

ORDER OF SECTION 2 SHEETS

- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- REMOVALS
- PLAN DETAILS
- EROSION CONTROL
- PAVEMENT MARKING AND SIGNING
- DETOUR PLAN
- ALIGNMENT DETAILS

GENERAL NOTES

- EXISTING R/W LINES SHOWN ON PLANS ARE FROM RACINE COUNTY GIS AND ARE APPROXIMATE.
- CONSTRUCT PAVEMENT CONSISTENT WITH THE PLAN TYPICAL SECTIONS. UNLESS DIRECTED OTHERWISE BY THE ENGINEER, PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE, OR PARKING LANE.
- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- DO NOT REMOVE ANY TREES OR SHRUBS WITHOUT THE APPROVAL OF THE ENGINEER.
- CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.
- THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDES AN UNDISTRIBUTED AMOUNT FOR PROTECTION, CONTROL AND ABATEMENT OF WATER POLLUTION RESULTING FROM SOIL EROSION. THE DISTRIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, MATTED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.
- TOPSOIL AND MULCH HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.
- APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED PAVEMENT SURFACES AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.
- A CONVERSION FACTOR OF 2.10 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 3/4-INCH.
- A CONVERSION FACTOR OF 2.00 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 1 1/4-INCH.
- A CONVERSION FACTOR OF 112 LB/SY/IN. IS USED TO ESTIMATE QUANTITIES FOR HMA PAVEMENT.
- ASPHALTIC PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

TOTAL LAYER PAVEMENT THICKNESS	LAYERS	HMA PAVEMENT ITEM
3.5"	1.75" (UPPER) 1.75" (LOWER)	4 LT 58-28 S (UPPER) 4 LT 58-28 S (LOWER)

UTILITIES

COMMUNICATIONS

AT&T DISTRIBUTION
NATHAN GIBERT
411 7TH ST
RACINE, WI 53403
PHONE: 262-720-8235
EMAIL: NG952W@ATT.COM

COMMUNICATIONS

SPECTRUM
JAY CHAPMAN
1320 MARTIN LUTHER KING DR
MILWAUKEE, WI 53212
PHONE: (414) 908-4793
EMAIL: JAY.CHAPMAN@CHARTER.COM

ELECTRICITY

WE ENERGIES ELECTRIC
ADAM PSICIHULIS
700 S. KANE ST
BURLINGTON, WI 53105
PHONE: (262) 490-1259
EMAIL: ADAM.PSICIHULIS@WE-ENERGIES.COM

GAS

WE ENERGIES GAS
SCOTT HOLSTEIN
700 S. KANE ST
BURLINGTON, WI 53105
PHONE: (262) 763-1084
EMAIL: SCOTT.HOLSTEIN@WE-ENERGIES.COM

SEWER

BROWNS LAKE SANITARY DISTRICT
GREG GOVERNATORI
1224 S PINE ST.
BURLINGTON, WI 53105
PHONE: (262) 758-6010
EMAIL: GGOVERNATORI@KAPURINC.COM

COMMUNICATIONS

TDS TELECOM
JASON GRIFFITHS
525 JUNCTION RD
STE 6000
MADISON, WI 53717
PHONE: (262)-613-3845
EMAIL: JASON.GRIFFITHS@TDSMETRO.COM

OTHER AGENCIES

WDNR LIAISON

BENTON STELZEL
141 NW BARSTOW ROOM 180
WAUKESHA, WI 53188
PHONE: (262) 623-0194
EMAIL: BENTONSTELZEL@WISCONSIN.GOV

WISDOT DESIGN

PROJECT MANAGER
WISDOT SE REGION
MICHAEL BAIRD
141 NW BARSTOW STREET
WAUKESHA, WI 53188
PHONE: (262) 548-5918
EMAIL: MICHAEL.BAIRD@DOT.WI.GOV

TOWN OF BURLINGTON

ADMINISTRATOR
RACHEL NABER
32288 BUSHNELL ROAD
BURLINGTON, WI 53105
PHONE: (262) 763-3070
EMAIL: RACHEL.NABER@TOWNOFBURLINGTON.COM

CONSULTANT DESIGN

EMCS, INC.
KATIE NAKLES
1300 W CANAL ST, SUITE 200
MILWAUKEE, WI 53223
PHONE: (414) 939-7022
EMAIL: KNAKLES@EMCSINC.COM

STANDARD ABBREVIATIONS

AGG	AGGREGATE	NB	NORTHBOUND
AADT	ANNUAL AVERAGE DAILY TRAFFIC	PAVT	PAVEMENT
AEW	APRON ENDWALL	PC	POINT OF CURVATURE
ASPH	ASPHALTIC	PI	POINT OF INTERSECTION
BAD	BASE AGGREGATE DENSE	PT	POINT OF TANGENCY
CONC	CONCRETE	LB	POUND
CP	CONTROL POINT	PE	PRIVATE ENTRANCE
CO	COUNTY	PL	PROPERTY LINE
CTH	COUNTY TRUCK HIGHWAY	PRW	PROPOSED RIGHT OF WAY
CY	CUBIC YARD	R	RADIUS
CP	CULVERT PIPE	RL OR R/L	REFERENCE LINE
CPCS	CULVERT PIPE CORRUGATED STEEL	REQD	REQUIRED
CPRC	CULVERT PIPE REINFORCED CONCRETE	RT	RIGHT
DHV	DESIGN HOUR VOLUME	R/W	RIGHT OF WAY
DIA	DIAMETER	SHLDR	SHOULDER
EA	EACH	SB	SOUTHBOUND
EB	EASTBOUND	SPECS	SPECIFICATIONS
EL OR ELEV	ELEVATION	SF	SQUARE FEET
ESALS	EQUIVALENT SINGLE AXLE LOADS	SY	SQUARE YARD
EXC	EXCAVATION	SDD	STANDARD DETAIL DRAWINGS
EXIST	EXISTING	STH	STATE TRUNK HIGHWAY
FE	FIELD ENTRANCE	STA	STATION
FT	FOOT	SE	SUPERELEVATION
CWT	HUNDRED WEIGHT	TEMP	TEMPORARY
INV	INVERT	T	TRUCKS (PERCENT OF)
LT	LEFT	TYP	TYPICAL
LF	LINEAR FOOT	VC	VERTICAL CURVE
LC	LONG CHORD OF CURVE	VPC	VERTICAL POINT OF CURVATURE
LS	LUMP SUM	VPI	VERTICAL POINT OF INTERSECTION
MGAL	ONE THOUSAND GALLONS	VPT	VERTICAL POINT OF TANGENCY
ML OR M/L	MATCH LINE	WB	WESTBOUND
NC	NORMAL CROWN		



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

PROJECT NO: 3833-05-70

HWY: KETTERHAGEN RD

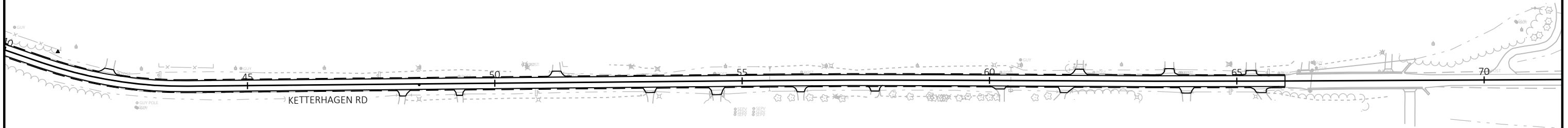
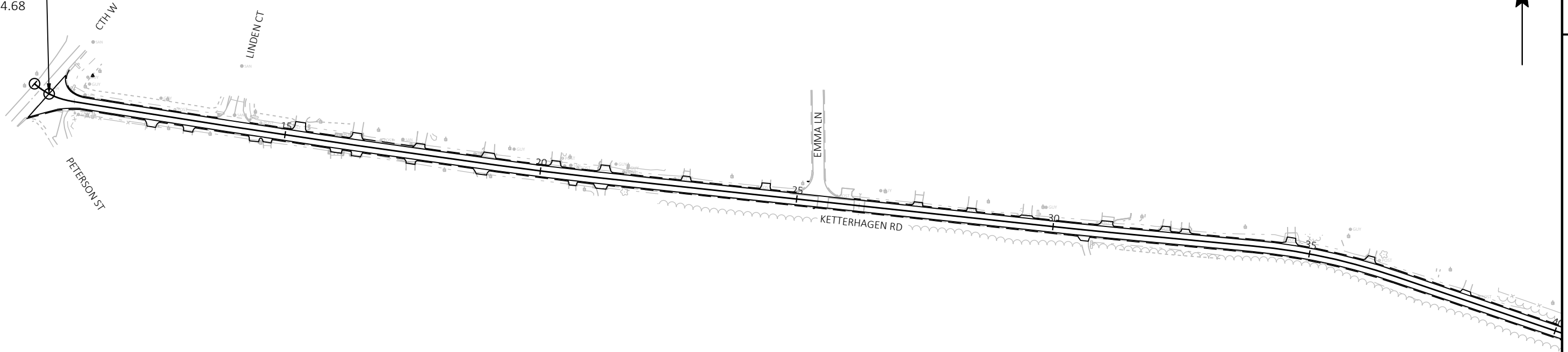
COUNTY: RACINE

GENERAL NOTES

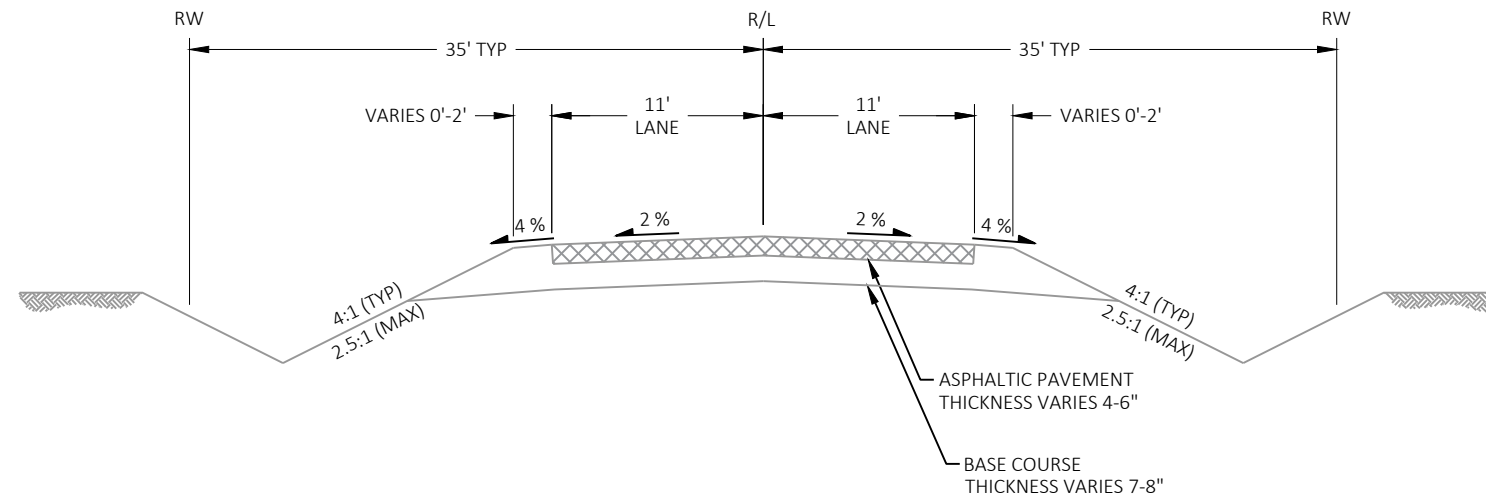
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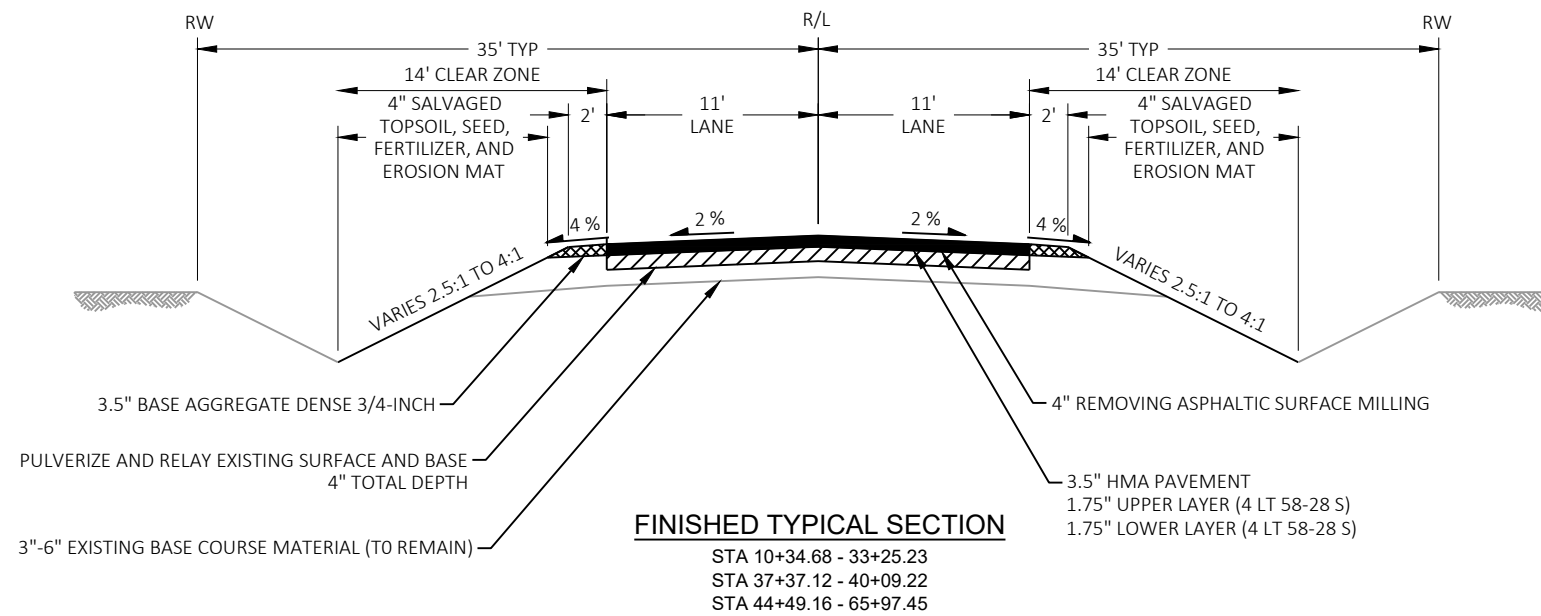
BEGIN PROJECT
STA 10+34.68



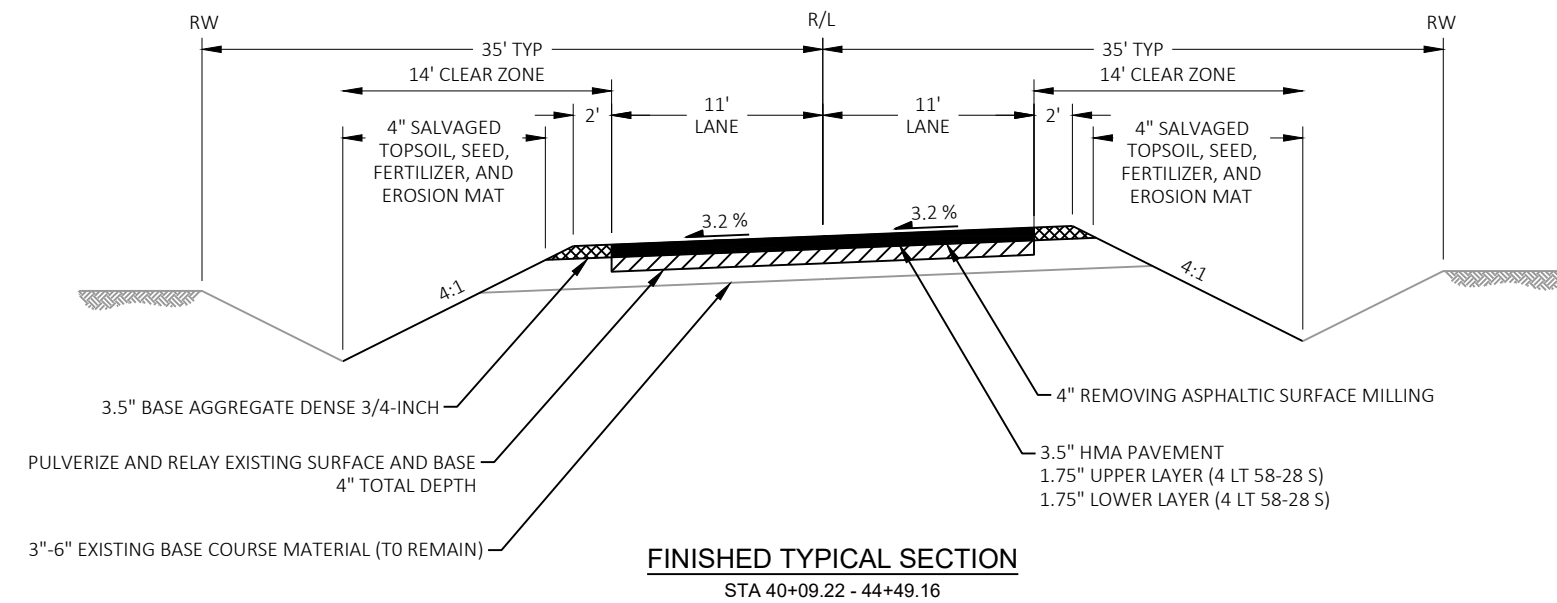
PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	PROJECT OVERVIEW	SHEET	E
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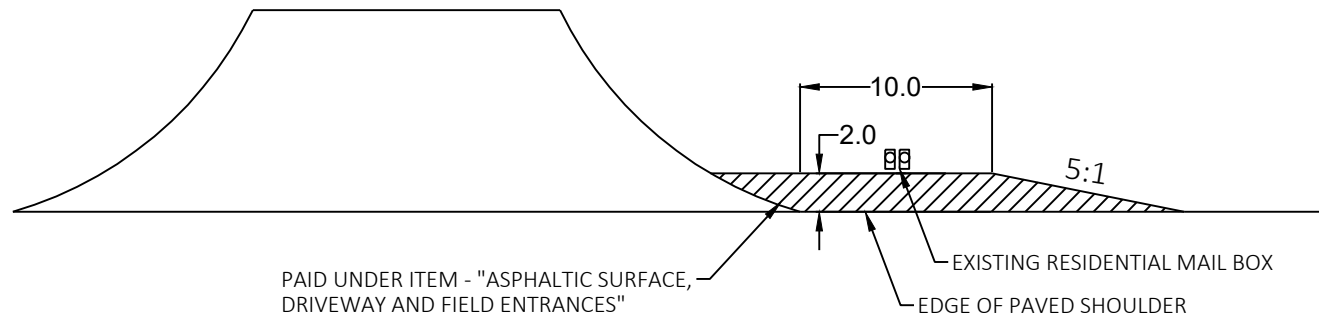


EXISTING TYPICAL SECTION
STA 10+34.68 - 65+97.45

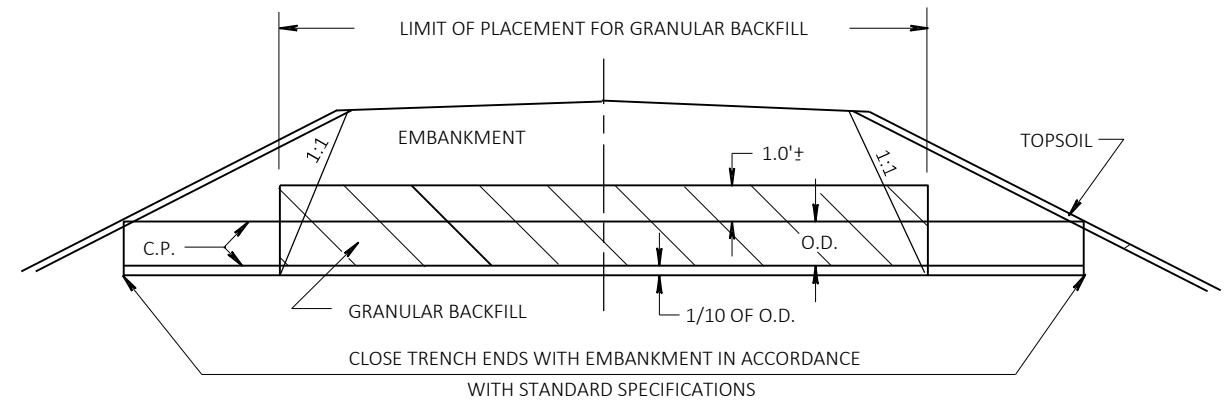


FINISHED TYPICAL SECTION
STA 10+34.68 - 33+25.23
STA 37+37.12 - 40+09.22
STA 44+49.16 - 65+97.45





TYPICAL PAVEMENT TAPER AT MAILBOXES

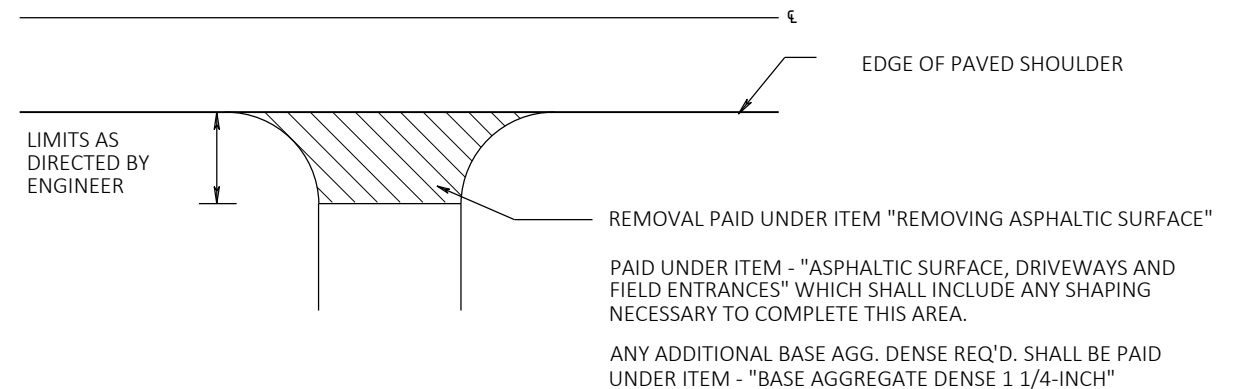


CULVERT BACKFILL DETAIL

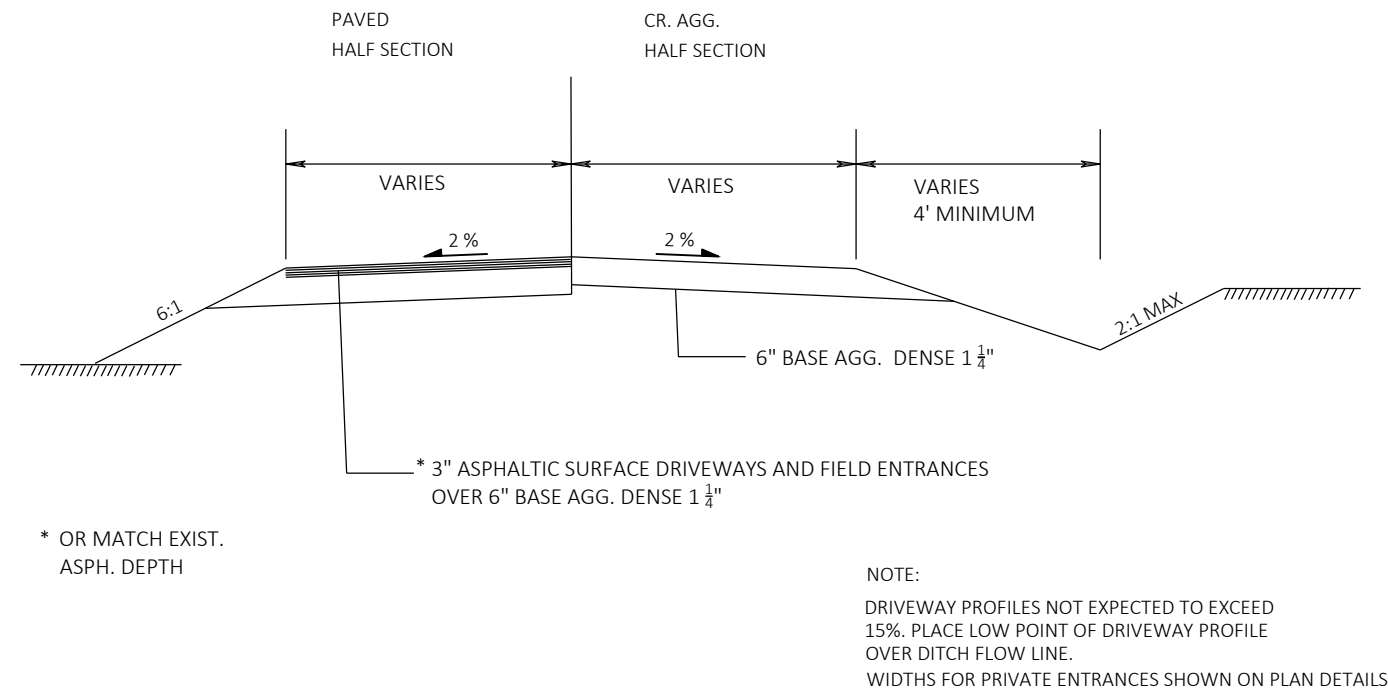
RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	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 STRIPTURF:	.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 SLOPETURF:			.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											

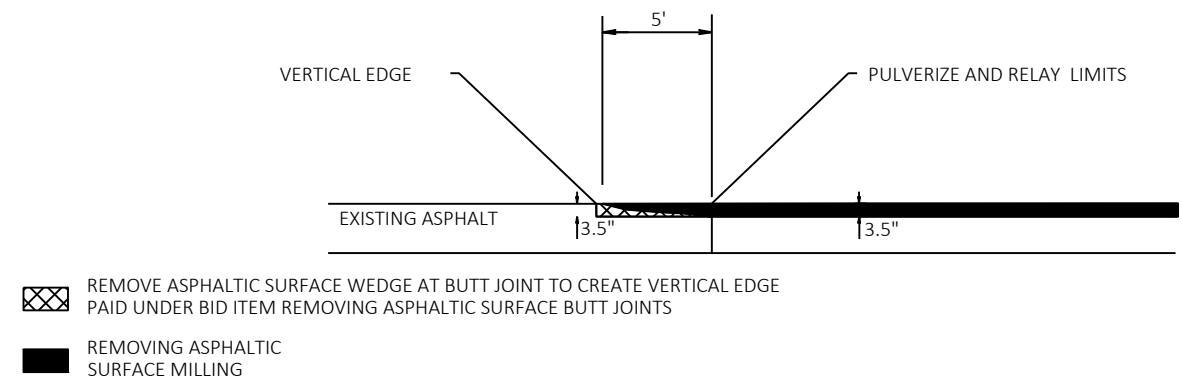
TOTAL PROJECT AREA = 4.54 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.30 ACRES



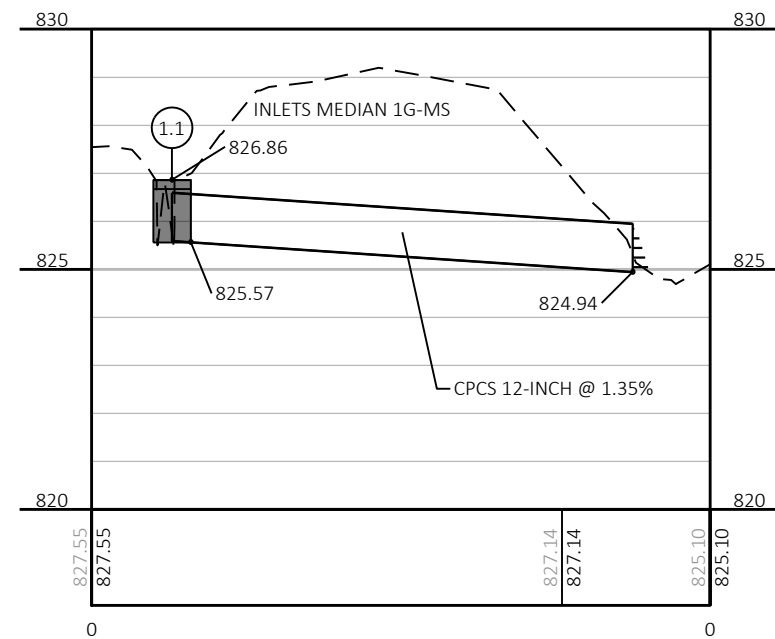
RURAL DRIVEWAY DETAIL - ASPHALT



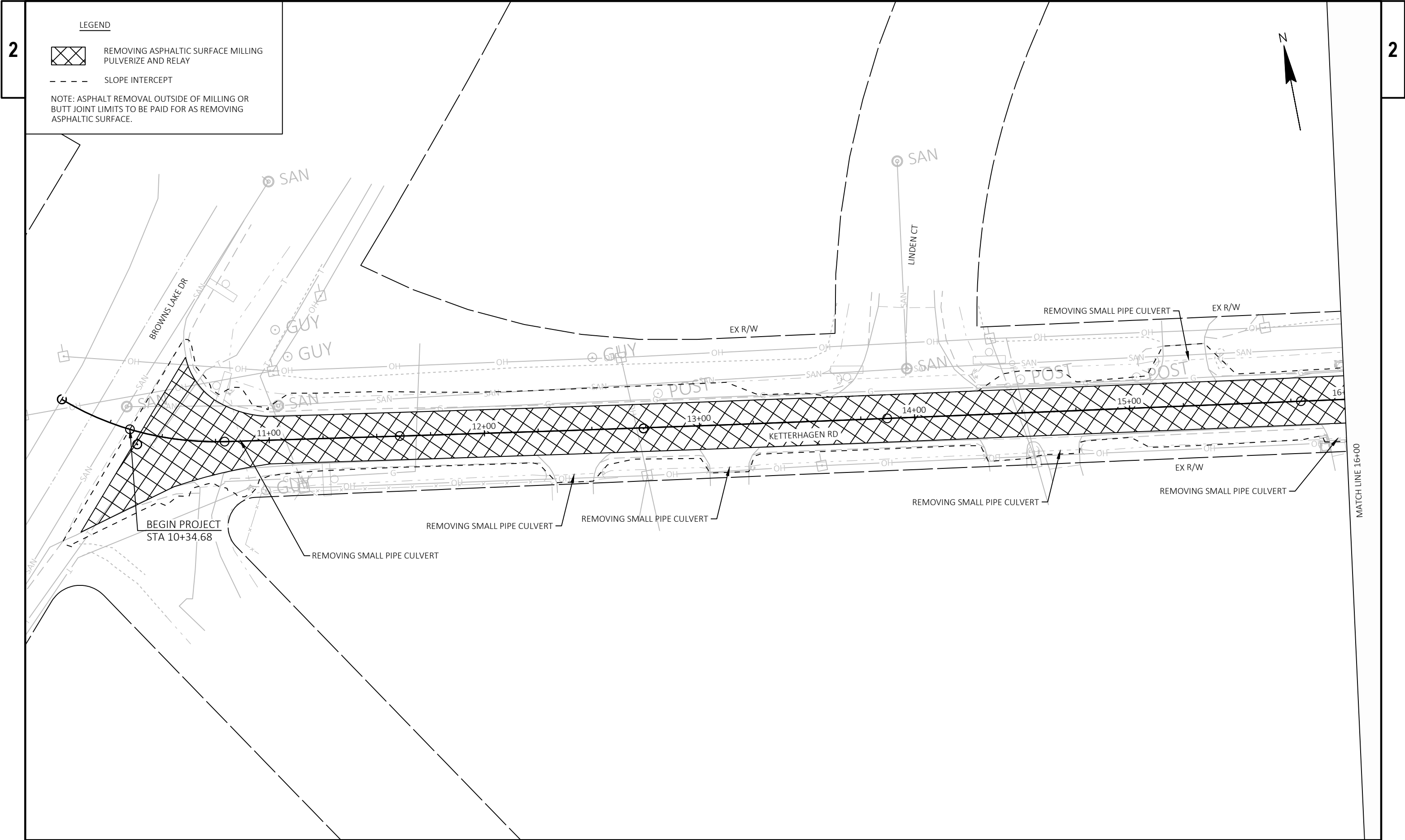
TYPICAL SECTION FOR COMMERCIAL & PRIVATE ENTRANCES



BUTT JOINT DETAIL
REQUIRED AT STA 10+34 & STA 65+97



PROPOSED STORM SEWER INLET



PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	REMOVALS	SHEET	E
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LEGEND

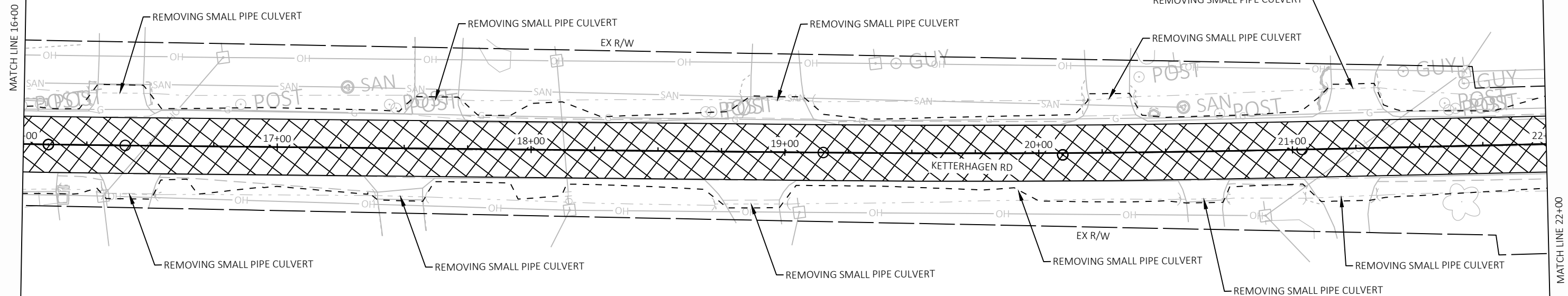


REMOVING ASPHALTIC SURFACE MILLING
PULVERIZE AND RELAY



SLOPE INTERCEPT

NOTE: ASPHALT REMOVAL OUTSIDE OF MILLING OR
BUTT JOINT LIMITS TO BE PAID FOR AS REMOVING
ASPHALTIC SURFACE.



2

LEGEND

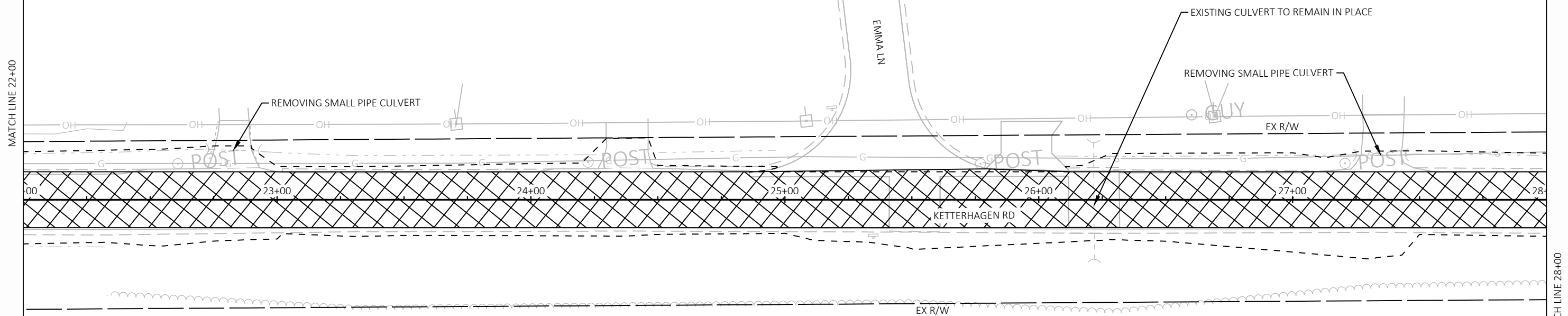
 REMOVING ASPHALTIC SURFACE MILLING
PULVERIZE AND RELAY

REMOVING ASPHALTIC SURFACE MILLING PULVERIZE AND RELAY

— — — — SLOPE INTERCEPT

NOTE: ASPHALT REMOVAL OUTSIDE OF MILLING OR BUTT JOINT LIMITS TO BE PAID FOR AS REMOVING ASPHALTIC SURFACE.

2



PROJECT NO:	3833-05-70
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HWY: KETTERHAGEN RD

COUNTY: RACINE

REMOVALS

SHEET

—

FILE NAME : Y:\56XX\5605_DP23_KETTRHAGN.RCN.CTHW.STH36.3833-05-00\CADD\39330500\SHEETS\021001-RM.DWG
LAYOUT NAME - 021003-rm

PLOT DATE : 11/15/2024 8:39 AM

PLOT BY : JORDYN BENN

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

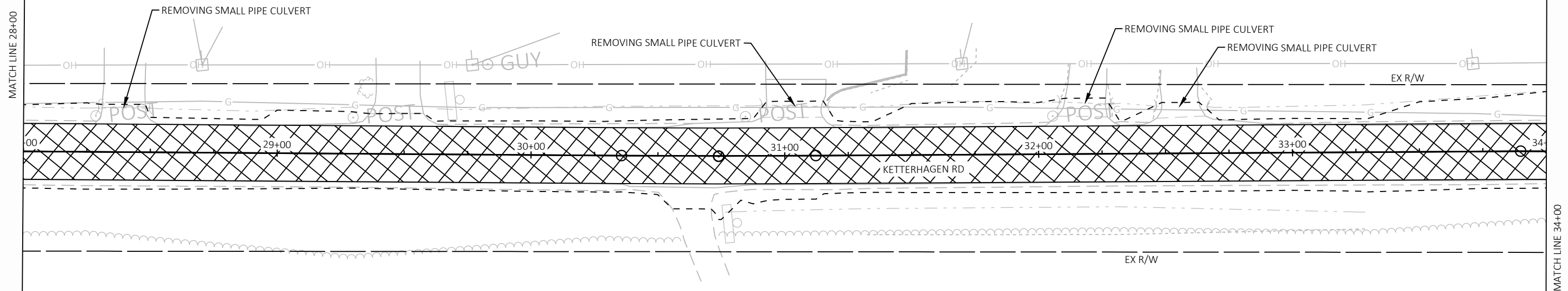
 REMOVING ASPHALTIC SURFACE MILLING
PULVERIZE AND RELAY

REMOVING ASPHALTIC SURFACE MILLING PULVERIZE AND RELAY

— — — — SLOPE INTERCEPT

NOTE: ASPHALT REMOVAL OUTSIDE OF MILLING OR BUTT JOINT LIMITS TO BE PAID FOR AS REMOVING ASPHALTIC SURFACE.

2



PROJECT NO:	3833-05-70
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HWY: KETTERHAGEN RD

COUNTY: RACINE

REMOVALS

SHEET

E

FILE NAME : Y:\56XX\5605_DP23_KETTRHAGN.RCN.CTHW.STH36.3833-05-00\CADD\39330500\SHEETS\021001-RM.DWG
LAYOUT NAME - 021004-rm

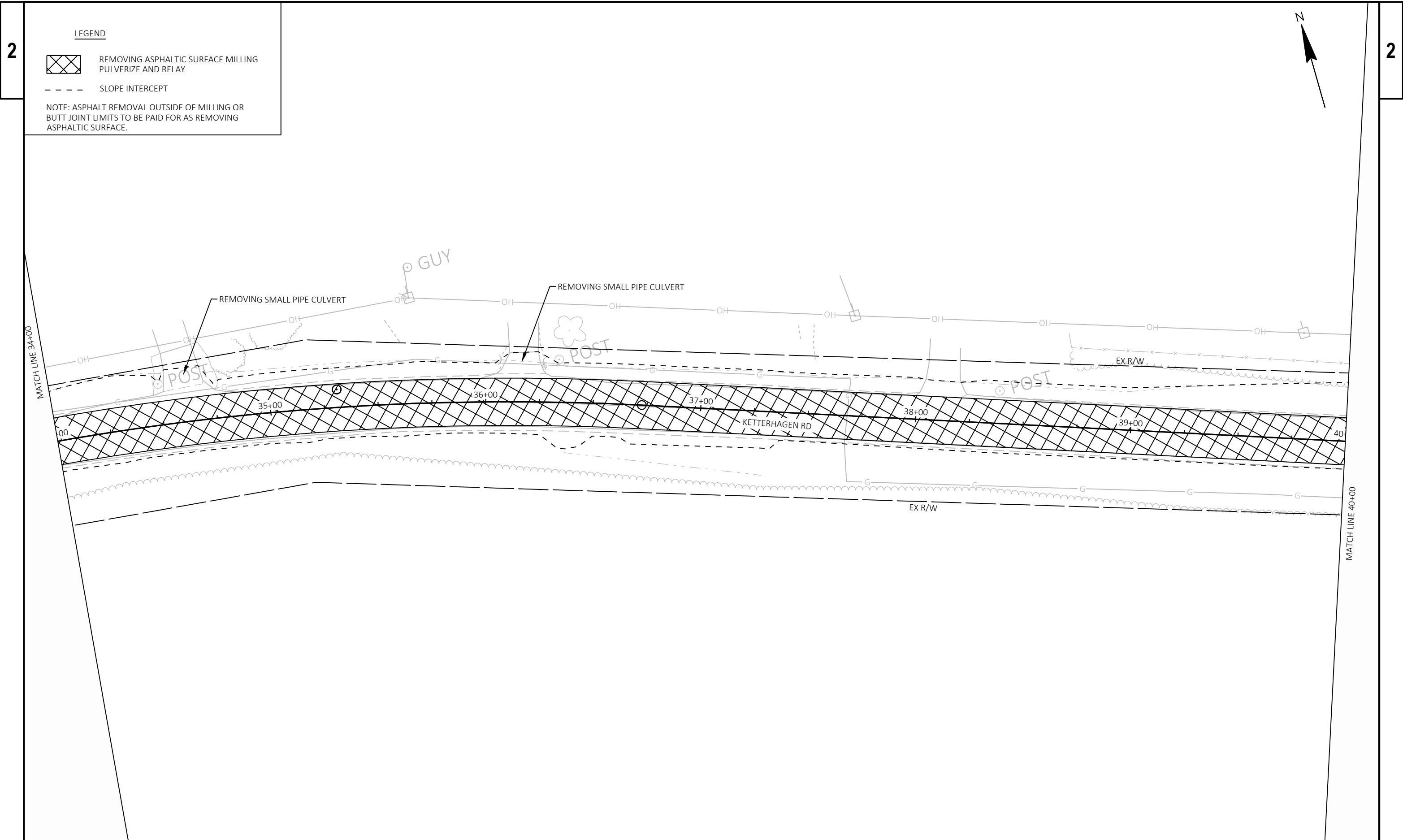
PLOT DATE : 11/15/2024 8:39 AM

PLOT BY : JORDYN BENN

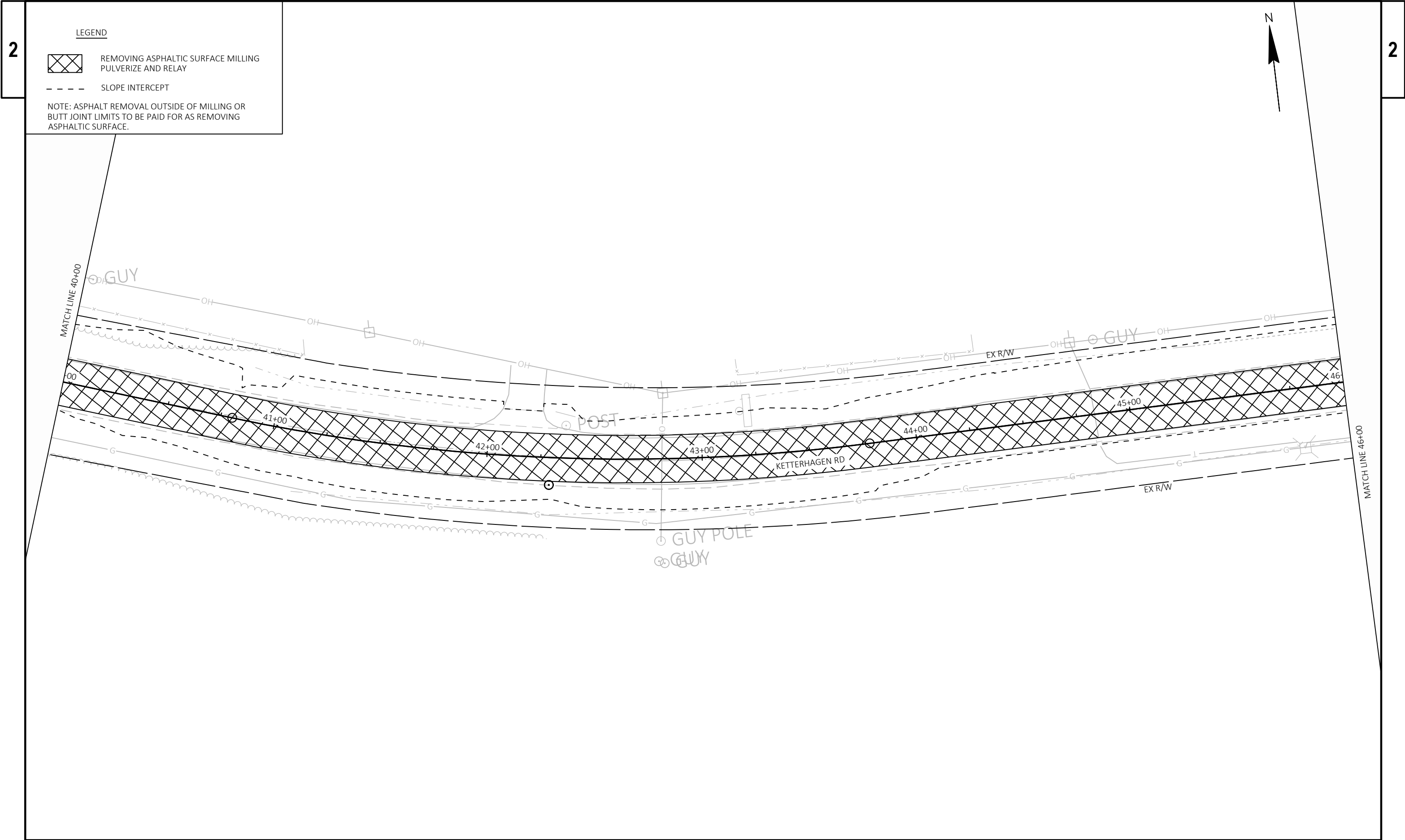
PLOT NAME :

PLOT SCALE : 1 IN:40 FT

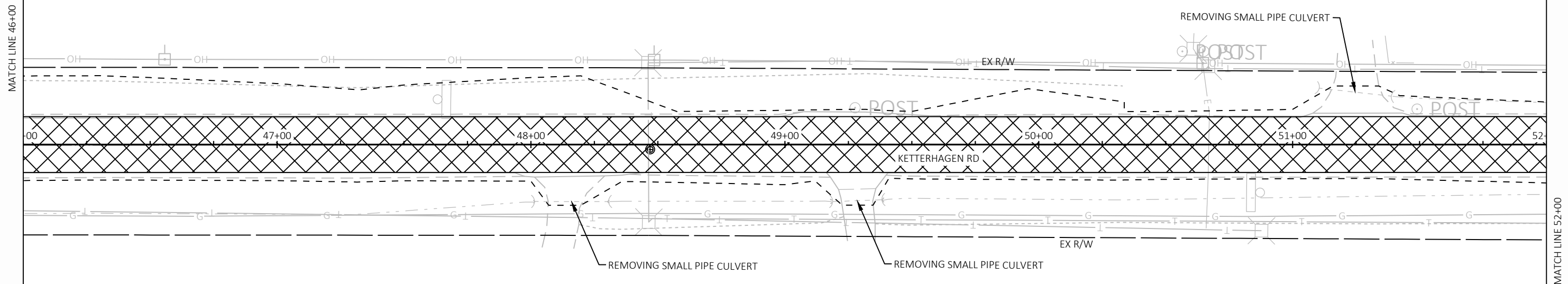
WISDOT/CADDS SHEET 42



PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	REMOVALS	SHEET	E
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— — — — SLOPE INTERCEPT



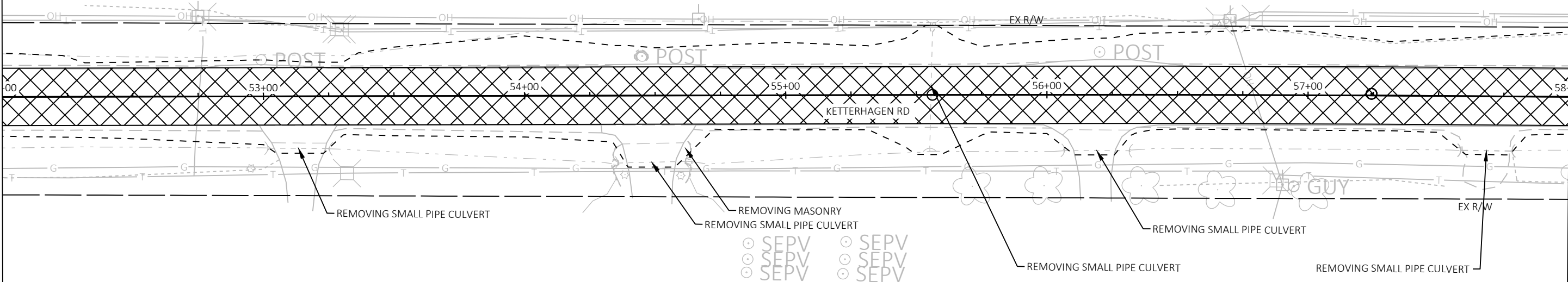
LEGEND

-  REMOVING ASPHALTIC SURFACE MILLING
PULVERIZE AND RELAY
-  SLOPE INTERCEPT

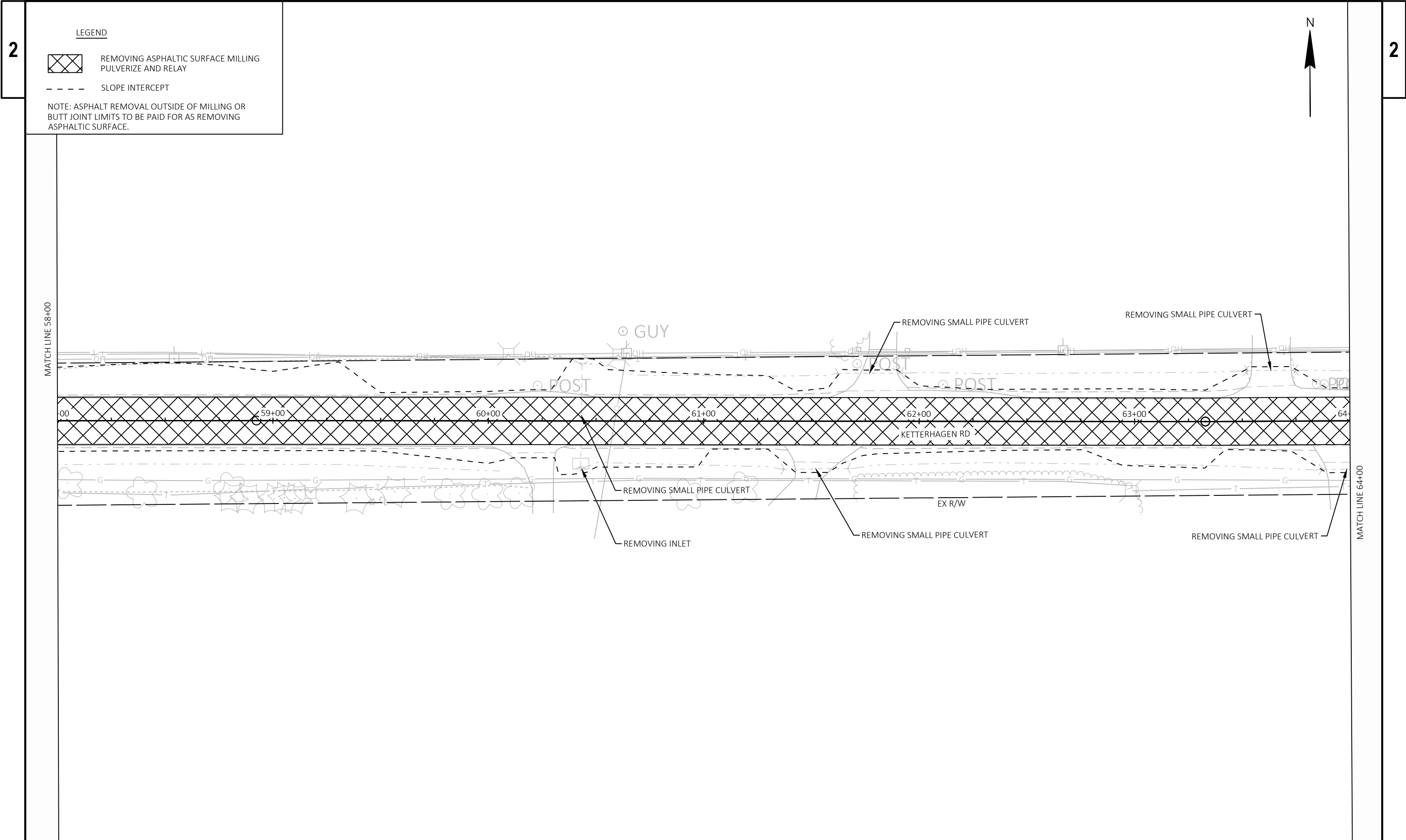
NOTE: ASPHALT REMOVAL OUTSIDE OF MILLING OR BUTT JOINT LIMITS TO BE PAID FOR AS REMOVING ASPHALTIC SURFACE.



