

SUP
PROJECT ID: 8725-02-70
WITH: N/A
COUNTY: BAYFIELD & ASHLAND

FEBRUARY 2021

ORDER OF SHEETS

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

TOTAL SHEETS = 152

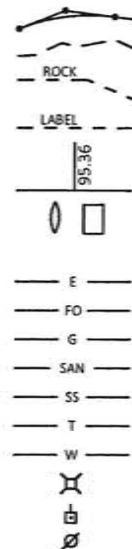


DESIGN DESIGNATION	8725-02-00
A.A.D.T.	2026 = 1240
A.A.D.T.	2046 = 1470
D.H.V.	= 125
D.D.	= 50/50
T.	= 15.85%
DESIGN SPEED	= 55 MPH
ESALS	= 390,000

CONVENTIONAL SYMBOLS

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

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



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

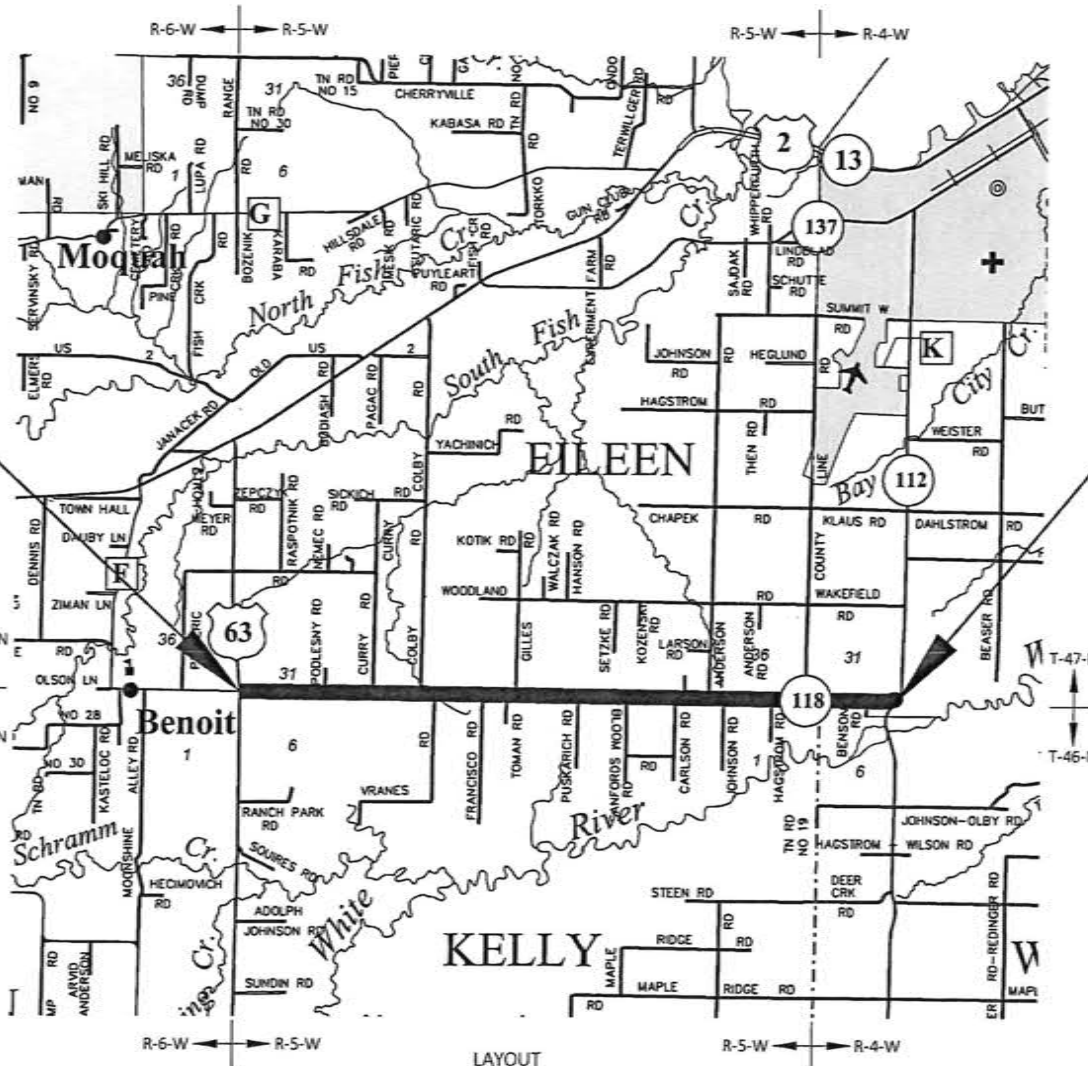
BENOIT - STH 112

USH 63 TO STH 112

STH 118

BAYFIELD & ASHLAND COUNTIES

STATE PROJECT NUMBER
8725-02-70



SCALE 0 2 MI
TOTAL NET LENGTH OF CENTERLINE = 6.851 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BAYFIELD COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8725-02-70	WISC 2021191	1

ORIGINAL PLANS PREPARED BY

QUEST

Civil Engineers, LLC



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	QUEST CIVIL ENGINEERS
Designer	QUEST CIVIL ENGINEERS
Project Manager	JEFF SAXBY
Regional Examiner	TOU YANG
Regional Supervisor	DAVID KOEPP

APPROVED FOR THE DEPARTMENT Jeffrey G. Olson
DATE: 11/4/2020 10:26
11:40:31 -05'00'

E

GENERAL NOTES

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL FROM THE ENGINEER.

THE ALIGNMENT IN THIS PLAN IS BASED ON THE EXISTING AS BUILT. THE ACTUAL ROADWAY CENTERLINE MAY DEVIATE FROM THE PLAN. NEW HMA PAVEMENT SHALL FOLLOW EXISTING ROADWAY CENTERLINE. ANY ADJUSTMENTS SHALL BE INCIDENTAL TO OTHER ITEMS IN THE CONTRACT.

EXISTING CURVE SUPER ELEVATION AND TRANSITIONS SHALL BE RESTORED IN-KIND.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITIES SHOWN ON THE PLAN ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

WHEN THE QUANTITY OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON THE DEPTH OR THICKNESS SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL DEPTH WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL BY THE ENGINEER IN THE FIELD.

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF ALL LANDMARKS, BENCHMARKS, AND OTHER CONTROL POINTS IN ALL AREAS WHERE SUCH LANDMARKS, BENCHMARKS, OR OTHER CONTROL POINTS MAY EXIST.

THE CONTRACTOR SHALL PROTECT ALL SURVEY MARKERS. SURVEY MARKERS SHALL NOT BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND RESTORATION (INCLUDING, BUT NOT LIMITED TO, SEED, FERTILIZER, MULCH, AND EROSION MAT) OF ANY DISTURBED AREAS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AS DETERMINED BY THE ENGINEER.

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

EXACT LOCATION AND WIDTH OF ANY DRIVEWAY ENTRANCES TO BE DETERMINED BY THE ENGINEER IN THE FIELD

HMA PAVEMENT LAYER THICKNESS

TOTAL LAYER THICKNESS	LAYERS
3 ¾" MAINLINE	1 ¾" UPPER LAYER 4 MT 58-34 V 2" LOWER LAYER 4 MT 58-34 V

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
DRAINAGE DETAILS
EROSION CONTROL
SIGNING AND PAVEMENT MARKING
TRAFFIC CONTROL AND DETOUR

ORDER OF SECTION 9 SHEETS

EARTHWORK SUMMARY
CROSS SECTIONS – CULVERT PIPES
CROSS SECTIONS – DITCH EXCAVATION-WEST
CROSS SECTIONS – DITCH EXCAVATION-EAST

LIST OF STANDARD ABBREVIATIONS

Δ	CENTRAL ANGLE OR DELTA	LB	POUND
AADT	ANNUAL AVERAGE DAILY TRAFFIC	LC	LONG CHORD OF CURVE
AC	ASPHALT CEMENT	LIN FT and LF	LINEAR FOOT
ADT	AVERAGE DAILY TRAFFIC	LS	LUMP SUM
AECPRC	APRON ENDWALL FOR CULV PIPE REIN CONC	LT	LEFT
AEW	APRON ENDWALL	M	MARSH
AGG	AGGREGATE	MAINT	MAINTENANCE
ASPH	ASPHALTIC	MATL	MATERIAL
AVG	AVERAGE	MAX	MAXIMUM
BAD	BASE AGGREGATE DENSE	MIN	MINIMUM
BM	BENCH MARK	N	NORTH
C&G	CURB AND GUTTER	NB	NORTHBOUND
CABC	CRUSHED AGGREGATE BASE COURSE	NC	NORMAL CROWN
CE	COMMERCIAL ENTRANCE	NO	NUMBER
CL or C/L	CENTER LINE	NW or NW	NORMAL WATER
CO	COUNTY	OD	OUTSIDE DIAMETER
CONC	CONCRETE	PAVT	PAVEMENT
CP	CULVERT PIPE	PC	POINT OF CURVATURE
CPCP	CULVERT PIPE CORRUGATED POLYETHYLENE	PD or PED	PEDISTAL
CPCS	CULVERT PIPE CORRUGATED STEEL	PE	PRIVATE ENTRANCE
CPRC	CULVERT PIPE REINFORCED CONCRETE	PI	POINT OF INTERSECTION
CPRCHE	CULV PIPE REIN CONC HORIZONTAL ELLIPTICAL	PL	PROPERTY LINE
CTH	COUNTY TRUNK HIGHWAY	PP	POWER POLE
CULV	CULVERT	PROJ	PROJECT
CWT	HUNDREDWEIGHT	PROP	PROPOSED
CY or CUYD	CUBIC YARD	PT	POINT OF TANGENCY
D	DEGREE OF CURVE	R	RADIUS
DG	DITCH GRADE	R/L	REFERENCE LINE
DHV	DESIGN HOUR VOLUME	R/W	RIGHT-OF-WAY
DIA	DIAMETER	RD	ROAD
DISCH	DISCHARGE	RR	RAILROAD
DIST	DISTRICT	RT	RIGHT
DWY	DRIVEWAY	SB	SOUTH BOUND
EAT	ENERGY ABSORBING TERMINAL	SDD	STANDARD DETAIL DRAWINGS
EB	EASTBOUND	SE	SUPERELEVATION
EBS	EXCAVATING BELOW SUBGRADE	SF or SQ FT	SQUARE FEET
EL or ELEV	ELEVATION	SHLDR	SHOULDER
ENT	ENTRANCE	SPECS	SPECIFICATIONS
EOP	EDGE OF PAVEMENT	STA	STATION
ESALS	EQUIVALENT SINGLE AXLE LOADS	STH	STATE TRUNK HIGHWAYS
EW	ENDWALL	SY or SQ YD	SQUARE YARD
EXC	EXCAVATION	T or TAN	TANGENT
EXIST	EXISTING	T	TRUCKS (PERCENT OF)
FE	FIELD ENTRANCE	T or TN	TOWN
FERT	FERTILIZE	TEL	TELEPHONE
FG	FINISHED GRADE	TYP	TYPICAL
FL or F/L	FLOW LINE	V	VELOCITY OR DESIGN SPEED
FO	FIBEROPTIC	VAR	VARIABLE
FP	FENCE POST	VC	VERTICAL CURVE
FT	FOOT	VPC	VERTICAL POINT OF CURVE
GAL	GALLON	VPI	VERTICAL POINT OF INTERSECTION
HMA	HOT MIX ASPHALT	VPT	VERTICAL POINT OF TANGENCY
ID	INSIDE DIAMETER	W	WATER
INV	INVERT	WB	WESTBOUND
IP	IRON PIPE OR PIN	X	EAST GRID COORDINATE
JCT	JUNCTION	Y	NORTH GRID COORDINATE
L	LENGTH		

UTILITIES

COMMUNICATIONS LINE

NORVADO– COMMUNICATIONS LINE
GUY FOLSOM
P.O. BOX 67
CABLE, WI 54821
715-798-7123 (OFFICE)
715-580-8123 (MOBILE)
gfolson@norvado.com

CENTURYLINK– COMMUNICATIONS LINE

BEN BAKER
425 ELLINGSON AVE
HAWKINS, WI 54530
715-585-6303 (OFFICE)
715-567-0725 (MOBILE)
Ben.baker@centurylink.com

ELECTRICITY -DISTRIBUTION

XCEL ENERGY- ELECTRICITY
MURRAY SMERER
2400 FARM RD
ASHLAND, WI 54806
715-682-6928 (OFFICE)
715-209-3071 (MOBILE)
murray.j.smerer@xcelenergy.com



RUNOFF COEFFICENT TABLE

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

TOTAL PROJECT AREA =27.5 ac
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES=2.4ac

COMMUNICATIONS

WISDOT-NW REGION

ATTN: JEFF SAXBY-PROJECT MANAGER
1701 N. 4TH STREET
SUPERIOR, WI 54880
PHONE: 920-585-9079
EMAIL: jsaxby@sehinc.com

ASHLAND COUNTY HIGHWAY DEPARTMENT

ATTN: MATT ERICKSON- HIGHWAY COMMISSIONER
PO BOX 25
39181 STH 13
HIGHBRIDGE, WI 54846
PHONE: 715-274-3662
EMAIL: matt.erickson@co.ashland.wi.us

BAYFIELD COUNTY HIGHWAY DEPARTMENT

ATTN: PAUL JOHANIK– COUNTY COMMISSIONER
P.O. BOX 428
WASHBURN, WI 54891
TELEPHONE: 715-373-6115
E-MAIL: pjohanik@bayfieldcounty.org

ASHLAND COUNTY SHERIFF'S OFFICE

220 6TH STREET EAST
ASHLAND, WI 54806
PHONE: 715-685-7640
EMERGENCY: 911

BAYFIELD COUNTY SHERIFF'S OFFICE

P.O. BOX 115
WASHBURN, WI 54891
PHONE: 715-373-6300
EMERGENCY: 911

WISCONSIN STATE PATROL SPOONER POST

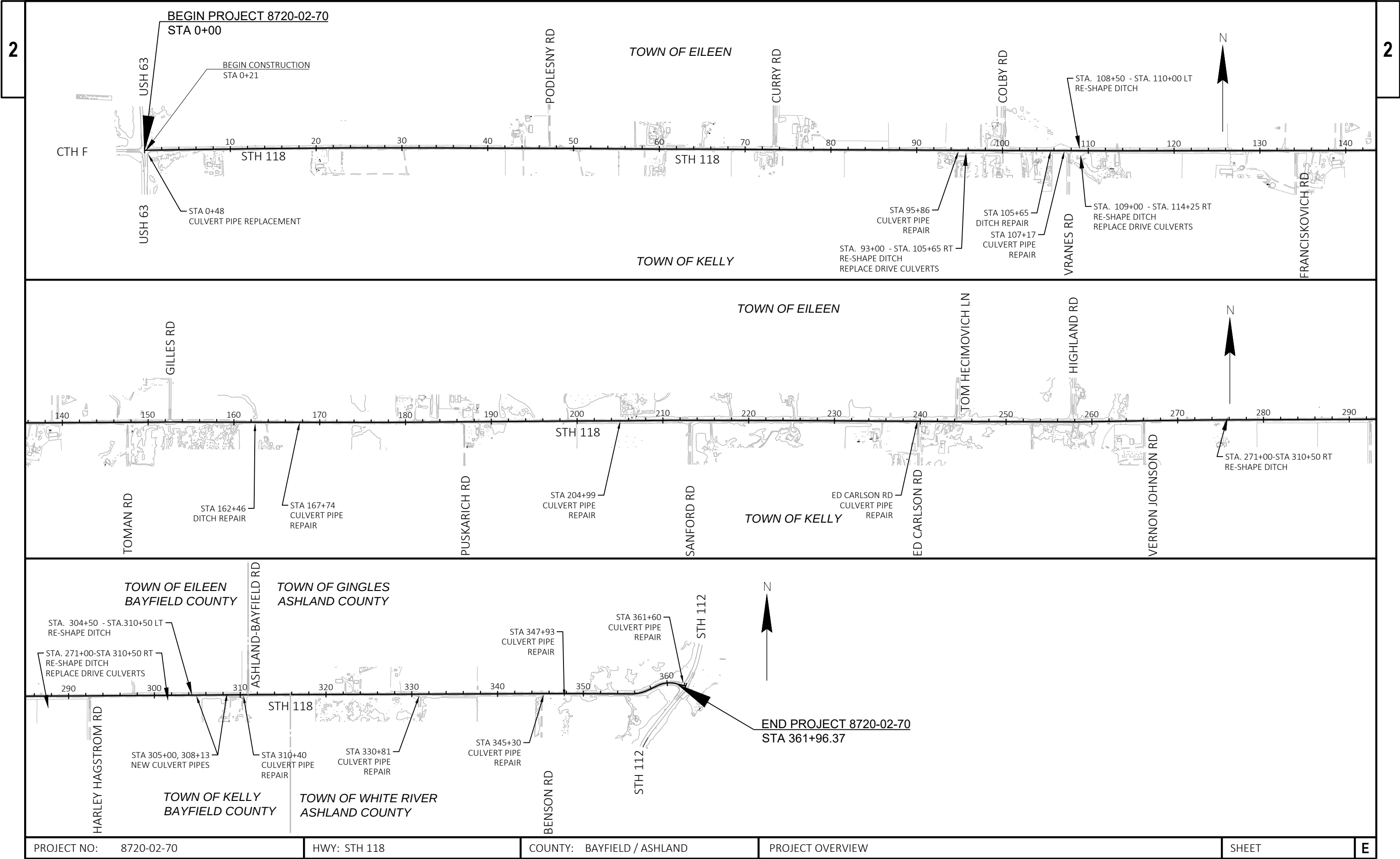
W7102 GREEN VALLEY ROAD
SPOONER, WI 54801
PHONE: 715-635-2141
EMERGENCY: 715-635-7725

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
NORTHERN REGION

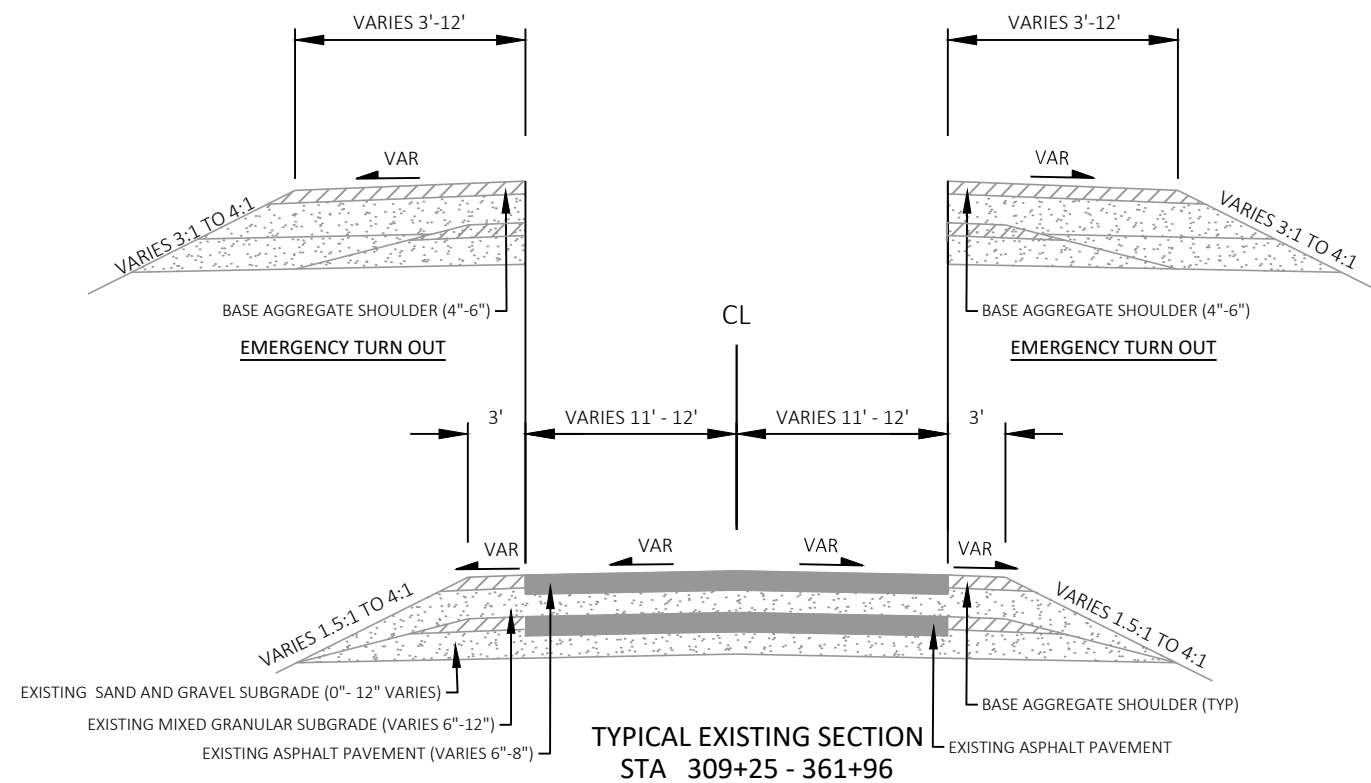
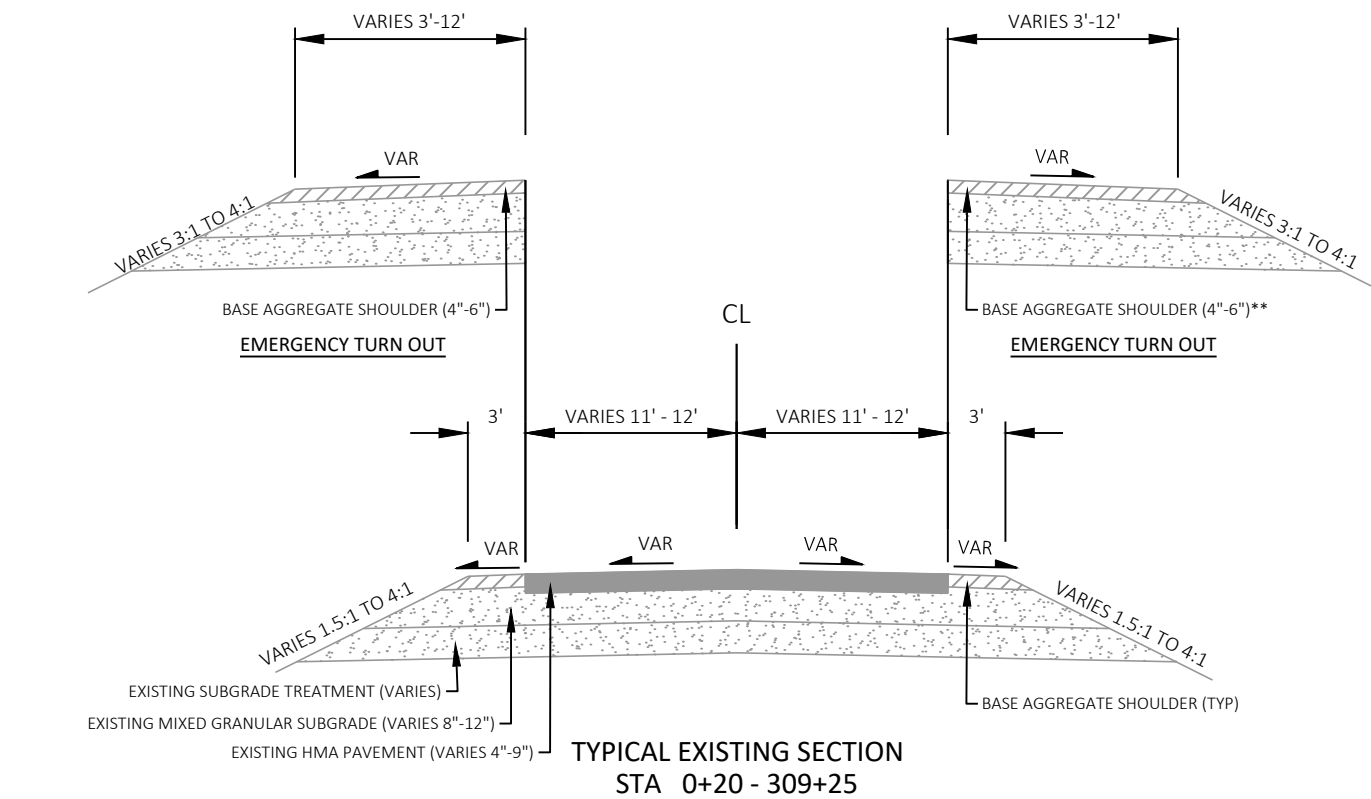
SHAWN HASELEU
DEPARTMENT OF NATURAL RESOURCES
810 W MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715-635-4228
shawn.haseleu@wi.gov

STH 118 BORING INFORMATION

BORING NO.	STATION	OFFSET FROM C/L	PAVEMENT THICKNESS (INCHES)	BASE COURSE DEPTH (INCHES)	SUBGRADE MATERIAL
B-1	10+00	7' LT	8.5	8.5	Silty Clay
B-2	20+00	4' RT	6.25	11.75	Silt
B-3	30+00	6' LT	7.5	10.5	Silt
B-4	40+00	6' RT	6.5	9.5	Silt
B-5	50+00	6' LT	5	11	Silt
B-6	60+00	6' RT	6.5	9.5	Silt
B-7	70+00	6' LT	6	10	Silt
B-8	80+00	6' RT	6	10	Silt
B-9	90+00	6' LT	5.5	11.5	Silt
B-10	100+00	7' RT	5.5	10.5	Silty Sand
B-11	110+00	6' RT	6	8	Sandy Silt
B-12	120+00	6' RT	5	11	Sandy Silt
B-13	130+00	5' LT	4	10	Sandy Silt
B-14	140+00	5' RT	5	10	Silty Sand
B-15	150+00	7' LT	5.5	10.5	Silty Sand
B-16	160+00	5' RT	4	14	Sandy Silt
B-17	170+00	7' LT	6	12	Silt
B-18	180+00	??' RT	6	12	Silty Sand
B-19	190+00	7' LT	6.5	11.5	Silt
B-20	200+00	6' RT	6.5	9.5	Sandy Silt
B-21	210+00	8' LT	5	11	Sandy Silt
B-22	220+00	6' RT	7	9	Sand
B-23	230+00	9' LT	5.5	9.5	Silty Sand
B-24	240+00	6' RT	8	10	Sandy Silt
B-25	250+00	8' LT	5.5	8.5	Sand
B-26	260+00	6' RT	5	11	Sand
B-27	270+00	6' LT	4	10	Sandy Silt
B-28	280+00	5' RT	5.5	12.5	Sandy Silt
B-29	290+00	7' LT	5	11	Silt
B-30	300+00	6' RT	4.5	11.5	Silt
B-31	310+00	7' LT	12	3	Silt
B-32	320+00	5' RT	7	9	Silt
B-33	330+00	6' LT	6	10	Silt
B-34	340+00	5' RT	6	10	Silt
B-35	350+00	6' LT	6	10	Silt

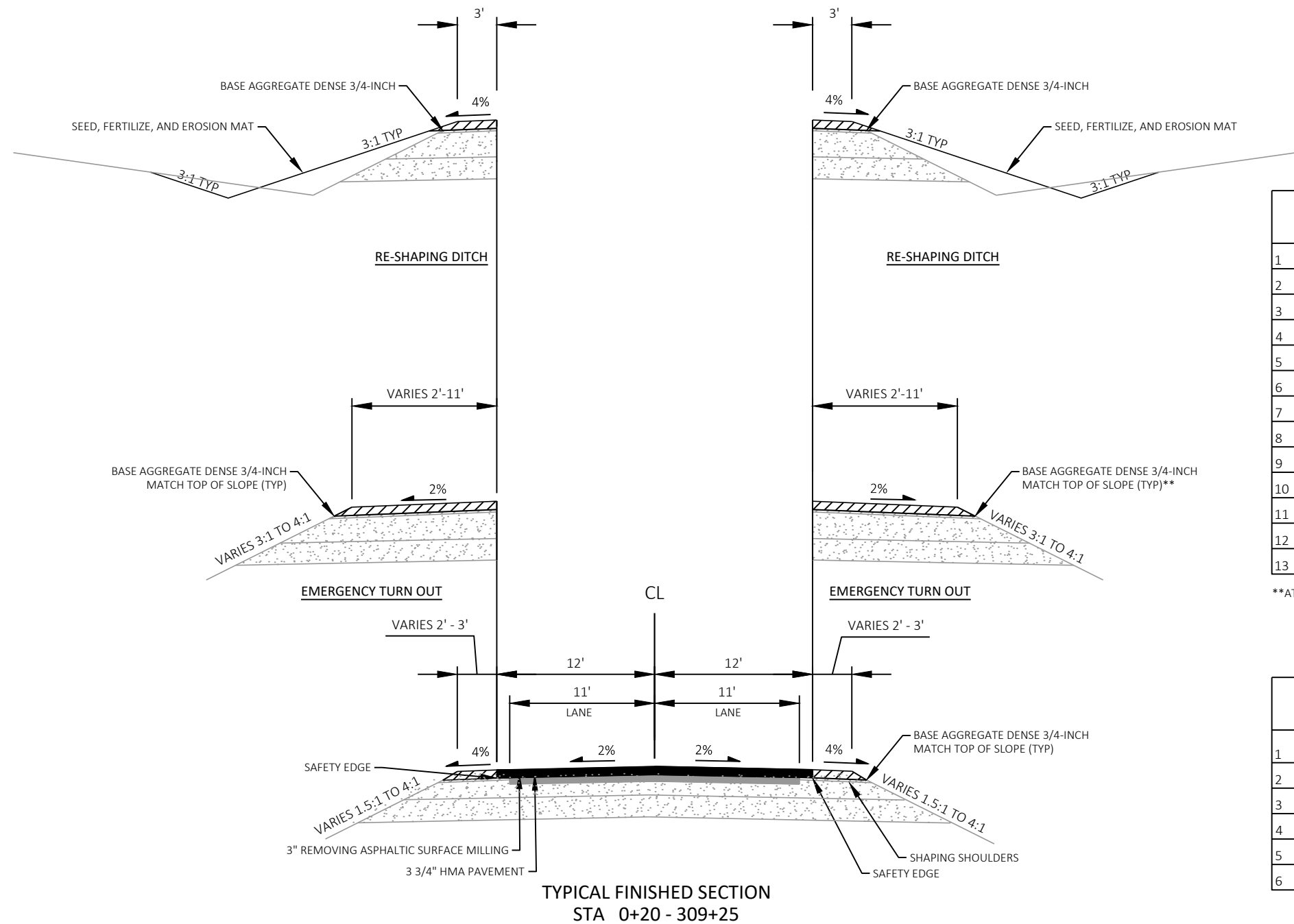


PROJECT NO: 8720-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	PROJECT OVERVIEW	SHEET	E
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EMERGENCY TURN OUT LOCATIONS					
1	27+00	RT	14	186+25	RT
2	48+00	LT	15	206+50	LT
3	50+00	RT	16	212+75	RT
4	74+50	LT	17	212+80	LT
5	100+00	RT	18	227+00	LT
6	101+00	LT	19	227+00	RT
7	132+25	LT	20	239+00	RT
8	133+70	RT	21	239+80	LT
9	147+00	RT	22	258+50	LT
10	152+50**	RT	23	267+50	RT
11	153+00	LT	24	297+00	LT
12	160+50	RT	25	323+00	LT
13	181+50	LT	26	331+00	RT

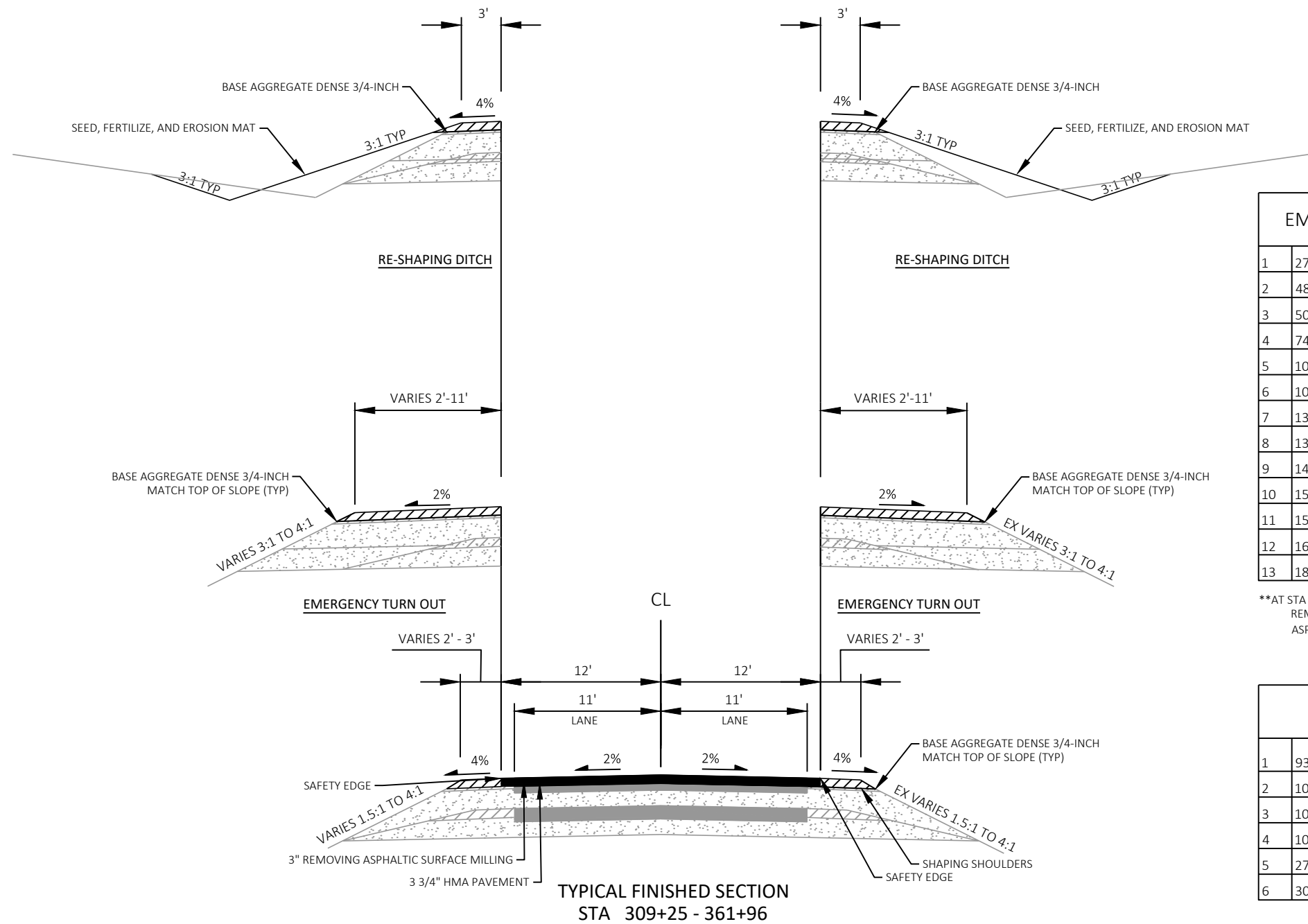
AT STA 152+50 RT:
3" ASPHALT PAVEMENT OVER 6" OF BASE



EMERGENCY TURN OUT LOCATIONS					
1	27+00	RT	14	186+25	RT
2	48+00	LT	15	206+50	LT
3	50+00	RT	16	212+75	RT
4	74+50	LT	17	212+80	LT
5	100+00	RT	18	227+00	LT
6	101+00	LT	19	227+00	RT
7	132+25	LT	20	239+00	RT
8	133+70	RT	21	239+80	LT
9	147+00	RT	22	258+50	LT
10	152+50**	RT	23	267+50	RT
11	153+00	LT	24	297+00	LT
12	160+50	RT	25	323+00	LT
13	181+50	LT	26	331+00	RT

**AT STA 152+50 RT:
REMOVE ASPHALTIC SURFACE MILLING (2")
ASPHALTIC SURFACE (VARIES 2"-2 3/4")

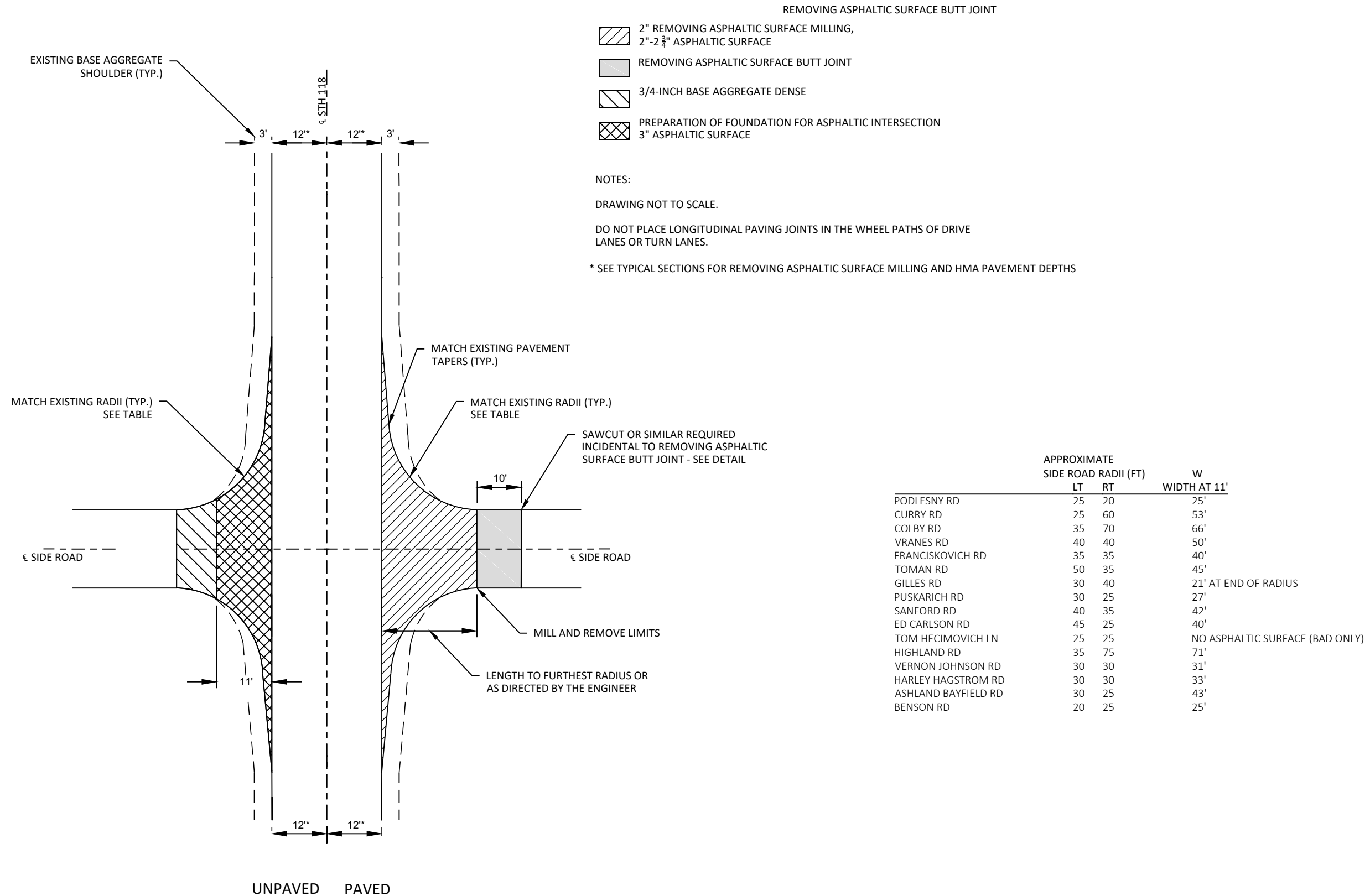
RE-SHAPING DITCH LOCATIONS		
1	92+96 TO 99+85	RT
2	100+50 TO 105+65	RT
3	109+00 TO 114+25	RT
4	108+50 TO 110+00	LT
5	271+00 TO 310+50	RT
6	304+50 TO 310+50	LT



EMERGENCY TURN OUT LOCATIONS					
1	27+00	RT	14	186+25	RT
2	48+00	LT	15	206+50	LT
3	50+00	RT	16	212+75	RT
4	74+50	LT	17	212+80	LT
5	100+00	RT	18	227+00	LT
6	101+00	LT	19	227+00	RT
7	132+25	LT	20	239+00	RT
8	133+70	RT	21	239+80	LT
9	147+00	RT	22	258+50	LT
10	152+50**	RT	23	267+50	RT
11	153+00	LT	24	297+00	LT
12	160+50	RT	25	323+00	LT
13	181+50	LT	26	331+00	RT

**AT STA 152+50 RT:
REMOVE ASPHALTIC SURFACE MILLING (2")
ASPHALTIC SURFACE (VARIES 2"-2 3/4")

RE-SHAPING DITCH LOCATIONS		
1	93+00 TO 99+85	RT
2	100+50 TO 105+65	RT
3	109+00 TO 114+25	RT
4	108+50 TO 110+00	LT
5	271+00 TO 310+50	RT
6	304+50 TO 310+50	LT



PAVED AND UNPAVED SIDE ROAD WITHOUT CURB AND GUTTER - RURAL

PROJECT NO: 8725-02-70

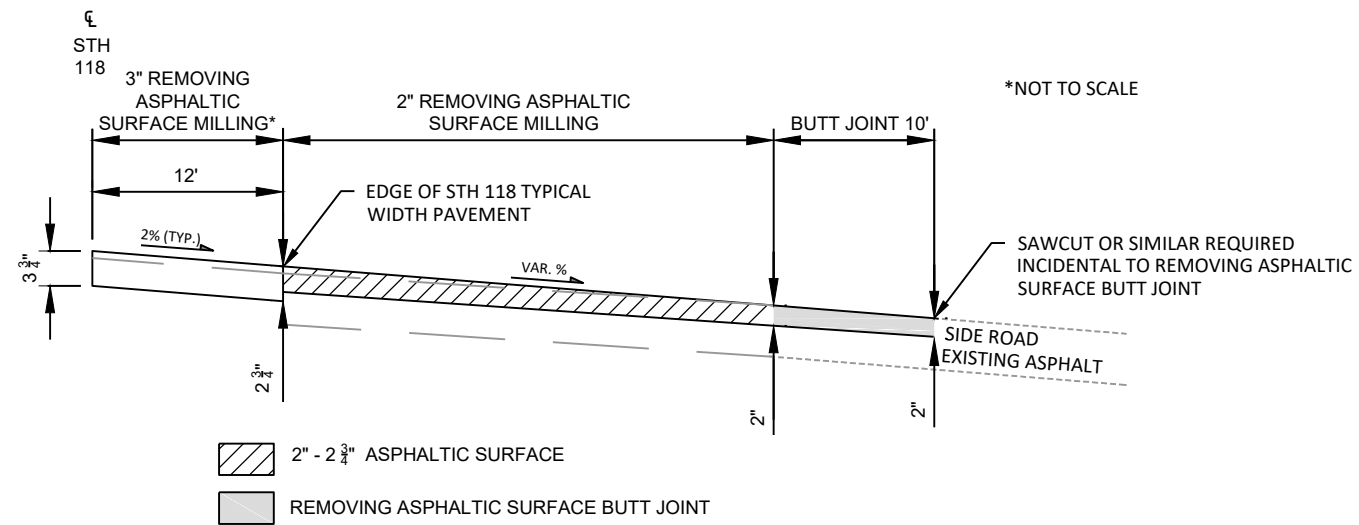
HWY: STH 118

COUNTY: BAYFIELD / ASHLAND

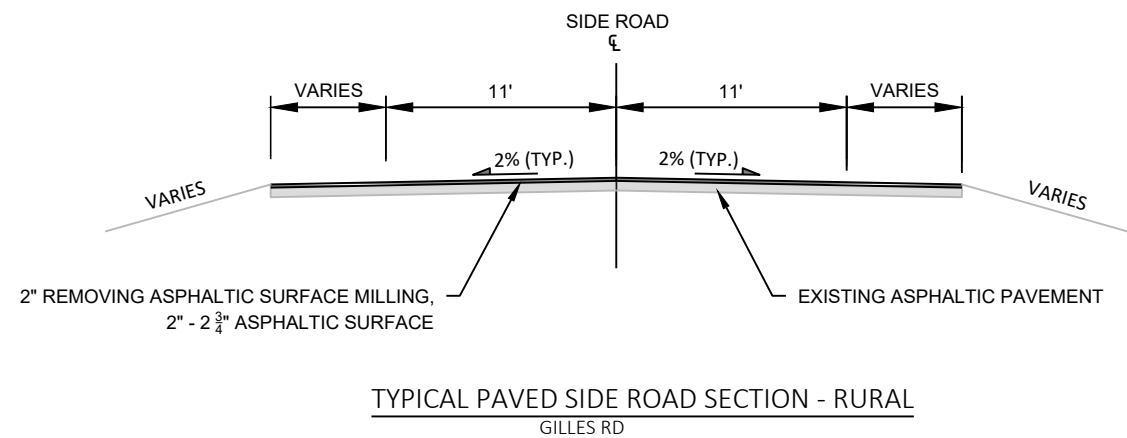
CONSTRUCTION DETAILS

SHEET

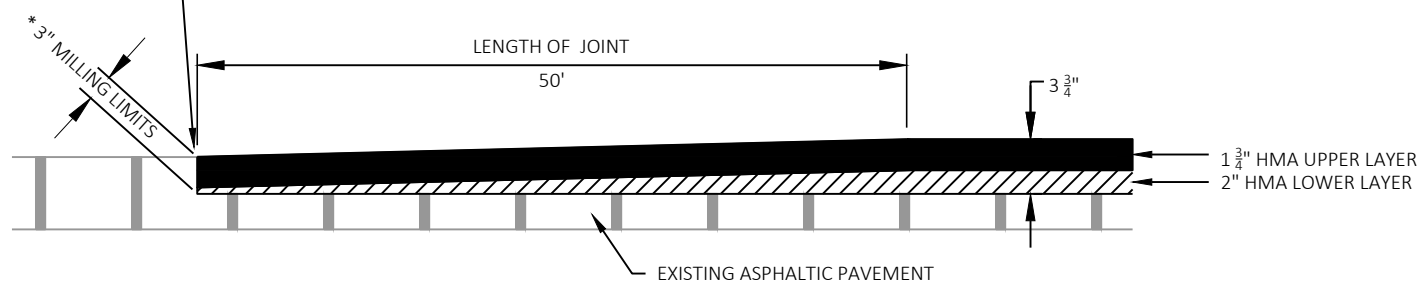
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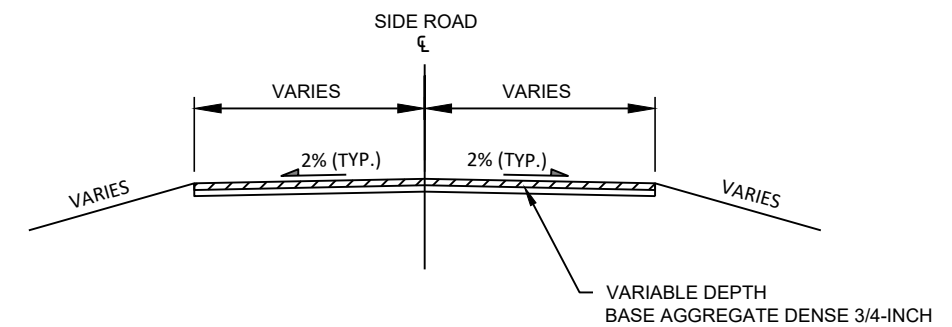
DETAIL OF SIDE ROAD BUTT JOINT - RURAL
GILLES RD



EXACT LOCATION SHALL BE
DETERMINED BY THE ENGINEER

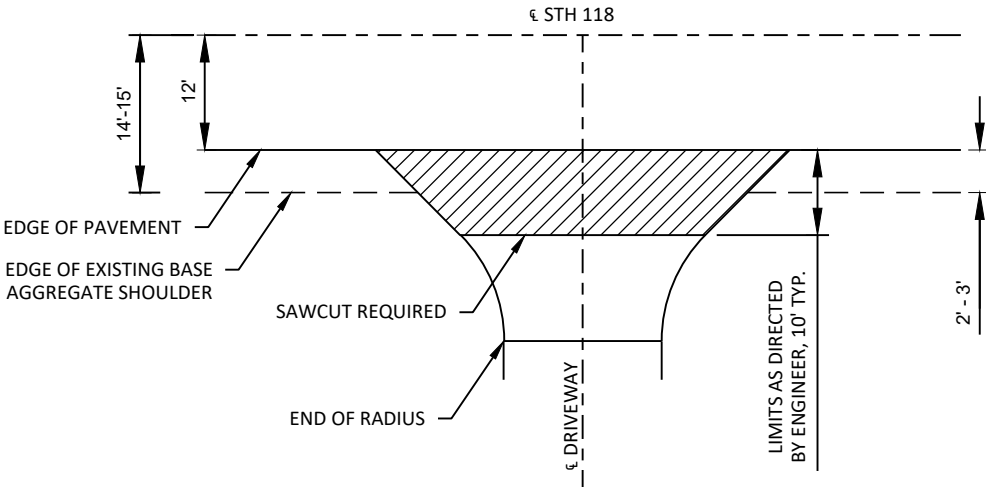


MAINLINE BUTT JOINT



TYPICAL UNPAVED SIDE ROAD SECTION - RURAL

PODLESNY RD	ED CARLSON RD
CURRY RD	TOM HECIMOVICH LN
COLBY RD	HIGHLAND RD
VRANES RD	VERNON JOHNSON RD
FRANCISKOVICH RD	HARLEY HAGSTROM RD
TOMAN RD	ASHLAND BAYFIELD RD
PUSKARICH RD	BENSON RD
SANFORD RD	



 REMOVING ASPHALTIC SURFACE (FULL DEPTH), REPLACE WITH 2" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES.

