

RHI
PROJECT ID:
WITH: NA

9140-12-62,9140-12-72

COUNTY:
LANGLADE

MAY 2019
ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
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 = 80

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT

ANTIGO - LANGLADE

5TH AVENUE ROAD TO CTH P CULVERTS

STH 64
LANGLADE COUNTY

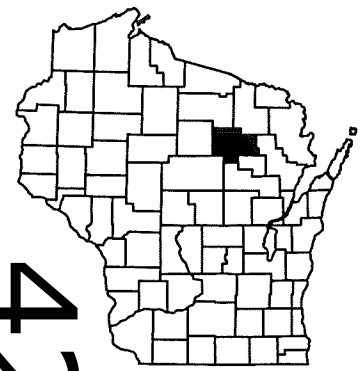
ANTIGO - LANGLADE

5TH AVENUE ROAD TO CTH P

STH 64
LANGLADE COUNTY

STATE PROJECT NUMBER
9140-12-62

STATE PROJECT NUMBER
9140-12-72



BEGIN PROJECT 9140-12-62
STA 54+68.55
Y = 350,511.40
X = 675,302.55

BEGIN PROJECT 9140-12-72
STA 6+43.00
Y = 350,655.06
X = 670,479.14

END PROJECT 9140-12-62
STA 267+41.38

END PROJECT 9140-12-72
STA 295+89.00

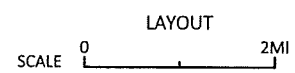
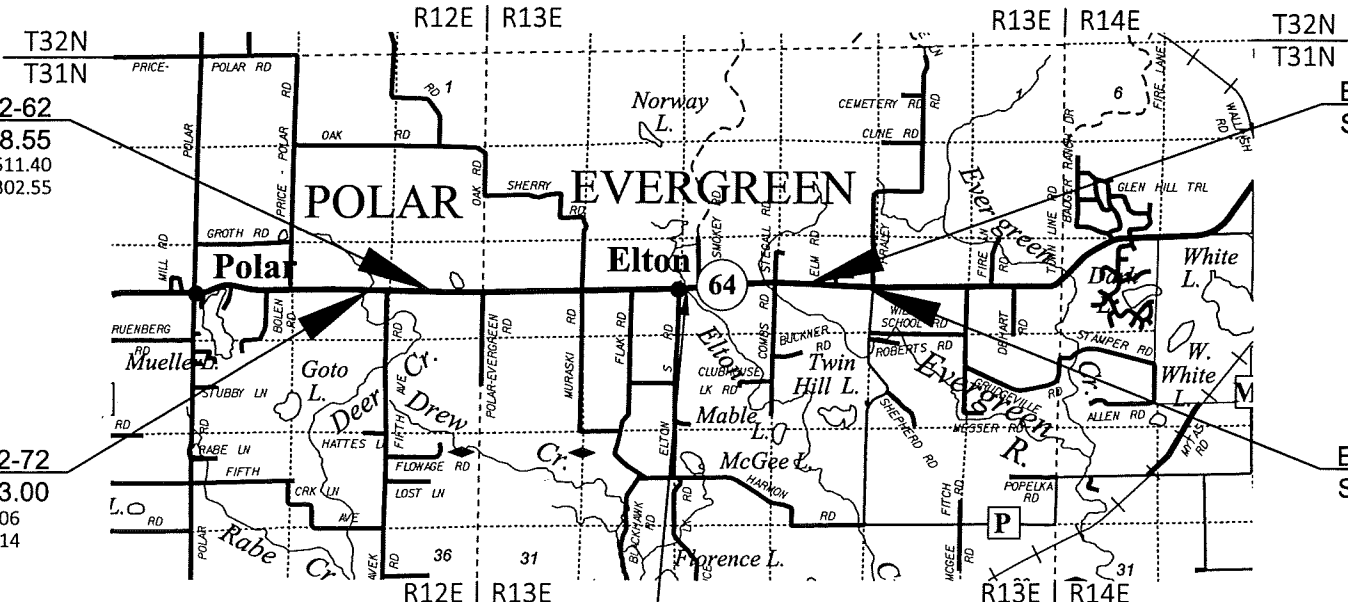
DESIGN DESIGNATION

A.A.D.T. (2019)	=	2,400
A.A.D.T. (2039)	=	2,700
D.H.V.	=	370
D.D.	=	60/40
T.	=	13.4%
DESIGN SPEED	=	45-55MPH
ESALS	=	824,900

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	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

<u>PROFILE</u>	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
<u>UTILITIES</u>	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	



TOTAL NET LENGTH OF CENTERLINE = 3.99 PROJECT 9140-12-62
TOTAL NET LENGTH OF CENTERLINE = 5.45 PROJECT 9140-12-72

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL AMERICAN VERTICAL DATUM OF 1983 NAVD83 (2012) ADJUSTMENT. DISTANCES.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9140-12-62	WISC 2019313	1
9140-12-72	WISC 2019314	1

jt ENGINEERING, INC
Consultant Services

MURRAY R. GLEN
36246-006
GREEN BAY, WI
PROFESSIONAL ENGINEER

DATE: 1/31/19

(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JT ENGINEERING, INC.
Designer	JT ENGINEERING, INC.
Project Manager	
Regional Examiner	
Regional Supervisor	

APPROVED FOR THE DEPARTMENT

DATE: 1/31/19

(Signature)

E



UTILITY CONTACTS

ALLIANT ENERGY
ELECTRICITY
MR. SETH SCHOUNARD
708 N.E. 7TH STREET
MARION, WI 54950
TEL: (715) 754-4331
MOBILE: (715) 903-0113
EMAIL: SETHSCHOUNARD@ALLIANTENERGY.COM

FRONTIER COMMUNICATIONS OF WI LLC
COMMUNICATION LINE
MR. CALVIN KLADE
521 NORTH 4TH STREET
WAUSAU, WI 54403
MOBILE: (715) 573-2110
EMAIL: CALVIN.KLADE@FTR.COM

WISCONSIN PUBLIC SERVICE
GAS/PETROLEUM
MR. RORY TAMMINGA
1717 10TH AVENUE
MONOMINEE, MI 49858
TEL: (906) 863-4328
MOBILE: (262) 909-0645
RORY.TAMMINGA@WISCONSINPUBLICSERVICE.COM

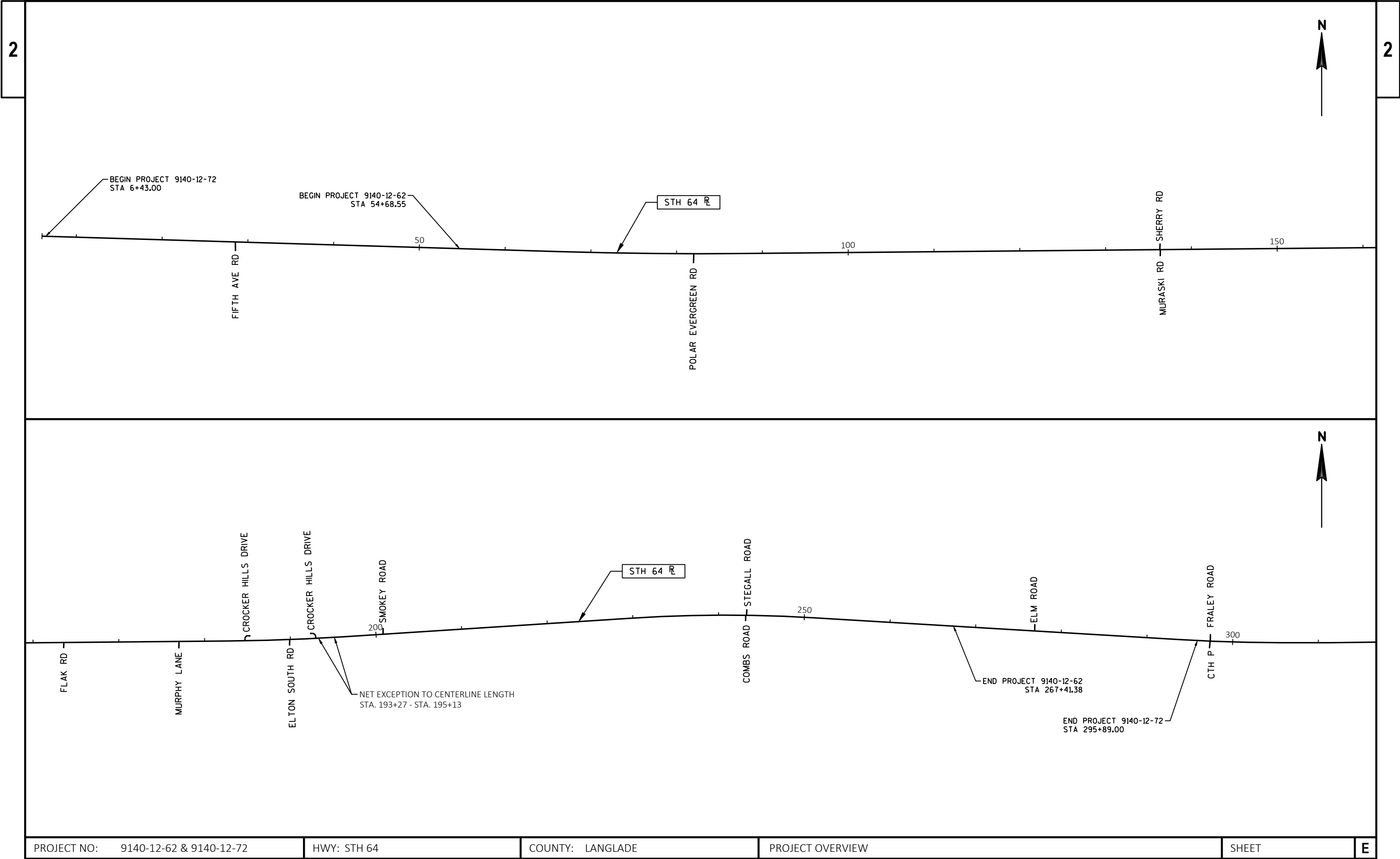
- 1. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- 2. ANY LOCAL OR MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
- 3. EXISTING RIGHT OF WAY SHOWN IS BASED OFF OF AS-BUILT PLANS.

AGENCY/PROJECT CONTACT

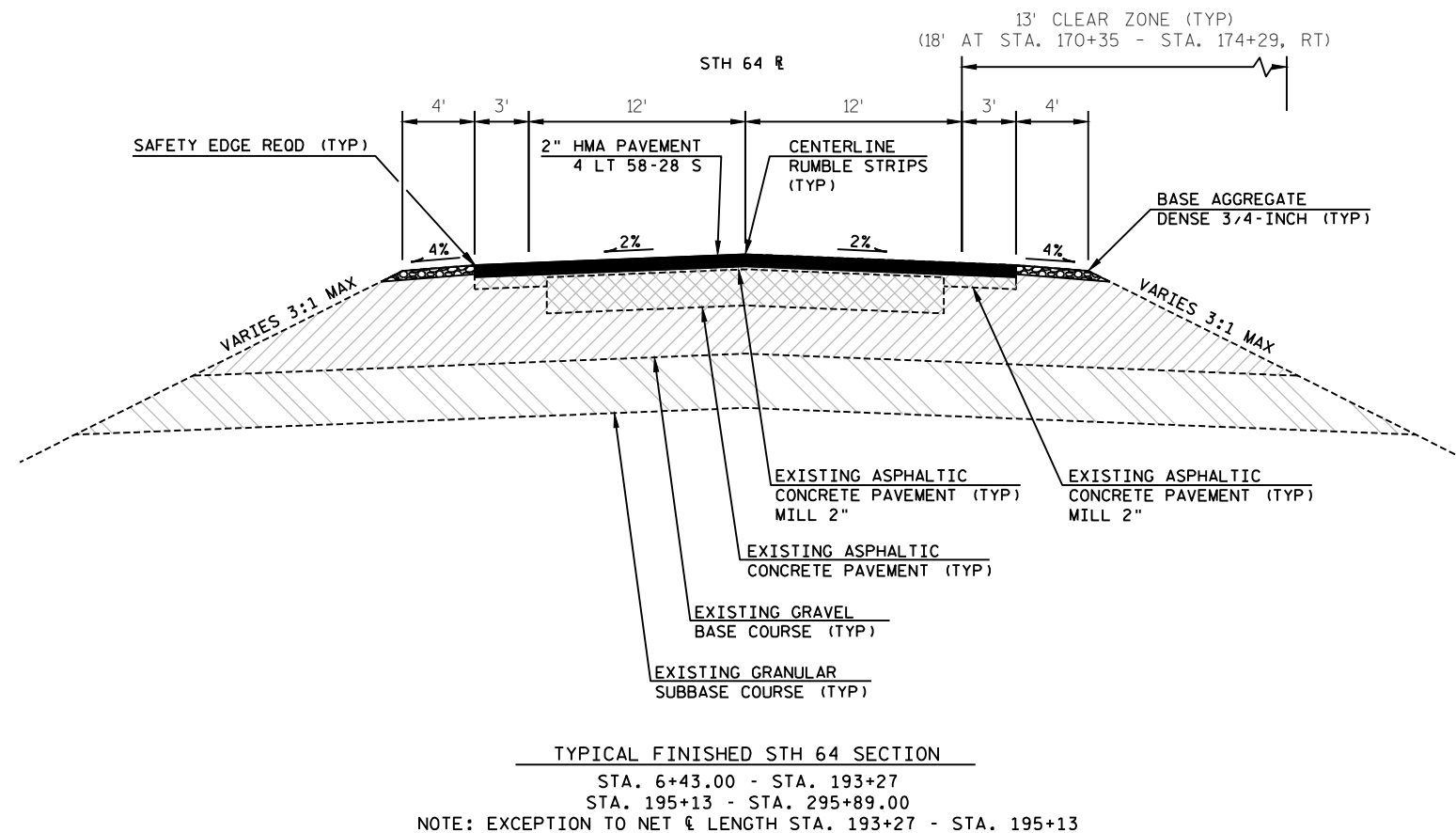
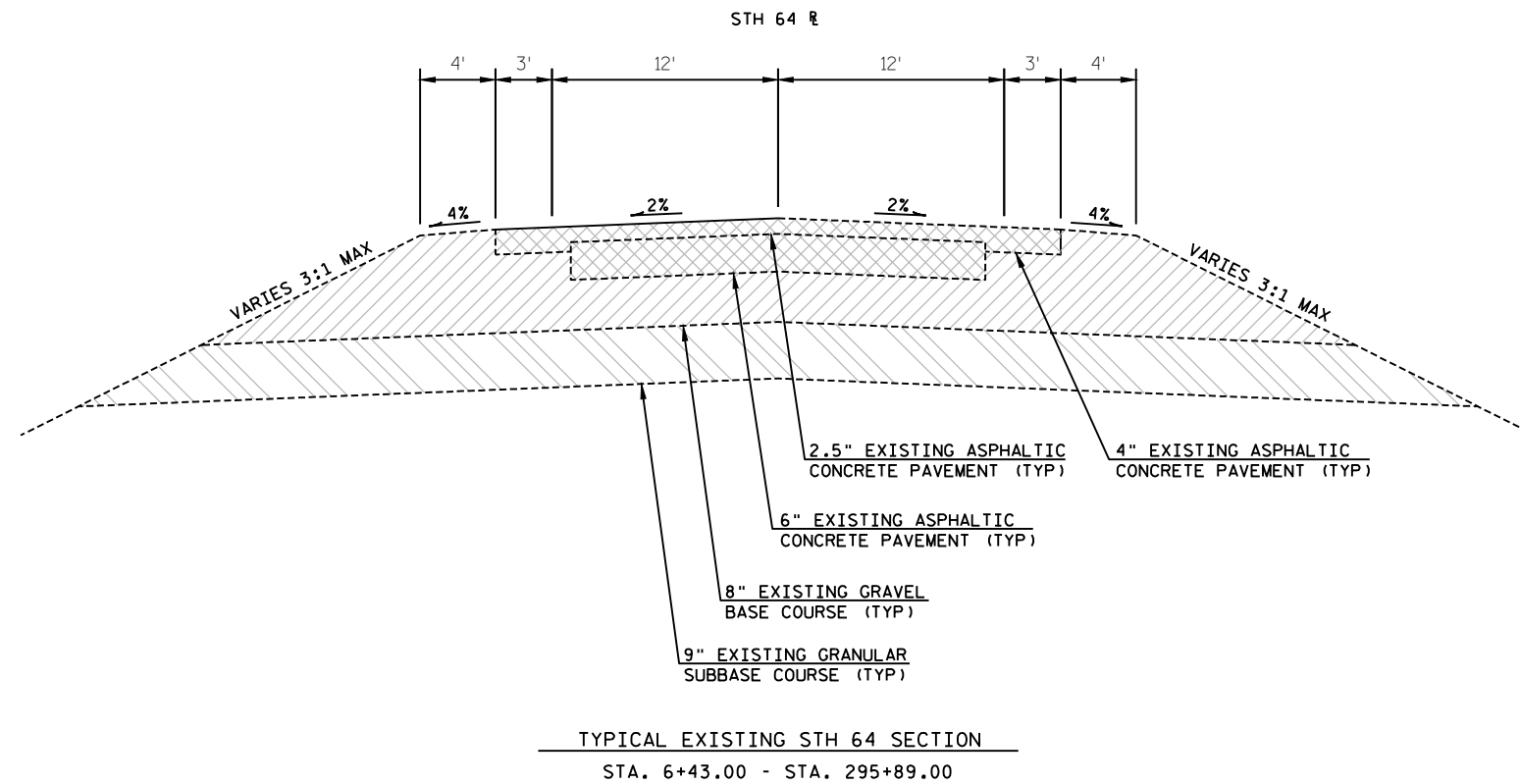
WISCONSIN DNR LIAISON
MS. WENDY HENNIGES
NORTHERN REGION
107 SUTLIFF AVENUE
RHINELANDER, WI 54501
(715) 365-8916
WENDY.HENNIGES@WISCONSIN.GOV

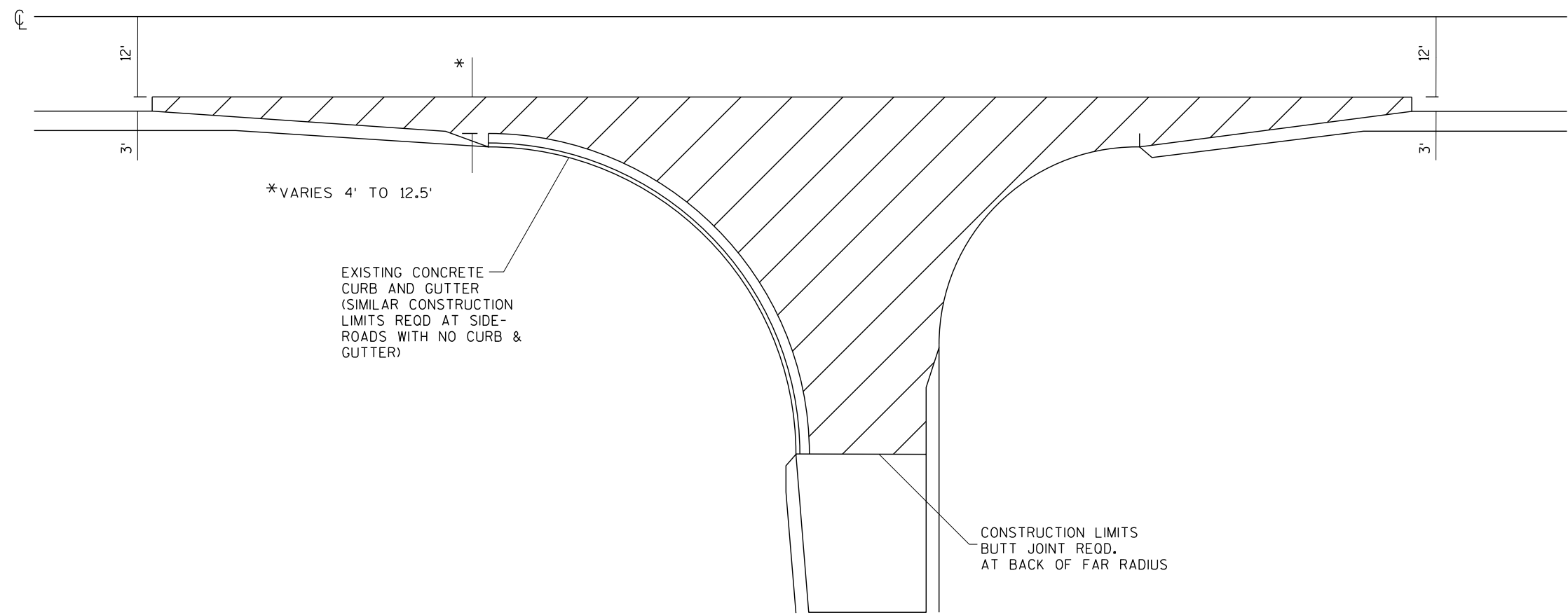
SEQUENCE OF PLANS AND DETAILS IN SECTION 2

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS
EROSION CONTROL PLAN

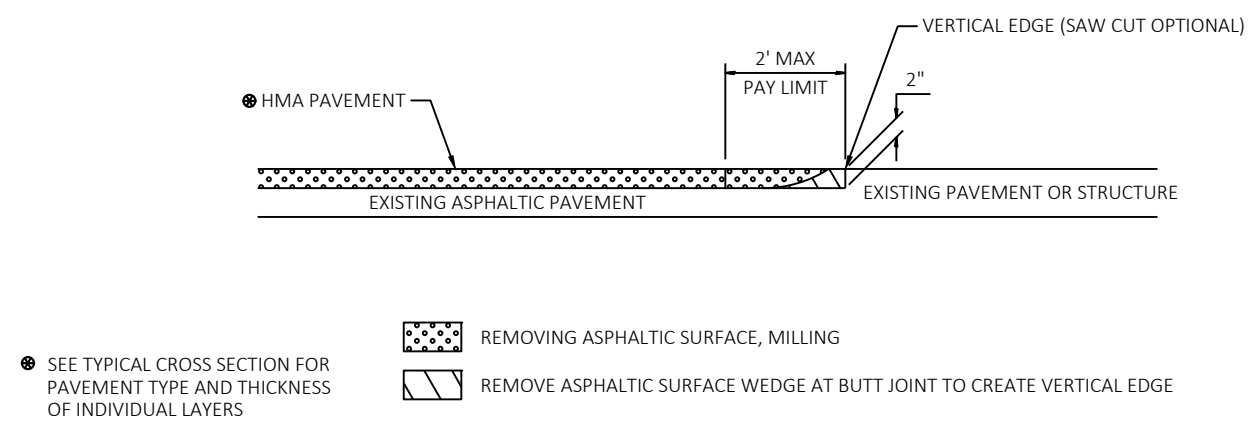


PROJECT NO: 9140-12-62 & 9140-12-72	HWY: STH 64	COUNTY: LANGLADE	PROJECT OVERVIEW	SHEET	E
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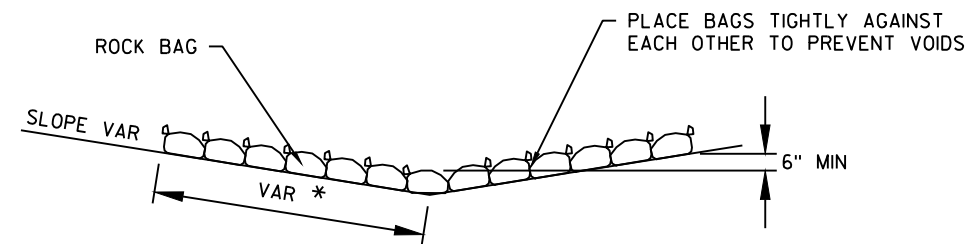




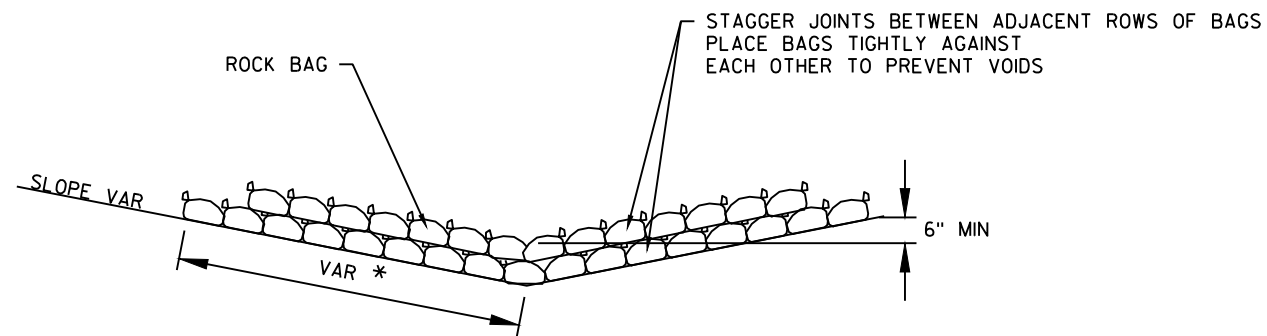
SIDE ROAD CONSTRUCTION LIMITS



BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)

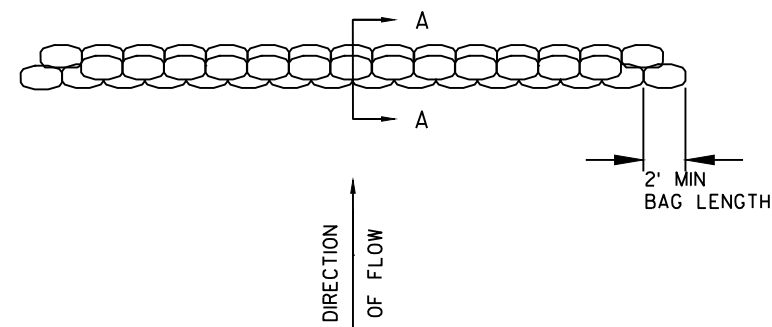


SIDE VIEW (SINGLE LAYER)

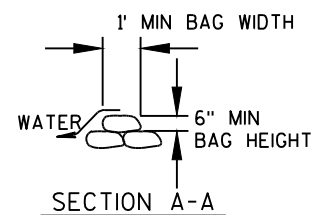


* LENGTH AND NUMBER OF BAGS MAY VARY
DEPENDING ON DESIRED DEPTH OF WATER POOL

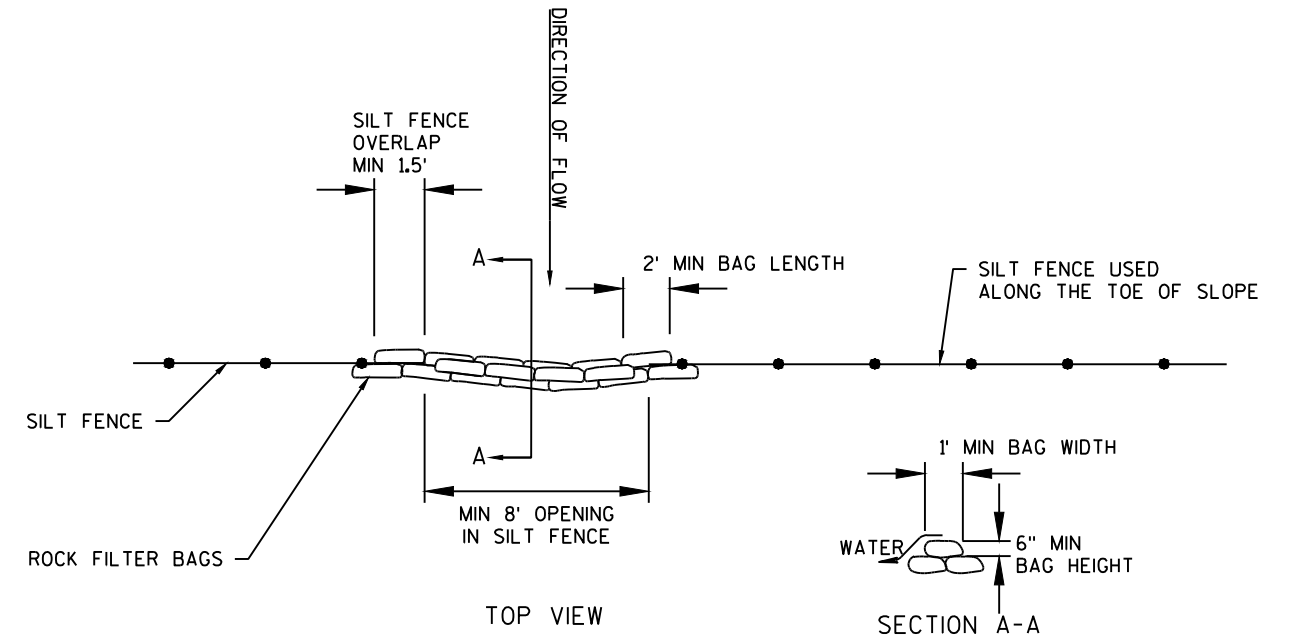
SIDE VIEW (MULTIPLE LAYER)



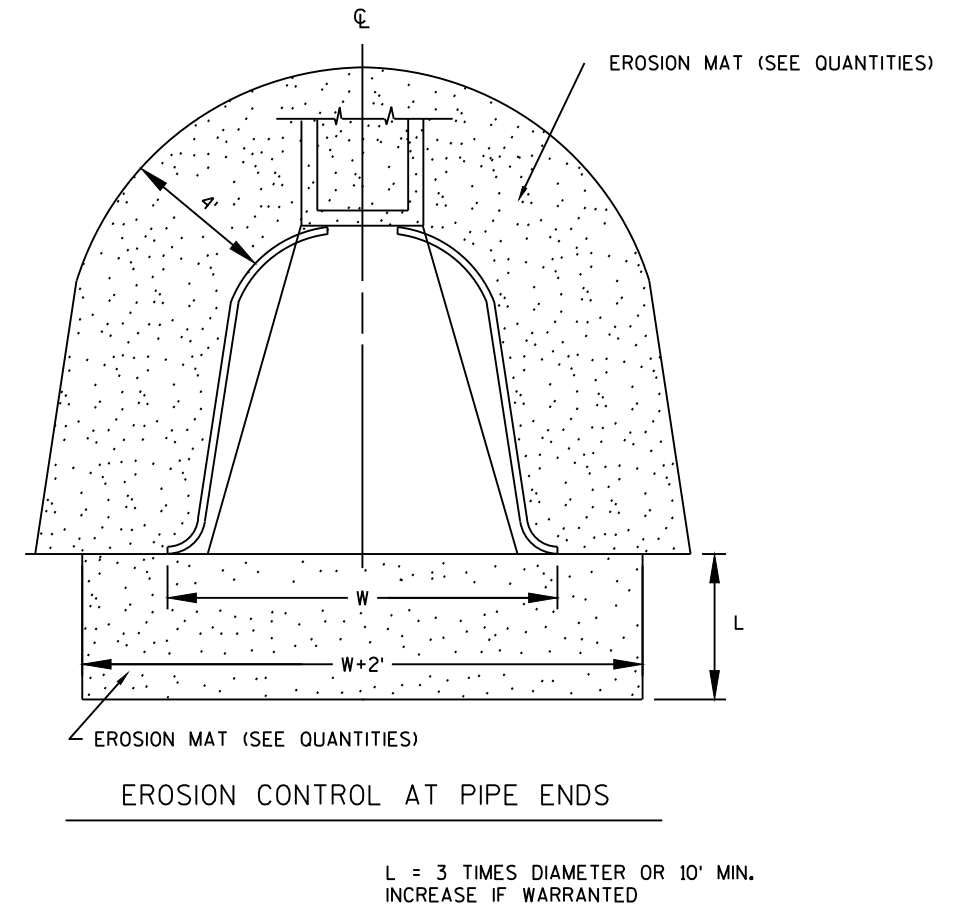
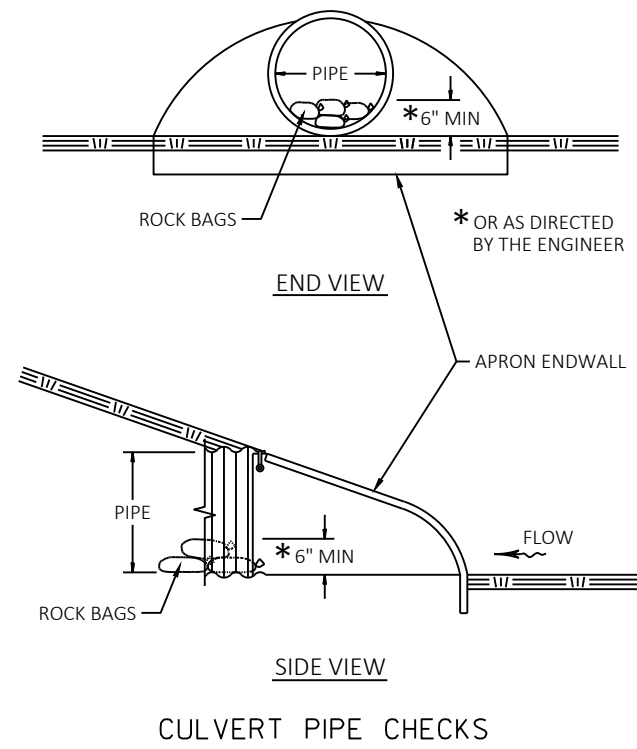
TOP VIEW (MULTIPLE LAYER)



ROCK BAGS USED FOR DITCH CHECKS



ROCK BAGS USED FOR SILT FENCE RELIEF

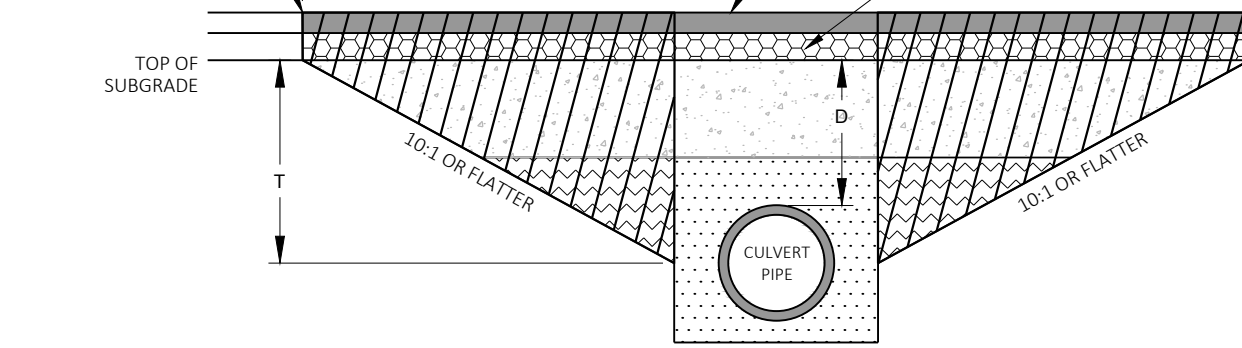


RUNOFF COEFFICIENT TABLE

	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	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP- TURF	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPE- TURF			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT :												
ASPHALT						.70 - .95						
CONCRETE						.80 - .95						
BRICK						.70 - .80						
DRIVES, WALKS						.75 - .85						
ROOFS						.75 - .95						
GRAVEL ROADS, SHOULDERS						.40 - .60						

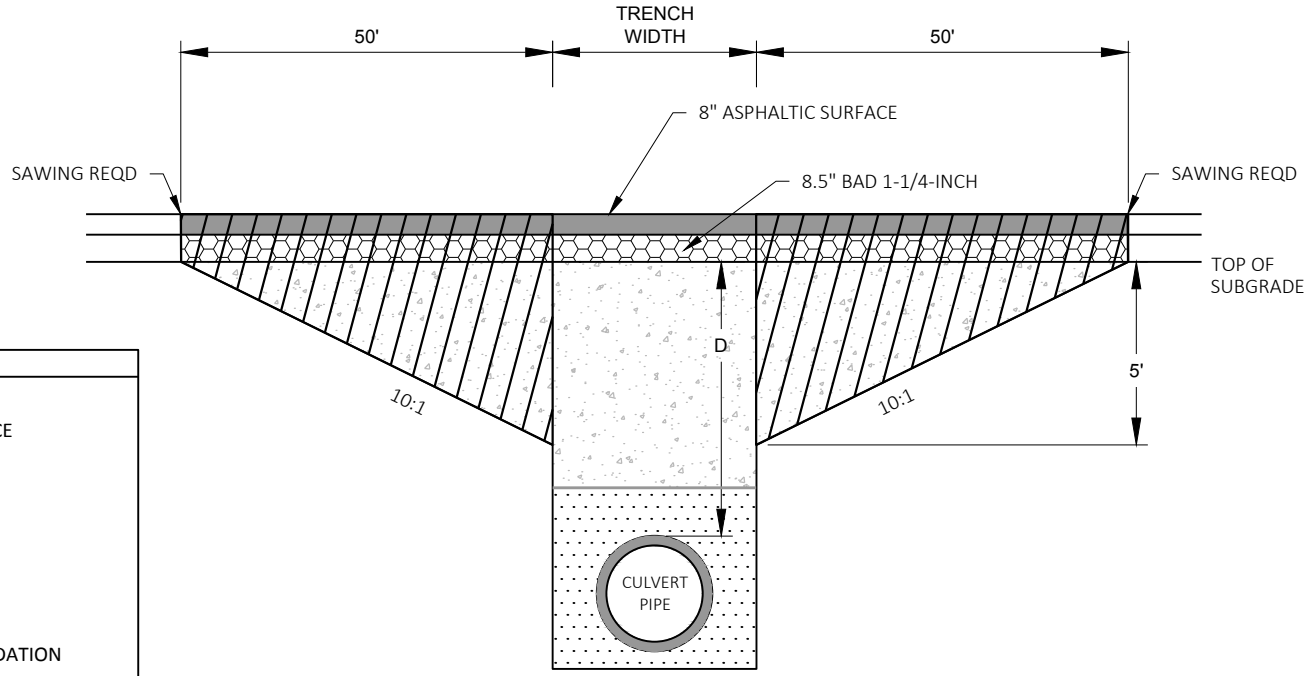
TOTAL PROJECT AREA = 1.36 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 126.39 ACRES

2



TRANSITION CUT DEPTH (T) = THE LESSER OF DEPTH TO CENTER OF PIPE OR 5 FT.
DO NOT EXTEND TRANSITION CUT BELOW HORIZONTAL CENTER OF PIPE.

DEPTH $D < 6$ FT



DEPTH $D \geq 6$ FT

NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON.

TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.

BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.

PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING.

CULVERT PIPE TRANSITION

ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)	REMARK
STH 64	56+79	6.2	30	
STH 64	70+61	13.6	30	
STH 64	264+94	11.0	30	

PROJECT NO: 9140-12-62 & 9140-12-72

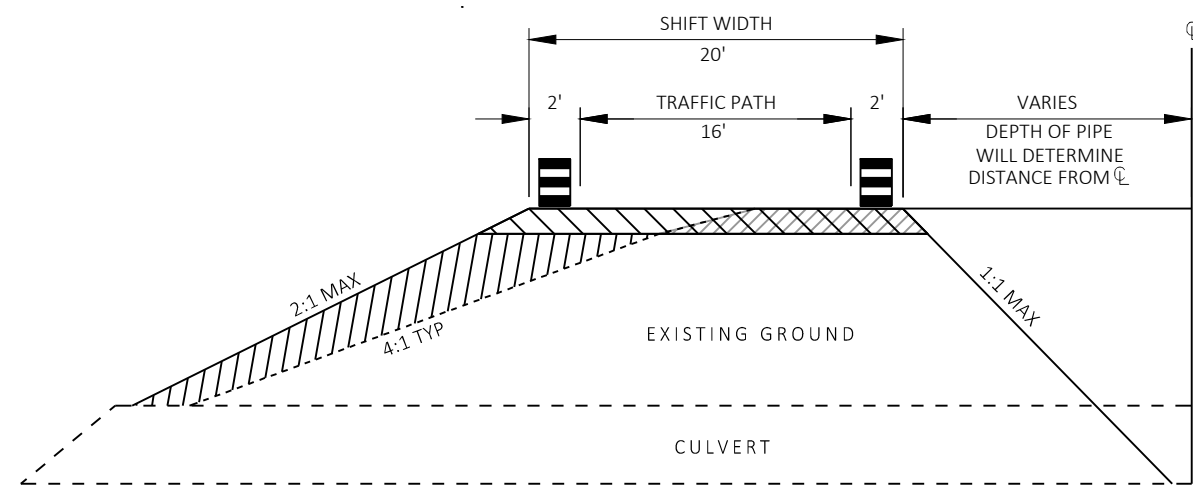
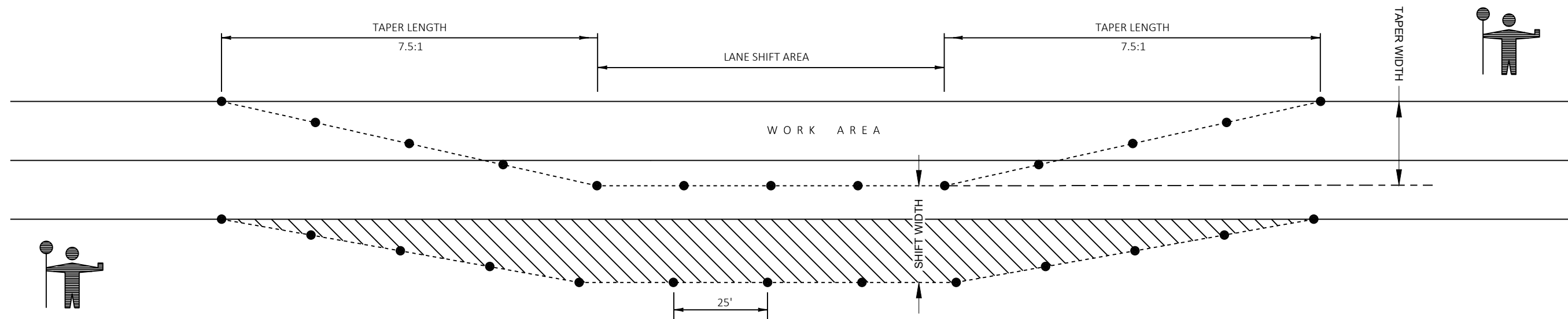
HWY: STH 64

COUNTY: LANGLADE

CONSTRUCTION DETAILS

SHEET

2

**LANE SHIFT DETAIL**

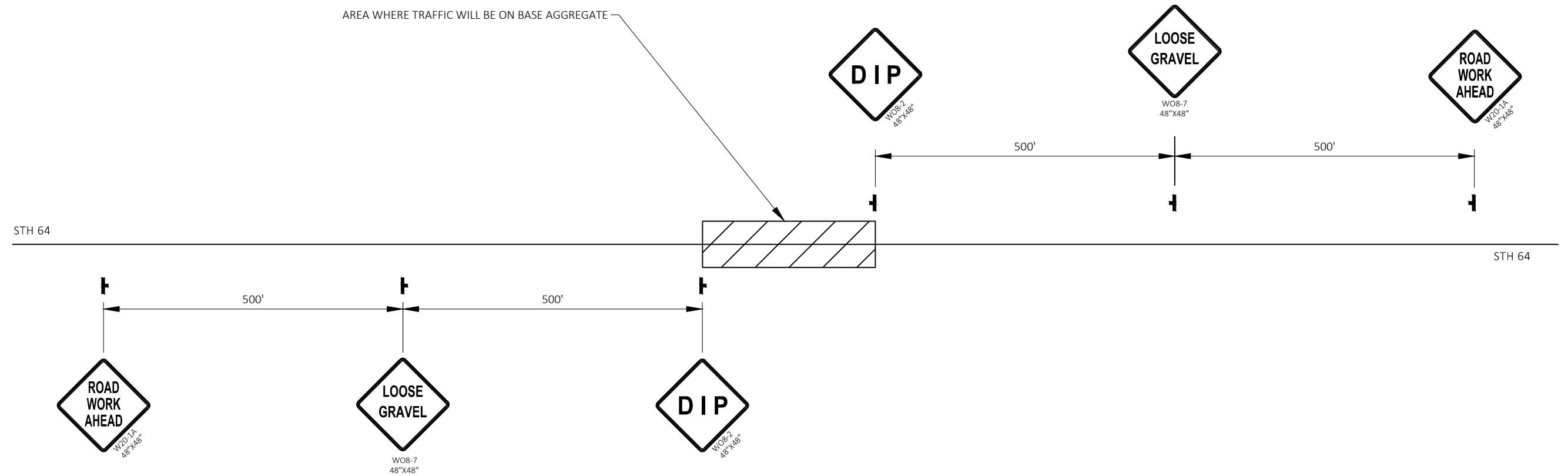
STA 54+69 TO STA 58+89
STA 67+96 TO STA 73+26
STA 262+47 TO 267+41

NOTES

1. USE WITH SDD TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS).
2. FLAGGERS ARE SPECIFIC TO THIS OPERATION.
3. THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.
4. ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO ORIGINAL CONFIGURATION.
5. CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED AWAY FROM TRAVEL LANE WHEN FLAGGING OPERATIONS ARE NOT IN USE.