MATCH LINE 52+00



MATCH LINE 58+00

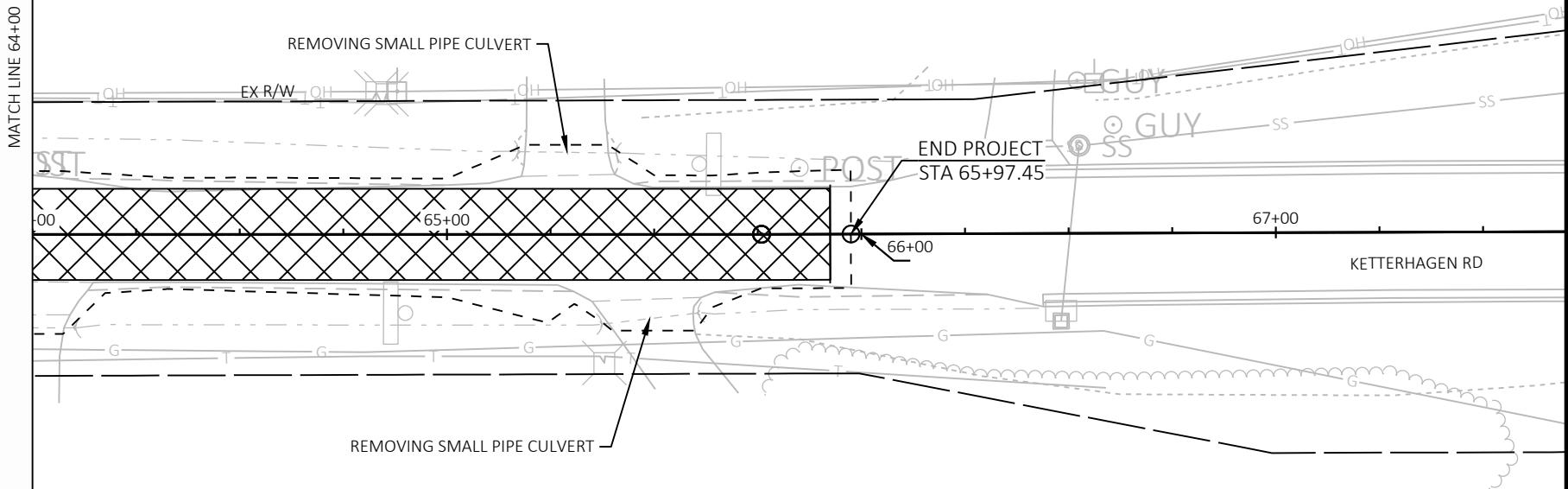


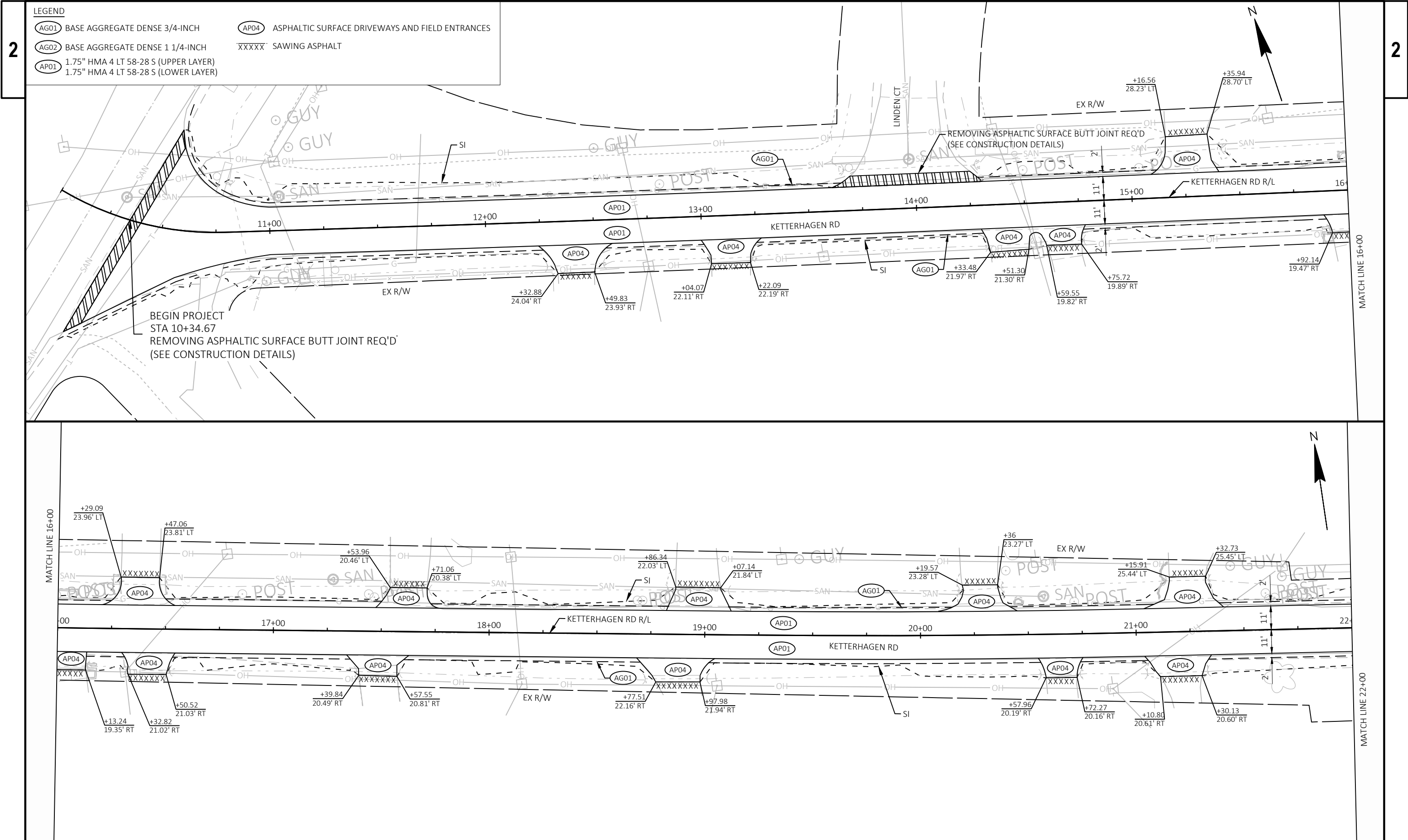
PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	REMOVALS	SHEET	E
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LEGEND

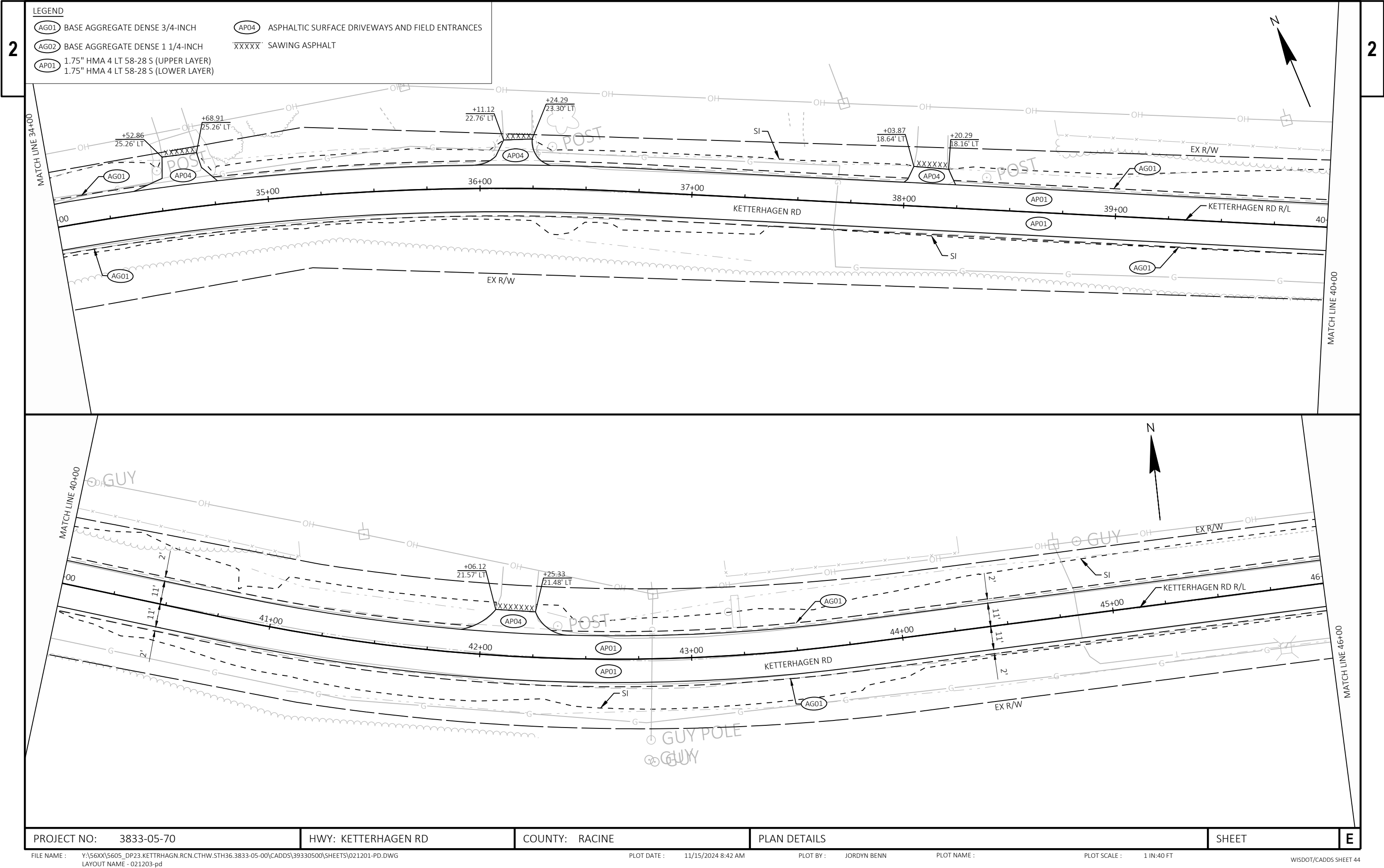
- REMOVING ASPHALTIC SURFACE MILLING
PULVERIZE AND RELAY
- SLOPE INTERCEPT

NOTE: ASPHALT REMOVAL OUTSIDE OF MILLING OR BUTT JOINT LIMITS TO BE PAID FOR AS REMOVING ASPHALTIC SURFACE.

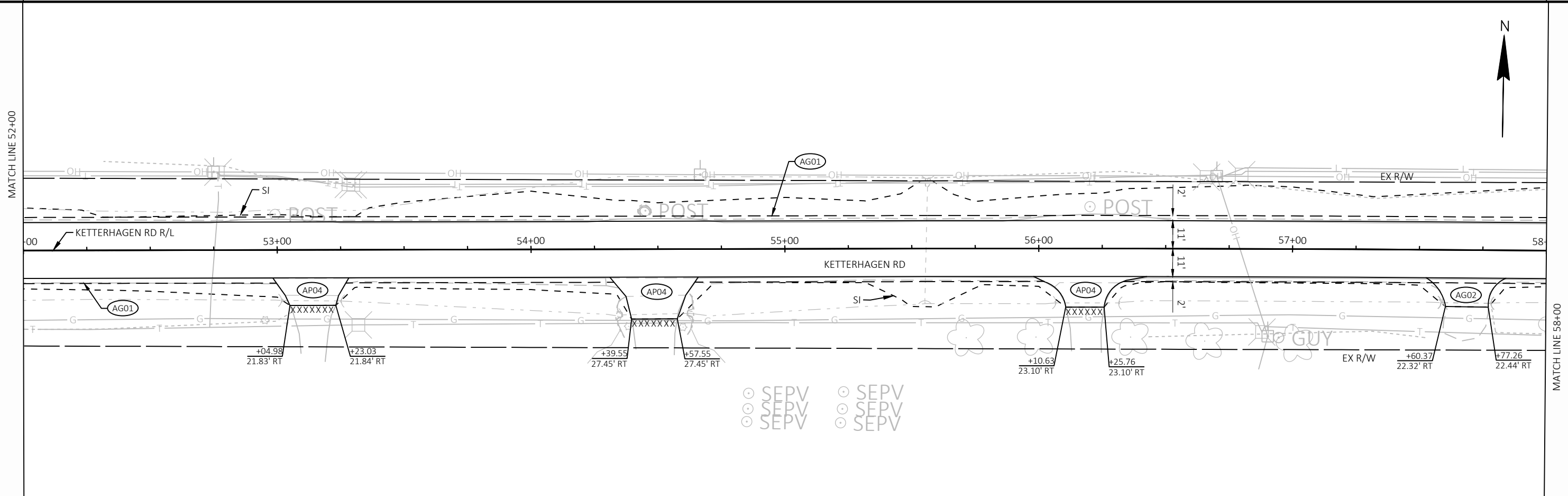
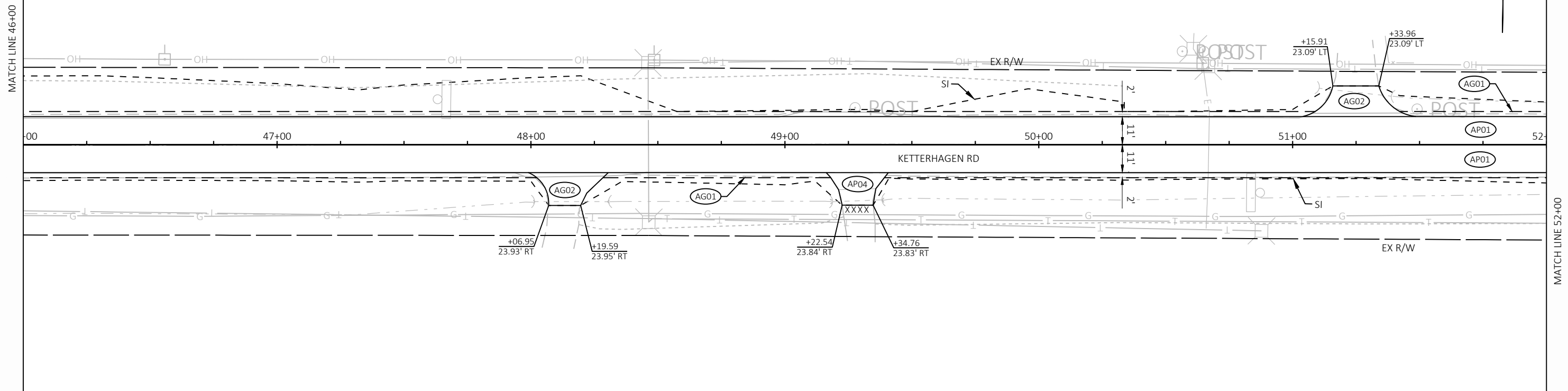




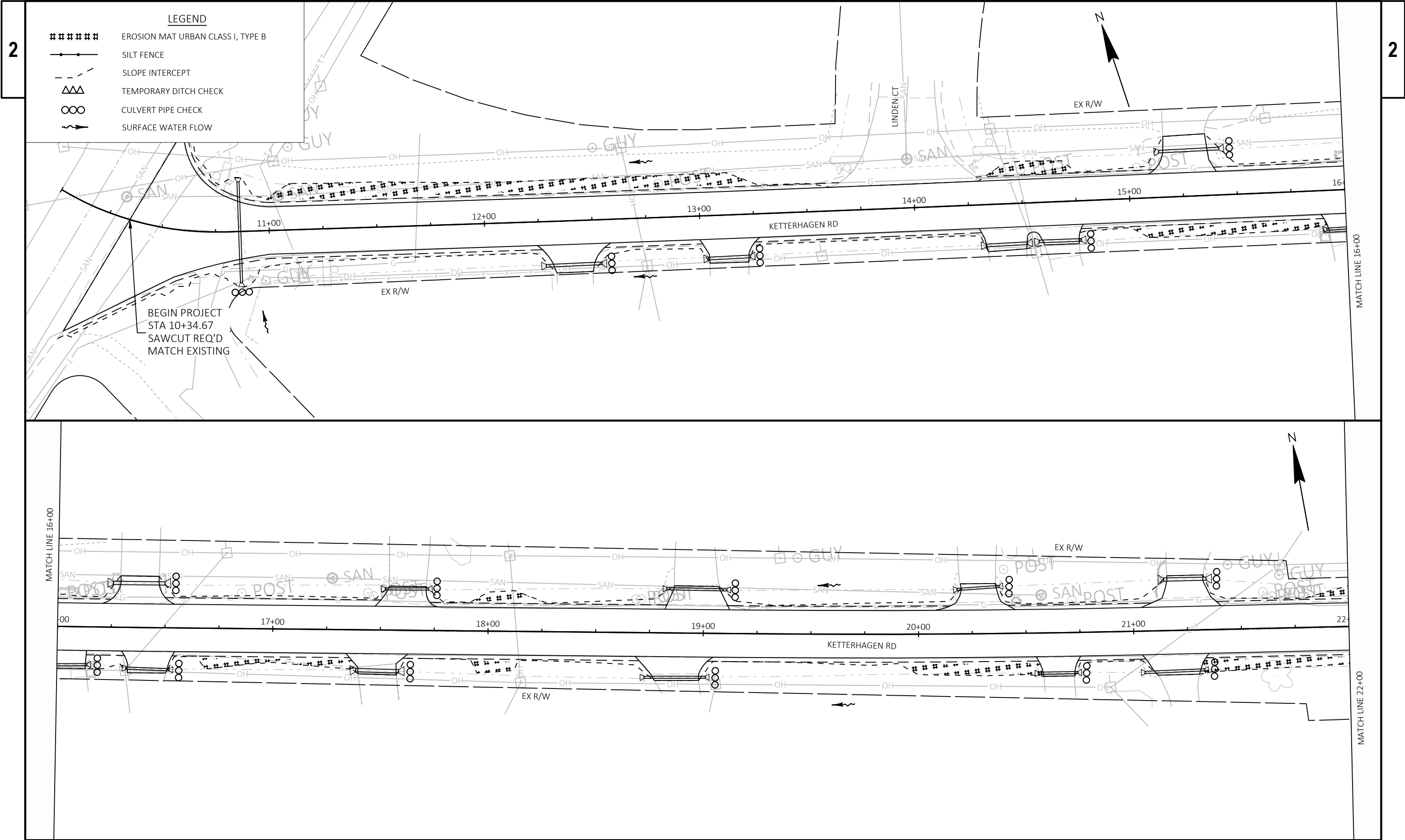
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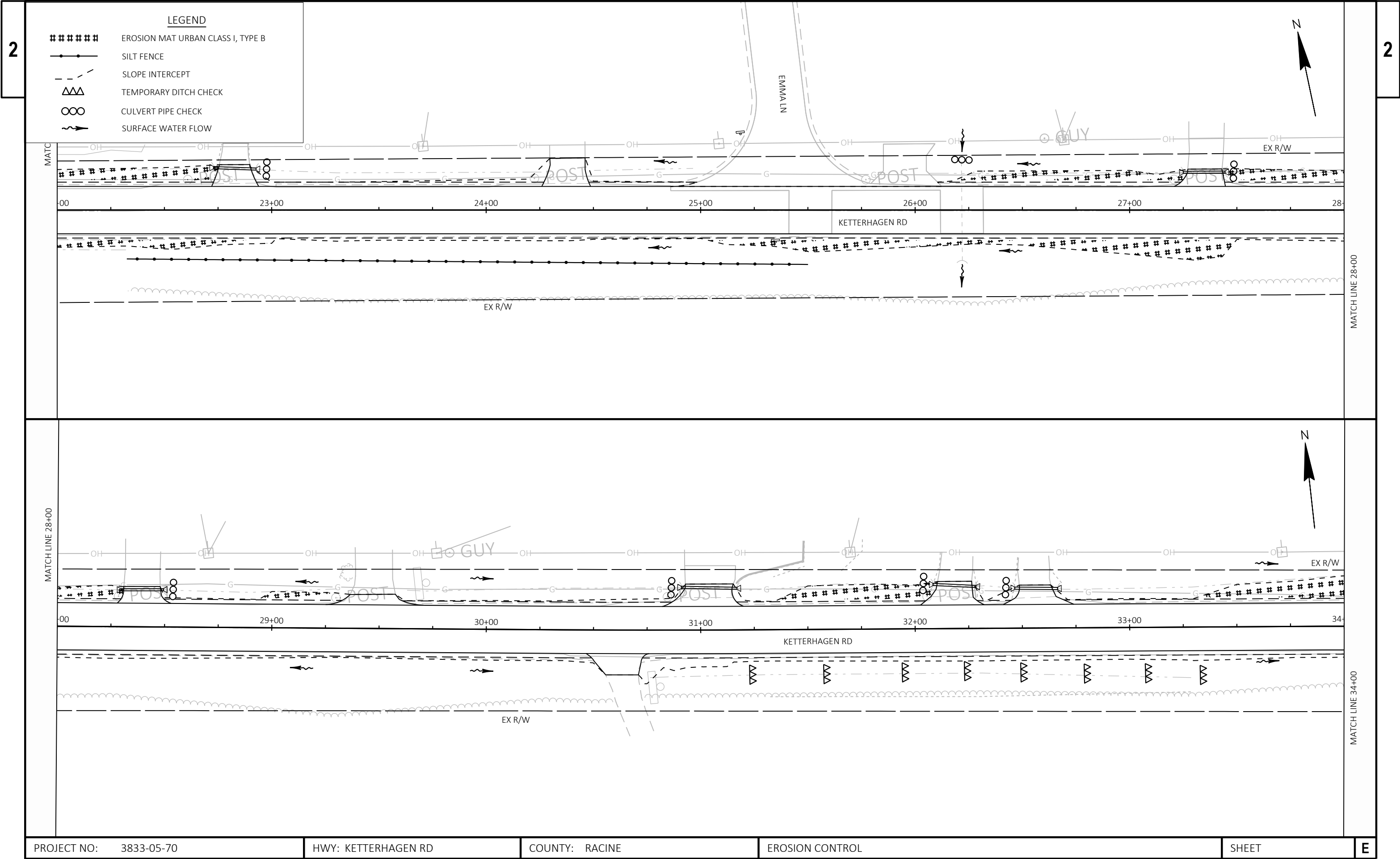
AG01	BASE AGGREGATE DENSE 3/4-INCH	AP04	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES
AG02	BASE AGGREGATE DENSE 1 1/4-INCH	XXXXX	SAWING ASPHALT
AP01	1.75" HMA 4 LT 58-28 S (UPPER LAYER)		
	1.75" HMA 4 LT 58-28 S (LOWER LAYER)		

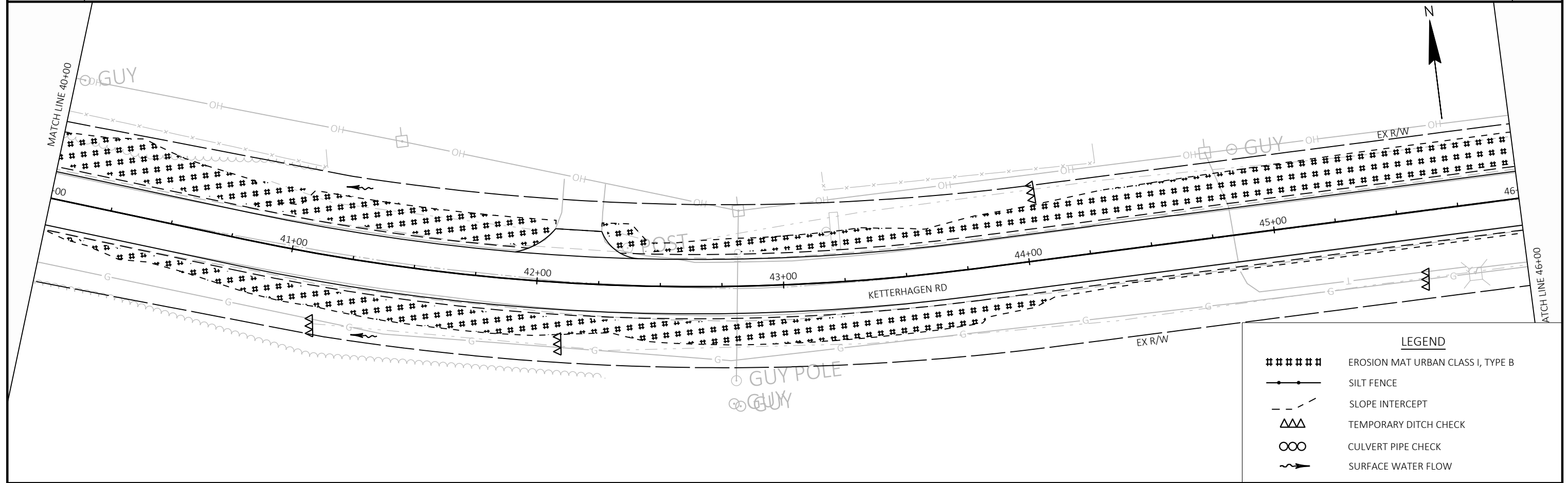
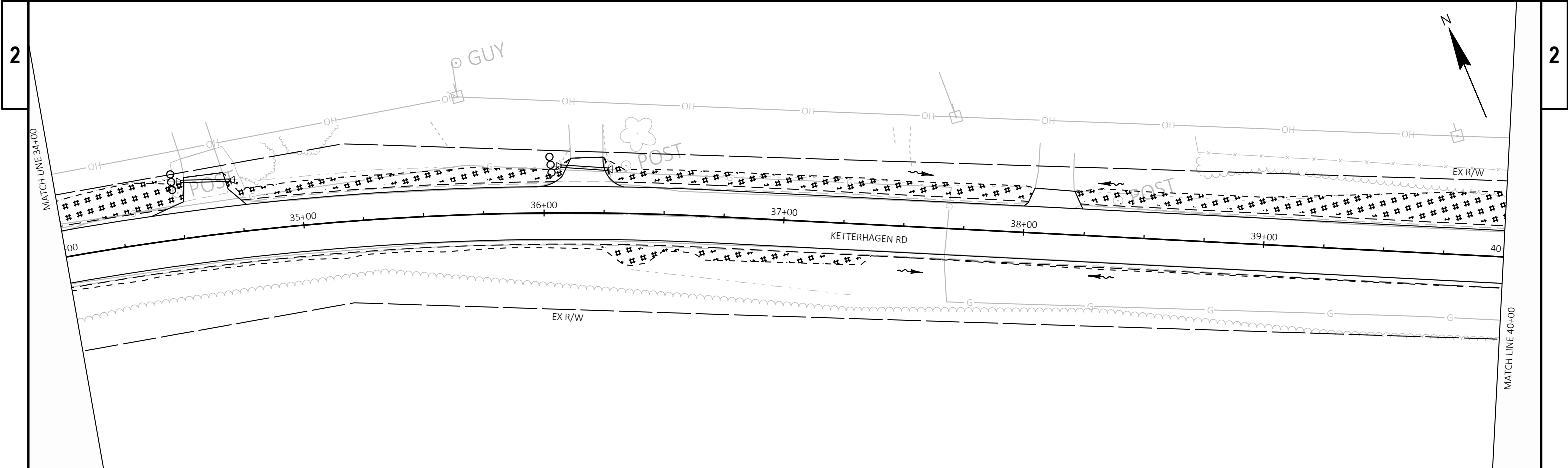


FILE NAME :	Y:\56XX\5605_DP23.KETTRHAGN.RCN.CTHW.STH36.3833-05-00\CADD\39330500\SHEET\S\021201-PD.DWG	PLOT DATE :	11/15/2024 8:42 AM	PLOT BY :	JORDYN BENN	PLOT NAME :		PLOT SCALE :	1 IN=40 FT	
LAYOUT NAME :	-021205-pd									
WISDOT/CADD SHEET 44										

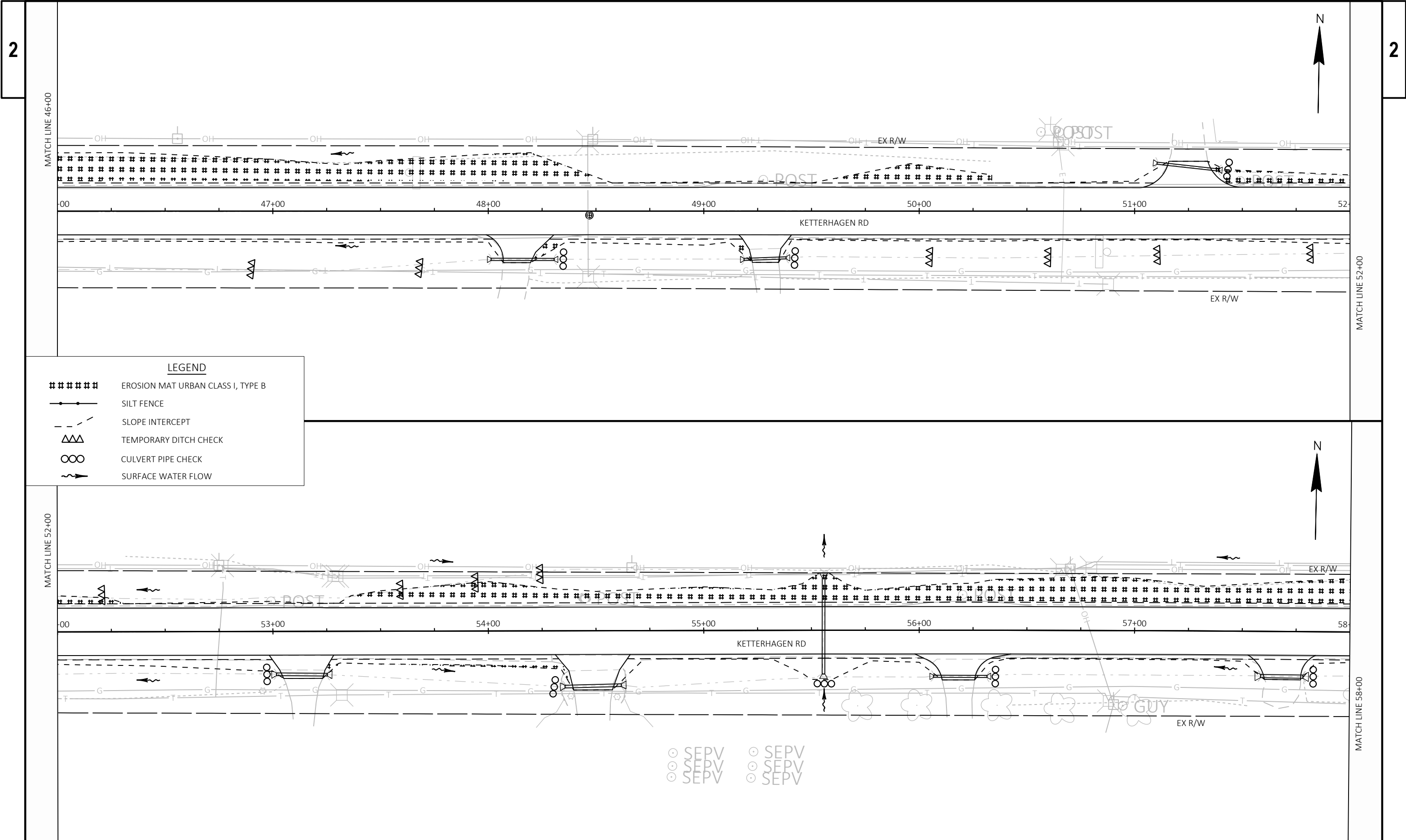


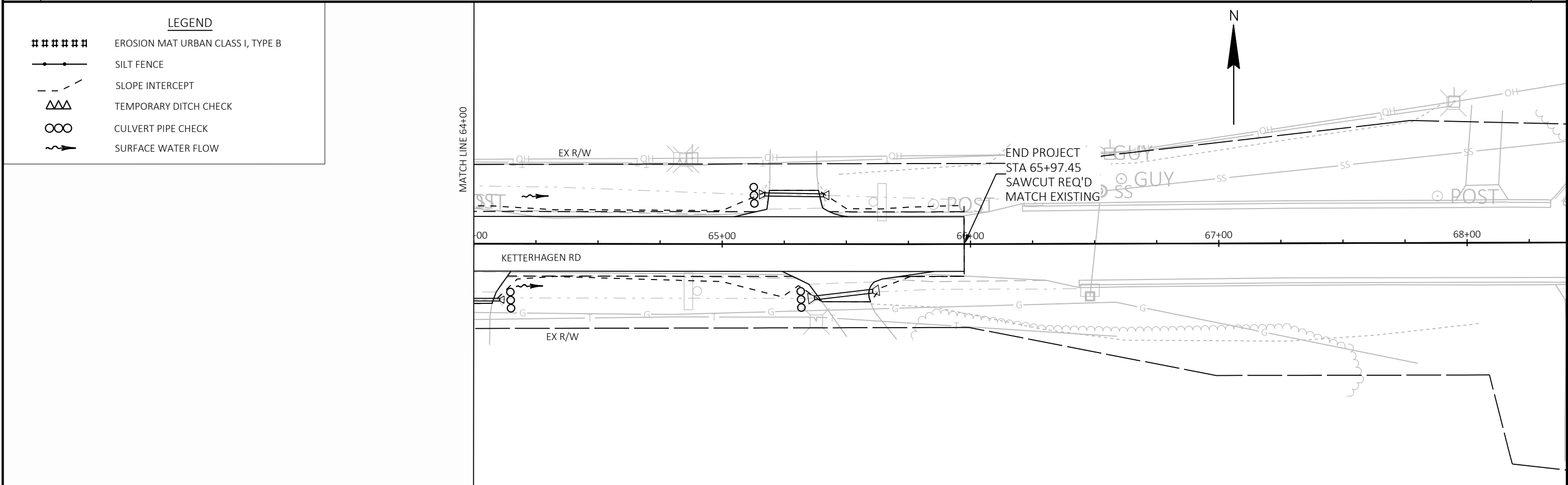
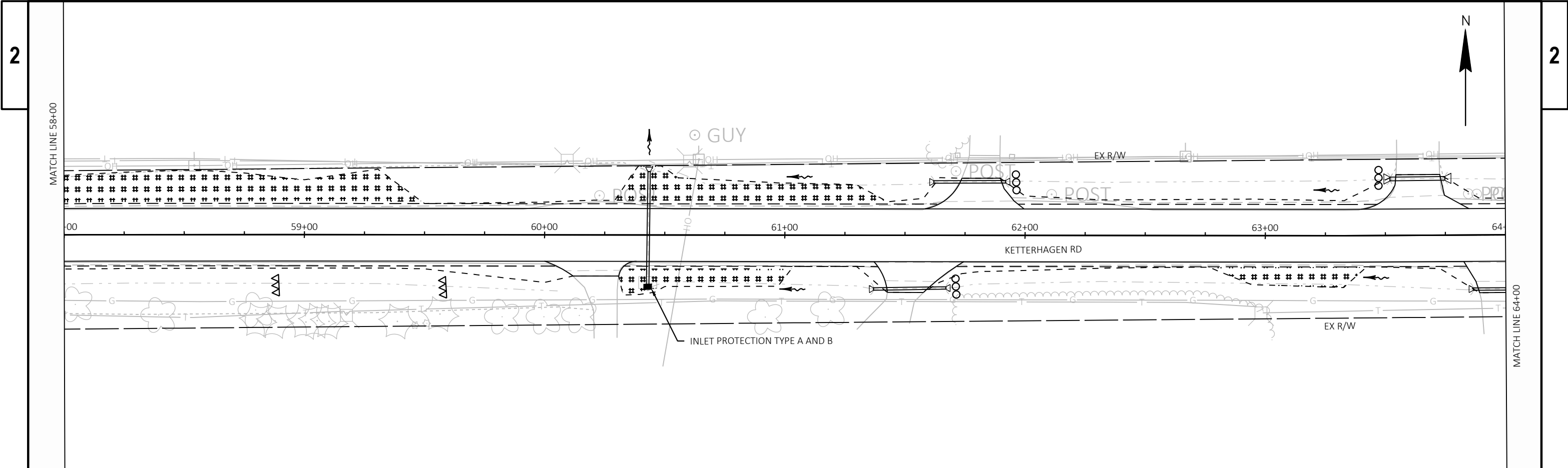
PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	EROSION CONTROL	SHEET	E
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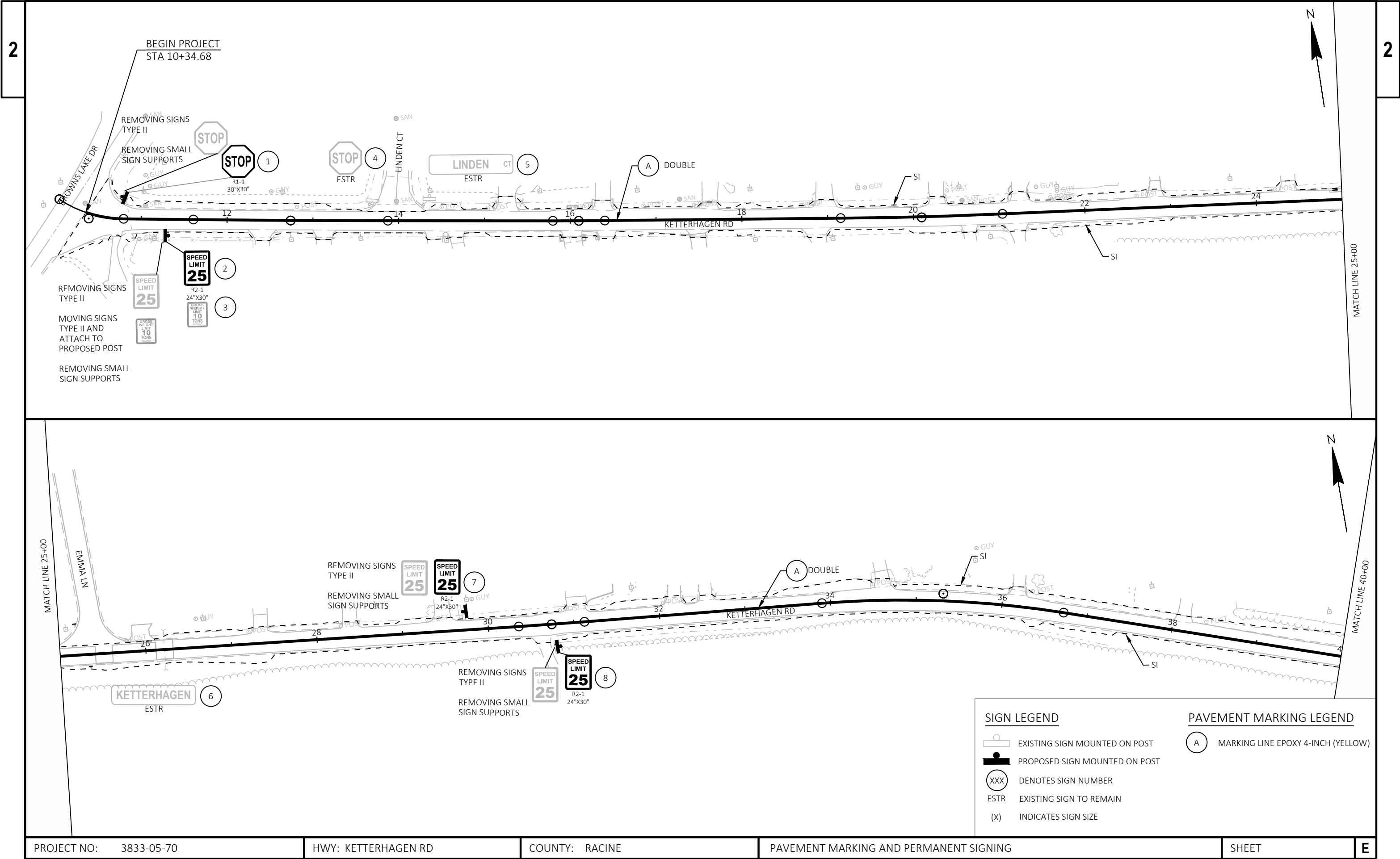




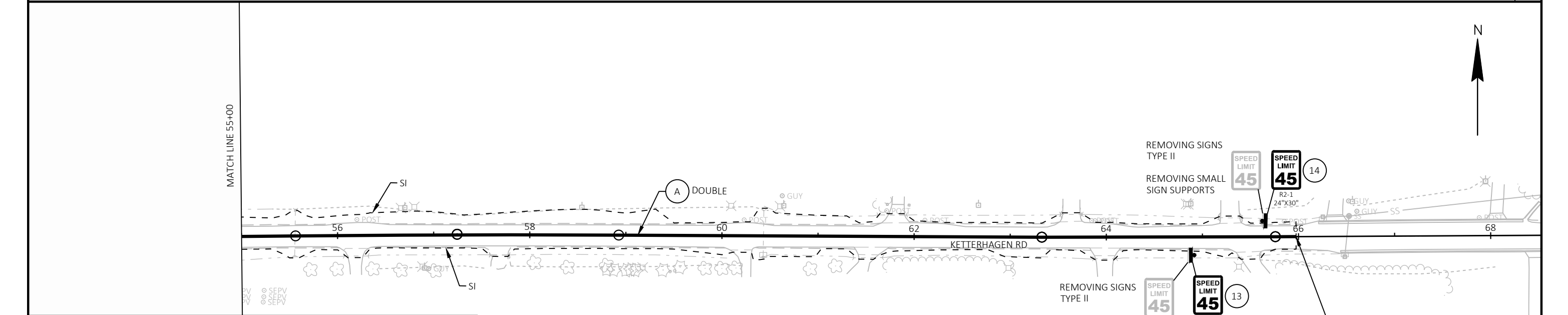
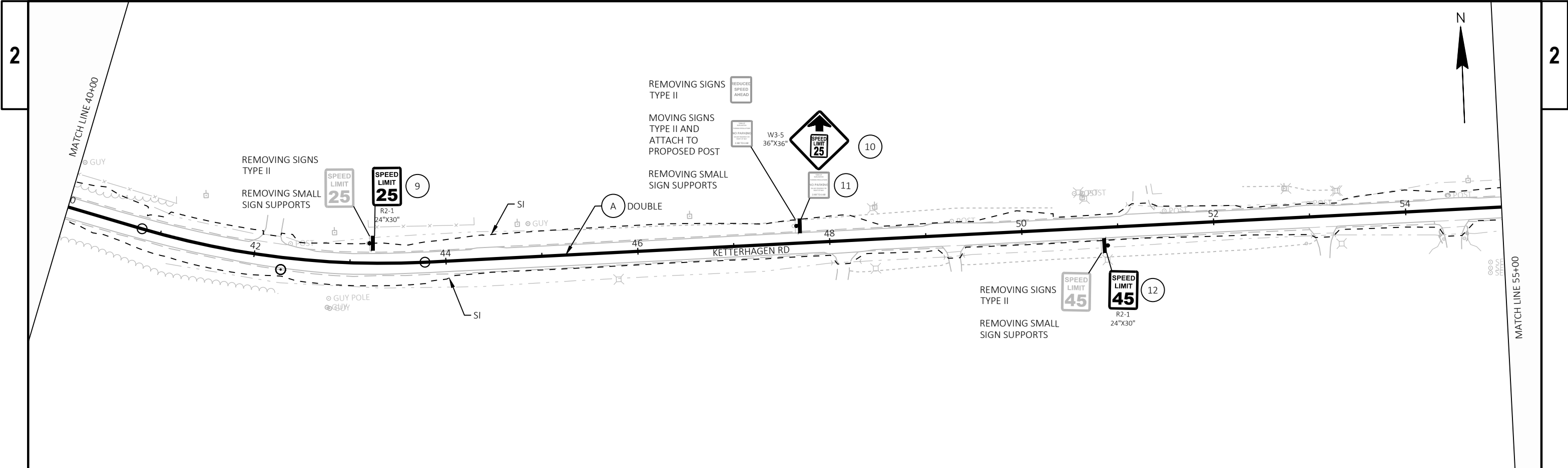
PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	EROSION CONTROL	SHEET	E
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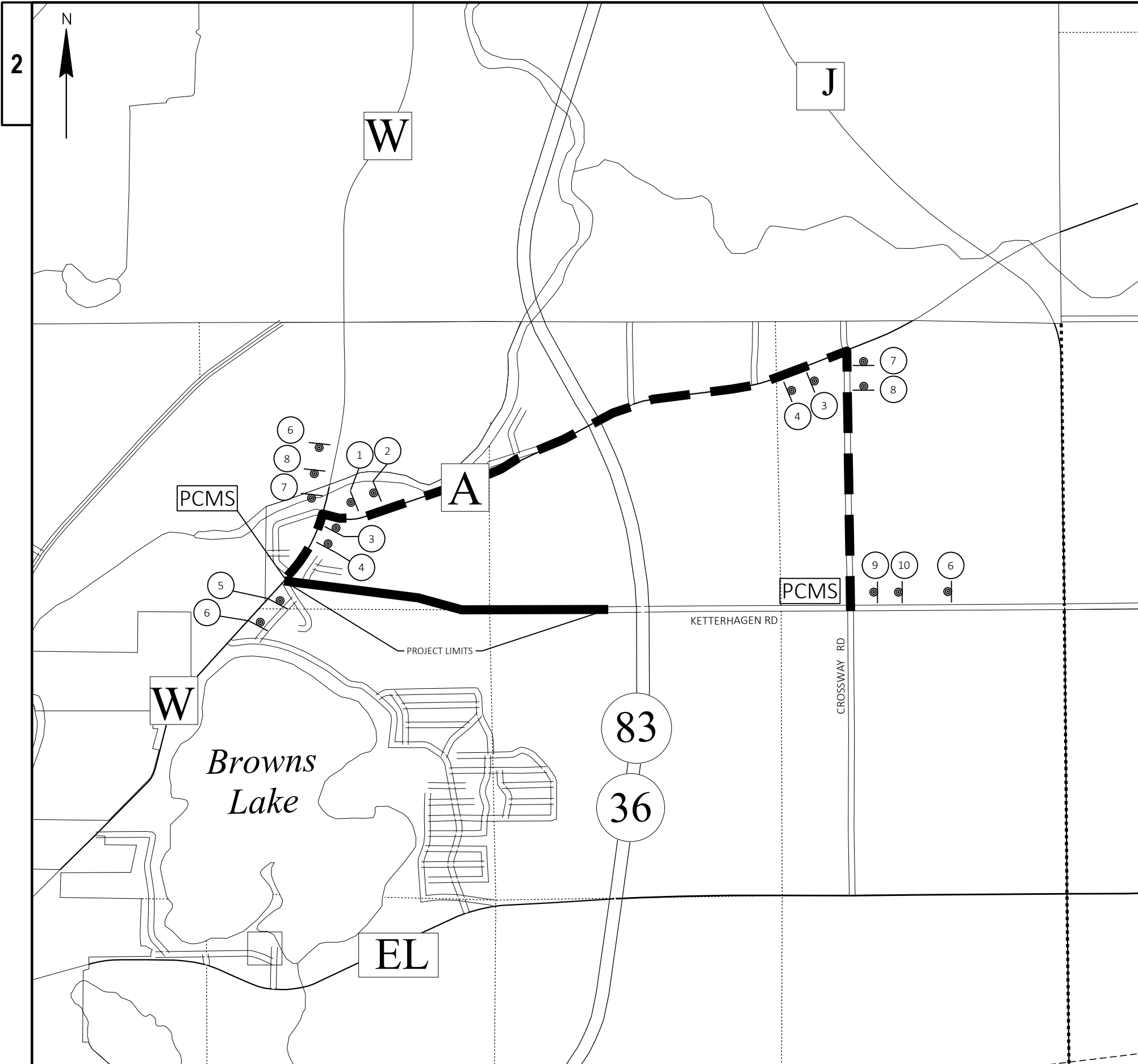




PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	PAVEMENT MARKING AND PERMANENT SIGNING	SHEET	E
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SIGN LEGEND		PAVEMENT MARKING LEGEND	
	EXISTING SIGN MOUNTED ON POST		MARKING LINE EPOXY 4-INCH (YELLOW)
	PROPOSED SIGN MOUNTED ON POST		
	DENOTES SIGN NUMBER		
ESTR	EXISTING SIGN TO REMAIN		
(X)	INDICATES SIGN SIZE		



LEGEND

1

DETOUR

M4-9L
30"x24"

2

DETOUR

M4-59L
30"x30"

3

DETOUR

M4-9R
30"x24"

4

DETOUR

M4-59R
30"x30"

5

DETOUR

M4-9RA
30"x24"

6

DETOUR
AHEAD

W20-2A

7

DETOUR

M4-9L
30"x24"

KETTERHAGEN
ROAD

36"x18"

8

DETOUR

M4-59L
30"x30"

KETTERHAGEN
ROAD

36"x18"

9

DETOUR

M4-9R
30"x24"

KETTERHAGEN
ROAD

36"x18"

10

DETOUR

M4-59R
30"x30"

KETTERHAGEN
ROAD

36"x18"

KETTERHAGEN RD DETOUR

PROJECT LOCATION

SIGN ON POST

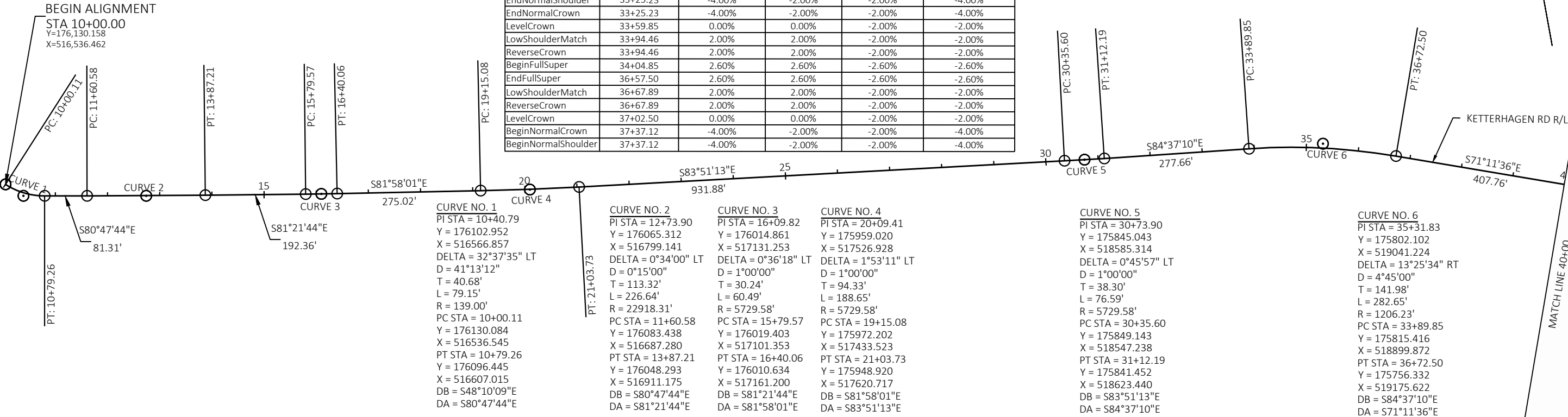
PCMS

PORTABLE CHANGEABLE MESSAGE SIGN
(MESSAGE TO BE DETERMINED BY CONTRACTOR)