MATCH EXISTING PAVED SURFACE WIDTH, RADII AND TAPERS.

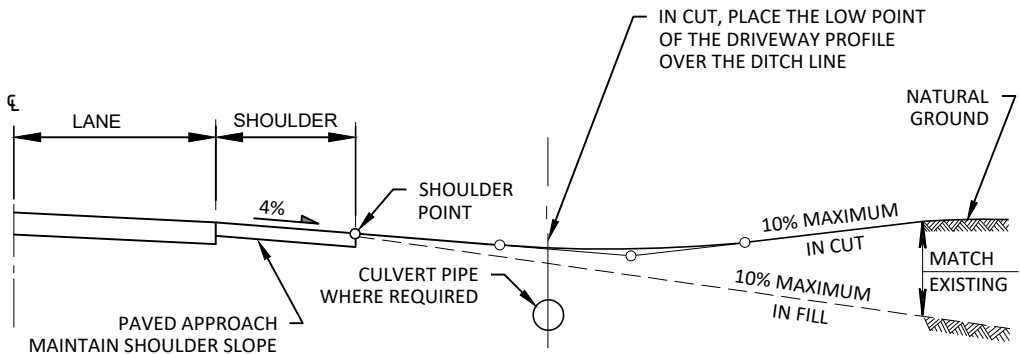
MATCH EXISTING PAVEMENT THICKNESS.

ANY ADDITIONAL BASE AGG. DENSE REQUIRED SHALL BE PAID UNDER ITEM - "BASE AGGREGATE DENSE 3/4-INCH"

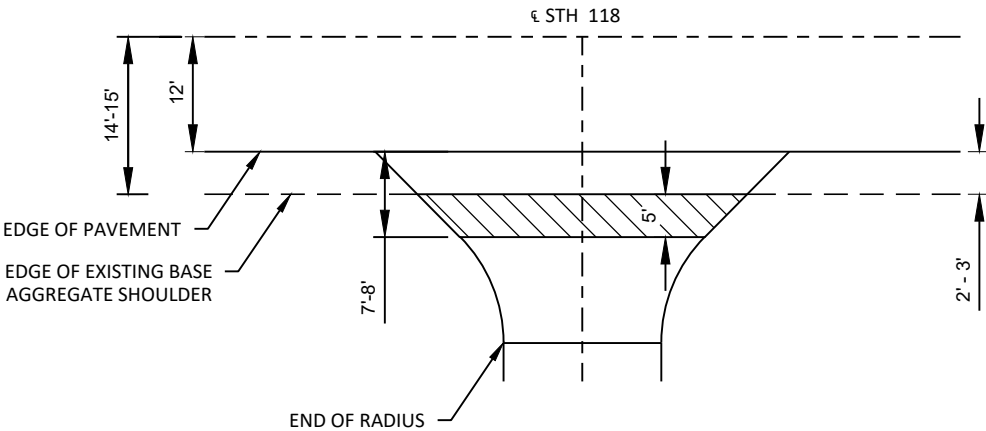
SAWCUT PAID FOR UNDER ITEM "SAWING ASPHALT"

PAVED DRIVEWAY DETAIL

8+13
21+31
60+73
98+14
112+09
188+65



TYPICAL DRIVEWAY PROFILES

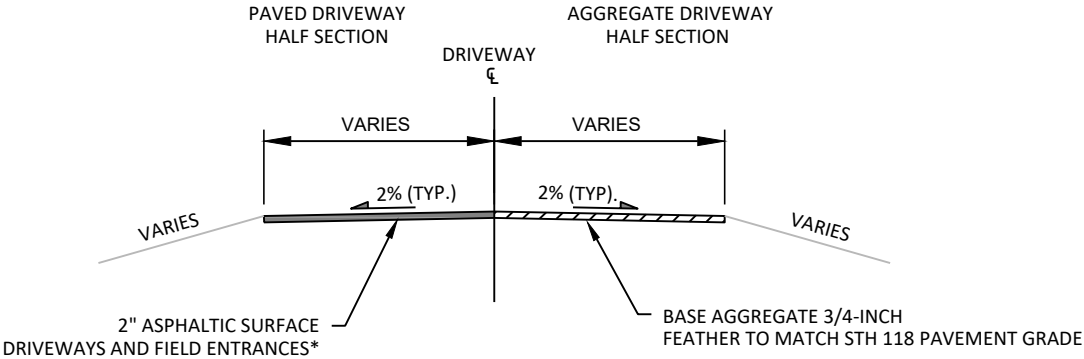


 EACH ENTRANCE SHALL RECEIVE ADEQUATE 3/4-INCH BASE AGGREGATE DENSE AFTER MAINLINE PAVING AND SHAPING SHOULDERS TO BRING ENTRANCE UP TO SHOULDER PAVEMENT GRADE.

MATCH EXISTING DRIVEWAY WIDTH AND RADII.

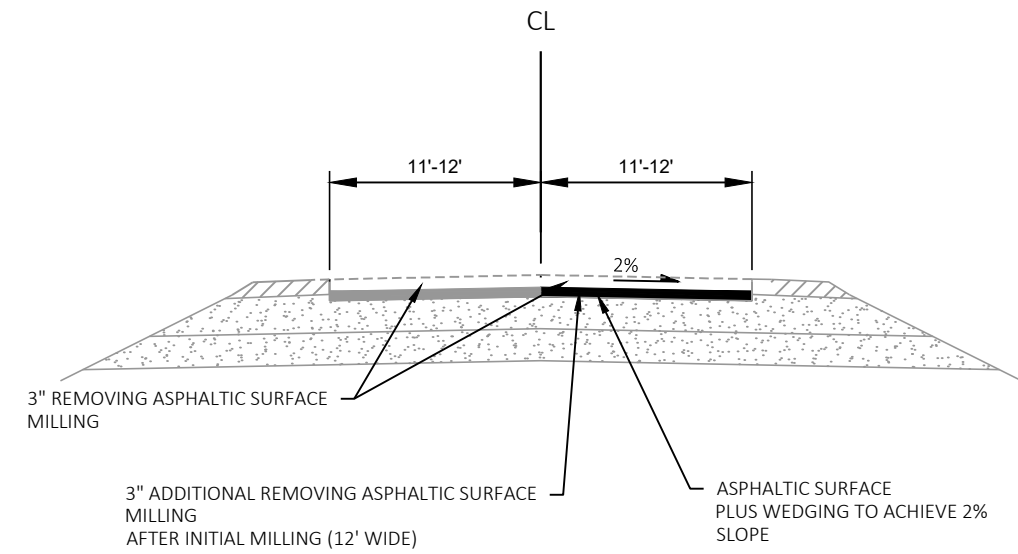
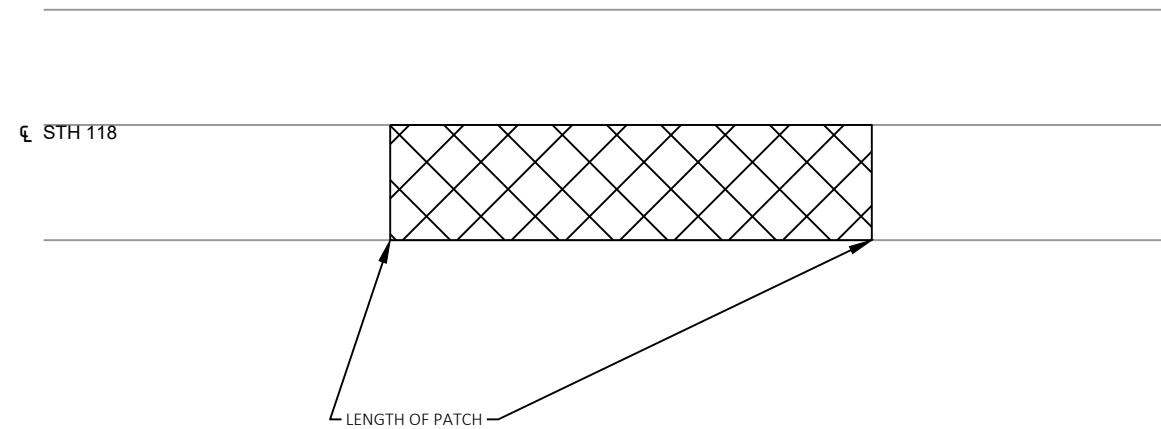
AGGREGATE DRIVEWAY DETAIL

7+94	66+30	100+02	138+77	206+66	243+41	308+57
22+84	66+33	103+48	160+45	215+51	253+05	310+77
30+19	68+53	113+38	163+81	217+92	257+83	323+17
33+94	73+42	113+52	170+67	225+09	258+48	328+72
44+14	76+66	126+49	178+89	225+34	266+04	331+09
44+34	77+60	126+56	181+12	231+84	271+07	336+28
48+51	81+60	128+51	187+87	235+45	275+53	337+73
50+56	92+85 (2)	132+76	189+62	235+58	279+36	345+10
55+58	93+79	136+25	198+41	239+91	286+76	349+32
59+88	96+61	137+11	198+94	240+39	297+53	354+92



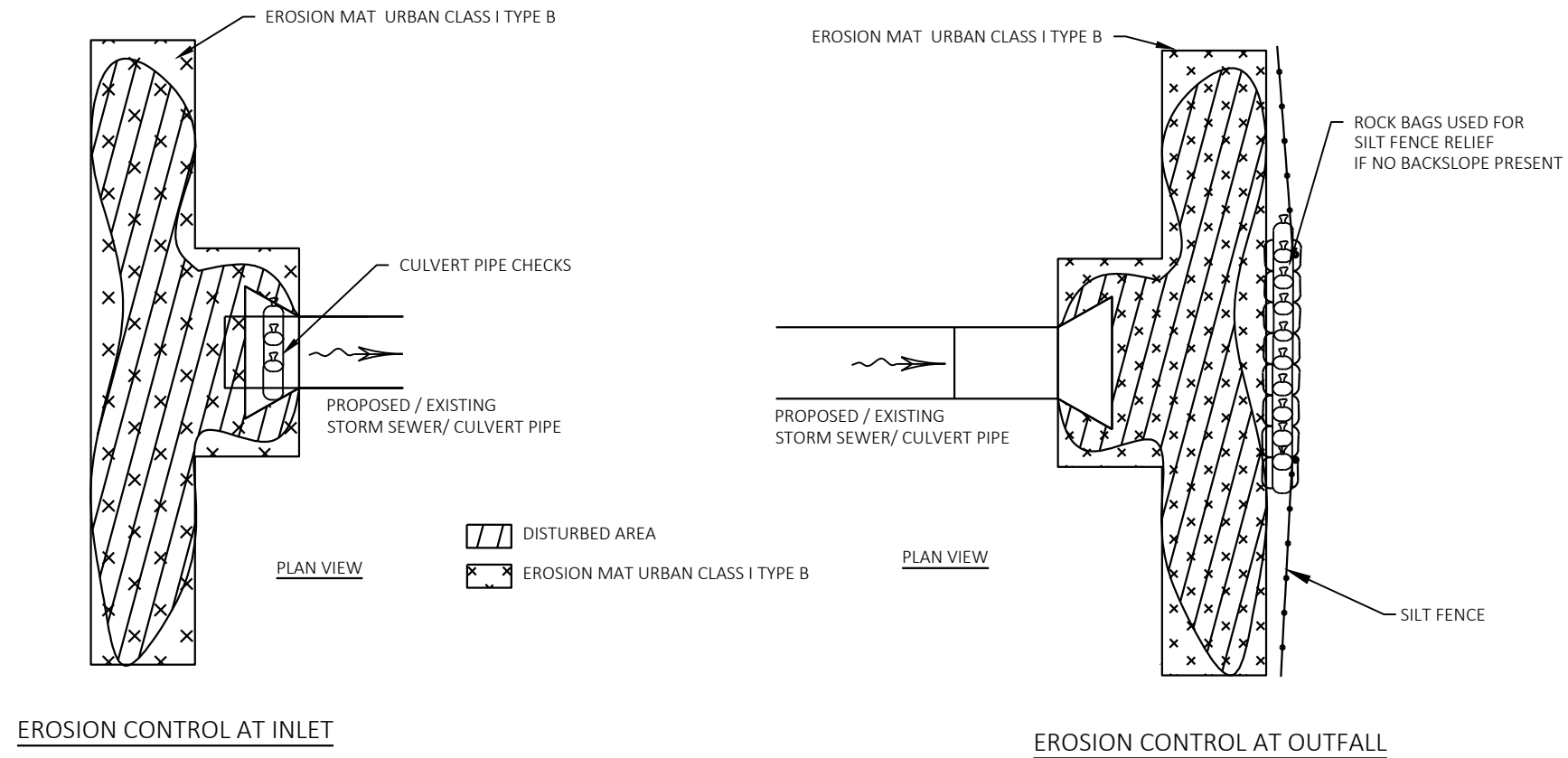
* ADJUST THICKNESS AS REQUIRED IN FIELD TO MATCH EXISTING CONDITIONS

TYPICAL DRIVEWAY SECTION

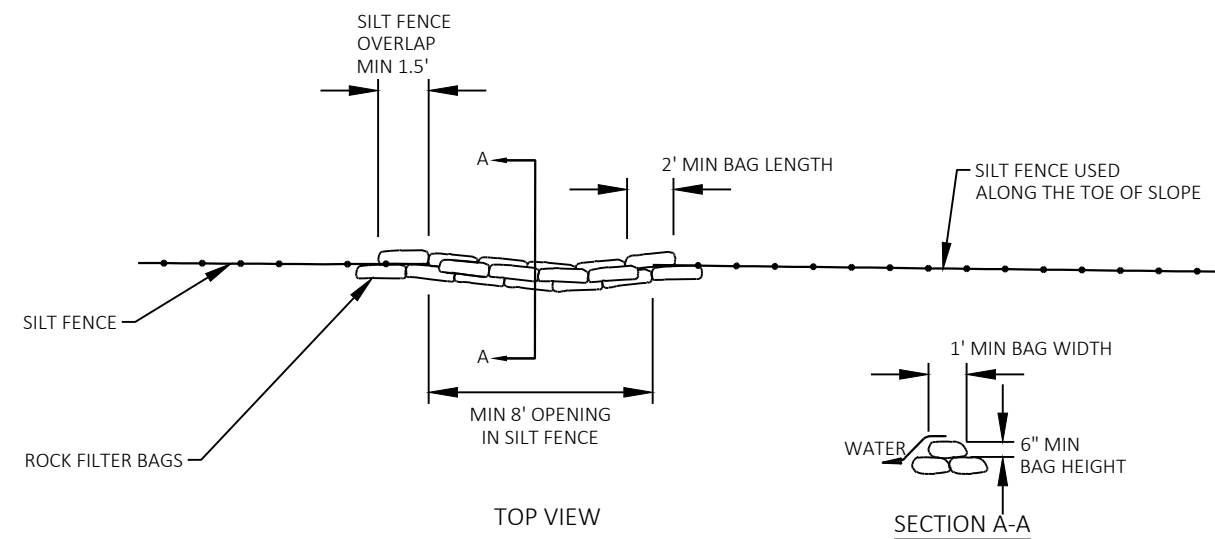


ASPHALTIC BASE PATCH PARTIAL DEPTH

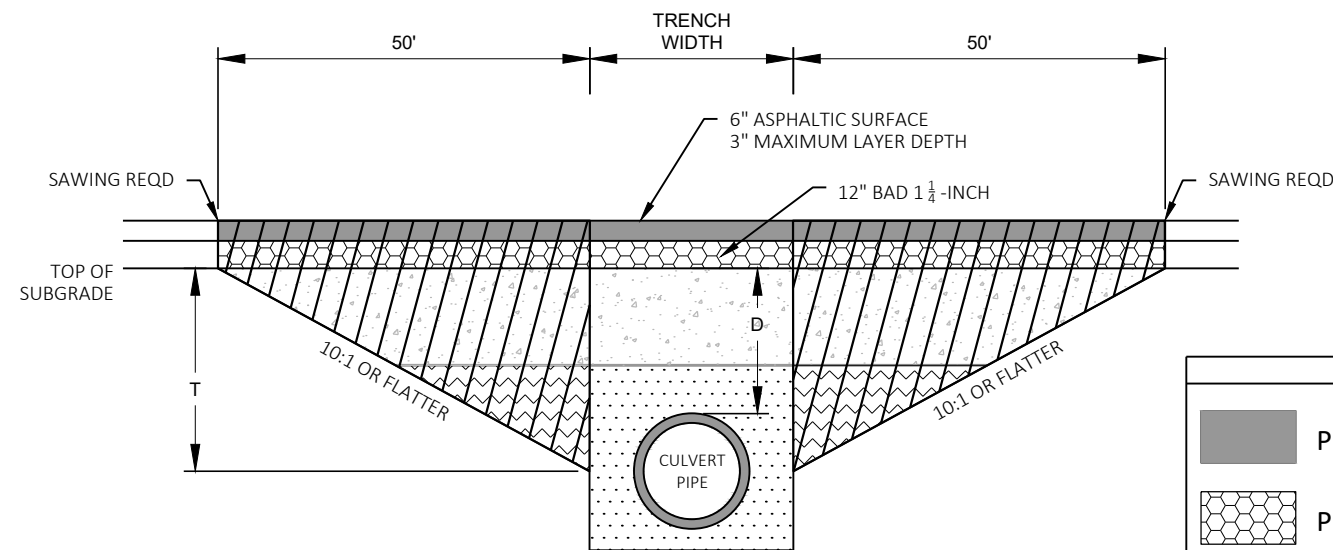
REFER TO PLAN AND PROFILE SHEETS FOR LOCATIONS



EROSION CONTROL AT APRON ENDWALLS
FOR USE IN DITCH CLEANING, PIPE EXTENSIONS AND ENDWALL REPLACEMENTS-
REFER TO EROSION CONTROL PLAN FOR LOCATIONS



ROCK BAGS USED FOR SILT FENCE RELIEF



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

DEPTH D < 6 FT

KEY

PROPOSED SURFACE

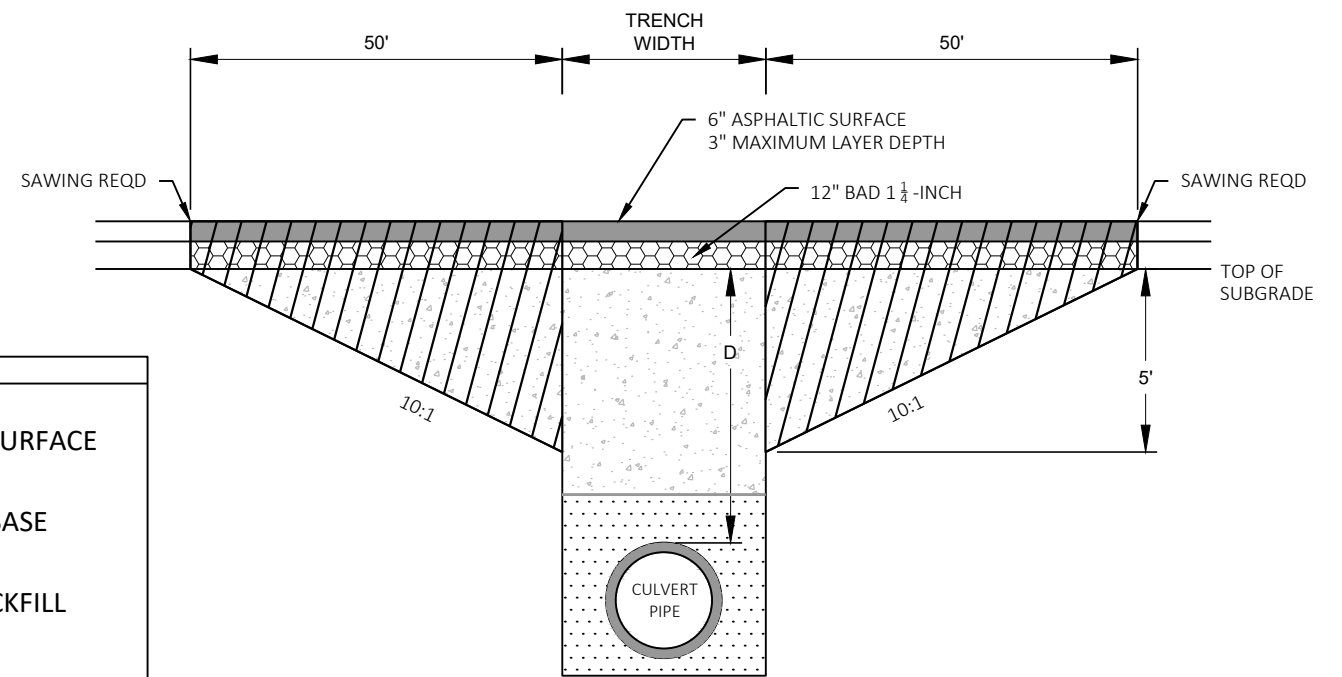
PROPOSED BASE

TRENCH BACKFILL

TRENCH OR
FOUNDATION BACKFILL

FOUNDATION BACKFILL

TRANSITION CUT



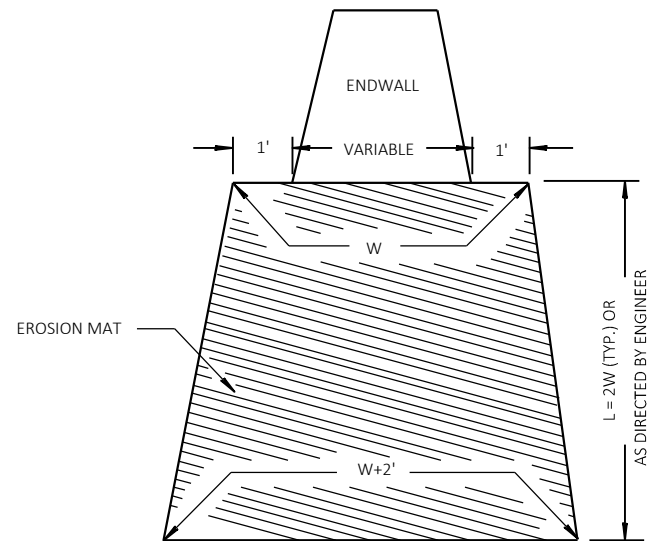
DEPTH D ≥ 6 FT

NOTES

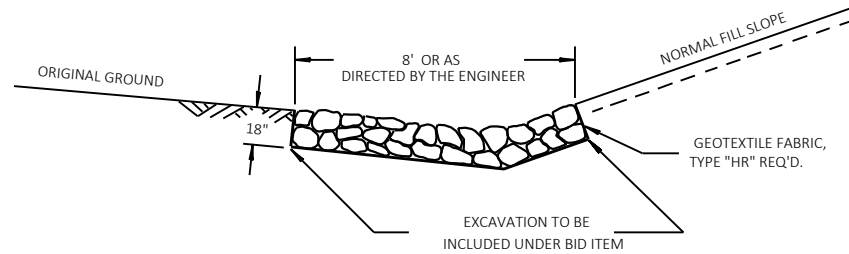
- TRANSITION CUT IS PAID AS EXCAVATION COMMON.
- TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
- BACKFILL TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.
- PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING.
- COMPLETE CULVERT PIPE TRANSITION PRIOR TO ASPHALTIC SURFACE MILLING OPERATIONS.

CULVERT PIPE TRANSITION

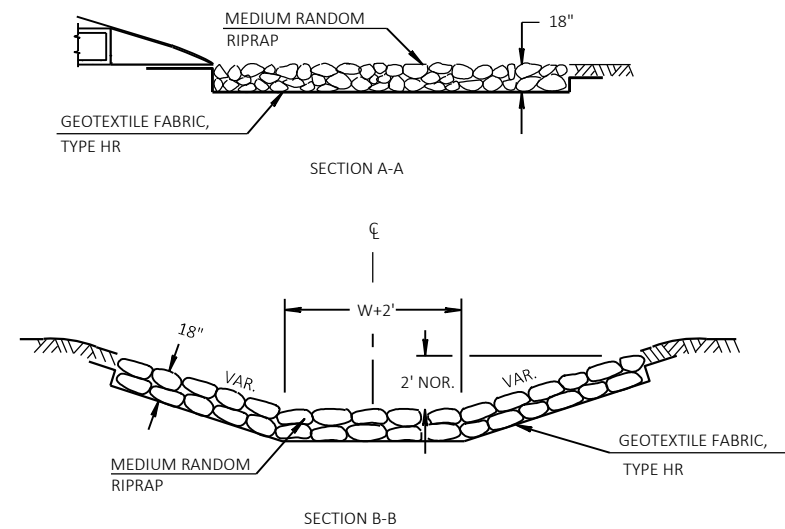
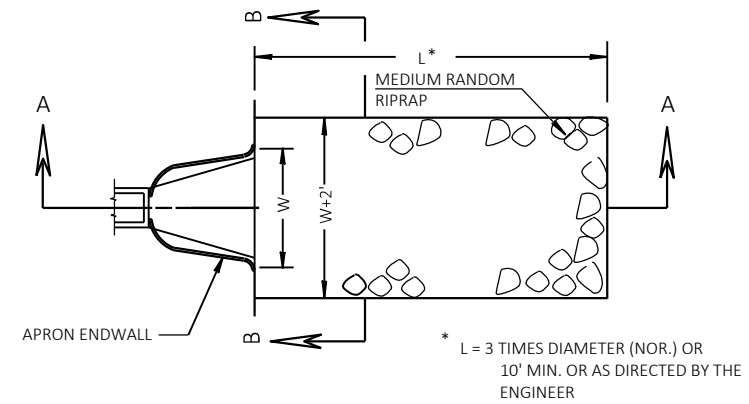
ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)	REMARKS
STH 118	0+48	2'	24	ADJUST TRANSITION LENGTH ON WEST END TO MATCH PROJECT LIMITS
STH 118	305+00	1.5'	24	NEW PIPE
STH 118	308+13	1.5'	29X45HE	NEW PIPE



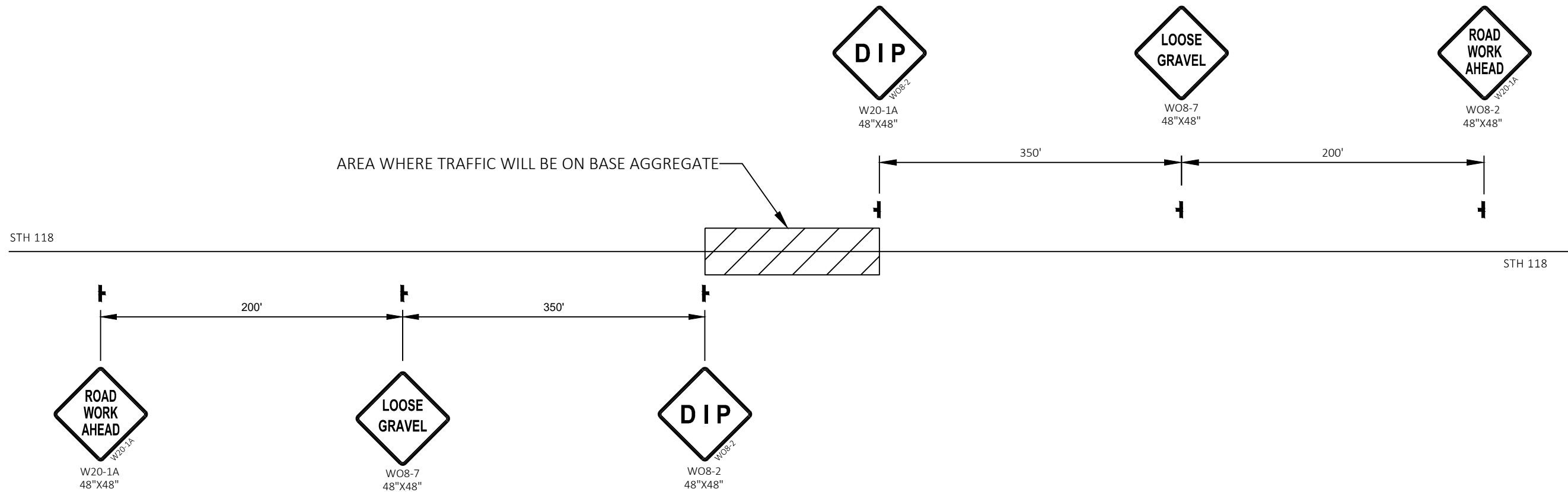
EROSION MAT TREATMENT AT CULVERTS



DETAIL FOR RIPRAP MEDIUM IN DITCHES



SOD, MEDIUM RANDOM RIPRAP AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALL



LOOSE GRAVEL SIGNING
DURING PIPE
REPLACEMENTS

STATION & OFFSET TABLE						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	POINT INFO
100	0+70.35	-64.000	426384.63	775706.97		RADIUS=60'
101	0+20.41	-61.457	426381.42	775657.08	904.300	FLAG
102	0+35.90	-27.757	426347.93	775673.01	904.210	FLAG
103	0+70.35	-14.000	426334.63	775707.63	904.650	FLAG
110	0+80.48	68.258	426252.52	775718.86		RADIUS=55'
111	0+27.25	72.798	426247.27	775665.69	904.260	FLAG
112	0+42.31	32.111	426288.15	775680.21	904.390	FLAG
113	0+82.14	15.000	426305.79	775719.81	904.730	FLAG

NORVADO-
UNDERGROUND COMMUNICATIONS LINES

USH 63

CULVERT PIPE TRANSITION
EXCAVATION LIMITS
SEE DETAILNORVADO-
UNDERGROUND COMMUNICATIONS
LINES

PERMITTED WETLAND IMPACTS

XCEL-
OVERHEAD ELECTRIC

N

APPROX EXISTING R/W

LT EOP STA 0+48.8, 41.6' LT
ELEV=899.73

GUY

GUY

SLOPE
INTERCEPT

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

APPROX EXISTING R/W (33' FROM CL)

ASPHALTIC FLUME REQ'D

CTH F

STH 118

SAW CUT

SAW CUT

SLOPE
INTERCEPT

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

RT EOP STA 0+48.2, 56.2' RT
ELEV=900.66

USH 63

XCEL-
OVERHEAD ELECTRIC

PERMITTED WETLAND IMPACTS

APPROX EXISTING R/W

XCEL-
OVERHEAD ELECTRICGRASS
F.E.NORVADO-
UNDERGROUND COMMUNICATIONS LINEASPH.
P.E.

APPROX EXISTING R/W (33' FROM CL)

93

94

95

96

97

98

99

100

STH 118

B.A.D.
P.E.STA 92+96 RT
BEGIN RE-DITCHING#26775
B.A.D.
P.E.XCEL-
OVERHEAD ELECTRICNORVADO-
UNDERGROUND COMMUNICATIONS LINESLOPE
INTERCEPTB.A.D.
F.E.DITCH
BOTTOM

APPROX EXISTING R/W (33' FROM CL)

XCEL-
UNDERGROUND ELECTRICNORVADO-
UNDERGROUND COMMUNICATIONS LINESTA 99+85 RT
END RE-DITCHING

EXISTING DRIVE CULVERT TO REMAIN

STA 96+61; REPLACE DRIVE CULVERT

REMOVING SMALL CULVERT PIPE
INSTALL 35 FT NEW CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH
INSTALL NEW APRON ENDWALLS FOR CP SLOPED SIDE DRAINS STEEL 18-INCH 4 TO 1

STA 95+86; CULVERT REPAIR

EXISTING CMCP 24-INCH
INSTALL 2 FT NEW CULVERT PIPE CORRUGATED ALUMINUM 24-INCH RT
INSTALL NEW APRON ENDWALLS FOR CP-ALUMINUM 24-INCH RT
INSTALL MARKER CULVERT PIPE RT AND LT

STA 93+79; REPLACE DRIVE CULVERT

REMOVING SMALL CULVERT PIPE
INSTALL 28 FT NEW CULVERT PIPE CORRUGATED POLYETHYLENE 18-INCH
INSTALL NEW APRON ENDWALLS FOR CP SLOPED SIDE DRAINS STEEL 18-INCH 4 TO 1

