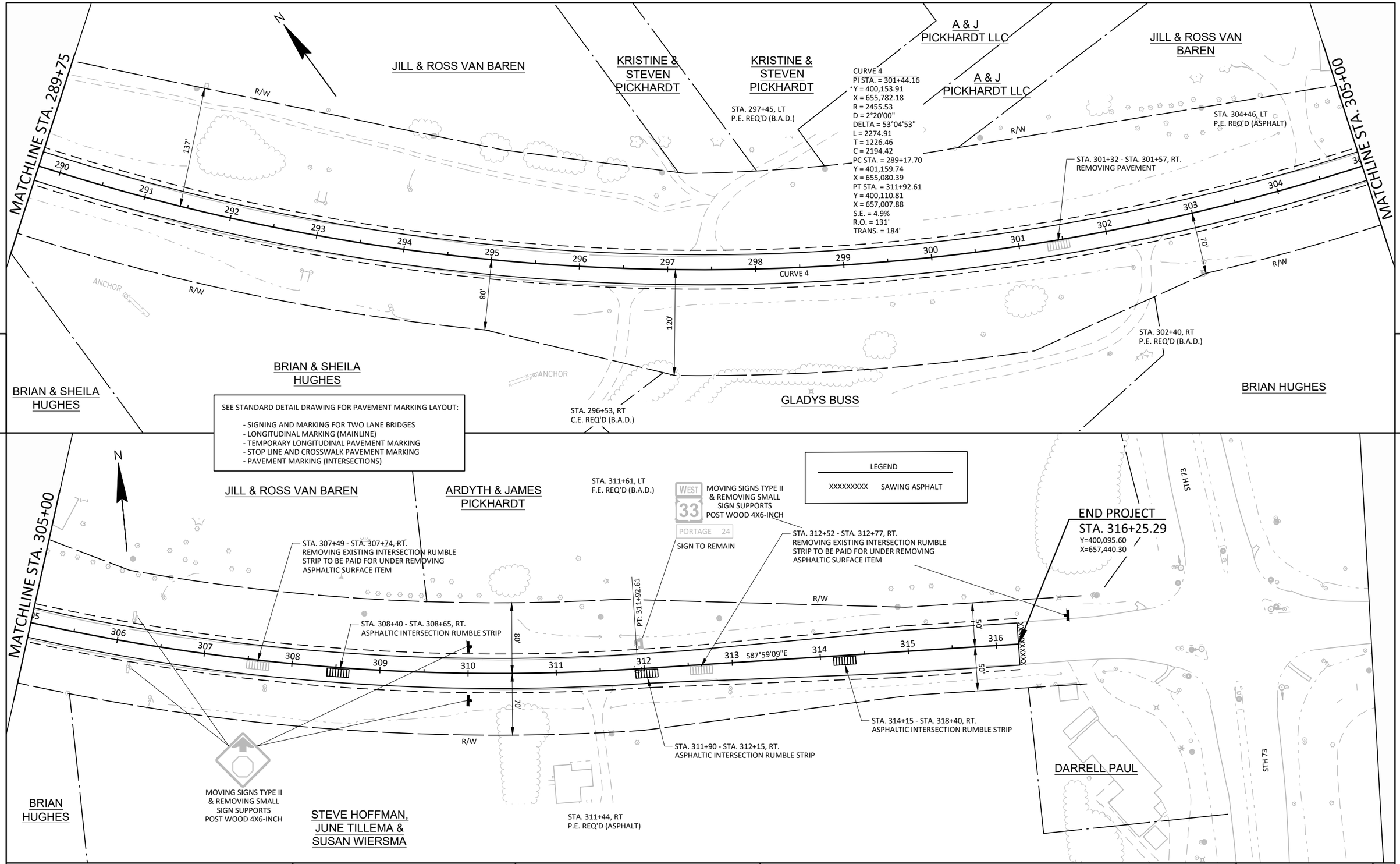
STA. 287+06, RT
F.E. REQ'D (B.A.D.)

BRIAN & SHEILA HUGHES

BRIAN & SHEILA HUGHES

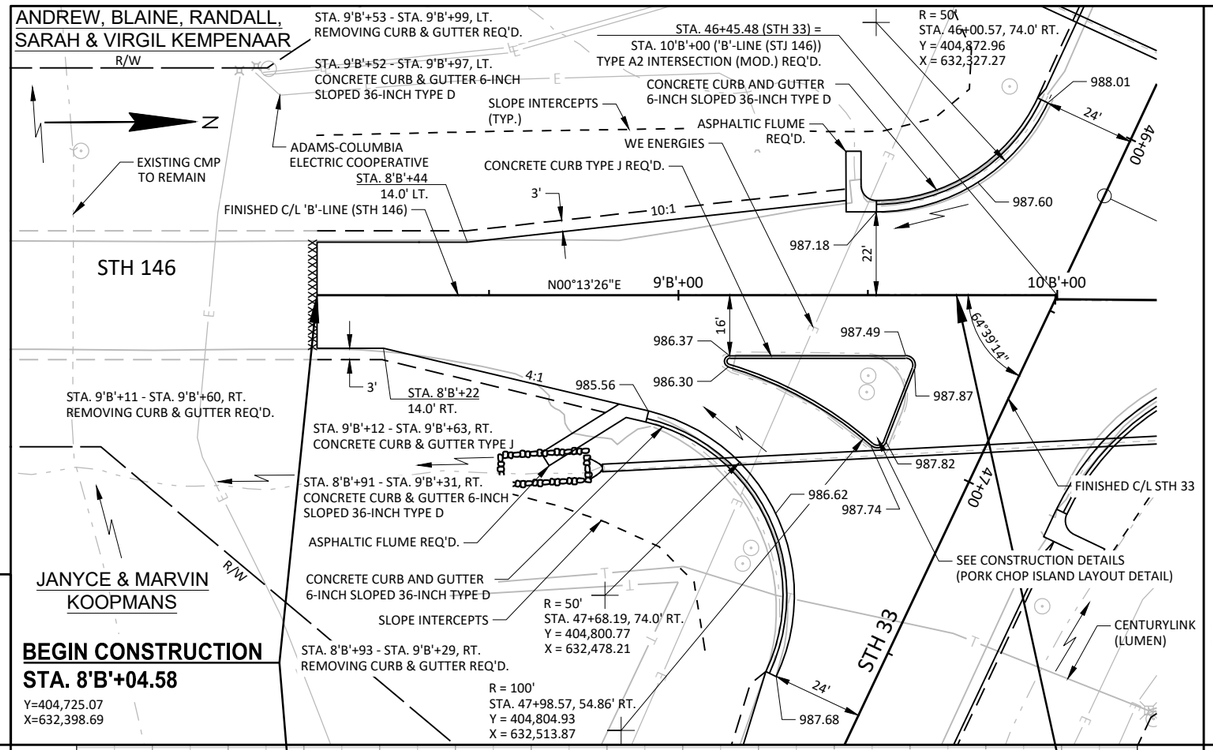
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET 57	E

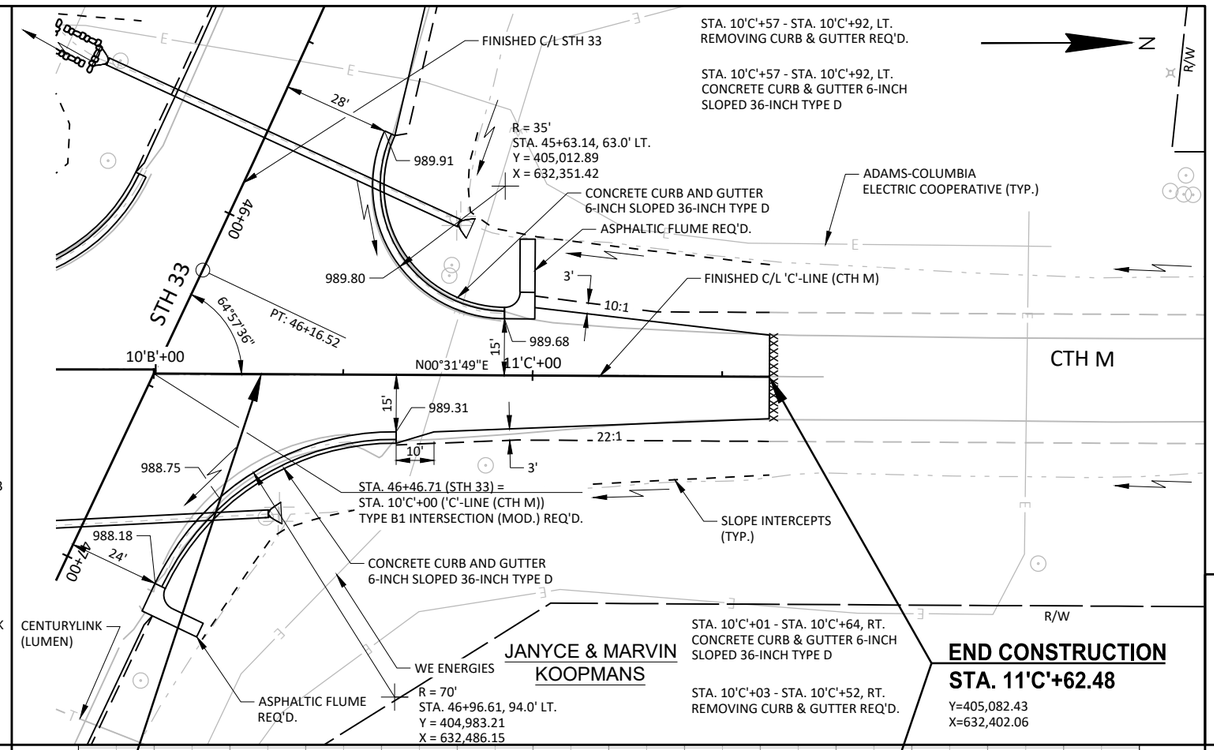
FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_PLAN DETAILS.DWG PLOT DATE : 8/1/2023 10:13:03 AM PLOT BY : CHLOE DIEHL PLOT SCALE : 1" = 1' LAYOUT : SHEET - (12)

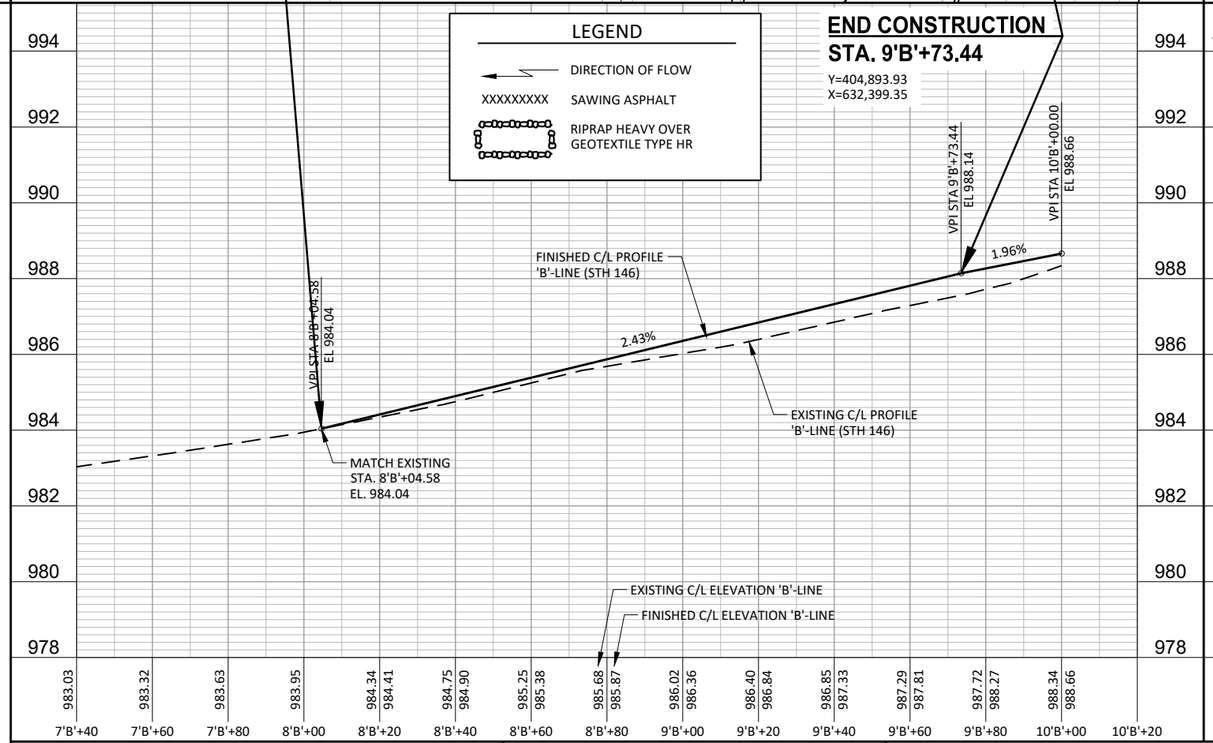


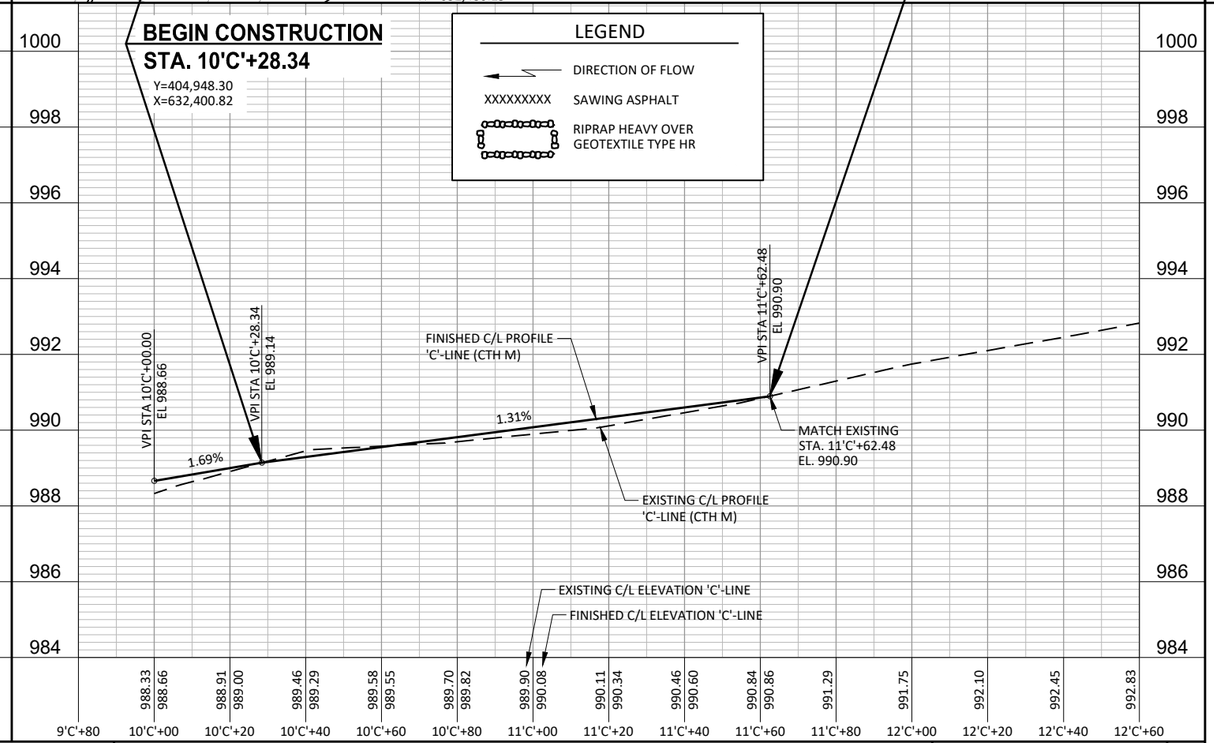
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN DETAILS	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\DETAILS\W11630_PLAN DETAILS.DWG PLOT DATE : 9/30/2022 2:50:53 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : SHEET - (13)



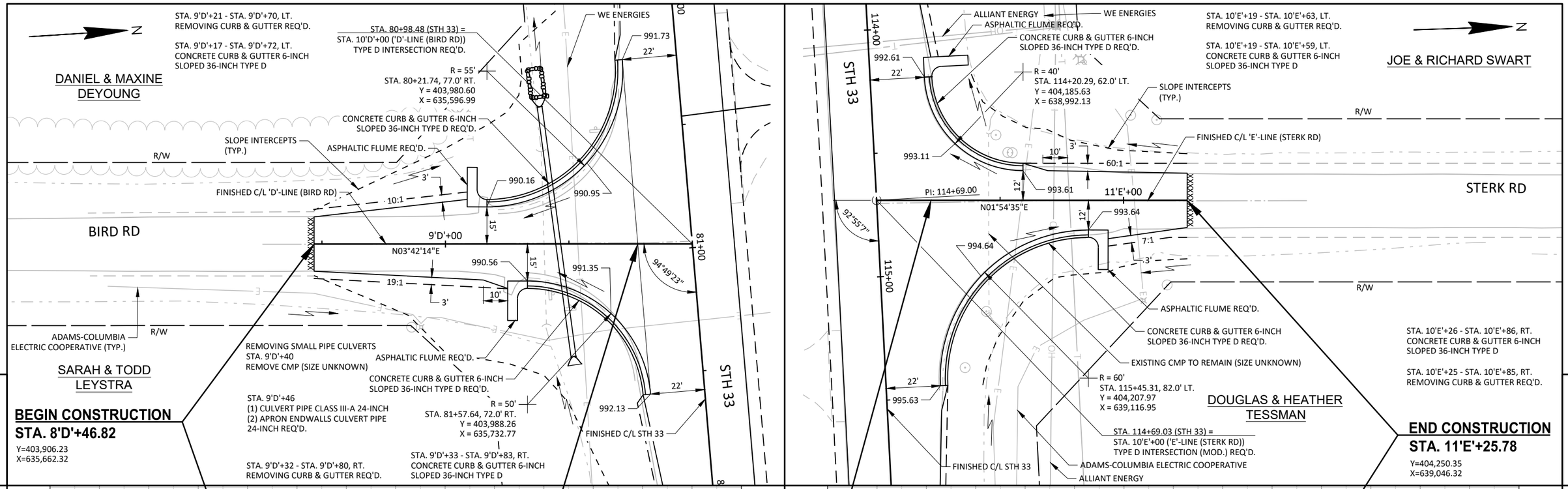






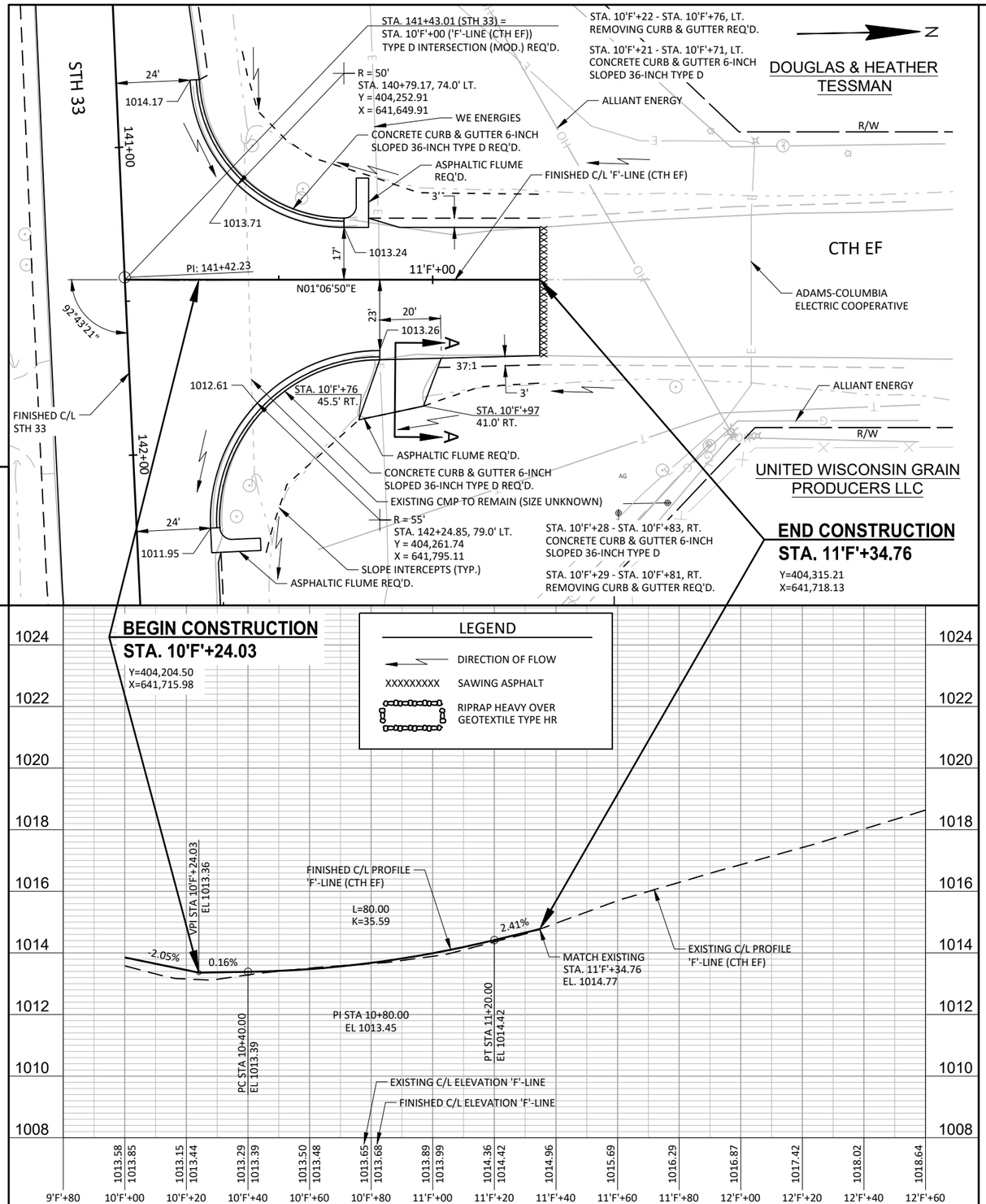
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE: SIDE ROADS	SHEET 59	E

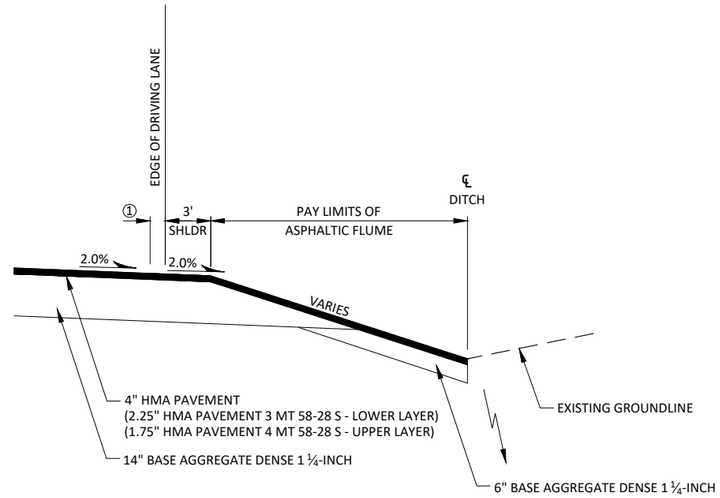
FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11630_SIDEROAD P&P'S.DWG
PLOT DATE : 8/1/2023 10:15:09 AM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT1



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE: SIDE ROADS	SHEET 60	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11630_SIDEROAD P&P'S.DWG
PLOT DATE : 10/26/2022 3:21:22 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : LAYOUT2





SECTION A-A

① 1' (MIN.) AS MEASURED FROM THE EXISTING EDGE OF ASPHALT

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE: SIDE ROADS	SHEET 61	E

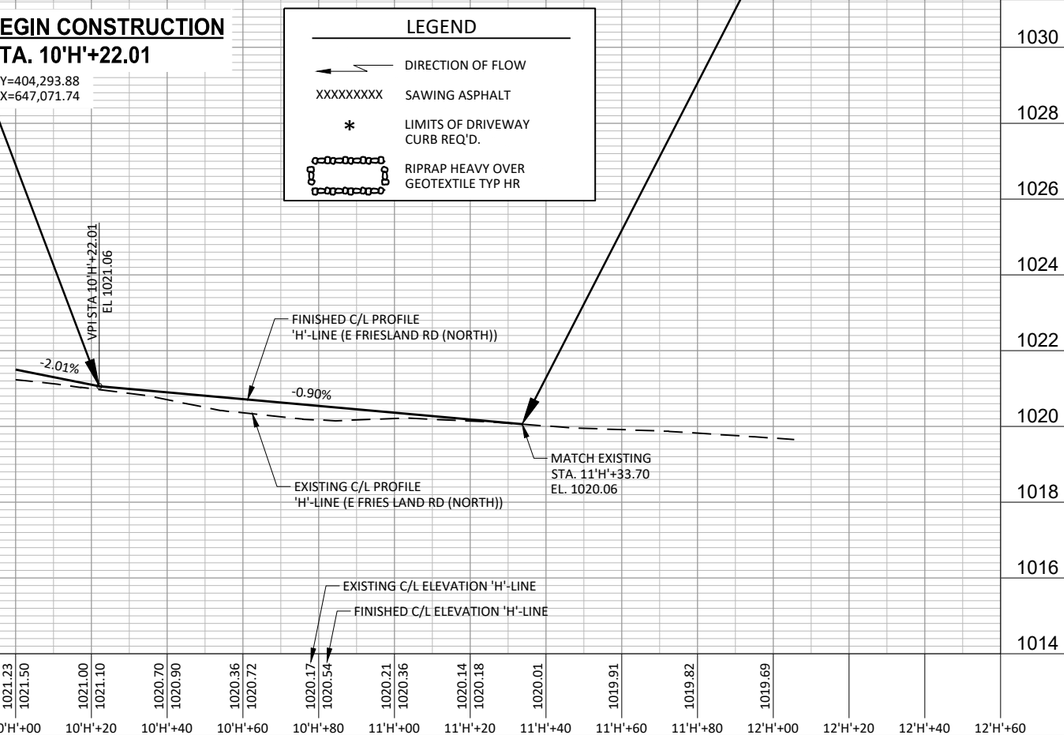
5

FINISHED C/L STH 33
ADAMS-COLUMBIA ELECTRIC COOPERATIVE
STH 33
1021.58
22'
STA. 194+99.90 (STH 33) =
STA. 10'H'+00 ('H'-LINE (E FRIESLAND RD (NORTH)))
TYPE D INTERSECTION REQ'D.
R = 50'
STA. 194+36.63, 72.0' LT.
Y = 404,343.32
X = 647,007.50
CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D REQ'D.
STA. 10'H'+22 - STA. 10'H'+71, LT. REMOVING CURB & GUTTER REQ'D.
STA. 10'H'+20 - STA. 10'H'+70, LT. CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
CENTURYLINK (LUMEN)
ASPHALTIC FLUME REQ'D.
SLOPE INTERCEPTS (TYP.)
R/W
FINISHED C/L 'H'-LINE (E FRIESLAND RD (NORTH))
10'
3'
11:1
1020.96
1020.33
15'
11'H'+00
N00°53'25"E
195+00
PI: 195+01.20
ROBERT & SHERRY KOOPMANS
E FRIESLAND RD (NORTH)
91°23'19"
CAUTION
1020.25
15'
6:1
3'
1020.31
EXISTING P.E. (B.A.D.) TO REMAIN
R/W
STA. 10'H'+70, RT.
CONSTRUCT P.E. (B.A.D.)
ASPHALTIC FLUME REQ'D.
ALLIANT ENERGY
ALLIANT ENERGY
EXISTING CMP TO REMAIN (SIZE UNKNOWN)
WILLIAM WERNER
ROBERT & SHERRY KOOPMANS
P.I.
22'
1020.38
196+
R = 55'
STA. 195+71.77, 77.0' LT.
Y = 404,349.48
X = 647,142.62
CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D REQ'D.
STA. 10'H'+24 - STA. 10'H'+79, RT. CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
STA. 10'H'+24 - STA. 10'H'+78, RT. REMOVING CURB & GUTTER REQ'D.
END CONSTRUCTION
STA. 11'H'+33.70
Y=404,405.56
X=647,073.48

N
PMJ INC
STA. 9'I'+23 - STA. 9'I'+77, LT. REMOVING CURB & GUTTER REQ'D.
STA. 9'I'+22 - STA. 9'I'+77, LT. CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
STA. 195+02.01 (STH 33) =
STA. 10'I'+00 ('I'-LINE (E FRIESLAND RD (SOUTH)))
TYPE D INTERSECTION REQ'D.
FINISHED C/L STH 33
1021.62
22'
STH 33
R = 55'
STA. 194+30.82, 77.0' RT.
Y = 404,194.27
X = 647,003.00
CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D REQ'D.
ASPHALTIC FLUME REQ'D.
R/W
FINISHED C/L 'I'-LINE (E FRIESLAND RD (SOUTH))
3'
9:1
1021.06
1020.49
CENTURYLINK (LUMEN)
9'I'+00
N00°22'44"E
195+00
PI: 195+01.
15'
E FRIESLAND RD (SOUTH)
1020.52
1020.48
90°51'50"
16:1
3'
CAUTION
ALLIANT ENERGY
ALLIANT ENERGY
SLOPE INTERCEPTS (TYP.)
CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D REQ'D.
DIXIE & WAYNE GAASTRA
22'
R = 50'
STA. 195+65.93, 72.0' RT.
Y = 404,200.43
X = 647,138.04
1020.43
ASPHALTIC FLUME REQ'D.
196+
BEGIN CONSTRUCTION
STA. 8'I'+61.92
Y=404,133.81
X=647,072.60
STA. 9'I'+29 - STA. 9'I'+79, RT. CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
STA. 9'I'+30 - STA. 9'I'+78, RT. REMOVING CURB & GUTTER REQ'D.

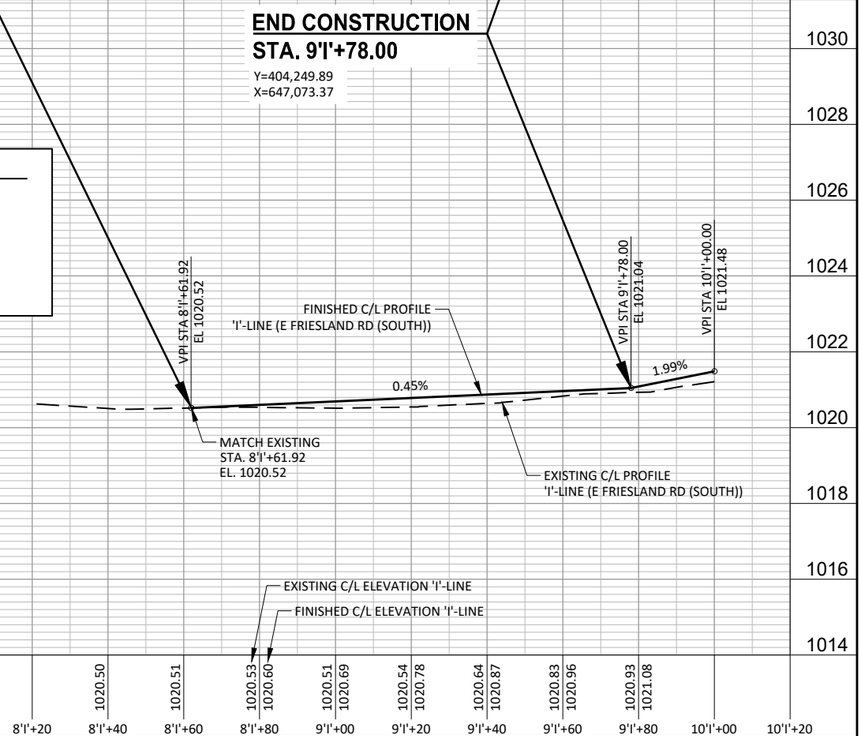
BEGIN CONSTRUCTION
STA. 10'H'+22.01
Y=404,293.88
X=647,071.74

LEGEND
DIRECTION OF FLOW
XXXXXXXXX SAWING ASPHALT
* LIMITS OF DRIVEWAY CURB REQ'D.
RIPRAP HEAVY OVER GEOTEXTILE TYP HR



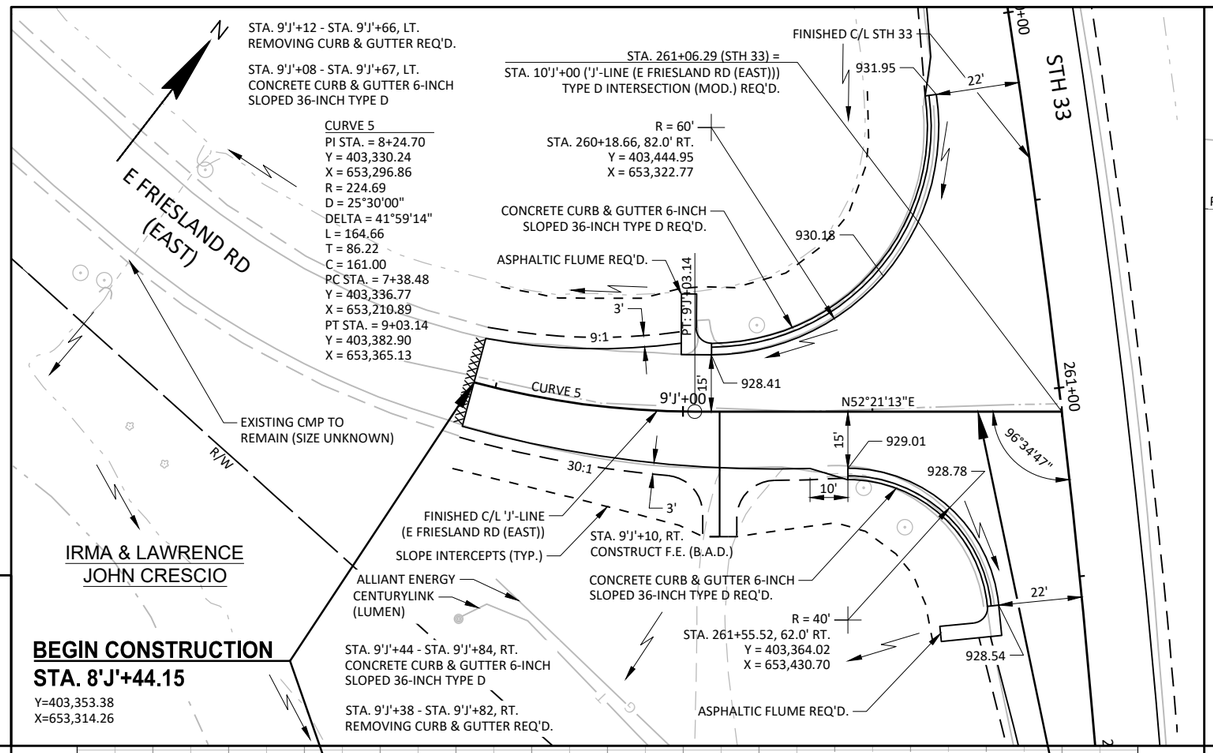
END CONSTRUCTION
STA. 9'I'+78.00
Y=404,249.89
X=647,073.37

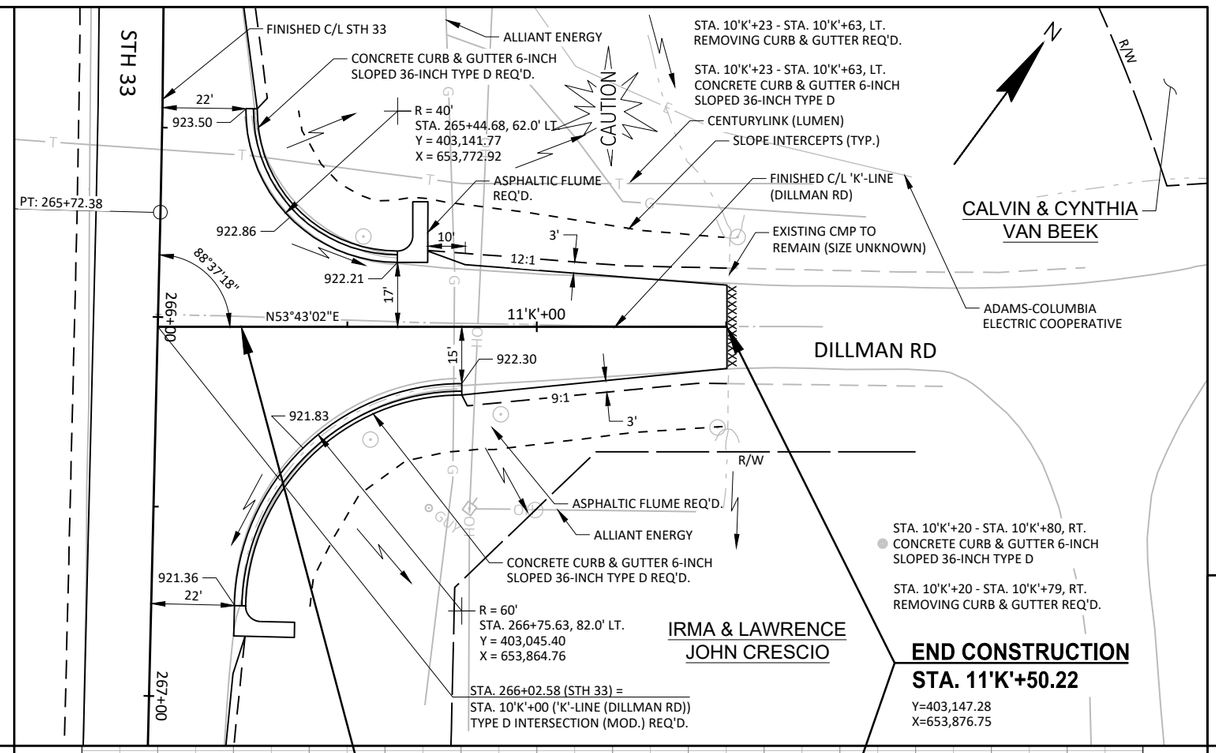
LEGEND
DIRECTION OF FLOW
XXXXXXXXX SAWING ASPHALT
RIPRAP HEAVY OVER GEOTEXTILE TYPE HR



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE: SIDE ROADS	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11630_SIDEROAD P&P'S.DWG
PLOT DATE : 8/1/2023 10:16:01 AM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT4





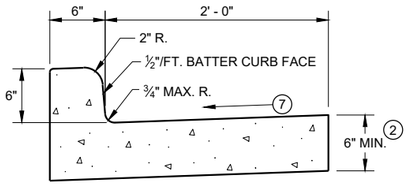
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	PLAN AND PROFILE: SIDE ROADS	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\SHEETSPLAN\PLAN & PROFILE SHEETS\W11630_SIDEROAD P&P'S.DWG
PLOT DATE : 8/1/2023 10:16:38 AM
PLOT BY : CHLOE DIEHL
PLOT SCALE : 1" = 1'
LAYOUT : LAYOUT5

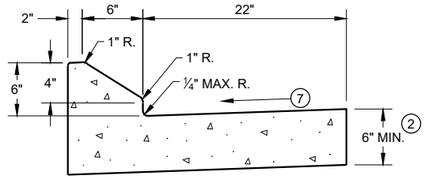
Standard Detail Drawing List

08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09A01-14A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-14B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
13A08-02	TRANSVERSE RUMBLE STRIPS, ASPHALTIC
13A10-03A	SHOULDER RUMBLE STRIPS - ASPHALT
13A10-03E	EDGE LINE RUMBLE STRIPS - ASPHALT
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13A10-03H	SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES
13A11-04A	CENTERLINE RUMBLE STRIPS - ASPHALT
13A11-04D	CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-12A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-12H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B24-09A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-09C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B53-02A	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02B	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02C	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02D	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02E	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02F	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02G	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02H	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
14B53-02I	SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-08A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)

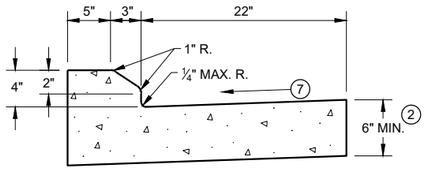
6



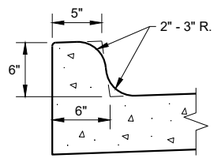
TYPES A (1) & D



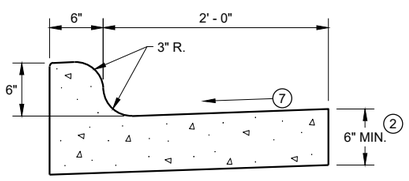
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

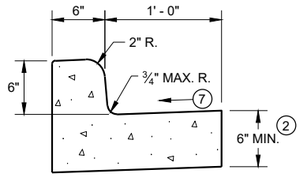


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



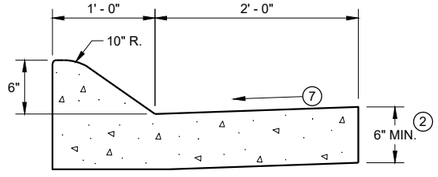
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

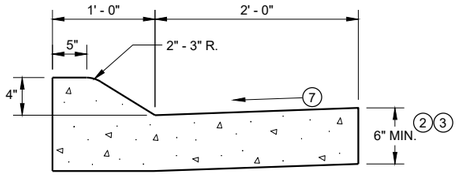


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

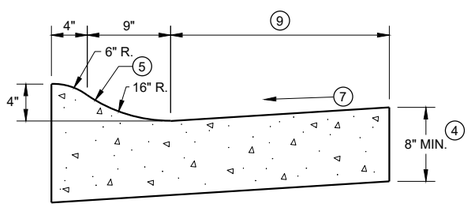


6" SLOPED CURB TYPES A (1) & D



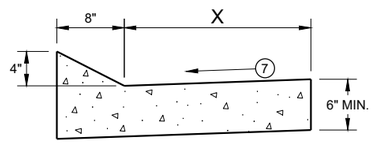
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

TBT & TBTT	X
30"	22"
36"	28"

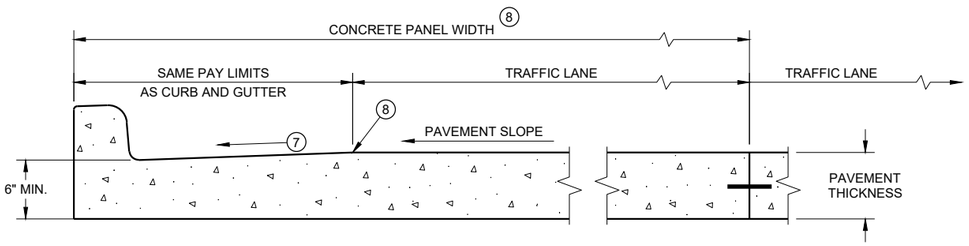


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

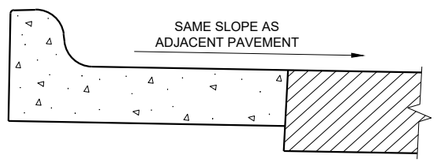
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

(4) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

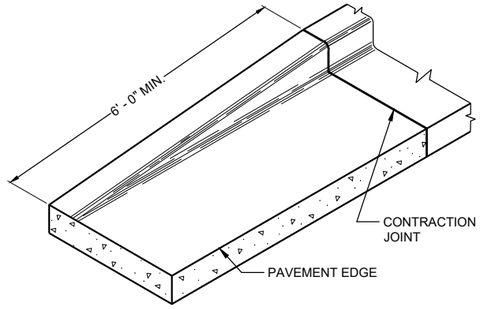
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

(9) CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

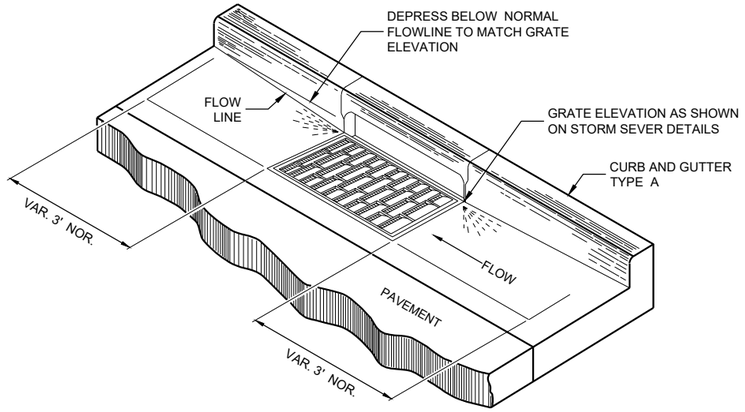
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D01 - 23a



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

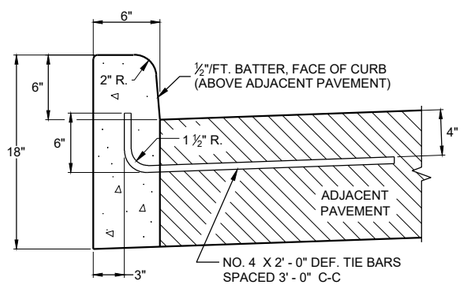
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

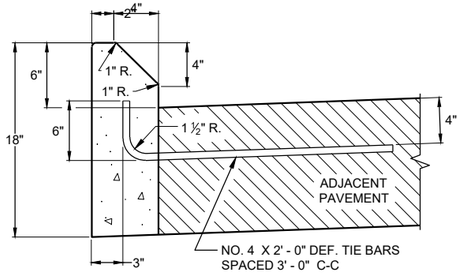
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

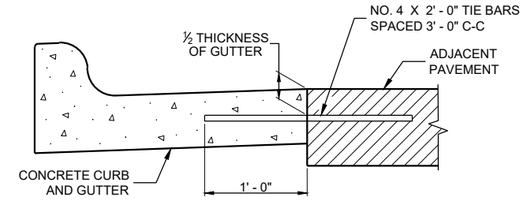


TYPES A (1) & D

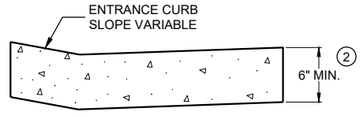


TYPES G (1) & J

CONCRETE CURB

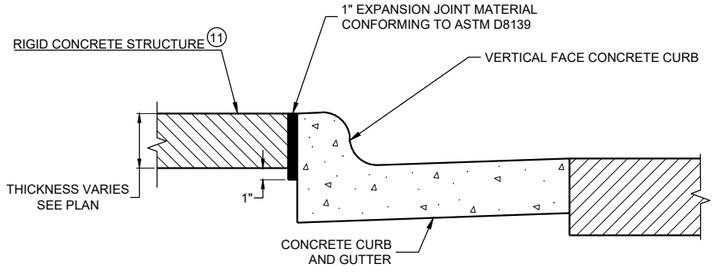


TYPICAL TIE BAR LOCATION (1)

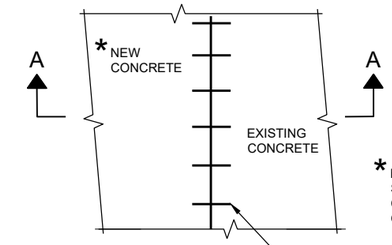


DRIVEWAY ENTRANCE CURB (10)

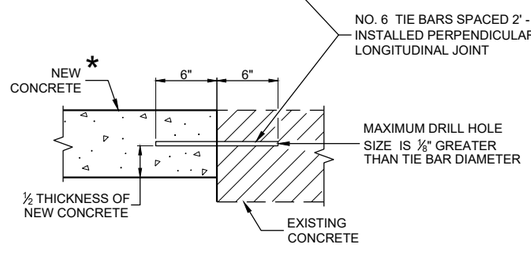
(WHEN DIRECTED BY THE ENGINEER)



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD08D01 - 23b

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

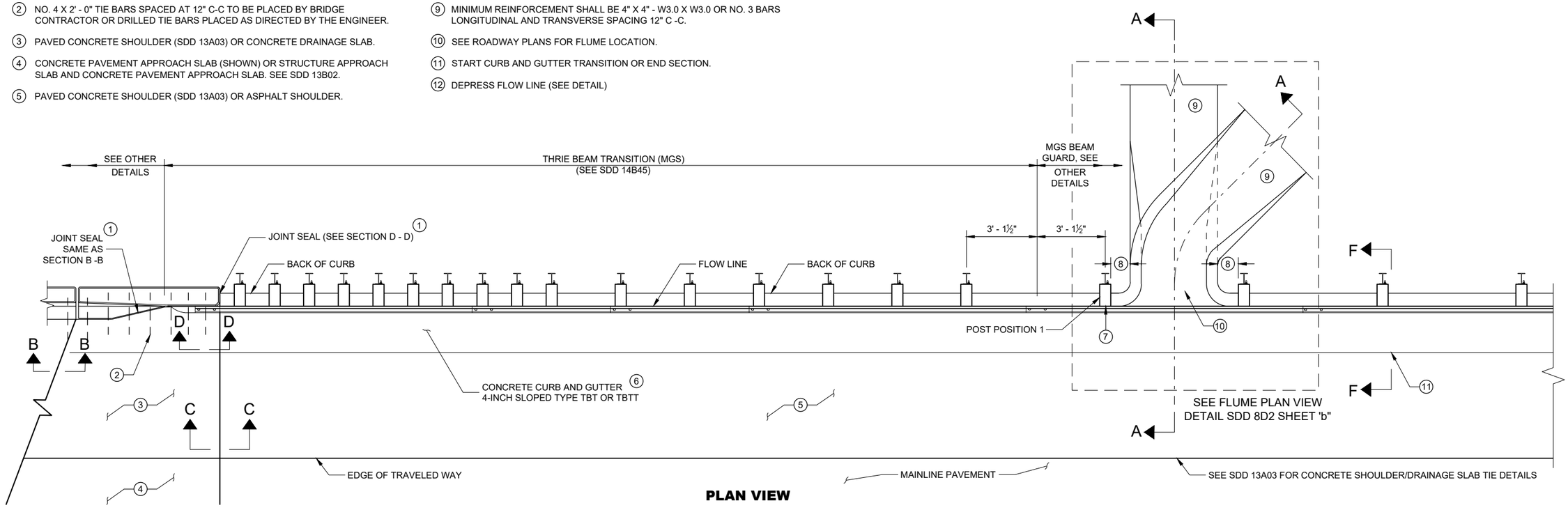
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

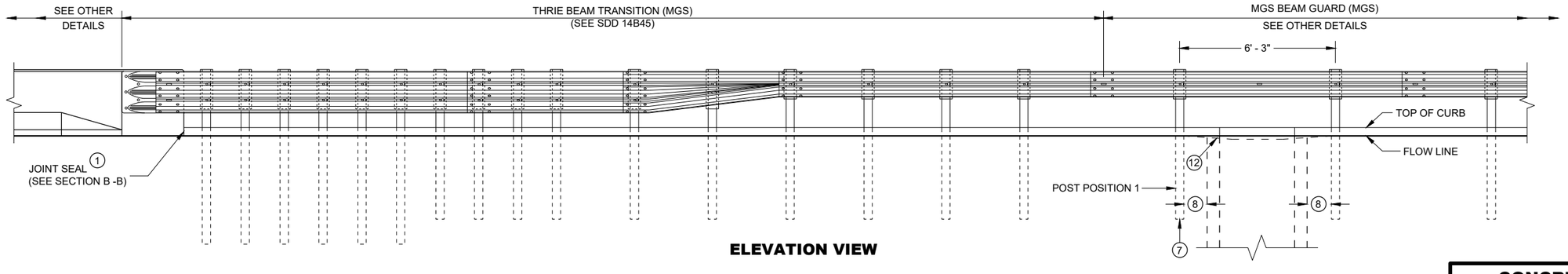
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



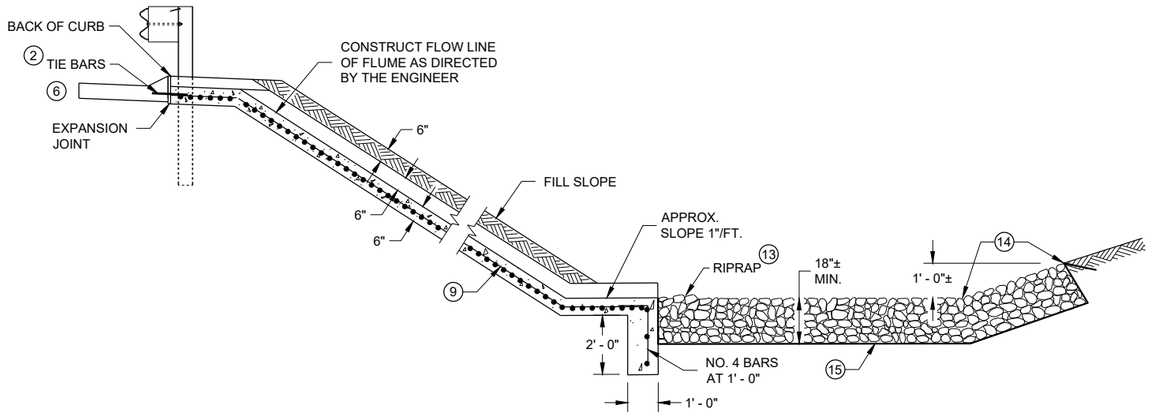
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

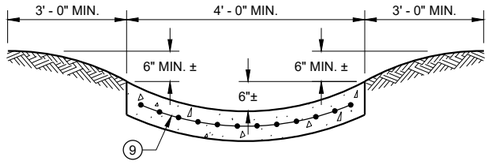
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

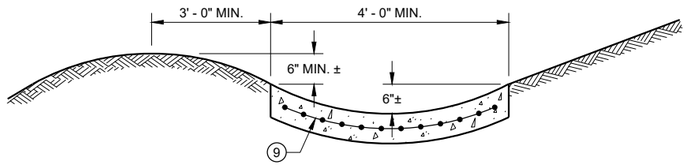
SDD 08D02 - 08a



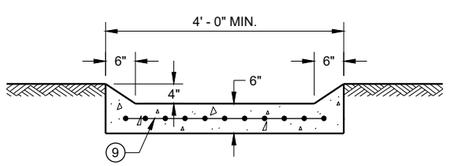
SECTION A - A



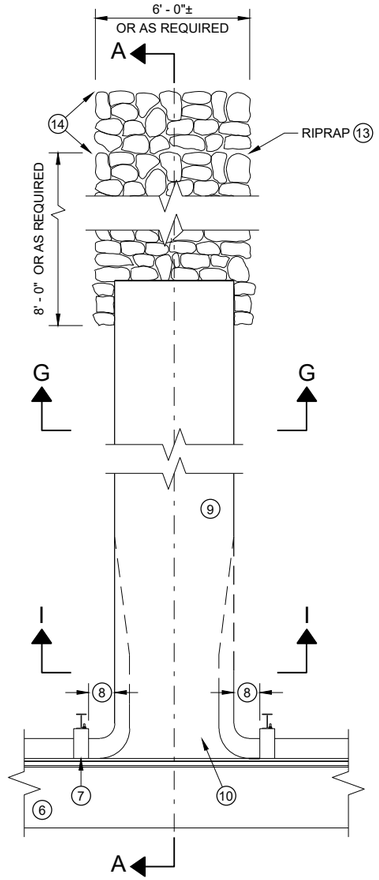
SECTION G - G



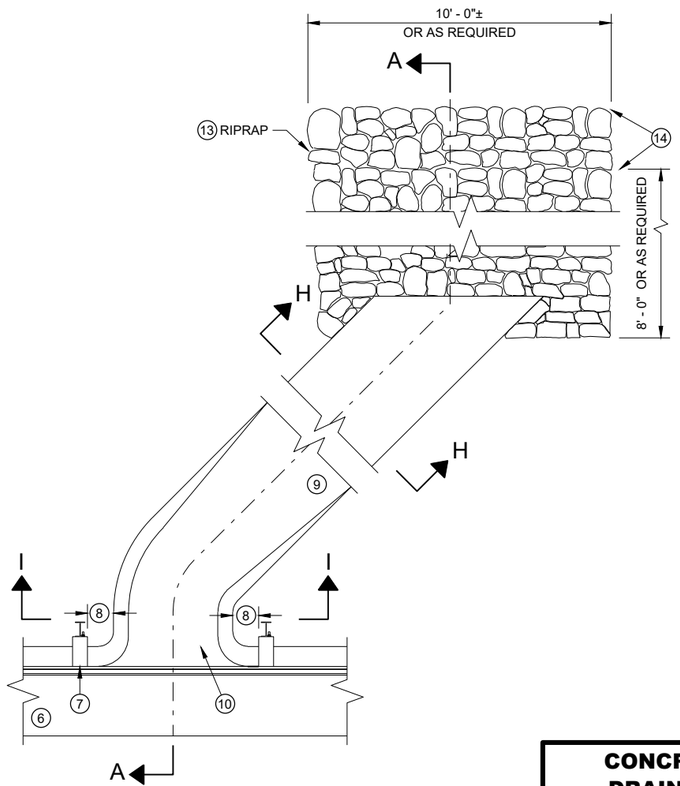
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.

(15) GEOTEXTILE TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D02 - 08b

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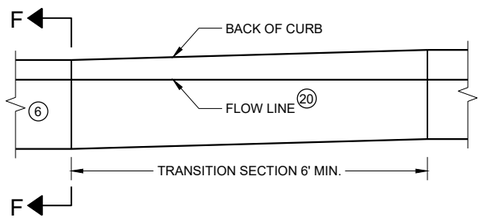
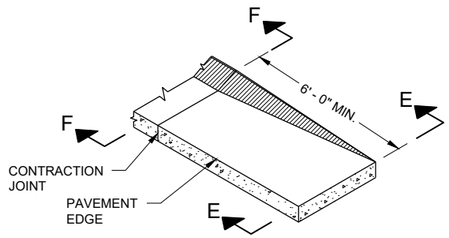
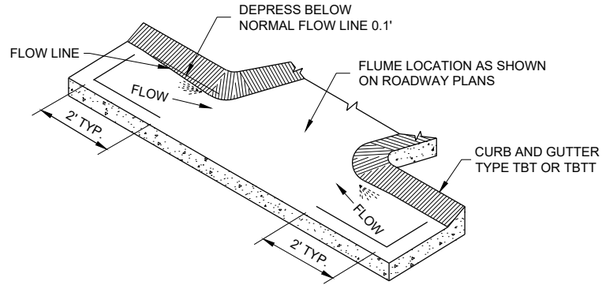
SDD 08D02 - 08b



**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

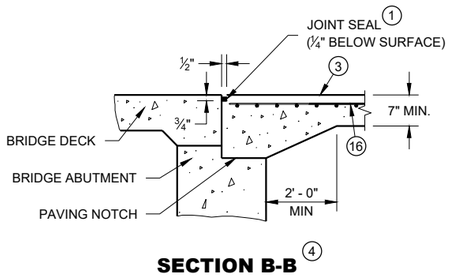
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

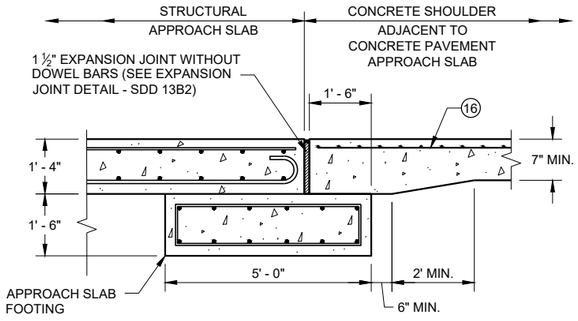
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

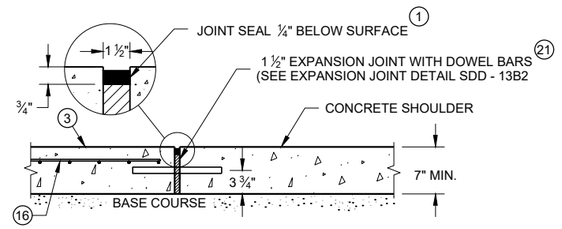
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



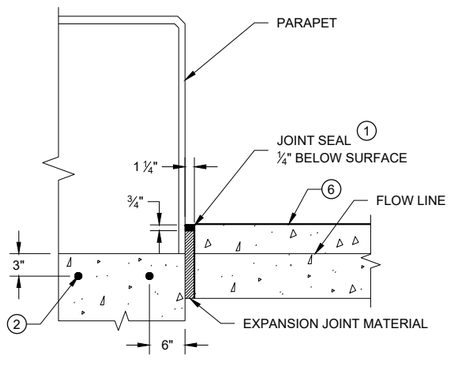
SECTION B-B (4)



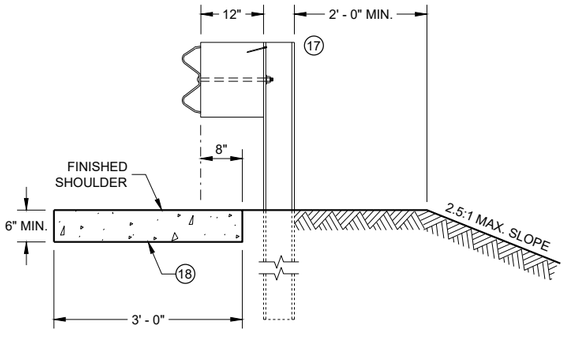
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



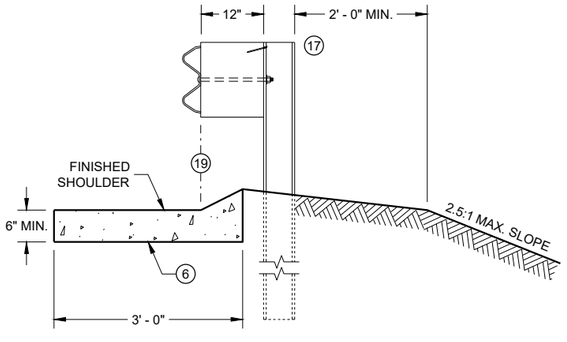
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

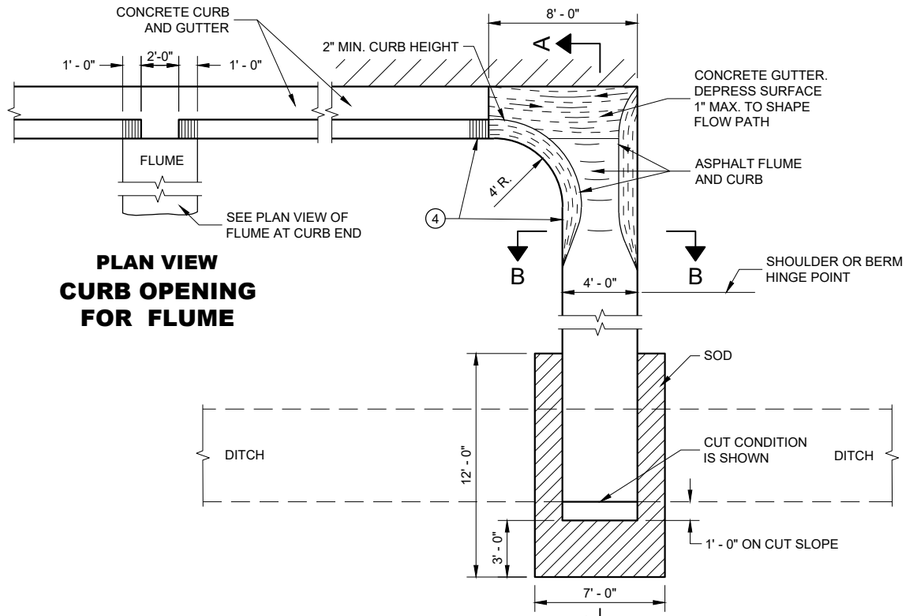
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

6
SDD 08D02 - 08c

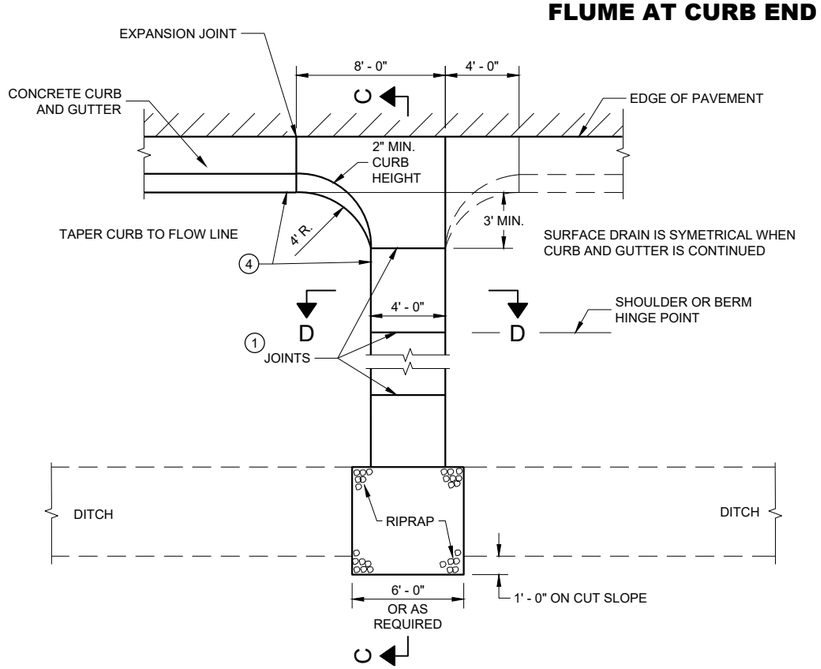
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



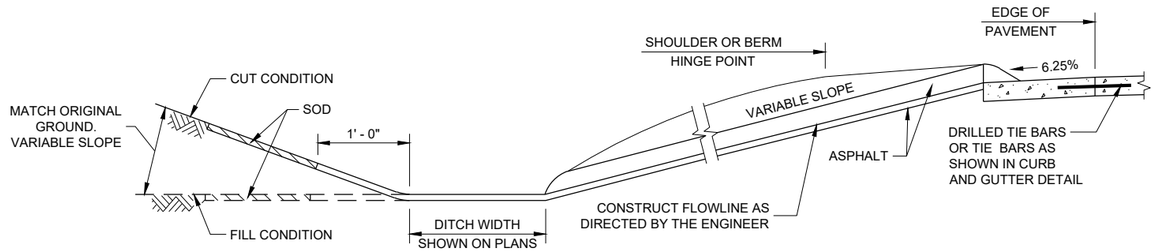
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

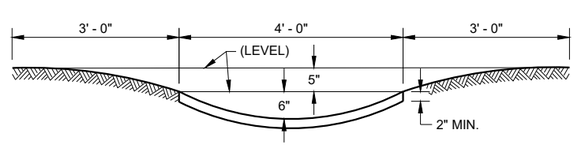
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

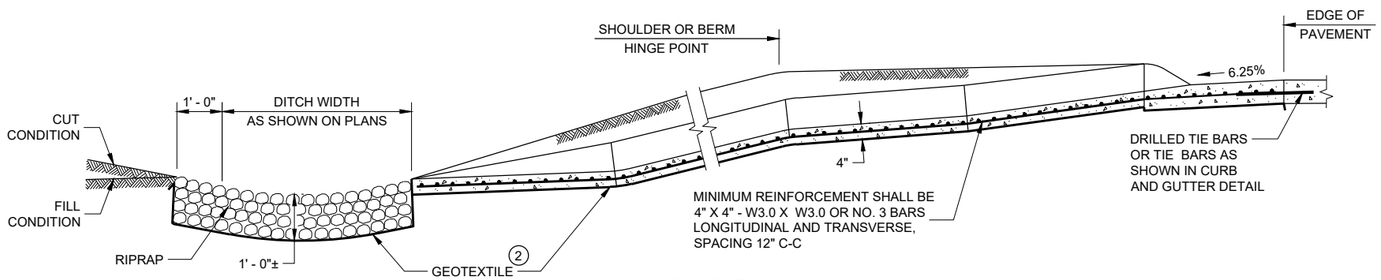
1. JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
2. GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
3. CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
4. ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



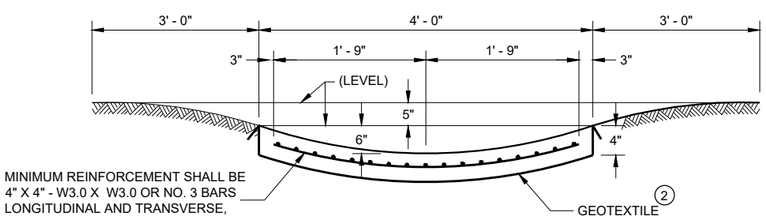
SECTION A - A



SECTION B - B



SECTION C - C



SECTION D - D

CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

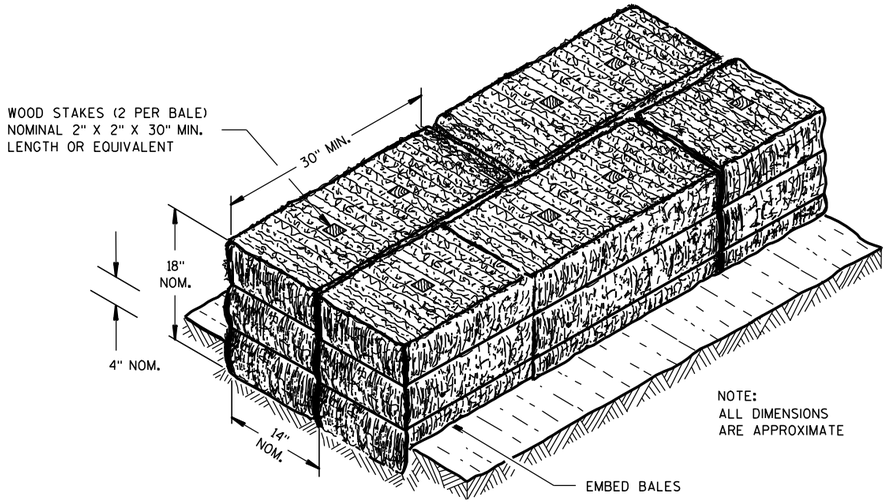
FHWA

6

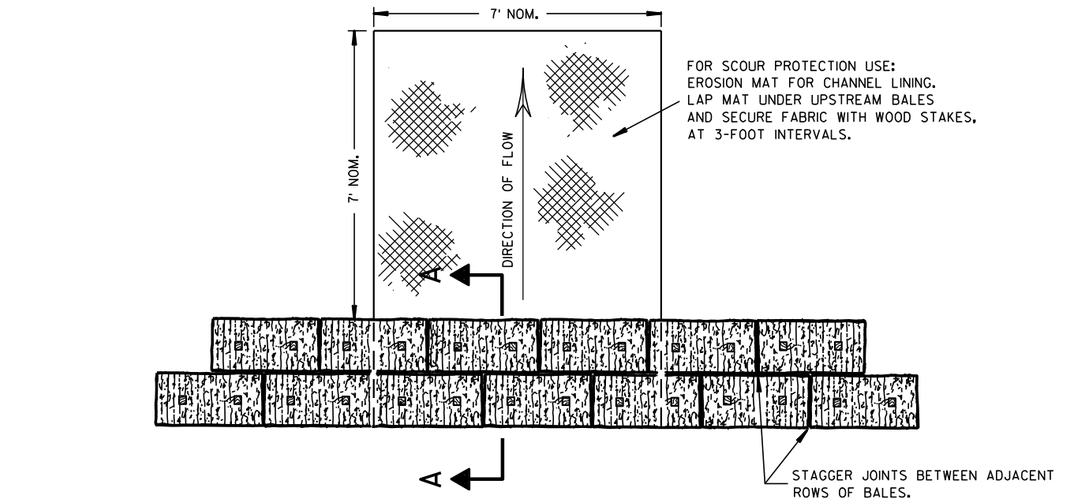
SDD 08D04 - 07

6

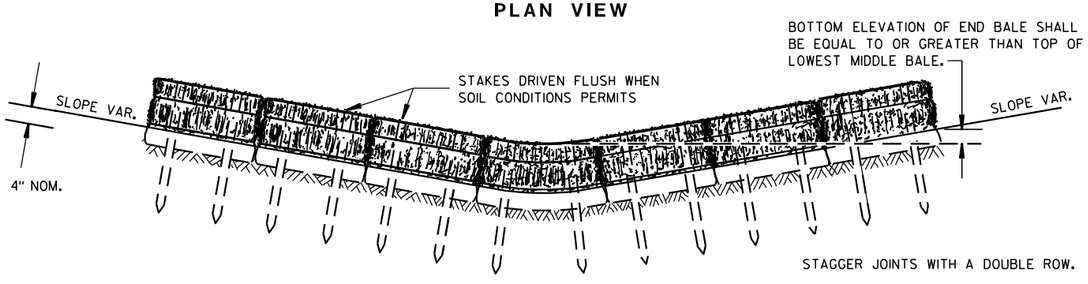
SDD 08D04 - 07



SECTION A-A



PLAN VIEW



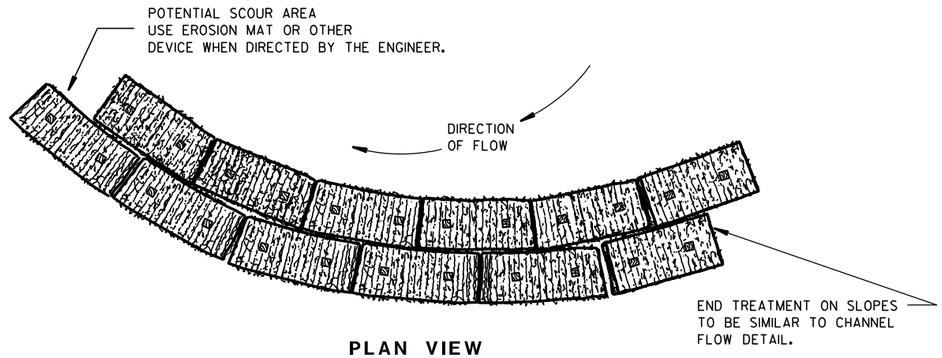
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

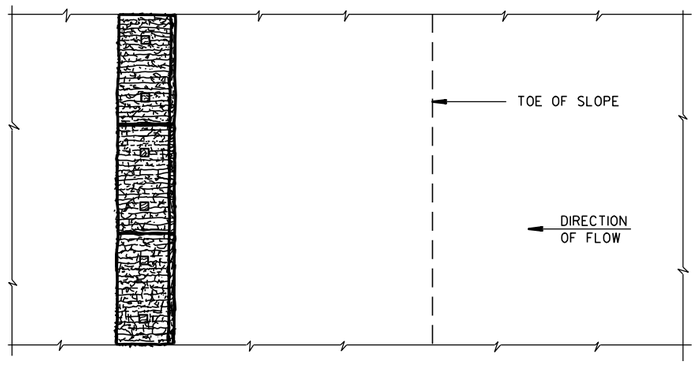
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

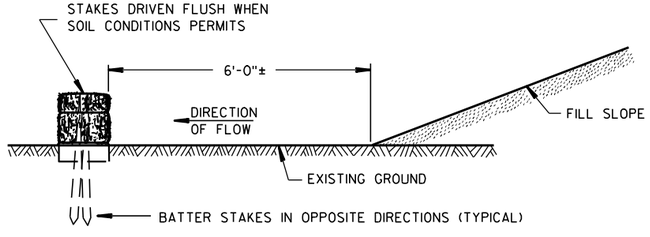


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

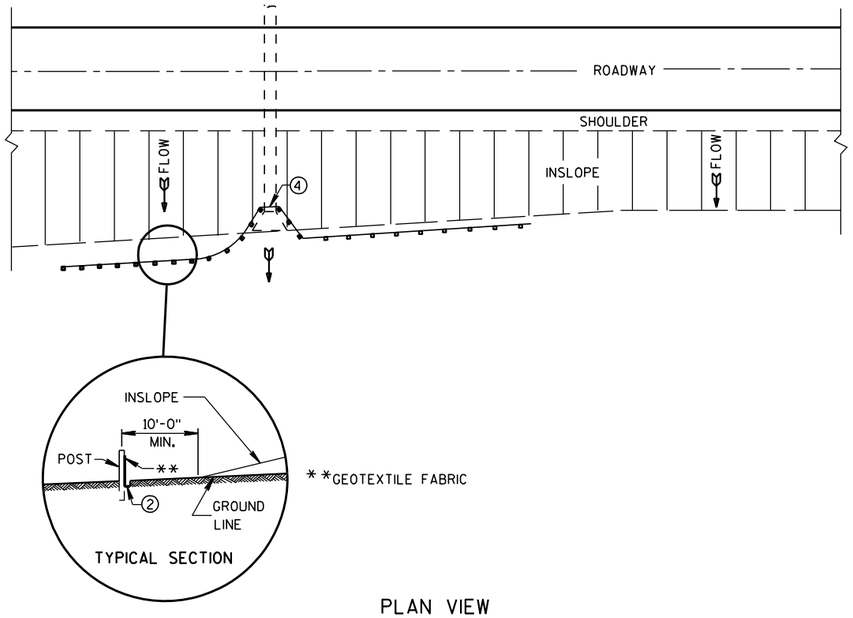
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

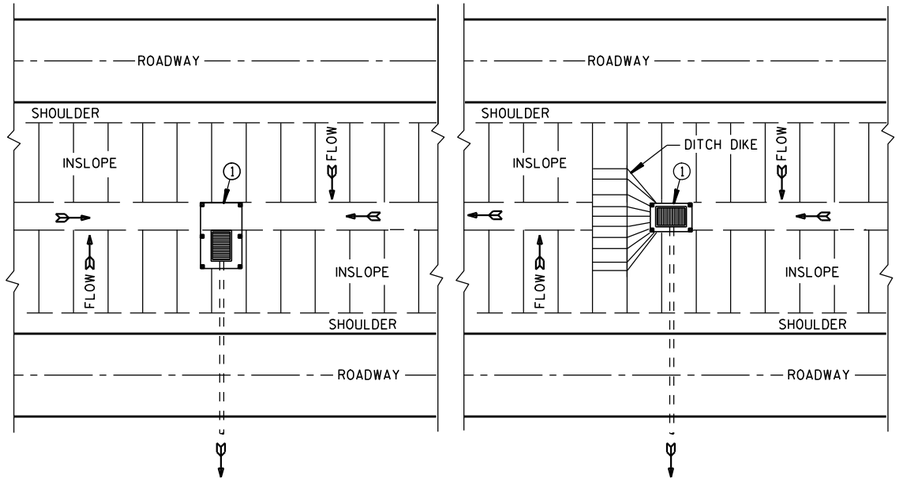
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



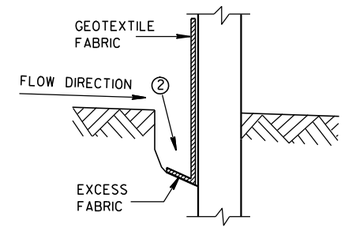
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

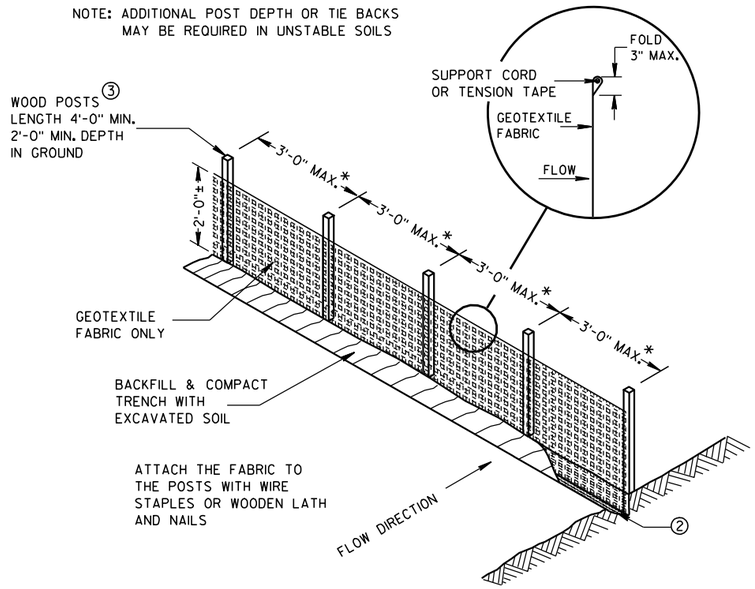
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