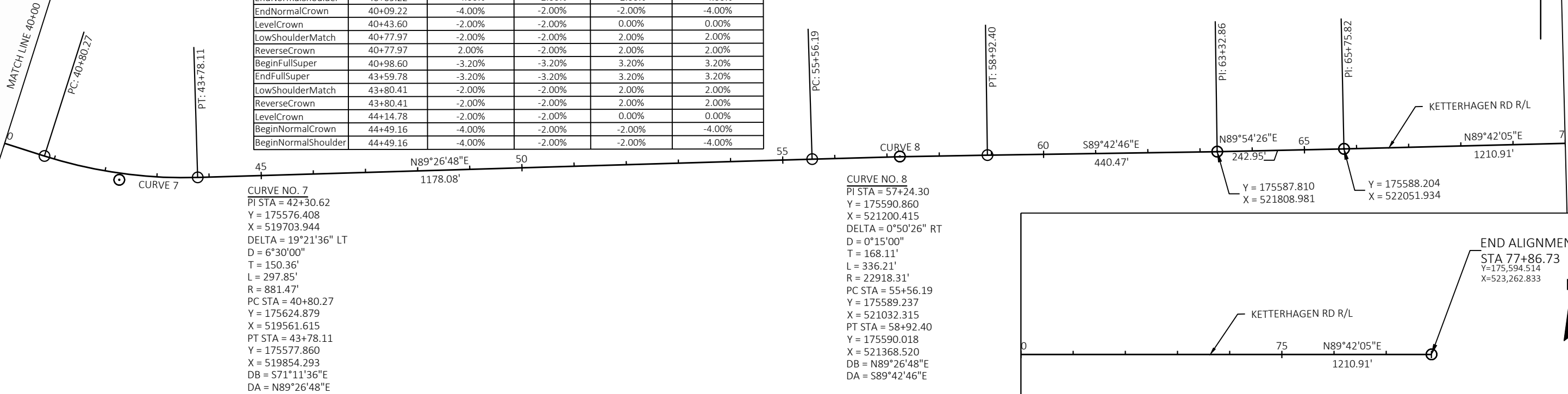
GENERAL NOTES

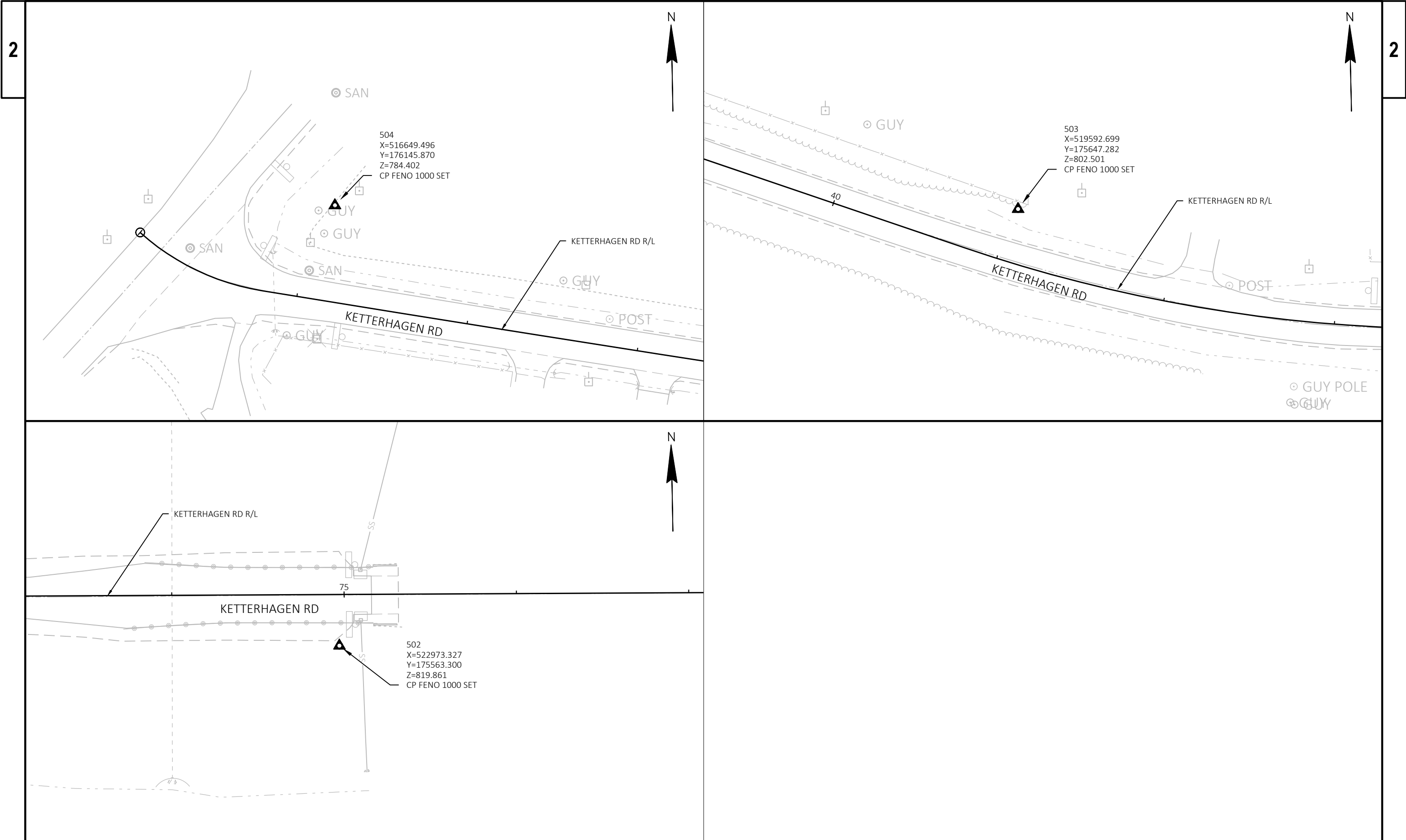
- ADJUST NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER
- ALL DIRECTIONAL ARROWS SHALL HAVE AN ORANGE BACKGROUND
- REMOVE OR COVER ALL SIGNS TEMPORARY OR EXISTING WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" AND AS APPROVED BY THE ENGINEER
- SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE, DETOUR, ON RAMP, OFF RAMP CLOSURES AND ADVANCE WIDTH RESTRICTION" FOR SIGN LAYOUT AND SPACING

KETTERHAGEN RD SUPERELEVATION TABLE - CURVE 6					
SUPERELEVATION TRANSITION EVENT POINTS		RATE			
LOCATION	STATION	LEFT OF CROWNLINE		RIGHT OF CROWNLINE	
		LEFT SHOULDER	LEFT LANE	RIGHT LANE	RIGHT SHOULDER
Curve 6					
EndNormalShoulder	33+25.23	-4.00%	-2.00%	-2.00%	-4.00%
EndNormalCrown	33+25.23	-4.00%	-2.00%	-2.00%	-4.00%
LevelCrown	33+59.85	0.00%	0.00%	-2.00%	-2.00%
LowShoulderMatch	33+94.46	2.00%	2.00%	-2.00%	-2.00%
ReverseCrown	33+94.46	2.00%	2.00%	-2.00%	-2.00%
BeginFullSuper	34+04.85	2.60%	2.60%	-2.60%	-2.60%
EndFullSuper	36+57.50	2.60%	2.60%	-2.60%	-2.60%
LowShoulderMatch	36+67.89	2.00%	2.00%	-2.00%	-2.00%
ReverseCrown	36+67.89	2.00%	2.00%	-2.00%	-2.00%
LevelCrown	37+02.50	0.00%	0.00%	-2.00%	-2.00%
BeginNormalCrown	37+37.12	-4.00%	-2.00%	-2.00%	-4.00%
BeginNormalShoulder	37+37.12	-4.00%	-2.00%	-2.00%	-4.00%



KETTERHAGEN RD SUPERELEVATION TABLE - CURVE 7					
SUPERELEVATION TRANSITION EVENT POINTS		RATE			
LOCATION	STATION	LEFT OF CROWNLIN		RIGHT OF CROWNLIN	
		LEFT SHOULDER	LEFT LANE	RIGHT LANE	RIGHT SHOULDER
Curve 7					
EndNormalShoulder	40+09.22	-4.00%	-2.00%	-2.00%	-4.00%
EndNormalCrown	40+09.22	-4.00%	-2.00%	-2.00%	-4.00%
LevelCrown	40+43.60	-2.00%	-2.00%	0.00%	0.00%
LowShoulderMatch	40+77.97	-2.00%	-2.00%	2.00%	2.00%
ReverseCrown	40+77.97	2.00%	-2.00%	2.00%	2.00%
BeginFullSuper	40+98.60	-3.20%	-3.20%	3.20%	3.20%
EndFullSuper	43+59.78	-3.20%	-3.20%	3.20%	3.20%
LowShoulderMatch	43+80.41	-2.00%	-2.00%	2.00%	2.00%
ReverseCrown	43+80.41	-2.00%	-2.00%	2.00%	2.00%
LevelCrown	44+14.78	-2.00%	-2.00%	0.00%	0.00%
BeginNormalCrown	44+49.16	-4.00%	-2.00%	-2.00%	-4.00%
BeginNormalShoulder	44+49.16	-4.00%	-2.00%	-2.00%	-4.00%





PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	ALIGNMENT DETAILS	SHEET	E
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Estimate Of Quantities

3833-05-70

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	39.000	39.000
0004	204.0110	Removing Asphaltic Surface	SY	1,145.000	1,145.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	170.000	170.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	13,790.000	13,790.000
0010	204.0185	Removing Masonry	CY	1.000	1.000
0012	204.0220	Removing Inlets	EACH	1.000	1.000
0014	205.0100	Excavation Common	CY	80.000	80.000
0016	208.0100	Borrow	CY	631.000	631.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	625.000	625.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	382.000	382.000
0022	305.0500	Shaping Shoulders	STA	56.000	56.000
0024	305.0504.S	Hauling Excess Shoulder Material 01. 3833-05-70	CY	150.000	150.000
0026	325.0100	Pulverize and Relay	SY	13,720.000	13,720.000
0028	455.0605	Tack Coat	GAL	971.000	971.000
0030	460.2000	Incentive Density HMA Pavement	DOL	1,750.000	1,750.000
0032	460.5224	HMA Pavement 4 LT 58-28 S	TON	2,719.000	2,719.000
0034	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	192.000	192.000
0036	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	49.000	49.000
0038	521.1015	Apron Endwalls for Culvert Pipe Steel 15-Inch	EACH	18.000	18.000
0040	521.1018	Apron Endwalls for Culvert Pipe Steel 18-Inch	EACH	12.000	12.000
0042	521.3112	Culvert Pipe Corrugated Steel 12-Inch	LF	633.000	633.000
0044	521.3115	Culvert Pipe Corrugated Steel 15-Inch	LF	234.000	234.000
0046	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	130.000	130.000
0048	611.0642	Inlet Covers Type MS	EACH	1.000	1.000
0050	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0052	618.0100	Maintenance and Repair of Haul Roads (project) 01. 3833-05-70	EACH	1.000	1.000
0054	619.1000	Mobilization	EACH	1.000	1.000
0056	624.0100	Water	MGAL	10.000	10.000
0058	625.0500	Salvaged Topsoil	SY	4,200.000	4,200.000
0060	628.1504	Silt Fence	LF	400.000	400.000
0062	628.1520	Silt Fence Maintenance	LF	400.000	400.000
0064	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0066	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0068	628.2008	Erosion Mat Urban Class I Type B	SY	4,200.000	4,200.000
0070	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0072	628.7010	Inlet Protection Type B	EACH	1.000	1.000
0074	628.7504	Temporary Ditch Checks	LF	300.000	300.000
0076	628.7555	Culvert Pipe Checks	EACH	69.000	69.000
0078	628.7560	Tracking Pads	EACH	2.000	2.000
0080	629.0210	Fertilizer Type B	CWT	2.600	2.600
0082	630.0130	Seeding Mixture No. 30	LB	74.000	74.000
0084	630.0200	Seeding Temporary	LB	74.000	74.000
0086	630.0500	Seed Water	MGAL	93.000	93.000
0088	634.0816	Posts Tubular Steel 2x2-Inch X 16-FT	EACH	7.000	7.000
0090	634.0818	Posts Tubular Steel 2x2-Inch X 18-FT	EACH	2.000	2.000
0092	637.2210	Signs Type II Reflective H	SF	40.180	40.180
0094	637.2230	Signs Type II Reflective F	SF	9.000	9.000
0096	638.2102	Moving Signs Type II	EACH	2.000	2.000
0098	638.2602	Removing Signs Type II	EACH	9.000	9.000

Estimate Of Quantities

3833-05-70

Line	Item	Item Description	Unit	Total	Qty
0100	638.3000	Removing Small Sign Supports	EACH	9.000	9.000
0102	642.5001	Field Office Type B	EACH	1.000	1.000
0104	643.0420	Traffic Control Barricades Type III	DAY	540.000	540.000
0106	643.0705	Traffic Control Warning Lights Type A	DAY	1,080.000	1,080.000
0108	643.0900	Traffic Control Signs	DAY	1,728.000	1,728.000
0110	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000
0112	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0114	643.5000	Traffic Control	EACH	1.000	1.000
0116	646.1020	Marking Line Epoxy 4-Inch	LF	11,126.000	11,126.000
0118	650.4000	Construction Staking Storm Sewer	EACH	1.000	1.000
0120	650.5000	Construction Staking Base	LF	5,562.000	5,562.000
0122	650.6000	Construction Staking Pipe Culverts	EACH	3.000	3.000
0124	650.8000	Construction Staking Resurfacing Reference	LF	5,562.000	5,562.000
0126	650.9911	Construction Staking Supplemental Control (project) 01. 3833-05-70	EACH	1.000	1.000
0128	650.9920	Construction Staking Slope Stakes	LF	5,562.000	5,562.000
0130	690.0150	Sawing Asphalt	LF	677.000	677.000
0132	740.0440	Incentive IRI Ride	DOL	2,108.000	2,108.000
0134	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	250.000	250.000
0136	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	400.000	400.000

3

REMOVING SMALL PIPE CULVERTS

203.0100 REMOVING SMALL PIPE CULVERTS					
CATEGORY	LOCATION	STATION	OFFSET	EACH	COMMENTS
0010	KETTERHAGEN RD	10+87		1	12" x 44' CMCP
	KETTERHAGEN RD	12+41	21' RT	1	15" x 26' CMCP
	KETTERHAGEN RD	13+13	20' RT	1	15" x 19' CMCP
	KETTERHAGEN RD	14+42	19' RT	1	15" x 19' CMCP
	KETTERHAGEN RD	14+67	18' RT	1	15" x 20' CMCP
	KETTERHAGEN RD	15+28	22' LT	1	15" x 28' CMCP
	KETTERHAGEN RD	16+02	18' RT	1	12" x 23' CMCP
	KETTERHAGEN RD	16+38	21' LT	1	18" x 24' CMCP
	KETTERHAGEN RD	16+42	19' RT	1	12" x 20' CMCP
	KETTERHAGEN RD	17+49	19' RT	1	18" x 20' CMCP
	KETTERHAGEN RD	17+62	19' LT	1	12" x 20' CMCP
	KETTERHAGEN RD	18+87	20' RT	1	12" x 29' CMCP
	KETTERHAGEN RD	18+97	20' LT	1	12" x 28' CMCP
	KETTERHAGEN RD	20+28	21' LT	1	12" x 20' CMCP
	KETTERHAGEN RD	20+65	19' RT	1	12" x 18' CMCP
	KETTERHAGEN RD	21+19	19' RT	1	12" x 28' CMCP
	KETTERHAGEN RD	21+24	24' LT	1	18" x 20' CMCP
	KETTERHAGEN RD	22+83	20' LT	1	12" x 20' CMCP
	KETTERHAGEN RD	27+35	18' LT	1	12" x 19' CMCP
	KETTERHAGEN RD	28+39	17' LT	1	12" x 20' CMCP
	KETTERHAGEN RD	31+04	20' LT	1	12" x 26' CMCP
	KETTERHAGEN RD	32+18	20' LT	1	12" x 20' CMCP
	KETTERHAGEN RD	32+57	19' LT	1	12" x 20' CMCP
	KETTERHAGEN RD	36+17	19' LT	1	12" x 20' CMCP
	KETTERHAGEN RD	48+16	22' RT	1	12" x 29' CMCP
	KETTERHAGEN RD	49+28	22' RT	1	12" x 19' CMCP
	KETTERHAGEN RD	51+25	21' LT	1	12" x 29' CMCP
	KETTERHAGEN RD	53+13	20' RT	1	16" x 24' CMCP
	KETTERHAGEN RD	54+49	26' RT	1	15" x 26' CMCP
	KETTERHAGEN RD	55+56		1	15" x 48' CMCP
	KETTERHAGEN RD	56+19	21' RT	1	12" x 25' CMCP
	KETTERHAGEN RD	57+68	21' RT	1	18" x 20' CPCP
	KETTERHAGEN RD	60+43		1	12" x 48' CMCP
	KETTERHAGEN RD	61+52	22' RT	1	12" x 30' CMCP
	KETTERHAGEN RD	61+77	22' LT	1	12" x 30' CMCP
	KETTERHAGEN RD	63+63	24' LT	1	18" x 23' CMCP
	KETTERHAGEN RD	63+98	23' RT	1	12" x 24' CMCP
	KETTERHAGEN RD	65+29	20' LT	1	15" x 24' CMCP
	KETTERHAGEN RD	65+49	20' RT	1	18" x 24' CMCP
PROJECT TOTAL				39	

DRIVEWAYS

305.0120* 465.0120			
		BASE AGGREGATE DENSE 1 1/4-INCH TON	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
CATEGORY	LOCATION		
0010	KETTERHAGEN RD	382	192
	PROJECT TOTAL	382	192

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVAL ITEMS

							204.0110	204.0115	204.0120	204.0185	204.0220	325.0100		
							REMOVING ASPHALTIC SURFACE SY	REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMOVING ASPHALTIC SURFACE MILLING SY	REMOVING MASONRY CY	REMOVING INLETS EACH	PULVERIZE AND RELAY SY		
CATEGORY	LOCATION	STATION	OFFSET	TO	STATION	OFFSET							COMMENTS	
0010	KETTERHAGEN RD	10+34.68	LT/RT	-	65+97.45	LT/RT	--	60	13,790	1	1	13,720	MAINLINE	
	LINDEN COURT						--	40	--	--	--	--		
	EMMA LANE						--	70	--	--	--	--		
	KETTERHAGEN RD	10+34.68	LT/RT	-	65+97.45	LT/RT	1,145	--	--	--	--	--	DRIVEWAYS	
PROJECT TOTAL							1,145	170	13,790	1	1	13,720		

ASPHALTIC ITEMS

							460.2000	455.0605	460.5224	740.0440
							INCENTIVE DENSITY HMA PAVEMENT DOL	TACK COAT GAL	HMA PAVEMENT 4 LT 58-28 S TON	INCENTIVE IRI RIDE DOL
CATEGORY	LOCATION	STATION	TO	STATION	OFFSET	ALIGNMENT				
0010	KETTERHAGEN RD	10+34.68	-	65+97.45	LT/RT	KETTERHAGEN RD	1,750	971	2,719	2,108
	PROJECT TOTAL						1,750	971	2,719	2,108

BASE AGGREGATE ITEMS

							305.0110	305.0120*	305.0500	305.0504.S			
							BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	SHAPING SHOULDERS STA	HAULING EXCESS SHOULDER MATERIAL CY			
CATEGORY	LOCATION	STATION	TO	STATION	OFFSET	ALIGNMENT							
0010	KETTERHAGEN RD	10+34.68	-	65+97.45	LT/RT	KETTERHAGEN RD	625	--	56	150			
	KETTERHAGEN RD						--	160	--	--	UNDISTRIBUTED FOR EBS		
	PROJECT TOTAL						625	160	56	150			

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

PROJECT NO: 3833-05-70

HWY: KETTERHAGEN RD

COUNTY: RACINE

MISCELLANEOUS QUANTITIES

SHEET

E

EARTHWORK

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	208.0100 BORROW	COMMENT
			EBS EXCAVATION (3)		FACTOR 1.25			
MAINLINE	10+34.68 - 65+97.45	KETTERHAGEN RD		505	631	-631	631	
MAINLINE		UNDISTRIBUTED	80					
GRAND TOTAL				505	631	-631	631	
TOTAL COMMON EXC				505	631	-631	631	

NOTES:
(13) EXPANDED FILL FACTOR = 1.25
DEPENDING ON SELECTIONS:
OR
OR
OR
(14) 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.
(15) FACTORS USED TO COMPUTE ANTICIPATED WASTE AND THE COMPUTED WASTE VOLUME IDENTIFIED ARE FOR GENERAL INFORMATION ONLY.

DRIVEWAY CULVERT PIPES

CATEGORY	STATION	OFFSET	TO	STATION	OFFSET	MINIMUM THICKNESS INCHES	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE	521.1012* APRON ENDWALLS FOR CULVERT PIPE STEEL	521.1015* APRON ENDWALLS FOR CULVERT PIPE STEEL	521.1018 APRON ENDWALLS FOR CULVERT PIPE STEEL	521.3112* CULVERT PIPE CORRUGATED STEEL 12-INCH	521.3115* CULVERT PIPE CORRUGATED STEEL 15-INCH	521.3118 CULVERT PIPE CORRUGATED STEEL 18-INCH
										12-INCH EACH	15-INCH EACH	18-INCH EACH	LF	LF	LF
0010	12+28	21' RT	-	12+54	20' RT	0.064	784.35	783.86	1.87%	--	2	--	--	26	--
	13+03	20' RT	-	13+23	20' RT	0.064	784.85	784.60	1.26%	--	2	--	--	19	--
	14+32	19' RT	-	14+52	19' RT	0.064	786.88	786.79	0.47%	--	2	--	--	19	--
	14+57	18' RT	-	14+77	18' RT	0.064	787.43	787.29	0.73%	--	2	--	--	20	--
	15+14	21' LT	-	15+42	22' LT	0.064	788.66	787.94	2.55%	--	2	--	--	28	--
	15+91	18' RT	-	16+14	18' RT	0.064	790.46	790.25	0.92%	2	--	--	23	--	--
	16+26	21' LT	-	16+50	21' LT	0.064	791.83	790.84	4.13%	--	--	2	--	--	24
	16+32	19' RT	-	16+52	19' RT	0.064	791.74	791.46	1.40%	2	--	--	20	--	--
	17+38	19' RT	-	17+59	19' RT	0.064	797.25	796.40	4.23%	--	--	2	--	--	20
	17+52	19' LT	-	17+72	19' LT	0.064	798.08	797.00	5.35%	2	--	--	20	--	--
	18+73	21' RT	-	19+01	20' RT	0.064	807.59	805.67	6.73%	2	--	--	29	--	--
	18+83	21' LT	-	19+11	20' LT	0.064	808.67	806.77	6.81%	2	--	--	28	--	--
	20+18	21' LT	-	20+38	22' LT	0.064	816.72	815.71	5.17%	2	--	--	20	--	--
	20+56	19' RT	-	20+74	19' RT	0.064	817.58	817.12	2.55%	2	--	--	18	--	--
	21+05	19' RT	-	21+33	19' RT	0.064	820.06	819.05	3.61%	2	--	--	28	--	--
	21+14	24' LT	-	21+34	24' LT	0.064	820.52	819.92	3.06%	--	--	2	--	--	20
	22+73	20' LT	-	22+93	19' LT	0.064	825.18	824.59	3.00%	2	--	--	20	--	--
	27+25	18' LT	-	27+44	18' LT	0.064	829.08	828.80	1.43%	2	--	--	19	--	--
	28+30	17' LT	-	28+49	17' LT	0.064	830.84	830.44	1.99%	2	--	--	20	--	--
	30+91	20' LT	-	31+17	19' LT	0.064	830.80	829.67	4.34%	2	--	--	26	--	--
	32+08	21' LT	-	32+28	20' LT	0.064	822.81	821.81	5.00%	2	--	--	20	--	--
	32+47	19' LT	-	32+66	18' LT	0.064	820.78	819.88	4.53%	2	--	--	20	--	--
	34+51	24' LT	-	34+72	22' LT	0.064	806.34	805.44	4.33%	2	--	--	21	--	--
	36+07	19' LT	-	36+26	18' LT	0.064	801.28	800.81	2.42%	2	--	--	20	--	--
	48+01	22' RT	-	48+31	22' RT	0.064	810.24	809.11	3.88%	2	--	--	29	--	--
	49+19	22' RT	-	49+38	22' RT	0.064	813.40	812.89	2.59%	2	--	--	19	--	--
	51+10	22' LT	-	51+39	19' LT	0.064	819.68	818.69	3.48%	2	--	--	29	--	--
	53+02	20' RT	-	53+25	20' RT	0.064	822.81	822.62	0.82%	--	2	--	--	24	--
	54+36	26' RT	-	54+62	25' RT	0.064	819.58	818.95	2.40%	--	2	--	--	26	--
	56+07	21' RT	-	56+32	21' RT	0.064	819.01	818.62	1.58%	2	--	--	25	--	--
	57+59	21' RT	-	57+78	21' RT	0.064	821.92	821.54	1.92%	--	--	2	--	--	20
	61+37	22' RT	-	61+67	22' RT	0.064	830.65	829.44	4.03%	2	--	--	30	--	--
	61+62	22' LT	-	61+92	22' LT	0.064	831.14	830.20	3.16%	2	--	--	30	--	--
	63+52	24' LT	-	63+75	24' LT	0.064	832.46	832.40	0.29%	--	--	2	--	--	23
	63+86	23' RT	-	64+10	23' RT	0.064	832.72	832.46	1.11%	2	--	--	24	--	--
	65+17	20' LT	-	65+41	20' LT	0.064	832.04	831.24	3.35%	--	2	--	--	24	--
	65+37	22' RT	-	65+61	19' RT	0.064	831.63	831.29	1.45%	--	--	2	--	--	24
PROJECT TOTAL										46	16	12	537	186	130

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CROSS DRAINS

CATEGORY	STATION	OFFSET	TO	STATION	OFFSET	MINIMUM THICKNESS INCHES	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE	521.1012*	521.1015*	521.3112*	521.3115*
										APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE STEEL 15-INCH EACH	CULVERT PIPE CORRUGATED STEEL 12-INCH LF	CULVERT PIPE CORRUGATED STEEL 15-INCH LF
0010	10+82	22' LT	-	10+91	21' RT	0.064	782.96	782.63	0.71%	2	--	48	--
	55+55	21' RT	-	55+56	28' LT	0.064	817.14	814.41	5.95%	--	2	--	48
	60+43	22' RT	-	60+44	26' LT	0.064	825.59	824.94	1.35%	1	--	48	--
	PROJECT TOTAL									3	2	96	48

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

RESTORATION ITEMS

CATEGORY	LOCATION	625.0500	629.0210	630.0130	630.0200	630.0500
		SALVAGED TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 30 LB	SEEDING TEMPORARY LB	SEED WATER MGAL
0010	KETTERHAGEN RD	3,360	2.1	59	59	74
	UNDISTRIBUTED	840	0.5	15	15	19
	PROJECT TOTAL	4,200	2.6	74	74	93

STORM SEWER STRUCTURES

STRUCTURE	STATION	OFFSET*	LOCATION	611.0642	611.3901	628.7005	628.7010	650.4000	RIM** ELEVATION	INVERT*** ELEVATION	DEPTH**** FT
				INLET COVERS TYPE MS EACH	INLETS MEDIAN 1 GRATE EACH	INLET PROTECTION TYPE A EACH	INLET PROTECTION TYPE B EACH	CONSTRUCTION STAKING STORM SEWER EACH			
1.1	60+42.92	21.54' RT	KETTERHAGEN ROAD	1	1	1	1	1	826.86	824.53	2.33
PROJECT TOTAL				1	1	1	1	1			

REMARKS:
*STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE
**RIM ELEV IS AT THE INLET COVER FLANGE LOCATION
***FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE
****DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 0-INCH ADJUSTMENT RING HEIGHT

EROSION CONTROL MOBILIZATION

CATEGORY	LOCATION	628.1905	628.1910
		MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	UNDISTRIBUTED	4	2
	PROJECT TOTAL	4	2

EROSION CONTROL ITEMS

CATEGORY	LOCATION	628.1504	628.1520	628.2008	628.7504	628.7555
		SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT URBAN CLASS I TYPE B SY	TEMPORARY DITCH CHECKS LF	CULVERT PIPE CHECKS EACH
0010	KETTERHAGEN RD	320	320	3360	300	55
	UNDISTRIBUTED	80	80	840	--	14
	PROJECT TOTAL	400	400	4,200	300	69

FOR INFORMATION ONLY	
ESTIMATED BAG SIZE = 18" X 12" X 6"	
PIPE SIZE	ESTIMATED NUMBER OF BAGS
12"	1
15"	2
18"	2

REMOVING AND MOVING SIGNS

CATEGORY	STATION	OFFSET	SIGN NUMBER	SIGN MESSAGE	638.2102	638.2602	638.3000	COMMENTS
					MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
0010	10+76	LT	1	STOP	--	1	1	
	11+26	RT	2	SPEED LIMIT 25	--	1	1	
	11+26	RT	3	GROSS WEIGHT 10 TONS	1	--	--	MOVE SIGN TO NEW POST
	13+70	LT	4	STOP	--	--	--	EXISTING SIGN TO REMAIN
	14+35	LT	5	STREET SIGN (LINDEN CT)	--	--	--	EXISTING SIGN TO REMAIN
	25+35	RT	6	STREET SIGN (EMMA LN)	--	--	--	EXISTING SIGN TO REMAIN
	29+71	LT	7	SPEED LIMIT 25	--	1	1	
	30+80	RT	8	SPEED LIMIT 25	--	1	1	
	43+18	LT	9	SPEED LIMIT 25	--	1	1	
	47+64	LT	10	REDUCED SPEED AHEAD	--	1	1	
	47+64	LT	11	NO PARKING REGULATION	1	--	--	MOVE SIGN TO NEW POST
	50+87	RT	12	SPEED LIMIT 45	--	1	1	
	64+89	RT	13	SPEED LIMIT 45	--	1	1	
	65+60	LT	14	SPEED LIMIT 45	--	1	1	
	PROJECT TOTAL				2	9	9	

TYPE II SIGNS AND SUPPORTS

CATEGORY	SIGN NUMBER	SIGN CODE	SIGN SIZE	SIGN TYPE	SIGN DIMENSION W X H			DESCRIPTION	634.0816	634.0818	637.2210	637.2230	SIGN MOUNTED ON SAME POST AS SIGN NO.	COMMENTS
					IN	X	IN		POSTS TUBULAR STEEL 2X2-INCH X 16-FT EACH	POSTS TUBULAR STEEL 2X2-INCH X 18-FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF		
0010	1	R1-1	2S	II	30	X	30	STOP	1	--	5.18	--	2	MOVE SIGN TO NEW POS EXISTING SIGN TO REMAI EXISTING SIGN TO REMAI EXISTING SIGN TO REMAI
	2	R2-1	2S	II	24	X	30	SPEED LIMIT 25	--	1	5.00	--		
	3	--	--	II	--	X	--	GROSS WEIGHT 10 TONS	--	--	--	--		
	4	--	--	II	--	X	--	STOP	--	--	--	--		
	5	--	--	II	--	X	--	STREET SIGN (LINDEN CT)	--	--	--	--		
	6	--	--	II	--	X	--	STREET SIGN (EMMA LN)	--	--	--	--		
	7	R2-1	2S	II	24	X	30	SPEED LIMIT 25	1	--	5.00	--	9	MOVE SIGN TO NEW POS
	8	R2-1	2S	II	24	X	30	SPEED LIMIT 25	1	--	5.00	--		
	9	R2-1	2S	II	24	X	30	SPEED LIMIT 25	1	--	5.00	--		
	10	W3-5	2S	II	36	X	36	SPEED REDUCTION AHEAD	--	1	--	9.00		
	11	--	--	II	--	X	--	NO PARKING REGULATIONS	--	--	--	--		
	12	R2-1	2S	II	24	X	30	SPEED LIMIT 45	1	--	5.00	--		
	13	R2-1	2S	II	24	X	30	SPEED LIMIT 45	1	--	5.00	--		
	14	R2-1	2S	II	24	X	30	SPEED LIMIT 45	1	--	5.00	--		
PROJECT TOTAL									7	2	40.18	9.00		

TRAFFIC CONTROL ITEMS

CATEGORY	LOCATION	STAGE DURATION DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0900* TRAFFIC CONTROL SIGNS		643.1050 TRAFFIC CONTROL SIGNS PCMS	
			NO.	DAY	NO.	DAY	NO.	DAY	NO.	DAY
0010	BROWNS LAKE DR AND KETTERHAGEN RD	54	2	108	4	216	1	54	1	7
	CROSSWAY RD AND KETTERHAGEN RD	54	4	216	8	432	7	378	1	7
	LINDEN CT	54	2	108	4	216	1	54	--	--
	EMMA LN	54	2	108	4	216	1	54	--	--
	PROJECT TOTAL		540		1,080		540		14	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC CONTROL ITEMS-DETOUR

CATEGORY	LOCATION	DAYS	643.0900* TRAFFIC CONTROL SIGNS		643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II	
			NO.	DAY	NO.	DAY
0010	KETTERHAGEN RD	54	5	270	--	--
	CROSSWAY RD	54	4	216	--	--
	PLANK RD	54	4	216	--	--
	BROWNS LAKE DR	54	9	486	--	--
	UNDISTRIBUTED	54	--	--	3	--
	PROJECT TOTAL		1,188		3	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

TRAFFIC CONTROL

643.5000		
TRAFFIC CONTROL EACH		
CATEGORY	LOCATION	
0010	PROJECT	1
	PROJECT TOTAL	1

FIELD OFFICE

642.5001		
FIELD OFFICE TYPE B EACH		
CATEGORY	LOCATION	
0010	PROJECT	1
	PROJECT TOTAL	1

3

LONG LINE PAVEMENT MARKING ITEMS

646.1020		
MARKING LINE EPOXY 4-INCH SOLID YELLOW		
CATEGORY	LOCATION	LF
0010	KETTERHAGEN RD	11,126
PROJECT TOTAL		11,126

MAINTENANCE AND REPAIR OF HAUL ROADS

618.0100		
MAINTENANCE AND REPAIR OF HAUL ROADS (3833-05-70)		
CATEGORY	LOCATION	EACH
0020	PROJECT	1
PROJECT TOTAL		1

TRACKING PADS

628.7560		
TRACKING PADS		
CATEGORY	LOCATION	EACH
0010	UNDISTRIBUTED	2
PROJECT TOTAL		2

WATER

		624.0100
		MGAL
CATEGORY	LOCATION	
0010	PROJECT-BASE COMPACTION	10
PROJECT-COMMON EXCAVATION		--
PROJECT TOTAL		10

3

SAWING

690.0150				
SAWING ASPHALT				
CATEGORY	LOCATION	STATION	TO STATION	LF
0010	KETTERHAGEN RD	10+34.68	65+97.45	677
PROJECT TOTAL				677

CONSTRUCTION STAKING

		650.5000	650.6000	650.8000	650.9910	650.9920
		CONSTRUCTION STAKING BASE	CONSTRUCTION STAKING PIPE CULVERTS	CONSTRUCTION STAKING RESURFACING REFERENCE	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (3833- 05-70)	CONSTRUCTION STAKING SLOPE STAKES
CATEGORY	LOCATION	LF	EACH	LF	LS	LF
0010	KETTERHAGEN RD	5,562	3	5,562	1	5,562
PROJECT TOTAL		5,562	3	5,562	1	5,562

PROJECT NO: 3833-05-70

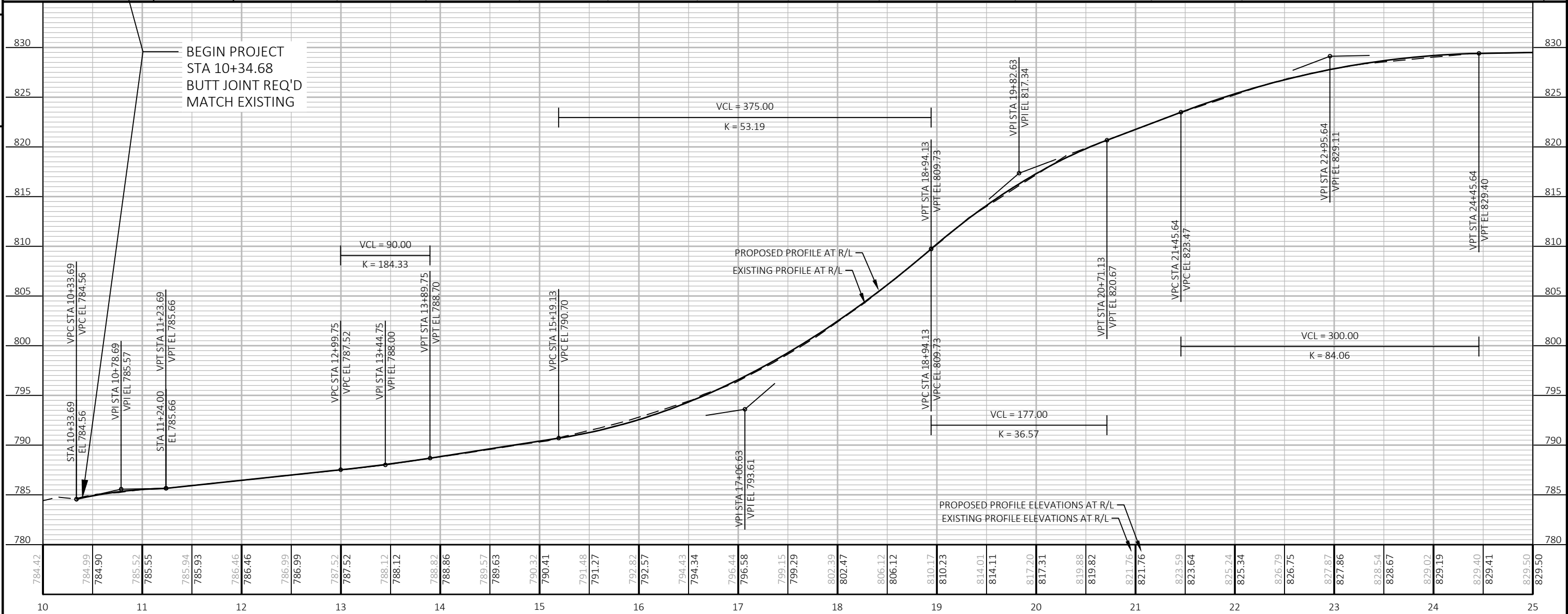
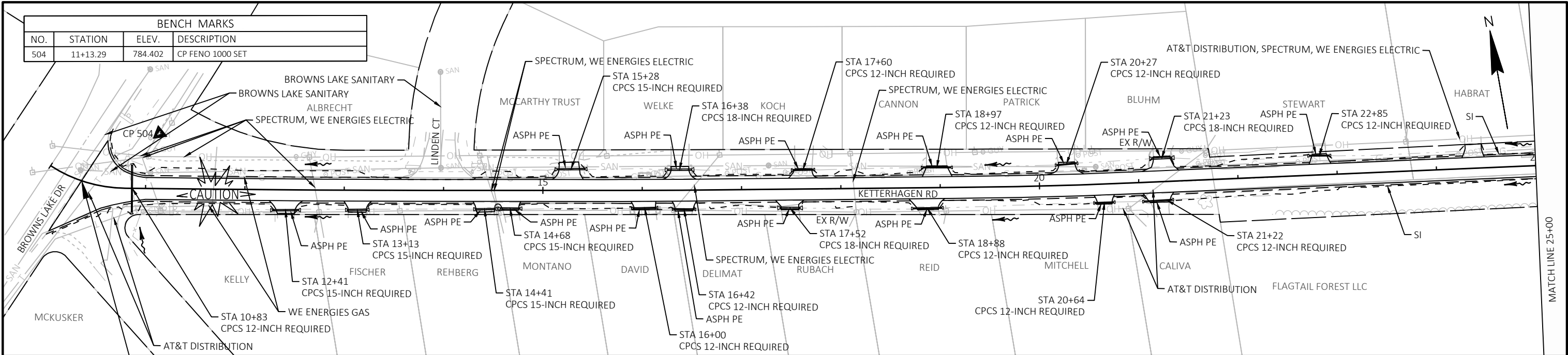
HWY: KETTERHAGEN RD

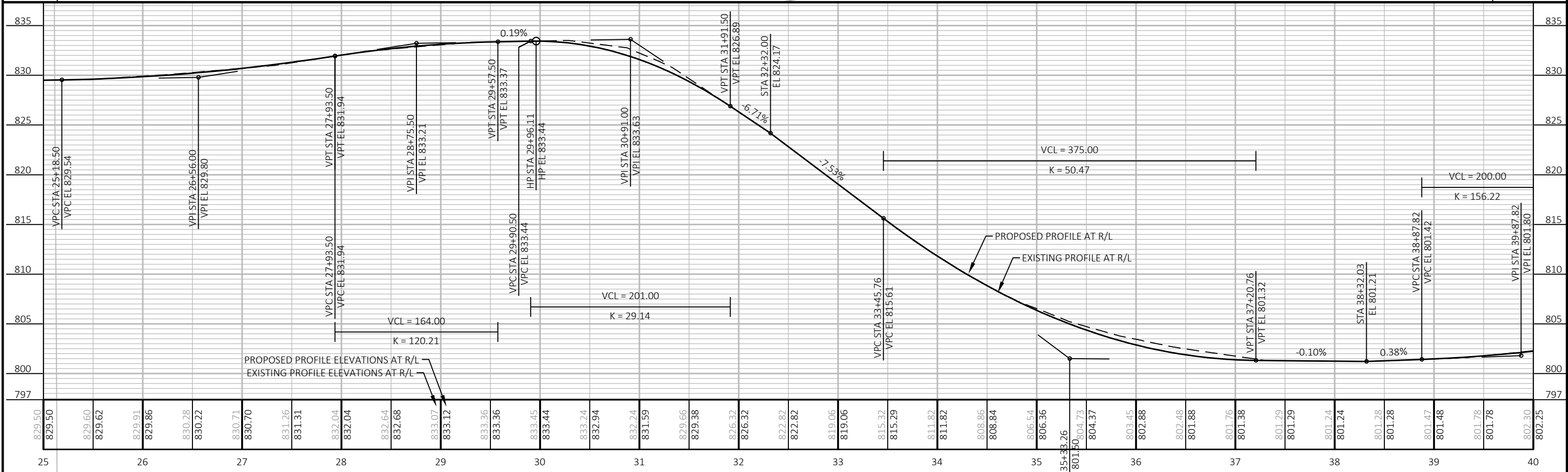
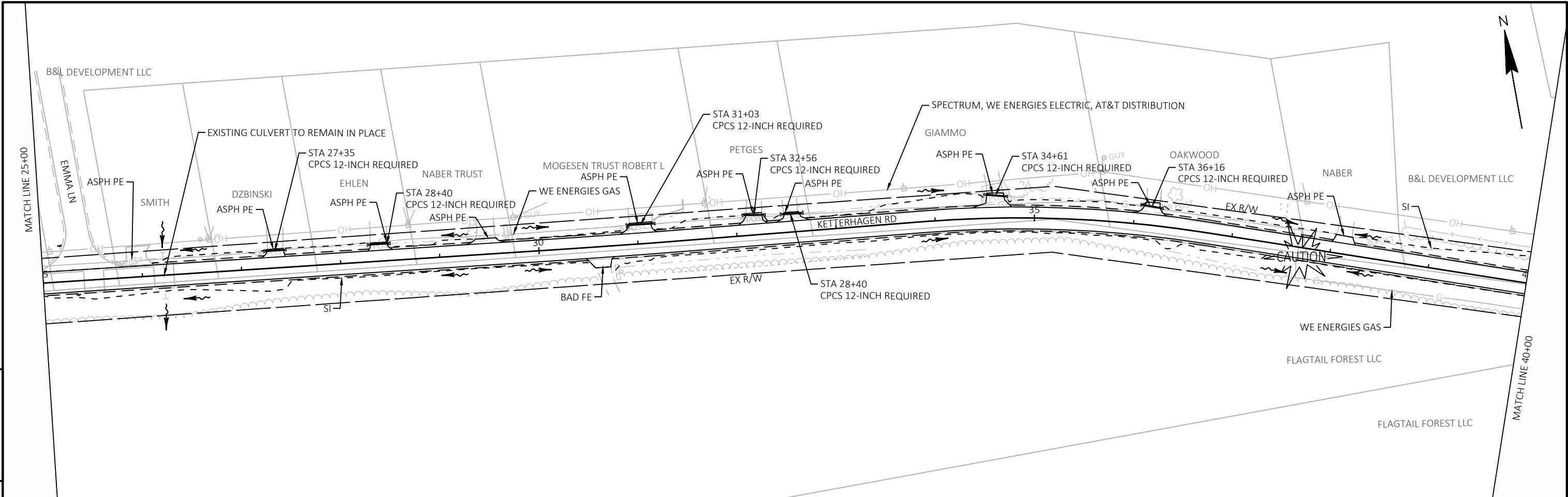
COUNTY: RACINE

MISCELLANEOUS QUANTITIES

SHEET

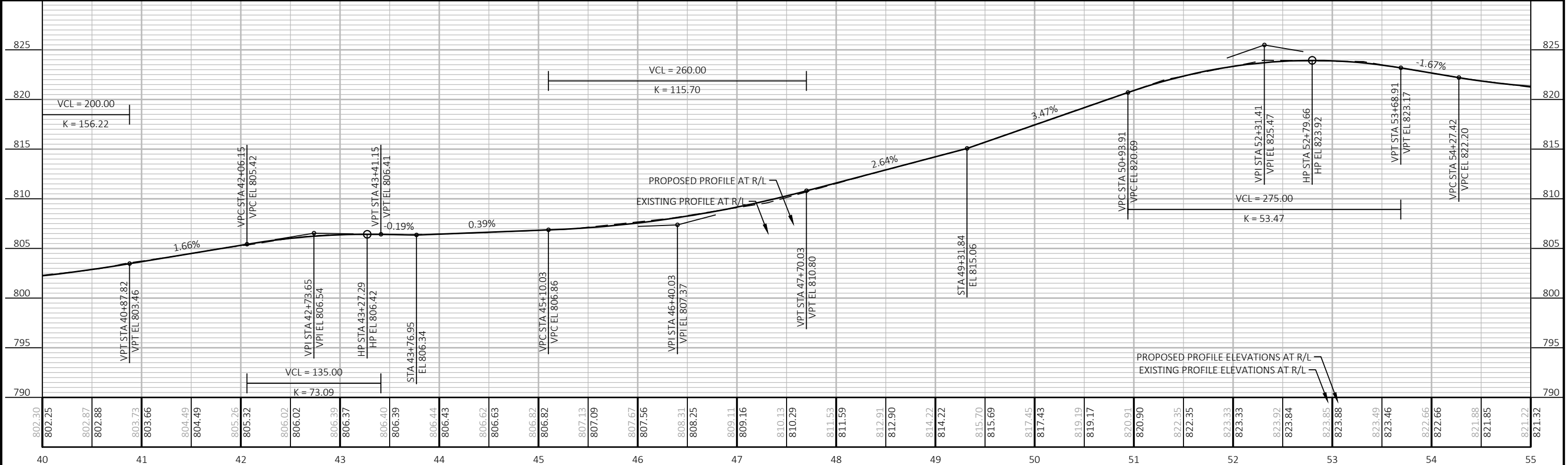
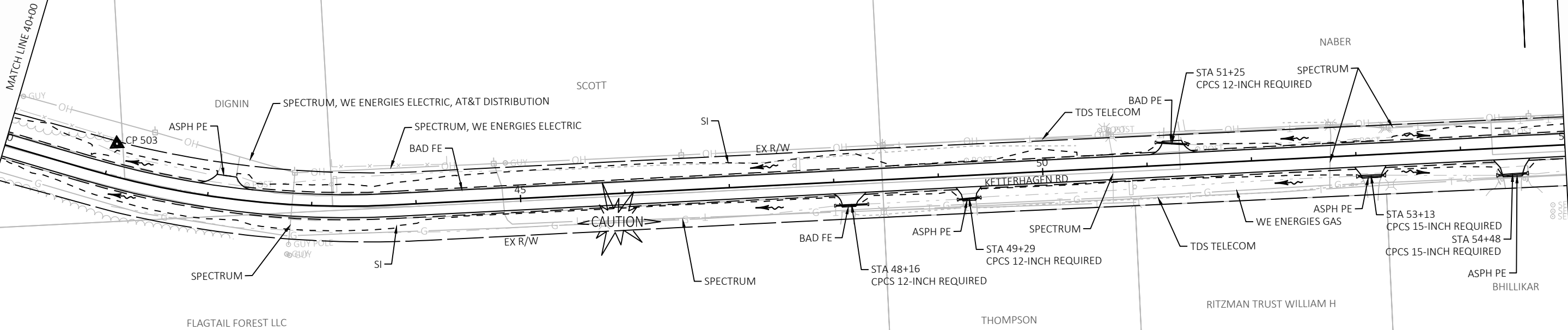
E





PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	PLAN AND PROFILE	SHEET	E
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BENCH MARKS			
NO.	STATION	ELEV.	DESCRIPTION
503	41+03.28	802.501	CP FENO 1000 SET

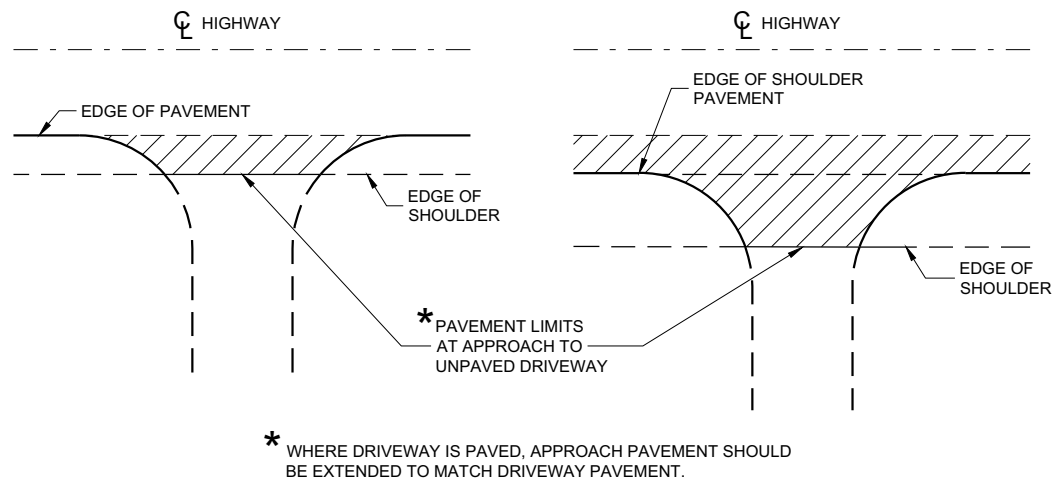


I

WISDOT/CADDS SHEET 44

Standard Detail Drawing List

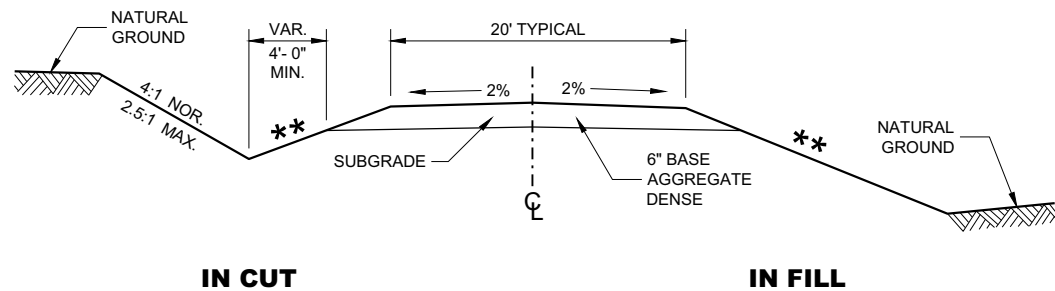
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
13C19-03	HMA LONGITUDINAL JOINTS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

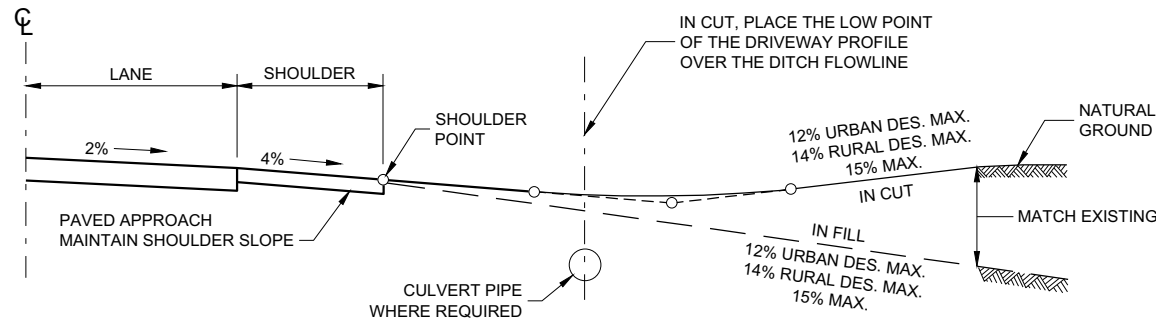
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



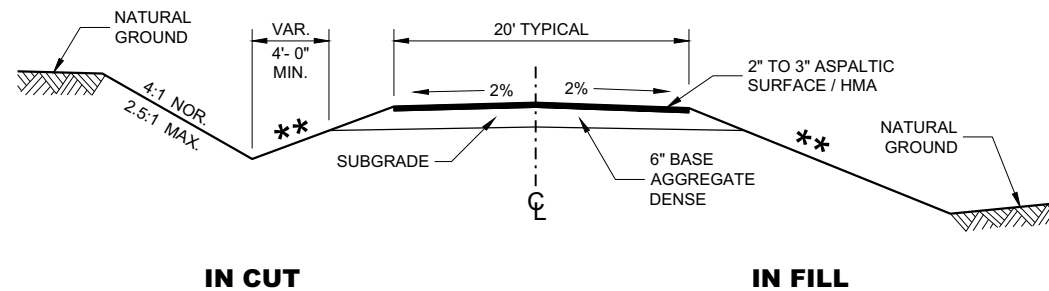
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



TYPICAL DRIVEWAY PROFILES



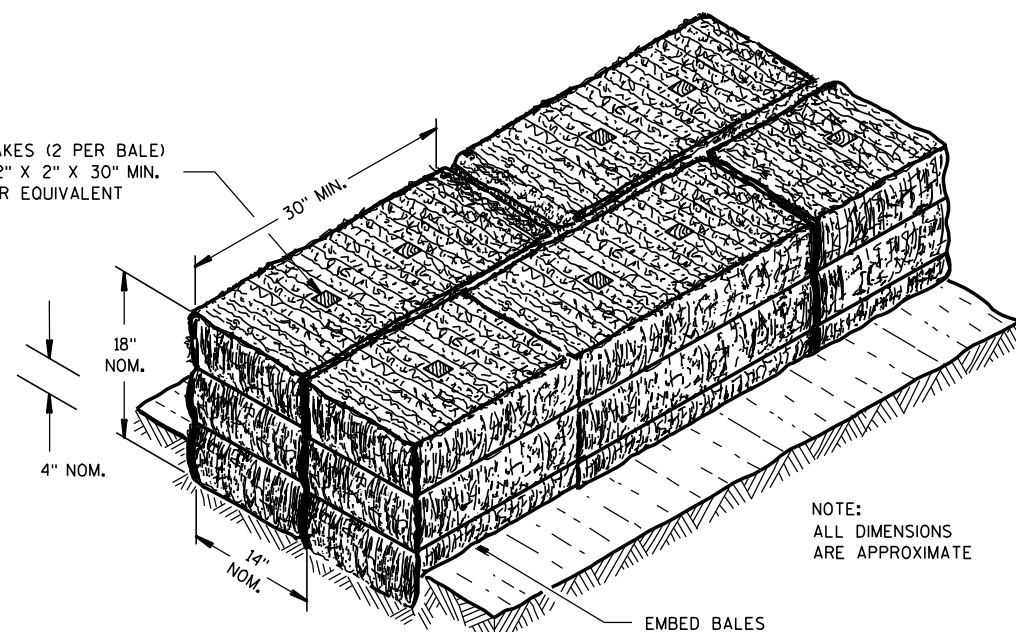
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2017
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

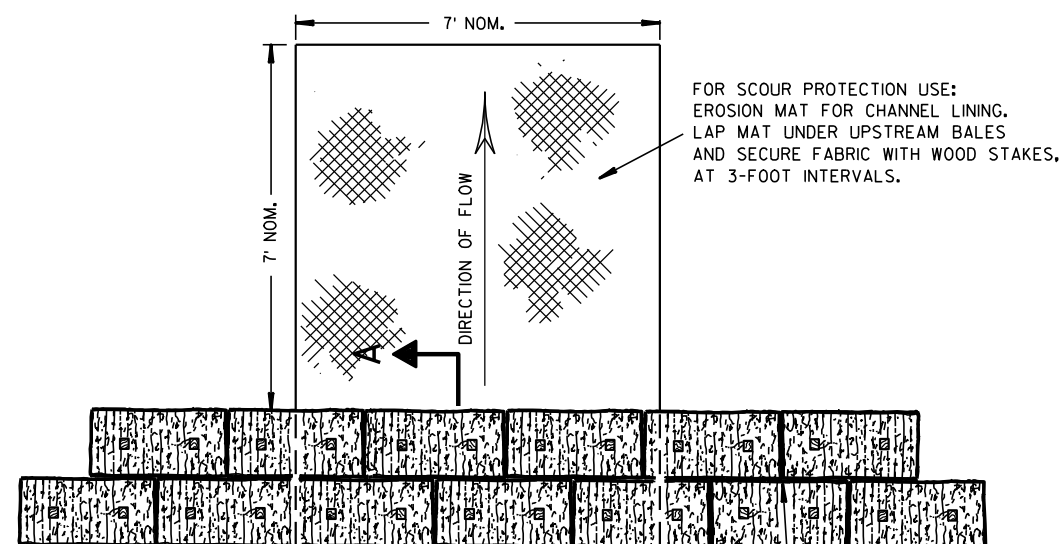
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

SECTION A-A

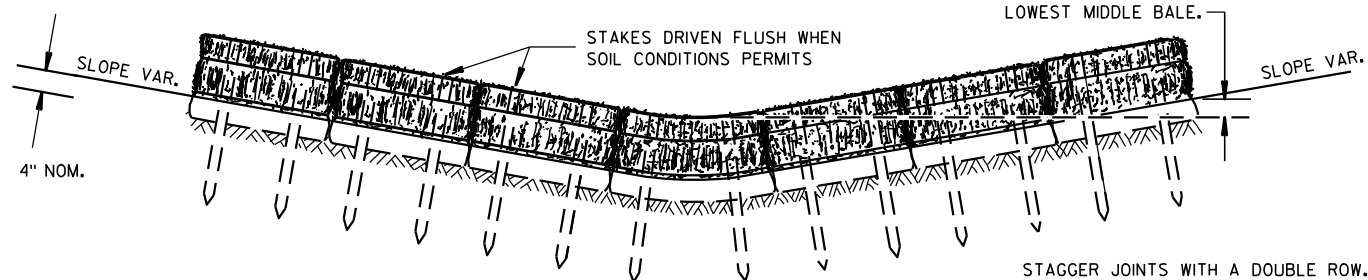


FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.