SEPC

W

PROJECT NO: 8725-02-70

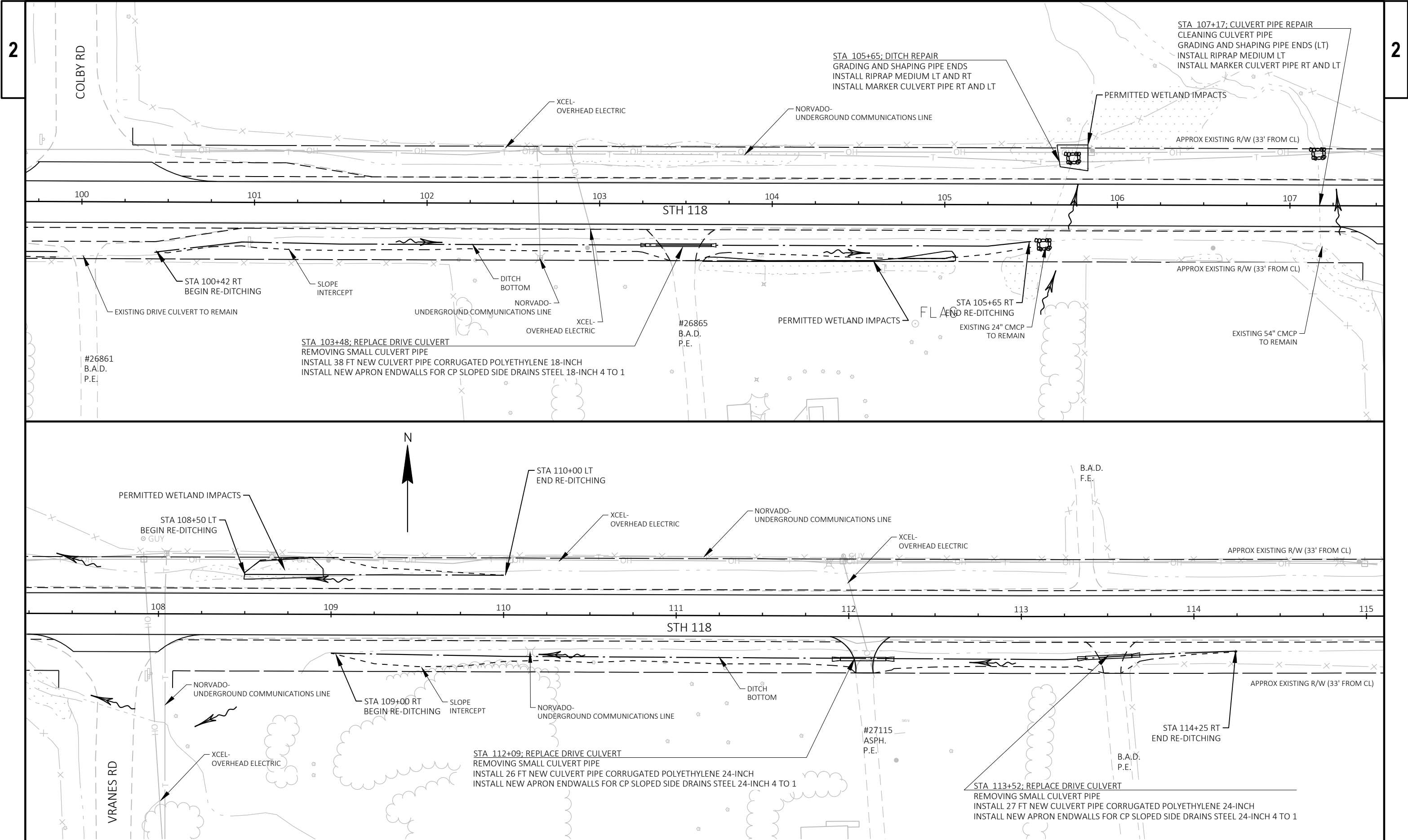
HWY: STH 118

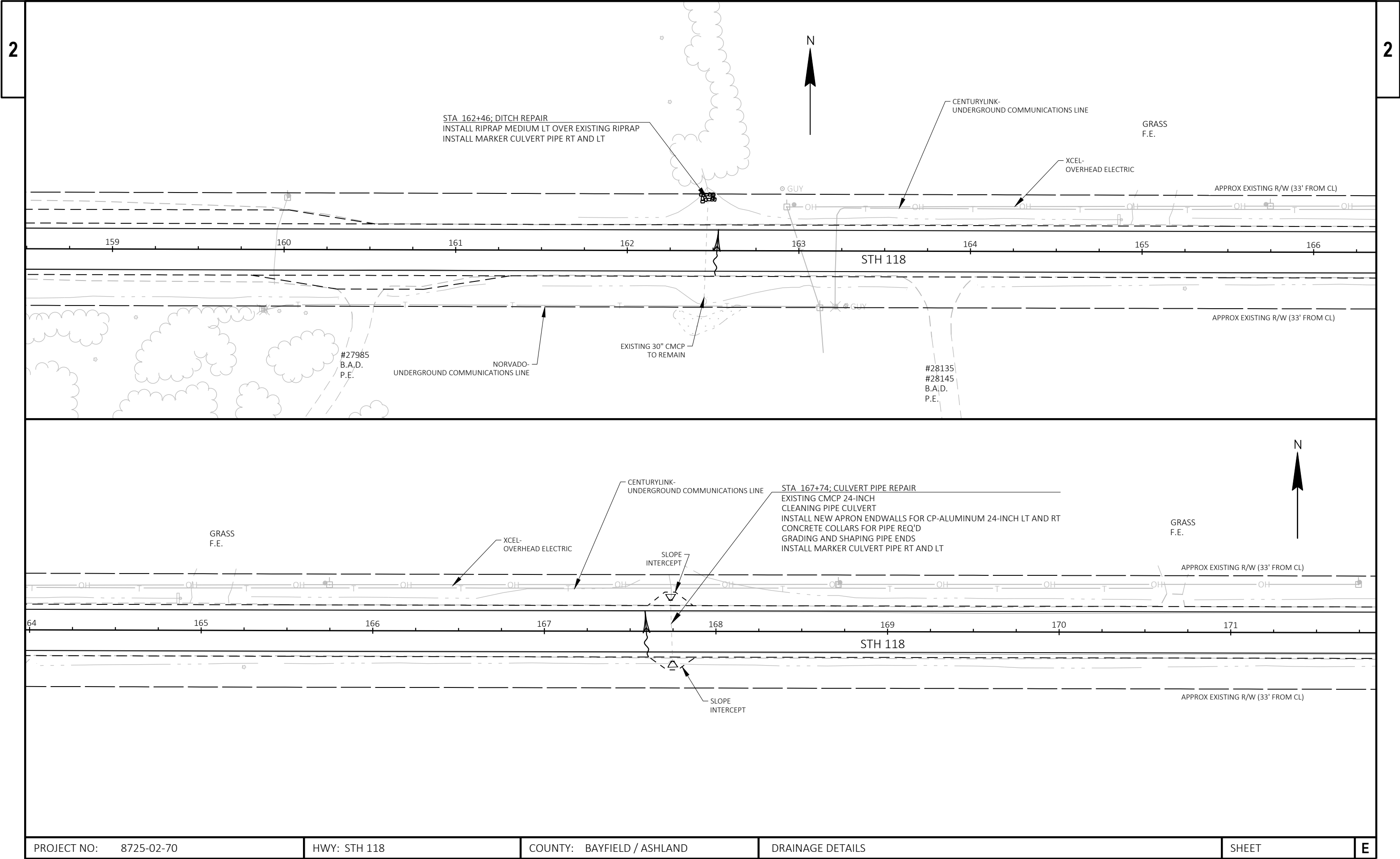
COUNTY: BAYFIELD / ASHLAND

DRAINAGE DETAILS

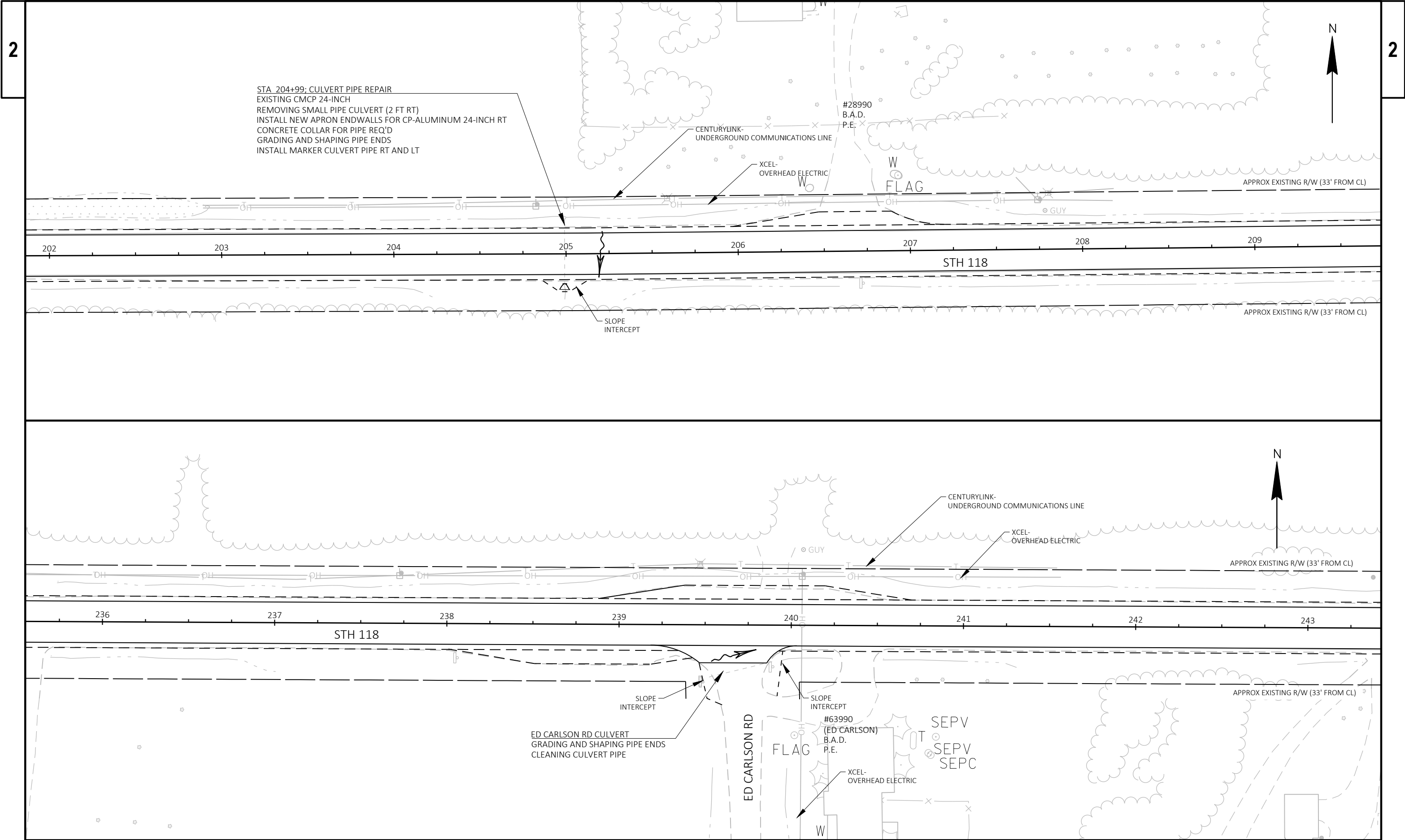
SHEET

E

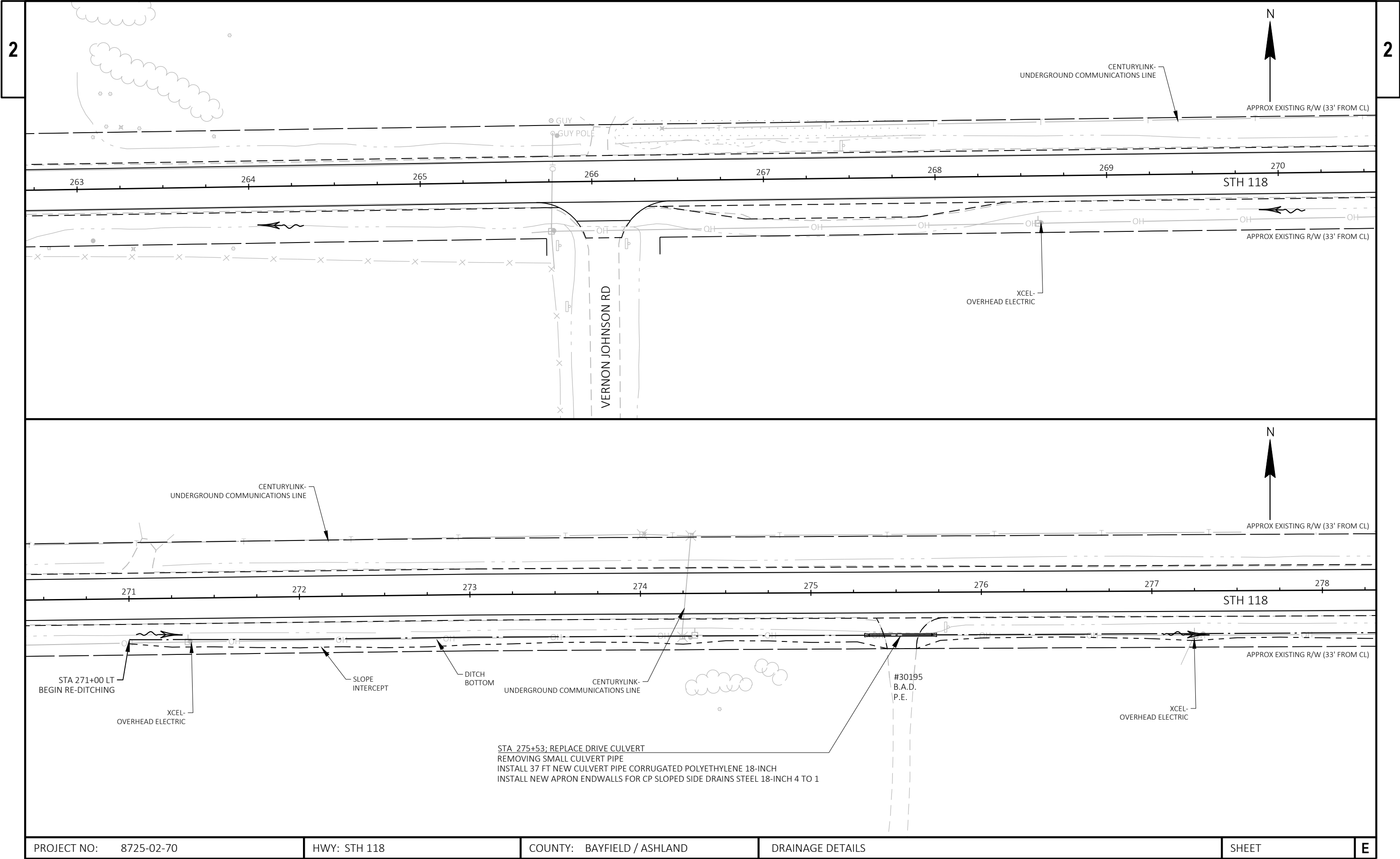




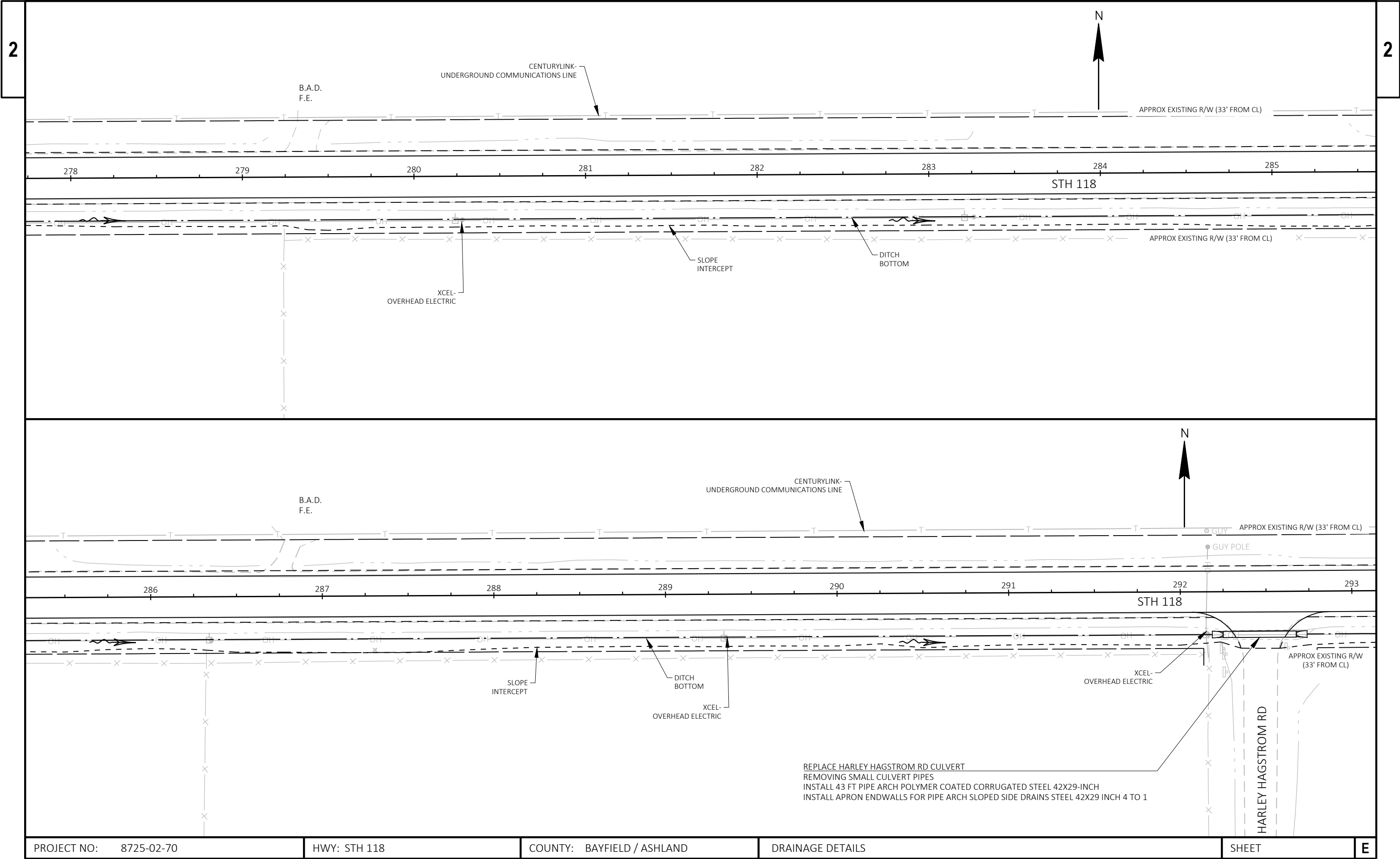
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	DRAINAGE DETAILS	SHEET	E
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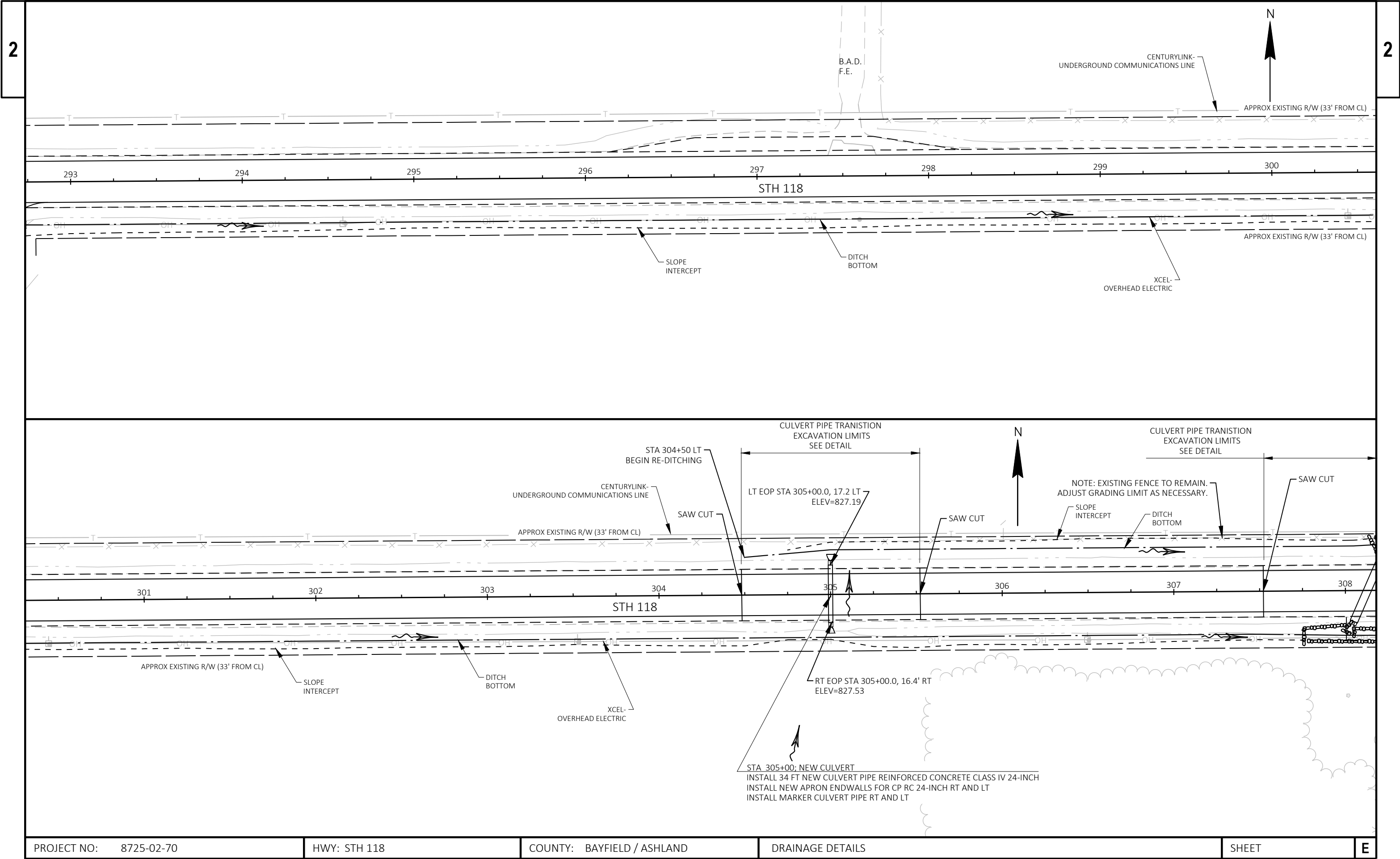
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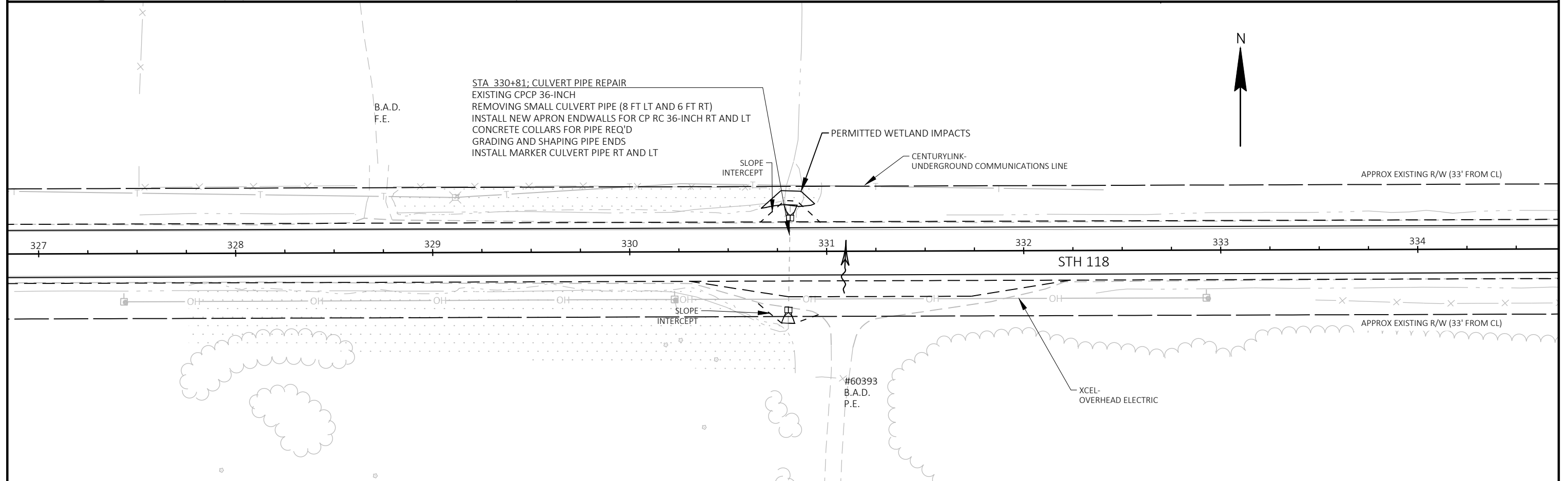
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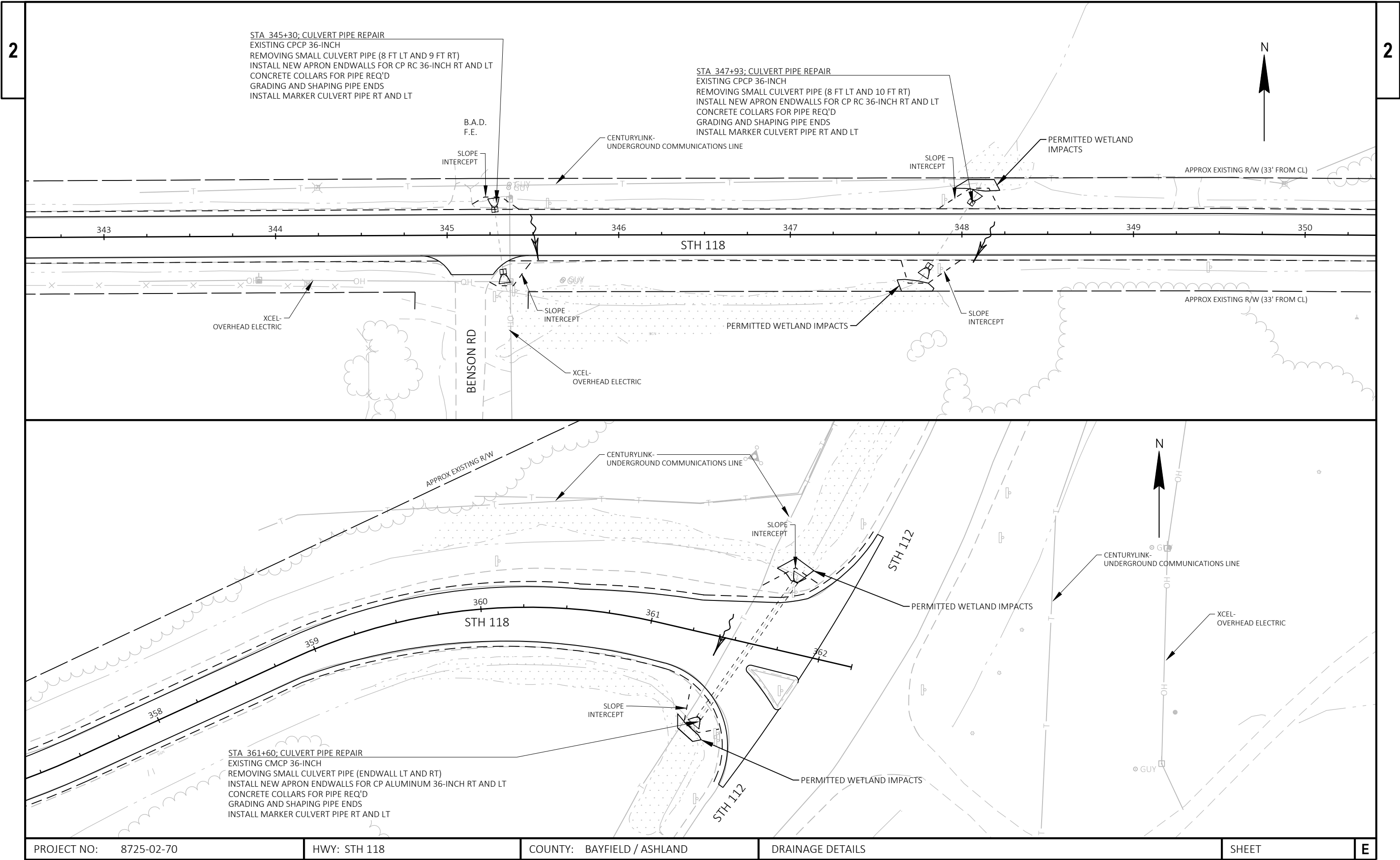


PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	DRAINAGE DETAILS	SHEET	E
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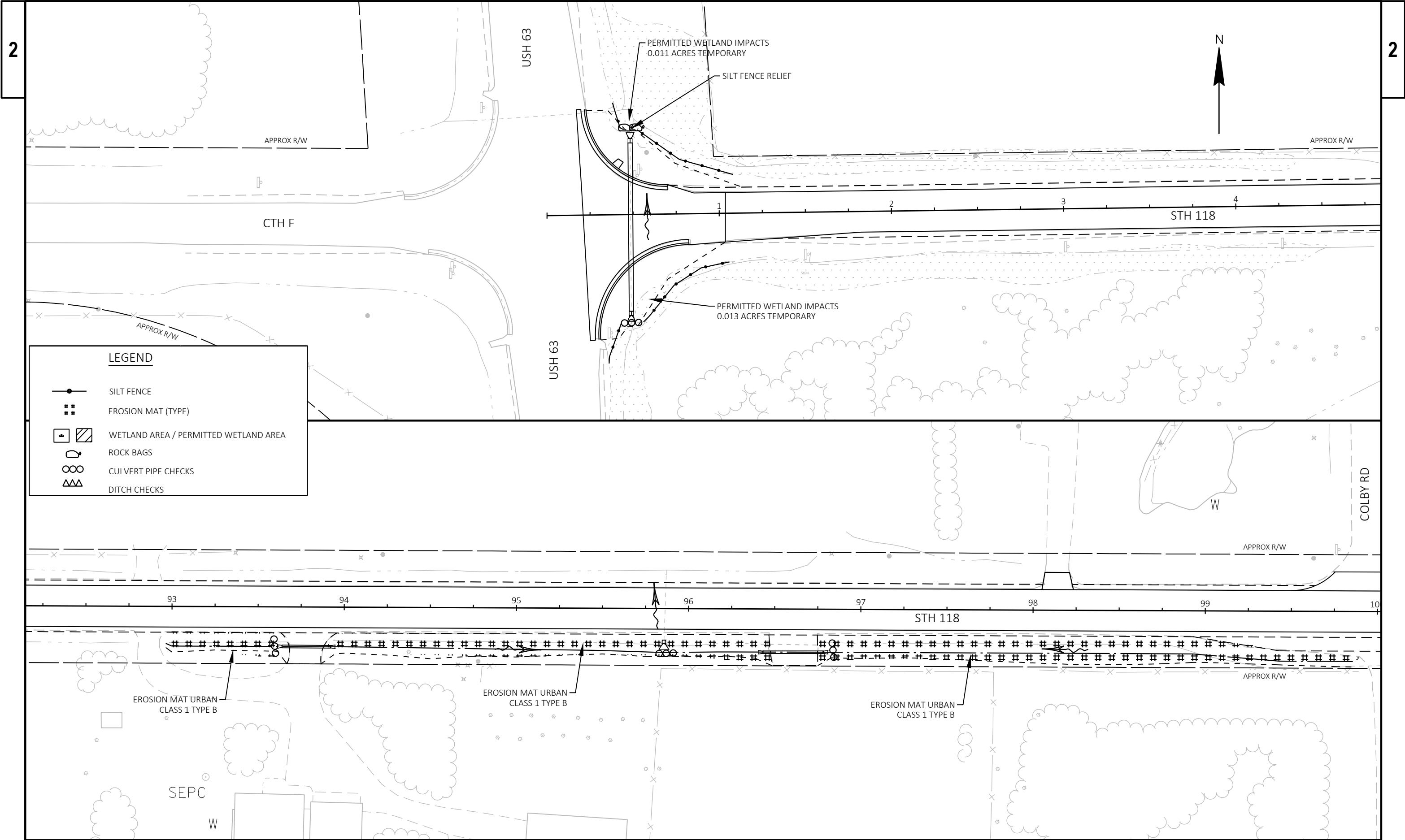


PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	DRAINAGE DETAILS	SHEET	E
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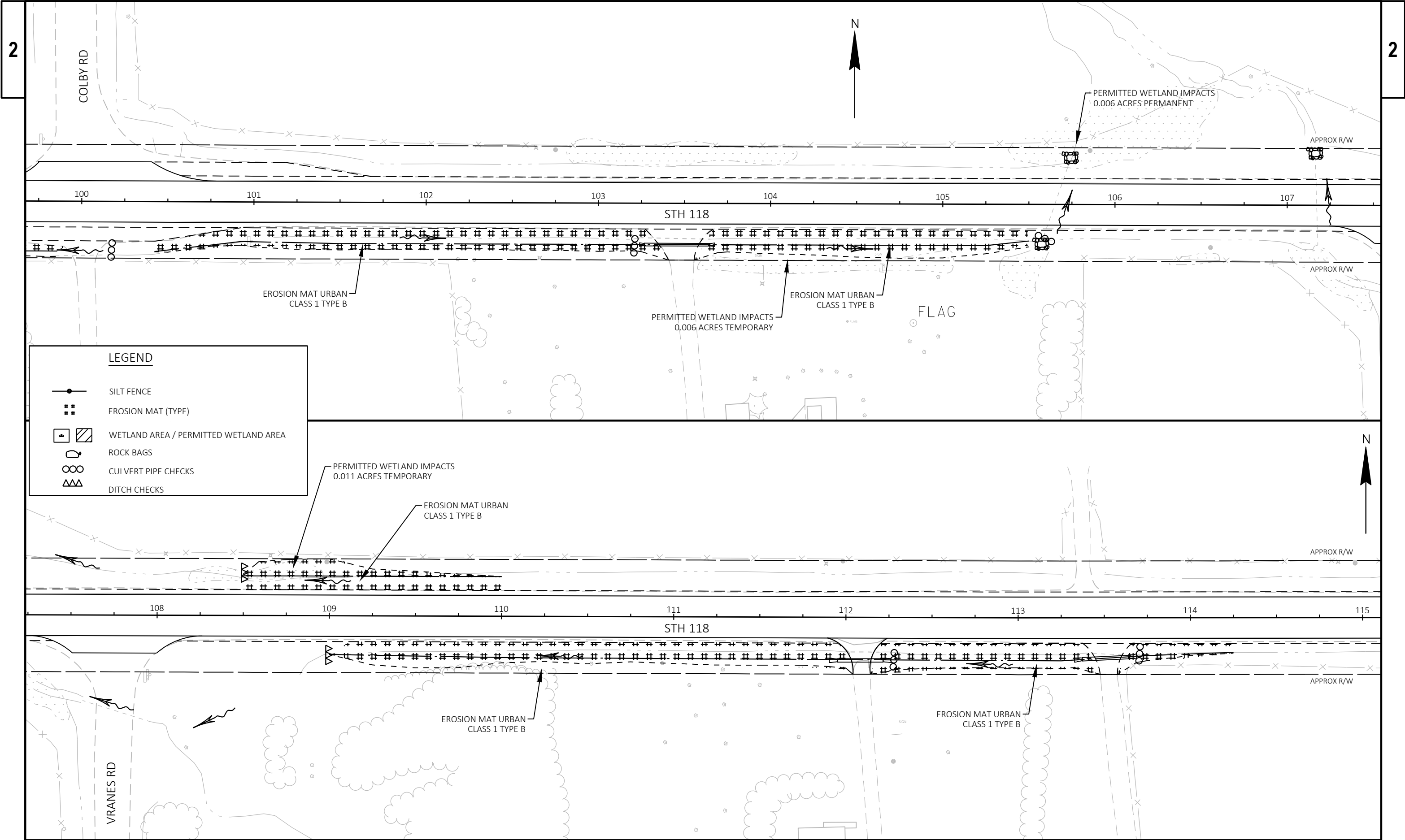




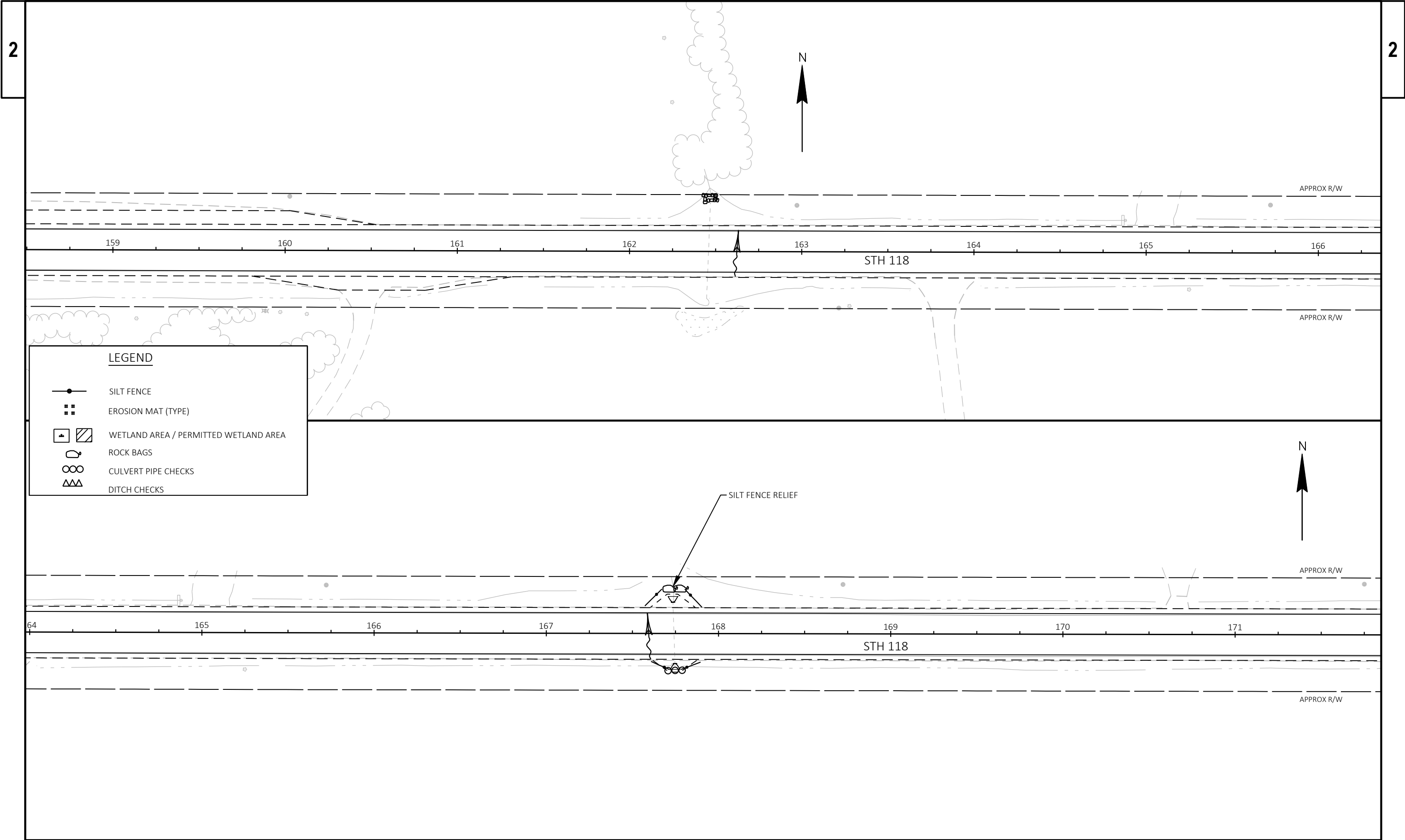
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	DRAINAGE DETAILS	SHEET	E
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PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	EROSION CONTROL	SHEET	E
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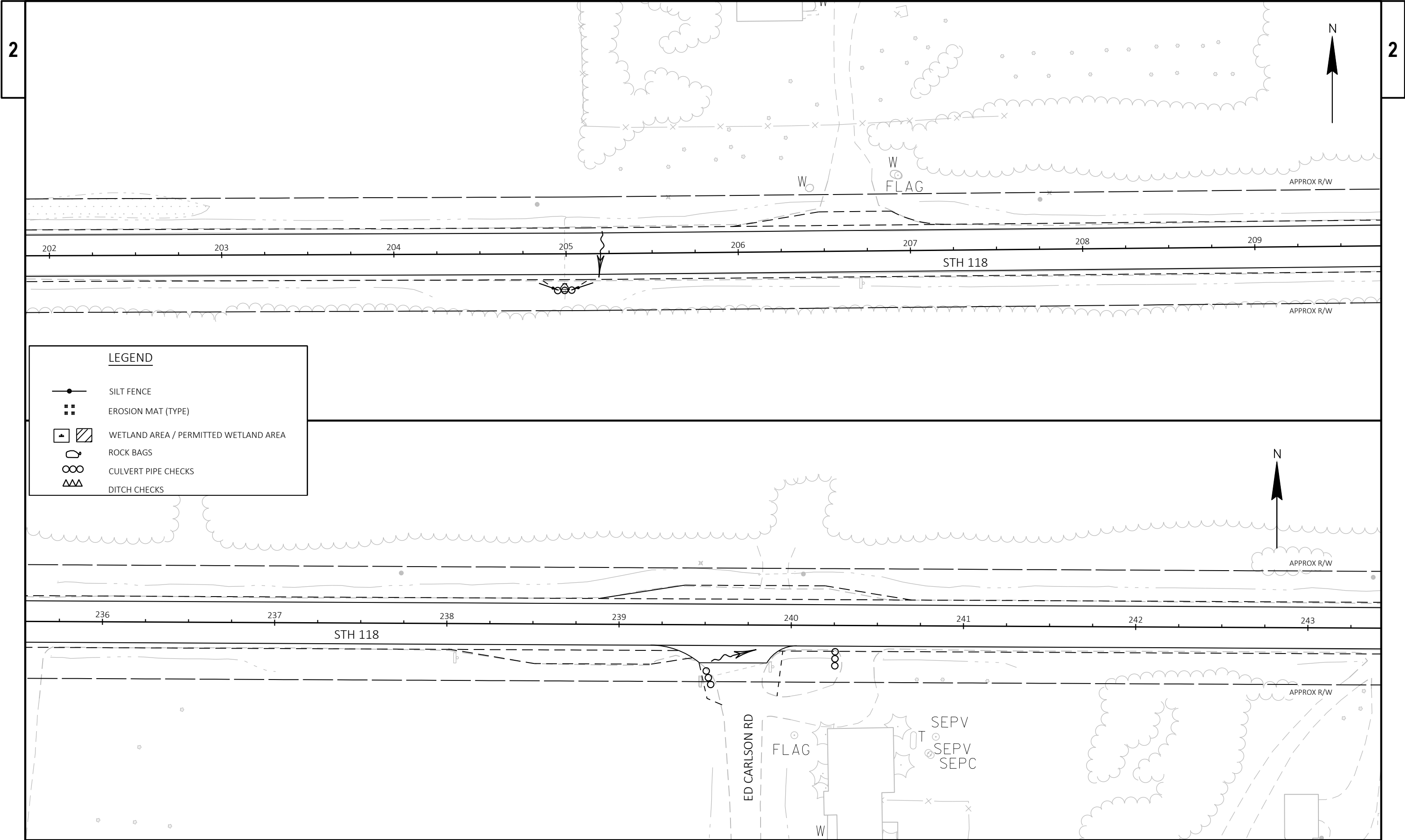


PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	EROSION CONTROL	SHEET	E
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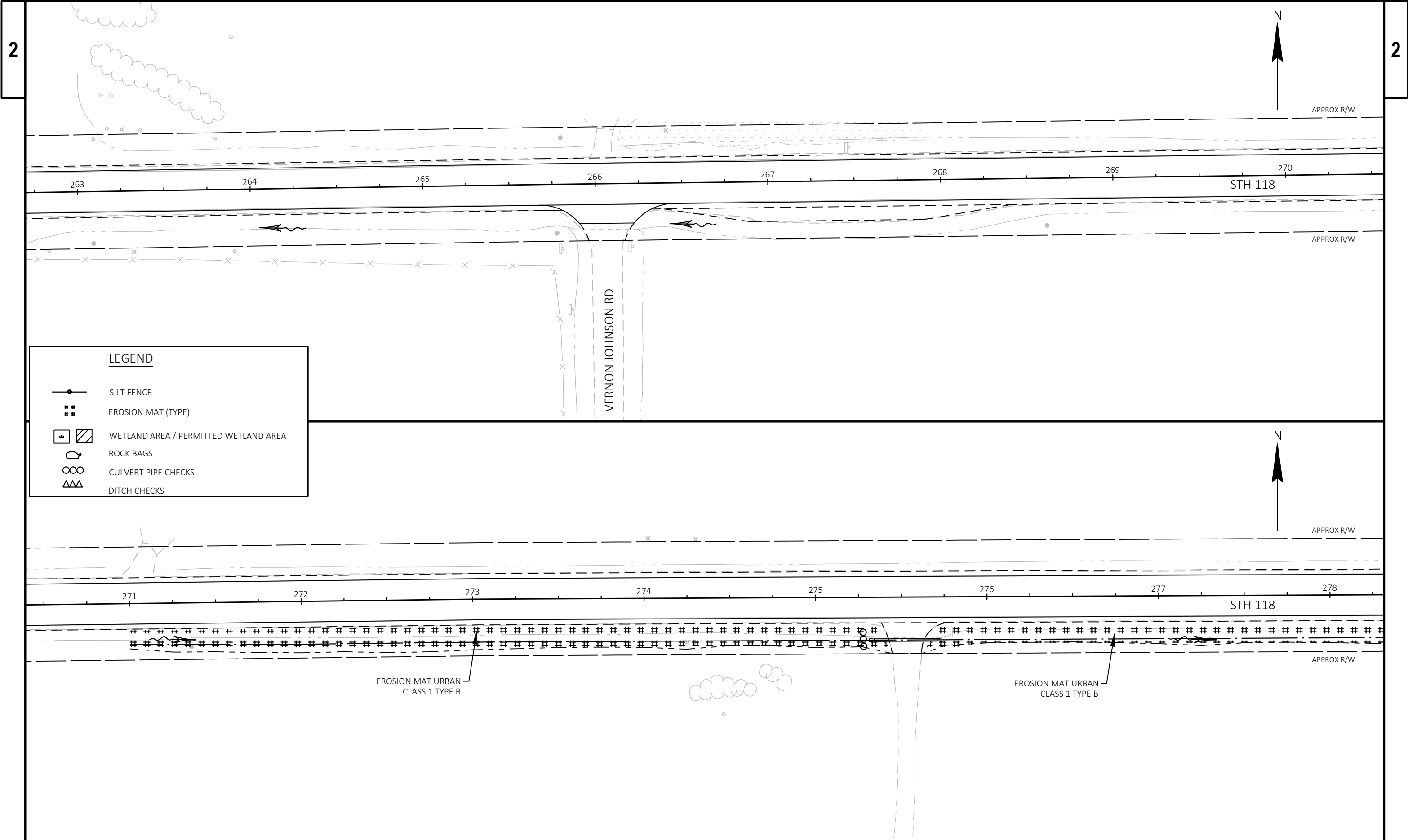


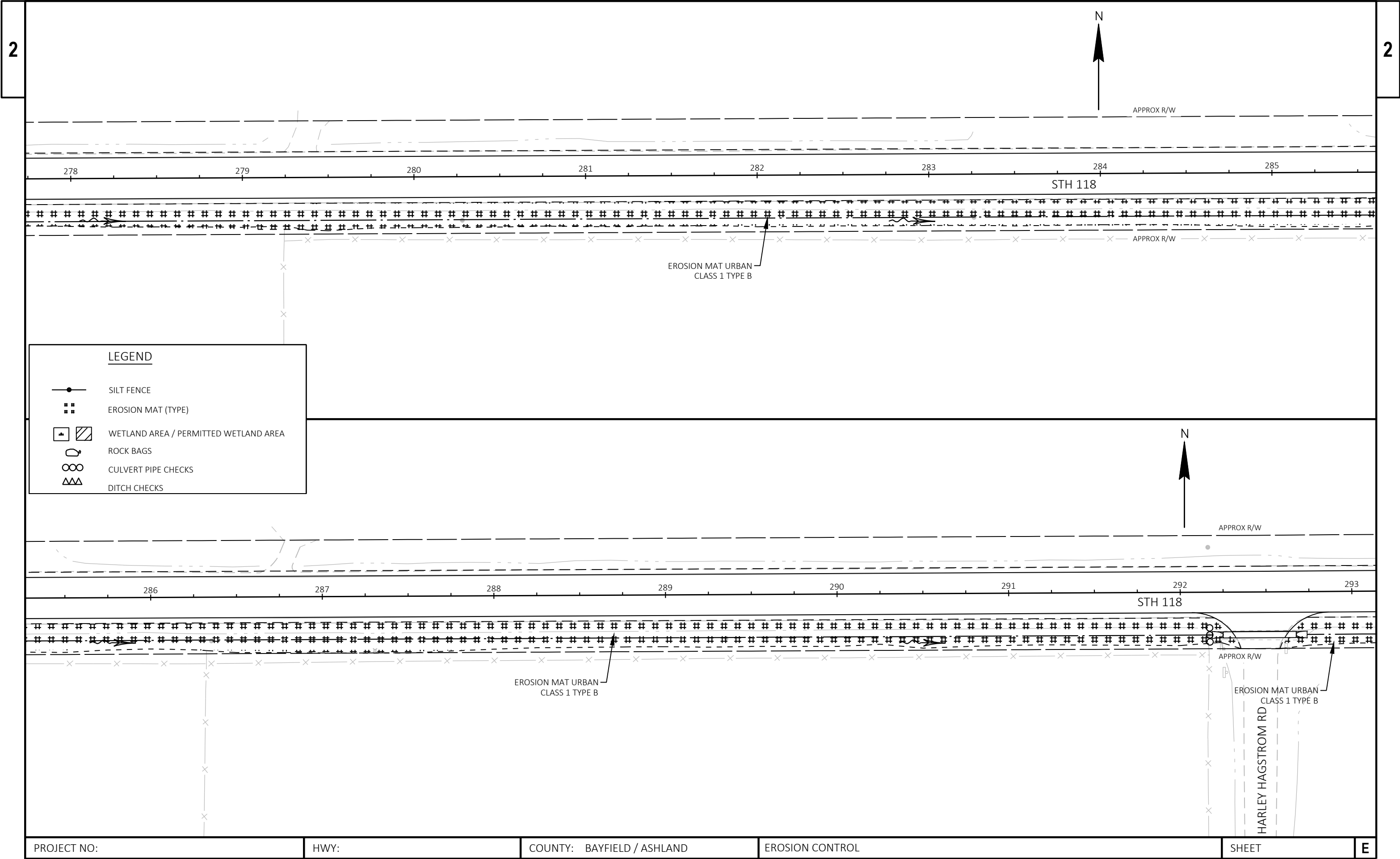
LEGEND

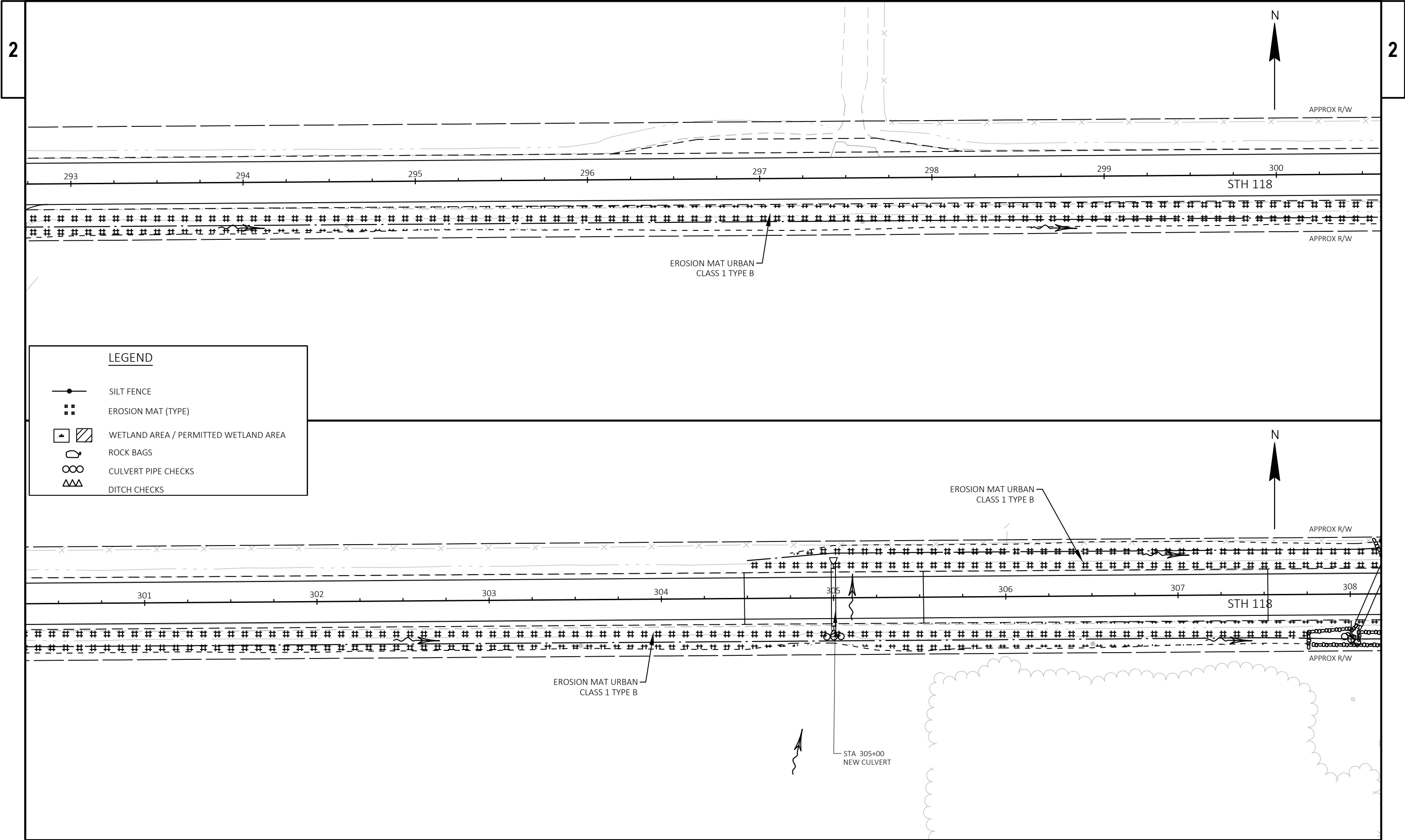
- SILT FENCE
- EROSION MAT (TYPE)
- WETLAND AREA / PERMITTED WETLAND AREA
- ROCK BAGS
- CULVERT PIPE CHECKS
- DITCH CHECKS