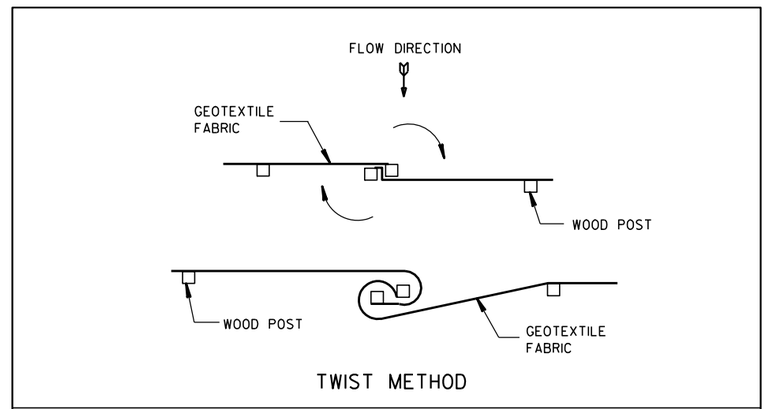
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



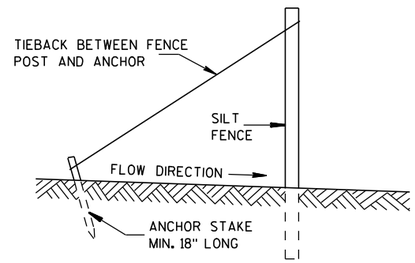
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

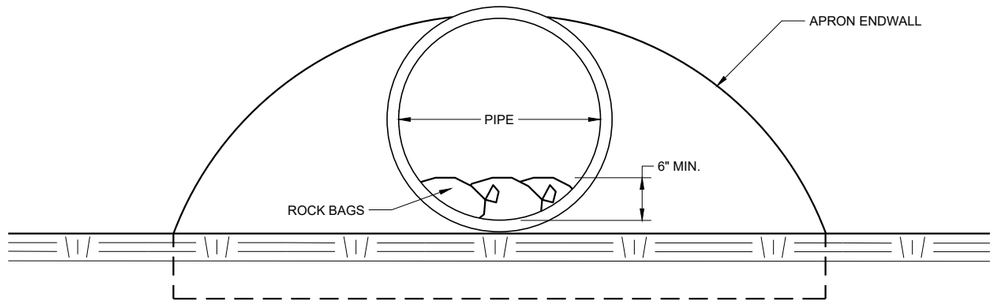
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

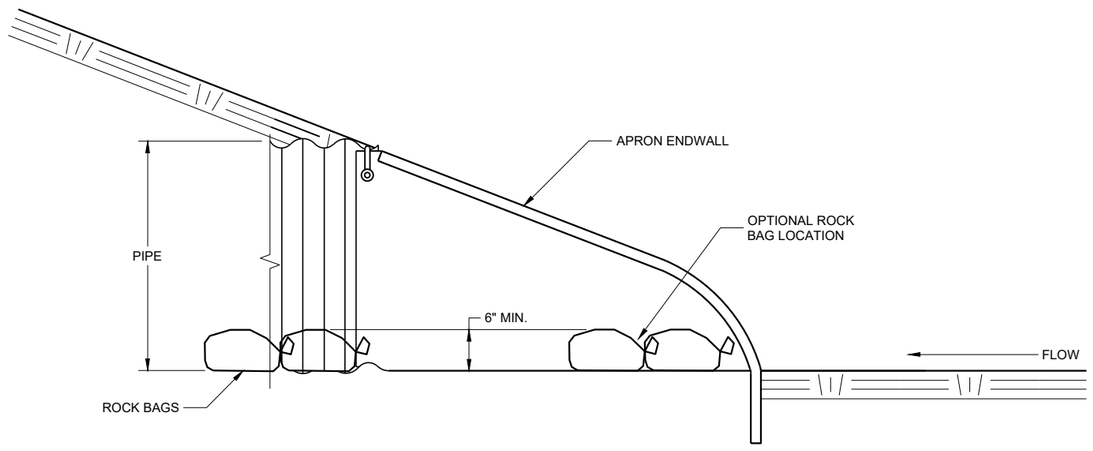
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 9-6



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

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SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

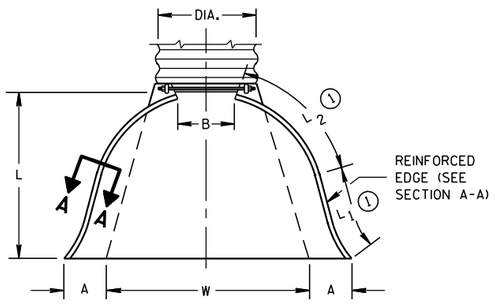
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

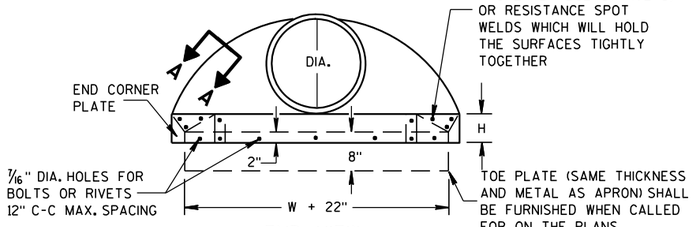
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

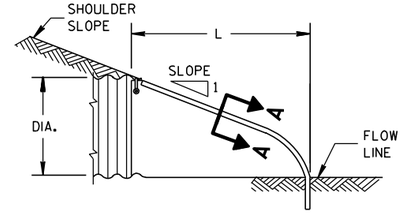
*MINIMUM
**MAXIMUM



PLAN VIEW

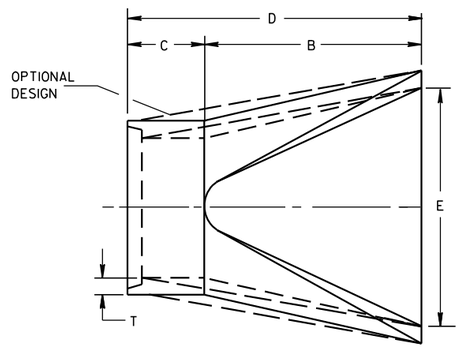


END VIEW

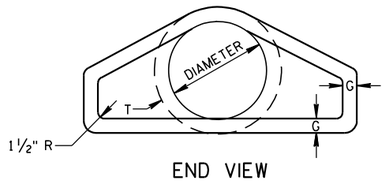


SIDE ELEVATION

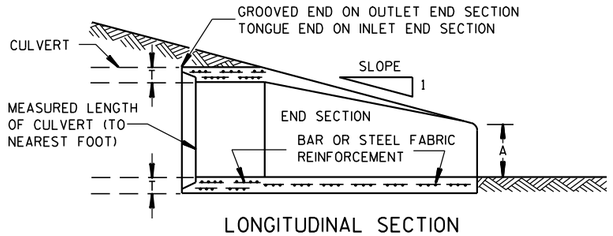
METAL ENDWALLS



PLAN

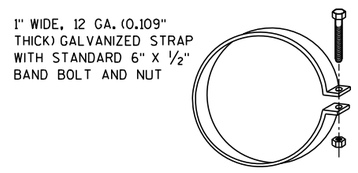


END VIEW



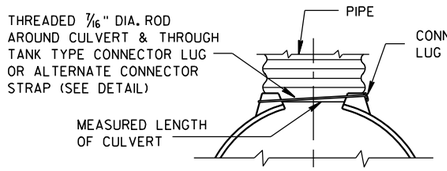
LONGITUDINAL SECTION

CONCRETE ENDWALLS

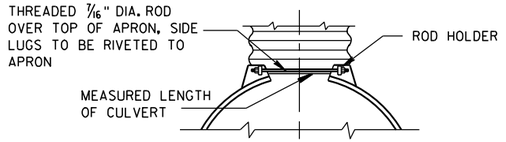


ALTERNATE FOR TYPE 1 CONNECTION

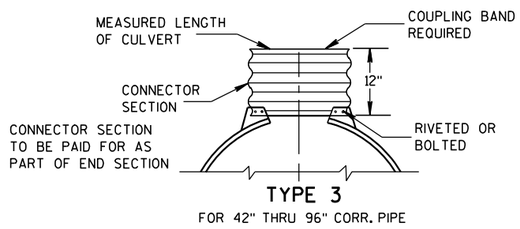
END SECTION CONNECTOR STRAP



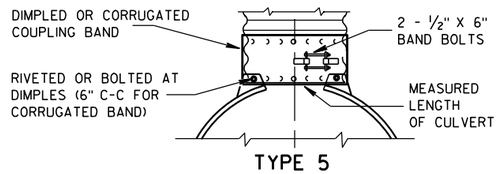
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

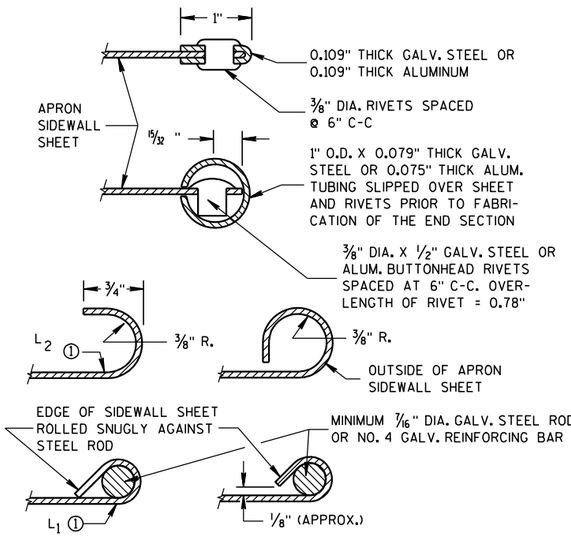
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

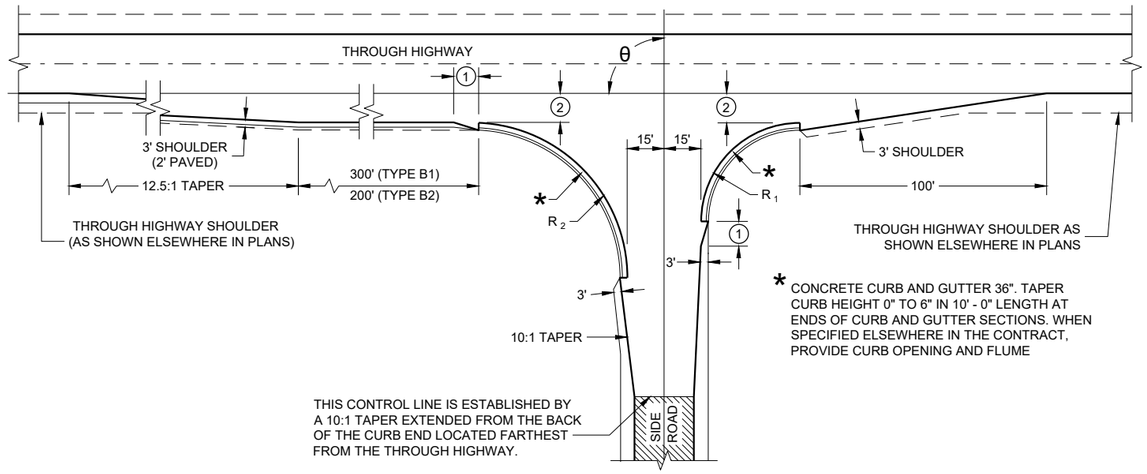
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



* CONCRETE CURB AND GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10' - 0" LENGTH AT ENDS OF CURB AND GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME

TYPE "B1" AND "B2"

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65 - 70	35	70
71 - 80	40	70
81 - 90	40	60
91 - 100	50	55
101 - 110	60	45

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

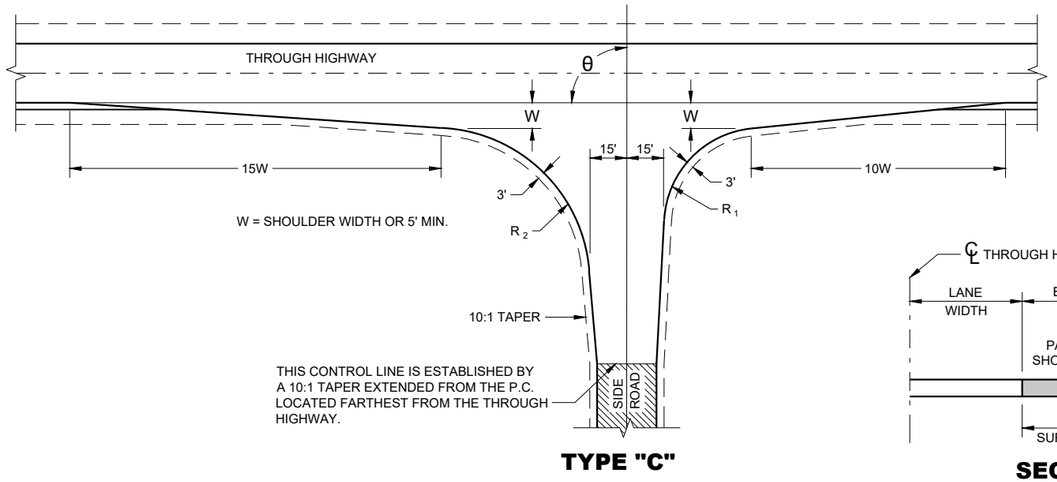
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

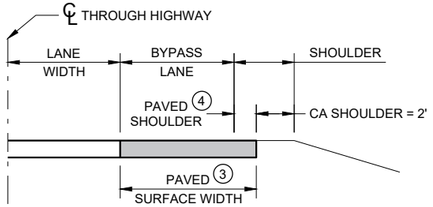
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
- ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH
- PC CONCRETE = 13-FT PLUS PAVED SHOULDER WIDTH

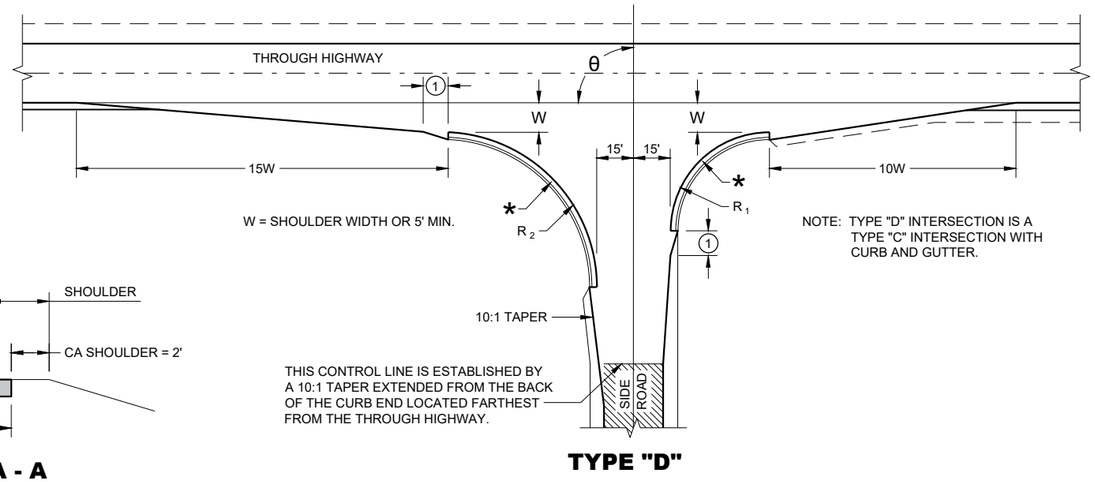
(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



TYPE "C"

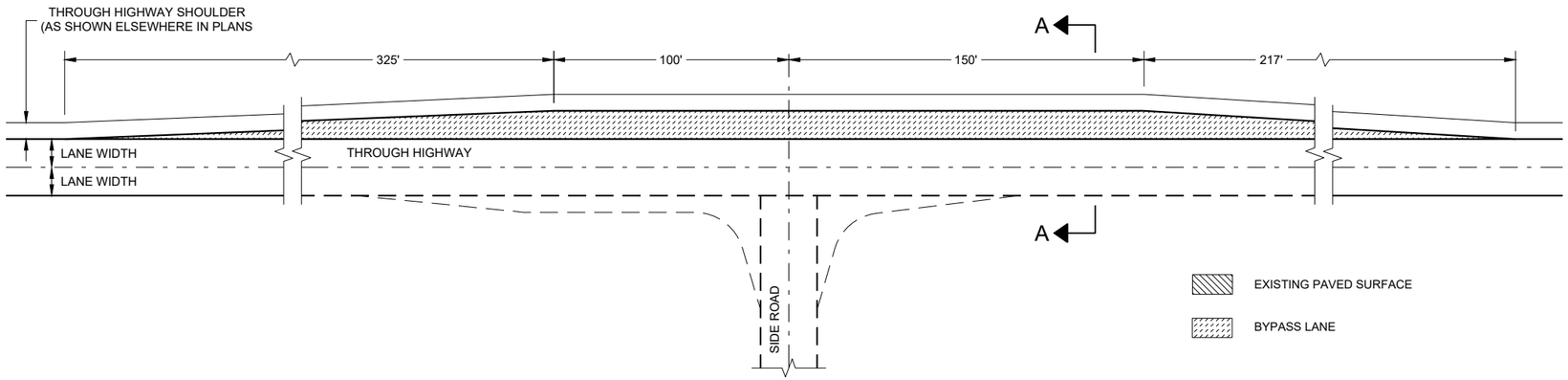


SECTION A - A
(SHOWING BYPASS LANE AND SHOULDER)



NOTE: TYPE "D" INTERSECTION IS A TYPE "C" INTERSECTION WITH CURB AND GUTTER.

TYPE "D"



TEE INTERSECTION BYPASS LANE DETAIL

AT GRADE SIDE ROAD INTERSECTION TYPES "B1", "B2", "C", "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 09A01 - 14a

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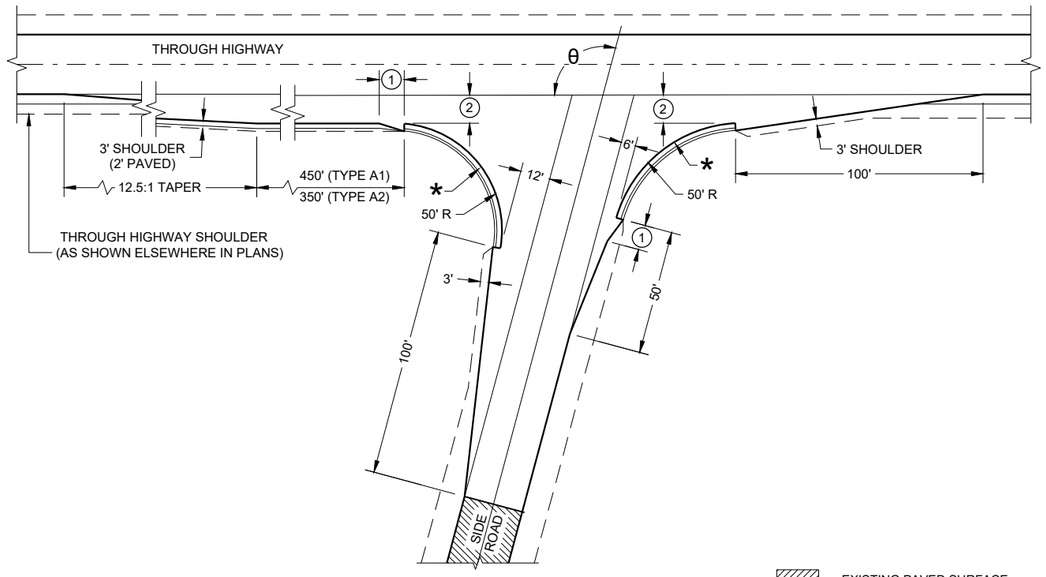
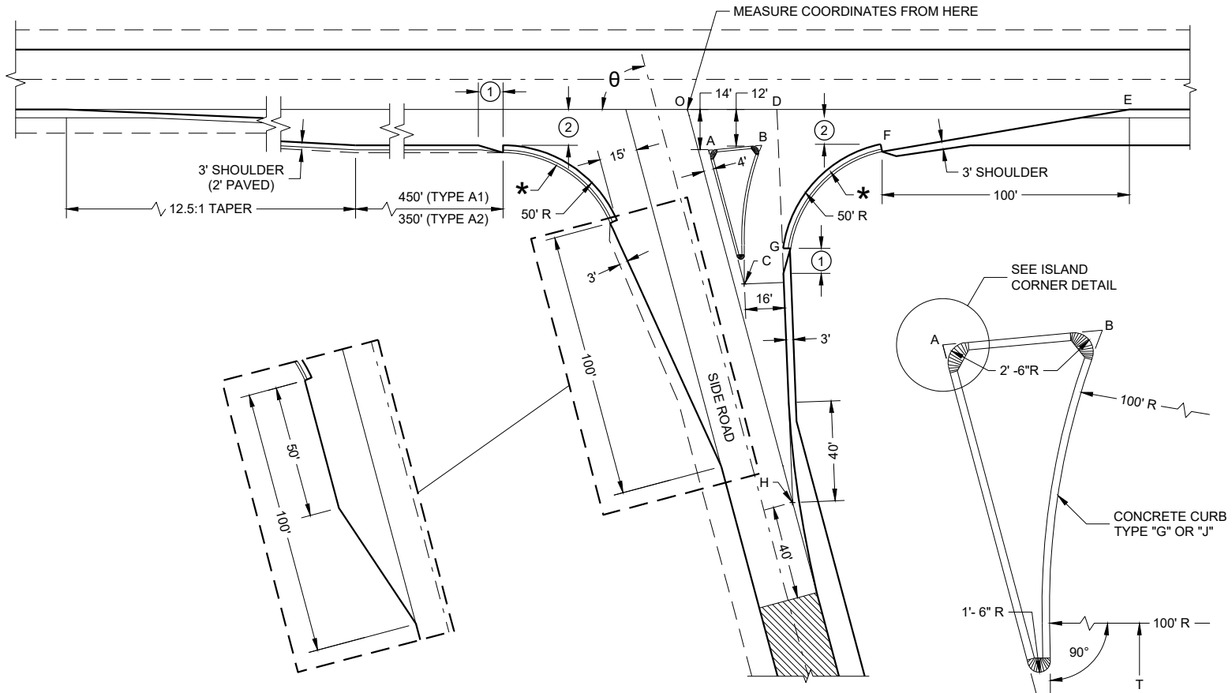
SDD 09A01 - 14a

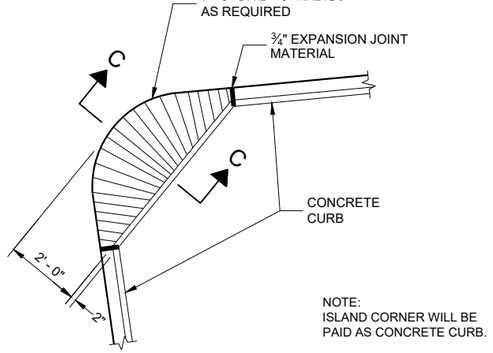


θ = MORE THAN 80°

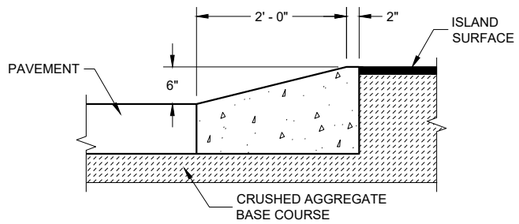


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE
THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS

θ = ACUTE ANGLES 80° OR LESS



PLAN VIEW



SECTION C - C

ISLAND CORNER DETAIL

(TO BE CONSTUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR VARIABLE SIDE ROAD INTERSECTION ANGLES

(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT 'O') X / Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

TYPE 'A1" AND "A2" SIDE ROAD INTERSECTION DETAILS

AT GRADE SIDE ROAD INTERSECTIONS
TYPES "A1" AND "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER
FHWA

SDD 09A01 - 14b

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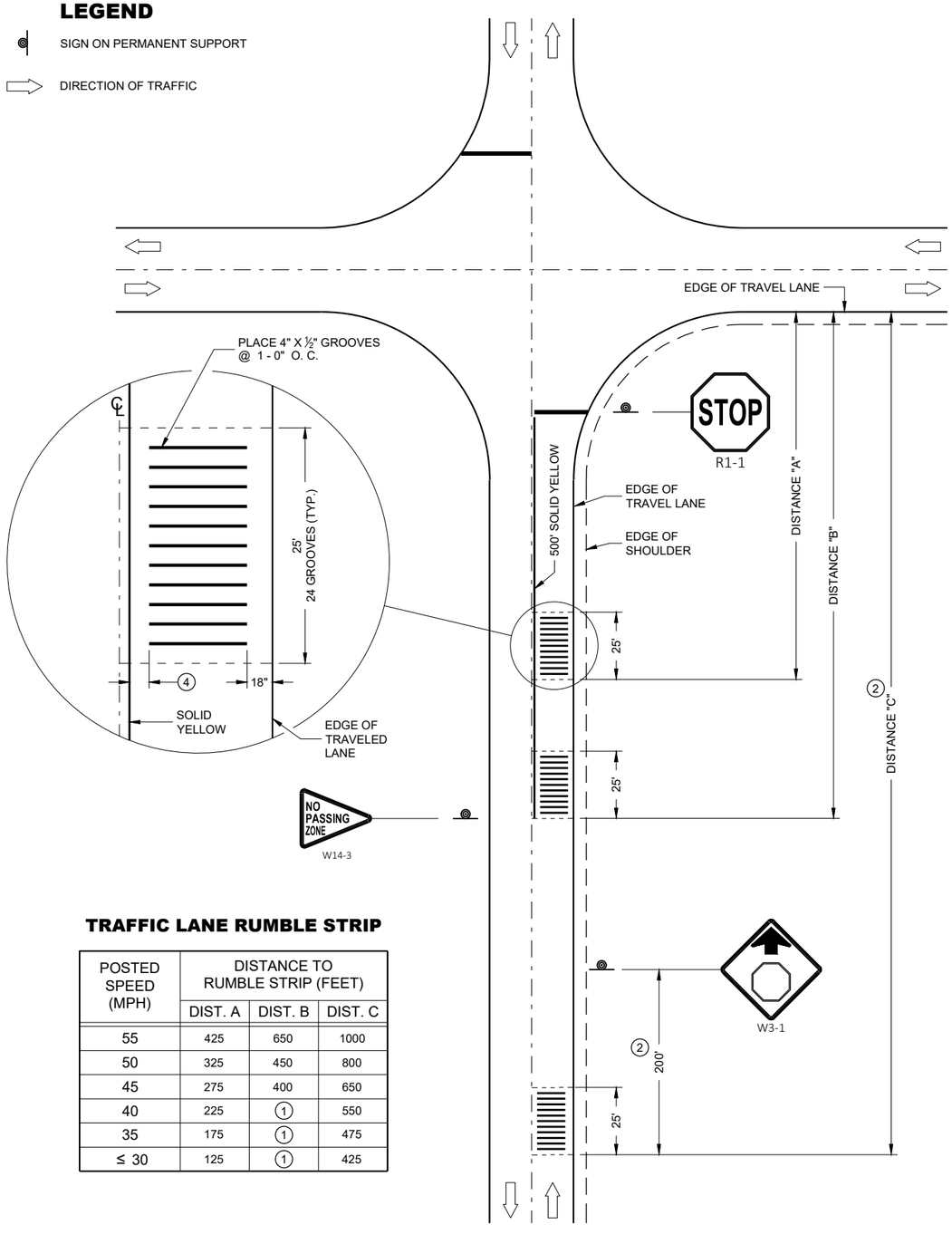
SDD 09A01 - 14b

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TRAFFIC LANE RUMBLE STRIP

POSTED SPEED (MPH)	DISTANCE TO RUMBLE STRIP (FEET)		
	DIST. A	DIST. B	DIST. C
55	425	650	1000
50	325	450	800
45	275	400	650
40	225	(1)	550
35	175	(1)	475
≤ 30	125	(1)	425

RUMBLE STRIP LOCATION

GENERAL NOTES

CONTRACTOR SHALL CONFIRM RUMBLE STRIP LOCATION WITH THE ENGINEER PRIOR TO INSTALLATION. THE ENGINEER MAY MODIFY THE RUMBLE STRIP LOCATION AS FIELD CONDITIONS DICTATE.

WHEN ASPHALTIC PAVEMENT IS NEW IN THE RUMBLE AREA, THE CONTRACTOR SHALL ALLOW THE PAVEMENT TO CURE A MINIMUM OF 7 DAYS PRIOR TO RUMBLE INSTALLATION.

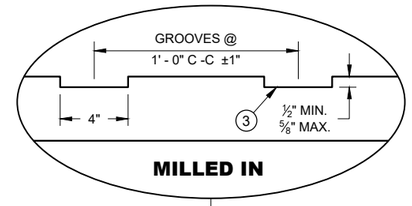
PAVEMENT MARKING AND SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDE ELSEWHERE IN THE CONTRACT.

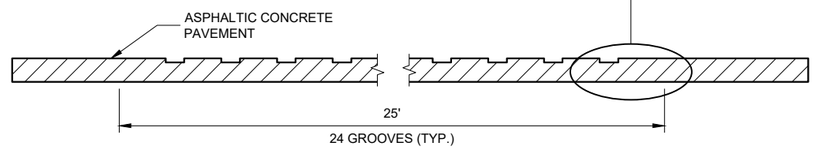
(1) ELIMINATE THE MIDDLE SET OF RUMBLE STRIPS.

(2) LOCATE RUMBLE STRIP 200 FEET IN ADVANCE OF W3-1 SIGN AS SHOWN. IF W3-1 IS NOT IN PLACE, USE DISTANCE "C".

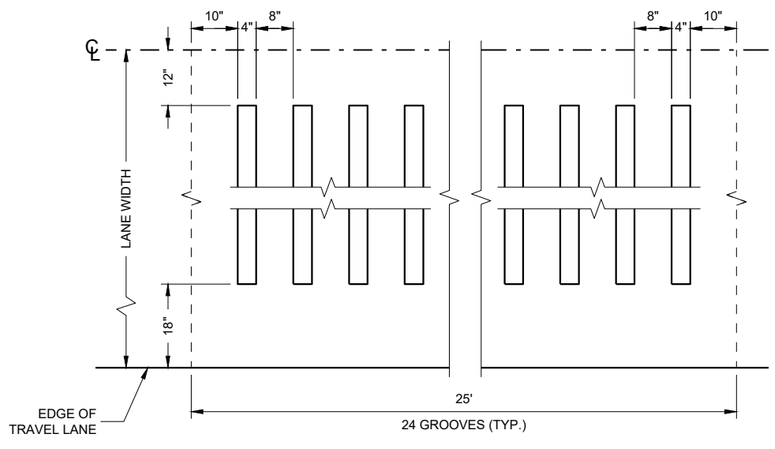
(3) TYPICAL VERTICAL VARIATION BETWEEN PEAKS AND VALLEYS WITHIN THE CUT APPROXIMATELY 1/16".

(4) 12 INCH CLEAR BETWEEN THE SOLID YELLOW LINE AND THE EDGE OF THE RUMBLE.





ELEVATION VIEW



PLAN VIEW

ASPHALTIC PAVEMENT MILLED IN

TRANSVERSE RUMBLE STRIPS, ASPHALTIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Rodney Taylor
ROADWAY DESIGN STANDARDS
UNIT SUPERVISOR

FHWA

6

SDD 13A08 - 02

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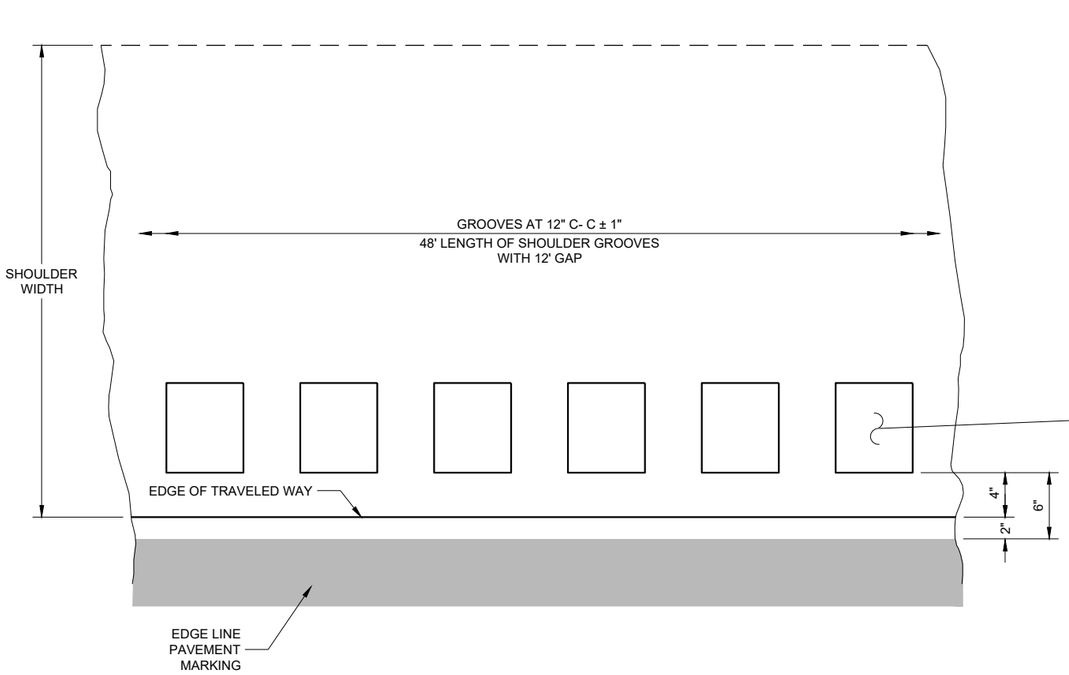
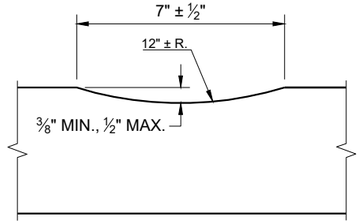
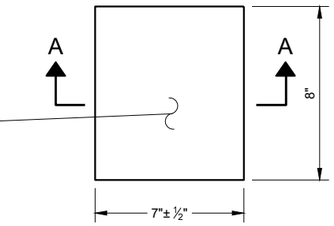
SDD 13A08 - 02



PLAN DETAIL VIEW
SHOULDER WITH GROOVES



SECTION A - A

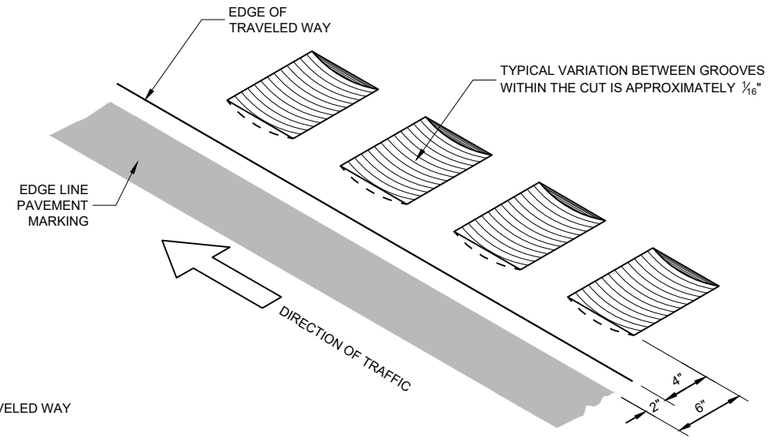


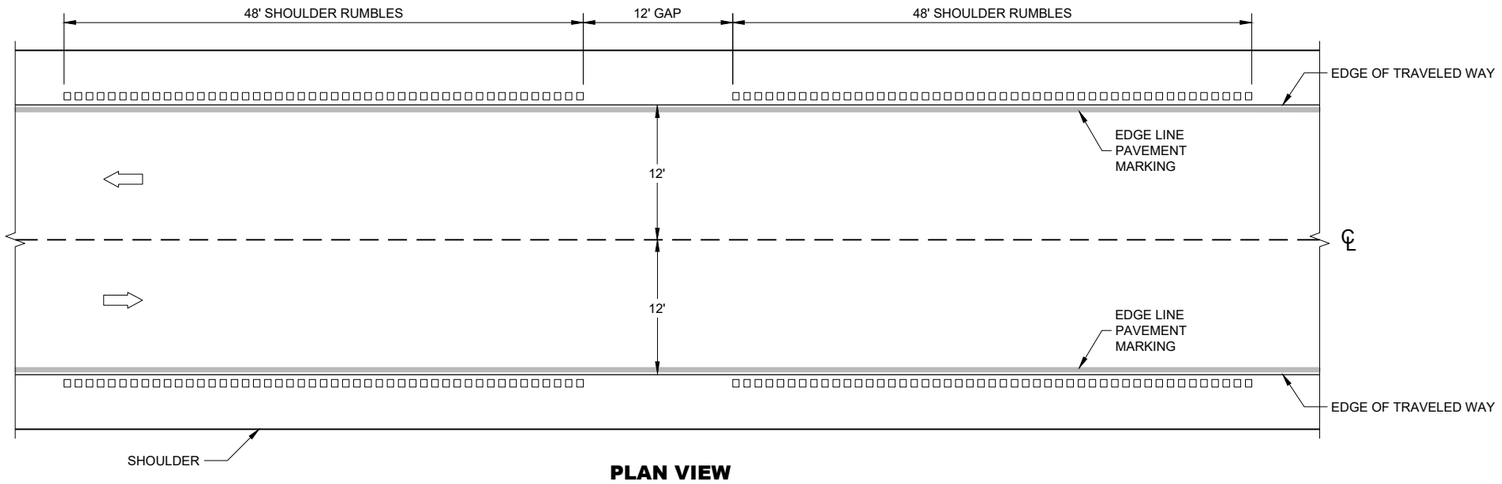
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.





PLAN VIEW

SHOULDER RUMBLE STRIPS - ASPHALT

6

SDD 13A10 - 03a

SHOULDER RUMBLE STRIPS ASPHALT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

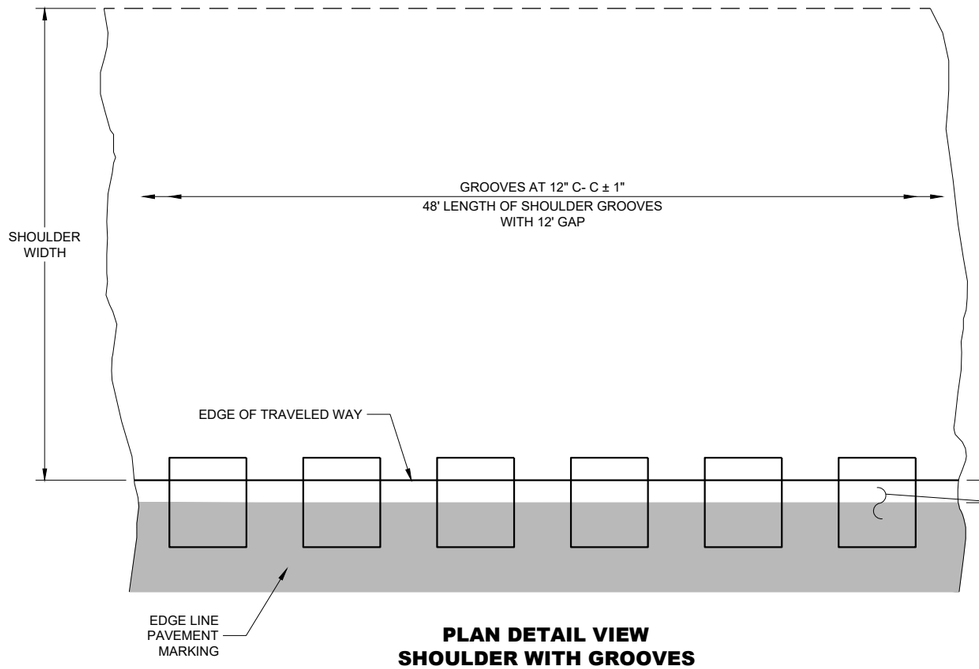
6

SDD 13A10 - 03a

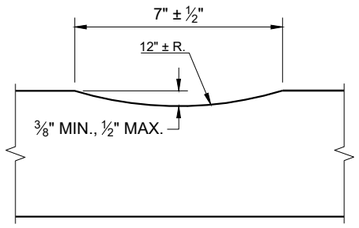
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A10 SHEETS "g" AND "h".

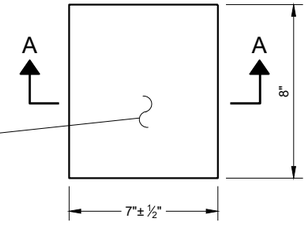
SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



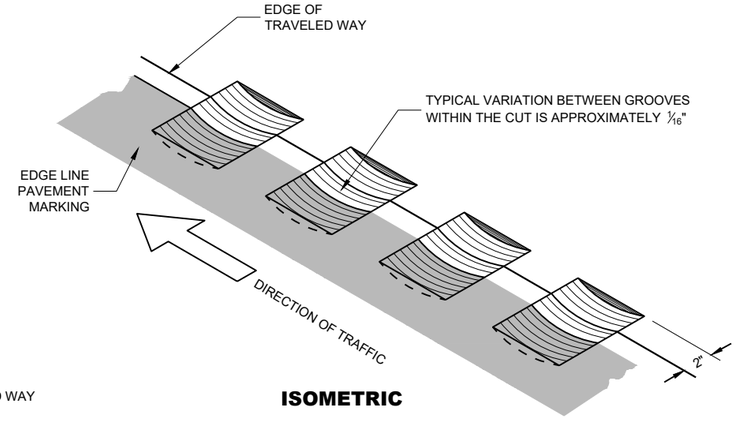
PLAN DETAIL VIEW
SHOULDER WITH GROOVES



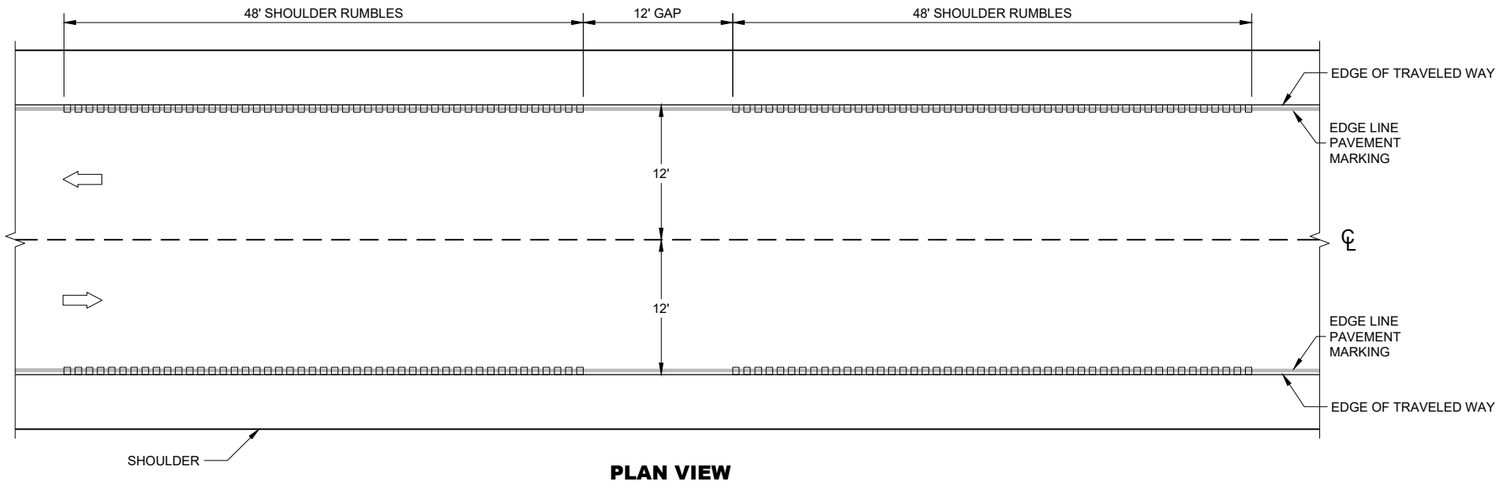
SECTION A - A



PLAN VIEW
(SINGLE GROOVE)



ISOMETRIC



PLAN VIEW

EDGE LINE RUMBLE STRIPS - ASPHALT

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SDD 13A10 - 03e

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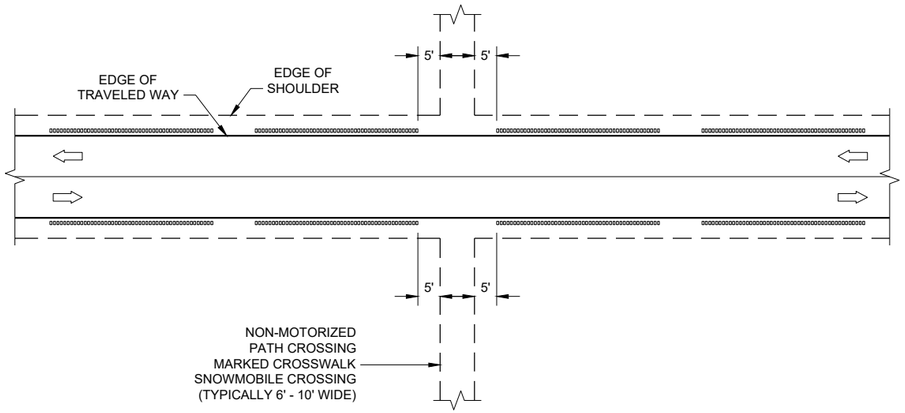
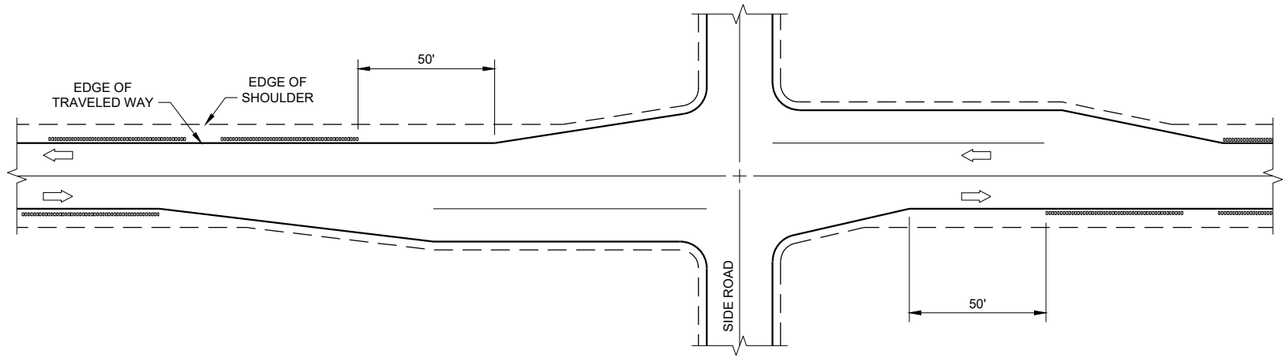
SDD13A10 - 03e

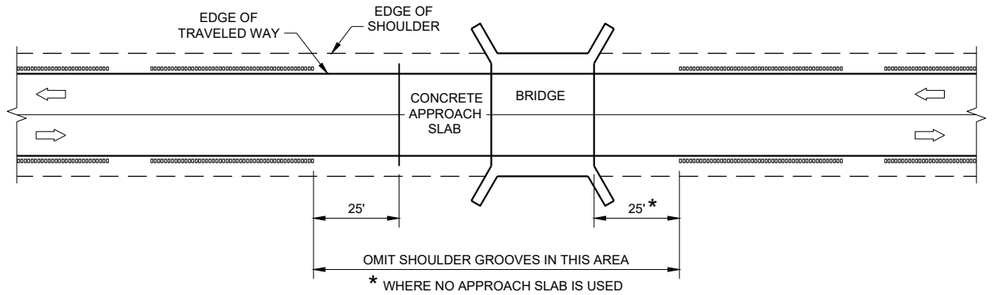
EDGE LINE RUMBLE STRIPS - ASPHALT



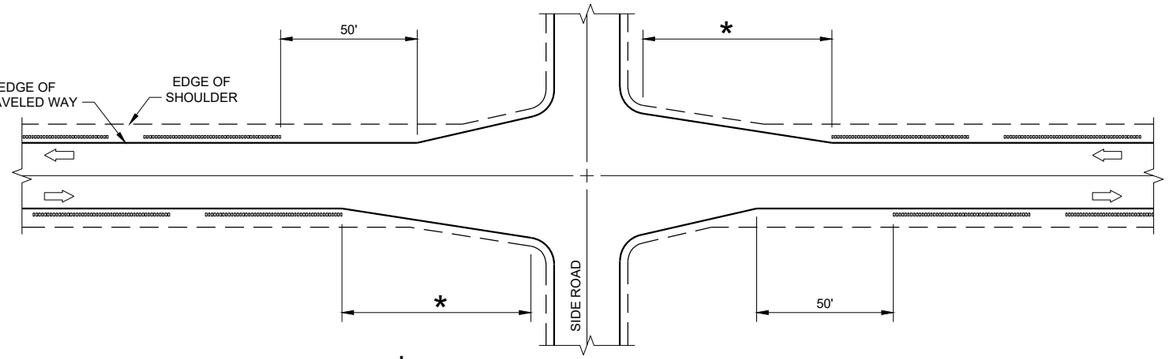
GROOVES AT MISCELLANEOUS CROSSINGS



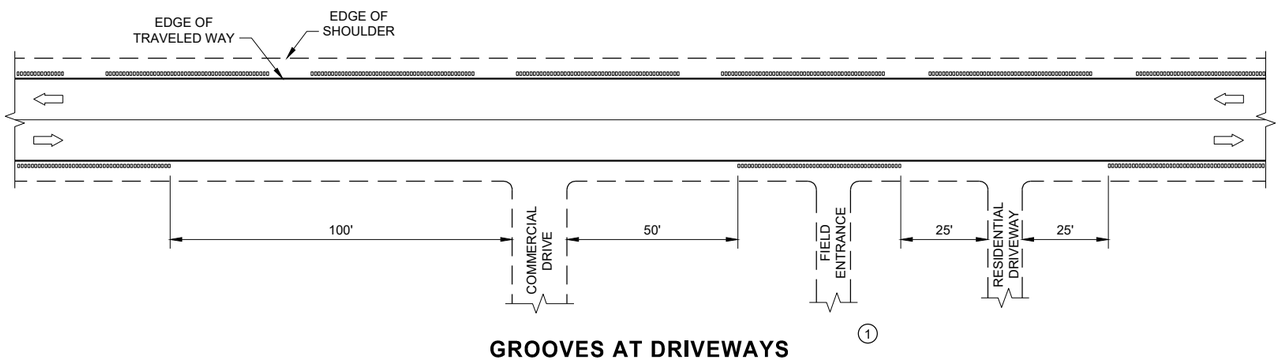
GROOVES AT RIGHT TURN LANE



GROOVES AT BRIDGES



GROOVES AT INTERSECTIONS WITH APPROACH TAPER



GROOVES AT DRIVEWAYS ①

GENERAL NOTES

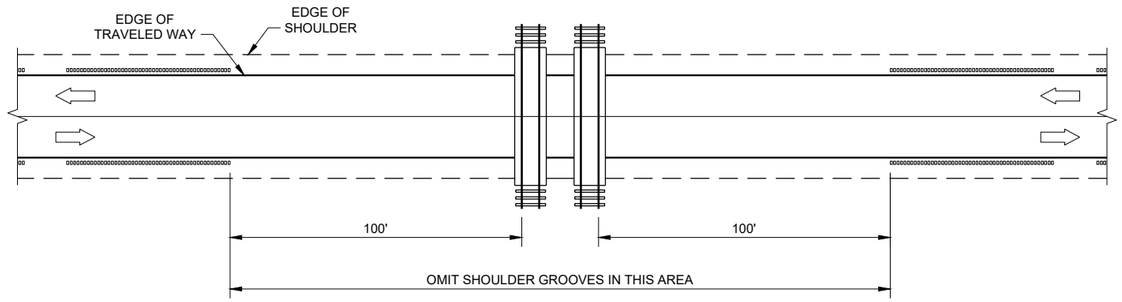
① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

SHOULDER AND EDGE LINE RUMBLE STRIPS CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS

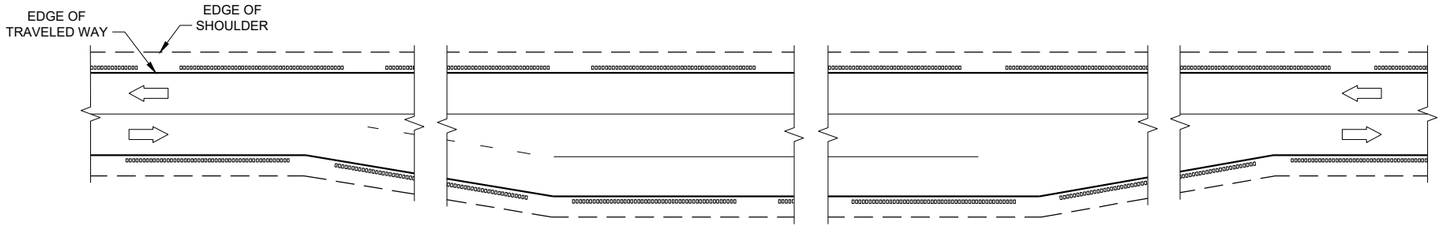
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

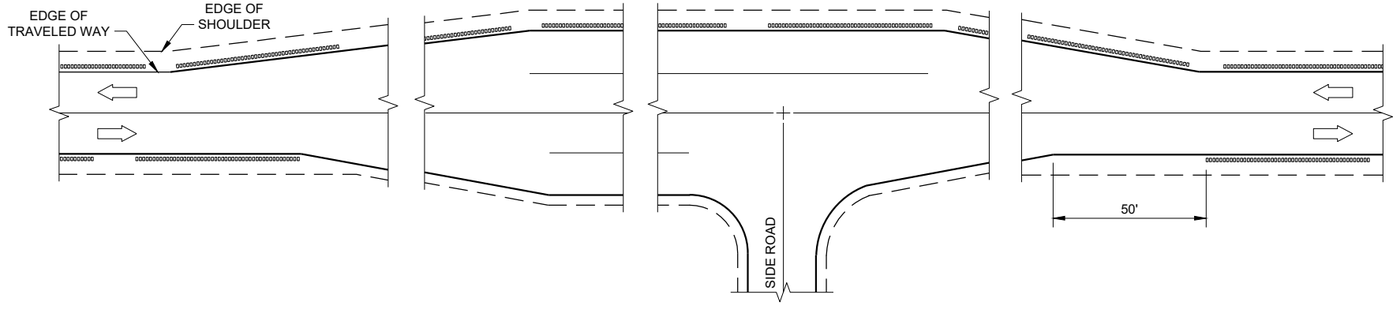
SDD 13A10 - 03g



GROOVES AT RAILROADS



GROOVES AT PASSING AND CLIMBING LANES



GROOVES AT BYPASS LANES

6

SDD 13A10 - 03h

SHOULDER AND EDGE LINE RUMBLE STRIPS - RAILROAD, PASSING, CLIMBING AND BYPASS LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023
DATE

/S/ John Jenkins
ROADWAY STANDARDS DEVE ENGINEER

FHWA

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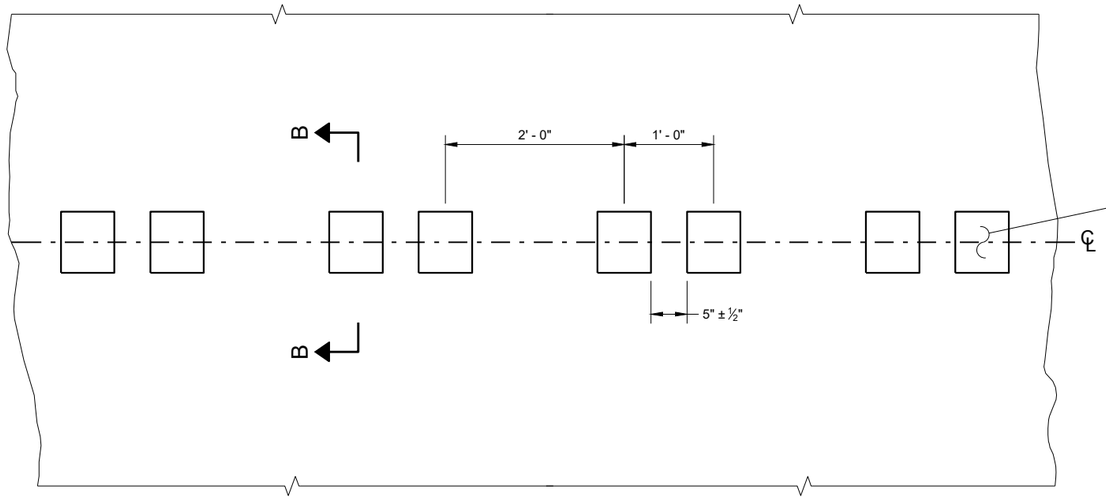
SDD 13A10 - 03h

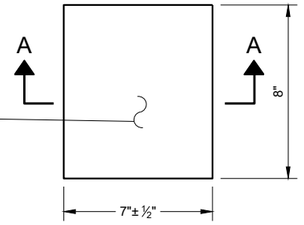
GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

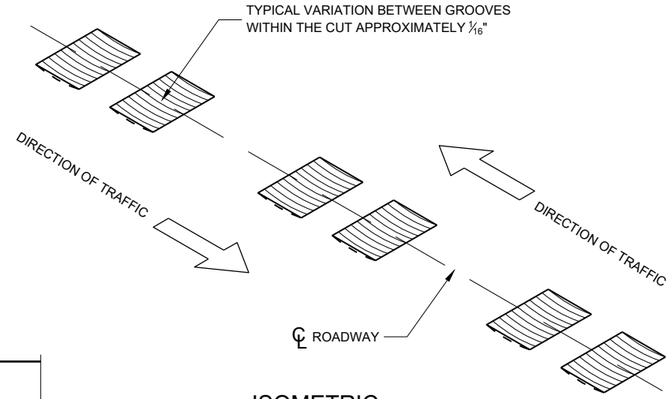
CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



PLAN DETAIL VIEW



PLAN VIEW
(SINGLE GROOVE)



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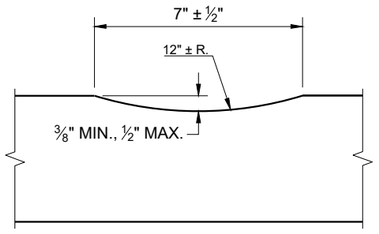
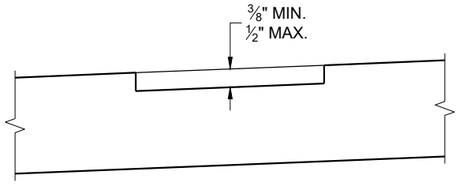
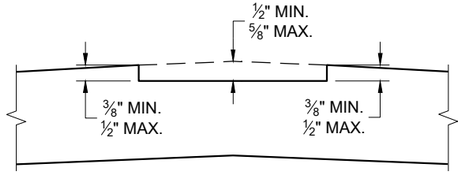


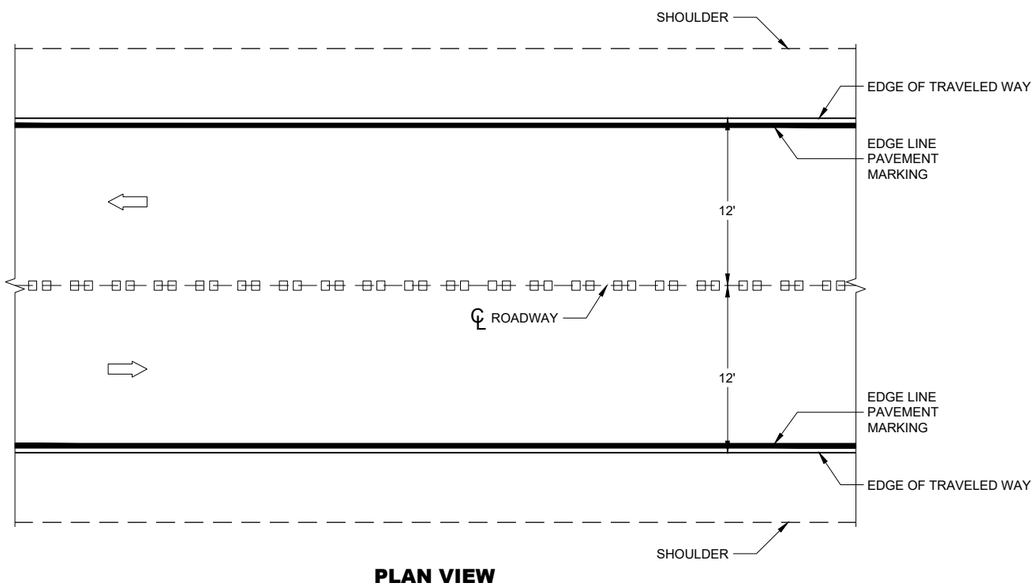
SECTION A - A



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



PLAN VIEW

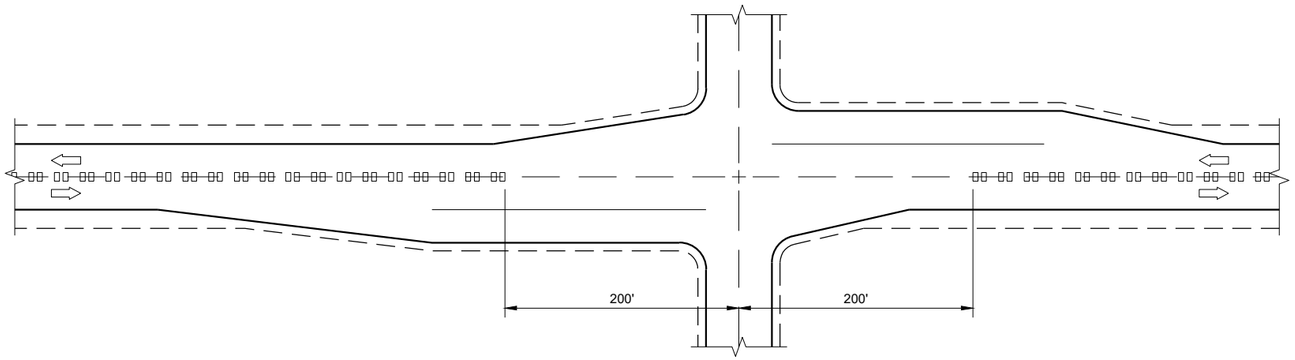
CENTERLINE RUMBLE STRIPS - ASPHALT

CENTERLINE RUMBLE STRIPS - ASPHALT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

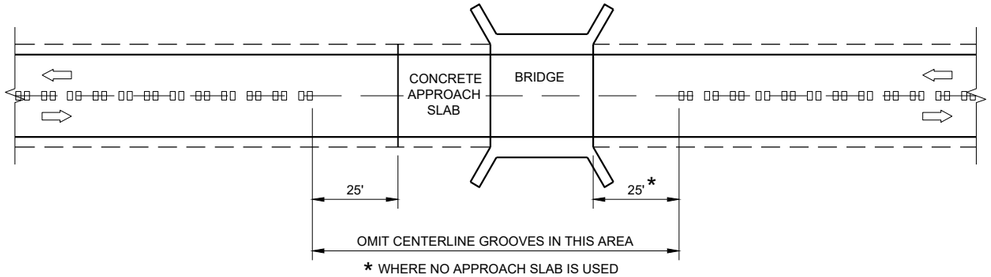
SDD 13A11 - 04a



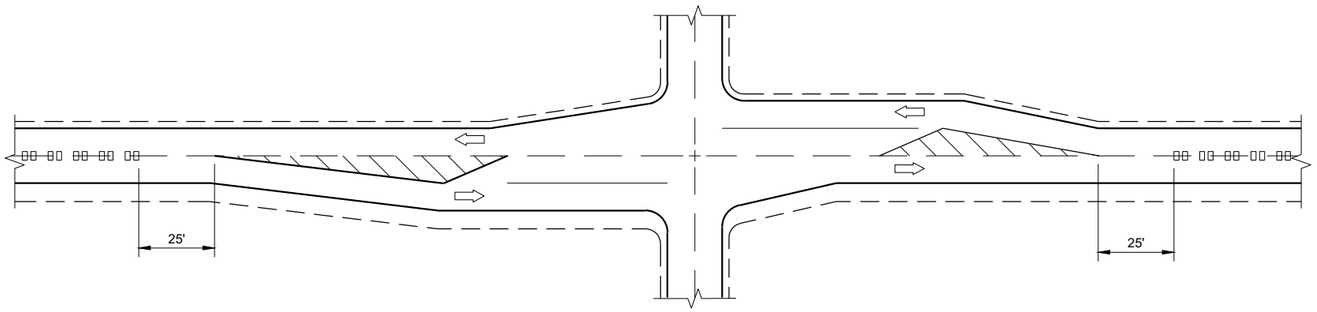
CENTERLINE GROOVES AT INTERSECTIONS

GENERAL NOTES

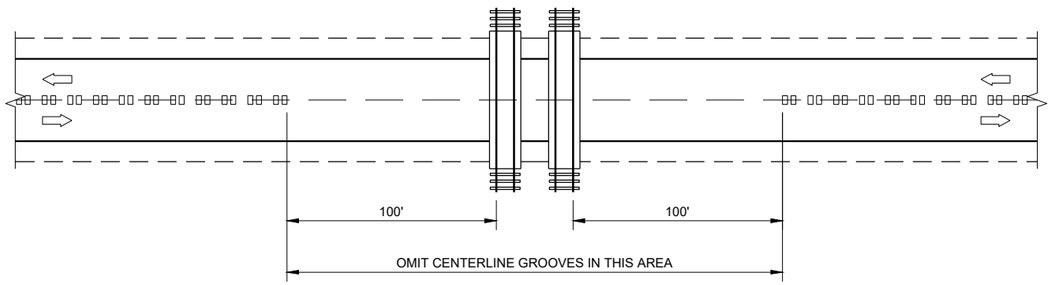
1. CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



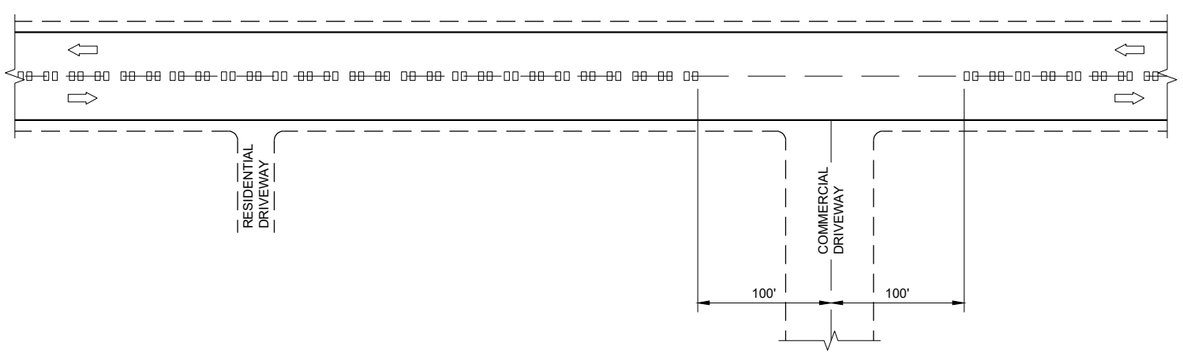
CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



CENTERLINE GROOVES AT RAILROADS



CENTERLINE GROOVES AT DRIVEWAYS (1)

CENTER LINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAIL ROADS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

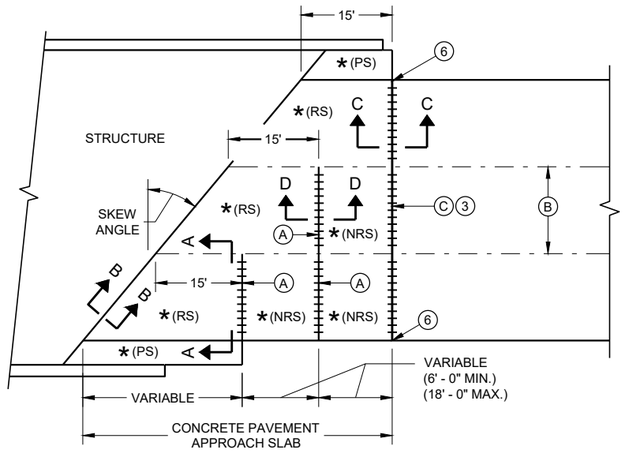
APPROVED
May 2023 — DATE
/S/ John Jenkins — ROADWAY STANDARDS DEVE ENGINEER

FHWA

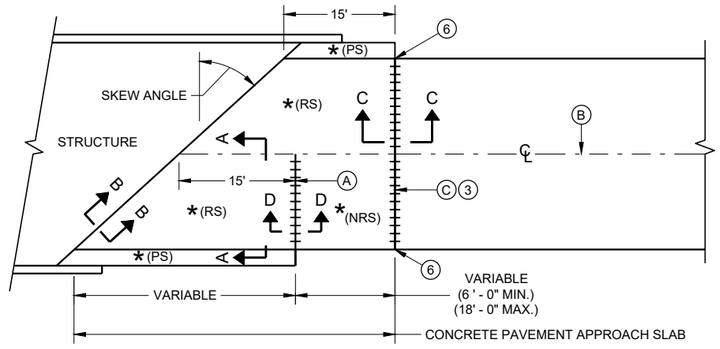
6

SDD 13A11 - 04d

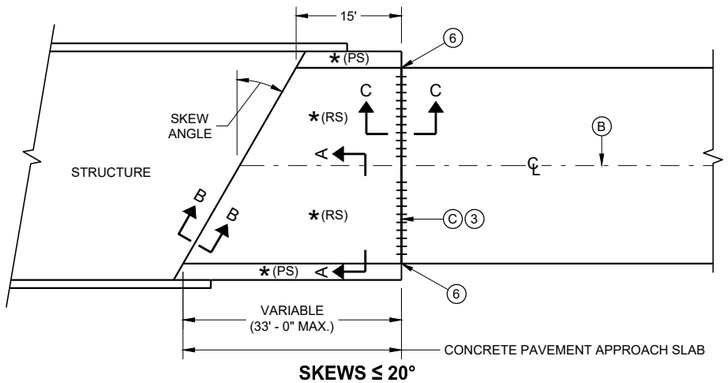
SDD 13A11 - 04d



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

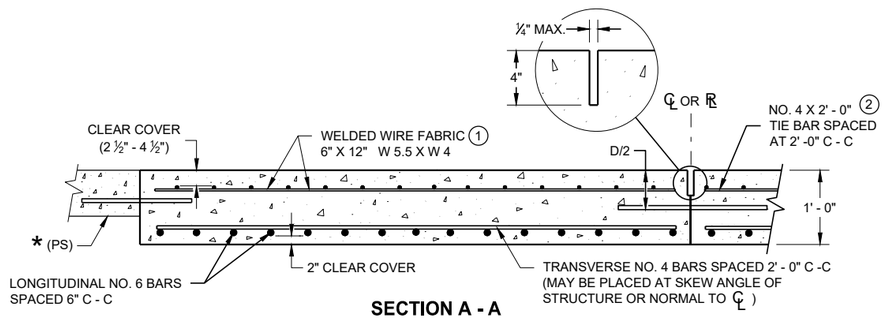
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

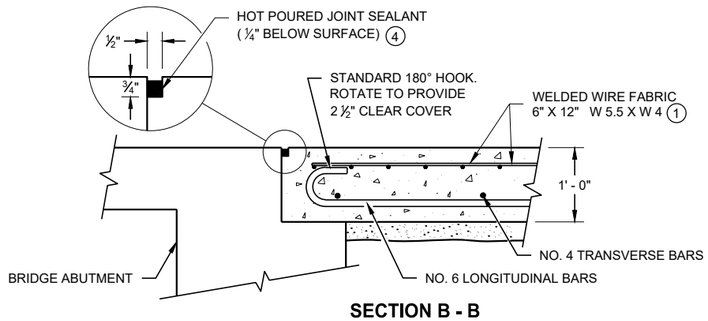
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

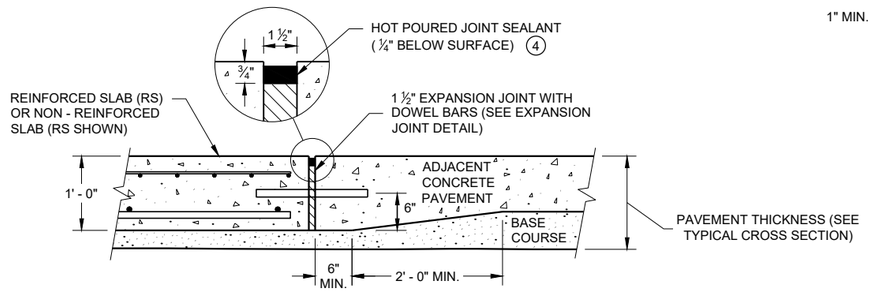
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(2) THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

(3) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

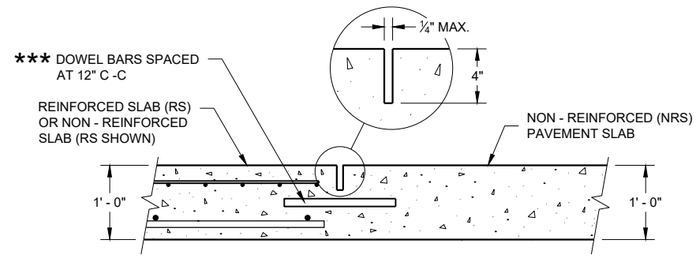
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

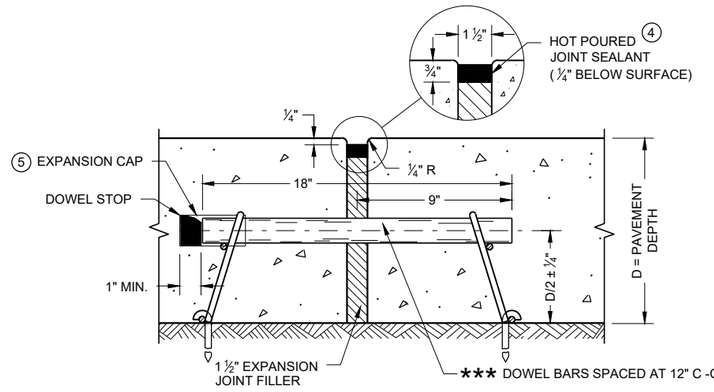
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISO

FHWA

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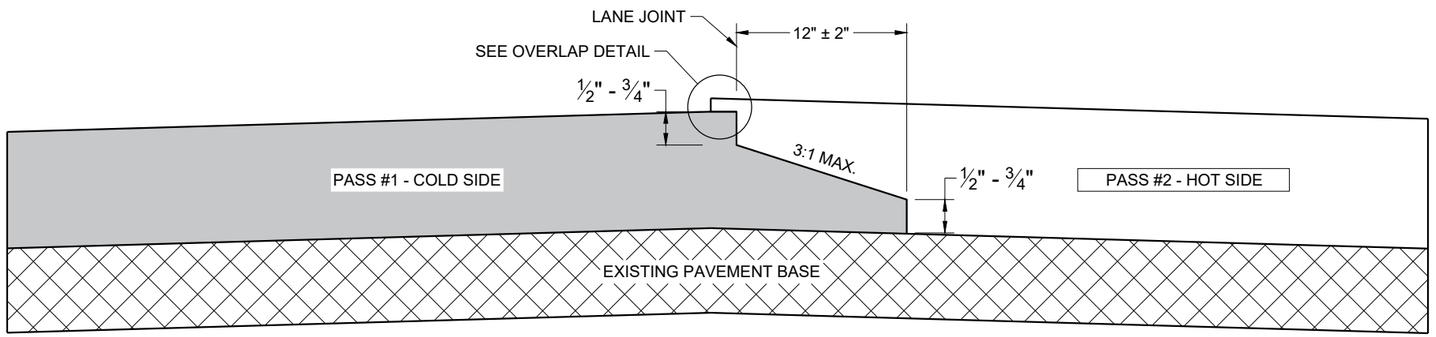
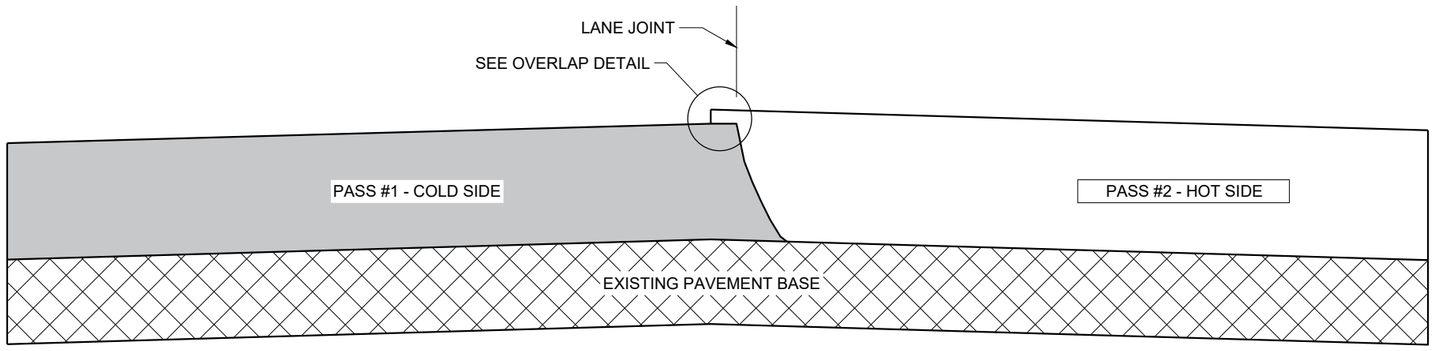
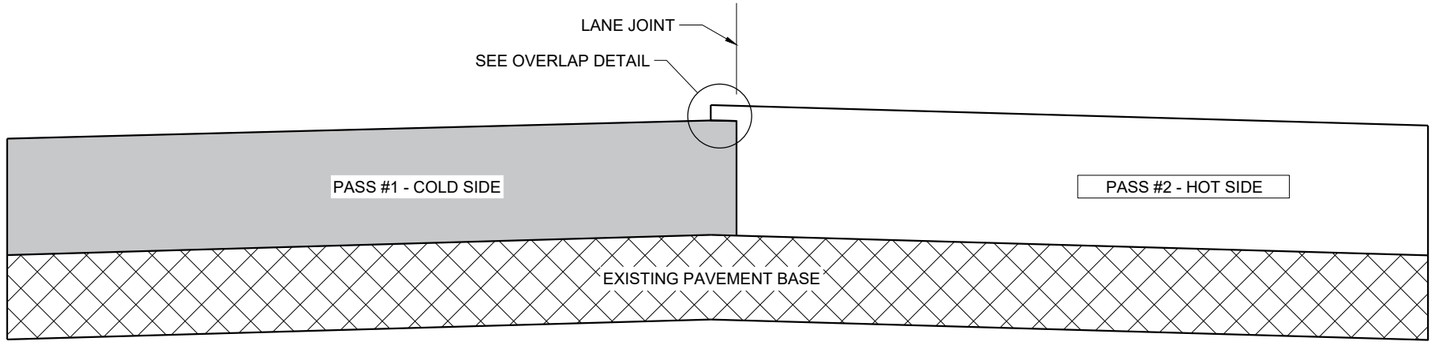
SDD 13B02 - 09a



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

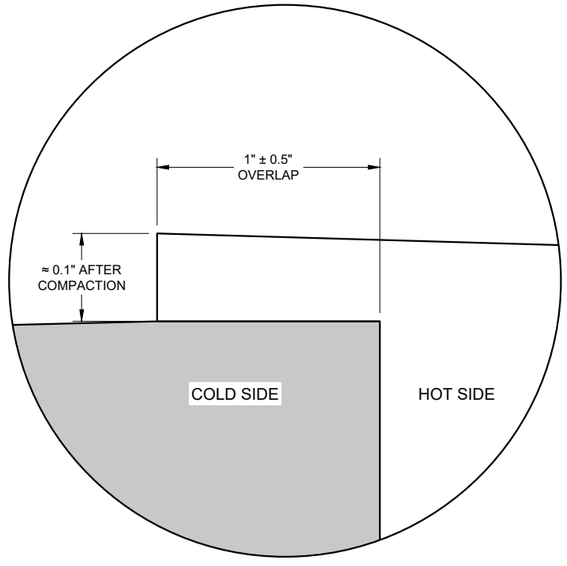
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

6

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SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