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.



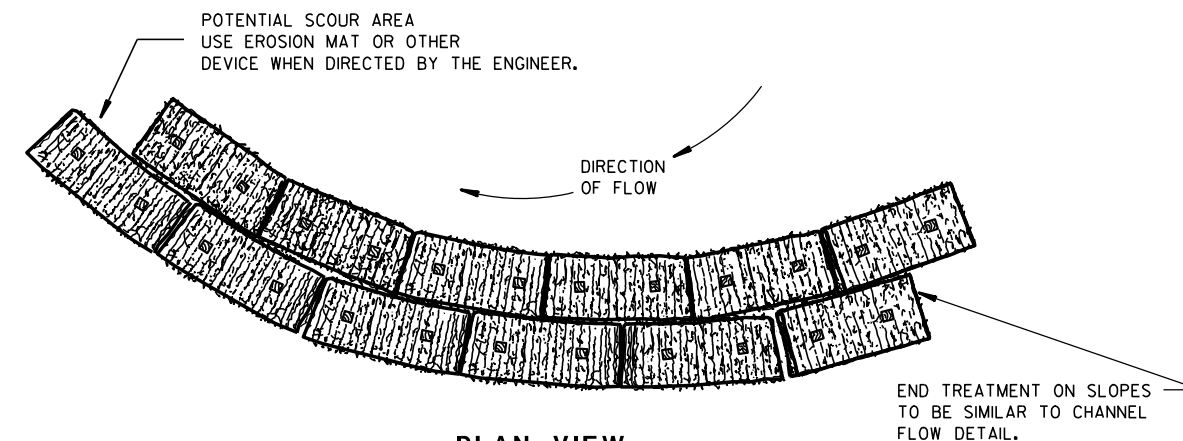
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

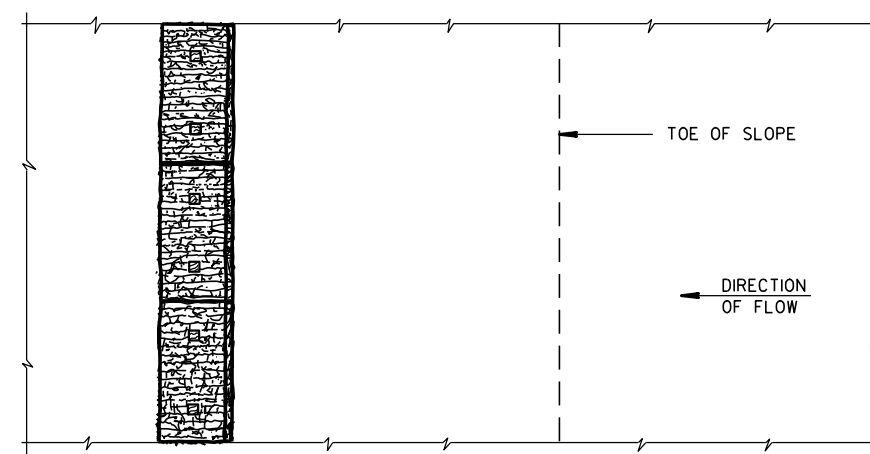
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

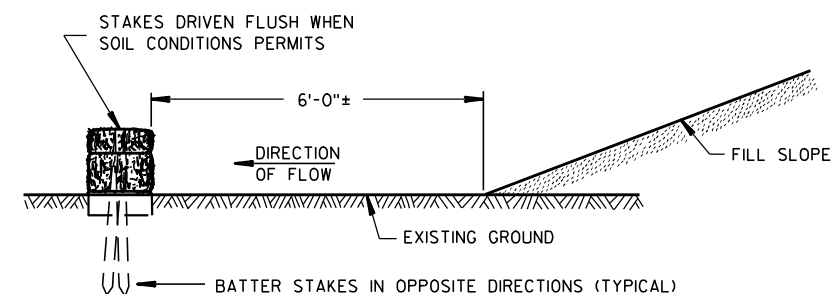


PLAN VIEW

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

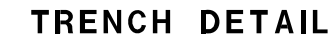
6/04/02
DATE

FHWA

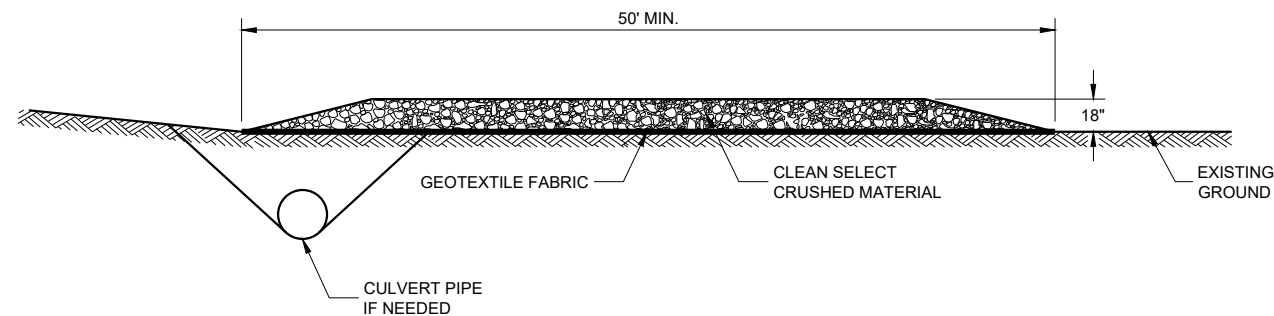
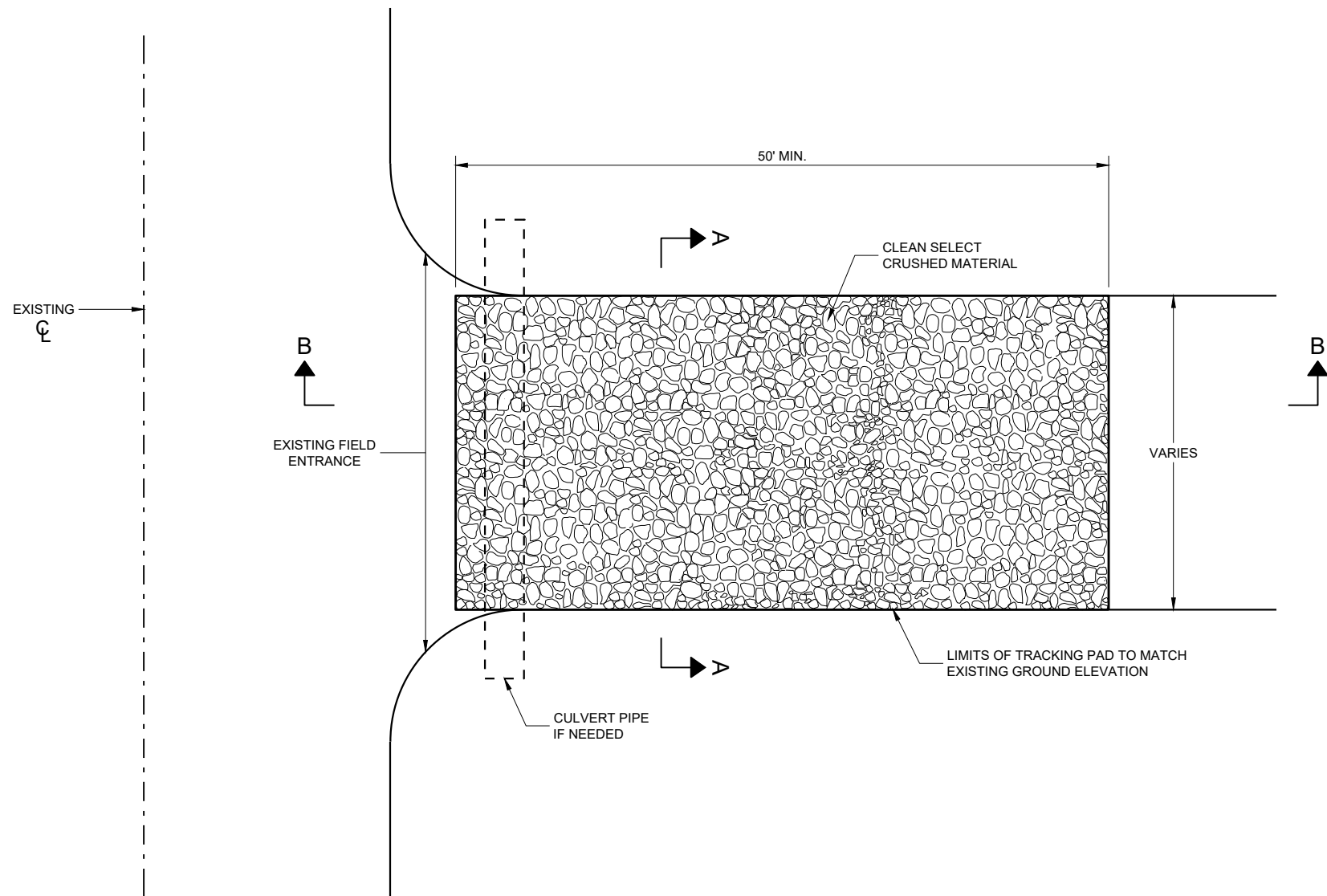
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- 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.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



SECTION B - B

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

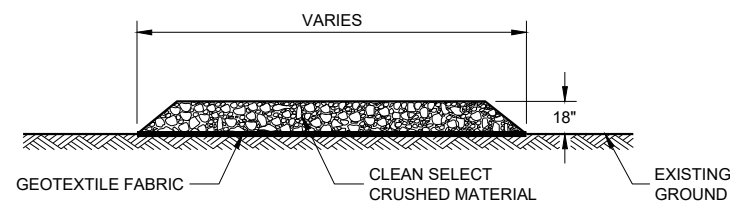
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



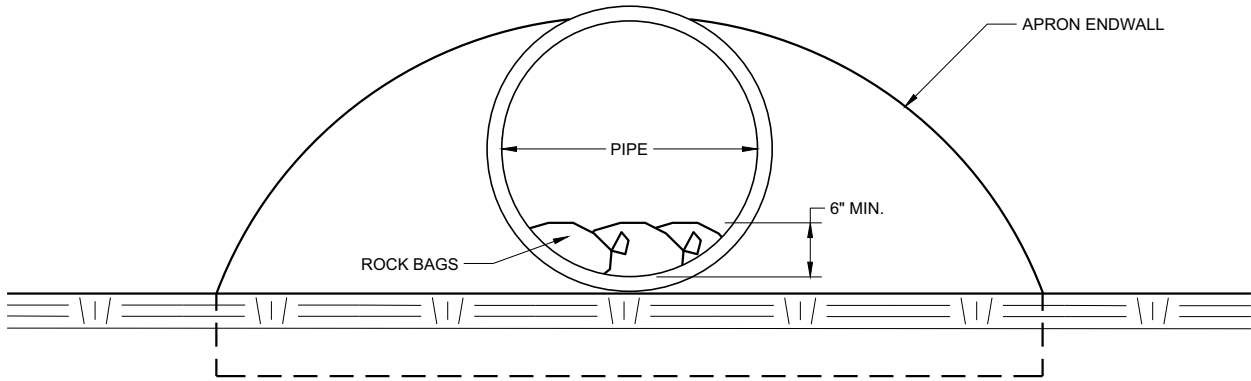
SECTION A - A

TRACKING PAD

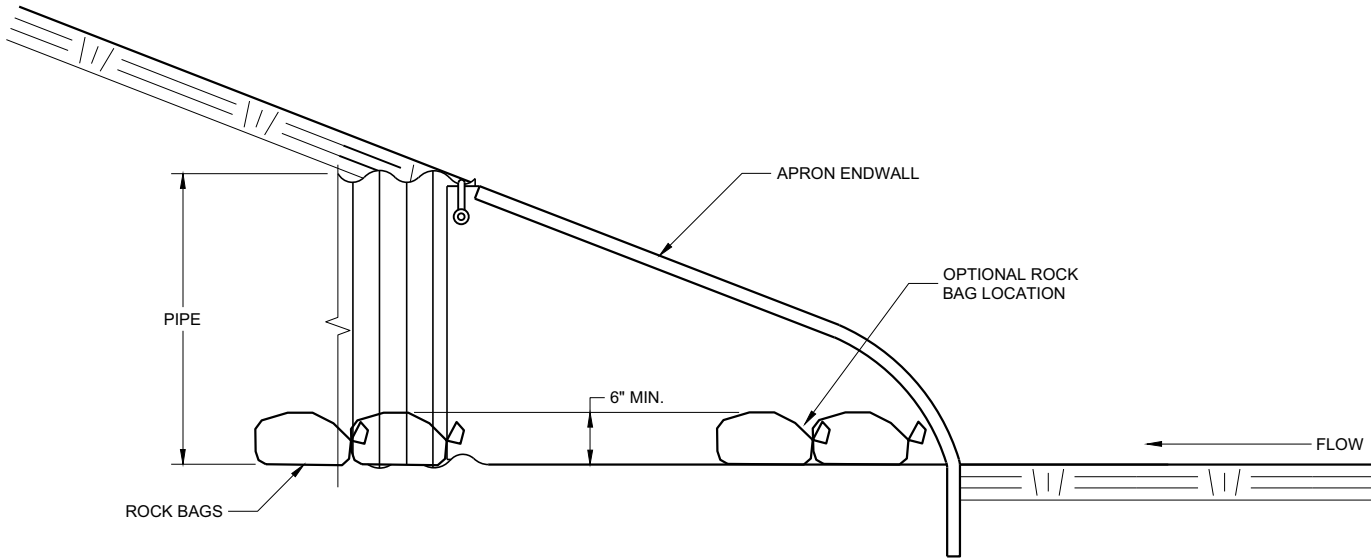
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



END VIEW



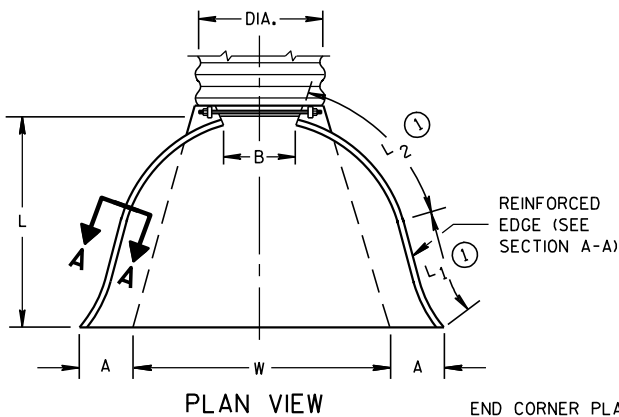
SIDE VIEW

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 ENGINEER
FHWA	

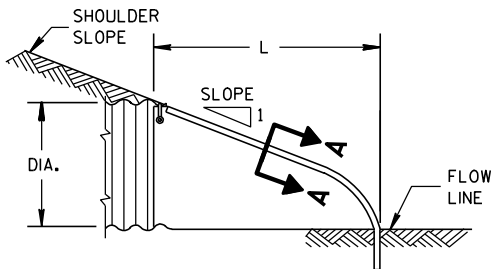
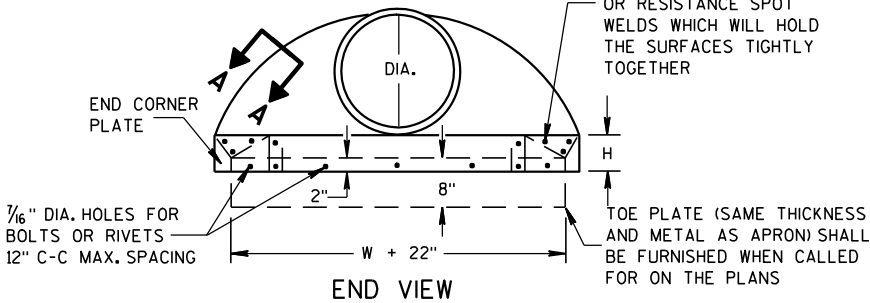
METAL APRON ENDWALLS												
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE		BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1		1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1		1 Pc.
18	.064	.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



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

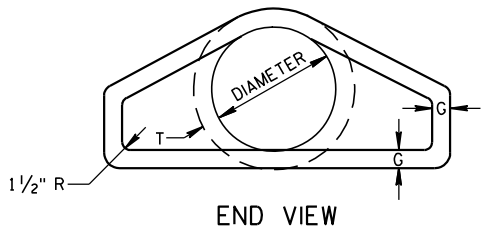
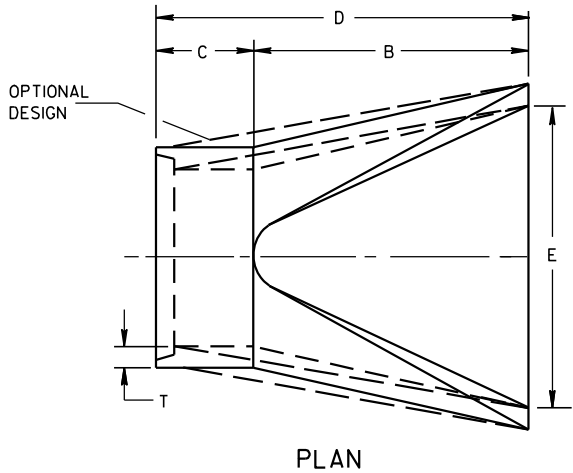
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



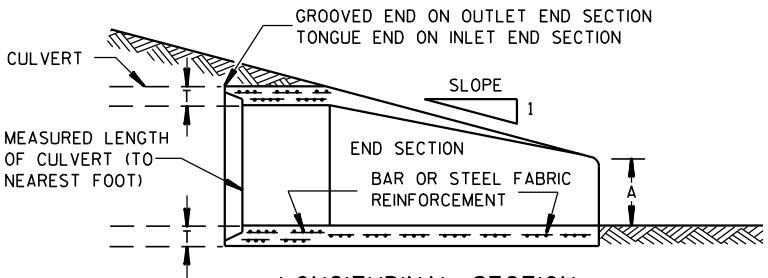
SIDE ELEVATION
METAL ENDWALLS

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 7/8	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				

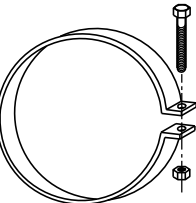
* MINIMUM
** MAXIMUM



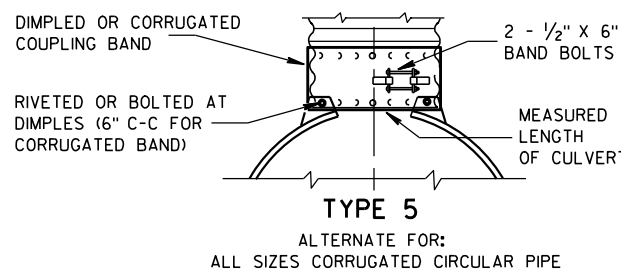
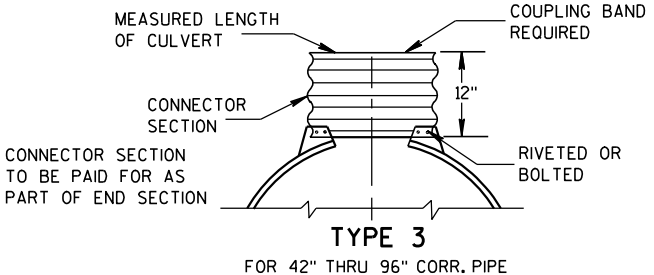
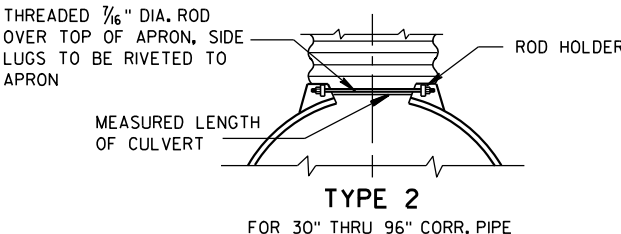
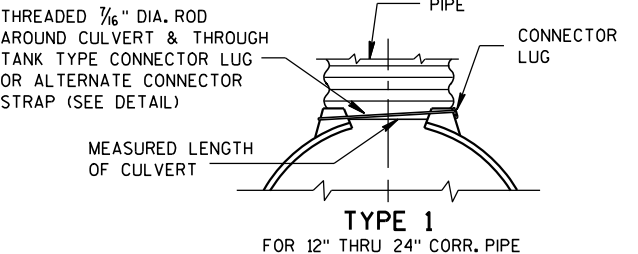
LONGITUDINAL SECTION
CONCRETE ENDWALLS



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



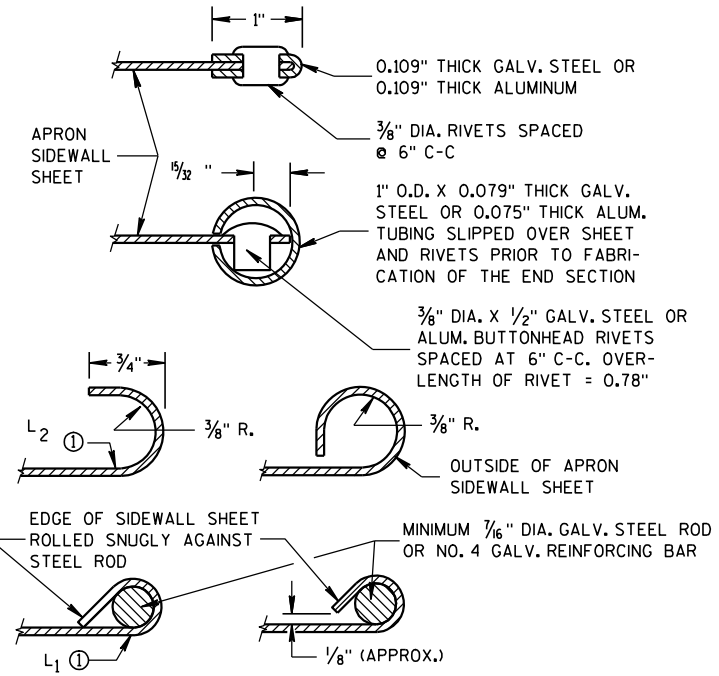
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

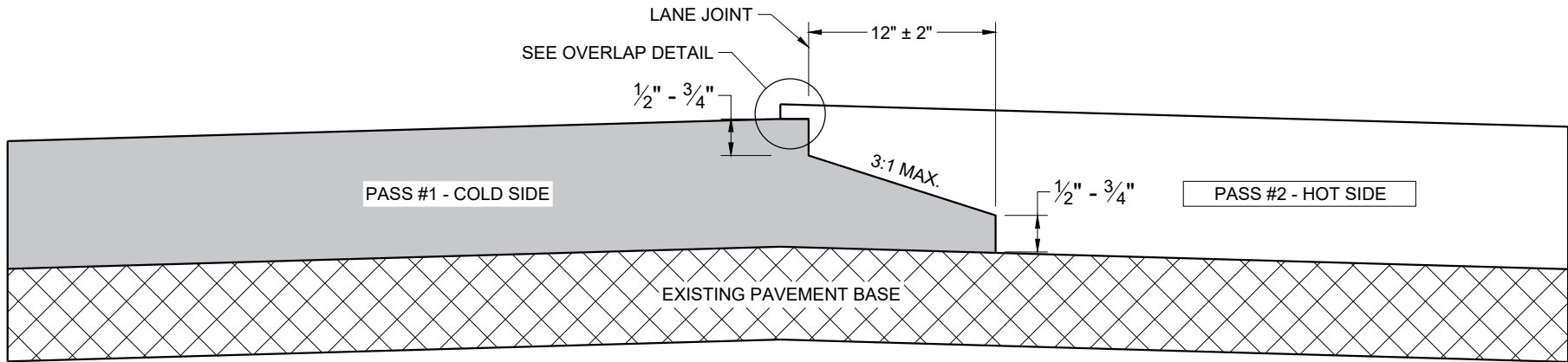
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

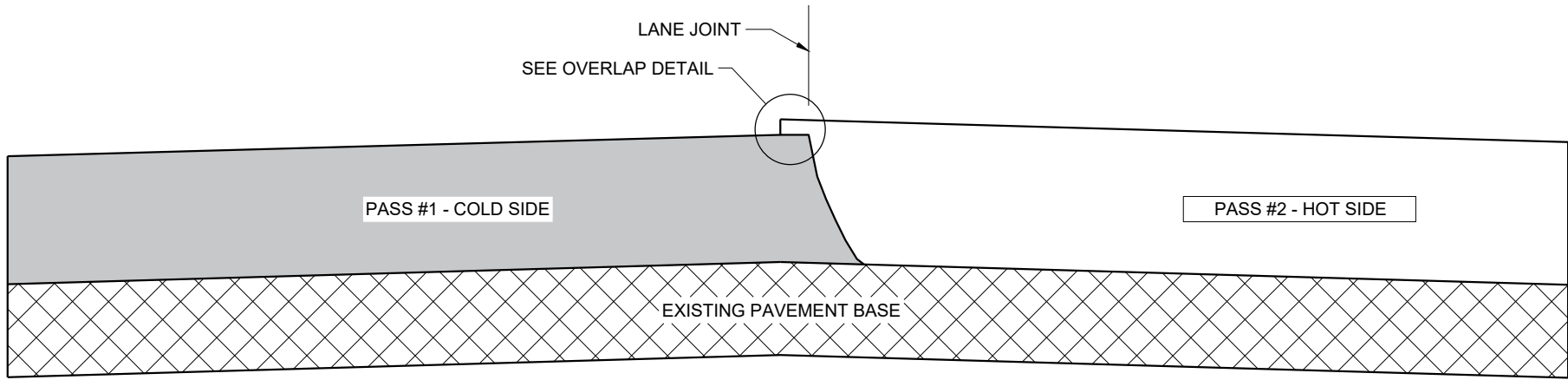
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

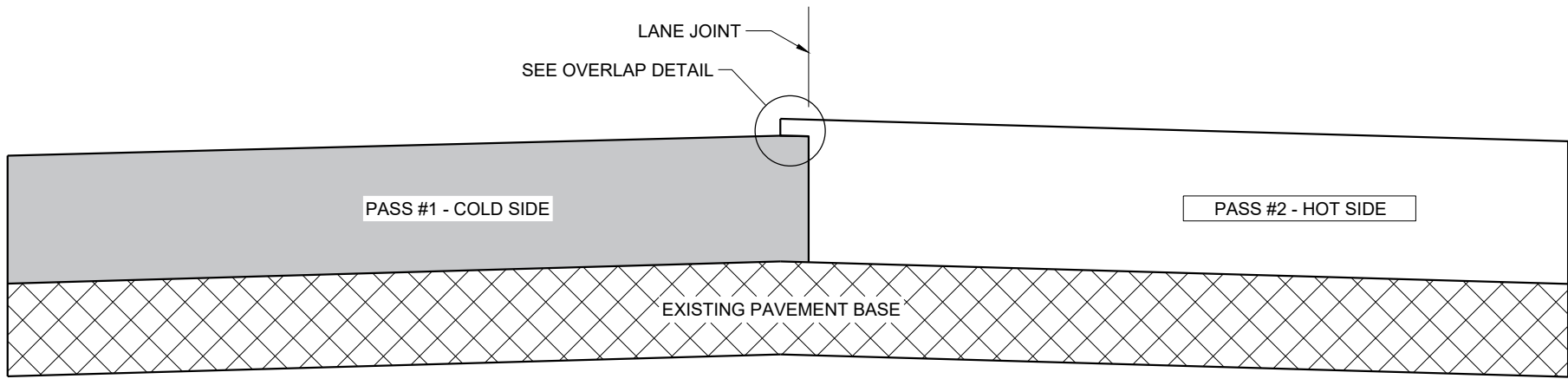
APPROVED
11/30/94
DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

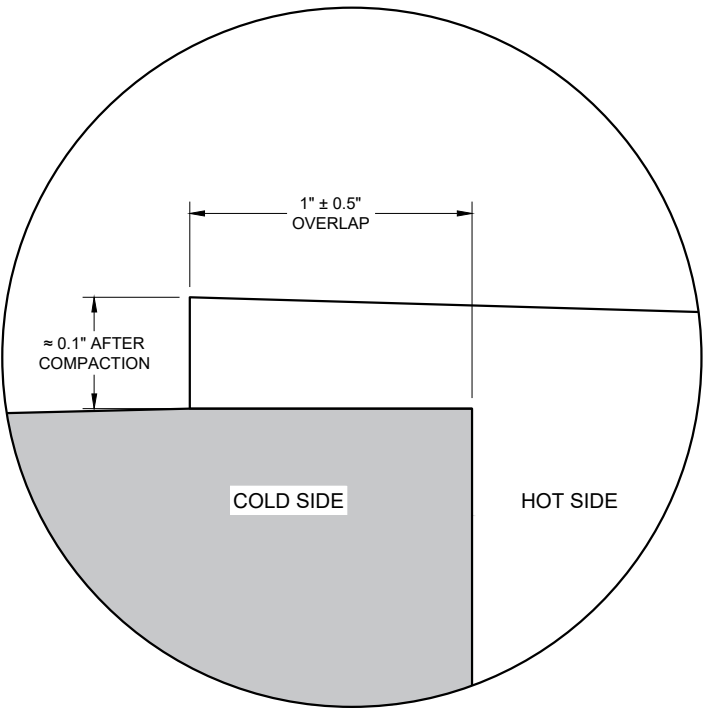
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

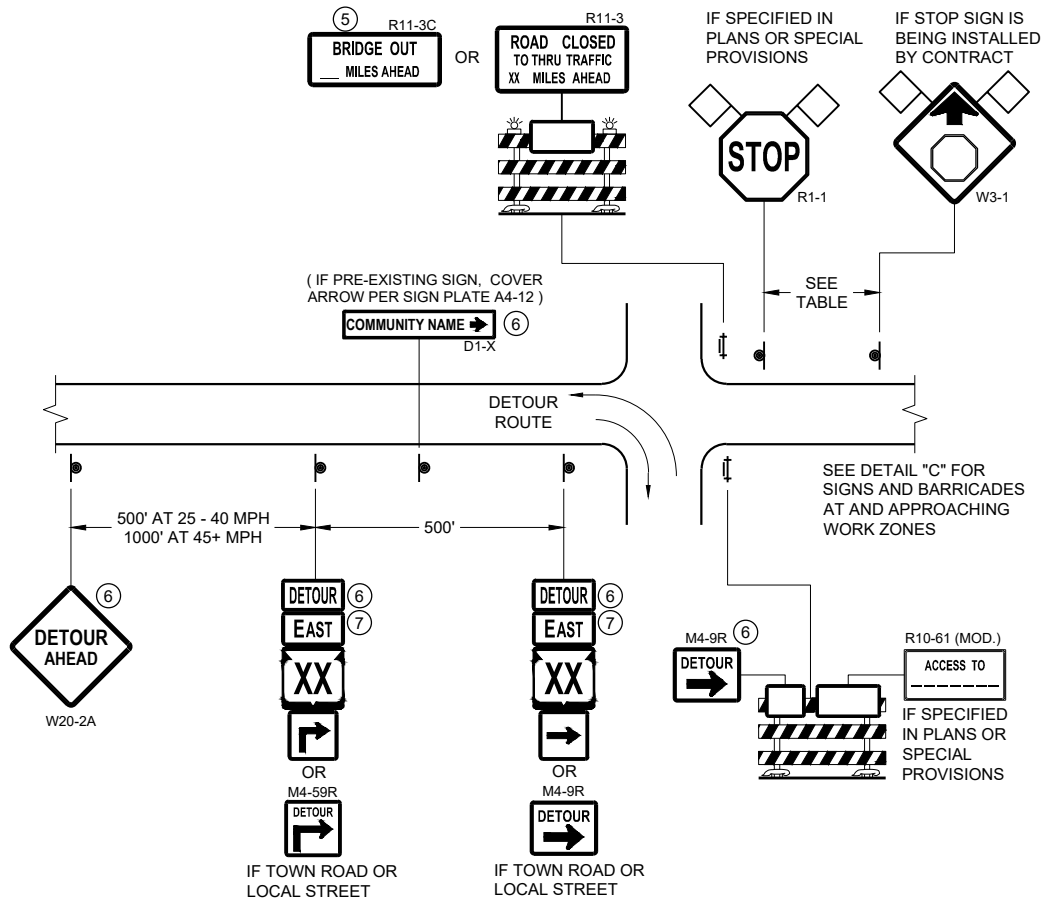


OVERLAP DETAIL (TYPICAL)

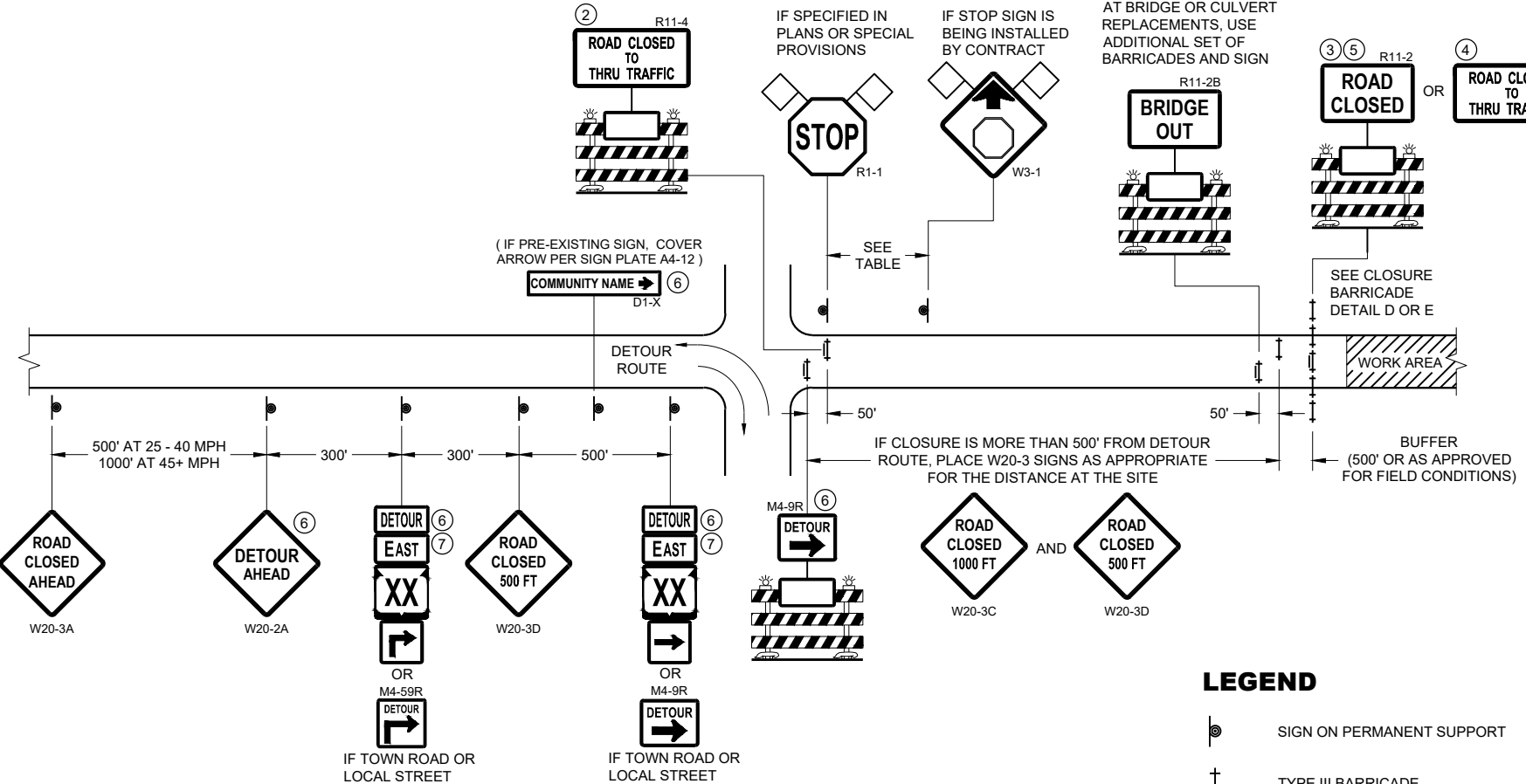
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE /S/ Steven Hefel
HMA PAVEMENT ENGINEER
FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



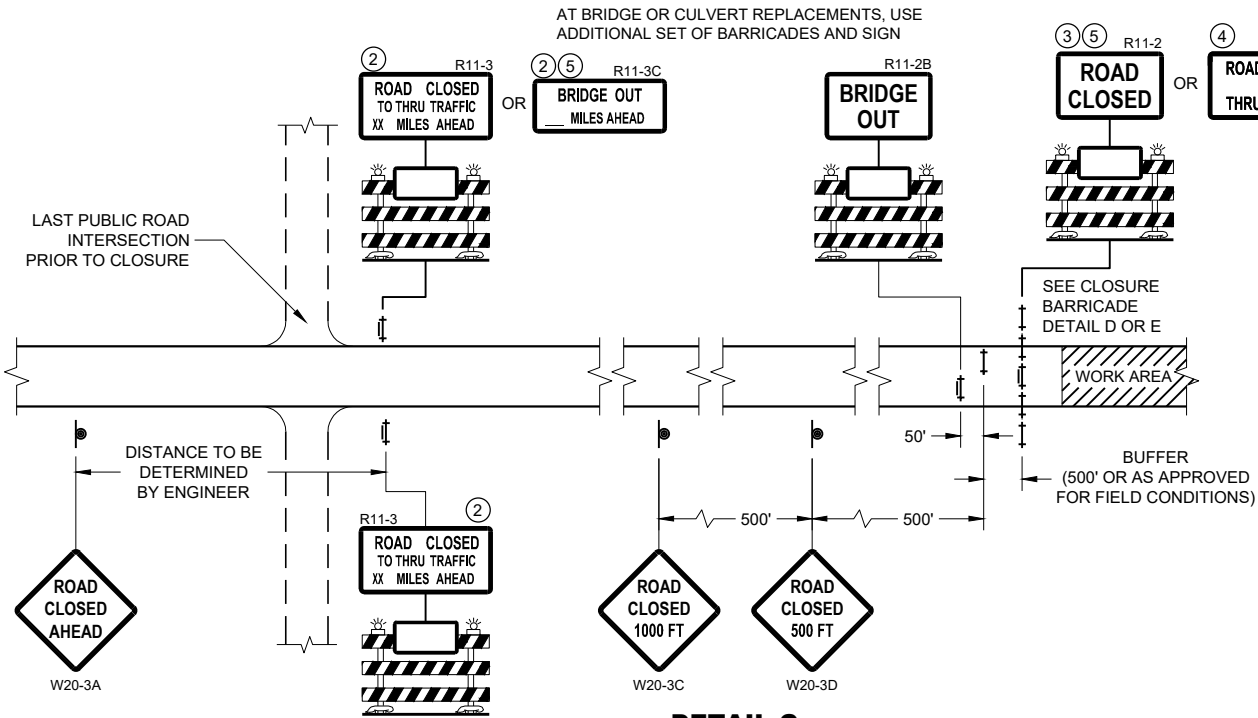
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- 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 M1 - 5A
- OR M05 - 1 OR M06 - 1

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



SEE SDD 15C2 - SHEET "a" FOR LEGEND

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.

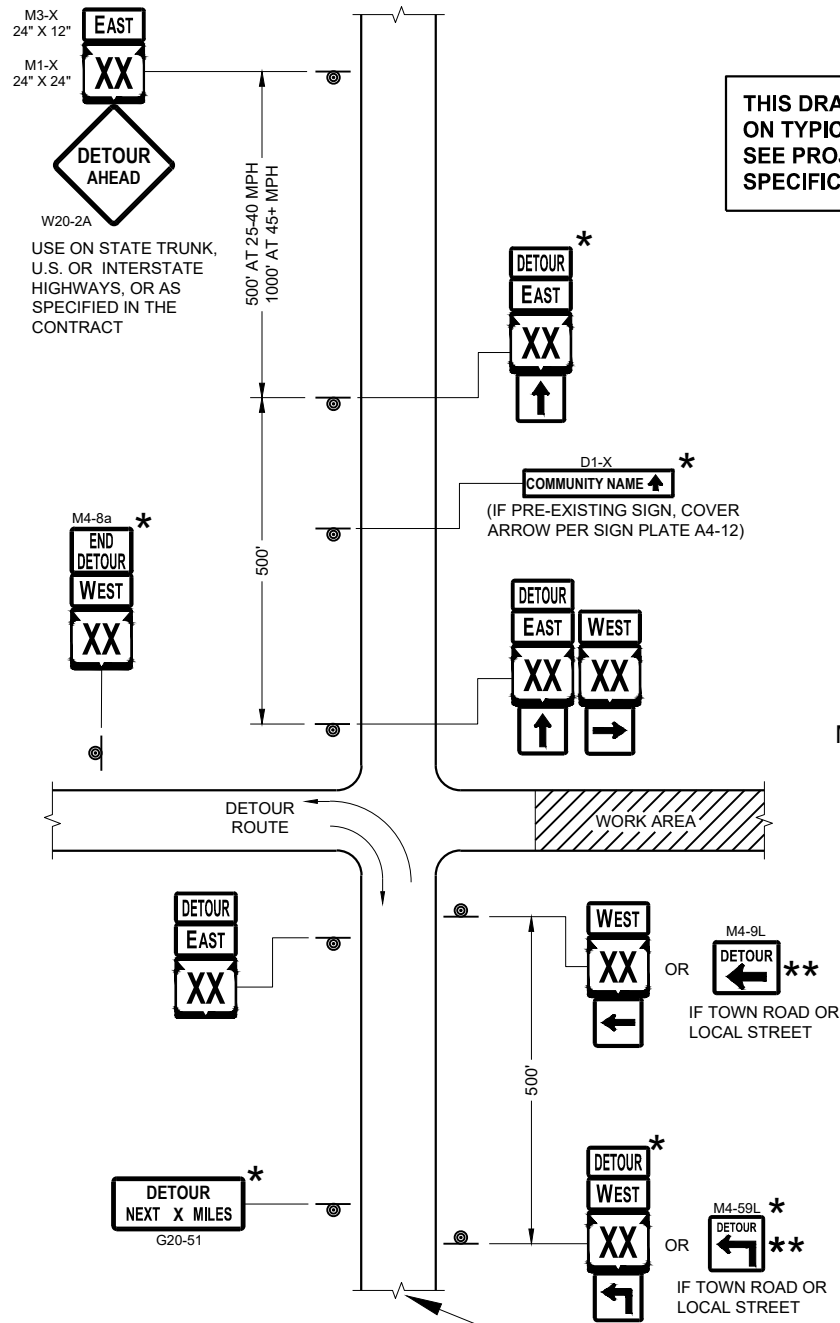
THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"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"

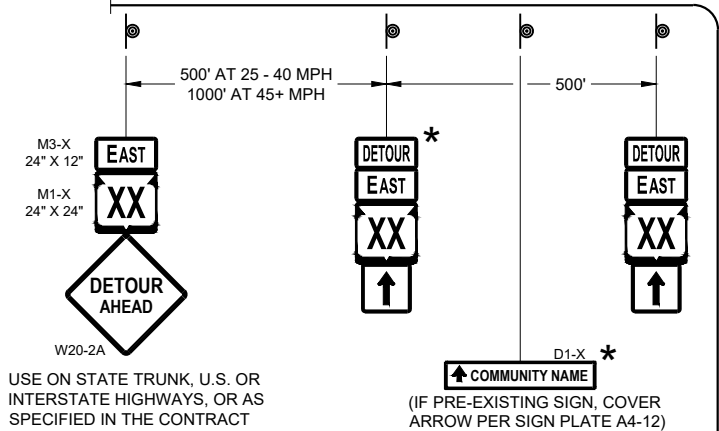
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS 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.



SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

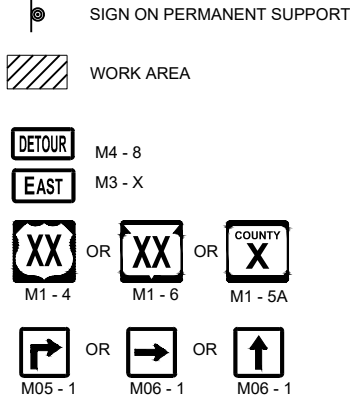
THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT



DETAIL F
DETOUR SIGNING

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.

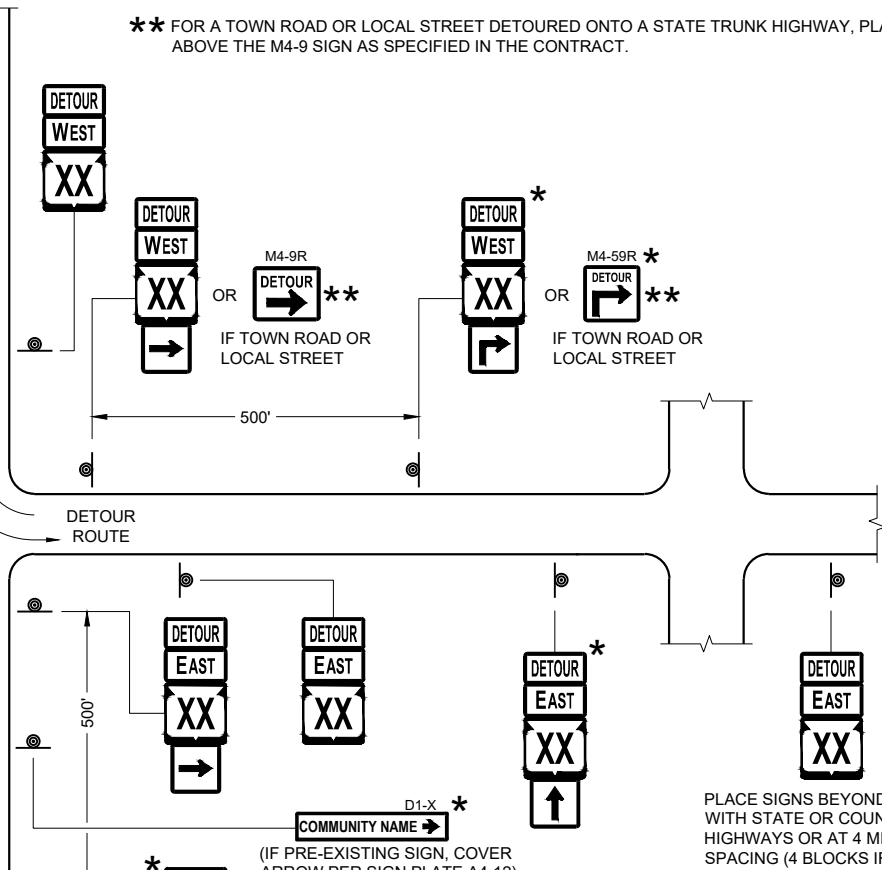
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

"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.