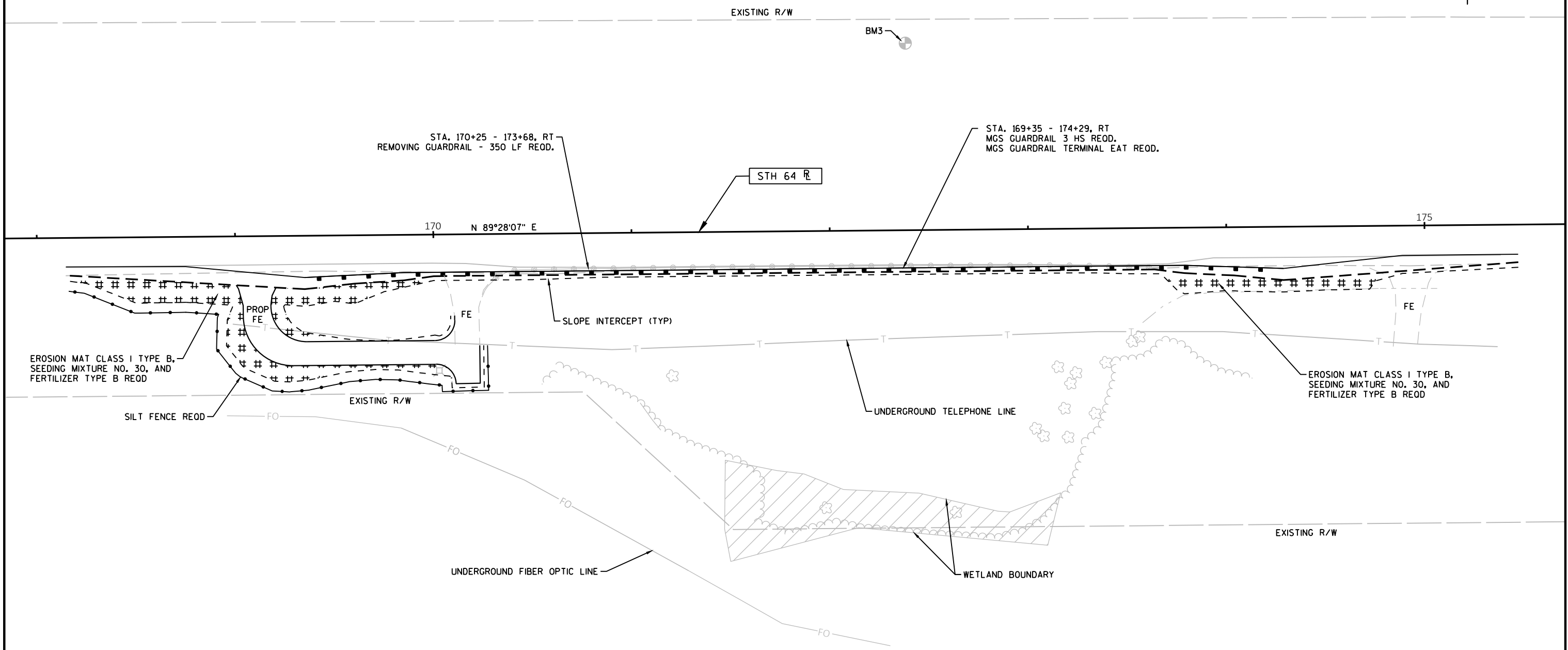
KEY

- TRAFFIC CONTROL DRUM
- ▨ FILL
-INCIDENTAL TO LANE SHIFT ITEM
- ▩ EXISTING PAVED SURFACE
OR
6" BASE AGGREGATE DENSE 1 1/4-INCH
-INCIDENTAL TO LANE SHIFT ITEM
- ▧ 6" BASE AGGREGATE DENSE 1 1/4-INCH
-INCIDENTAL TO LANE SHIFT ITEM

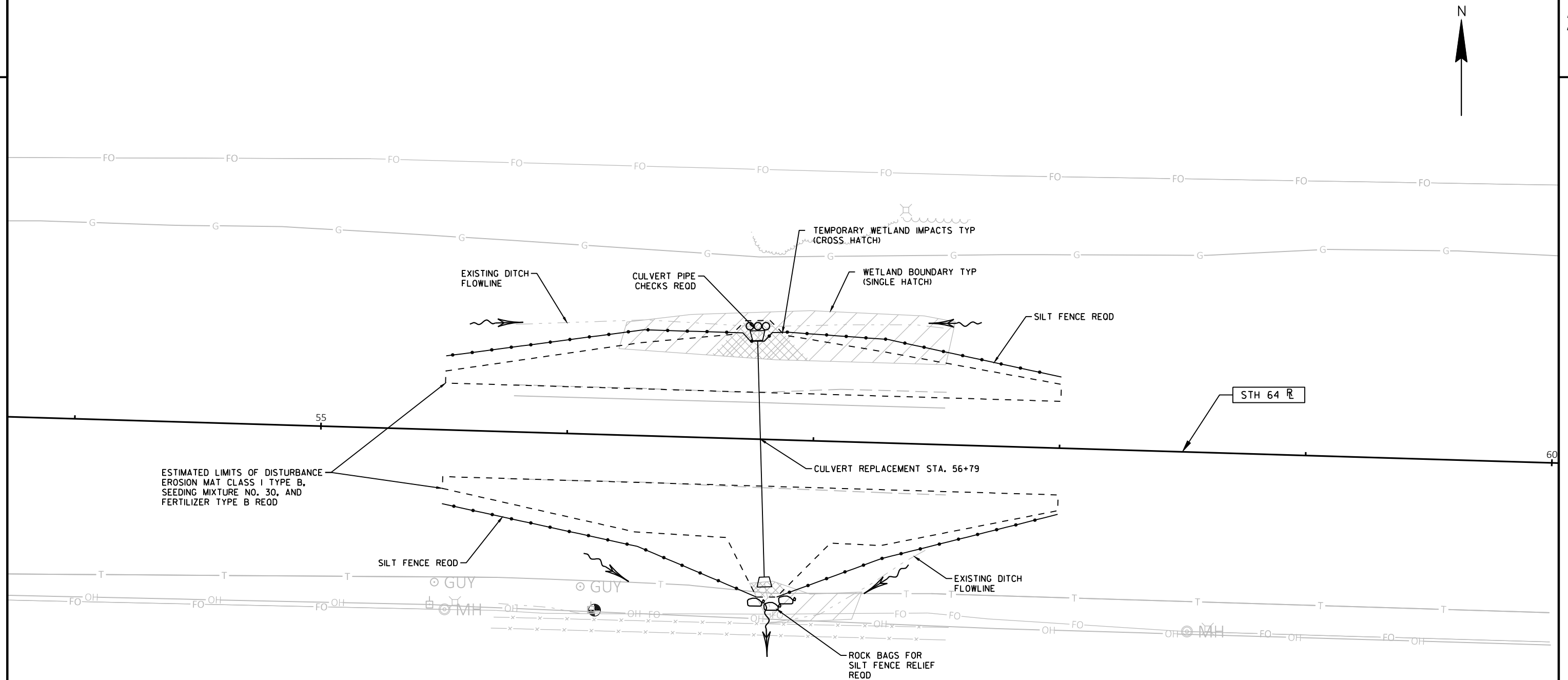


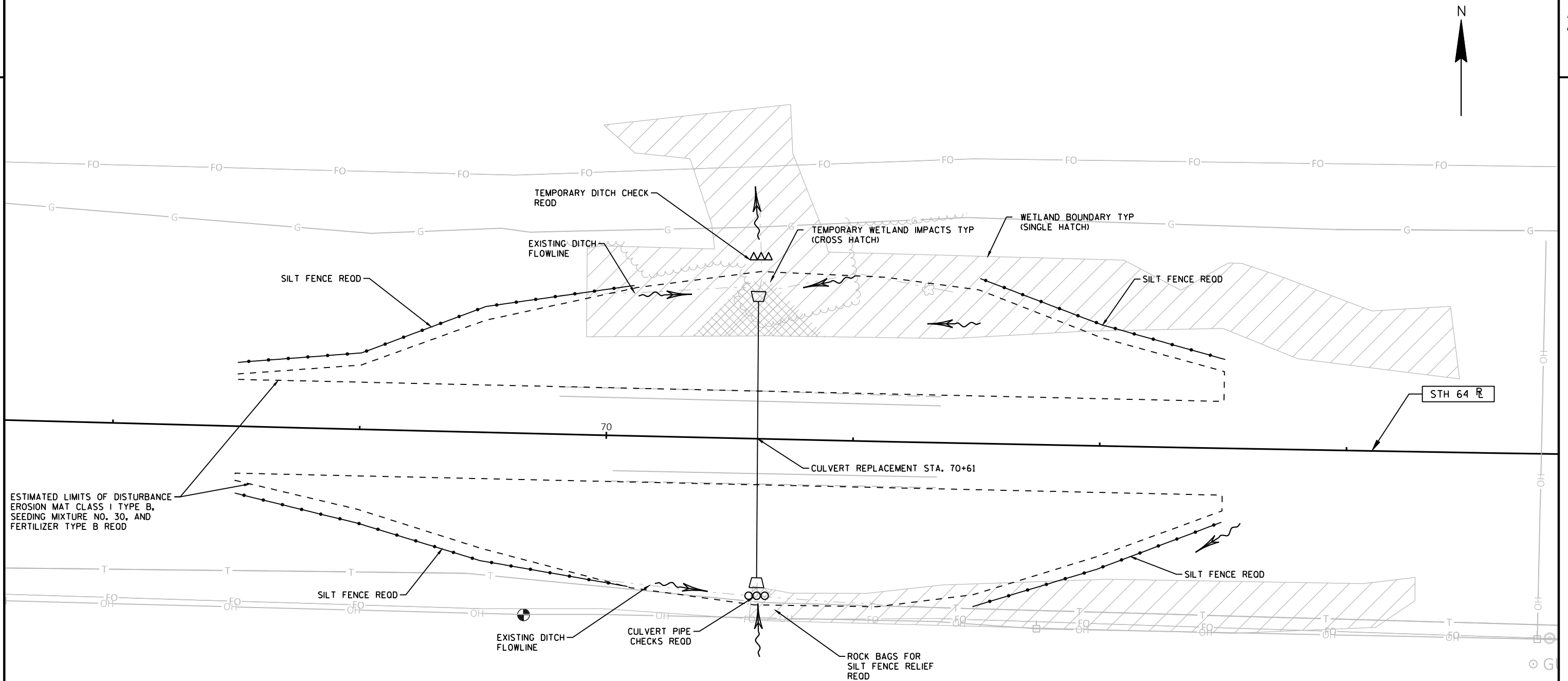
LOOSE GRAVEL SIGNING

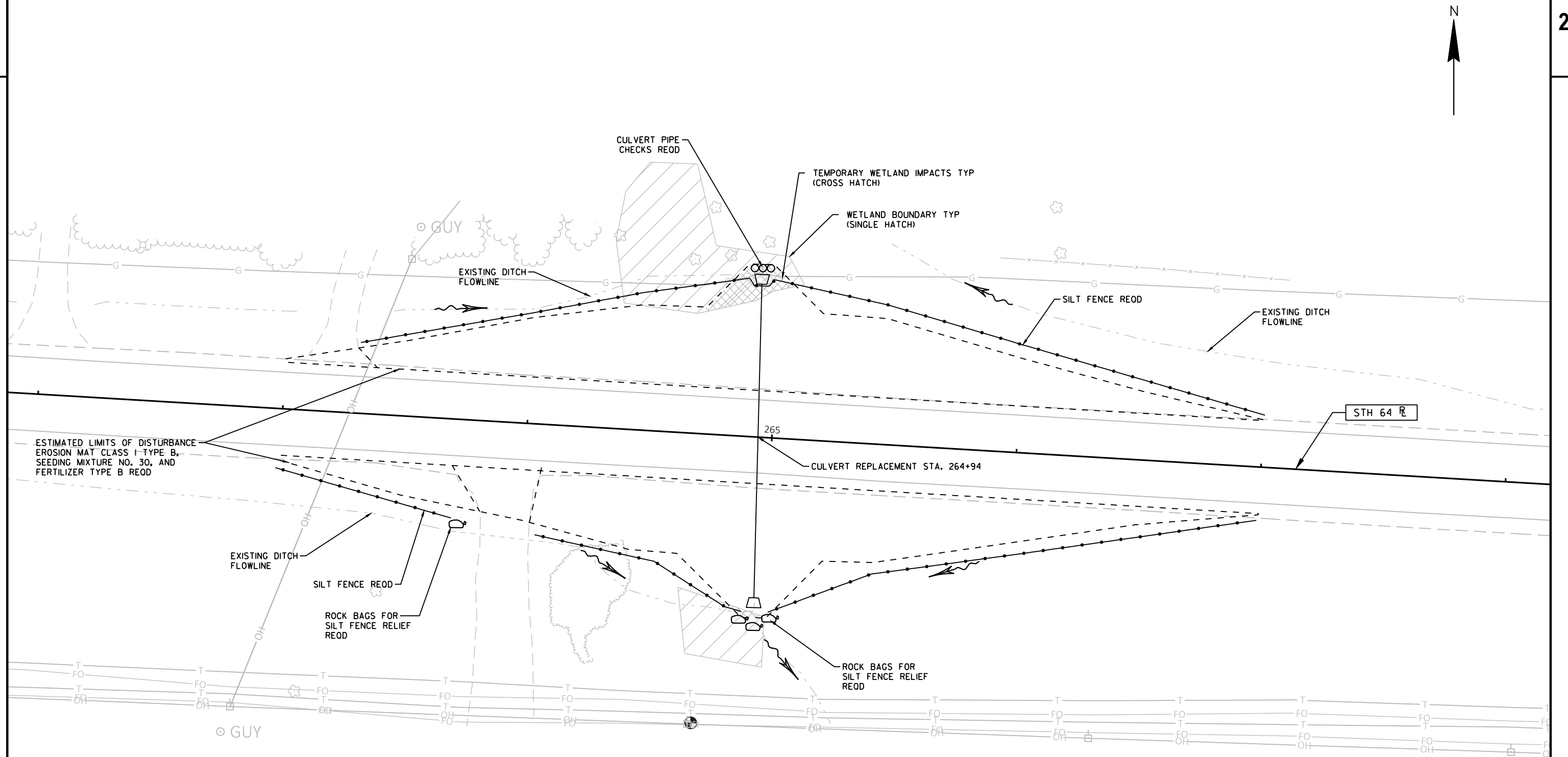
BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
3	172+39	60d NAIL IN PPOL (NO * ON PPOL)	1466.28



NOTE: EXISTING R/W IS APPROXIMATE







Estimate Of Quantities

		9140-12-62		9140-12-72		
Line	Item	Item Description	Unit	Total	Qty	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000	
0004	204.0115	Removing Asphaltic Surface Butt Joints	SY	100.000		100.000
0006	204.0120	Removing Asphaltic Surface Milling	SY	98,560.000		98,560.000
0008	204.0165	Removing Guardrail	LF	350.000		350.000
0010	205.0100	Excavation Common	CY	2,335.000	2,330.000	5.000
0012	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 9140-12-72	LS	1.000		1.000
0014	213.0100	Finishing Roadway (project) 01. 9140-12-62	EACH	1.000	1.000	
0016	213.0100	Finishing Roadway (project) 02. 9140-12-72	EACH	1.000		1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,230.000	120.000	1,110.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,210.000	1,125.000	85.000
0022	455.0605	Tack Coat	GAL	6,950.000		6,950.000
0024	460.2000	Incentive Density HMA Pavement	DOL	7,120.000		7,120.000
0026	460.4110.S	Reheating HMA Pavement Longitudinal Joints	LF	28,760.000		28,760.000
0028	460.5224	HMA Pavement 4 LT 58-28 S	TON	11,110.000		11,110.000
0030	465.0105	Asphaltic Surface	TON	510.000	510.000	
0032	465.0110	Asphaltic Surface Patching	TON	40.000		40.000
0034	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	22,400.000		22,400.000
0036	520.2030	Culvert Pipe Temporary 30-Inch	LF	24.000	24.000	
0038	522.0130	Culvert Pipe Reinforced Concrete Class III 30-Inch	LF	336.000	336.000	
0040	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	6.000	6.000	
0042	614.2330	MGS Guardrail 3 K	LF	387.500		387.500
0044	614.2610	MGS Guardrail Terminal EAT	EACH	2.000		2.000
0046	618.0100	Maintenance And Repair of Haul Roads (project) 01. 9140-12-62	EACH	1.000	1.000	
0048	618.0100	Maintenance And Repair of Haul Roads (project) 02. 9140-12-72	EACH	1.000		1.000
0050	619.1000	Mobilization	EACH	1.000	0.150	0.850
0052	624.0100	Water	MGAL	10.000	5.000	5.000
0054	625.0100	Topsoil	SY	6,590.000	6,095.000	495.000
0056	628.1504	Silt Fence	LF	2,300.000	2,000.000	300.000
0058	628.1520	Silt Fence Maintenance	LF	2,300.000	2,000.000	300.000
0060	628.1905	Mobilizations Erosion Control	EACH	5.000	3.000	2.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	1.000	1.000
0064	628.2004	Erosion Mat Class I Type B	SY	6,590.000	6,095.000	495.000
0066	628.7555	Culvert Pipe Checks	EACH	15.000	15.000	
0068	628.7570	Rock Bags	EACH	175.000	135.000	40.000
0070	629.0210	Fertilizer Type B	CWT	4.150	3.840	0.310
0072	630.0130	Seeding Mixture No. 30	LB	119.000	110.000	9.000
0074	633.5200	Markers Culvert End	EACH	6.000	6.000	

Estimate Of Quantities

		9140-12-62		9140-12-72		
Line	Item	Item Description	Unit	Total	Qty	Qty
0076	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	5.000		5.000
0078	638.2102	Moving Signs Type II	EACH	10.000		10.000
0080	638.4000	Moving Small Sign Supports	EACH	10.000		10.000
0082	642.5001	Field Office Type B	EACH	1.000	0.150	0.850
0084	643.0300	Traffic Control Drums	DAY	1,775.000	1,650.000	125.000
0086	643.0310.S	Temporary Portable Rumble Strips	LS	1.000	0.150	0.850
0088	643.0900	Traffic Control Signs	DAY	1,571.000	112.000	1,459.000
0090	643.1050	Traffic Control Signs PCMS	DAY	14.000		14.000
0092	643.5000	Traffic Control	EACH	1.000	0.150	0.850
0094	646.1020	Marking Line Epoxy 4-Inch	LF	21,850.000		21,850.000
0096	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	56,100.000		56,100.000
0098	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	21,850.000		21,850.000
0100	648.0100	Locating No-Passing Zones	MI	5.450		5.450
0102	649.0105	Temporary Marking Line Paint 4-Inch	LF	17,570.000		17,570.000
0104	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000	
0106	650.8000	Construction Staking Resurfacing Reference	LF	28,946.000		28,946.000
0108	650.9910	Construction Staking Supplemental Control (project) 01. 9140-12-62	LS	1.000	1.000	
0110	650.9910	Construction Staking Supplemental Control (project) 02. 9140-12-72	LS	1.000		1.000
0112	650.9920	Construction Staking Slope Stakes	LF	730.000		730.000
0114	690.0150	Sawing Asphalt	LF	180.000	180.000	
0116	740.0440	Incentive IRI Ride	DOL	21,532.000		21,532.000
0118	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000	
0120	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000	
0122	SPV.0060	Special 01. Lane Shift	EACH	6.000	6.000	

REMOVING SMALL PIPE CULVERTS						
203.0100						
ID	CATEGORY	STATION	LOCATION	EACH	REMARKS	
PROJECT 9140-12-62						
0010		56+79	STH 64	1	30" CSCP - 94 LF	
0010		70+61	STH 64	1	30" CSCP - 112 LF	
0010		264+94	STH 64	1	30" CSCP - 126 LF	
TOTAL				3		

REMOVING ASPHALTIC SURFACE BUTT JOINTS					
204.0115					
ID	CATEGORY	STATION	LOCATION	SY	REMARKS
PROJECT 9140-12-72					
0010		6+43	STH 64	7	BOP
0010		28+54	FIFTH AVE ROAD	7	
0010		81+99	POLAR EVERGREEN ROAD	4	
0010		136+32	SHERRY ROAD	5	
0010		136+38	MURASKI ROAD	6	
0010		163+60	FLAK ROAD	4	
0010		177+02	MURPHY LANE	5	
0010		184+71	CROCKER HILLS DRIVE (W)	10	
0010		189+92	ELTON SOUTH ROAD	5	
0010		192+98	CROCKER HILLS DRIVE (E)	6	
0010		200+83	SMOKEY ROAD	4	
0010		243+17	COMBS ROAD	5	
0010		243+26	STEGALL ROAD	4	
0010		276+88	ELM ROAD	5	
0010		295+89	STH 64	7	EOP
0010		193+27	STH 64	9	NET EXCEPTION TO CL LENGTH
0010		195+13	STH 64	7	NET EXCEPTION TO CL LENGTH
TOTAL				100	

REMOVING ASPHALTIC SURFACE MILLING							
							204.0120
ID	CATEGORY	STATION	TO	STATION	LOCATION	SY	REMARKS
Project 9140-12-72							
0010		6+43	-	28+54	STH 64	7,370	
0010		28+54	-	81+99	STH 64	17,820	
0010		81+99	-	136+32	STH 64	18,110	
0010		136+32	-	163+60	STH 64	9,095	
0010		163+60	-	169+75	STH 64	2,050	
0010		169+75	-	174+39	STH 64	1,650	
0010		174+39	-	177+02	STH 64	875	
0010		177+02	-	184+71	STH 64	2,565	
0010		184+71	-	189+92	STH 64	1,830	
0010		189+92	-	192+98	STH 64	1,065	
0010		192+98	-	193+27	STH 64	100	
0010		195+13	-	200+83	STH 64	1,900	
0010		200+83	-	243+17	STH 64	14,115	
0010		243+17	-	276+88	STH 64	11,240	
0010		276+88	-	295+89	STH 64	6,335	
0010		FIFTH AVE ROAD				360	
0010		POLAR EVERGREEN ROAD				205	
0010		SHERRY ROAD				165	
0010		MURASKI ROAD				225	
0010		FLAK ROAD				230	
0010		MURPHY LANE				195	
0010		CROCKER HILLS DRIVE (w)				120	
0010		ELTON SOUTH ROAD				250	
0010		CROCKER HILLS DRIVE (E)				45	
0010		SMOKEY ROAD				170	
0010		COMBS ROAD				250	
0010		STEGALL ROAD				90	
0010		ELM ROAD				135	
TOTAL						98,560	

REMOVING GUARDRAIL						
204.0165						
ID	CATEGORY	STATION	TO	STATION	LOCATION	LF
PROJECT 9140-12-72						
0010		170+24	-	173+68	RT	350
TOTAL						350

CATEGORY	DIVISION	Location	Excavation Common (1) Item # 205.0100		Salvaged / Unusable Material	Available Material (4)	Unexpanded Fill	Expanded Fill (5)	Mass Ordinate + / - (6)	Comment:
			Cut (2)	EBS Excava tion (3)				Factor 1.30		
0010	1 PROJECT 9140-12-62	CULVERT PIPE TRANSITION - STA. 56+26 - 57+32	790	0	0	790	0	0	790	
		CULVERT PIPE TRANSITION - STA. 70+08 - 71+14	755	0	0	755	0	0	755	
		CULVERT PIPE TRANSITION - STA. 264+41 - 265+47	785	0	0	785	0	0	785	
PROJECT 9140-12-62 TOTAL			2,330	0	0	2,330	0	0	2,330	
0010	2 PROJECT 9140-12-72	BEAM GUARD - STA. 168+17 - 175+47	5	0	0	5	160	208	-203	
PROJECT 9140-12-72 TOTAL			5	0	0	5	160	208	-203	
TOTALS			2,335	0	0	2,335		208	2,127	
Total Common Ex 2,335										

- 1) Excavation Common is the sum of the Cut and EBS Excavation columns. Item number 205.0100
- 2) Salvaged/Unsuable Material is included in Cut. Volume of concrete pavement to be removed is included in salvaged/unusable material.
- 4) Available Material = Cut - Salvaged/Unusuable Material
- 5) Expanded Fill Factor = 1.30 Expanded Fill = Unexpanded Fill * Fill Factor. No Rock, Marsh, or EBS will be used in fill on this project.
- 6) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

PREPARE FOUNDATION FOR ASPHALTIC PAVING						
						211.0100
ID	CATEGORY	STATION	TO	STATION	LOCATION	LS
PROJECT 9140-12-72						
0010		6+43	-	295+89	LT & RT	1
TOTAL						1

BASE AGGREGATE DENSE								
					305.0110	305.0120		
					3/4-INCH	1 1/4-INCH		
ID	CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	REMARKS
PROJECT 9140-12-62								
0010		56+26	-	57+32	STH 64, RT & LT	40	375	
0010		70+08	-	71+14	STH 64, RT & LT	40	375	
0010		264+41	-	265+47	STH 64, RT & LT	40	375	
PROJECT TOTALS						120	1,125	
PROJECT 9140-12-72								
0010		6+43	-	295+89	STH 64, RT	550	85	BAD 1 1/4-INCH FOR REALIGNED FIELD ENTRANCE
0010		6+43	-	295+89	STH 64, LT	560	---	
PROJECT TOTALS						1,110	85	
TOTALS						1,230	1,210	

HMA PAVEMENT SUMMARY									
		455.0605		460.5224		460.4110.S			
						HMA PAVEMENT		REHEATING HMA	
				TACK COAT		4 LT 58-28 S		PAVEMENT LONG.	
ID	CATEGORY	STATION	TO	STATION	LOCATION	GAL	TON	LF	REMARKS
PROJECT 9140-12-72									
0010		6+43	-	28+54	STH 64	520	830	2,211	
0010		28+54	-	81+99	STH 55	1,250	2,000	5,345	
0010		81+99	-	136+32	STH 64	1,270	2,035	5,433	
0010		136+32	-	163+60	STH 64	640	1,020	2,728	
0010		163+60	-	169+75	STH 64	145	235	615	
0010		169+75	-	174+39	STH 64	125	200	464	
0010		174+39	-	177+02	STH 64	65	100	263	
0010		177+02	-	184+71	STH 64	180	290	769	
0010		184+71	-	189+92	STH 64	125	200	521	
0010		189+92	-	192+98	STH 64	75	120	306	
0010		192+98	-	193+27	STH 64	10	15	29	
0010		195+13	-	200+83	STH 64	135	215	570	
0010		200+83	-	243+17	STH 64	990	1,580	4,234	
0010		243+17	-	276+88	STH 64	790	1,260	3,371	
0010		276+88	-	295+89	STH 64	445	710	1,901	
0010	FIFTH AVE ROAD					25	40	0	
0010	POLAR EVERGREEN ROAD					15	25	0	
0010	SHERRY ROAD					10	20	0	
0010	MURASKI ROAD					15	25	0	
0010	FLAK ROAD					15	30	0	
0010	MURPHY LANE					15	20	0	
0010	CROCKER HILLS DRIVE (W)					10	15	0	
0010	CROCKER HILLS (ADDITIONAL)					5	5	0	
0010	CROCKER HILLS (ADDITIONAL)					5	10	0	
0010	ELTON SOUTH ROAD					20	30	0	
0010	CROCKER HILLS DRIVE (E)					5	5	0	
0010	SMOKEY ROAD					10	20	0	
0010	COMBS ROAD					20	30	0	
0010	STEGALL ROAD					5	10	0	
0010	ELM ROAD					10	15	0	
TOTALS						6,950	11,110	28,760	

ASPHALT SURFACE SUMMARY								
						465.0105	465.0110	
							ASPHALTIC	
						ASPHALTIC	SURFACE	
						SURFACE	PATCHING	
ID	CATEGORY	STATION	TO	STATION	LOCATION	TON	TON	REMARKS
PROJECT 9140-12-62								
0010		56+26	-	57+32	STH 64	170	---	
0010		70+08	-	71+14	STH 64	170	---	
0010		264+41	-	265+47	STH 64	170	---	
PROJECT TOTALS						510	0	
PROJECT 9140-12-72								
0010		UNDISTRIBUTED			STH 64	---	40	
PROJECT TOTALS						0	40	
TOTALS						510	40	

ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL						
					465.0475	
ID	CATEGORY	STATION TO	STATION	LOCATION	LF	REMARKS
PROJECT 9140-12-72						
0010		6+43	-	26+54	STH 64	2,011
0010		30+50	-	79+99	STH 64	4,945
0010		83+99	-	134+32	STH 64	5,033
0010		138+38	-	161+60	STH 64	2,322
0010		165+60	-	175+02	STH 64	942
0010		212+80	-	222+90	STH 64	1,010
0010		224+90	-	241+17	STH 64	1,627
0010		245+26	-	274+88	STH 64	2,962
0010		278+88	-	294+36	STH 64	1,548
TOTALS					22,400	

GUARDRAIL SUMMARY								
					614.2330	614.2610		
					MGS GUARDRAIL	MGS GUARDRAIL		
					3 K	TERMINAL EAT		
ID	CATEGORY	STATION	TO	STATION	LOCATION	LF	EACH	REMARKS
PROJECT 9140-12-72								
0010		169+35	-	174+29	STH 64, RT	387.50	2	
TOTALS						387.5	2	

CULVERT PIPES													
				520.2030*	522.0130	522.1030	633.5200	650.6000					
				CULVERT PIPE		APRON ENDWALLS							
				REINFORCED		FOR CULVERT PIPE			CONSTRUCTION				
				CULVERT PIPE	CONCRETE 30-INCH	REINFORCED	MARKERS	STAKING					
				TEMPORARY 30-INCH	CLASS III	CONCRETE 30-INCH	CULVERT END	PIPE CULVERTS	INLET INVERT**		OUTLET INVERT**		
ID	CATEGORY	STATION	LOCATION	LF	LF	EACH	EACH	EACH	OFFSET	ELEV.	OFFSET	ELEV.	REMARKS
PROJECT 9140-12-62													
0010		56+79	STH 64	---	96	2	2	1	45.8', LT	1460.72	61.8, RT	1457.33	
0010		70+61	STH 64	24	112	2	2	1	62.1', RT	1454.43	61.5' . LT	1453.91	
0010		264+94	STH 64	---	128	2	2	1	68.2', LT	1371.06	71.5', RT	1370.45	
TOTAL				24	336	6	6	3					
*-TEMPORARY CULVERT PIPES NEEDED DURING LANE SHIFTS													
**-OFFSET & ELEVATION REFERENCED TO THE END OF CULVERT ENDWALL													

WATER				
624.0100 WATER				
ID	CATEGORY	LOCATION	MGAL	REMARKS
PROJECT 9140-12-62				
	0010	STH 64	5	UNDISTRIBUTED - FOR AGGREGATE COMPACTION
PROJECT TOTAL			5	
PROJECT 9140-12-72				
	0010	STH 64	5	UNDISTRIBUTED - FOR AGGREGATE COMPACTION
PROJECT TOTAL			5	
TOTAL			10	

FINISHING										
						625.0100	628.2004	629.0210	630.0130	
							EROSION MAT		SEEDING	
							CLASS I	FERTILIZER	MIXTURE	
						TOPSOIL	TYPE B	TYPE B	NO. 30	
ID	CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	CWT	LB	REMARKS
PROJECT 9140-12-62										
0010		55+50	-	58+00	STH 64, LT & RT	975	975	0.62	17.6	
0010		68+50	-	72+50	STH 64, LT & RT	2,750	2,750	1.73	49.4	
0010		263+50	-	266+50	STH 64, LT & RT	1,815	1,815	1.14	32.7	
0010		UNDISTRIBUTED			STH 64, LT & RT	555	555	0.35	10.3	
PROJECT TOTALS						6,095	6,095	3.84	110	
PROJECT 9140-12-72										
0010		168+17	-	175+47	STH 64, RT	450	450	0.28	8.1	
0010		UNDISTRIBUTED			STH 64, RT	45	45	0.03	0.9	
PROJECT TOTALS						495	495	0.31	9.0	
TOTALS						6,590	6,590	4.15	119	

EROSION CONTROL												
						628.1504	628.1520	628.1905	628.1910	628.7555	628.7570	
						MOBILIZATIONS						
						SILT	SILT	MOBILIZATIONS	EMERGENCY	CULVERT		
						FENCE	FENCE	EROSION	EROSION	PIPE	ROCK	
						MAINTENANCE	MAINTENANCE	CONTROL	CONTROL	CHECKS	BAGS	
ID	CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	EACH	EACH	EACH	EACH	REMARKS
PROJECT 9140-12-62												
	0010	55+50	-	58+00	STH 64, LT & RT	515	515	---	---	5	40	
	0010	68+50	-	70+10	STH 64, LT & RT	330	330	---	---	5	20	
	0010	71+50	-	72+50	STH 64, LT & RT	210	210	---	---	5	20	
	0010	263+50	-	266+50	STH 64, LT & RT	765	765	---	---	---	40	
	0010	UNDISTRIBUTED			STH 64, LT & RT	180	180	3	1	---	15	
PROJECT TOTALS						2,000	2,000	3	1	15	135	
PROJECT 9140-12-72												
	0010	170+00	-	174+00	STH 64, RT	270	270	---	---	---	30	
	0010	DISTRIBUTED			STH 64, RT	30	30	2	1	---	10	
PROJECT TOTALS						300	300	2	1	0	40	
TOTALS						2,300	2,300	5	2	15	175	

PERMANENT SIGNING SUMMARY						
634.0614 638.2102 638.4000						
POSTS WOOD MOVING SIGNS MOVING SMALL						
4X6-INCH X 14-FT TYPE II SIGN SUPPORTS						
ID	CATEGORY	LOCATION	EACH	EACH	EACH	REMARKS
PROJECT 9140-12-72						
0010		UNDISTRIBUTED	5	10	10	
TOTALS			5	10	10	

TRAFFIC CONTROL SUMMARY									
				643.0300		643.0900		643.1050	
				TRAFFIC CONTROL		TRAFFIC CONTROL		TRAFFIC CONTROL	
				DRUMS		SIGNS		SIGNS	
				PCMS					
ID	CATEGORY	LOCATION	APPROX. SERVICE DAYS	NO IN SERVICE	DAYS	NO IN SERVICE	DAYS	NO IN SERVICE	DAYS
PROJECT 9140-12-62									
0010		LANE SHIFTS	6	130	780	12	72	---	---
0010		DELINEATING ROADWAY WITH LANE SHIFTS CONSTRUCTED	10	60	600	---	---	---	---
0010		DROP OFF WARNING	6	---	---	4	24	---	---
0010		SHOULDER CLOSURES	6	20	120	1	6	---	---
0010		UNDISTRIBUTED	10	15	150	1	10	---	---
PROJECT TOTALS			1,650		112		0		
PROJECT 9140-12-72									
0010		STH 64 ADVANCED WARNING	60	---	---	10	600	2	14
0010		SIDEROAD ADVANCED WARNING	60	---	---	13	780	---	---
0010		DROP OFF WARNING	12	---	---	2	24	---	---
0010		SHOULDER CLOSURES	5	20	100	1	5	---	---
0010		UNDISTRIBUTED	5	5	25	10	50	---	---
PROJECT TOTALS			125		1,459		14		
TOTALS			1,775		1,571		14		
NOTE: INSTALL TRAFFIC CONTROL SIGNS PCMS NEAR THE PROJECT LIMITS FOR 7 DAYS IN ADVANCE OF CONSTRUCTION OPERATIONS TO NOTIFY THE TRAVELING PUBLIC									

TEMPORARY PORTABLE RUMBLE STRIPS				
				634.0310.S
ID	CATEGORY	LOCATION		LS
PROJECT 9140-12-62				
0010		STH 64		0.15
PROJECT TOTAL				0.15
PROJECT 9140-12-72				
0010		STH 64		0.85
PROJECT TOTAL				0.85
TOTAL				1

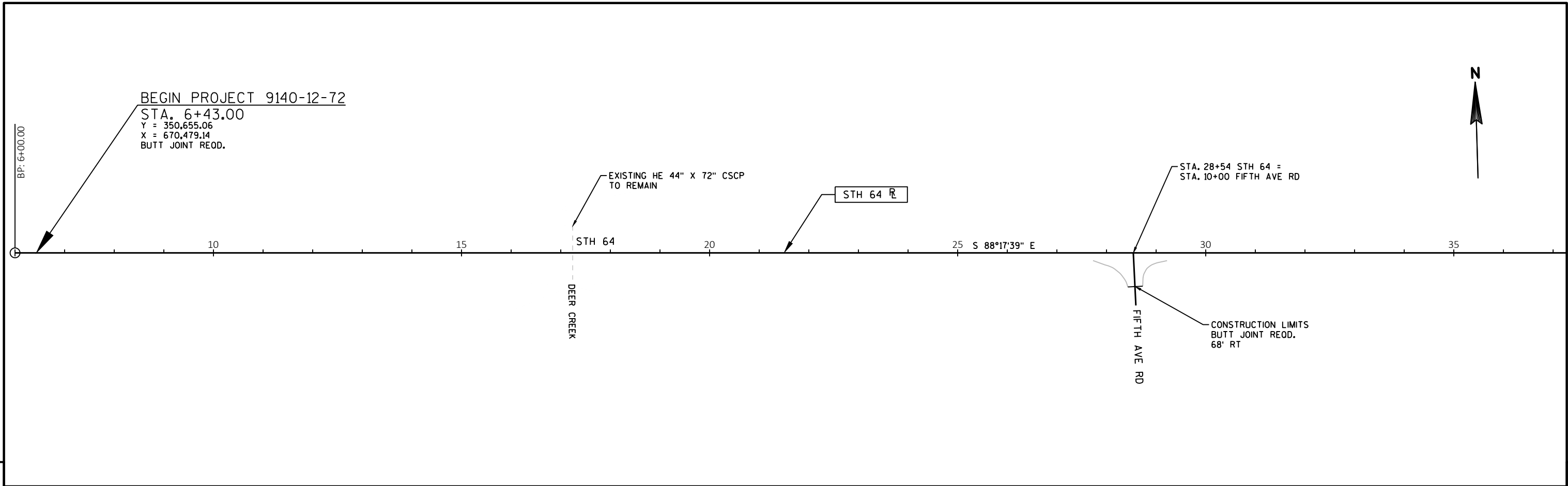
LOCATING NO PASSING ZONES							
							648.0100
ID	CATEGORY	STATION	TO	STATION	LOCATION	MI	REMARKS
PROJECT 9140-12-72							
0010		6+43	-	193+27	STH 64	3.54	
0010		195+13	-	295+89	STH 64	1.91	
TOTAL						5.45	

PAVEMENT MARKING SUMMARY										
						646.1020	646.1040	646.4520	649.0105	
							MARKING LINE		TEMPORARY	
						MARKING	GROOVED WET	MARKING LINE	MARKING	
						LINE	REFLECTIVE	SAME DAY	LINE	
						EPOXY 4-INCH	EPOXY 4-INCH	EPOXY 4-INCH	PAINT 4-INCH	
						(YELLOW)	(WHITE)	(YELLOW)	(YELLOW)	
ID	CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	LF	LF	REMARKS
PROJECT 9140-12-72										
	0010	6+43	-	11+19	STH 64	595	950	595	515	
	0010	11+19	-	154+90	STH 64	3,590	28,265	3,590	1,150	
	0010	154+90	-	168+00	STH 64	1,640	2,500	1,640	1,415	
	0010	168+00	-	175+90	STH 64	1,580	1,585	1,580	1,580	
	0010	175+90	-	190+80	STH 64	1,860	2,540	1,860	1,610	
	0010	190+80	-	202+75	STH 64	250	1,860	250	80	
	0010	202+75	-	216+70	STH 64	1,745	2,795	1,745	1,510	
	0010	216+70	-	226+60	STH 64	1,980	1,985	1,980	1,980	
	0010	226+60	-	238+90	STH 64	1,540	2,465	1,540	1,330	
	0010	238+90	-	240+95	STH 64	50	410	50	15	
	0010	240+95	-	246+90	STH 64	745	1,030	745	645	
	0010	246+90	-	254+05	STH 64	180	1,430	180	60	
	0010	254+05	-	259+85	STH 64	725	1,160	725	625	
	0010	259+85	-	264+45	STH 64	115	920	115	35	
	0010	264+45	-	278+25	STH 64	1,725	2,675	1,725	1,490	
	0010	278+25	-	295+89	STH 64	3,530	3,530	3,530	3,530	
TOTALS						21,850	56,100	21,850	17,570	

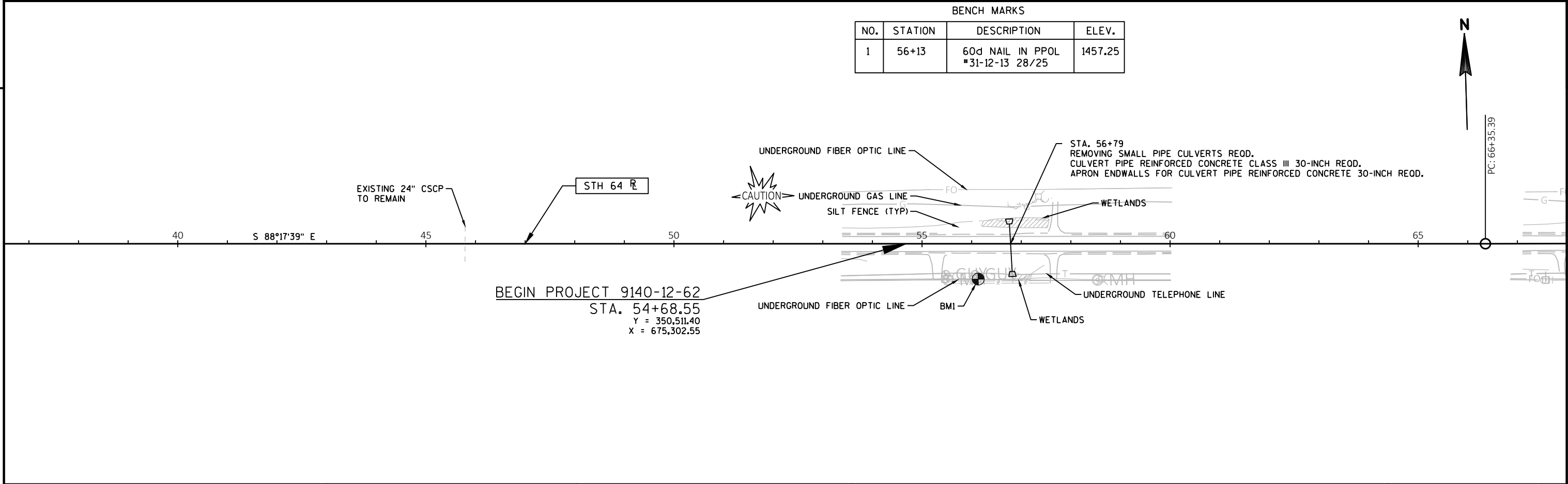
CONSTRUCTION STAKING SUMMARY						
			650.8000	650.9910	650.9920	
			CONSTRUCTION	CONSTRUCTION	CONSTRUCTION	
			STAKING	STAKING	STAKING	
			RESURFACING	SUPPLEMENTAL	SLOPE	
			REFERENCE	CONTROL	STAKES	
ID	CATEGORY	LOCATION	LF	LS	LF	REMARKS
PROJECT 9140-12-62						
	0010	PROJECTWIDE	---	1	---	
PROJECT TOTALS			0	1	0	
PROJECT 9140-12-72						
	0010	STA. 168+17 - STA. 175+47	---	---	730	
	0010	PROJECTWIDE	28,946	1	---	
PROJECT TOTALS			28,946	1	730	
TOTALS			28,946	2	730	
NOTE: ADDITIONAL CONSTRUCTION STAKING ITEMS SHOWN ELSEWHERE						