GENERAL NOTES

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

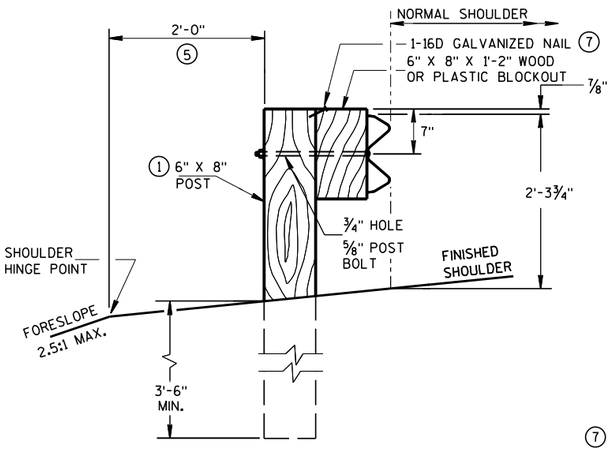
(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

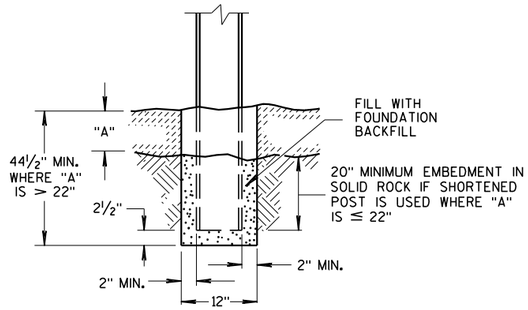
(7) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

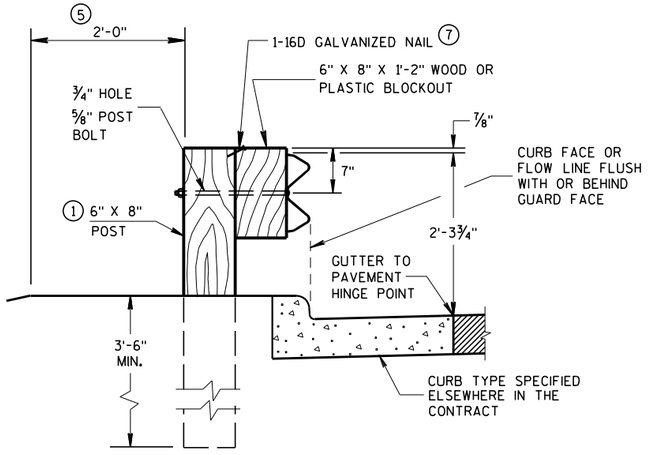
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



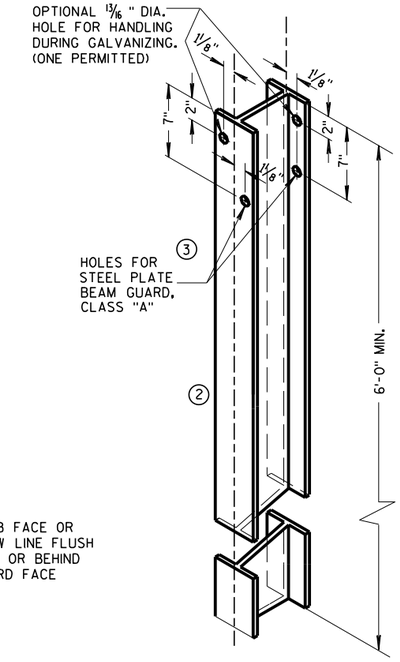
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)

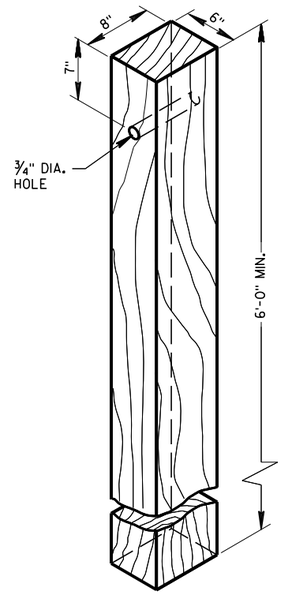


END VIEW
LOCATED ALONG A CURBED ROADWAY

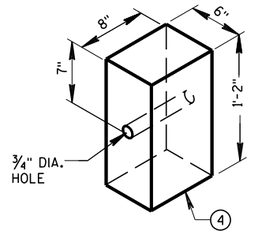


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

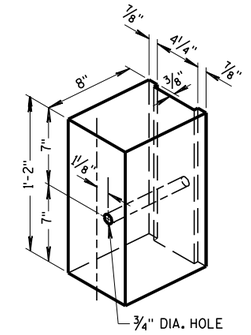
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



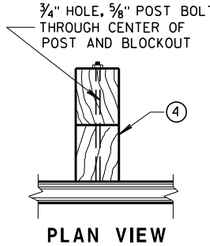
WOOD POST
(6"X8") NOMINAL



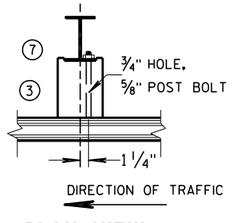
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



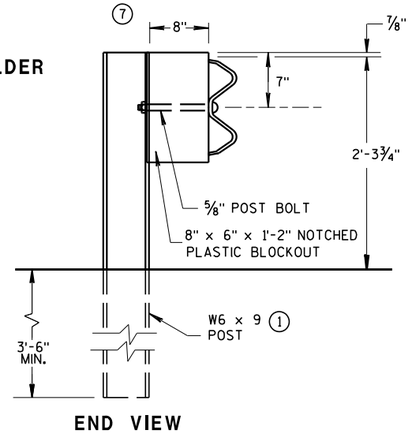
TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS (1)



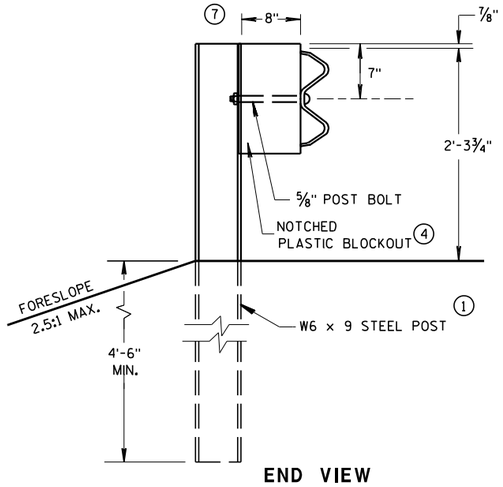
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



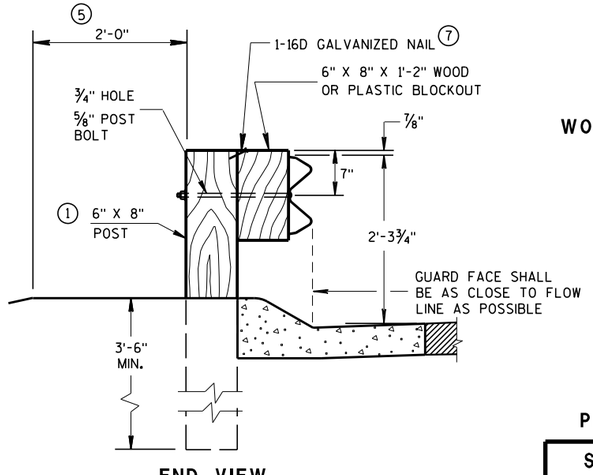
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM



END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)



END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11a

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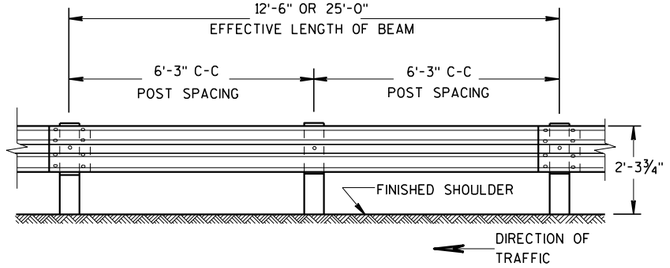
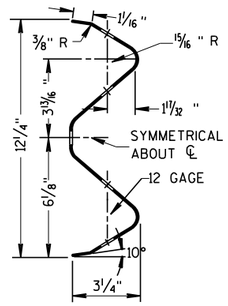
S.D.D. 14 B 15-11a

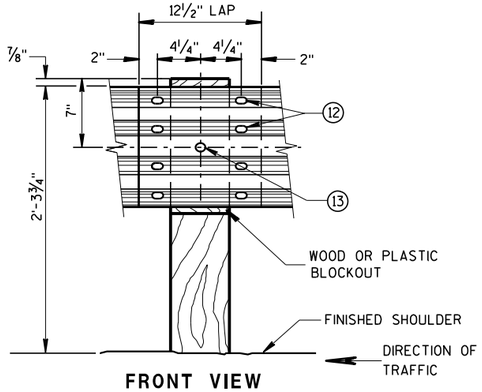


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

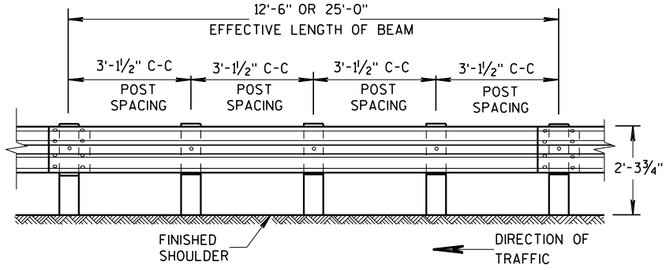
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

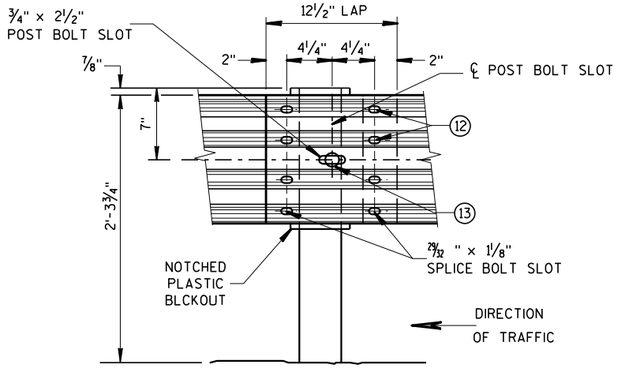
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

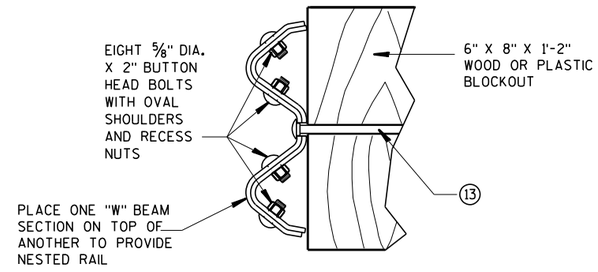
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

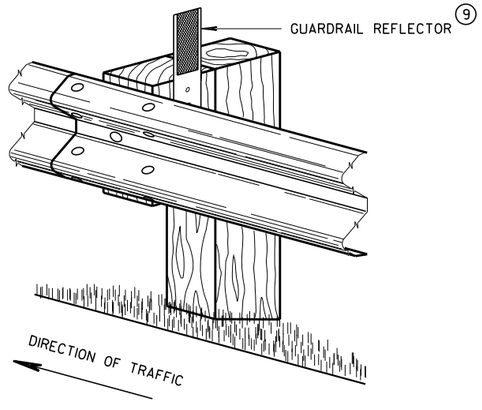
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



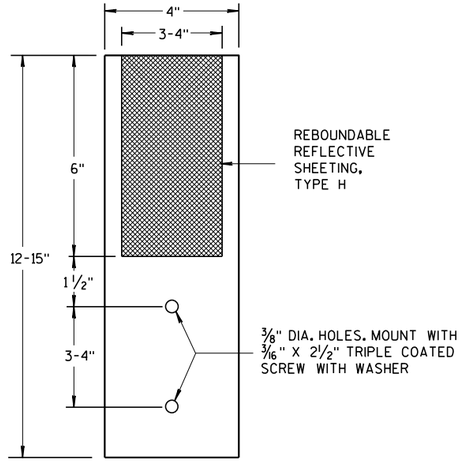
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCO 87
DEPARTMENT OF TRANSPORTATION

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S.D.D. 14 B 15-11b

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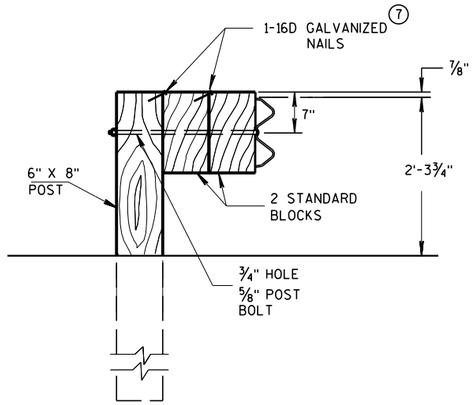
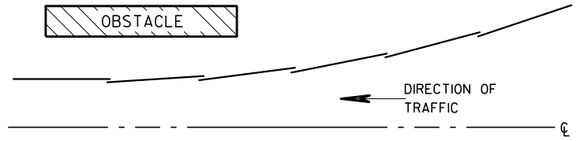
S.D.D. 14 B 15-11b



DETAIL FOR DOUBLE BLOCKS

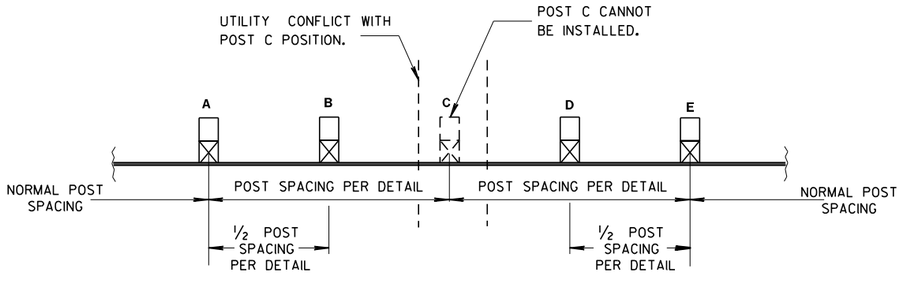
THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED



PLAN VIEW
BEAM LAPPING DETAIL

DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS 88 UNIT SUPERVISOR
FHWA

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S.D.D. 14 B 15-11c

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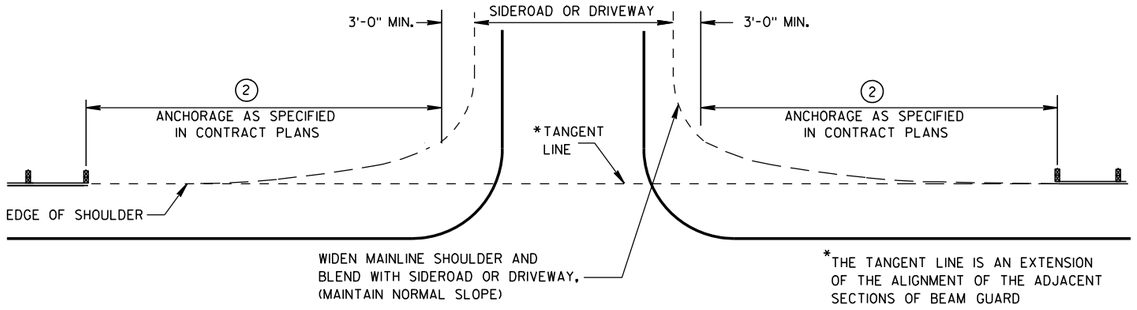
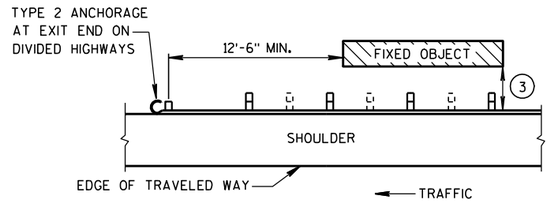
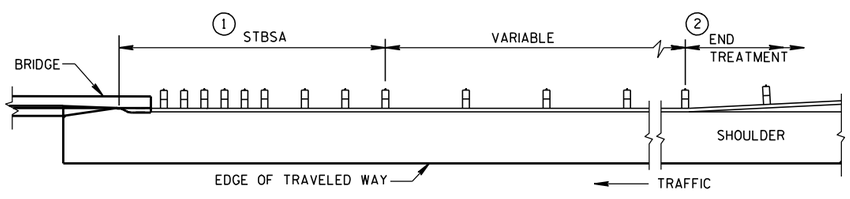
S.D.D. 14 B 15-11c



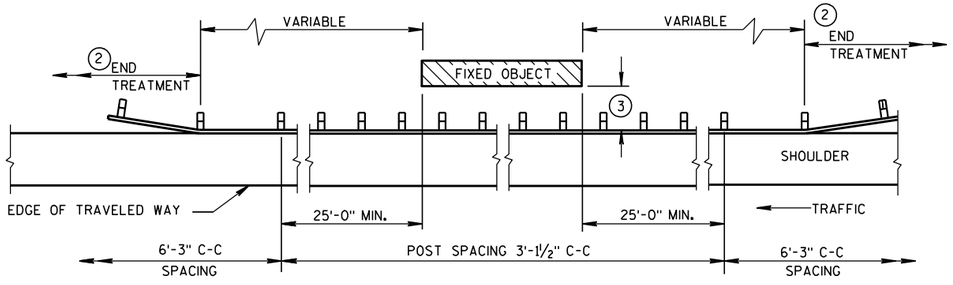
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

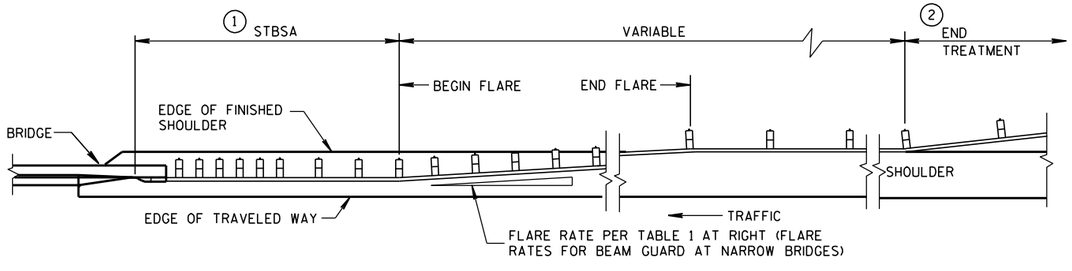


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

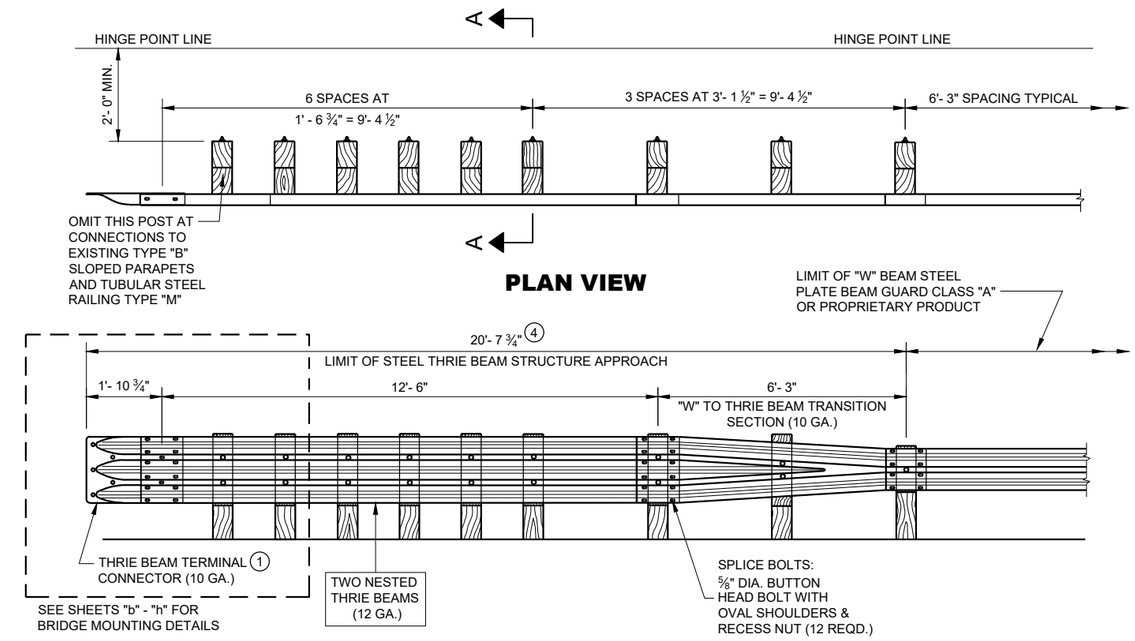
8-21-07 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

6

S.D.D. 14 B 18-6a



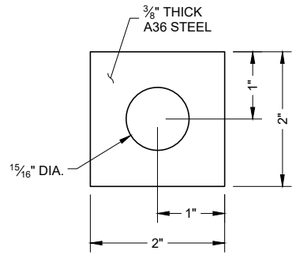


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

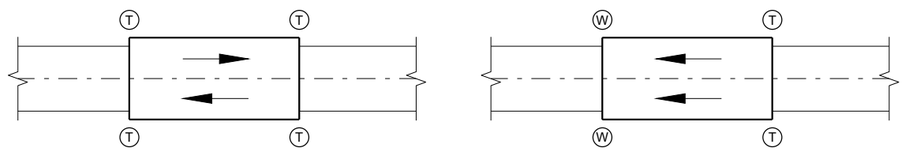
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

(2) MINIMUM EMBEDMENT SHALL BE 4'- 0".

(3) POST BOLTS ARE ⅝" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A ⅝" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

(4) ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



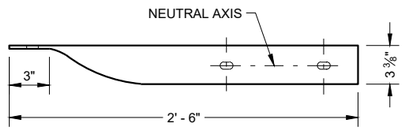
TWO WAY TRAFFIC

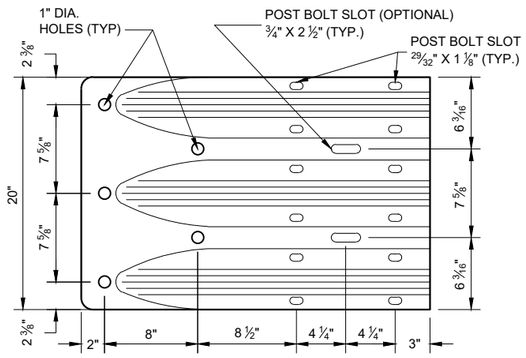
ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

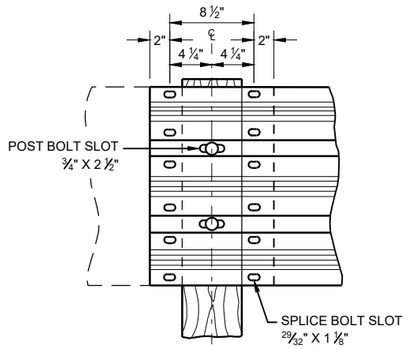
(W) W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

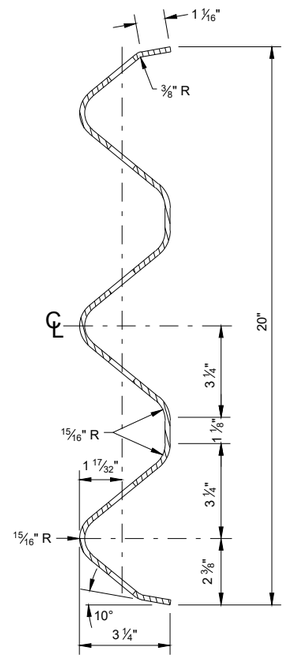




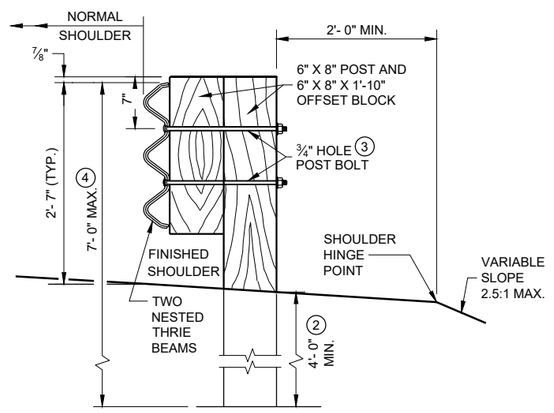
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

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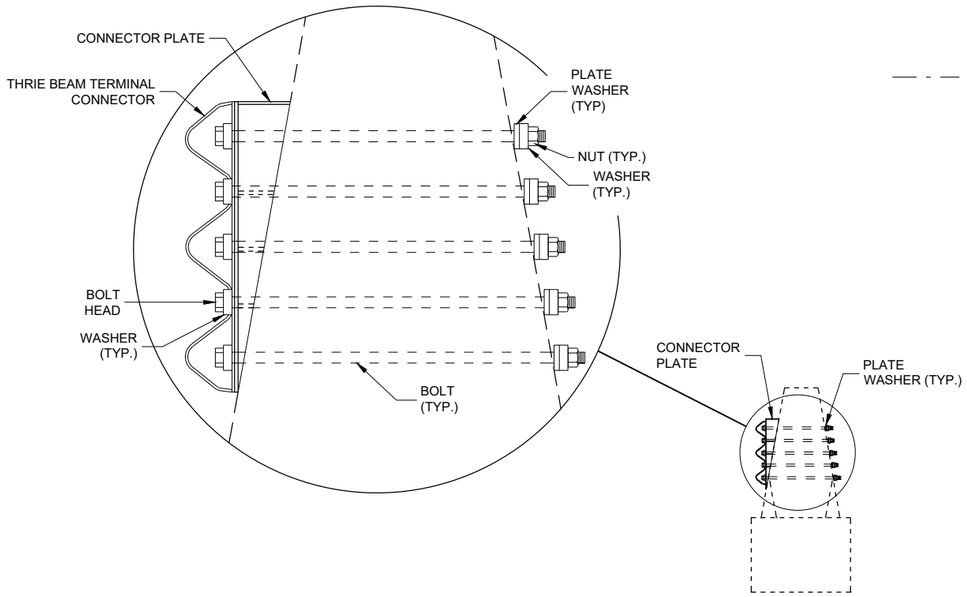
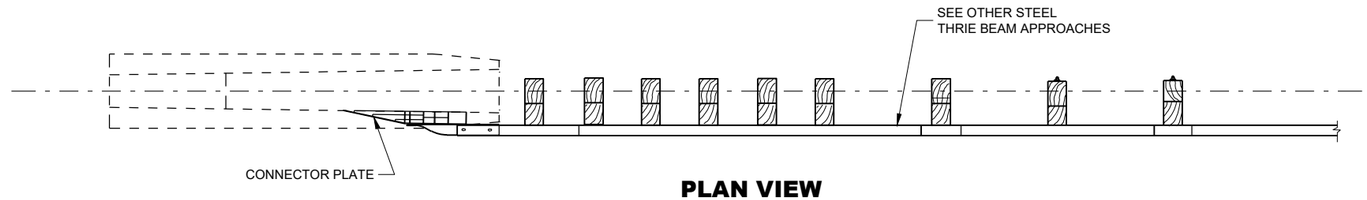
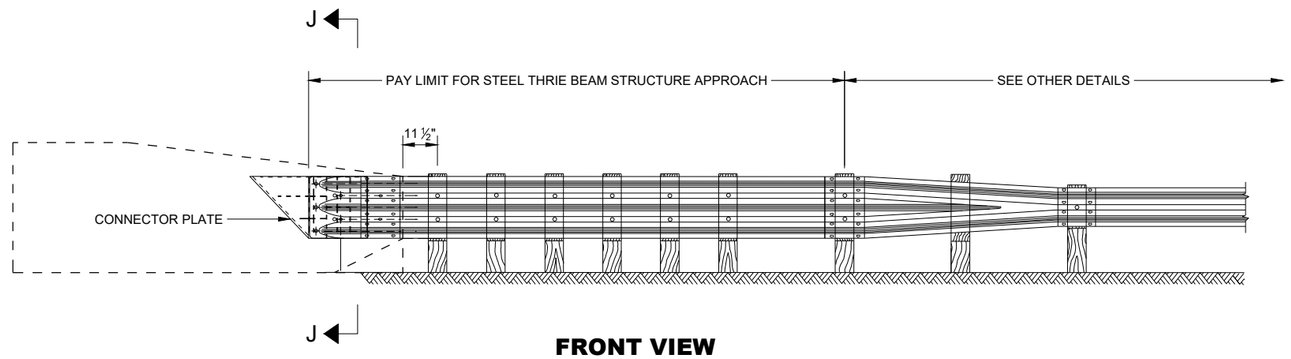
SDD 14B20 - 12a
SDD 14B20 - 12a



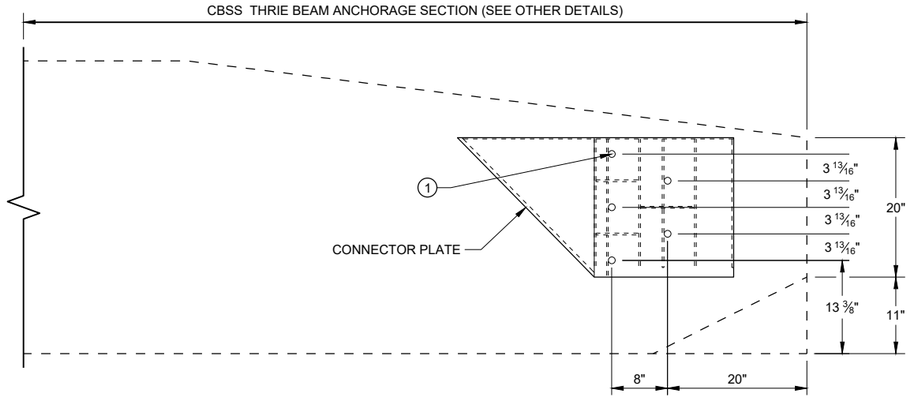
SECTION J - J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE PLACEMENT

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

STEEL THRIE BEAM STRUCTURE APPROACH

MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD 14B20 - 12h

6

SDD 14B20 - 12h

BILL OF MATERIALS

NOTE NO.	DESCRIPTION
①	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
②	STEEL TUBE TS 8" X 6" X 0.188", 6'-0"
④	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
⑤	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
⑥	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
⑦	BEARING PLATE
⑧	BCT CABLE ASSEMBLY
⑨	CABLE ANCHOR BOX
⑩	STRUT & YOKE
⑪	STEEL PLATE BEAM, END PANEL 12 GA.
⑫	STEEL PLATE BEAM: 12 GA. 13'-6½"
⑬	IMPACT HEAD
⑭	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

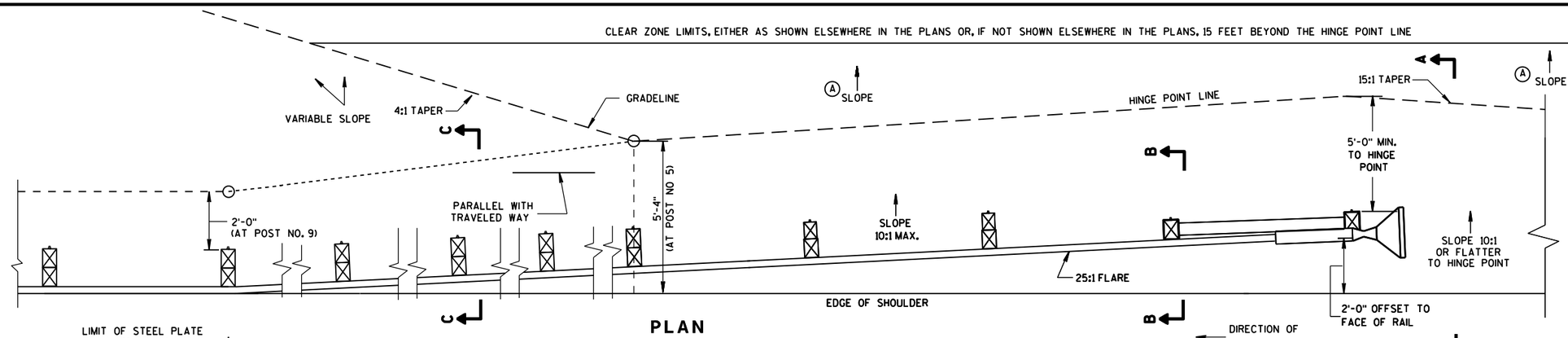
(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

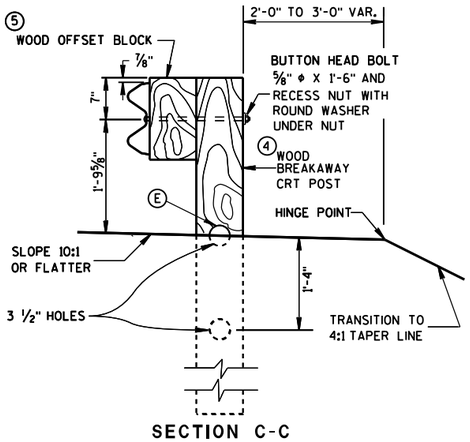
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

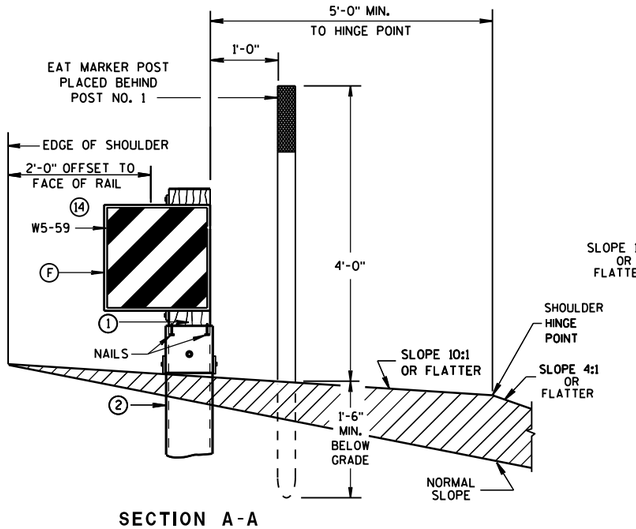
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

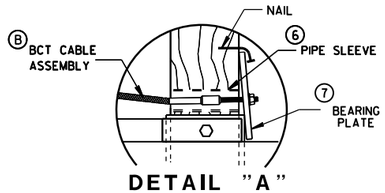
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

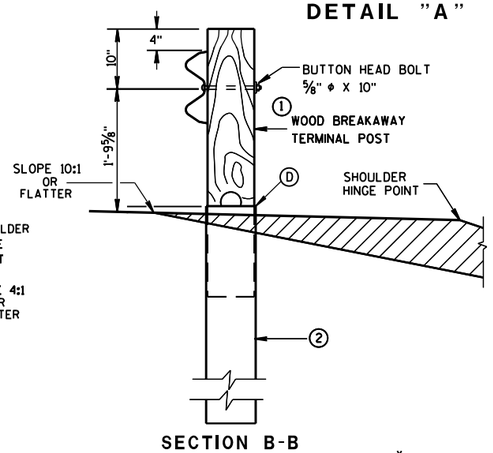
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

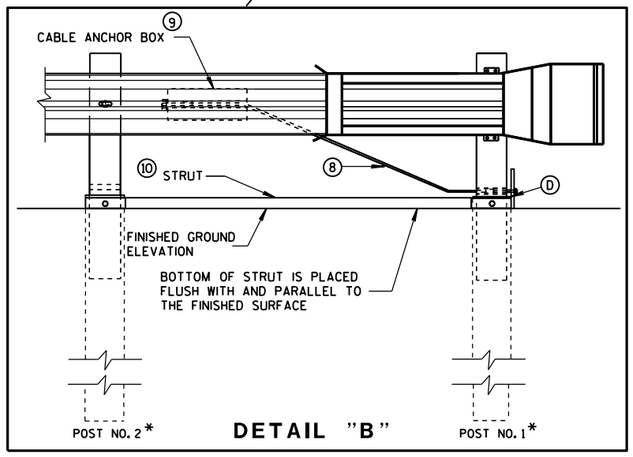










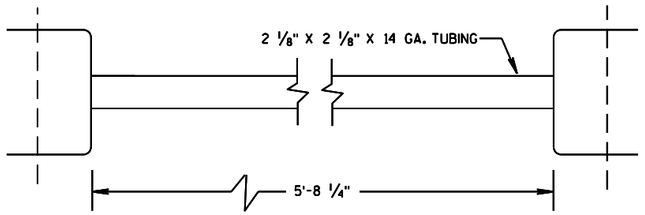


STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

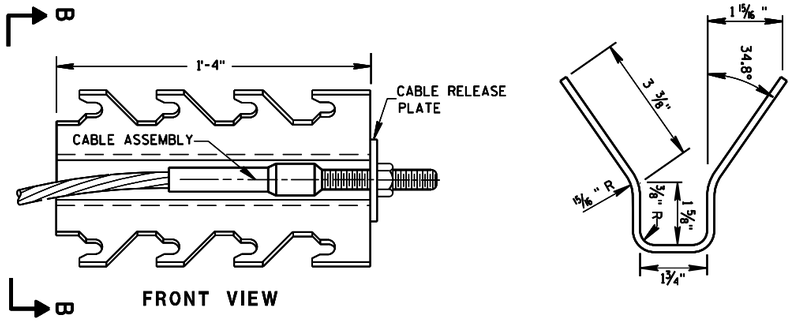
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

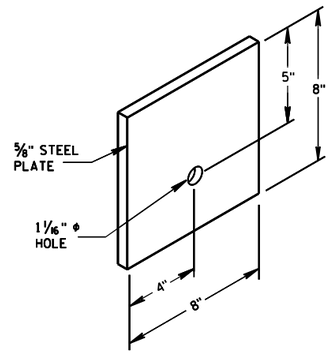
S.D.D. 14 B 24-9a



⑩ STRUT DETAIL



⑨ CABLE ANCHOR BOX



⑦ STEEL BEARING PLATE

6

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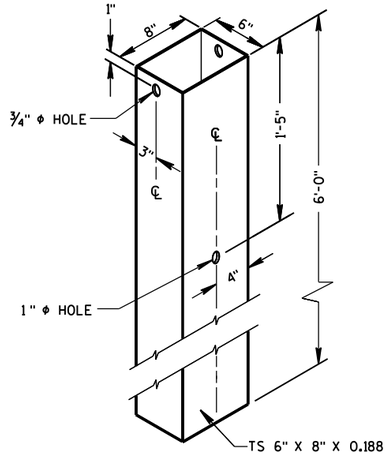
S.D.D. 14 B 24-9b

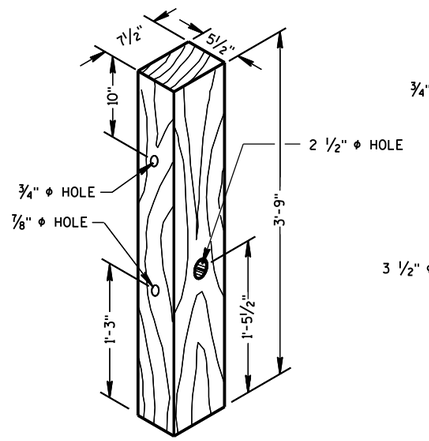
S.D.D. 14 B 24-9b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

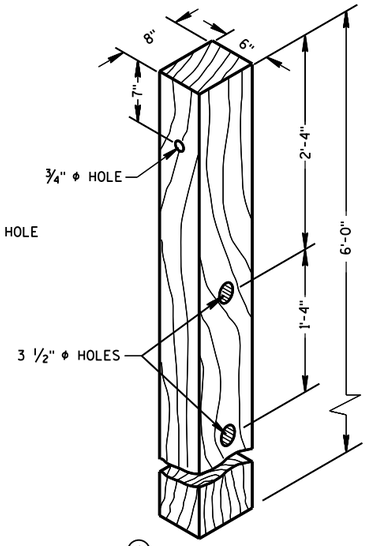
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



② 72" STEEL TUBE
(POSTS NO. 1-2



① TERMINAL POST

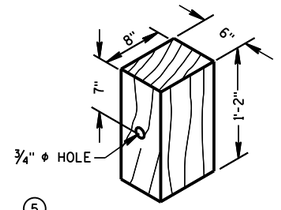


④ CRT POST
(POSTS NO'S 5-8

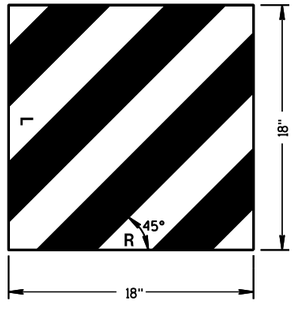
WOOD BREAKAWAY POSTS

GENERAL NOTES

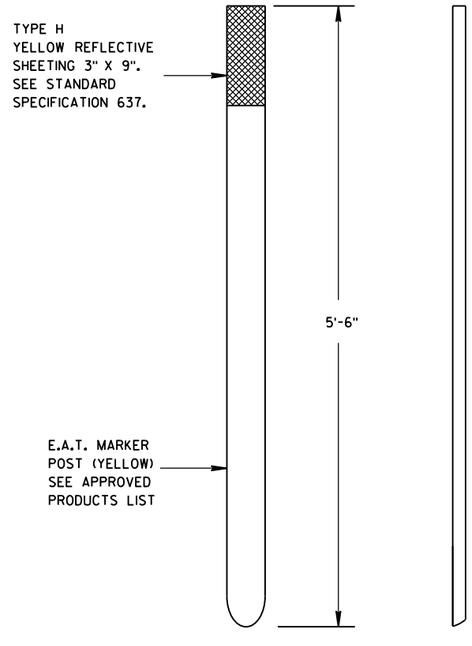
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



⑭ REFLECTIVE SHEETING DETAILS



E.A.T. MARKER POST

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERV...

ENT

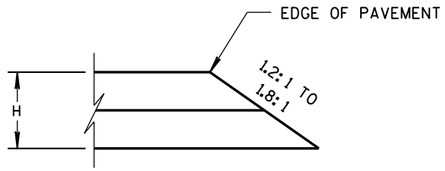
FHWA

6

S.D.D. 14 B 24-9c

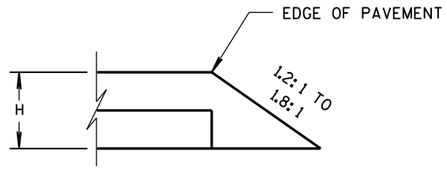
6

S.D.D. 14 B 24-9c



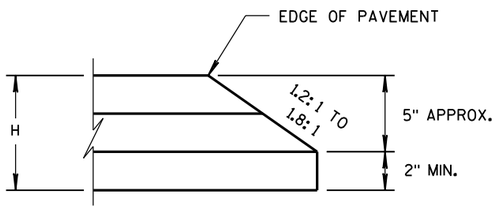
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



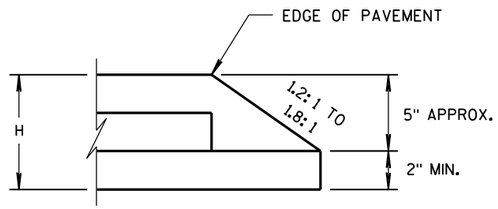
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

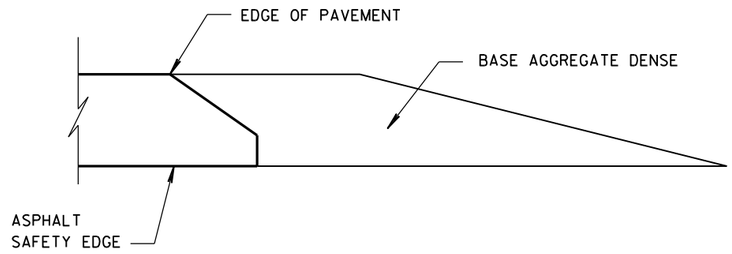
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

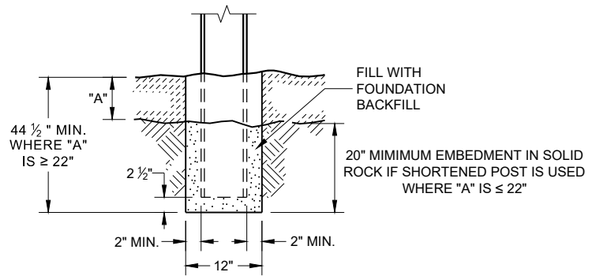
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

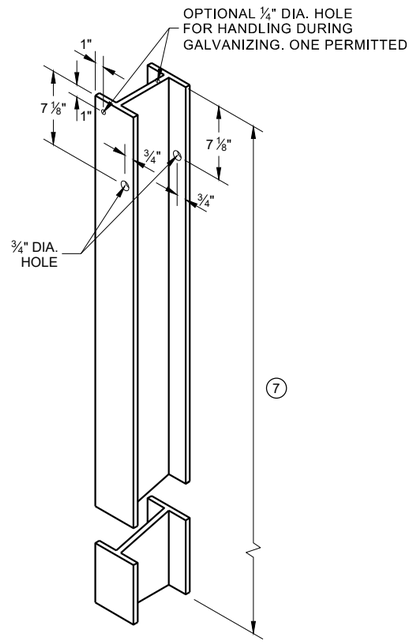
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

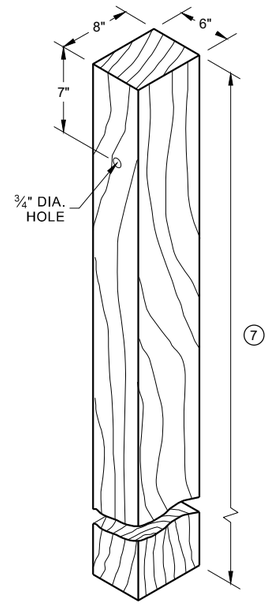
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



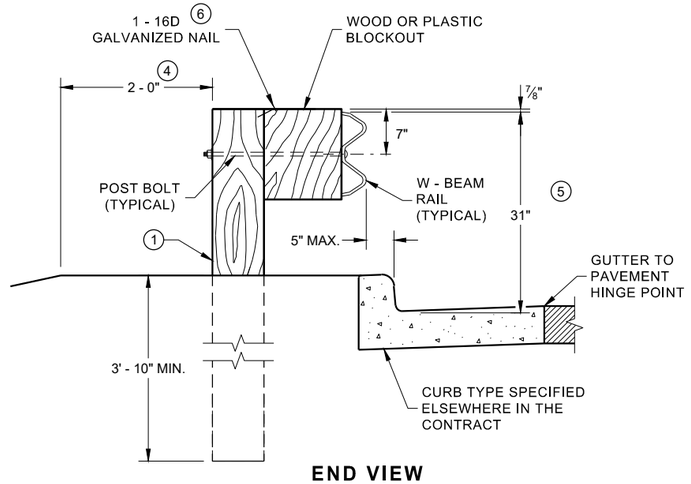
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



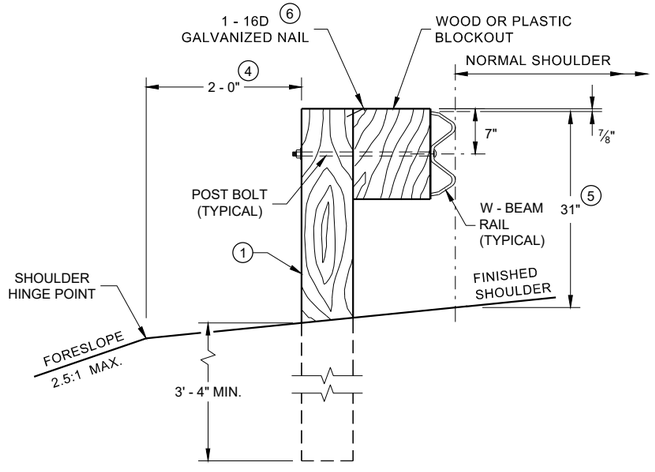
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



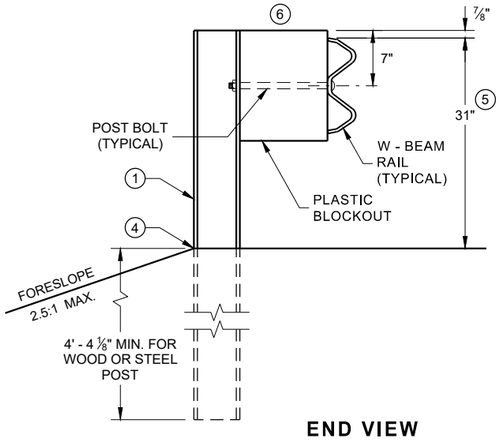
WOOD POST (6" X 8") NOMINAL (1)



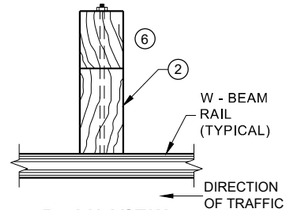
END VIEW
LOCATED ALONG A CURBED ROADWAY



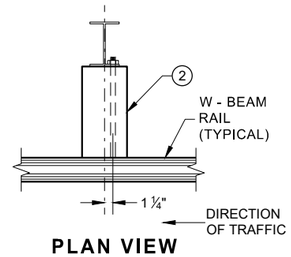
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



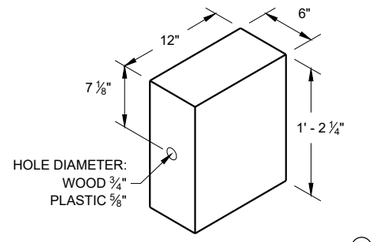
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

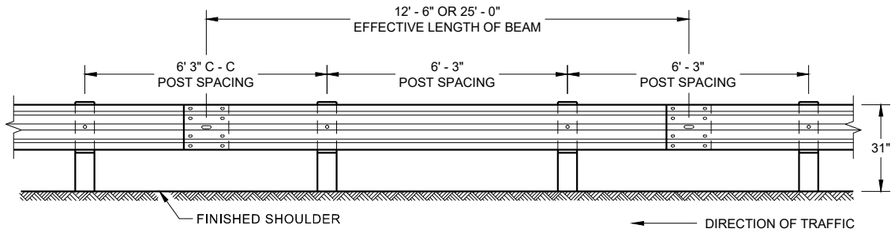


WOOD OR PLASTIC BLOCKOUT (2)

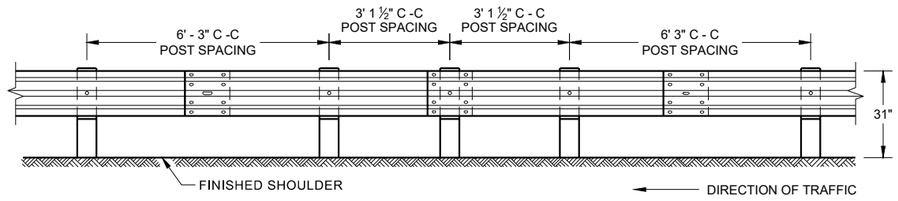
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

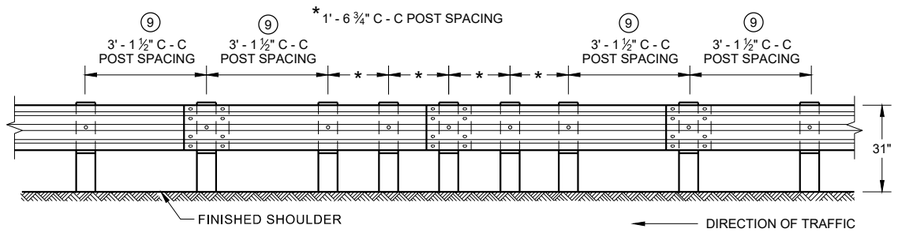
6
SDD 14B42 - 07a



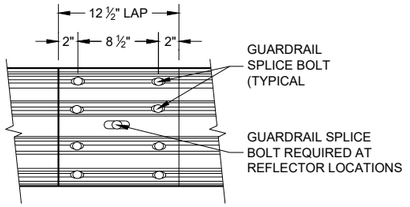
FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

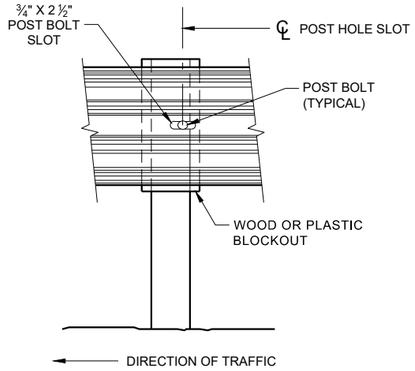
GENERAL NOTES

(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

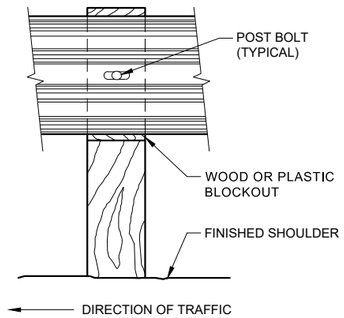
(9) 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

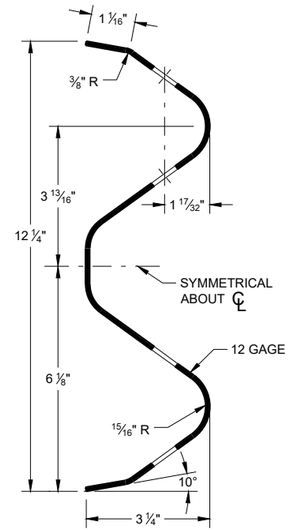
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



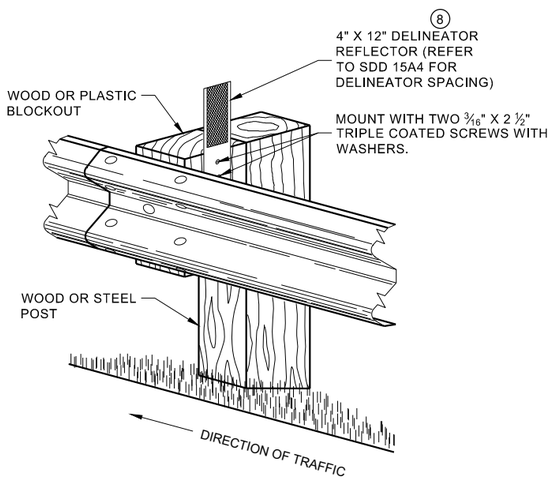
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



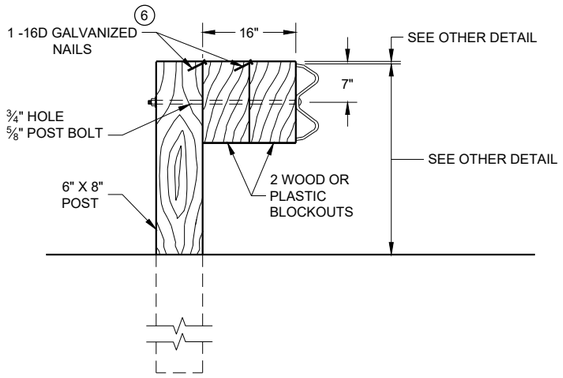
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b

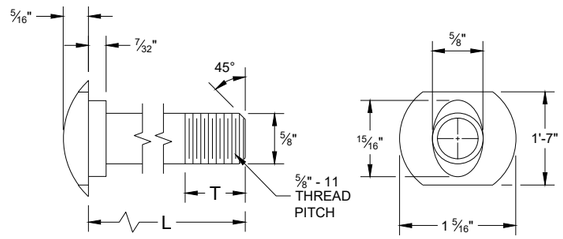


DETAIL FOR 16" BLOCKOUT DEPTH

IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

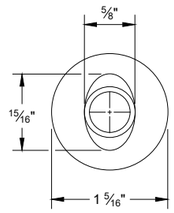
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

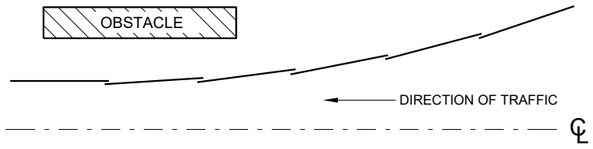


POST BOLT TABLE

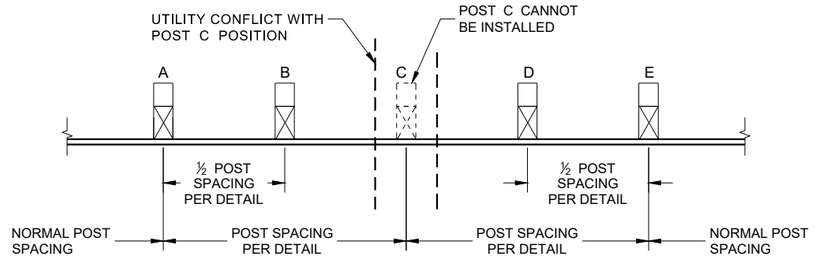
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



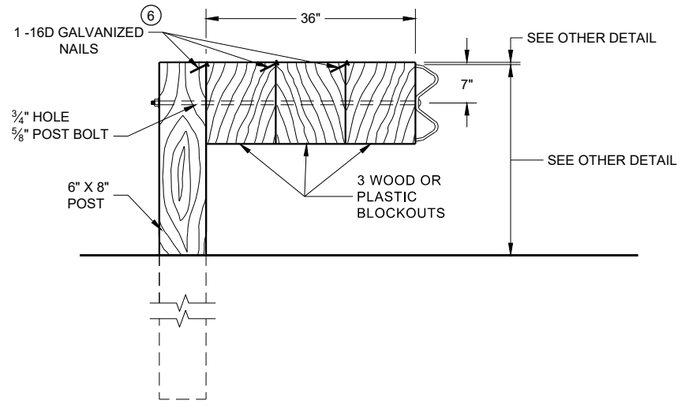
ALTERNATE BOLT HEAD



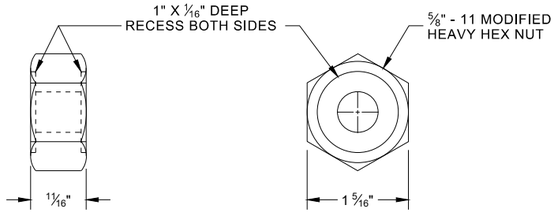
PLAN VIEW
BEAM LAPPING DETAIL



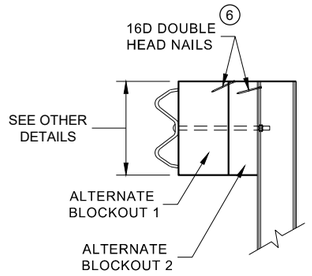
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



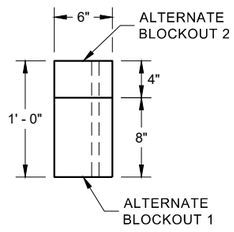
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

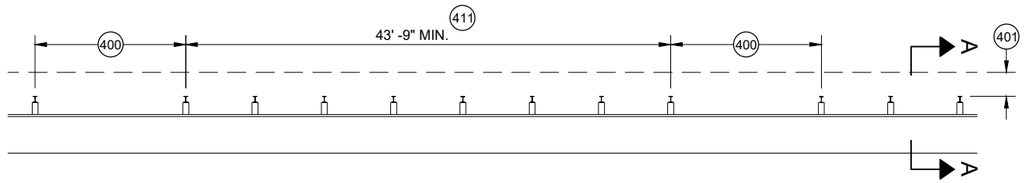
ALTERNATE WOOD BLOCKOUT DETAIL

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

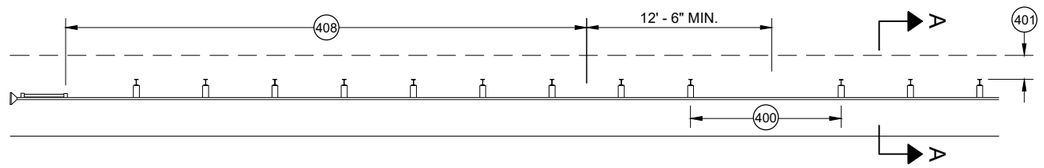
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

(6) WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

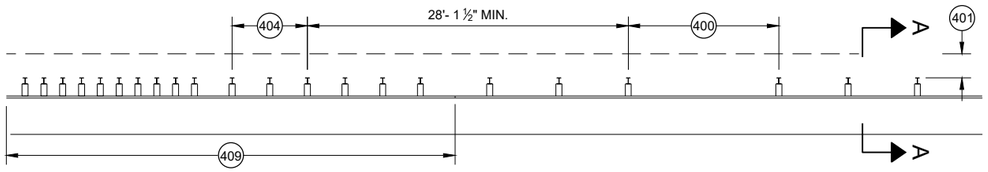
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



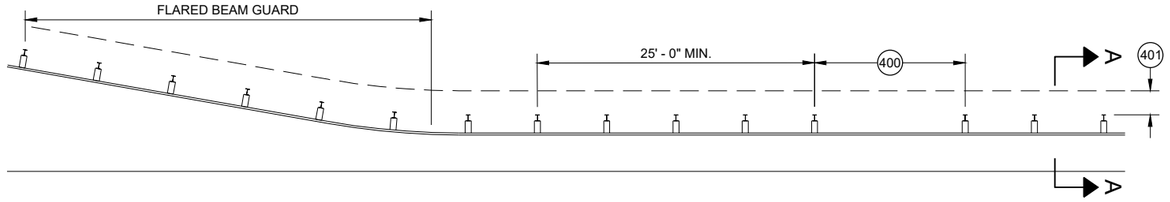
MISSING POST IN MGS GUARDRAIL



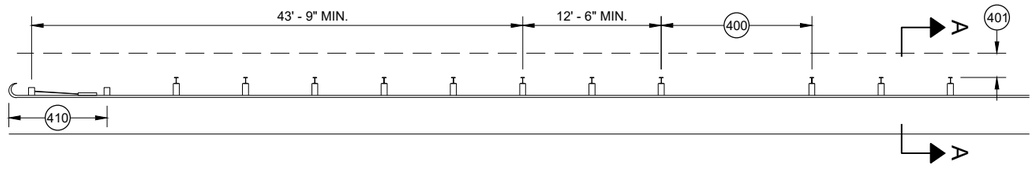
MISSING POST IN MGS GUARDRAIL NEAR EAT



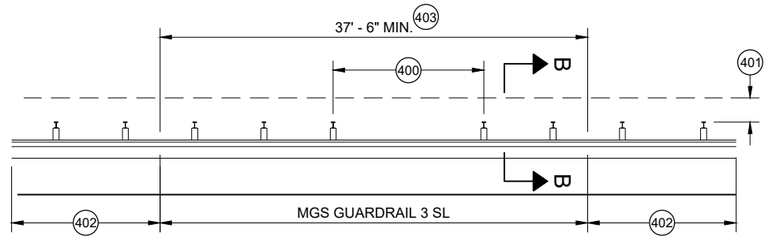
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

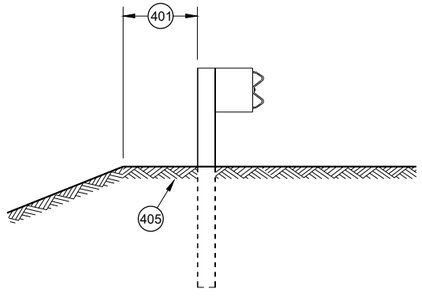


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

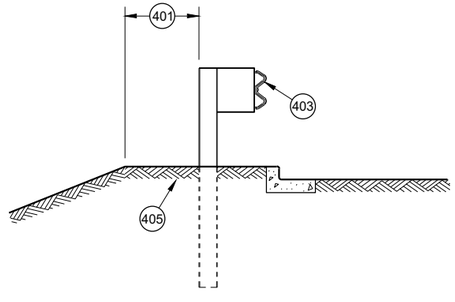


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

400 MAX SPAN 12' - 6"
401 2' MIN.
402 MGS GUARDRAIL 3
403 NESTING BEAM GUARD
404 ASYMMETRIC TRANSITION
405 SOIL WELL DRAINED AND COMPACTED
406 SEE OTHER DRAWINGS IN THIS SDD
407 SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
408 SEE SDD 14B44
409 SEE SDD 14B45
410 SEE SDD 14B47
411 MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

(D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

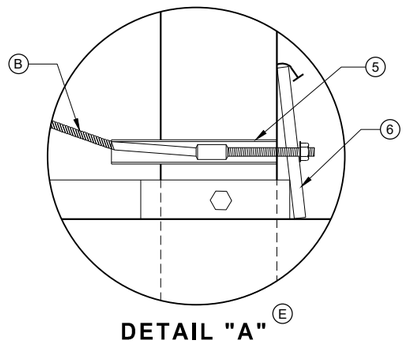
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

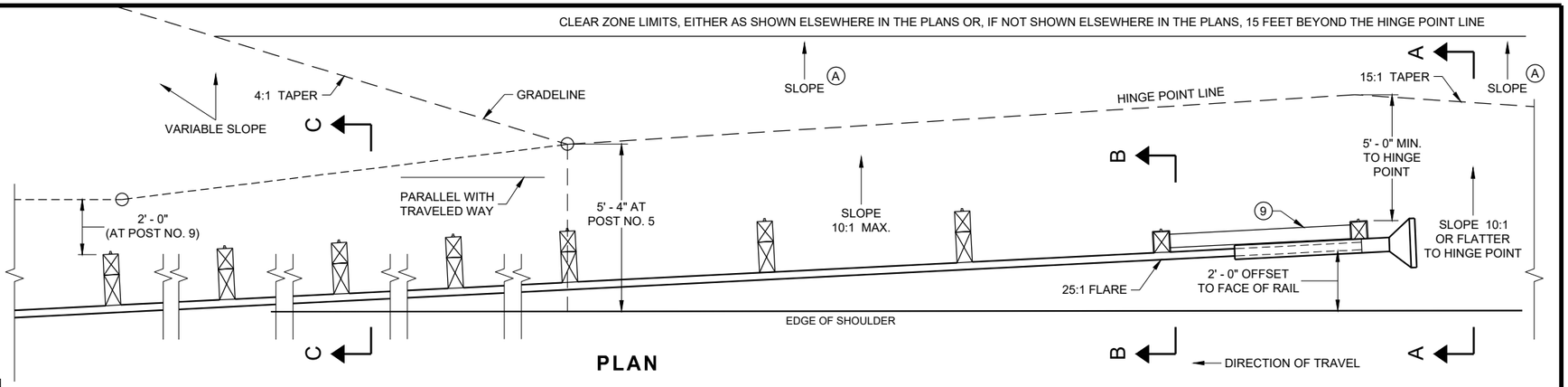
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

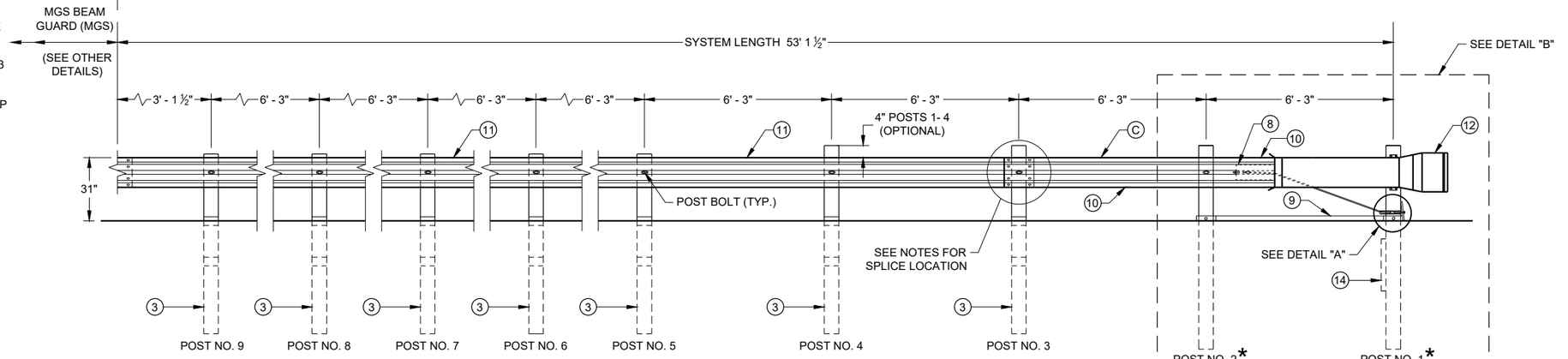
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



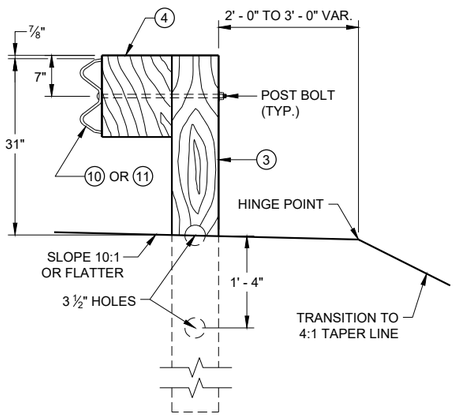
DETAIL "A" (E)



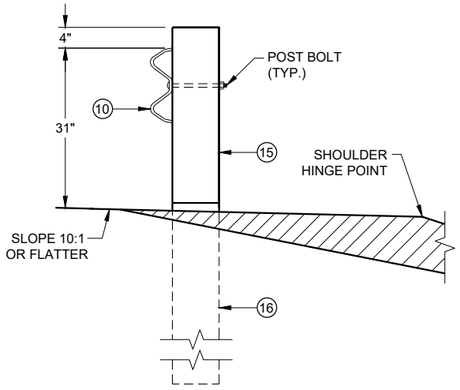
PLAN



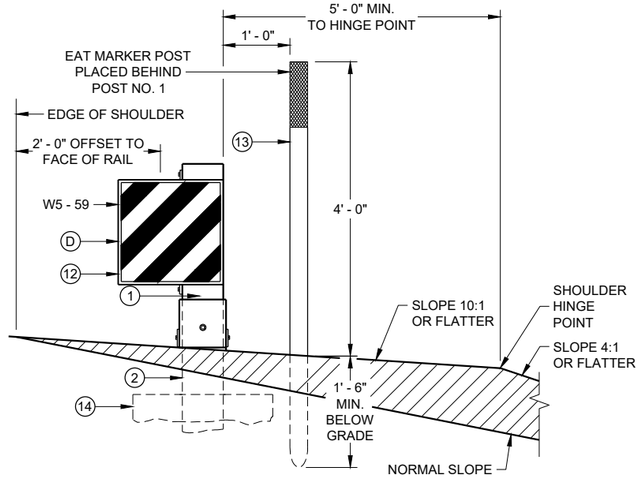
ELEVATION



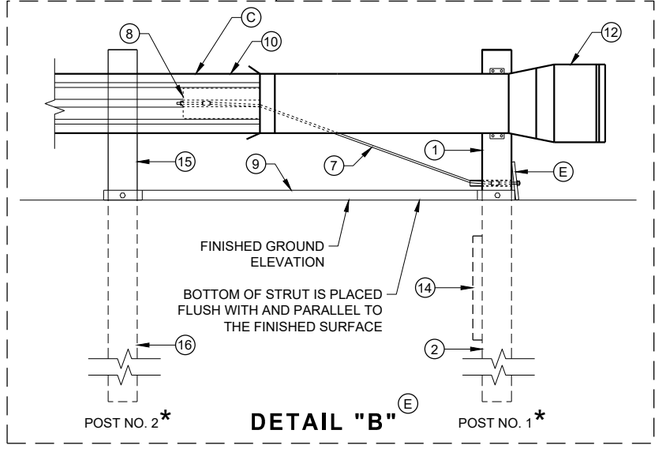
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



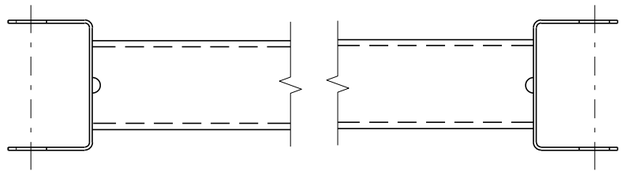
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

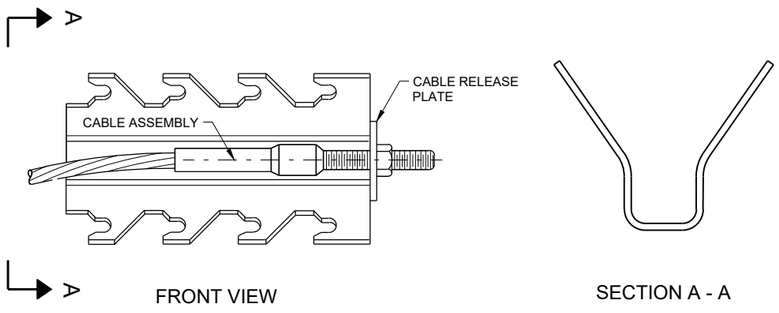
SDD 14B44 - 04a



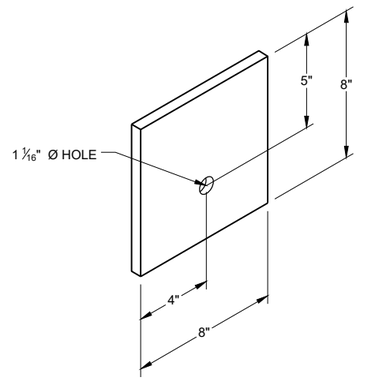
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



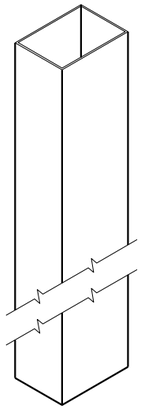
BEARING PLATE ⑥ Ⓔ

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

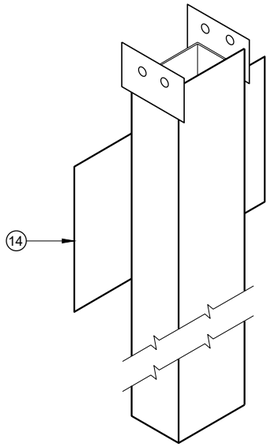
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

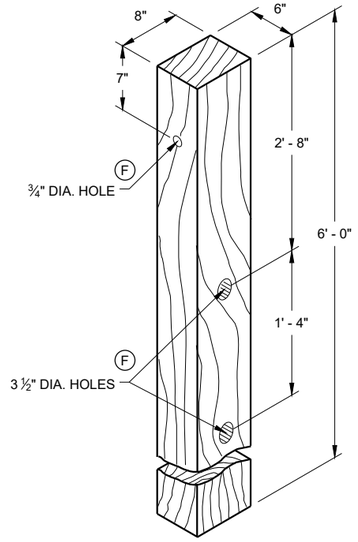
SDD 14B44 - 04b



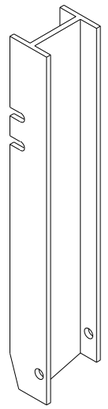
UPPER POST NO. 1 (1) (E)



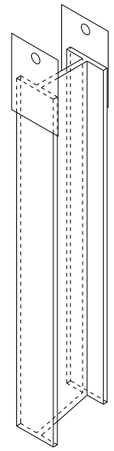
LOWER POST NO. 1 (2) (E)



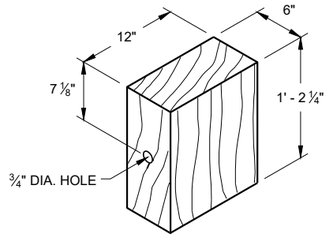
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



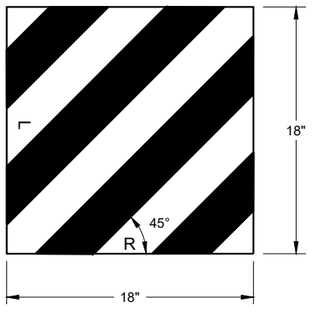
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

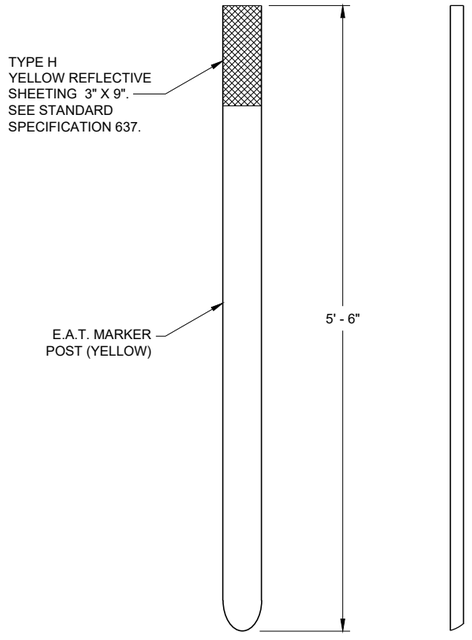


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



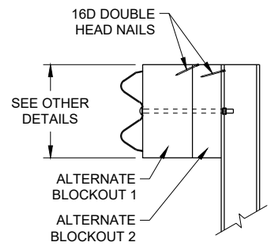
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

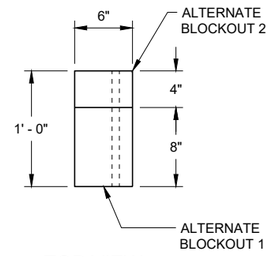


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

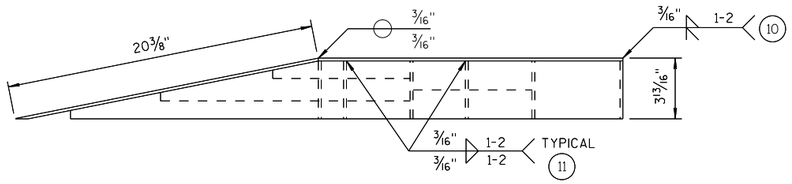
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

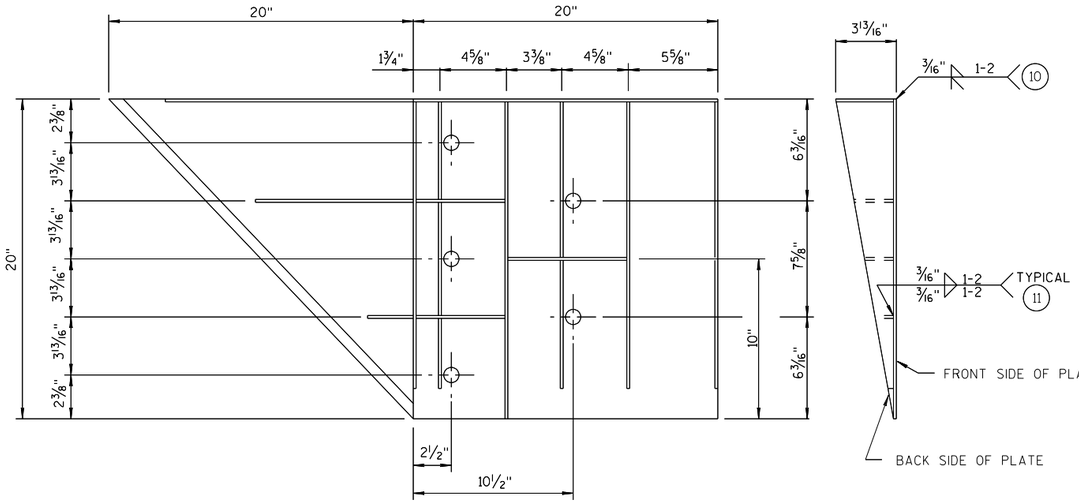
APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c
SDD 14B44 - 04c





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

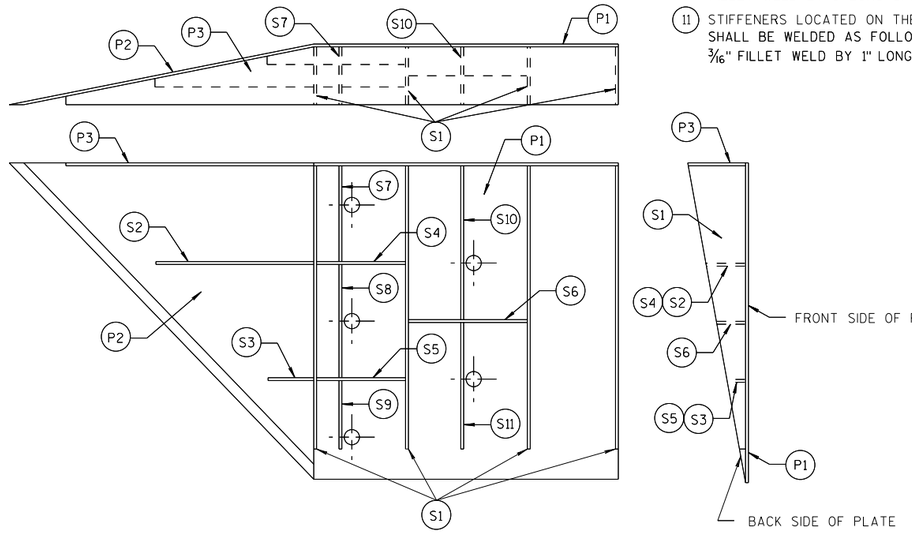


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

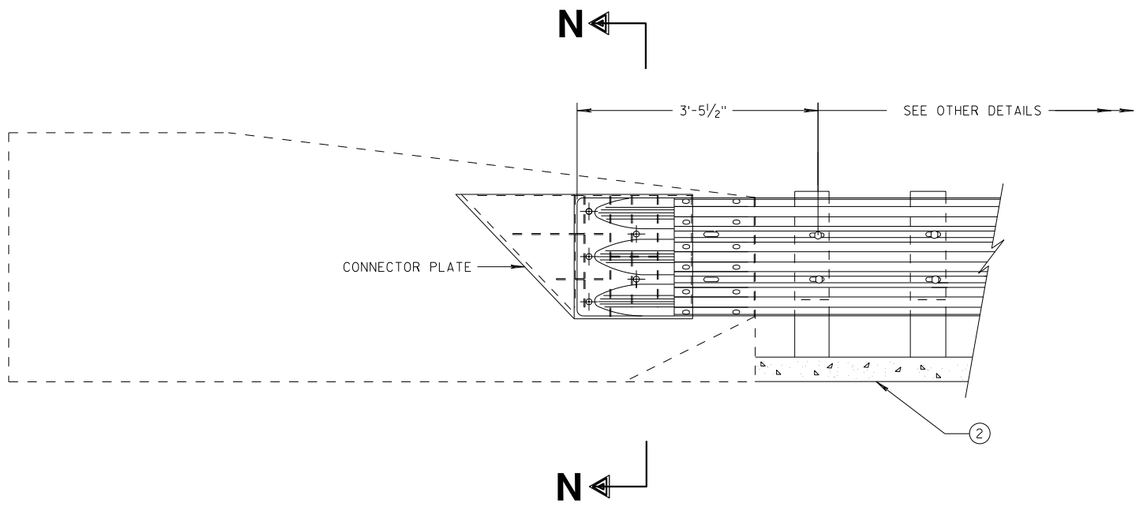
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

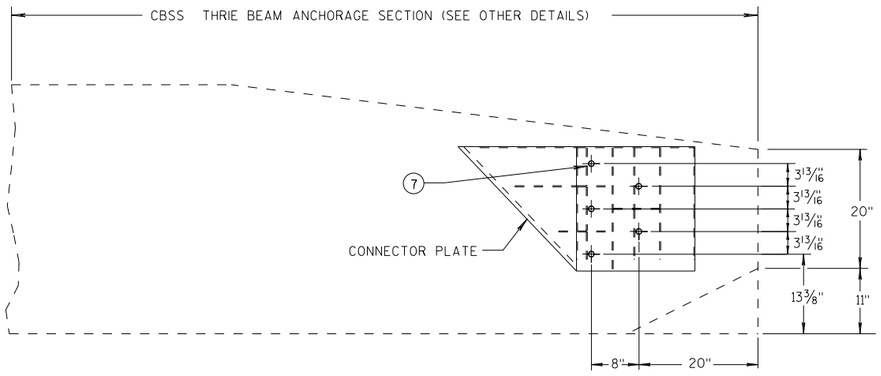
APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI ENT

6
S.D.D. 14 B 45-5i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



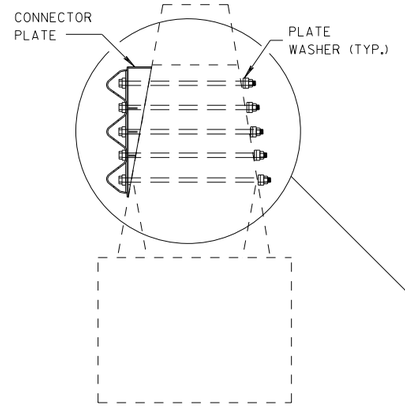
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

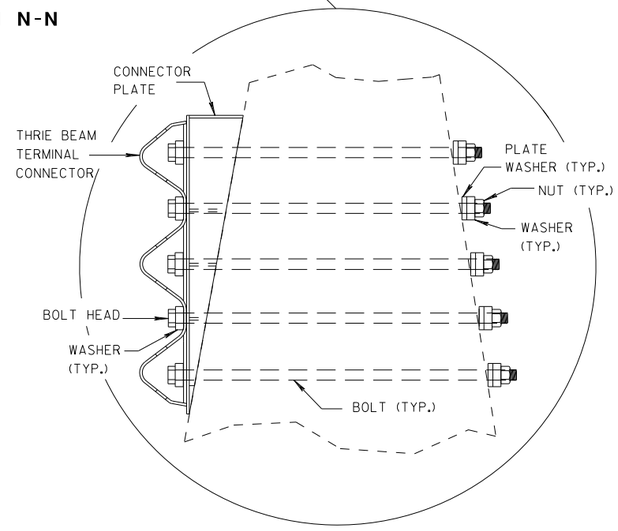
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(2) OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DI[illegible]NT
UNIT SUPERVIS

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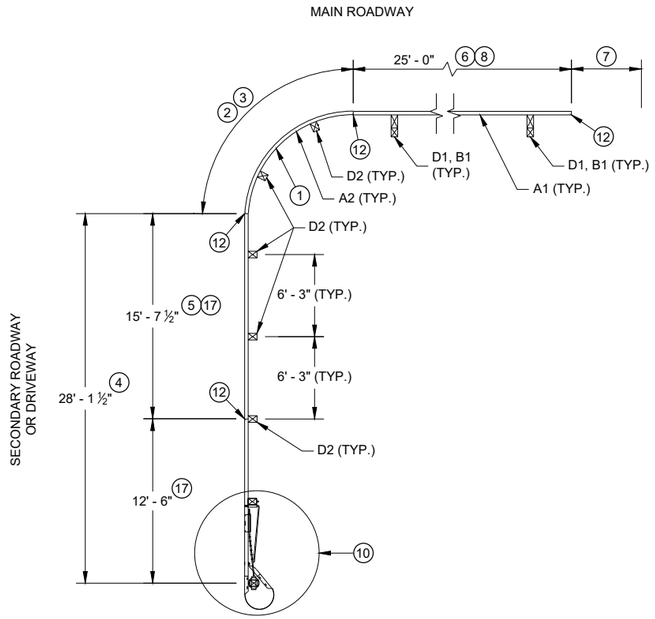
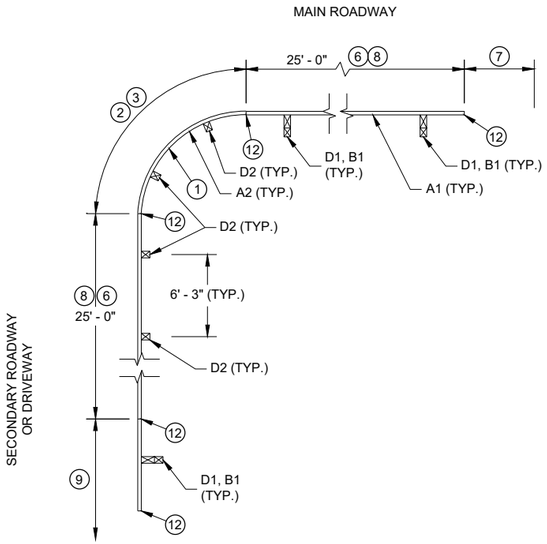


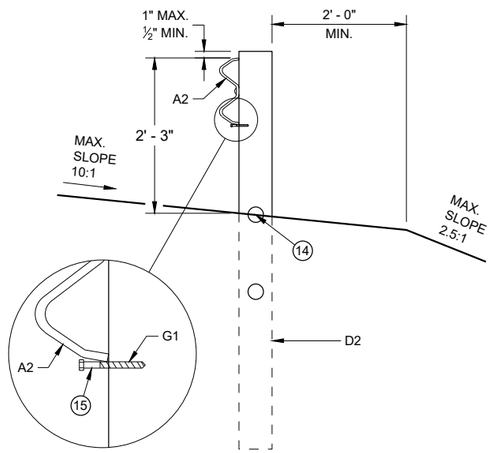
PLAN VIEW

SHORT RADIUS BEAM GUARD WITH SHORT RADIUS TERMINAL ON SECONDARY ROAD OR DRIVEWAY

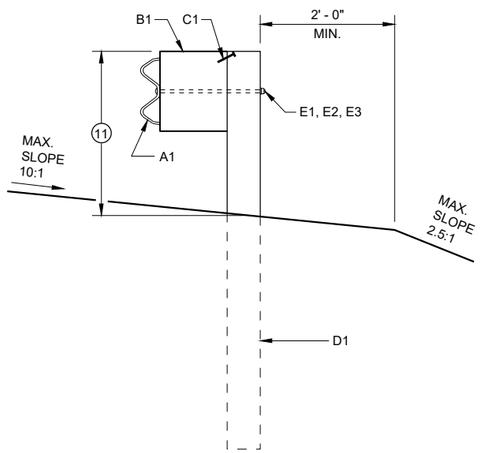


PLAN VIEW

SHORT RADIUS BEAM GUARD WITH EAT, ADDITIONAL BEAM GUARD OR TRANSITION TO RIGID BARRIER ON SECONDARY ROAD OR DRIVEWAY



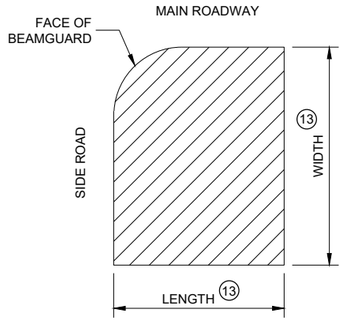
CONTROLLED RELEASE TERMINAL POST (CRT) IN RADIUS



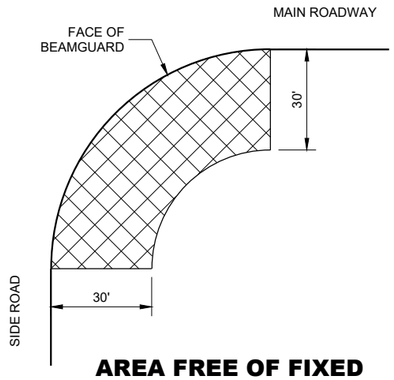
BEAM GUARD POSTS IN HEIGHT TRANSITION

TABLE FOR RADIUS OF 32' AND LESS

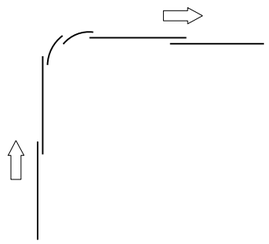
RADIUS (FT)	LENGTH (FT)	WIDTH (FT)
8	25	15
16	30	15
24	40	20
32	50	30



AREA FREE OF FIXED OBJECTS FOR RADIUS 32' AND LESS (16)



AREA FREE OF FIXED OBJECTS FOR RADIUS GREATER THAN 32'



LAP SPLICE DETAIL

GENERAL NOTES

SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.

SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.

GALVANIZE PARTS AFTER FABRICATION.

WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.

UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.

UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.

ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.

UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE ¼" TO ½" BEYOND THE NUT.

DRAWINGS ARE NOT TO SCALE.

(1) RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.

(2) CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.

(3) WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.

(4) MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.

(5) ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.

(6) MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.

(7) BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.

(8) TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.

(9) ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.

(10) SHORT RADIUS TERMINAL (SEE OTHER DETAILS).

(11) HEIGHT VARIES. SEE NOTE (8) AND (8).

(12) BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.

(13) SEE TABLE FOR VALUES.

(14) MAXIMUM HEIGHT FOR CENTER OF HOLE IS ¾" ABOVE FINISHED GROUND ±1".

(15) DRILL POST $^{15}/_{64}$" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.

(16) SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.

(17) TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
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6

SDD 14B53 - 02a

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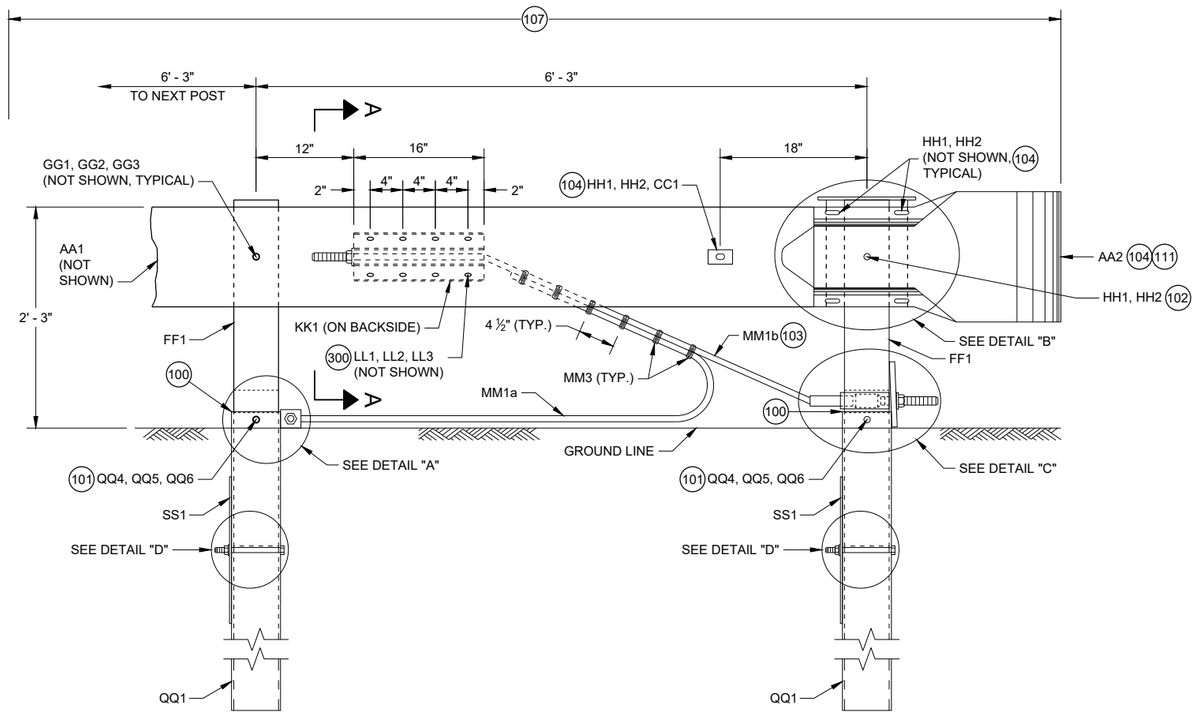
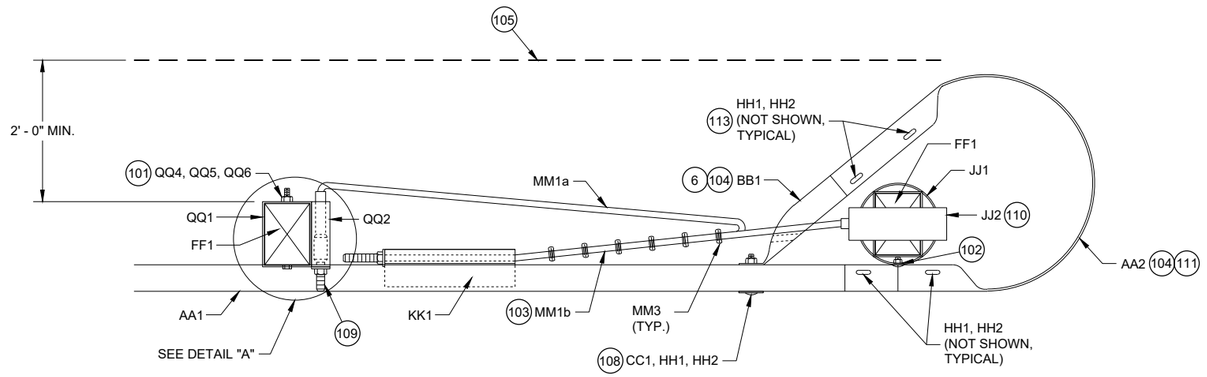


PROFILE VIEW

SHORT RADIUS TERMINAL



TOP VIEW

SHORT RADIUS TERMINAL

GENERAL NOTES

100 TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.

101 WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

102 SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".

103 CABLE IS TAUT.

104 ADJUST AA2 AND BB1 TO FIT.

105 BREAK POINT OF SHOULDER.

106 TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.

107 PAY LIMIT FOR BEAM GUARD.

108 SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.

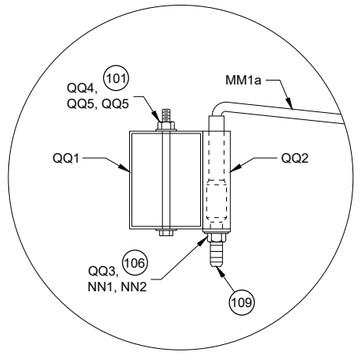
109 CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS ½" TOLERANCE). DEBURR AFTER CUTTING.

110 SEE STEEL PIPE ASSEMBLY DETAILS.

111 ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.

112 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.

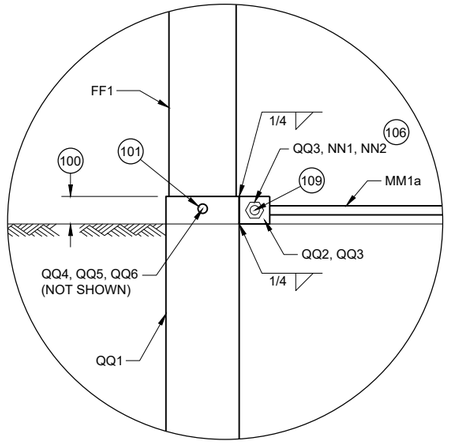
113 FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.



TOP VIEW

DETAIL "A"

(WOOD BREAKAWAY AND BEAM GUARD RAIL POSTS NOT SHOWN)



PROFILE VIEW

DETAIL "A"

6

SDD 14B53 - 02b

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

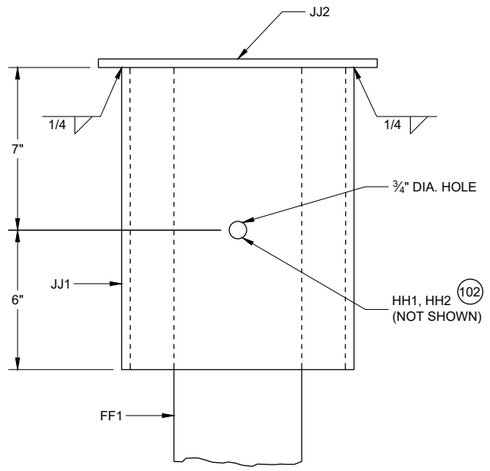
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B53 - 02b

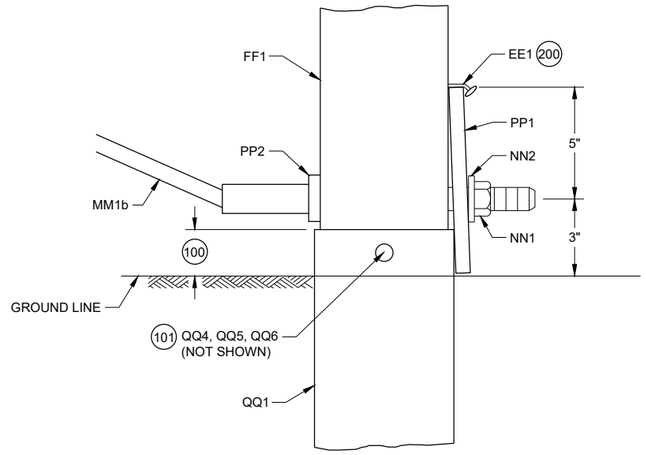
GENERAL NOTES

(200) TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.



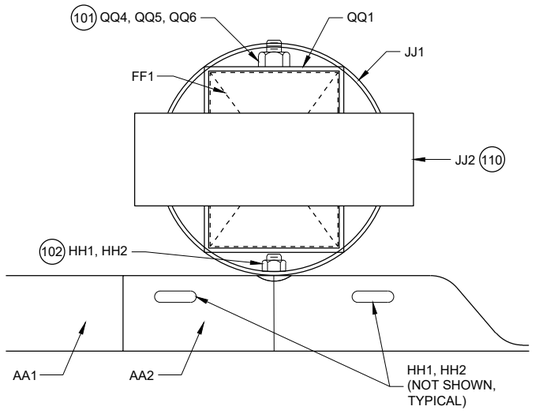
PROFILE VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY
(BEAM GUARD AND W BEAM END SECTION NOT SHOWN)



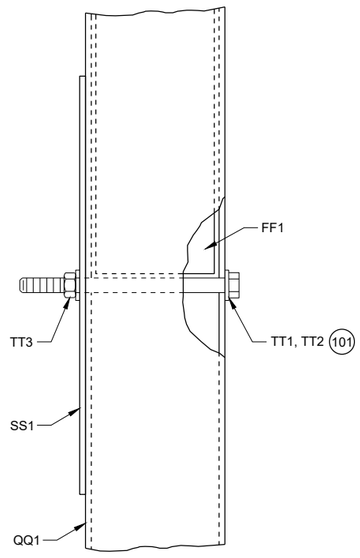
PROFILE VIEW

DETAIL "C"



PLAN VIEW

DETAIL "B"
STEEL PIPE ASSEMBLY



PROFILE VIEW

DETAIL "D"

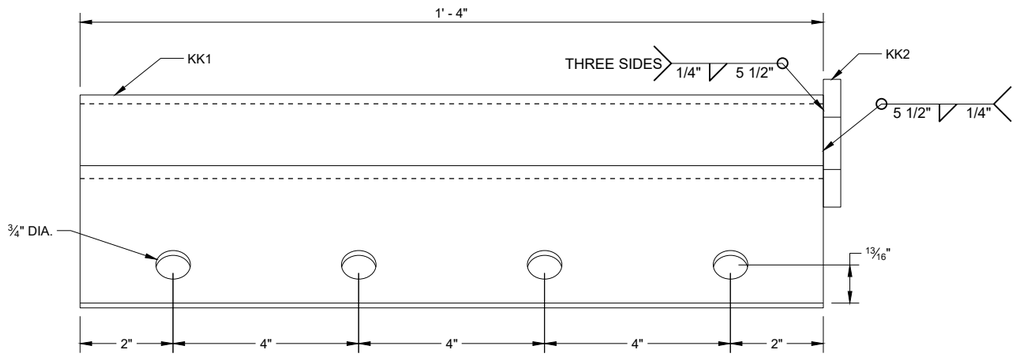
SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

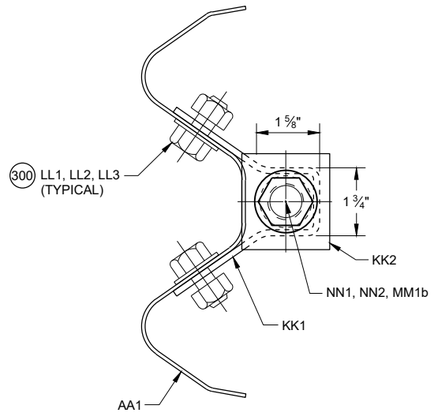
6

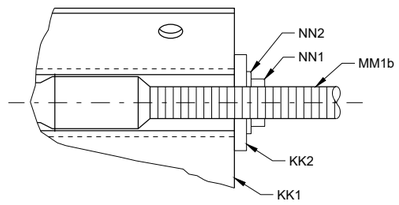
SDD 14B53 - 02c

GENERAL NOTES

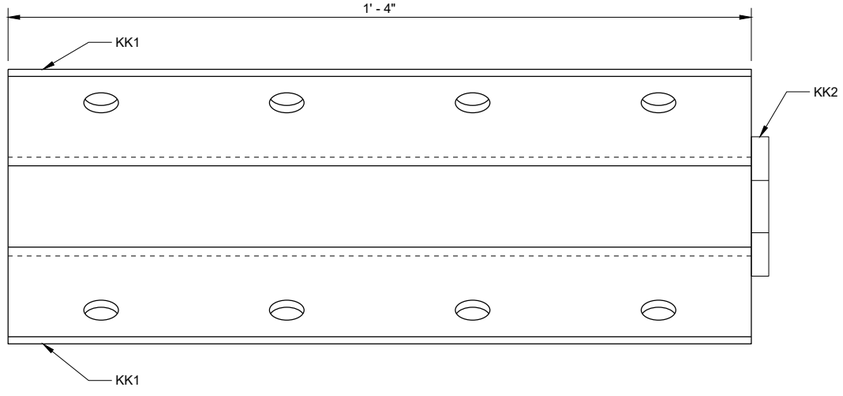
(300) WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.

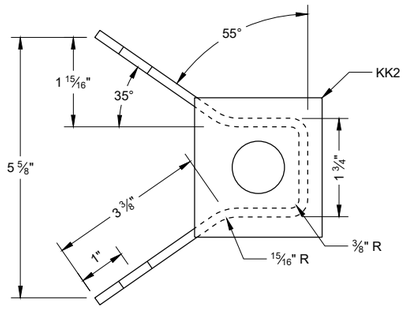




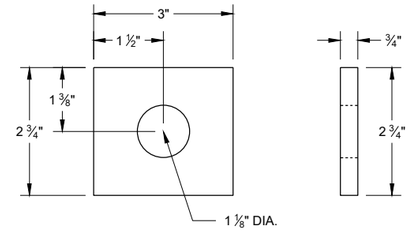


SECTION A - A





ANCHOR BRACKET (KK1, KK2)



ANCHOR BRACKET BEARING PLATE (KK2)

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SDD 14B53 - 02d

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

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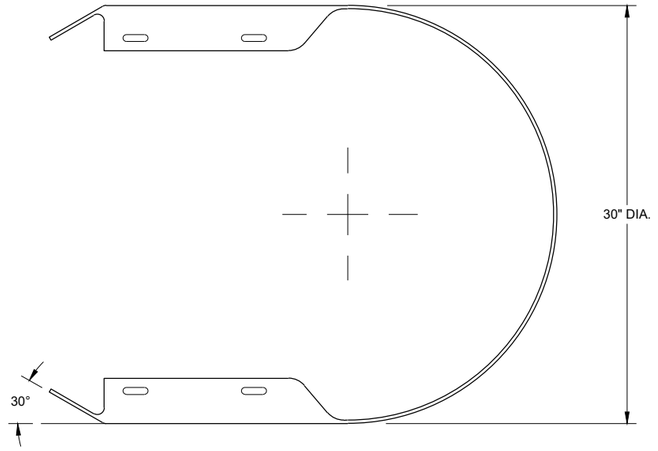
SDD 14B53 - 02d

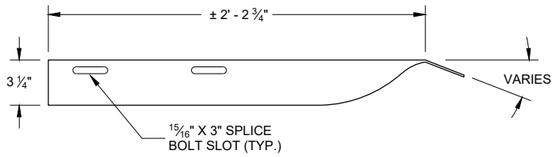
GENERAL NOTES

(400) CROSS SECTION OF PART IS TO FIT OVER AA1 .

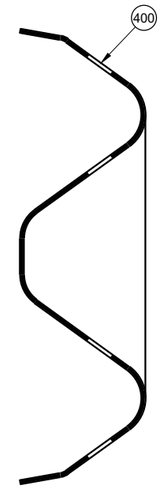
(401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



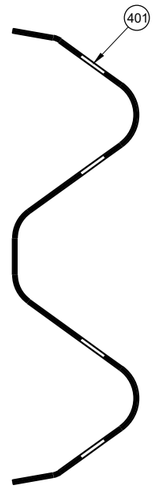
TOP VIEW



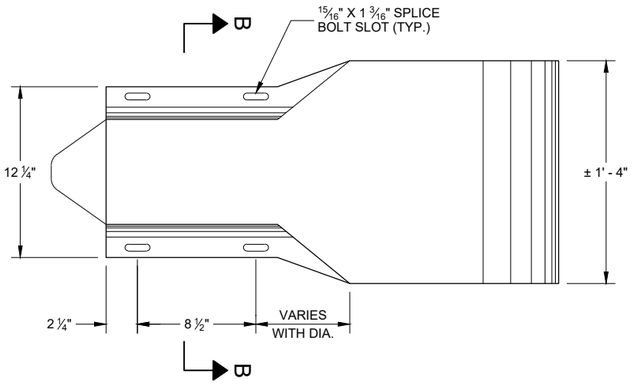
TOP VIEW



SECTION B -B

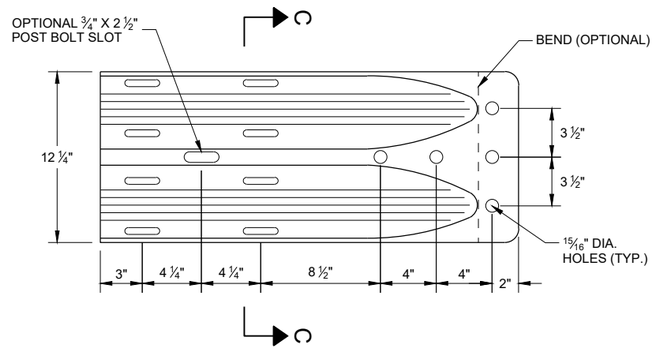


SECTION C -C



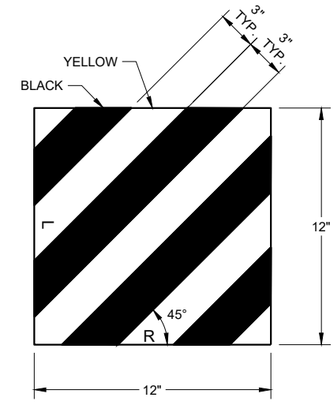
PROFILE VIEW

W BEAM
END SECTION BUFFER (AA2)



PROFILE VIEW

W BEAM
TERMINAL CONNECTOR (BB1)



REFLECTIVE SHEETING (UU1, UU2)

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

SDD 14B53 - 02e

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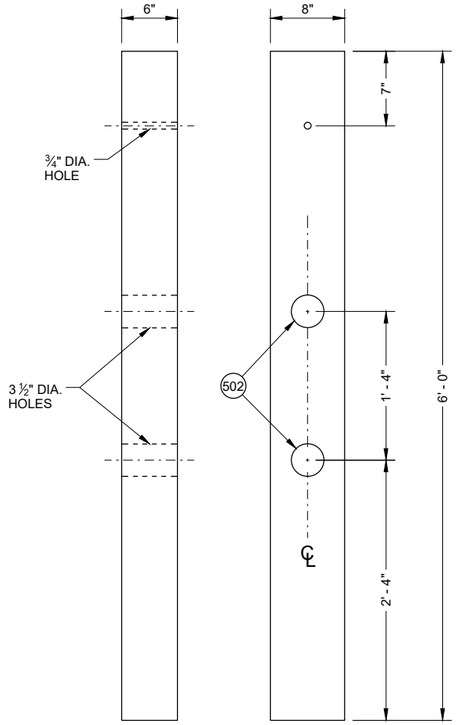
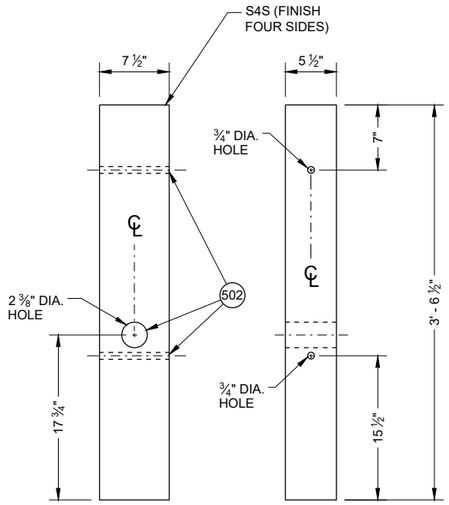


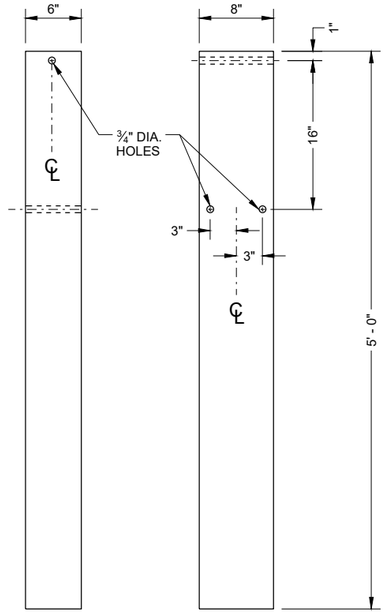
FRONT VIEW SIDE VIEW

CONTROLLED RELEASE POST (CRT) (DD2)



FRONT VIEW SIDE VIEW

WOOD BREAKAWAY POST (FF1)



FRONT VIEW SIDE VIEW

FOUNDATION TUBE (QQ1) 500

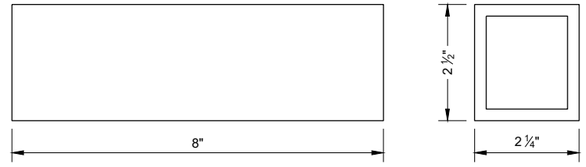
GENERAL NOTES

500 SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.

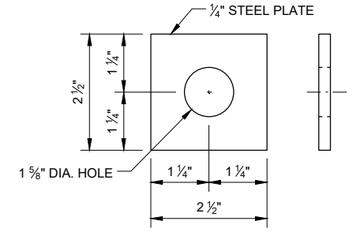
501 FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.

502 LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.

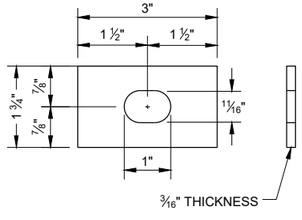
503 MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE 109.



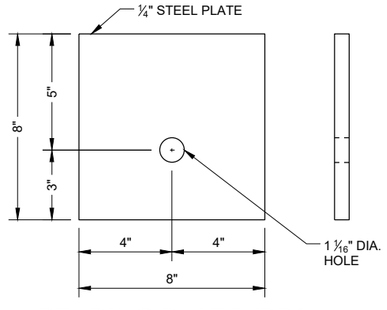
FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)



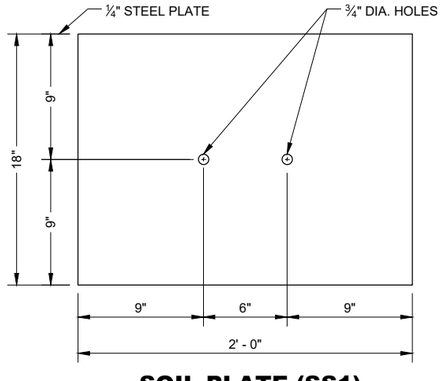
ANCHOR CABLE TUBE END PLATE (QQ3)



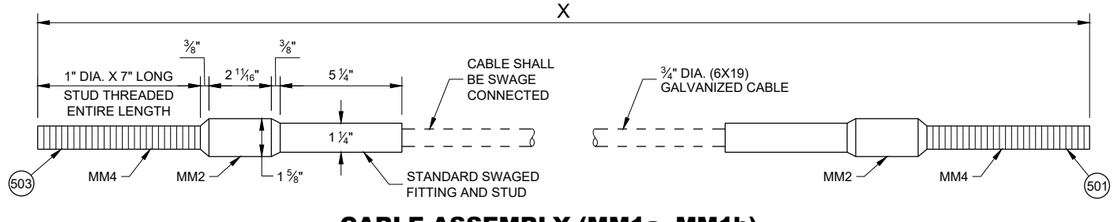
RECTANGULAR PLATE WASHER (CC1)



BEARING PLATE (PP1)



SOIL PLATE (SS1)



CABLE ASSEMBLY (MM1a, MM1b)

"X" LENGTH

MM1b	9' - 0"
MM1b	6' - 8"

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B53 - 02f

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	BEAM GUARD RAIL	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
A2	BEAM GUARD RAIL - SHOP BENT	INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION.	
		AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
B1	BLOCK - WOOD	WISDOT SPEC. 614	SEE SDD 14B42
C1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)	
D1	POST-STRONG POST-WOOD	WISDOT SPEC. 614	SEE SDD 14B42
D2	POST-CRT-WOOD	WISDOT SPEC. 614	
E1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
E2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	5/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
E3	POST BOLT - NUT	AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
F1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
F2	SPLICE BOLT - NUT	ASTM A563 GRADE A	5/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
G1	LAG SCREW	ASTM A308 GRADE A ASTM A153 CLASS D	1/2" DIA. 6" LONG
H1	DELINEATOR - BEAM GUARD		SEE SDD 14B42 FOR MORE INFORMATION
H2	DELINEATION - SHEETING	YELLOW OR WHITE	
		WISDOT SPEC 637 TYPE SH	
		APPROVED PRODUCT LIST	
J1	FOUNDATION BACKFILL	STANDARD SPEC. 614	
AA1	BEAM GUARD RAIL - PUNCHED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
AA2	BEAM GUARD RAIL - END SECTION BUFFER	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
BB1	BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED	AASHTO M180, CLASS A, TYPE 2	
		APPROVED PRODUCER	
CC1	SHORT RADIUS - SQUARE WASHER	AASHTO M180	
		GALV. AASHTO M111 / ASTM A123	
EE1	NAIL	ASTM A153 HOT DIP CLASS D	
		ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)	
FF1	POST - BCT - WOOD	S4S FINISH ON 4 SIDES	
		WISDOT SPEC. 614	
GG1	POST BOLT	ASTM A307 GRADE A OR SAE J429 GRADE 2	3/8" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180	
		GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1	
		UNC	
GG2	POST BOLT - WASHER	ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)	3/8" DIA.
		GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329	

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SDD 14B53 - 02g

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
GG3	POST BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE 14B42 FOR GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		ASTM A563 GRADE A HEAVY HEX HEAD	
HH1	SPLICE BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		ASTM A307 GRADE A OR SAE J429 GRADE 2	
		UNC	
		AASHTO M180 HEAD GEOMETRY	
HH2	SPLICE BOLT - NUT	ASTM A563 GRADE A	⅜" DIA. SEE SDD 14B42 FOR BOLT GEOMETRY
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
JJ1	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	10" O.D.
JJ2	TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS ⅜" X 4" X 1' - 0"
		GALV. AASHTO M111 / ASTM A123	
KK1	ANCHOR BRACKET	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
KK2	ANCHOR BRACKET - BEARING PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
LL1	ANCHOR BRACKET - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
LL2	ANCHOR BRACKET - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	⅝" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
LL3	ANCHOR BRACKET - NUT	ASTM A563 GRADE A	⅝" DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
MM1a	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM1b	ANCHOR CABLE	AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED	
MM2	ANCHOR CABLE - SWAGE FITTING	ASTM A576 GRADE 1035	
		SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.	
		GALV. AASHTO M111 / ASTM A123	
		ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE.	
MM3	WIRE ROPE CABLE CLAMPS	FF-C-450D TYPE 1 CLASS 1	¾"
		ASTM A153 HOT DIP CLASS D	
MM4	ANCHOR CABLE - SWAGE FITTING - STUD	ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
NN1	ANCHOR CABLE - NUT	ASTM A563 GRADE A	1" DIA.
		AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		UNC	
NN2	ANCHOR CABLE - NUT - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	1" DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

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SDD 14B53 - 02h

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
PP1	BEARING PLATE AT POST	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / ASTM A123	
PP2	PIPE - STEEL	ASTM A53 GALVANIZED GRADE B SCHEDULE 40	2" DIA. x 6" LONG
QQ1	FOUNDATION TUBE	ASTM A500 GRADE B	8" X 6" X 3/16"
		GALV. AASHTO M111 / ASTM A123	
QQ2	SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE	ASTM A500 GRADE B	DIMENSIONS 2 1/2" X 2 1/4" X 1/4" X 8"
		GALV. AASHTO M111 / ASTM A123	
QQ3	SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	DIMENSIONS 2 1/2" X 2 1/2" X 1/4"
		GALV. AASHTO M111 / ASTM A123	
QQ4	GROUND STRUT AND YOKE - BOLT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
		ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	
		UNC	
QQ5	GROUND PLATE AND YOKE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
QQ6	GROUND STRUT AND YOKE - NUT	HEAVY HEX	5/8 DIA.
		UNC	
		ASTM A563 GRADE A	
		OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563	
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
SS1	SOIL PLATE	ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI	
		GALV. AASHTO M111 / A123	
TT1	SOIL PLATE - BOLT	ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD	5/8 DIA.
		GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	
		UNC	
TT2	SOIL PLATE - WASHER	ASTM F436 TYPE 1 (HARDEN WASHER ONLY)	5/8 DIA.
		GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329	
TT3	SOIL PLATE - NUT	GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1	5/8 DIA.
UU1	OBJECT MARKER - SHEETING	MUTCD / WISDOT OBJECT MARKER TYPE 3	PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER.
		WISDOT SPEC 637 TYPE F	
		APPROVED PRODUCT LIST	
UU2	OBJECT MARKER - ALUMINUM PLATE	WISDOT SPEC 637 ALUMINUM PLATE	MATERIAL AND THICKNESS OF MATERIALS
UU3	OBJECT MARKER - SCREWS	STAINLESS SELF-TAPPING SCREWS	
VV1	FOUNDATION BACKFILL	WISDOT SPEC 614	

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SDD 14B53 - 02i

SDD 14B53 - 02i

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

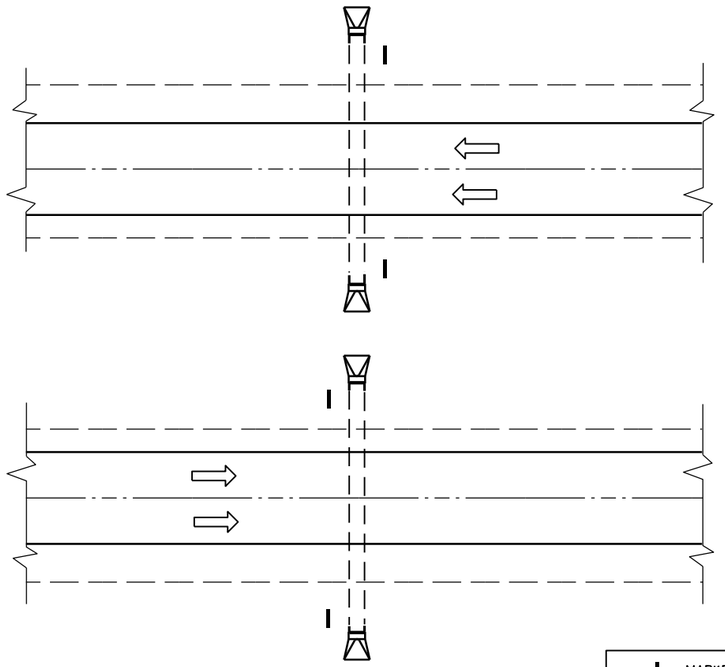
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2022
DATE

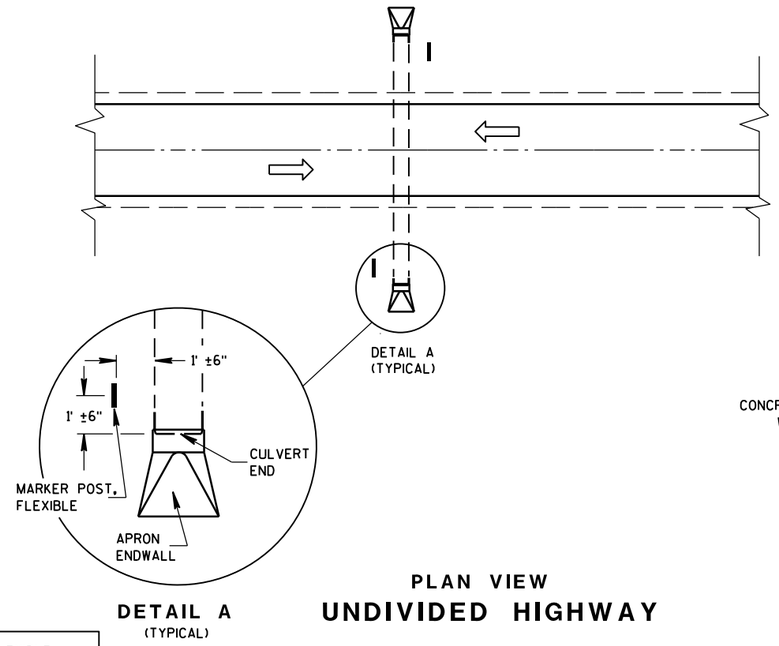
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

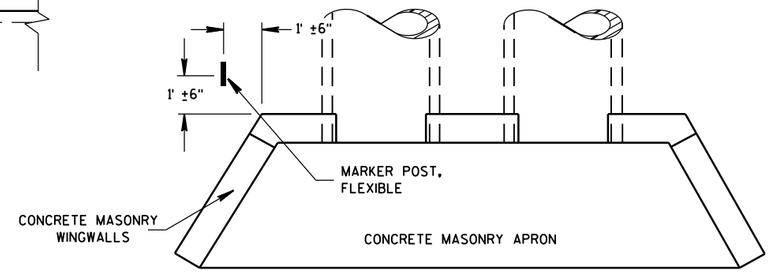
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

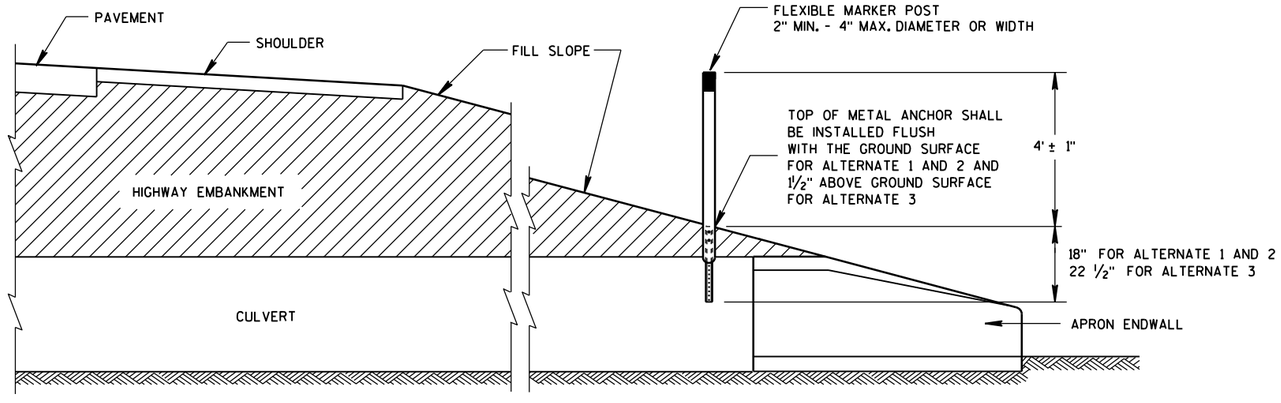
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 A 3-2a

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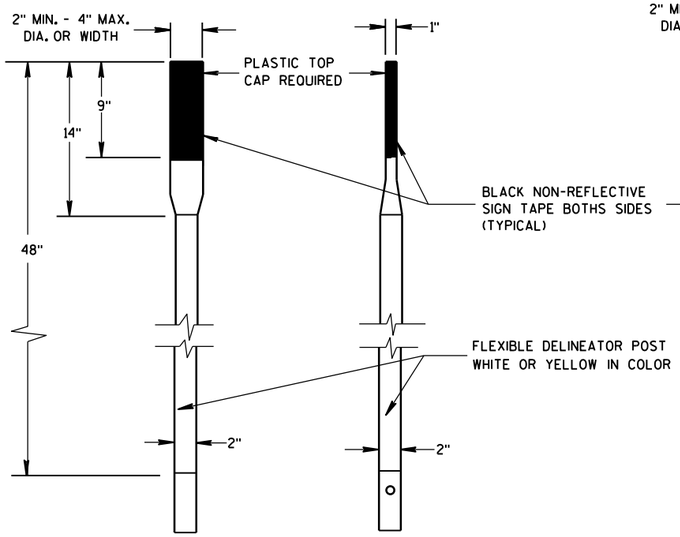
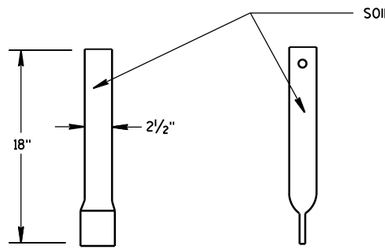
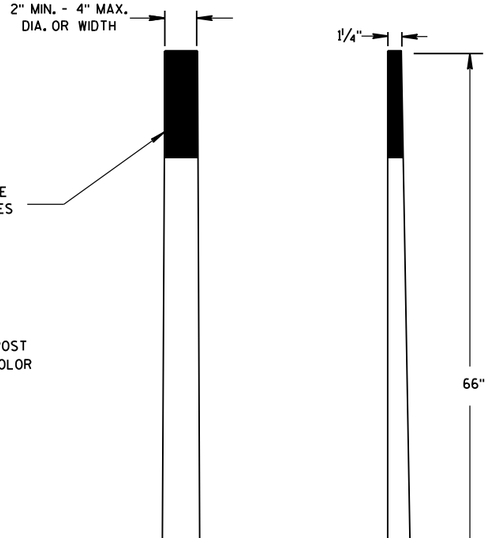
S.D.D. 15 A 3-2a





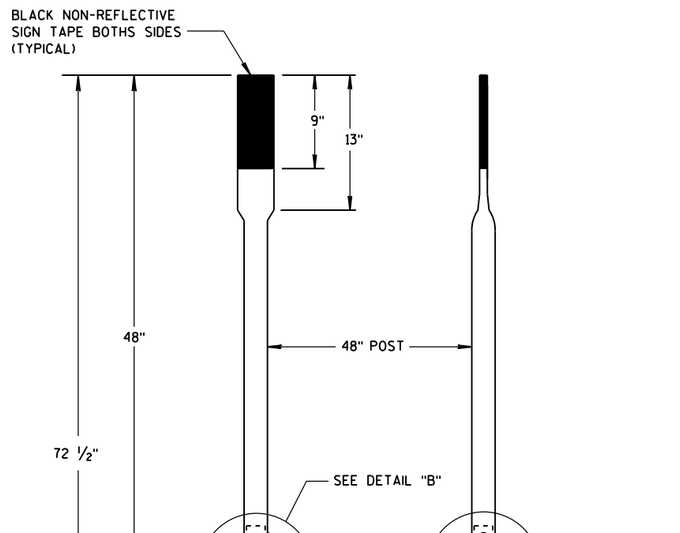
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

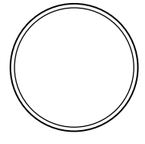
ALTERNATE 2



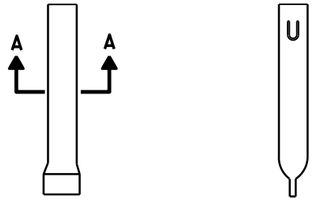
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

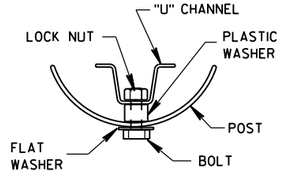


SECTION A-A

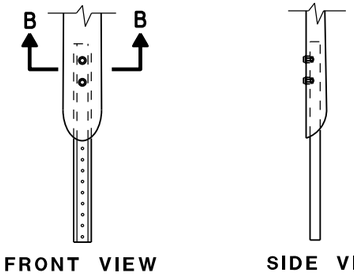


FRONT VIEW SIDE VIEW

ALTERNATE 1

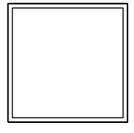


SECTION B-B

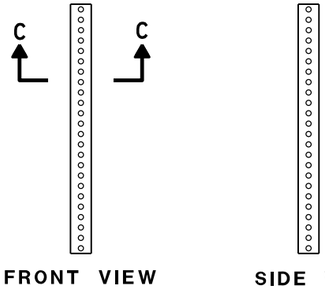


FRONT VIEW SIDE VIEW

ALTERNATE 2



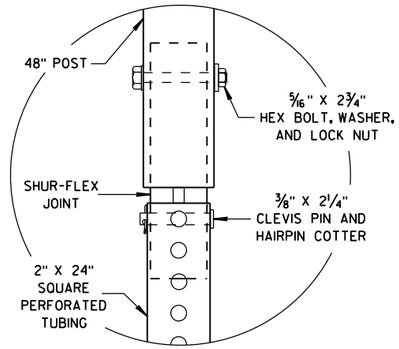
SECTION C-C



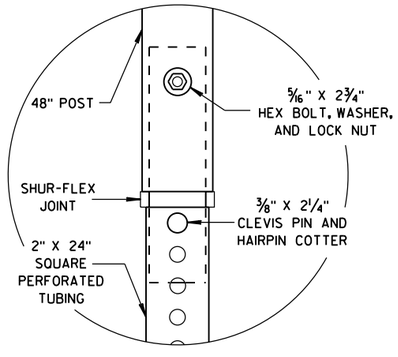
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 3-2b

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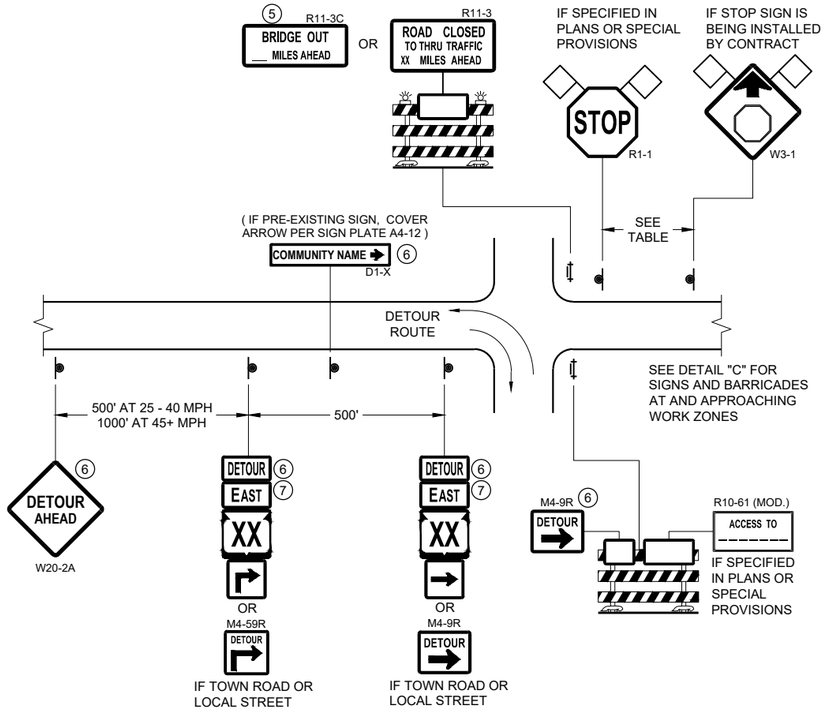
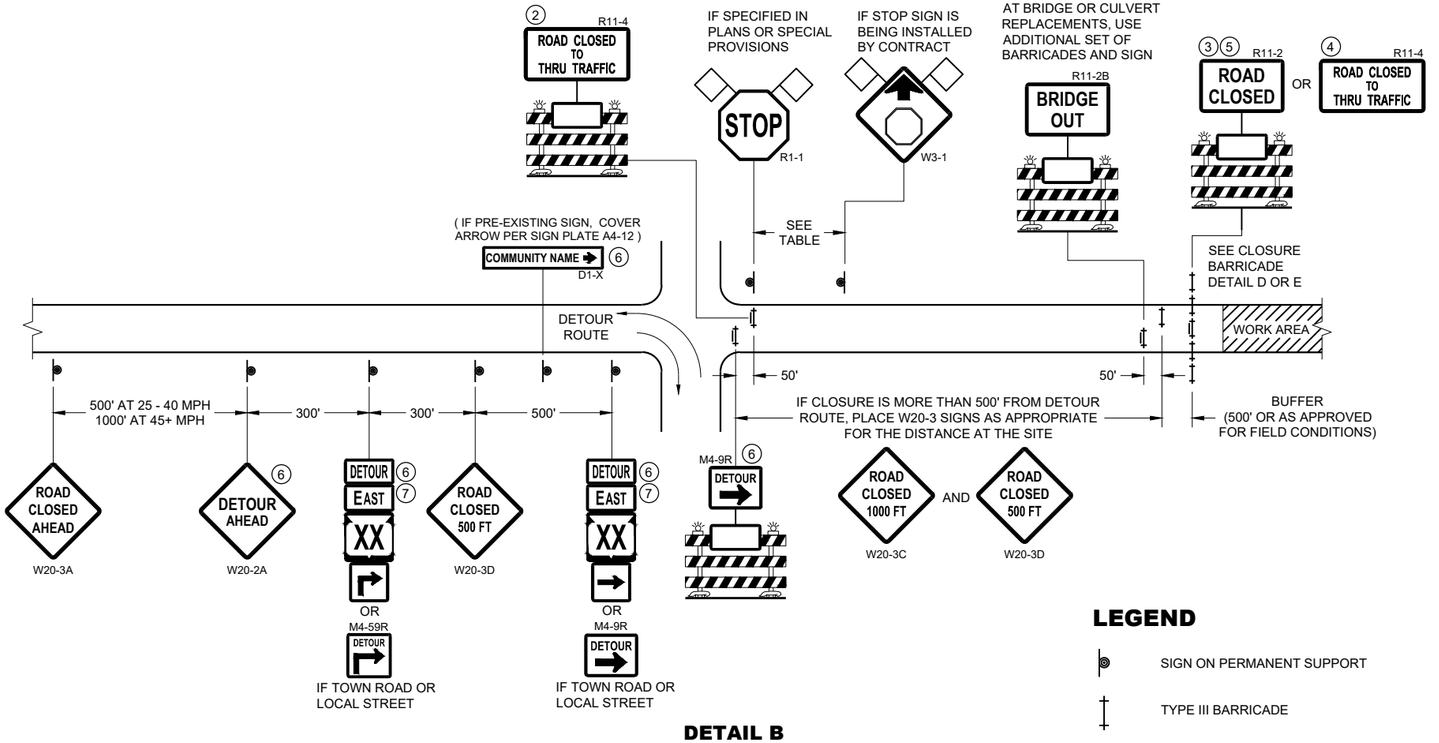
S.D.D. 15 A 3-2b



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



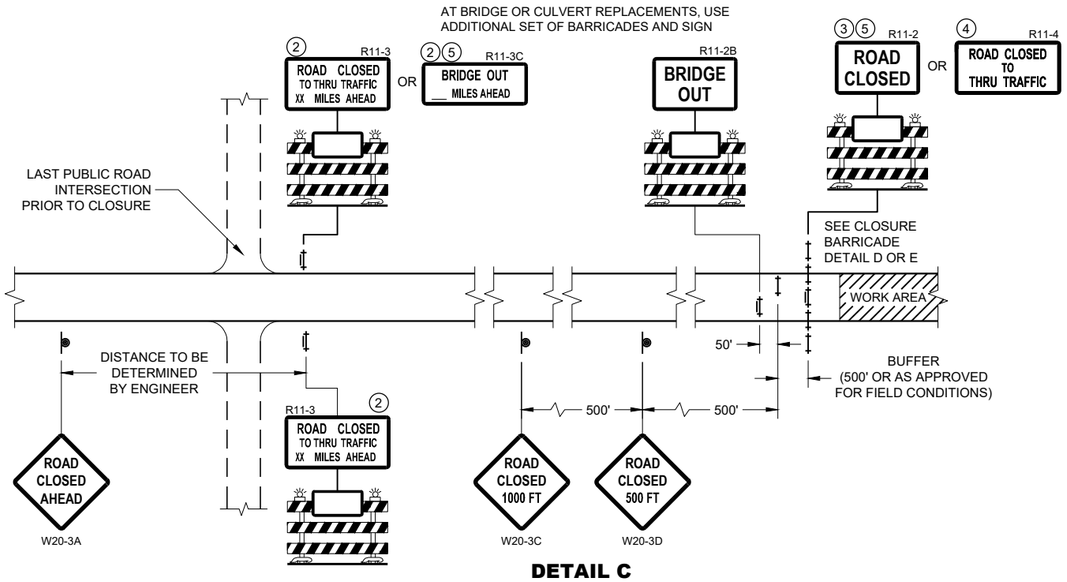
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C02 - 09a

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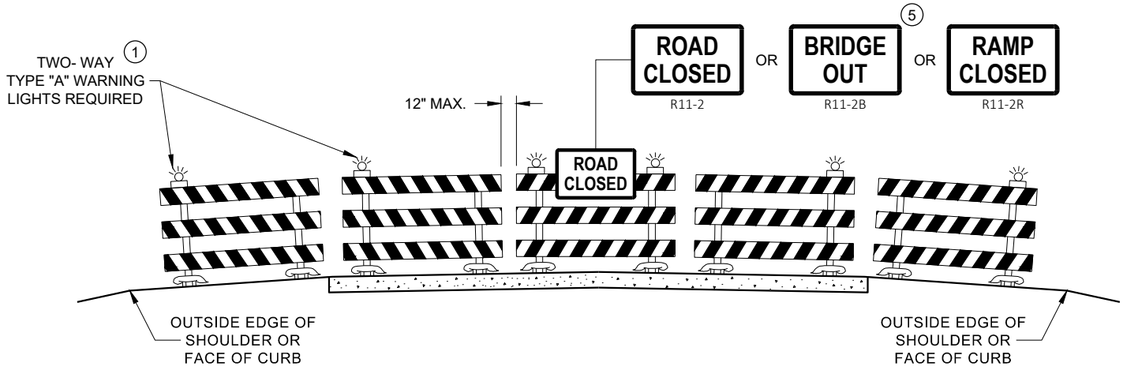
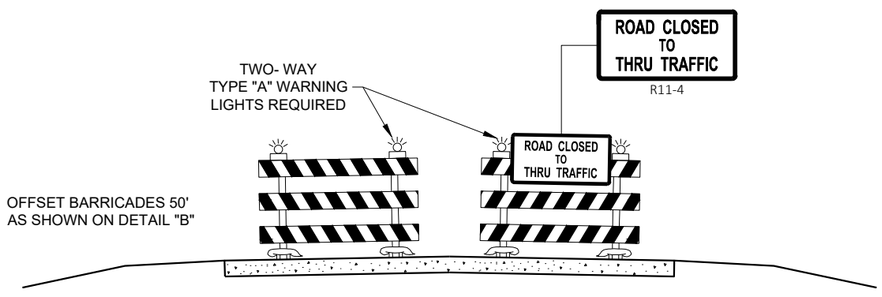
SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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SDD 15C02 - 09b

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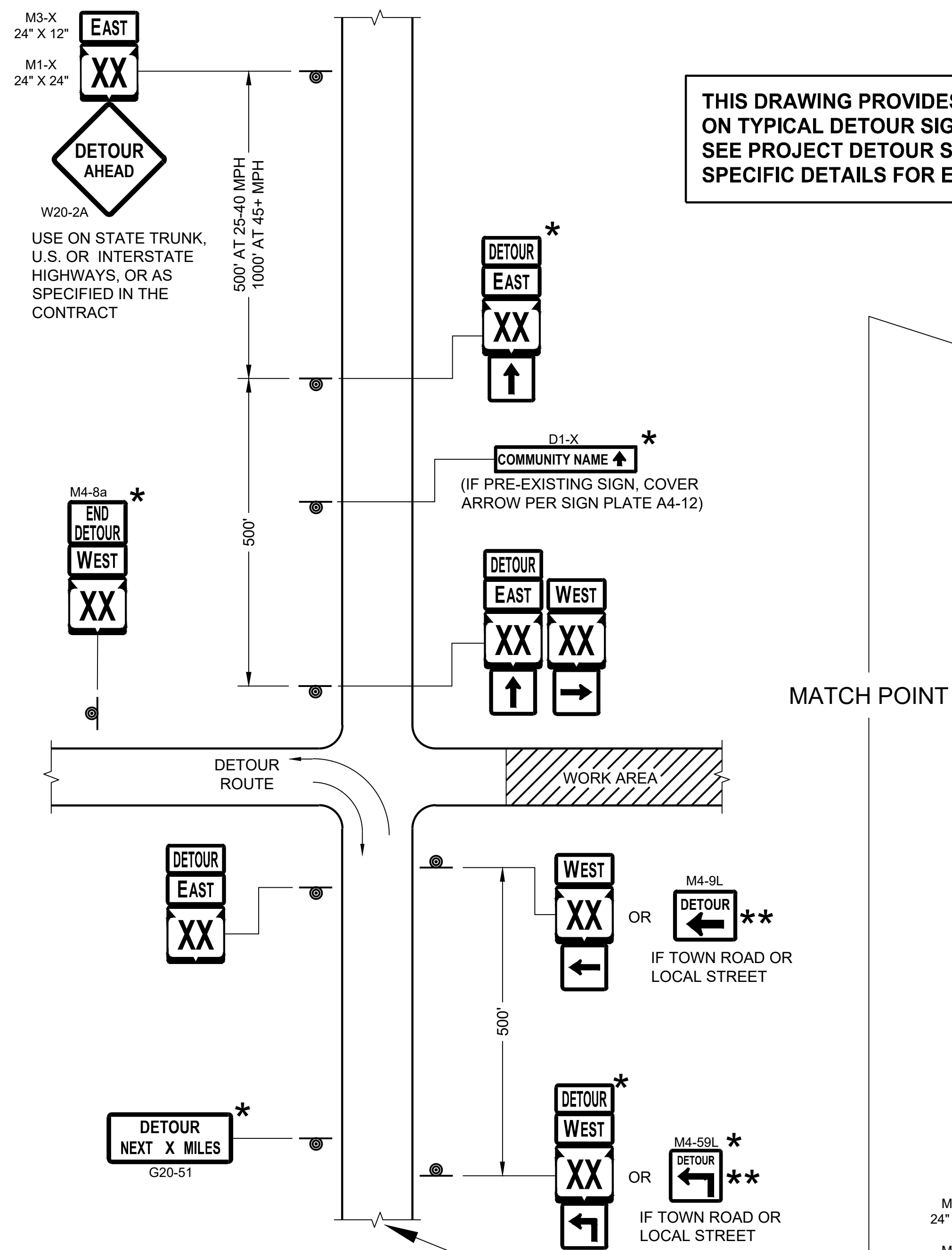
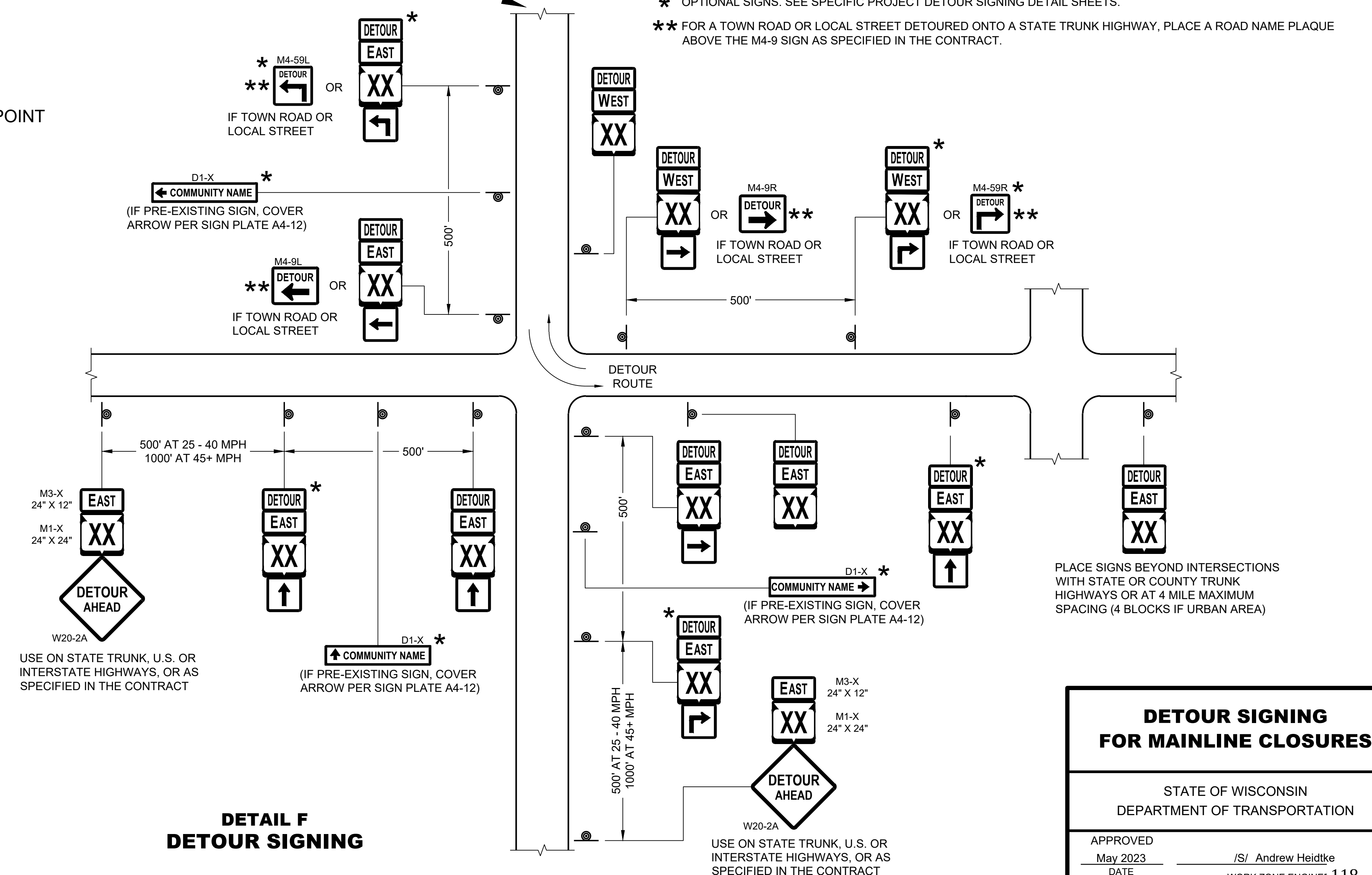
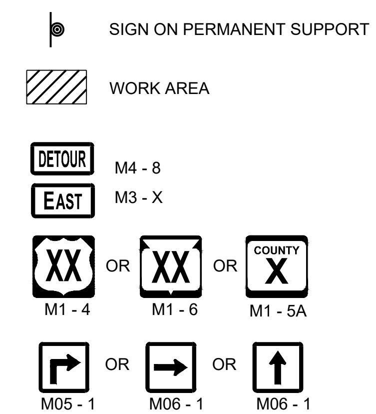
SDD 15C02 - 09b

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.