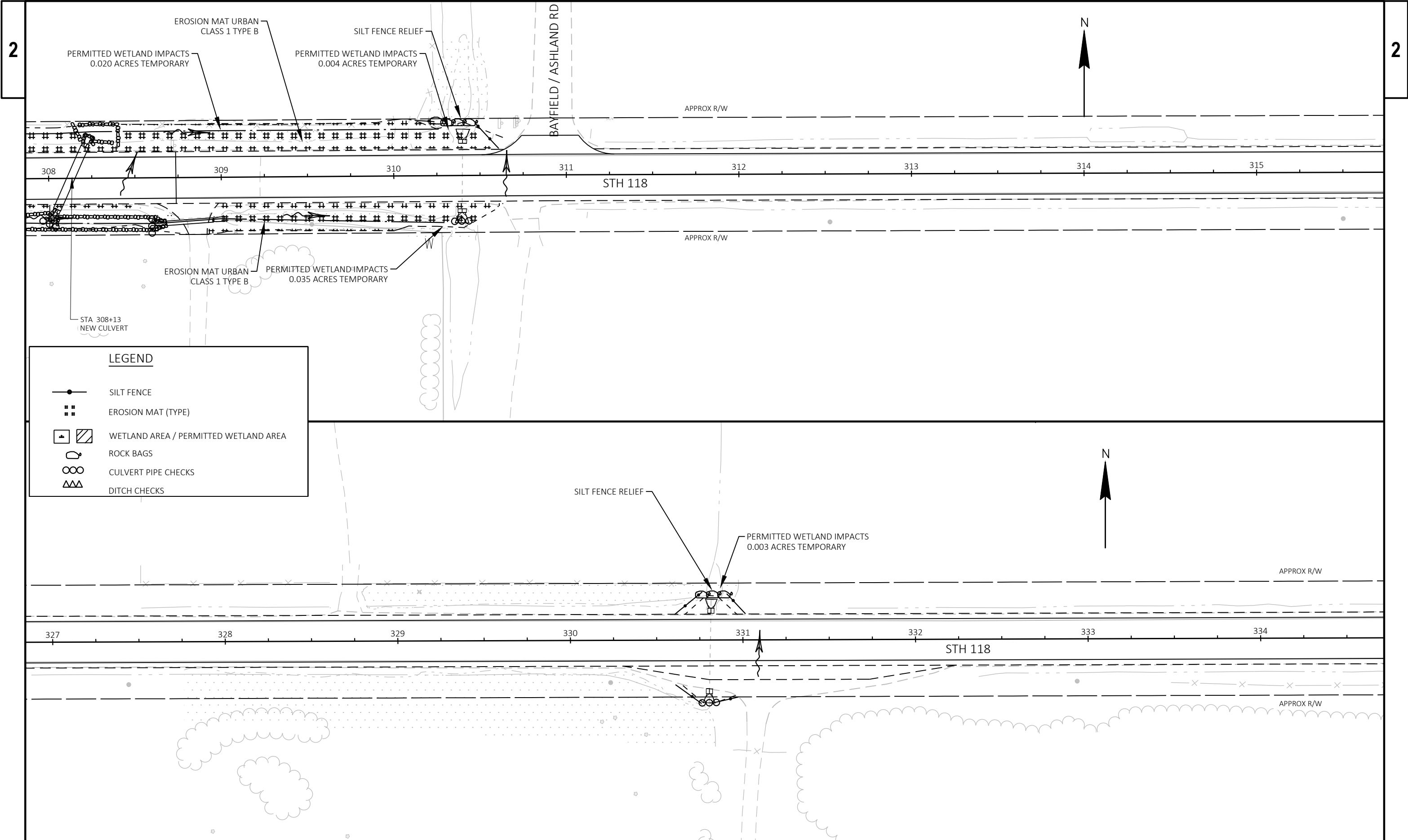
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	EROSION CONTROL	SHEET	E
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PROJECT NO:	HWY:	COUNTY: BAYFIELD / ASHLAND	EROSION CONTROL	SHEET	E
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LEGEND

SILT FENCE

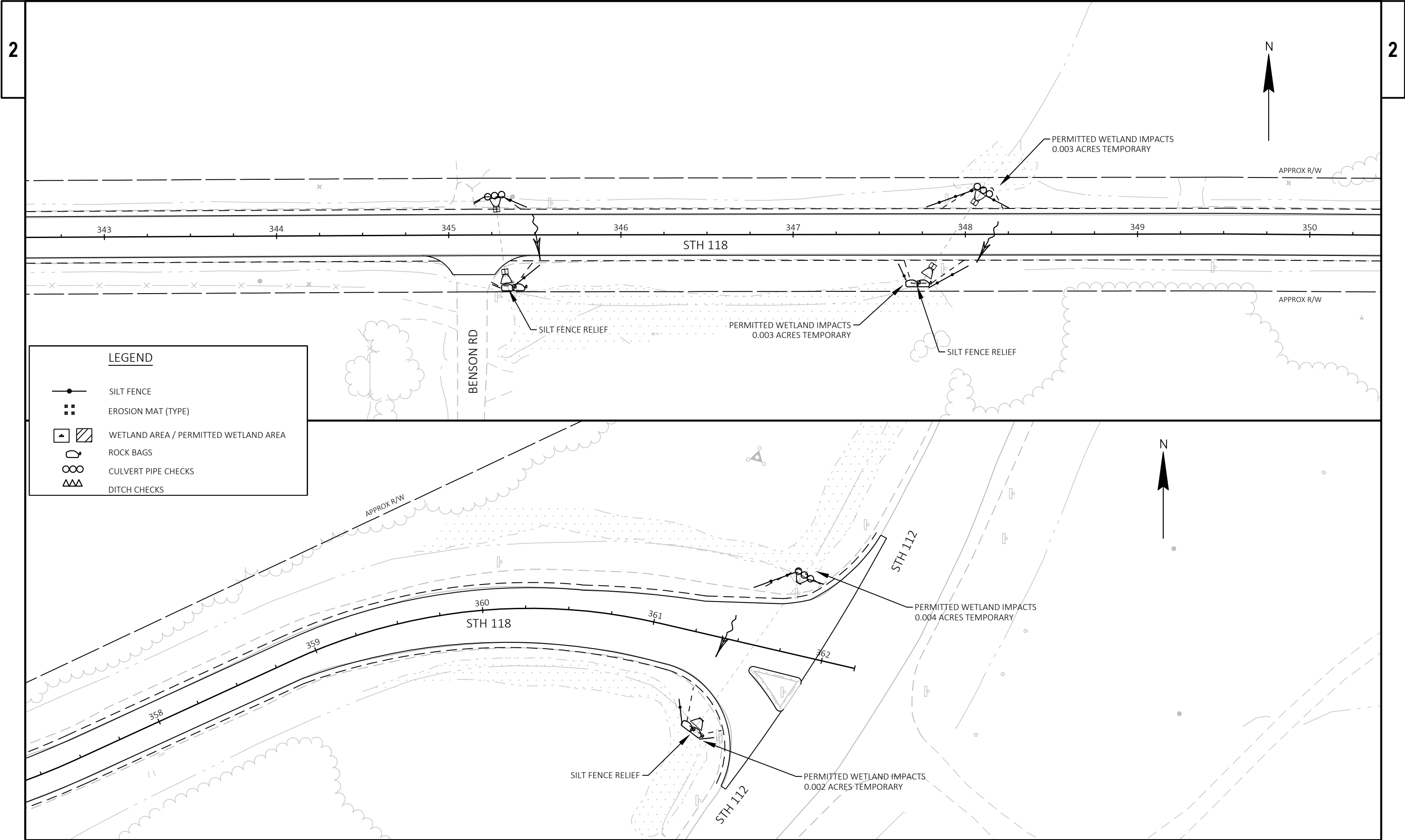
EROSION MAT (TYPE)

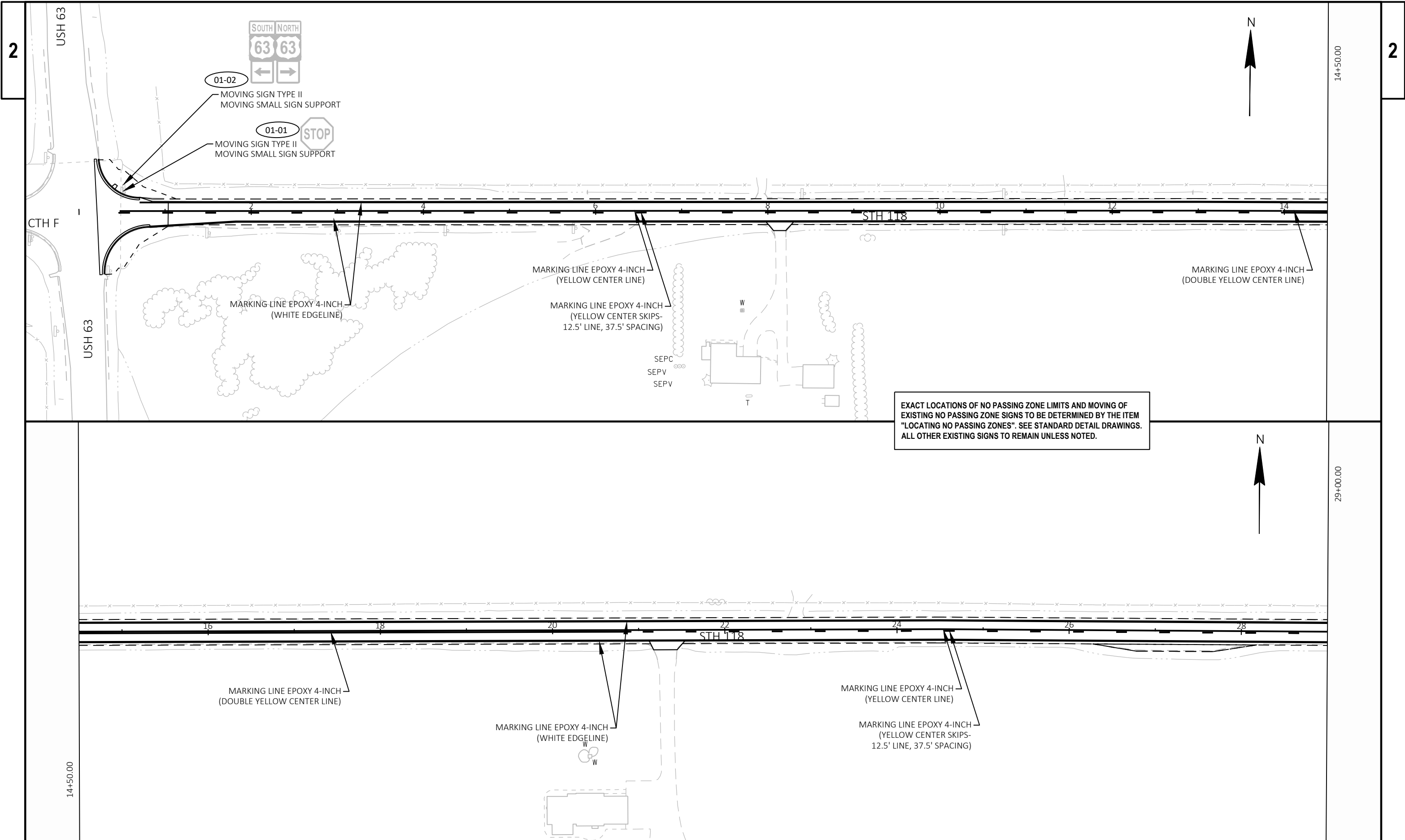
WETLAND AREA / PERMITTED WETLAND AREA

ROCK BAGS

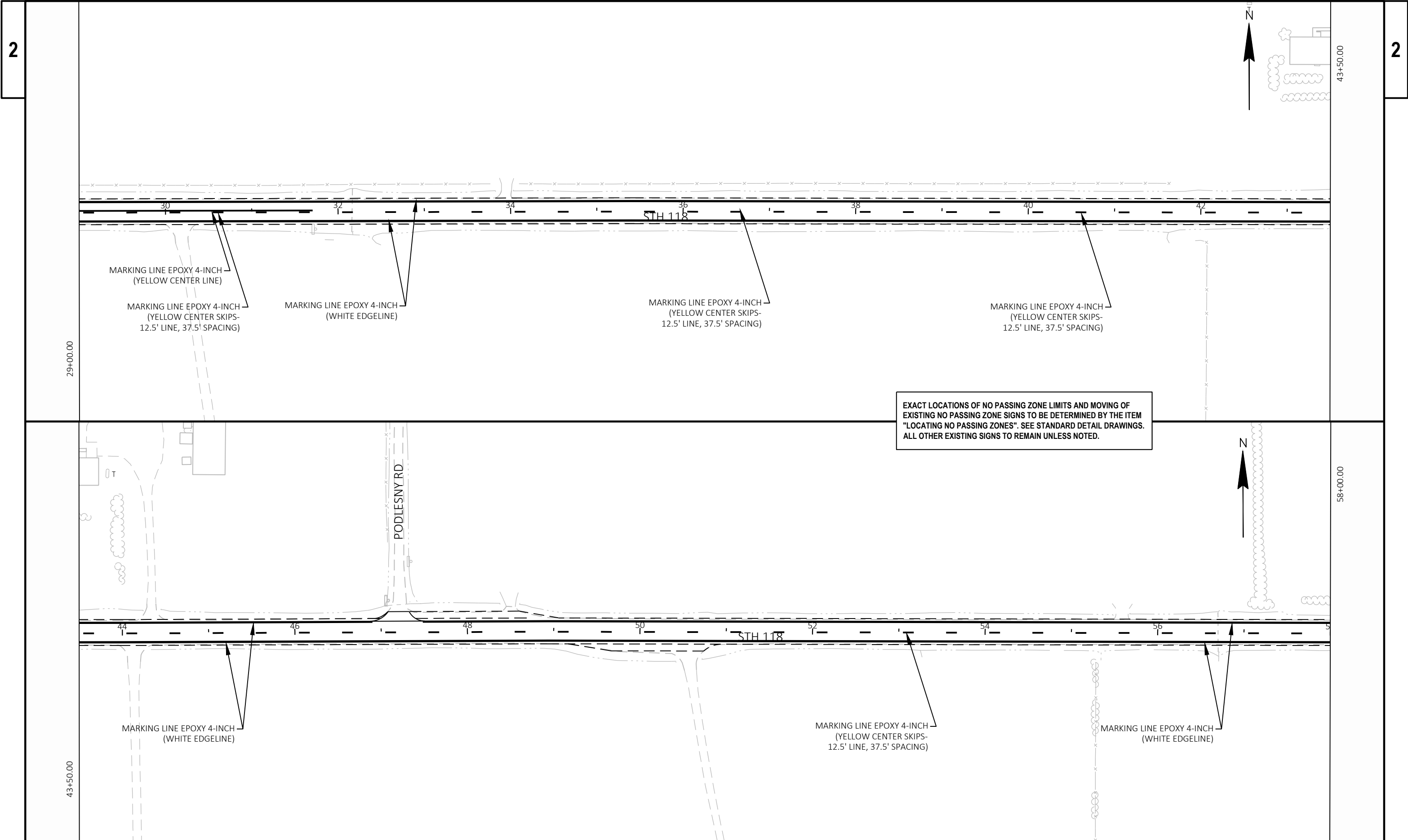
CULVERT PIPE CHECKS

DITCH CHECKS

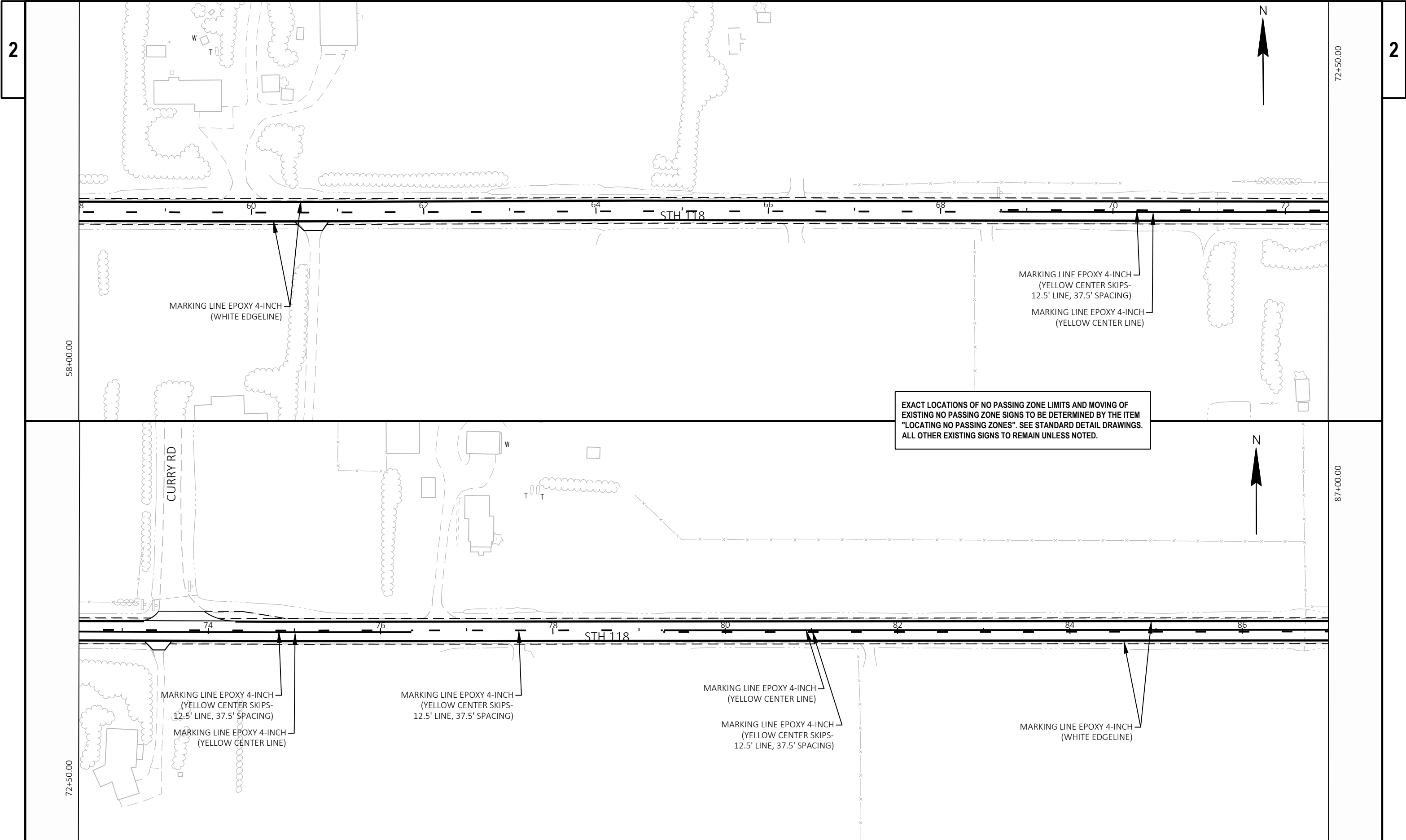




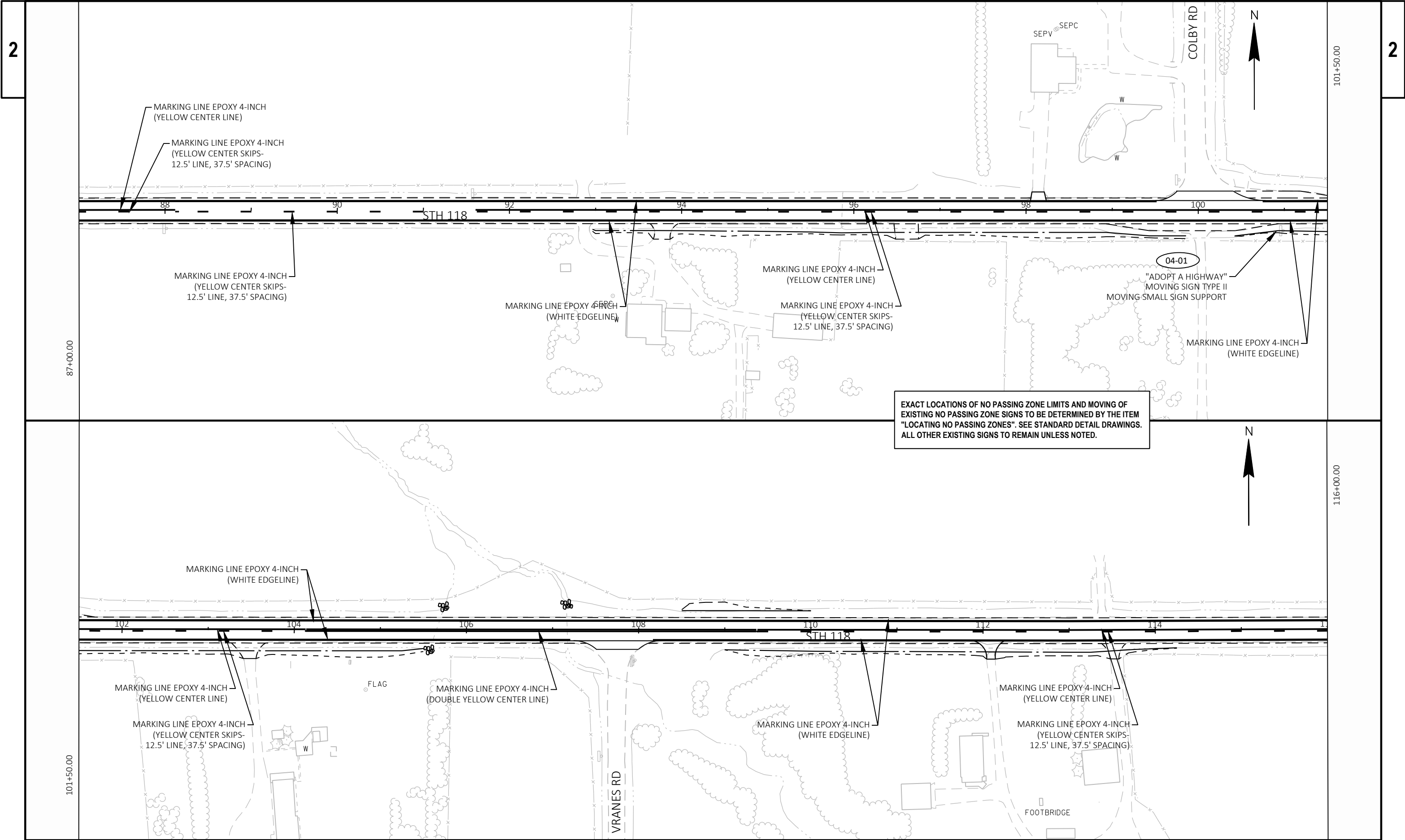
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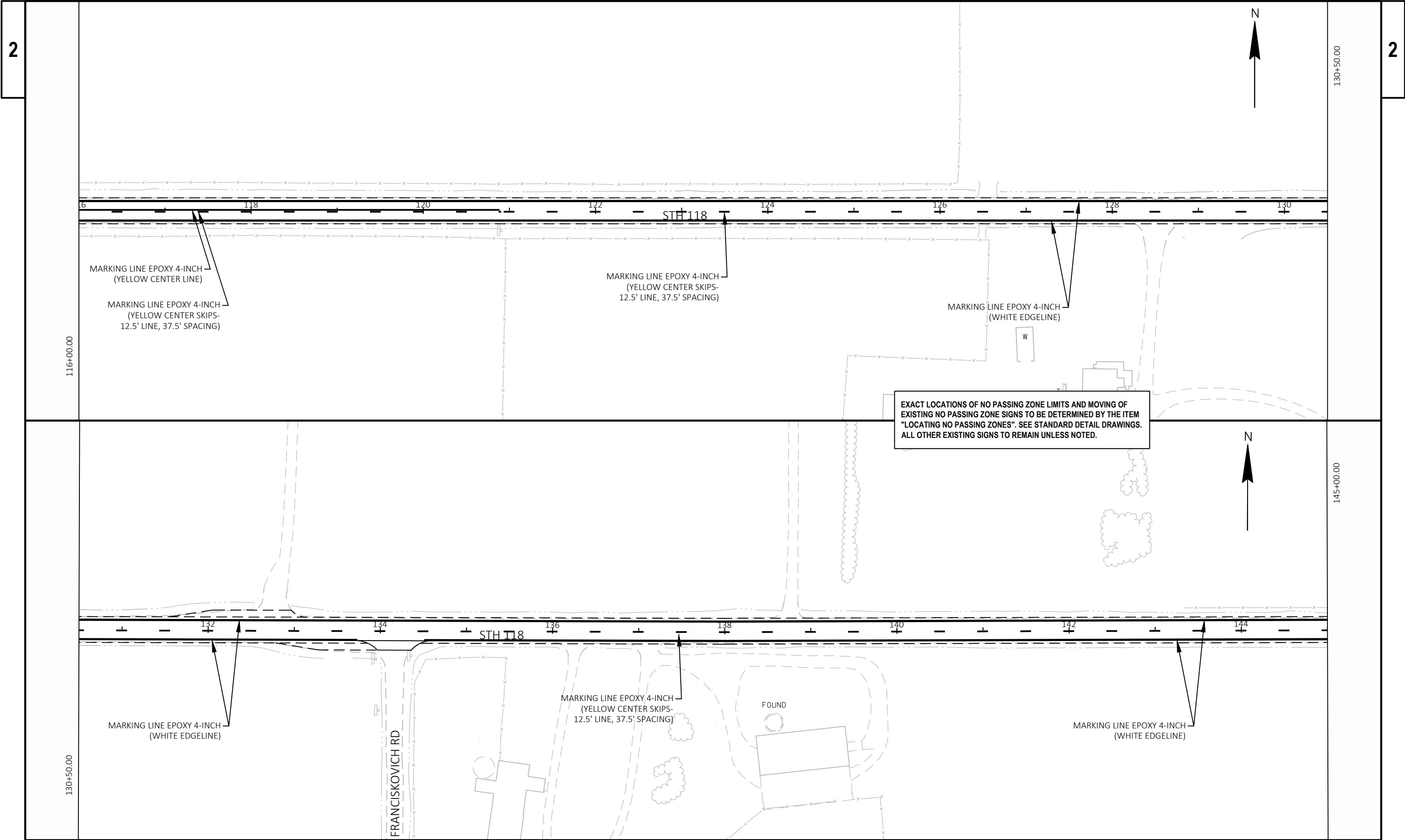
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	SIGNING AND PAVEMENT MARKING	SHEET	E
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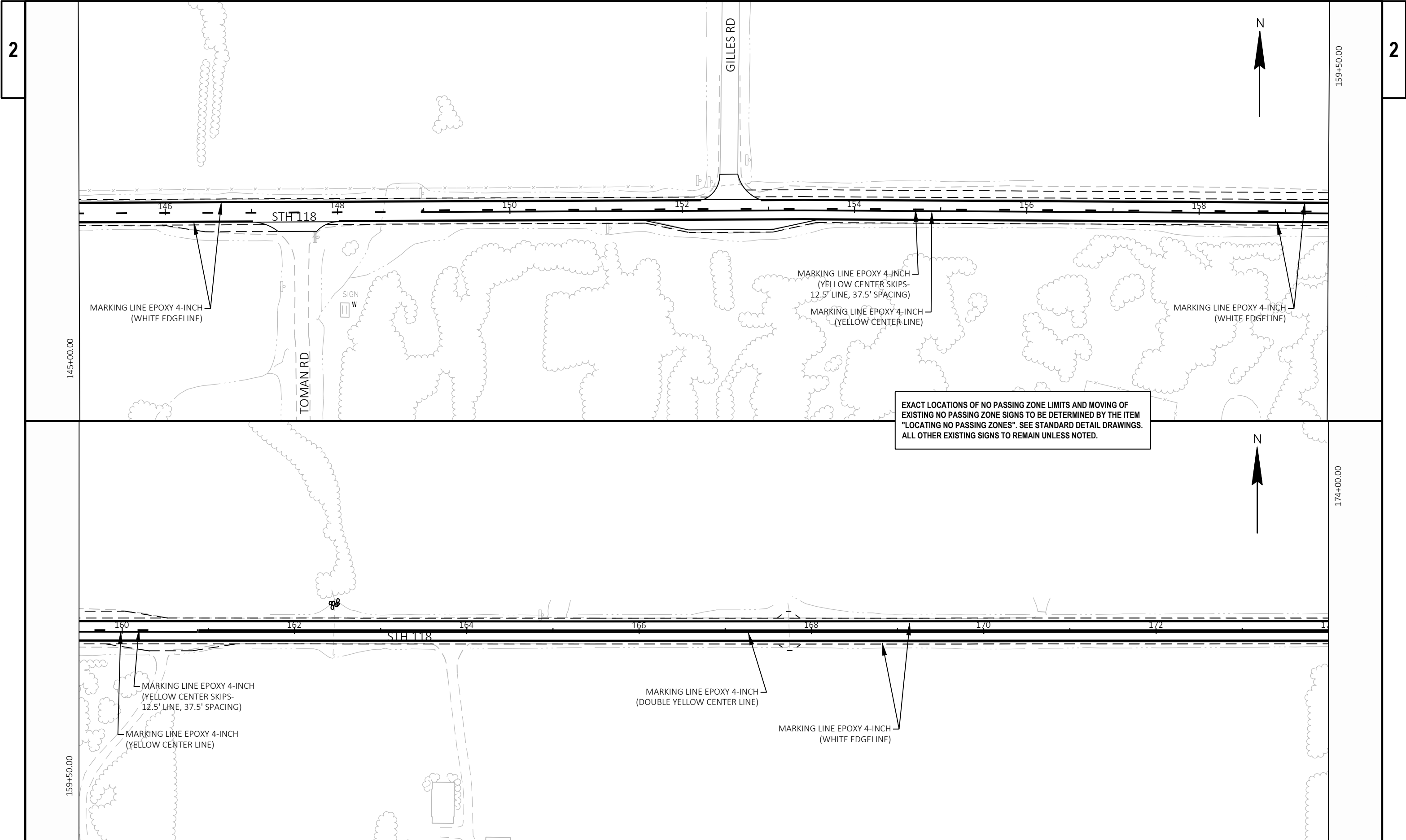
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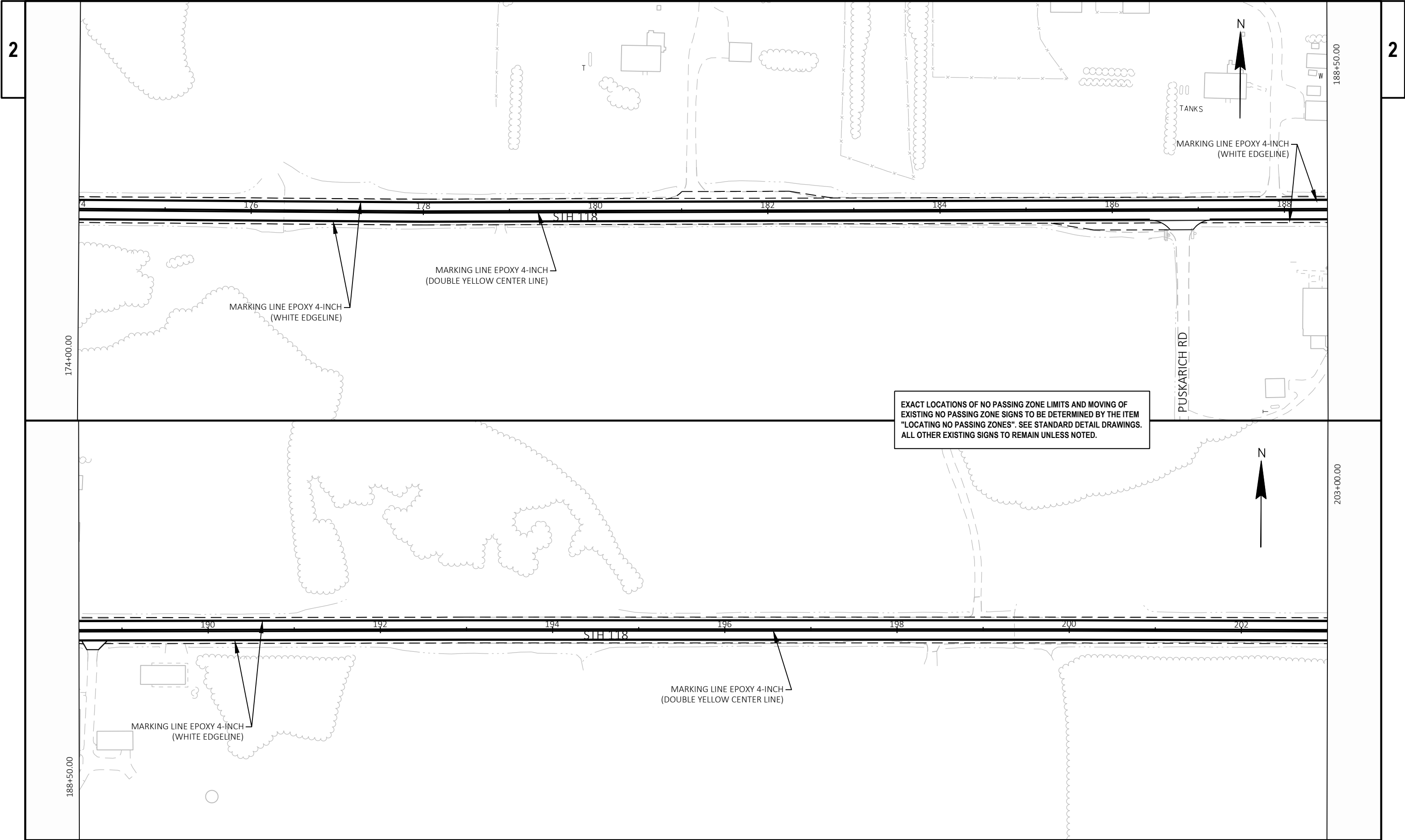
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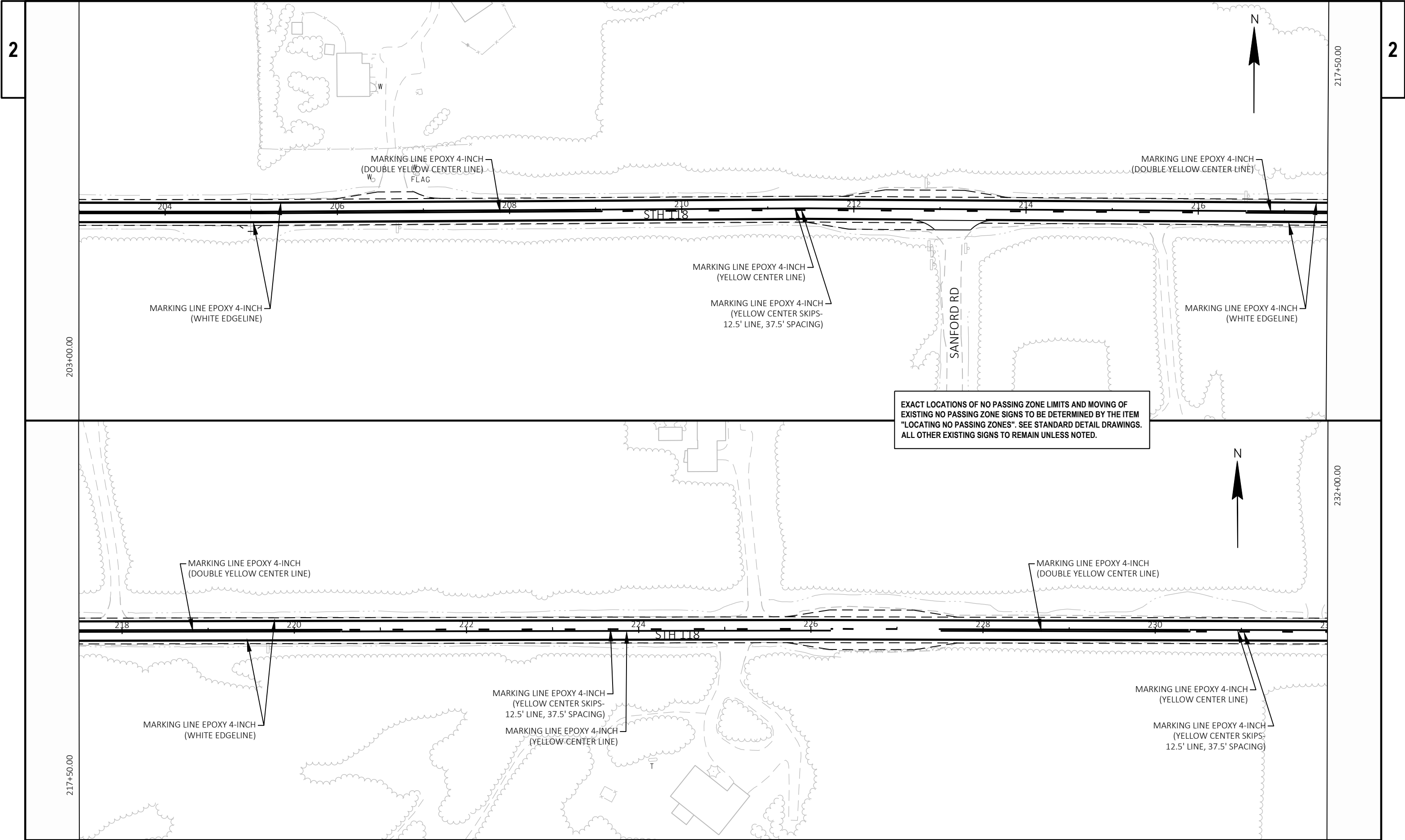
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	SIGNING AND PAVEMENT MARKING	SHEET	E
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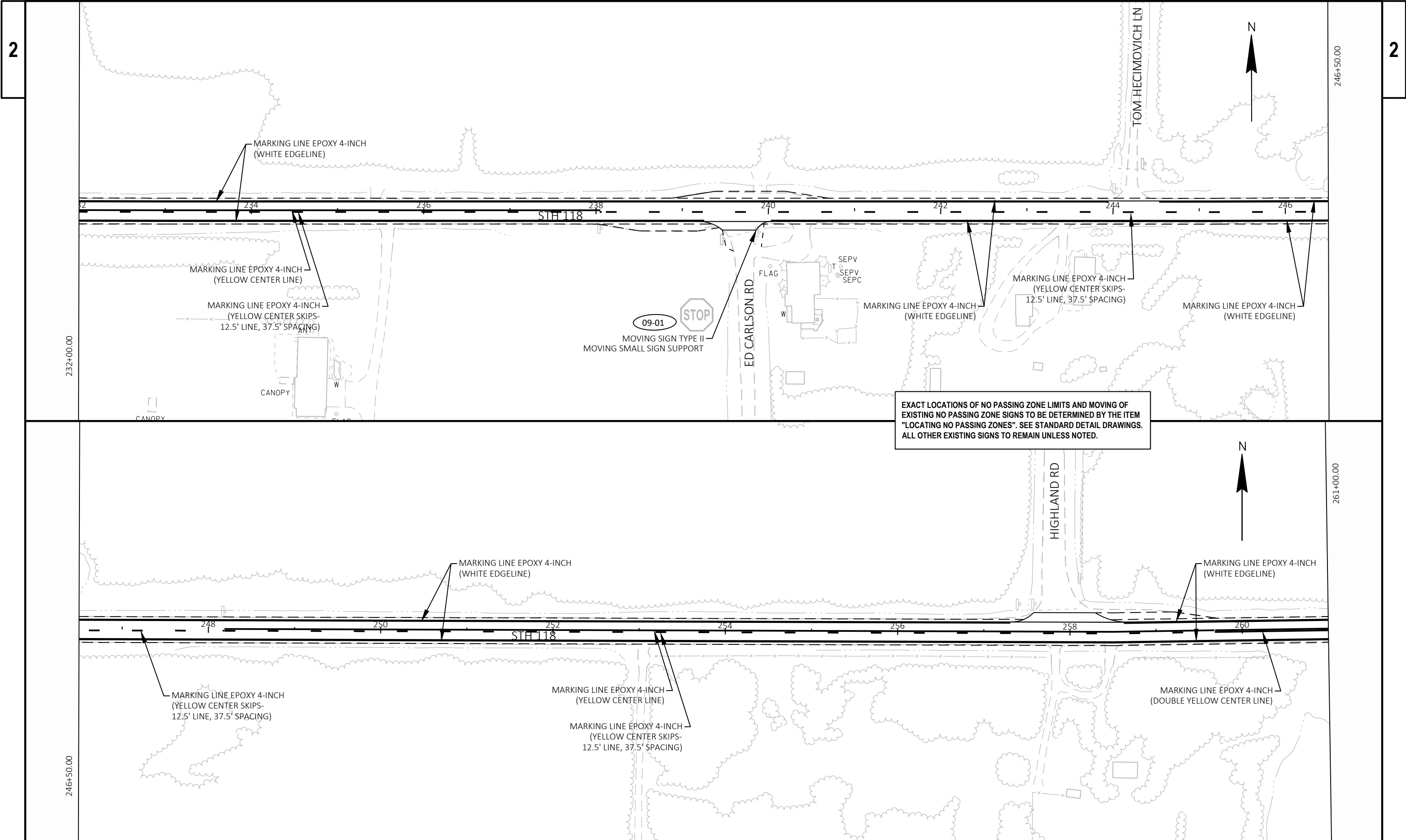
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	SIGNING AND PAVEMENT MARKING	SHEET	E
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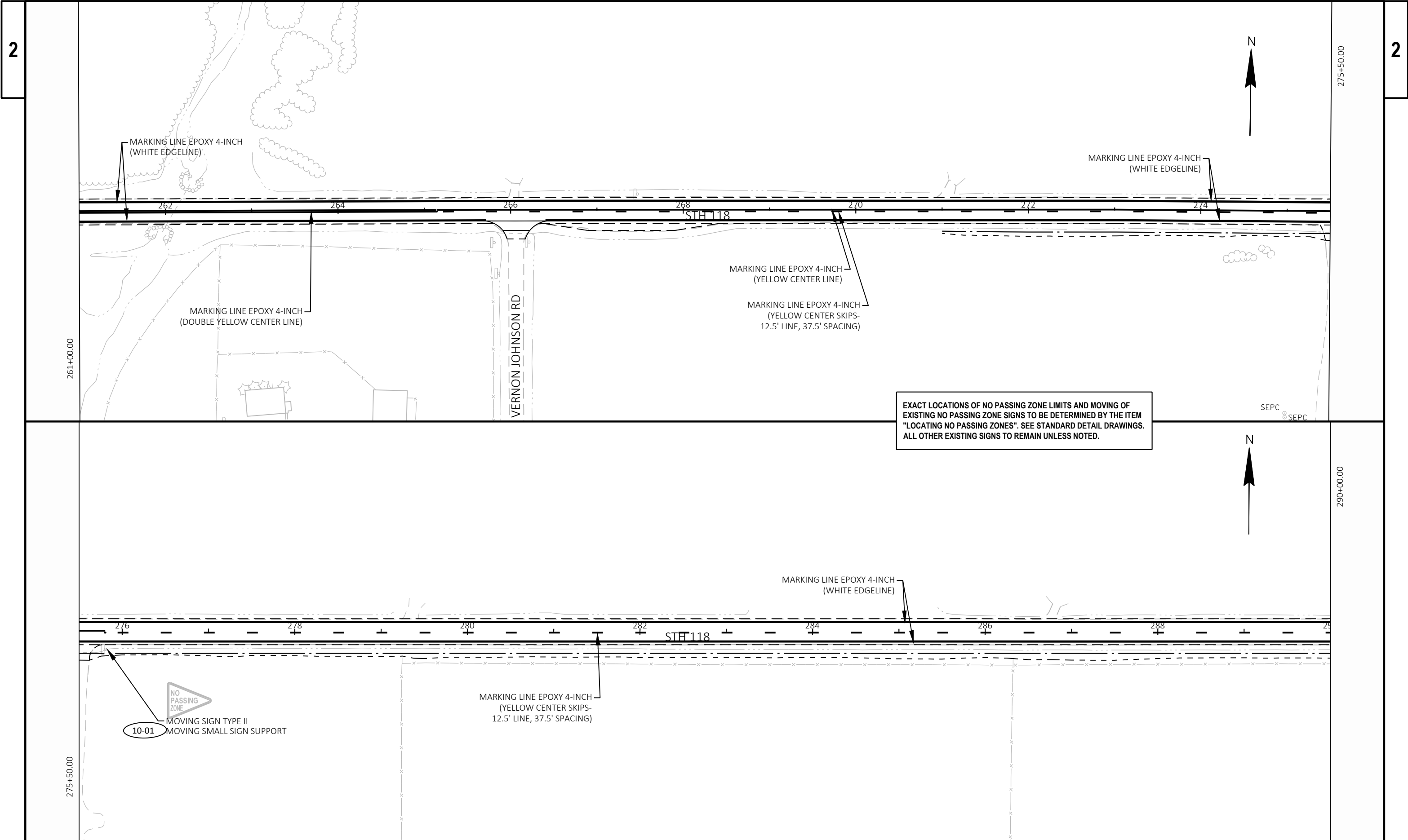
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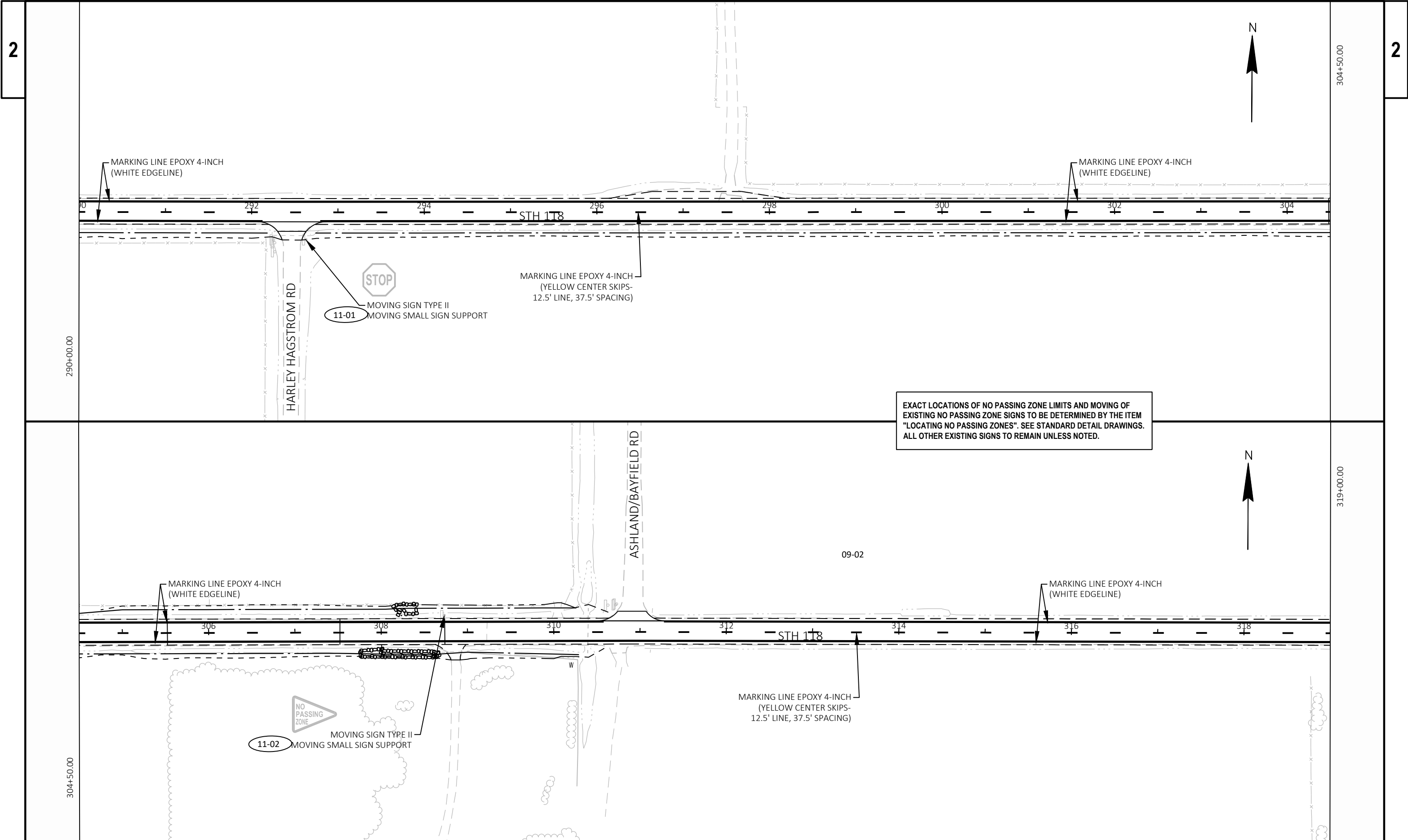
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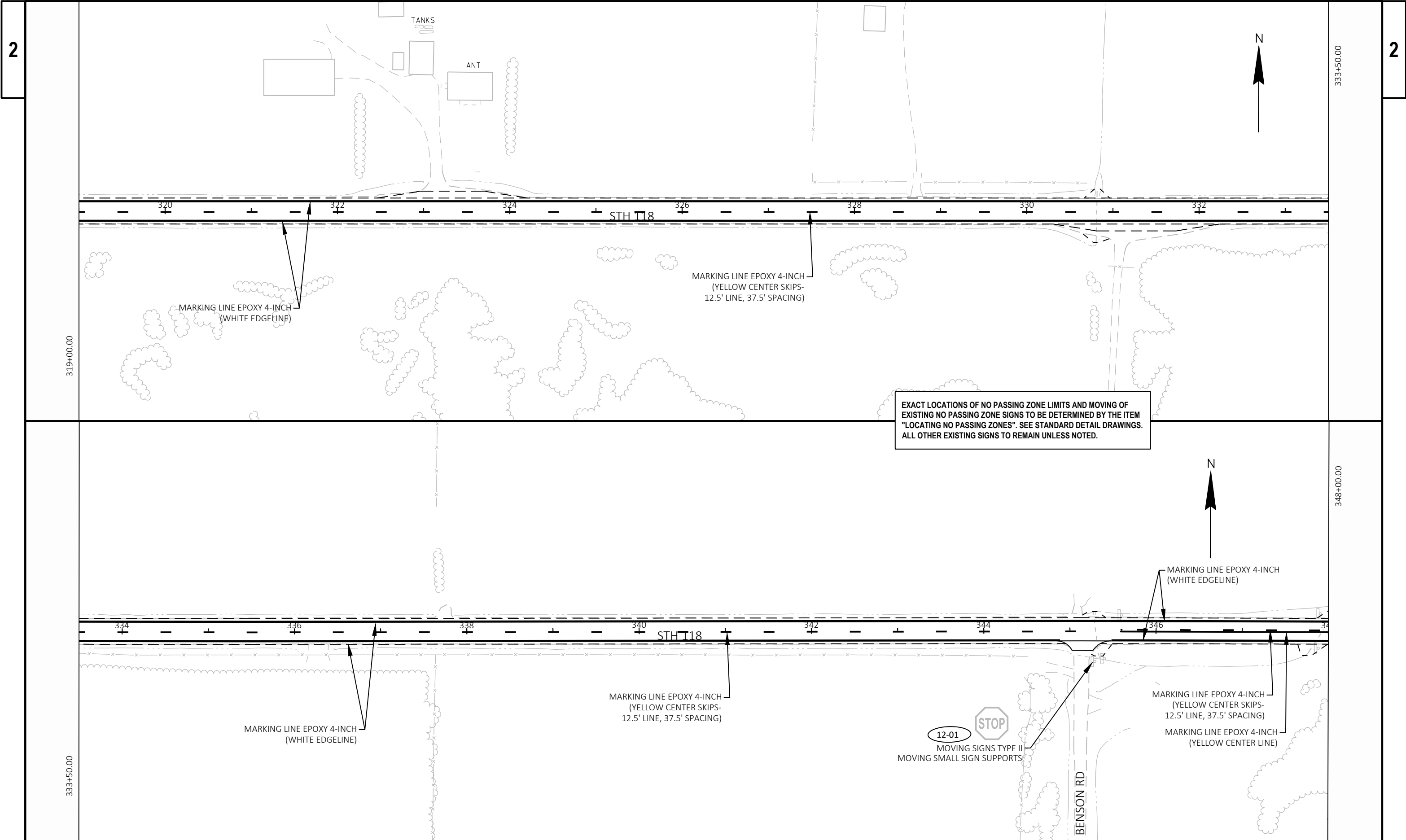
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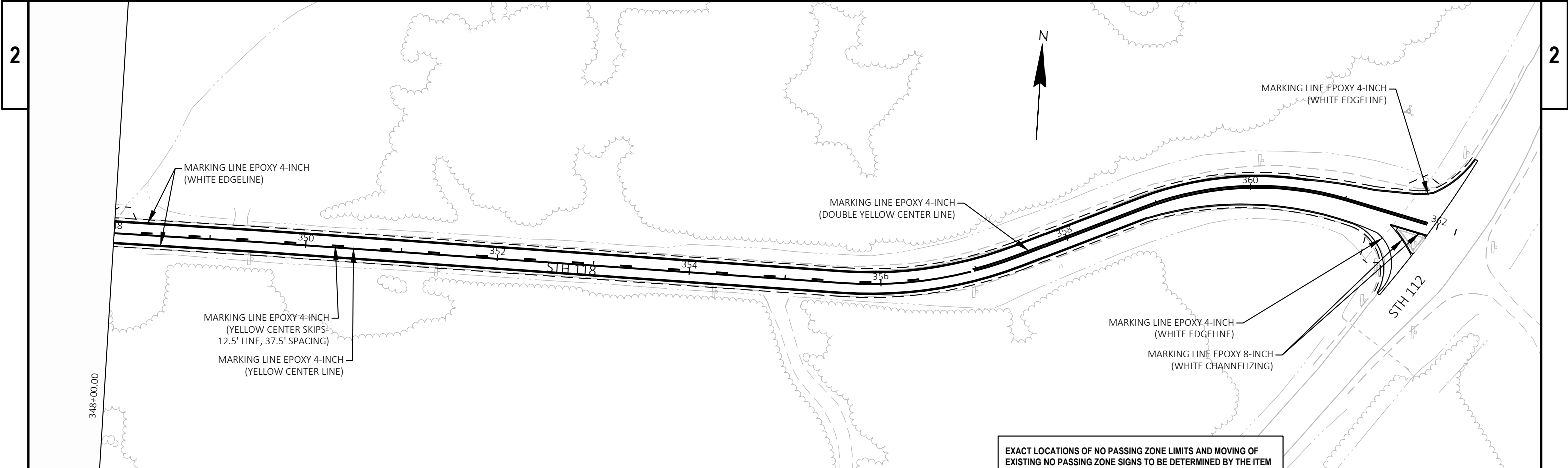
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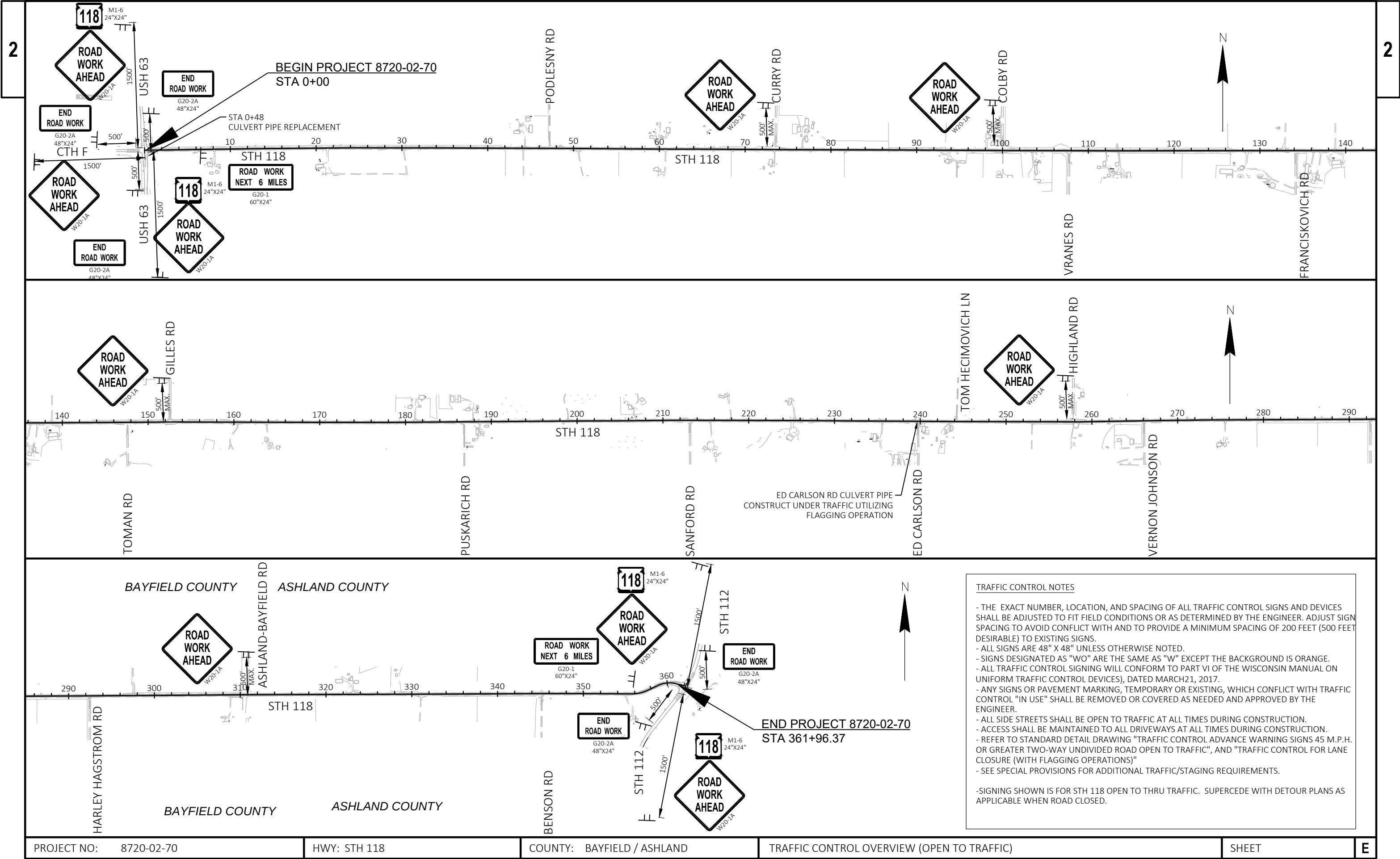


PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	SIGNING AND PAVEMENT MARKING	SHEET	E
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PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	SIGNING AND PAVEMENT MARKING	SHEET	E
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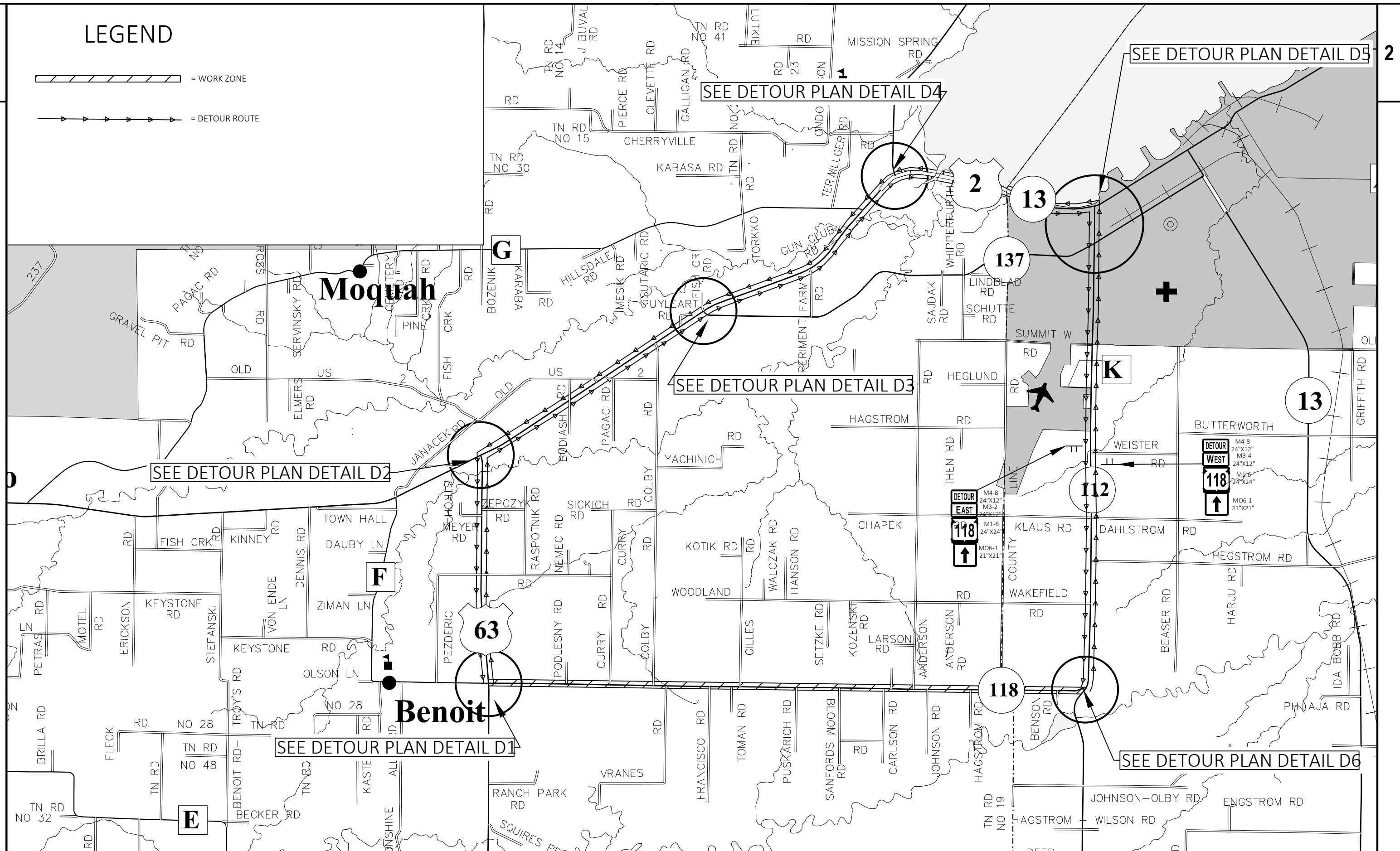




PROJECT NO: 8720-02-70	HWY: STH 118	COUNTY: BAYFIELD / ASHLAND	TRAFFIC CONTROL OVERVIEW (OPEN TO TRAFFIC)	SHEET	E
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 = WORK ZONE

→ → → → → → = DETOUR ROUTE



PROJECT NO:	8725-02-70
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HWY: STH 118

COUNTY: ASHLAND AND BAYFIELD

DETOUR OVERVIEW

SHEET

FILE NAME : S:\DESIGN\DESIGN PROJECTS\NW REGION PROJECTS\WOR-8725-02-00 (STH 118)\C3D\SHEETS\PLAN\027001-DT-OVERVIEW-118.DWG
LAYOUT NAME - Overview

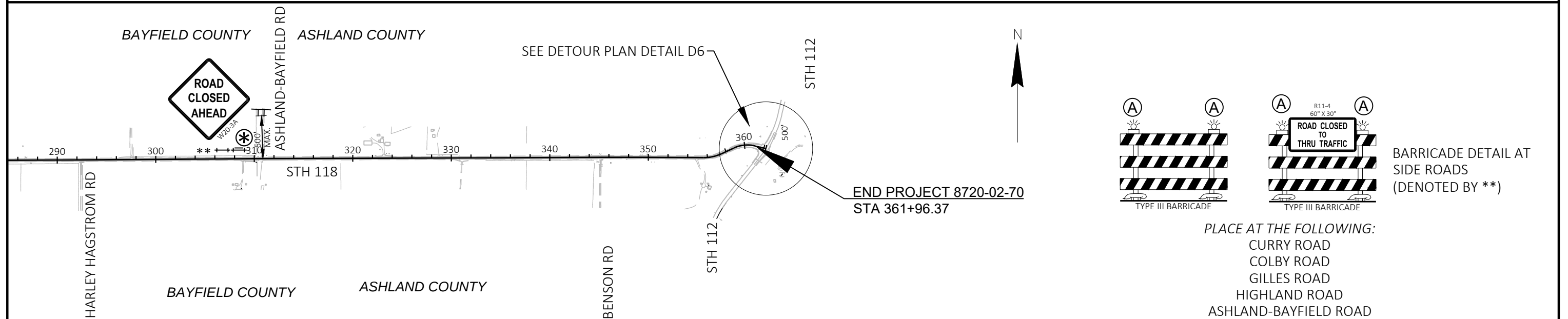
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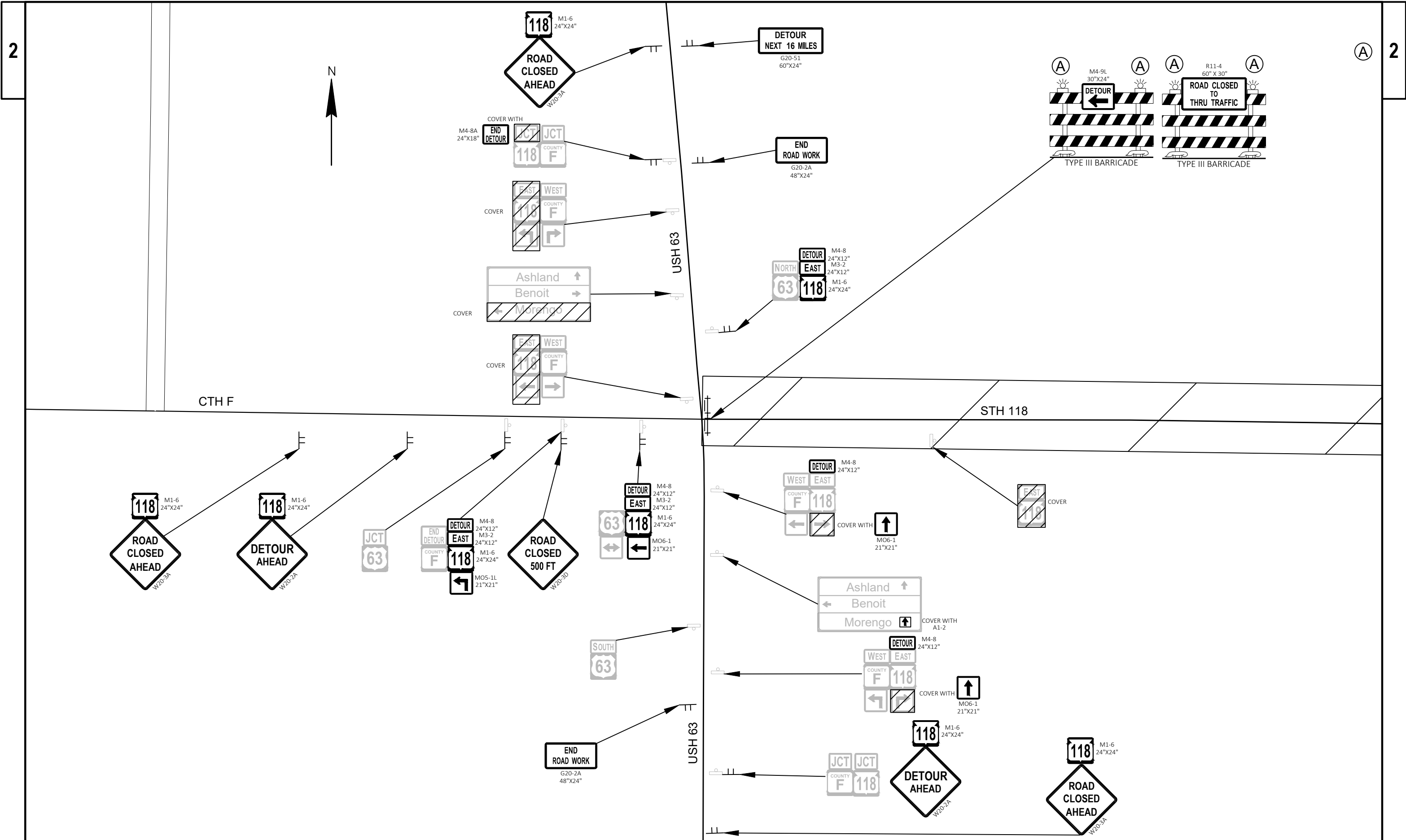
PLOT BY : ADAM OSYPOWSKI

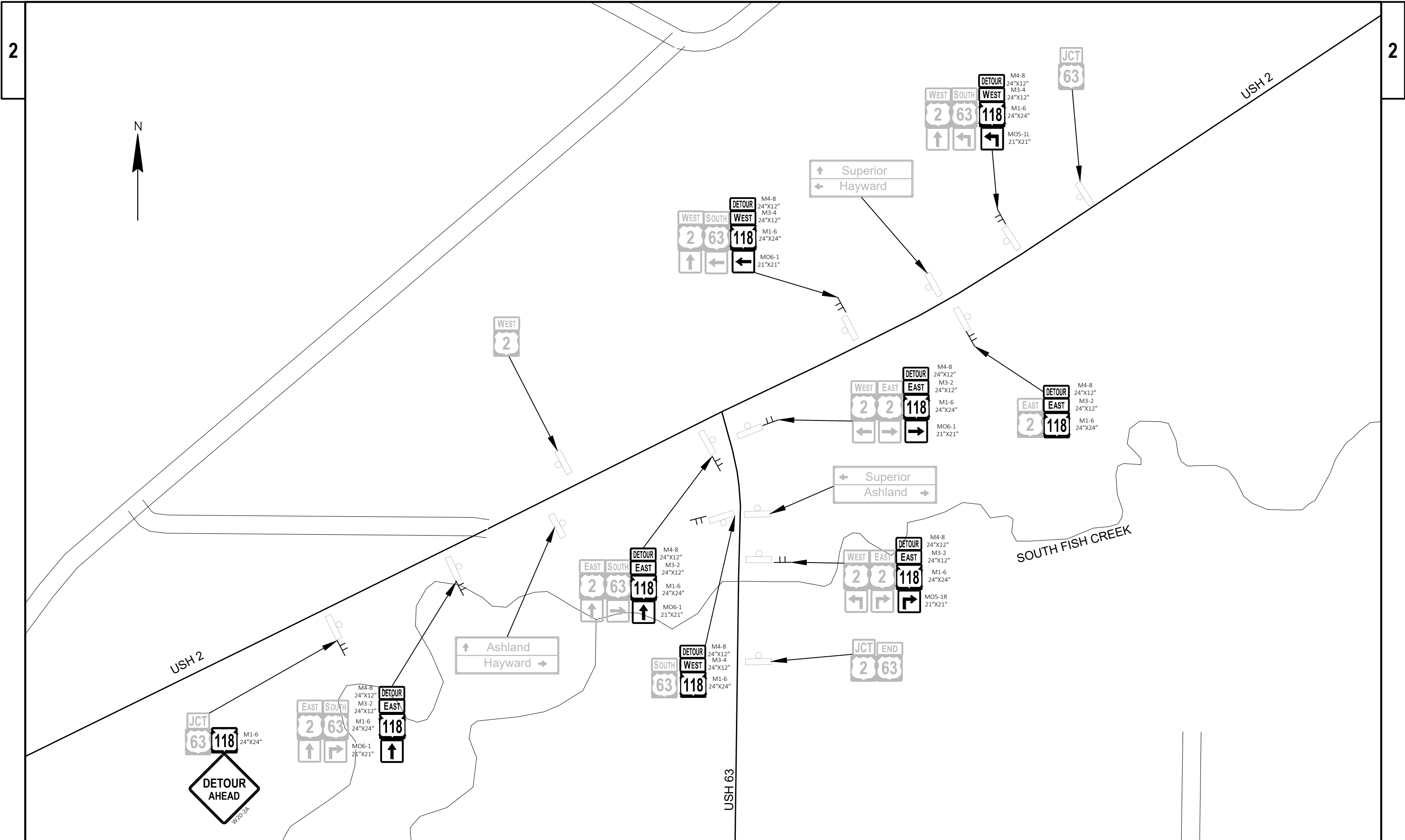
PLOT NAME :

PLOT SCALE : 1 IN:1 MI

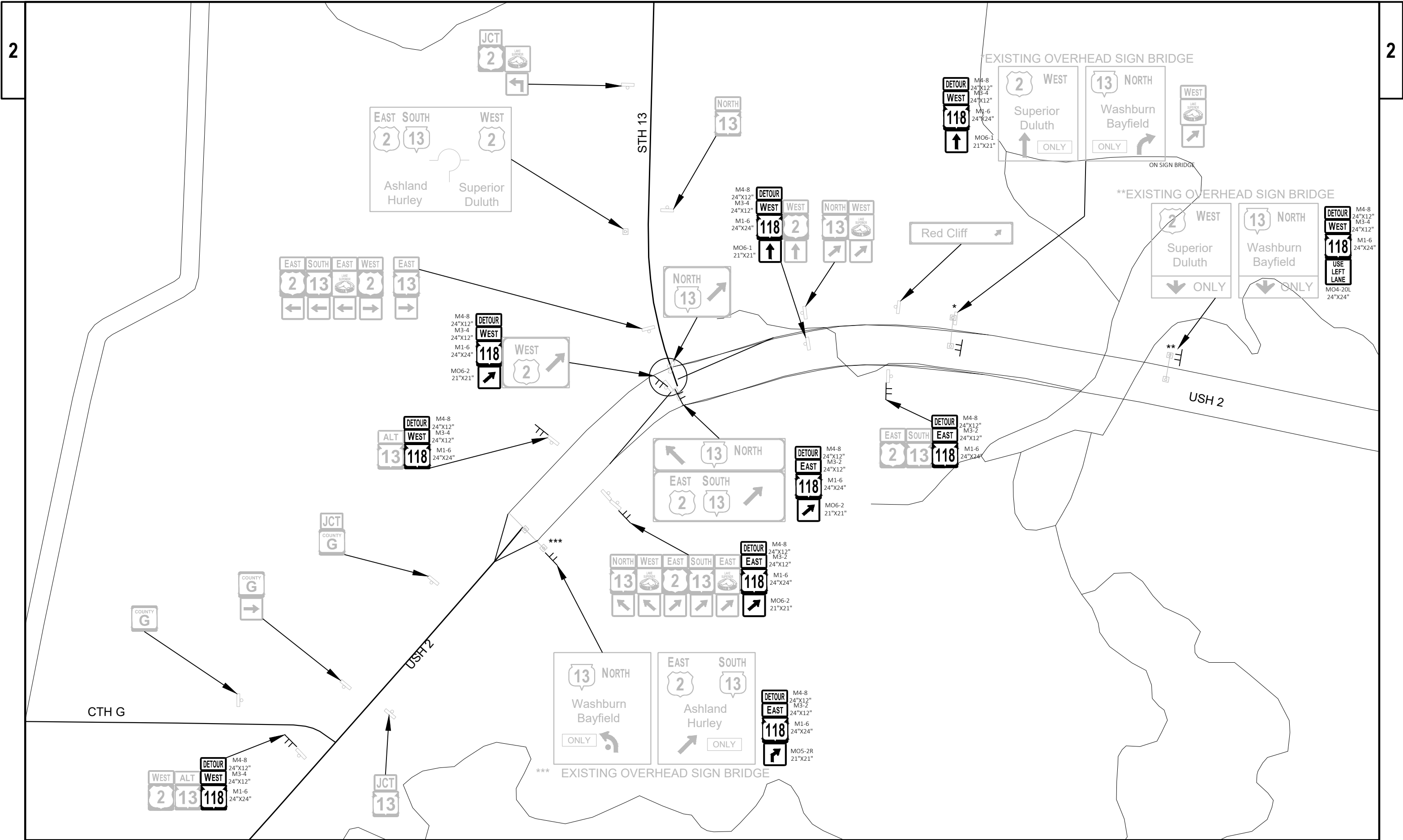
WISDOT/CADDS SHEET 42

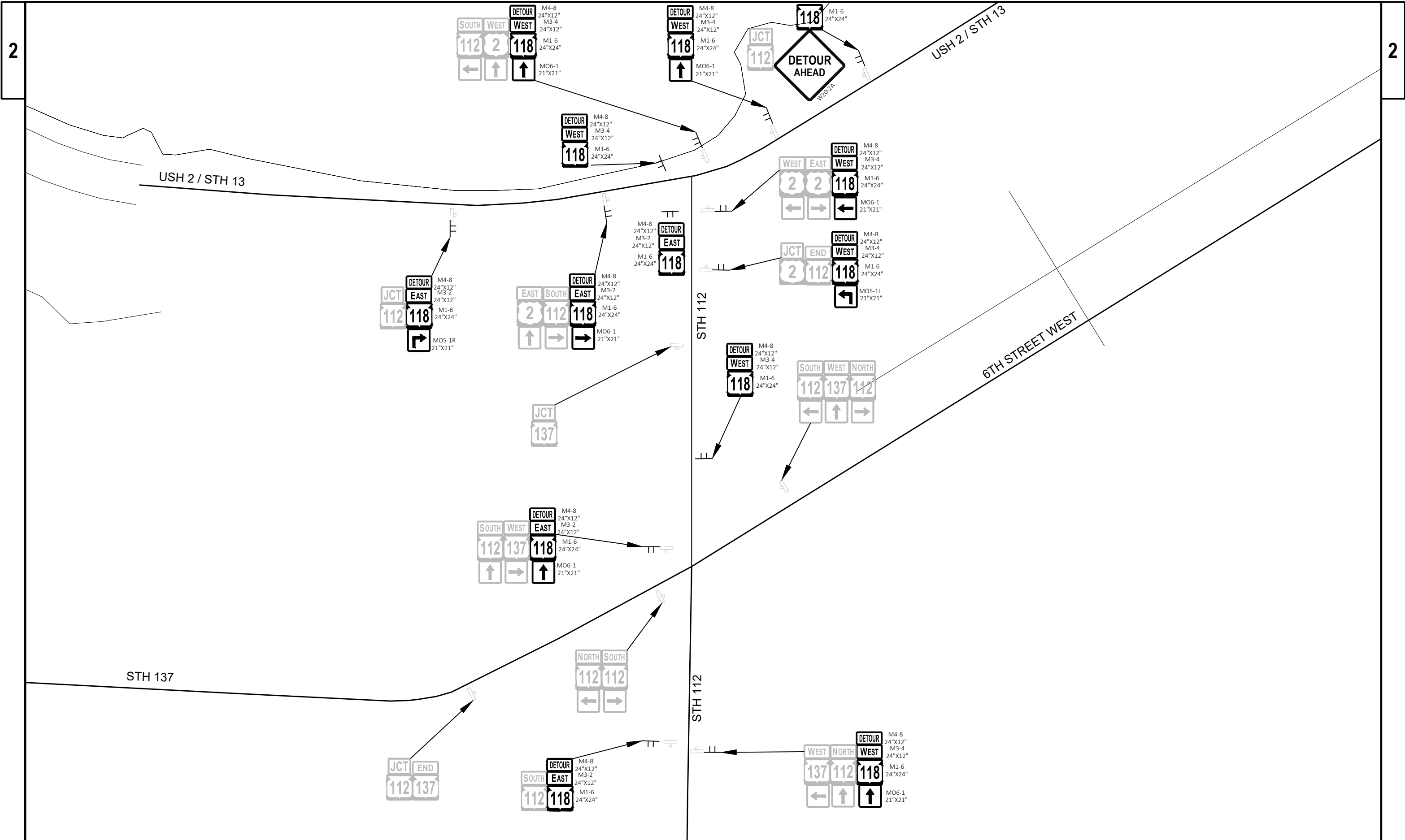












Estimate Of Quantities

8725-02-70

Line	Item	Item Description	Unit	Total	Qty
0002	201.0120	Clearing	ID	32.000	32.000
0004	201.0220	Grubbing	ID	32.000	32.000
0006	203.0100	Removing Small Pipe Culverts	EACH	16.000	16.000
0008	204.0110	Removing Asphaltic Surface	SY	187.000	187.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	815.000	815.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	94,330.000	94,330.000
0014	204.0150	Removing Curb & Gutter	LF	166.000	166.000
0016	205.0100	Excavation Common	CY	2,634.000	2,634.000
0018	209.2100	Backfill Granular Grade 2	CY	950.000	950.000
0020	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 8725-02-70	LS	1.000	1.000
0022	213.0100	Finishing Roadway (project) 01. 8725-02-70	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	7,326.000	7,326.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,203.000	1,203.000
0028	305.0500	Shaping Shoulders	STA	362.000	362.000
0030	455.0605	Tack Coat	GAL	12,640.000	12,640.000
0032	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0034	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	2.000	2.000
0036	460.2005	Incentive Density PWL HMA Pavement	DOL	19,223.000	19,223.000
0038	460.2007	Incentive Density HMA Pavement Longitudinal Joints	DOL	28,940.000	28,940.000
0040	460.2010	Incentive Air Voids HMA Pavement	DOL	20,971.000	20,971.000
0042	460.6644	HMA Pavement 4 MT 58-34 V	TON	20,971.000	20,971.000
0044	465.0105	Asphaltic Surface	TON	575.000	575.000
0046	465.0110	Asphaltic Surface Patching	TON	200.000	200.000
0048	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	21.000	21.000
0050	465.0315	Asphaltic Flumes	SY	3.000	3.000
0052	520.8000	Concrete Collars for Pipe	EACH	8.000	8.000
0054	520.8700	Cleaning Culvert Pipes	EACH	3.000	3.000
0056	521.1503	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 4 to 1	EACH	8.000	8.000
0058	521.1505	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 24-Inch 4 to 1	EACH	4.000	4.000
0060	521.1506	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 30-Inch 4 to 1	EACH	2.000	2.000
0062	521.1709	Apron Endwalls for Pipe Arch Sloped Side Drains Steel 42x29-Inch 4 to 1	EACH	2.000	2.000
0064	521.5742	Pipe Arch Polymer Coated Corrugated Steel 42x29-Inch	LF	43.000	43.000
0066	522.0424	Culvert Pipe Reinforced Concrete Class IV 24-Inch	LF	132.000	132.000
0068	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	4.000	4.000
0070	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete	EACH	6.000	6.000

Estimate Of Quantities

8725-02-70

Line	Item	Item Description	Unit	Total	Qty
		36-Inch			
0072	522.1048	Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch	EACH	2.000	2.000
0074	522.2429	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch	LF	40.000	40.000
0076	522.2629	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch	EACH	2.000	2.000
0078	525.0124	Culvert Pipe Corrugated Aluminum 24-Inch	LF	2.000	2.000
0080	525.0324	Apron Endwalls for Culvert Pipe Aluminum 24-Inch	EACH	4.000	4.000
0082	525.0336	Apron Endwalls for Culvert Pipe Aluminum 36-Inch	EACH	2.000	2.000
0084	530.0118	Culvert Pipe Corrugated Polyethylene 18-Inch	LF	138.000	138.000
0086	530.0124	Culvert Pipe Corrugated Polyethylene 24-Inch	LF	53.000	53.000
0088	530.0130	Culvert Pipe Corrugated Polyethylene 30-Inch	LF	27.000	27.000
0090	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	166.000	166.000
0092	606.0200	Riprap Medium	CY	82.000	82.000
0094	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8725-02-70	EACH	1.000	1.000
0096	619.1000	Mobilization	EACH	1.000	1.000
0098	621.0100	Landmark Reference Monuments	EACH	100.000	100.000
0100	624.0100	Water	MGAL	130.000	130.000
0102	625.0100	Topsoil	SY	11,590.000	11,590.000
0104	627.0200	Mulching	SY	690.000	690.000
0106	628.1504	Silt Fence	LF	635.000	635.000
0108	628.1520	Silt Fence Maintenance	LF	635.000	635.000
0110	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0112	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0114	628.2008	Erosion Mat Urban Class I Type B	SY	10,900.000	10,900.000
0116	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0118	628.7555	Culvert Pipe Checks	EACH	60.000	60.000
0120	628.7570	Rock Bags	EACH	155.000	155.000
0122	629.0210	Fertilizer Type B	CWT	7.470	7.470
0124	630.0140	Seeding Mixture No. 40	LB	211.000	211.000
0126	630.0500	Seed Water	MGAL	651.000	651.000
0128	633.5200	Markers Culvert End	EACH	28.000	28.000
0130	638.2102	Moving Signs Type II	EACH	11.000	11.000
0132	638.4000	Moving Small Sign Supports	EACH	11.000	11.000
0134	642.5001	Field Office Type B	EACH	1.000	1.000
0136	643.0300	Traffic Control Drums	DAY	1,390.000	1,390.000
0138	643.0420	Traffic Control Barricades Type III	DAY	1,218.000	1,218.000
0140	643.0705	Traffic Control Warning Lights Type A	DAY	2,282.000	2,282.000
0142	643.0900	Traffic Control Signs	DAY	16,261.000	16,261.000

Estimate Of Quantities

8725-02-70

Line	Item	Item Description	Unit	Total	Qty
0144	643.0920	Traffic Control Covering Signs Type II	EACH	13.000	13.000
0146	643.1000	Traffic Control Signs Fixed Message	SF	60.000	60.000
0148	643.5000	Traffic Control	EACH	1.000	1.000
0150	645.0120	Geotextile Type HR	SY	219.000	219.000
0152	646.1020	Marking Line Epoxy 4-Inch	LF	73,175.000	73,175.000
0154	646.3020	Marking Line Epoxy 8-Inch	LF	80.000	80.000
0156	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	38,010.000	38,010.000
0158	648.0100	Locating No-Passing Zones	MI	6.900	6.900
0160	649.0105	Temporary Marking Line Paint 4-Inch	LF	76,020.000	76,020.000
0162	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	166.000	166.000
0164	650.6000	Construction Staking Pipe Culverts	EACH	11.000	11.000
0166	650.8000	Construction Staking Resurfacing Reference	LF	36,175.000	36,175.000
0168	650.9910	Construction Staking Supplemental Control (project) 01. 8725-02-70	LS	1.000	1.000
0170	650.9920	Construction Staking Slope Stakes	LF	5,787.000	5,787.000
0172	690.0150	Sawing Asphalt	LF	936.000	936.000
0174	740.0440	Incentive IRI Ride	DOL	27,400.000	27,400.000
0176	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,000.000	1,000.000
0178	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	630.000	630.000
0180	SPV.0060	Special 01. Prepare Foundation for Asphaltic Intersection	EACH	14.000	14.000
0182	SPV.0060	Special 02. Grading and Shaping Pipe Ends	EACH	9.000	9.000
0184	SPV.0060	Special 03. Reestablish Section Corner Monuments	EACH	25.000	25.000
0186	SPV.0090	Special 01. Removing Railroad Tie Retaining Wall	LF	100.000	100.000
0188	SPV.0105	Special 01. Material Transfer Vehicle	LS	1.000	1.000
0190	SPV.0180	Special 01. Asphaltic Base Patch Partial Depth	SY	12,000.000	12,000.000