SAWING SUMMARY				
			690.0150	
			ASPHALT	
ID	CATEGORY	LOCATION	LF	REMARKS
PROJECT 9140-12-62				
	0010	52+26 & 57+32	60	
	0010	70+08 & 71+14	60	
	0010	264+41 & 265+47	60	
PROJECT TOTAL			180	
TOTALS			180	

LANE SHIFT							
SPV.0060.01							
LANE SHIFT							
ID	CATEGORY	STATION	TO	STATION	LOCATION	EACH	REMARKS
PROJECT 9140-12-62							
0010		54+69	-	58+89	STH 64	2	LANE SHIFT FOR CULVERT PIPE INSTALLATION
0010		67+96	-	73+26	STH 64	2	LANE SHIFT FOR CULVERT PIPE INSTALLATION
0010		262+47	-	267+41	STH 64	2	LANE SHIFT FOR CULVERT PIPE INSTALLATION
TOTALS						6	

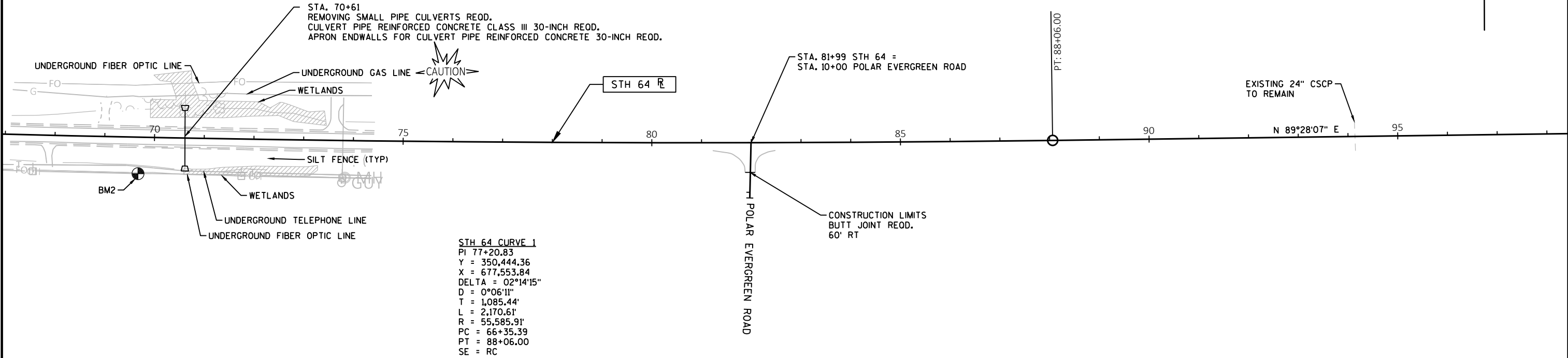


BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
1	56+13	60d NAIL IN PPOL #31-12-13 28/25	1457.25



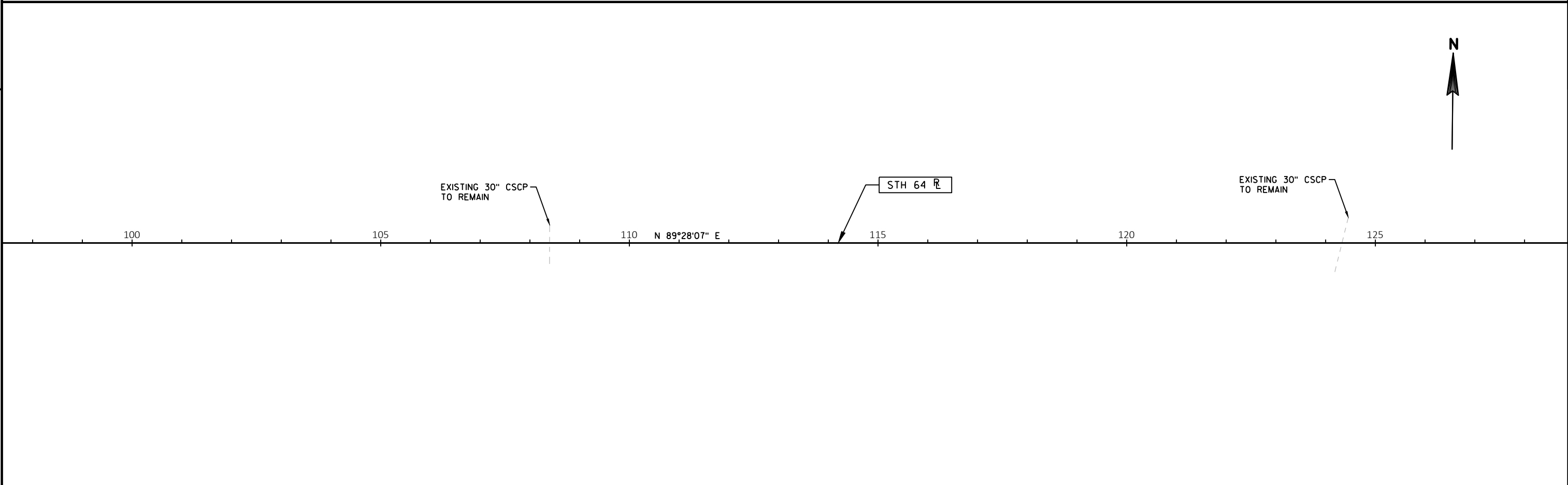
PROJECT NO: 9140-12-62 & 9140-12-72	HWY: STH 64	COUNTY: LANGLADE	PLAN	SHEET	E
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BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
2	69+68	60d NAIL IN PPOL #31-12-13 41/25	1466.63



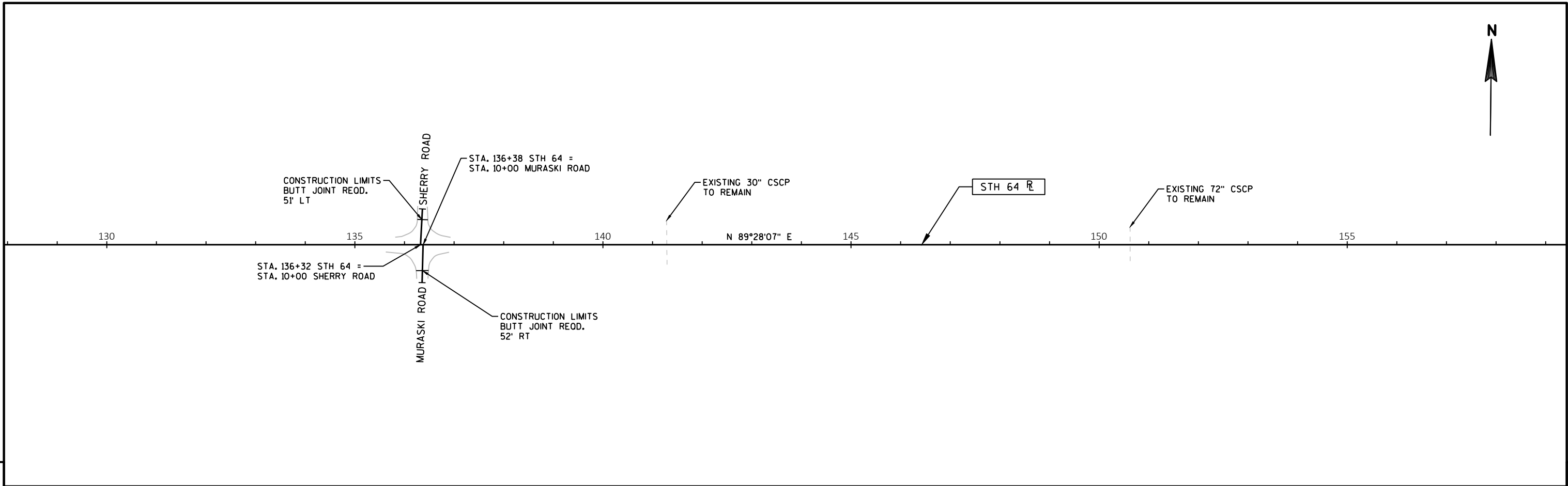
STH 64 CURVE 1
PI 77+20.83
Y = 350,444.36
X = 677,553.84
DELTA = 02°14'15"
D = 0°06'11"
T = 1,085.44'
L = 2,170.61'
R = 55,585.91'
PC = 66+35.39
PT = 88+06.00
SE = RC

5



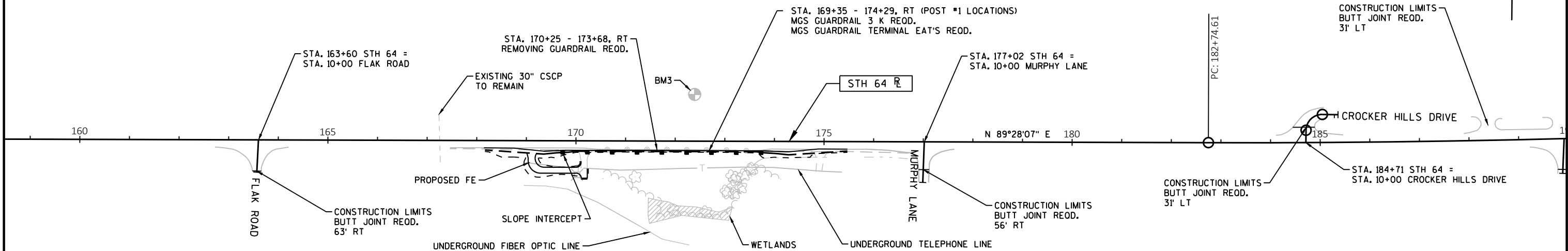
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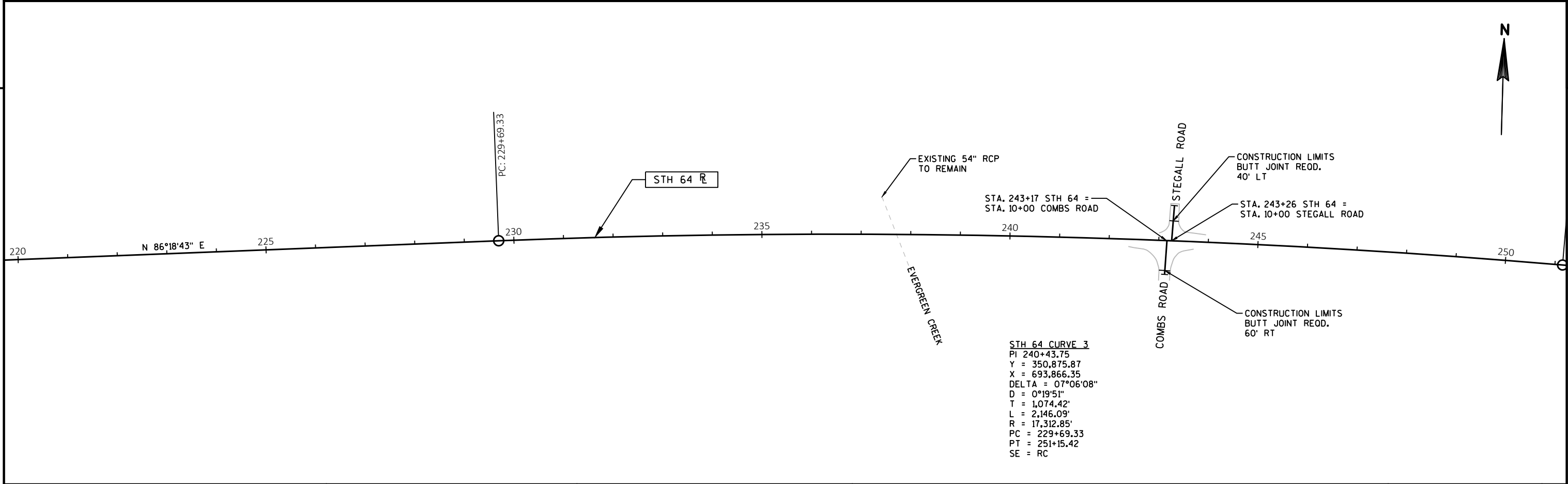
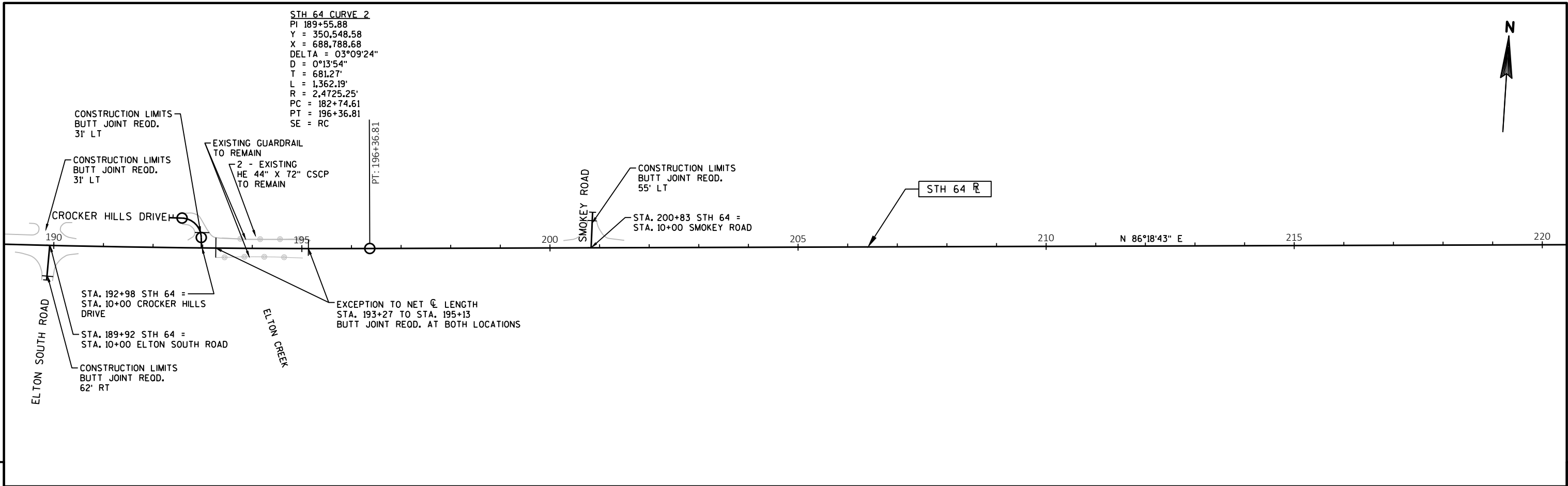
PROJECT NO: 9140-12-62 & 9140-12-72	HWY: STH 64	COUNTY: LANGLADE	PLAN	SHEET	E
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BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
3	172+39	60d NAIL IN PPOL (NO * ON PPOL)	1466.28





PROJECT NO: 9140-12-62 & 9140-12-72	HWY: STH 64	COUNTY: LANGLADE	PLAN	SHEET	E
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BENCH MARKS			
NO.	STATION	DESCRIPTION	ELEV.
4	264+74	60d NAIL IN PPOL #31-13-15 22/25	1374.80

PT: 251+15.42

STH 64 CURVE 3
PI 240+43.75
Y = 350,875.87
X = 693,866.35
DELTA = 07°06'08"
D = 0°19'51"
T = 1,074.42'
L = 2,146.09'
R = 17,312.85'
PC = 229+69.33
PT = 251+15.42
SE =
RO =

STH 64 R

WETLANDS

STA. 264+94
REMOVING SMALL PIPE CULVERTS REOD.
CULVERT PIPE REINFORCED CONCRETE CLASS III 30-INCH REOD.
APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH REOD.

SILT FENCE (TYP)

UNDERGROUND GAS LINE

CAUTION

ELM ROAD

CONSTRUCTION LIMITS
BUTT JOINT REOD.
44' LT

STA. 276+88 STH 64 =
STA. 10+00 ELM ROAD

EXISTING 72" CSCP
TO REMAIN

END PROJECT 9140-12-62
STA. 267+41.38

UNDERGROUND TELEPHONE LINE

UNDERGROUND FIBER OPTIC LINE

WETLANDS

BM4

5

5

S 86°35'09" E

285

STH 64 R

PC: 293+77.28

END PROJECT 9140-12-72
STA. 295+89.00
BUTT JOINT REOD.

STA. 297+39 STH 64 =
STA. 10+00 FRALEY ROAD

CTH P FRALEY ROAD

STA. 297+36 STH 64 =
STA. 10+00 CTH P

PT: 305+58.50

S 89°57'05" E

310

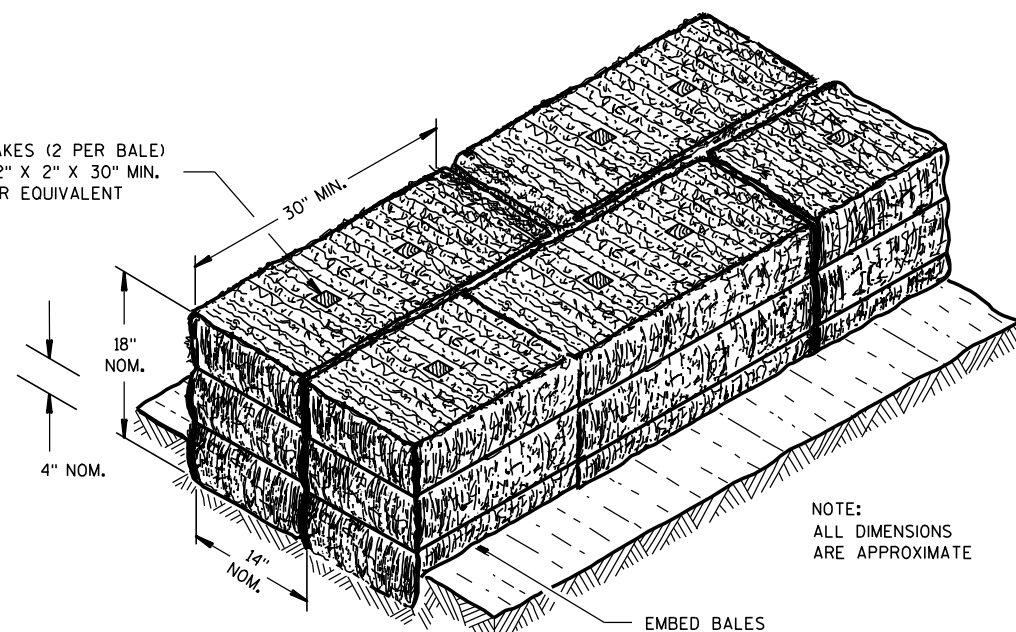
PI: 311+33.12

STH 64 CURVE 4
PI 299+68.06
Y = 350,522.89
X = 699,782.90
DELTA = 03°21'56"
D = 0°17'06"
T = 590.78'
L = 1,181.22'
R = 20,108.81'
PC = 293+77.28
PT = 305+58.50
SE = NC

Standard Detail Drawing List

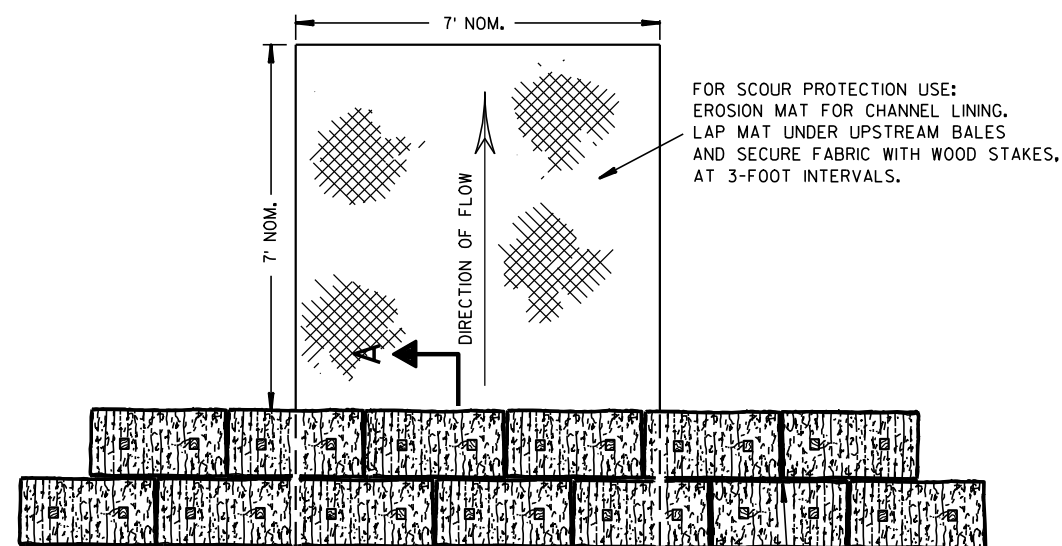
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	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)
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-05A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

SECTION A-A

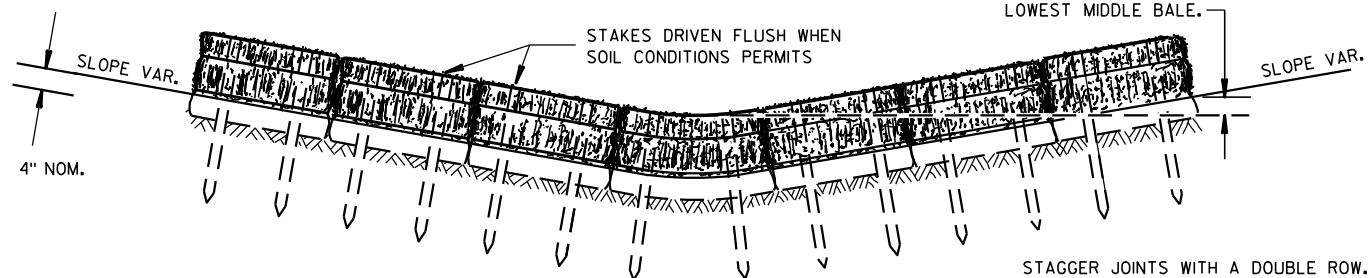


FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.

PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



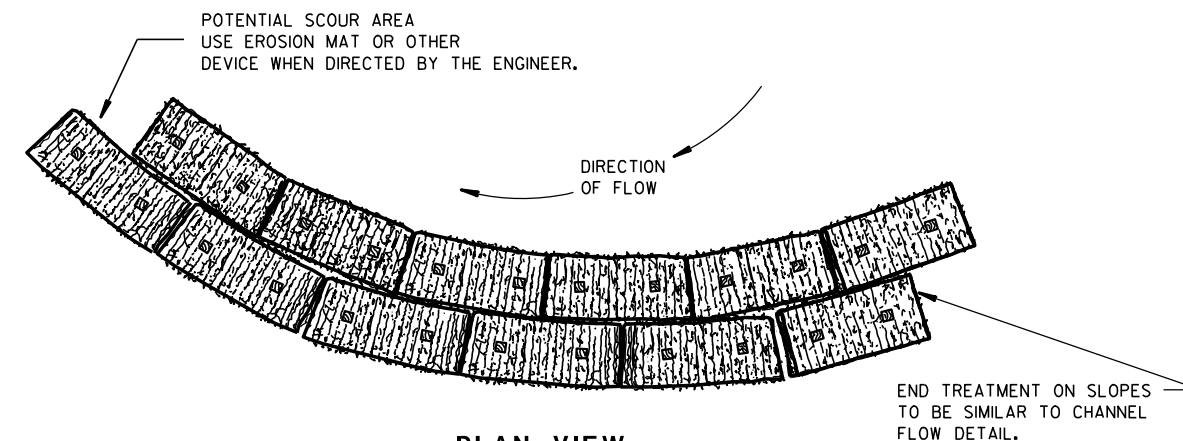
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

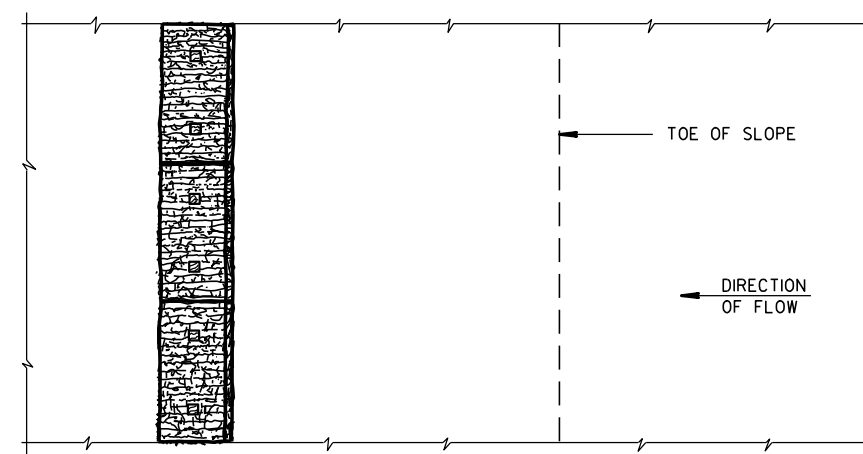
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

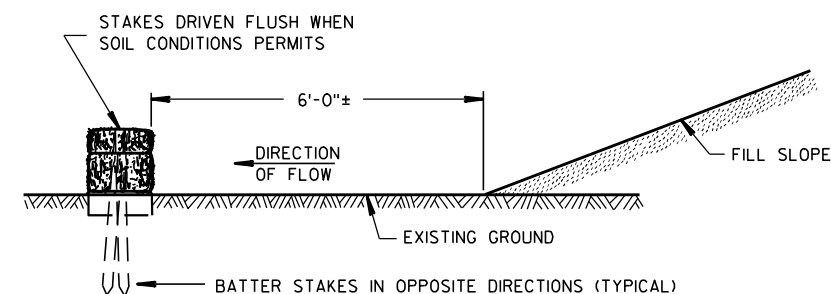


PLAN VIEW

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

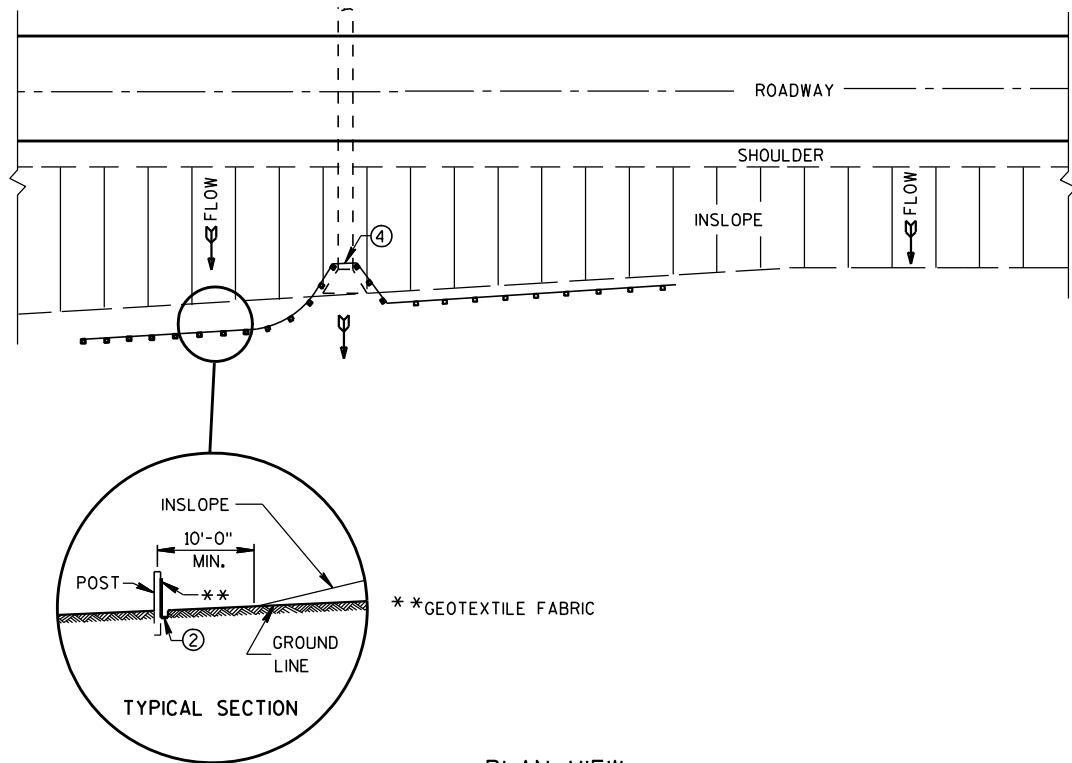
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

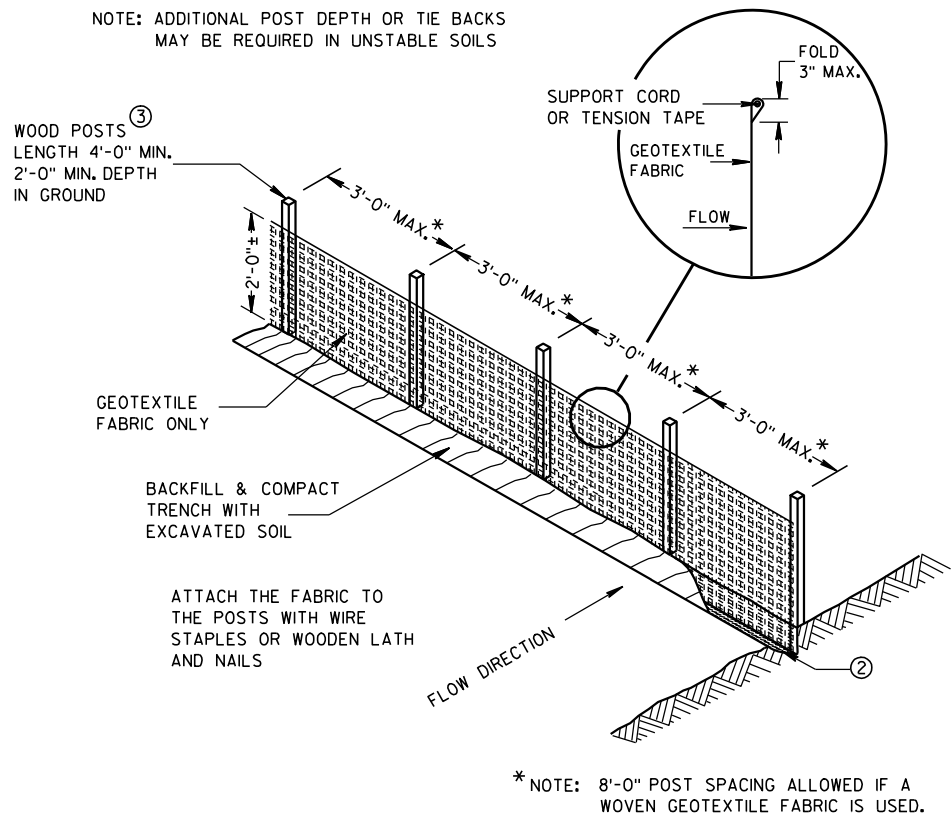
6/04/02
DATE

FHWA

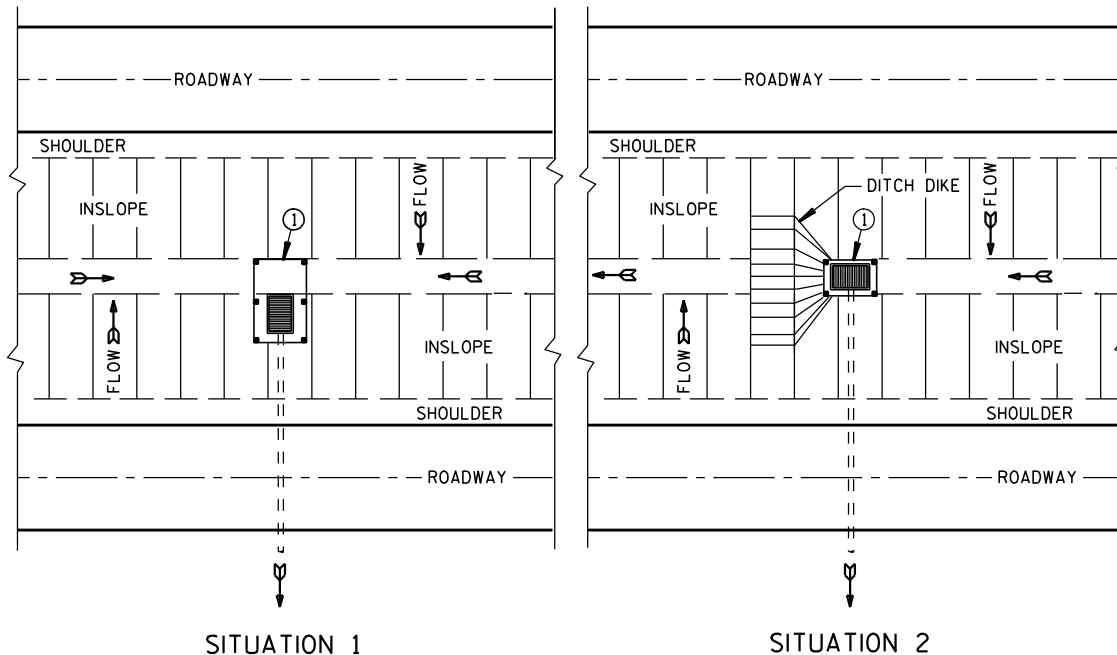
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



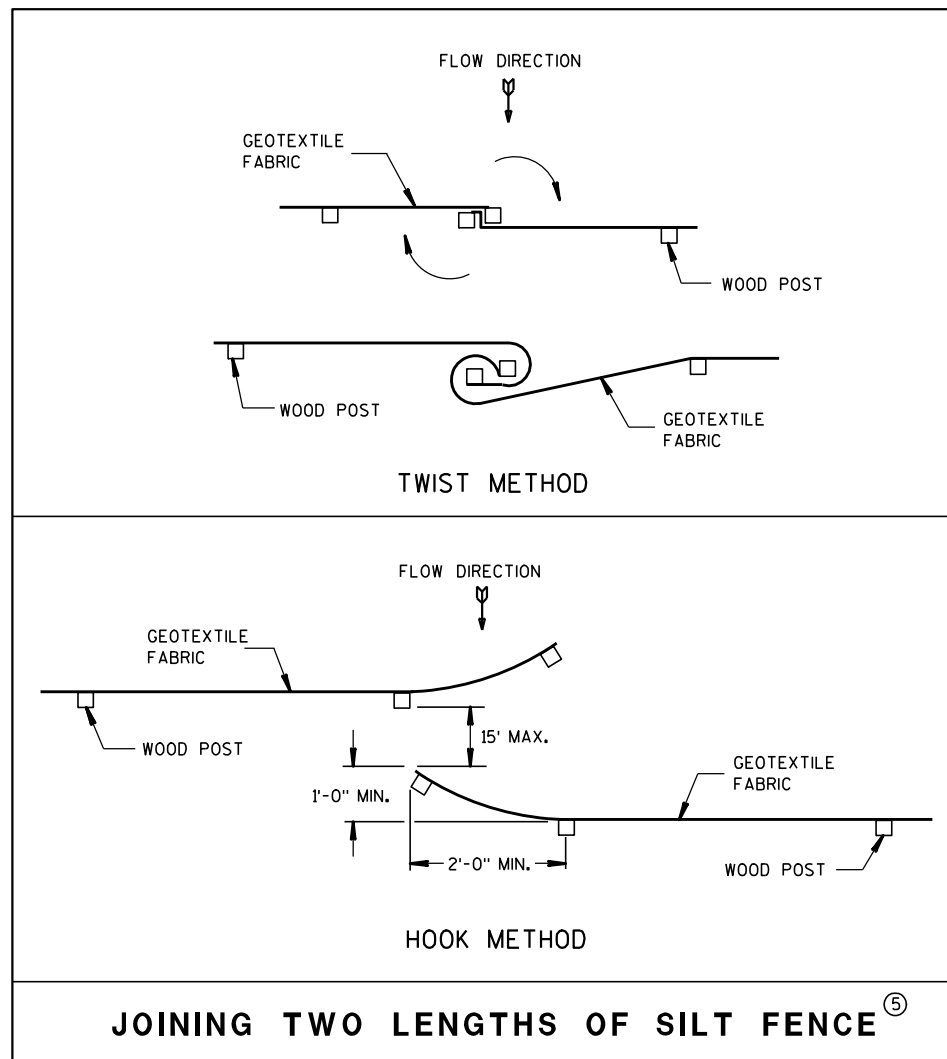
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

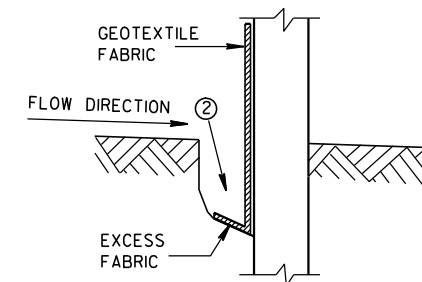


JOINING TWO LENGTHS OF SILT FENCE ⑤

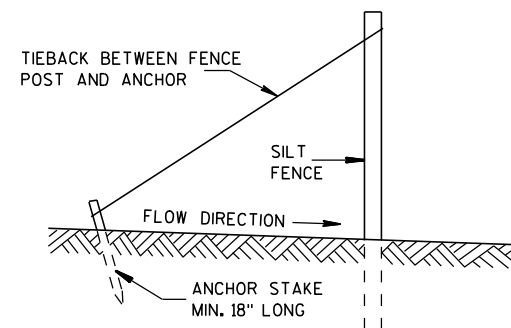
GENERAL NOTES

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 1 1/8" X 1 1/8" 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

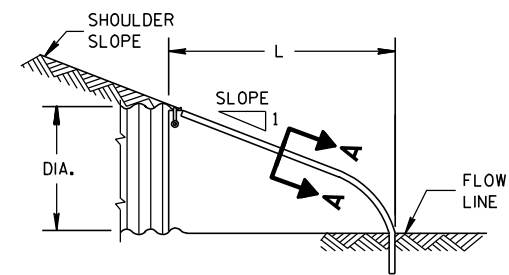
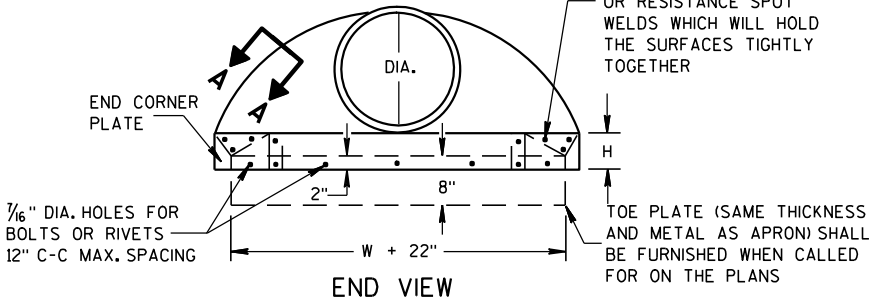
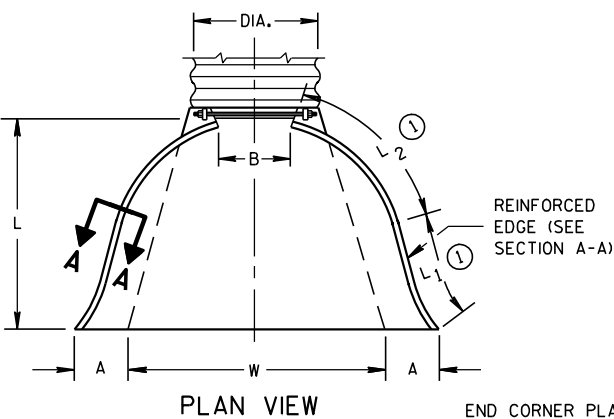


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
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	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

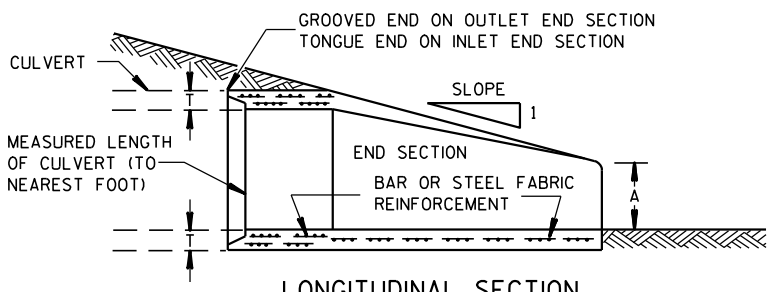
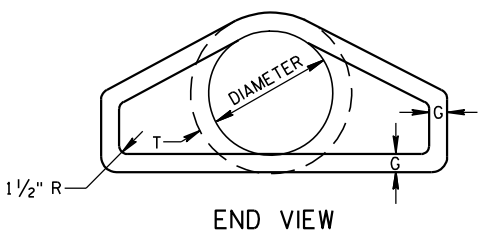
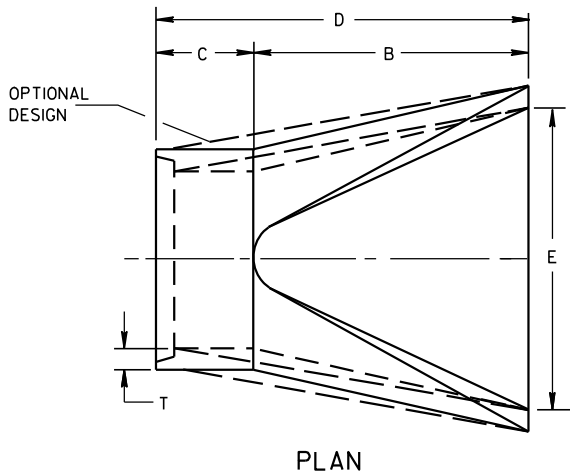
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



SIDE ELEVATION
METAL ENDWALLS

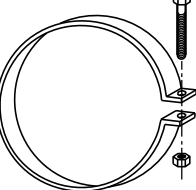
REINFORCED CONCRETE APRON ENDWALLS											
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE			
	T	A	B	C	D	E	G				
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1			
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1			
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1			
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1			
24	3	9 1/2	43 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

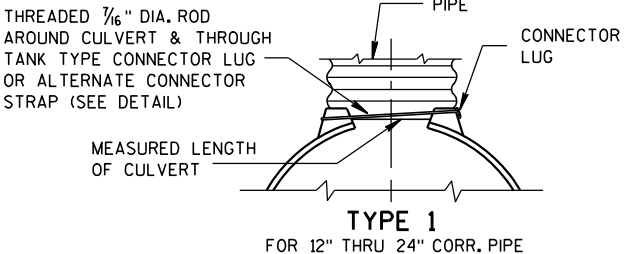


LONGITUDINAL SECTION
CONCRETE ENDWALLS

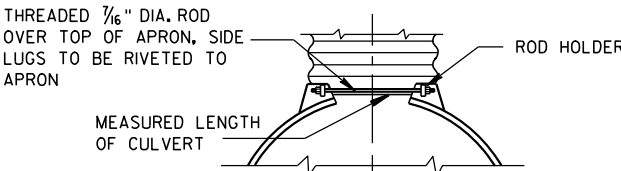
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



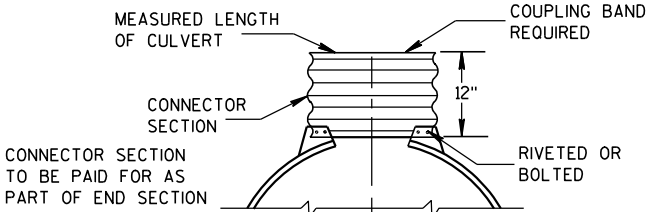
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