LEGEND



GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

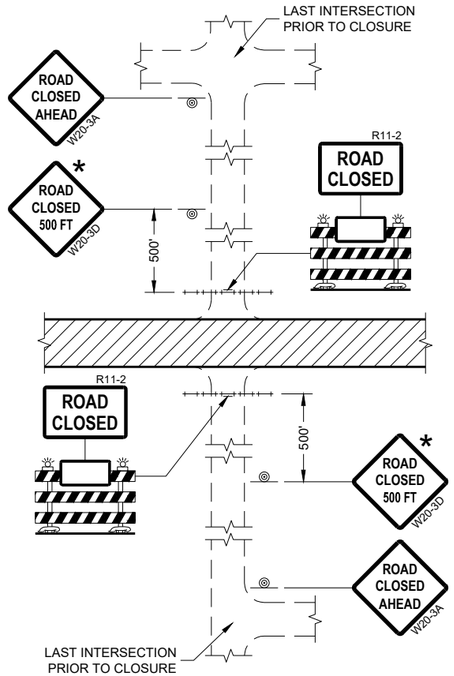
DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

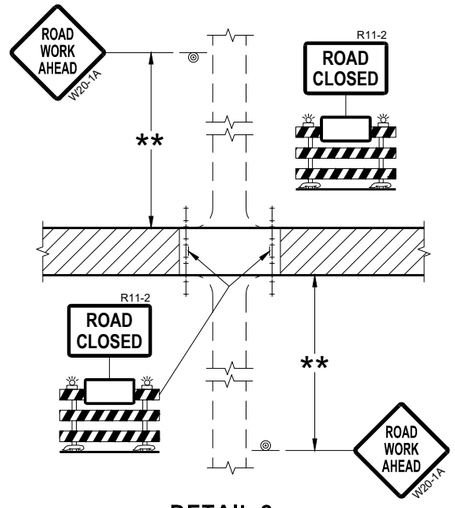
APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 09c



DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

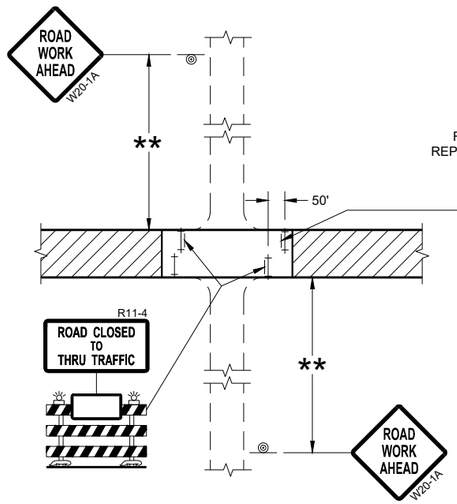
TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

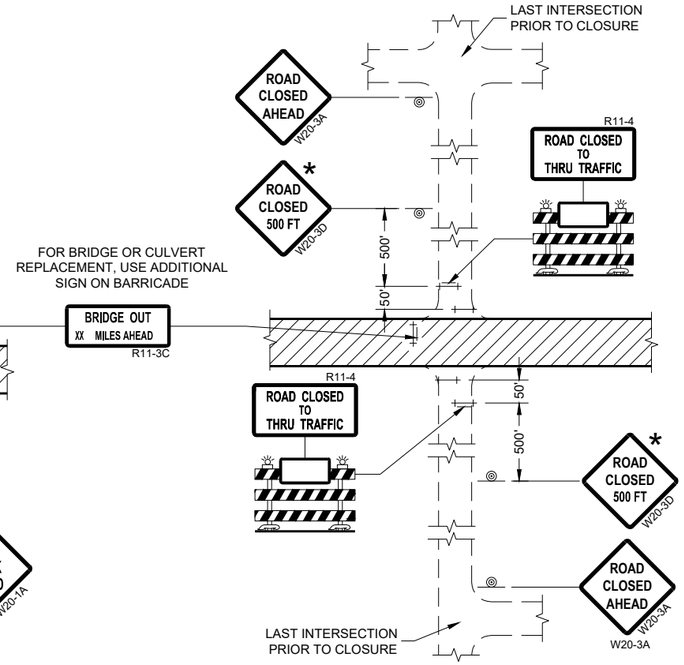
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

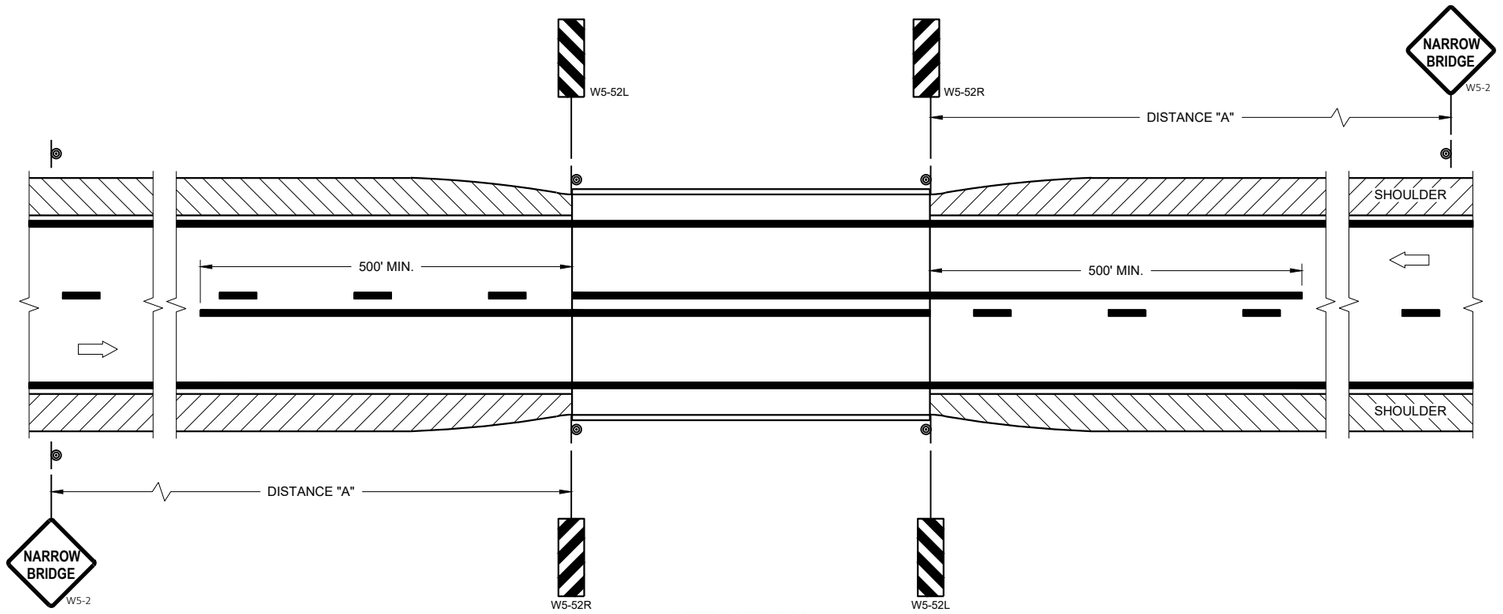
FHWA

6

SDD 15C03 - 05

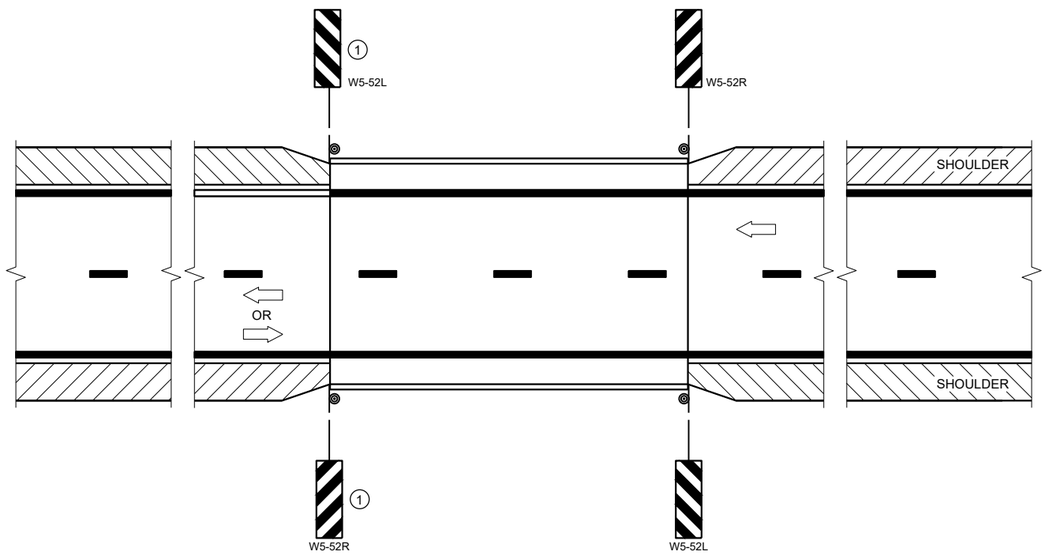
6

SDD 15C03 - 05



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATE SIGNING AND MAF ENGINEER
FHWA

6
SDD 15C06-12

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

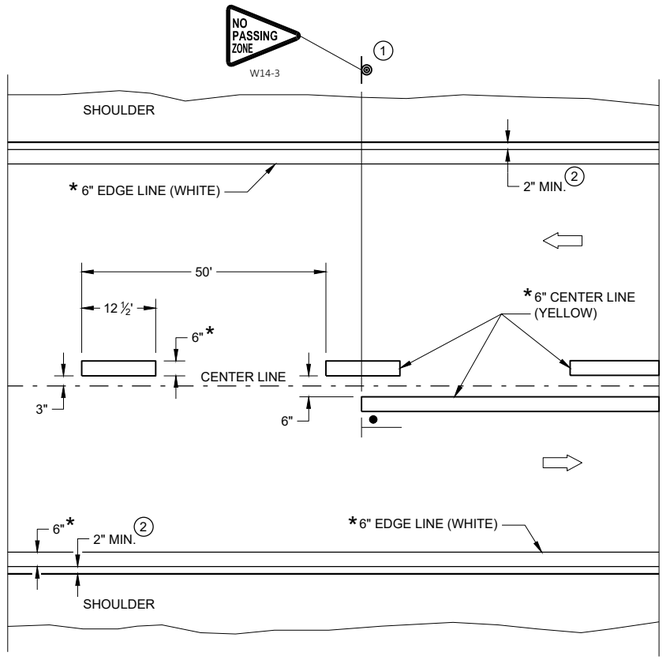
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

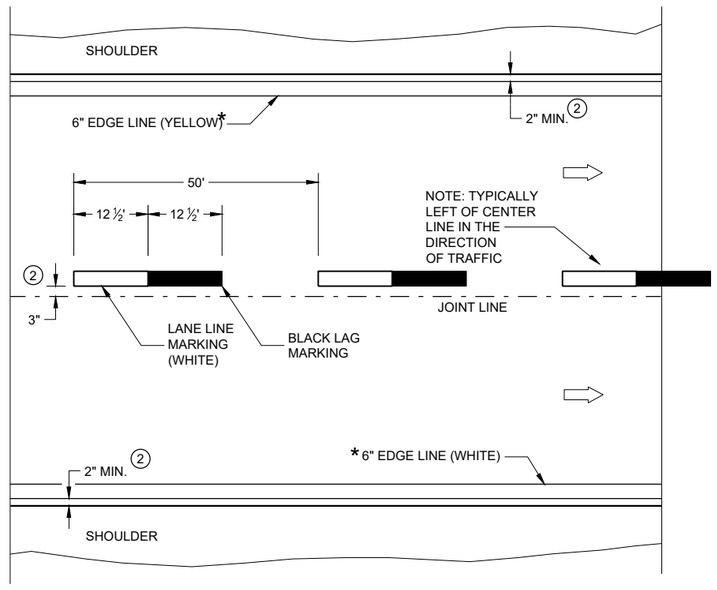
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

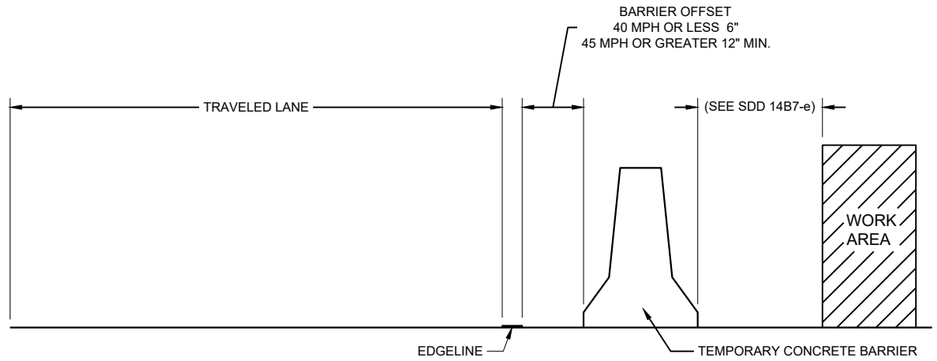
May 2023
DATE

/S/ Jeannie Silver
STATEWIDE SIGNING AND M
ENGINEER

FHWA

6

SDD 15C08-23a



TEMPORARY BARRIER OFFSET FROM EDGELINE

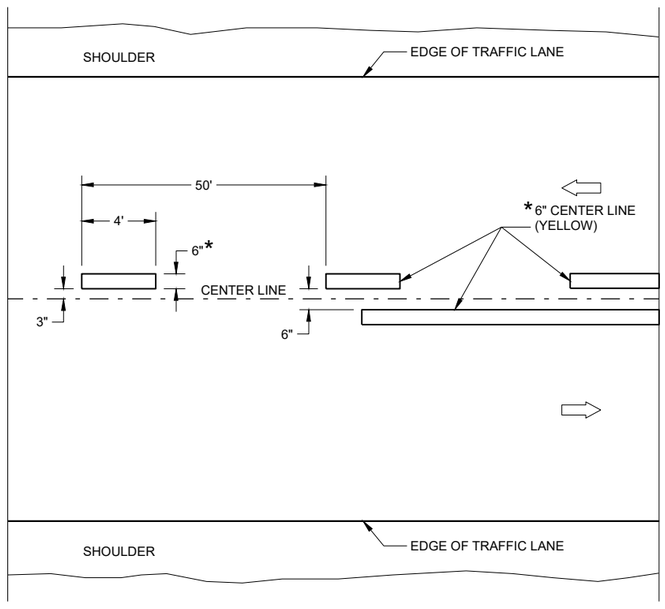
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

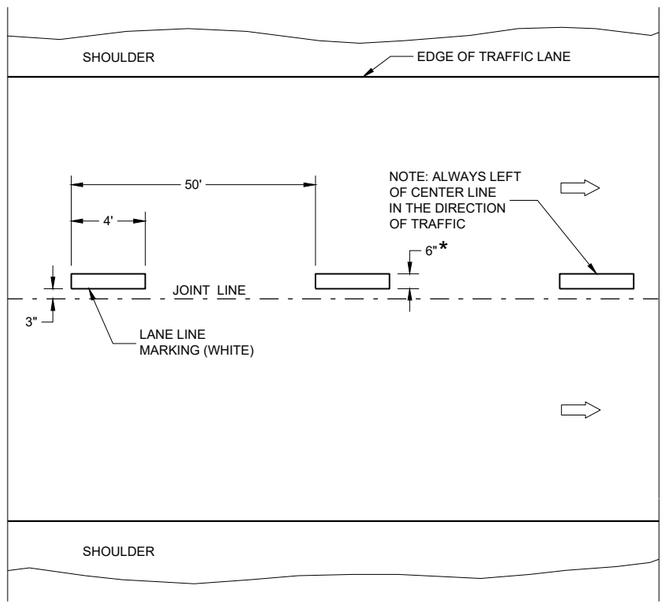
LEGEND

⇨ DIRECTION OF TRAFFIC

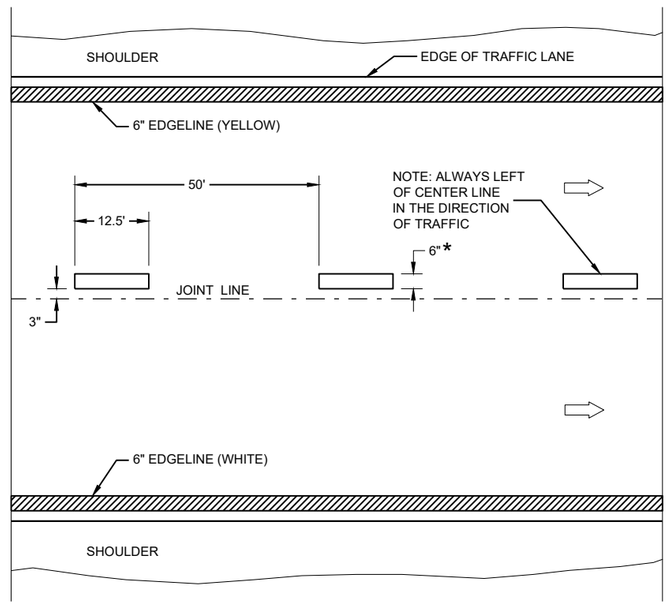
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Jeannie Silver — STATEWIDE SIGNING AND M ENGINEER

FHWA

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SDD 15C08-23b

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SDD 15C08-23b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND LOCATION OF ALL FLAGGERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

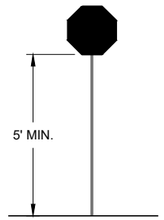
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



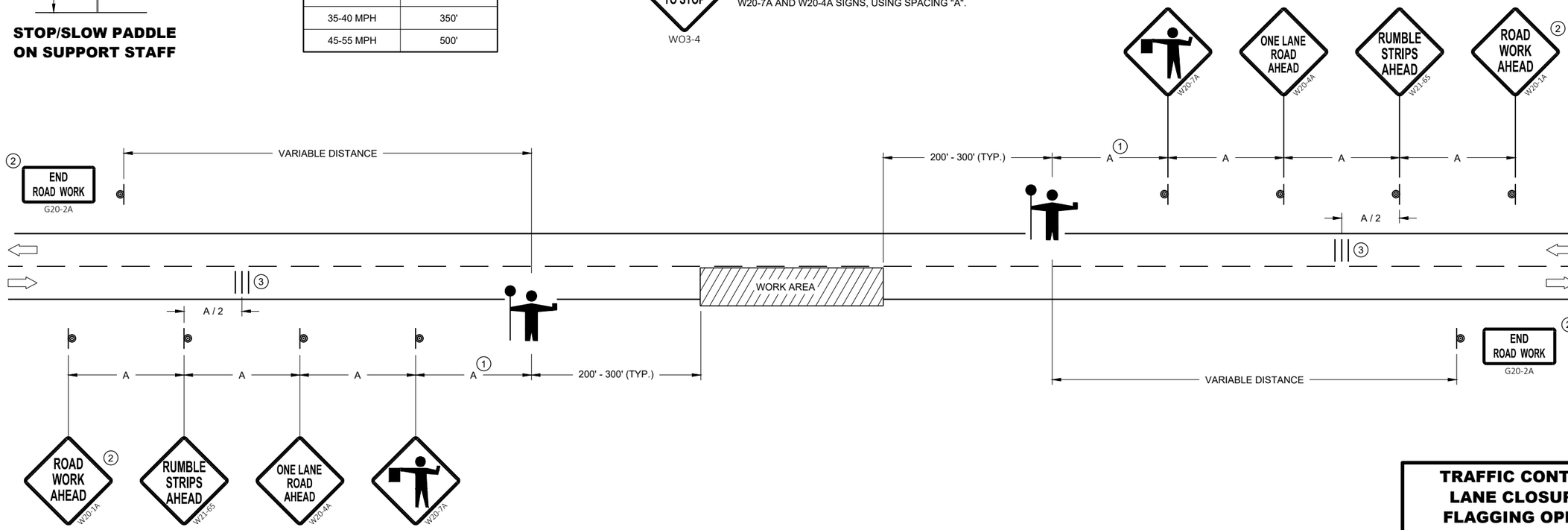
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C12 - 09a

6

SDD 15C12 - 09a

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

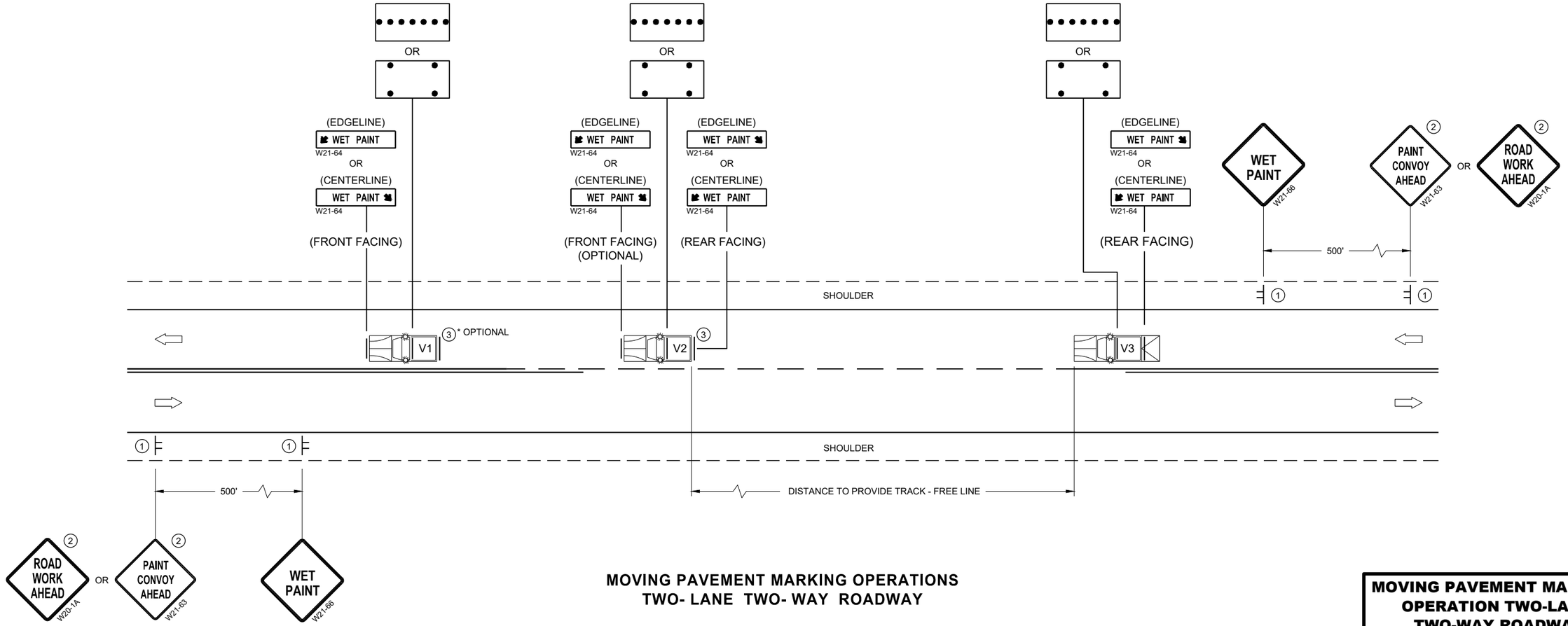
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

(3) V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.



MOVING PAVEMENT MARKING OPERATIONS
TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023
DATE

/S/ Andrew I...
WORK ZONE EN

FHWA

6

SDD 15C19-08a

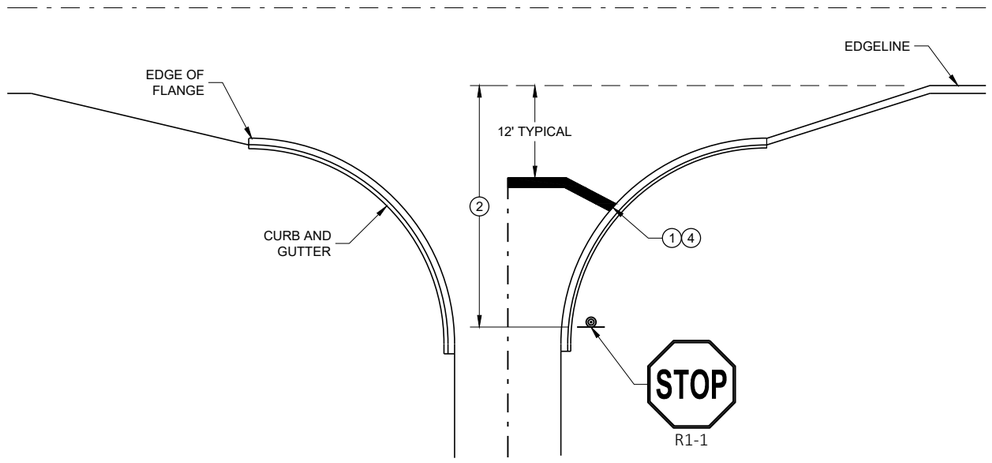
6

SDD 15C19-08a

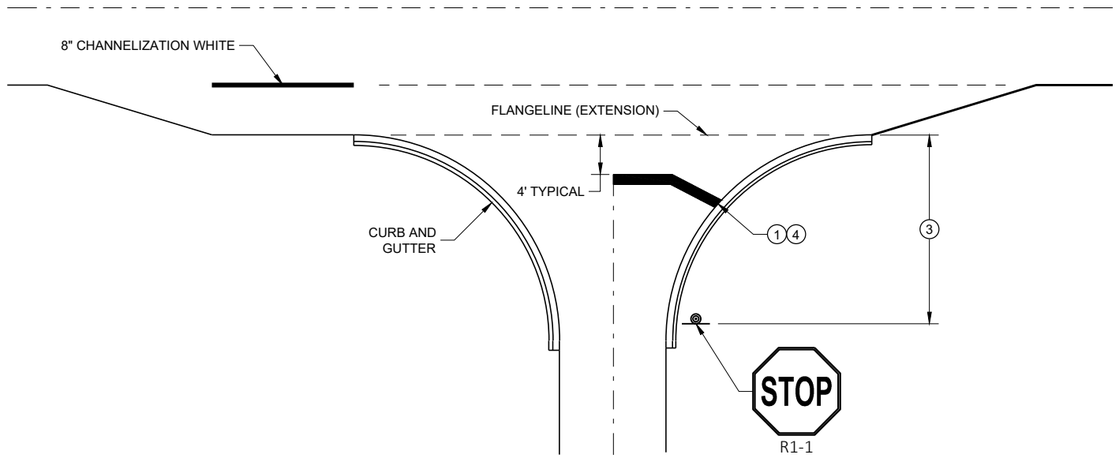
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

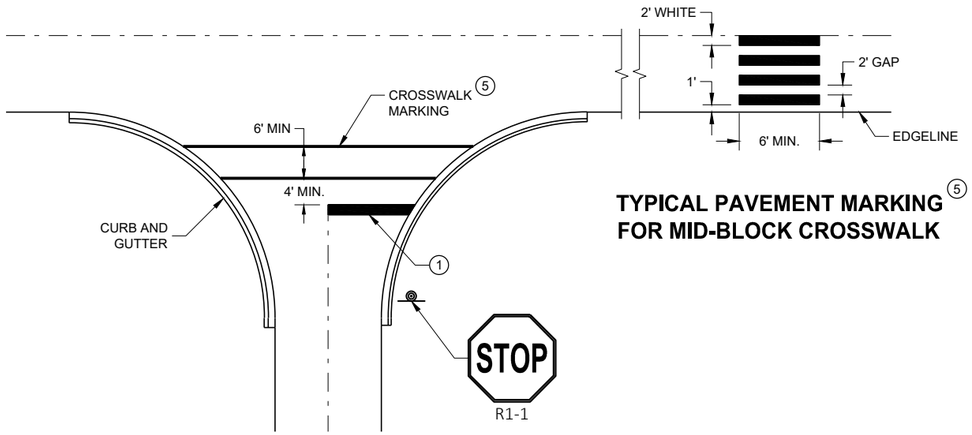
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

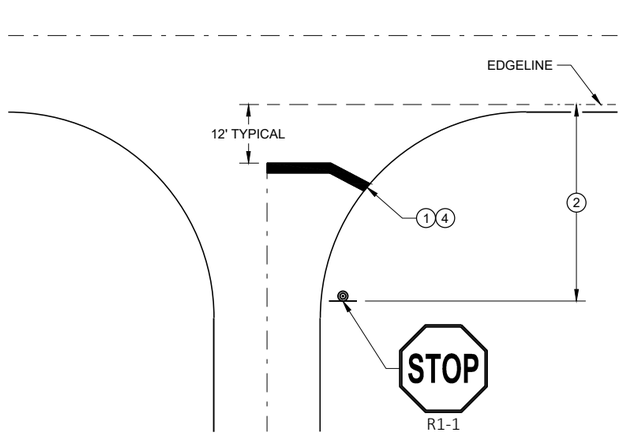


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING

TYPICAL PAVEMENT MARKING 5 FOR MID-BLOCK CROSSWALK



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

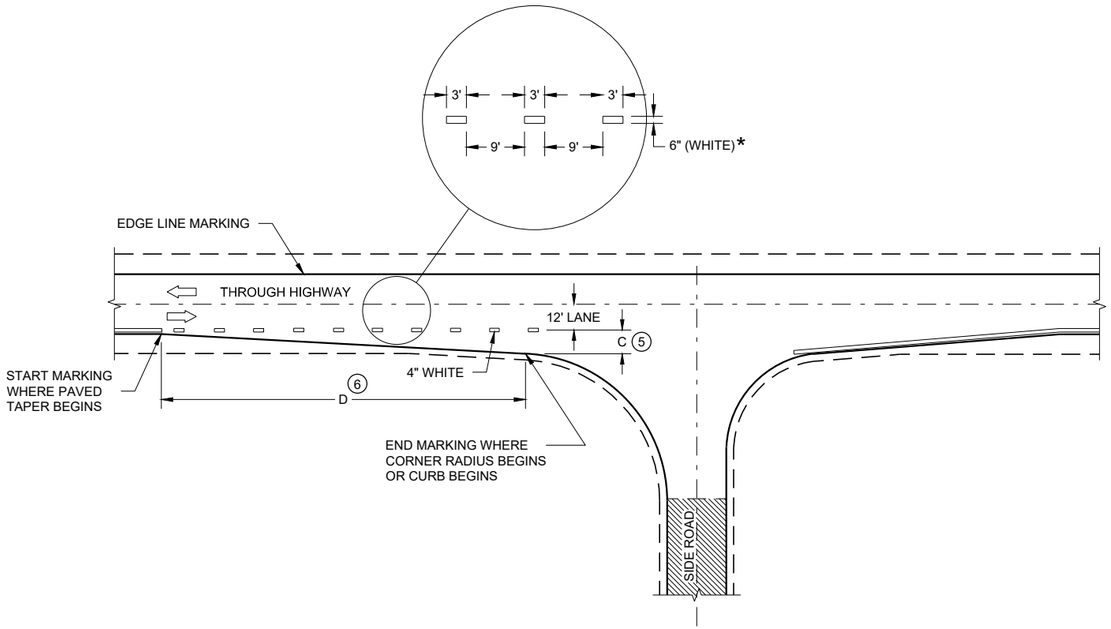
APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

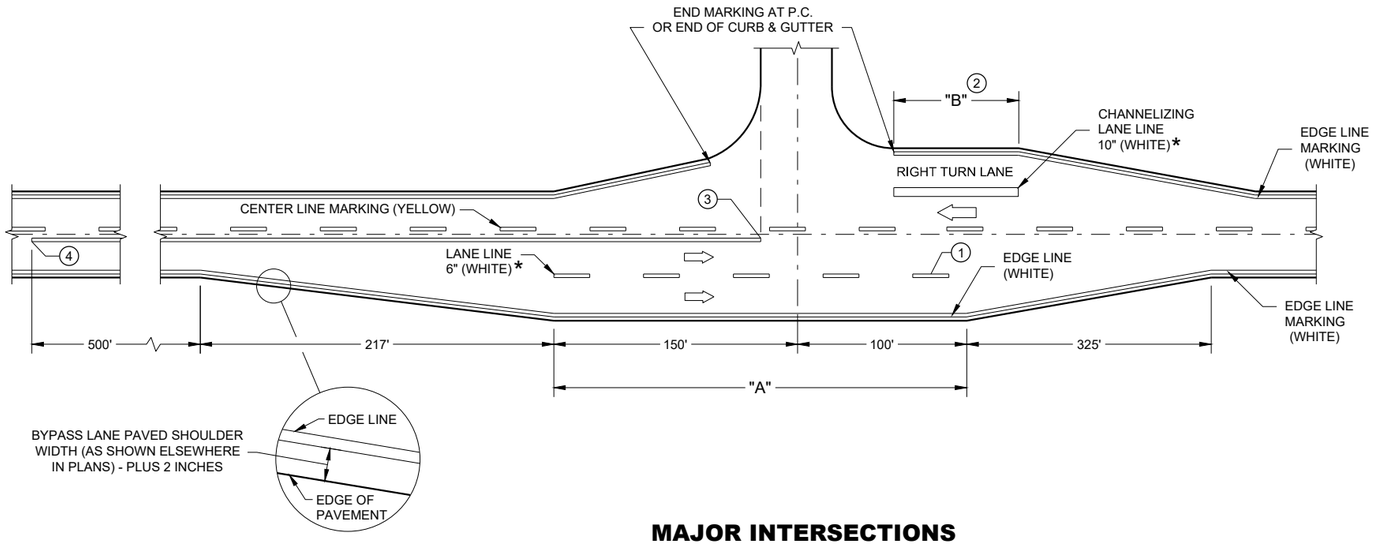
SDD 15C33 - 04

6

SDD 15C33 - 04



MINOR INTERSECTION



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

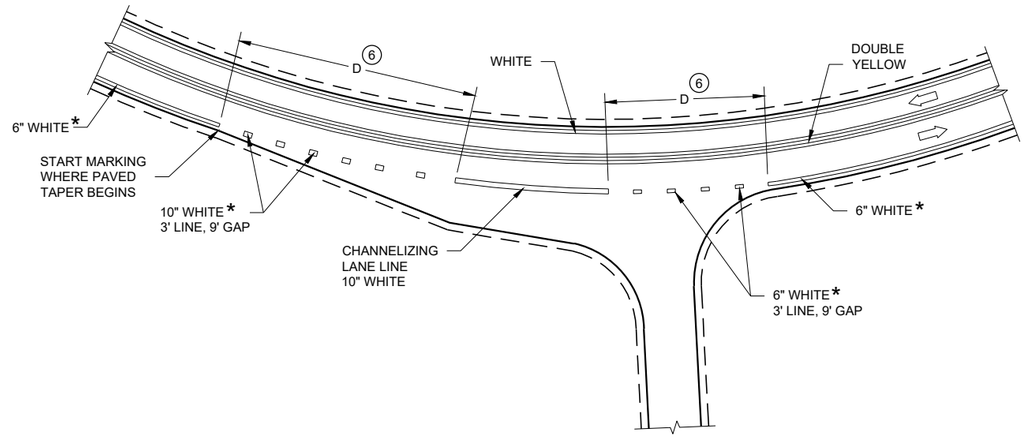
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
5. WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
6. WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

DIRECTION OF TRAVEL

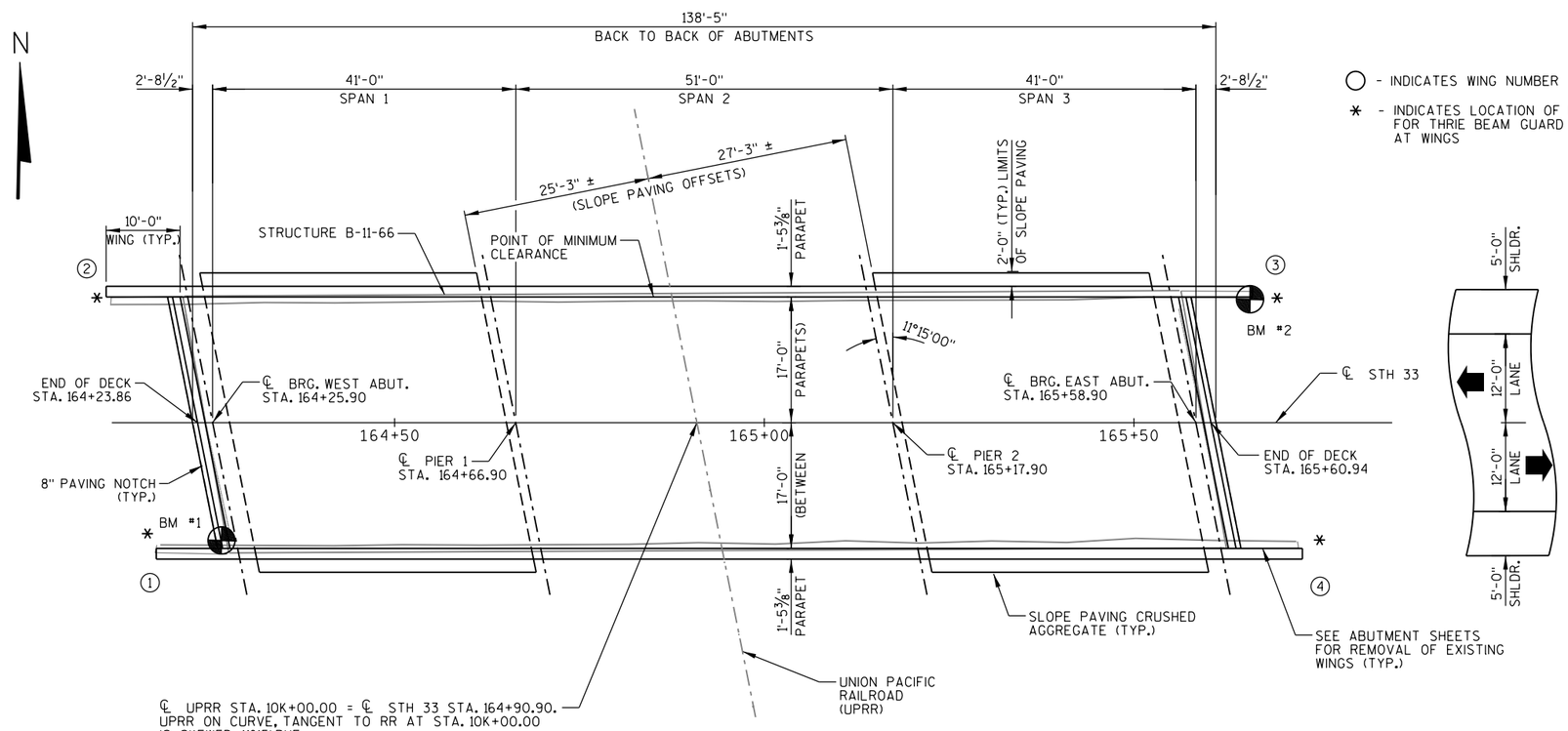


INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING (INTERSECTIONS)

STATE PROJECT NUMBER
6040-00-74

BENCHMARKS			
NO.	STATION	ELEV.	DESCRIPTION
1	164+27, RT 16'	1031.94	DISK ON SOUTHWEST WINGWALL
2	165+66, LT 17'	1032.94	CHISELED + ON NORTHEAST WINGWALL



PLAN

(REHAB - DECK REPLACEMENT AND WIDENING ON EXISTING 3 SPAN STEEL DECK GIRDER)

(REMOVE EXISTING BEARING ASSEMBLIES AT ABUTMENTS AND RECONSTRUCT AS SEMI-EXPANSION BEARING SEATS.)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS20
INVENTORY RATING : HS23
OPERATIONAL RATING : HS39
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 240 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY - SUPERSTRUCTURE ——— f'c = 4,000 P.S.I.
- ALL OTHER ——— f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT HS COATED BRIDGES — fy = 60,000 P.S.I.

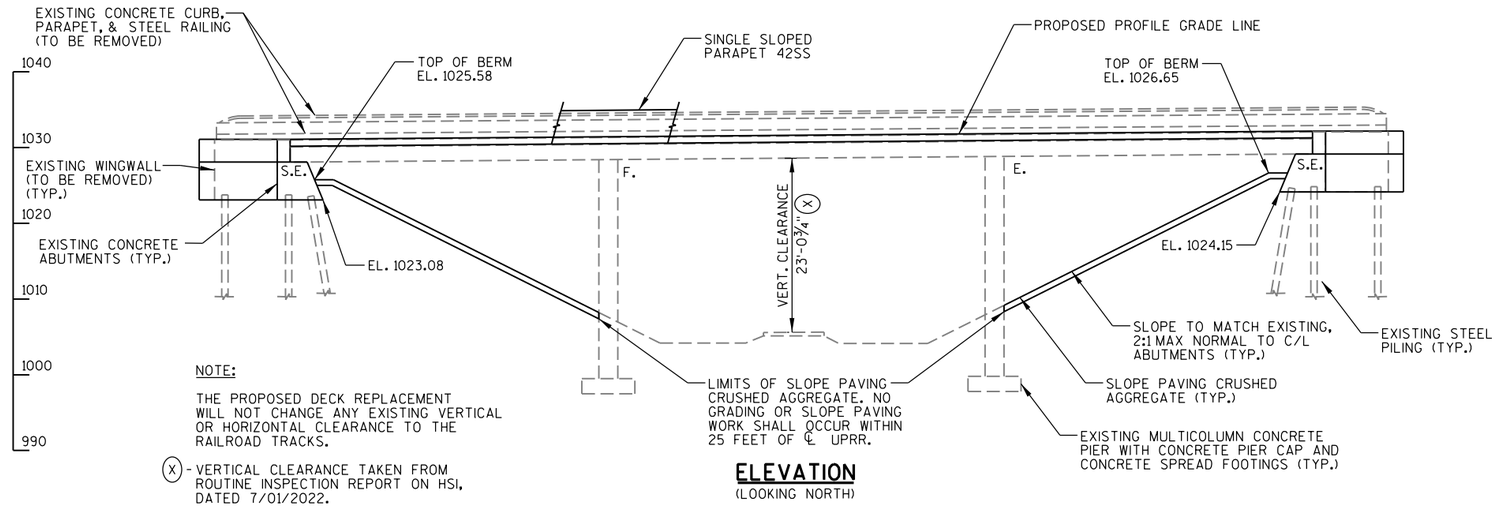
FOUNDATION DATA:

NEW CONCRETE DECK SUPPORTED ON EXISTING GIRDERS AND FOUNDATIONS.

TRAFFIC DATA:

A.A.D.T. (2023) = 5,800
A.A.D.T. (2043) = 6,900

LIST OF DRAWINGS



NOTE:

THE PROPOSED DECK REPLACEMENT WILL NOT CHANGE ANY EXISTING VERTICAL OR HORIZONTAL CLEARANCE TO THE RAILROAD TRACKS.

(X) - VERTICAL CLEARANCE TAKEN FROM ROUTINE INSPECTION REPORT ON HSI, DATED 7/01/2022.

ELEVATION

(LOOKING NORTH)

7/14/2023

CONSULTANT DESIGN CONTACT:
KYLE BUSCH
(608) 216-2063

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1230 SOUTH BLVD., BARABOO WI 53913
(608) 356-2771 www.msa-ps.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 07/17/23
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-11-66

STH 33 OVER U.P. RR

COUNTY	TOWN/~~CITY/VILLAGE~~
COLUMBIA	RANDOLPH

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JFM	KHB	RLR	KHB

GENERAL PLAN

SHEET 1 OF 12
127

8

8

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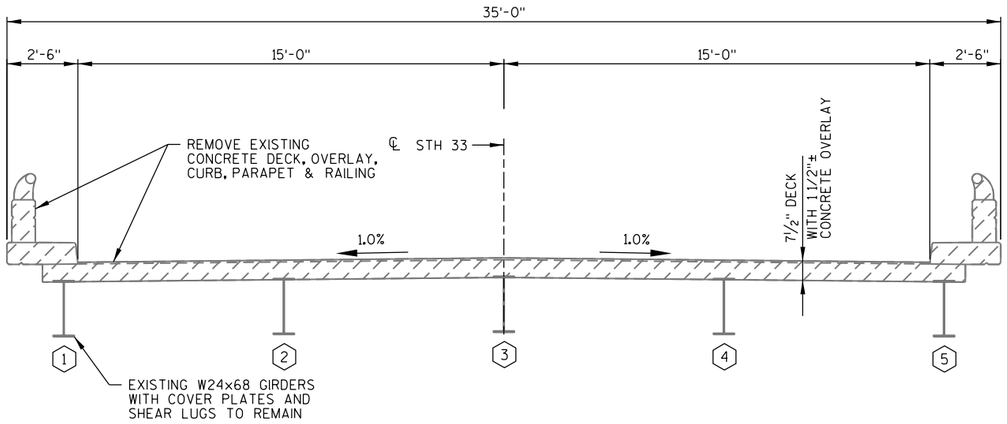
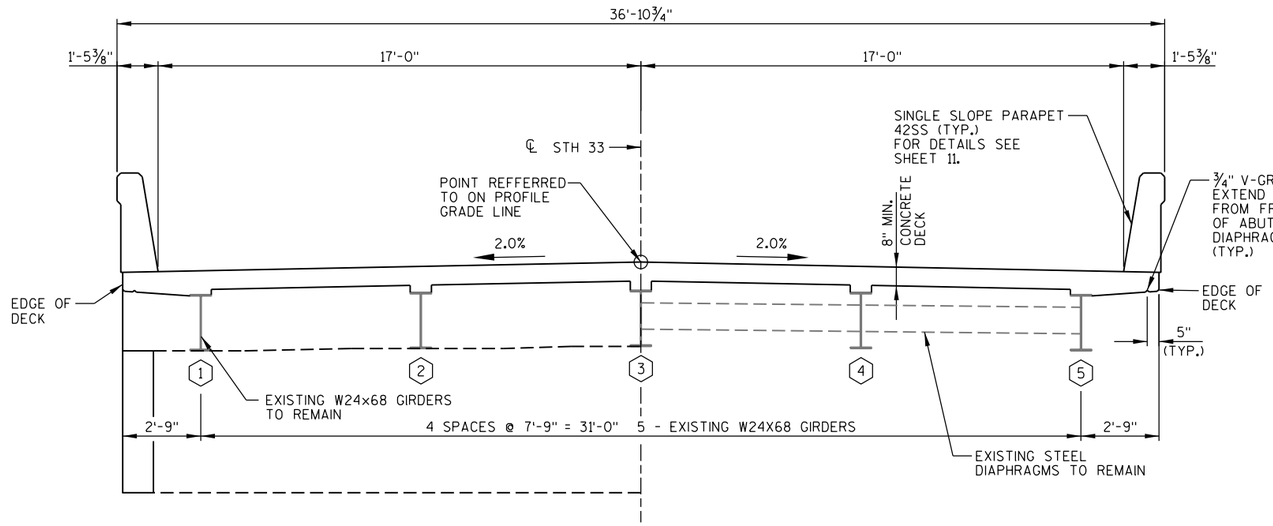


CROSS SECTION THRU EXISTING BRIDGE

(LOOKING EAST)

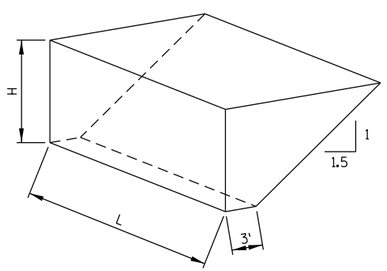
⬡ - INDICATES EXISTING GIRDER NUMBER



AT ABUTMENTS IN SPAN

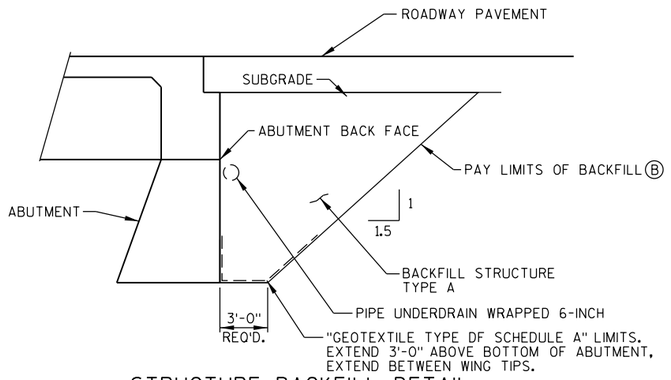
CROSS SECTION THRU BRIDGE

(LOOKING EAST)



ABUTMENT BACKFILL DIAGRAM

L = OUT-TO-OUT OF ABUTMENT, INCLUDING WINGS
H = AVERAGE ABUTMENT FILL HEIGHT
$V_{CF} = (L)(3.0')(H)+(L)(0.5)(1.5H)(H)$
$V_{TON} = V_{CF}(2.0)/27$



STRUCTURE BACKFILL DETAIL

AT ABUTMENT BACK FACE

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL 1964 STRUCTURE PLANS AND THE 1994 CONCRETE OVERLAY PLANS.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" SHALL BE THE EXISTING GROUNDLINE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT, UNLESS SPECIFIED OTHERWISE.

THE SLOPE OF THE FILL IN FRONT OF ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND SHEET 12.

Ⓑ THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

SHAPING, GRADING, AND FILL IS REQUIRED BELOW SLOPE PAVING IN FRONT OF ABUTMENTS AS DIRECTED BY THE ENGINEER AND IS INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-11-66"

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK AND TO THE PAVING NOTCH.

APPLY PIGMENTED SURFACE SEALER TO INSIDE FACES, THE TOP FACES, AND THE ENDS OF THE PARAPETS.

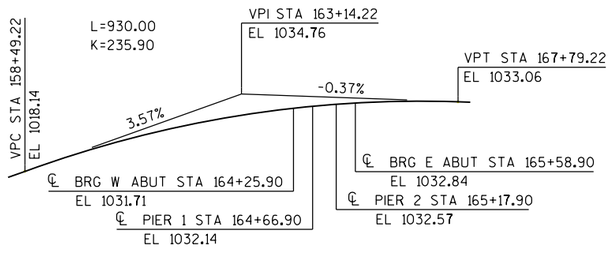
THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR OF 1964.

THIS STRUCTURE WILL REHABILITATE EXISTING STRUCTURE B-11-66, A THREE SPAN, 138.4' LONG STEEL GIRDER BRIDGE SET ON CONCRETE ABUTMENTS AND MULTI-COLUMN PIERS.

EXISTING SHEAR LUGS TO BE RETAINED. ANY DAMAGED DURING CONSTRUCTION TO BE REPLACED WITH SHEAR STUDS PER PLAN DETAILS. REPLACEMENT OF DAMAGED SHEAR LUGS WILL BE PAID FOR UNDER BID ITEM "REMOVING STRUCTURE B-11-66".

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	BID ITEM	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
	203.0220.01	REMOVING STRUCTURE B-11-66	EACH	-	-	-	1
	203.0211.S.01	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-11-66	EACH	-	-	-	1
	203.0330.01	DEBRIS CONTAINMENT B-11-66	EACH	-	-	-	1
	206.1001.01	EXCAVATION FOR STRUCTURES BRIDGES B-11-66	EACH	-	-	-	1
Ⓑ	210.1500	BACKFILL STRUCTURE TYPE A	TON	180	180	-	360
	502.0100	CONCRETE MASONRY BRIDGES	CY	18.2	18.2	206.3	243
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	531	531
	502.3210	PIGMENTED SURFACE SEALER	SY	-	-	158	158
	502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	36	36	-	72
	502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	55	55	-	110
	502.4206	ADHESIVE ANCHORS NO. 6 BAR	EACH	12	12	-	24
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1945	1955	47330	51230
	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	-	-	10	10
	506.7050.S.01	REMOVING BEARINGS B-11-66	EACH	-	-	10	10
	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	10	-	20
	517.0901.S.01	PREPARATION AND COATING OF TOP FLANGES B-11-66	EACH	-	-	-	1
	604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	190	190	-	380
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	90	90	-	180
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	-	4	4
	645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	39	39	-	78
		NON-BID ITEMS					
		CORK FILLER	SIZE				¾"
		PREFORMED FILLER	SIZE				½"



PROFILE GRADE LINE STH 33

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY CAR | PLANS CK'D. KHB

CROSS SECTIONS, QUANTITIES & NOTES

SHEET 2 OF 12
128

STATE PROJECT NUMBER
6040-00-74

8

8

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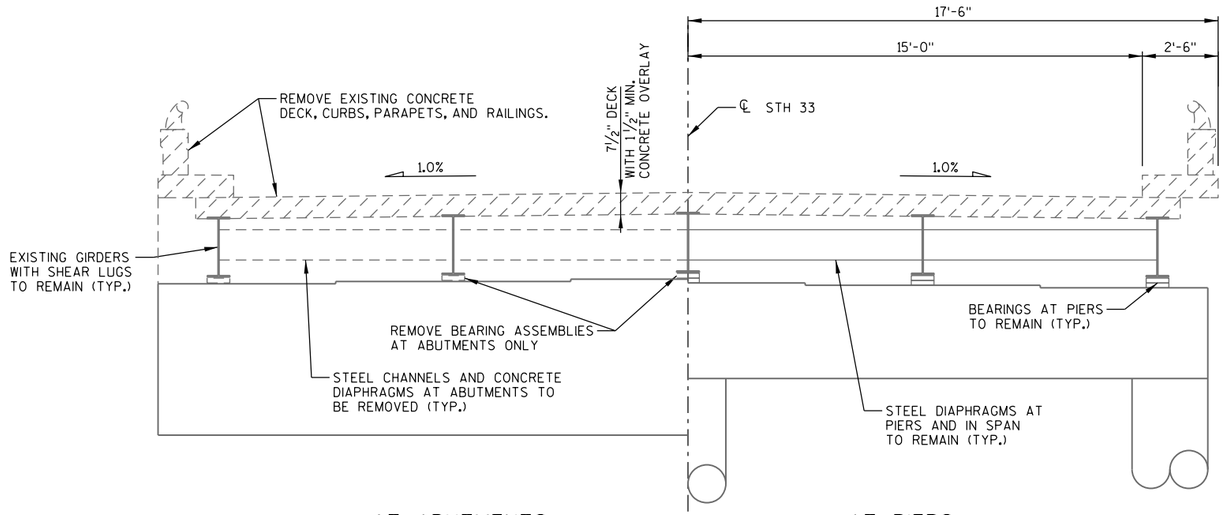
STATE PROJECT NUMBER
6040-00-74



AT ABUTMENTS AT PIERS

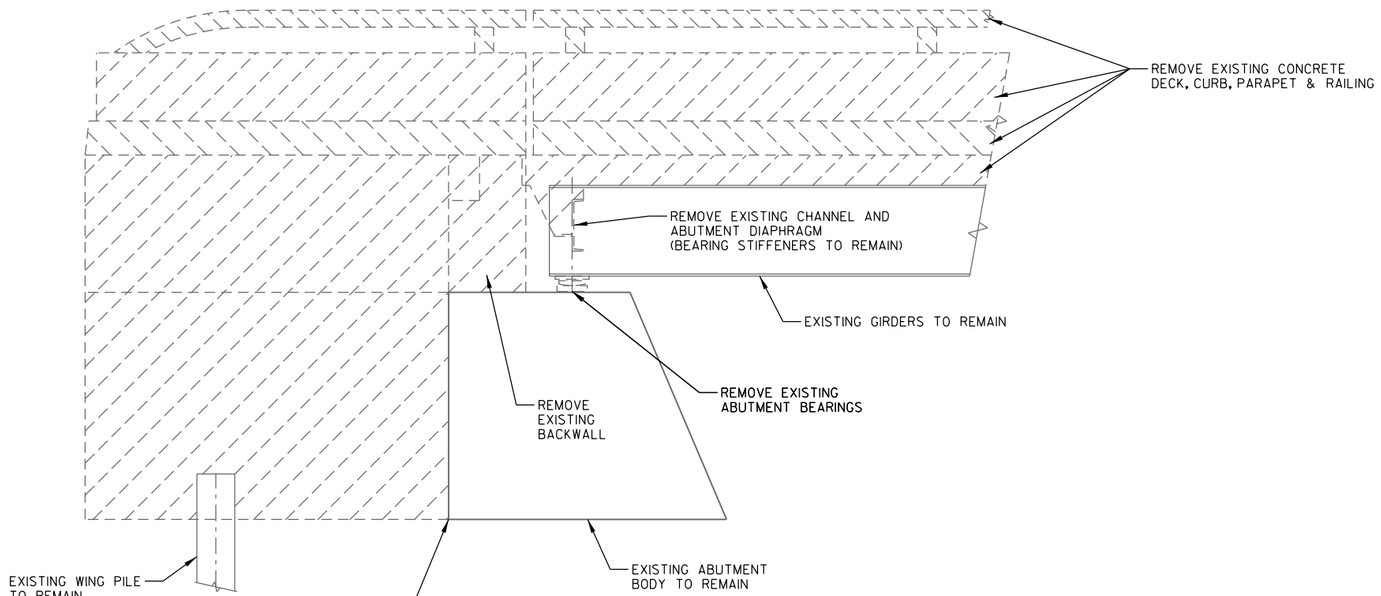
CROSS SECTION THRU EXISTING BRIDGE

(LOOKING EAST)

BEARING REMOVAL NOTES

REMOVE EXISTING BEARING ASSEMBLIES AT ABUTMENTS, INCLUDING EXISTING PLATE ATTACHED TO UNDERSIDE OF GIRDER BOTTOM FLANGE. BURN OFF EXISTING ANCHOR BOLTS AND REMOVE TO 2" BELOW EXISTING CONCRETE BEARING SURFACE. FILL VOID FLUSH WITH CONCRETE BEARING SURFACE WITH NON-SHRINK GROUT AND GRIND SMOOTH.

GRIND OFF THE EXISTING WELD THAT ATTACHED THE EXISTING TOP PLATE TO THE EXISTING BOTTOM FLANGE. GRIND AFFECTED AREAS SMOOTH.



EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.

REMOVAL DETAIL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

REMOVAL DETAILS

SHEET 3 OF 12

129

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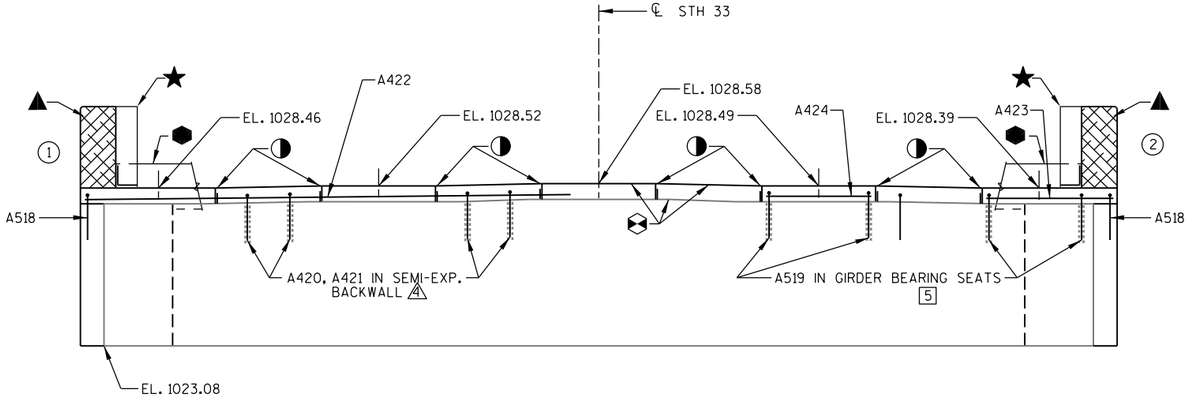
STATE PROJECT NUMBER

6040-00-74



SEMI-EXP. BACKWALL BAR STEEL REINF. BETWEEN BEARING SEATS

GIRDER BEARING SEAT BAR STEEL REINF.

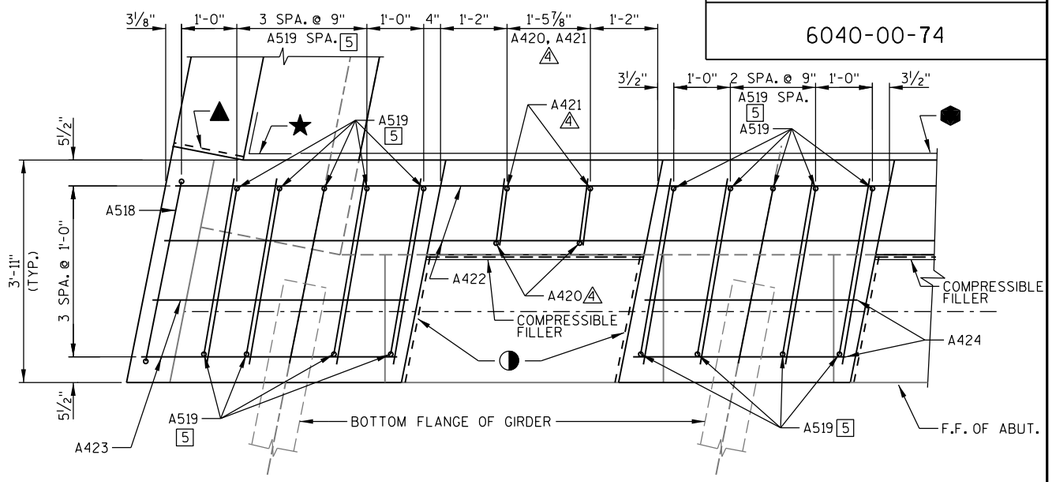
ELEVATION
(LOOKING WEST)

NOTES:

ALL BEARING SEATS TO BE LEVEL.

FOR REMOVAL DETAILS, SEE SHEET 3.

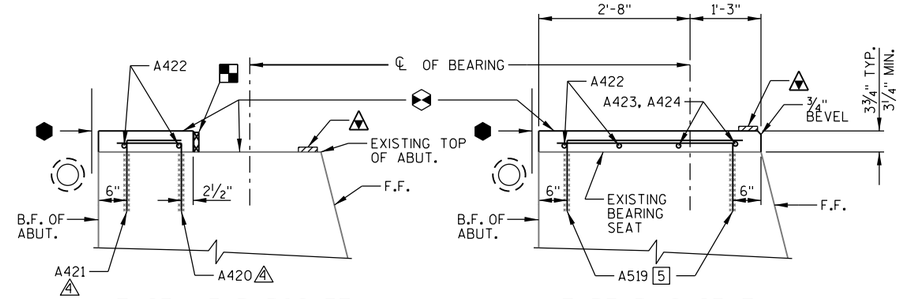
FOR WING AND ADDITIONAL ABUTMENT DETAILS SEE SHEET 5.



TYP. EXTERIOR GIRDER

TYP. INTERIOR GIRDER

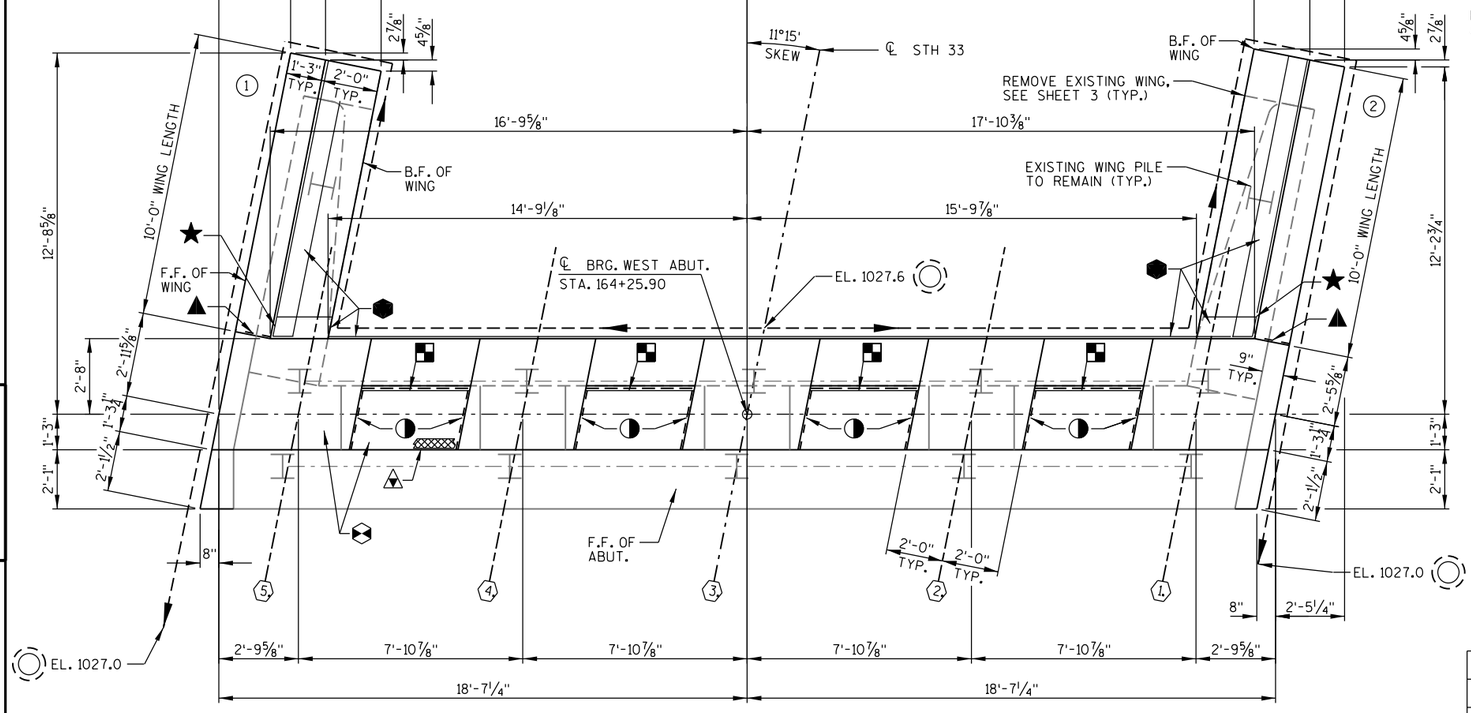
BEARING SEAT DETAILS



AT SEMI-EXP. POCKET

AT BEARING SEAT

SECTIONS THRU ABUTMENT TOP



PLAN

LEGEND

- ⬡ — DENOTES GIRDER NUMBER. ◯ — INDICATES WING NUMBER.
- ◎ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU SLOPE PAVING CRUSHED AGGREGATE. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE SHEET 12 FOR DETAILS.
- ◑ — ¾" CORK FILLER (VERTICAL FACE ONLY) AT SIDES OF SEMI-EXPANSION POCKETS.
- △ — 4" × ½" PREFORMED JOINT FILLER, EXTEND FULL LENGTH ALONG F.F. OF ABUTMENT.
- ◪ — 3¾" X ½" COMPRESSIBLE FILLER, EXTEND ALONG FRONT FACE OF NOTCH AT ALL EXPANSION POCKETS.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOPS OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS AND ALONG WINGS.
- ▲ — ½" PREFORMED JOINT FILLER, EXTEND FROM BEAM SEAT TO TOP OF WING. SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF PREFORMED JOINT FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER, (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE). FILLER INCLUDED IN WING LENGTH.
- ⬙ — SEMI-EXPANSION SEAT, CONSTRUCT 3¾" TYP. (3¼" MIN.) ABOVE EXISTING GIRDER SEATS. REMOVE EXISTING GIRDER BEARINGS. GRIND OR UTILIZE CONCRETE SURFACE REPAIR TO ATTAIN SMOOTH AND LEVEL TOP SURFACE OF SEMI-EXPANSION POCKET. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP AFTER PLACING SEMI-EXPANSION BEARING SEATS AND BLOCKS BUT BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ◥ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL AT CONSTRUCTION JOINT.
- ◨ — KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2 × 6. PLACE ⬢ ON B.F. OF WING. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.
- 4 — ADHESIVE ANCHORS NO. 4 BAR. EMBED 10" IN CONCRETE.
- 5 — ADHESIVE ANCHORS NO. 5 BAR. EMBED 12½" IN CONCRETE.
- 6 — ADHESIVE ANCHORS NO. 6 BAR. EMBED 1'-3" IN CONCRETE.

ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE. HOLD 6" MIN. FROM EDGE OF EXISTING CONCRETE.

F.F. — FRONT FACE B.F. — BACK FACE CL. — CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

WEST ABUTMENT

SHEET 4 OF 12

130

8

8

FILE= 93555_B-11-66_04.DGN

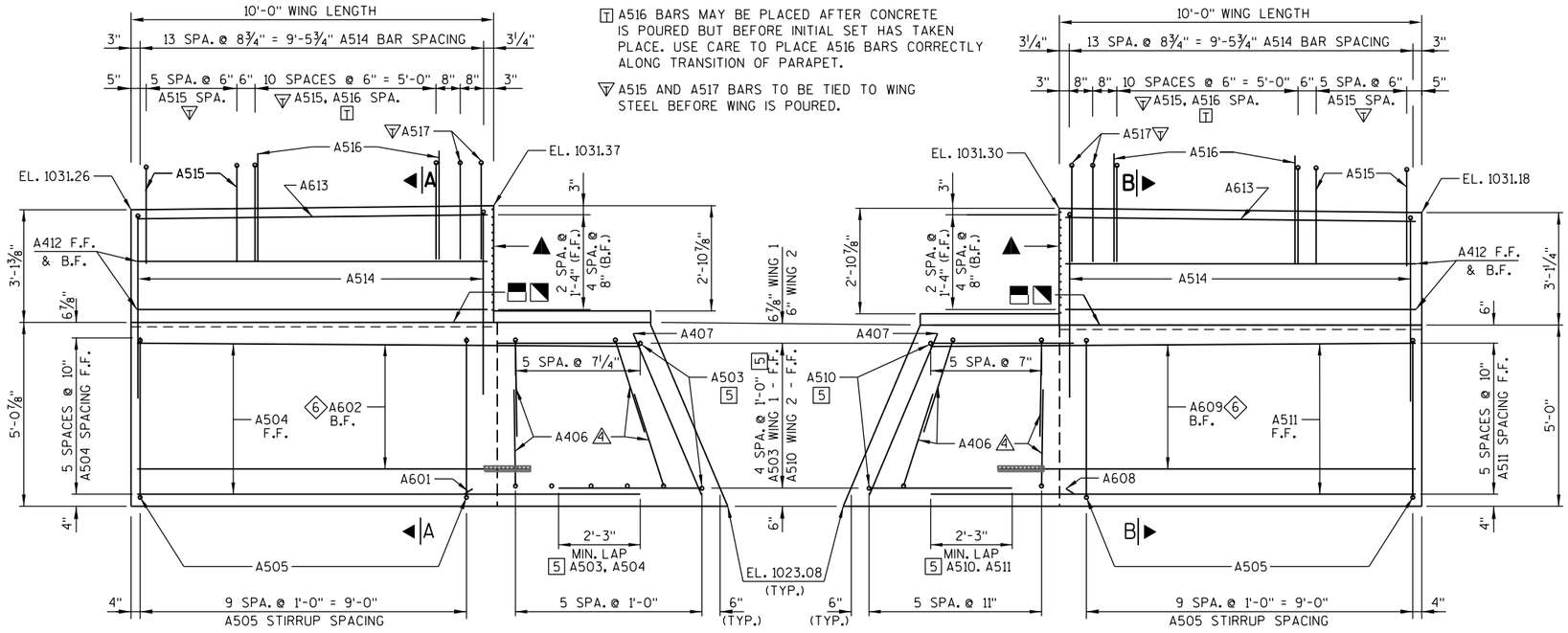
93555_B-11-66_04.dgn 9/8/2022 7:04:08 AM ekazadi

STATE PROJECT NUMBER

6040-00-74

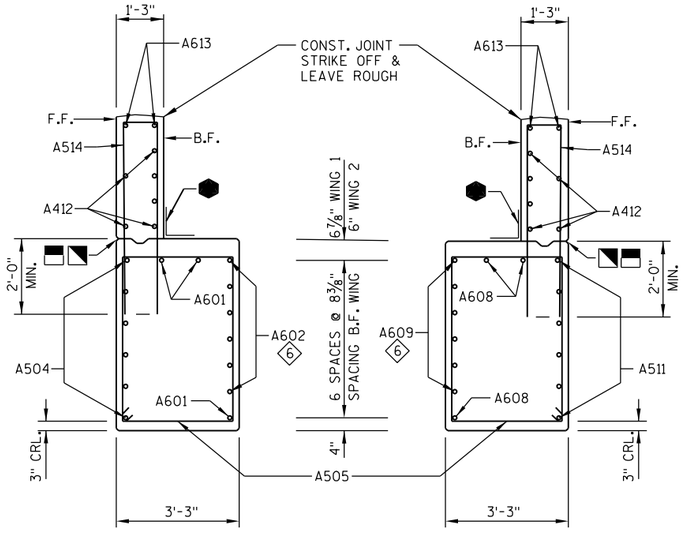
T A516 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE A516 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ A515 AND A517 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



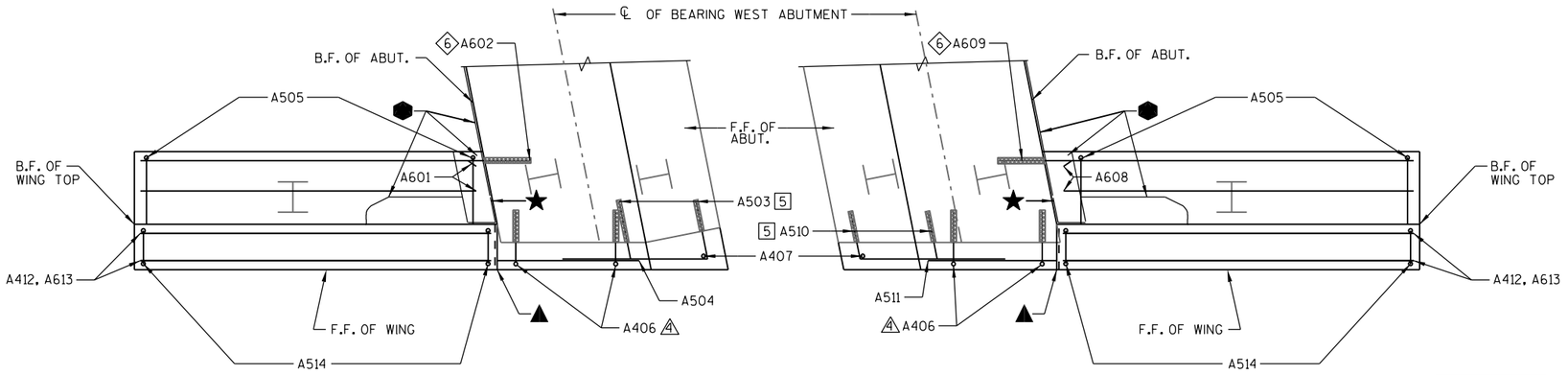
ELEVATION WING 1

ELEVATION WING 2



SECTION A-A THRU WING 1

SECTION B-B THRU WING 2



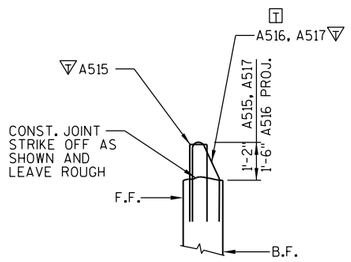
PLAN - WING 1

PLAN - WING 2

BILL OF BARS (WEST ABUT.) COATED 1945 LBS.

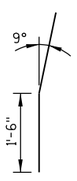
MARK	NUMBER REQUIRED	LENGTH	BENT	LOCATION
A601	3	9'-4"		WING 1 - BASE - B.F. - HORIZ.
6 A602	6	10'-9"		WING 1 - BASE - B.F. - HORIZ.
5 A503	5	5'-4"	X	WING 1 - ABUT. END - F.F.
A504	6	13'-9"		WING 1 - BASE - F.F. - HORIZ.
A505	20	15'-2"	X	WINGS - BASE - STIRRUP - VERT.
4 A406	20	4'-0"	X	ABUT. ENDS - TOP & BOTTOM - VERT.
A407	2	4'-10"		ABUT. ENDS - F.F. - VERT.
A608	3	9'-10"		WING 2 - BASE - B.F. - HORIZ.
6 A609	6	11'-6"		WING 2 - BASE - B.F. - HORIZ.
5 A510	5	5'-2"	X	WING 2 - ABUT. END - F.F.
A511	6	13'-4"		WING 2 - BASE - F.F. - HORIZ.
A412	12	9'-7"		WINGS - TOP - F.F. & B.F. - HORIZ.
A613	4	9'-7"		WINGS - TOP - F.F. & B.F. - HORIZ.
A514	28	10'-10"	X	WINGS - TOP - TIES - VERT.
A515	34	5'-7"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
A516	22	3'-0"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
A517	4	5'-10"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
A518	2	6'-0"	X	ABUT. ENDS - TOP - GIRDER SEATS - VERT.
5 A519	45	4'-4"	X	ABUT. TOP - GIRDER SEATS - VERT.
4 A420	8	2'-1"	X	ABUT. TOP - SEMI-EXP. BACKWALL - VERT.
4 A421	8	1'-11"	X	ABUT. TOP - SEMI-EXP. BACKWALL - VERT.
A422	2	36'-10"		ABUT. TOP - SEMI-EXP. BACKWALL - HORIZ.
A423	4	4'-6"		ABUT. TOP - GIRDER SEATS 1 & 5 - HORIZ.
A424	6	3'-9"		ABUT. TOP - GIRDER SEATS 2, 3 & 4 - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUBSTRUCTURE BARSTEEL REINFORCEMENT.

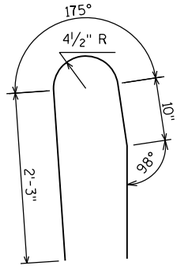


PARAPET STIRRUP PROJECTION DETAIL

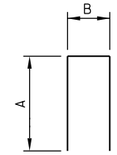
SEE SHEET 4 LEGEND FOR DESCRIPTION OF ⬢ ▬ ◥ ★ ▲ 4 5 6



A516

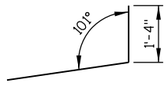


A517

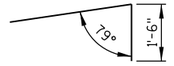


MARK	A	B
A514	5'-1"	11"
A515	2'-8"	6"
A518	1'-6"	3'-3"

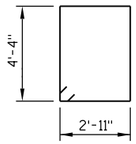
MARK	C
4 A406	1'-5"
5 A519	1'-3"
4 A420	1'-0"
4 A421	



A510 5



A503 5



A505

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

WEST ABUTMENT DETAILS

SHEET 5 OF 12
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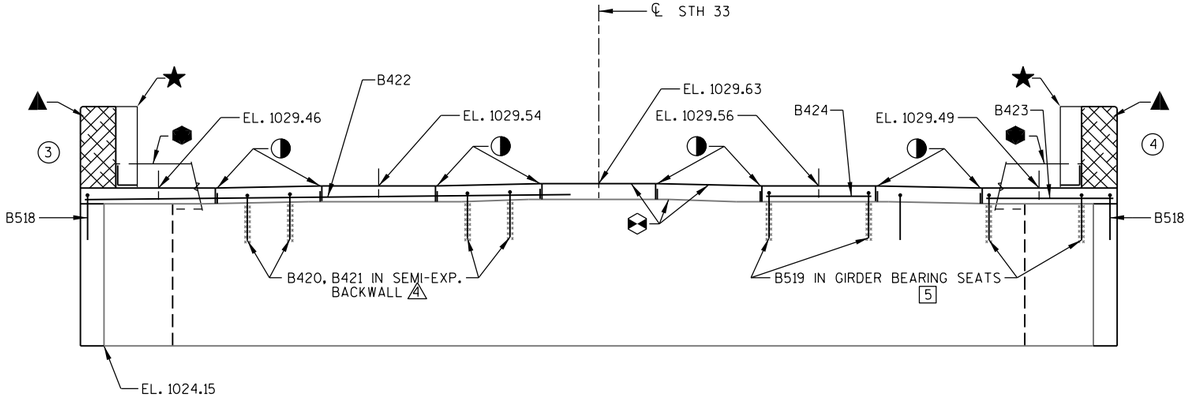
93555_B-11-66_05.dgn 8/24/2022 5:06:21 PM ekazadi

STATE PROJECT NUMBER

6040-00-74



SEMI-EXP. BACKWALL BAR STEEL REINF. BETWEEN BEARING SEATS

GIRDER BEARING SEAT BAR STEEL REINF.

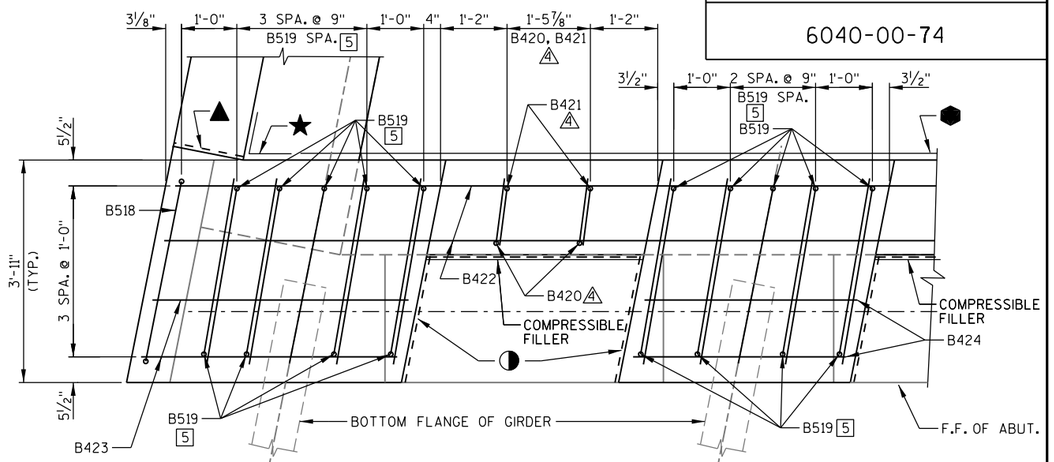
ELEVATION
(LOOKING EAST)

NOTES:

ALL BEARING SEATS TO BE LEVEL.

FOR REMOVAL DETAILS, SEE SHEET 3.

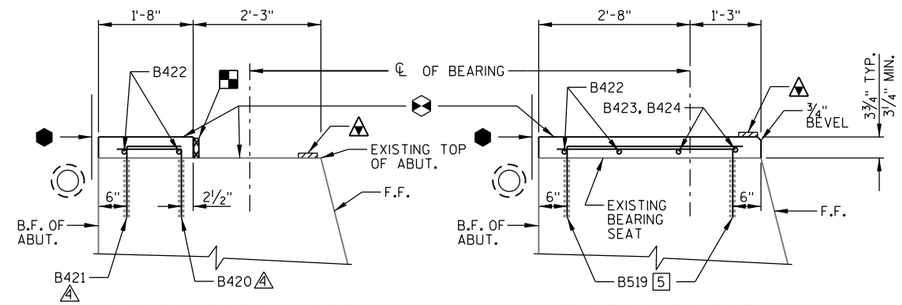
FOR WING AND ADDITIONAL ABUTMENT DETAILS SEE SHEET 7.



TYP. EXTERIOR GIRDER

TYP. INTERIOR GIRDER

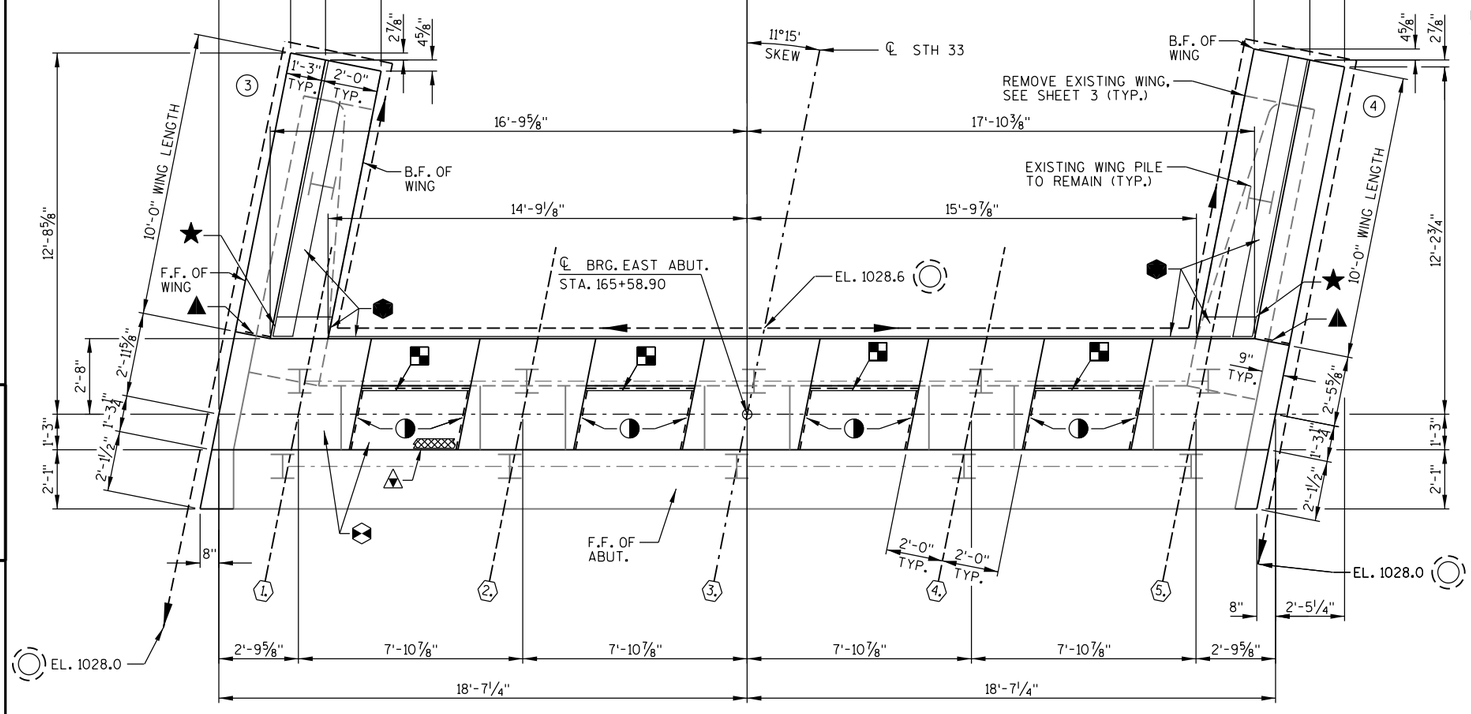
BEARING SEAT DETAILS



AT SEMI-EXP. POCKET

AT BEARING SEAT

SECTIONS THRU ABUTMENT TOP



PLAN

LEGEND

⬡ — DENOTES GIRDER NUMBER. ◯ — INDICATES WING NUMBER.

◯ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU SLOPE PAVING CRUSHED AGGREGATE. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT PROTECTION AT ENDS OF PIPE. SEE SHEET 12 FOR DETAILS.

◑ — ¾" CORK FILLER (VERTICAL FACE ONLY) AT SIDES OF SEMI-EXPANSION POCKETS.

△ — 4" x ½" PREFORMED JOINT FILLER, EXTEND FULL LENGTH ALONG F.F. OF ABUTMENT.

▪ — 3¾" X ½" COMPRESSIBLE FILLER, EXTEND ALONG FRONT FACE OF NOTCH AT ALL EXPANSION POCKETS.

★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM BRIDGE SEAT TO TOPS OF WINGS.

⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS AND ALONG WINGS.

▲ — ½" PREFORMED JOINT FILLER, EXTEND FROM BEAM SEAT TO TOP OF WING. SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF PREFORMED JOINT FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER, (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE). FILLER INCLUDED IN WING LENGTH.

⋈ — SEMI-EXPANSION SEAT. CONSTRUCT 3¾" TYP. (3¼" MIN.) ABOVE EXISTING GIRDER SEATS. REMOVE EXISTING GIRDER BEARINGS. GRIND OR UTILIZE CONCRETE SURFACE REPAIR TO ATTAIN SMOOTH AND LEVEL TOP SURFACE OF SEMI-EXPANSION POCKET. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP AFTER PLACING SEMI-EXPANSION BEARING SEATS AND BLOCKS BUT BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

◥ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL AT CONSTRUCTION JOINT.

▬ — KEYED CONSTRUCTION JOINT ON WING FORMED BY BEVELED 2 x 6. PLACE ⬢ ON B.F. OF WING. POUR CONCRETE ABOVE THIS JOINT AFTER DECK IS IN PLACE.

4 — ADHESIVE ANCHORS NO. 4 BAR. EMBED 10" IN CONCRETE.

5 — ADHESIVE ANCHORS NO. 5 BAR. EMBED 12½" IN CONCRETE.

6 — ADHESIVE ANCHORS NO. 6 BAR. EMBED 1'-3" IN CONCRETE.

ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE. HOLD 6" MIN. FROM EDGE OF EXISTING CONCRETE.