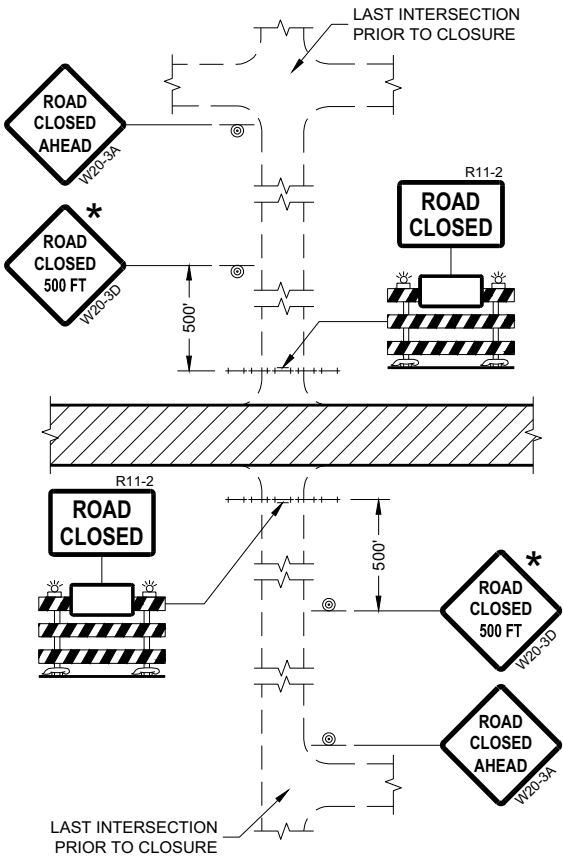
PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING
FOR MAINLINE CLOSURES

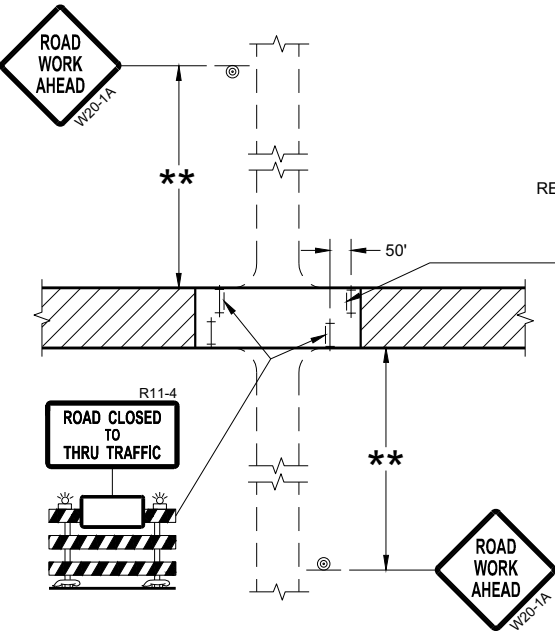
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

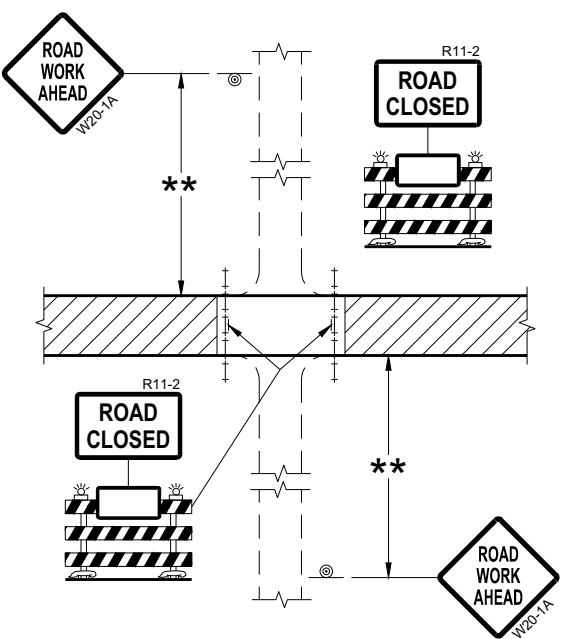
FHWA



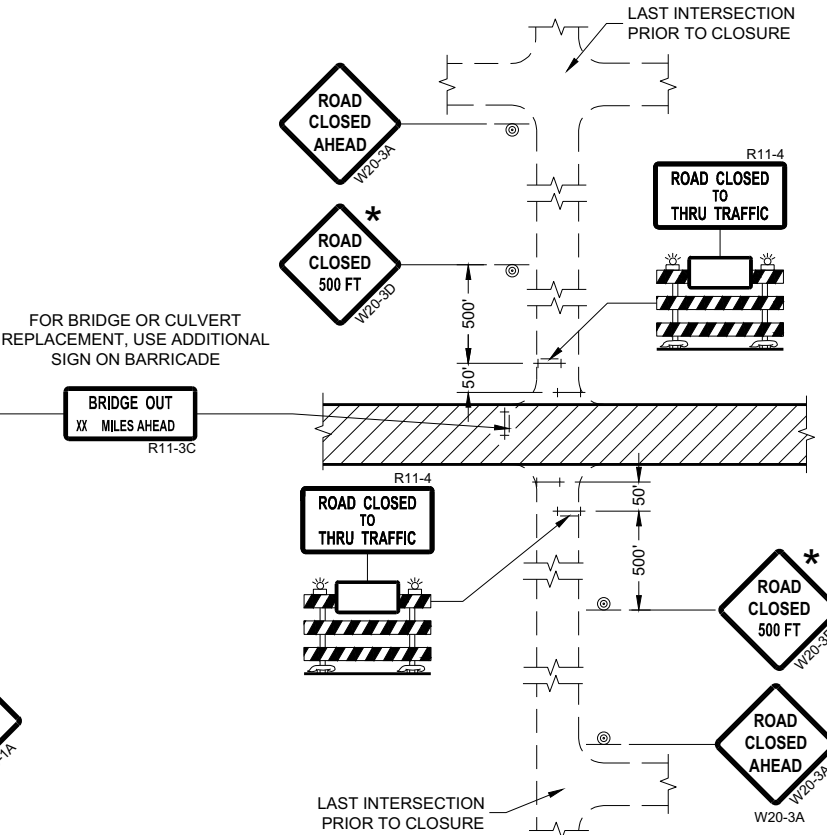
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT 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.

LEGEND

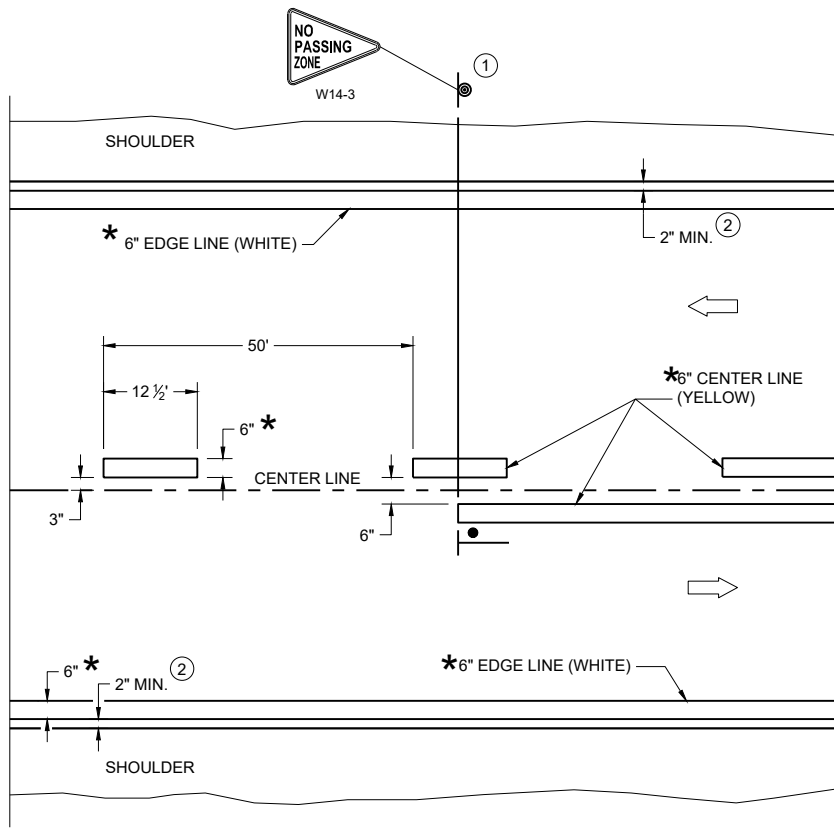
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

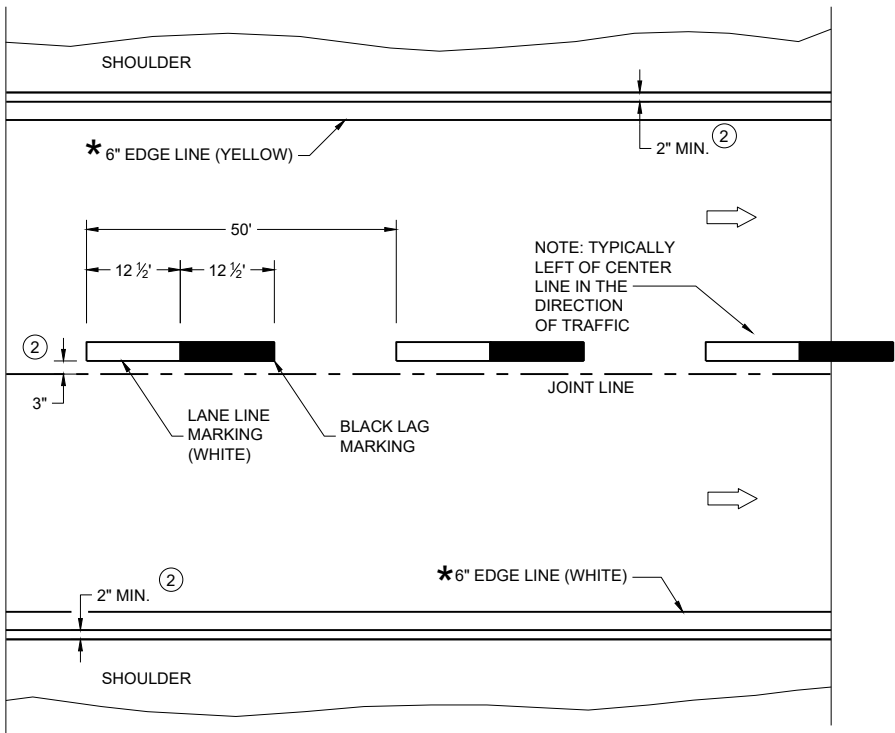
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

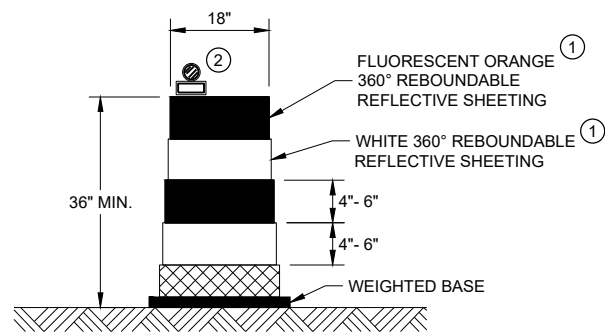
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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

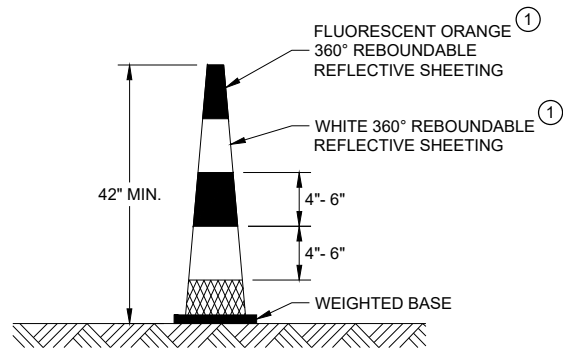
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	



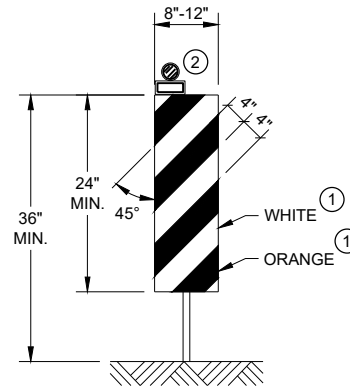
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



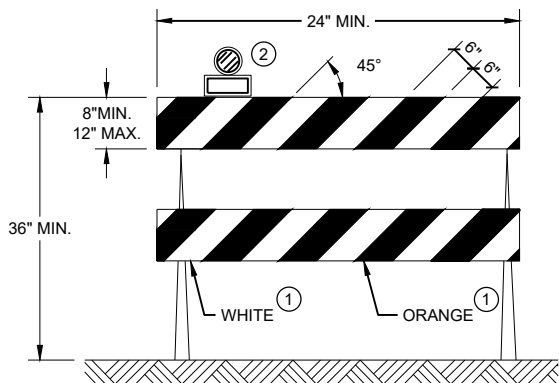
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



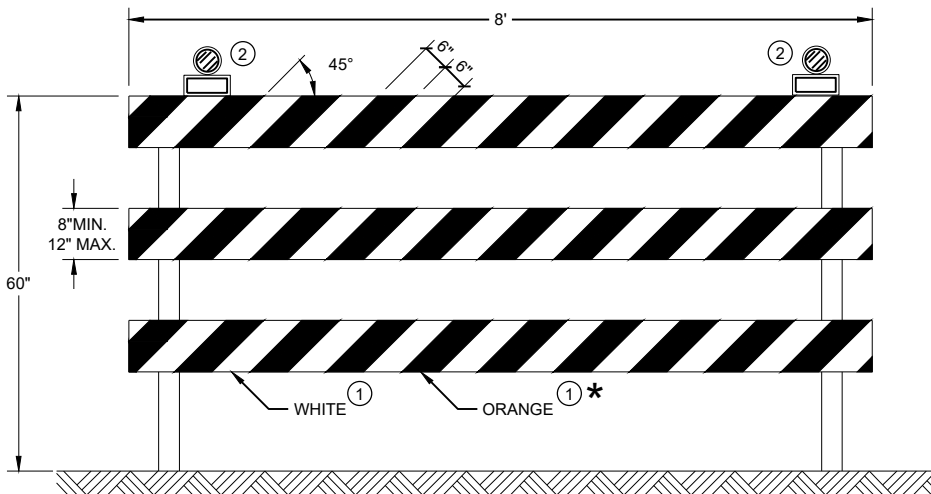
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III 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.

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.

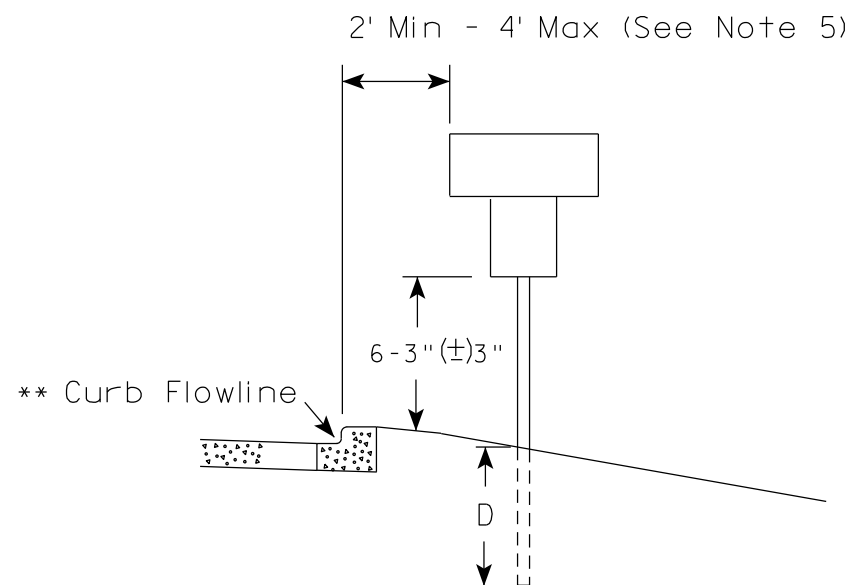
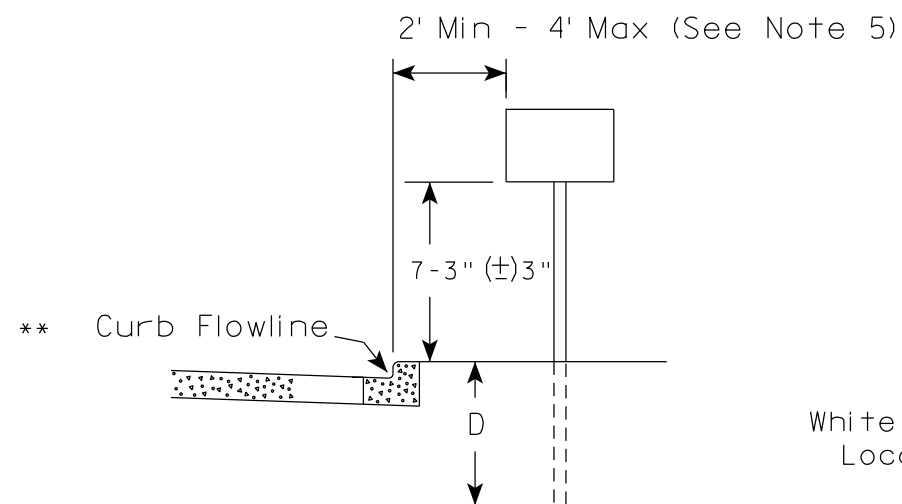
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

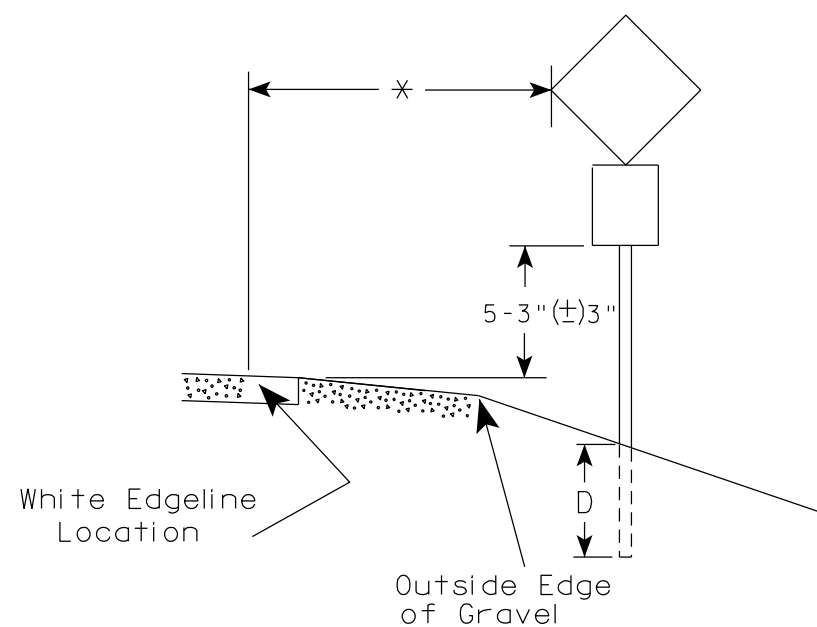
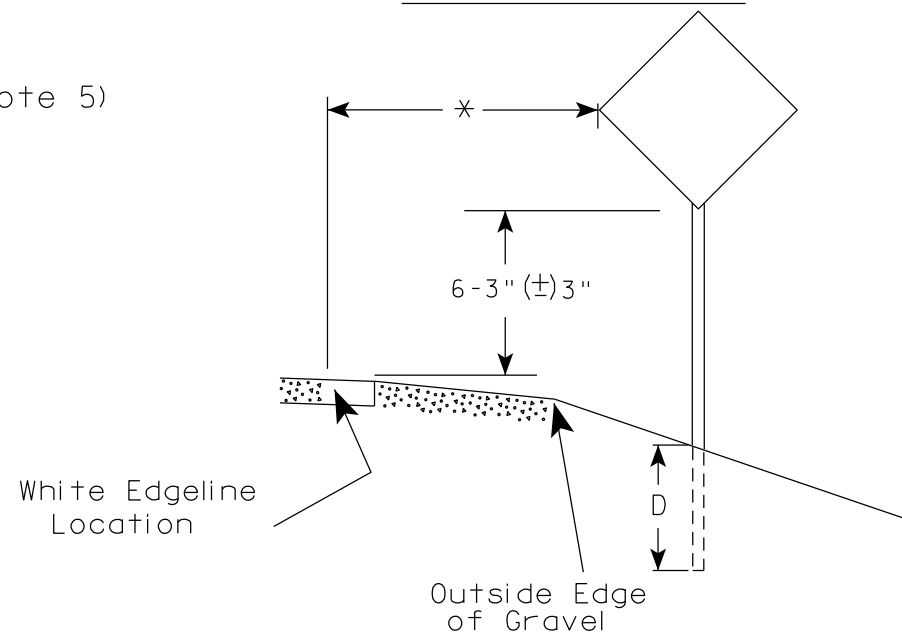
FHWA

URBAN AREA



* * 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. Offset of signs is measured from the flow line.

RURAL AREA (See Note 2)



* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

GENERAL NOTES

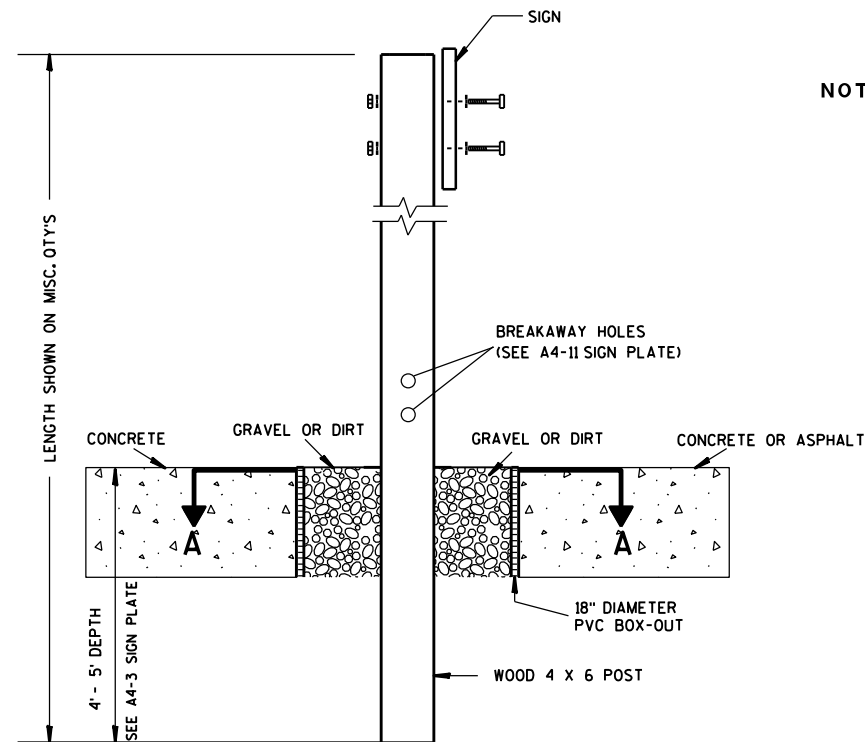
- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±) 3".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

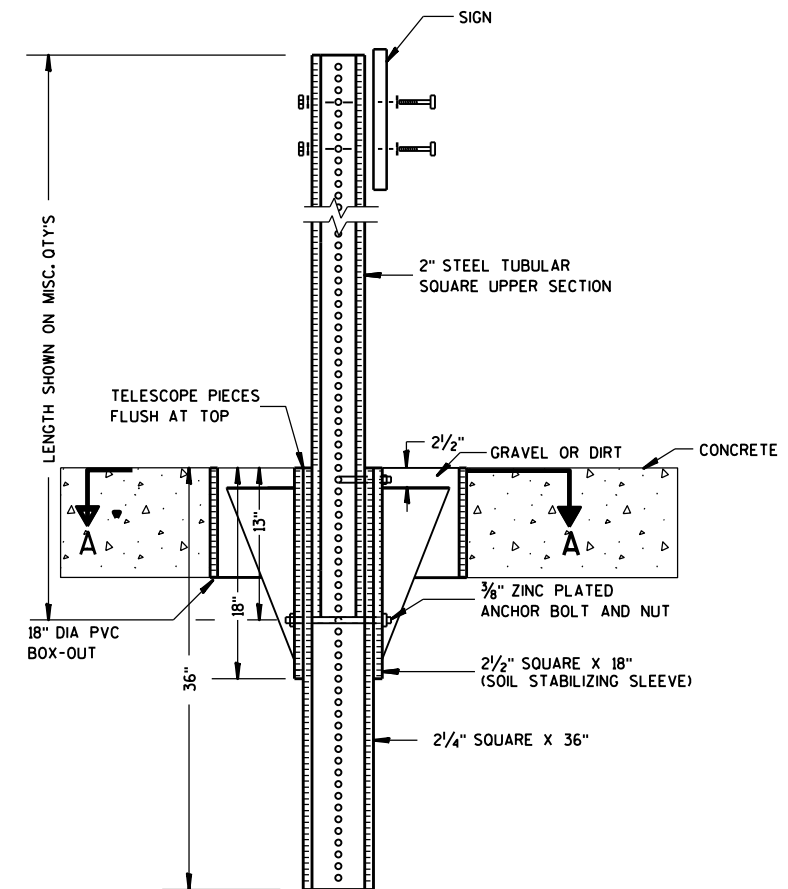
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

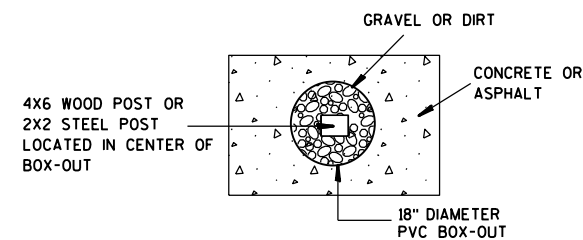
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:

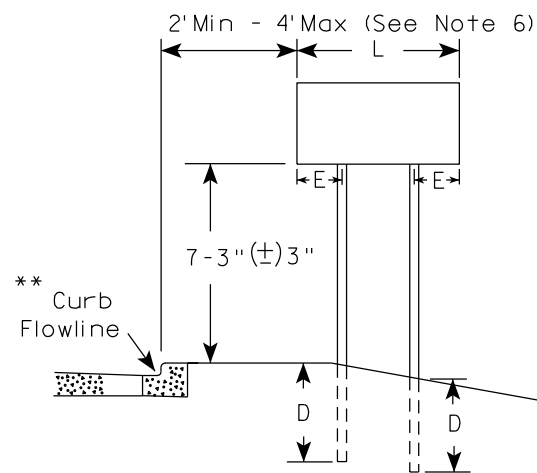
HWY:

COUNTY:

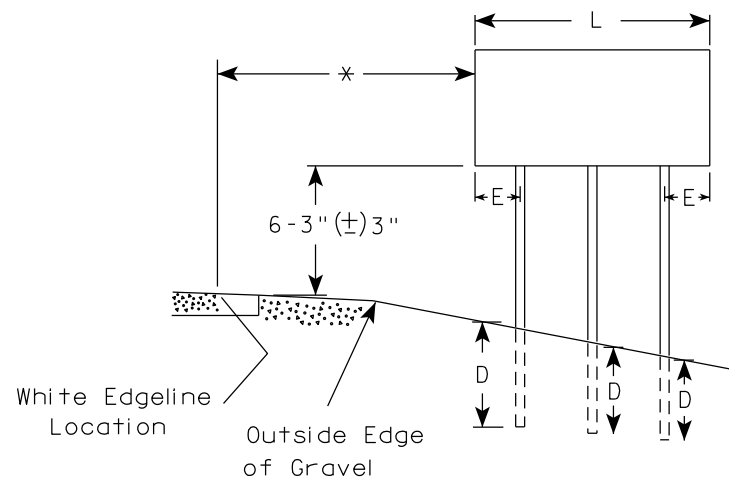
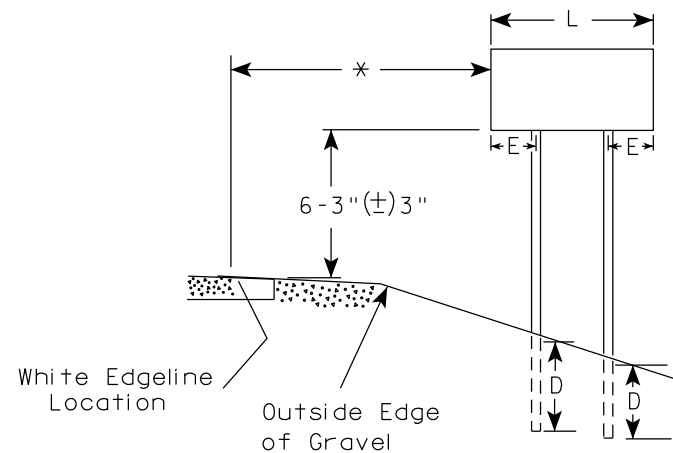
SHEET NO:

E

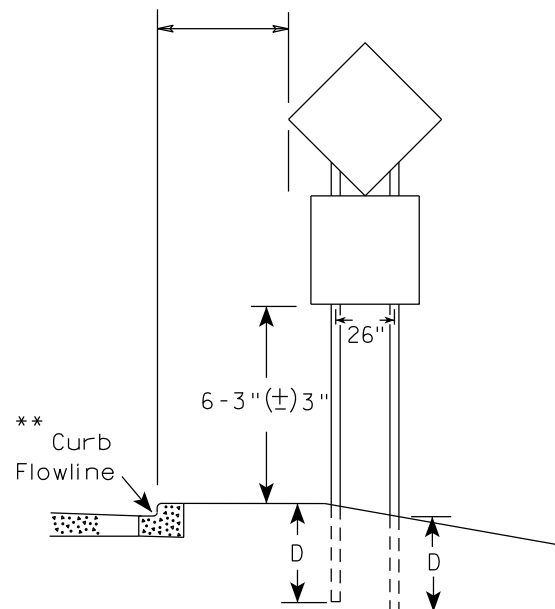
URBAN AREA



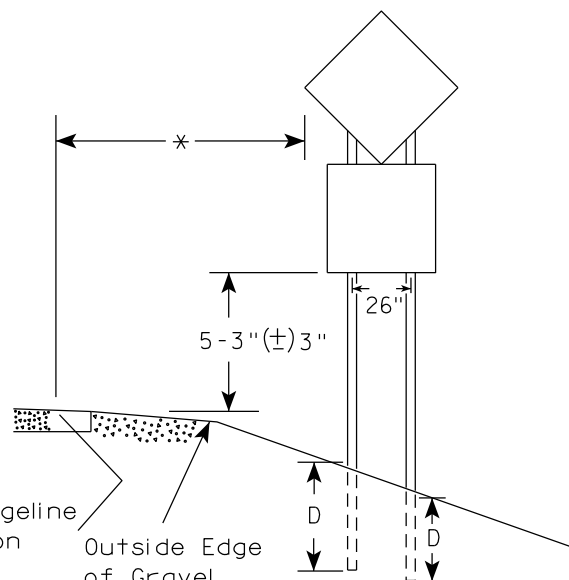
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

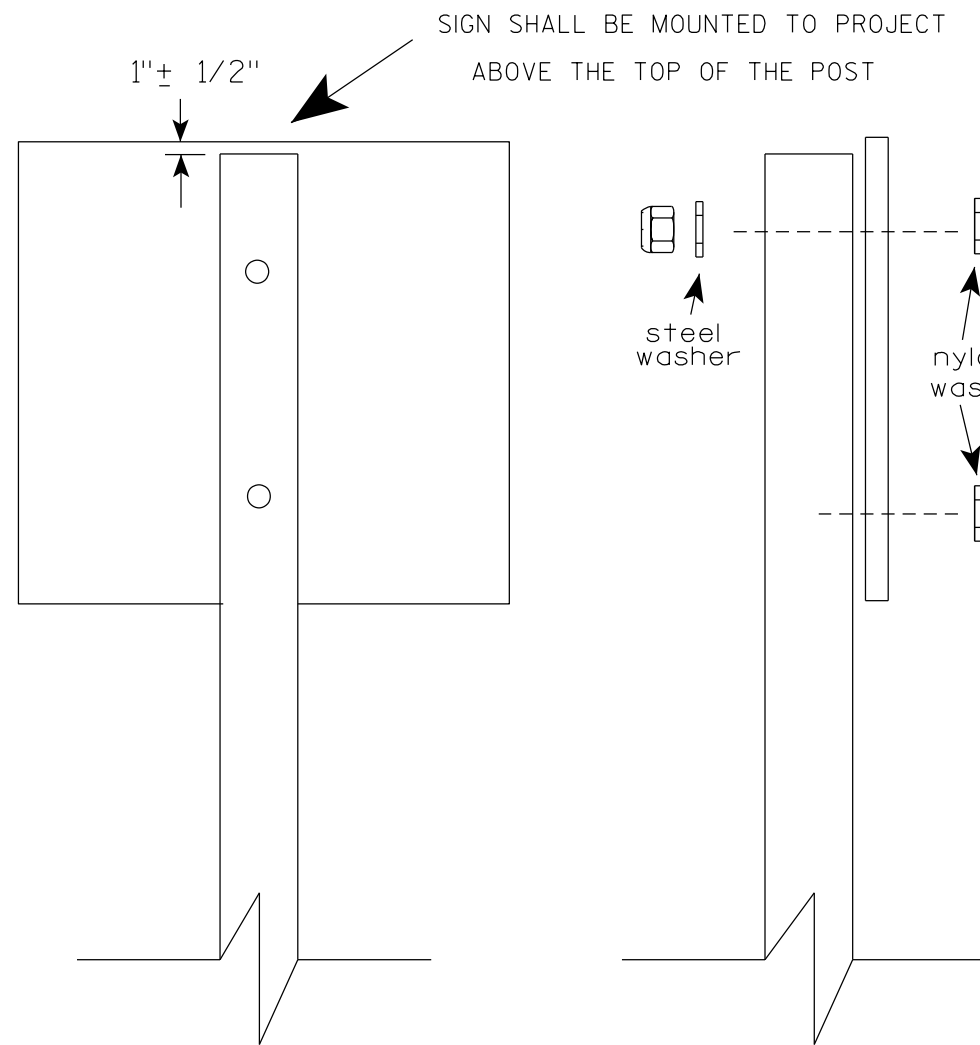
Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16



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.

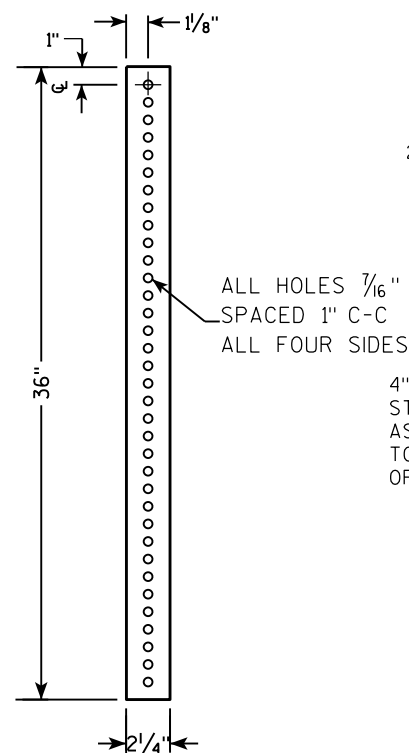
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
- $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
- $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

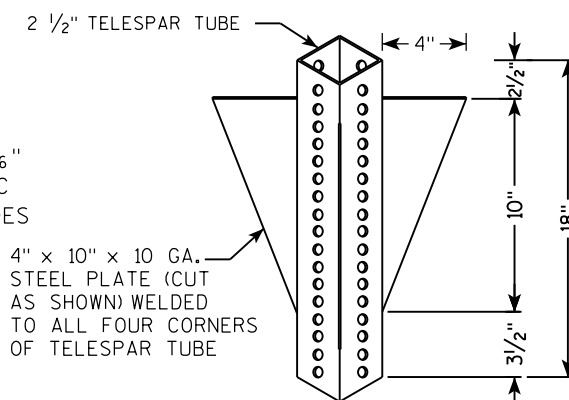
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



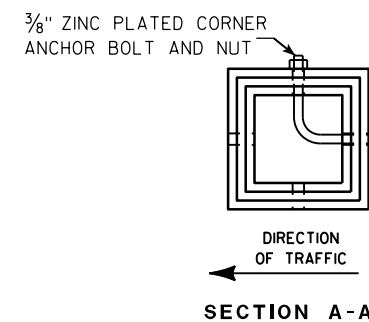
TECHNICAL DRAWING OF A VERTICAL SIGNPOST ASSEMBLY.

Labels and Dimensions:

- 2" STEEL TUBULAR SQUARE UPPER SECTION**
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES**
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT**
- 2 1/2" GRAVEL OR DIRT**
- $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT**
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)**
- 2 1/4" SQUARE X 36"**
- 18" DIA SCHEDULE 40 PVC BOX-OUT**
- TELESCOPE PIECES FLUSH AT TOP**
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**
- SIGN**
- 36"**
- 18"**
- 13"**
- 2 1/2"**

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- TELESCOPE PIECES FLUSH AT TOP**: Indicated by a dimension line on the left.
- 2" STEEL TUBULAR SQUARE UPPER SECTION**: The main vertical support.
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES**: Specification for the perforations in the upper section.
- SIGN**: Attached to the top of the upper section.
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**: Reference to a sign plate for hardware details.
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT**: Hardware used to secure the post to the base.
- 1"**: Dimension for the offset of the anchor bolt from the post face.
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT**: Hardware used to secure the base plate to the ground.
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)**: The base plate of the post.
- 2 1/4" SQUARE X 36"**: The main vertical support post.
- Dimensions**:
 - 36" (Total height of the main post section)
 - 18" (Height of the upper section)
 - 12" (Height of the lower section)
- Arrows A**: Indicate downward forces or weights applied to the sign and the base plate.



Area of Sign Installation (Sq. Ft.)	Number of Required 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).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

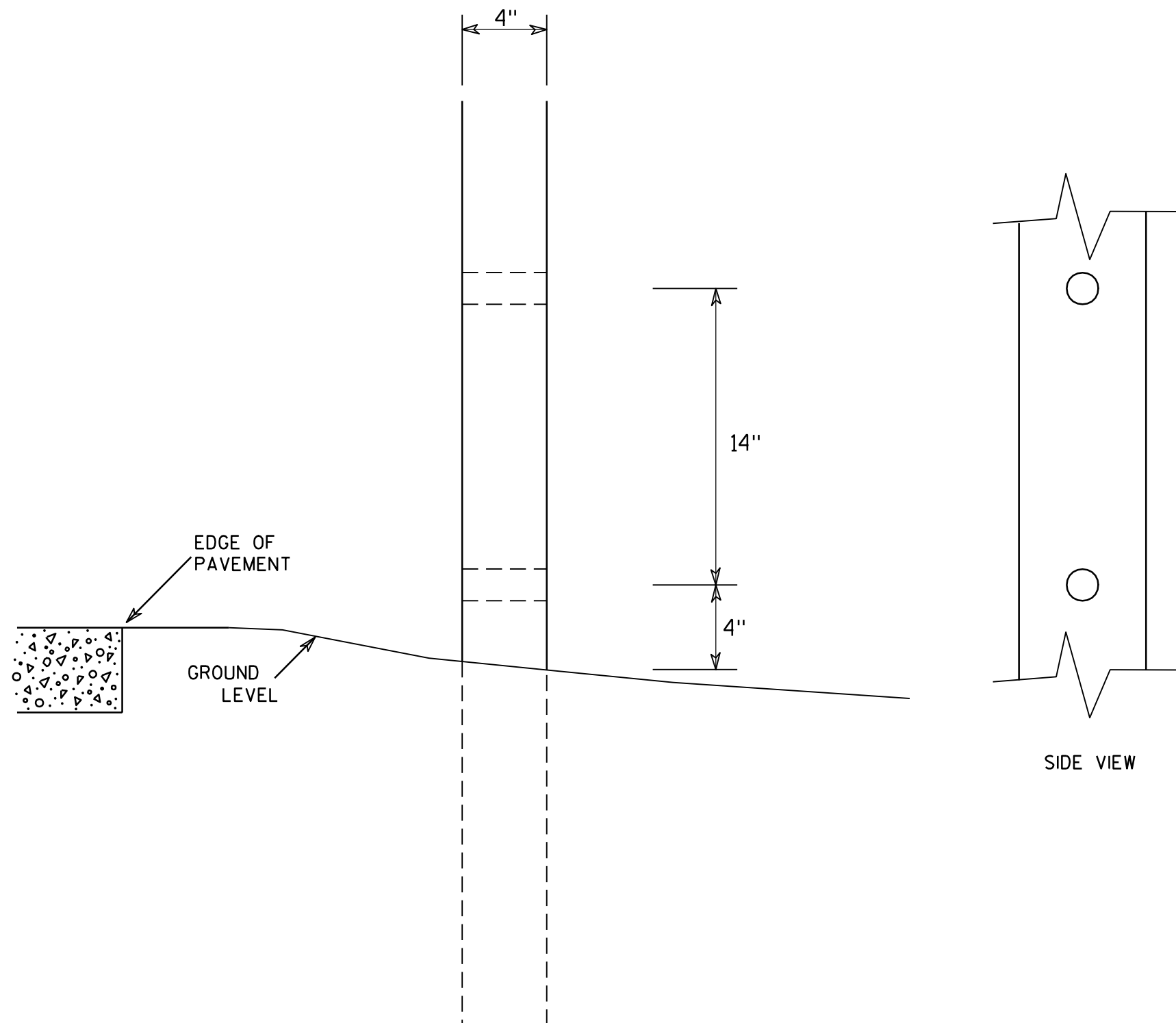
HWY:

COUNTY:

SHEET NO:

T

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

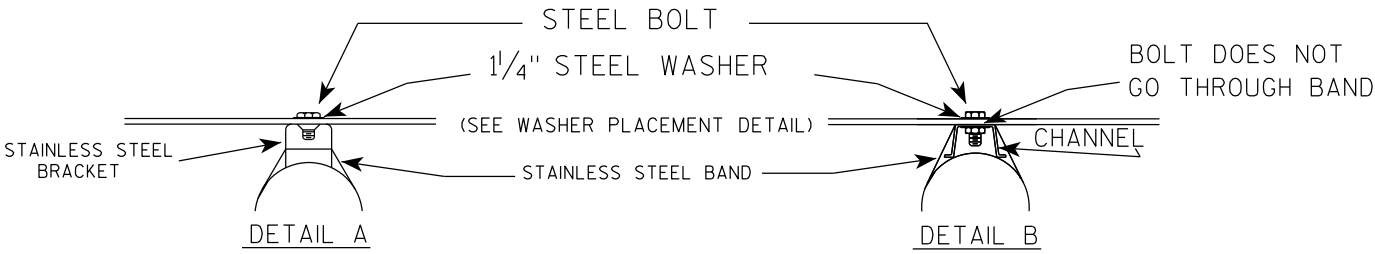
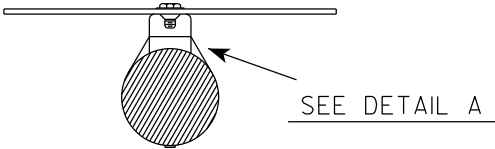
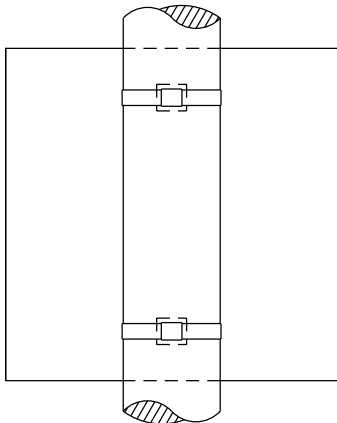
COUNTY:

SHEET NO:

E

BANDING

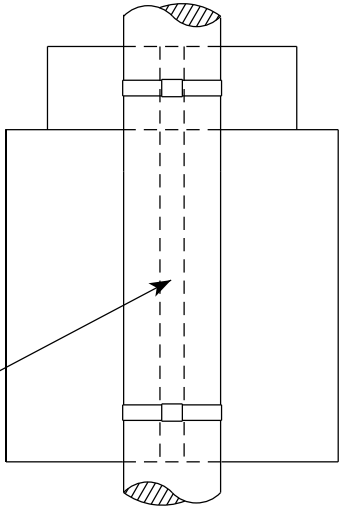
SINGLE SIGN



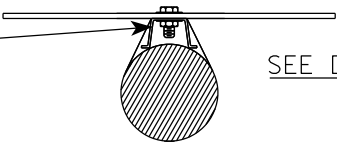
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be $\frac{3}{4}$ " in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

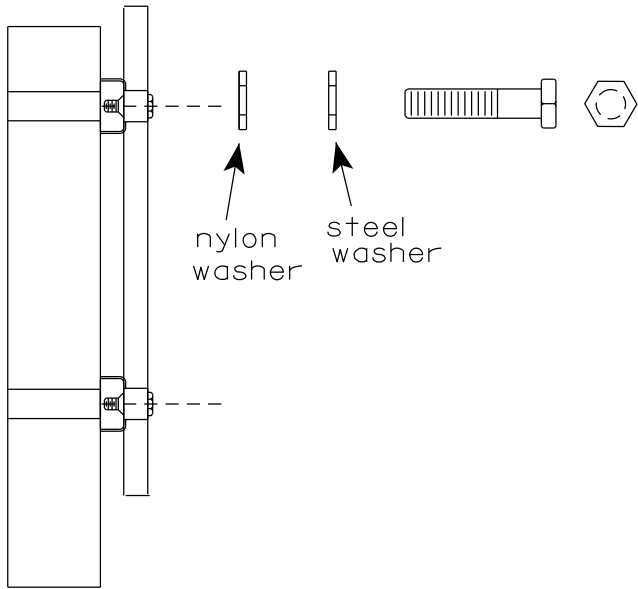
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



WASHER PLACEMENT



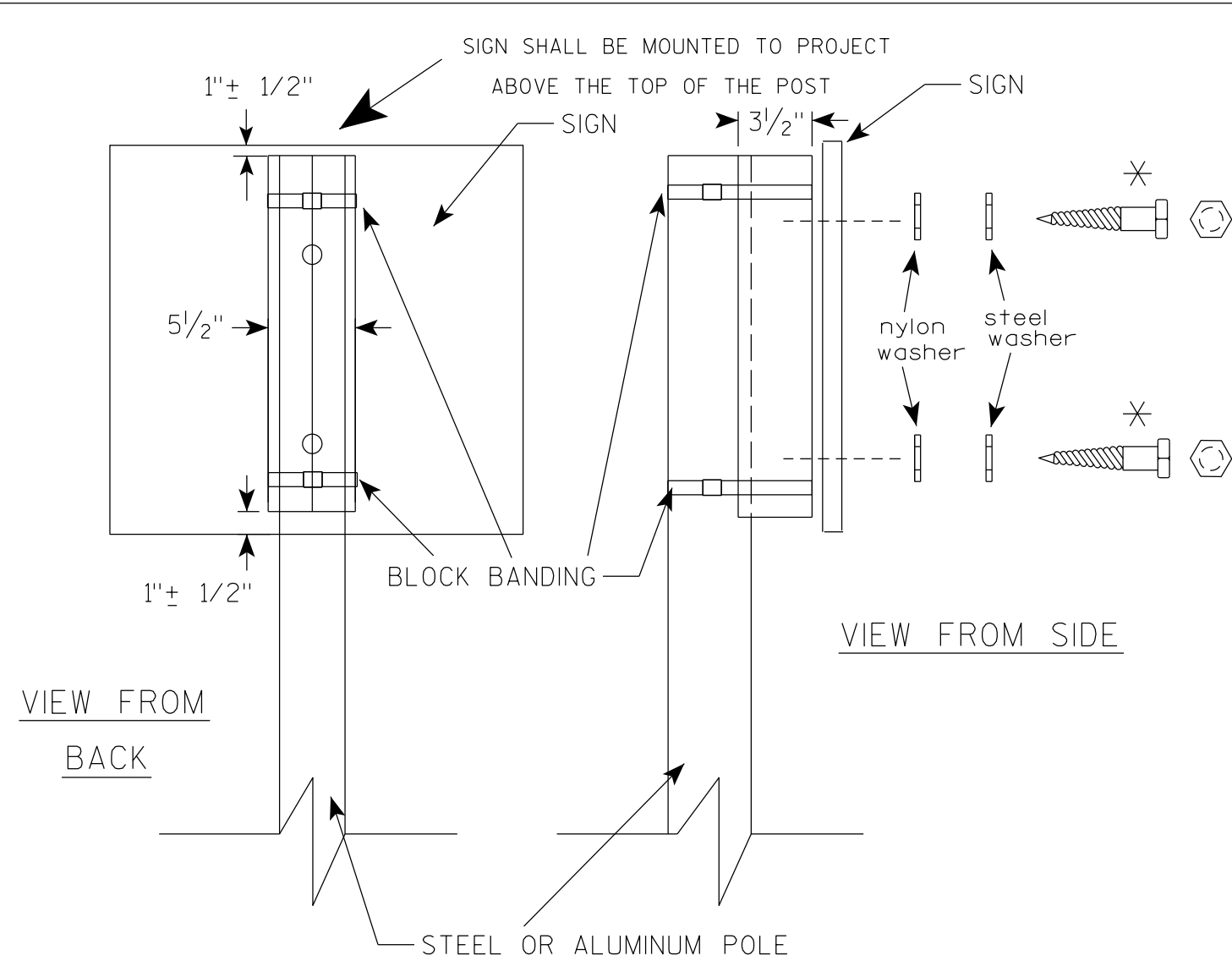
WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

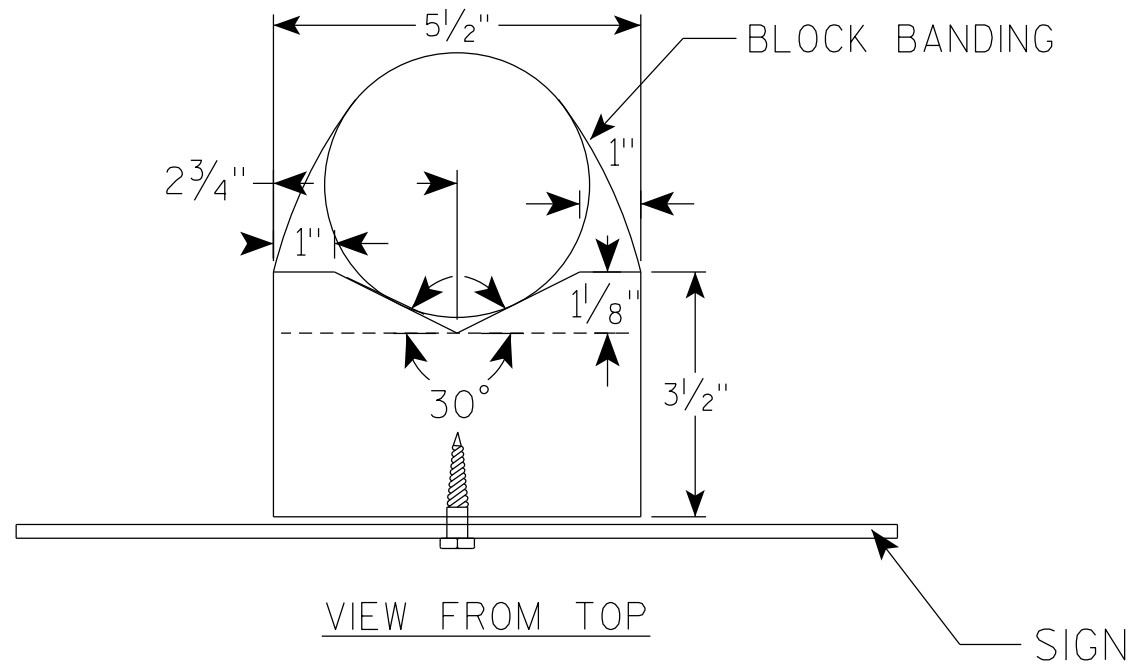
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