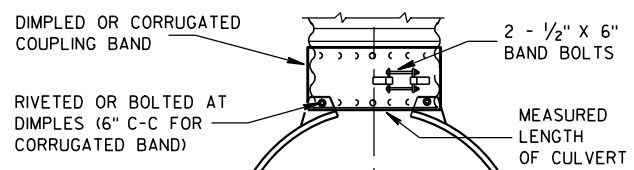
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

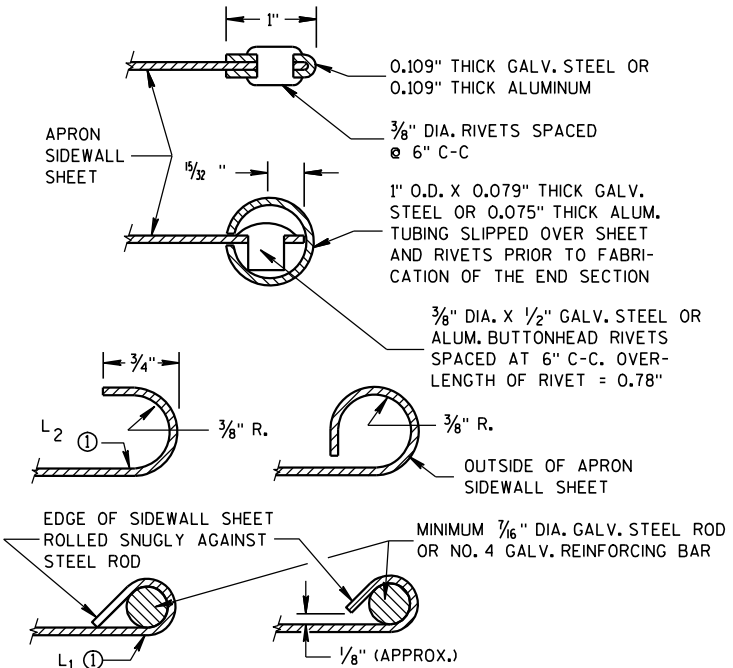
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

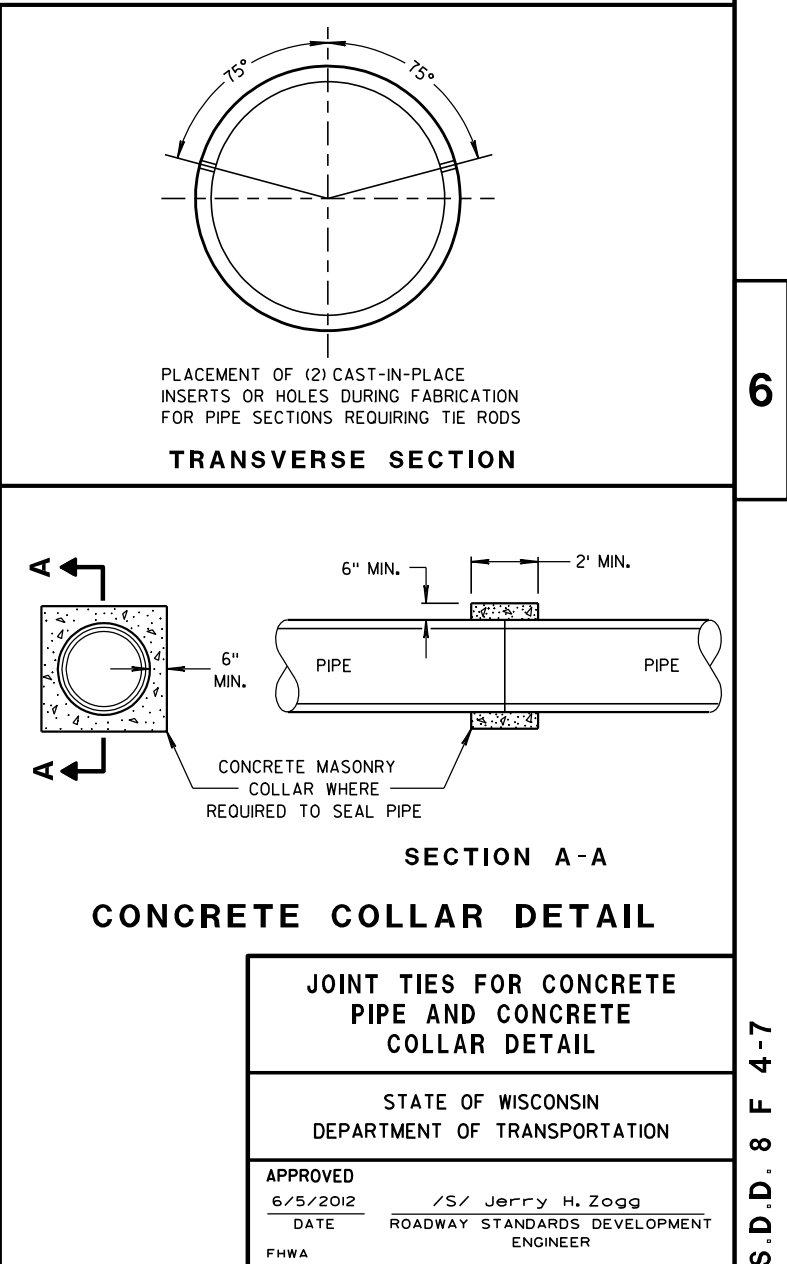
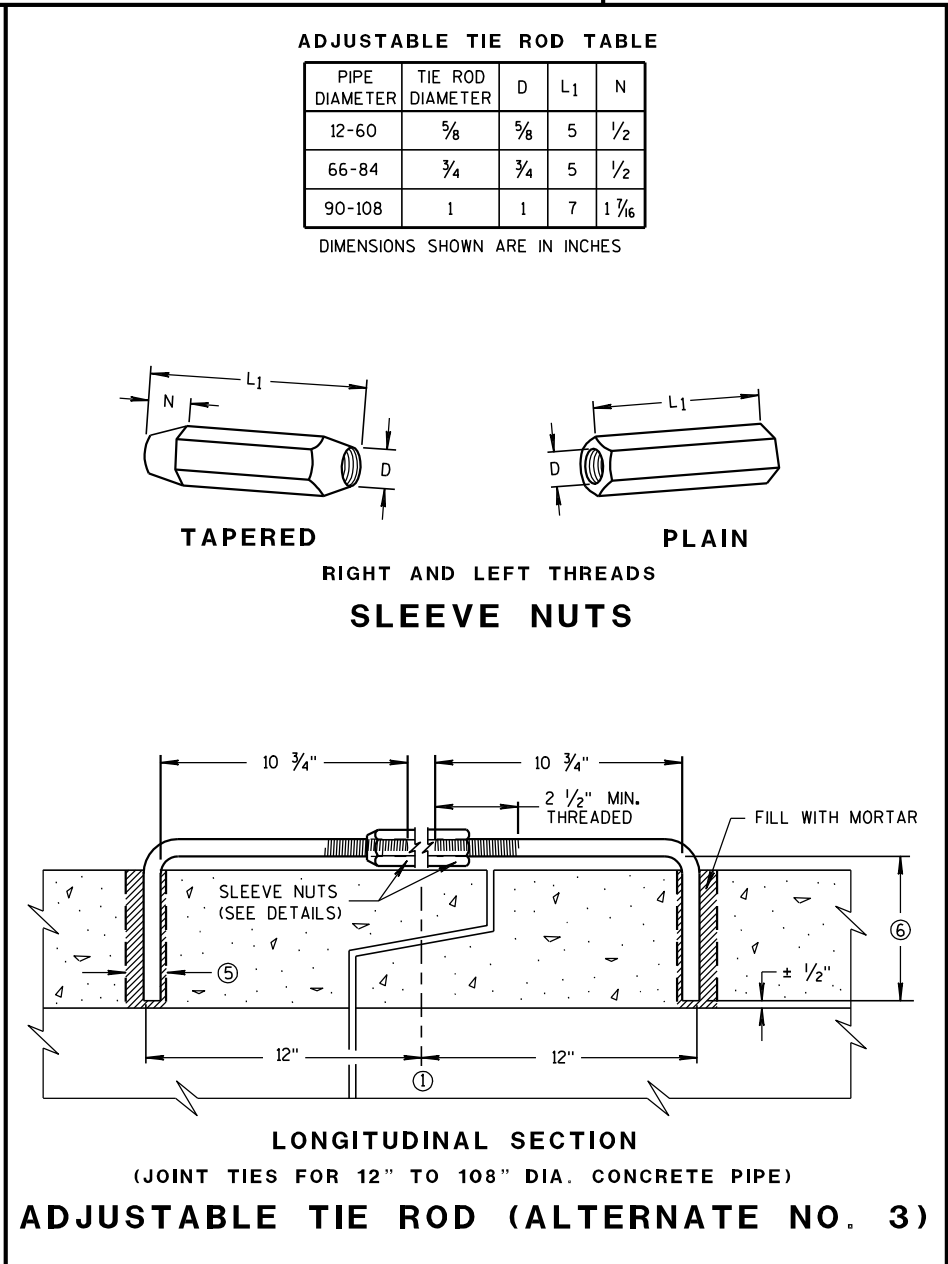
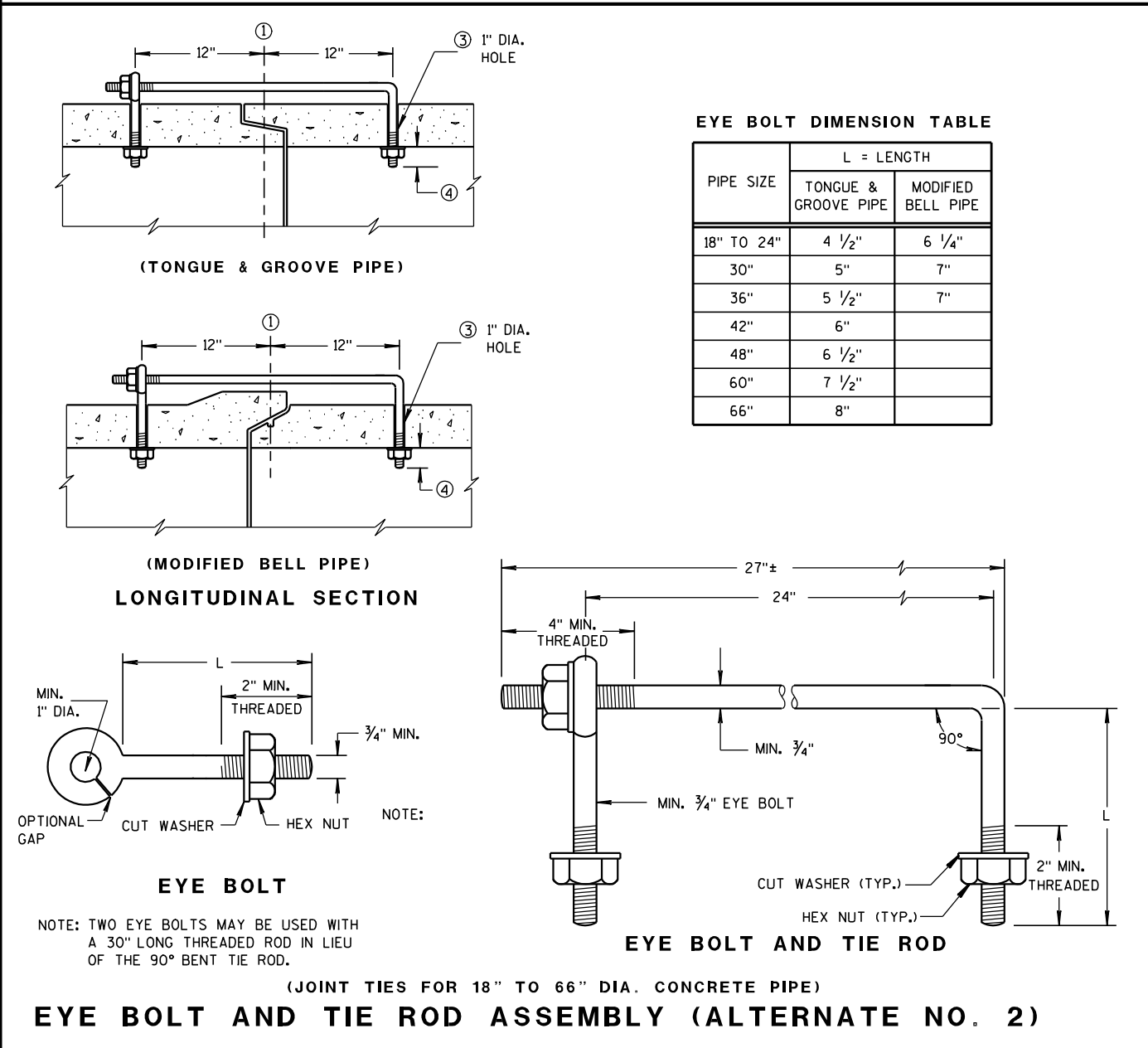
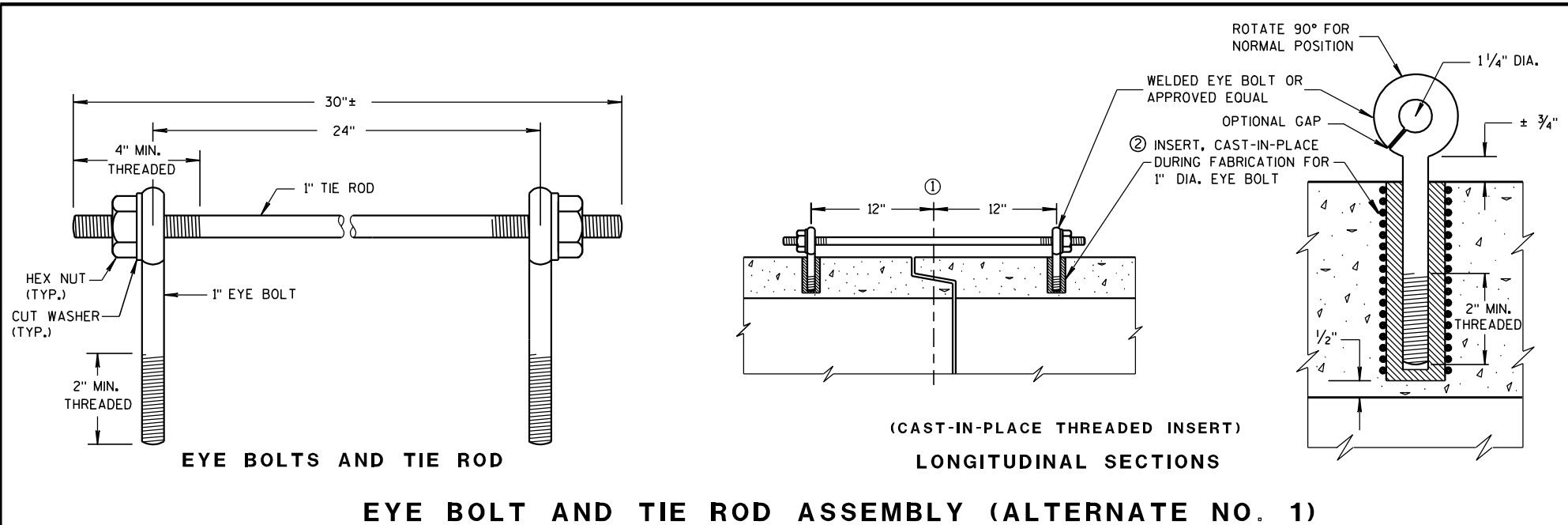
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

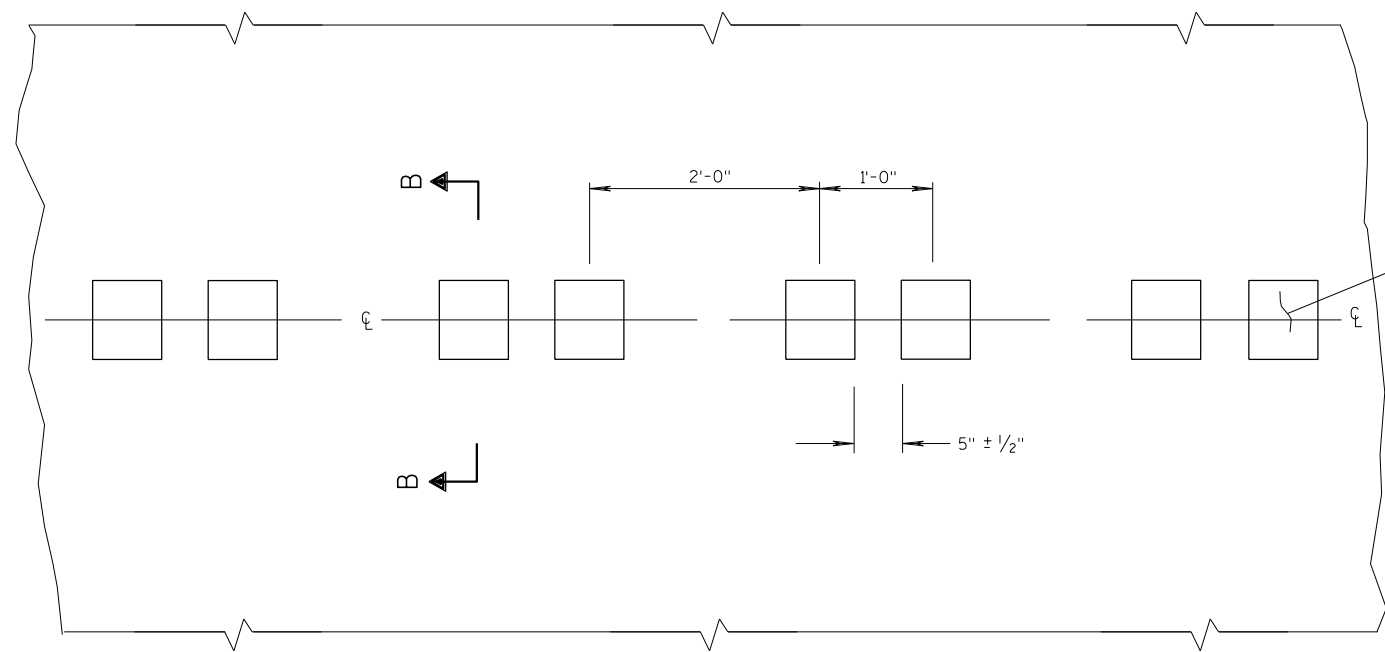
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

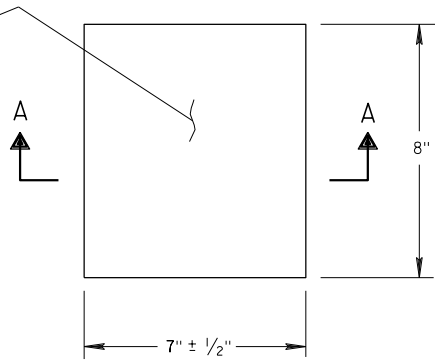
APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA





PLAN VIEW
CENTER LINE WITH GROOVES

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP



PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

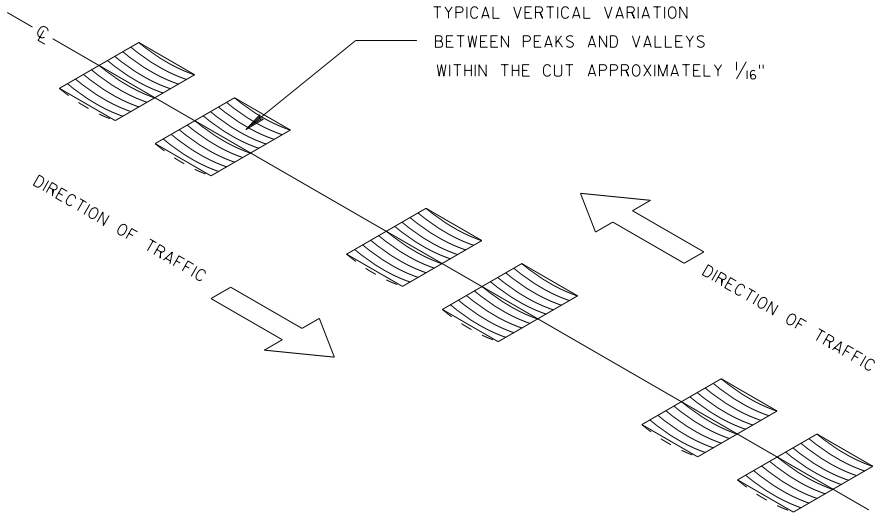
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

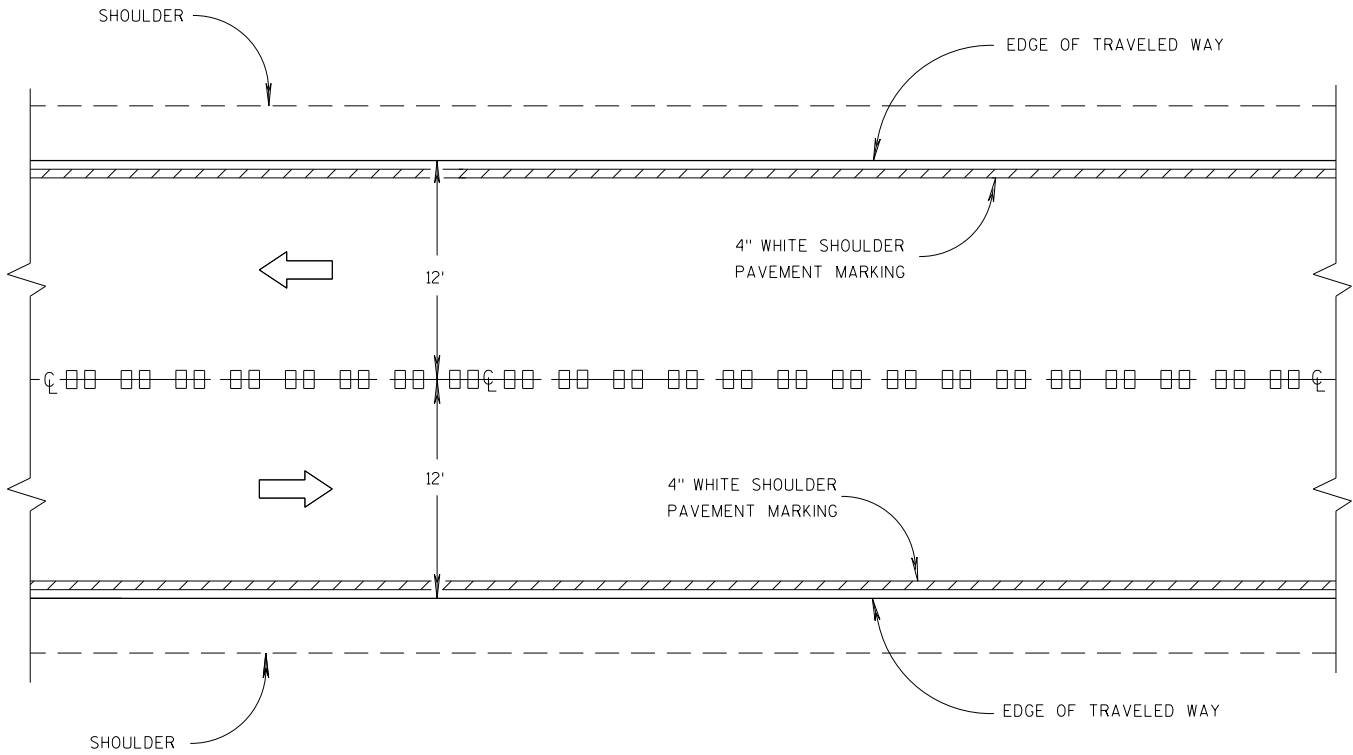
INSTALL PERMANENT MARKING EPOXY 4-INCH AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

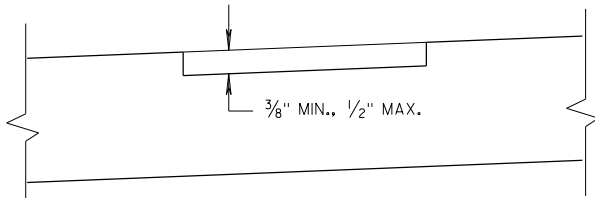
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



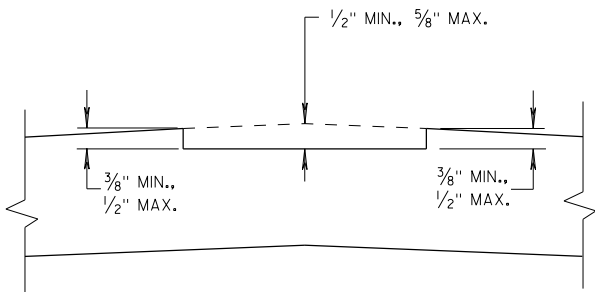
ISOMETRIC



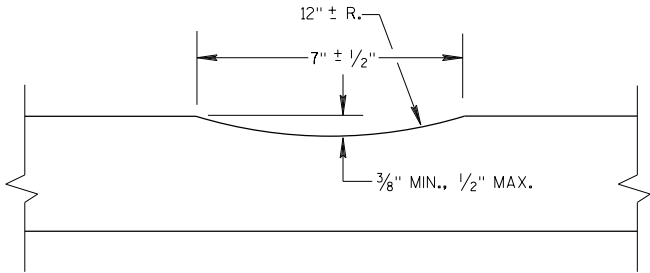
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



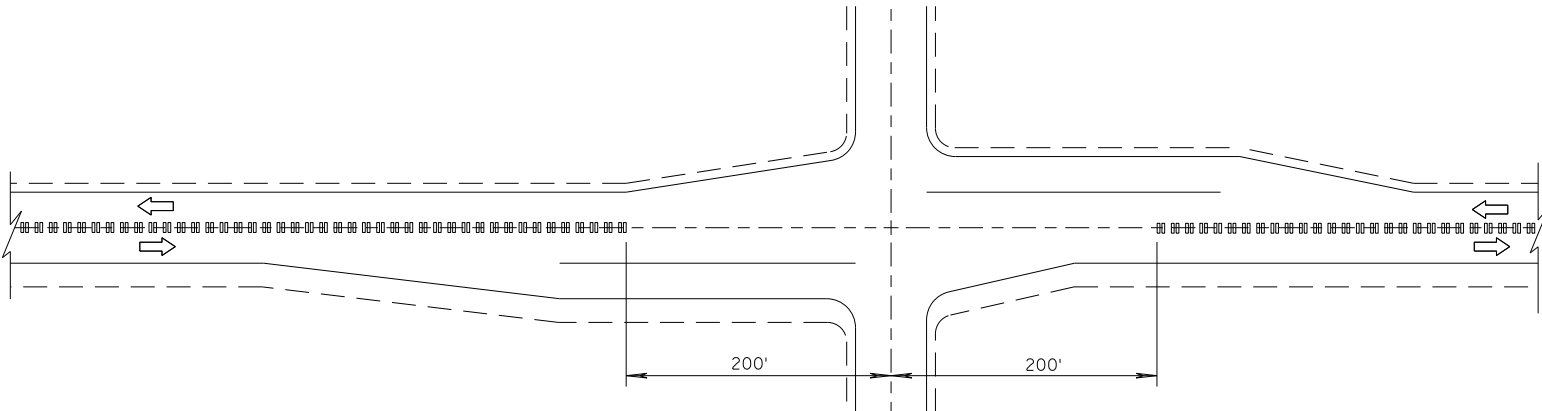
SECTION B-B
CROWNED ROADWAY



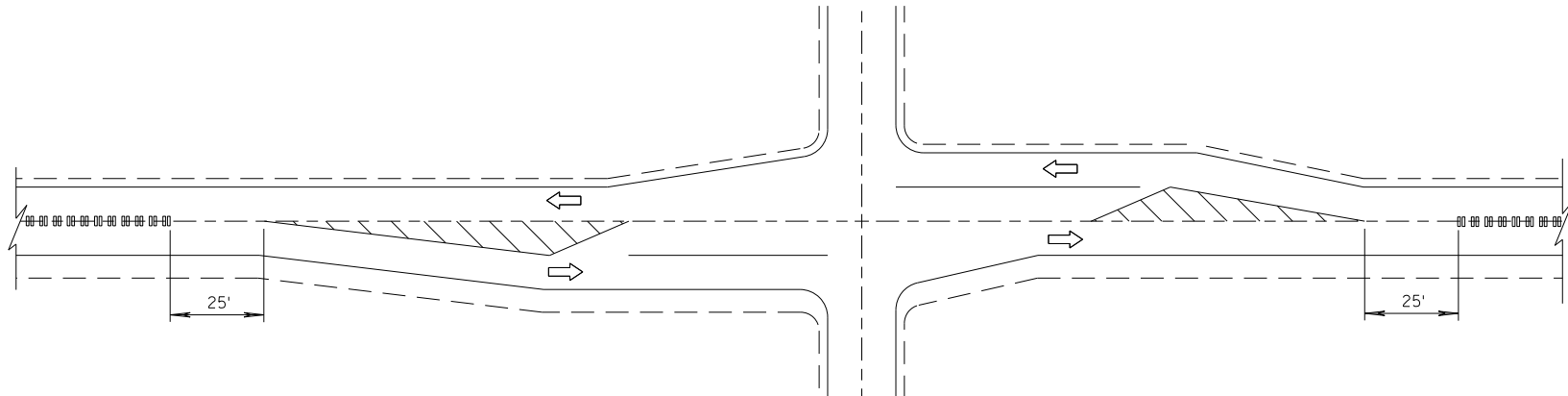
SECTION A-A

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

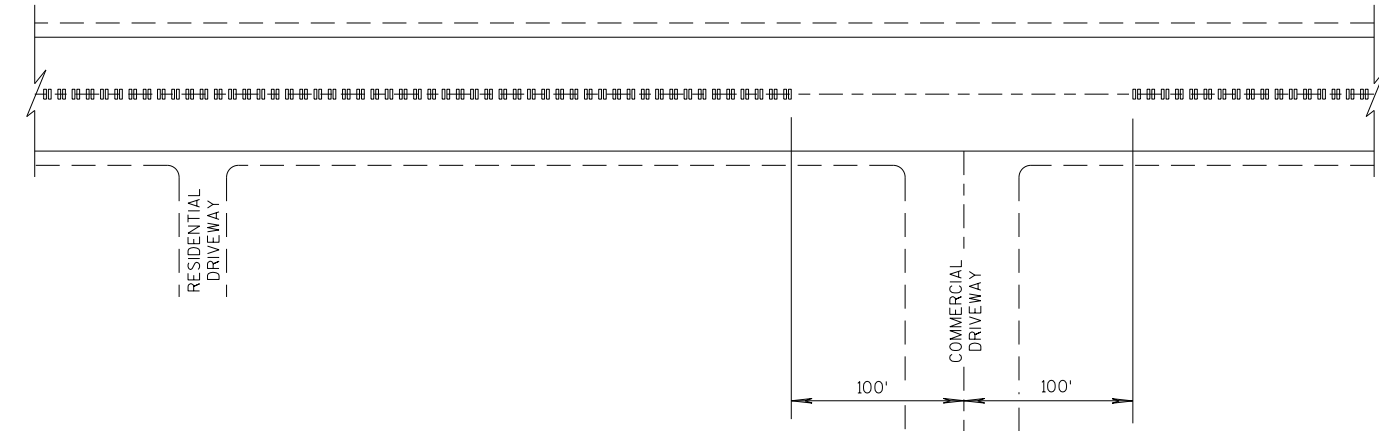
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS



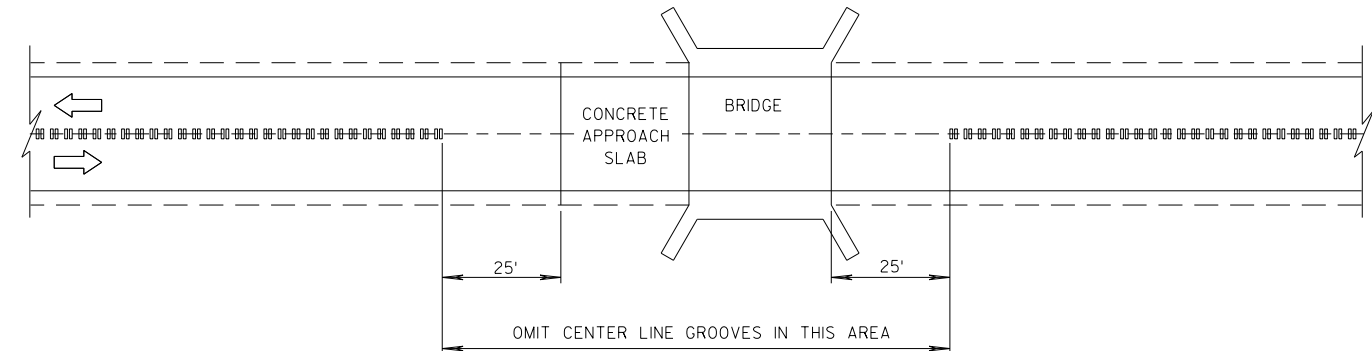
CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



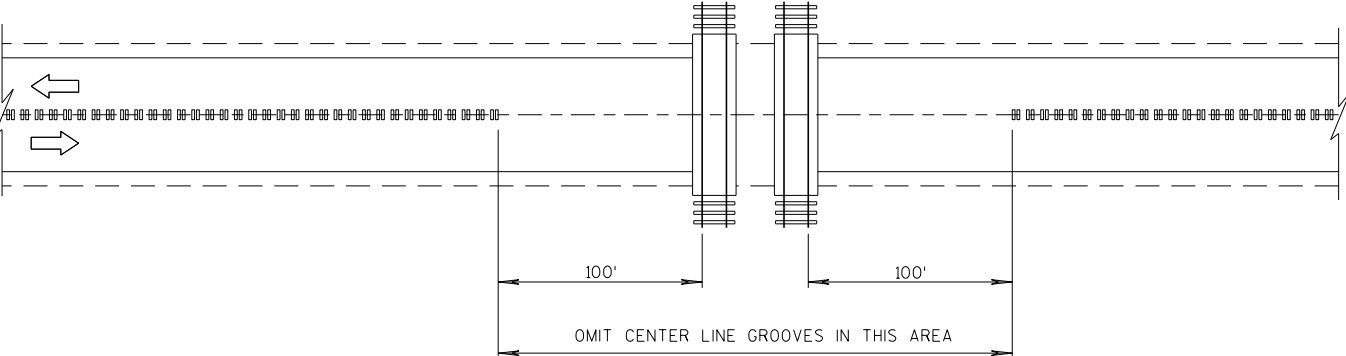
CENTER LINE GROOVES AT DRIVEWAYS

1

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



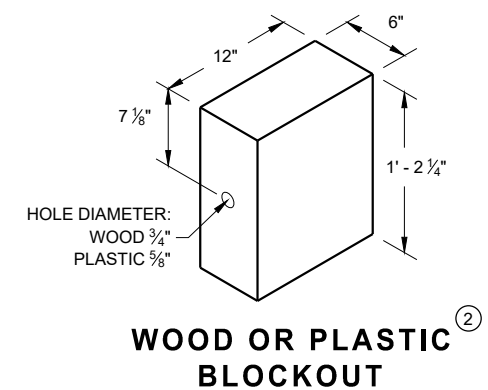
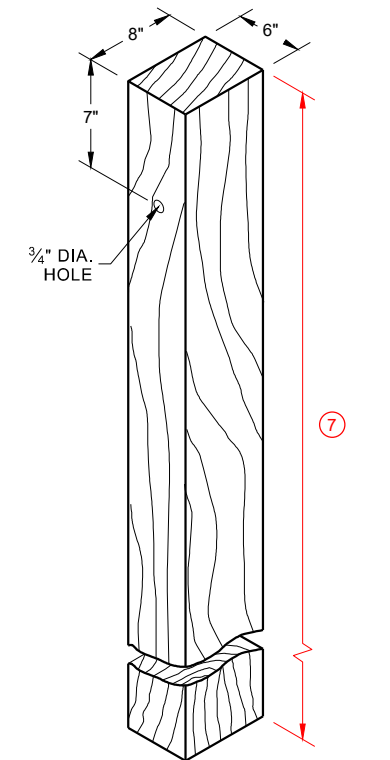
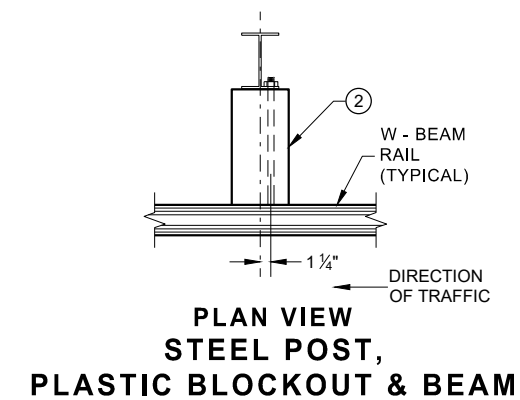
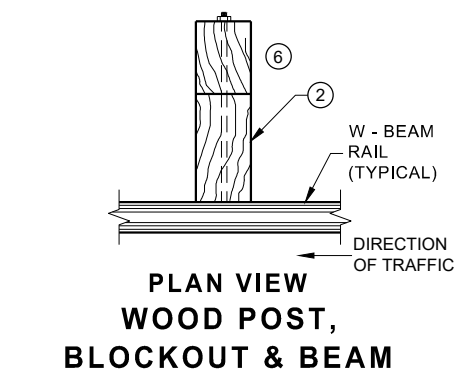
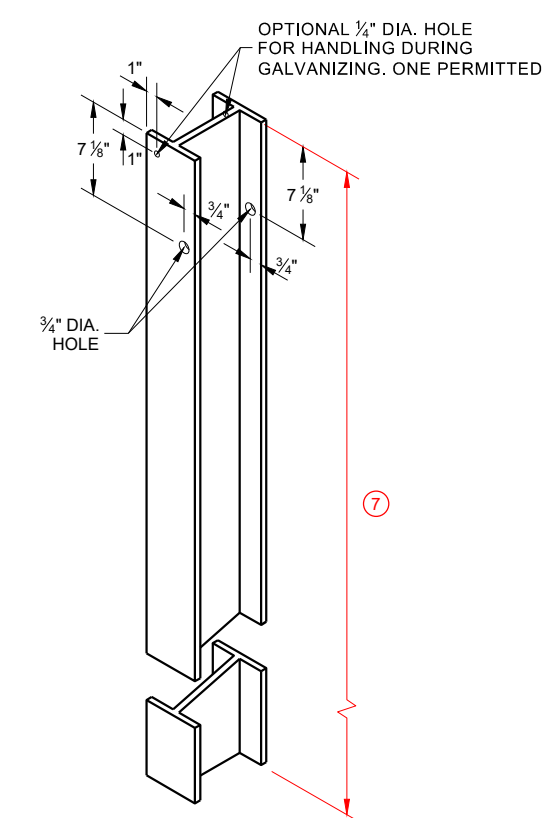
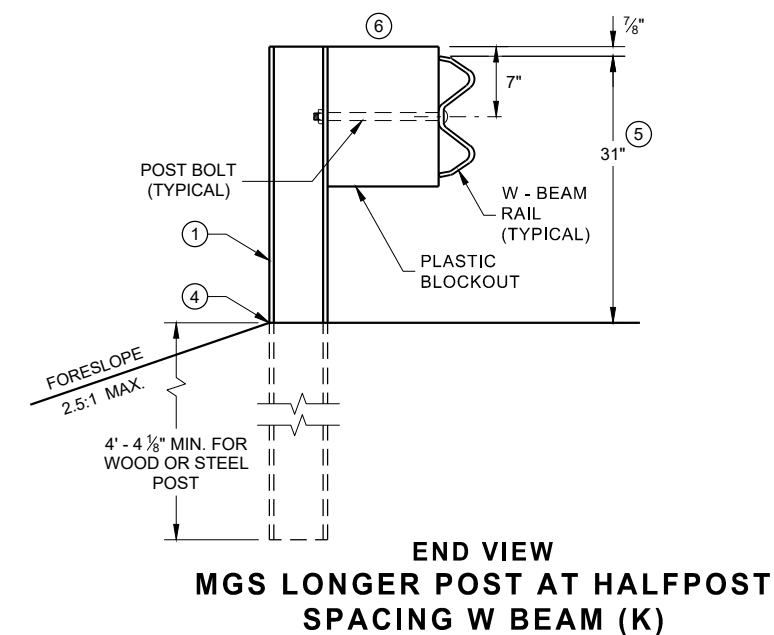
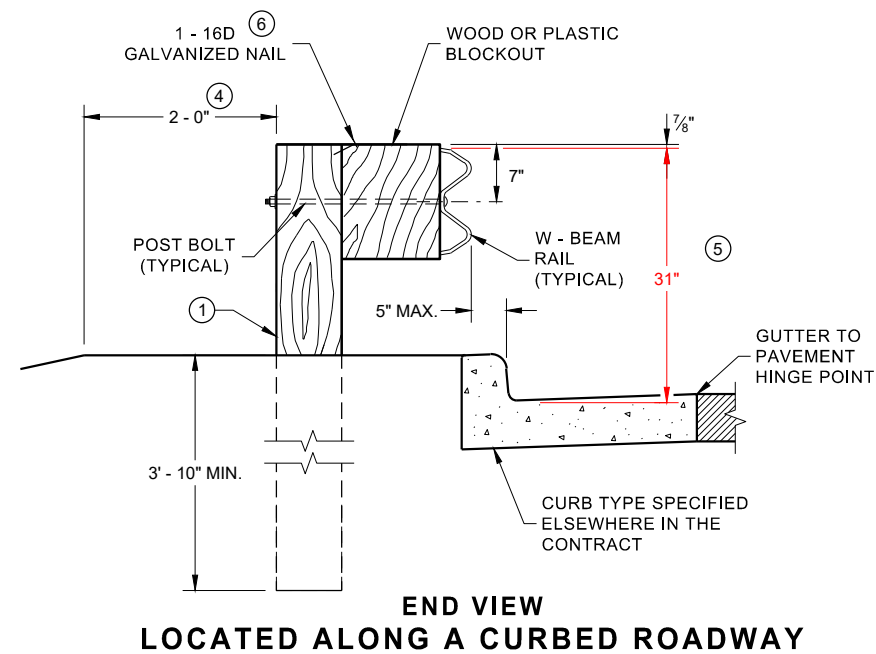
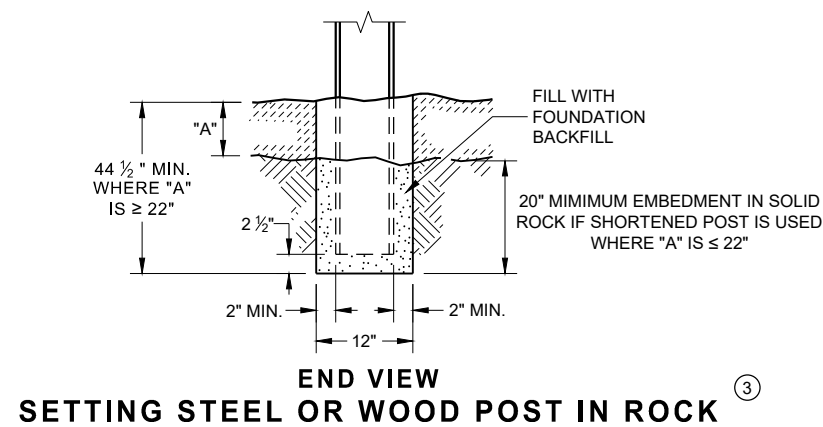
CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

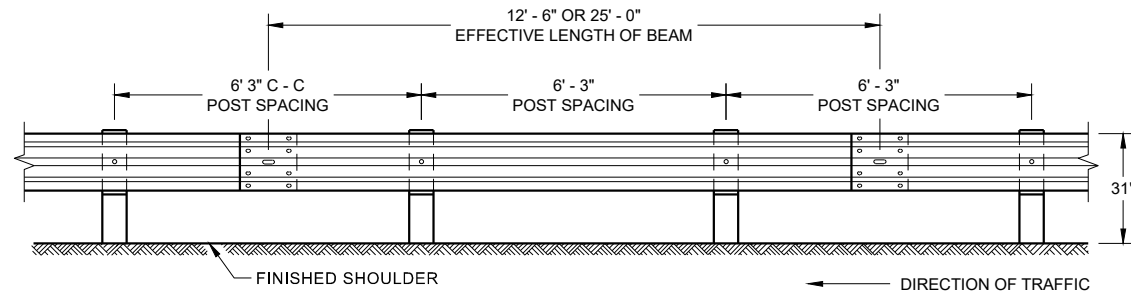
2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

- 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.
- 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.
- 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.
- WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- 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.
- TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".