REMOVING CULVERTS						
		203.0100		REMOVING SMALL PIPE CULVERTS		
		REMOVAL				
		SIZE	LENGTH			
STA	LOC	IN	FT	DESC	EACH	NOTES
8725-02-70 CATEGORY 0010						
0+48	STH 118	24	110	CMCP	1	ENTIRE PIPE
93+79	DRIVE	12	27	CMCP	1	ENTIRE PIPE
96+61	DRIVE	18	41	CPCP	1	ENTIRE PIPE
103+48	DRIVE	12	40	CMCP	1	ENTIRE PIPE
112+09	DRIVE	12	20	CPCP	1	ENTIRE PIPE
113+52	DRIVE	12	25	CMCP	1	ENTIRE PIPE
204+99	STH 118	24	2	CMCP	1	2 FT RT
275+53	DRIVE	18	30	CPCP	1	ENTIRE PIPE
HARLEY HAGSTROM RD		30	41 X 2	CMCP/CPCP	1	2 PIPES
308+87	DRIVE	30	41	CMCP	1	ENTIRE PIPE
310+05	DRIVE	12	15	CMCP	1	ENTIRE PIPE
310+40	STH 118	48	14	CPCP	1	8 FT LT AND 6 FT RT
330+81	STH 118	36	14	CPCP	1	8 FT LT AND 6 FT RT
345+30	STH 118	36	17	CPCP	1	8 FT LT AND 9 FT RT
347+93	STH 118	36	18	CPCP	1	18 FT LT AND 10 FT RT
683+67	STH 118	36	10	CMCP	1	BOTH APRON END WALLS
PROJECT 8725-02-70 TOTAL					16	

<u>REMOVING RAILROAD TIES</u>				
				SPV.0090.01
				REMOVING
				RAILROAD TIE
				RETAINING WALL
LOCATION				LF
8725-02-70 CATEGORY 0010				
309+00	310+00	RT	STH 118	100
PROJECT 8725-02-70 TOTAL				100

REMOVING ASPHALTIC SURFACE BUTT JOINTS		
		204.0115
		REMOVING ASPHALTIC SURFACE BUTT JOINTS
		SY
8725-02-70 CATEGORY 0010		
0+21	STH 118 BEGIN PROJECT	327
	GILLES ROAD	23
361+95	STH 118 END PROJECT	464
PROJECT 8725-02-70 TOTAL		815

<u>CLEARING AND GRUBBING</u>				
			201.0120	201.0220
			CLEARING	GRUBBING
STATION	DIR	LOCATION	IN-DIA	IN-DIA
PROJECT 8725-02-70 CATEGORY 0010				
94+25	RT	STH 118	24	24
110+50	RT	STH 118	4	4
111+00	RT	STH 118	4	4
PROJECT 8725-02-70 TOTALS			32	32

REMOVING ASPHALTIC SURFACE			
			204.0110
			REMOVING ASPHALTIC SURFACE
			SY
8725-02-70 CATEGORY 0010			
08+13	DRIVE	STH 118 RT	26
21+31	DRIVE	STH 118 RT	38
60+73	DRIVE	STH 118 RT	34
73+42	DRIVE	STH 118 RT	26
98+14	DRIVE	STH 118 LT	19
112+09	DRIVE	STH 118 LT	19
188+65	DRIVE	STH 118 RT	25
PROJECT 8725-02-70 TOTAL			187

REMOVING ASPHALTIC SURFACE MILLING

						204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
STA	-	STA	LOCATION			
8725-02-70 CATEGORY 0010						
00+21	01+04	STH 118	BEGIN PROJECT CTH F/STH 63	TO	BEGIN PROJECT CTH F/STH 63	437
01+04	01+84	STH 118	BEGIN PROJECT CTH F/STH 63	TO	BEGIN PROJECT CTH F/STH 63	235
01+84	47+20	STH 118	BEGIN PROJECT CTH F/STH 63	TO	PODLESNY ROAD	11,592
47+20	73+58	STH 118	PODLESNY ROAD	TO	CURRY ROAD	6,742
73+58	99+96	STH 118	CURRY ROAD	TO	COLBY ROAD	6,742
99+96	107+75	STH 118	COLBY ROAD	TO	VRANES ROAD	1,991
107+75	134+17	STH 118	VRANES ROAD	TO	FRANCISKOVICH ROAD	6,752
134+17	147+57	STH 118	FRANCISKOVICH ROAD	TO	TOMAN ROAD	3,424
147+57	152+54	STH 118	TOMAN ROAD	TO	GILLES ROAD	1,270
	152+54	STH 118	TURN OUT			165
	152+54	STH 118	GILLES ROAD INTERSECTION			112
152+54	186+80	STH 118	GILLES ROAD	TO	PUSKARICH ROAD	8,755
186+80	213+15	STH 118	PUSKARICH ROAD	TO	SANFORD ROAD	6,734
213+15	239+76	STH 118	SANFORD ROAD	TO	ED CARLSON ROAD	6,800
239+76	244+19	STH 118	ED CARLSON ROAD	TO	TOM HECIMOVICH ROAD	1,132
244+19	257+81	STH 118	TOM HECIMOVICH ROAD	TO	HIGHLAND ROAD	3,481
257+81	266+07	STH 118	HIGHLAND ROAD	TO	VERNON JOHNSON ROAD	2,111
266+07	292+46	STH 118	VERNON JOHNSON ROAD	TO	HARLEY HAGSTROM ROAD	6,744
292+46	310+91	STH 118	HARLEY HAGSTROM ROAD	TO	ASHLAND BAYFIELD ROAD	4,920
310+91	345+14	STH 118	ASHLAND BAYFIELD ROAD	TO	BENSON ROAD	9,128
345+14	358+86	STH 118	BENSON ROAD	TO	END OF PROJECT STH 112	3,659
358+86	361+42	STH 118	END OF PROJECT STH 112	TO	END OF PROJECT STH 112	939
361+42	361+95	STH 118	END OF PROJECT STH 112	TO	END OF PROJECT STH 112	465
PROJECT 8725-02-70 TOTALS						94,330

REMOVING CURB AND GUTTER

				204.0150 REMOVING CURB AND GUTTER LF
STA	-	STA	LOC	
PROJECT 8725-02-70 CATEGORY 0010				
00+24		STH 118	RT	90
00+24		STH 118	LT	76
PROJECT 8725-02-70 TOTALS				166

EXCAVATION

					205.0100 EXCAVATION COMMON CY	209.2100 BACKFILL GRANULAR GRADE 2 CY
STA	-	STA	LOCATION			
PROJECT 8725-02-70 CATEGORY 0010						
0+21	-	1+04	CULVERT PIPE EXCAVATION 0+48		550	485
304+50	-	305+50	CULVERT PIPE EXCAVATION 305+00		220	195
307+50	-	308+75	CUVERT PIPE EXCAVATION 308+00		295	270
92+96	-	99+85	DITCH EXCAVATION-WEST		125	---
100+42	-	105+65	DITCH EXCAVATION-WEST		116	---
108+50	-	114+25	DITCH EXCAVATION-WEST		137	---
271+00	-	310+50	DITCH EXCAVATION-EAST		1191	---
PROJECT 8725-02-70 TOTALS					2,634	950

PREP AND FINISH

			211.0100 PREPARE FOUNDATION FOR ASPHALT PAVEMENT LS	213.0100 FINISHING ROADWAY EACH
LOCATION				
8725-02-70 CATEGORY 0010				
PROJECT			1	1
PROJECT 8725-02-70 TOTALS			1	1

PREPARE FOUNDATION FOR INTERSECTION

SPV.0060.01
PREPARE
FOUNDATION FOR
ASPHALTIC
INTERSECTION

STA	-	STA		EACH
PROJECT 8725-02-70 CATEGORY 0010				
47+20		STH 118 LT	PODLESNEY ROAD	1
73+58		STH 118 LT	CURRY ROAD	1
99+96		STH 118 LT	COLBY ROAD	1
107+75		STH 118 RT	VRANES ROAD	1
134+17		STH 118 RT	FRANCISKOVICH ROAD	1
147+57		STH 118 RT	TOMAN ROAD	1
186+80		STH 118 RT	PUSKARICH ROAD	1
213+15		STH 118 RT	SANFORD ROAD	1
239+76		STH 118 RT	ED CARLSON ROAD	1
257+81		STH 118 LT	HIGHLAND ROAD	1
266+07		STH 118 RT	VERNON JOHNSON ROAD	1
292+46		STH 118 RT	HARLEY HAGSTROM ROAD	1
310+91		STH 118 LT	ASHLAND BAYFIELD ROAD	1
345+14		STH 118 RT	BENSON ROAD	1
PROJECT 8725-02-70 TOTALS				14

BASE AGGREGATE

		305.0110	305.0120	305.0500		
		BASE AGG	BASE AGG	SHAPING		
		DENSE	DENSE	SHOULDERS	624.0100	
STA	-	STA	LOCATION	TON	TON	STA
PROJECT 8725-02-70 CATEGORY 0010						
0+76	-	361+95	RT & LT 3' SHOULDER	6,146	---	362
			EMERGENCY TURN OUTS	725	---	---
			DRIVEWAYS & FIELD ENTRANCES	44	---	---
0+12	-	1+03	RT & LT CULVERT 4-118-031422	---	573	---
304+50		305+50	NEW CULVERT	27	233	---
307+50		308+75	NEW CULVERT	34	292	---
			OTHER CULVERT ENDWALLS	---	50	---
			UNDISTRIBUTED	350	55	130
PROJECT 8725-02-70 TOTALS				7,326	1203	362
						130

ASPHALTIC BASE PATCH

SPV.0180.01
ASPHALTIC BASE PATCH
PARTIAL DEPTH

STA	-	STA	LOCATION	SY
PROJECT 8725-02-70 CATEGORY 0010				
2+31	-	6+32	STH 118	535
2+47	-	3+59	STH 118	149
4+16	-	5+85	STH 118	225
8+85	-	9+71	STH 118	115
20+08	-	21+49	STH 118	188
34+82	-	35+89	STH 118	143
37+91	-	39+39	STH 118	197
38+32	-	40+48	STH 118	288
62+53	-	63+90	STH 118	183
78+68	-	79+37	STH 118	92
83+37	-	84+36	STH 118	132
93+21	-	94+23	STH 118	136
101+46	-	102+83	STH 118	183
108+22	-	109+32	STH 118	147
110+33	-	111+99	STH 118	221
117+16	-	117+86	STH 118	93
126+70	-	126+88	STH 118	24
139+36	-	140+71	STH 118	180
140+30	-	140+89	STH 118	79
144+11	-	146+14	STH 118	271
161+87	-	162+90	STH 118	137
176+93	-	178+18	STH 118	167
177+04	-	178+28	STH 118	165
202+07	-	202+69	STH 118	83
202+29	-	202+69	STH 118	53
219+86	-	221+80	STH 118	259
234+20	-	235+17	STH 118	129
235+75	-	238+05	STH 118	307
256+95	-	257+94	STH 118	132
255+10	-	256+95	STH 118	247
264+75	-	265+22	STH 118	63
265+55	-	265+68	STH 118	17
266+19	-	267+36	STH 118	156
268+56	-	270+54	STH 118	264
269+58	-	270+48	STH 118	120
277+54	-	279+02	STH 118	197
277+54	-	278+78	STH 118	165
294+72	-	295+94	STH 118	163
298+41	-	299+42	STH 118	135
301+61	-	304+13	STH 118	336
304+13	-	304+50	STH 118	49
UNDISTRIBUTED				5,076
PROJECT 8725-02-70 TOTALS-				12,000

HMA PAVEMENT

						455.0605 TACK COAT GAL	LOWER 460.6644 HMA PAVEMENT 4 MT 58-34 V TON	UPPER 460.6644 HMA PAVEMENT 4 MT 58-34 V TON
STA	-	STA						
PROJECT 8725-02-70 CATEGORY 0010								
00+21	01+04	STH 118	INTERSECTION			56	50	44
01+04	01+84	STH 118	INTERSECTION			30	27	24
01+84	47+20	STH 118	CTH F/STH 63	TO	PODLESNY ROAD	1,572	1,391	1,217
47+20	73+58	STH 118	PODLESNY ROAD	TO	CURRY ROAD	914	809	708
73+58	99+96	STH 118	CURRY ROAD	TO	COLBY ROAD	914	809	708
99+96	107+75	STH 118	COLBY ROAD	TO	VRANES ROAD	270	239	209
107+75	134+17	STH 118	VRANES ROAD	TO	FRANCISKOVICH ROAD	916	810	709
134+17	147+57	STH 118	FRANCISKOVICH ROAD	TO	TOMAN ROAD	464	411	360
147+57	152+54	STH 118	TOMAN ROAD	TO	GILLES ROAD	172	152	133
152+54	186+80	STH 118	GILLES ROAD	TO	PUSKARICH ROAD	1,188	1,051	919
186+80	213+15	STH 118	PUSKARICH ROAD	TO	SANFORD ROAD	914	808	707
213+15	239+76	STH 118	SANFORD ROAD	TO	ED CARLSON ROAD	922	816	714
239+76	244+19	STH 118	ED CARLSON ROAD	TO	TOM HECIMOVICH ROAD	154	136	119
244+19	257+81	STH 118	TOM HECIMOVICH ROAD	TO	HIGHLAND ROAD	472	418	365
257+81	266+07	STH 118	HIGHLAND ROAD	TO	VERNON JOHNSON ROAD	286	253	222
266+07	292+46	STH 118	VERNON JOHNSON ROAD	TO	HARLEY HAGSTROM ROAD	914	809	708
292+46	310+91	STH 118	HARLEY HAGSTROM ROAD	TO	ASHLAND BAYFIELD ROAD	640	566	495
310+91	345+14	STH 118	ASHLAND BAYFIELD ROAD	TO	BENSON ROAD	1,186	1,050	919
345+14	358+86	STH 118	BENSON ROAD	TO	STH 112	476	421	368
358+86	361+42	STH 118	INTERSECTION			118	104	91
361+42	361+96	STH 118	INTERSECTION			62	54	48
PROJECT 8725-02-70 TOTALS						12,640	11,184	9,787
							20,971	

ASPHALTIC SURFACE

LOCATION		465.0110 ASPHALTIC SURFACE PATCHING TON	465.0120 ASPHALTIC SURFACE DRIVEAYS AND FIELD ENTRANCES TON
PROJECT 8725-02-70 CATEGORY 0010			
8+13	STH 118 RT	---	3
21+31	STH 118 RT	---	4
60+73	STH 118 RT	---	4
73+42	STH 118 RT	---	3
98+14	STH 118 LT	---	2
112+09	STH 118 LT	---	2
188+65	STH 118 RT	---	3
		---	---
PREPARE FOUNDATION AREAS	(UNDISTRIBUTED)	200	---
PROJECT 8725-02-70 TOTALS		200	21

ASPHALTIC FLUMES

STA - LOCATION		465.0315 ASPHALTIC FLUMES SY
PROJECT 8725-02-70 CATEGORY 0010		
0+40	LT STH 118	3
PROJECT 8725-02-70 TOTALS		3

ASPHALTIC SURFACE

STA			465.0105 ASPHALTIC SURFACE TON
PROJECT 8725-02-70 CATEGORY 00:			
47+20	STH 118 LT	PODLESNEY ROAD	8
73+58	STH 118 LT	CURRY ROAD	15
99+96	STH 118 LT	COLBY ROAD	18
107+75	STH 118 RT	VRANES ROAD	13
134+17	STH 118 RT	FRANCISKOVICH ROAD	12
147+57	STH 118 RT	TOMAN ROAD	13
152+50	STH 118 RT	GILLES ROAD EMERGENCY TURN OUT	31
152+54	STH 118 LT	GILLES ROAD	13
186+80	STH 118 RT	PUSKARICH ROAD	9
213+15	STH 118 RT	SANFORD ROAD	12
239+76	STH 118 RT	ED CARLSON ROAD	10
257+81	STH 118 LT	HIGHLAND ROAD	19
266+07	STH 118 RT	VERNON JOHNSON ROAD	10
292+46	STH 118 RT	HARLEY HAGSTROM ROAD	10
310+91	STH 118 LT	ASHLAND BAYFIELD ROAD	10
345+14	STH 118 RT	BENSON ROAD	8

0+48	STH 118	PATCH FOR CULVERT REPLACEMENT	113
167+74	STH 118 LT & RT	PATCH FOR AEW INSTALLATION	8
204+99	STH 118 RT	PATCH FOR AEW INSTALLATION	4
305+00	STH 118	PATCH FOR CULVERT REPLACEMENT	97
308+13	STH 118	PATCH FOR CULVERT REPLACEMENT	110
310+40	STH 118 LT & RT	PATCH FOR AEW INSTALLATION	8
330+81	STH 118 LT & RT	PATCH FOR AEW INSTALLATION	8
345+30	STH 118 LT & RT	PATCH FOR AEW INSTALLATION	8
347+93	STH 118 LT & RT	PATCH FOR AEW INSTALLATION	8
PROJECT 8725-02-70 TOTALS			575

PWL MIXTURE USE TABLE

PROJECT 8725-02-70 CATEGORY 0010								
LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
							MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
11 FOOT DRIVING LANE	0+21 TO 361+96	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	8,971	1 3/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
11 FOOT DRIVING LANE	0+21 TO 361+96	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	10,252	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
1 FOOT SHOULDER	0+21 TO 361+96	UPPER LAYER	4 MT 58-34 V	4 MT 58-34 V	816	1 3/4"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
1 FOOT SHOULDER	0+21 TO 361+96	LOWER LAYER	MILLED EXISTING HMA SURFACE	4 MT 58-34 V	932	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
VARIOUS		CULVERT PATCHES	BASE AGGREGATE	ASPHALTIC SURFACE	364	6"	QMP AS PER SS 465	ACCEPTANCE BY ORDINARY COMPACTION
VARIOUS		INTERSECTIONS	BASE AGGREGATE	ASPHALTIC SURFACE	211	3"	QMP AS PER SS 465	ACCEPTANCE BY ORDINARY COMPACTION
VARIOUS		DRIVEWAYS	BASE AGGREGATE	ASPHALTIC SURFACE DRIVEWAYS	21	2"	QMP AS PER SS 465	ACCEPTANCE BY ORDINARY COMPACTION
VARIOUS		BASE PATCH	BASE AGGREGATE	ASPHALTIC BASE PATCH PARTIAL DEPTH	2,070	3"	QMP AS PER SS 465	ACCEPTANCE BY ORDINARY COMPACTION

MATERIAL TRANSFER VEHICLE

SPV.0105.01
MATERIAL
TRANSFER
VEHICLE
LS

PROJECT 8725-02-70 CATEGORY 0010	
PROJECT	1
PROJECT 8725-02-70 TOTALS	1

CROSS CULVERT AND SIDE ROAD CULVERT PIPES																																									
520.8700		520.8000		521.5742		521.1709		522.0424		522.1024		522.1036		522.1048		522.2429		522.2629		525.0124		525.0324		525.0336		SPV.0060.02															
						APRON ENDWALLS FOR PIPE				APRON ENDWALLS		APRON ENDWALLS		APRON ENDWALLS		CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 29x45-INCH		APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 29x45-INCH				APRON ENDWALLS FOR CULVERT PIPE CORRUGATED ALUMINUM 24-INCH		APRON ENDWALLS FOR CULVERT PIPE CORRUGATED ALUMINUM 36-INCH																	
CLEANING CULVERT PIPES		CONCRETE COLLARS FOR PIPES		PIPE ARCH POLYMER COATED CORRUGATED STEEL 42X29-INCH		SLOPED SIDE DRAINS STEEL 42X29-INCH 4 TO 1		CULVERT PIPE REINFORCED CONCRETE CLASS IV 24- INCH		FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH		FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH		FOR CULVERT PIPE REINFORCED CONCRETE 48-INCH						CULVERT PIPE CORRUGATED ALUMINUM 24-INCH		FOR CULVERT PIPE CORRUGATED ALUMINUM 24-INCH		FOR CULVERT PIPE CORRUGATED ALUMINUM 36-INCH		GRADING AND SHAPING PIPE ENDS		STEEL THICKNESS (INCHES)		*JOINT TIES		**ELEVATIONS									
STATION	LOCATION	EA				LF		EACH		EACH		EACH		EACH		LF		EACH		LF		EACH		EACH		EACH															
PROJECT 8725-02-70 CATEGORY 0010																																									
0+48	STH 118	---	---	---	---	98	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ALL	900.66 RT	899.73 LT									
95+86	STH 118	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	1	---	1	0.164	---	---	---	---	---	MATCH	EXISTING									
107+17	STH 118	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
167+74	STH 118	1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	---	1	---	---	---	---	---	MATCH	EXISTING									
204+99	STH 118	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	1	---	---	---	---	---	MATCH	EXISTING									
ED CARLSON ROAD		1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	---	---									
HARLEY HAGSTROM ROAD		---	---	43	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	832.92	832.59									
305+00	STH 118	---	---	---	---	34	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ALL	827.53 RT	827.19 LT									
308+13	STH 118	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	40	2	---	---	---	---	---	---	---	---	---	---	---	---	ALL	826.23 RT	825.94 LT								
310+40	STH 118	---	2	---	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	MATCH	EXISTING									
330+81	STH 118	---	2	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	MATCH	EXISTING									
345+30	STH 118	---	2	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	MATCH	EXISTING									
347+93	STH 118	---	2	---	---	---	---	---	---	---	---	---	2	---	---	---	---	---	---	---	---	---	---	---	---	1	---	---	---	---	MATCH	EXISTING									
361+60	STH 118	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	1	---	---	---	---	MATCH	EXISTING									
PROJECT 8725-02-70 TOTALS		3	8	43	2	132	4	6	2	40	2	2	4	2	9																										
* NON-BID ITEM: FOR INFORMATION ONLY																																									
** PIPE INVERT AT END OF PIPE: FOR INFORMATION ONLY. FIELD VERIFY																																									

CONCRETE CURB AND GUTTER	
	601.0557 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D
LOCATION	LF
PROJECT 8725-02-70 CATEGORY 0010	
USH 63/STH 118 SE	90
USH 63/STH 118 NE	76
PROJECT 8725-02-70 TOTALS	
	166

RIPRAP				
			606.0200 RIPRAP MEDIUM	645.0120 GEOTEXTILE TYPE HR
STATION -	STATION	LOCATION	CY	SY
8725-02-70 CATEGORY 0010				
105+56		RT	7	23
105+75		LT	7	23
107+16		LT	8	25
162+46		LT	9	---
308+00	DITCH	RT	40	114
308+25	DITCH	LT	11	34
PROJECT 8725-02-70 TOTALS			82	219

<u>MOBILIZATION</u>		
	618.0100 MR HAUL ROAD	619.1000 MOBILIZATION
PROJECT		EACH
PROJECT 8725-02-70 CATEGORY 0010		
8725-02-70	1	1
PROJECT 8725-02-70 TOTALS		
	1	1

MONUMENTS					
			621.0100 LANDMARK REFERENCE MONUMENTS	SPV.0060.03 REESTABLISH SECTION CORNER MONUMENTS	
TYPE	TOWN/RANGE	CORNER	EACH	EACH	NOTES
PROJECT 8725-02-70 CATEGORY 0010					
CENTER SECTION	T47N R5W	31	4	1	NOT LOCATED
CENTER SECTION	T46N R5W	6	4	1	
SECTION CORNER	T47N R5W	31-32	4	1	
SECTION CORNER	T46N R5W	6-5	4	1	
CENTER SECTION	T47N R5W	32	4	1	
CENTER SECTION	T46N R5W	5	4	1	
SECTION CORNER	T47N R5W	32-33	4	1	
SECTION CORNER	T46N R5W	5-4	4	1	
CENTER SECTION	T47N R5W	33	4	1	NOT LOCATED
CENTER SECTION	T46N R5W	4	4	1	
SECTION CORNER	T47N R5W	33-34	4	1	NOT LOCATED
SECTION CORNER	T46N R5W	4-3	4	1	
CENTER SECTION	T47N R5W	34	4	1	NOT LOCATED
CENTER SECTION	T46N R5W	3	4	1	NOT LOCATED
SECTION CORNER	T47N R5W	34-35	4	1	
SECTION CORNER	T46N R5W	3-2	4	1	
CENTER SECTION	T47N R5W	35	4	1	
CENTER SECTION	T46N R5W	2	4	1	
SECTION CORNER	T47N R5W	35-36	4	1	
SECTION CORNER	T46N R5W	2-1	4	1	NOT LOCATED
CENTER SECTION	T47N R5W	36	4	1	
CENTER SECTION	T46N R5W	1	4	1	NOT LOCATED
SECTION CORNER	T47N R5W / T47N R4W	36-31	4	1	
SECTION CORNER	T46N R5W / T46N R4W	1-6	4	1	NOT LOCATED
CENTER SECTION	T47N R4W	31	4	1	NOT LOCATED
CENTER SECTION	T46N R4W	6	---	---	OFF ROADWAY
PROJECT 8725-02-70 TOTALS			100	25	

SALVAGED TOPSOIL, EROSION MAT, FERTILIZER, AND SEEDING

LOCATION				625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.2008 E MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0500 SEED WATER MGAL
PROJECT 8725-02-70 CATEGORY 0010									
CULVERT	-	0+48	RT & LT STH 118	380	380	---	0.24	7	21
93+00	-	93+75	RT	95	---	95	0.06	2	5
94+00	-	96+50	RT	365	---	365	0.23	7	20
96+75	-	99+75	RT	480	---	480	0.30	9	27
101+00	-	103+30	RT	385	---	385	0.24	7	22
103+30	-	105+65	RT	300	---	300	0.19	6	17
109+00	-	114+25	RT	705	---	705	0.44	13	40
108+50	-	110+00	LT	210	---	210	0.13	4	12
CULVERT	-	167+74	RT & LT STH 118	25	25	---	0.02	1	1
CULVERT	-	204+99	RT STH 118	10	10	---	0.01	1	1
ED CARLSON RD		245+20	RT STH 118	45	45	---	0.03	1	3
271+00	-	275+40	RT	655	---	655	0.41	12	37
275+70	-	292+25	RT	2,725	---	2,725	1.72	49	153
292+50	-	308+75	RT	3,280	---	3,280	2.07	59	184
309+00		310+50	RT	270	---	270	0.00	5	15
304+50	-	310+50	LT	910	---	910	0.57	17	51
CULVERT	-	310+40	RT STH 118	---	---	---	0.00	---	0
CULVERT	-	330+81	RT & LT STH 118	40	40	---	0.03	1	2
CULVERT	-	345+30	RT & LT STH 118	35	35	---	0.02	1	2
CULVERT	-	347+93	RT & LT STH 118	65	65	---	0.04	1	4
CULVERT	-	361+60	RT & LT STH 118	60	60	---	0.04	1	3
UNDISTRIBUTED				550	30	520	0.68	10	31
PROJECT 8725-02-70 TOTALS				11,590	690	10,900	7.47	211	651

MOBILIZATION EROSION CONTROL

LOCATION		628.1905 MOBILIZATION EROSION CONTROL EACH	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL EACH
PROJECT 8725-02-70 CATEGORY 0010			
PROJECT		5	3
PROJECT 8725-02-70 TOTALS		5	3

SILT FENCE

PIPE		STA	628.1520 628.1504 SILT FENCE FT	628.7570 SILT FENCE MAINT FT	628.7570 ROCK BAGS EACH
PROJECT 8725-02-70 CATEGORY 0010					
CULVERT		0+48	168	168	17
CULVERT		167+74	58	58	17
CULVERT		205+00	29	29	---
ED CARLSON RD CULVERT		245+20	---	---	---
CULVERT		310+40	86	86	34
CULVERT		330+81	74	74	18
CULVERT		345+30	48	48	18
CULVERT		347+93	74	74	18
CULVERT		361+60	48	48	18
UNDISTRUBUTED			50	50	15
PROJECT 8725-02-70 TOTALS			635	635	155

CULVERT PIPE AND DITCH CHECKS

LOCATION		628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
PROJECT 8725-02-70 CATEGORY 0010			
CROSS CULVERT	0+48	RT	2
DRIVE CULVERT	93+60	RT	2
CROSS CULVERT	95+86	RT	2
DRIVE CULVERT	96+75	RT	2
DRIVE CULVERT	100+00	RT	2
DRIVE CULVERT	103+25	RT	2
CROSS CULVERT	105+55	RT	3
DITCH CHECK	108+50	LT	10
DITCH CHECK	109+25	RT	10
DRIVE CULVERT	112+20	RT	2
DRIVE CULVERT	113+60	RT	2
CROSS CULVERT	167+74	RT	2
CROSS CULVERT	204+99	RT	2
ED CARLSON RD CULVERT	245+20	RT	4
DRIVE CULVERT	275+35	RT	2
HARLEY HAGSTROM RD CULVERTS	292+20	RT	4
NEW CULVERT	305+00	RT	2
NEW CULVERT	308+13	RT	3
DRIVE CULVERT	308+80	RT	4
CROSS CULVERT	310+40	RT	4
CROSS CULVERT	330+81	RT	3
CROSS CULVERT	345+30	LT	3
CROSS CULVERT	347+93	LT	3
CROSS CULVERT	361+60	LT	3
UNDISTRIBUTED			2
PROJECT 8725-02-70 TOTAL			20 60

MARKERS CULVERT END			
PIPE		LOCATION	633.5200 MARKERS CULVERT END EACH
PROJECT 8725-02-70 CATEGORY 0010			
EXIST CULVERT	0+48	LT & RT	2
EXIST CULVERT	95+85	LT & RT	2
EXIST CULVERT	105+65	LT & RT	2
EXIST CULVERT	107+17	LT & RT	2
EXIST CULVERT	162+46	LT & RT	2
EXIST CULVERT	167+74	LT & RT	2
EXIST CULVERT	204+99	LT & RT	2
NEW CULVERT	305+00	LT & RT	2
NEW CULVERT	308+13	LT & RT	2
EXIST CULVERT	310+40	LT & RT	2
EXIST CULVERT	330+81	LT & RT	2
EXIST CULVERT	345+30	LT & RT	2
EXIST CULVERT	347+93	LT & RT	2
EXIST CULVERT	361+60	LT & RT	2
PROJECT 8725-02-70 TOTAL			28

LOCATE NO PASSING ZONE			
STATION		X	648.0100 LOCATING NO-PASSING ZONE MILES
PROJECT 8725-02-70 CATEGORY 0010			
00+21.00		361+96.00	6.9
PROJECT 8725-02-70 TOTAL			6.9

FIELD OFFICE	
642.5001 FIELD OFFICE TYPE B EACH	
LOCATION	
PROJECT 8725-02-70 CATEGORY 0010	
PROJECT	
PROJECT 8725-02-70 TOTAL	

TYPE II SIGNING						
				638.2102	638.4000	
				MOVING	MOVING	
				SMALL	SMALL	
				SIGNS	SIGN	
				TYPE II	SUPPORTS	
STA		LOCATION		MESSAGE	EACH	EACH
PROJECT 8725-02-70 CATEGORY 0010						
01	-	01	STH 118 LT	STOP	1	1
01	-	02	STH 118 LT	J ASSEMBLY USH 63	1	1
04	-	01	STH 118 RT	ADOPT A HIGHWAY	1	1
09	-	01	STH 118 RT	STOP	1	1
10	-	01	STH 118 RT	NO PASSING ZONE	1	1
11	-	01	STH 118 RT	STOP	1	1
11	-	02	STH 118 LT	NO PASSING ZONE	1	1
12	-	01	STH 118 RT	STOP	1	1
				UNDISTRIBUTED (NO PASSING)	3	3
PROJECT 8725-02-70 TOTALS					11	11

PAVEMENT MARKING				
		646.3020 MARKING LINE EPOXY 8-INCH (WHITE) CHANNELIZING LF	646.1020 MARKING LINE EPOXY 4-INCH (WHITE) EDGE LF	646.4520 MARKING LINE SAME DAY EPOXY (YELLOW) CEN LINE LF
PROJECT 8725-02-70 CATEGORY 0010				
USH 63-PODLESNY RD		---	9,355	4,840
PODLESNY RD-CURRY RD		---	5,265	1,235
CURRY RD-COLBY RD		---	5,165	2,640
COLBY RD-VRANES RD		---	1,390	1,240
VRANES RD - FRANCISKOVICH RD		---	5,190	2,025
FRANCISKOVICH RD-TOMAN RD		---	2,590	335
TOMAN RD - GILLES RD		---	915	535
GILLES RD -PUSKARICH RD		---	6,760	6,235
PUSKARICH RD - SANFORD RD		---	5,200	4,955
SANFORD RD - TOM HECIMOVICH LN		---	5,215	3,475
TOM HECIMOVICH LN-HIGHLAND RD		---	845	115
HIGHLAND RD -VERNON JOHNSON RD		---	2,690	1,405
VERNON JOHNSON RD - HARLEY HAGSTROM RD		---	1,490	1,385
HARLEY HAGSTROM RD- ASHLAND/BAYFIELD RD		---	8,815	2,065
ASHLAND/BAYFIELD RD - BENSON RD		---	6,780	855
BENSON RD - STH 112		80	5,510	4,670
PROJECT 8725-02-70 TOTALS		80	73,175	38,010

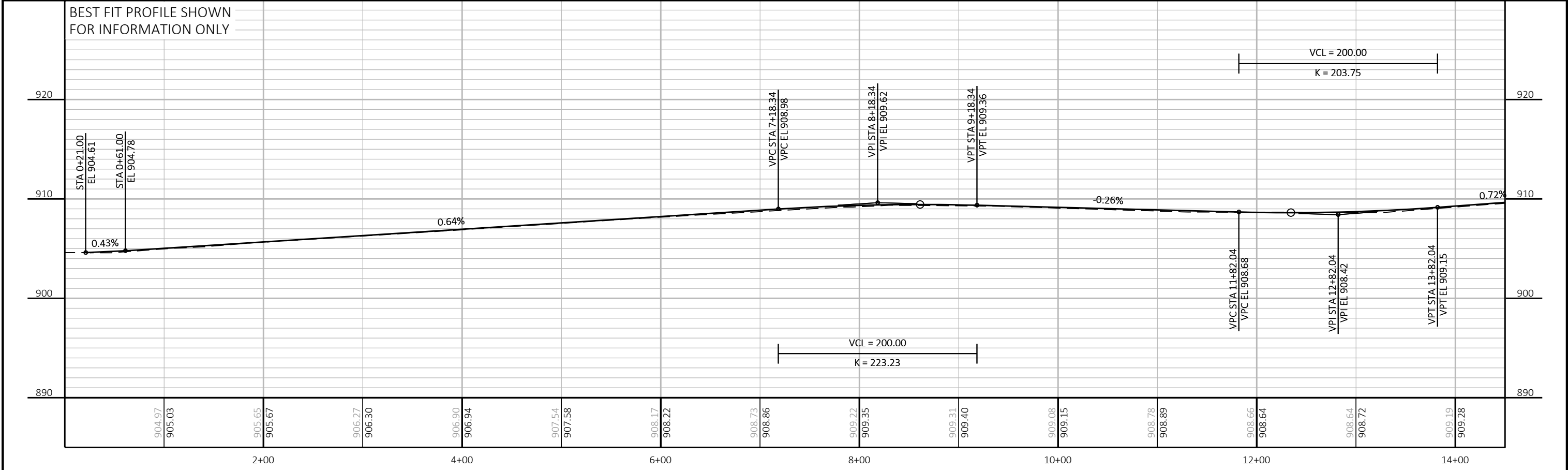
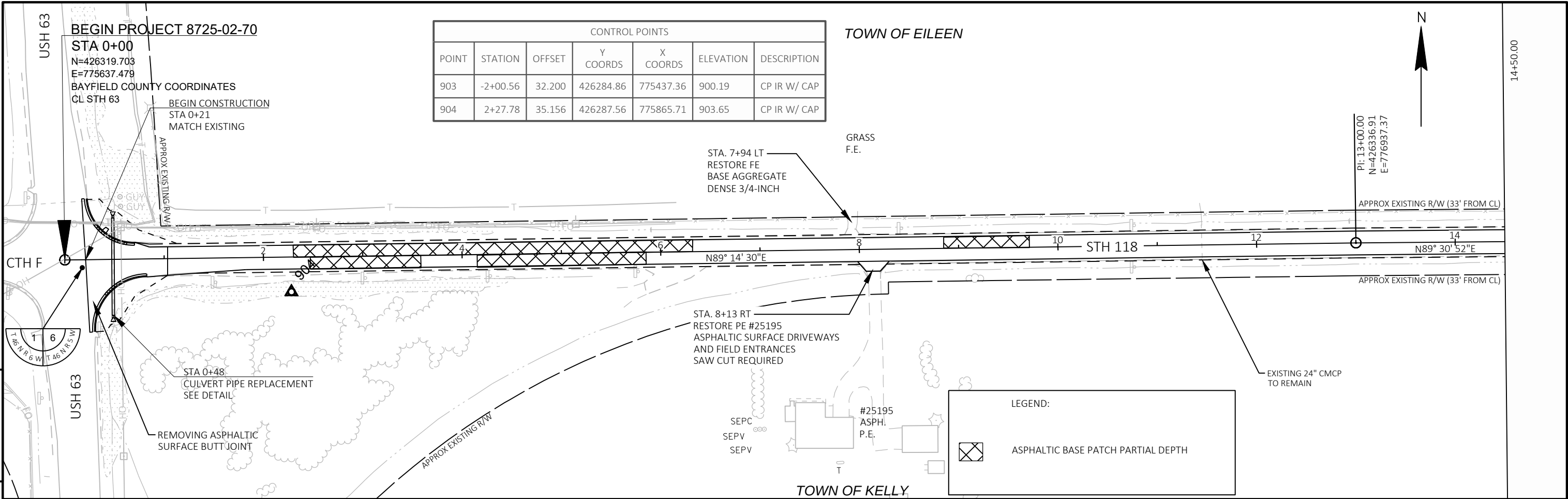
TRAFFIC CONTROL													
STAGE	DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS		643.0420 TRAFFIC CONTROL BARRICADES TYPE III		643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A		643.0900 TRAFFIC CONTROL SIGNS		643.0920 COVERING SIGNS TYPE II			643.5000 TRAFFIC CONTROL EACH
		# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	# REQ'D	DAYS	CYCLES	#	EACH	EACH
PROJECT 8725-02-70 CATEGORY 0010													
PROJECT 8725-02-70		---	---	---	---	---	---	---	---	---	---	---	1
ROAD OPEN TO TRAFFIC	26	---	---	---	---	---	---	21	546	---	---	---	
ROAD CLOSED - DETOUR ROUTE	77	---	---	4	308	6	462	188	14476	1	13	13	
ROAD CLOSED - SIDE ROADS (BARRICADES/LITES)	77	---	---	10	770	20	1540	12	924	---	---	---	
	---	---	---	---	---	---	---	---	---	---	---	---	
ROAD CLOSED -PIPE REPLACEMENT 0+48 (SDD-CLOSED)	3	15	45	14	42	28	84	8	24	---	---	---	
ROAD CLOSED -PIPE REPLACEMENT 305+00,308+13(SDD-CLOSED)	7	15	105	14	98	28	196	8	56	---	---	---	
SHOULDER CLOSURE- ENDWALLS	5	18	90	---	---	---	---	5	25	---	---	---	
SHOULDER CLOSURE - DITCHING	10	55	550	---	---	---	---	6	60	---	---	---	
UNDIST DRUMS -INTERSECTIONS AND GRADING DROP OFF	30	20	600	---	---	---	---	5	150	---	---	---	
PROJECT 8725-02-70 TOTALS			1,390		1,218		2,282		16,261		13		1

TRAFFIC CONTROL SIGNS FIXED MESSAGE							
NO.	STATION/LOCATION	MESSAGE	643.1000 TRAFFIC CONTROL SIGNS SIZE FIXED MESSAGE			NOTES	
			IN	X	IN		
PROJECT 8725-02-70 CATEGORY 0010							
T1	EB USH 2	HWY 118 CLOSED / HWY 112 CLOSED	90	X	48	30.00	USE ONLY IF NEEDED FOR COMBINED CLOSURE WITH PROJECT 8727-01-60
T2	WB USH 2	HWY 118 CLOSED / HWY 112 CLOSED	90	X	48	30.00	USE ONLY IF NEEDED FOR COMBINED CLOSURE WITH PROJECT 8727-01-60
PROJECT 8725-02-70 TOTALS						60.00	

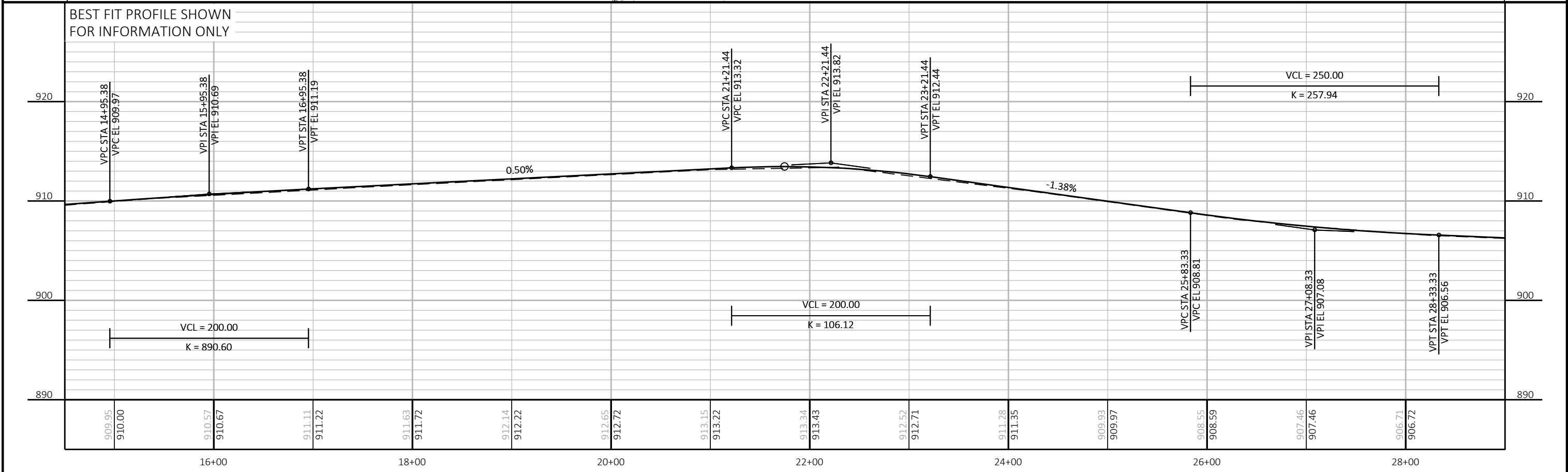
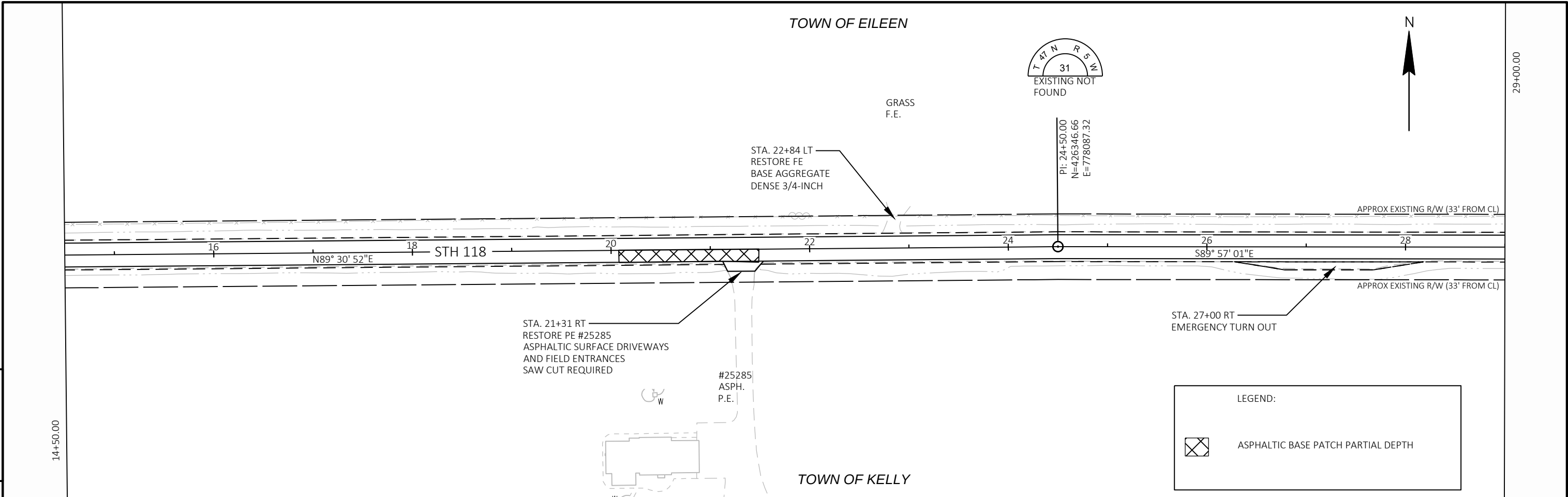
NOTE: SEE THE ENGINEER FOR THE LOCATION OF THESE SIGNS IN THE EVENT THE DETOUR FOR THIS PROJECT IS CONCURRENT WITH PROJECT 8727-01-60. SIGNS ARE NOT OTHERWISE REQUIRED.