SIGN

GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

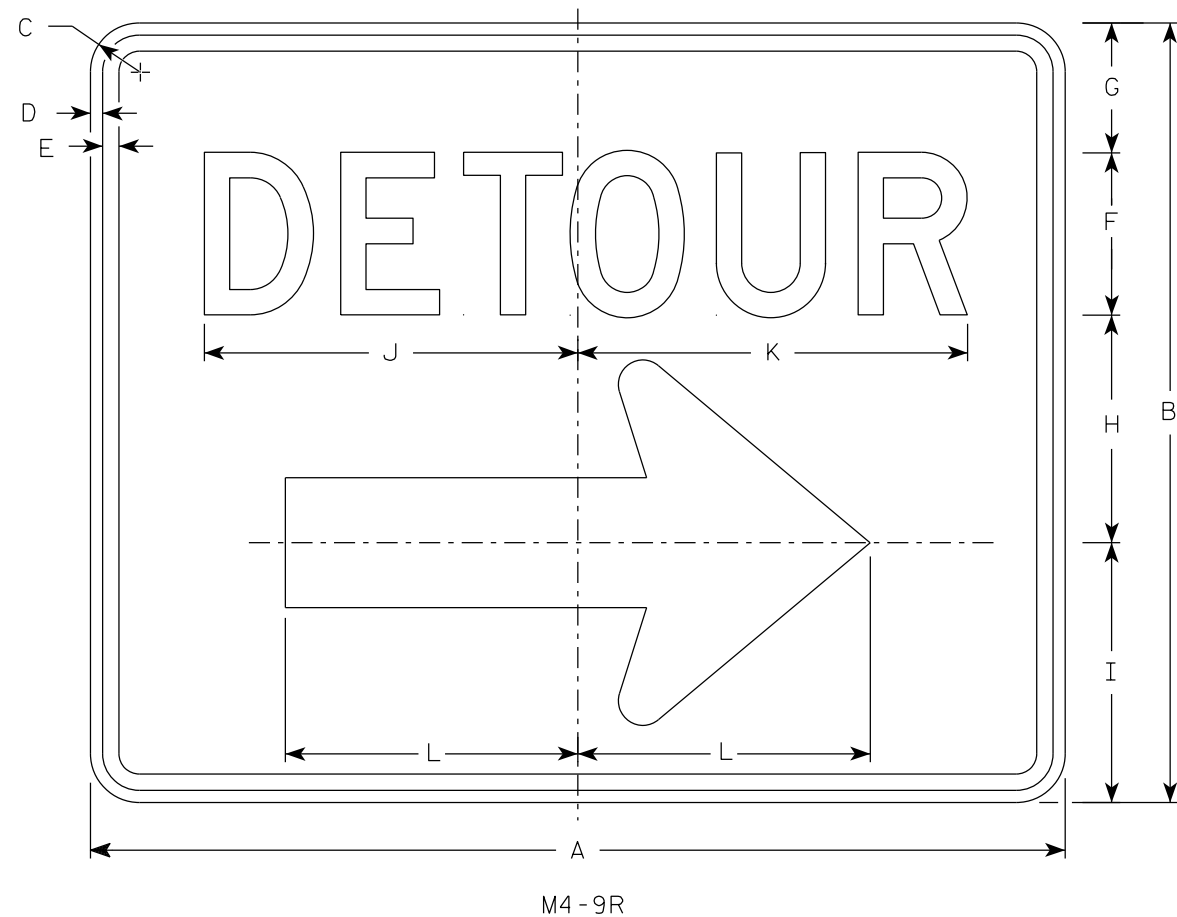
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

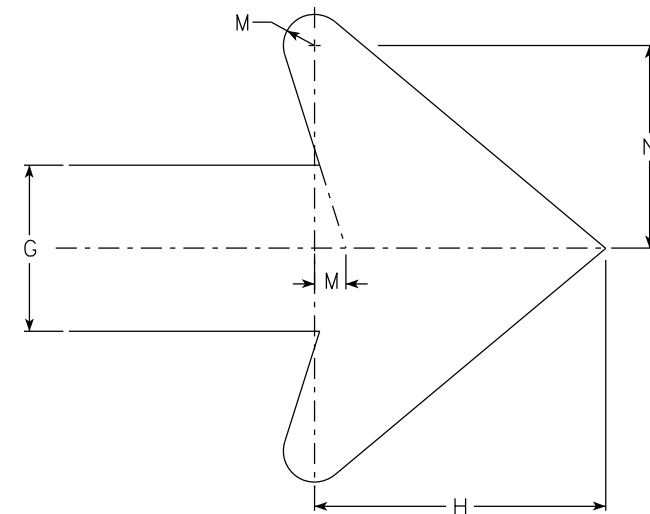
PROJECT NO:

SHEET NO:

E



- NOTES
1. Sign is Type II - Type F Reflective
 2. Color:
Background - Orange
Message - Black
 3. Message Series - D
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

PROJECT NO: HWY: COUNTY: SHEET NO: **E**

7

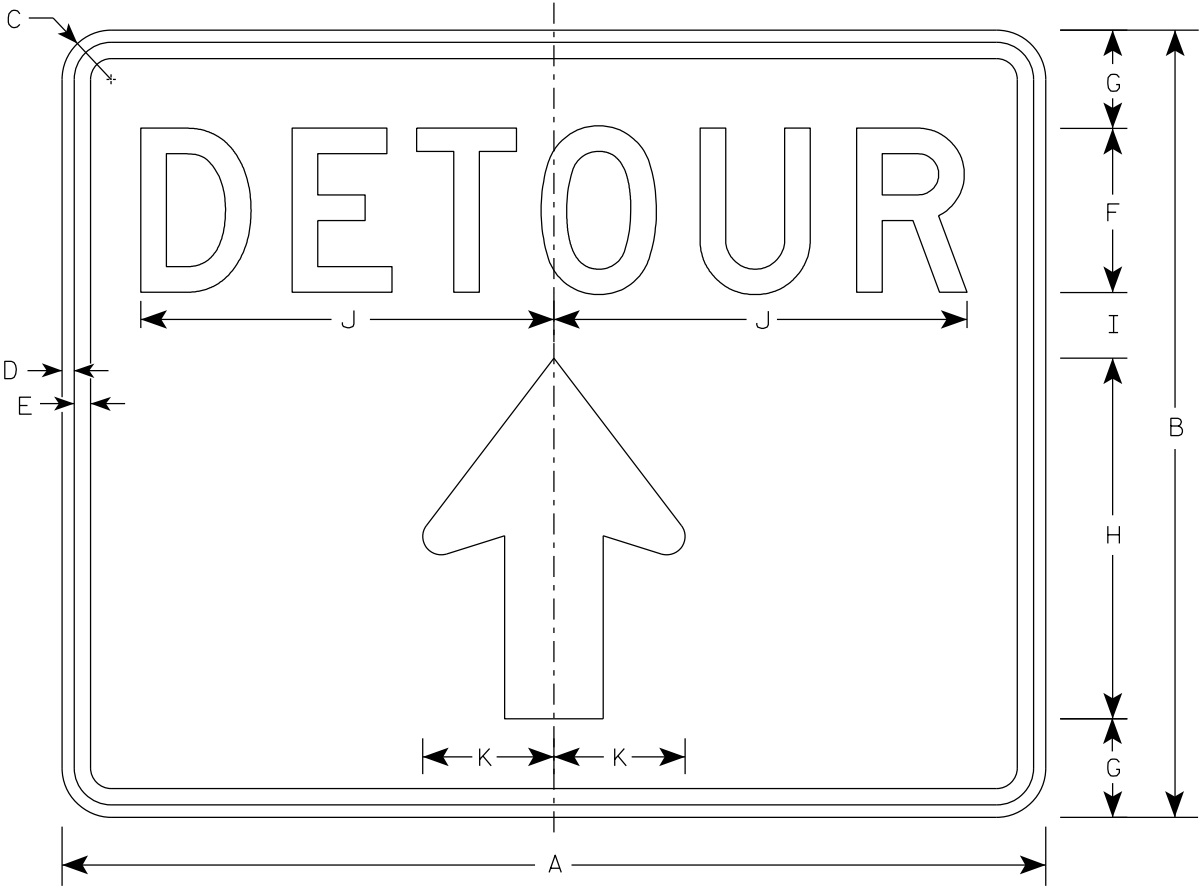
7

NOTES

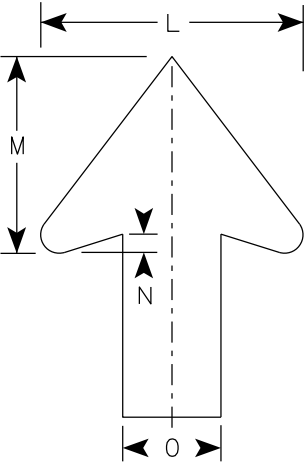
1. Sign is Type II-Type F Reflective
2. Color:

Background - Orange

Message - Black
3. Message Series - D



M4 - 9RA



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 1/2	3/8	1/2	5	3	11	2	12 5/8	4	8	6	1/2	3												5.00
2M	30	24	1 1/2	3/8	1/2	5	3	11	2	12 5/8	4	8	6	1/2	3												5.00
3																											
4																											
5																											

STANDARD SIGN

M4-9RA

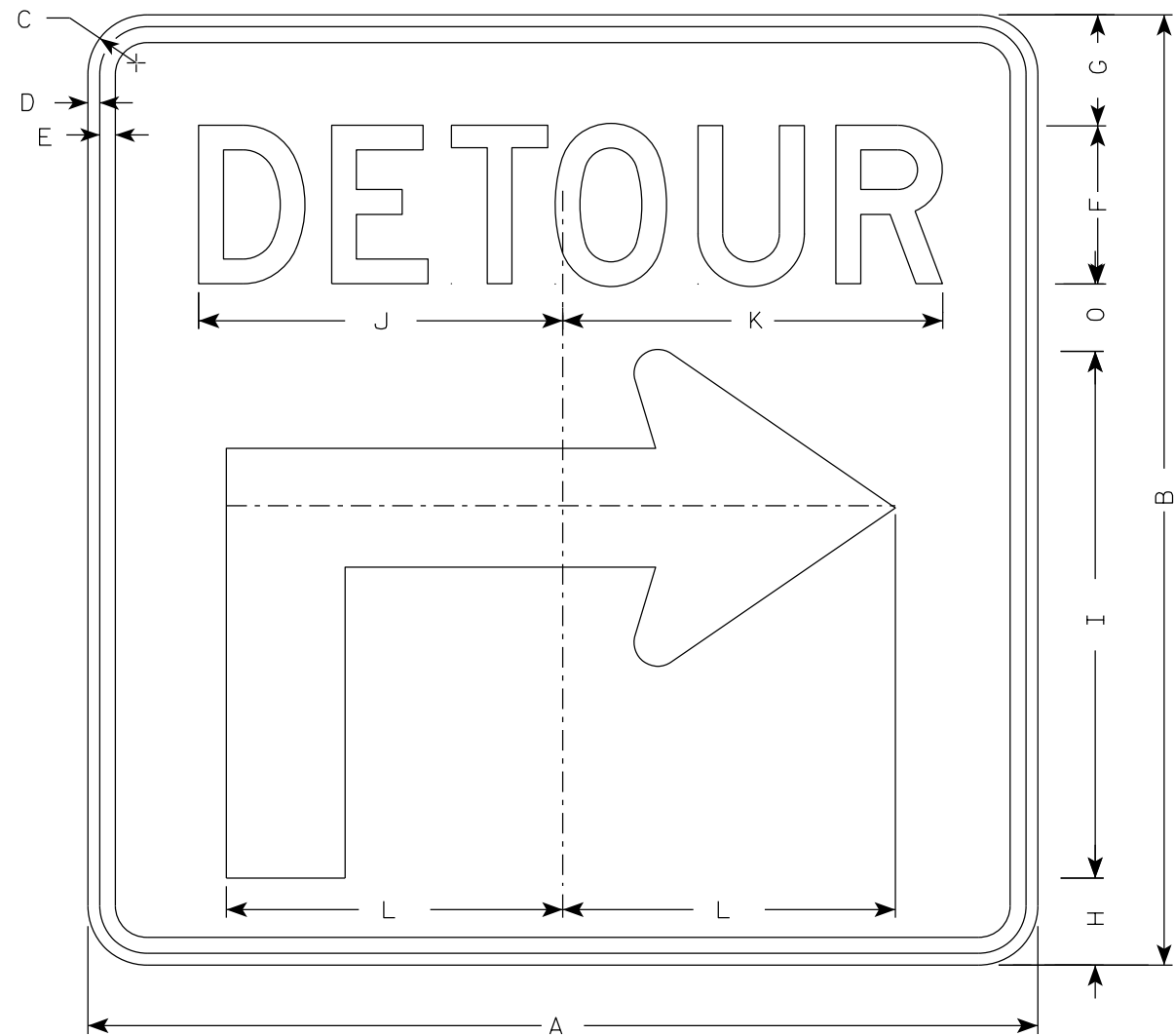
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

for State Traffic Engineer

DATE 2/9/2023

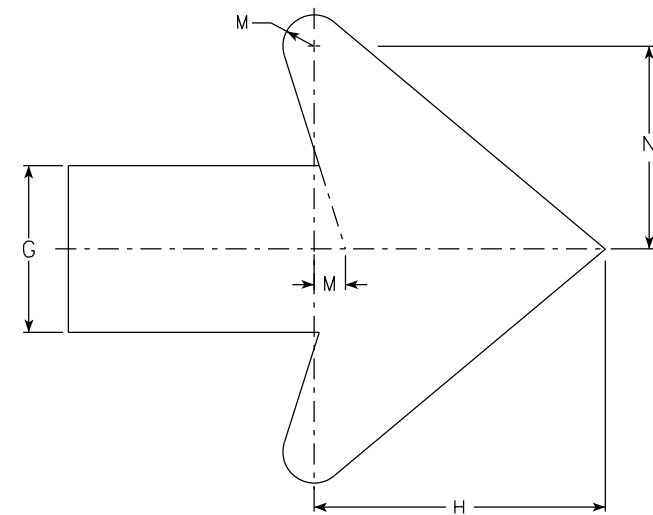
PLATE NO. M4-9RA.3



M4-59R

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown when base material is metal.
- 5. M4-59L is the same as M4-59R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	30	1 7/8	3/8	1/2	5	3 1/2	2 3/4	16 5/8	11 1/2	12	10 1/2	3/4	4 7/8	2 1/8												6.25
2M	30	30	1 7/8	3/8	1/2	5	3 1/2	2 3/4	16 5/8	11 1/2	12	10 1/2	3/4	4 7/8	2 1/8												6.25
3	30	30	1 7/8	3/8	1/2	5	3 1/2	2 3/4	16 5/8	11 1/2	12	10 1/2	3/4	4 7/8	2 1/8												6.25
4	48	48	2 1/4	1/2	5/8	8	5 5/8	4 3/8	26 5/8	20 5/8	20 1/2	17	1 1/8	6 7/8	3 3/8												16.0
5	48	48	2 1/4	1/2	5/8	8	5 5/8	4 3/8	26 5/8	20 5/8	20 1/2	17	1 1/8	6 7/8	3 3/8												16.0

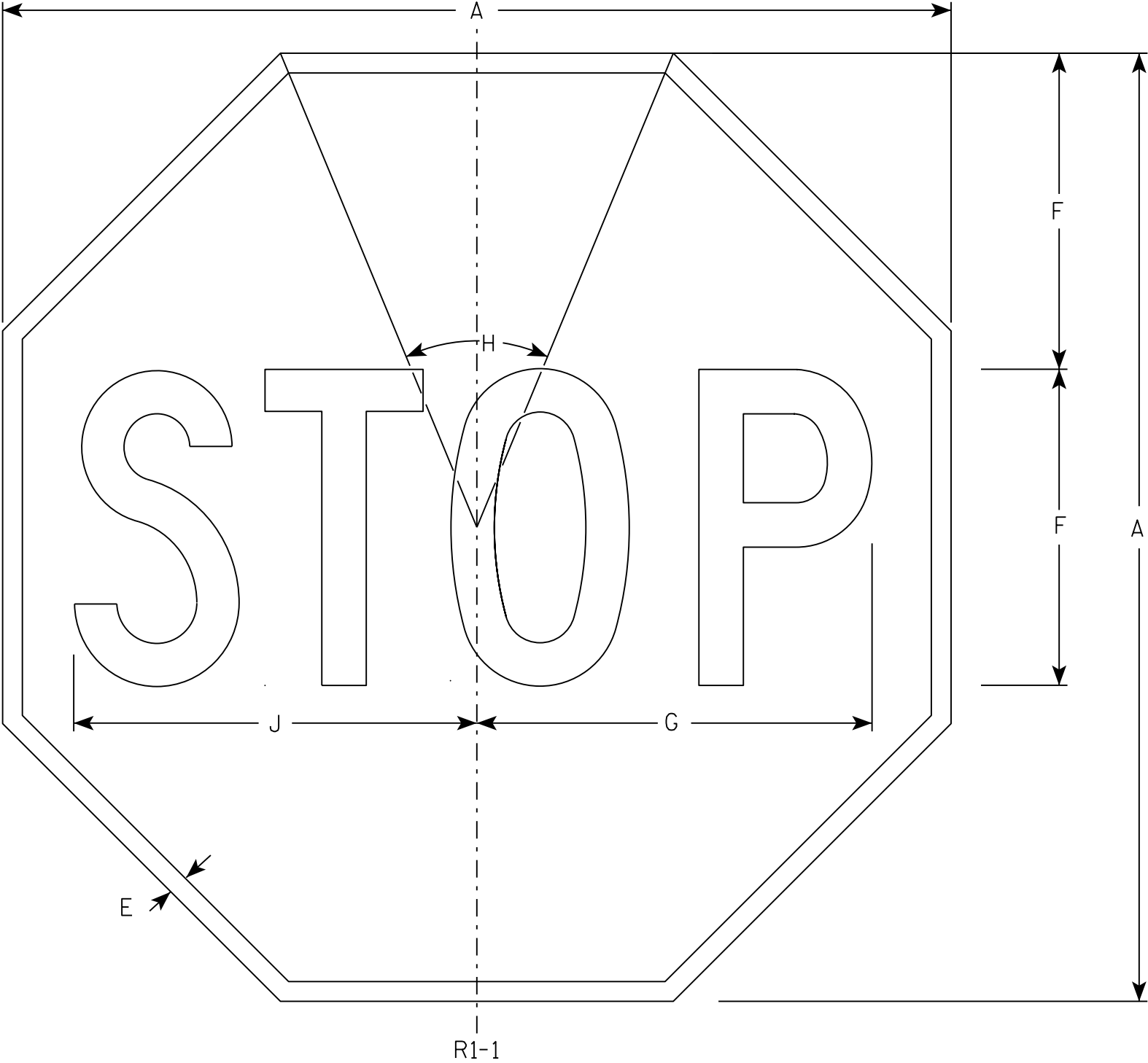
STANDARD SIGN
M4-59 L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M4-59.2

7



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Red
Message - White
- 3. Message Series - C

7

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

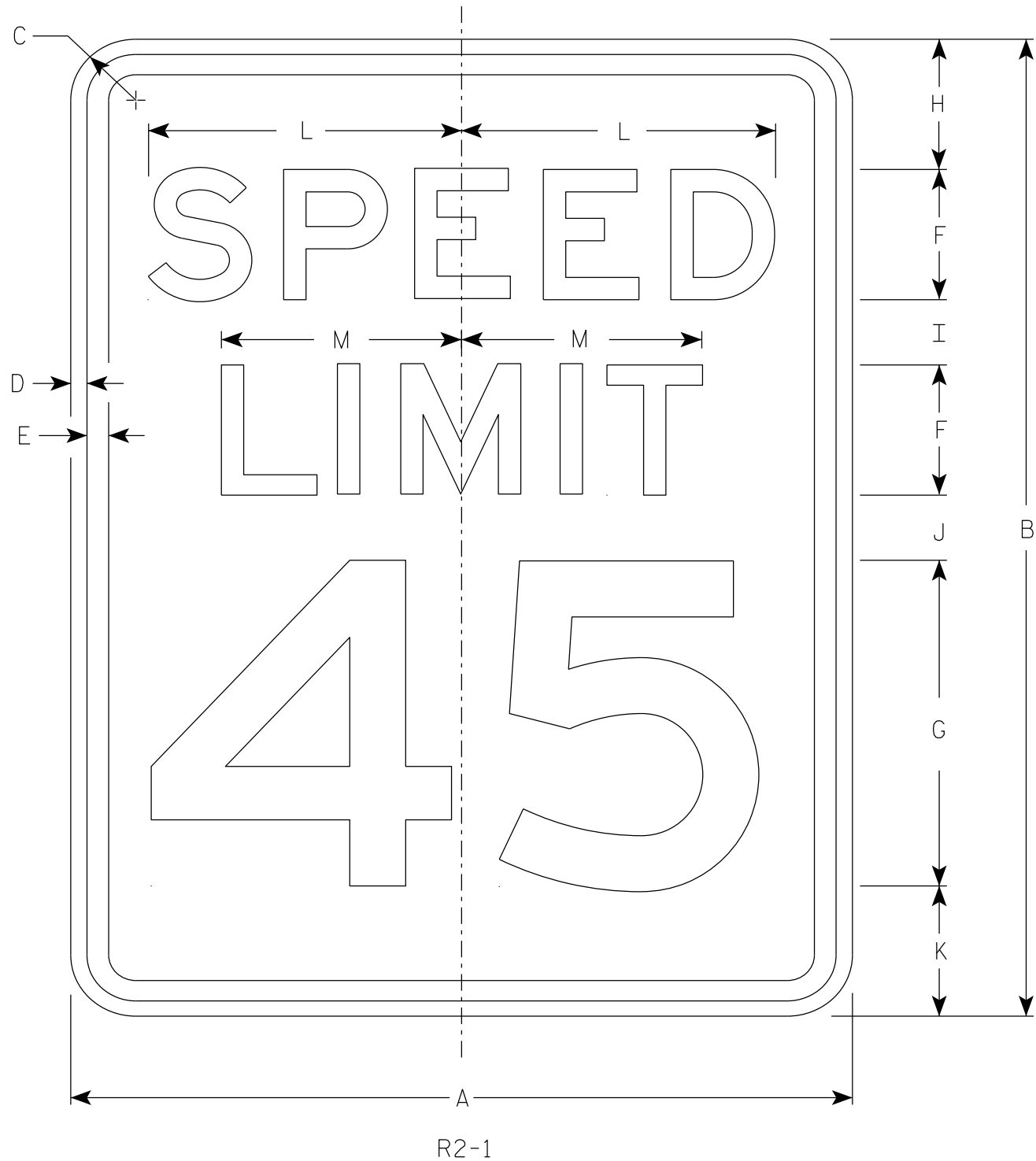
STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - E
- 4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/2	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/2	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 7/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	3	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN

R2 - 1

WISCONSIN DEPT OF TRANSPORTATION

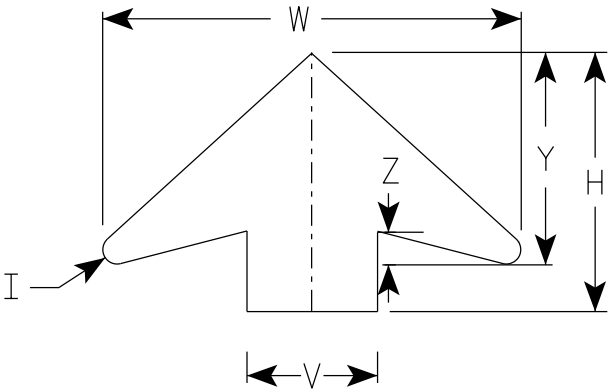
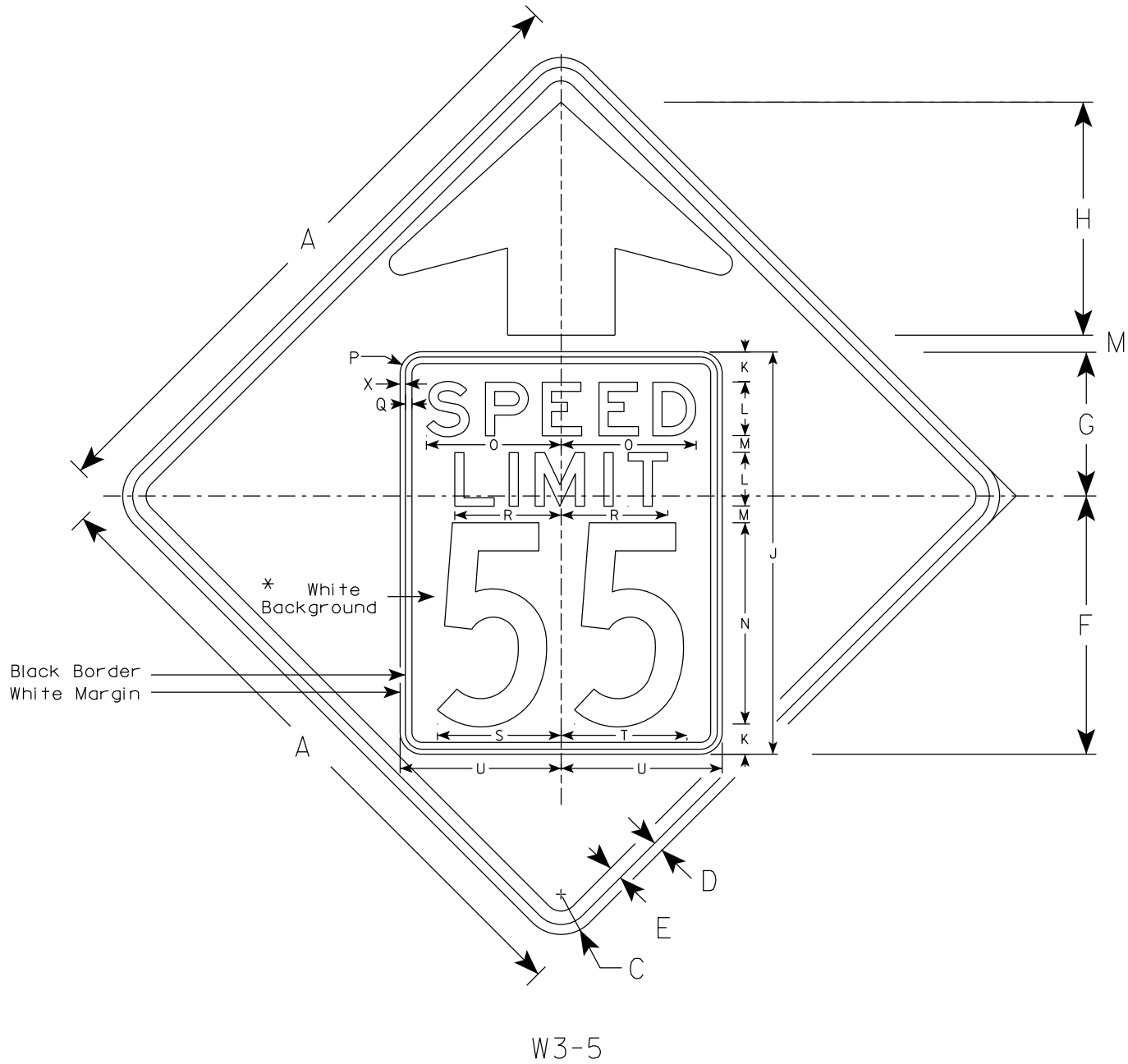
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/23 PLATE NO. R2-1.14

NOTES

- 1. Sign is Type II - See Note 2 for Sheeting Type
- 2. Color: *
Background - Yellow* (Type F Reflective)
Message - Black
- 3. Message Series - C for numbers Series E for wording
- 4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background with black message (Type SH Reflective)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		2 1/4	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		3	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN

W3-5

WISCONSIN DEPT OF TRANSPORTATION

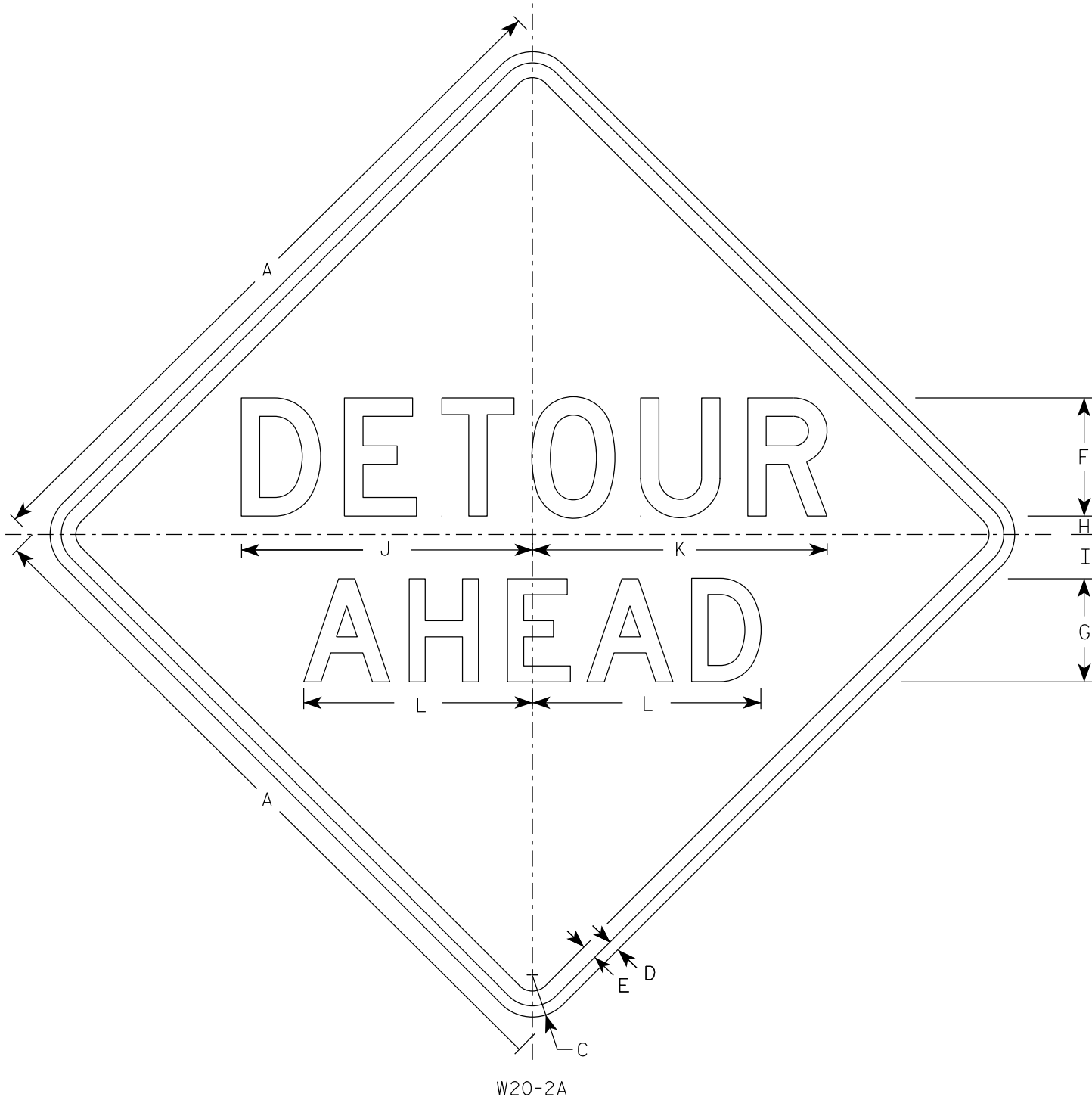
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/30/2023 PLATE NO. W3-5.7

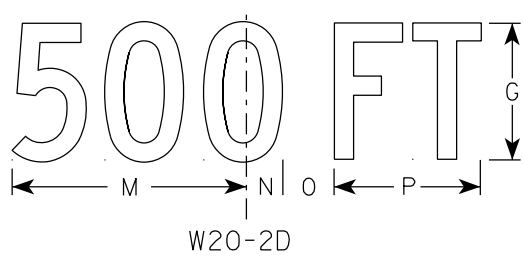
PROJECT NO:

SHEET NO:

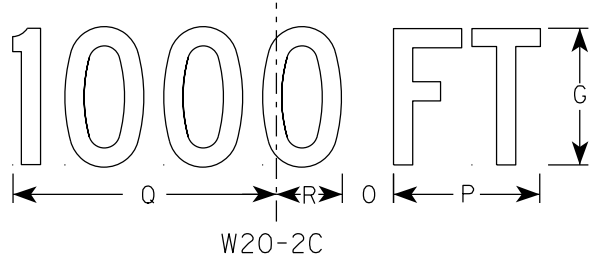
E



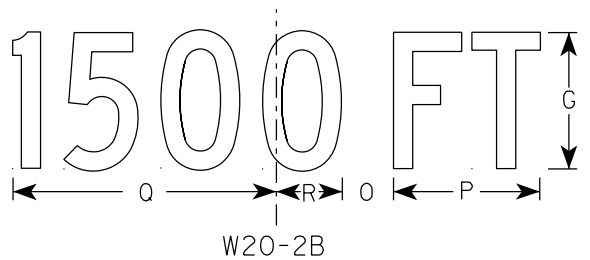
W20-2A



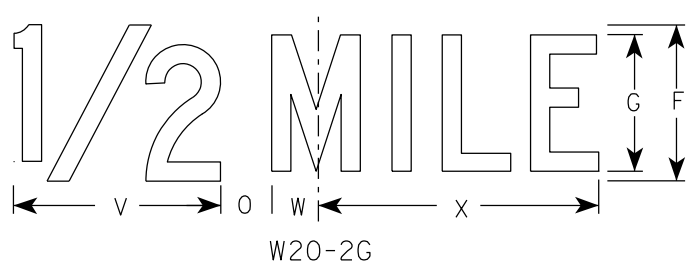
W20-2D



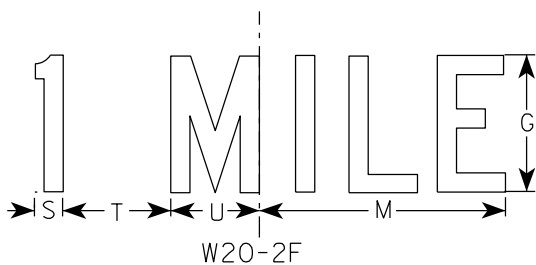
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - See note 5
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	w	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO:

HWY:

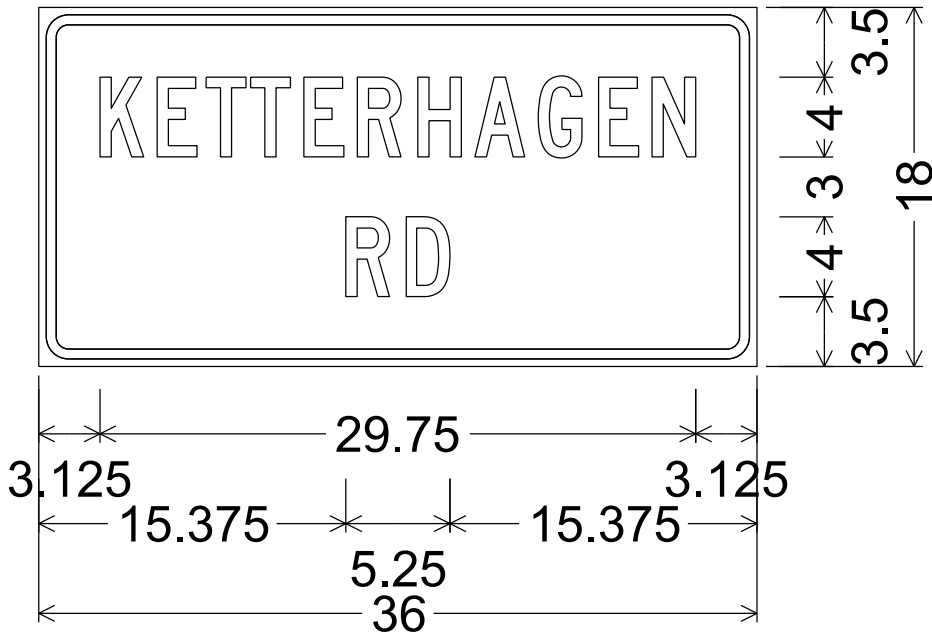
COUNTY:

SHEET NO:

E

NOTES

- 1. Fixed Message Sign Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C



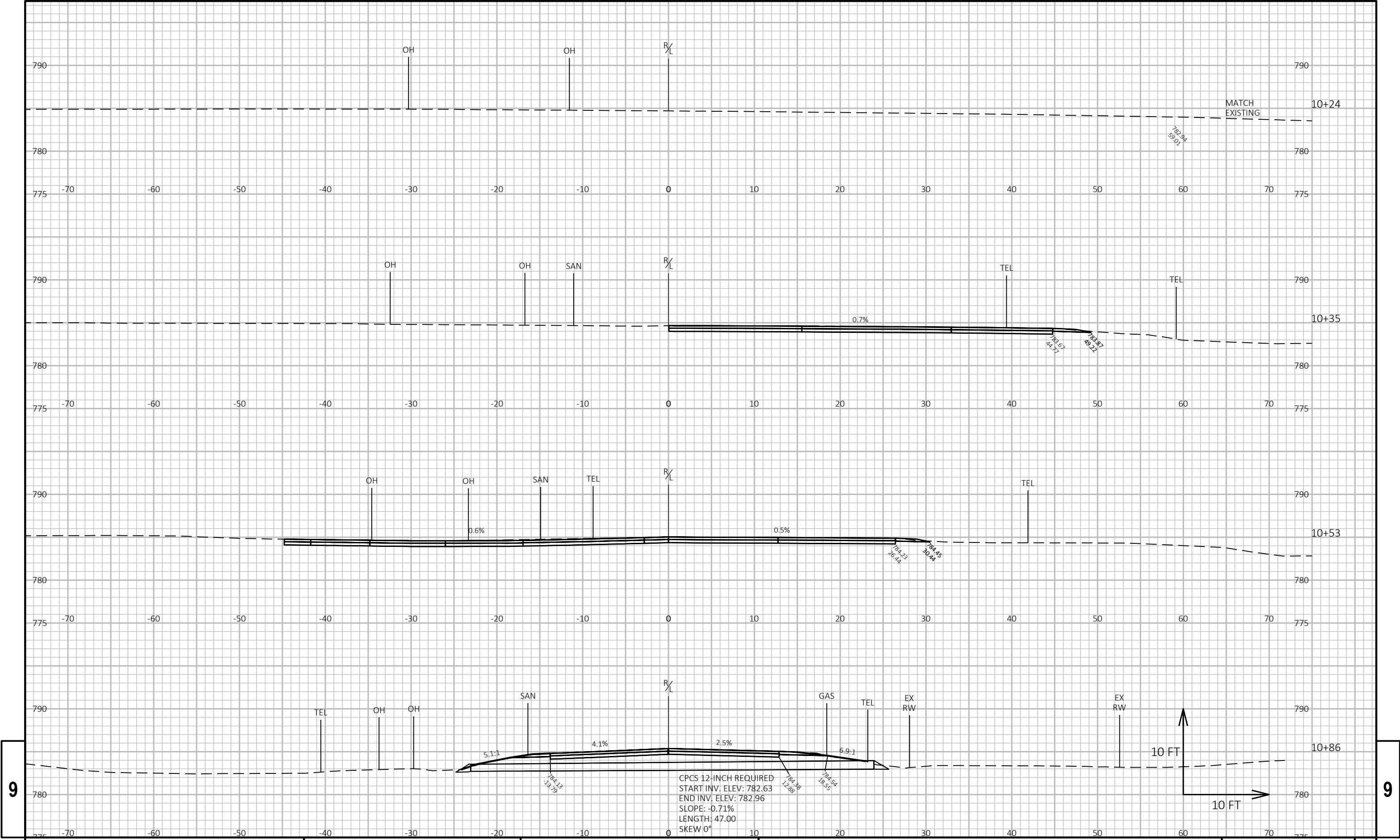
1.500" Radius, 0.500" Border, 0.375" Indent

KETTERHAGEN RD EARTHWORK SUMMARY						
STATION	REAL STATION	DISTANCE	EXPANDED FILL			
			FILL	FILL	1.25	MASS ORDNATE
				NOTE 3		NOTE 8
10+24.22	1024.22	0.00	0.00	0	0	0
10+34.68	1034.68	10.46	0.00	0	0	0
10+52.77	1052.77	18.09	0.00	0	0	0
10+86.47	1086.47	33.70	0.00	0	0	0
11+00.40	1100.40	13.93	0.11	0	0	0
12+00.00	1200.00	99.60	1.61	3	4	-4
12+40.68	1240.68	40.68	1.81	3	8	-8
13+00.00	1300.00	59.32	1.42	4	13	-13
13+13.21	1313.21	13.21	1.38	1	14	-14
14+00.00	1400.00	86.79	0.00	2	16	-16
14+41.82	1441.82	41.82	2.23	2	19	-19
14+68.96	1468.96	27.14	1.78	2	21	-21
15+00.00	1500.00	31.04	0.78	1	23	-23
15+25.65	1525.65	25.65	1.69	1	24	-24
15+99.73	1599.73	74.08	1.09	4	29	-29
16+19.90	1619.90	20.17	3.55	2	31	-31
16+40.49	1640.49	20.59	1.56	2	34	-34
17+00.00	1700.00	59.51	0.00	2	36	-36
17+55.71	1755.71	55.71	1.03	1	38	-38
18+00.00	1800.00	44.29	1.77	2	40	-40
18+91.94	1891.94	91.94	1.74	6	48	-48
19+00.00	1900.00	8.06	0.01	0	48	-48
20+00.00	2000.00	100.00	1.30	2	50	-50
20+25.00	2025.00	25.00	4.14	3	54	-54
20+65.47	2065.47	40.47	0.23	3	58	-58
21+00.00	2100.00	34.53	0.00	0	58	-58
21+23.19	2123.19	23.19	1.16	0	58	-58
22+00.00	2200.00	76.81	2.91	6	65	-65
22+83.32	2283.32	83.32	0.55	5	71	-71
23+00.00	2300.00	16.68	3.62	1	73	-73
24+00.00	2400.00	100.00	0.00	7	81	-81
24+38.22	2438.22	38.22	0.03	0	81	-81
25+00.00	2500.00	61.78	0.38	0	81	-81
25+24.52	2524.52	24.52	0.46	0	81	-81
26+00.00	2600.00	75.48	0.43	1	83	-83
27+00.00	2700.00	100.00	2.84	6	90	-90
27+33.13	2733.13	33.13	2.11	3	94	-94
28+00.00	2800.00	66.87	2.76	6	101	-101
28+39.05	2839.05	39.05	0.46	2	104	-104
29+00.00	2900.00	60.95	0.74	1	105	-105
29+50.00	2950.00	50.00	0.00	1	106	-106
30+00.00	3000.00	50.00	0.00	0	106	-106
30+58.24	3058.24	58.24	0.00	0	106	-106
31+00.00	3100.00	41.76	0.95	1	108	-108
32+00.00	3200.00	100.00	3.04	7	116	-116
32+17.76	3217.76	17.76	2.30	2	119	-119
32+50.00	3250.00	32.24	1.05	2	121	-121
33+00.00	3300.00	50.00	0.10	1	123	-123
33+25.23	3325.23	25.23	0.15	0	123	-123
33+59.85	3359.85	34.62	1.91	1	124	-124
33+89.85	3389.85	30.00	3.87	3	128	-128
33+94.46	3394.46	4.61	4.54	1	129	-129
34+00.00	3400.00	5.54	5.27	1	130	-130
34+04.85	3404.85	4.85	6.18	1	131	-131
34+61.43	3461.43	56.58	6.87	14	149	-149

KETTERHAGEN RD EARTHWORK SUMMARY						
STATION	REAL STATION	DISTANCE	EXPANDED FILL			
			FILL	FILL	1.25	MASS ORDNATE
				NOTE 3		NOTE 8
35+00.00	3500.00	38.57	3.30	7	158	-158
36+00.00	3600.00	100.00	2.65	11	171	-171
36+14.02	3614.02	14.02	3.85	2	174	-174
36+57.50	3657.50	43.48	6.49	8	184	-184
36+67.89	3667.89	10.39	6.54	3	188	-188
36+72.50	3672.50	4.61	6.40	1	189	-189
37+00.00	3700.00	27.50	5.55	6	196	-196
37+02.50	3702.50	2.50	5.46	1	198	-198
37+37.12	3737.12	34.62	3.47	6	205	-205
38+00.00	3800.00	62.88	2.42	7	214	-214
38+11.22	3811.22	11.22	0.24	1	215	-215
39+00.00	3900.00	88.78	5.12	9	226	-226
40+00.00	4000.00	100.00	4.93	19	250	-250
40+09.22	4009.22	9.22	5.33	2	253	-253
40+43.60	4043.60	34.38	6.63	8	263	-263
40+77.97	4077.97	34.37	6.33	8	273	-273
40+80.27	4080.27	2.30	6.10	1	274	-274
40+98.60	4098.60	18.33	6.38	4	279	-279
41+00.00	4100.00	1.40	6.37	0	279	-279
42+00.00	4200.00	100.00	7.61	26	311	-311
42+12.64	4212.64	12.64	0.75	2	314	-314
43+00.00	4300.00	87.36	9.66	17	335	-335
43+59.78	4359.78	59.78	5.86	17	356	-356
43+78.11	4378.11	18.33	4.46	4	361	-361
43+80.41	4380.41	2.30	4.32	0	361	-361
44+00.00	4400.00	19.59	3.47	3	365	-365
44+14.78	4414.78	14.78	3.55	2	368	-368
44+49.16	4449.16	34.38	4.27	5	374	-374
45+00.00	4500.00	50.84	5.75	9	385	-385
46+00.00	4600.00	100.00	7.50	25	416	-416
47+00.00	4700.00	100.00	3.19	20	441	-441
48+00.00	4800.00	100.00	5.14	15	460	-460
48+12.68	4812.68	12.68	7.31	3	464	-464
49+00.00	4900.00	87.32	0.00	12	479	-479
49+31.42	4931.42	31.42	1.31	1	480	-480
50+00.00	5000.00	68.58	1.18	3	484	-484
51+00.00	5100.00	100.00	0.00	2	486	-486
51+26.51	5126.51	26.51	0.77	0	486	-486
52+00.00	5200.00	73.49	0.72	2	489	-489
53+00.00	5300.00	100.00	0.00	1	490	-490
53+13.63	5313.63	13.63	0.42	0	490	-490
54+00.00	5400.00	86.37	2.87	5	496	-496
54+50.00	5450.00	50.00	2.76	5	503	-503
55+00.00	5500.00	50.00	3.35	6	510	-510
55+55.62	5555.62	55.62	3.37	7	519	-519
56+00.00	5600.00	44.38	0.74	3	523	-523
56+25.00	5625.00	25.00	1.83	1	524	-524
57+00.00	5700.00	75.00	4.92	9	535	-535
57+66.32	5766.32	66.32	4.81	12	550	-550
58+00.00	5800.00	33.68	5.44	6	558	-558
59+00.00	5900.00	100.00	2.78	15	576	-576
60+00.00	6000.00	100.00	0.00	5	583	-583
60+20.36	6020.36	20.36	0.38	0	583	-583
60+43.16	6043.16	22.80	6.53	3	586	-586
61+00.00	6100.00	56.84	5.17	12	601	-601

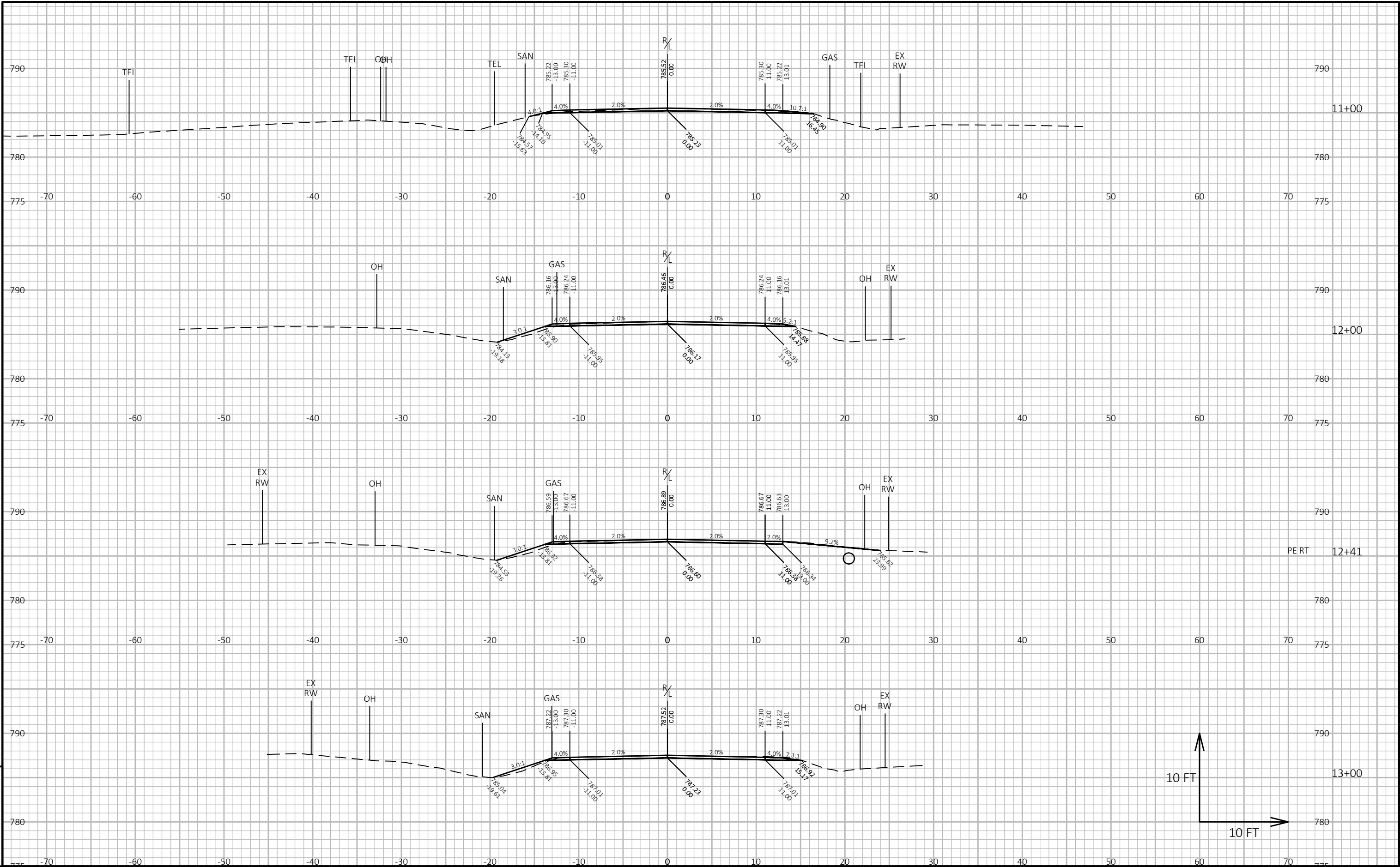
KETTERHAGEN RD EARTHWORK SUMMARY						
STATION	REAL STATION	DISTANCE				
			FILL	FILL	EXPANDED FILL 1.25	MASS ORDINATE
			NOTE 3			NOTE 8
61+50.00	6150.00	50.00	0.79	6	609	-609
61+81.20	6181.20	31.20	0.00	0	609	-609
62+00.00	6200.00	18.80	0.00	0	609	-609
63+00.00	6300.00	100.00	1.73	3	613	-613
63+63.17	6363.17	63.17	2.42	5	619	-619
64+00.00	6400.00	36.83	2.19	3	623	-623
65+00.00	6500.00	100.00	0.00	4	628	-628
65+30.72	6530.72	30.72	1.82	1	629	-629
65+50.00	6550.00	19.28	0.67	1	630	-630
65+97.45	6597.45	47.45	0.00	1	631	-631