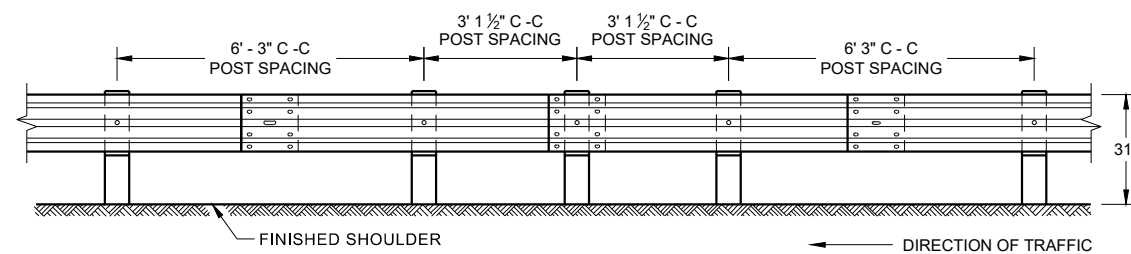


MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

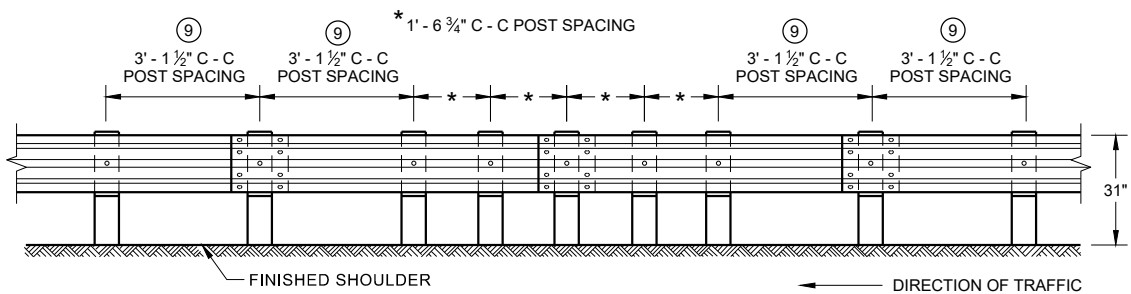
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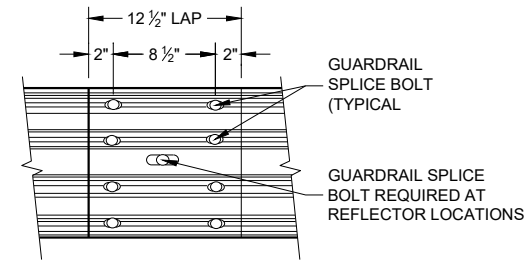
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



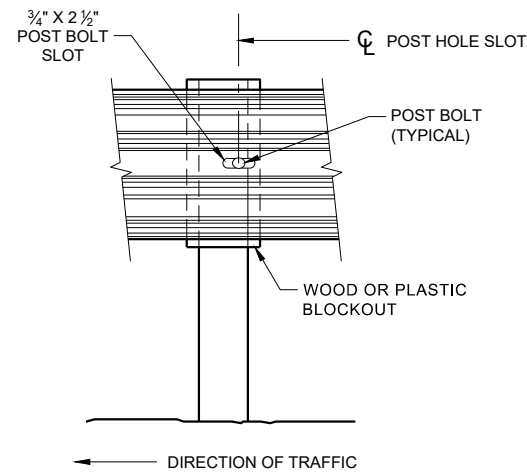
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



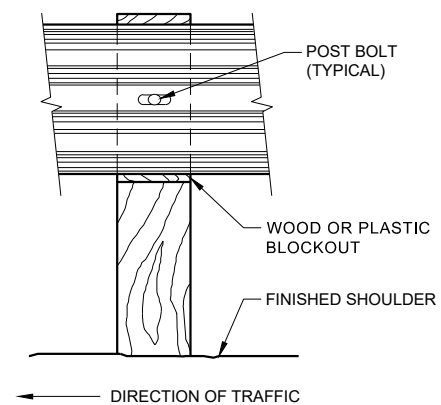
**FRONT VIEW
QUARTER POST SPACING (QS)**



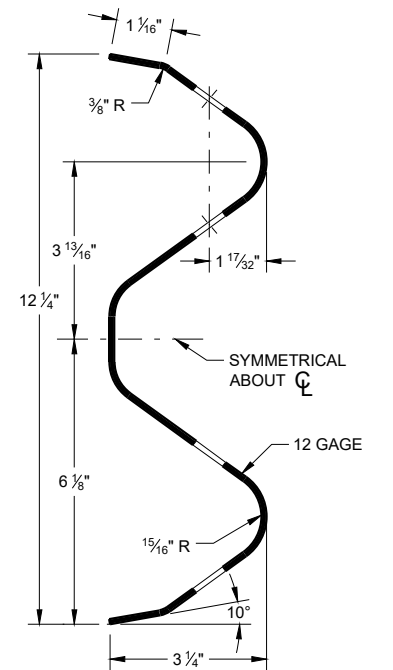
**FRONT VIEW
MID-SPAN BEAM SPLICE**



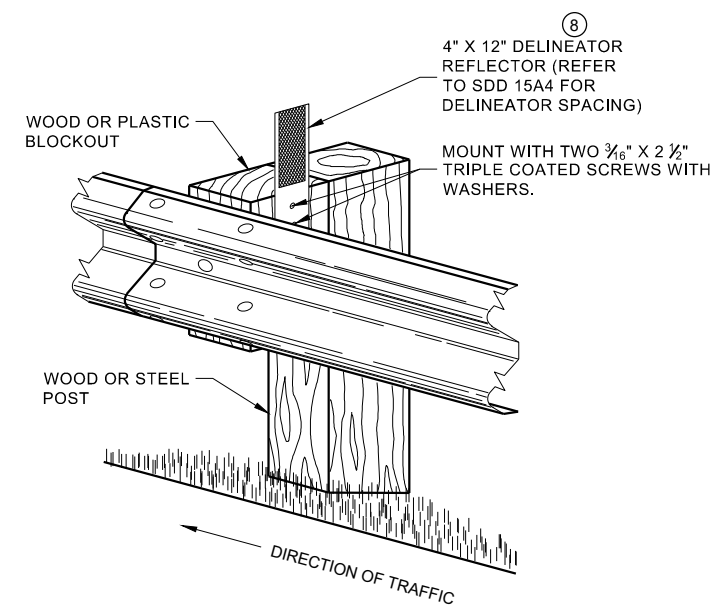
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



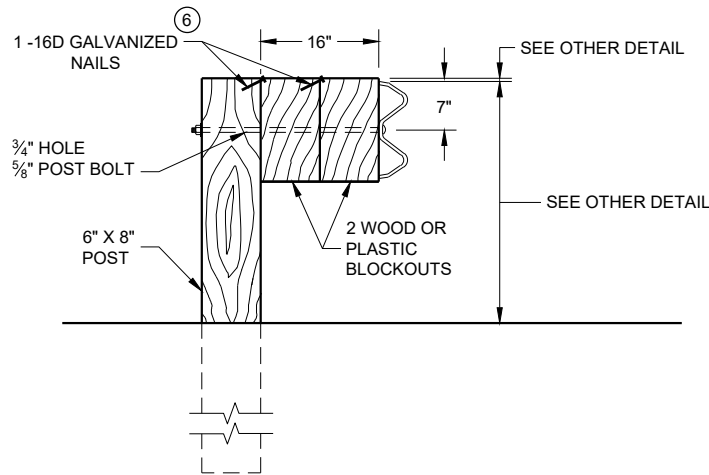
SECTION THRU W-BEAM RAIL



**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

GENERAL NOTES

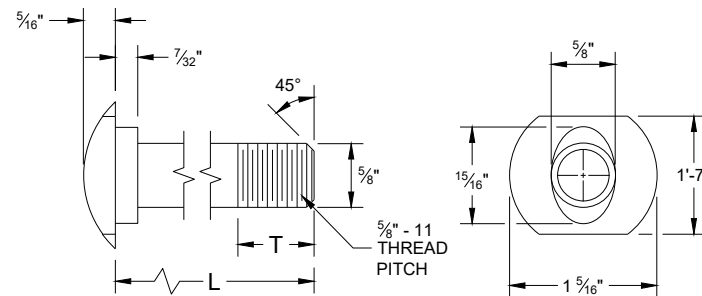
- 8 DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - 9 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/4" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



DETAIL FOR 16" BLOCKOUT DEPTH

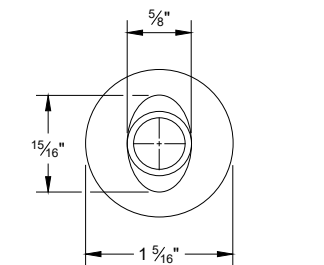
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
 2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

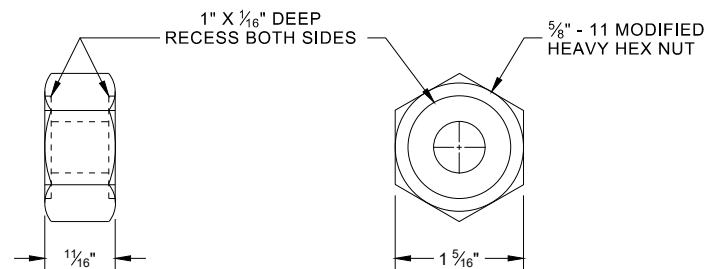


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

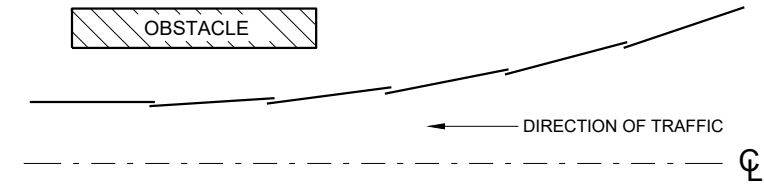


ALTERNATE BOLT HEAD

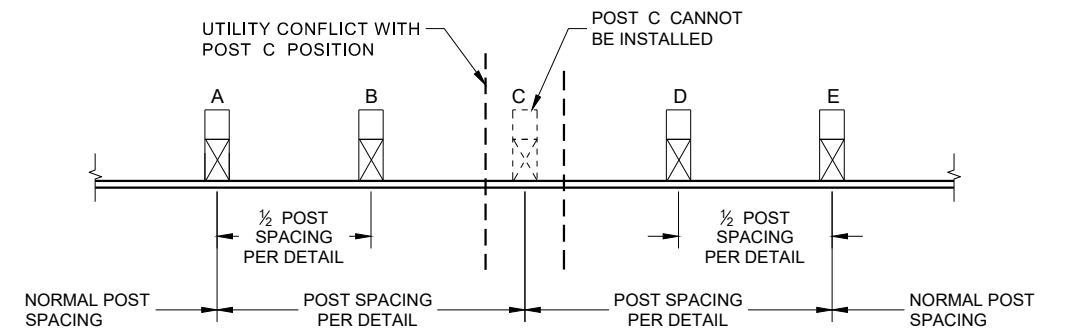


POST BOLT, SPLICE BOLT
AND RECESS NUT

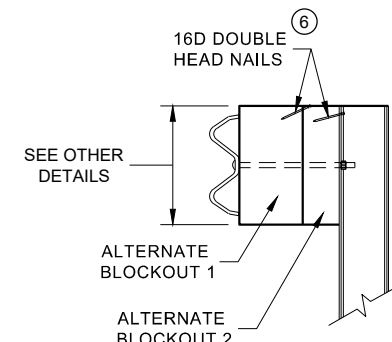
- ⑥ WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



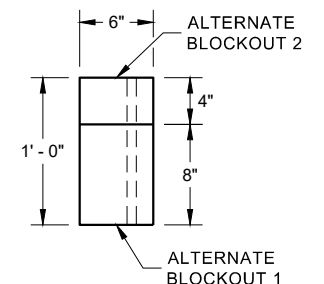
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



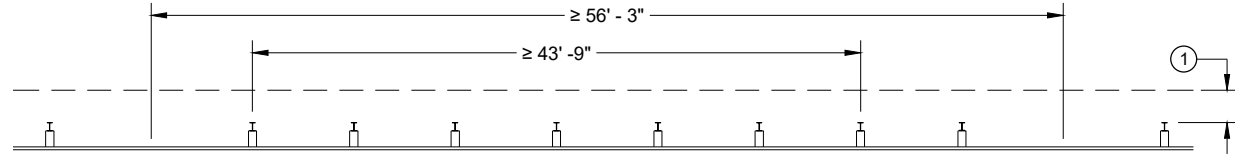
PLAN VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

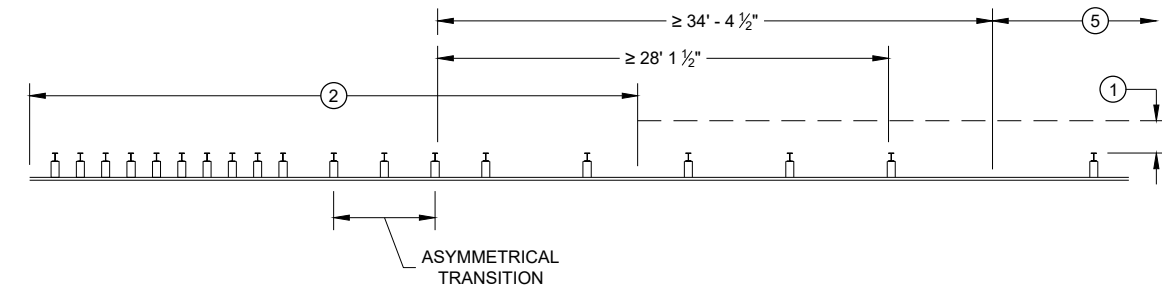
- NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
- DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

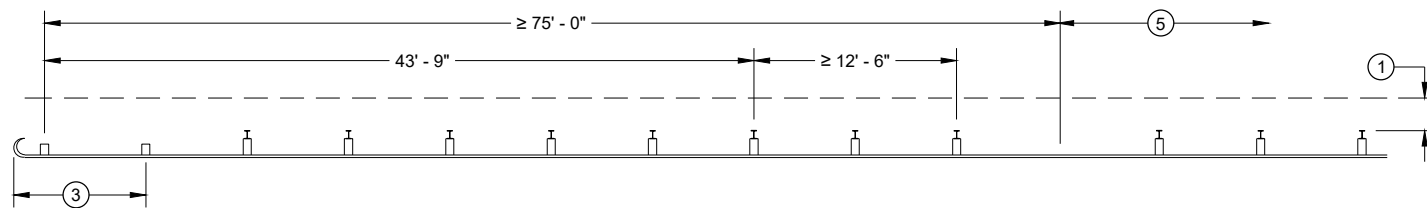
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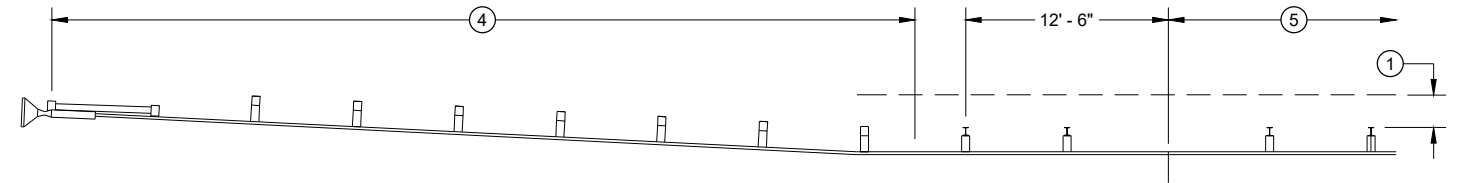
MISSING POST IN NORMAL BEAM GUARD RUN



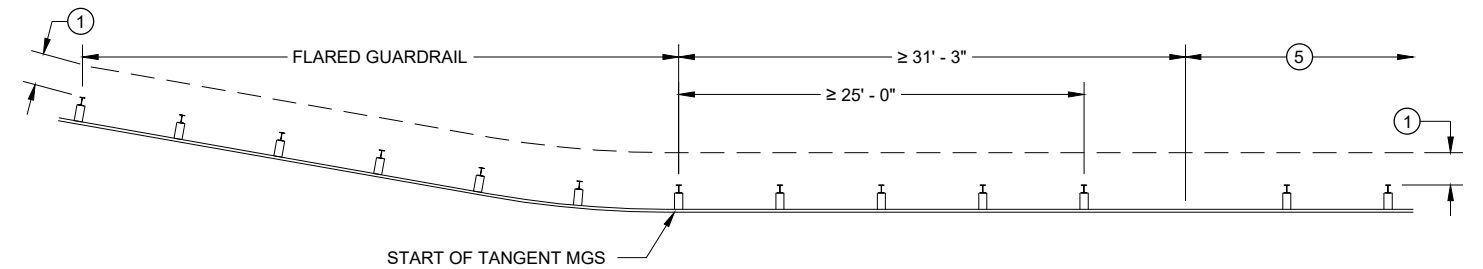
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



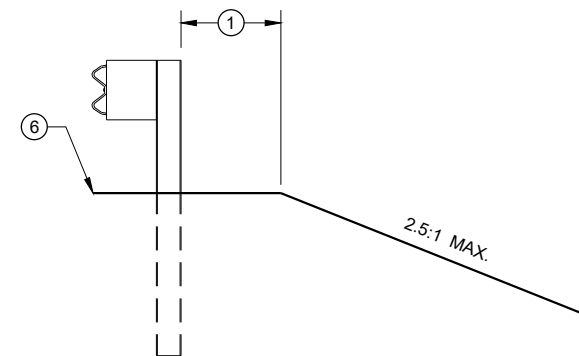
MISSING POST IN NORMAL BEAM GUARD RUN
NEAR TYPE 2 TERMINAL



MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



MISSING POST IN NORMAL BEAM GUARD RUN
NEAR FLARED BEAM GUARD



CROSS SECTION VIEW

- ① MINIMUM OF 2 FEET OF GRADING BEHIND POST.
- ② SEE SDD 14B45 FOR MORE DETAILS.
- ③ SEE SDD 14B47 FOR MORE DETAILS.
- ④ SEE SDD 14B44 FOR MORE DETAILS.
- ⑤ SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
- ⑥ SEE PLAN FOR SHOULDER DESIGN.

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

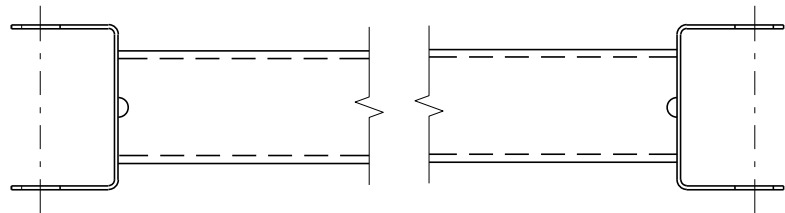
- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- (C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. 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.

THE CENTER OF THE UPPER 3 1/2" 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.

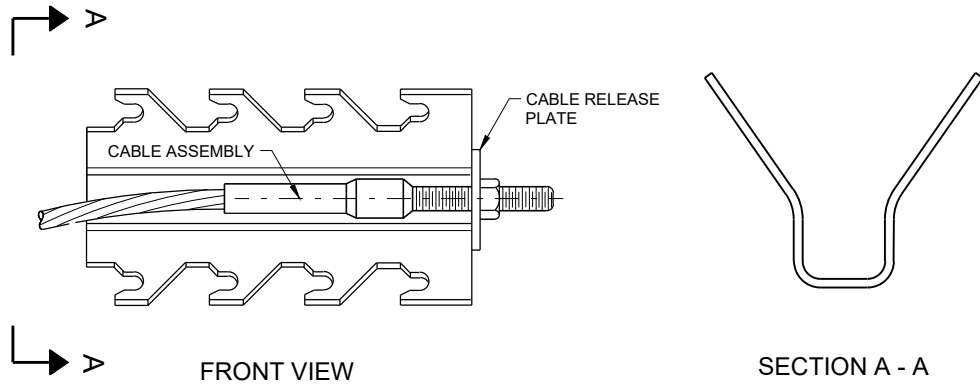


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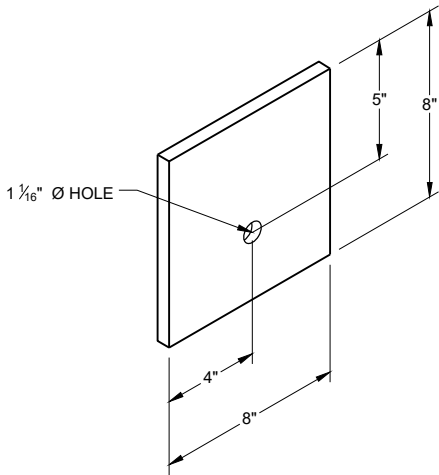


GENERIC GROUND STRUT^⑨ [Ⓔ]

BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'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



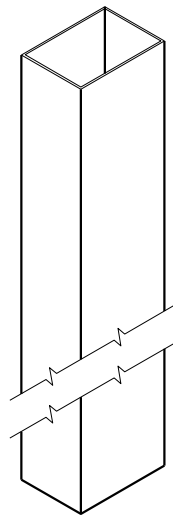
GENERIC ANCHOR CABLE BOX^⑨ [Ⓔ]



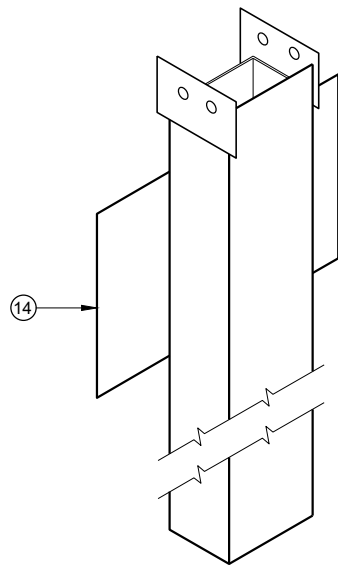
BEARING PLATE^⑥ [Ⓔ]

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

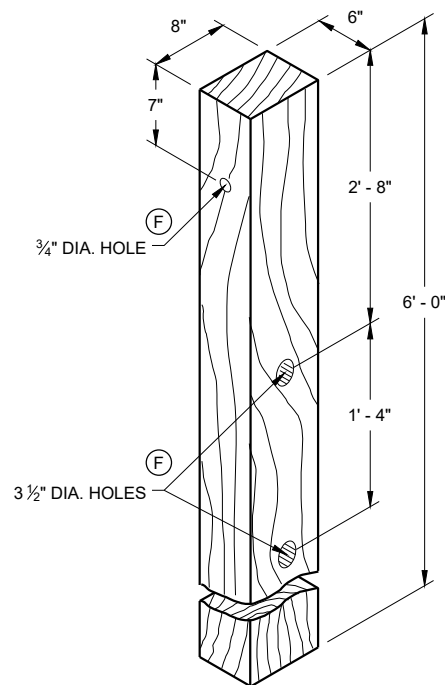
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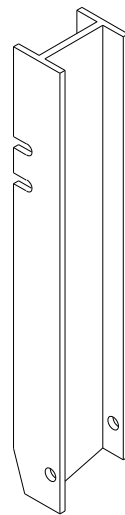
UPPER POST NO. 1^① (E)



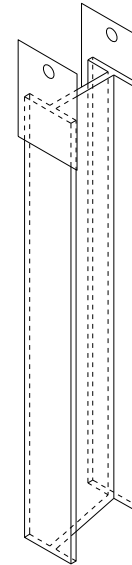
LOWER POST NO. 1^② (E)



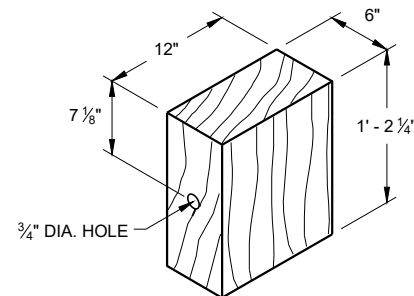
WOOD CRT POST^③ (E)
POSTS NUMBER 3-9



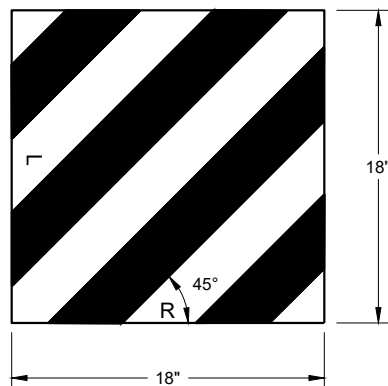
UPPER POST NO. 2^⑮ (E)



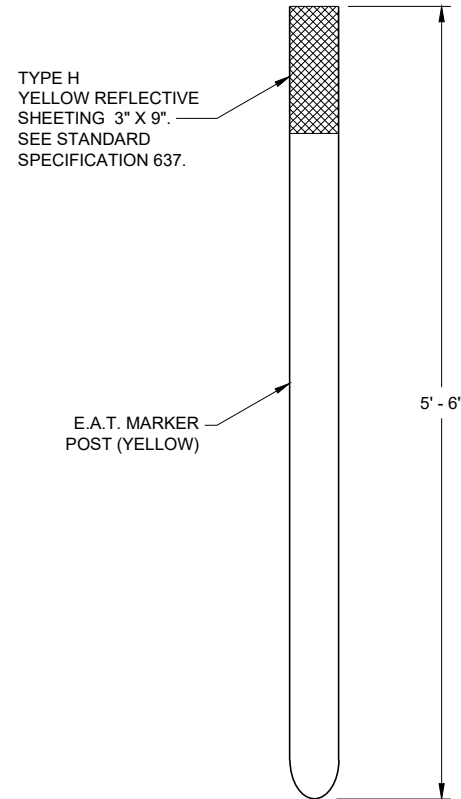
LOWER POST NO. 2^⑯ (E)



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



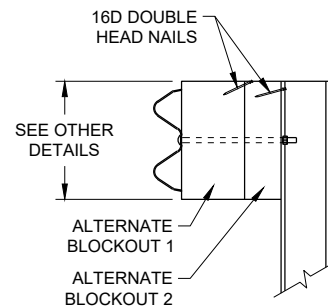
REFLECTIVE SHEETING DETAIL^⑤



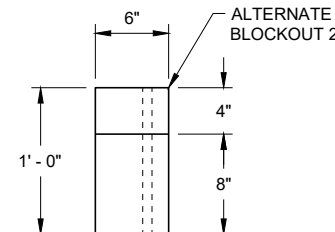
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST^⑬



SIDE VIEW



TOP VIEW

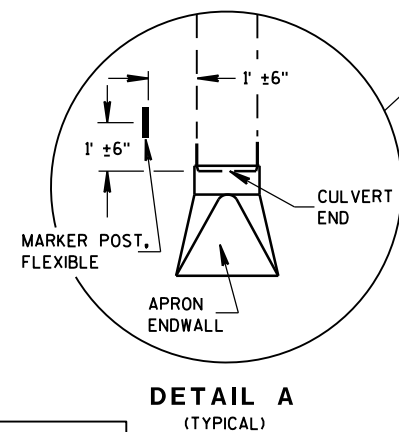
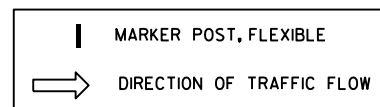
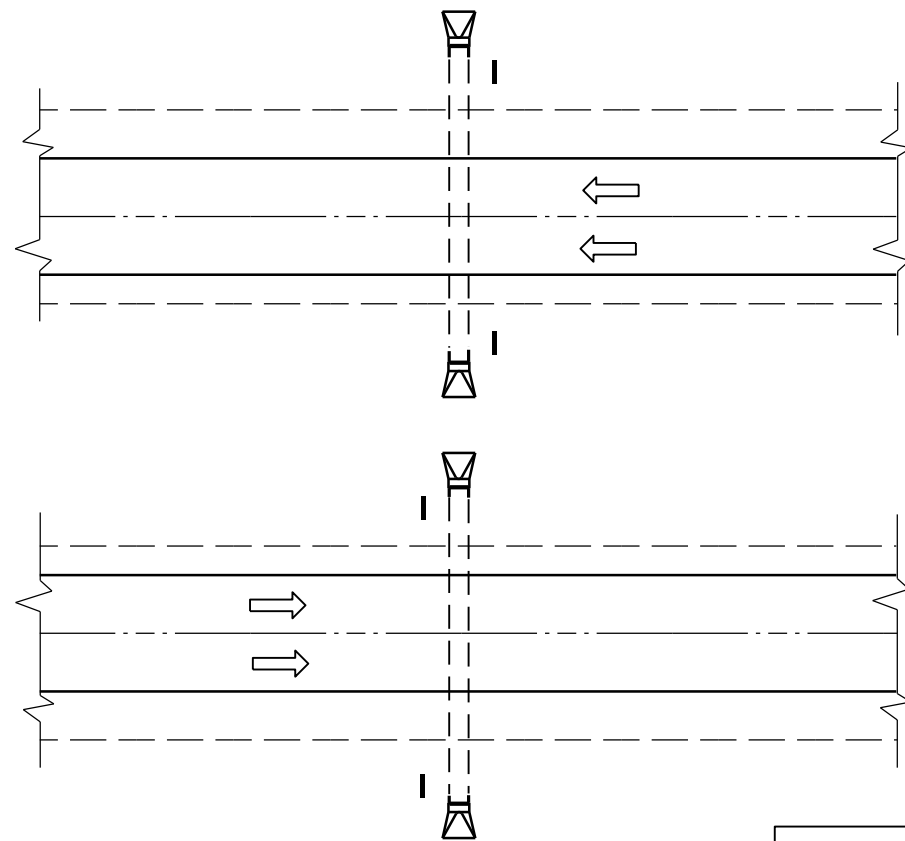
ALTERNATE WOOD
BLOCKOUT DETAIL

**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

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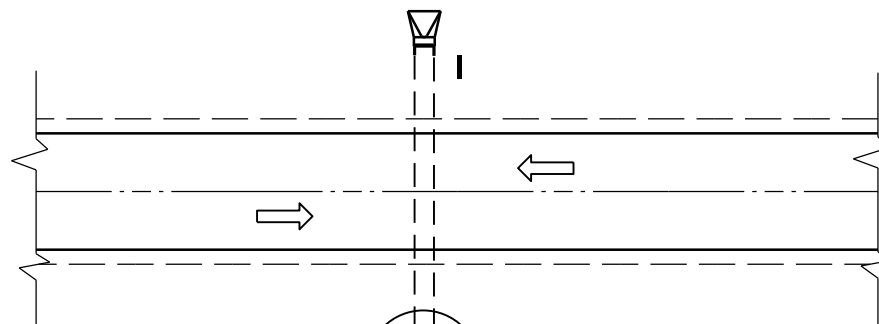
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7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

PLAN VIEW
DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

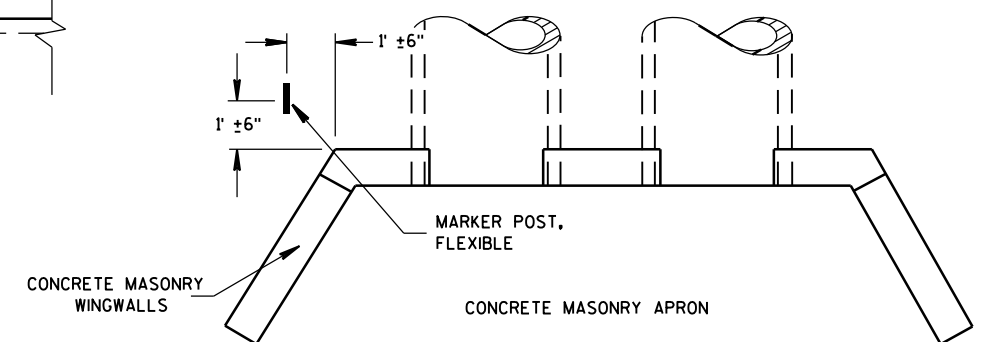
PLAN VIEW
UNDIVIDED HIGHWAY



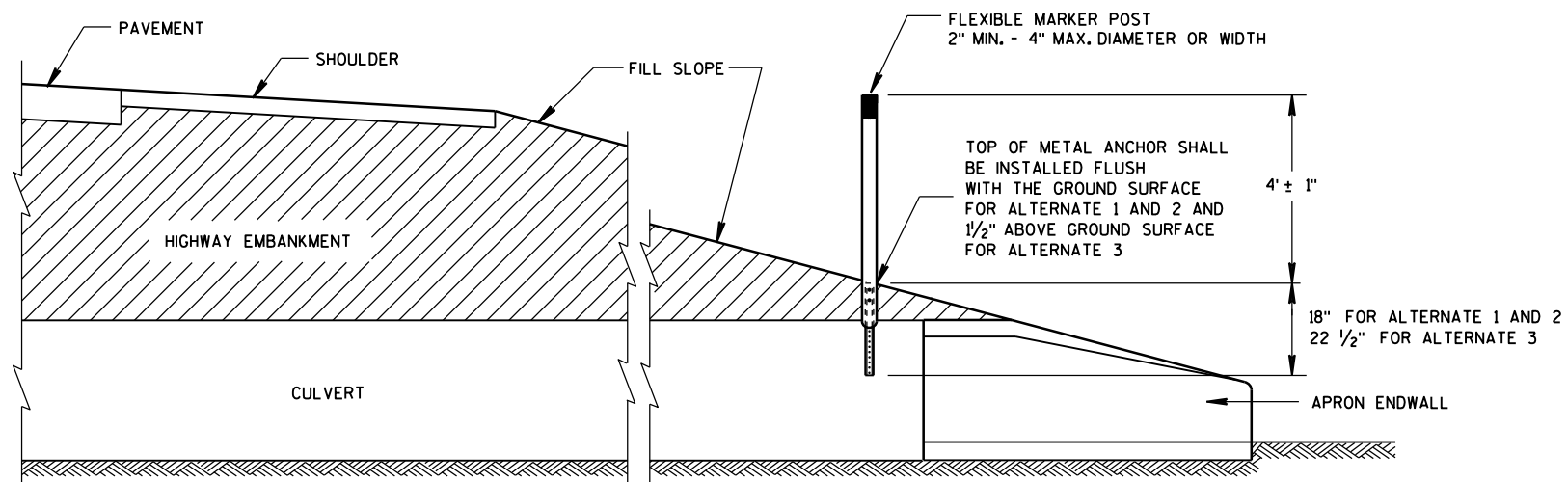
FLEXIBLE MARKER POST LOCATION

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.



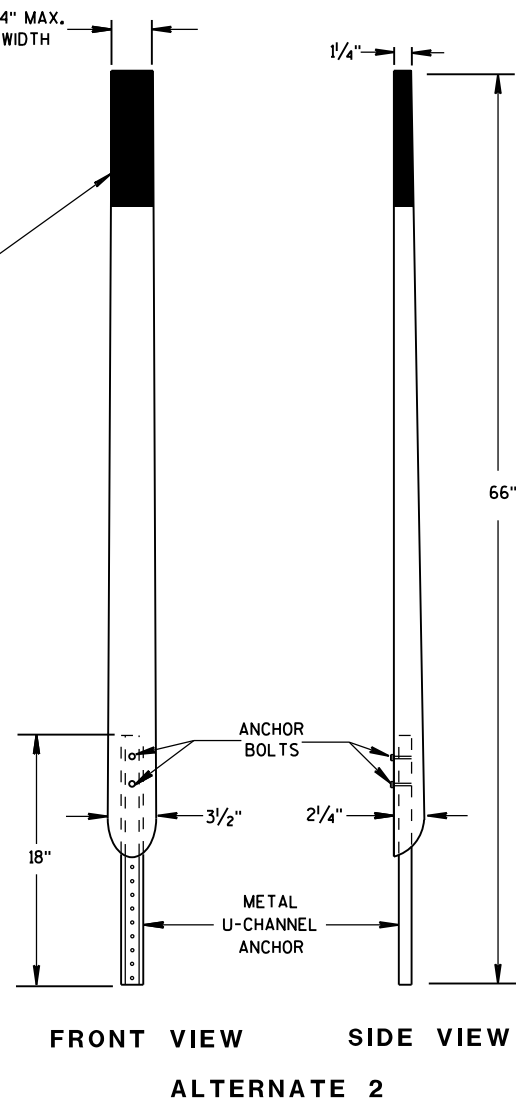
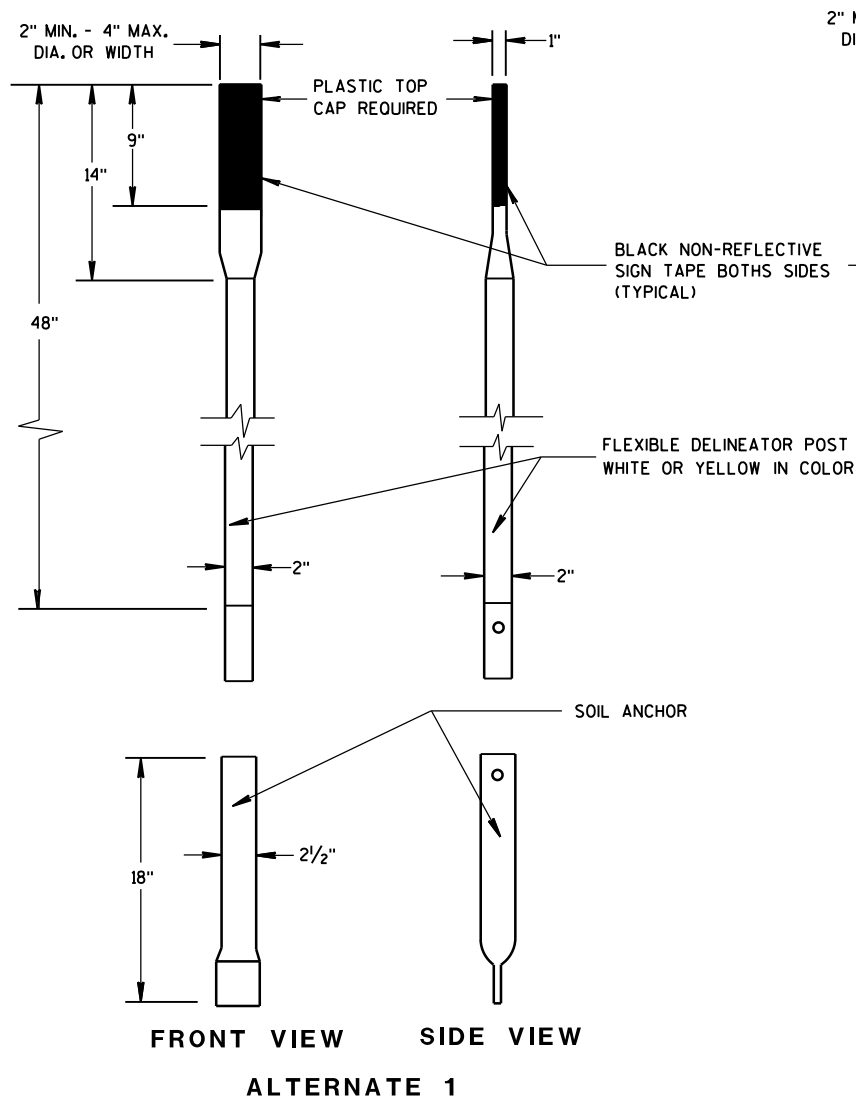
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



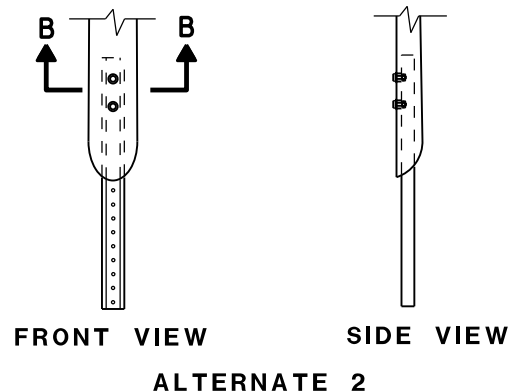
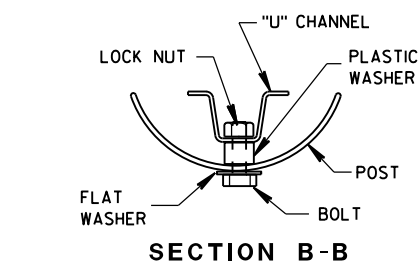
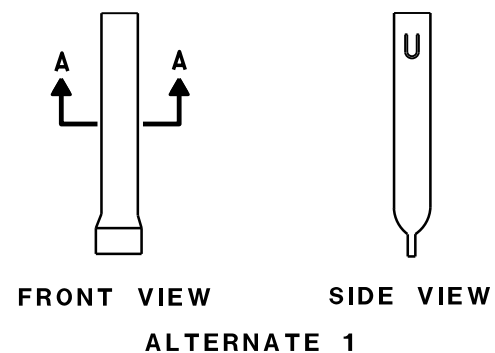
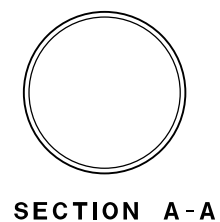
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