CONSTRUCTION STAKING								
650.5500		650.6000		650.8000		650.9910		650.9920
CONSTRUCTION		CONSTRUCTION		CONSTRUCTION		CONSTRUCTION		CONSTRUCTION
STAKING		STAKING		STAKING		STAKING		STAKING
CURB AND GUTTER		PIPE CULVERTS		RESURFACING		SUPPLIMENTAL		SLOPE
		EACH		REFERENCE		CONTROL PROJECT		STAKES
STA	-	STA	LOCATION		LF	LS		LF
PROJECT 8725-02-70 CATEGORY 0010								
			STH 118	166	11	---	---	---
0+21	-	361+96	STH 118	---	---	36,175	1	---
92+96		99+85	STH 118	---	---	---	---	689
100+42		105+65	STH 118	---	---	---	---	523
108+00		114+25	STH 118	---	---	---	---	625
271+00		310+50	STH 118	---	---	---	---	3,950
PROJECT 8725-02-70 TOTALS				166	11	36,175	1	5,787

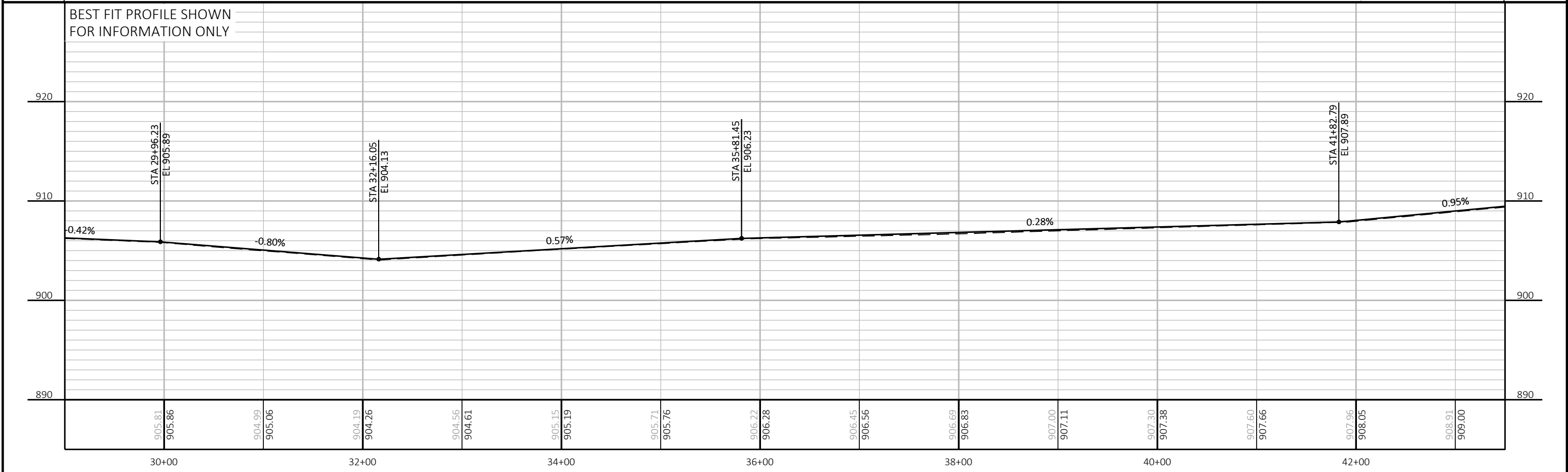
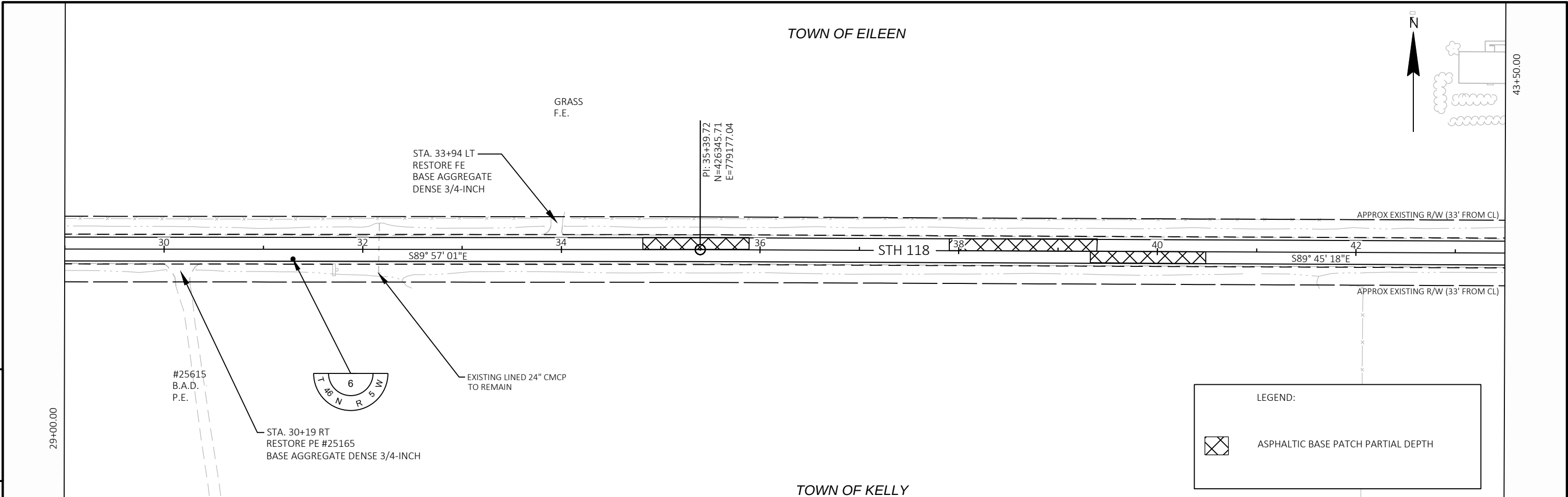
SAWING			
			690.0150
			SAWING
			ASPHALT
STA	LOCATION		LF
PROJECT 8725-02-70 CATEGORY 0010			
0+21	STH 118 LT & RT	CULVERT EXCAVATION LIMITS	140
1+04	STH 118 LT & RT	CULVERT EXCAVATION LIMITS	29
8+13	STH 118 RT	PRIVATE DRIVEWAY	14
21+31	STH 118 RT	PRIVATE DRIVEWAY	28
60+73	STH 118 RT	PRIVATE DRIVEWAY	22
73+42	STH 118 RT	PRIVATE DRIVEWAY	14
98+14	STH 118 LT	PRIVATE DRIVEWAY	14
112+05	STH 118 RT	PRIVATE DRIVEWAY	15
167+74	STH 118 LT & RT	NEW AEW INSTALLATION	100
188+65	STH 118 RT	PRIVATE DRIVEWAY	14
204+99	STH 118 RT	PRIVATE DRIVEWAY	50
304+50	STH 118 LT & RT	CULVERT EXCAVATION LIMITS	24
305+50	STH 118 LT & RT	CULVERT EXCAVATION LIMITS	24
307+50	STH 118 LT & RT	CULVERT EXCAVATION LIMITS	24
308+75	STH 118 LT & RT	CULVERT EXCAVATION LIMITS	24
310+40	STH 118 LT & RT	NEW AEW INSTALLATION	100
330+81	STH 118 LT & RT	NEW AEW INSTALLATION	100
345+30	STH 118 LT & RT	NEW AEW INSTALLATION	100
347+93	STH 118 LT & RT	NEW AEW INSTALLATION	100
		UNDISTRIBUTED	---
PROJECT 8725-02-70 TOTALS			936



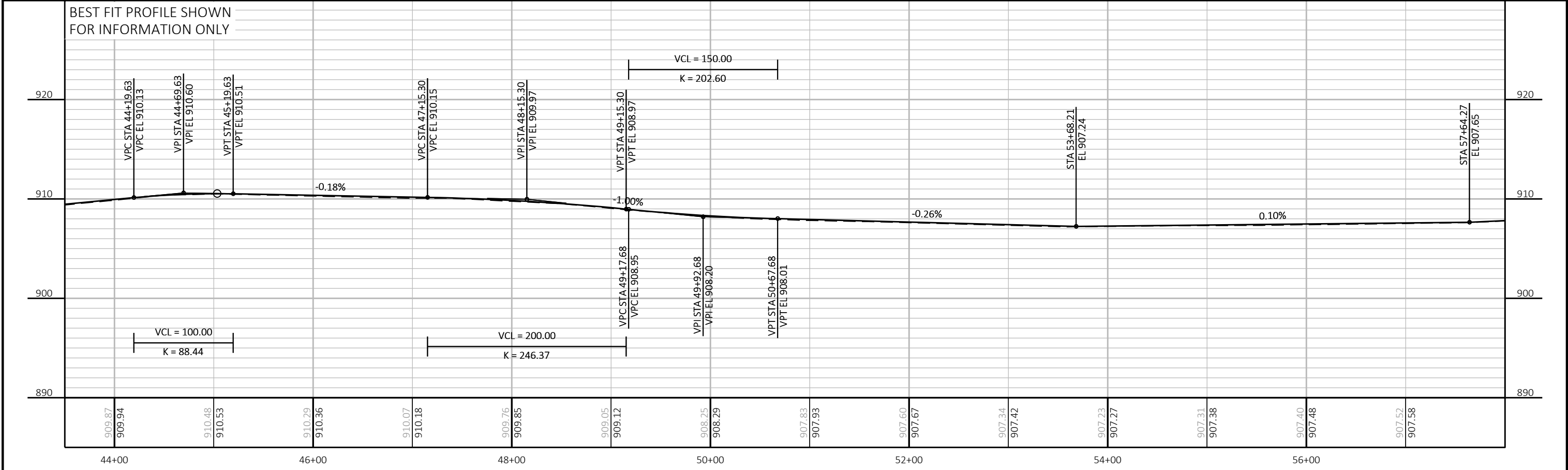
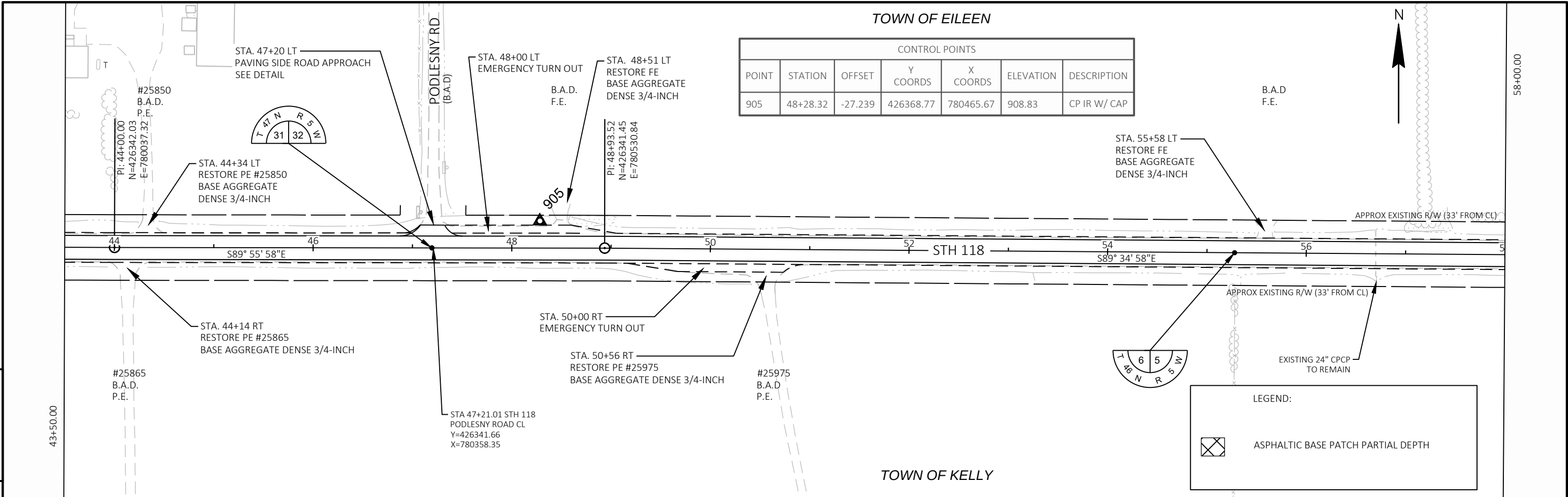
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	PLAN AND PROFILE: STH 118	SHEET E
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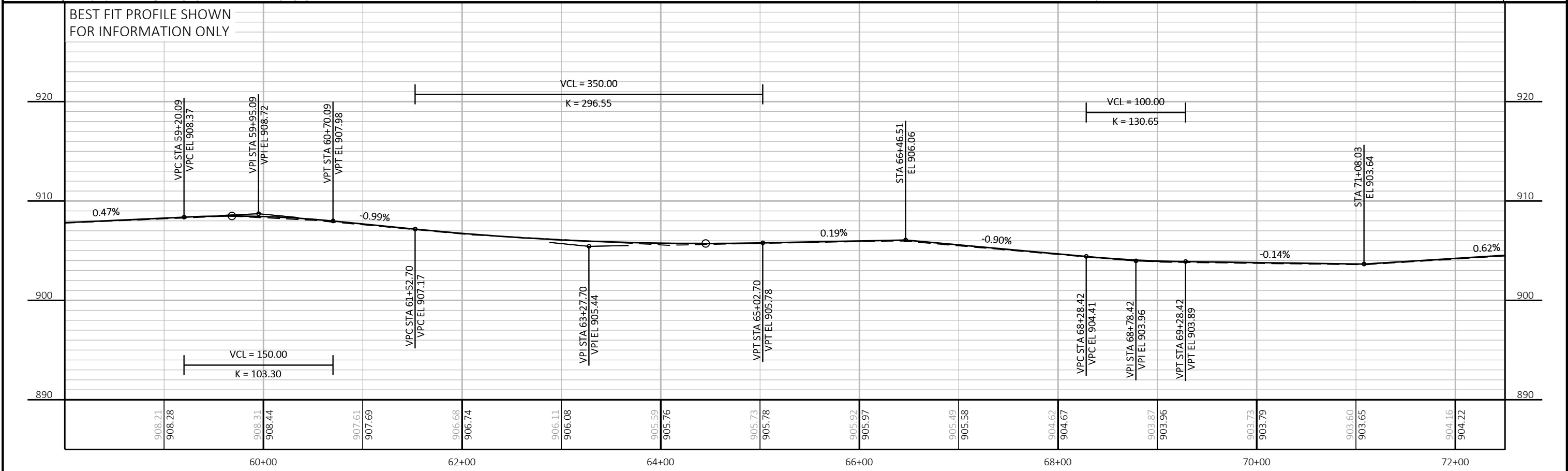
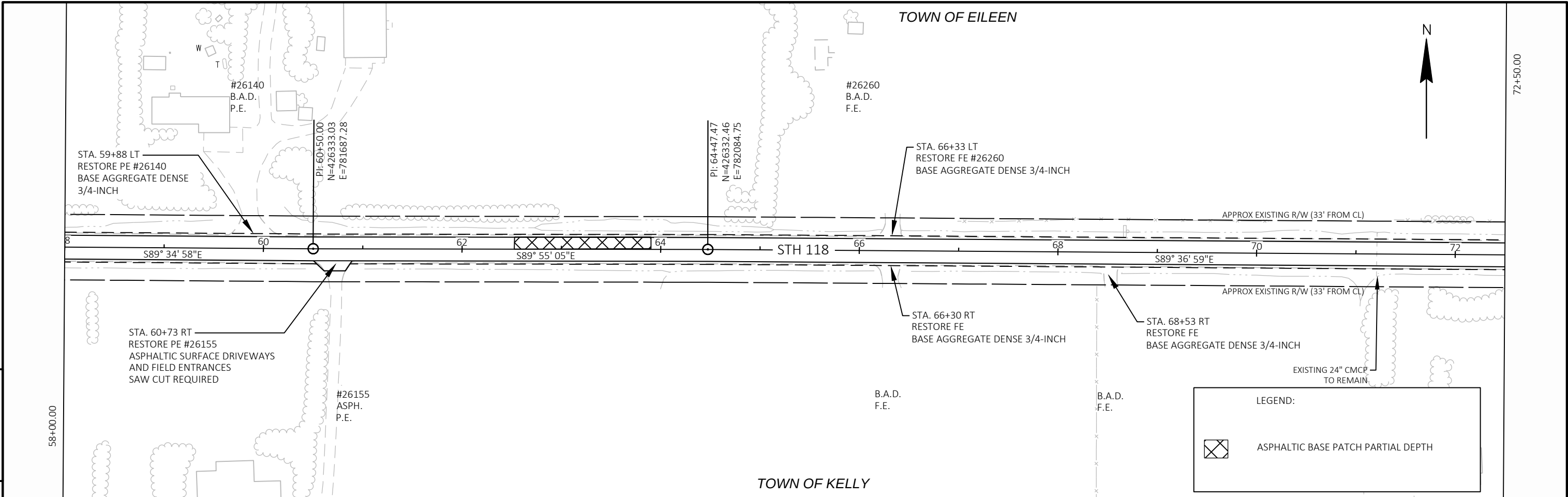


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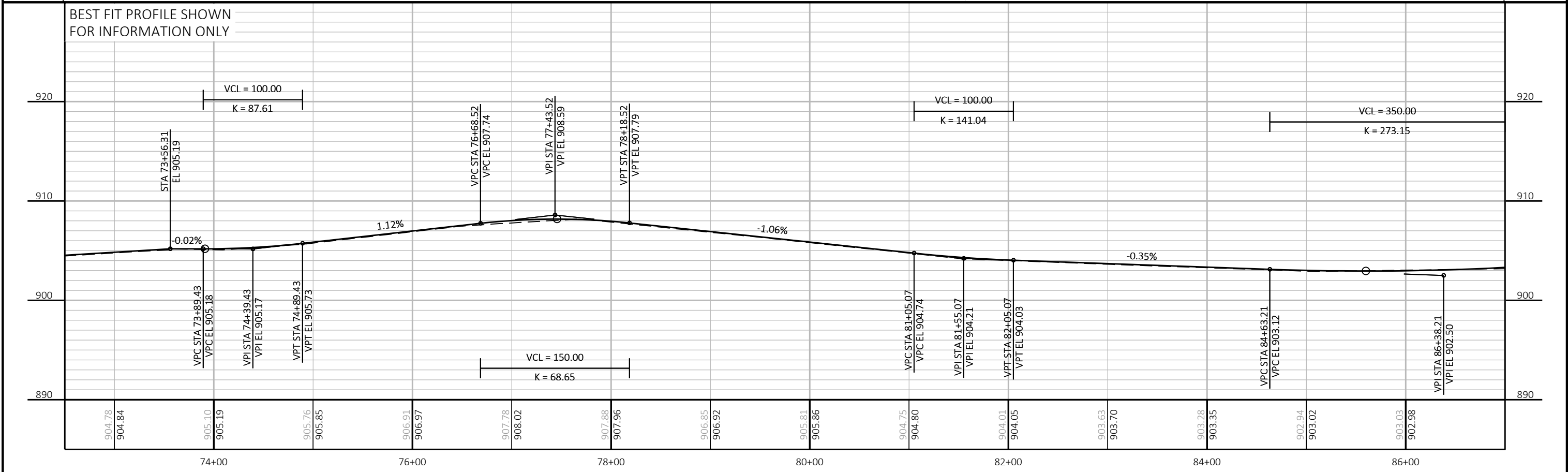
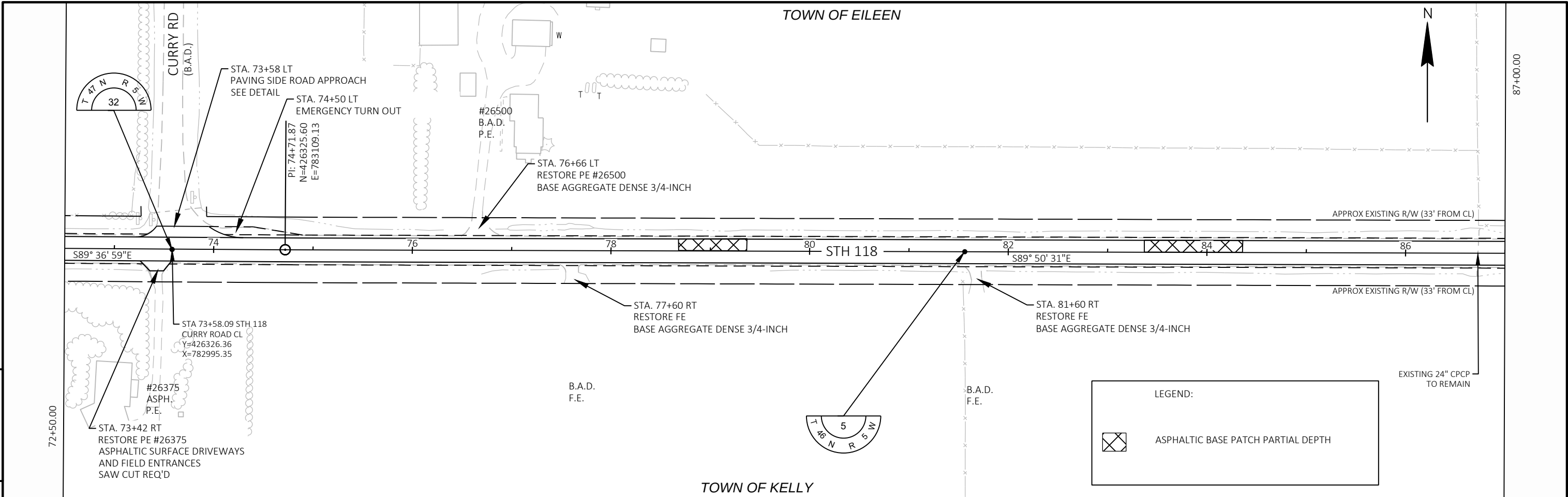


PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	PLAN AND PROFILE: STH 118	SHEET	E
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PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	PLAN AND PROFILE: STH 118	SHEET E
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PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	PLAN AND PROFILE: STH 118	SHEET	E
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CONTROL POINTS						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESCRIPTION
906	100+55.36	25.210	426291.26	785692.50	909.08	CP IR W/ CAP

TOWN OF EILEEN

STA. 99+96 LT
PAVING SIDE ROAD APPROACH
SEE DETAIL
SEP V

#64065
(COLBY)
ASPH.
P.E.

COLBY RD
(B.A.D.)

STA. 101+00 LT
EMERGENCY
TURN OUT

PI: 101+00.00
N=426316.28
E=785737.24

STA. 98+14 LT
RESTORE PE #64065
ASPHALTIC SURFACE DRIVEWAYS
AND FIELD ENTRANCES
SAW CUT REQUIRED

STA. 92+85 LT
RESTORE FE
BASE AGGREGATE
DENSE 3/4-INCH

STA. 92+85 RT
RESTORE FE
BASE AGGREGATE DENSE 3/4-INCH

STA. 93+79 RT
RESTORE PE #26775
BASE AGGREGATE DENSE 3/4-INCH
REPLACE DRIVE CULVERT-SEE DETAIL

#26775
B.A.D.
F.E.

STA 95+86
CULVERT PIPE REPAIR
SEE DETAIL

B.A.D.
F.E.

STA. 100+00 RT
EMERGENCY TURN OUT

STA 99+96.09 STH 118
COLBY ROAD CL
Y=426316.73
X=785633.33

#26861
B.A.D.
P.E.

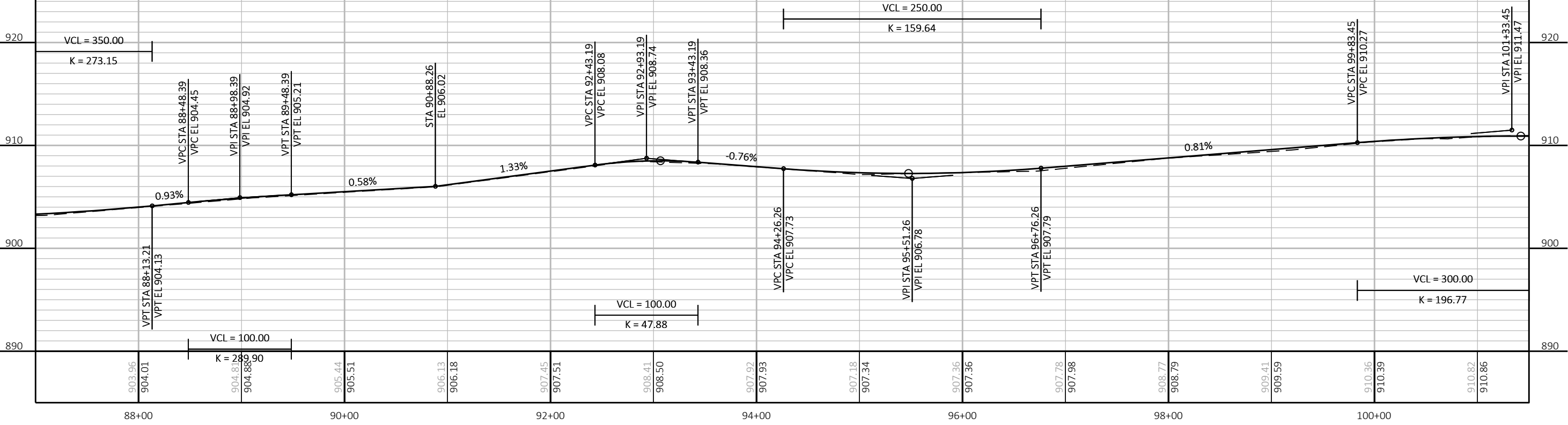
STA. 100+02 RT
RESTORE PE # 26861
BASE AGGREGATE DENSE
3/4-INCH

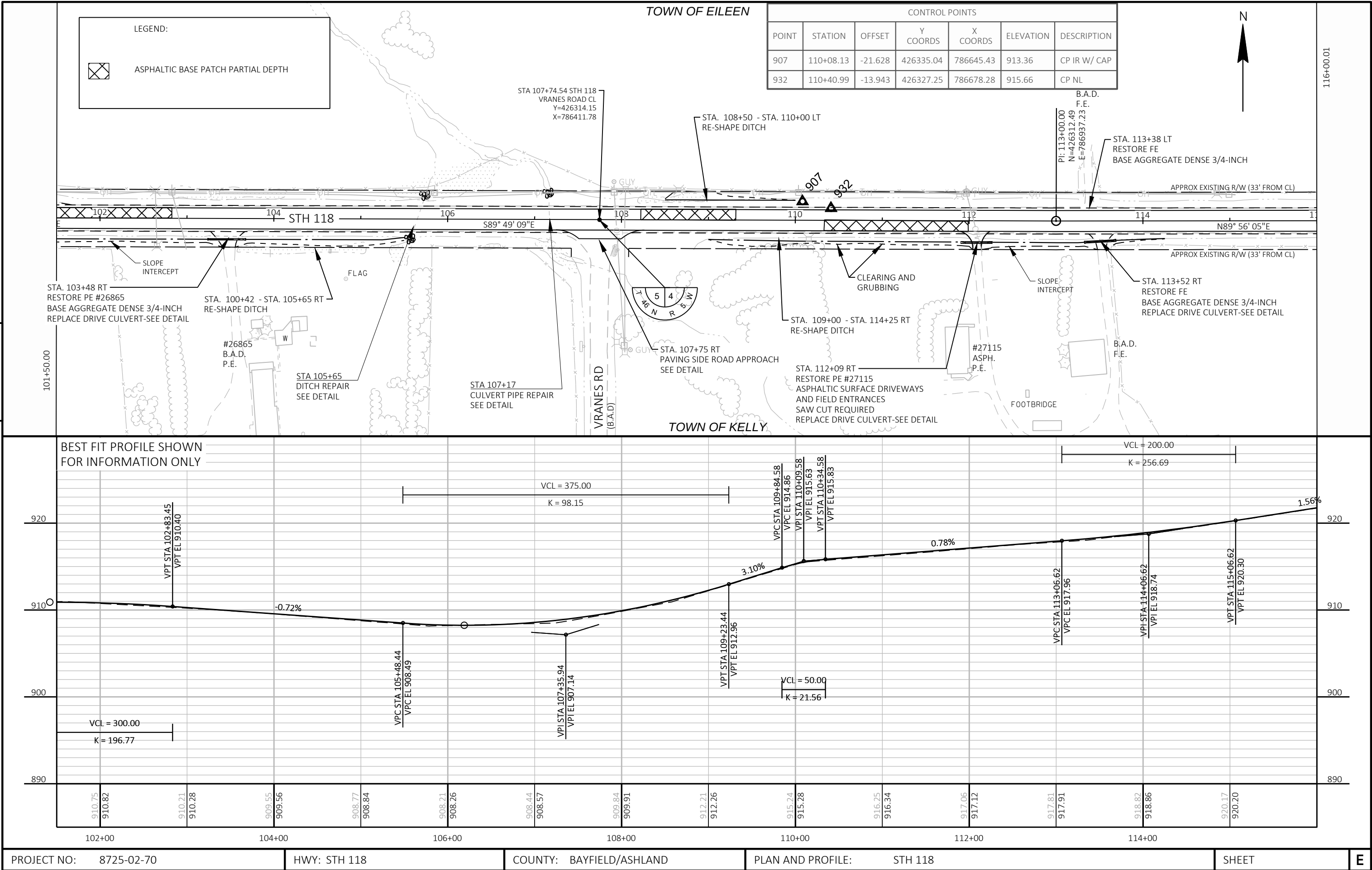
LEGEND:

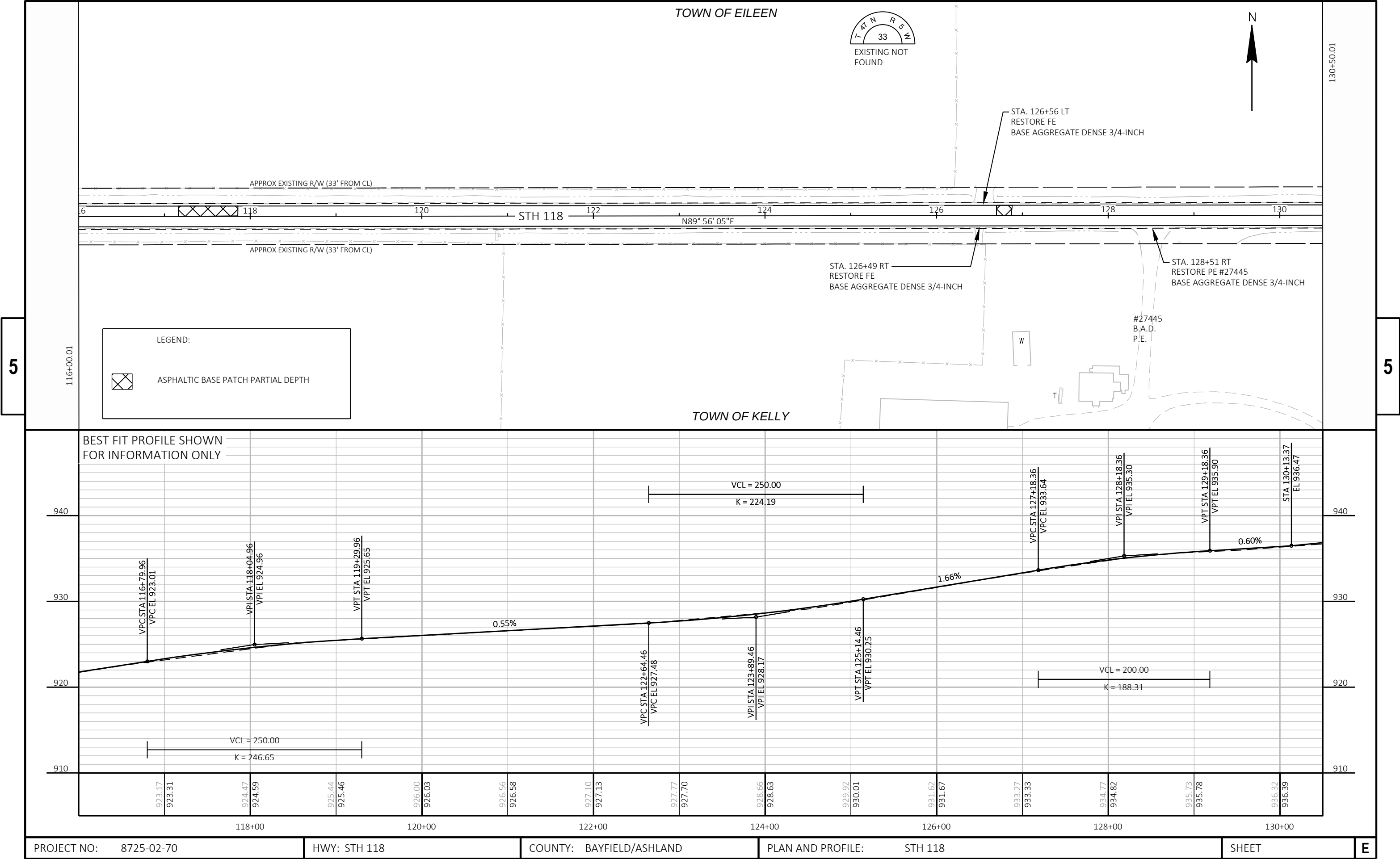


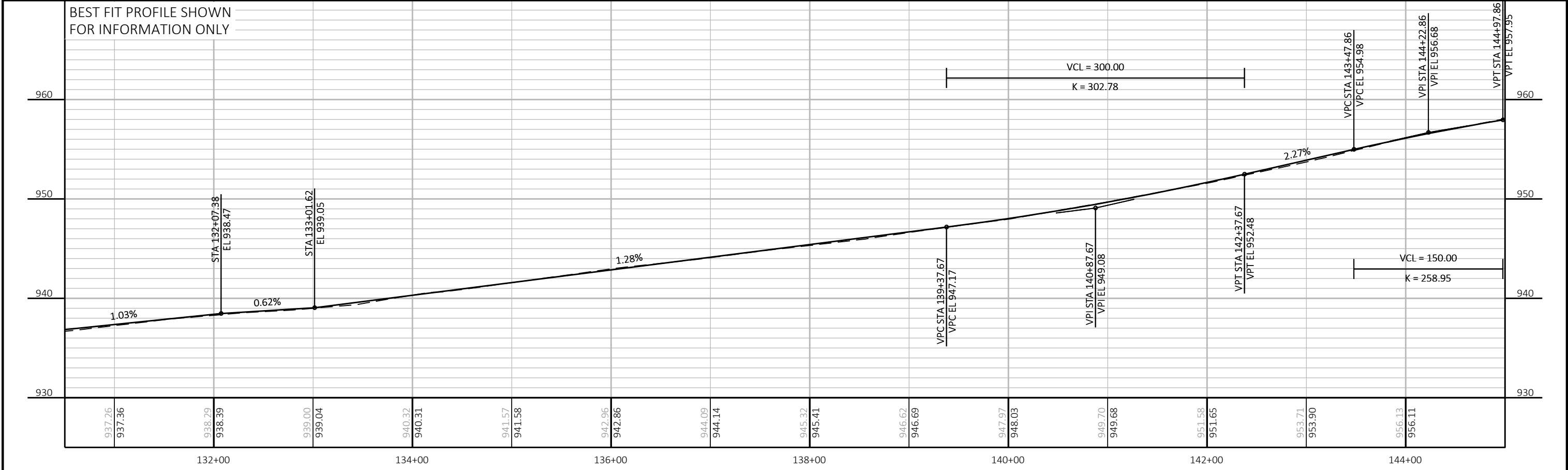
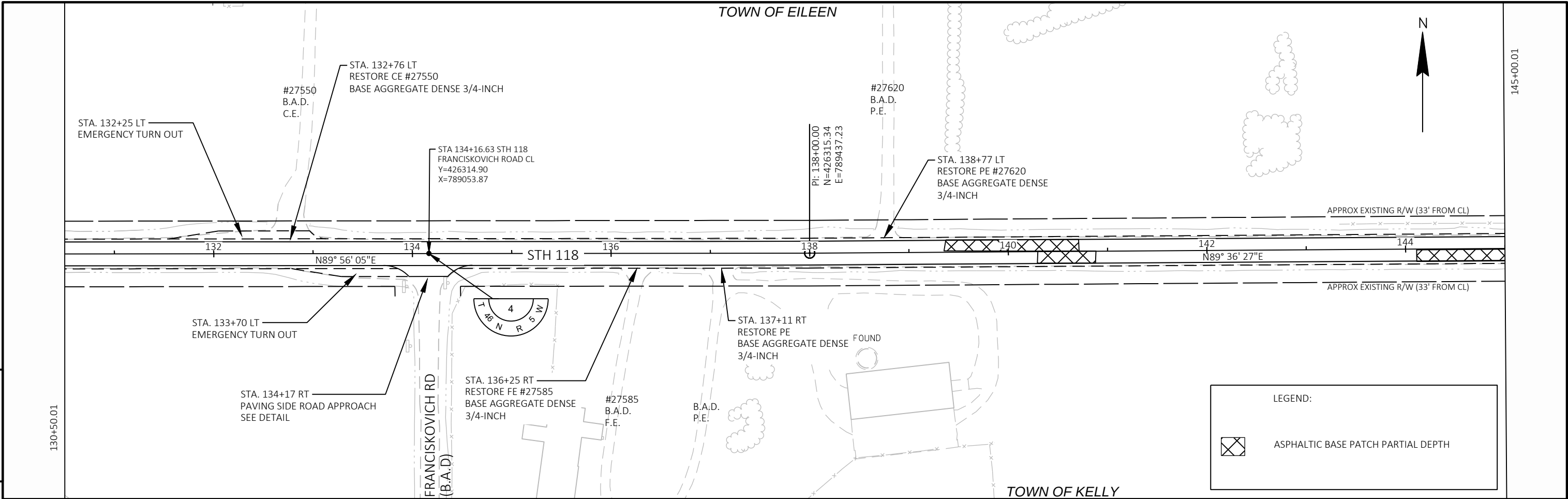
ASPHALTIC BASE PATCH PARTIAL DEPTH

BEST FIT PROFILE SHOWN
FOR INFORMATION ONLY

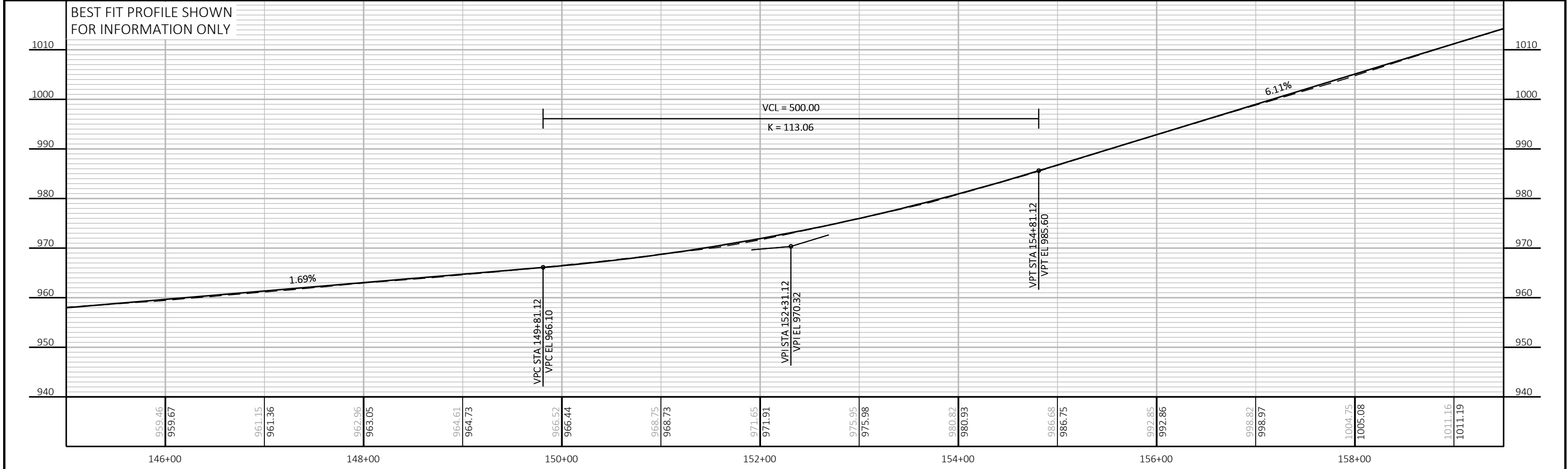
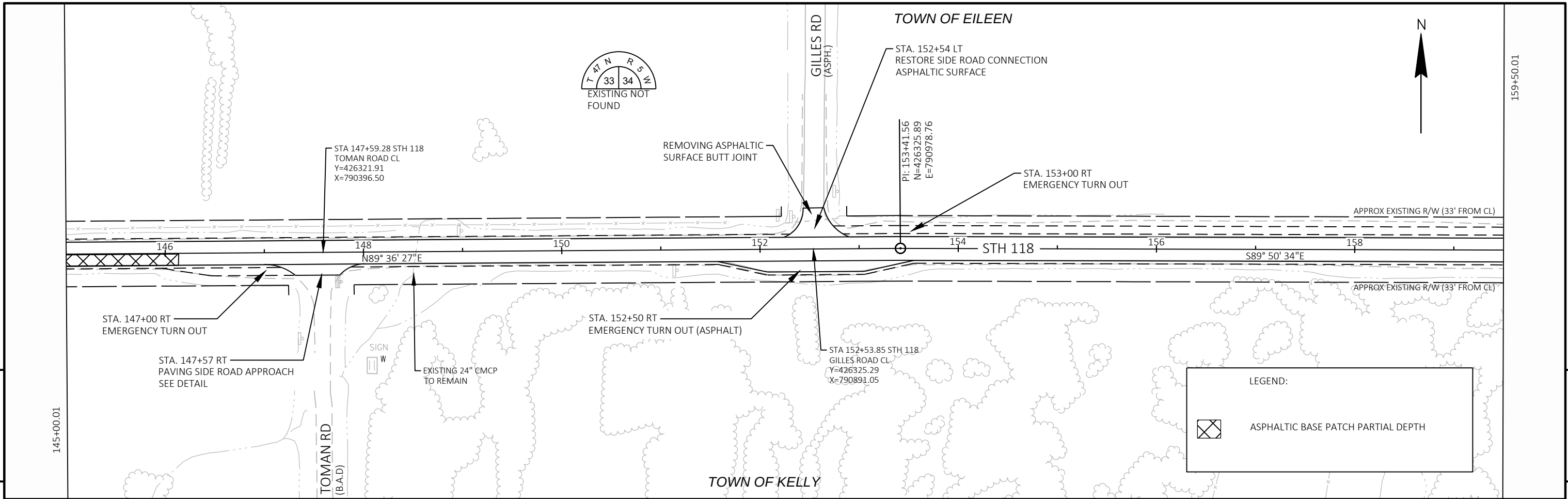