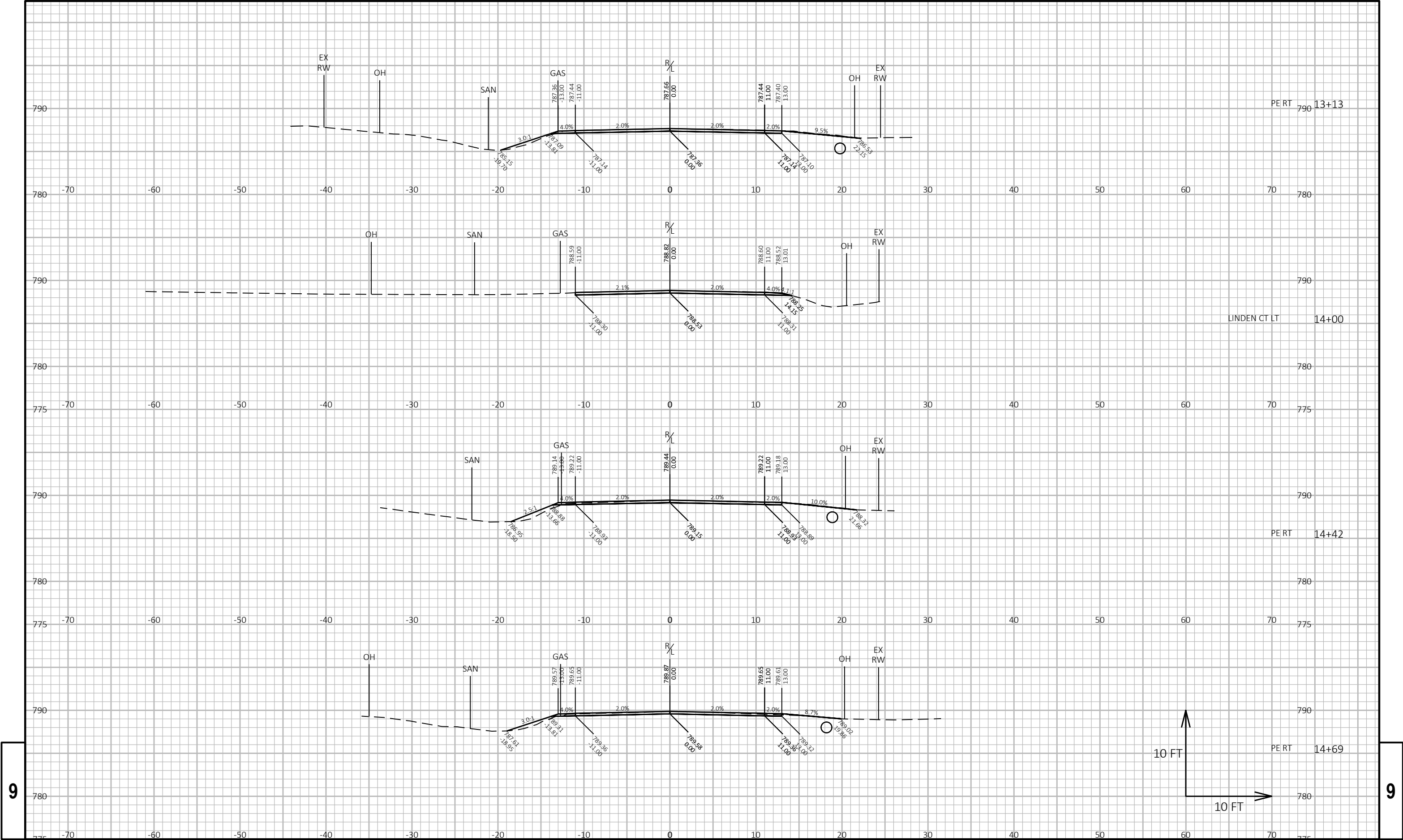
NOTES:	
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - EXPANDED ROCK) * FILL FACTOR)]
8 - MASS ORDINATE	IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [CUT - SALVAGED PAVT - ((FILL - EXPANDED ROCK) * FILL FACTOR)]

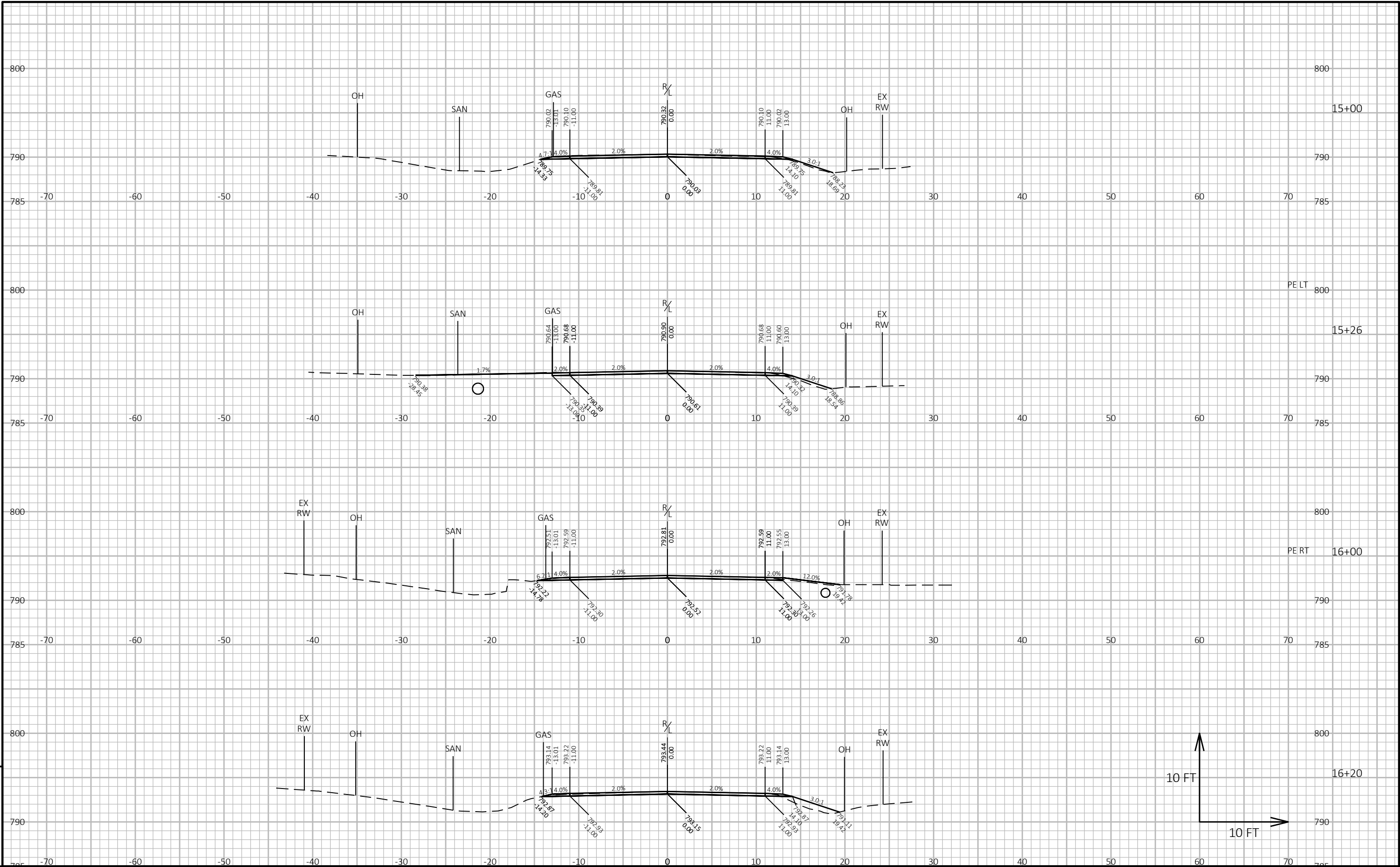


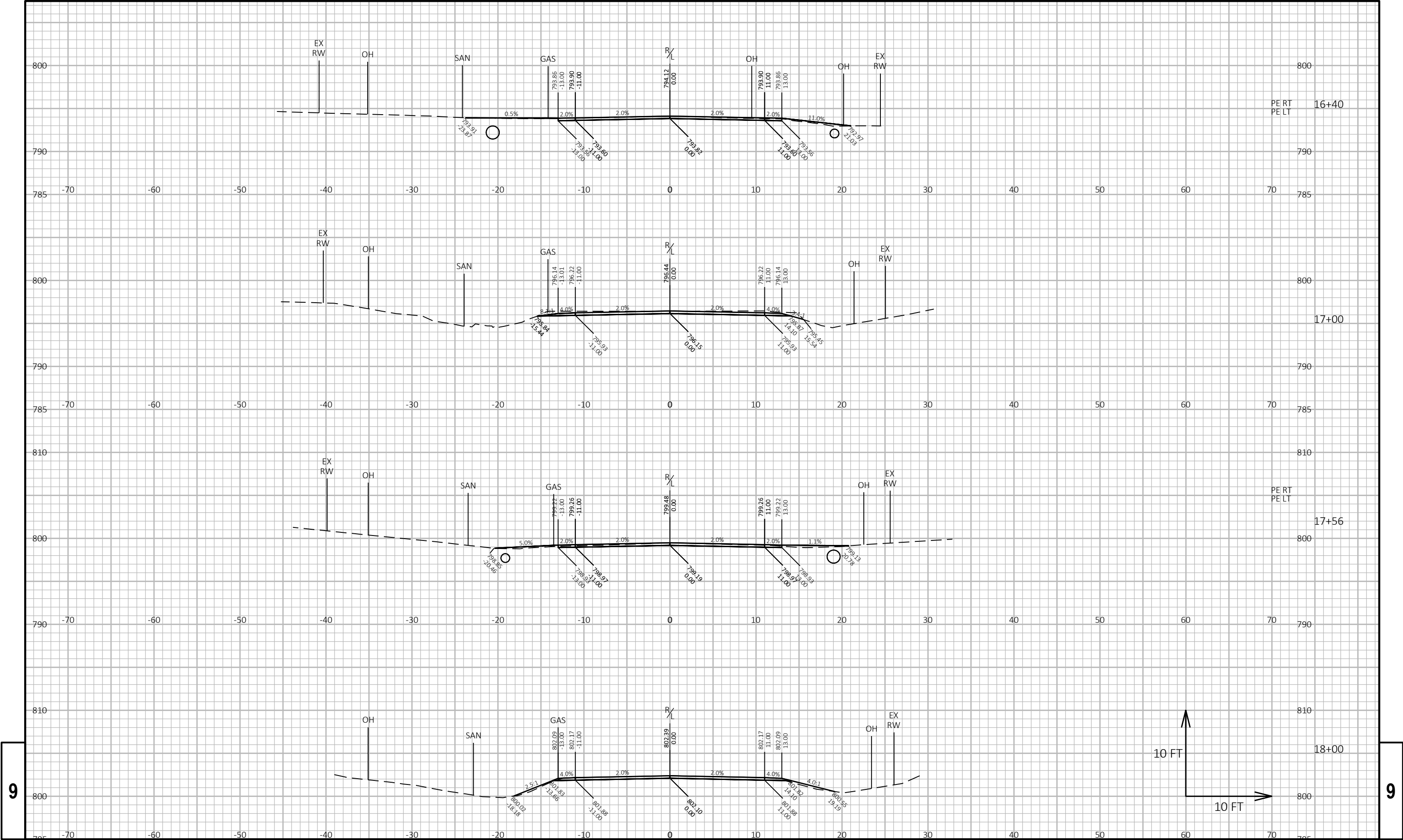
9

9



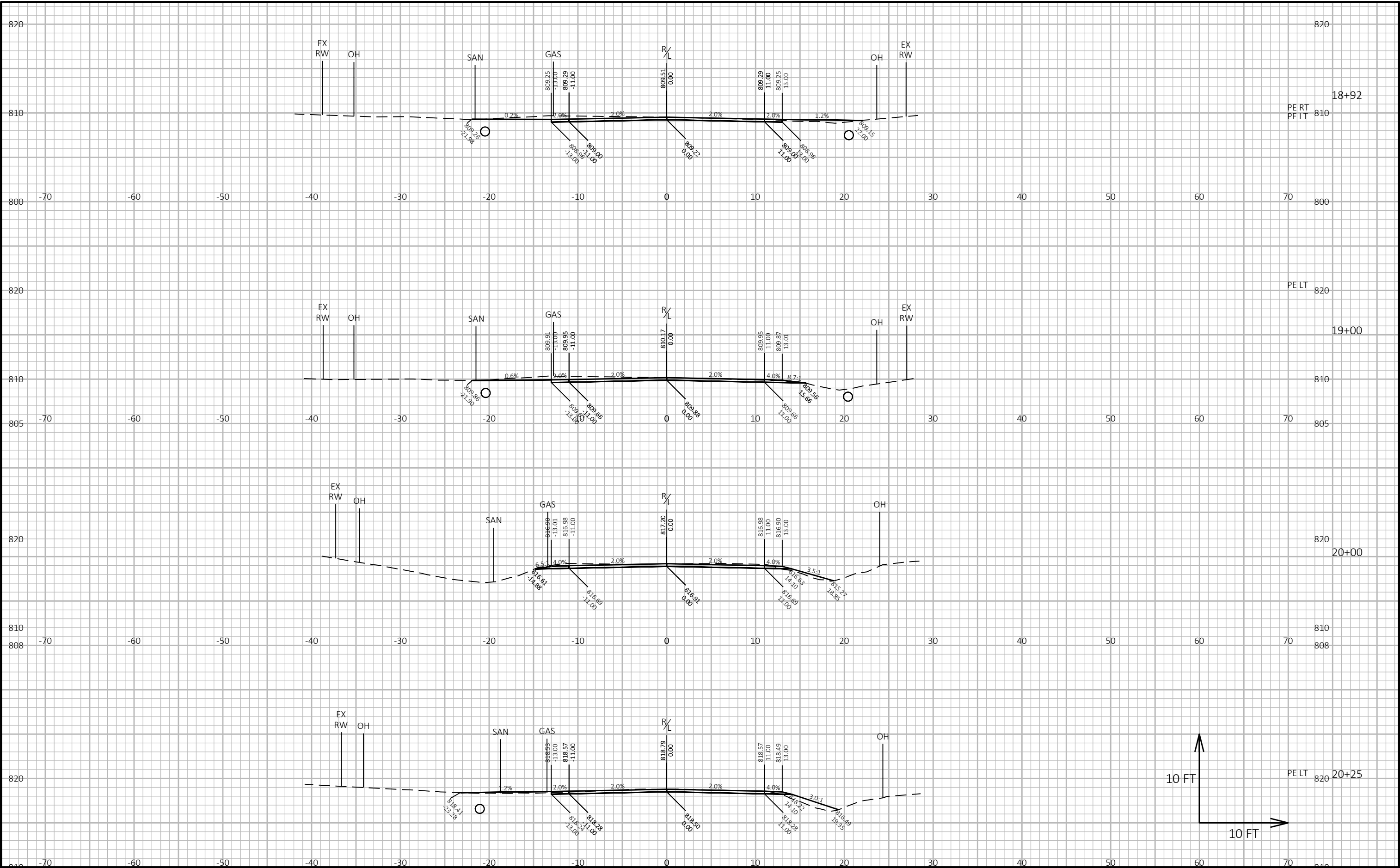


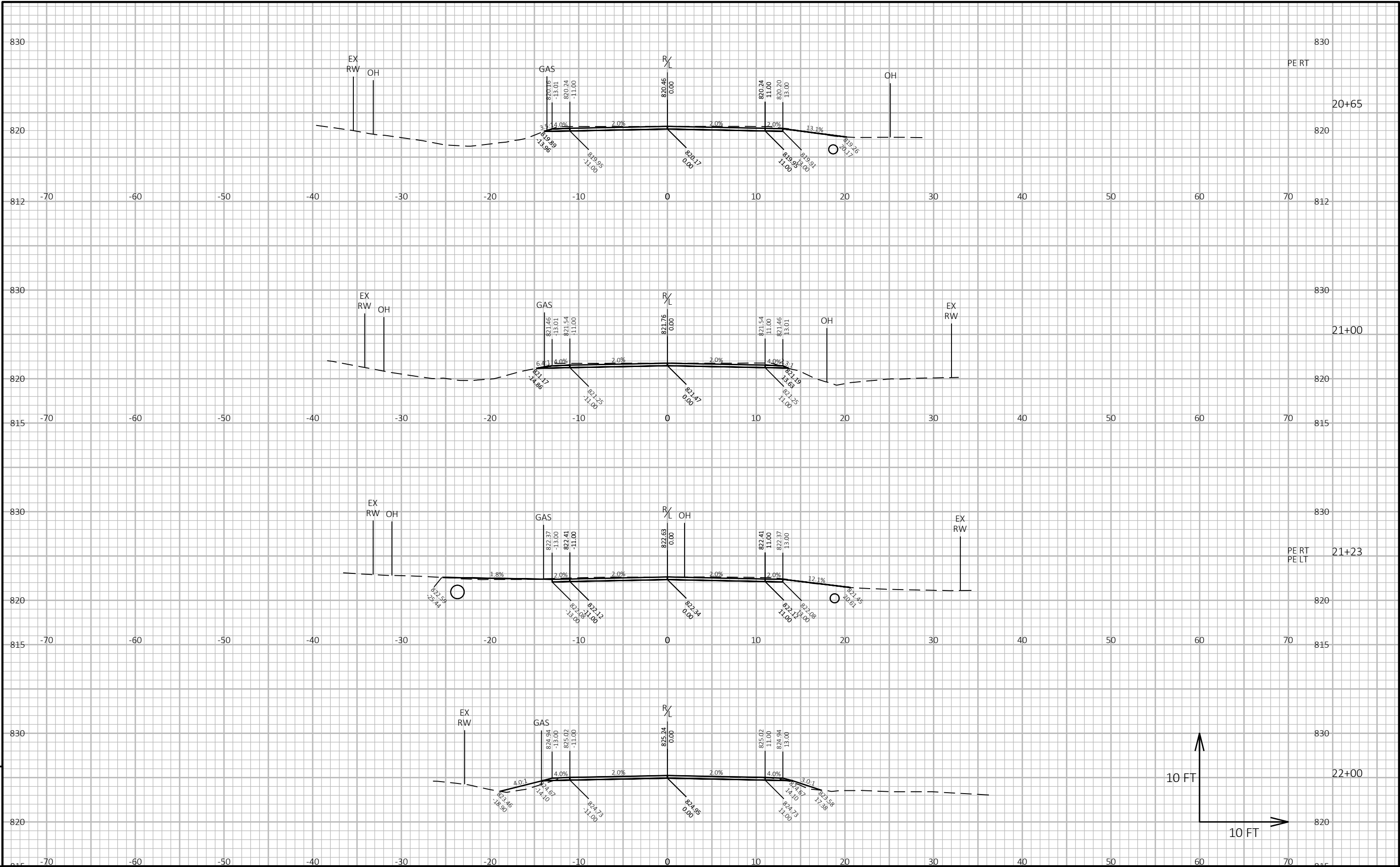


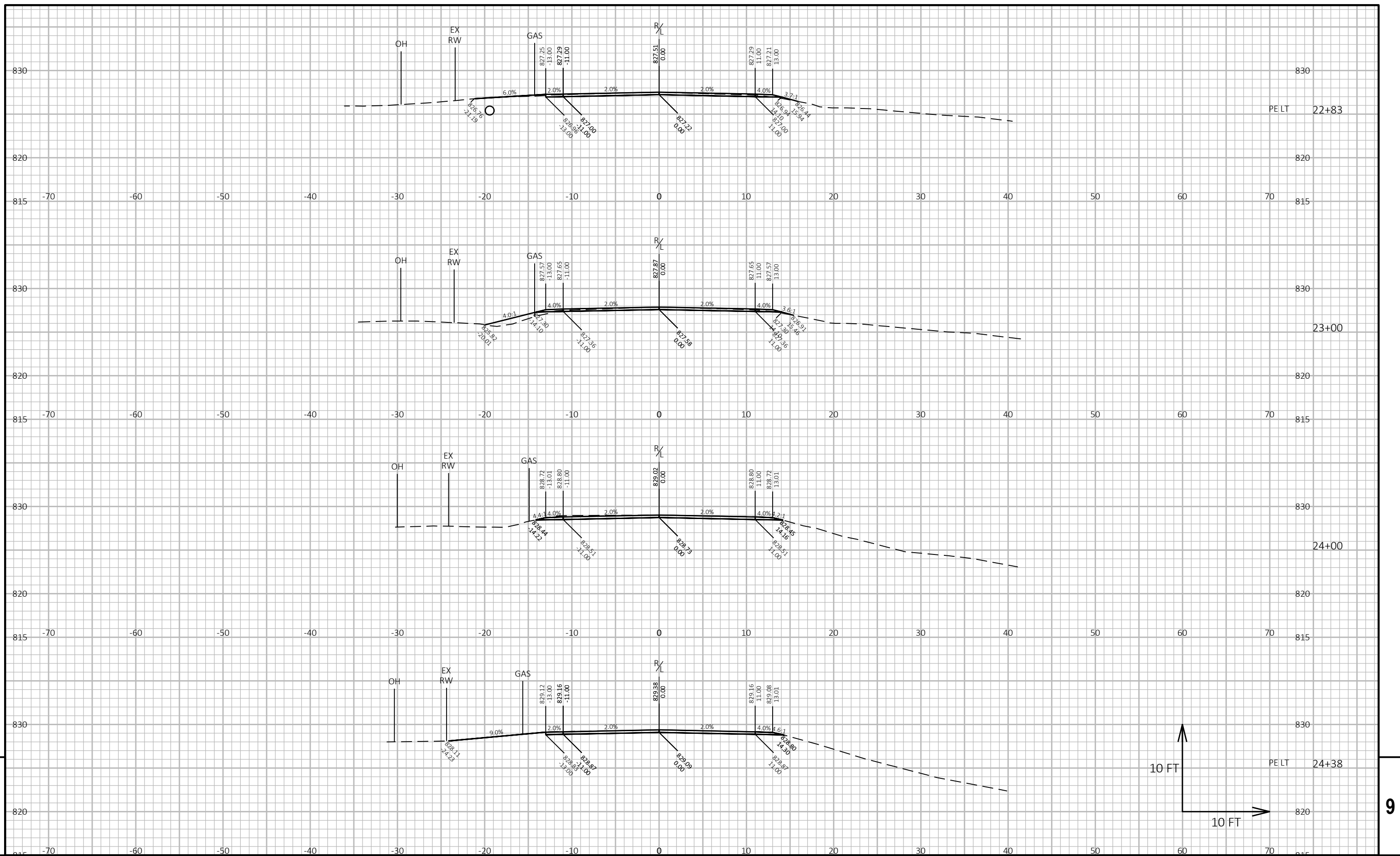


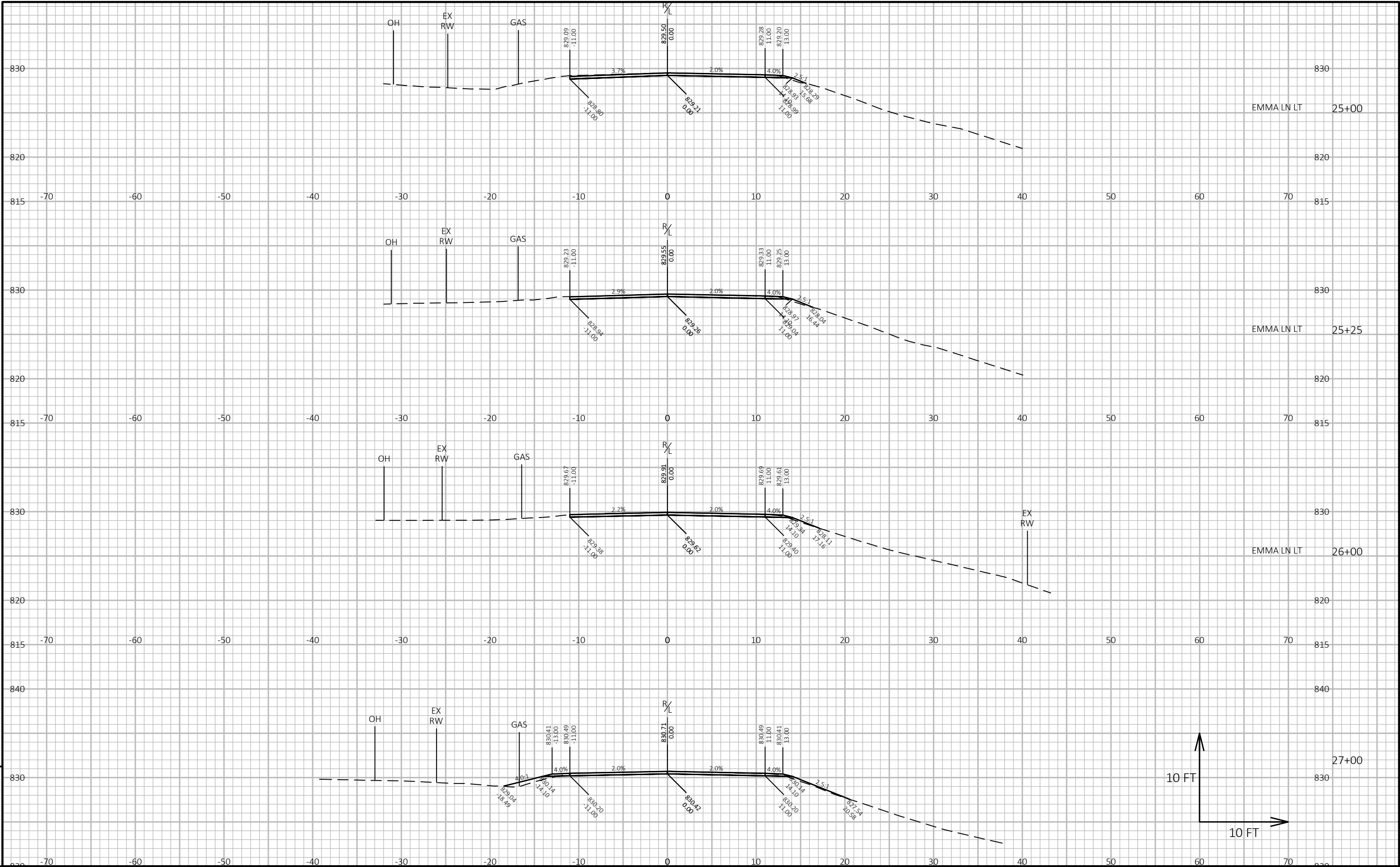
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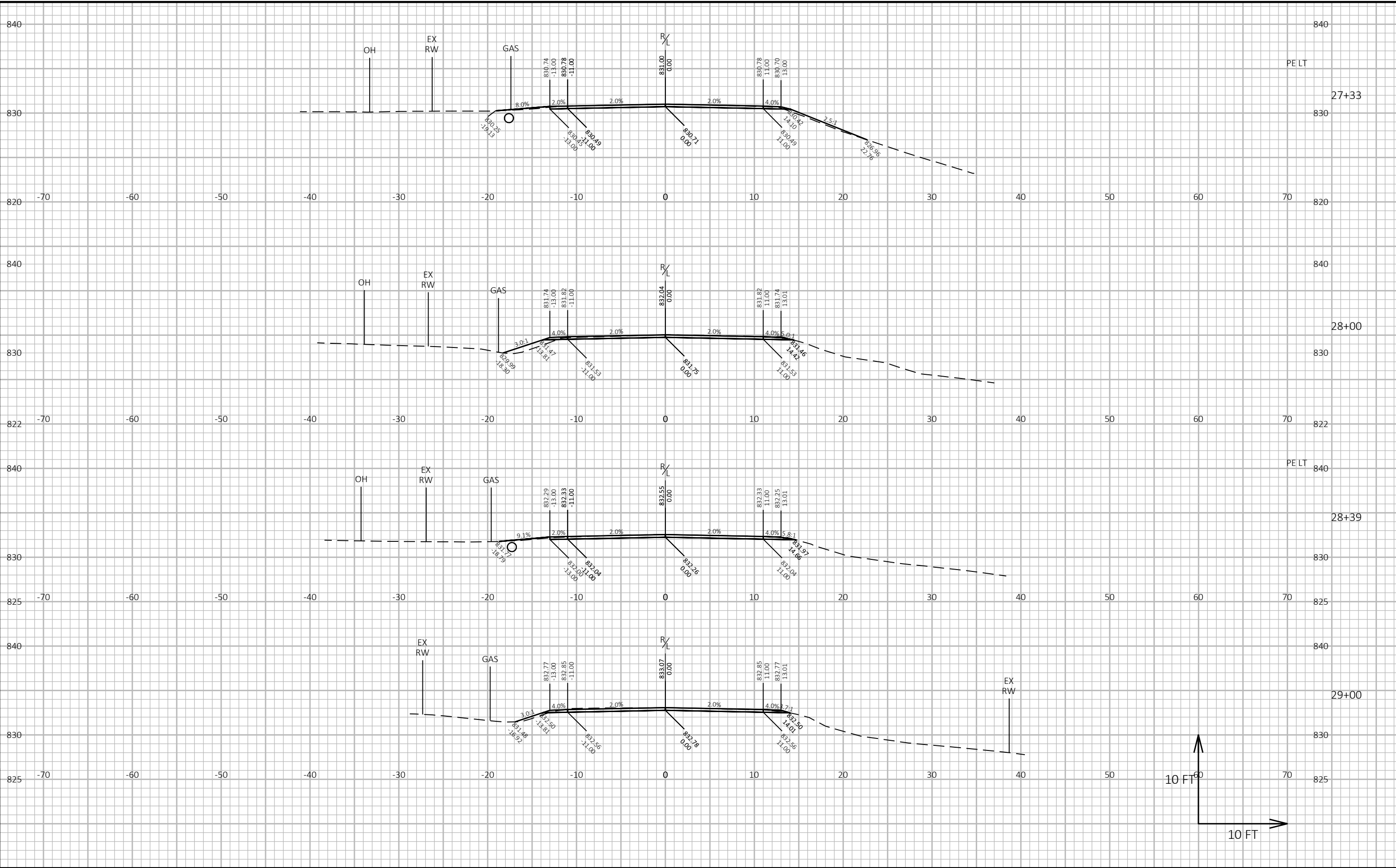
9