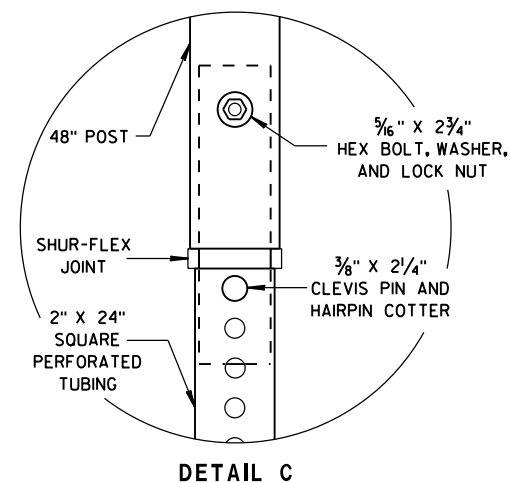
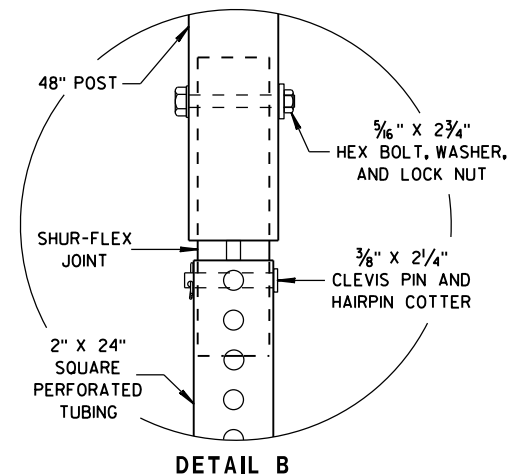
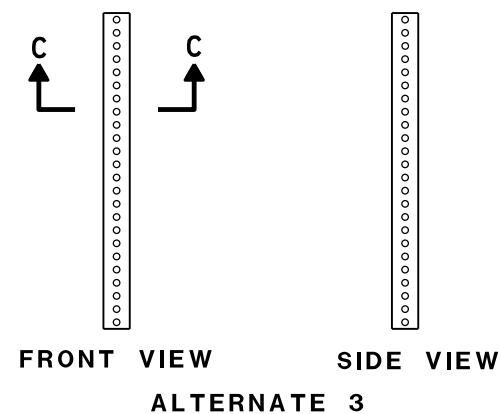
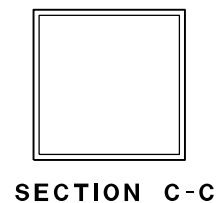
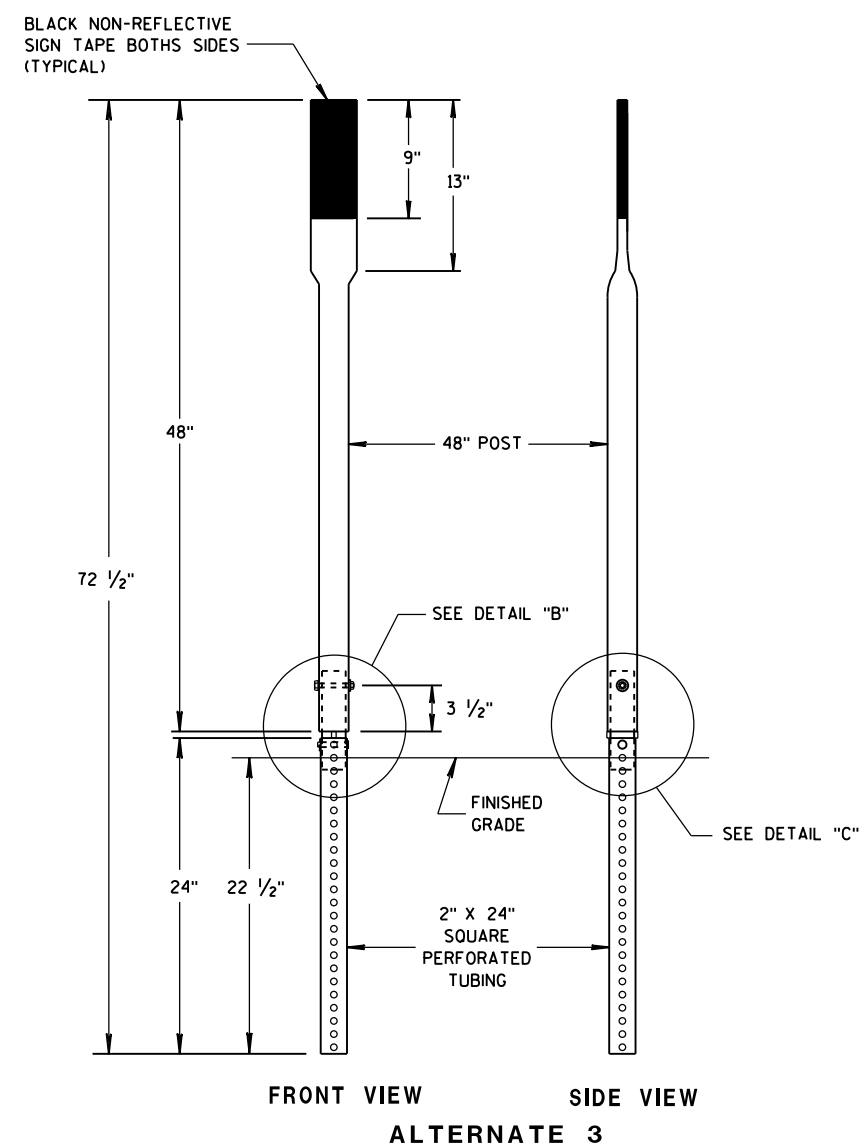
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FLEXIBLE MARKER POSTS



FLEXIBLE MARKER POST ANCHORS



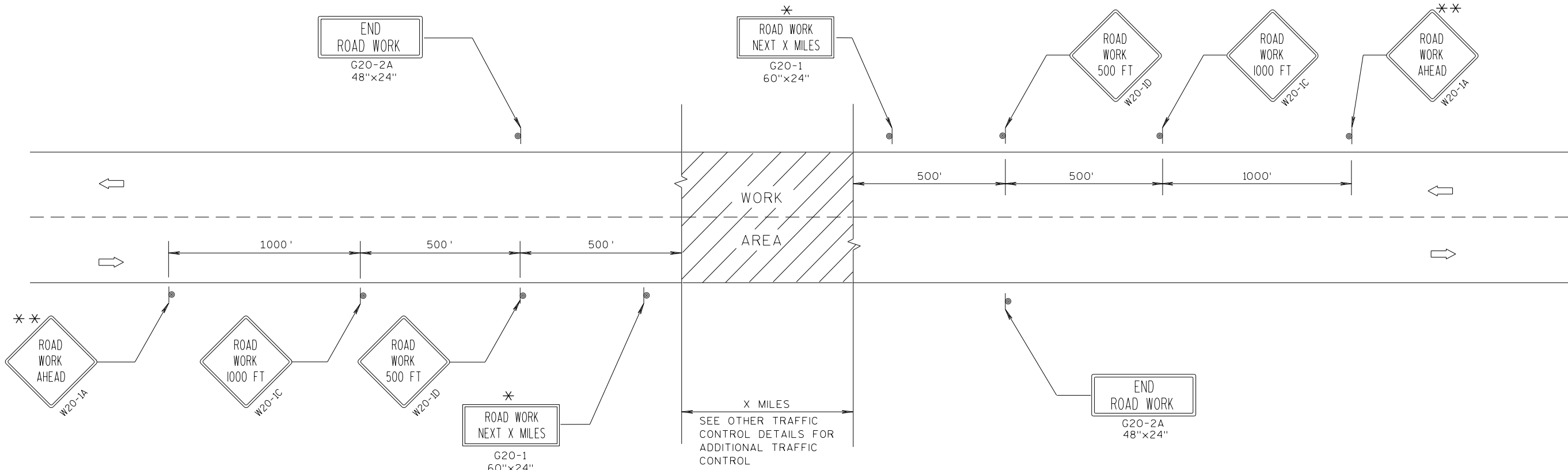
FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012
DATE

FHWA

/S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

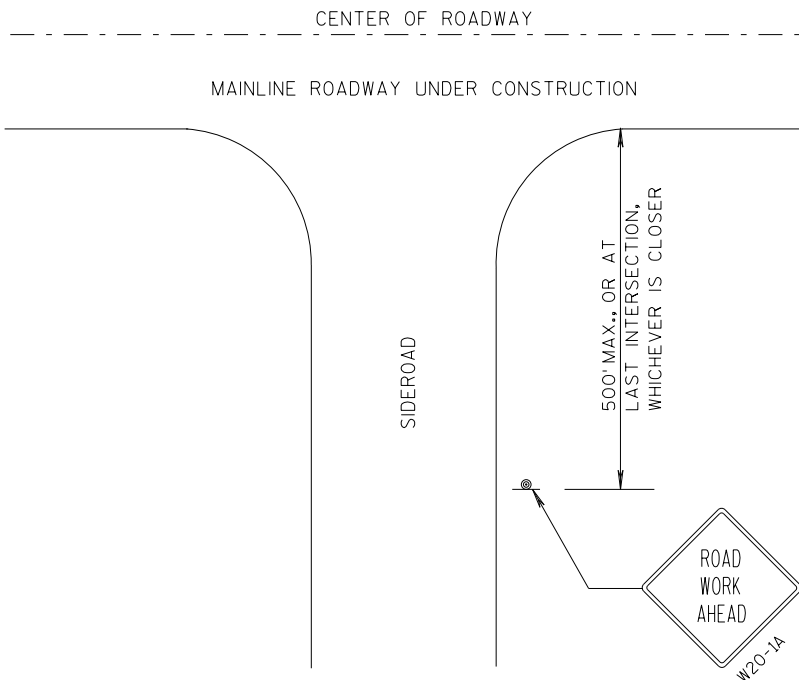
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 RE-ESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

* * PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



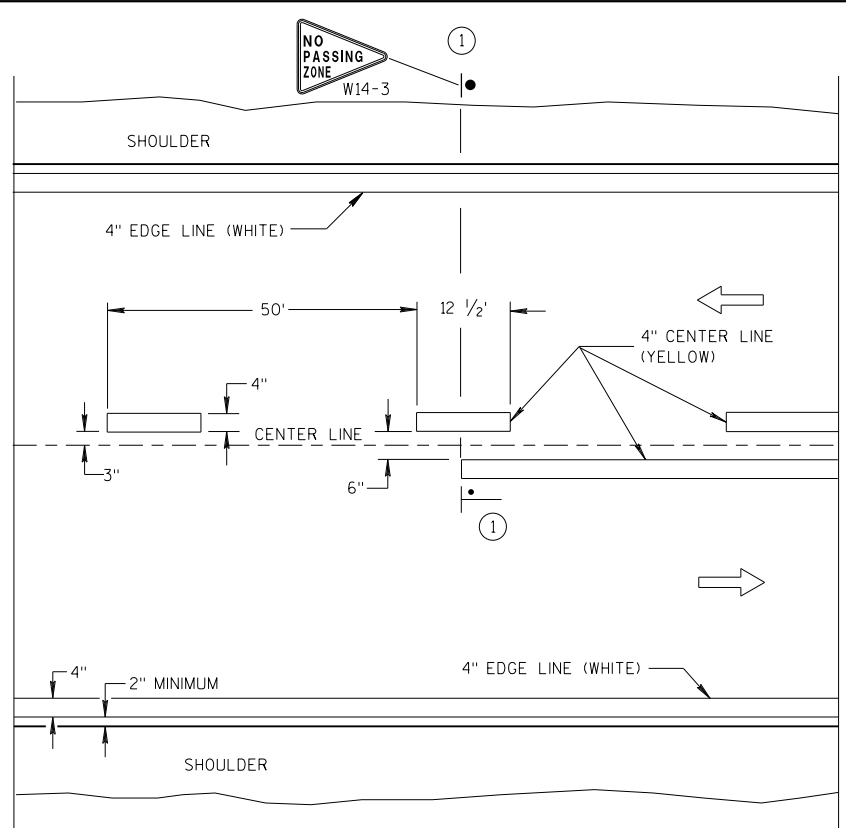
LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

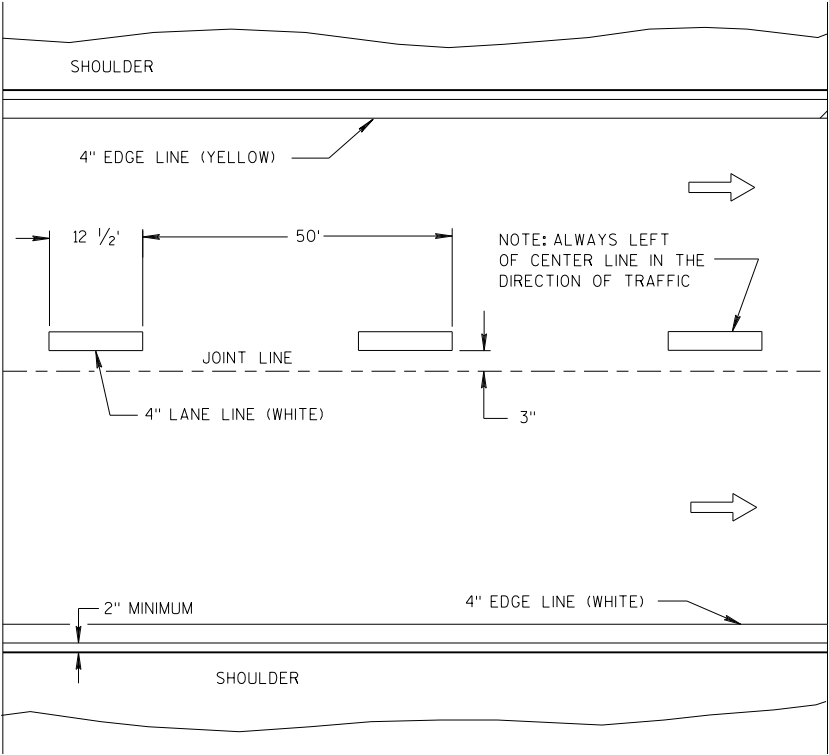
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

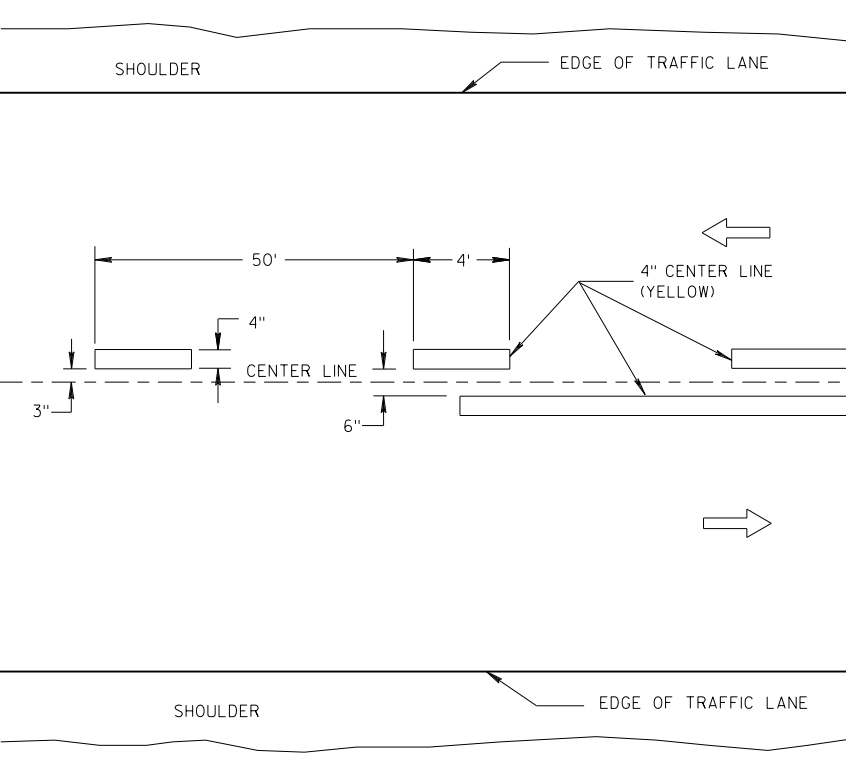


TWO WAY TRAFFIC

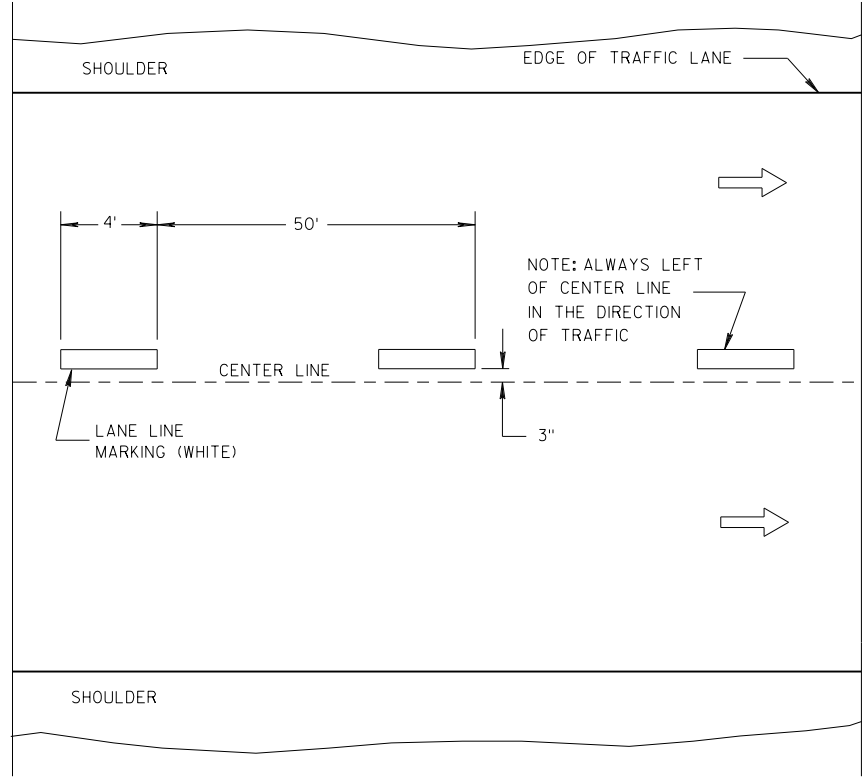


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

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.

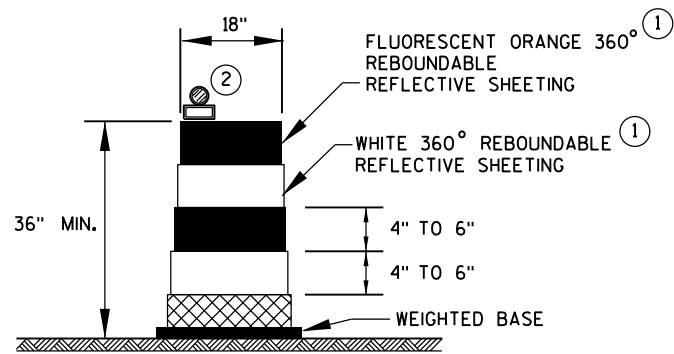
NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

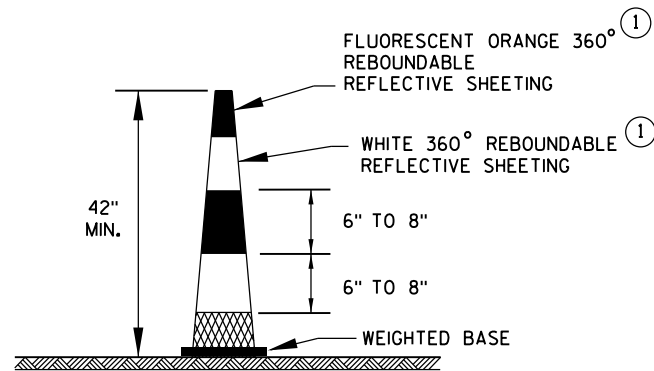
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 7/2018 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	



DRUM

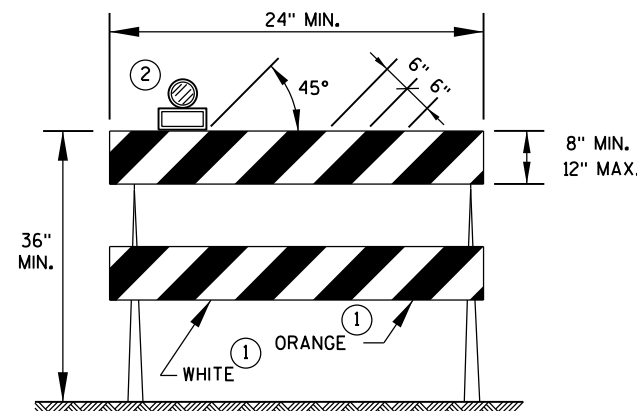


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

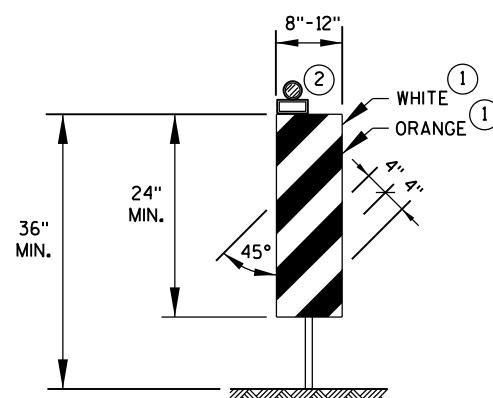
GENERAL NOTES

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



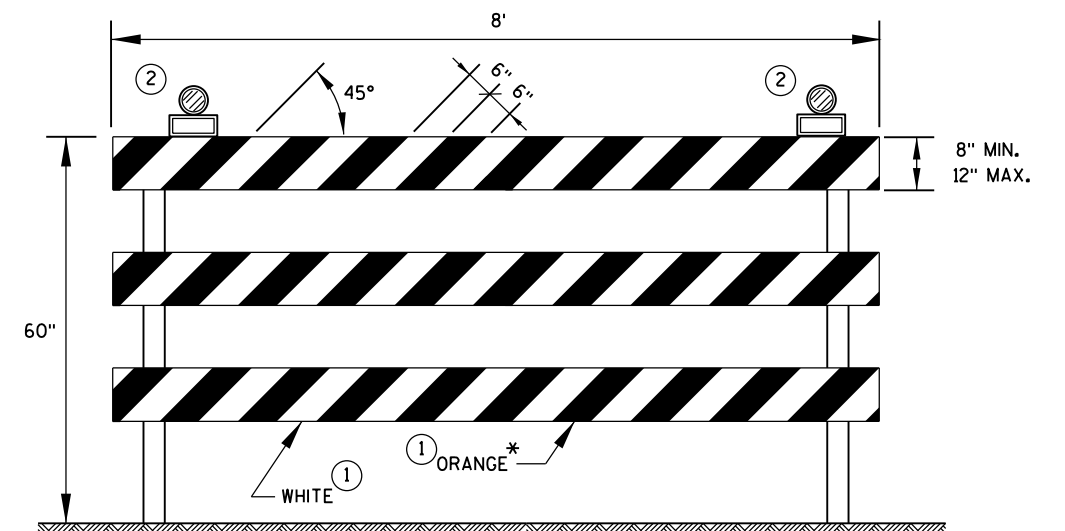
TYPE 2 BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED.
ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE 3 BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2017
DATE

FHWA

/S/ Andrew Heidtke
WORK ZONE ENGINEER

LEGEND

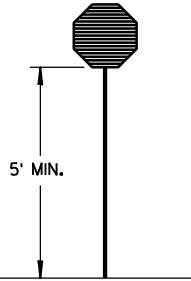
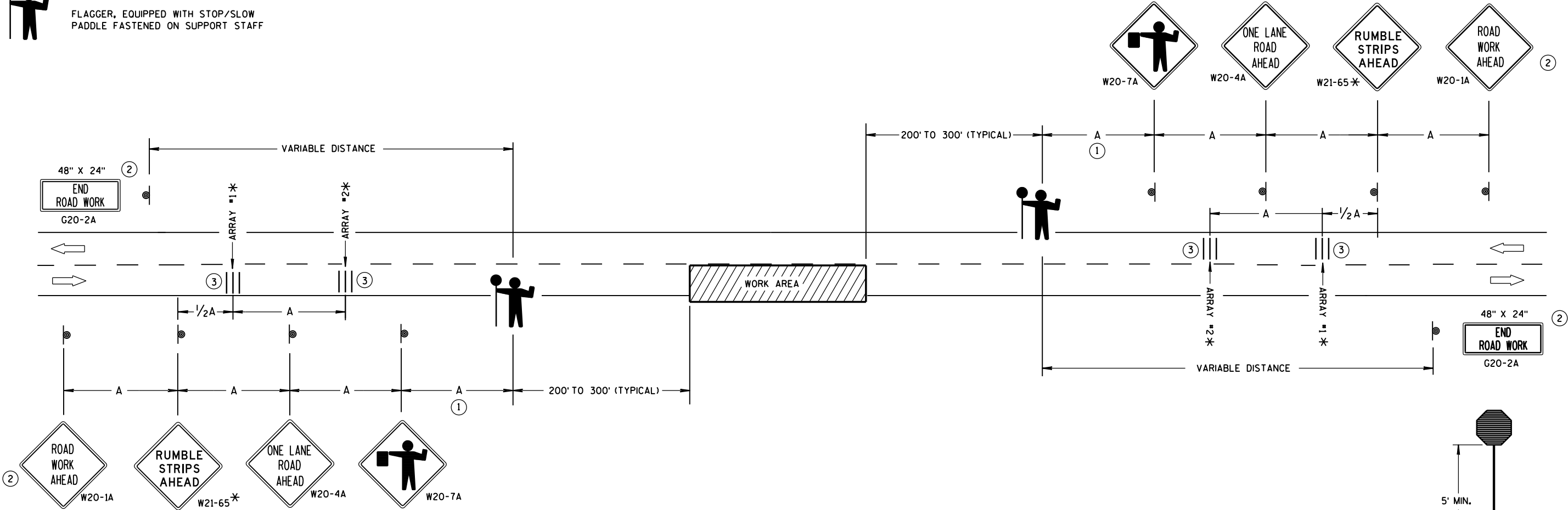
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

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.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE 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.

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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 RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

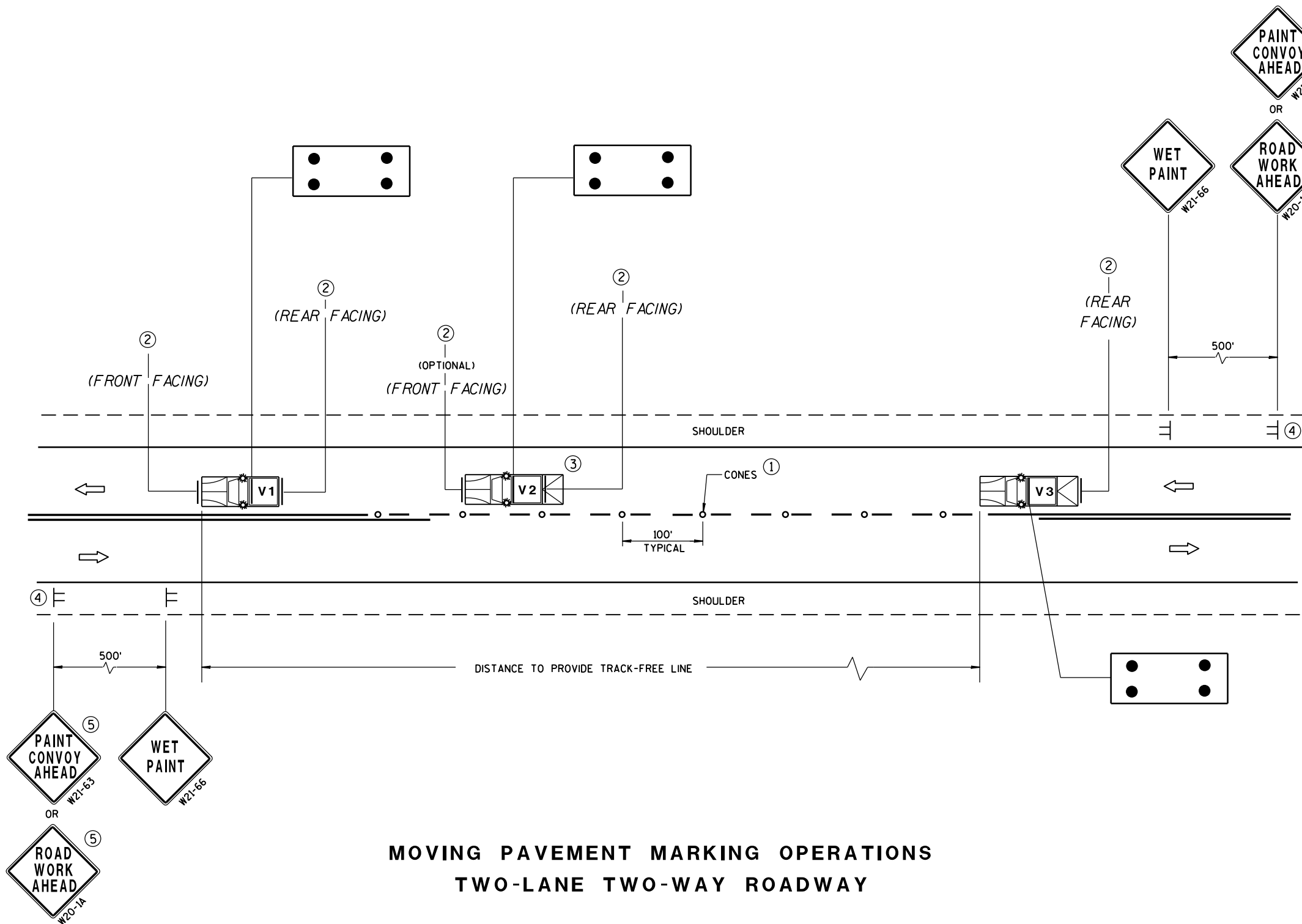
* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

- FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

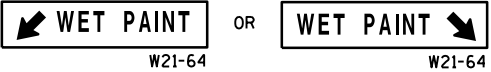
APPROVED
June 2017 /S/ Andrew Heldtke
DATE WORK ZONE ENGINEER
FHWA



MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

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.
- 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.
- IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.
- ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.
- 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 OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.
- THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.
- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.
- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.



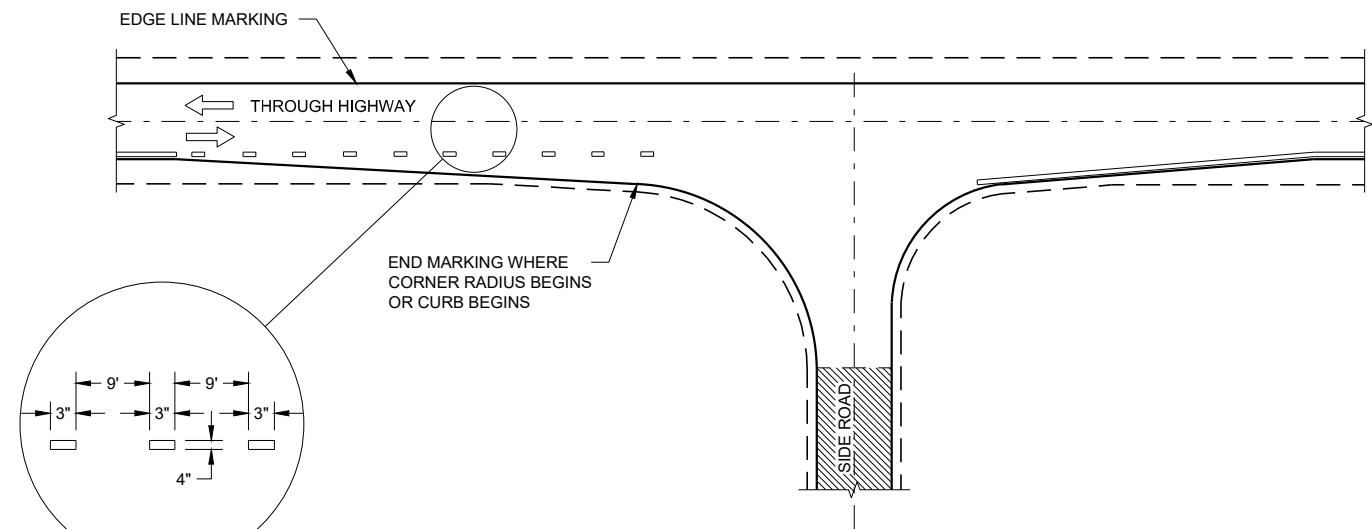
LEGEND

- V1** LEAD VEHICLE
- V2** SHADOW VEHICLE
- V3** TRAIL VEHICLE WITH TMA
- TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL (CAUTION)

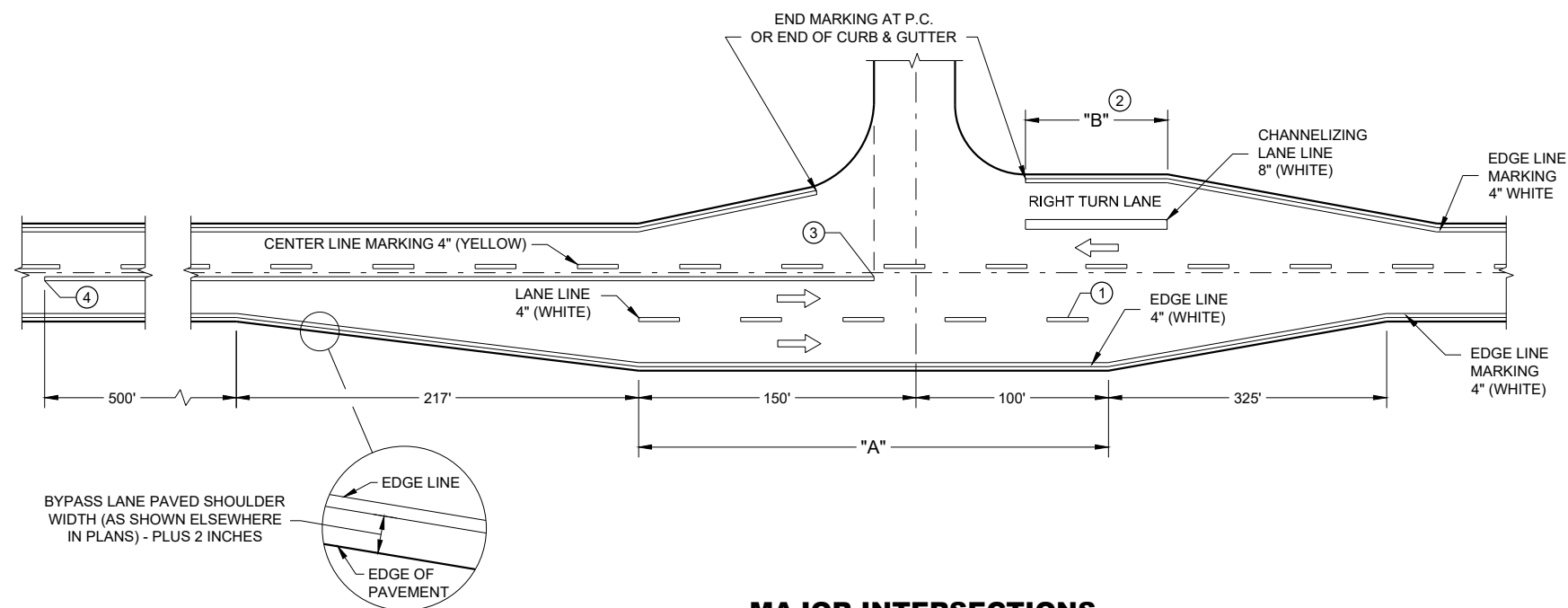
MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: Sept., 2017 /S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA



MINOR INTERSECTION



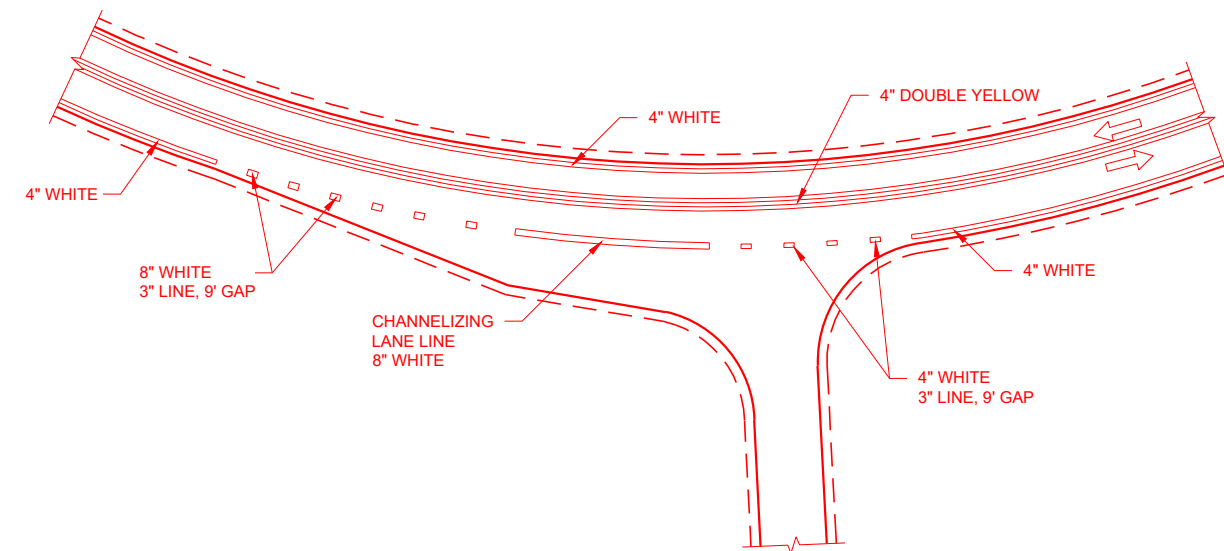
MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

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

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

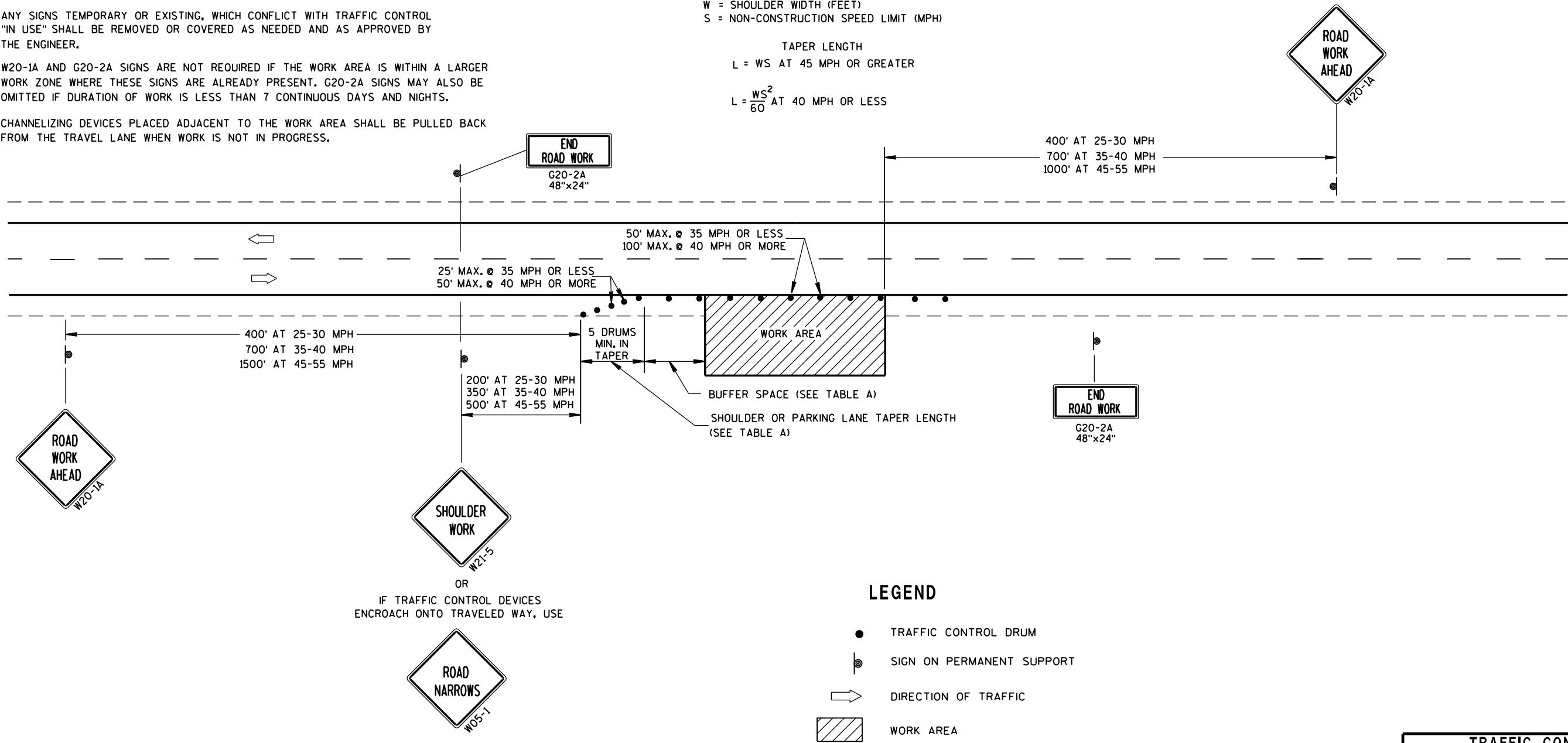
SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S \ W	4	6	8	10	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH
L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

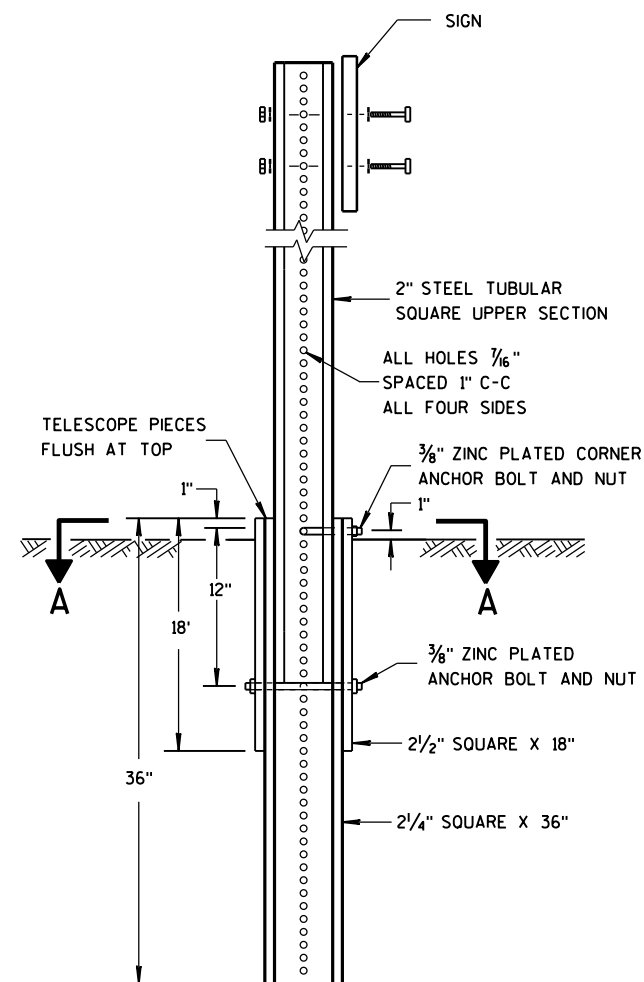
SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 14, 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

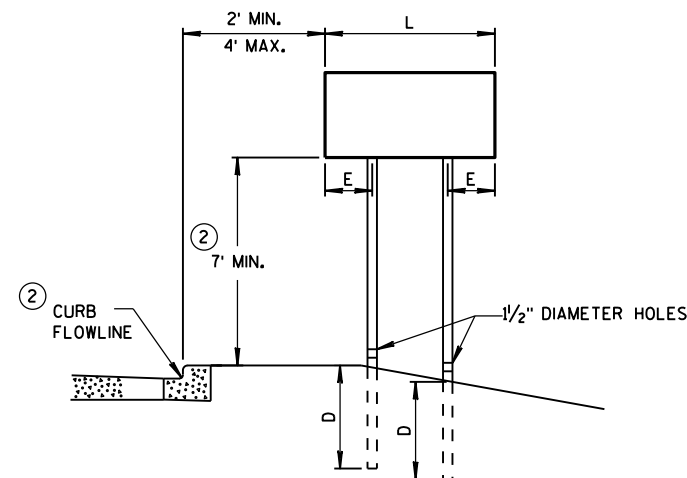
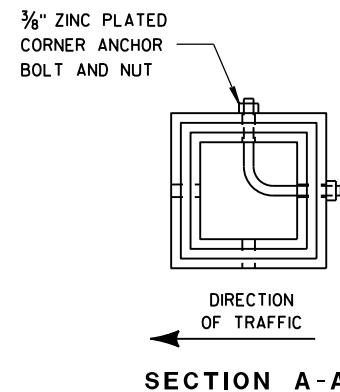