F.F. — FRONT FACE B.F. — BACK FACE CL. — CLEAR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

EAST ABUTMENT

SHEET 6 OF 12
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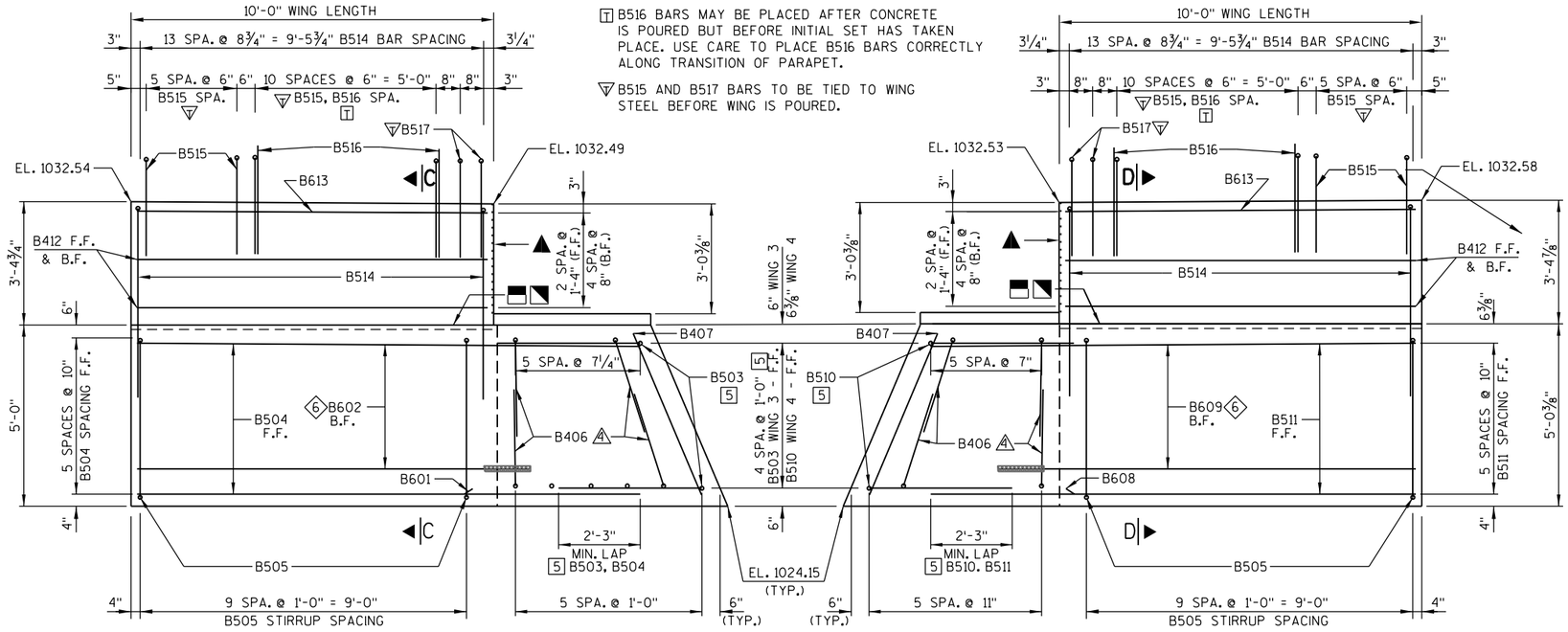
93555_B-11-66_06.dgn 9/8/2022 8:43:36 AM ekazadi

STATE PROJECT NUMBER
6040-00-74

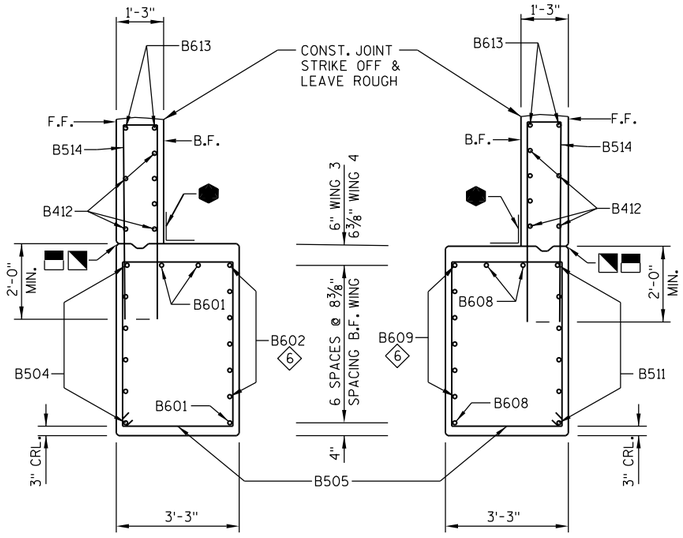
T B516 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE B516 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ B515 AND B517 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



ELEVATION WING 3

ELEVATION WING 4



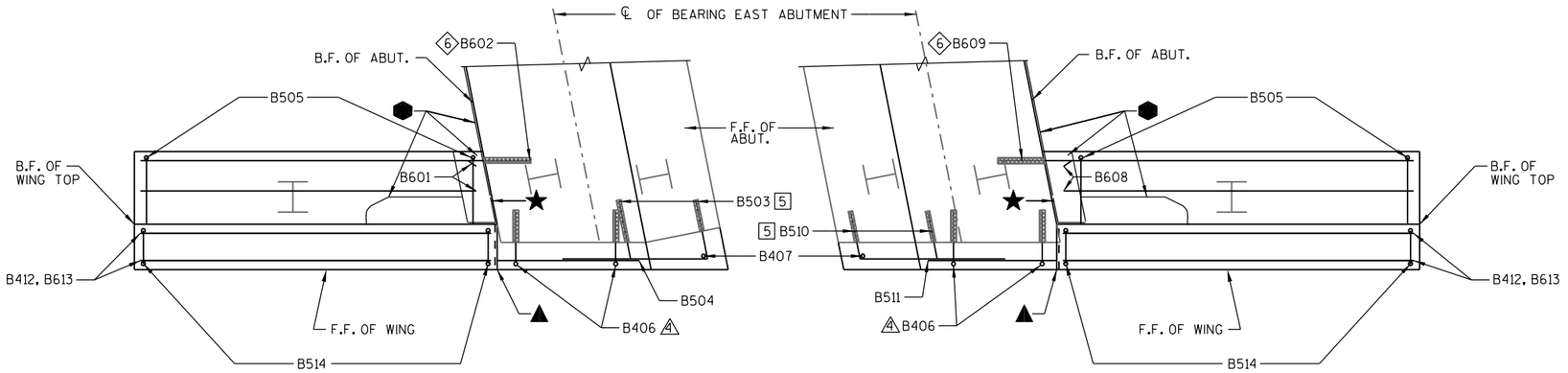
SECTION C-C THRU WING 3

SECTION D-D THRU WING 4

BILL OF BARS (EAST ABUT.) COATED 1955 LBS.

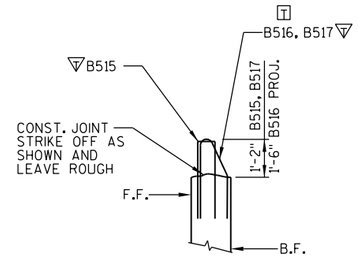
MARK	NUMBER REQUIRED	LENGTH	BENT	LOCATION
B601	3	9'-4"		WING 3 - BASE - B.F. - HORIZ.
6 B602	6	10'-9"		WING 3 - BASE - B.F. - HORIZ.
5 B503	5	5'-4"	X	WING 3 - ABUT. END - F.F.
B504	6	13'-9"		WING 3 - BASE - F.F. - HORIZ.
B505	20	15'-2"	X	WINGS - BASE - STIRRUP - VERT.
4 B406	20	4'-0"	X	ABUT. ENDS - TOP & BOTTOM - VERT.
B407	2	4'-10"		ABUT. ENDS - F.F. - VERT.
B608	3	9'-10"		WING 4 - BASE - B.F. - HORIZ.
6 B609	6	11'-6"		WING 4 - BASE - B.F. - HORIZ.
5 B510	5	5'-2"	X	WING 4 - ABUT. END - F.F.
B511	6	13'-4"		WING 4 - BASE - F.F. - HORIZ.
B412	12	9'-7"		WINGS - TOP - F.F. & B.F. - HORIZ.
B613	4	9'-7"		WINGS - TOP - F.F. & B.F. - HORIZ.
B514	28	11'-2"	X	WINGS - TOP - TIES - VERT.
B515	34	5'-7"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
B516	22	3'-0"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
B517	4	5'-10"	X	WINGS - TOP - PARAPET STIRRUP - VERT.
B518	2	6'-0"	X	ABUT. ENDS - TOP - GIRDER SEATS - VERT.
5 B519	45	4'-4"	X	ABUT. TOP - GIRDER SEATS - VERT.
4 B420	8	2'-1"	X	ABUT. TOP - SEMI-EXP. BACKWALL - VERT.
4 B421	8	1'-11"	X	ABUT. TOP - SEMI-EXP. BACKWALL - VERT.
B422	2	36'-10"		ABUT. TOP - SEMI-EXP. BACKWALL - HORIZ.
B423	4	4'-6"		ABUT. TOP - GIRDER SEATS 1 & 5 - HORIZ.
B424	6	3'-9"		ABUT. TOP - GIRDER SEATS 2, 3 & 4 - HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUBSTRUCTURE BARSTEEL REINFORCEMENT.



PLAN - WING 3

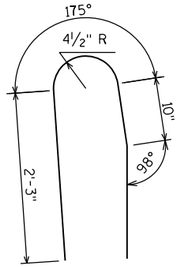
PLAN - WING 4



PARAPET STIRRUP PROJECTION DETAIL

SEE SHEET 6 LEGEND FOR DESCRIPTION OF

B516



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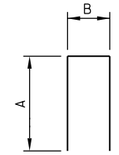
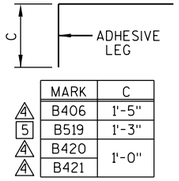
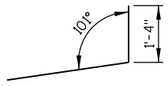


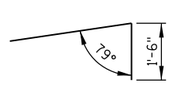
MARK	A	B
B514	5'-3"	11"
B515	2'-8"	6"
B518	1'-6"	3'-3"



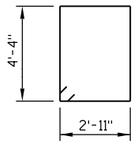
MARK	C
4 B406	1'-5"
5 B519	1'-3"
4 B420	1'-0"
4 B421	



B510 5



B503 5



B505

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

EAST ABUTMENT DETAILS

SHEET 7 OF 12
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STATE PROJECT NUMBER

6040-00-74

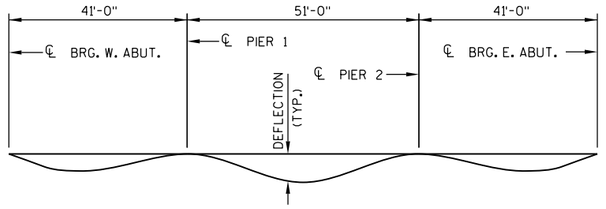
TOP OF DECK ELEVATIONS

LOCATION	SPAN POINT	SOUTH EDGE OF DECK **	GIRDER 5	GIRDER 4	CL STH 33 AND GIRDER 3	GIRDER 2	GIRDER 1	NORTH EDGE OF DECK **
W. ABUT.	1	1031.41	1031.43	1031.57	1031.71	1031.53	1031.36	1031.33
	1.1	1031.45	1031.48	1031.62	1031.75	1031.58	1031.41	1031.38
	1.2	1031.50	1031.52	1031.66	1031.80	1031.63	1031.45	1031.42
	1.3	1031.54	1031.57	1031.70	1031.84	1031.67	1031.50	1031.47
	1.4	1031.58	1031.61	1031.75	1031.89	1031.72	1031.54	1031.51
	1.5	1031.63	1031.65	1031.79	1031.93	1031.76	1031.59	1031.55
	1.6	1031.67	1031.69	1031.83	1031.97	1031.80	1031.63	1031.60
	1.7	1031.71	1031.74	1031.88	1032.01	1031.84	1031.67	1031.64
	1.8	1031.75	1031.78	1031.92	1032.06	1031.89	1031.71	1031.68
	1.9	1031.79	1031.82	1031.96	1032.10	1031.93	1031.76	1031.72
PIER 1	2	1031.83	1031.85	1032.00	1032.14	1031.97	1031.80	1031.76
	2.1	1031.88	1031.90	1032.04	1032.18	1032.01	1031.84	1031.81
	2.2	1031.92	1031.95	1032.09	1032.23	1032.06	1031.89	1031.86
	2.3	1031.97	1031.99	1032.14	1032.28	1032.11	1031.94	1031.91
	2.4	1032.01	1032.04	1032.18	1032.32	1032.15	1031.99	1031.95
	2.5	1032.05	1032.08	1032.22	1032.37	1032.20	1032.03	1032.00
	2.6	1032.10	1032.12	1032.27	1032.41	1032.24	1032.07	1032.04
	2.7	1032.14	1032.17	1032.31	1032.45	1032.28	1032.12	1032.08
	2.8	1032.18	1032.21	1032.35	1032.49	1032.32	1032.16	1032.12
	2.9	1032.22	1032.24	1032.39	1032.53	1032.36	1032.20	1032.16
PIER 2	3	1032.25	1032.28	1032.43	1032.57	1032.40	1032.24	1032.20
	3.1	1032.28	1032.31	1032.46	1032.60	1032.43	1032.27	1032.23
	3.2	1032.31	1032.34	1032.48	1032.63	1032.46	1032.30	1032.26
	3.3	1032.34	1032.37	1032.51	1032.66	1032.49	1032.33	1032.29
	3.4	1032.37	1032.40	1032.54	1032.68	1032.52	1032.35	1032.32
	3.5	1032.39	1032.42	1032.57	1032.71	1032.55	1032.38	1032.35
	3.6	1032.42	1032.45	1032.59	1032.74	1032.57	1032.41	1032.38
	3.7	1032.44	1032.47	1032.62	1032.76	1032.60	1032.43	1032.40
	3.8	1032.47	1032.50	1032.64	1032.79	1032.62	1032.46	1032.43
	3.9	1032.49	1032.52	1032.67	1032.81	1032.65	1032.49	1032.45
E. ABUT.	4	1032.52	1032.54	1032.69	1032.84	1032.67	1032.51	1032.48

** - EDGE OF DECK ELEVATION IS THE SAME AS THE INSIDE FACE OF PARAPET.

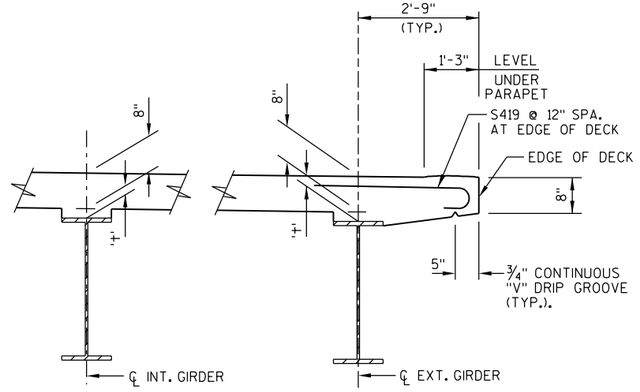
DEAD LOAD DEFLECTIONS

SPAN POINT	DEAD LOAD DEFLECTION (IN.)
1	0.0
1.1	0.2
1.2	0.3
1.3	0.4
1.4	0.4
1.5	0.4
1.6	0.3
1.7	0.2
1.8	0.1
1.9	0.0
2	0.0
2.1	0.0
2.2	0.1
2.3	0.2
2.4	0.3
2.5	0.3
2.6	0.3
2.7	0.2
2.8	0.1
2.9	0.0
3	0.0
3.1	0.0
3.2	0.1
3.3	0.2
3.4	0.3
3.5	0.4
3.6	0.4
3.7	0.4
3.8	0.3
3.9	0.2
4	0.0



DEFLECTION DIAGRAM

(DEFLECTION DUE TO CONCRETE)



TO DETERMINE '+': ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATES, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN AT C/L OF BEARINGS, AND AT 1/10TH POINTS OF EACH SPAN AFTER THE EXISTING DECK IS REMOVED BUT PRIOR TO INSTALLATION OF ANY DECK FORMING. THEN FOLLOW THIS PROCESS.

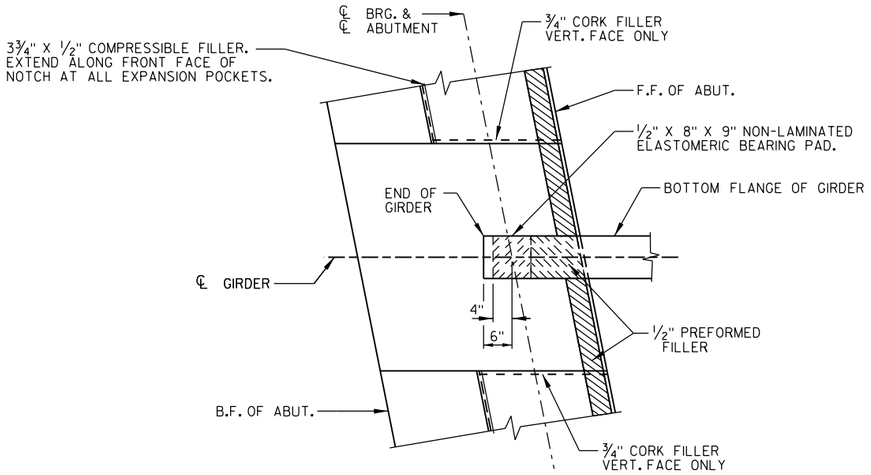
TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF STEEL ELEV.
+ DEFLECTION (FROM TABLE ABOVE)
- DECK THICKNESS (8")

= HAUNCH THICKNESS '+'.

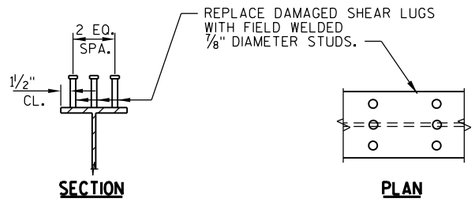
NOTE:

AN AVERAGE HAUNCH ("+") OF 5¼" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

DECK FORMING DETAILS



ABUTMENT BEARING PAD DETAIL



SHEAR CONNECTOR DETAILS & NOTES

EXISTING SHEAR LUGS, IF DAMAGED, SHALL BE REMOVED AND REPLACED WITH A SET OF 3 FIELD WELDED ⅞" DIA. STUDS. STUD LENGTH SHALL BE 7" ON GIRDERS 1 & 5, 8" ON GIRDERS 2 & 4, AND 9" ON GIRDER 3.

SHEAR CONNECTOR LOCATIONS MAY BE ADJUSTED UP TO 3".

REPLACEMENT OF DAMAGED SHEAR LUGS IS INCLUDED IN THE BID ITEM "REMOVING STRUCTURE B-11-66".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

DECK FORMING DETAILS

SHEET R 134 OF 12

8

8

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STATE PROJECT NUMBER

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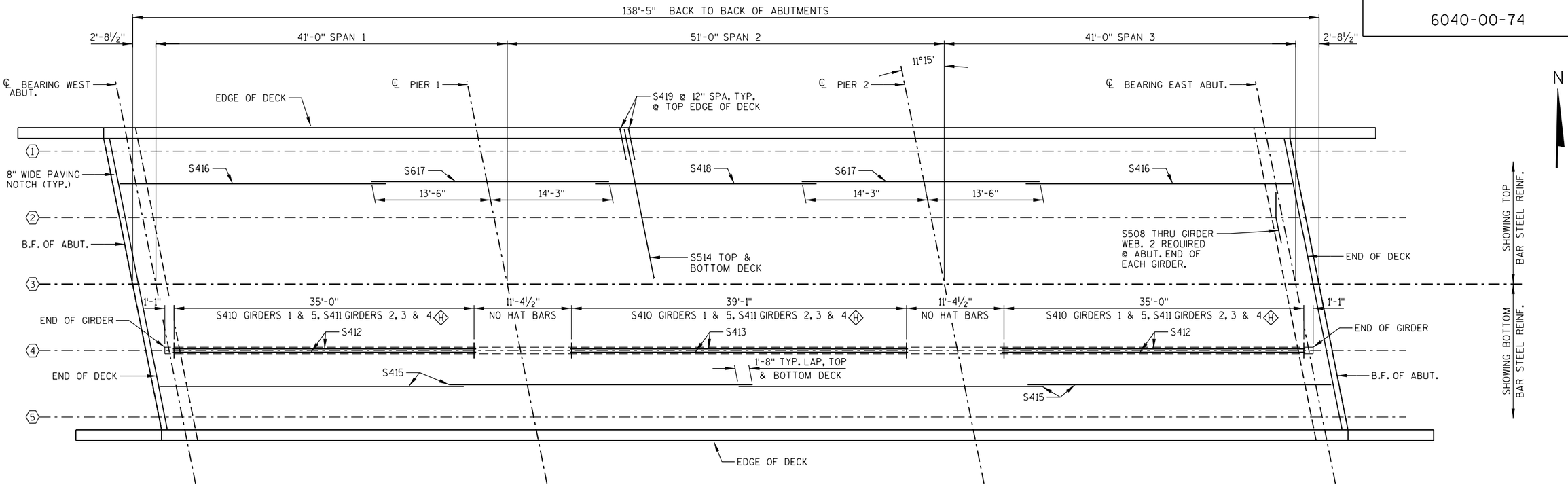
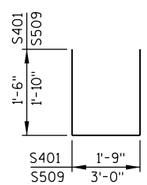


PLAN

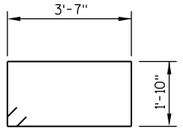
BILL OF BARS (COATED) 39,290 LBS.

MARK	NUMBER REQ'D.	LENGTH	BENT	DESCRIPTION
S401	40	4'-7"	X	ABUT. DIAPH. - S.E. SEAT - STIRRUP - VERT.
S402	24	3'-6"		ABUT. DIAPH. - S.E. SEAT - TRANS.
S503	96	11'-6"	X	ABUT. DIAPH. - STIRRUP - VERT.
S604	12	36'-10"		ABUT. DIAPH. - B.F. & TOP - TRANS.
S605	24	7'-6"		ABUT. DIAPH. - INT. BAY - TRANS.
S606	12	2'-4"		ABUT. DIAPH. - ENDS - TRANS.
S507	8	2'-6"		ABUT. DIAPH. - ENDS - VERT.
S508	20	6'-0"	X	ABUT. DIAPH. - THRU GIRDER WEB - TRANS.
S509	96	6'-5"	X	ABUT. DIAPH. - TOP STIRRUP - VERT.
S410	284	2'-6"	X	DECK - HAT BARS - GIRDERS 1 & 5 - VERT.
S411	426	2'-8"	X	DECK - HAT BARS - GIRDERS 2, 3 & 4 - VERT.
S412	20	35'-6"		DECK - TOP OF GIRDERS - LONGIT. SPANS 1 & 3
S413	10	39'-6"		DECK - TOP OF GIRDERS - LONGIT. SPAN 2
S514	547	36'-10"		DECK - TOP & BOTTOM - TRANS.
S415	208	35'-5"		DECK - BOTTOM - LONGIT.
S416	106	31'-0"		DECK - TOP @ ABUTS. & SPANS 1 & 3 - LONGIT.
S617	106	27'-9"		DECK - TOP - OVER PIERS - LONGIT.
S418	53	25'-10"		DECK - TOP - SPAN 2 - LONGIT.
S419	274	4'-2"	X	DECK - TOP @ EDGES - TRANS.

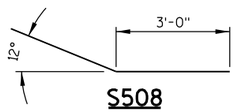
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR REINFORCEMENT.



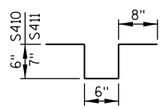
S401, S509



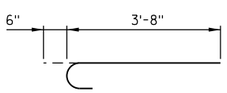
S503



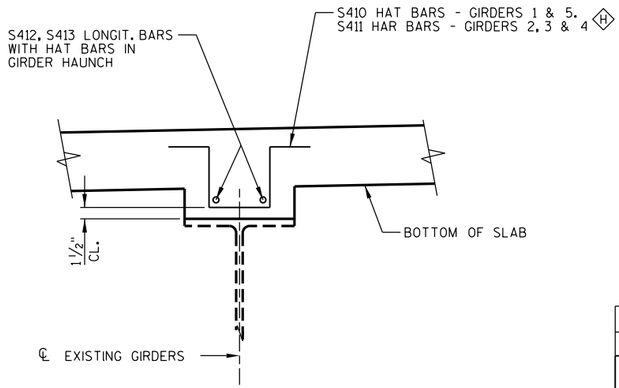
S508



S410, S411
(HAT BAR)



S419
STD. 180° HOOK



HAT BAR DETAIL

GENERAL NOTES

H - HAT BAR SPACING TO MATCH EXISTING SHEAR CONNECTOR SPACING OR 1'-0" MAX., WHICHEVER IS SMALLER.

⬡ - INDICATES GIRDER NUMBER

SEE SHEET 10 FOR LONGITUDINAL AND TRANSVERSE BAR SPACING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

SUPERSTRUCTURE

SHEET 9 OF 12
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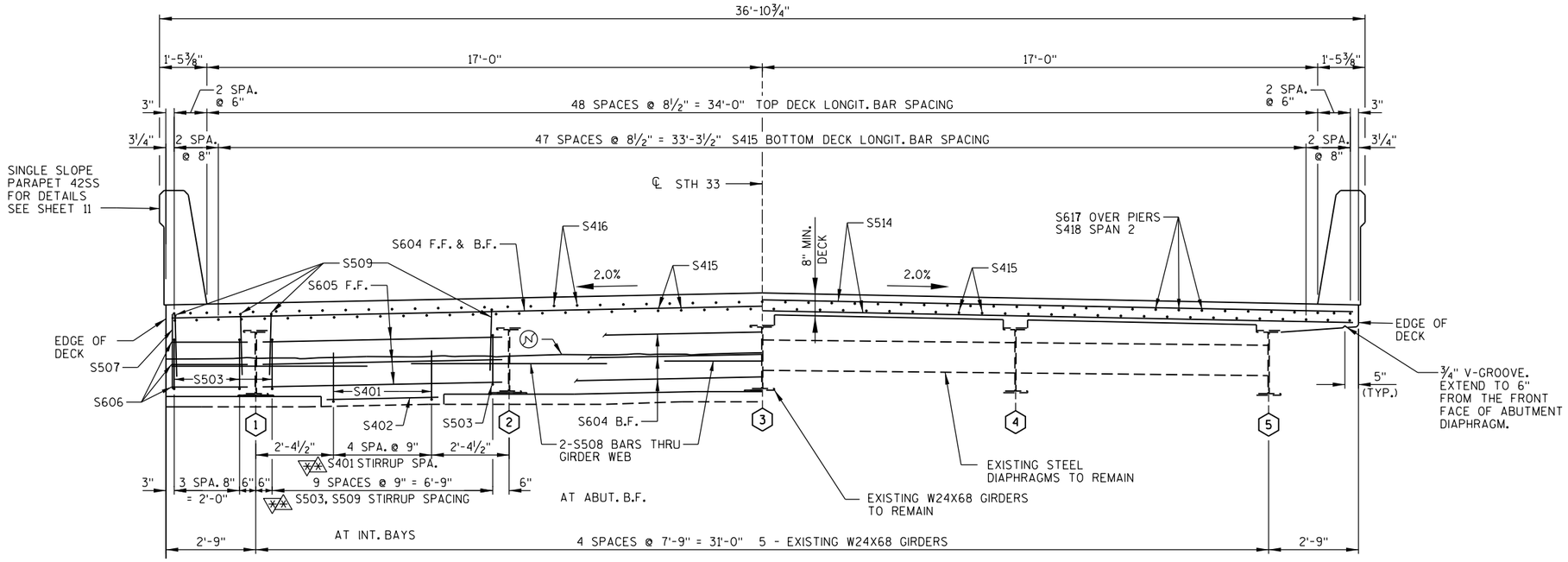
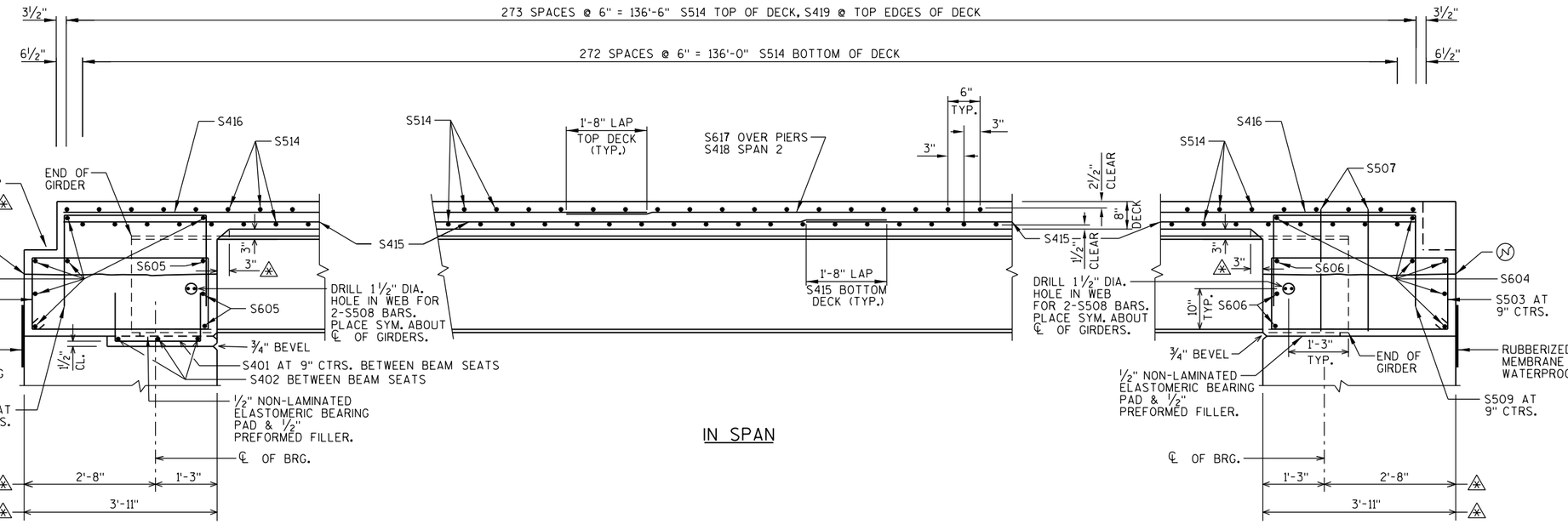
STATE PROJECT NUMBER
6040-00-74



AT ABUTMENTS **AT PIERS/IN SPAN**

CROSS SECTION THRU BRIDGE

(LOOKING EAST)



PART LONGITUDINAL SECTION

LEGEND

- ⬡ - INDICATES GIRDER NUMBER
- Ⓝ - REQUIRED CONSTRUCTION JOINT. DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR. (TYP. ALL BAYS)
- ⁂ - DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.
- ⁂ - DIMENSION IS TAKEN NORMAL TO ℄ GIRDER.
- F.F. - FRONT FACE
- B.F. - BACK FACE

NOTE:
DIAPHRAGM CONSTRUCTION JOINT IS REQUIRED - NOT OPTIONAL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

SUPERSTRUCTURE SECTIONS

SHEET 10 OF 12
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8

8

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STATE PROJECT NUMBER

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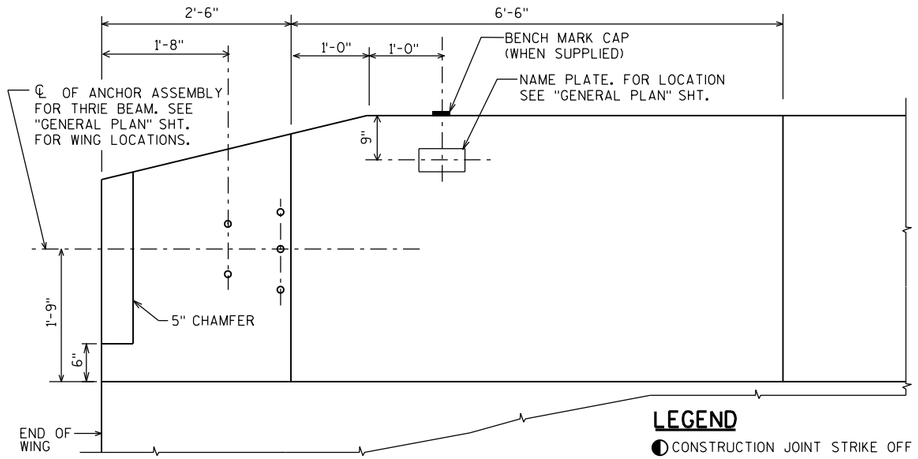


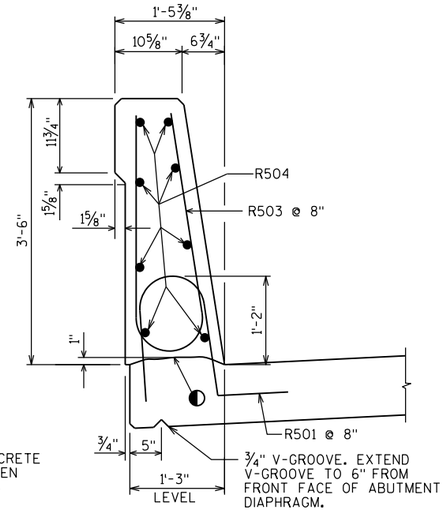
INSIDE ELEVATION

LEGEND

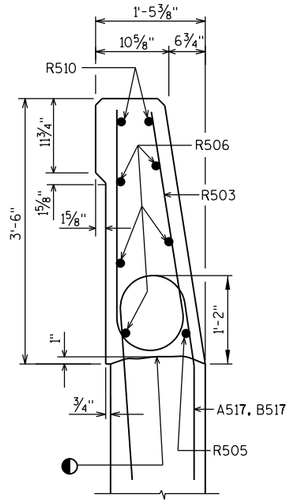
◐ CONSTRUCTION JOINT STRIKE OFF AS SHOWN.

T A516, B516 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE A516, B516 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

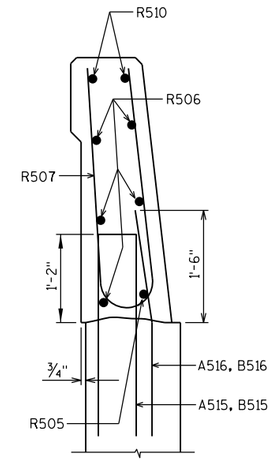
▽ A515, B515 AND A517, B517 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.



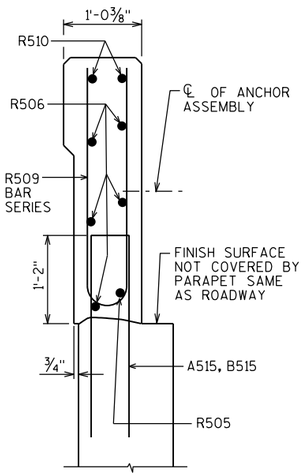
SECTION S4-S4
ON DECK



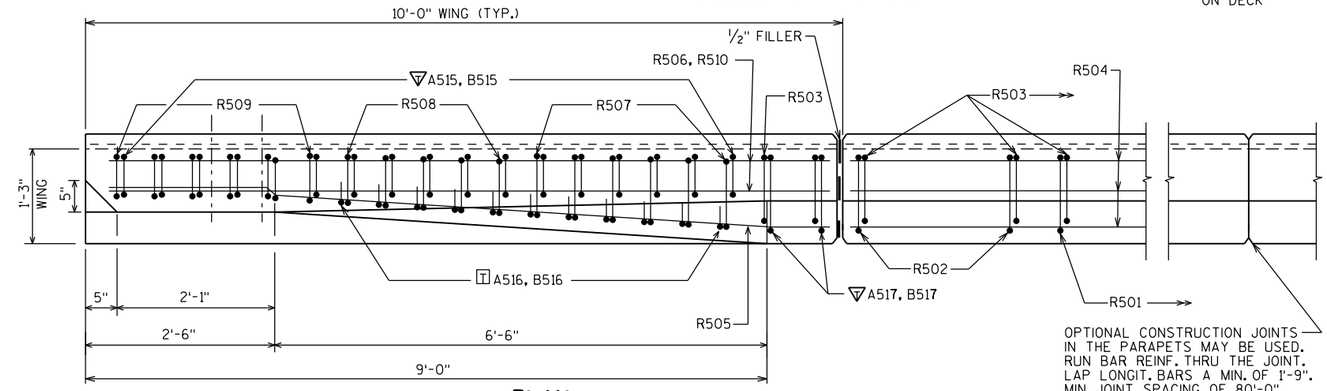
SECTION S3-S3
ON WING



SECTION S2-S2
ON WING

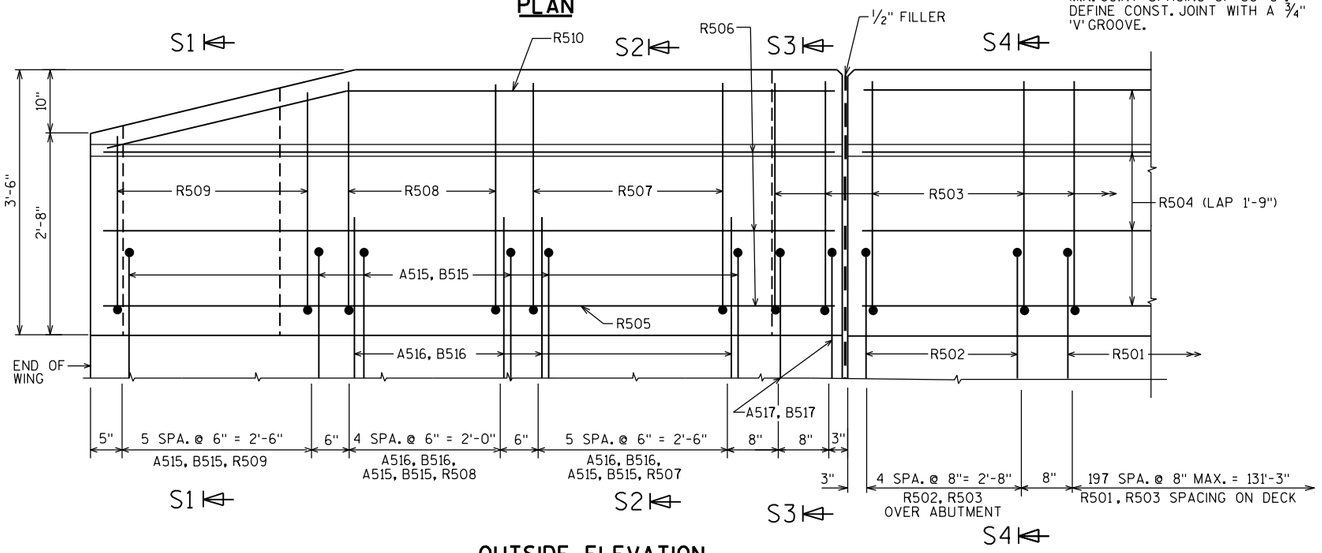


SECTION S1-S1
AT END OF WING

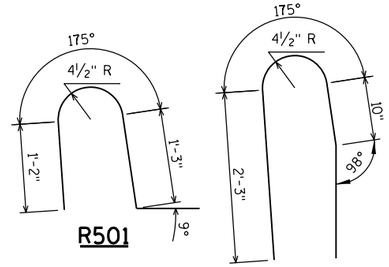


OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.

PLAN

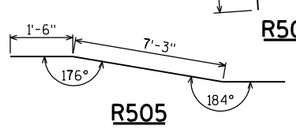


OUTSIDE ELEVATION



R501

R502



R505

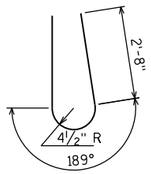
BILL OF BARS (COATED) 8,040 LBS.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
R501	396	4'-5"	X		PARAPET ON DECK - STIRRUP - VERT.
R502	20	5'-10"	X		PARAPET OVER ABUT. - STIRRUP - VERT.
R503	424	6'-8"	X		PARAPET - STIRRUP - VERT.
R504	64	35'-10"			PARAPET ON DECK - LONGIT.
R505	4	9'-7"	X		PARAPET ON WING - BOTTOM - LONGIT.
R506	20	9'-7"			PARAPET ON WING - LONGIT.
R507	24	6'-6"	X		PARAPET ON WING - STIRRUP - VERT.
R508	20	6'-5"	X		PARAPET ON WING - STIRRUP - VERT.
R509	24	5'-5"	X	Ⓢ	PARAPET ON WING - END - STIRRUP - VERT.
R510	8	9'-8"	X		PARAPET ON WING - TOP - LONGIT.

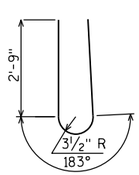
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.

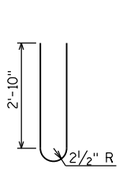
Ⓢ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BEND BAR AFTER CUTTING.



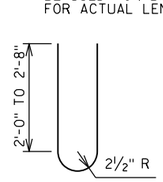
R503



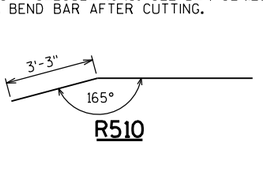
R507



R508



R509

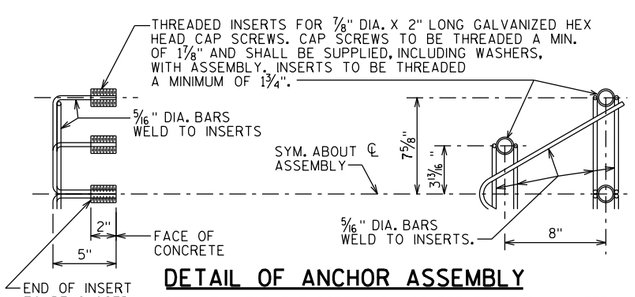


R510

BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"

BUNDLE AND TAG EACH SERIES SEPARATELY.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY BID ITEM SHALL BE "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

SINGLE SLOPE PARAPET 42SS

SHEET 11 OF 12
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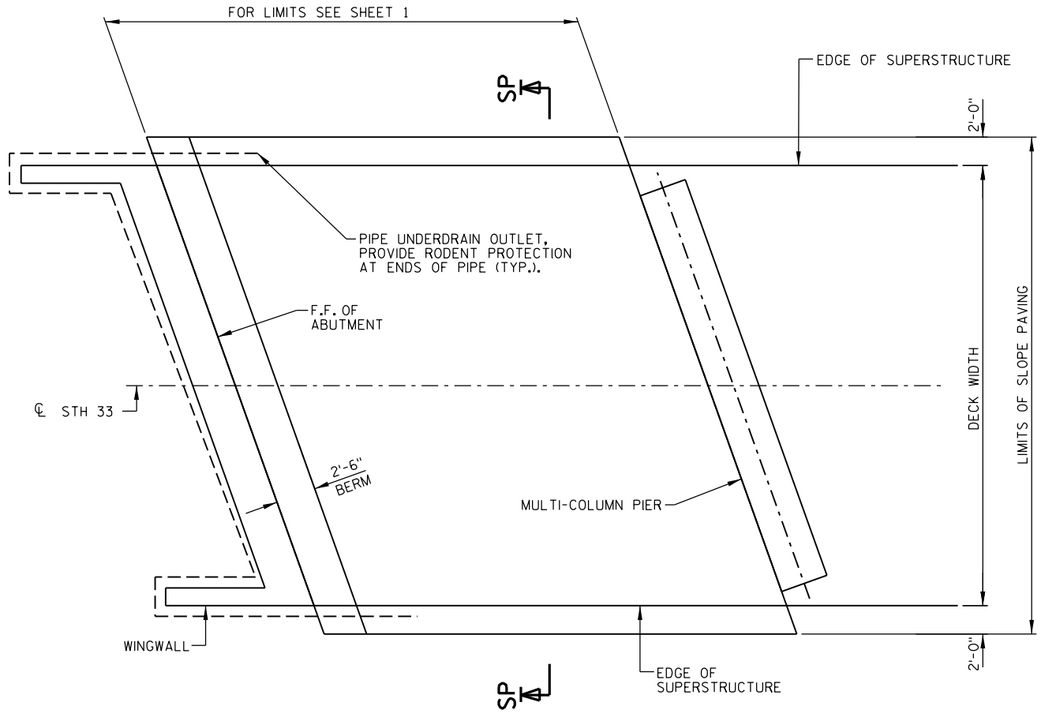
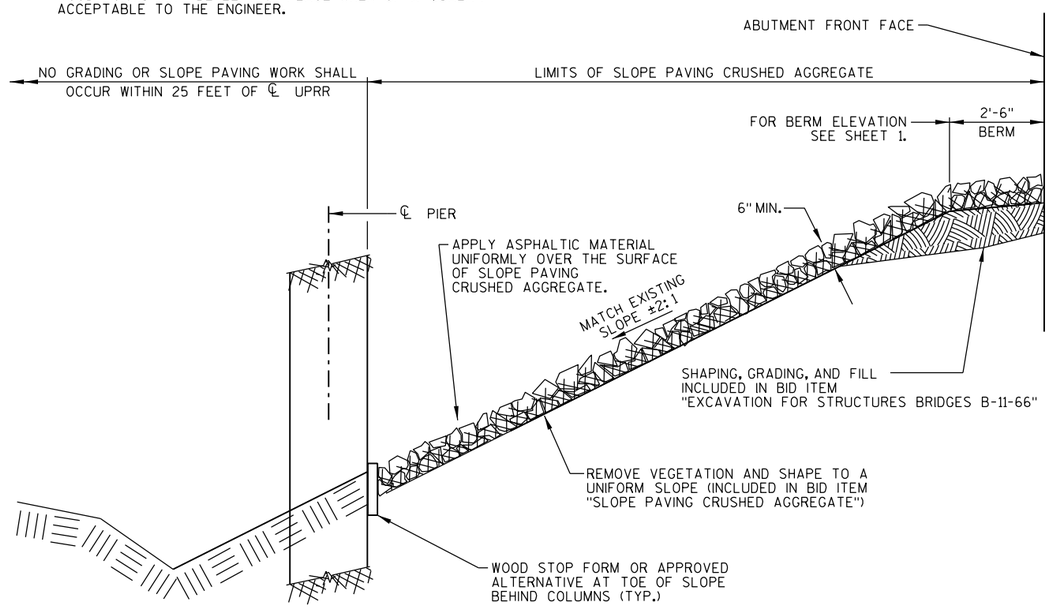
STATE PROJECT NUMBER
6040-00-74

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.



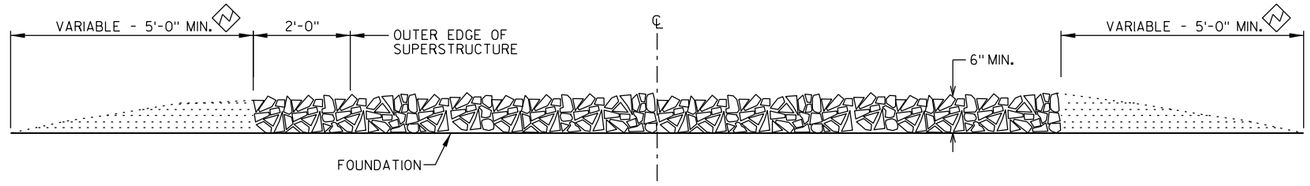


TYPICAL LONGITUDINAL SECTION AT ABUTMENT

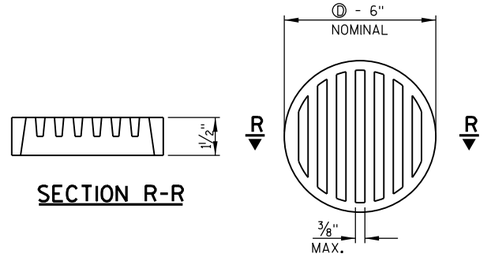
(EAST ABUTMENT AND PIER 2 SHOWN, WEST ABUTMENT AND PIER 1 SIMILAR)

PLAN - SLOPE PAVING CRUSHED AGGREGATE

(EAST ABUTMENT AND PIER 2 SHOWN, WEST ABUTMENT AND PIER 1 SIMILAR)



SECTION SP-SP



SECTION R-R

RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

RODENT SHIELD

Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

◇ - BLEND WITH ADJACENT EMBANKMENT AS DIRECTED BY THE ENGINEER. WORK IS INCIDENTAL TO BID ITEM "SLOPE PAVING CRUSHED AGGREGATE"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-11-66

DRAWN BY RLR | PLANS CK'D. KHB

SLOPE PAVING CRUSHED AGGREGATE

SHEET 12 OF 12
138

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FILE= 93555_B-11-66_12.DGN

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EARTHWORK - MAINLINE

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
57+00	122	3	0	0	0	0	0	0	0
58+00	131	2	469	9	11	469	9	11	458
59+00	130	2	483	7	9	952	16	20	932
60+00	121	4	465	11	14	1417	27	34	1383
61+00	119	2	444	11	14	1861	38	48	1813
62+00	129	1	459	6	8	2320	44	56	2264
63+00	125	4	470	9	11	2790	53	67	2723
64+00	132	6	476	19	24	3266	72	91	3175
65+00	126	2	478	15	19	3744	87	110	3634
66+00	128	5	470	13	16	4214	100	126	4088
67+00	125	24	469	54	68	4683	154	194	4489
68+00	126	14	465	70	88	5148	224	282	4866
69+00	116	13	448	50	63	5596	274	345	5251
70+00	124	0	444	24	30	6040	298	375	5665
71+00	122	2	456	4	5	6496	302	380	6116
72+00	130	0	467	4	5	6963	306	385	6578
73+00	129	3	480	6	8	7443	312	393	7050
74+00	143	2	504	9	11	7947	321	404	7543
75+00	130	0	506	4	5	8453	325	409	8044
76+00	122	0	467	0	0	8920	325	409	8511
77+00	117	1	443	2	3	9363	327	412	8951
78+00	128	0	454	2	3	9817	329	415	9402
79+00	133	0	483	0	0	10300	329	415	9885
80+00	129	0	485	0	0	10785	329	415	10370
81+00	115	0	452	0	0	11237	329	415	10822
82+00	126	0	446	0	0	11683	329	415	11268
83+00	132	0	478	0	0	12161	329	415	11746
84+00	136	0	496	0	0	12657	329	415	12242
85+00	145	0	520	0	0	13177	329	415	12762
86+00	148	0	543	0	0	13720	329	415	13305
87+00	148	0	548	0	0	14268	329	415	13853
88+00	154	0	596	0	0	14864	329	415	14449
89+00	150	0	598	0	0	15462	329	415	15047
90+00	136	0	530	0	0	15992	329	415	15577
91+00	135	0	502	0	0	16494	329	415	16079
92+00	131	0	493	0	0	16987	329	415	16572
93+00	131	0	485	0	0	17472	329	415	17057
94+00	136	0	494	0	0	17966	329	415	17551
95+00	140	0	511	0	0	18477	329	415	18062
96+00	144	0	526	0	0	19003	329	415	18588
97+00	147	0	539	0	0	19542	329	415	19127
98+00	144	0	539	0	0	20081	329	415	19666
99+00	142	0	530	0	0	20611	329	415	20196
100+00	140	0	522	0	0	21133	329	415	20718
101+00	144	0	526	0	0	21659	329	415	21244
102+00	152	0	548	0	0	22207	329	415	21792
103+00	145	0	550	0	0	22757	329	415	22342
104+00	142	0	531	0	0	23288	329	415	22873
105+00	143	0	528	0	0	23816	329	415	23401
106+00	120	0	487	0	0	24303	329	415	23888
107+00	131	0	465	0	0	24768	329	415	24353
108+00	120	0	465	0	0	25233	329	415	24818
109+00	128	0	459	0	0	25692	329	415	25277
110+00	128	0	474	0	0	26166	329	415	25751
111+00	130	0	478	0	0	26644	329	415	26229
112+00	127	0	476	0	0	27120	329	415	26705
MAINLINE COLUMN SUBTOTALS =	27120		329	415		27120	329	415	26705

EARTHWORK - STH 146

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
8'B'+04.58	0	0	0	0	0	0	0	0	0
8'B'+50	65	2	55	2	3	55	2	3	52
9'B'+00	81	39	135	38	48	190	40	51	139
9'B'+50	77	19	153	54	68	343	94	119	224
9'B'+73.44	77	19	67	16	20	410	110	139	271
9'B'+73.44	0	0	0	0	0	410	110	139	271
COLUMN SUBTOTALS =			410	110	139	410	110	139	271

EARTHWORK - CTH M

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
10'C'+28.3	0	0	0	0	0	0	0	0	0
10'C'+28.3	84	7	0	0	0	0	0	0	0
10'C'+50	84	7	67	6	8	67	6	8	59
11'C'+00	50	1	130	7	9	197	13	17	180
11'C'+50	49	0	92	1	1	289	14	18	271
11'C'+62.5	0	0	11	0	0	300	14	18	282
COLUMN SUBTOTALS =			300	14	18	300	14	18	282

EARTHWORK - BIRD ROAD

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
8'D'+46.82	0	0	0	0	0	0	0	0	0
9'D'+00	72	22	71	22	28	71	22	28	43
9'D'+45	124	144	163	138	173	234	160	201	33
9'D'+77.92	226	103	216	151	189	450	311	390	60
9'D'+77.92	0	0	130	0	0	580	311	390	190
COLUMN SUBTOTALS =			580	311	390	580	311	390	190

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - FILL (25%)	(UNEXPANDED FILL)*1.25
4 - MASS ORDINATE	CUT + ROCK (10%) - FILL (25%)

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PROJECT NO: 6040-00-74 | HWY: STH 33 | COUNTY: COLUMBIA | EARTHWORK | SHEET 139 | E

EARTHWORK - STERK ROAD

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
10'E'+22	0	0	0	0	0	0	0	0	0
10'E'+22	62	9	0	0	0	0	0	0	0
10'E'+50	62	9	64	9	11	64	9	11	53
11'E'+00	47	0	109	8	10	173	17	21	152
11'E'+25.8	0	0	22	0	0	195	17	21	174
COLUMN SUBTOTALS =			195	17	21	195	17	21	174

EARTHWORK - E FRIESLAND ROAD (SOUTH)

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
8'I'+61.92	0	0	0	0	0	0	0	0	0
09'I'+00	55	3	39	2	3	39	2	3	36
09'I'+50	72	10	126	12	15	165	14	18	147
09'I'+78	72	10	75	10	13	240	24	31	209
09'I'+78	0	0	0	0	0	240	24	31	209
COLUMN SUBTOTALS =			240	24	31	240	24	31	209

EARTHWORK - CTH EF

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
10'F'+24	0	0	0	0	0	0	0	0	0
10'F'+24	101	10	0	0	0	0	0	0	0
10'F'+50	101	10	97	10	13	97	10	13	84
11'F'+00	69	3	164	12	15	261	22	28	233
11'F'+34.8	0	0	44	2	3	305	24	31	274
COLUMN SUBTOTALS =			305	24	31	305	24	31	274

EARTHWORK - E FRIESLAND ROAD (EAST)

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
8'J'+44.15	0	0	0	0	0	0	0	0	0
08'J'+50	46	0	5	0	0	5	0	0	5
09'J'+00	40	1	80	1	1	85	1	1	84
09'J'+50	62	12	101	12	15	186	13	16	170
9'J'+77.85	62	12	64	12	15	250	25	31	219
9'J'+77.85	0	0	0	0	0	250	25	31	219
COLUMN SUBTOTALS =			250	25	31	250	25	31	219

EARTHWORK - E FRIESLAND ROAD (NORTH)

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
10'H'+22	0	0	0	0	0	0	0	0	0
10'H'+22	74	9	0	0	0	0	0	0	0
10'H'+50	74	9	77	9	11	77	9	11	66
11'H'+00	49	5	122	13	16	199	22	27	172
11'H'+33.7	0	0	31	3	4	230	25	31	199
COLUMN SUBTOTALS =			230	25	31	230	25	31	199

EARTHWORK - DILLMAN ROAD

STATION	AREA (SF) CUT	AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT NOTE 1	INCREMENTAL VOLUME (CY) FILL NOTE 2	INCREMENTAL VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) CUT 1.00 NOTE 1	CUMULATIVE VOLUME (CY) FILL NOTE 2	CUMULATIVE VOLUME (CY) FILL (25%) NOTE 3	CUMULATIVE VOLUME (CY) MASS ORDINATE NOTE 4
10'K'+22.01	0	0	0	0	0	0	0	0	0
10'K'+22.01	80	13	0	0	0	0	0	0	0
10'K'+50	80	13	83	13	16	83	13	16	67
11'K'+00	56	3	135	15	19	218	28	35	183
11'K'+50	0	0	52	3	4	270	31	39	231
11'K'+50.22	0	0	0	0	0	270	31	39	231
COLUMN SUBTOTALS =			270	31	39	270	31	39	231

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
3 - FILL (25%)	(UNEXPANDED FILL)*1.25
4 - MASS ORDINATE	CUT + ROCK (10%) - FILL (25%)

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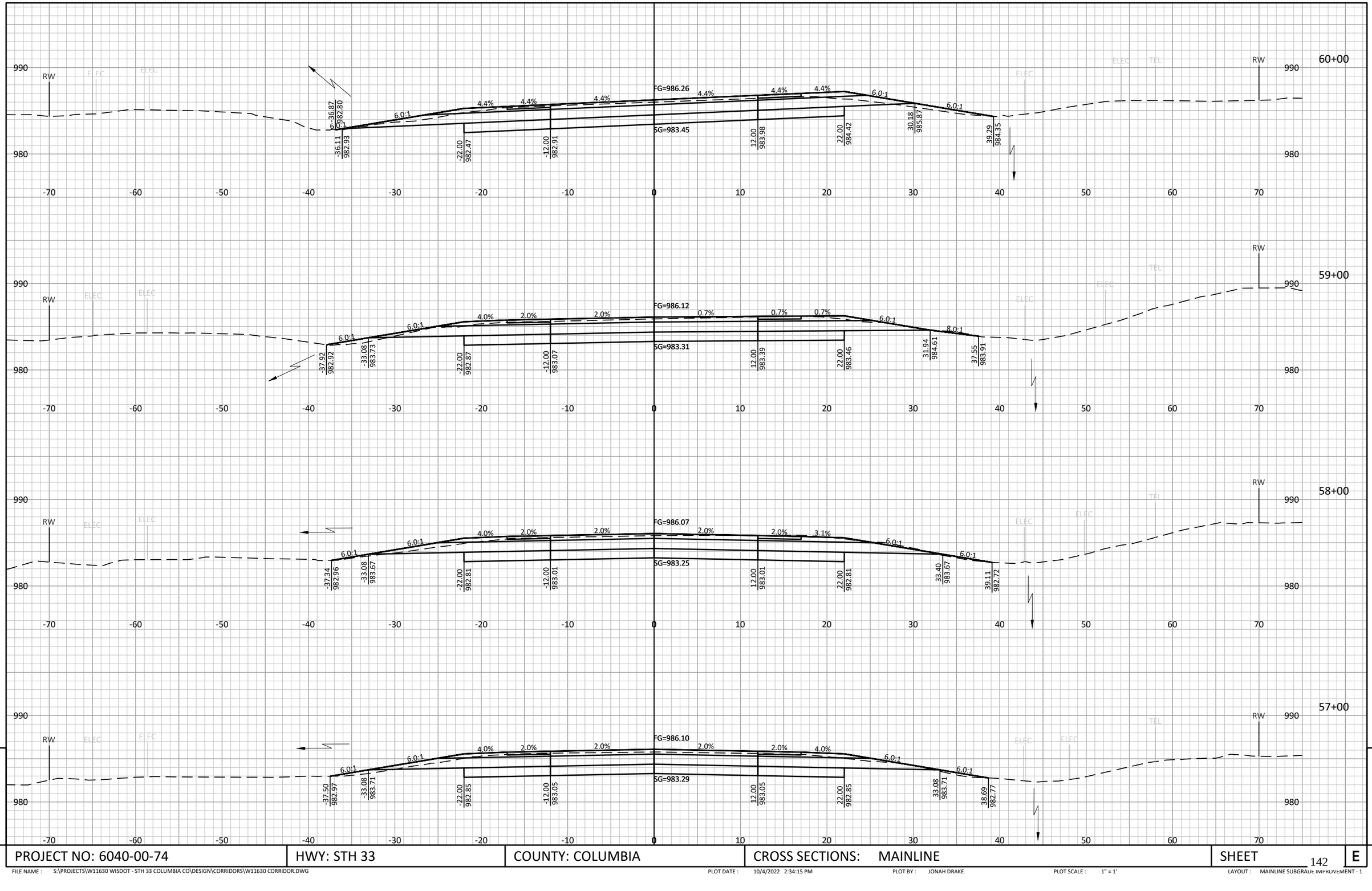
EARTHWORK SUMMARY

CATEGORY	STATION - STATION	LOCATION	(1) 205.0100 COMMON N CUT (2) (CY)	AVAILABLE MATERIAL (CY) (3)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) FACTOR 1.25 (4)	MASS ORDINATE +/- (CY) (5)	WASTE (CY)
010	57+00 - 112+00	MAINLINE	27120	27120	329	411	26709	26709
	8'B'+04.58 - 9'B'+73.44	STH 146	410	410	110	138	273	273
	10'C'+28.34 - 11'C'+62.48	CTH M	300	300	14	18	283	283
	8'D'+46.82 - 9'D'+77.92	BIRD ROAD	580	580	275	344	236	236
	10'E'+22.03 - 11'E'+25.78	STERK ROAD	195	195	17	21	174	174
	10'F'+24.03 - 11'F'+34.76	CTH EF	305	305	24	30	275	275
	10'H'+22.01 - 11'H'+33.70	E FRIESLAND ROAD (NORTH)	230	230	25	31	199	199
	8'I'+61.92 - 9'I'+78.00	E FRIESLAND ROAD (SOUTH)	240	240	24	30	210	210
	8'J'+44.15 - 9'J'+77.85	E FRIESLAND ROAD(EAST)	250	250	25	31	219	219
	10'K'+22.01 - 11'K'+50.22	DILLMAN ROAD	270	270	31	39	231	231
		SUBTOTALS =	29900	29900	874	1093	28808	28808
		TOTALS =	29900	29900	874	1093	28808	28808

NOTES:
1.) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2.) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
3.) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
4.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL - (ROCK *ROCK FACTOR))*1.25
5.) THE MASS ORDINATE+ OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY



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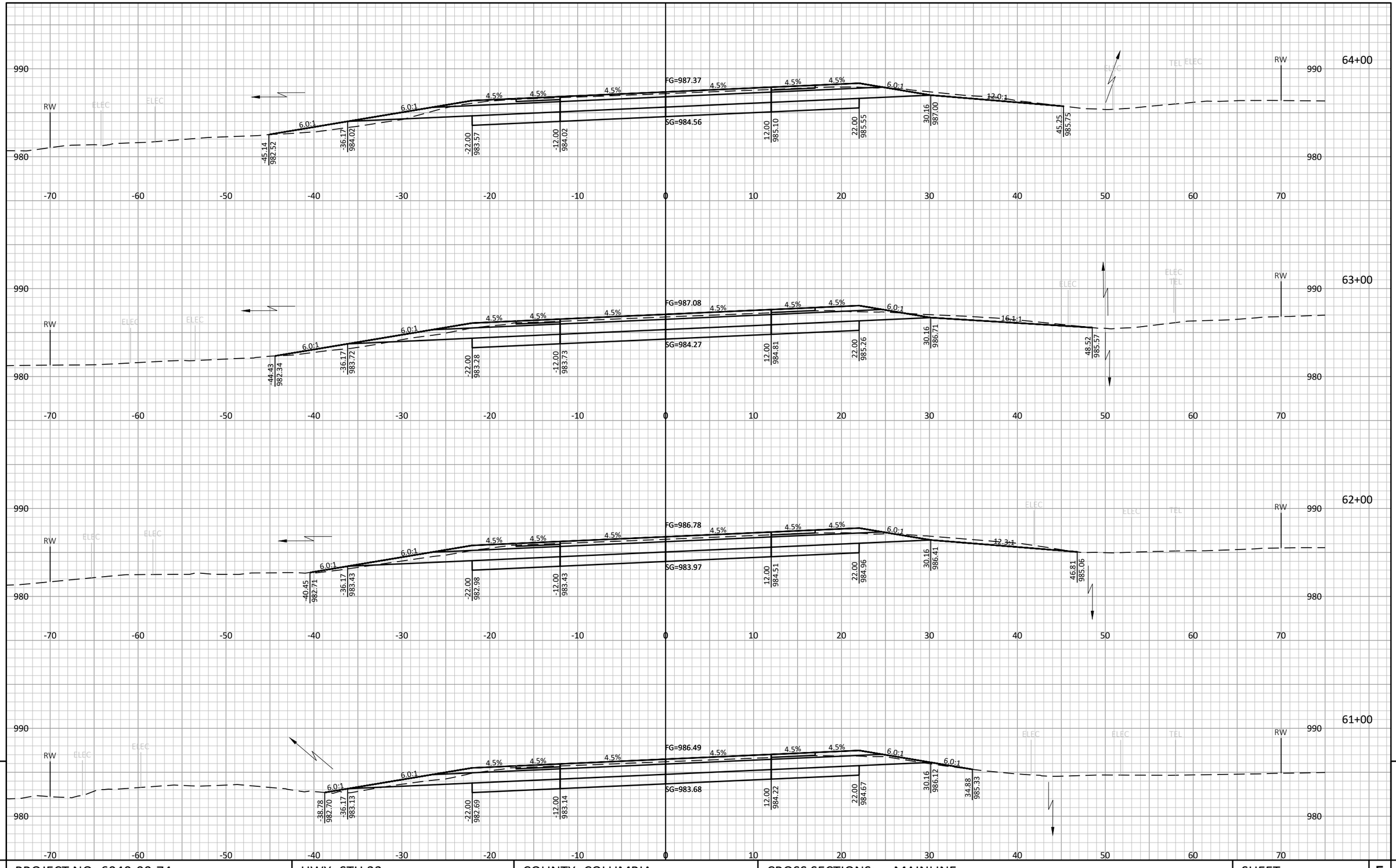
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:34:15 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 1



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

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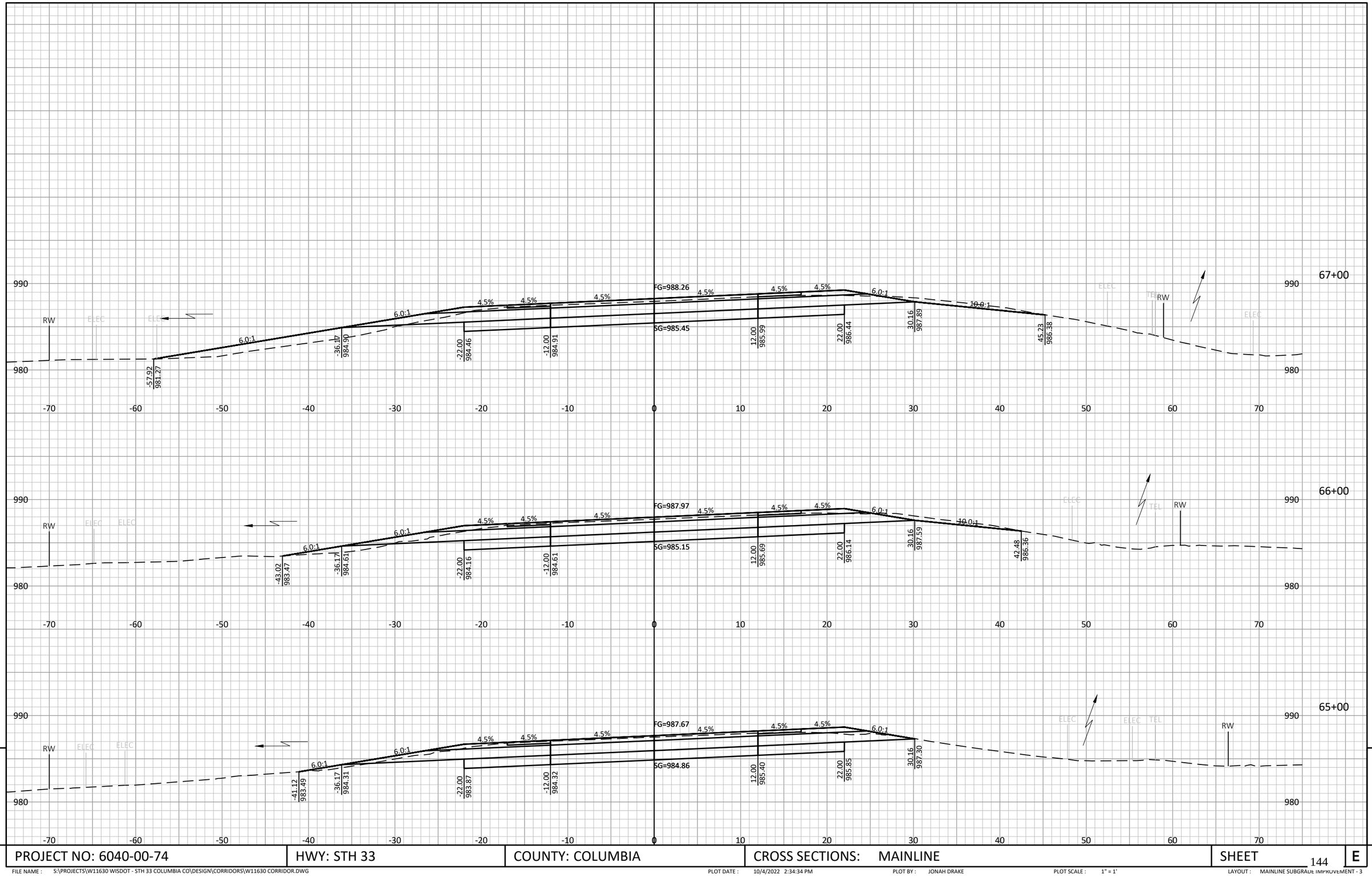

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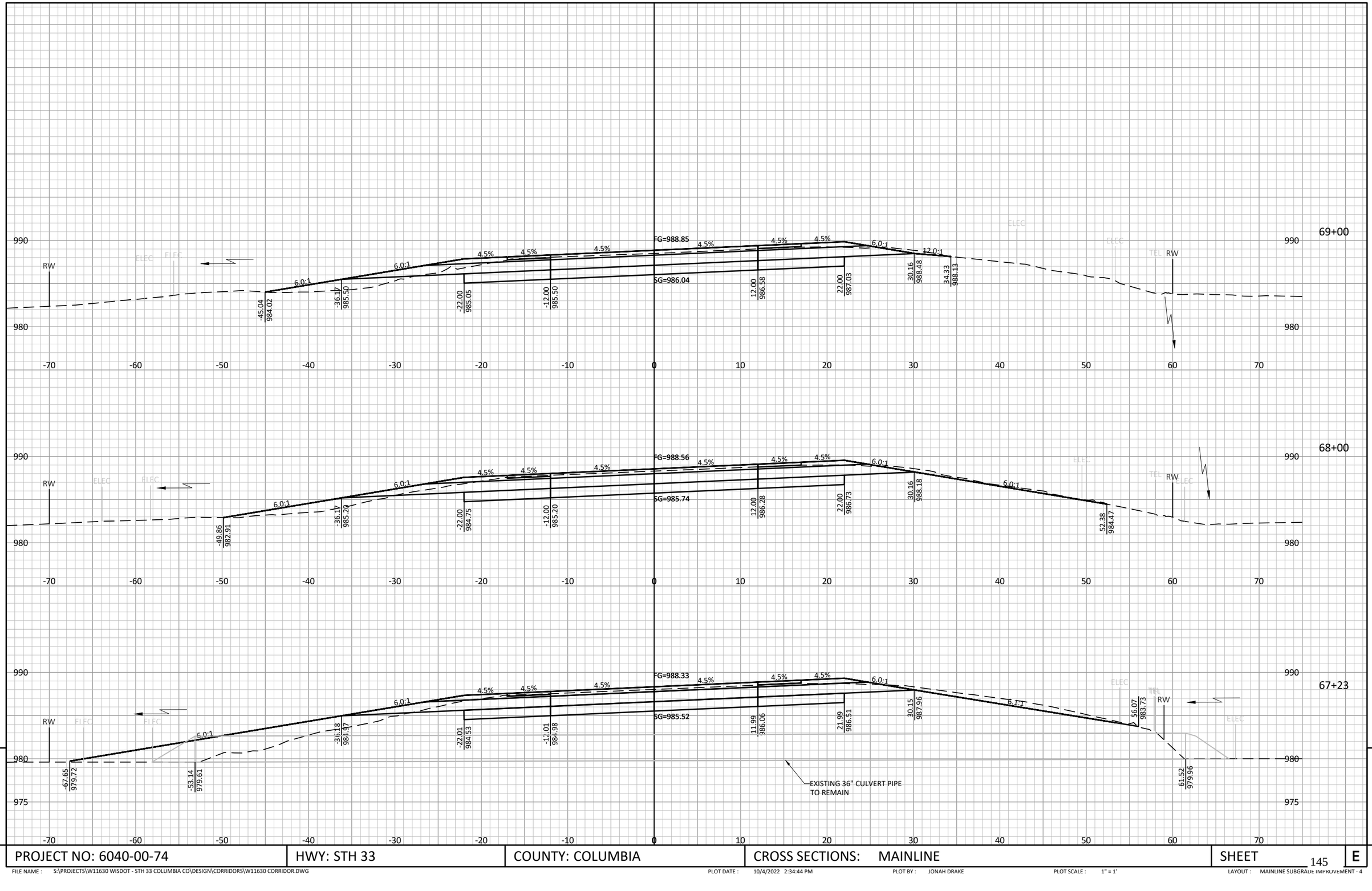
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 144	E



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 145	E

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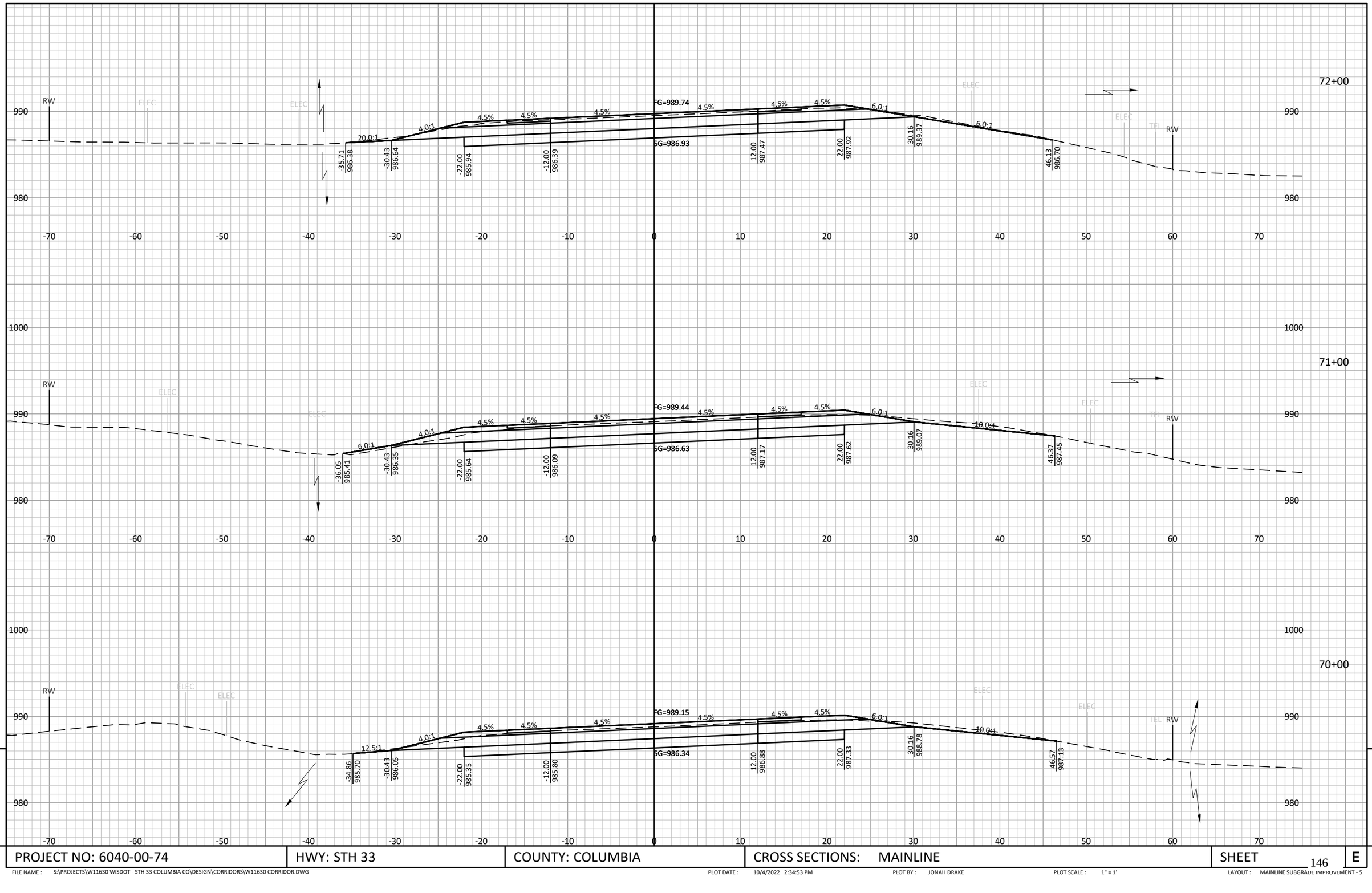

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PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 146	E

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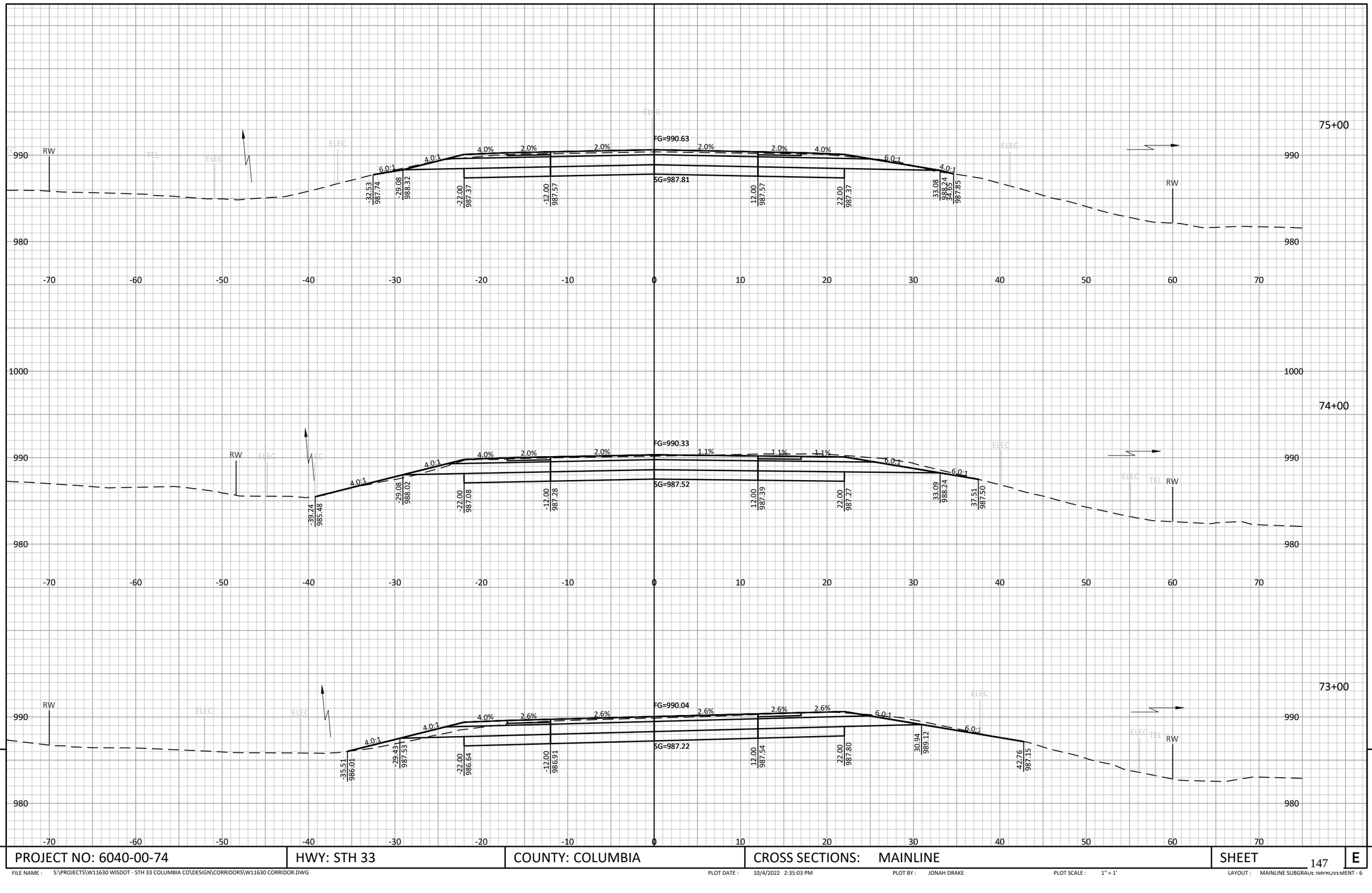

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PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 147	E