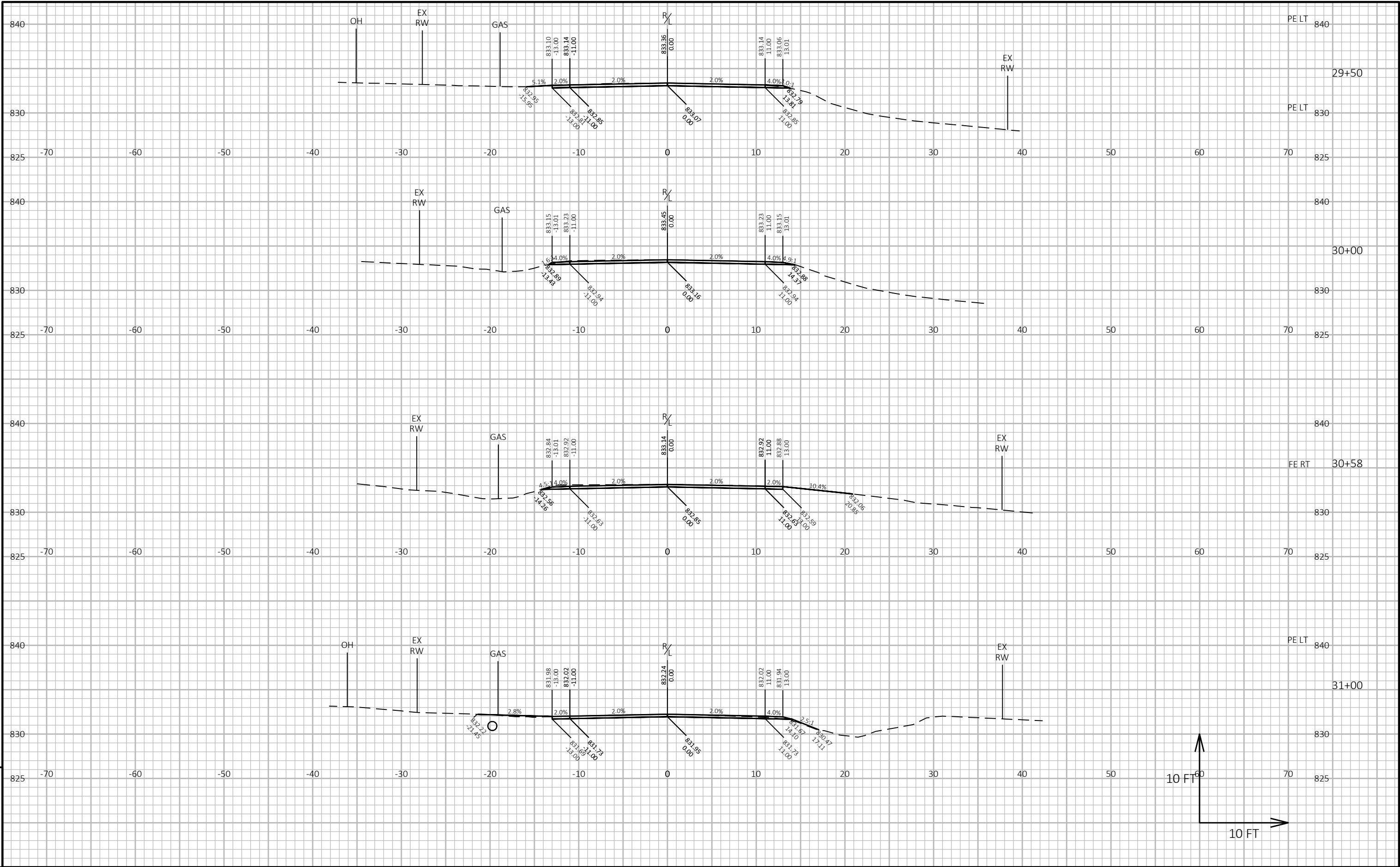


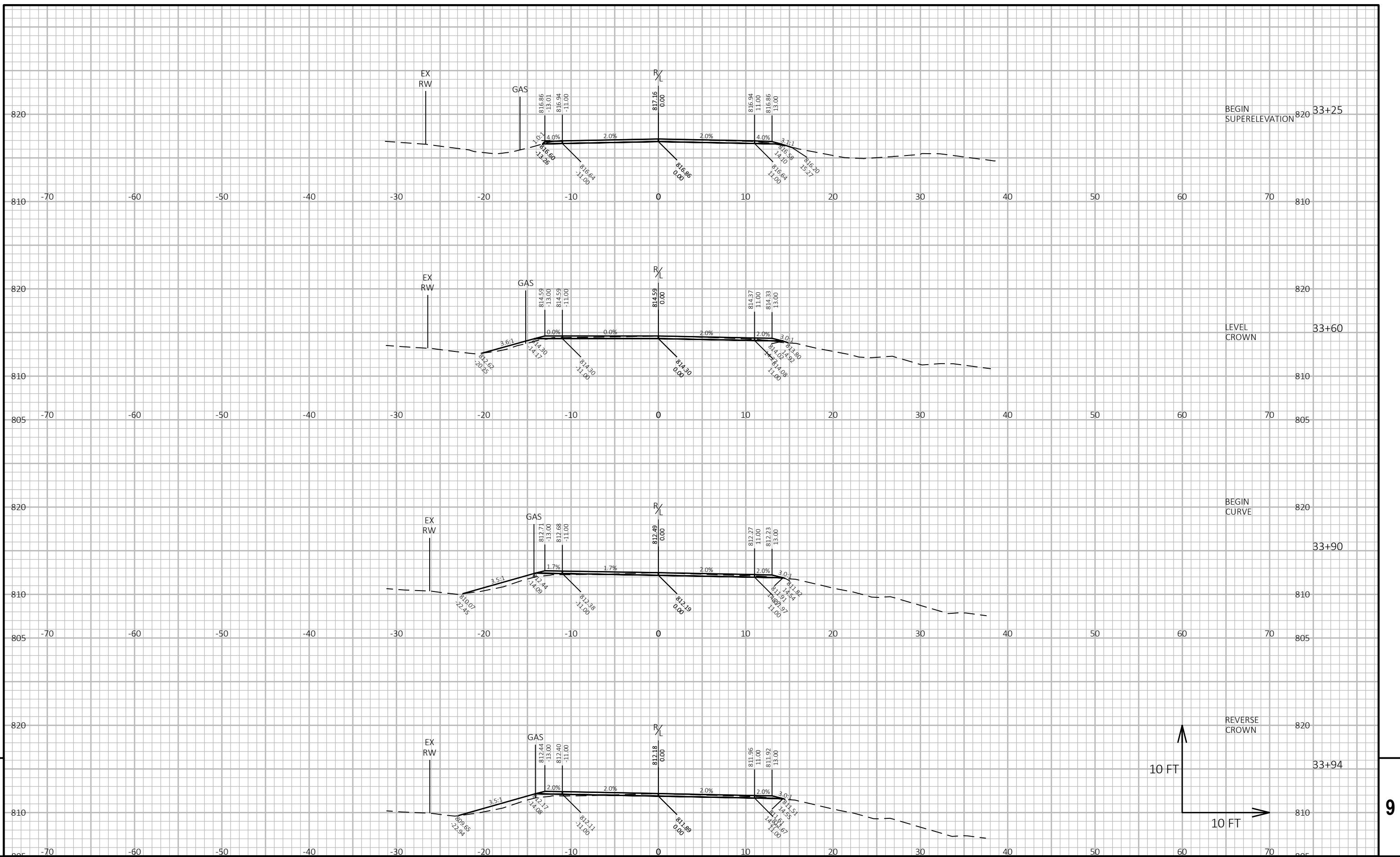


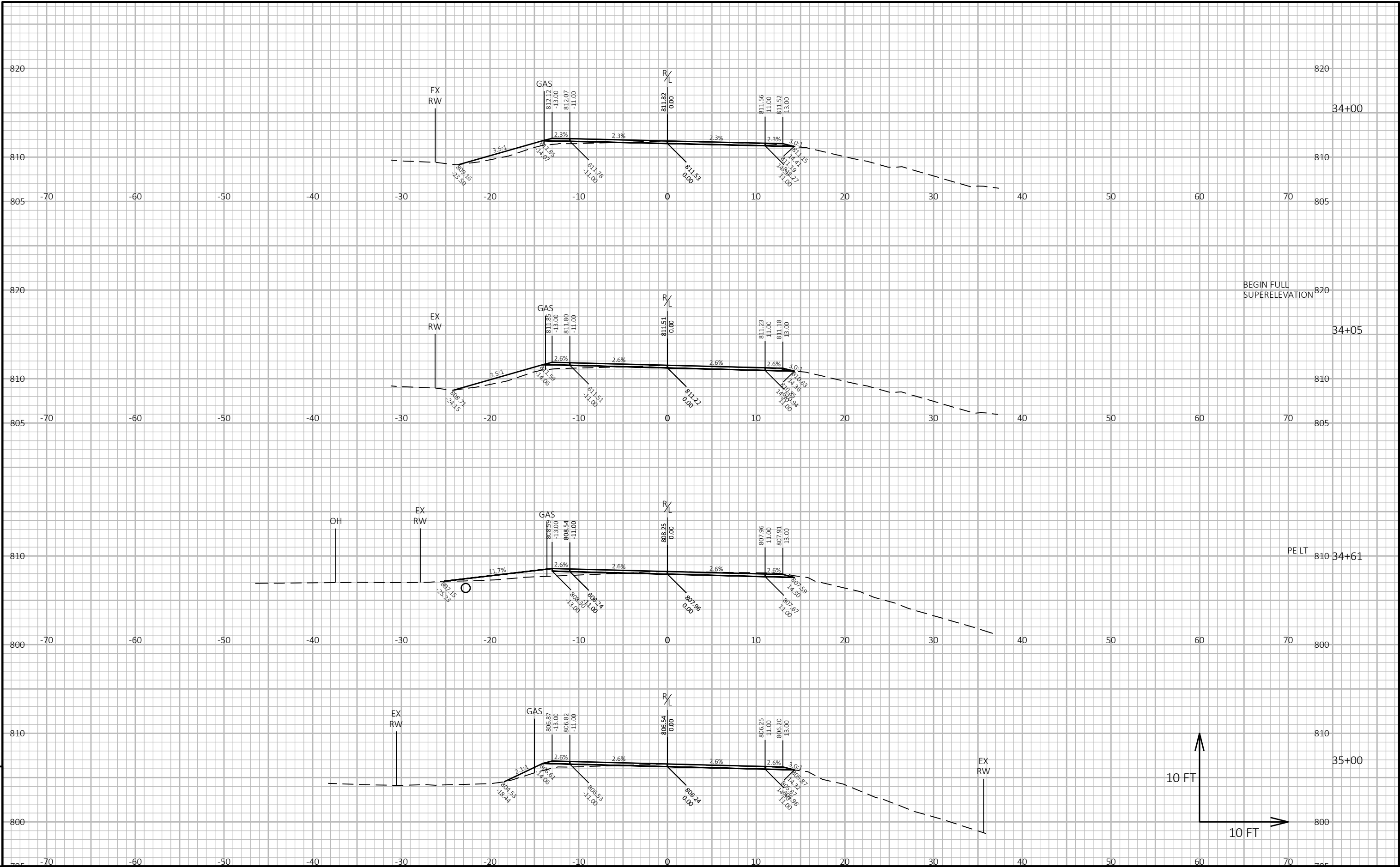


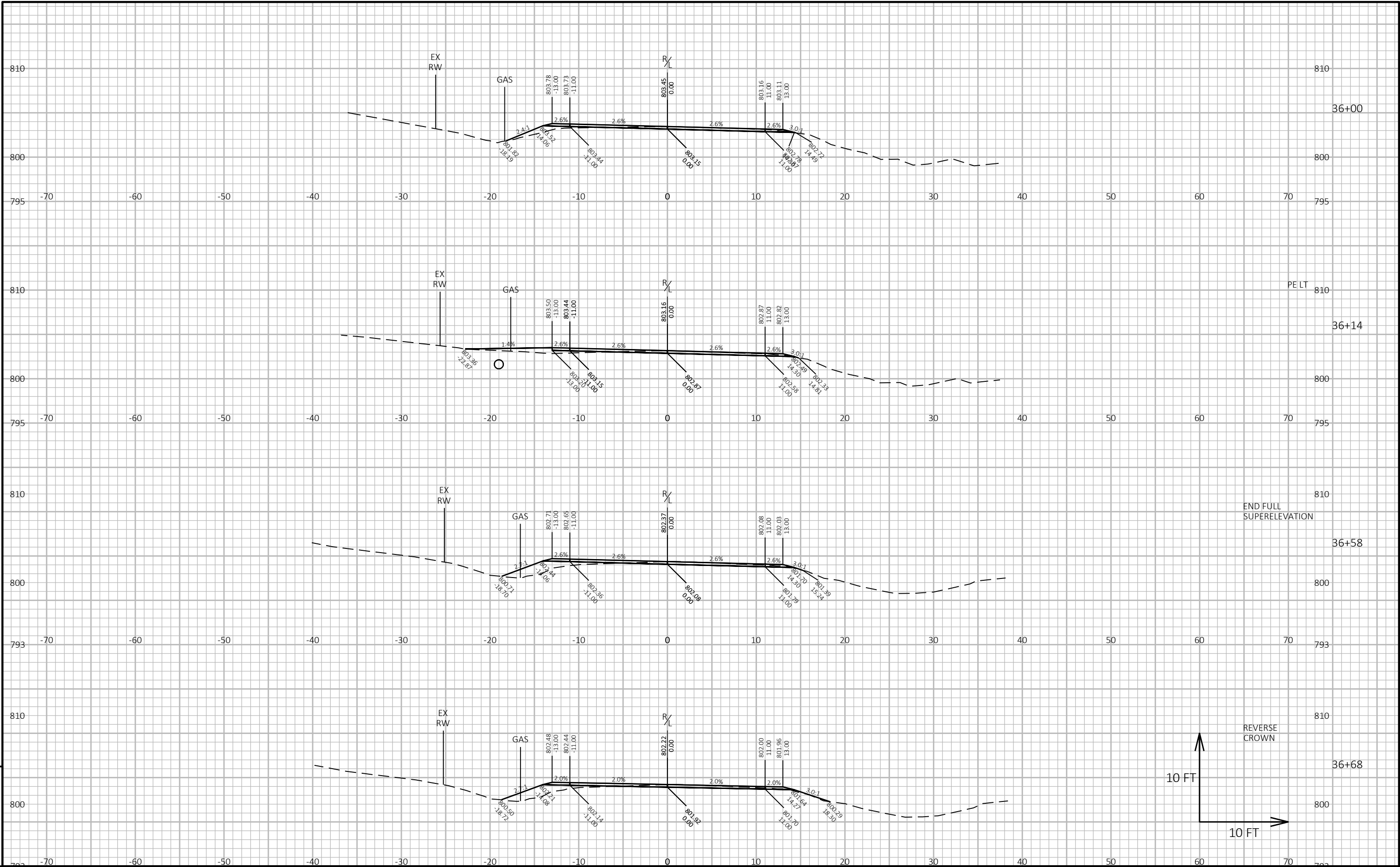


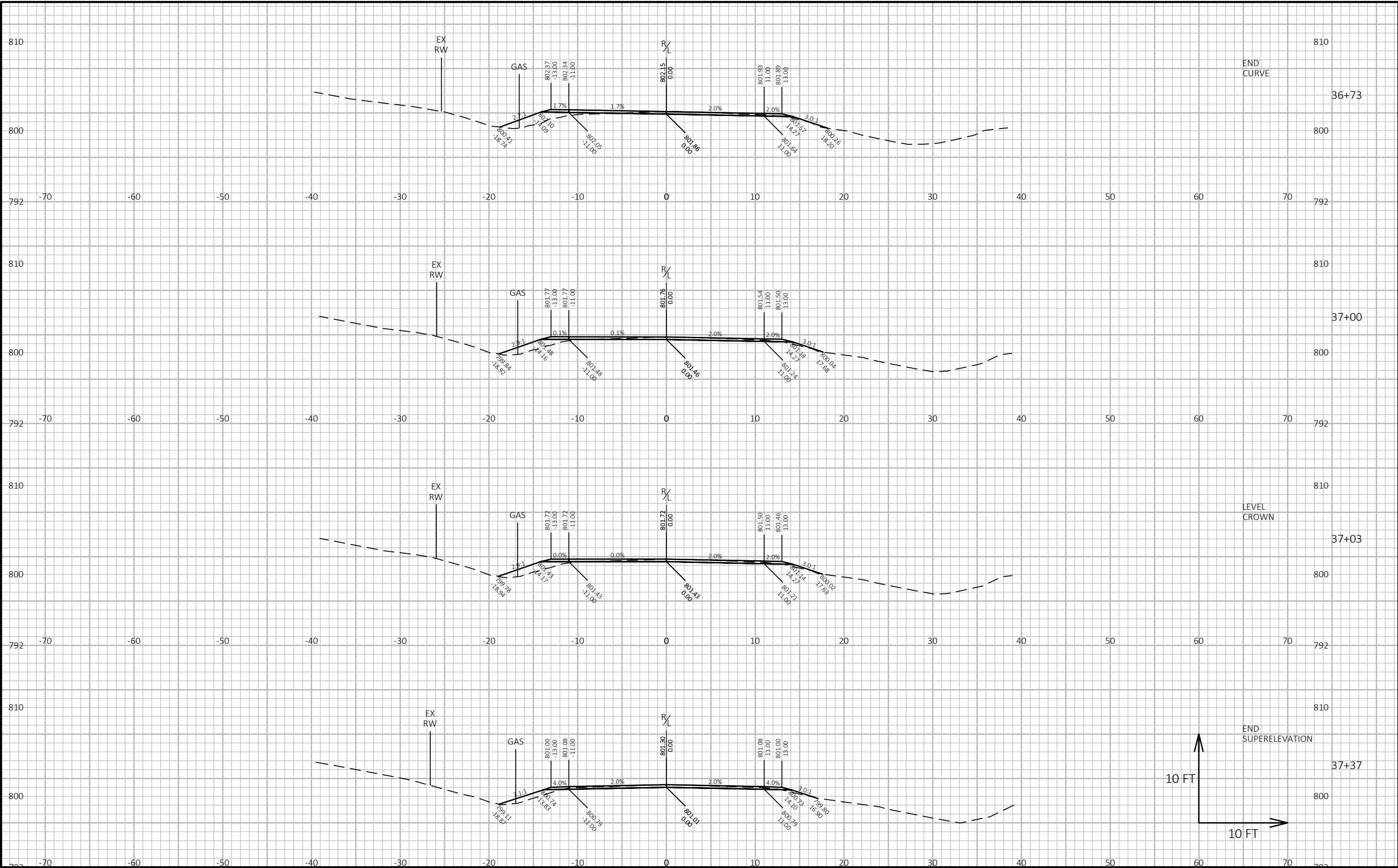


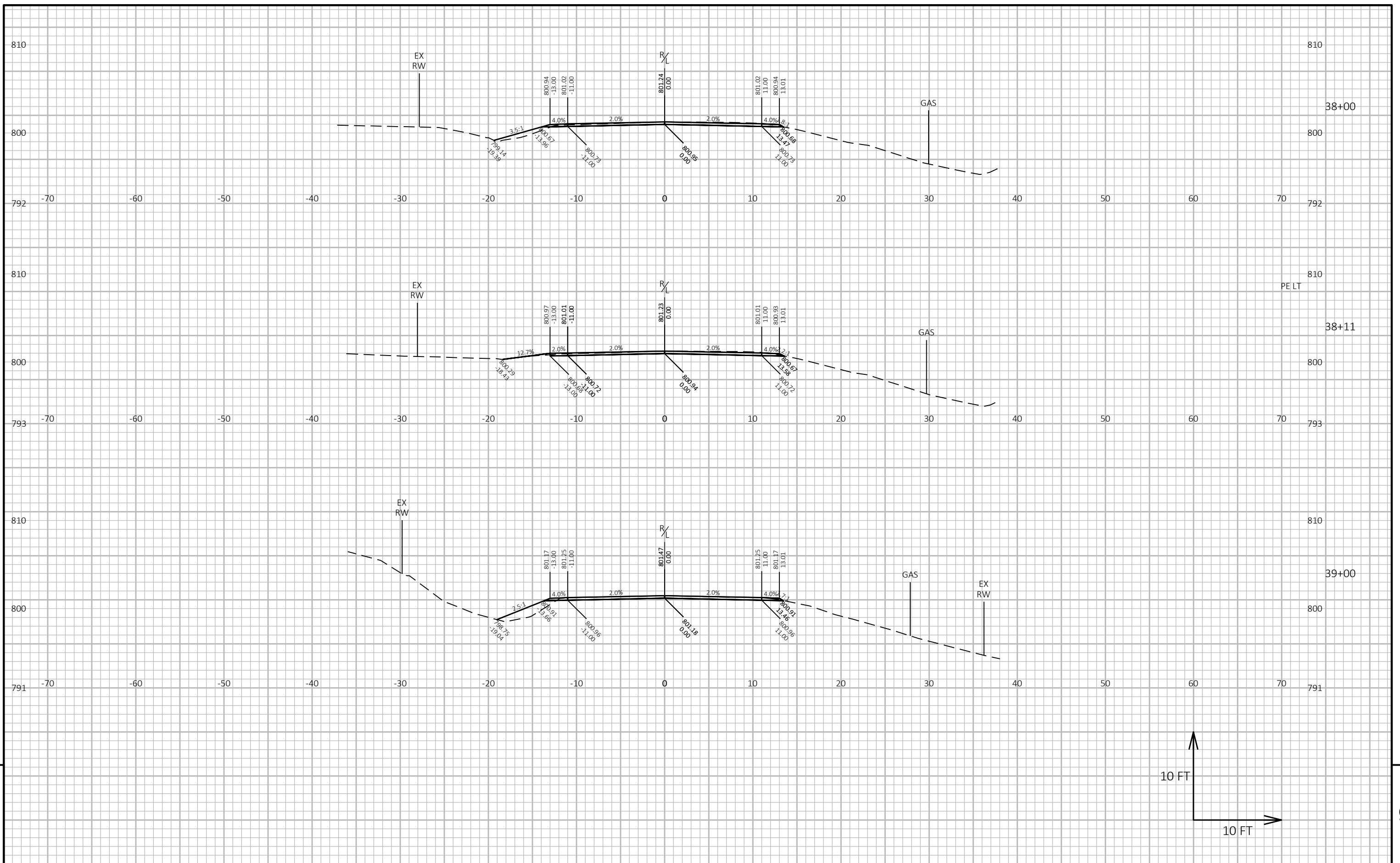


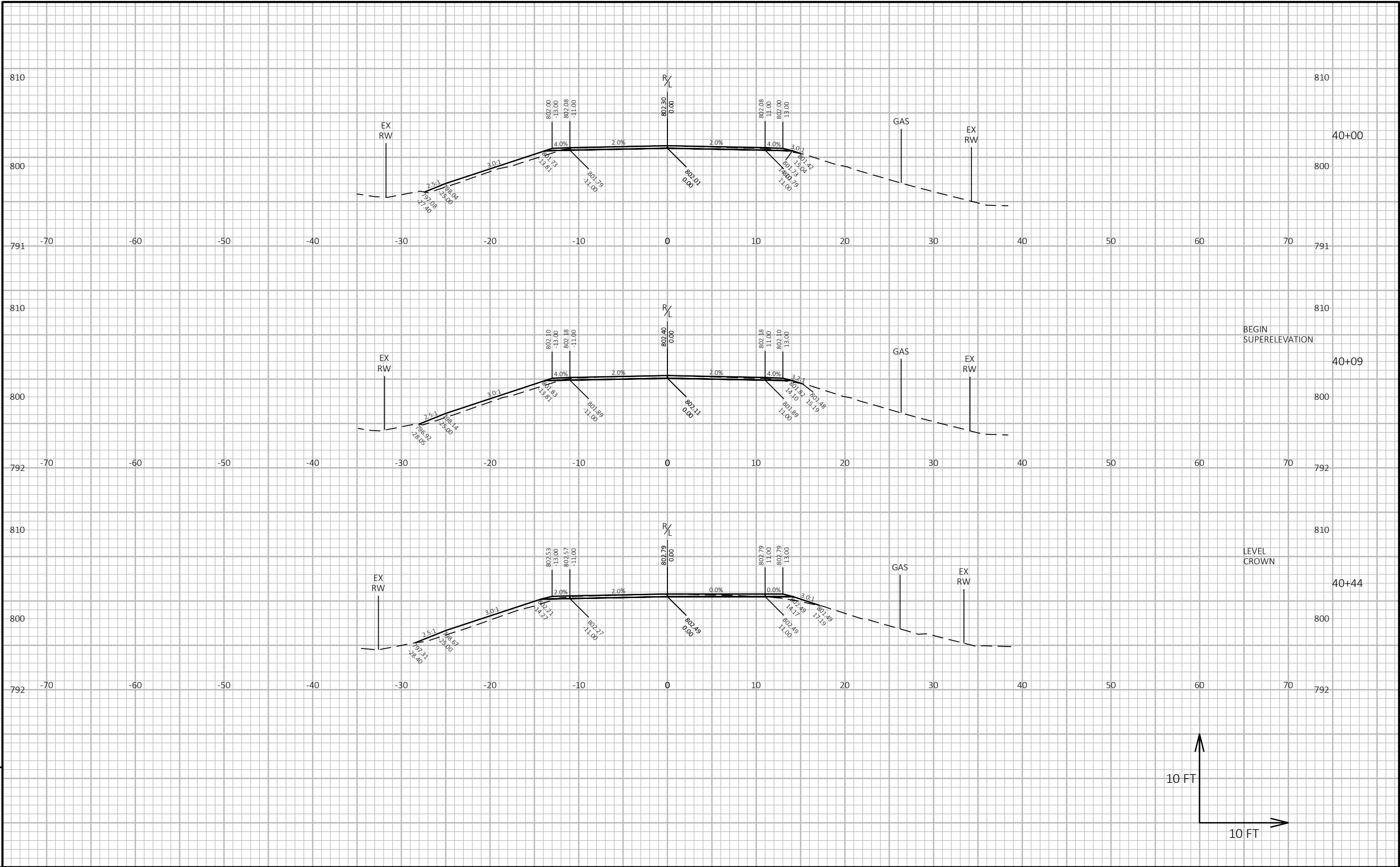


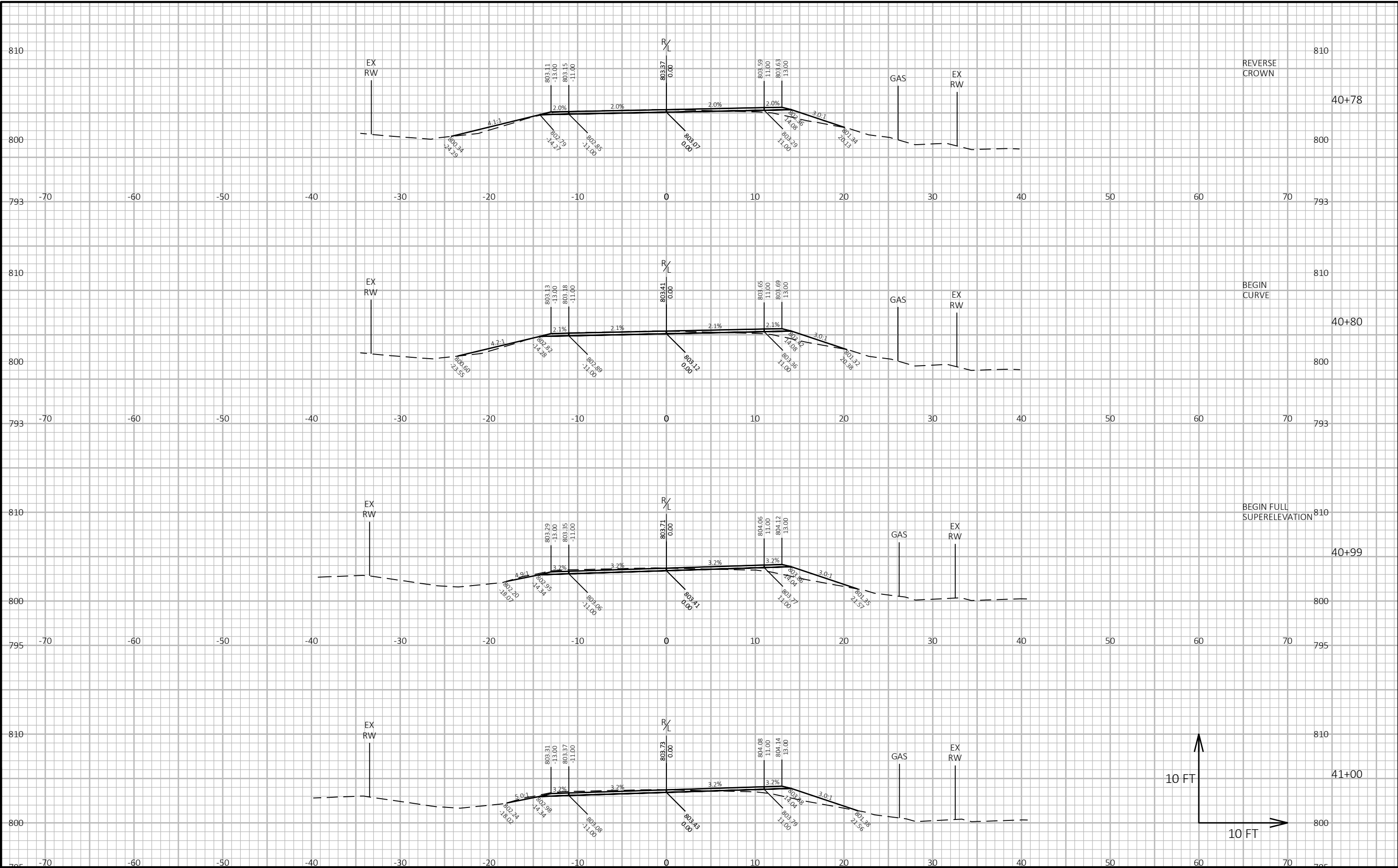


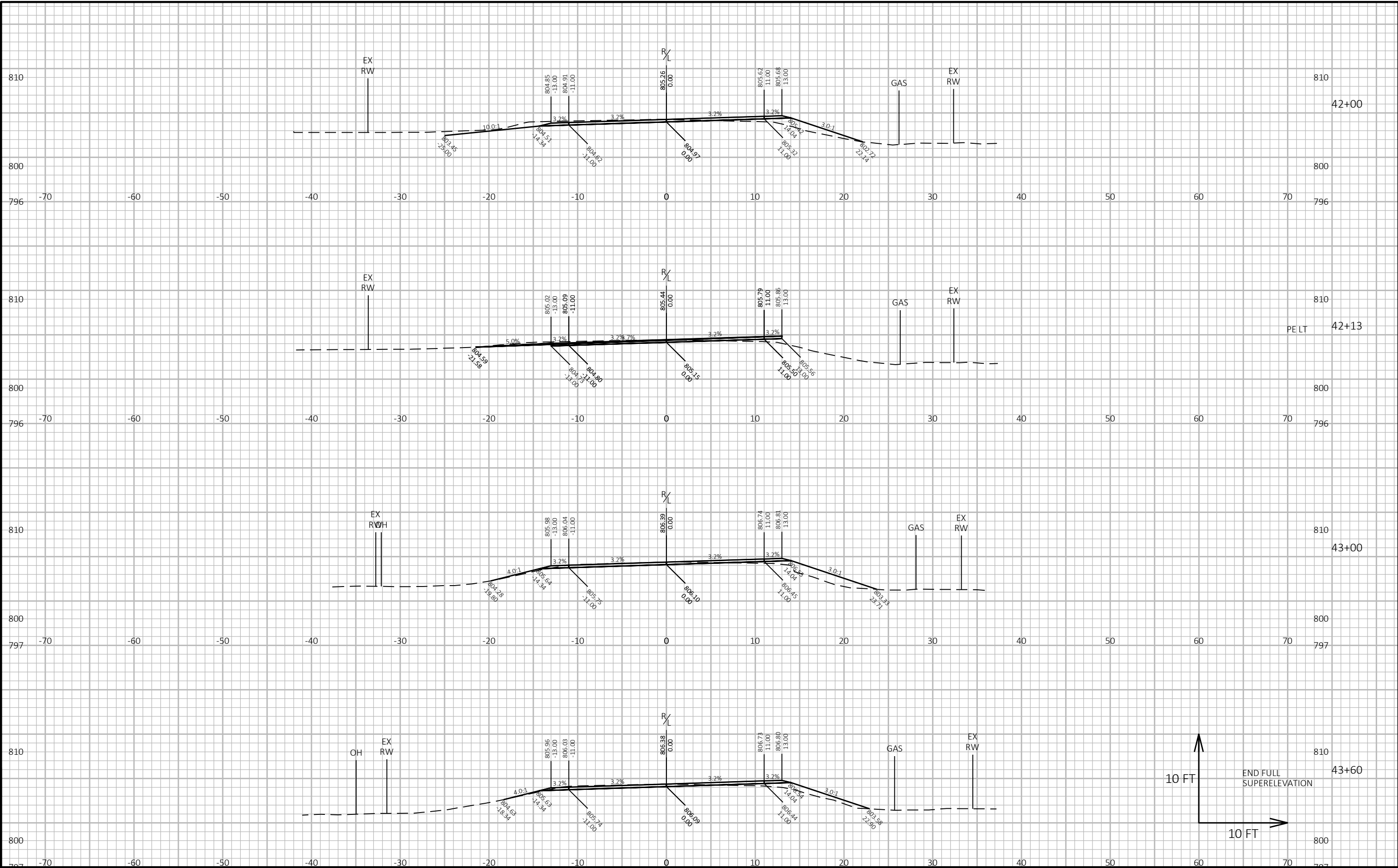


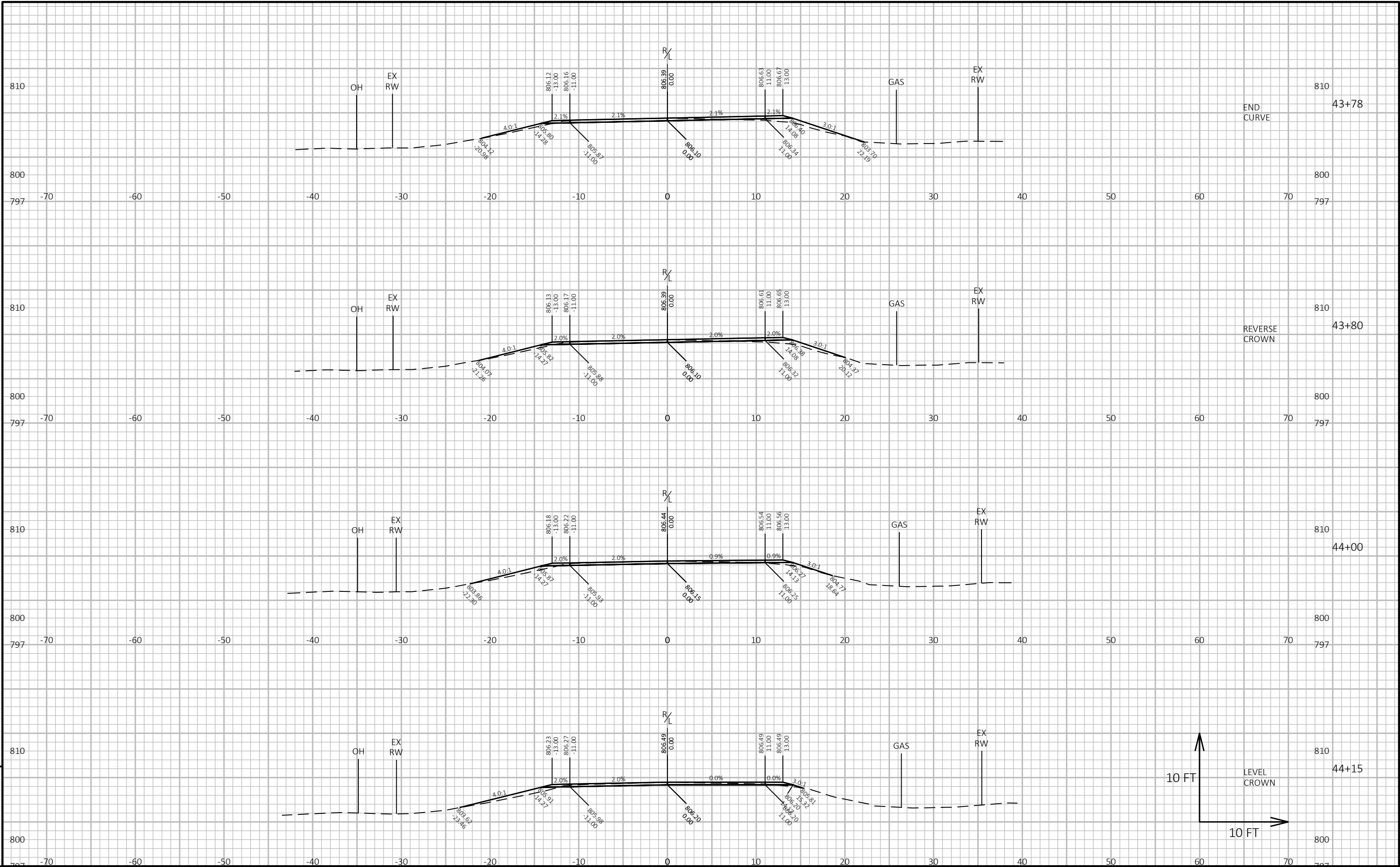


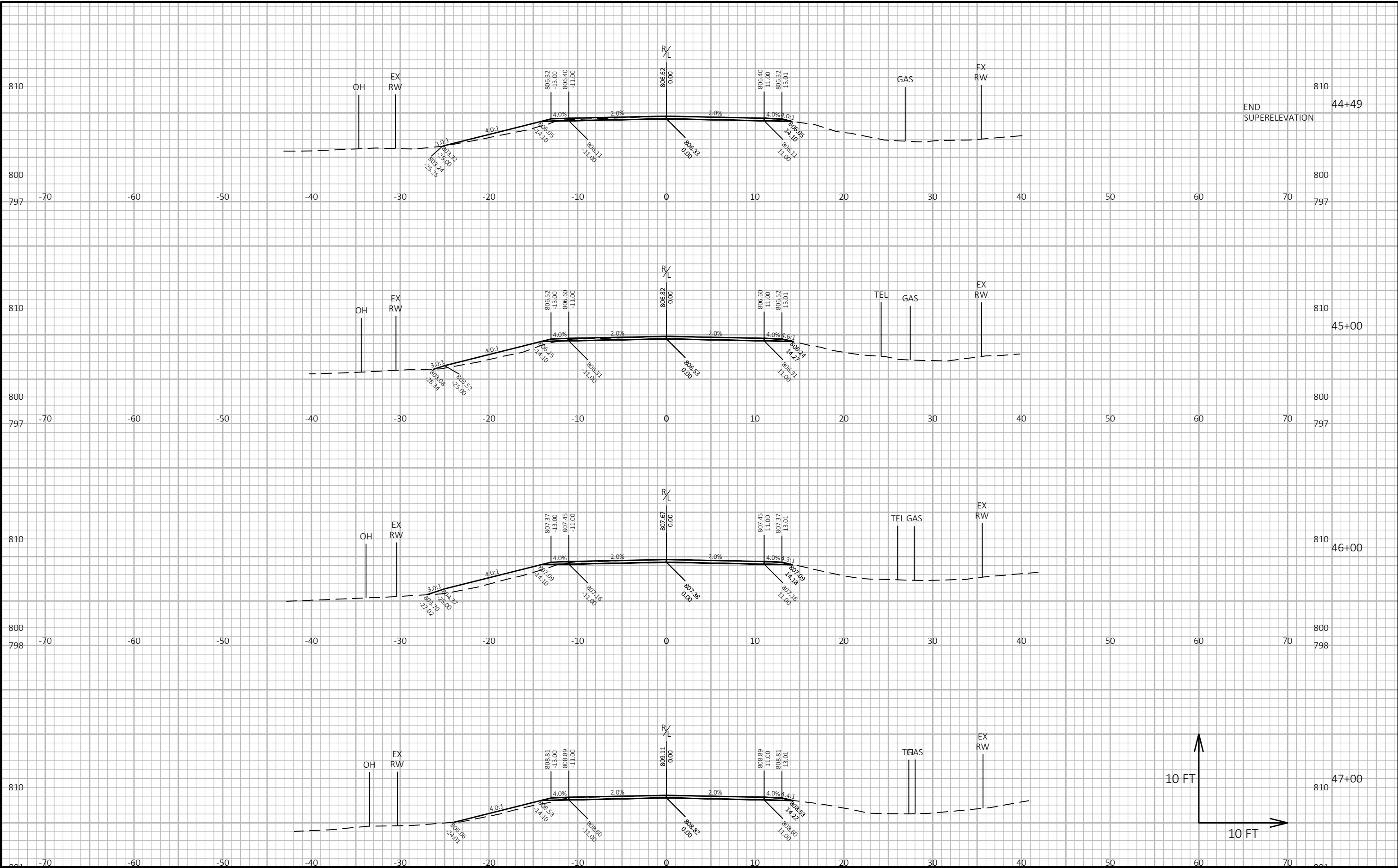


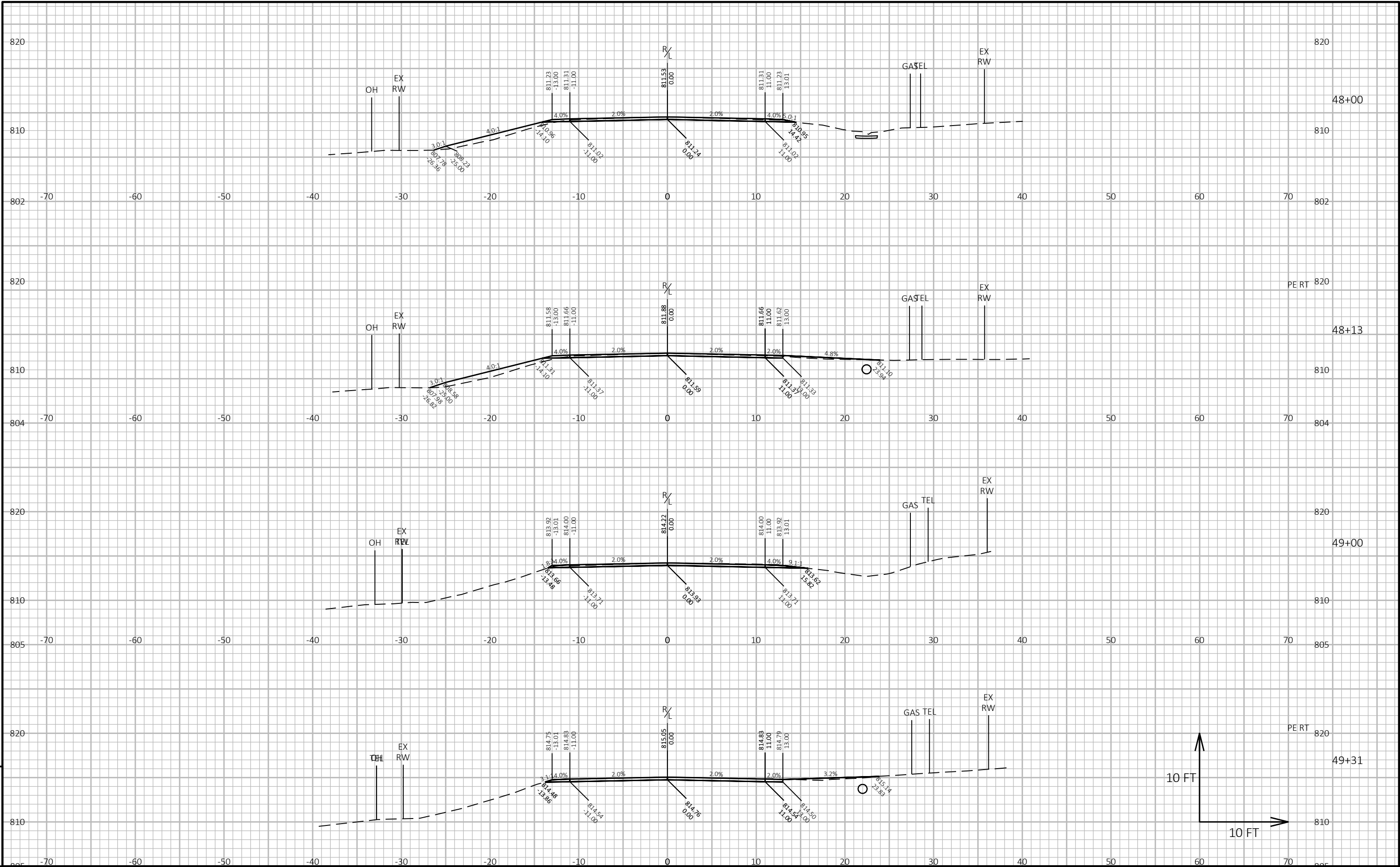


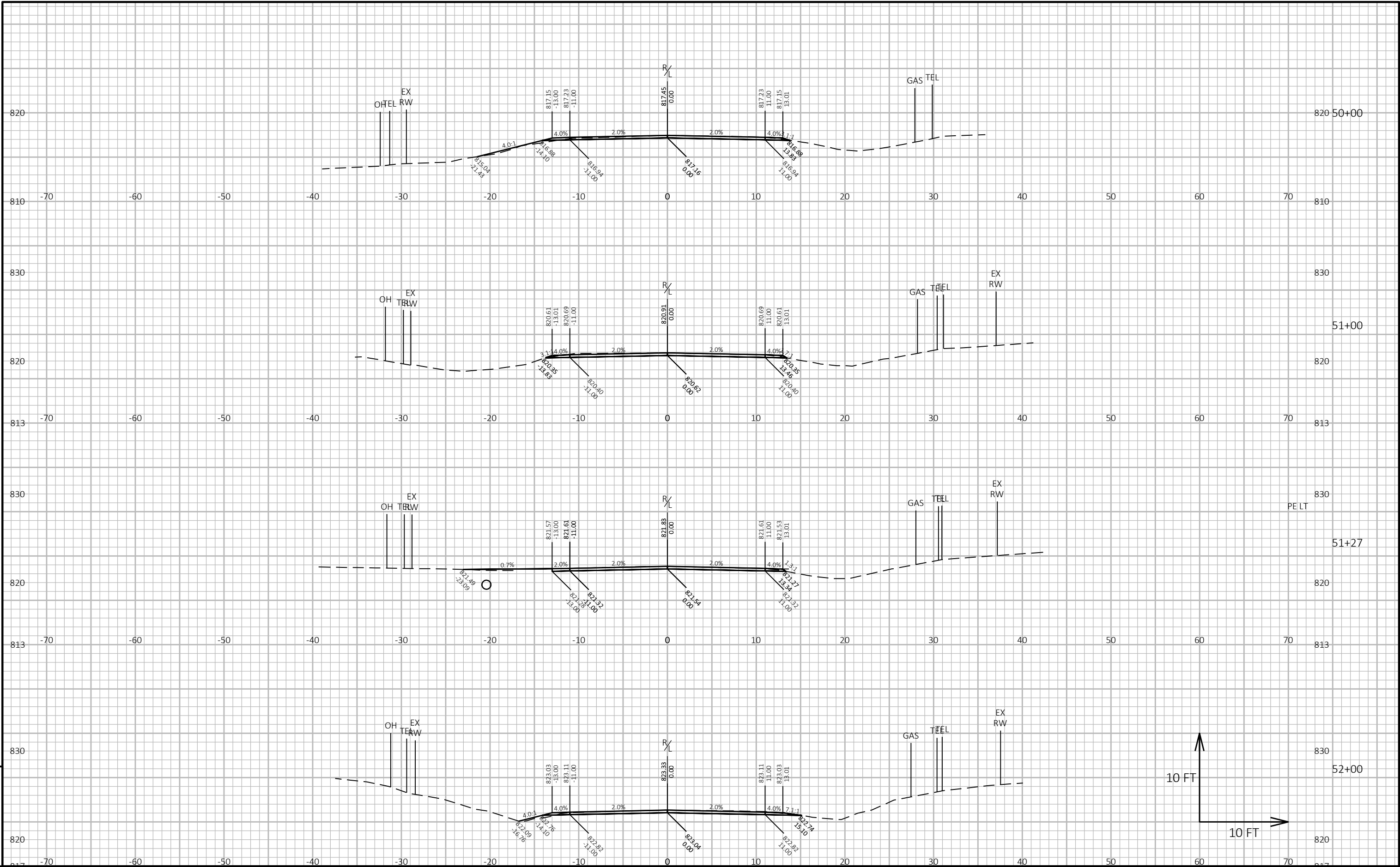


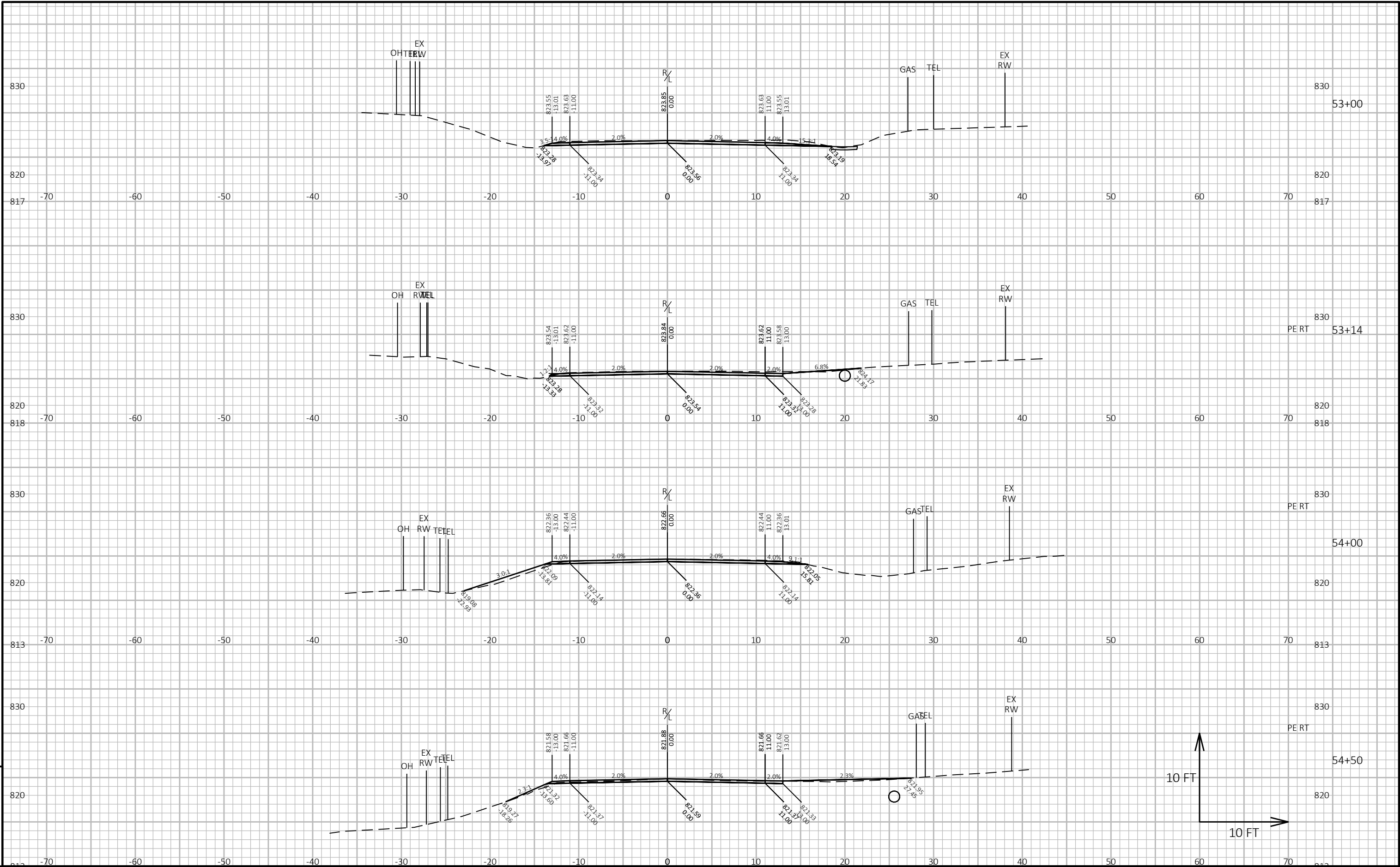


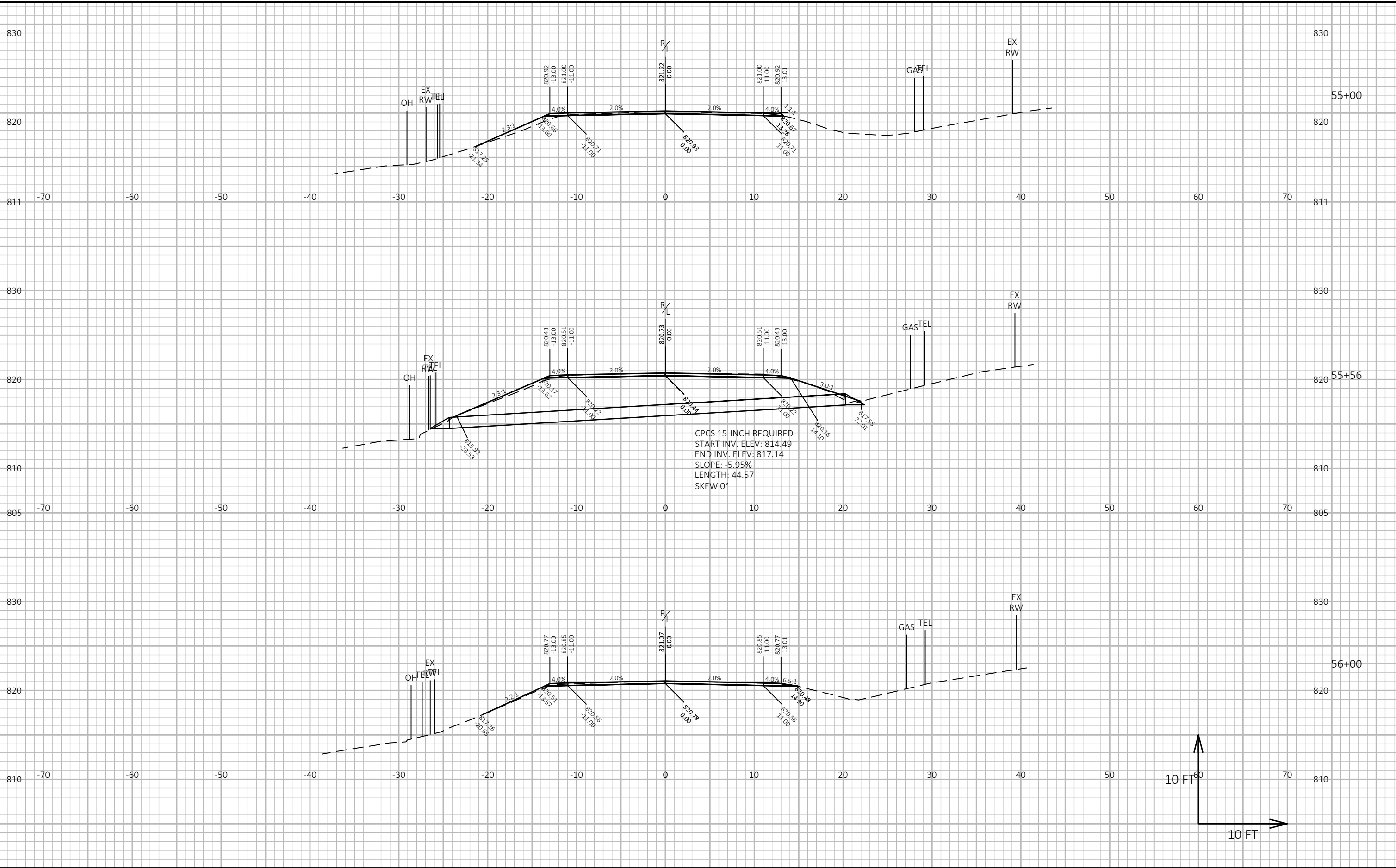




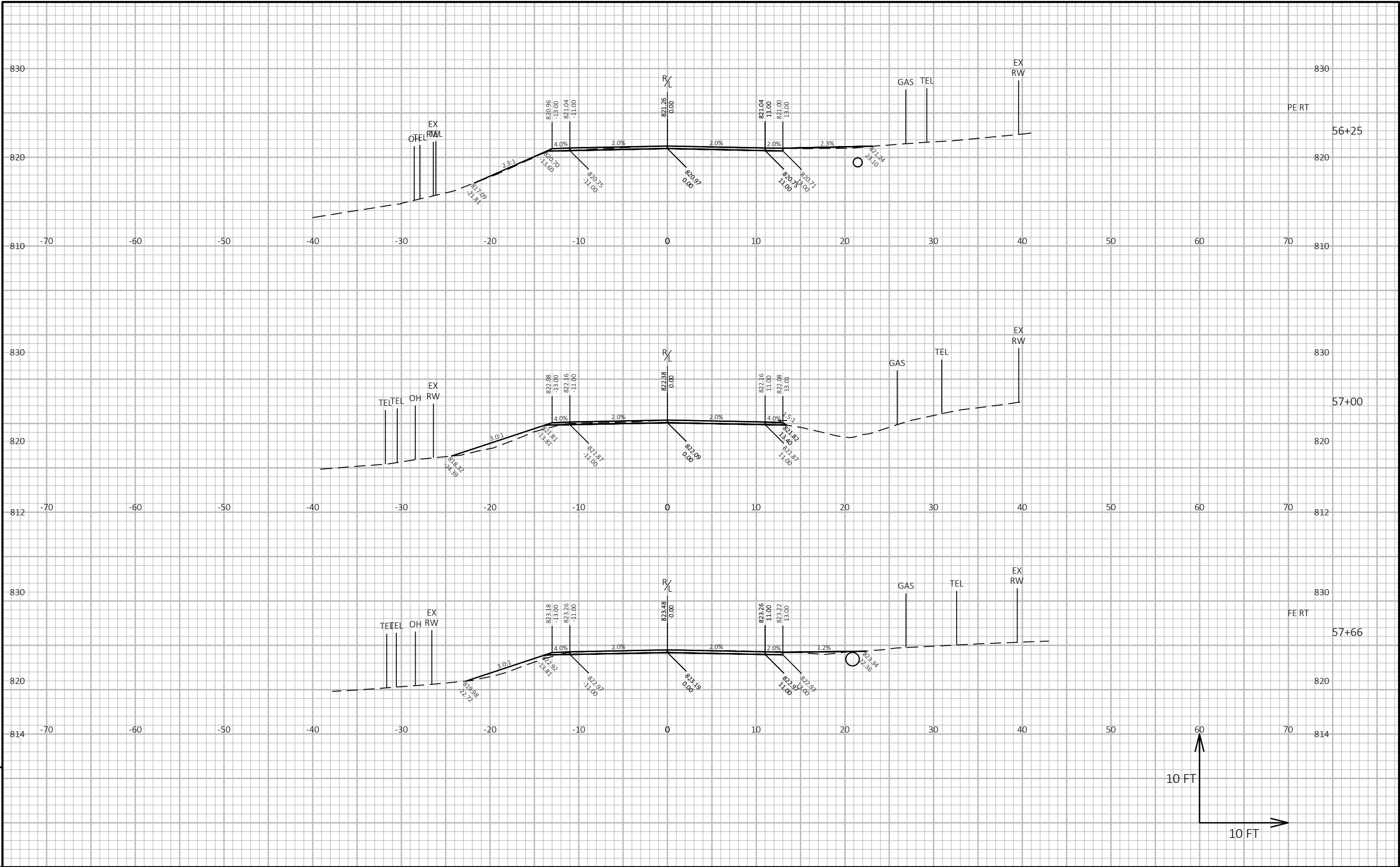




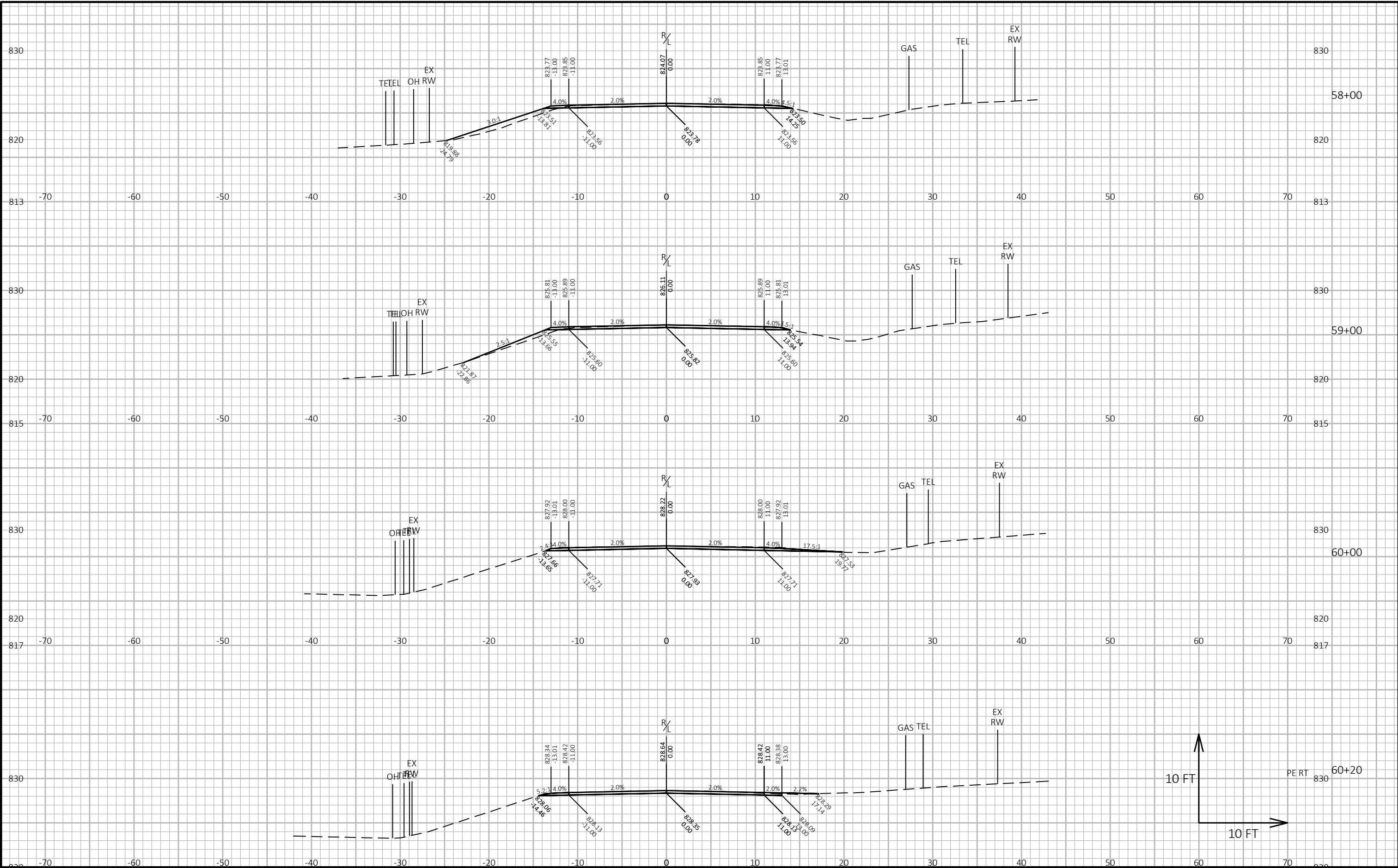


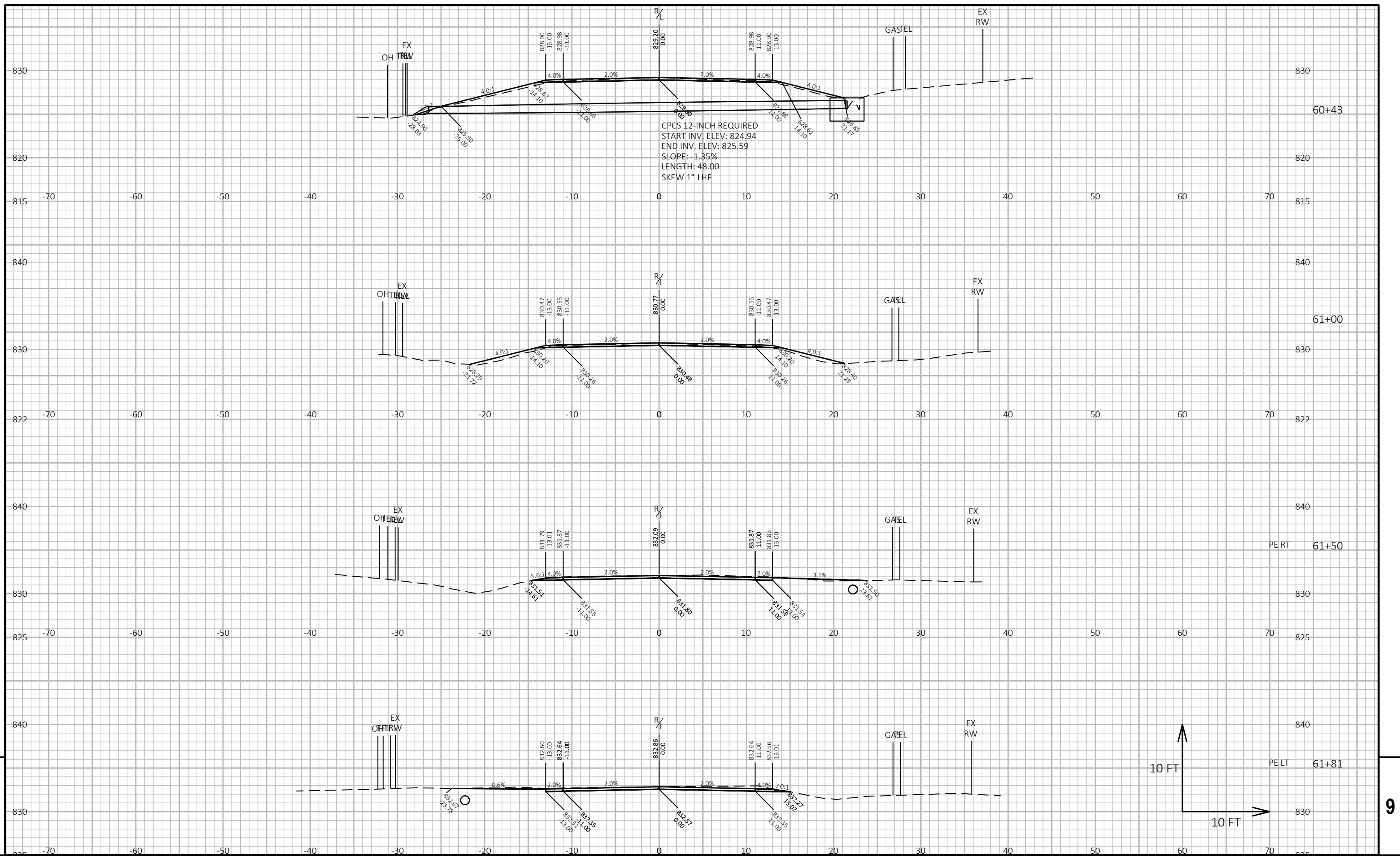


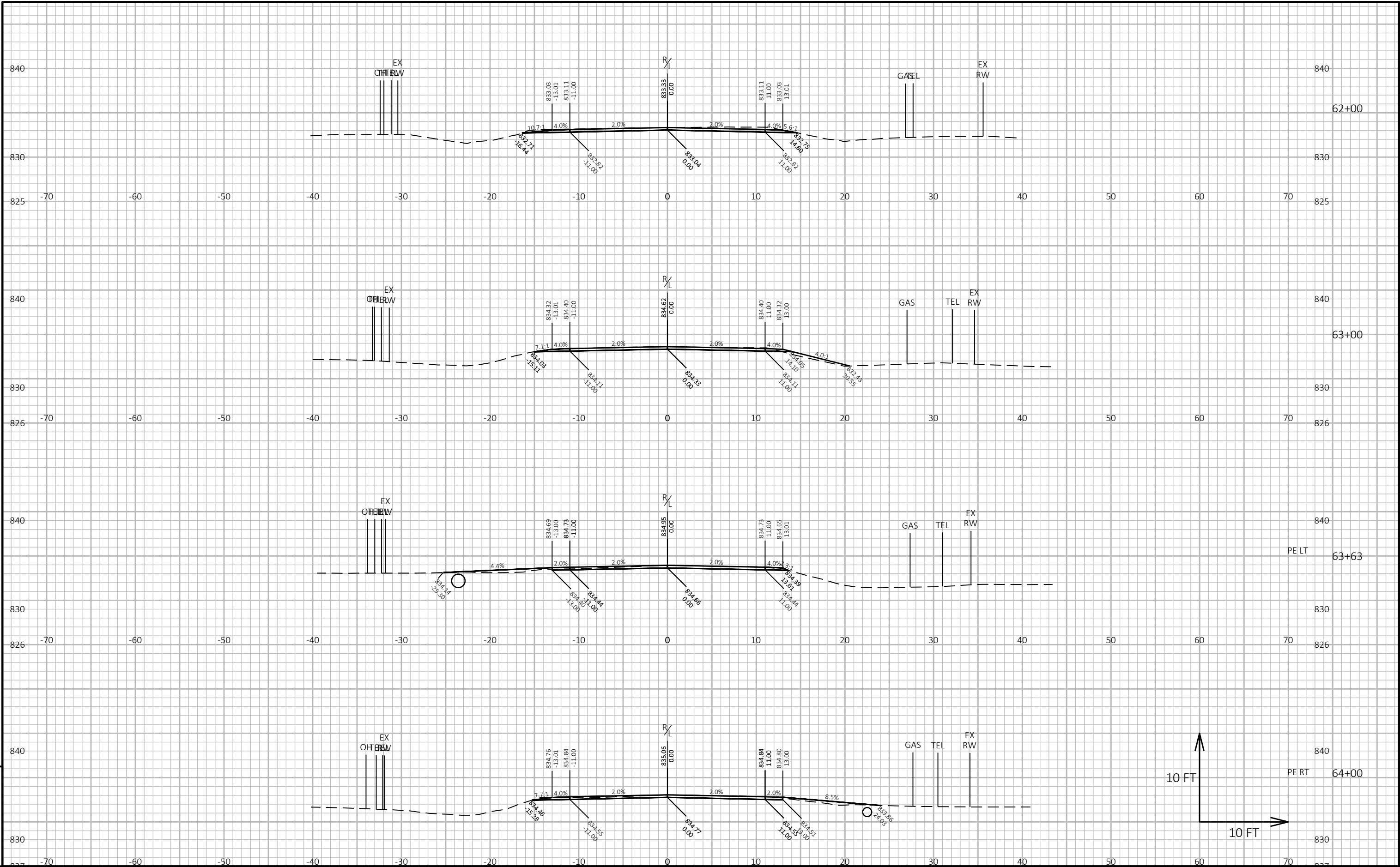
PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	CROSS SECTIONS	SHEET	E
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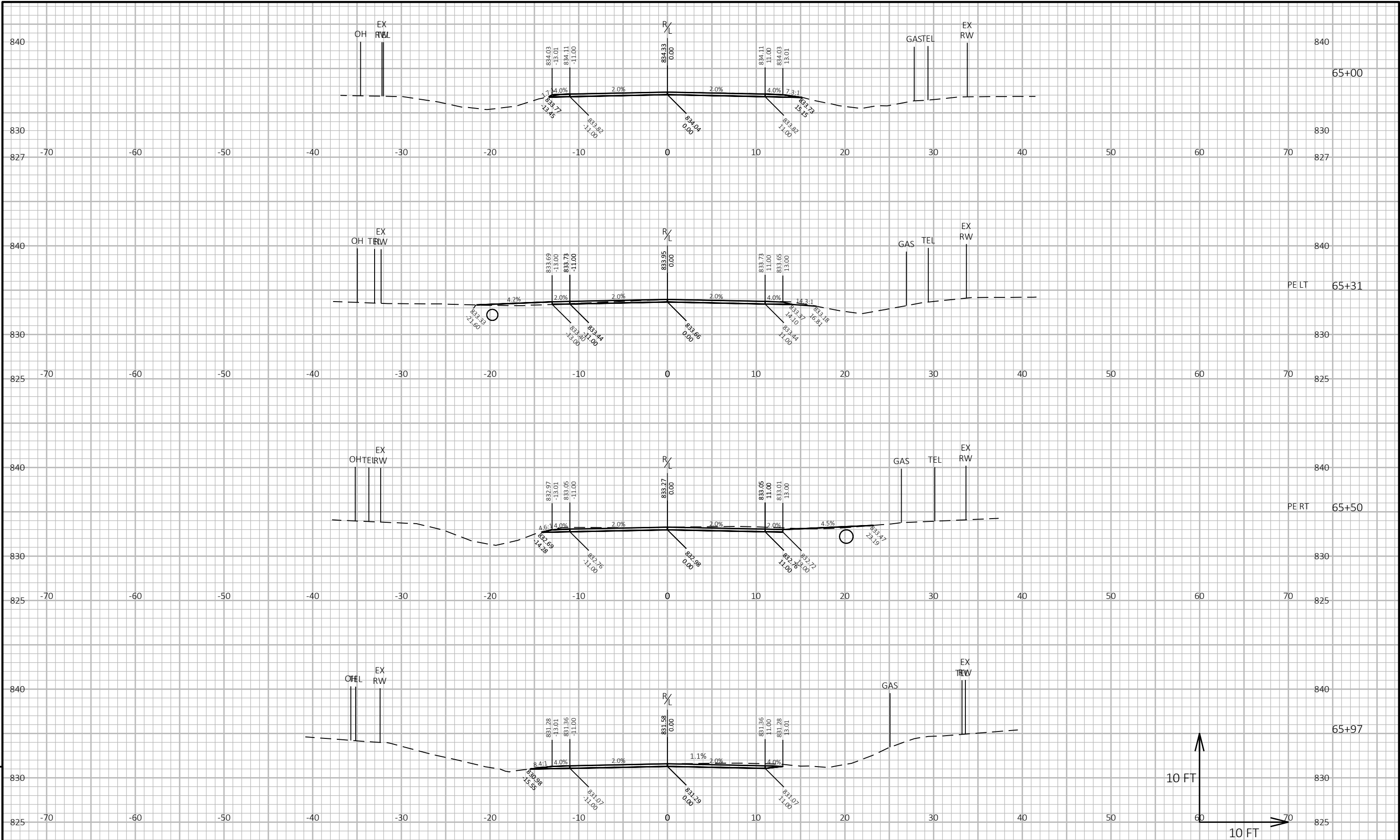


PROJECT NO: 3833-05-70	HWY: KETTERHAGEN RD	COUNTY: RACINE	CROSS SECTIONS	SHEET	E
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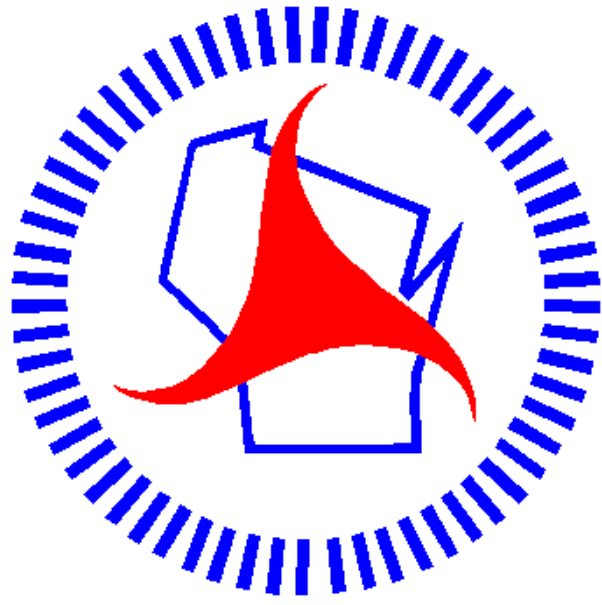








Notes



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