DETAIL OF TUBULAR STEEL SIGN POST

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

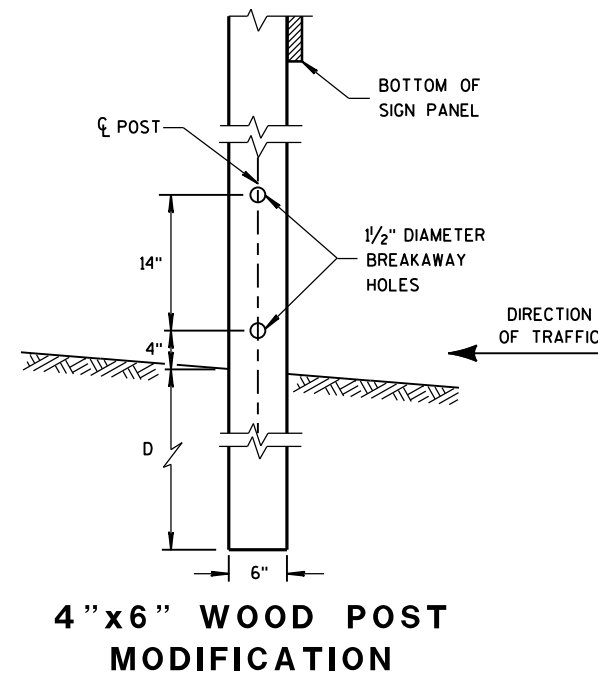


URBAN AREA

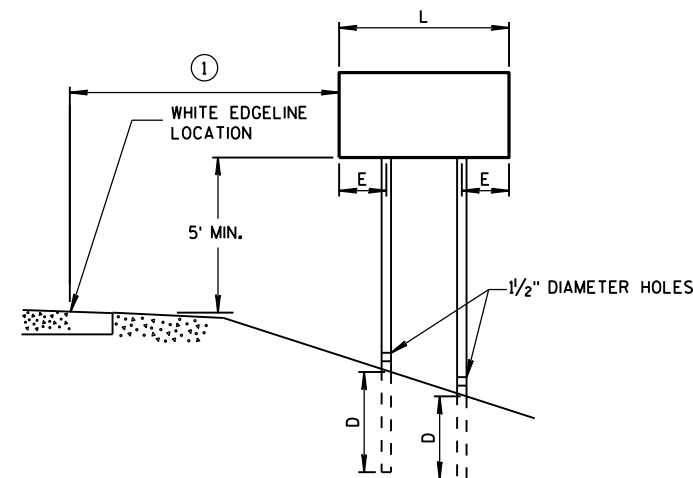
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4"x6" WOOD POST MODIFICATION



RURAL AREA

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

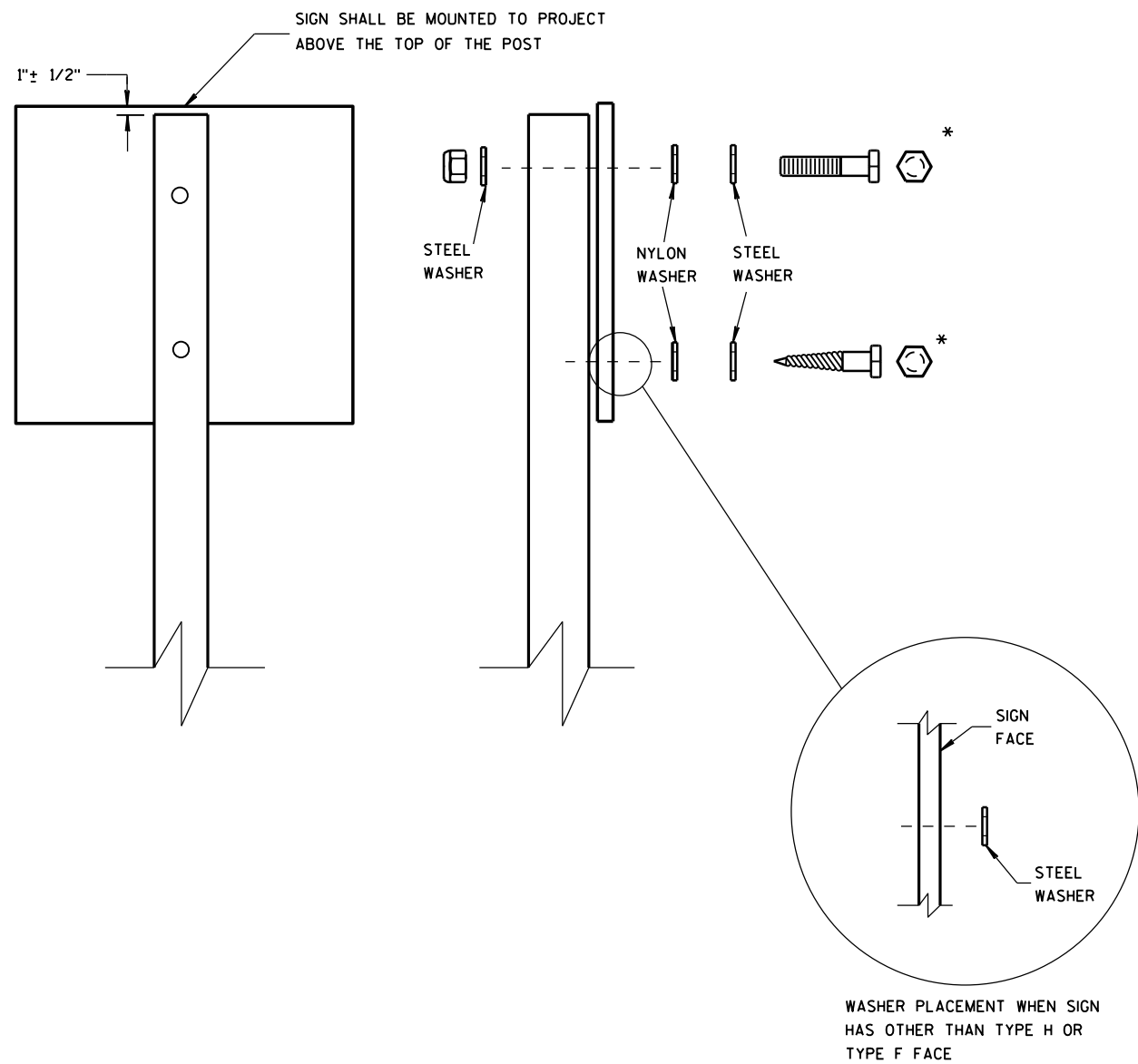
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

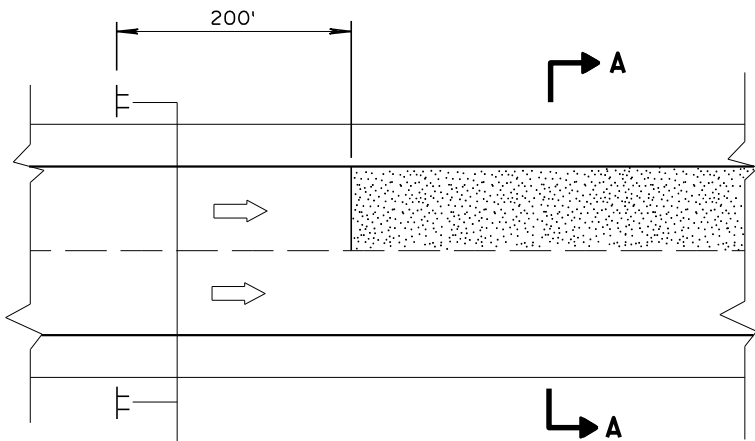
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	

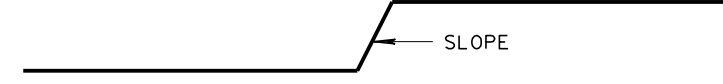


MULTI-LANE

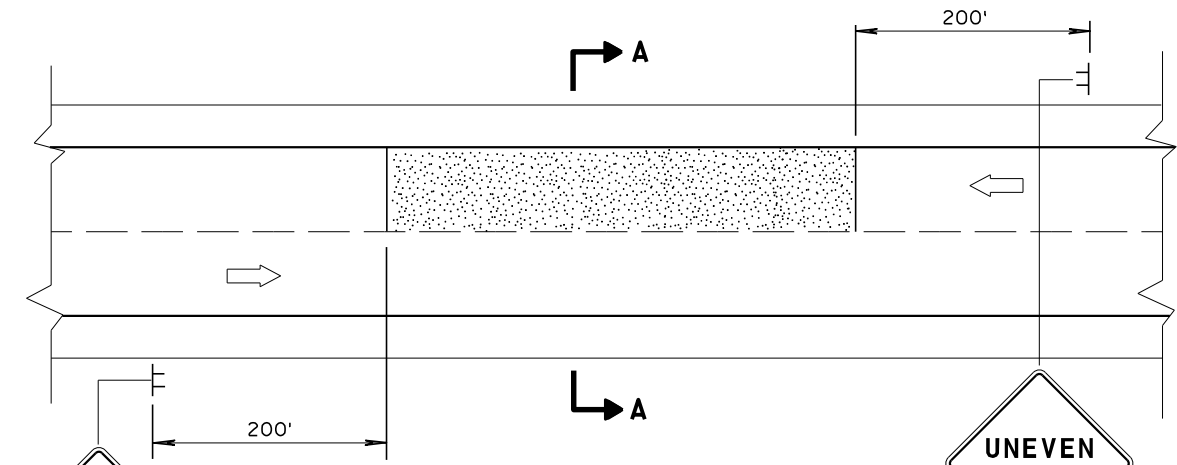


SECTION A-A

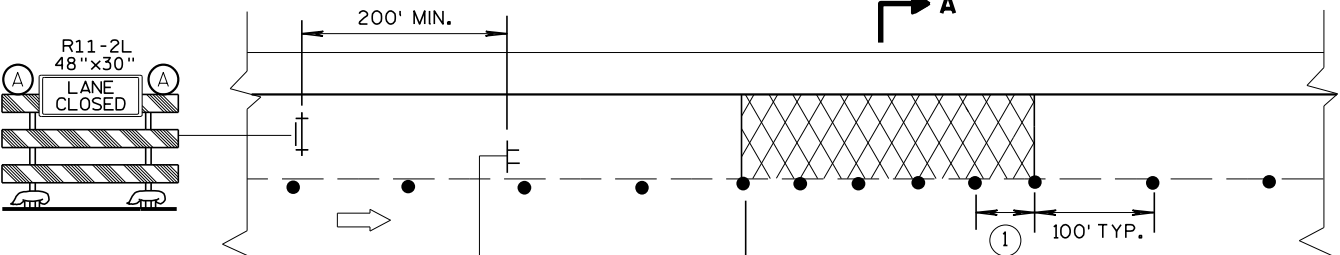
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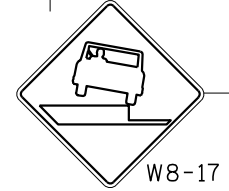
SECTION A-A



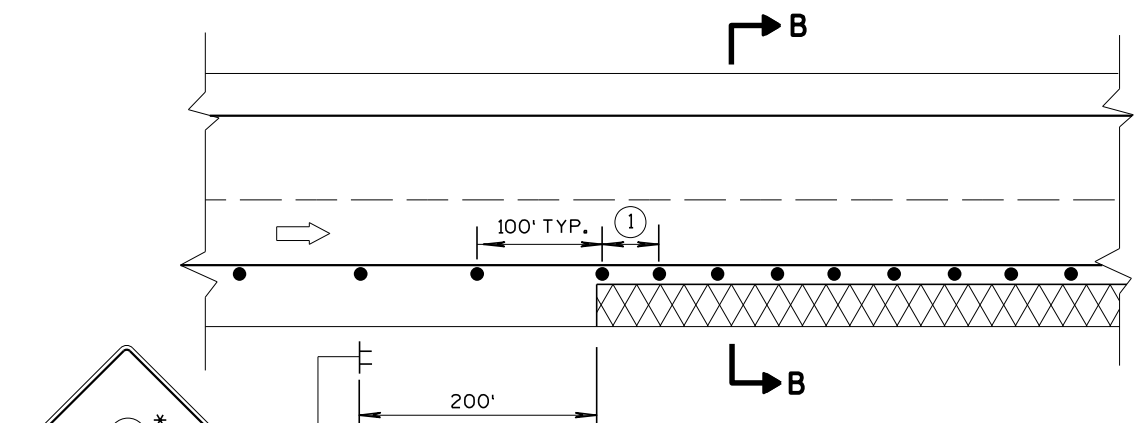
TWO-WAY TWO LANE



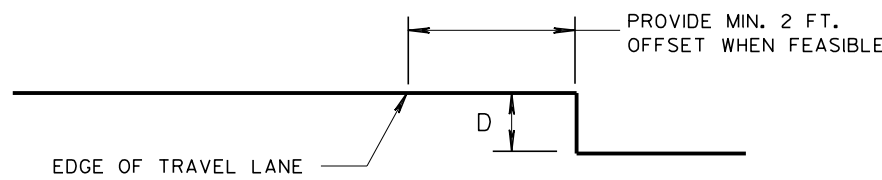
MULTI-LANE BASE PATCHING



ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B-B

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EACH ENTRANCE RAMP.

① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

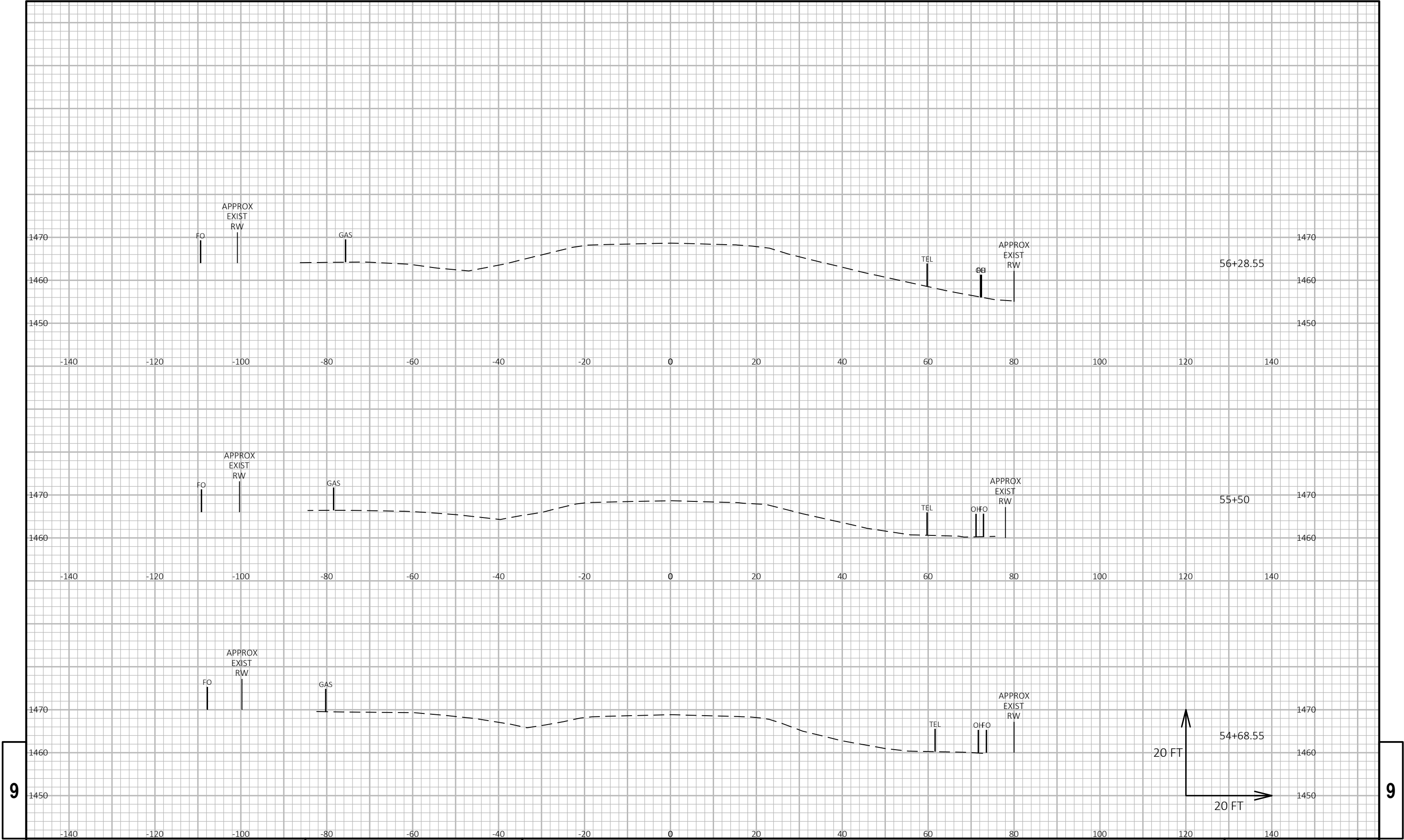
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	 W08-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	 W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

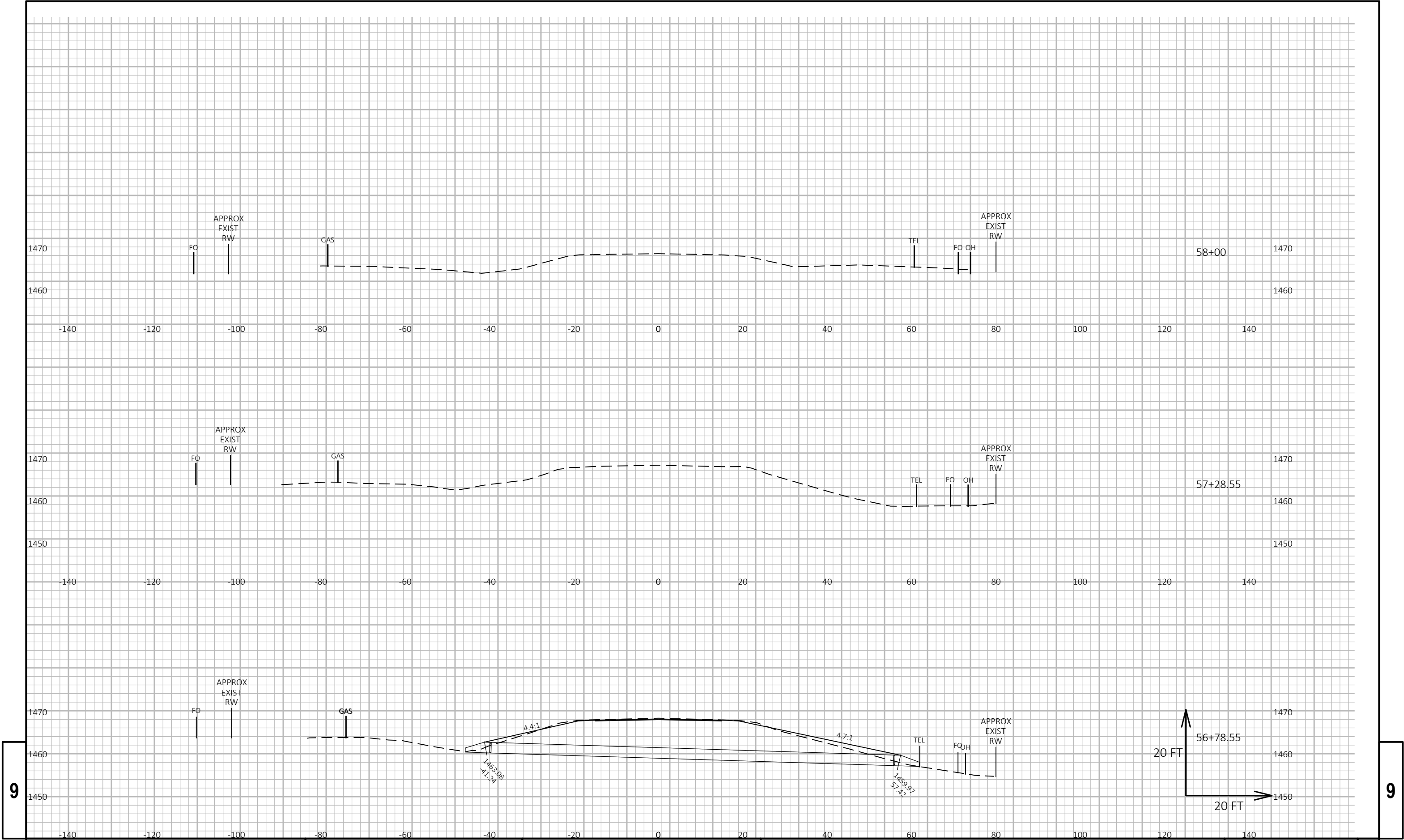
APPROVED
March 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



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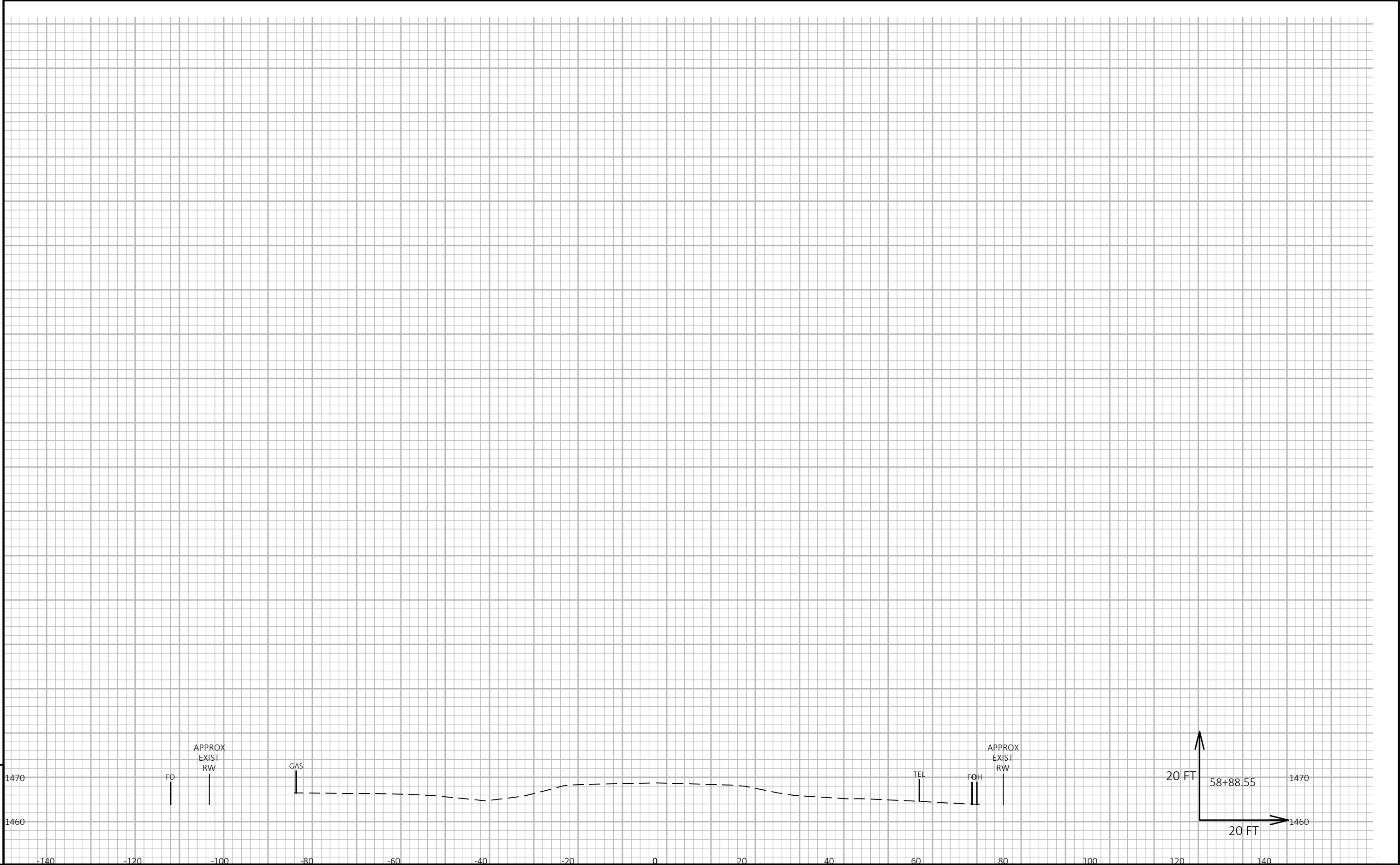
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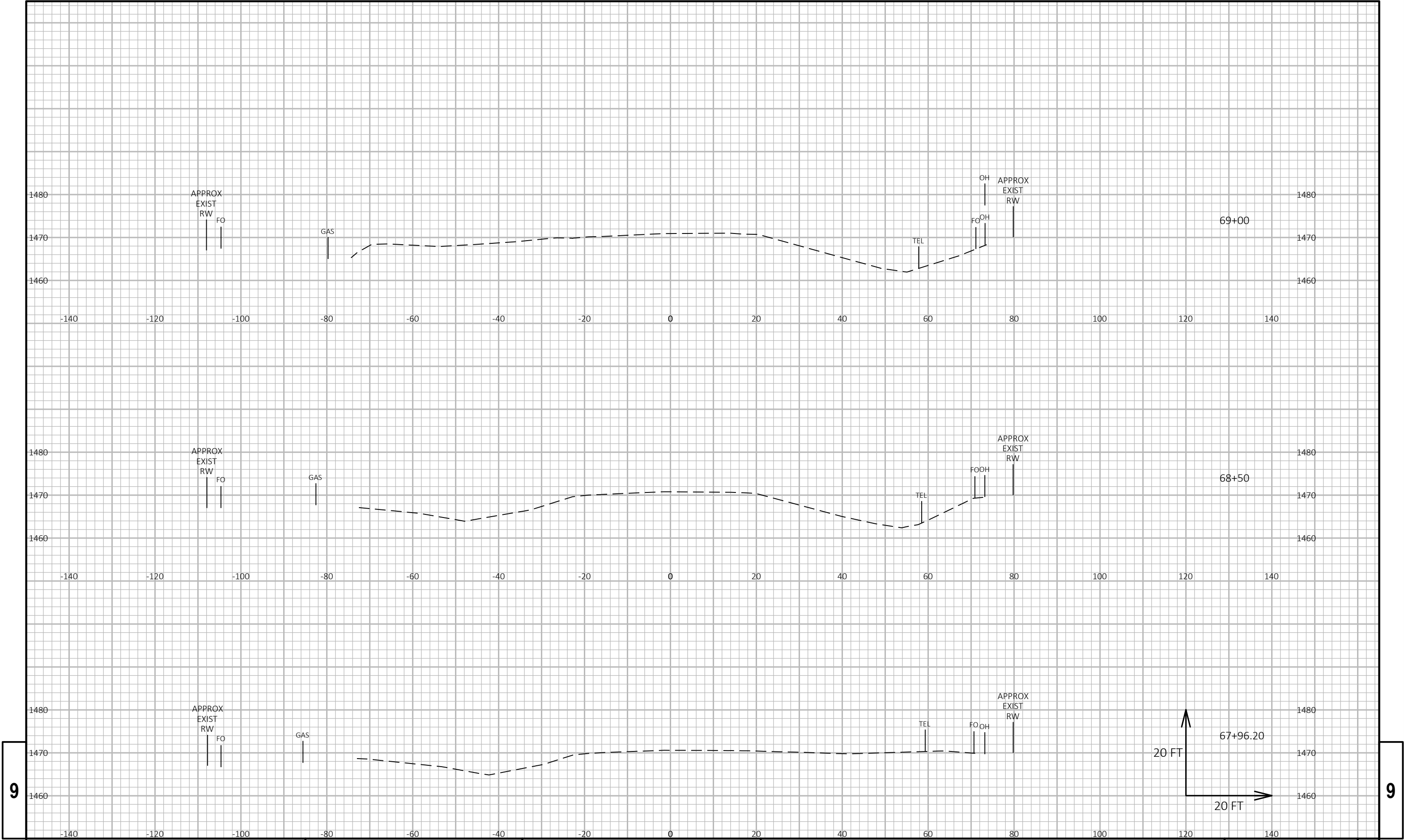
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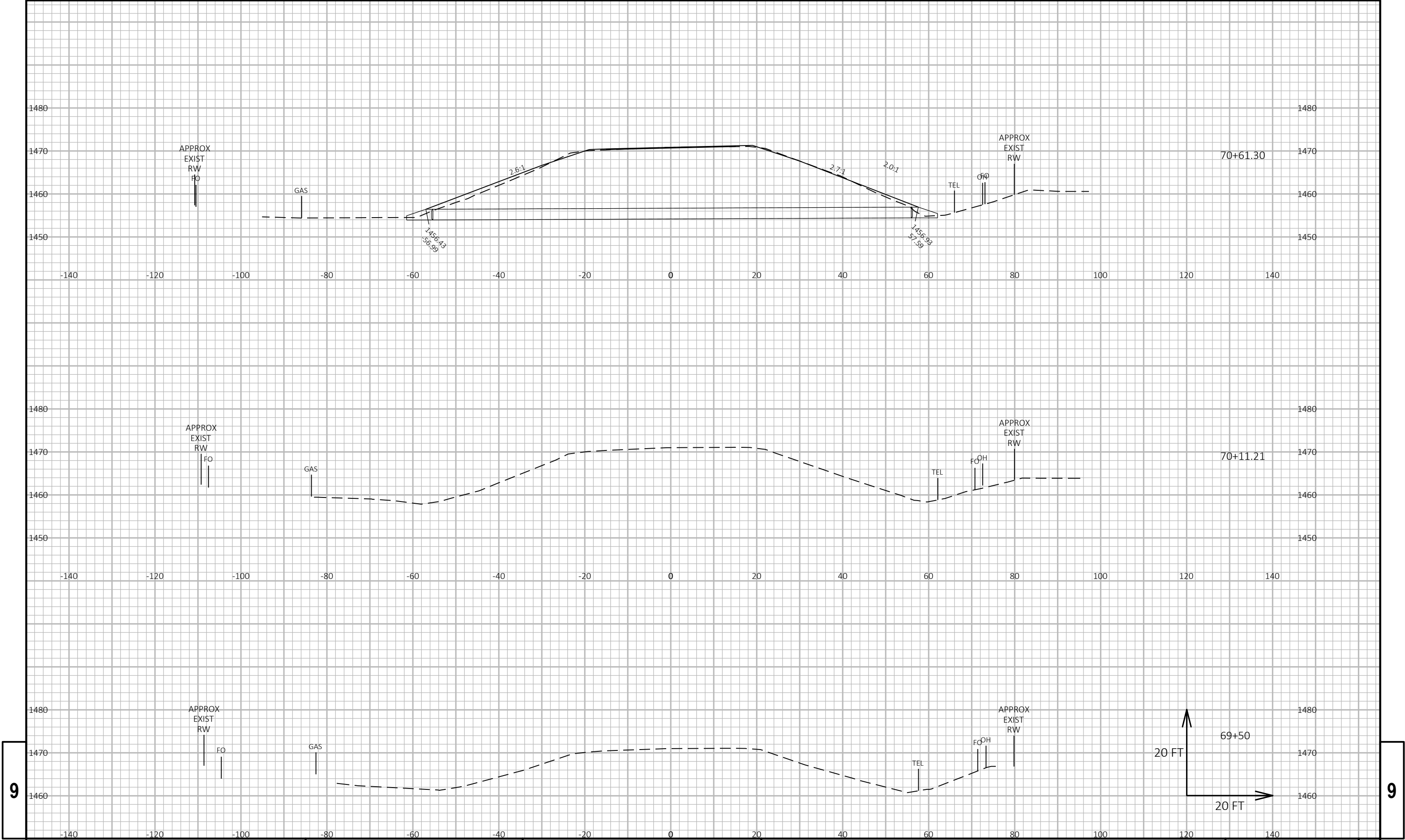
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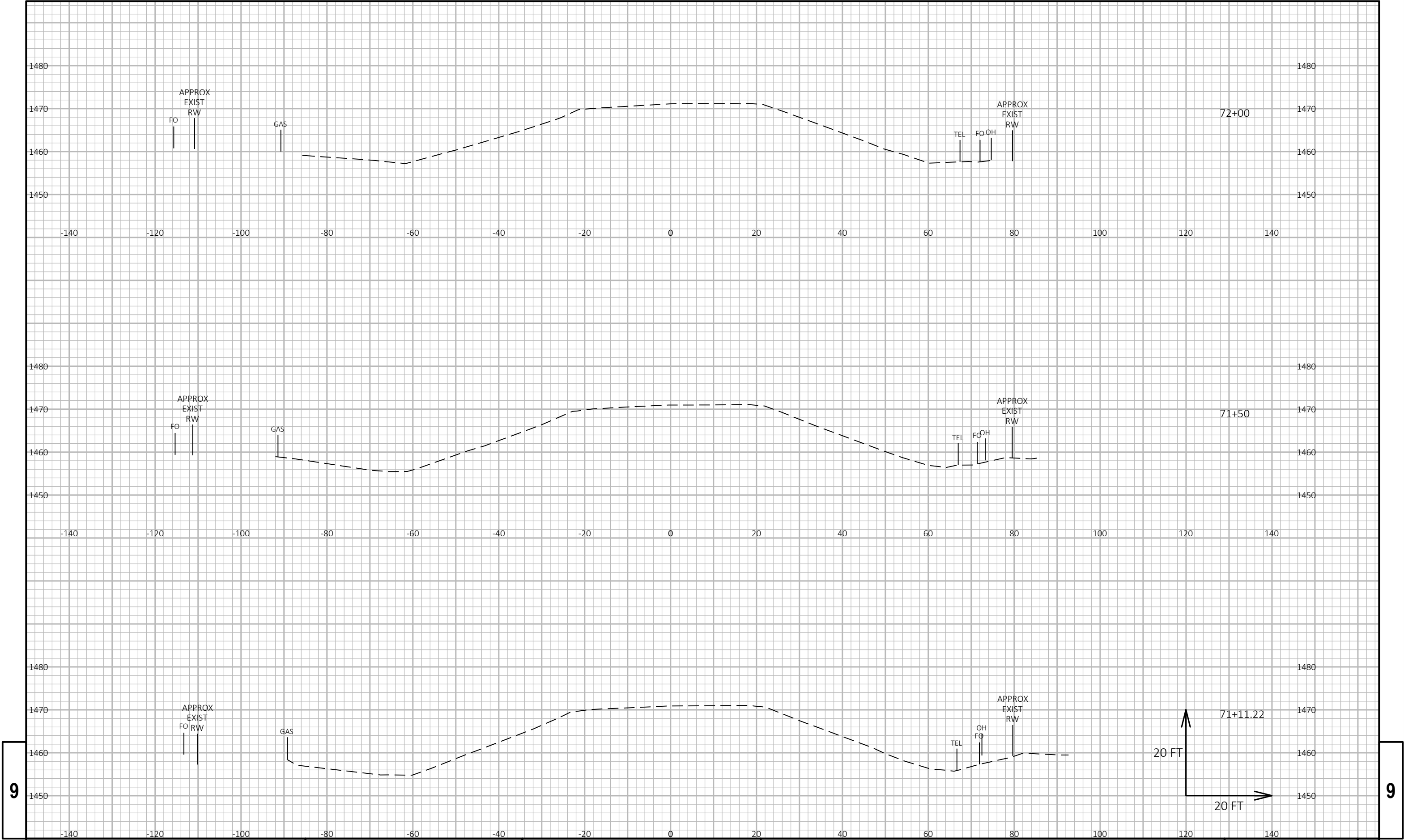
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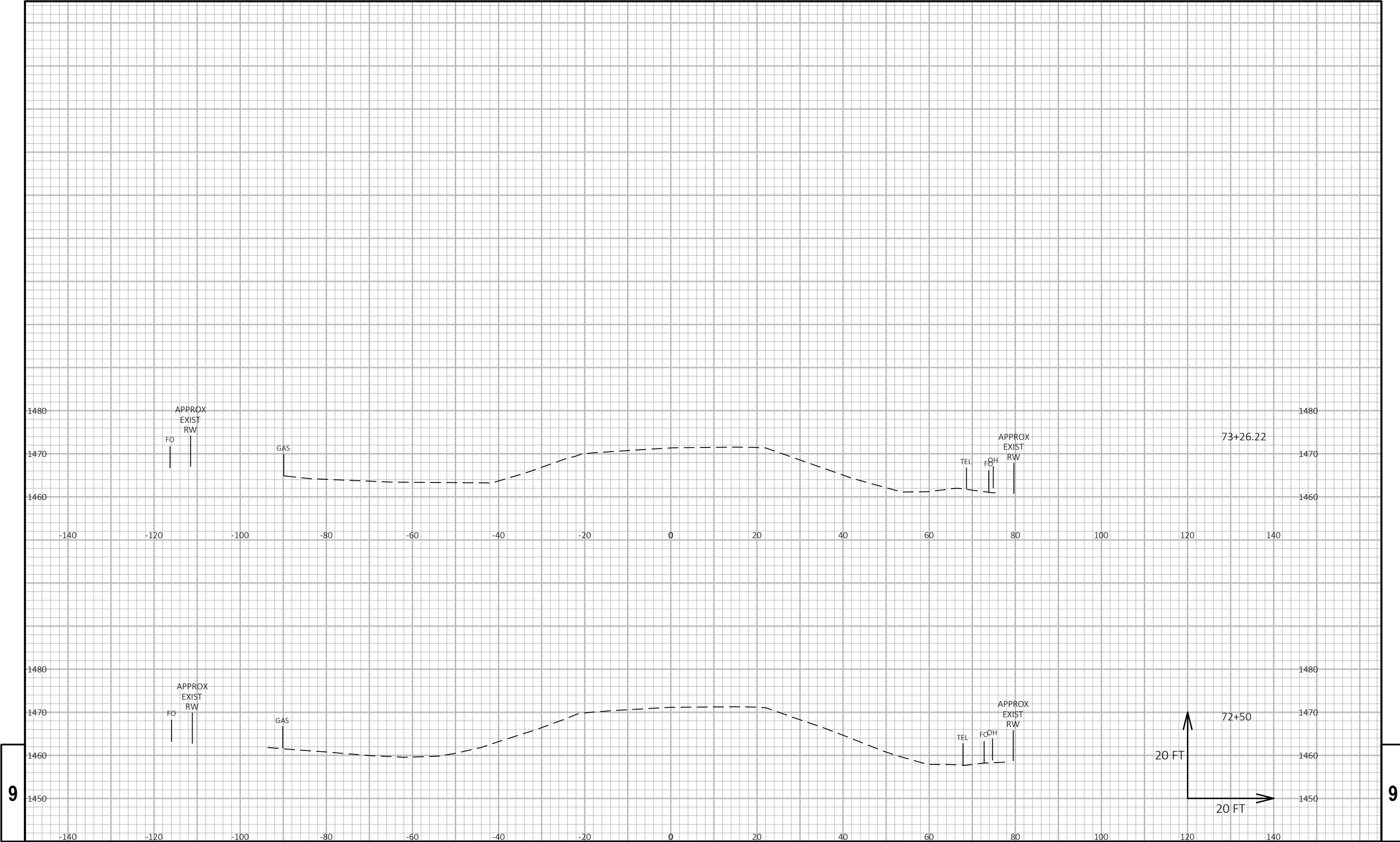
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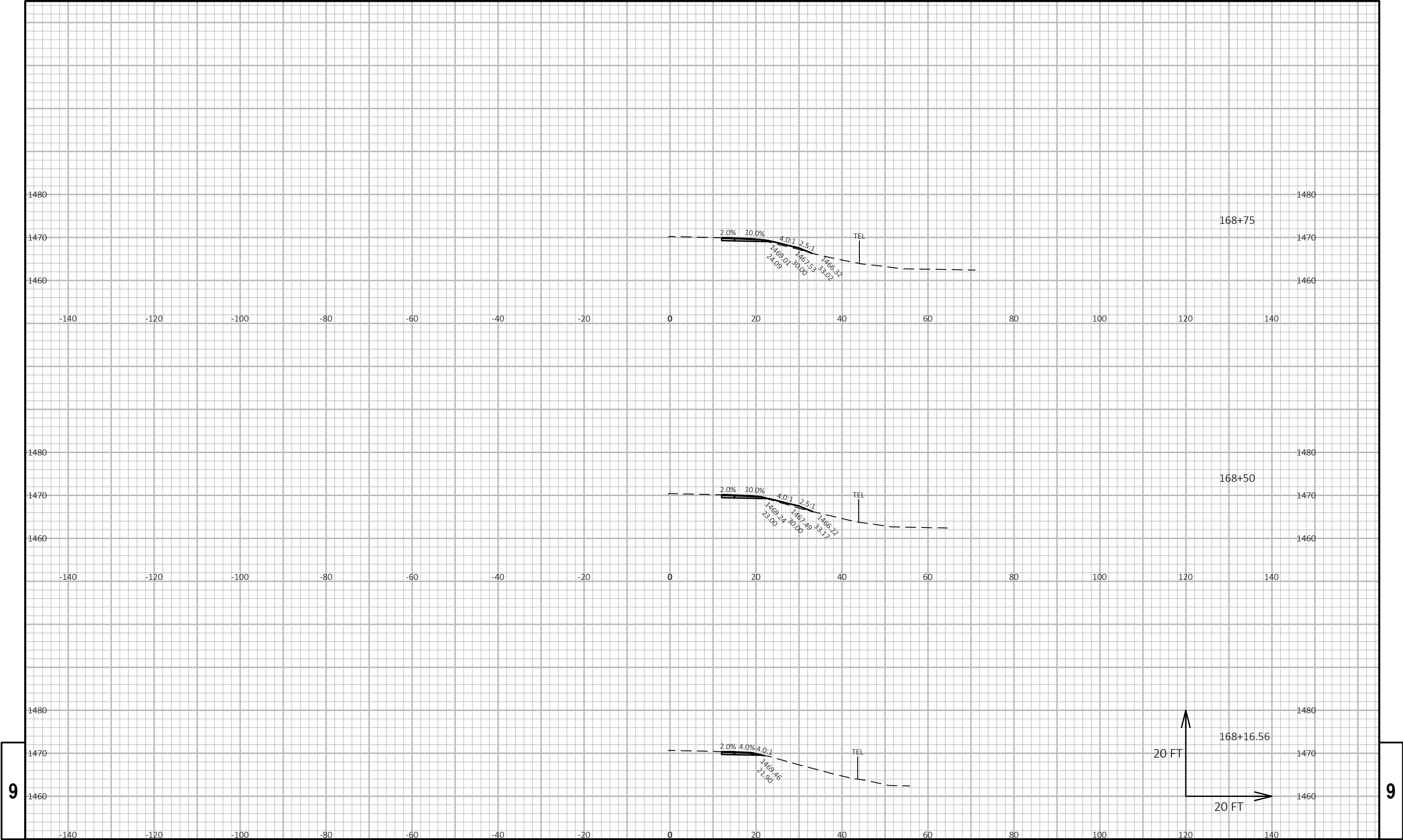