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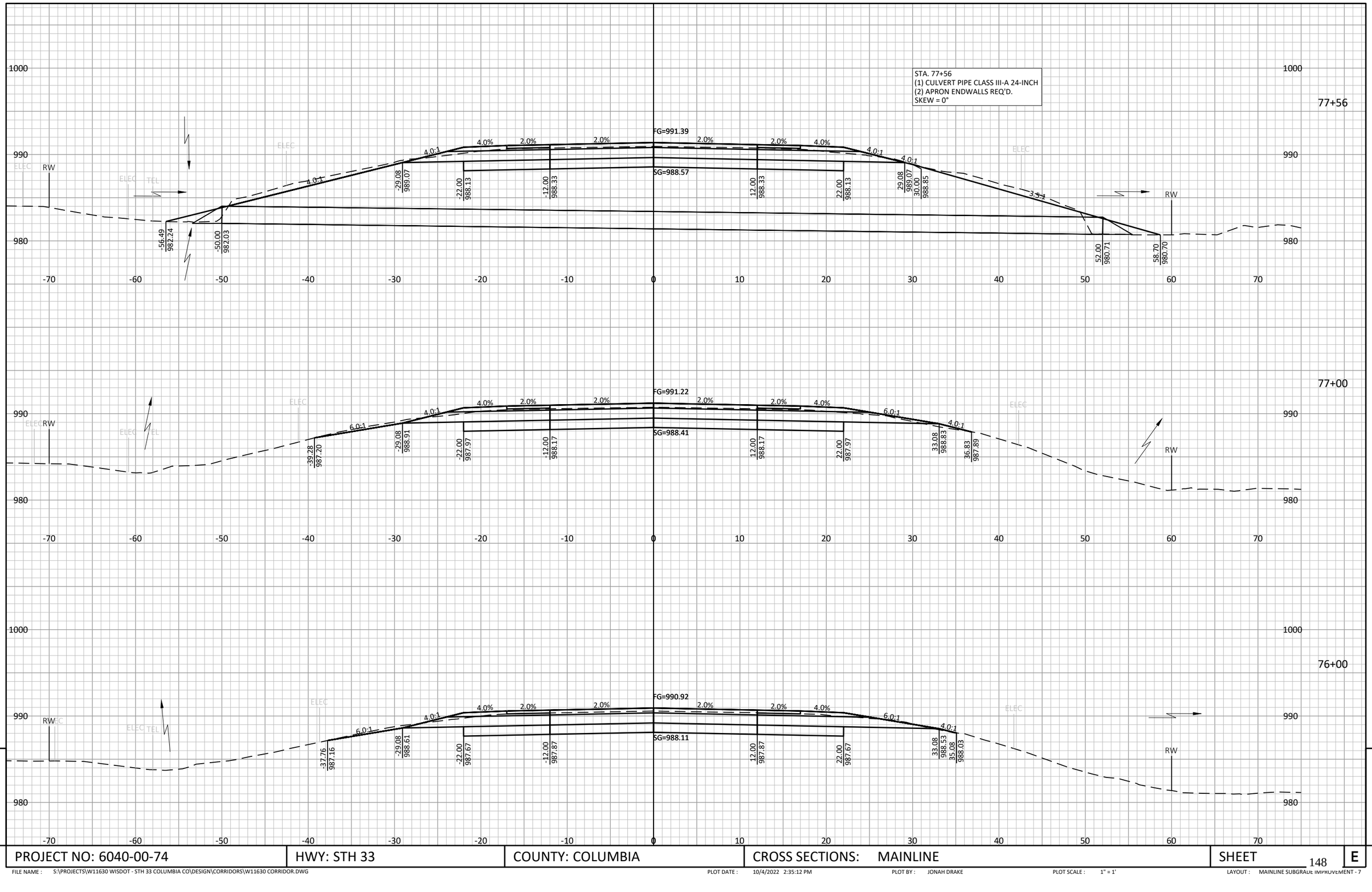

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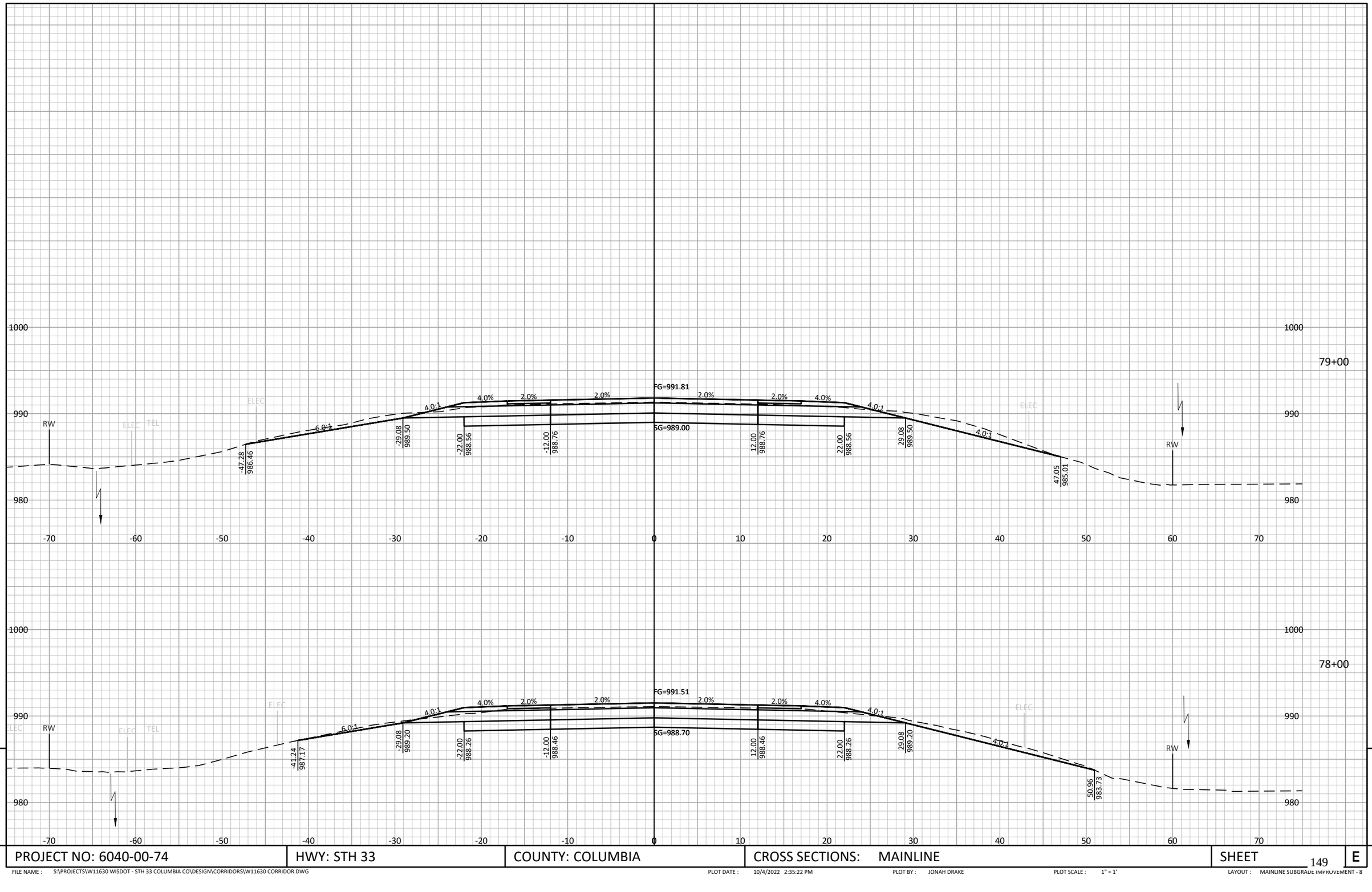
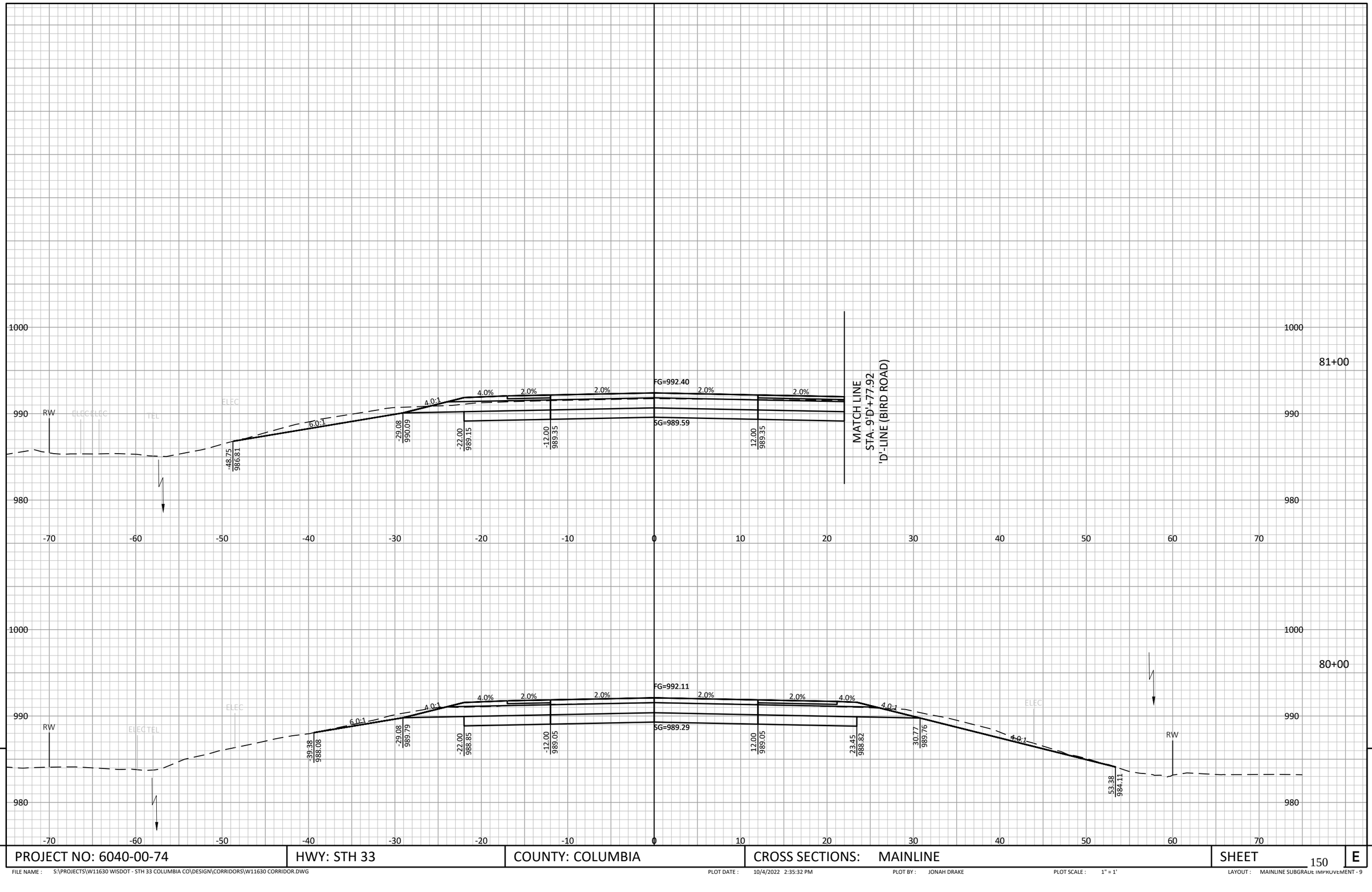
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:35:12 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 7



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 10/4/2022 2:35:22 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'
LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 8

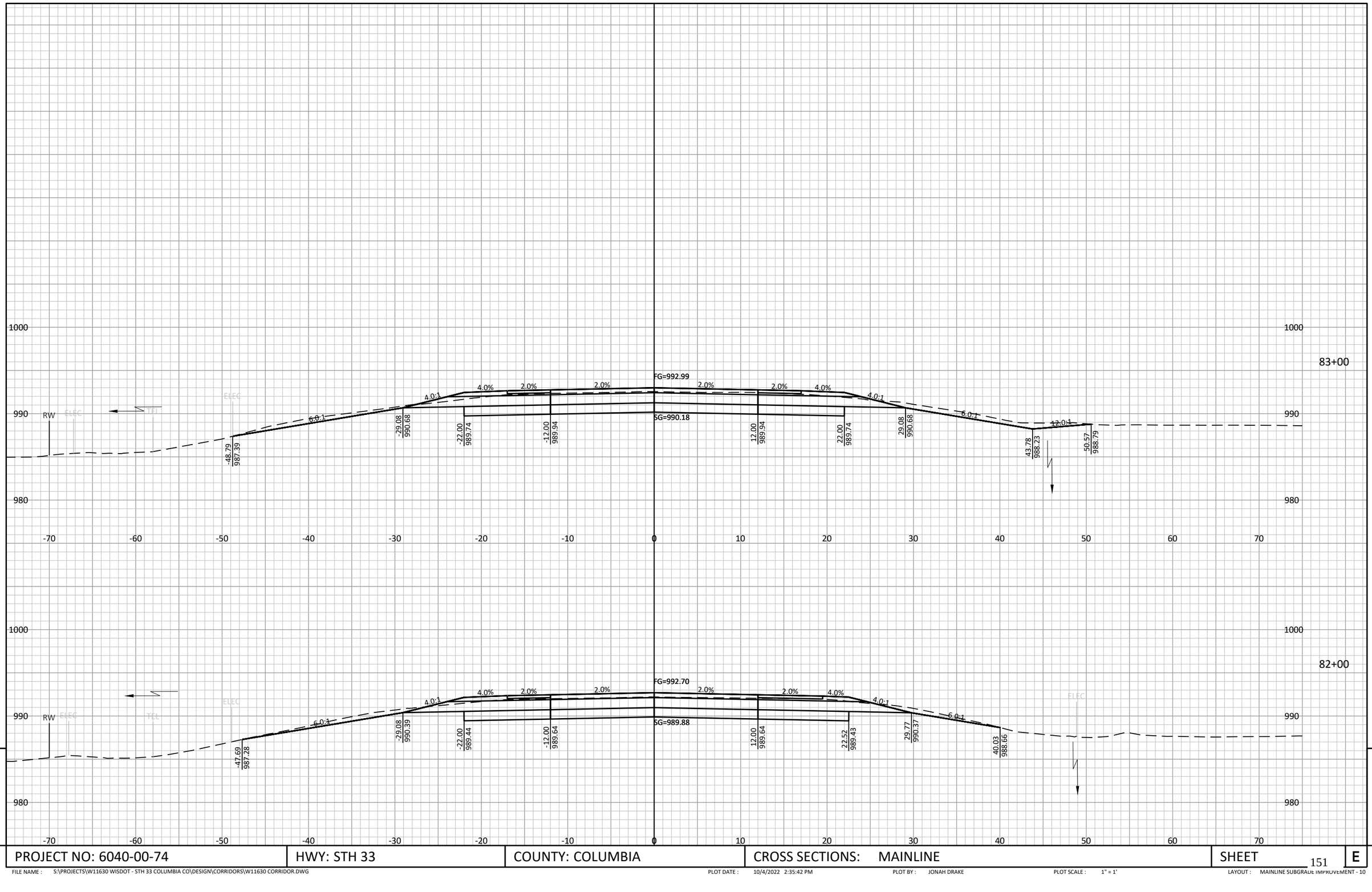


9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 10/4/2022 2:35:32 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'
LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 9

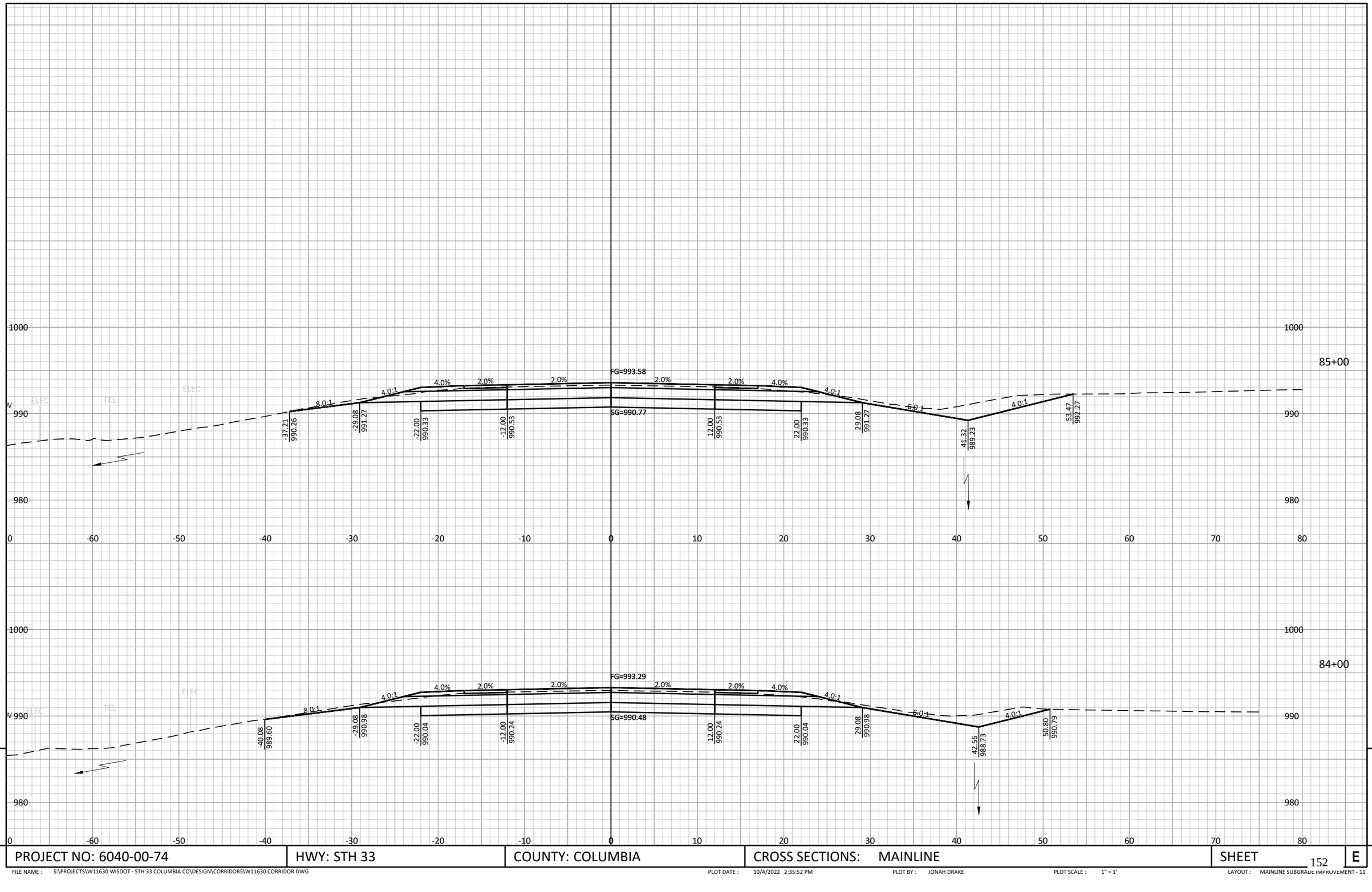


9

9

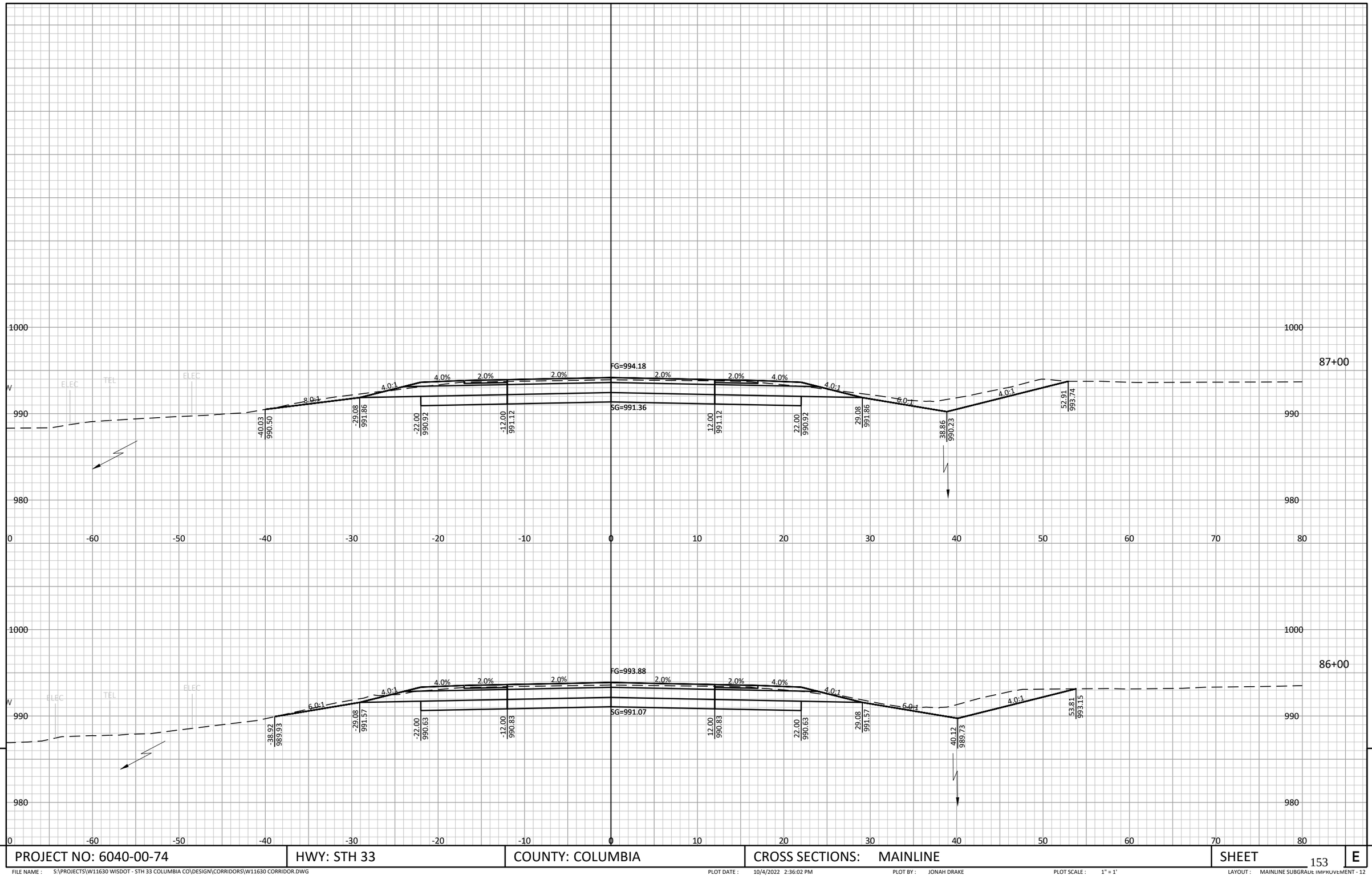
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:35:42 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 10



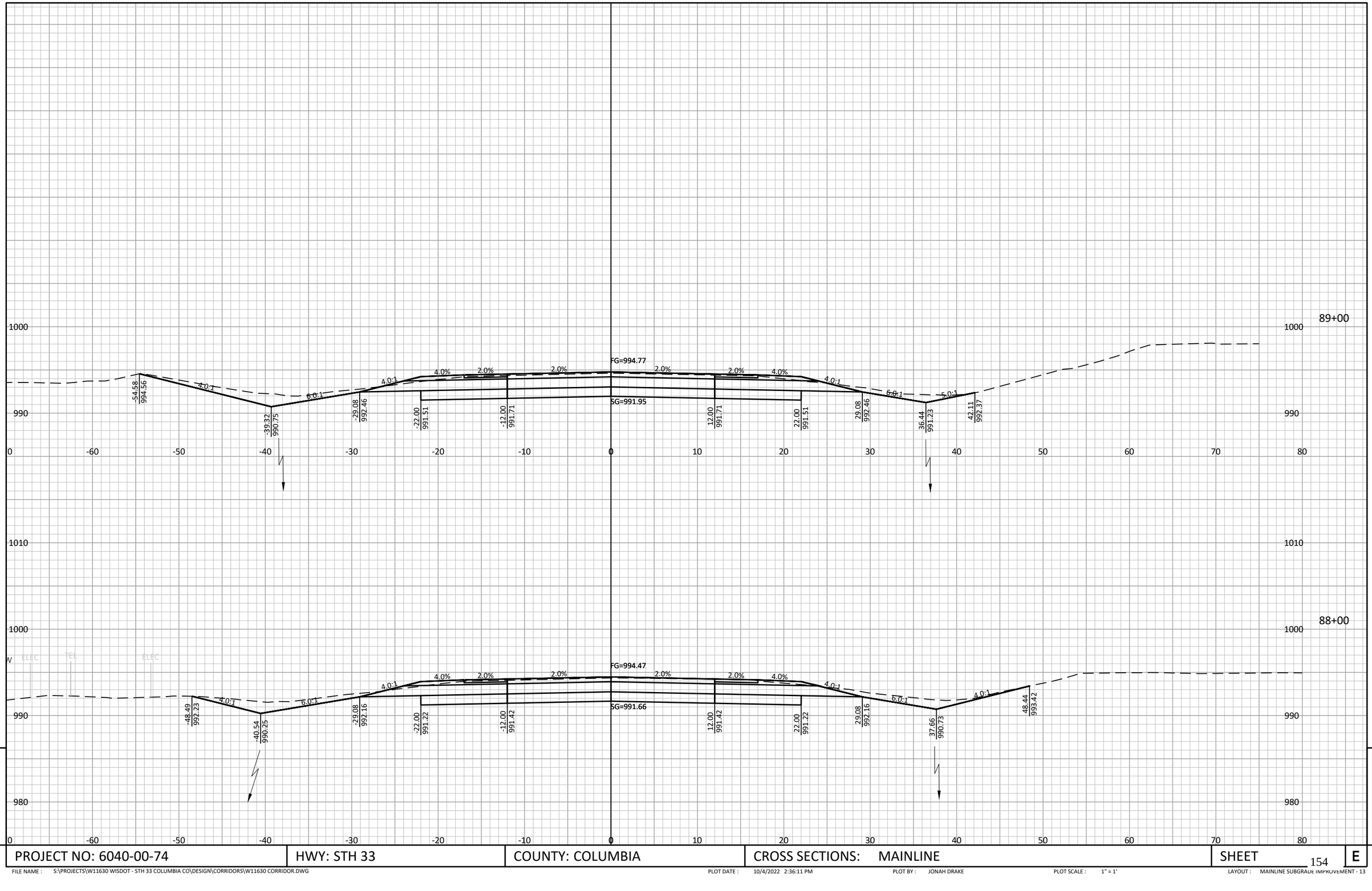
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:35:52 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 11

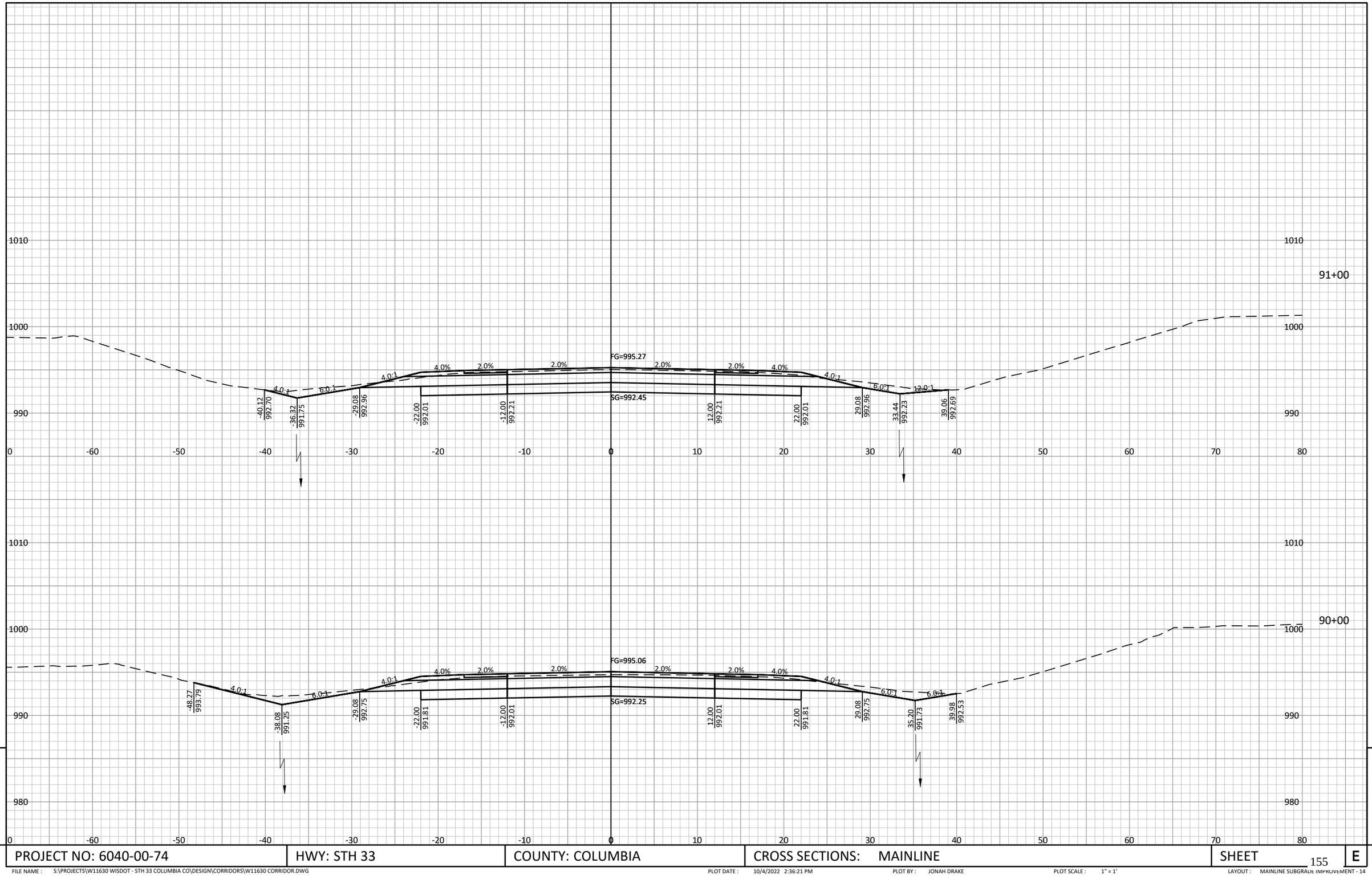


PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:36:02 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 12



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 154 E



9

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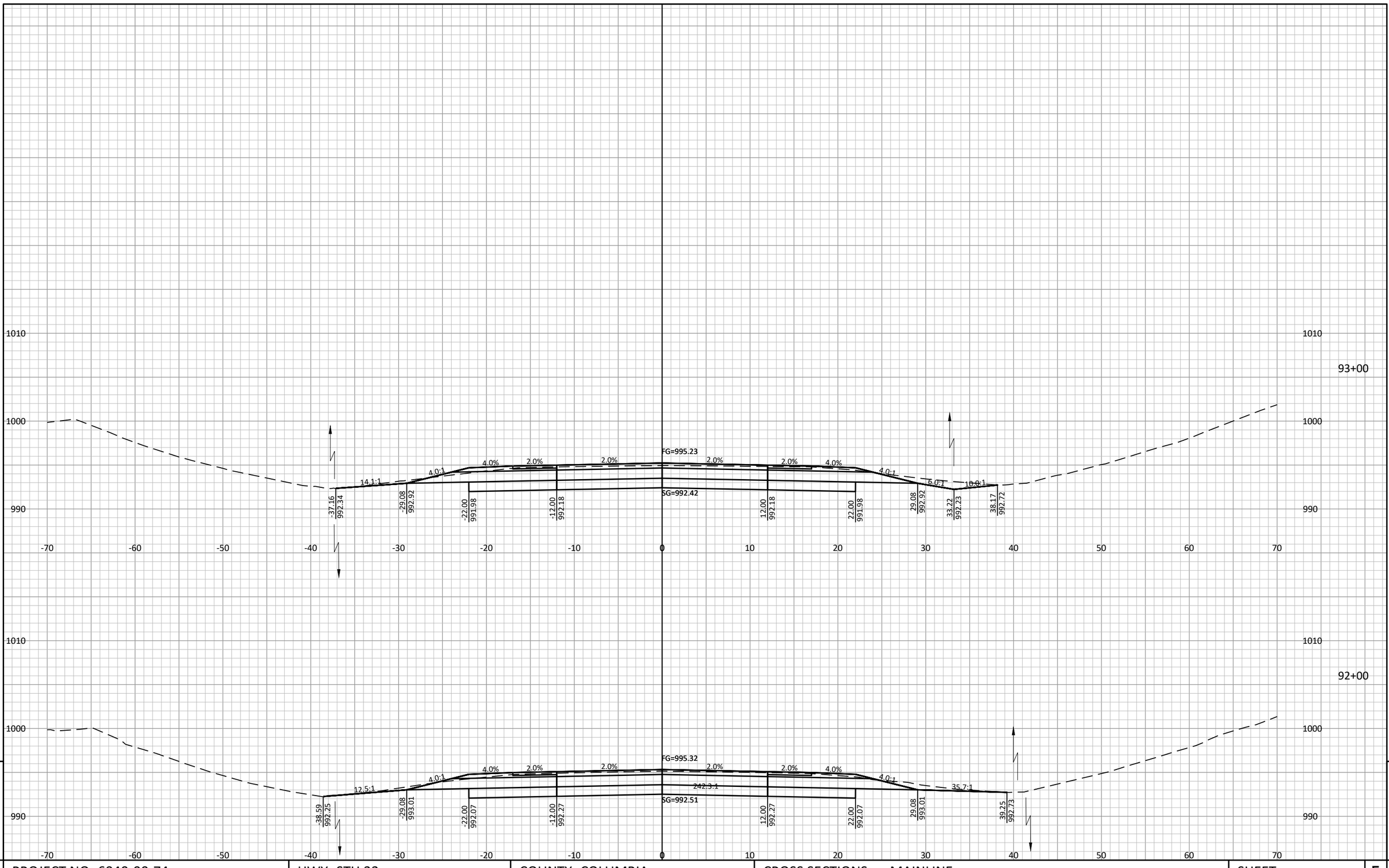
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 155	E

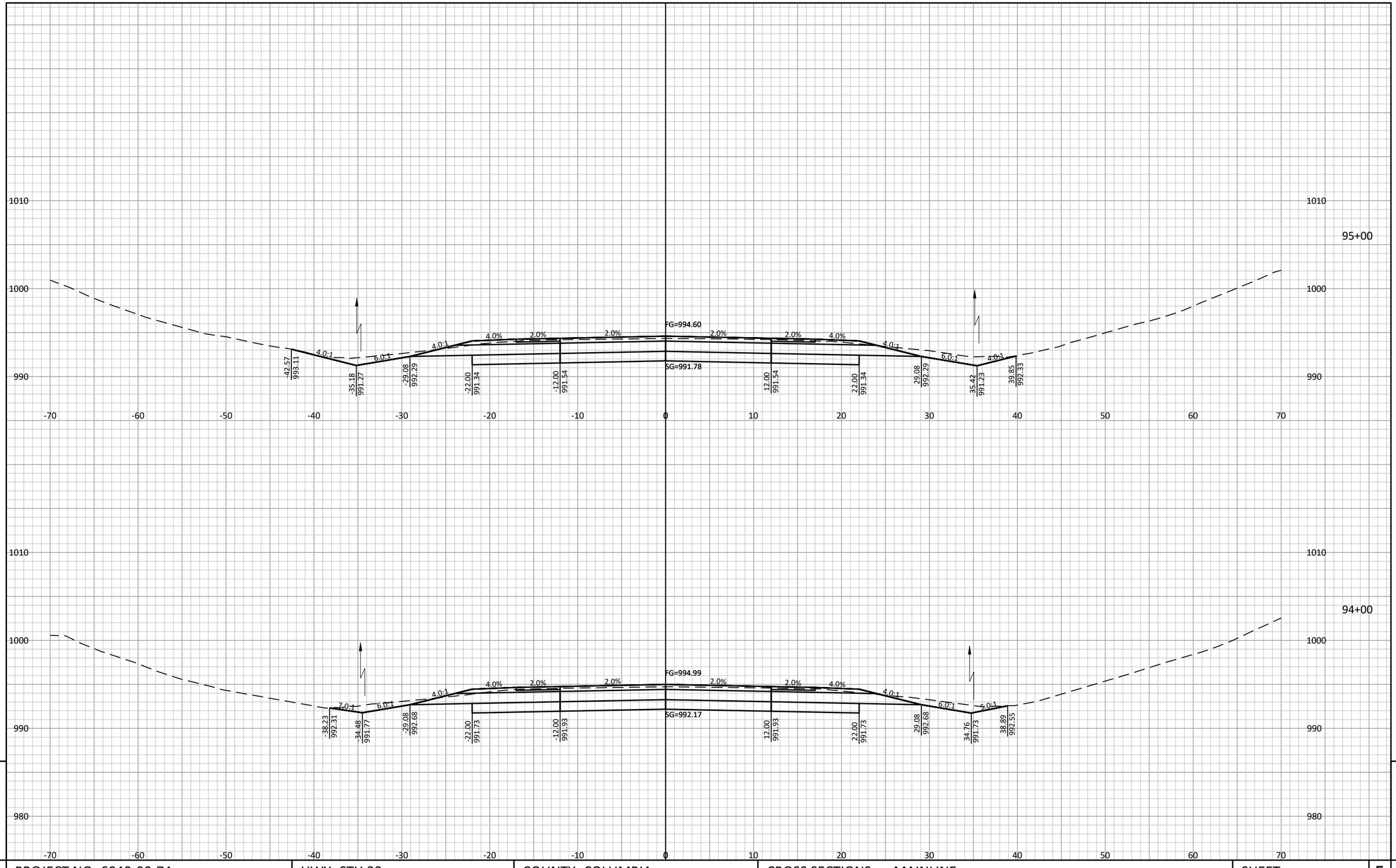
FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:36:21 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 14



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 156	E

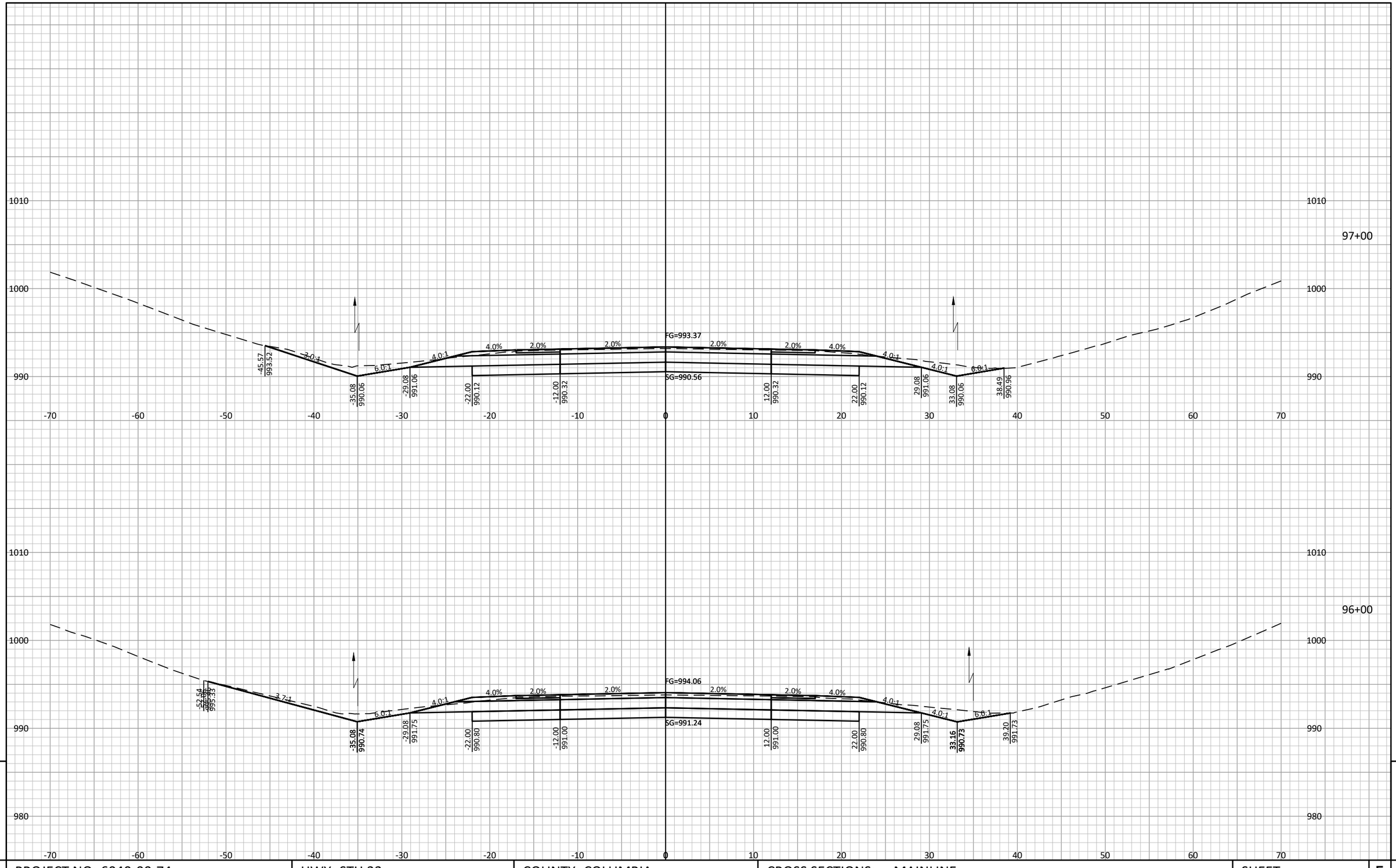
FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:36:30 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 15

9 9



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:36:40 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 16



9

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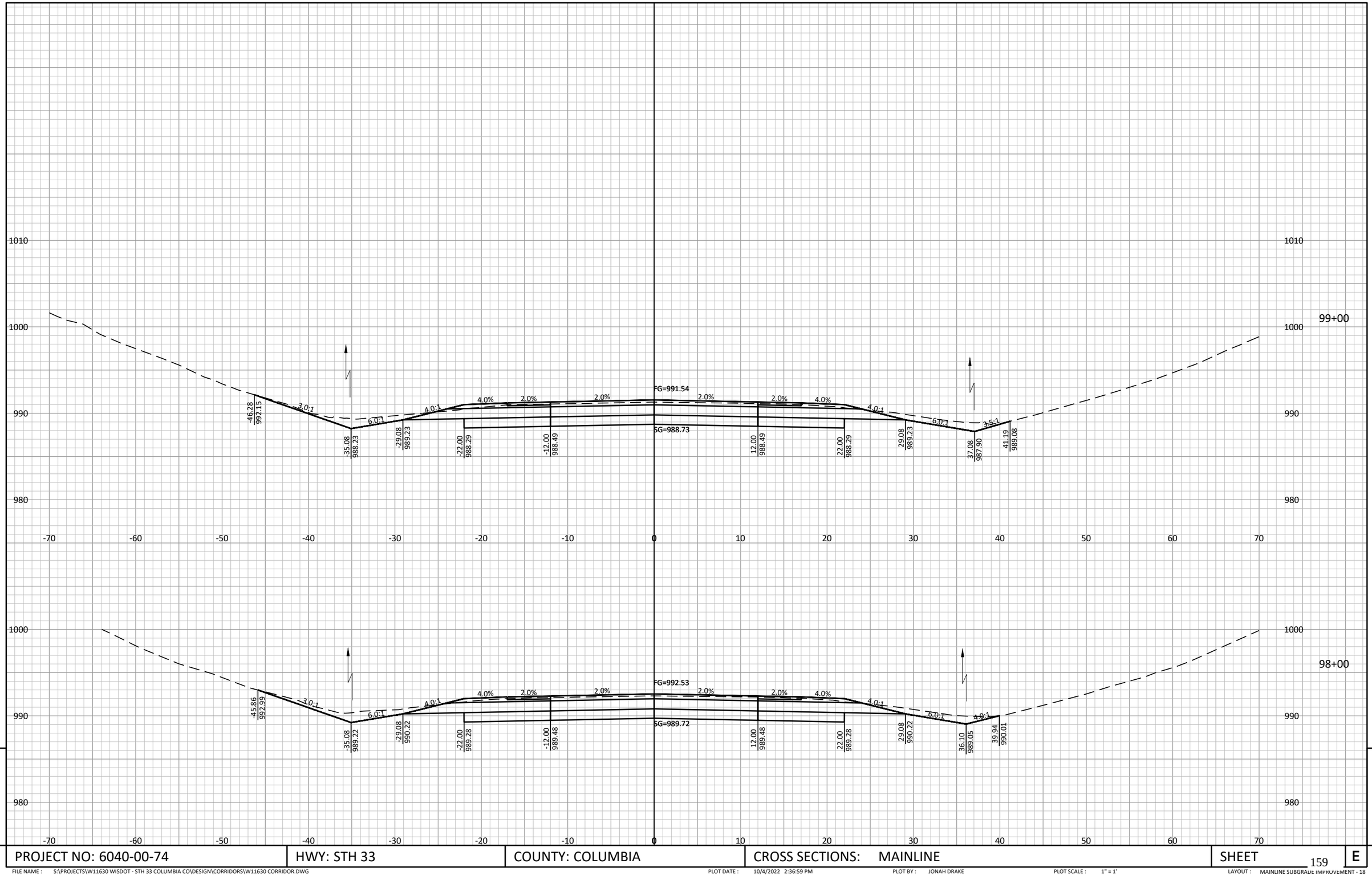
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:36:50 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 17

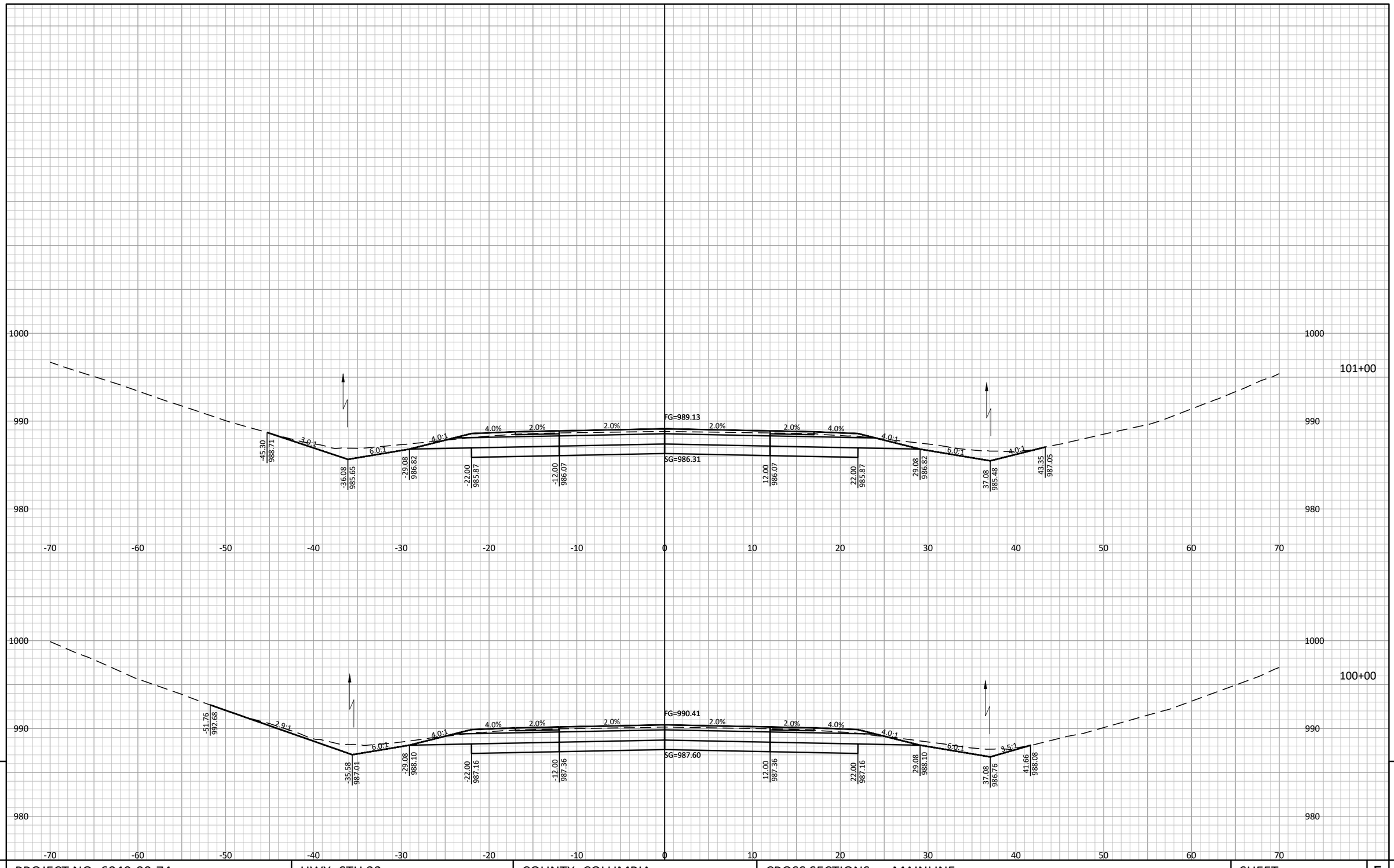


9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:36:59 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 18



9

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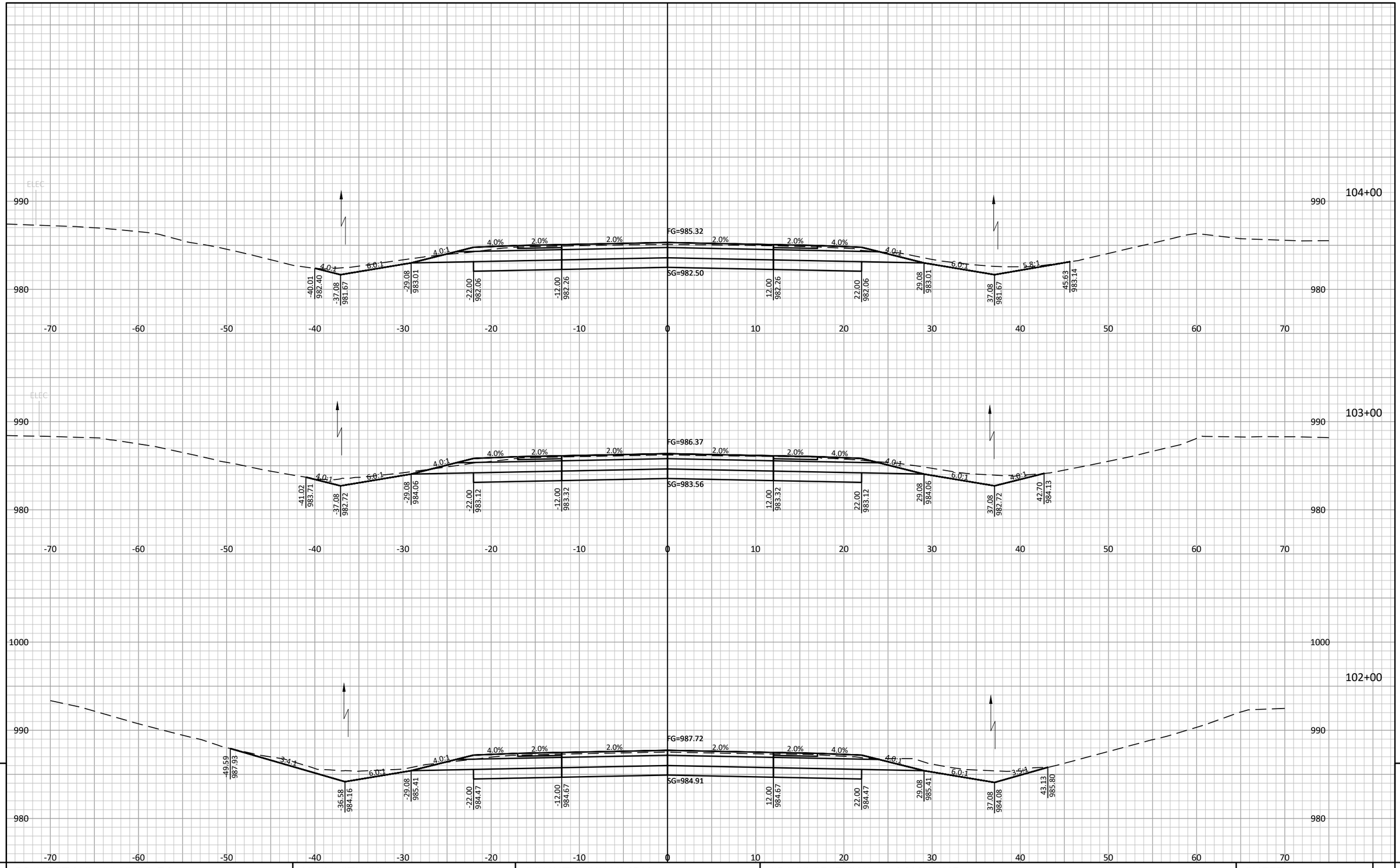
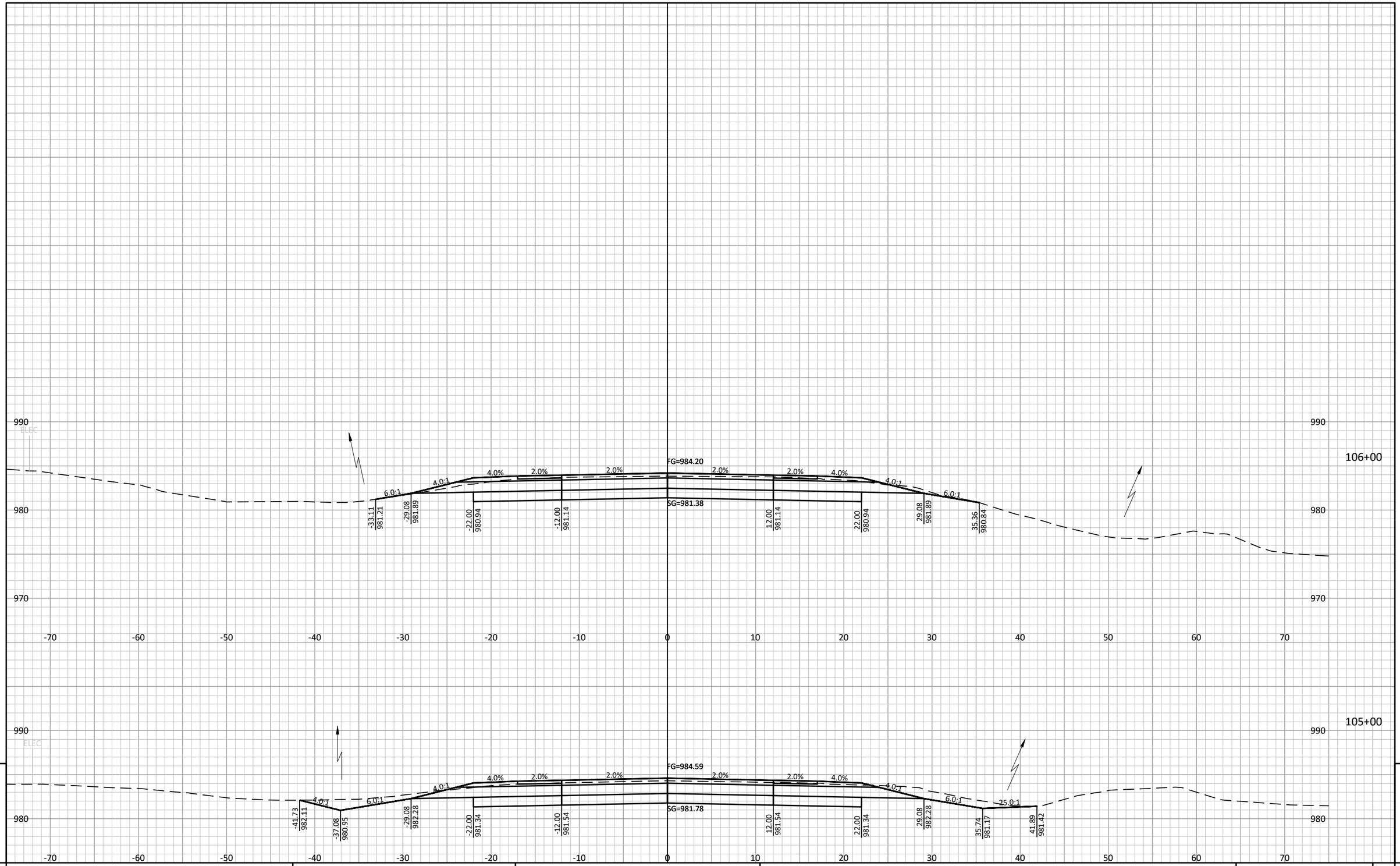
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 160	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:37:09 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 19



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 161 E

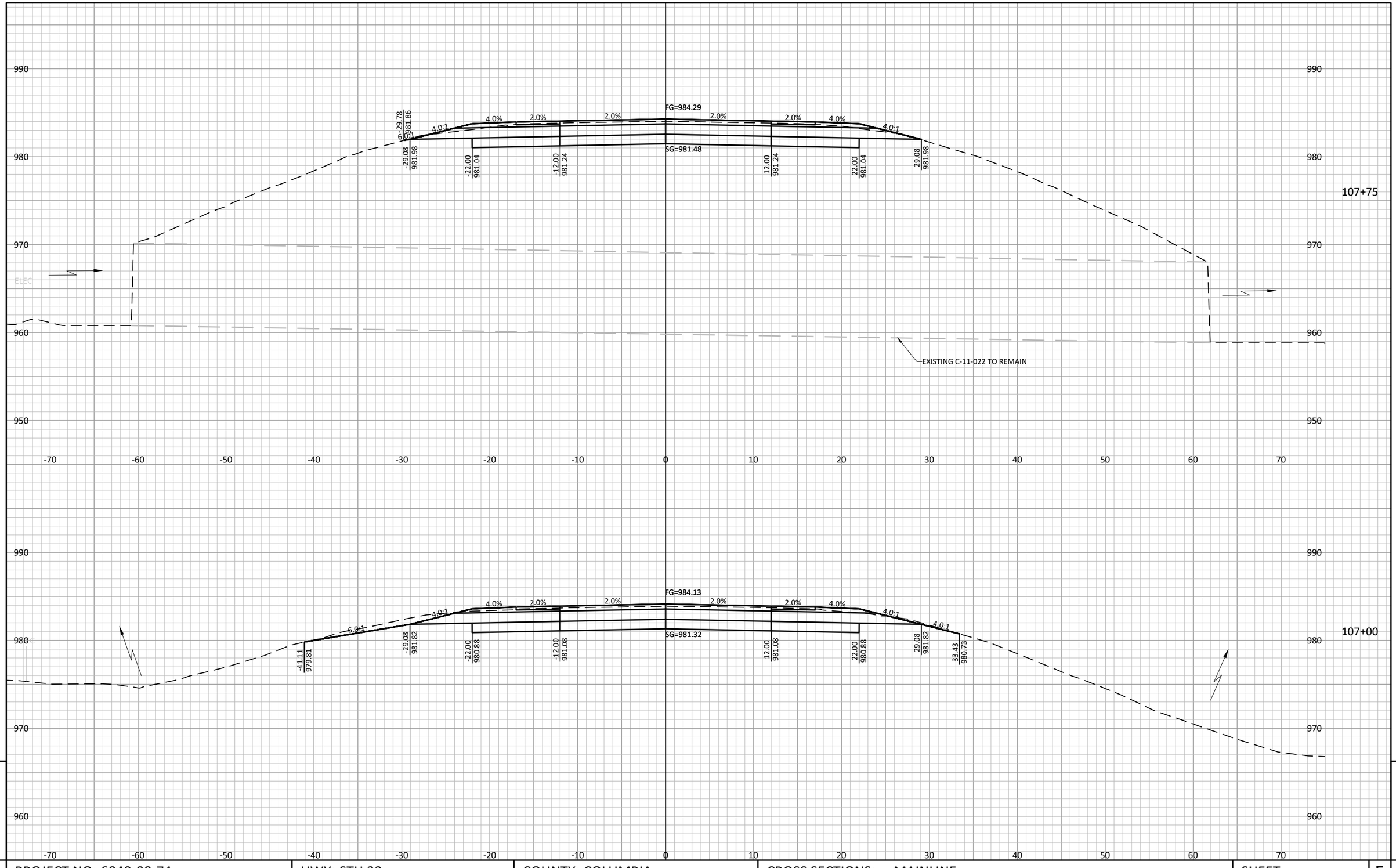


9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:37:29 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 21

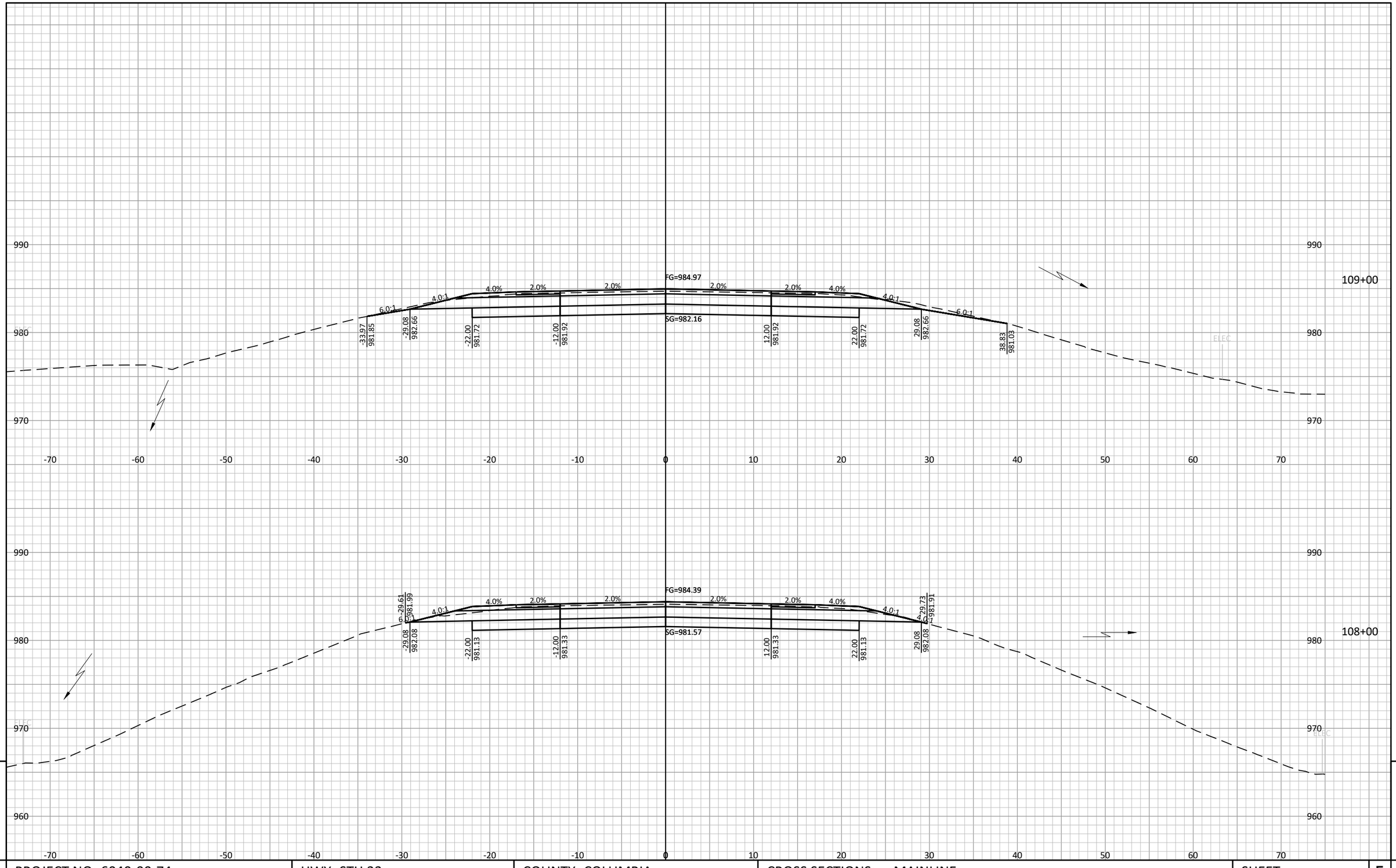


9

9

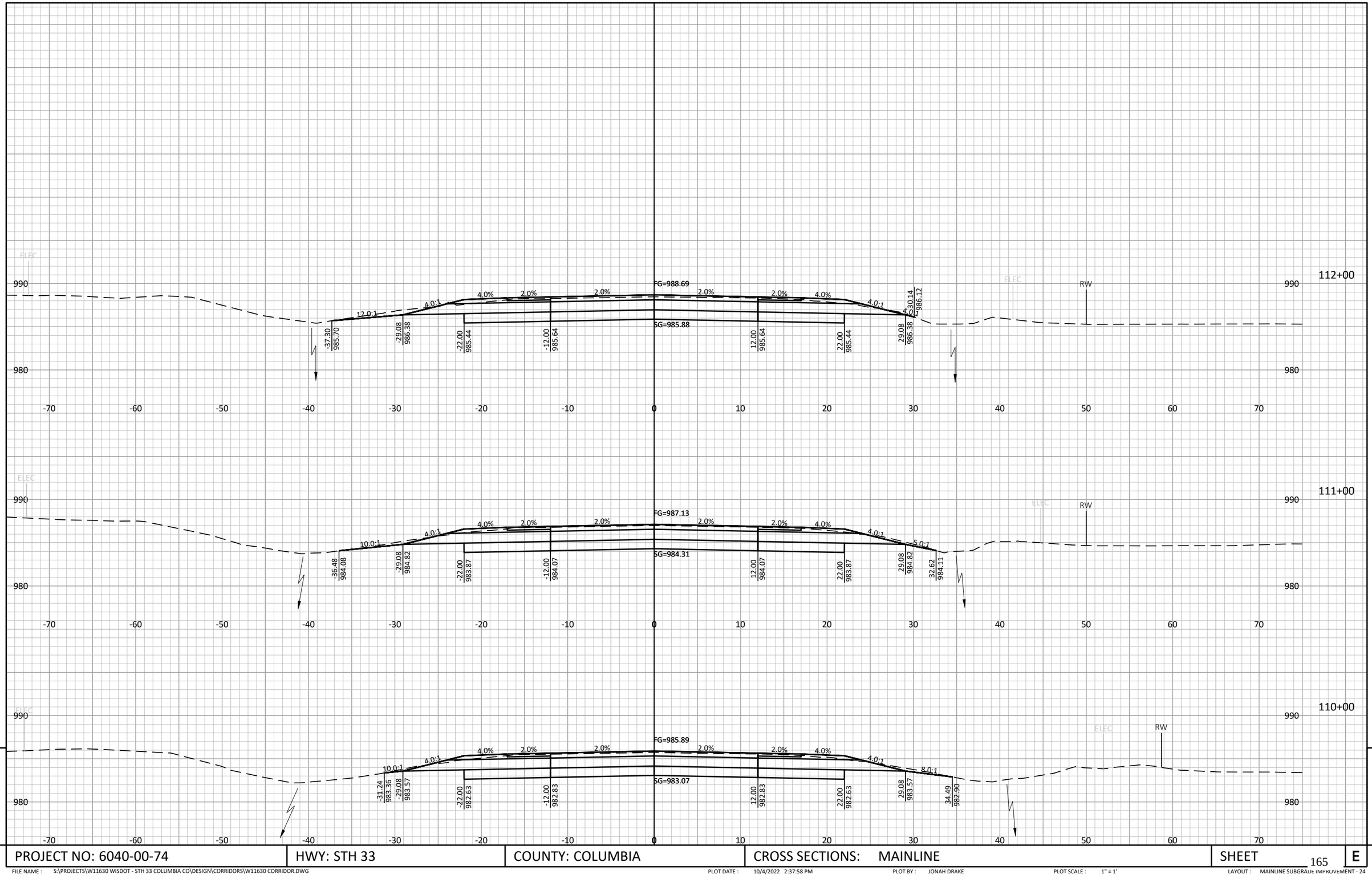
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:37:38 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 22



9	PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET 164 E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:37:48 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 23



9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:37:58 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : MAINLINE SUBGRADE IMPROVEMENT - 24

END TAPER

FG=1021.88
SG=1021.32
2.0%
2.0%
2.0%
4.0%
10.0:1

12.00
1021.64
12.00
1021.08
17.00
1021.54
22.00
1021.34
24.01
1020.84
28.80
1020.36

1030
1020
1010
1000
990

0
10
20
30
40
50
60
70
80
90
100
110
120
130
140

RW
GAS

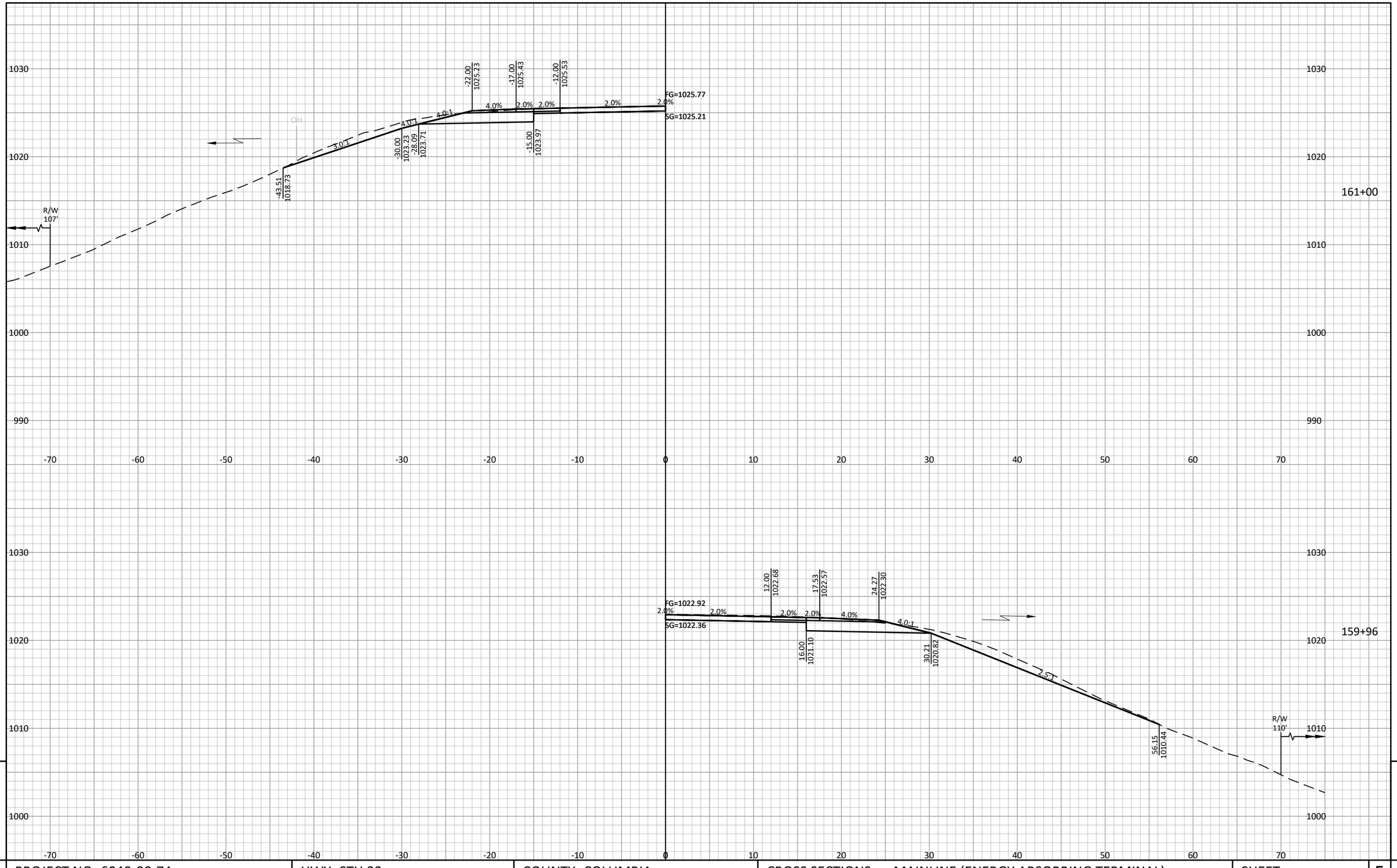
159+61

9

9

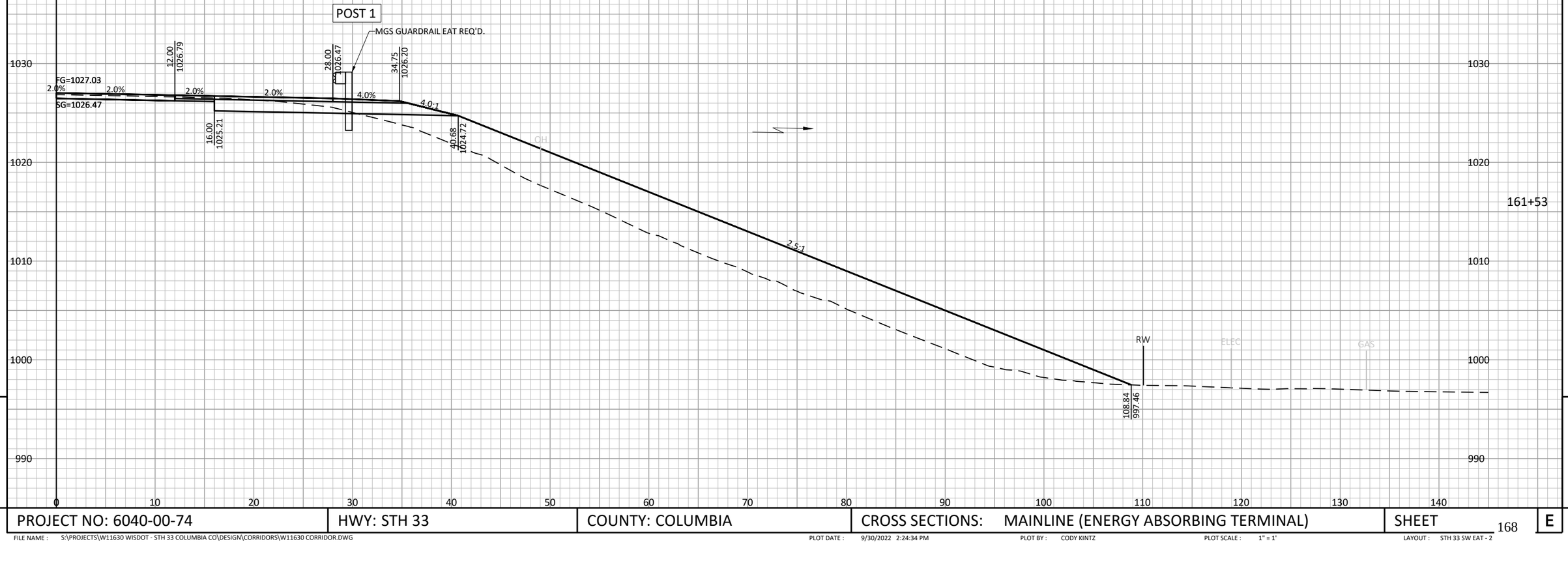
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 166	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 9/30/2022 2:24:14 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : STH 33 SW EAT - 1



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 167	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 9/30/2022 2:24:24 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : BRIDGE SECTIONS - 1



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PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 168	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:24:34 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : STH 33 SW EAT - 2

POST 5

MGS GUARDRAIL EAT REQ'D.