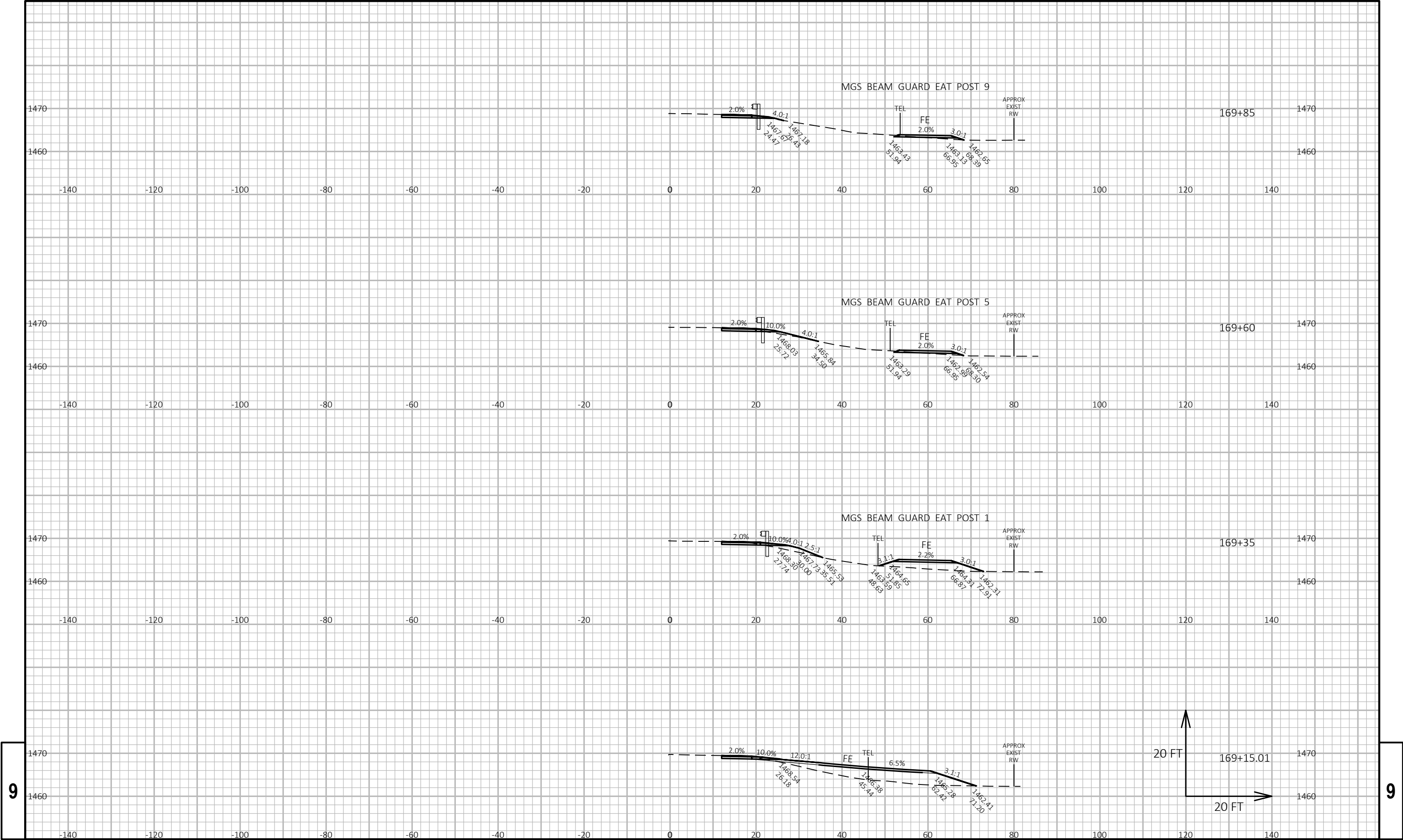
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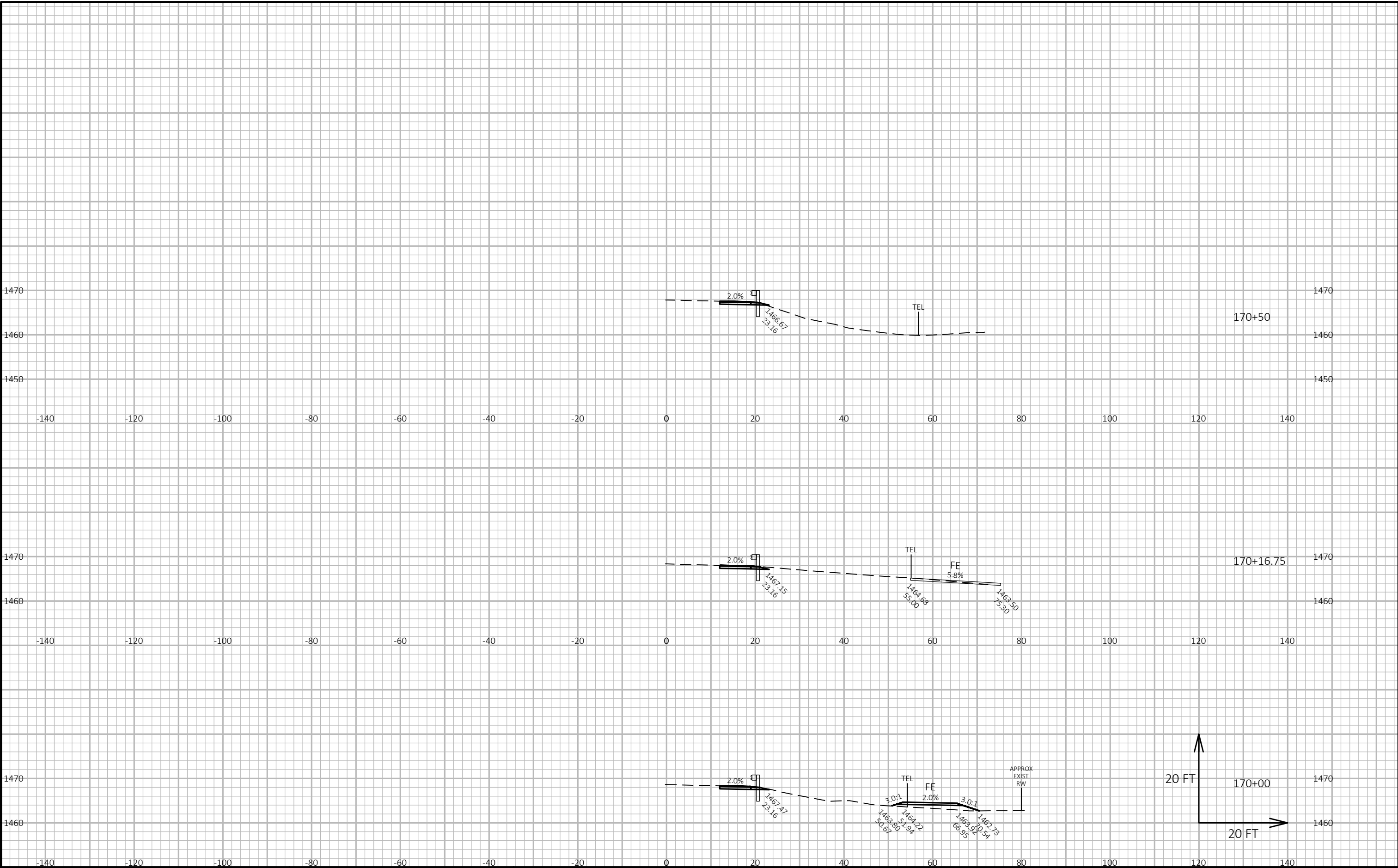
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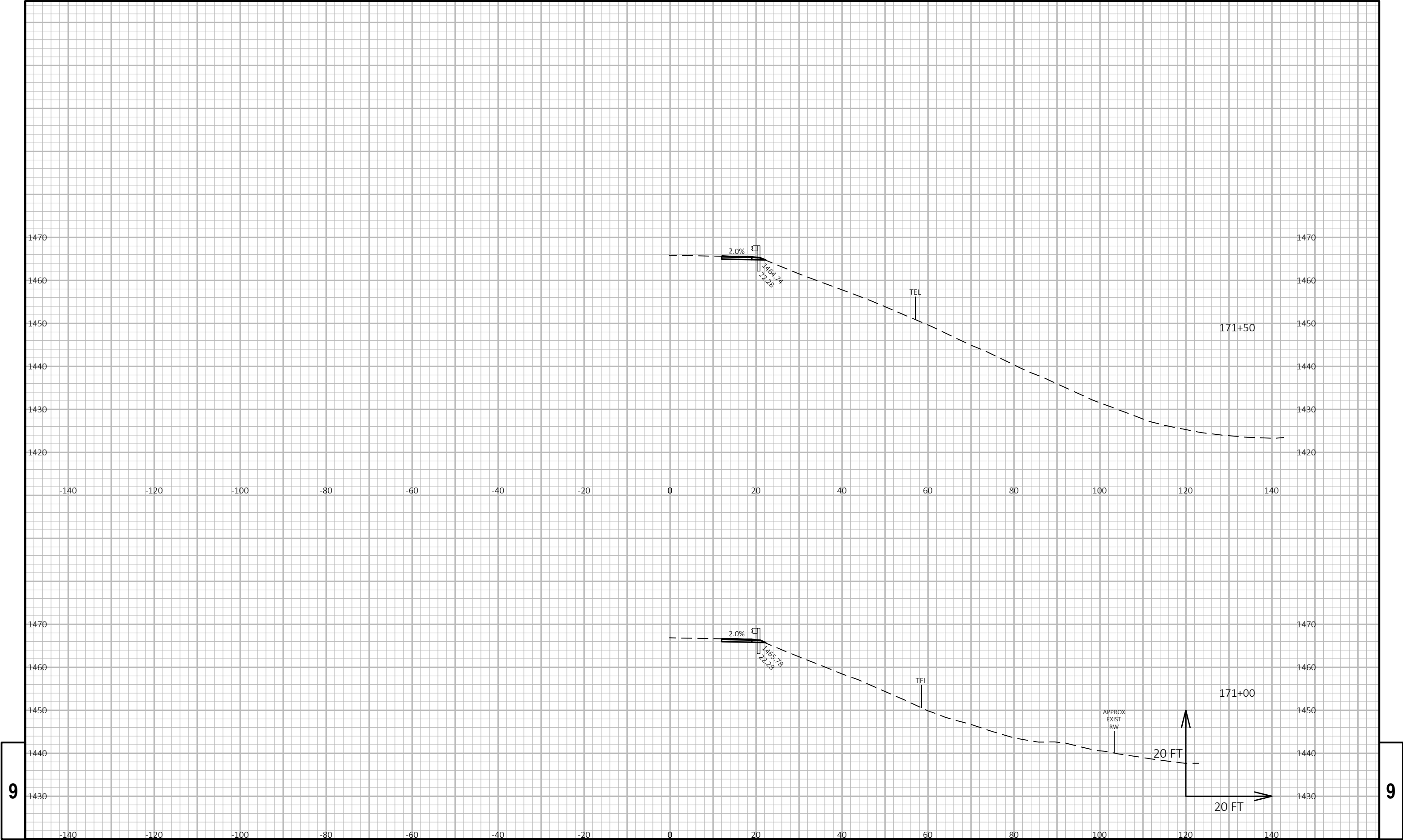
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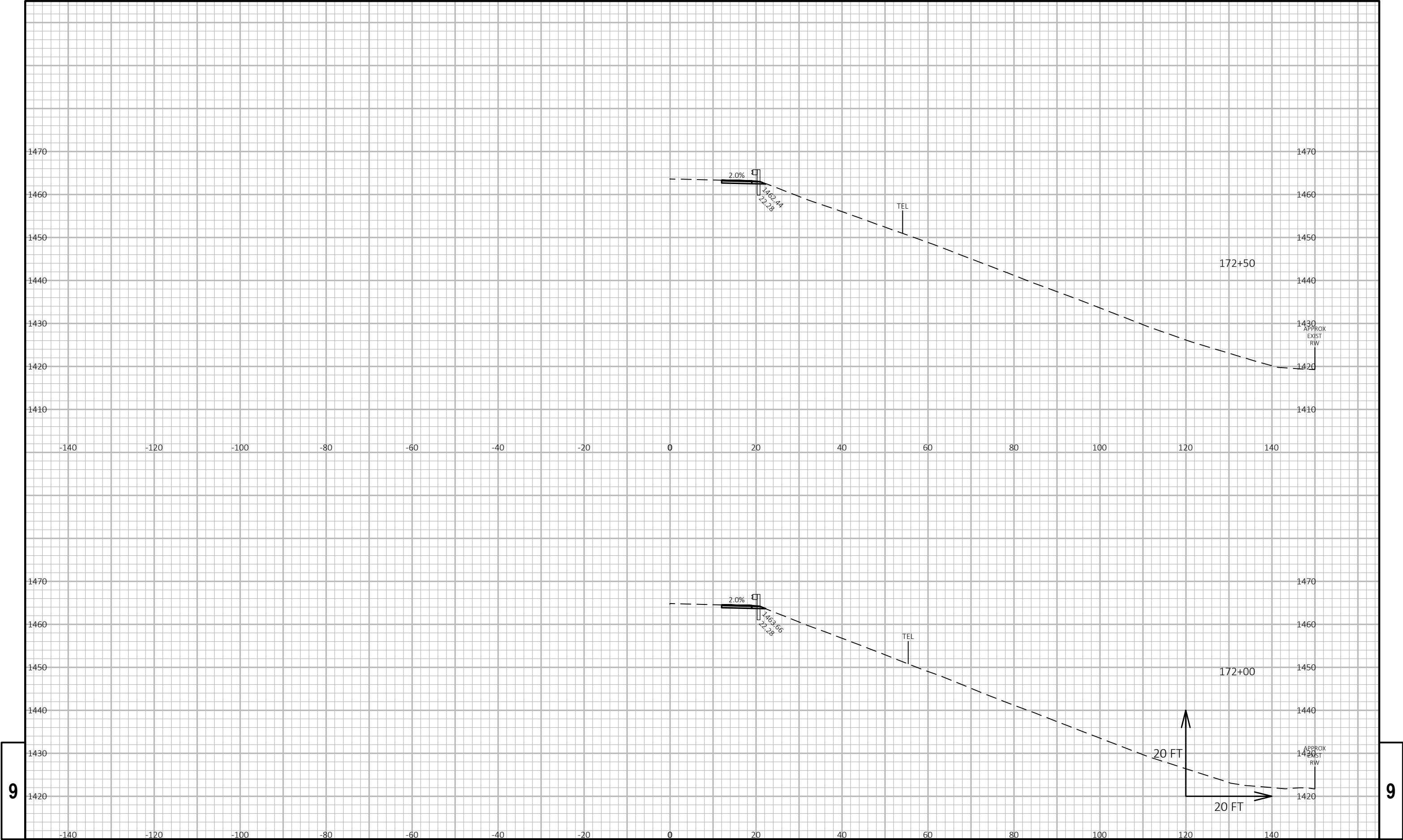


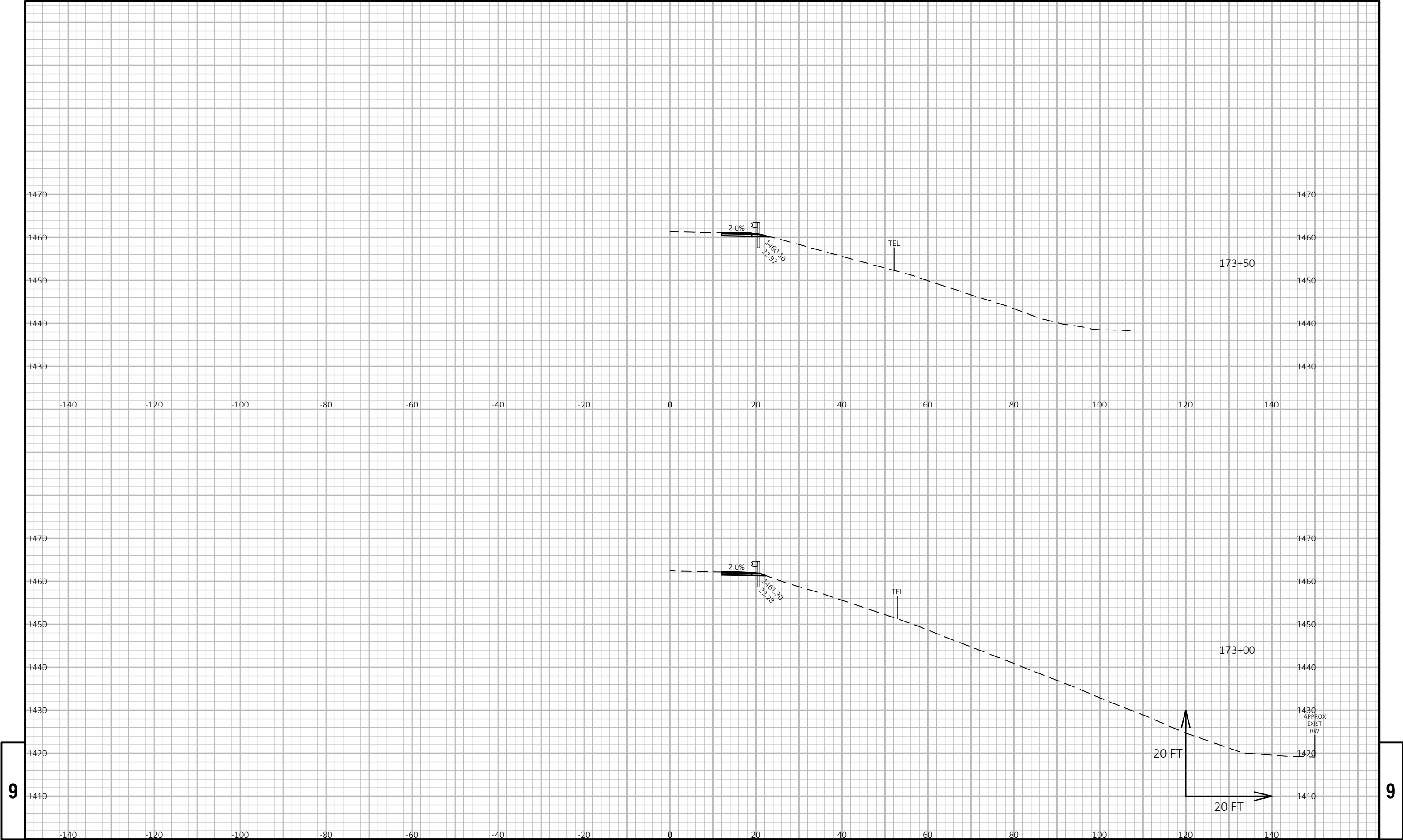


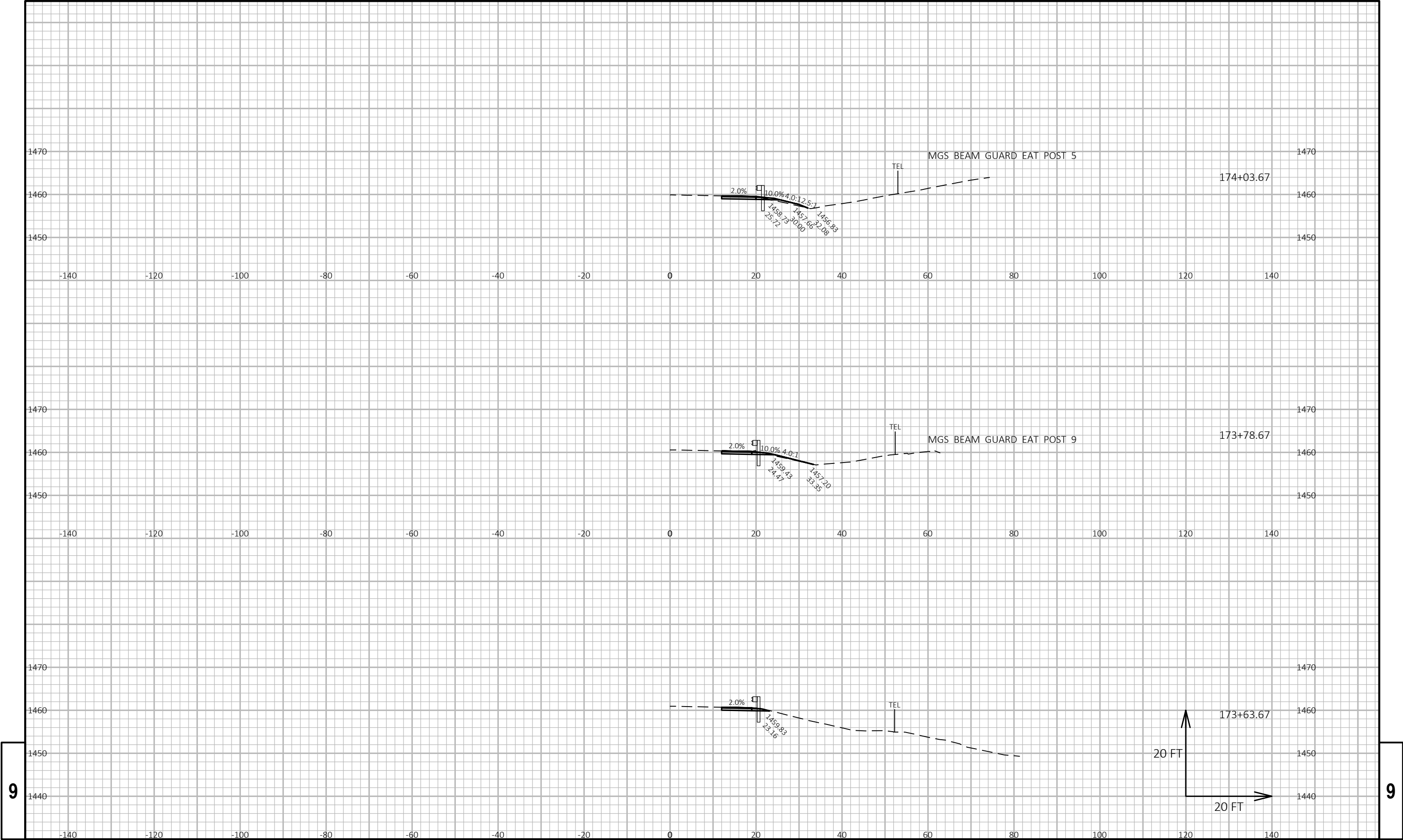




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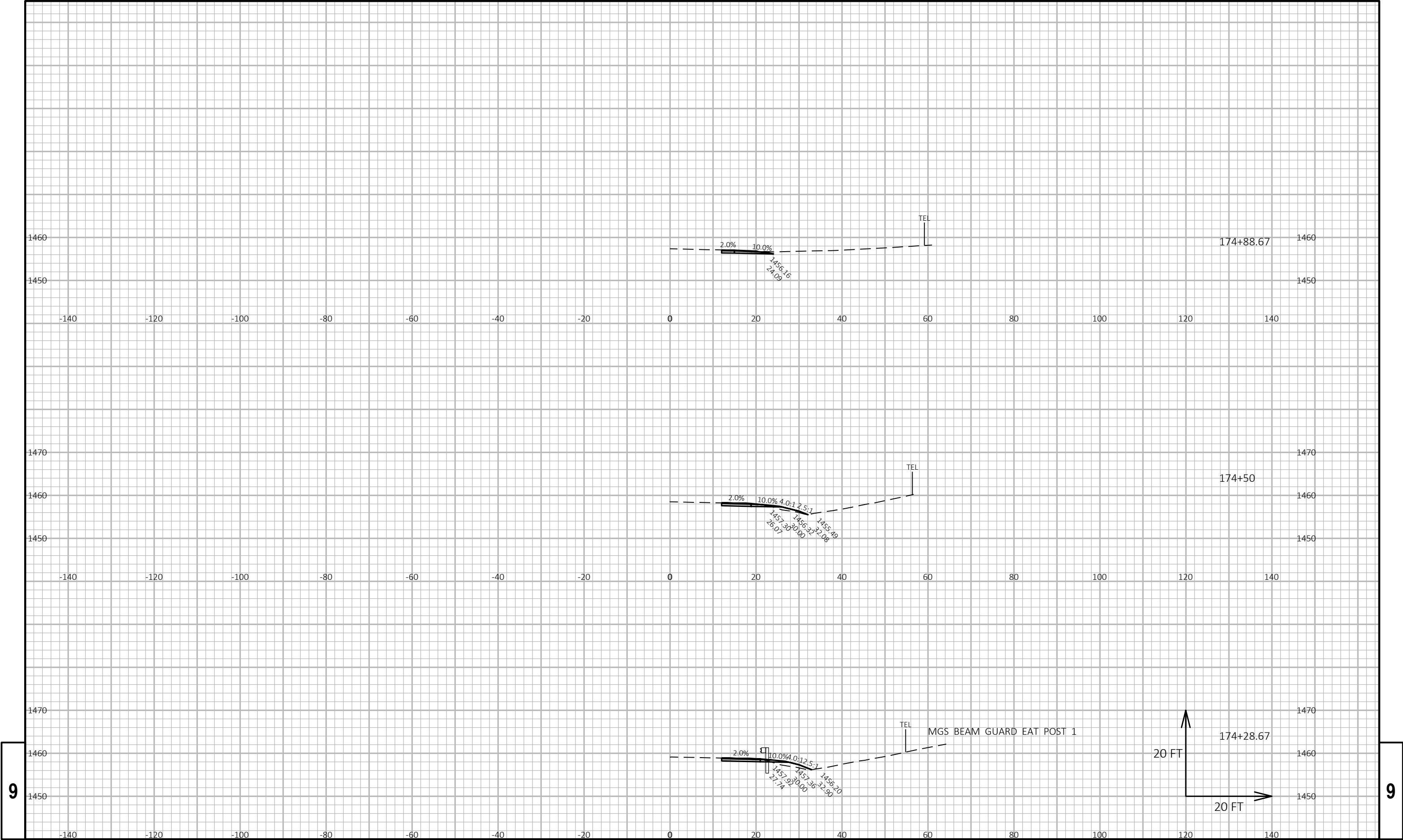


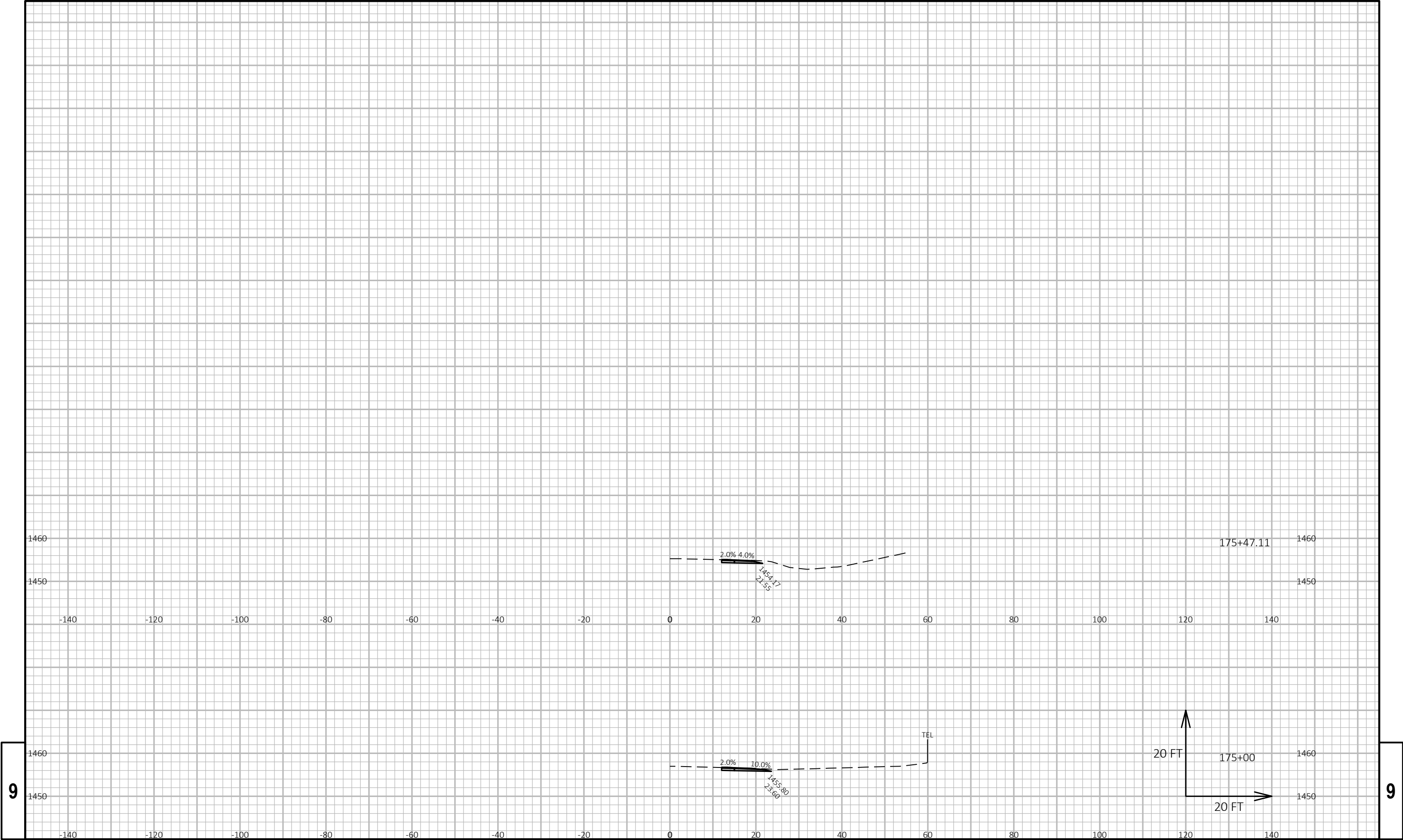


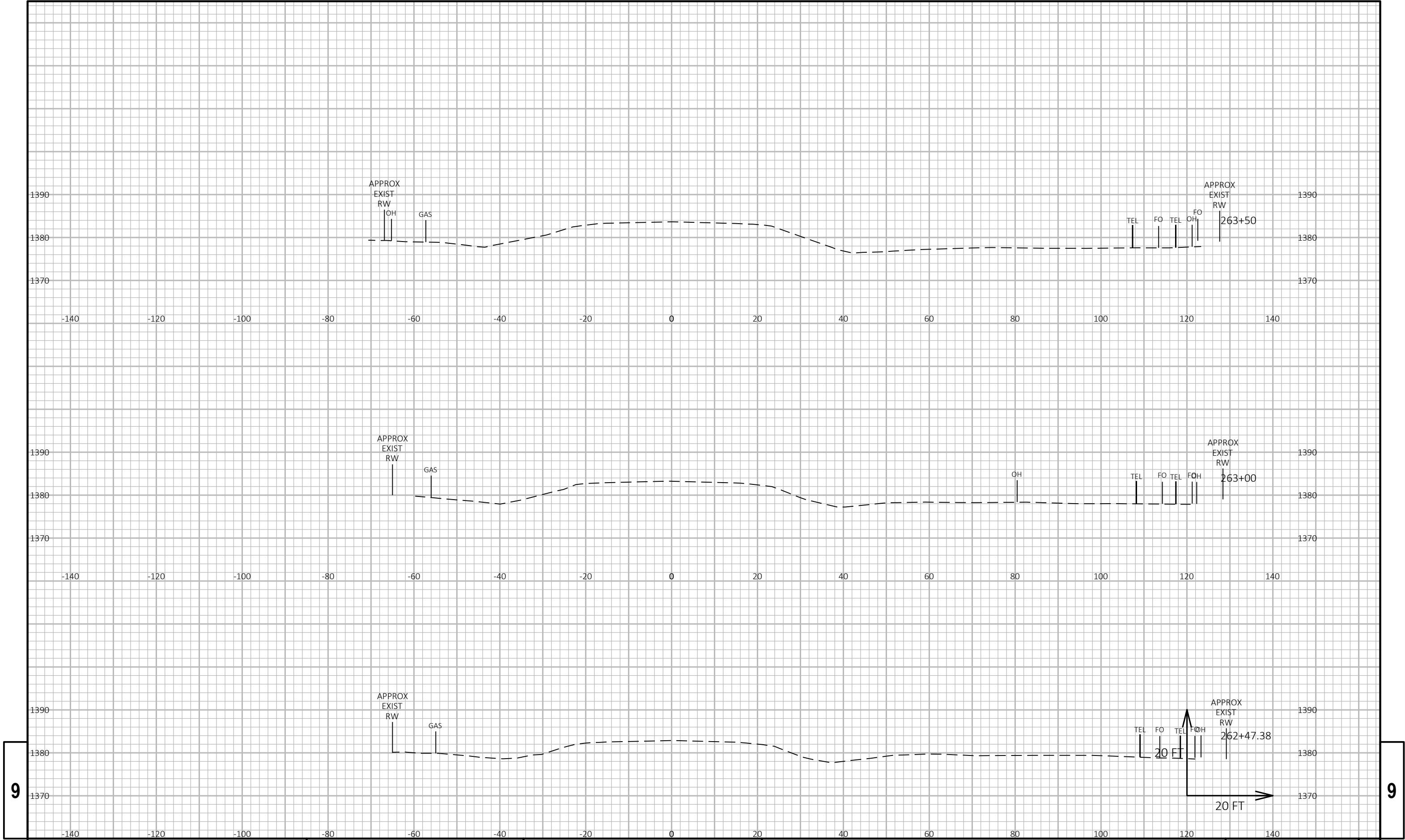
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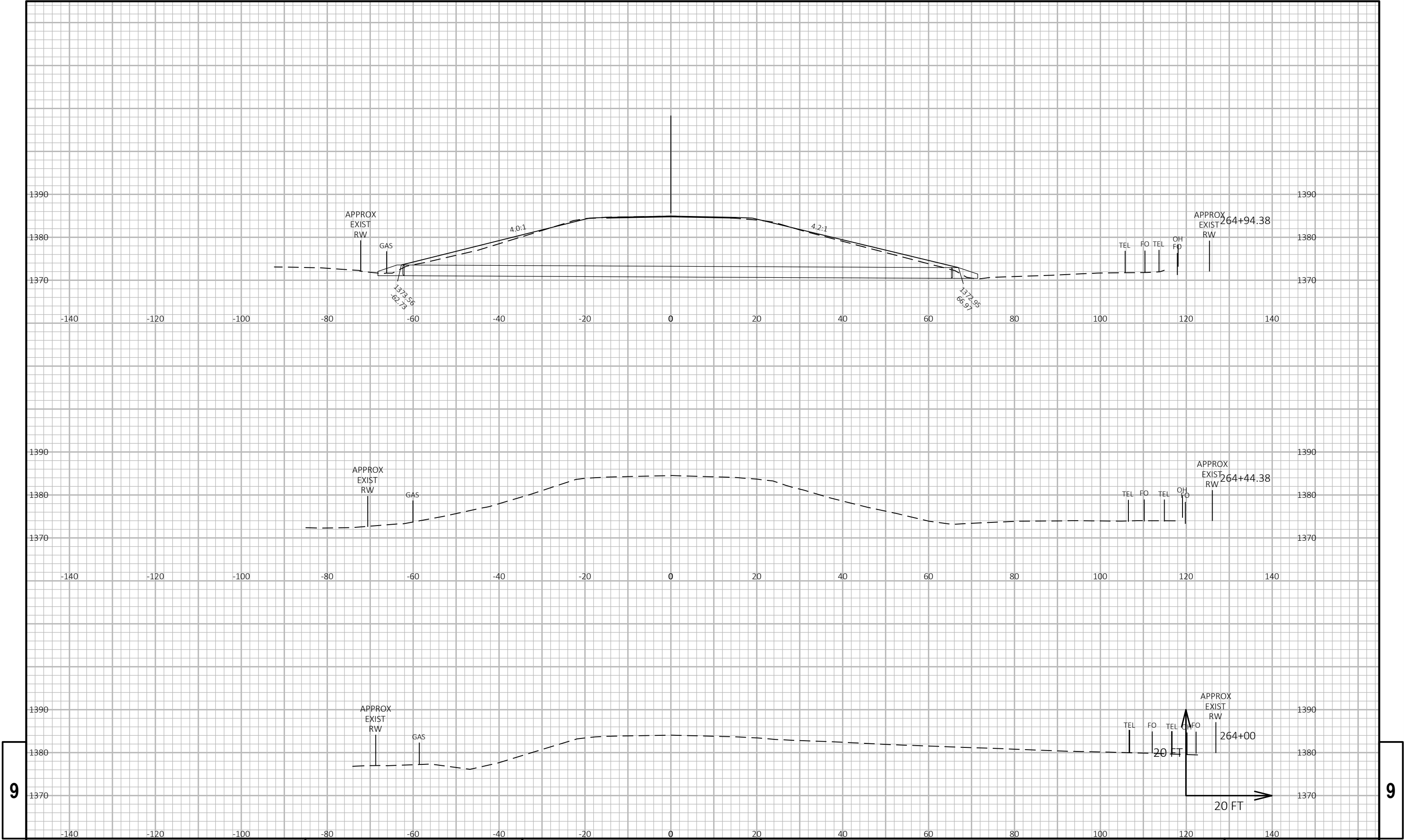
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PROJECT NO:	9140-12-62 & 9140-12-72	HWY:	STH 64	COUNTY:	LANGLADE	CROSS SECTIONS:	STH 64	SHEET	E
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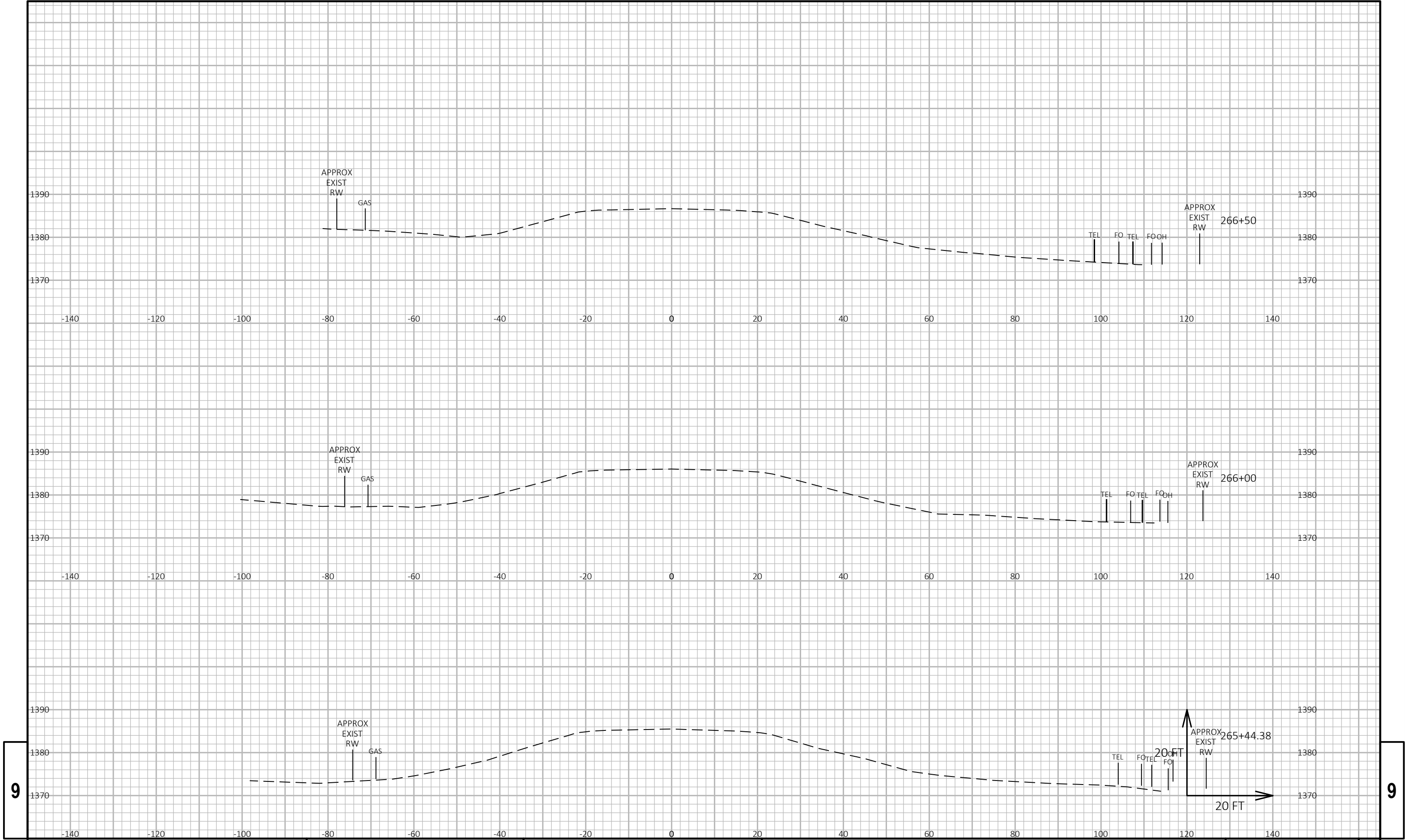








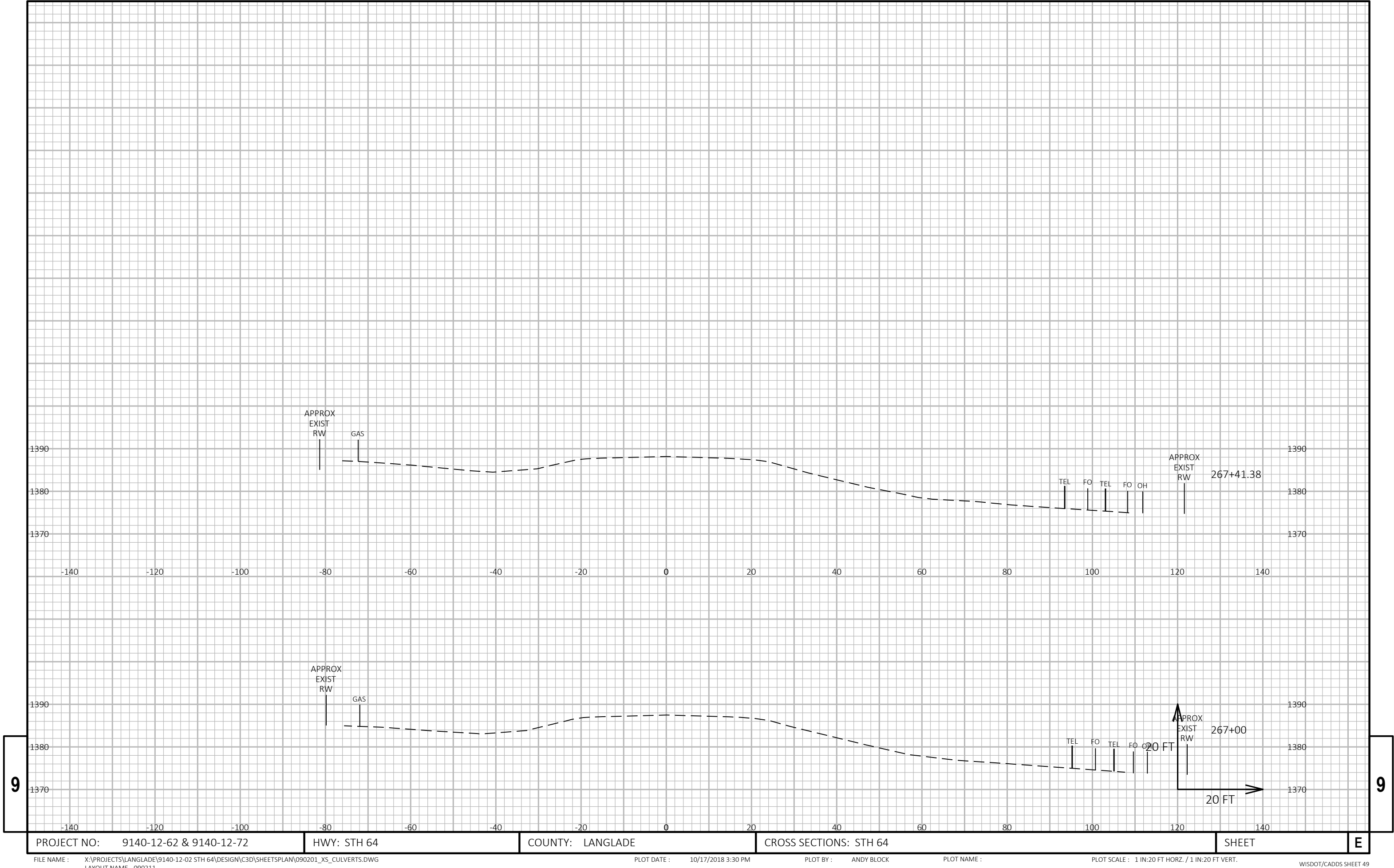
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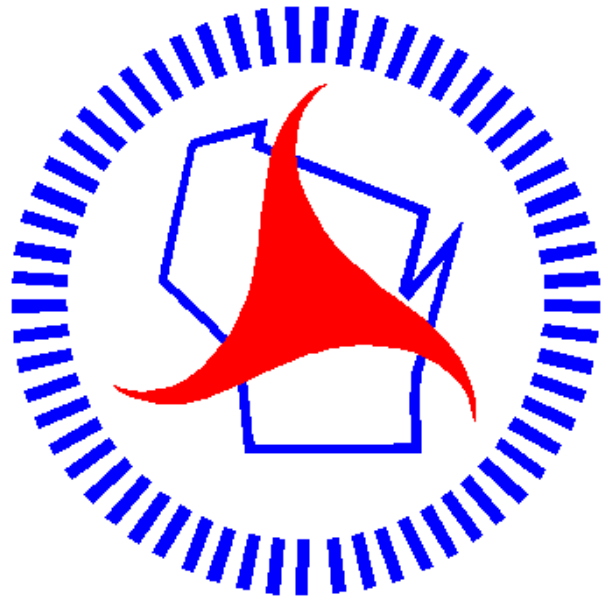
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PROJECT NO: 9140-12-62 & 9140-12-72	HWY: STH 64	COUNTY: LANGLADE	CROSS SECTIONS: STH 64	SHEET	E
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