12.00
1027.35

27.00
1027.05

32.25
1026.84

FG=1027.59
SG=1027.03

2.0%
2.0%
2.0%
2.0%
4.0%

4.0:1

19.01
1025.71

38.32
1025.33

2.5:1

104.81
998.73

OH

RW

ELEC

161+78

1030
1020
1010
1000
990

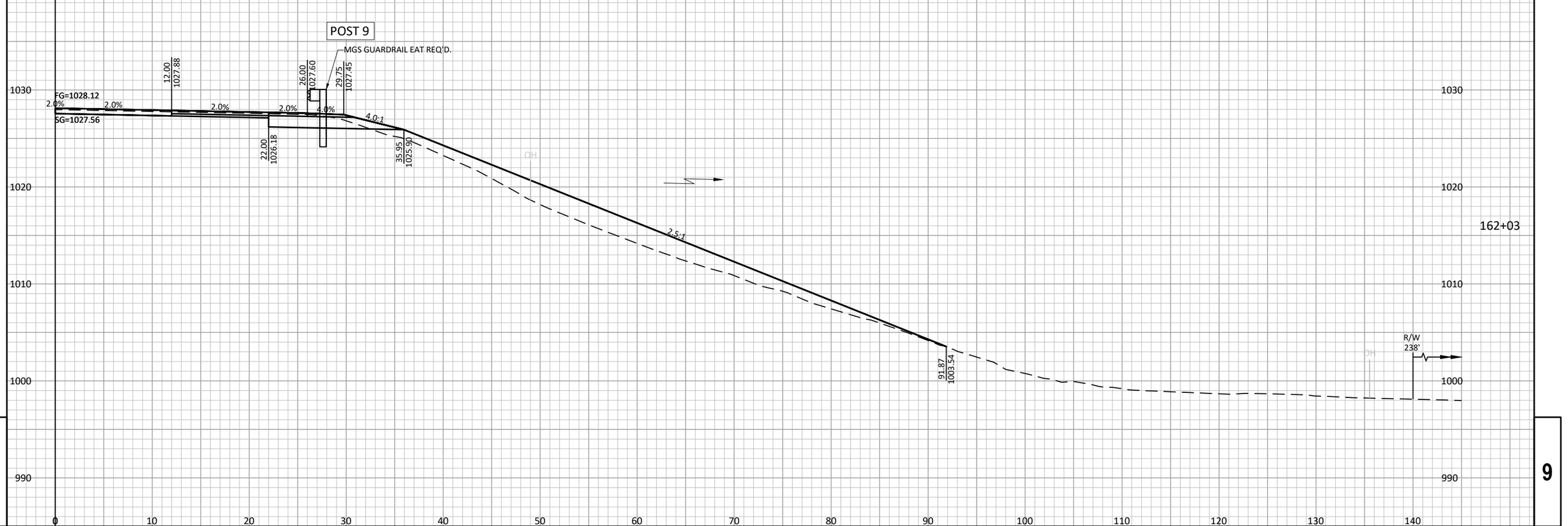
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140

9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 169	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 9/30/2022 2:24:44 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : STH 33 SW EAT - 3



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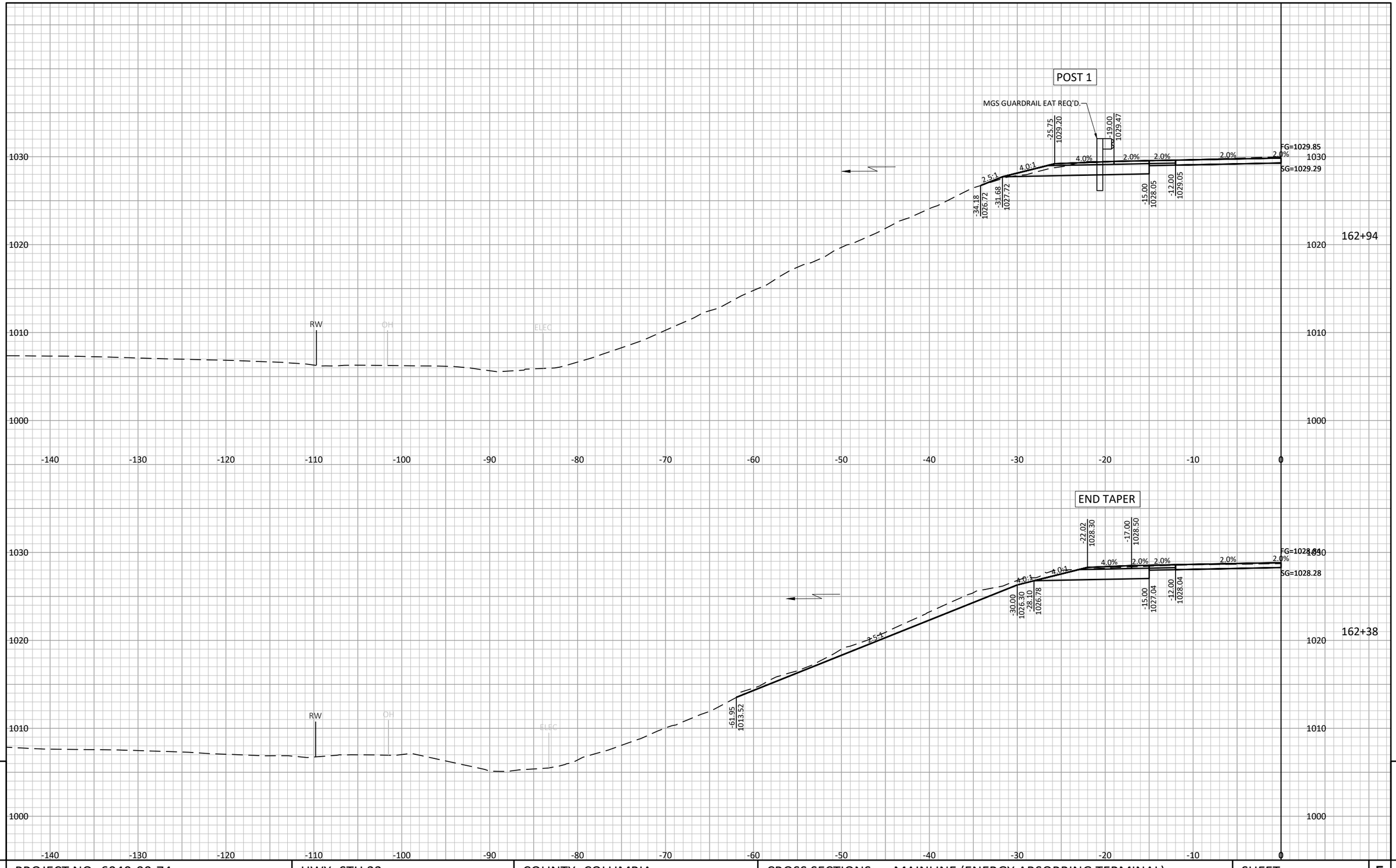
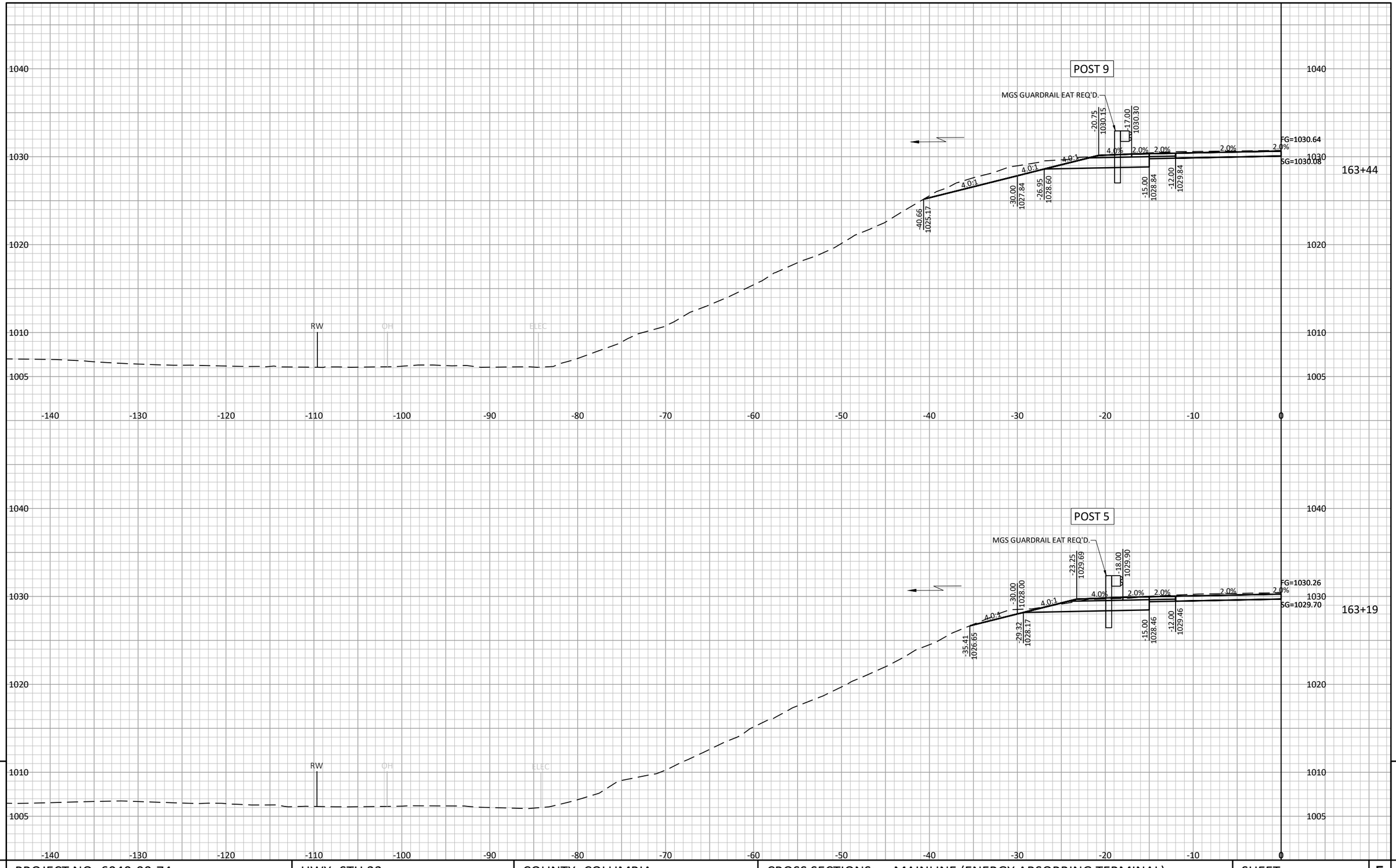
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 170	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:24:54 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : STH 33 SW EAT - 4



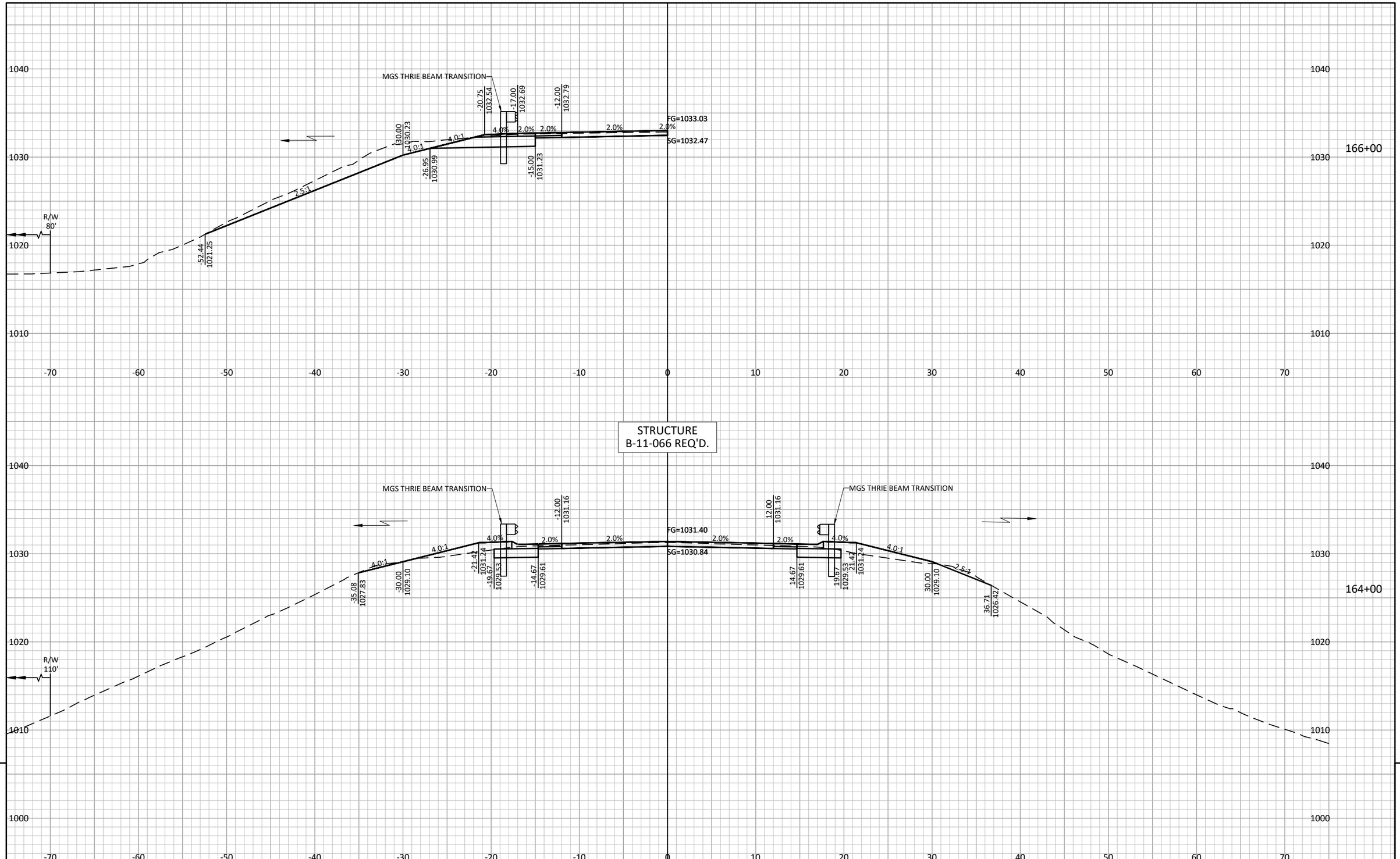
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 171	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:25:04 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : STH 33 NW EAT - 1



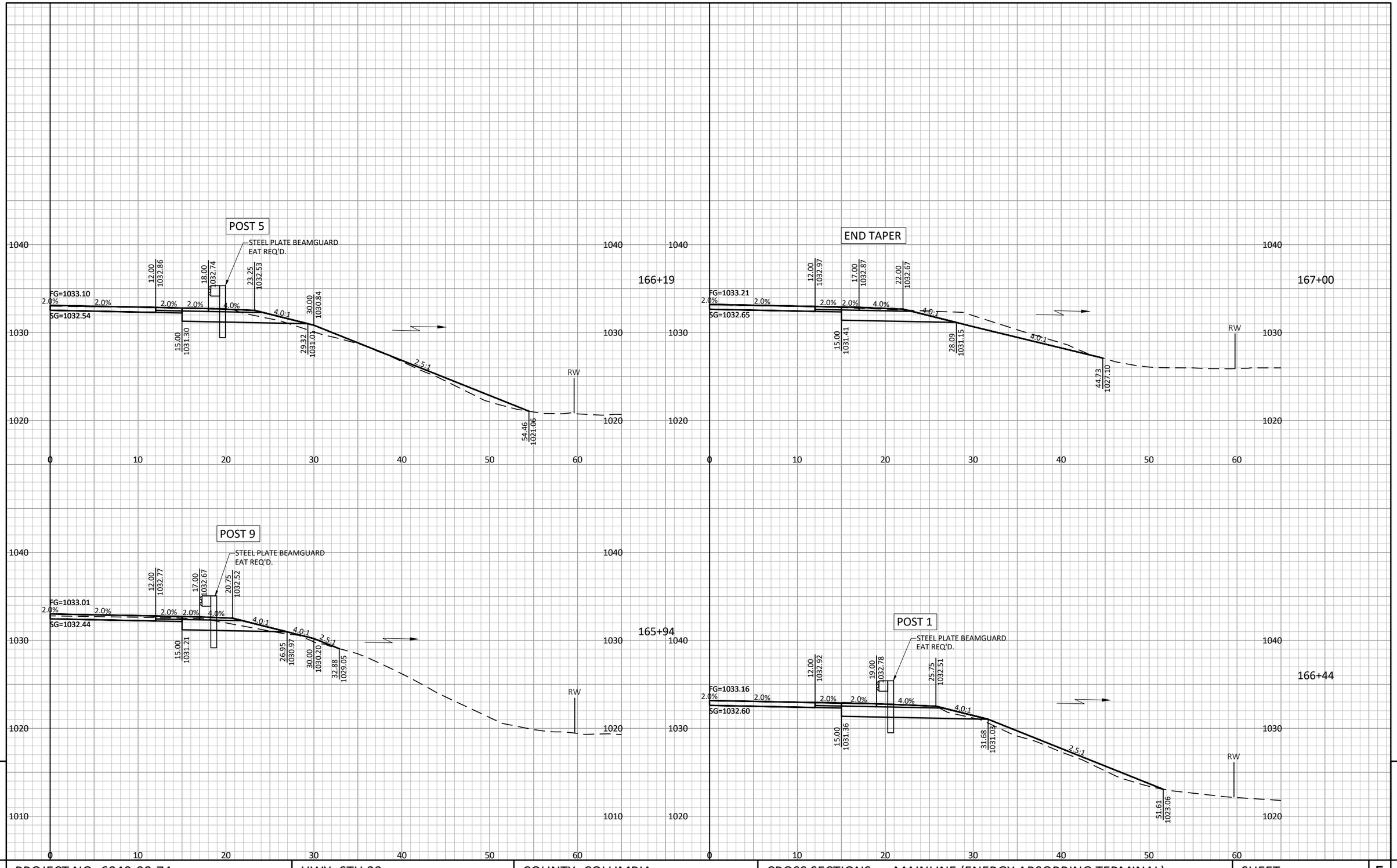
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 172	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:25:14 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : STH 33 NW EAT - 2

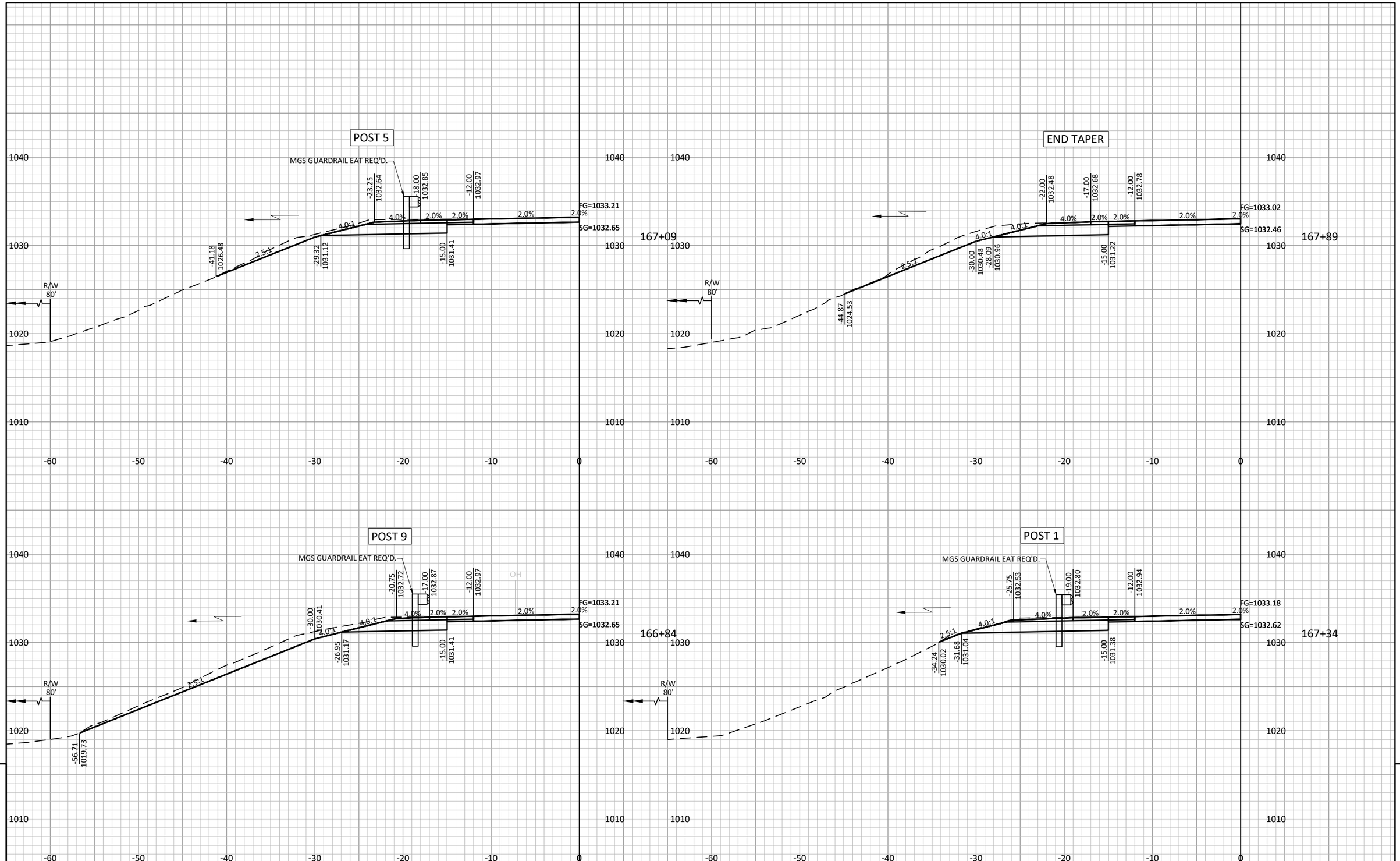


PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 173 E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:25:24 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : BRIDGE SECTIONS - 2

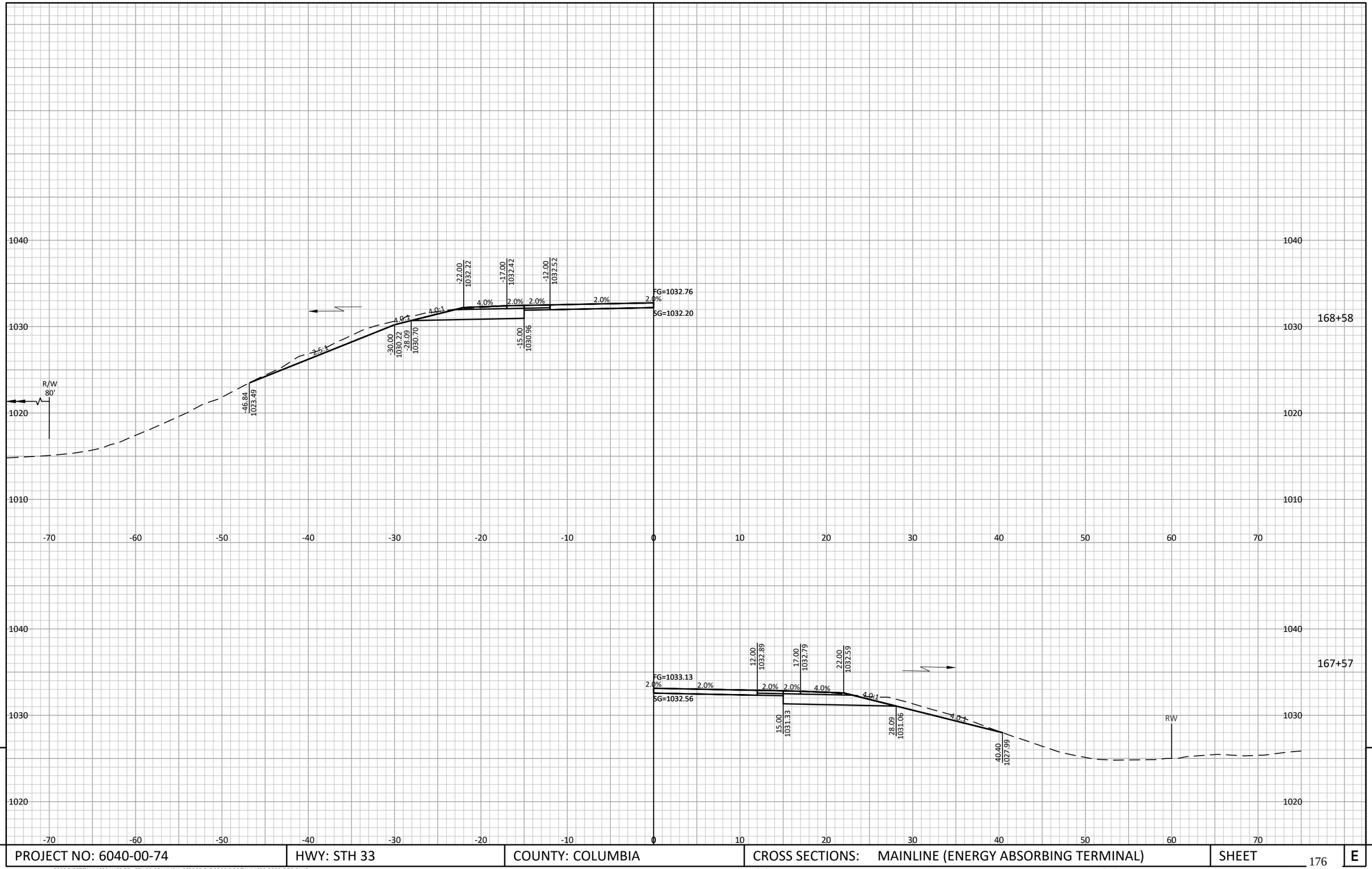


PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 174	E



9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 175	E

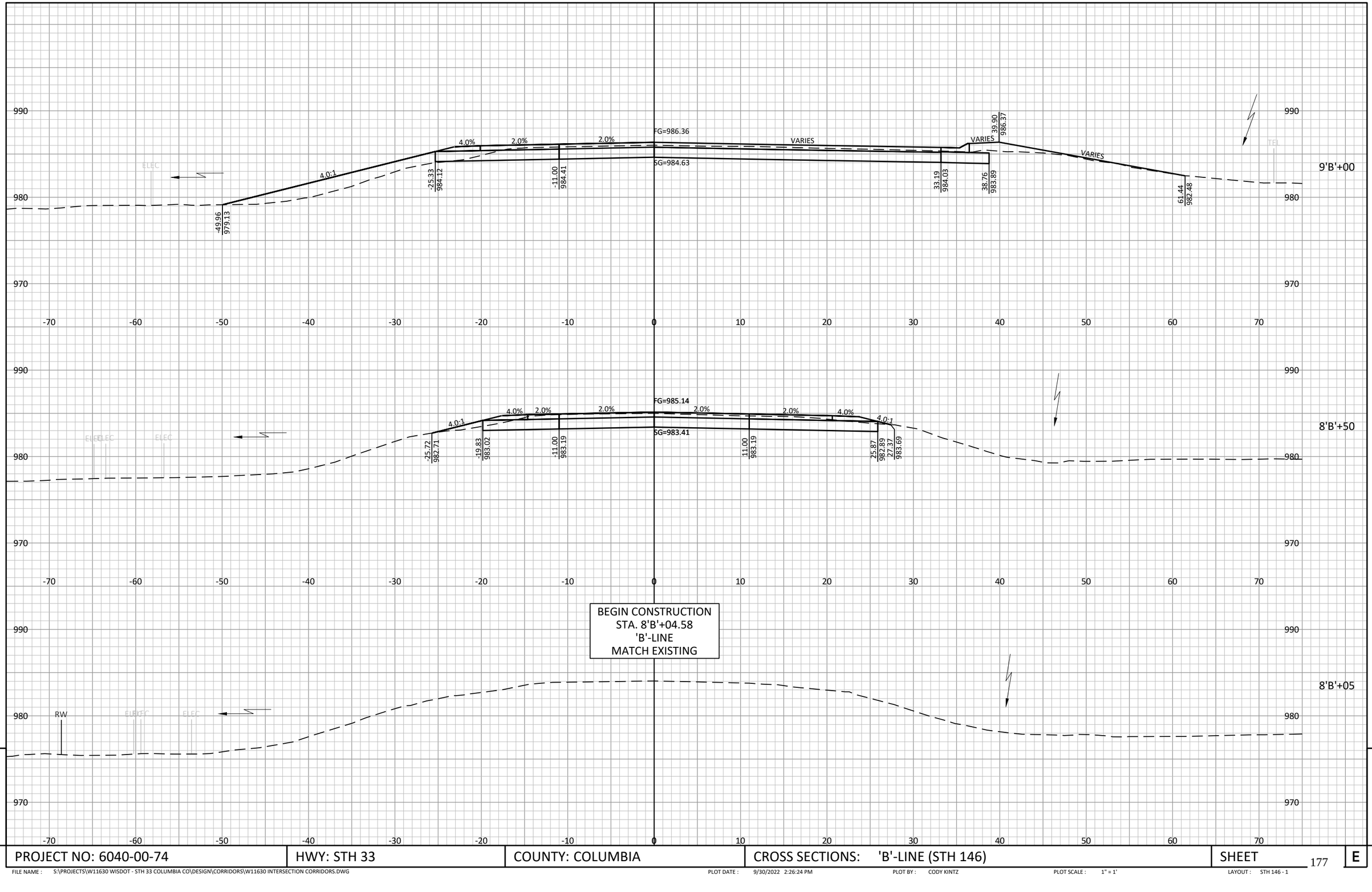


9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: MAINLINE (ENERGY ABSORBING TERMINAL)	SHEET 176	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:25:54 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : BRIDGE SECTIONS - 3



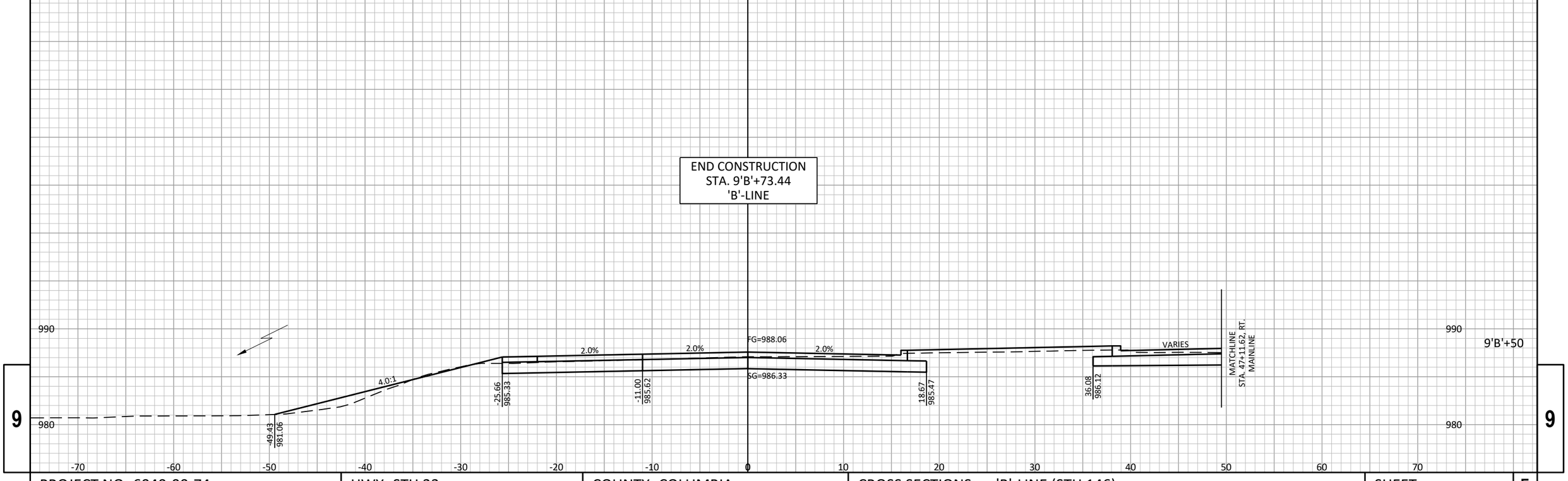
9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'B'-LINE (STH 146)	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 INTERSECTION CORRIDORS.DWG
PLOT DATE : 9/30/2022 2:26:24 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : STH 146 - 1

END CONSTRUCTION
STA. 9'B'+73.44
'B'-LINE



9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'B'-LINE (STH 146)	SHEET 178	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 INTERSECTION CORRIDORS.DWG
PLOT DATE : 9/30/2022 2:26:32 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : STH 146 - 2

END CONSTRUCTION
STA. 11'C'+62.48
'C'-LINE
MATCH EXISTING

11'C'+62

11'C'+50

FG=990.74
SG=989.24
8.0:1
4.0% 2.0% 2.0% 2.0% 2.0% 4.0%
-25.28 989.15
-18.04 988.88
-11.00 989.02
11.00 989.02
17.98 988.88
18.11 990.01

11'C'+00

FG=990.10
SG=988.60
4.0:1
4.0% 2.0% 2.0% 2.0% 2.0% 4.0%
-25.91 988.22
-21.45 988.17
-11.00 988.38
11.00 988.38
18.17 988.24
18.17 989.41

10'C'+50

MATCHLINE
STA. 45+77
MAINLINE
FG=989.47
SG=987.97
VARIES
-41.12 988.35
16.45 987.67
21.54 987.45
35.95 985.69

BEGIN CONSTRUCTION
STA. 10'C'+28.34
'C'-LINE

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'C'-LINE (CTH M)	SHEET 179	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 INTERSECTION CORRIDORS.DWG
PLOT DATE : 9/30/2022 2:26:41 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : CTH M

STA. 9'D'+46
(1) CULVERT PIPE CLASS III-A 24-INCH
(2) APRON ENDWALLS REQ'D.
SKEW = 8° RHF

9'D'+46

1000
990
980

-28.24
991.21
-26.98
988.97
-56.00
983.97
-69.35
983.13
24.17
991.49
22.82
989.24
46.00
985.83
50.65
986.64

4.4%
2.3%
2.5%
FG=991.16
1.7%
4.7%
SG=989.66
VARIES
VARIES

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9'D'+00

1000
990
980

-17.04
989.71
-26.31
988.02
-38.93
984.87
13.78
989.77
-11.00
988.33
11.00
988.33
23.04
988.09
35.10
986.08
44.14
988.34

4.0%
2.0%
2.0%
FG=990.05
2.0%
2.0%
4.0%
SG=988.55
4.0:1
6.0:1
4.0:1

RW
RW
ELEC

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

BEGIN CONSTRUCTION
STA. 8'D'+46.82
MATCH EXISTING

8'D'+47

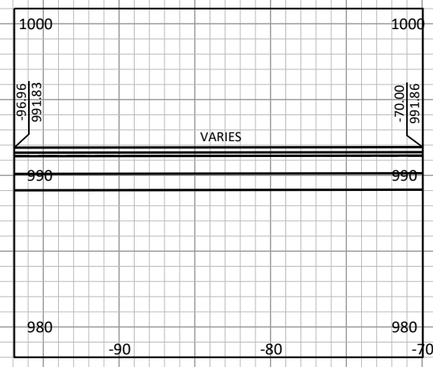
1000
990
980

RW
RW
ELEC

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

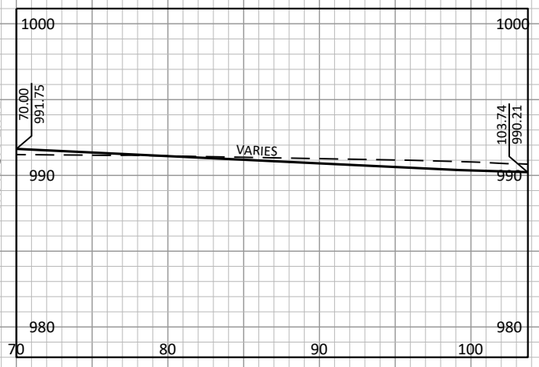
9 9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'D'-LINE (BIRD ROAD)	SHEET 180	E



MATCH LINE
STA. 80+00, RT.
MAINLINE

MATCH LINE



MATCH LINE

MATCH LINE
STA. 82+00, RT.
MAINLINE

END CONSTRUCTION
STA. 9'D'+77.92

9'D'+78

9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'D'-LINE (BIRD ROAD)	SHEET 181	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:27:39 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : BIRD RD - 2

END CONSTRUCTION
STA. 11'E'+25.78
'E'-LINE
MATCH EXISTING

11'E'+26

RW RW

1000 990

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

11'E'+00

RW RW

ELEC FLEC

-16.72 993.11

4.0% 2.0% 2.0% 2.0% 2.0% 4.0%

FG=993.90

SG=992.40

-16.17 992.08 -11.00 992.18 11.00 992.18 18.84 992.03 18.94 993.17

10'E'+50

OH

-19.35 993.97

VARIES VARIES VARIES VARIES VARIES VARIES VARIES

FG=993.84

SG=992.34

-22.33 993.11 -18.30 991.73 -13.19 991.95 23.90 992.92 30.25 992.80 31.55 995.06 38.26 993.36

10'E'+45

-21.01 993.87

VARIES VARIES VARIES VARIES VARIES VARIES VARIES

FG=993.83

SG=992.33

-26.08 991.73 -19.95 991.64 -14.66 991.87 27.59 993.03 34.58 992.94 36.08 995.20 45.34 992.19

EXISTING CMP TO REMAIN (SIZE UNKNOWN)

BEGIN CONSTRUCTION
STA. 10'E'+22.03
'E'-LINE

9 9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'E'-LINE (STERK ROAD)	SHEET 182	E

END CONSTRUCTION
STA. 11'F'+34.76
'F'-LINE
MATCH EXISTING

11'F'+35

11'F'+00

FG=1013.99
SG=1012.49
6.0:1
4.0%
2.0%
2.0%
2.0%
2.0%
4.0:1
-28.22 1012.05
-21.19 1012.07
-11.00 1012.27
11.00 1012.27
26.99 1011.95
36.89 1010.64

10'F'+50

FG=1013.42
SG=1011.92
VARIES
-28.48 1014.07
-36.40 1012.41
-27.31 1011.82
-21.88 1011.99
41.61 1013.21
33.85 1011.25
40.29 1010.99
50.97 1011.17

10'F'+40

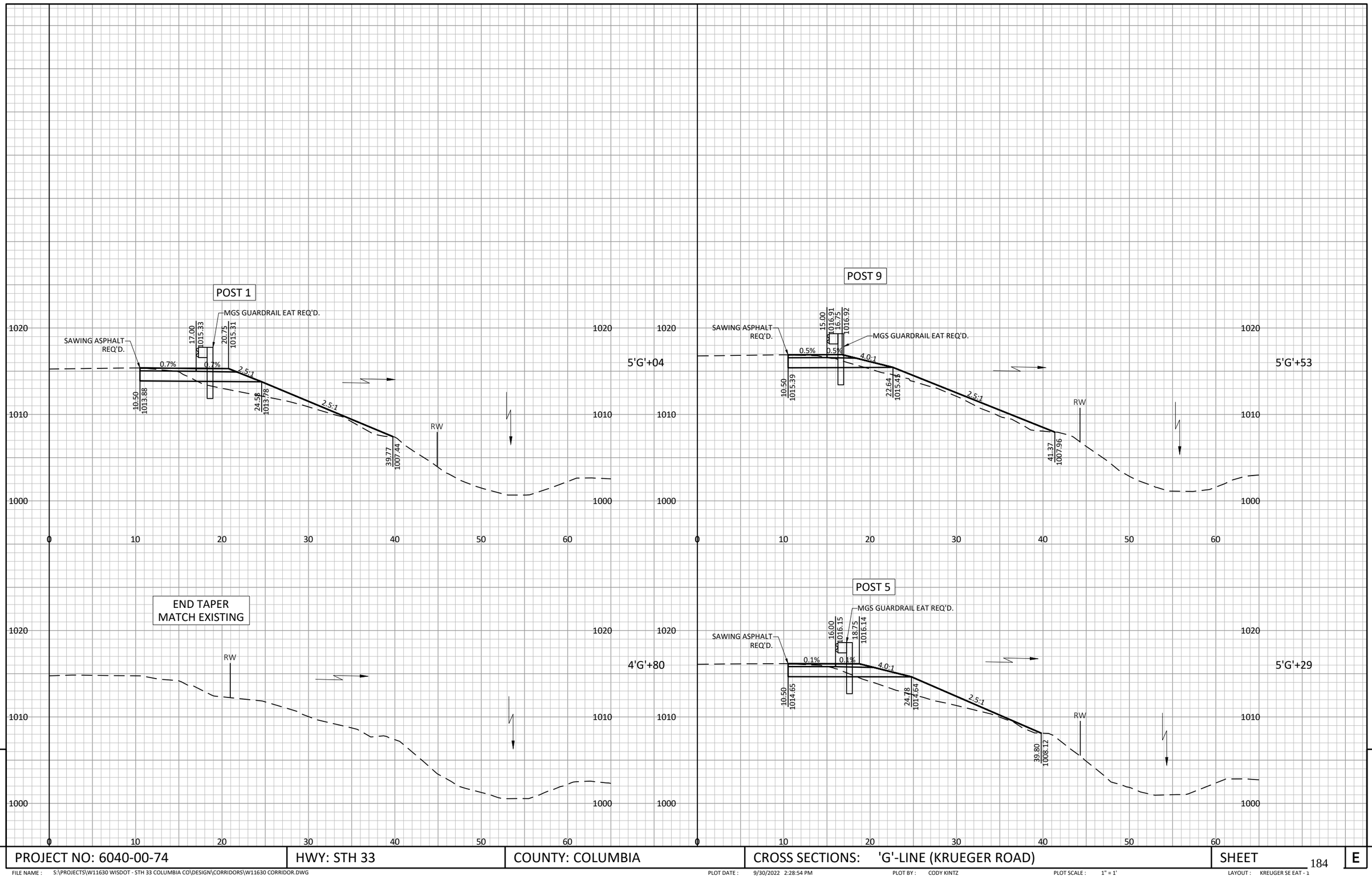
FG=1013.39
SG=1011.89
VARIES
-37.04 1014.26
-43.71 1012.18
-35.53 1012.00
-28.68 1012.14
52.84 1012.99
42.43 1011.07
51.10 1010.77
62.18 1010.13

BEGIN CONSTRUCTION
STA. 10'F'+24.03
'F'-LINE

EXISTING CMP TO REMAIN (SIZE UNKNOWN)

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'F'-LINE (CTH EF)	SHEET 183	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 INTERSECTION CORRIDORS.DWG
PLOT DATE : 9/30/2022 2:28:11 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : CTH EF

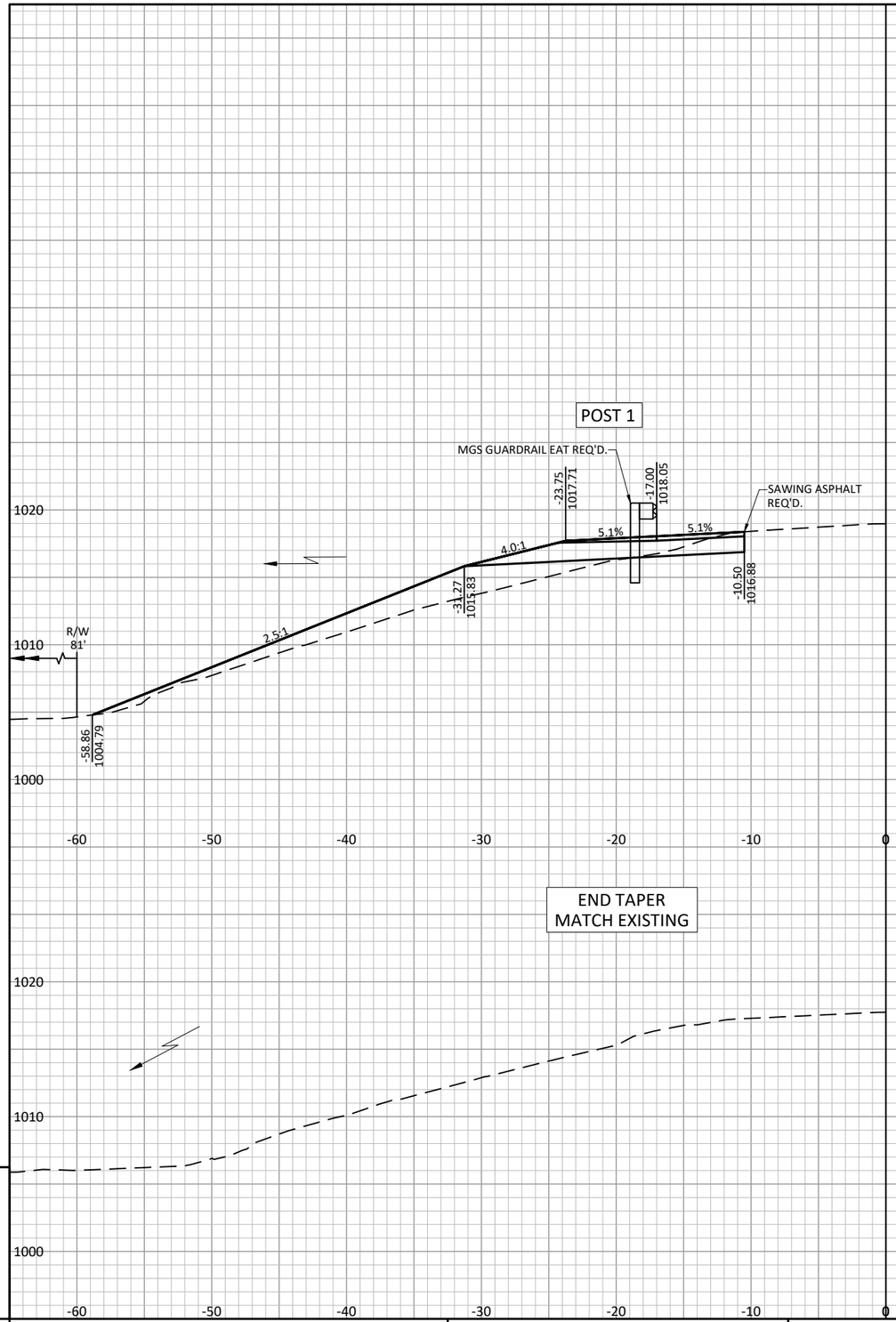


9

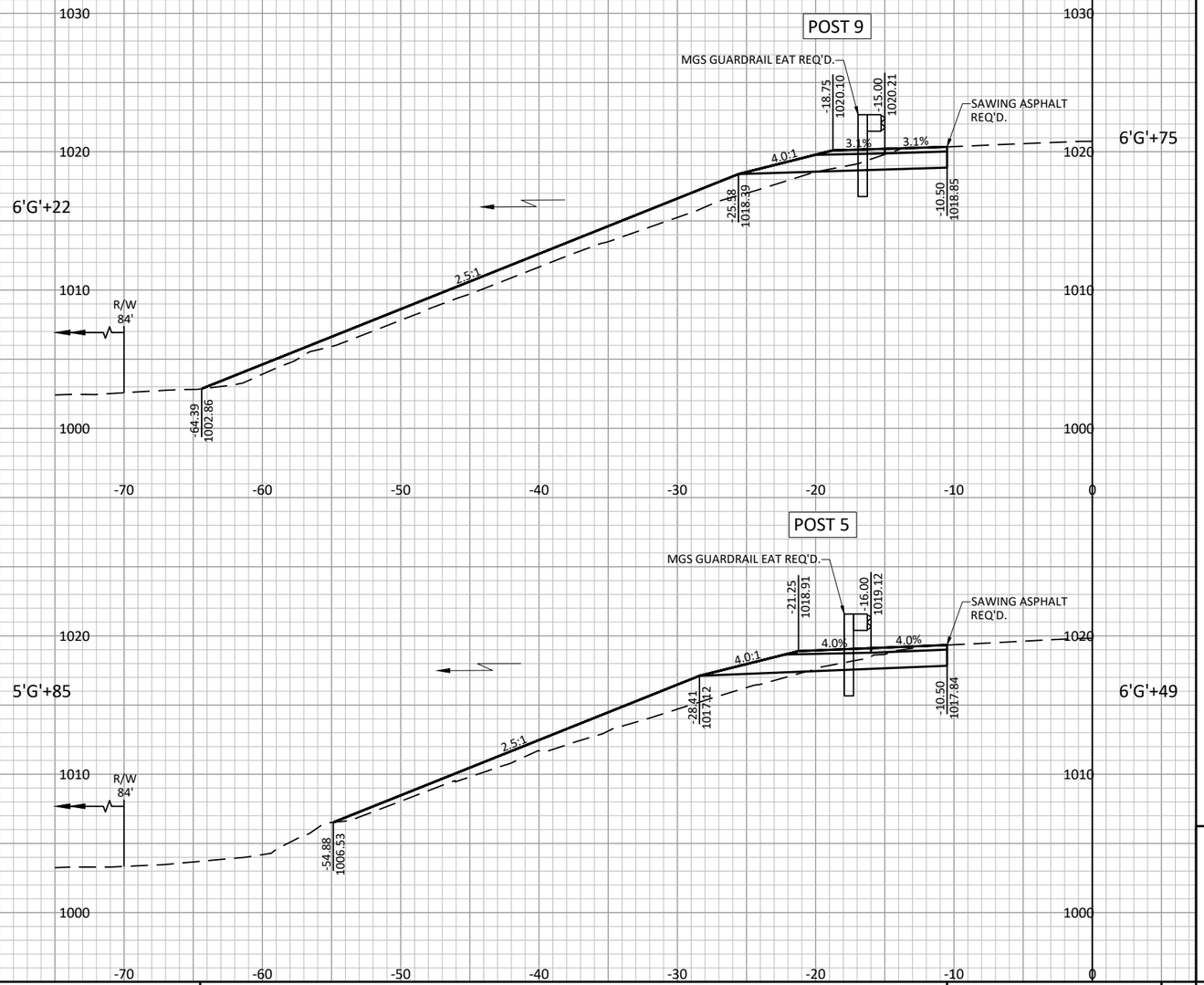
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'G'-LINE (KRUEGER ROAD)	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:28:54 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : KREUGER SE EAT - 1

9



END TAPER
MATCH EXISTING

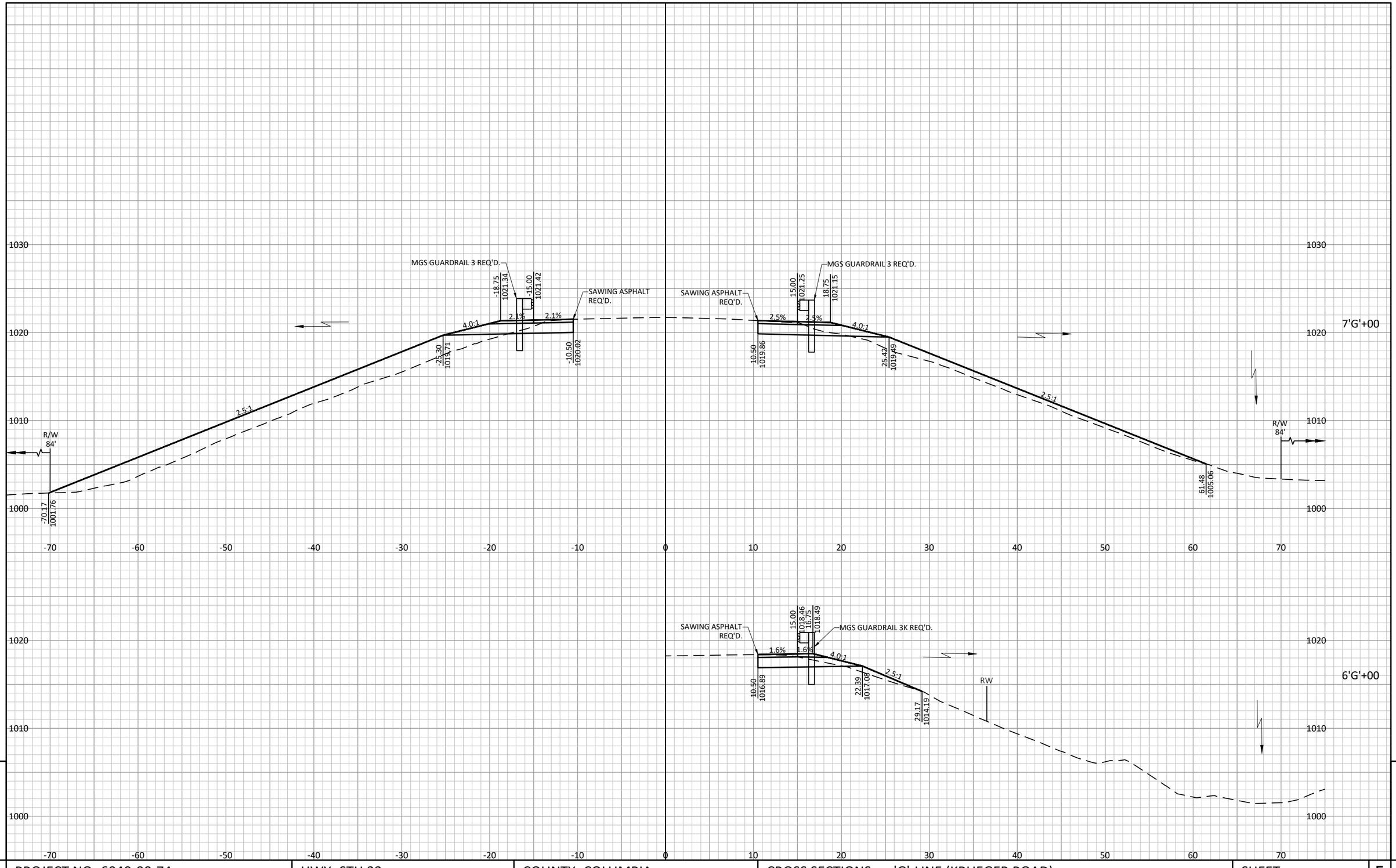


9

9

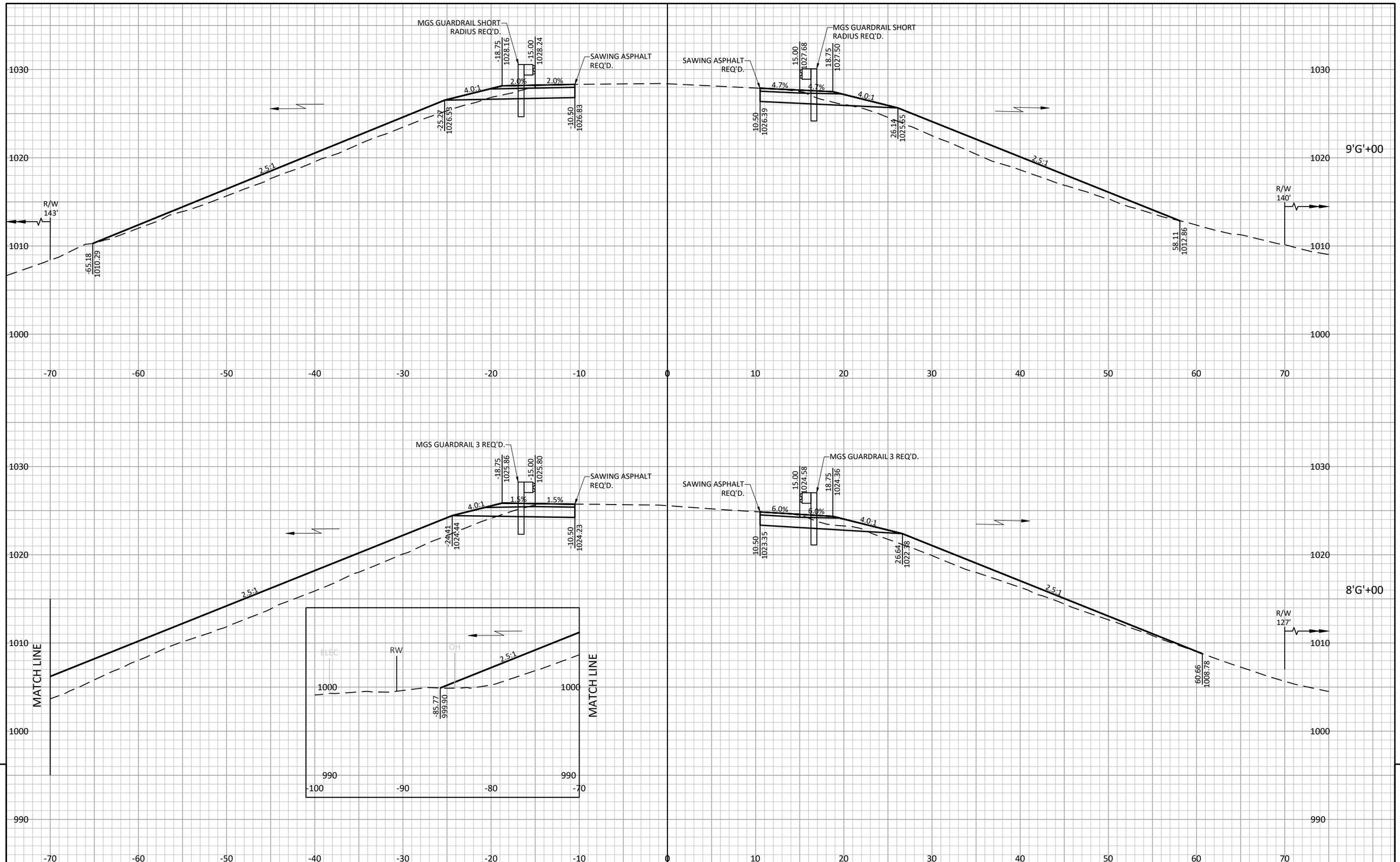
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'G'-LINE (KRUEGER ROAD)	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 9/30/2022 2:29:04 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : KRUEGER SW EAT - 1



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'G'-LINE (KRUEGER ROAD)	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 9/30/2022 2:29:14 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : KRUEGER - 1



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'G'-LINE (KRUEGER ROAD)	SHEET 187	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 9/30/2022 2:29:24 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : KRUEGER - 2

END CONSTRUCTION
STA. 11'H'+33.70
'H'-LINE
MATCH EXISTING

11'H'+34

RW TEL TEL GAS OH RW

1030 1020 1010

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

11'H'+00

RW TEL TEL OH GAS OH RW

FG=1020.36
SG=1018.86

-18.18 1019.66
-18.18 1018.50
-11.00 1018.64
11.00 1018.64
20.59 1018.45
28.05 1017.75

4.0% 2.0% 2.0% 2.0% 2.0% 4.0% 4.0:1

10'H'+50

TEL GAS OH

FG=1020.81
SG=1019.31

-26.05 1021.24
-39.30 1018.62
-24.94 1018.99
-19.54 1019.15
23.20 1018.79
30.37 1020.83
29.14 1018.59
39.23 1019.23

VARIES

BEGIN CONSTRUCTION
STA. 10'H'+22.01
'H'-LINE

9 9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'H'-LINE (FRIESLAND ROAD NORTH)	SHEET 188	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 INTERSECTION CORRIDORS.DWG PLOT DATE : 9/30/2022 2:29:48 PM PLOT BY : CODY KINTZ PLOT SCALE : 1" = 1' LAYOUT : FRIESLAND NORTH

END CONSTRUCTION
STA. 9'I'+78.00
'I'-LINE

9'I'+50

VARIES
VARIES
VARIES
FG=1020.82
SG=1019.42
VARIES
VARIES
VARIES
-36.94
1019.28
-29.98
1021.44
-28.77
1019.19
-22.72
1019.35
19.77
1018.99
25.24
1018.79
26.42
1021.03
29.95
1020.15
EL
GAS
OH

9'I'+00

RW
GAS
OH
RW
4.0:1
6.0:1
4.0%
2.0%
2.0%
2.0%
2.0%
4.0%
FG=1020.69
SG=1019.19
-35.51
1020.05
-29.29
1018.50
-20.59
1018.78
-11.00
1018.97
11.00
1018.97
18.52
1018.82
18.52
1019.99

BEGIN CONSTRUCTION
STA. 8'I'+61.92
'I'-LINE
MATCH EXISTING

8'I'+62

RW
RW

1030
1020
1010
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9 9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'I'-LINE (FRIESLAND ROAD SOUTH)	SHEET 189	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 INTERSECTION CORRIDORS.DWG
PLOT DATE : 9/30/2022 2:29:56 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : FRIESLAND SOUTH

END CONSTRUCTION
STA. 9'J'+77.85
'J'-LINE

9'J'+50

VARIES
VARIES
VARIES
VARIES
VARIES
VARIES
FG=929.41
SG=927.91
-46.97 929.55
-41.74 930.87
-40.10 928.58
-32.76 928.58
15.53 927.76
20.70 927.55
21.74 929.79
28.33 927.64

9'J'+00

FG=928.67
SG=927.17
3.0%
3.0%
3.0%
3.0%
3.0%
4.0:1
-16.53 926.67
-11.00 926.84
11.00 927.50
18.44 927.72
21.66 928.08
ASPHALTIC FLUME REQ'D.

8'J'+50

FG=927.93
SG=926.43
-17.61 926.90
4.0%
3.0%
3.0%
3.0%
3.0%
3.0%
4.0:1
-16.86 925.92
-11.00 926.10
11.00 926.76
16.28 926.92
23.43 926.29
RW

8'J'+44

RW

BEGIN CONSTRUCTION
STA. 8'J'+44.15
'J'-LINE
MATCH EXISTING

940
930
920
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'J'-LINE (FRIESLAND ROAD EAST)	SHEET 190	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 INTERSECTION CORRIDORS.DWG
PLOT DATE : 9/30/2022 2:30:06 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : FRIESLAND EAST

END CONSTRUCTION
STA. 11'K'+50.22
'K'-LINE
MATCH EXISTING

11'K'+50

ELEC
TEL
GAS
RW

11'K'+00

GAS
TEL
RW
OH

FG=922.66
SG=921.16

6.0:1 4.0% 2.0% 2.0% 2.0% 2.0% 4.0% 4.0:1

-28.09 920.44
-19.11 920.78
-11.00 920.94
11.00 920.94
20.87 920.74
31.62 919.22

10'K'+50

TEL

FG=922.51
SG=921.01

VARIES VARIES VARIES VARIES VARIES VARIES VARIES

-36.00 920.96
-25.79 923.13
-24.71 920.88
-19.32 921.03
23.29 920.49
30.44 922.49
29.25 920.26
43.75 919.43

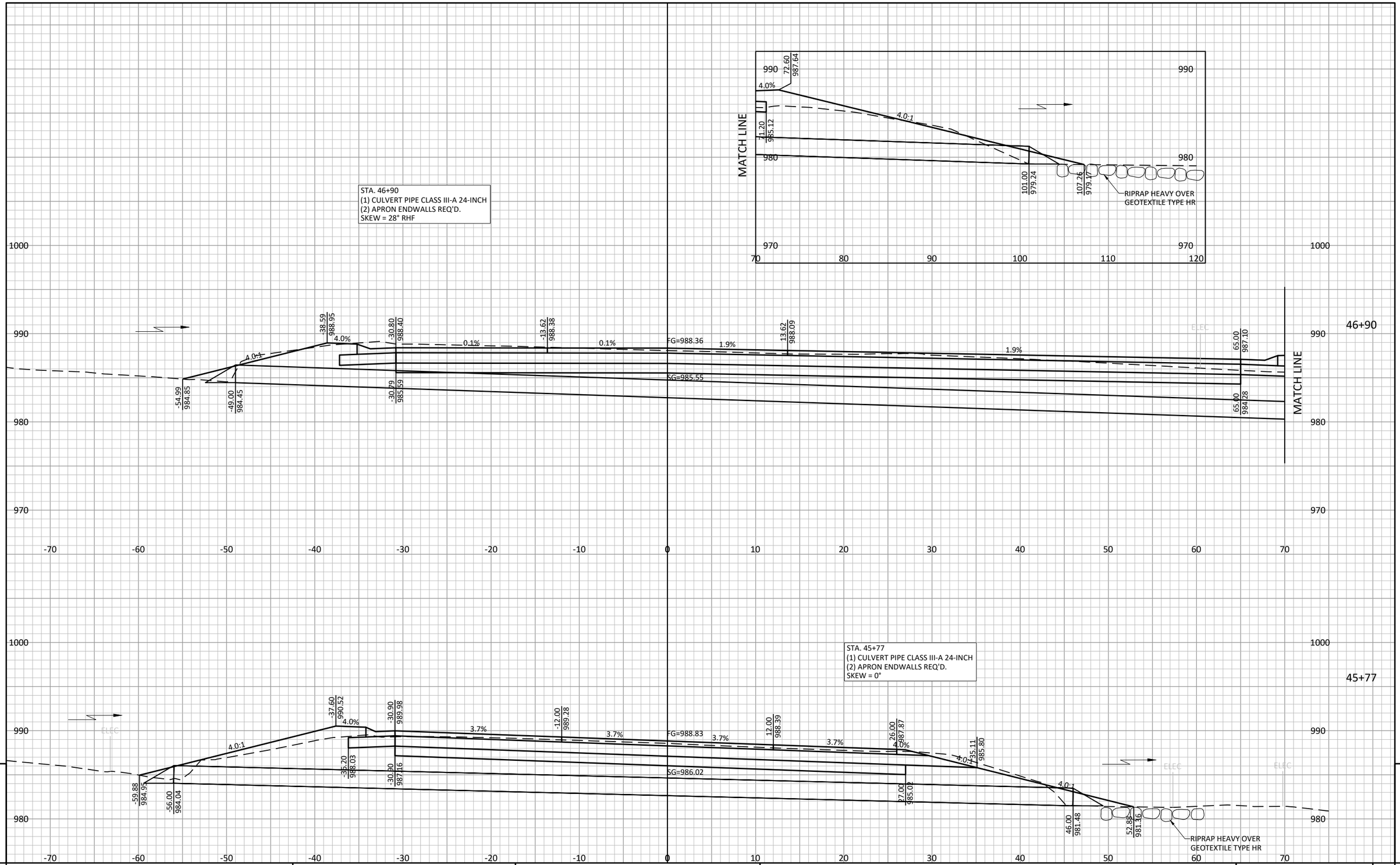
BEGIN CONSTRUCTION
STA. 10'K'+22.01
'K'-LINE

930
920
910
-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

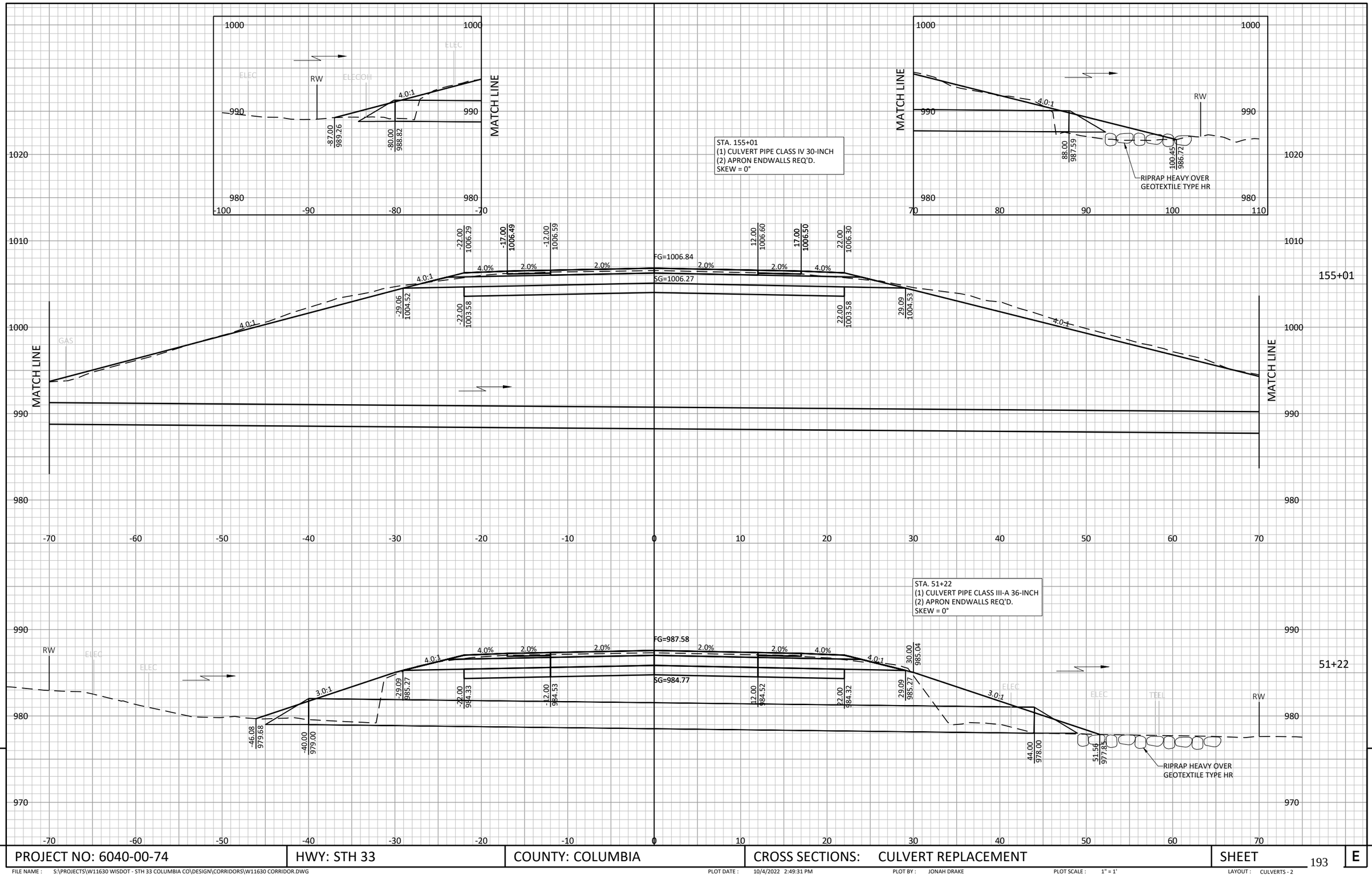
PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: 'K'-LINE (DILLMAN ROAD)	SHEET 191	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 INTERSECTION CORRIDORS.DWG
PLOT DATE : 9/30/2022 2:30:17 PM
PLOT BY : CODY KINTZ
PLOT SCALE : 1" = 1'
LAYOUT : DILLMAN



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: CULVERT REPLACEMENT	SHEET	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:49:21 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 1



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: CULVERT REPLACEMENT	SHEET 193	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG PLOT DATE : 10/4/2022 2:49:31 PM PLOT BY : JONAH DRAKE PLOT SCALE : 1" = 1' LAYOUT : CULVERTS - 2

STA. 194+51
(1) CULVERT PIPE CLASS IV 36-INCH
(2) APRON ENDWALLS REQ'D.
SKEW = 0°

194+51

FG=1021.91

SG=1019.09

4.0%
2.0%
4.0:1

-30.30 1021.96
-24.16 1021.42
-12.00 1021.67
12.00 1021.67
26.10 1021.38
32.40 1021.92
-29.30 1019.49
-24.16 1018.61
26.09 1018.67
31.40 1019.44
-50.70 1016.85
-39.00 1017.02
41.00 1017.12
49.08 1017.74

RIPRAP HEAVY OVER GEOTEXTILE TYPE HR

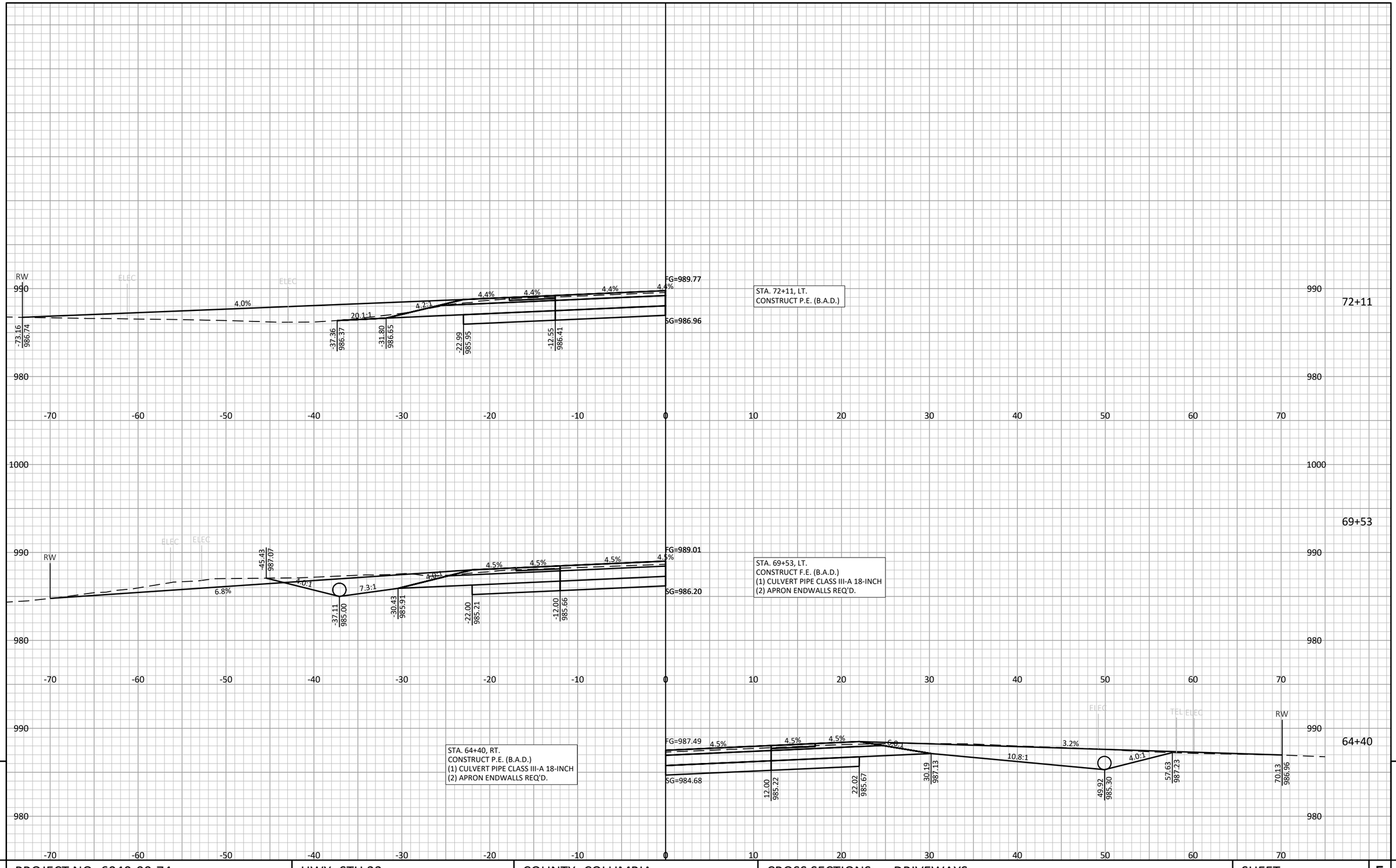
1030
1020
1010

-70 -60 -50 -40 -30 -20 -10 0 10 20 30 40 50 60 70

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: CULVERT REPLACEMENT	SHEET 194	E

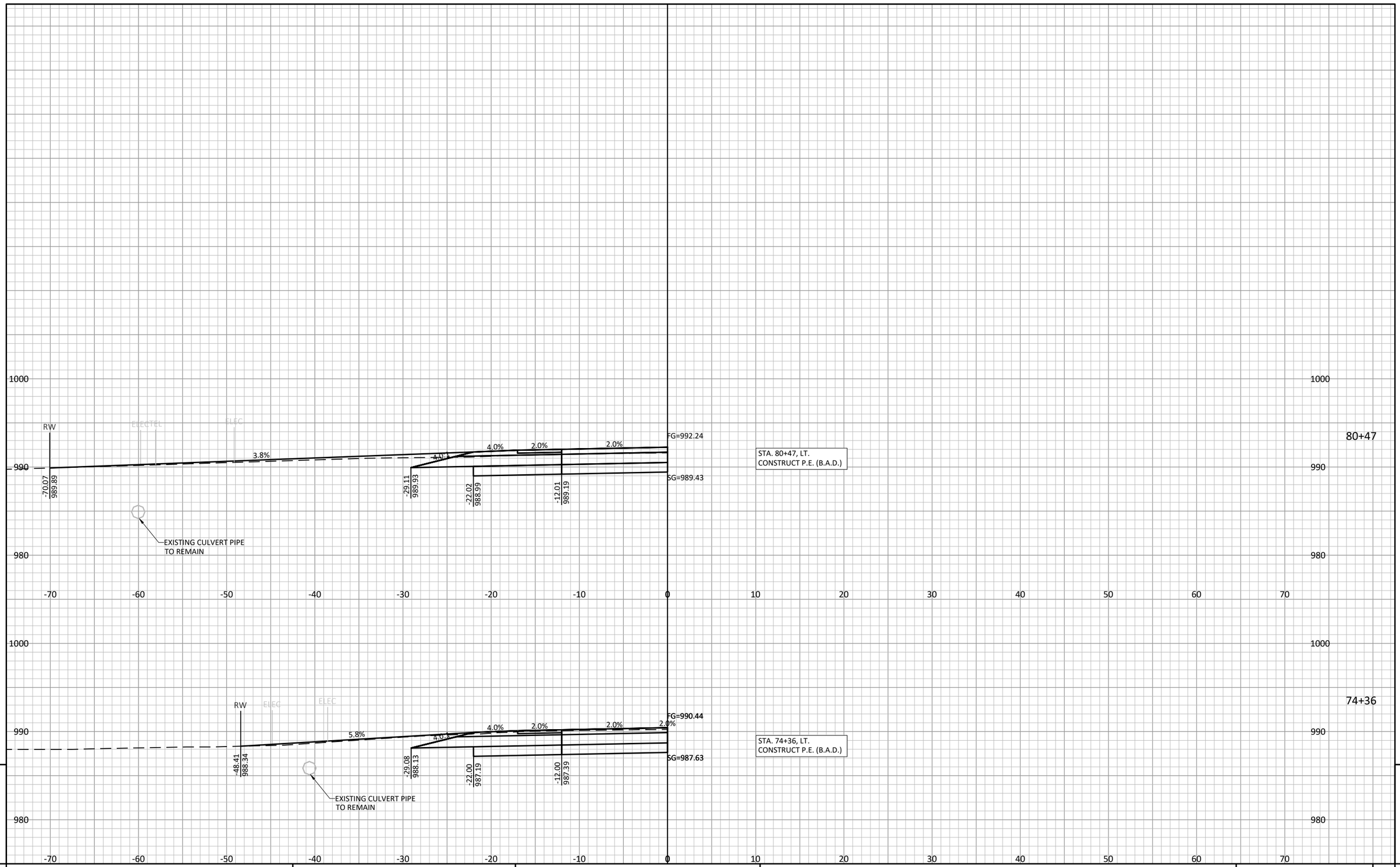
FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 10/4/2022 2:49:41 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'
LAYOUT : CULVERTS - 3



9 9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: DRIVEWAYS	SHEET 195	E

FILE NAME : S:\PROJECTS\W11630 WISDOT - STH 33 COLUMBIA CO\DESIGN\CORRIDORS\W11630 CORRIDOR.DWG
PLOT DATE : 10/4/2022 2:49:50 PM
PLOT BY : JONAH DRAKE
PLOT SCALE : 1" = 1'
LAYOUT : DRIVEWAYS - 1

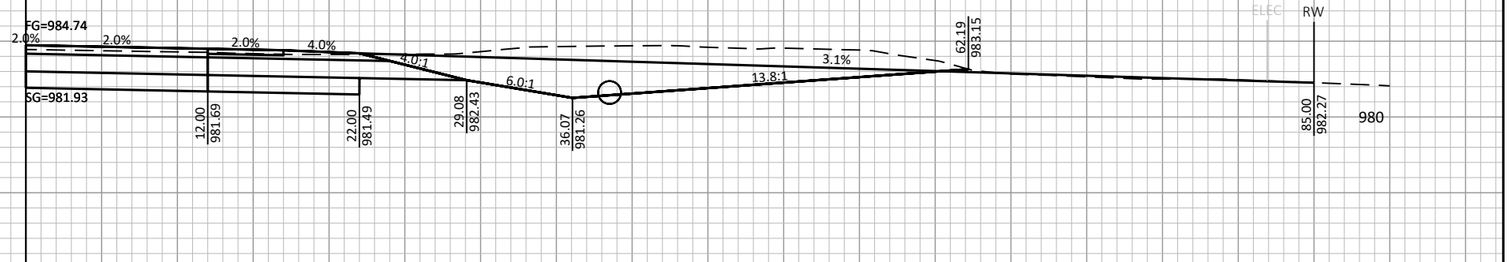


9

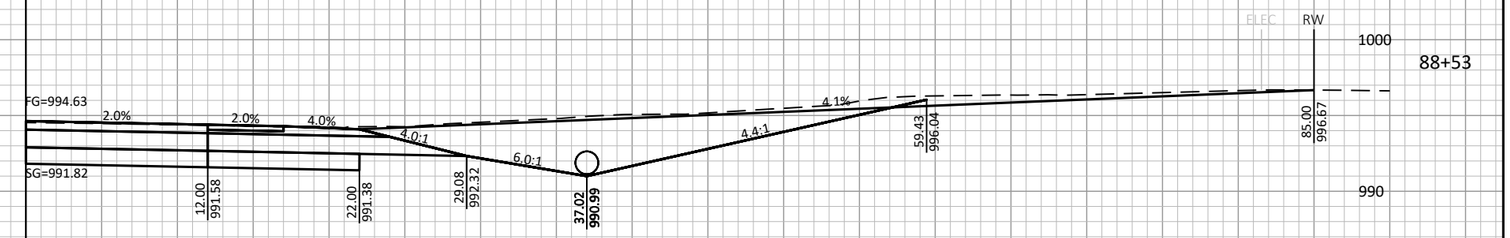
9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: DRIVEWAYS	SHEET 196	E

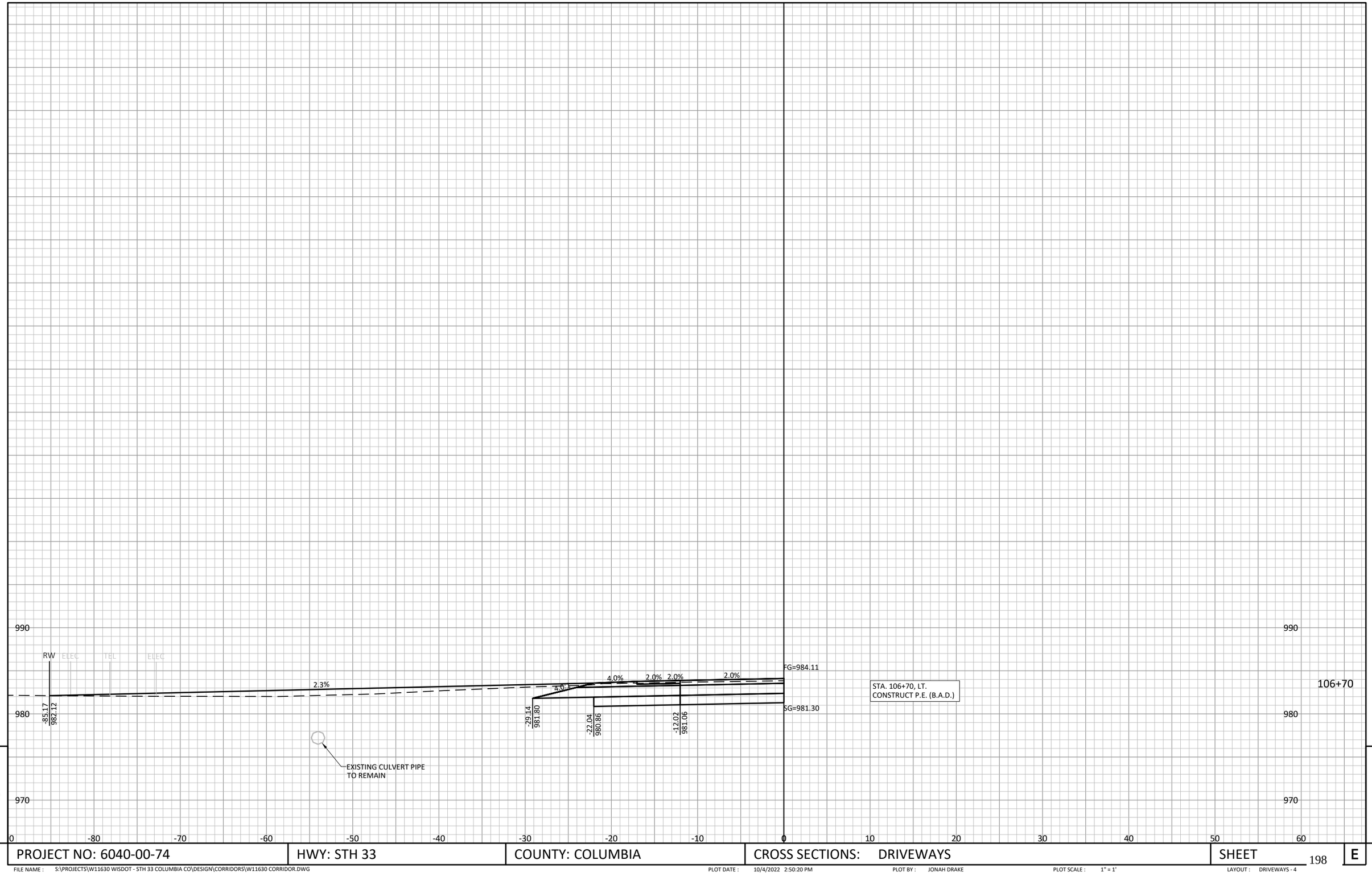
STA. 104+75, RT.
CONSTRUCT F.E. (B.A.D.)
(1) CULVERT PIPE CLASS III-A 18-INCH
(2) APRON ENDWALLS REQ'D.



STA. 88+53, RT.
CONSTRUCT F.E. (B.A.D.)
(1) CULVERT PIPE CLASS III-A 18-INCH
(2) APRON ENDWALLS REQ'D.



PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: DRIVEWAYS	SHEET 197	E



9

9

PROJECT NO: 6040-00-74	HWY: STH 33	COUNTY: COLUMBIA	CROSS SECTIONS: DRIVEWAYS	SHEET 198	E

Notes

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