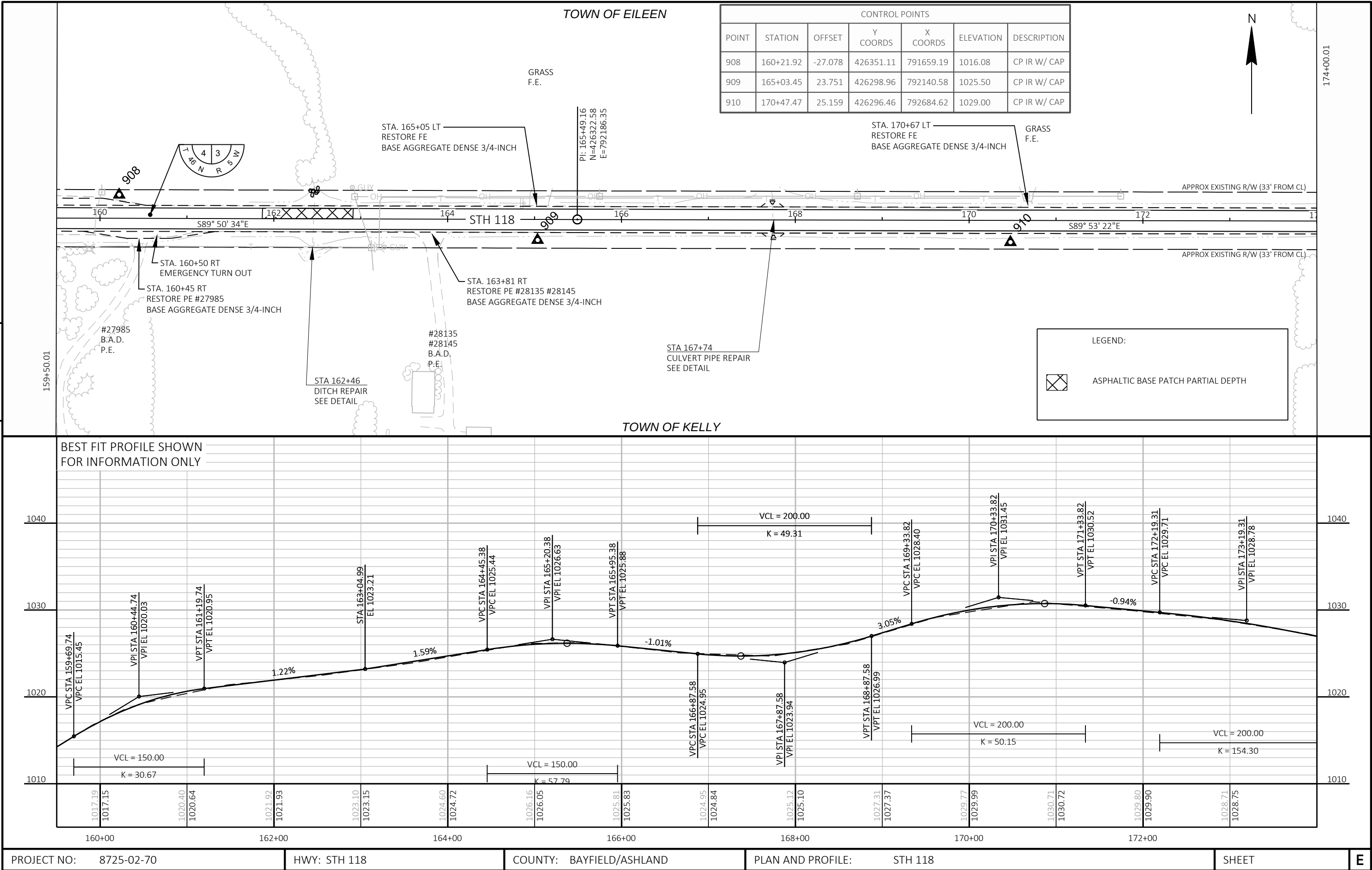


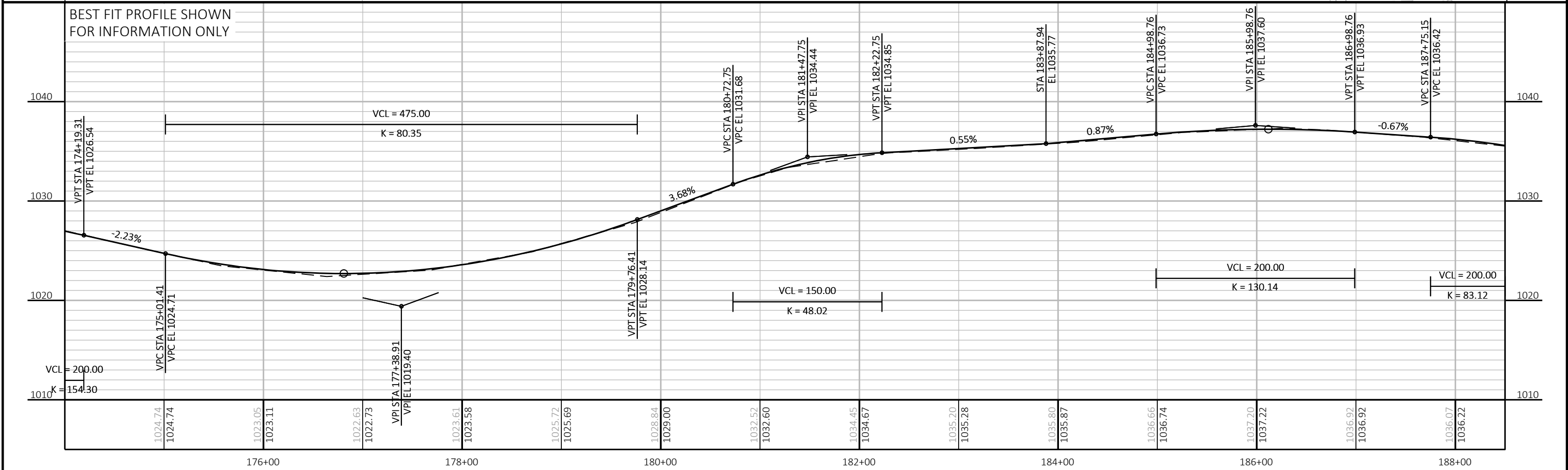
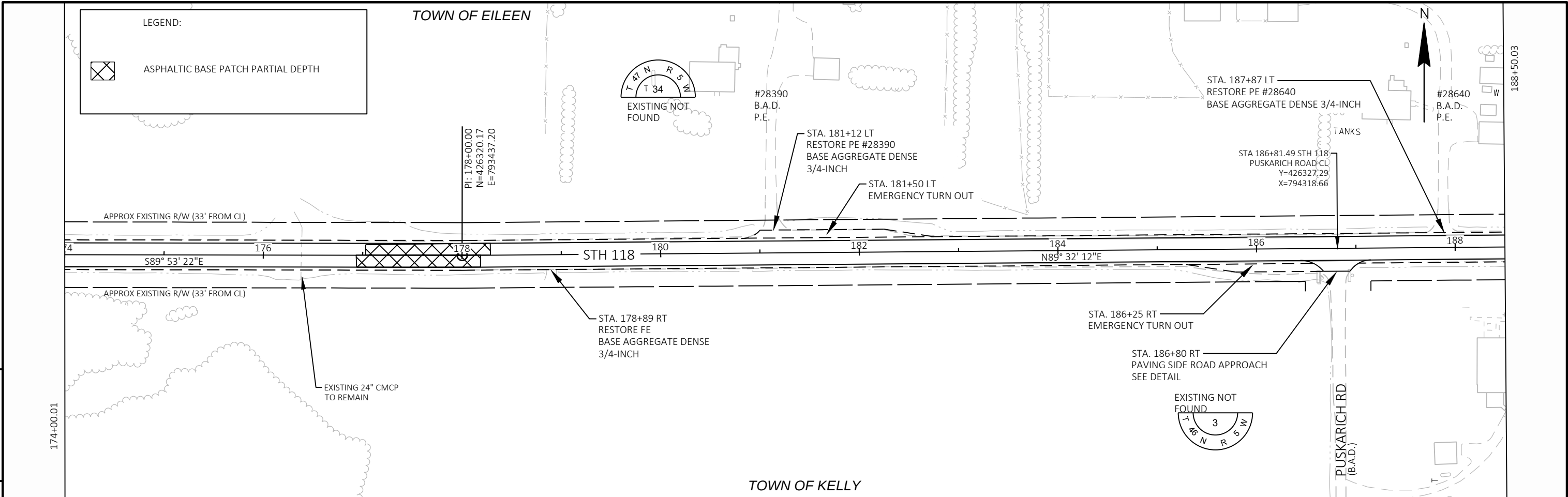


PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	PLAN AND PROFILE: STH 118	SHEET	E
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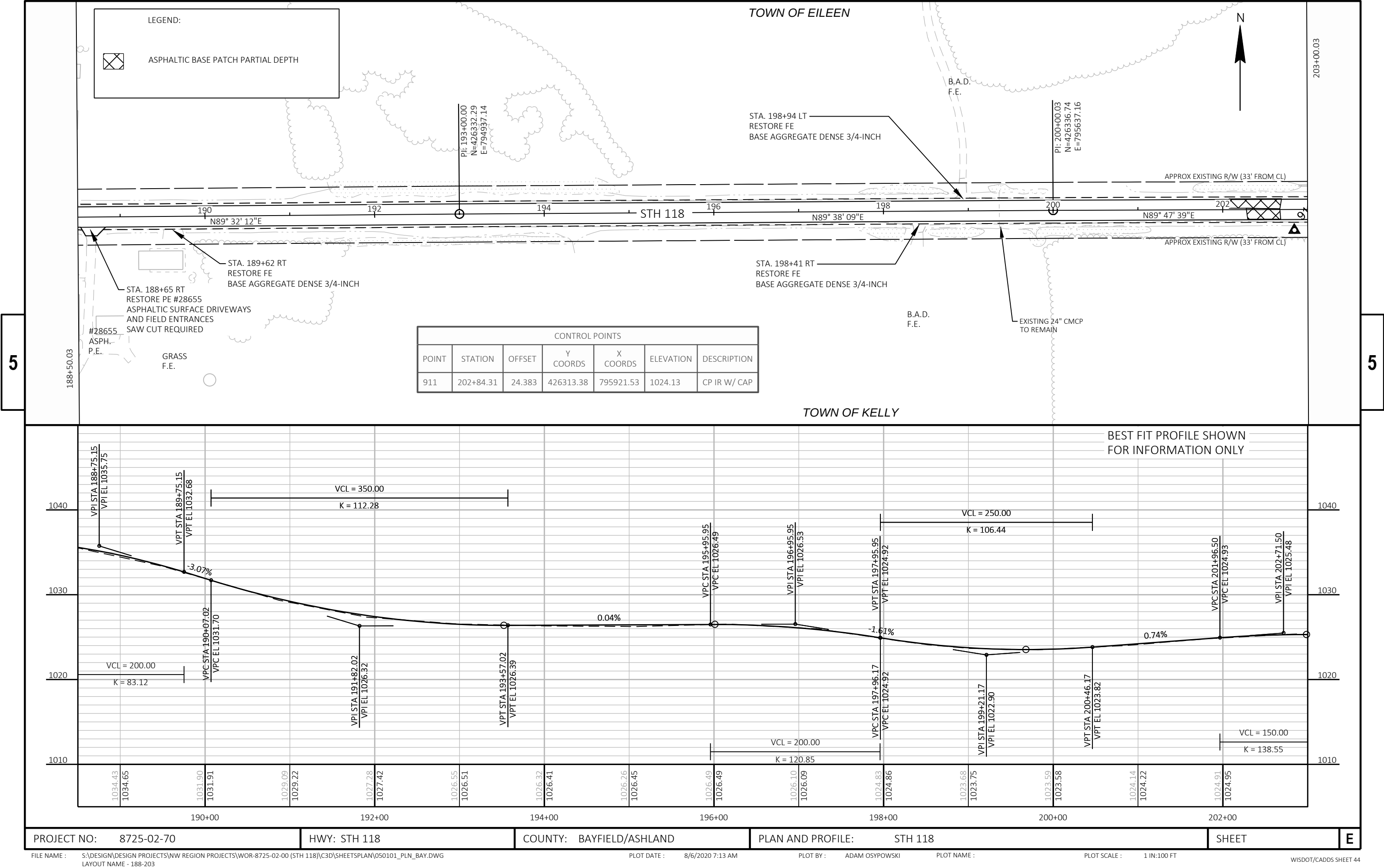


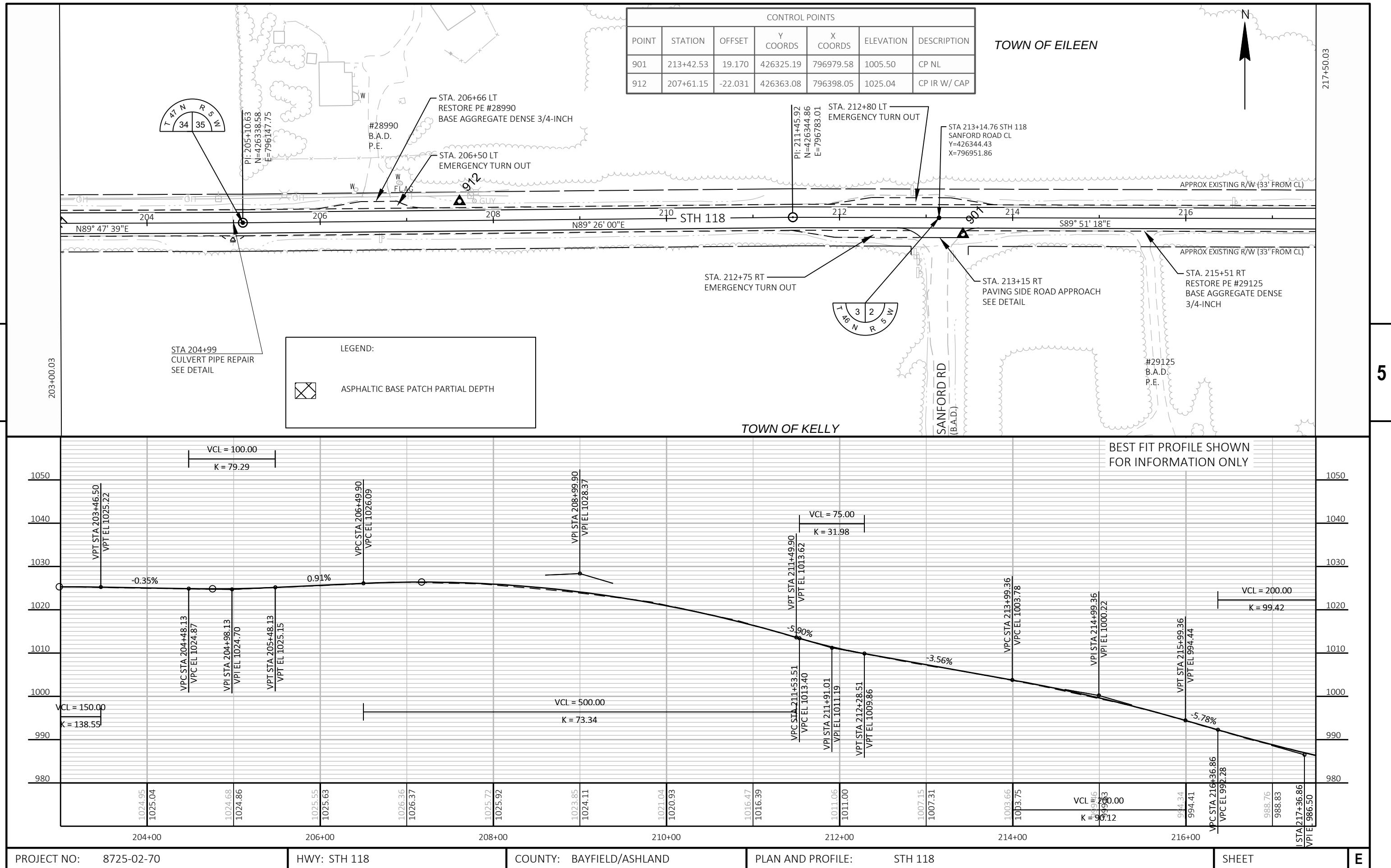
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	PLAN AND PROFILE: STH 118	SHEET	E
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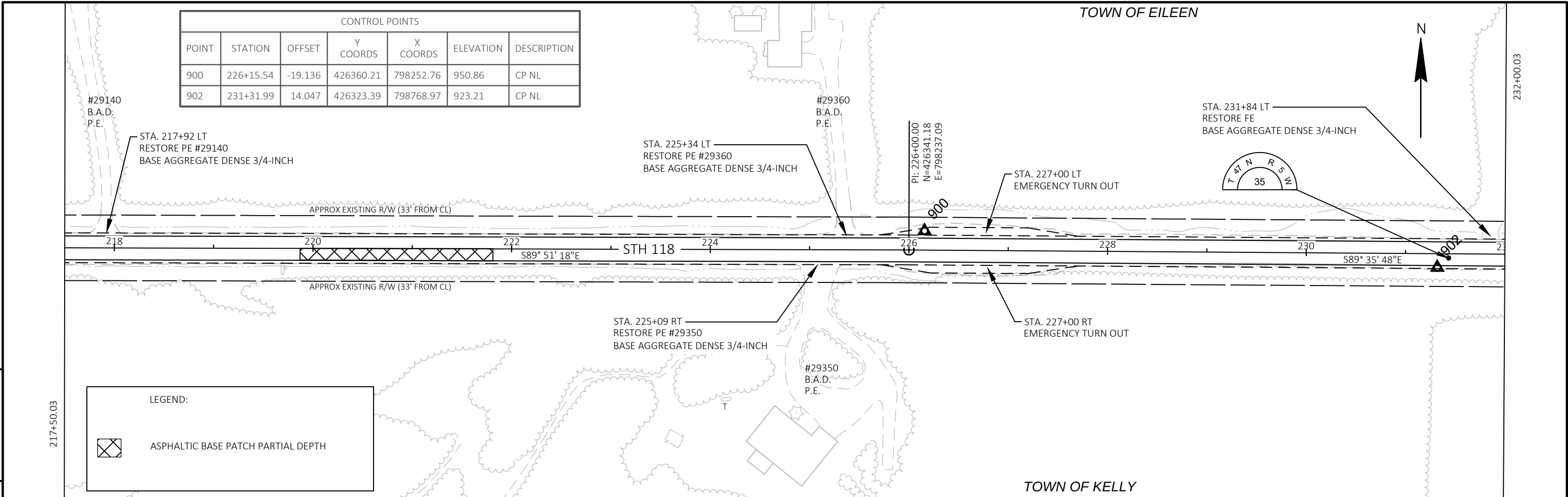


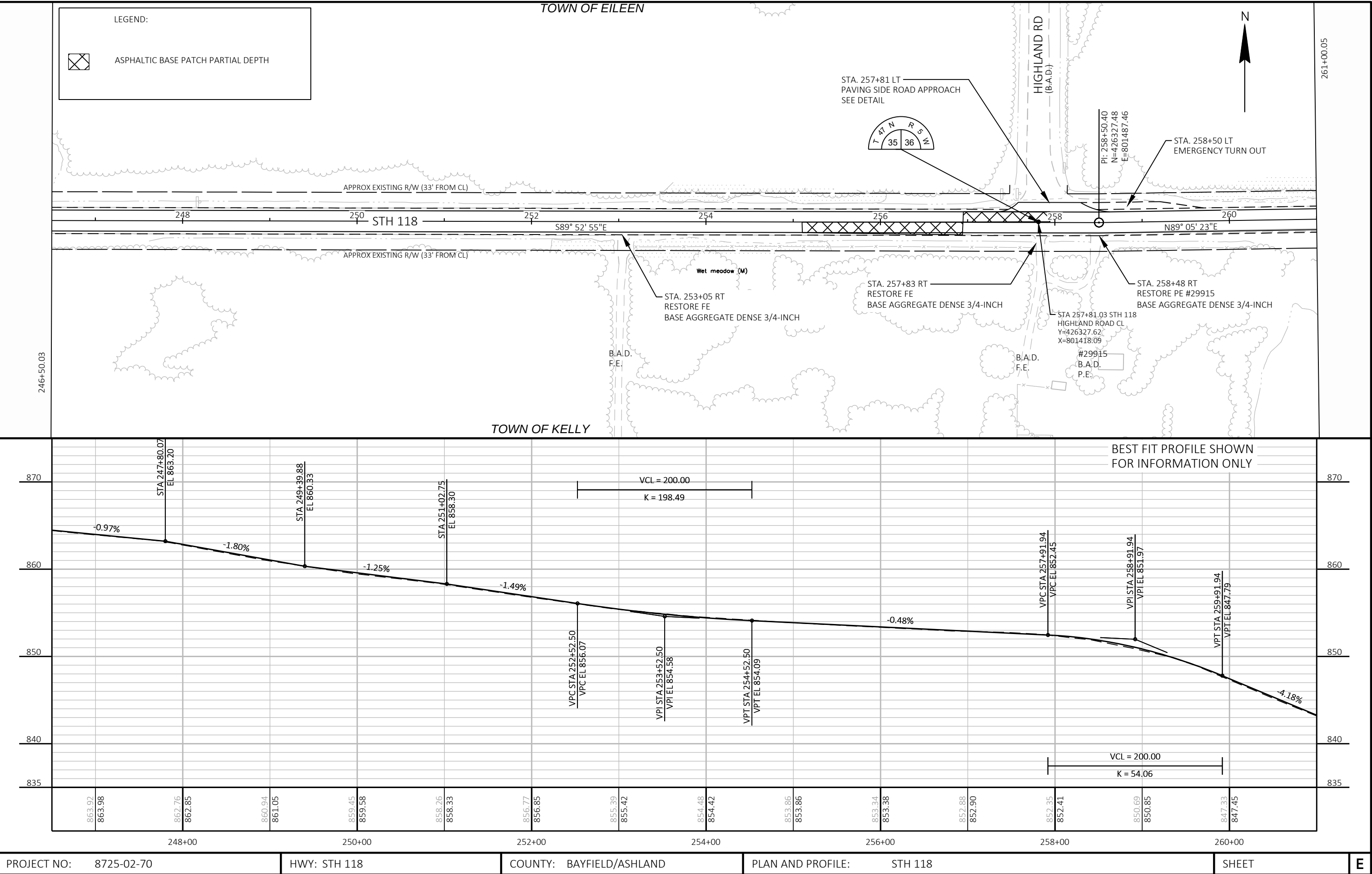


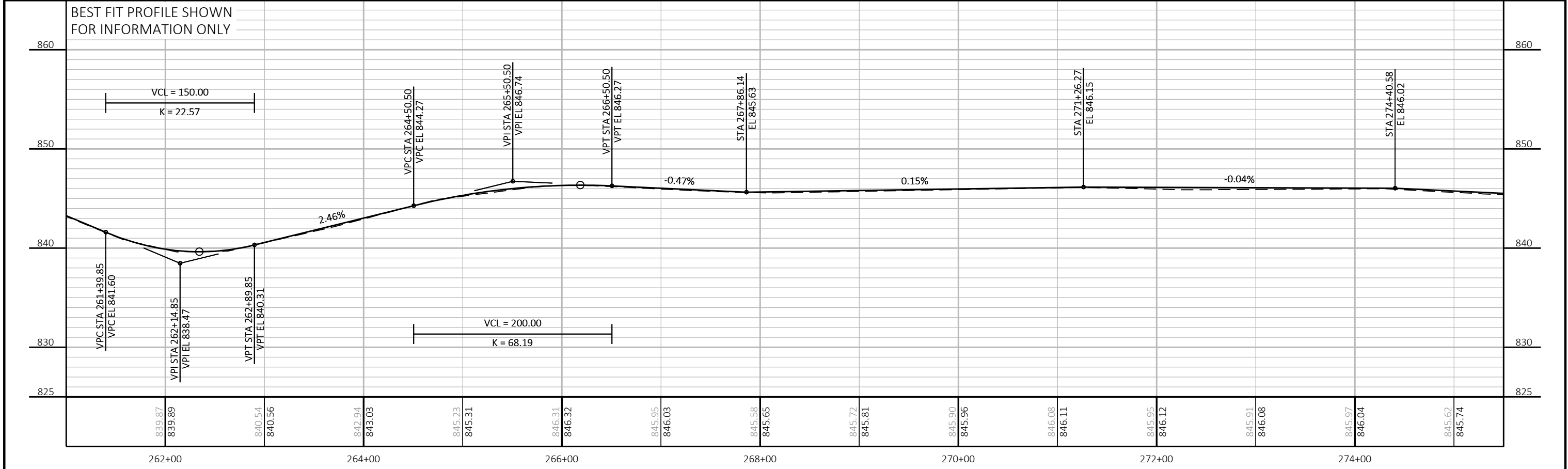
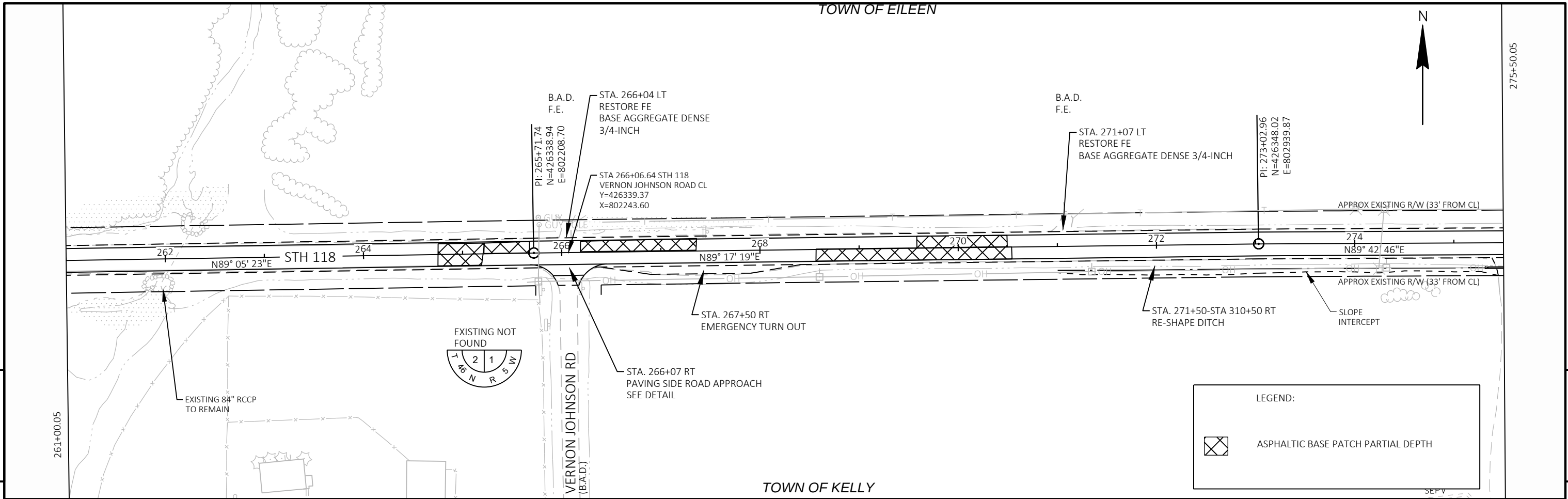
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	PLAN AND PROFILE: STH 118	SHEET	E
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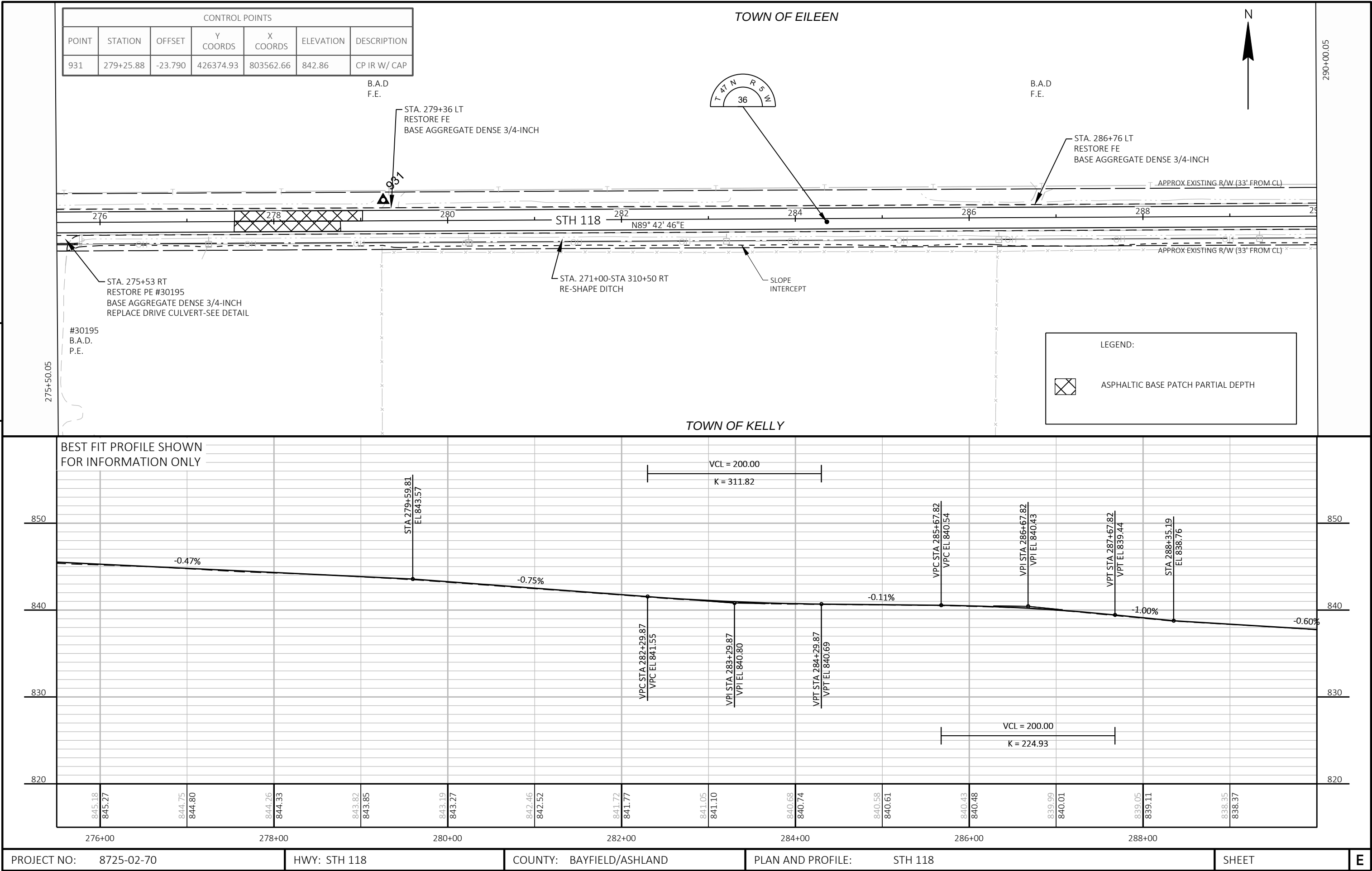


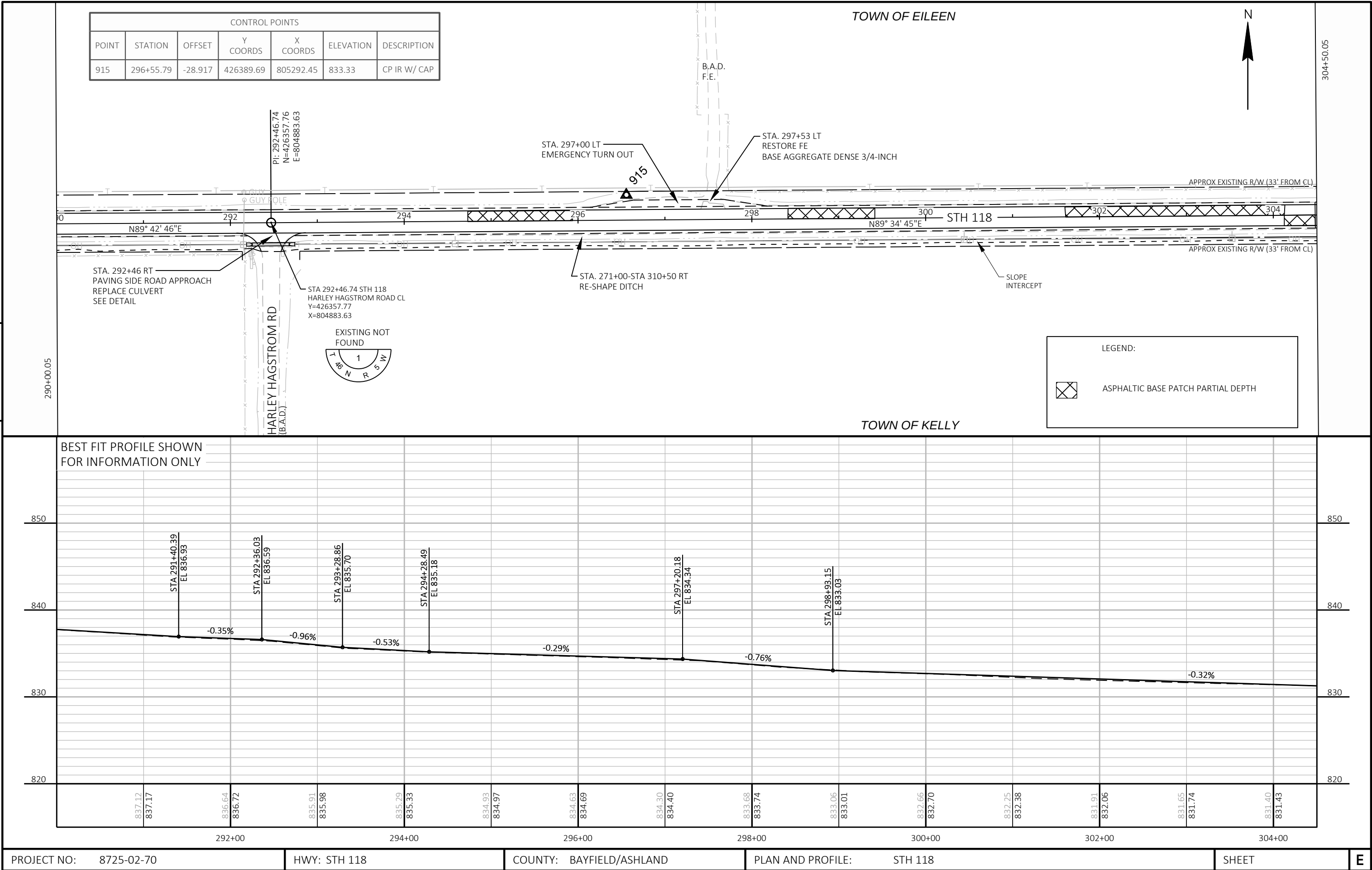


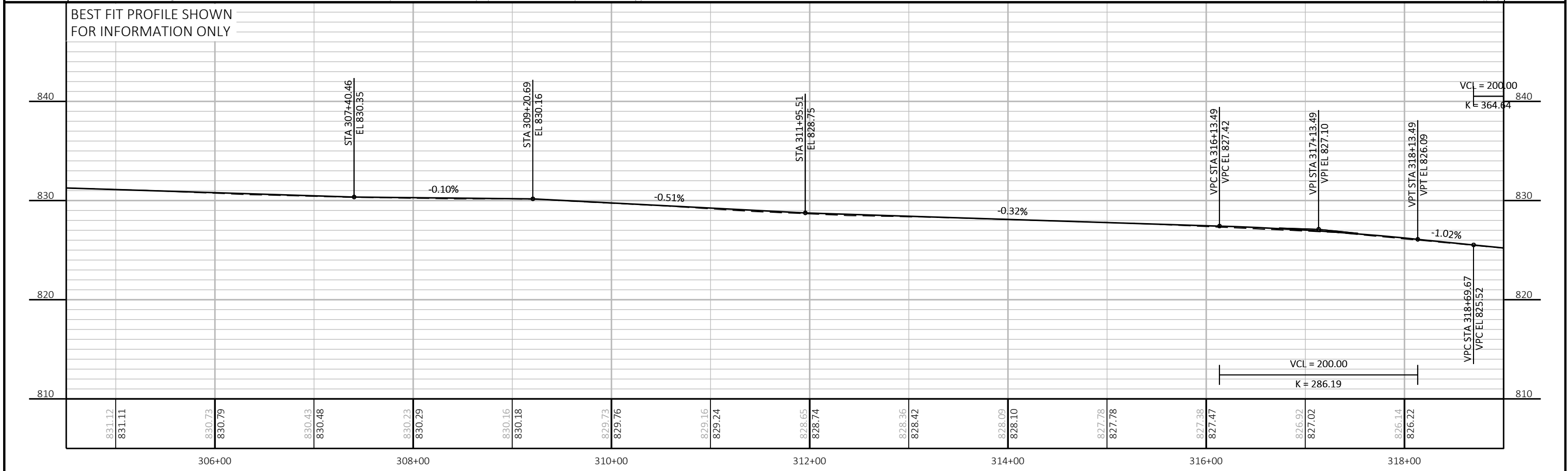
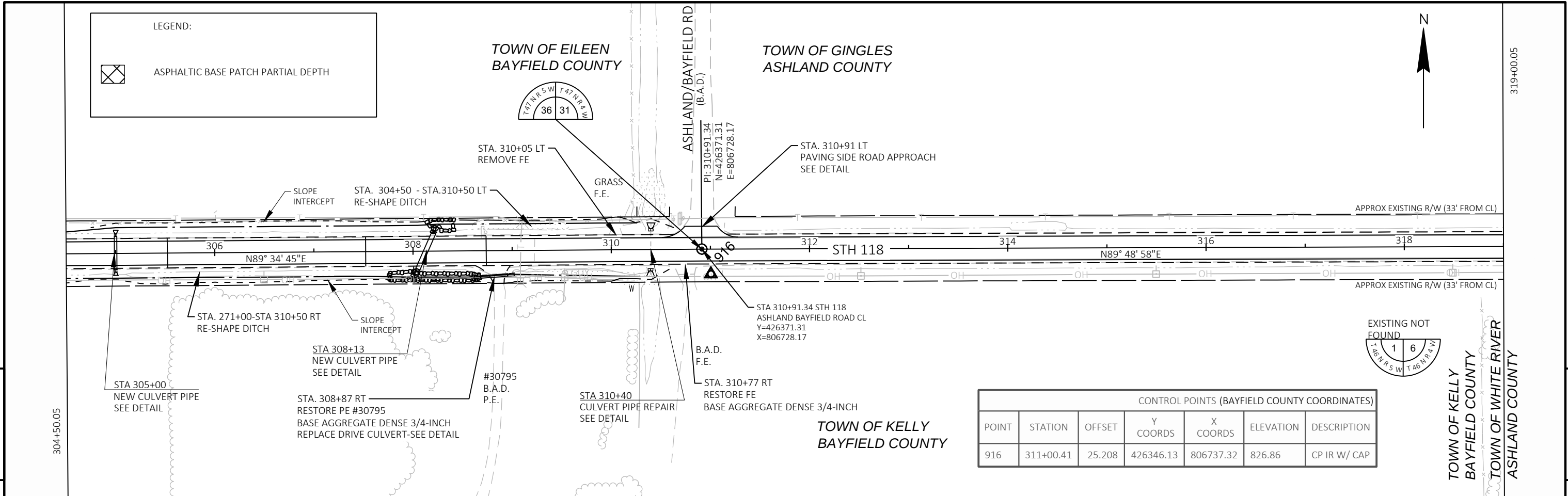




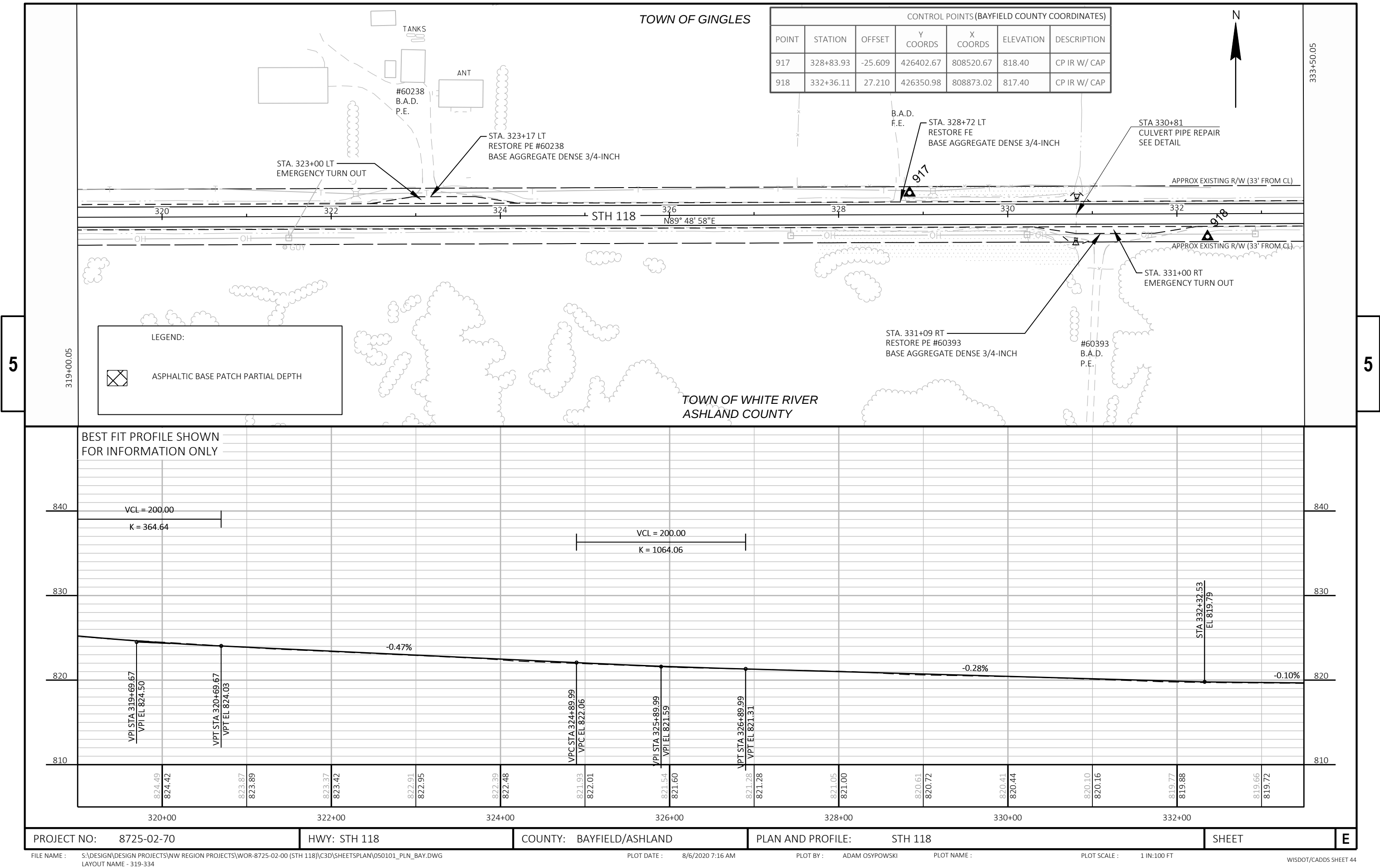
PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD/ASHLAND	PLAN AND PROFILE: STH 118	SHEET	E
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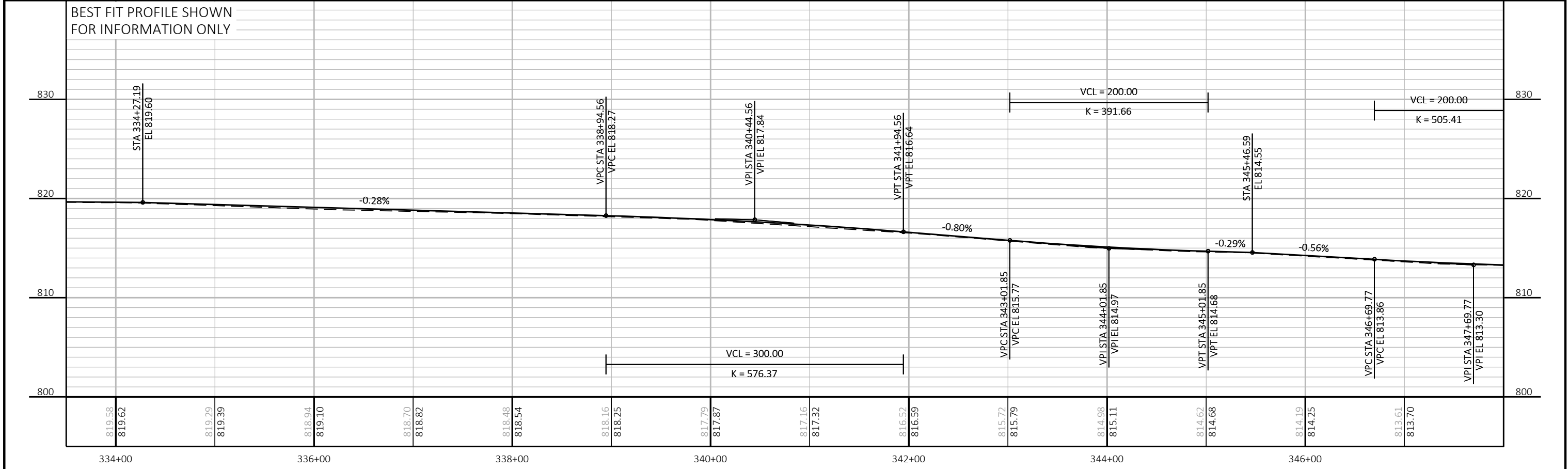
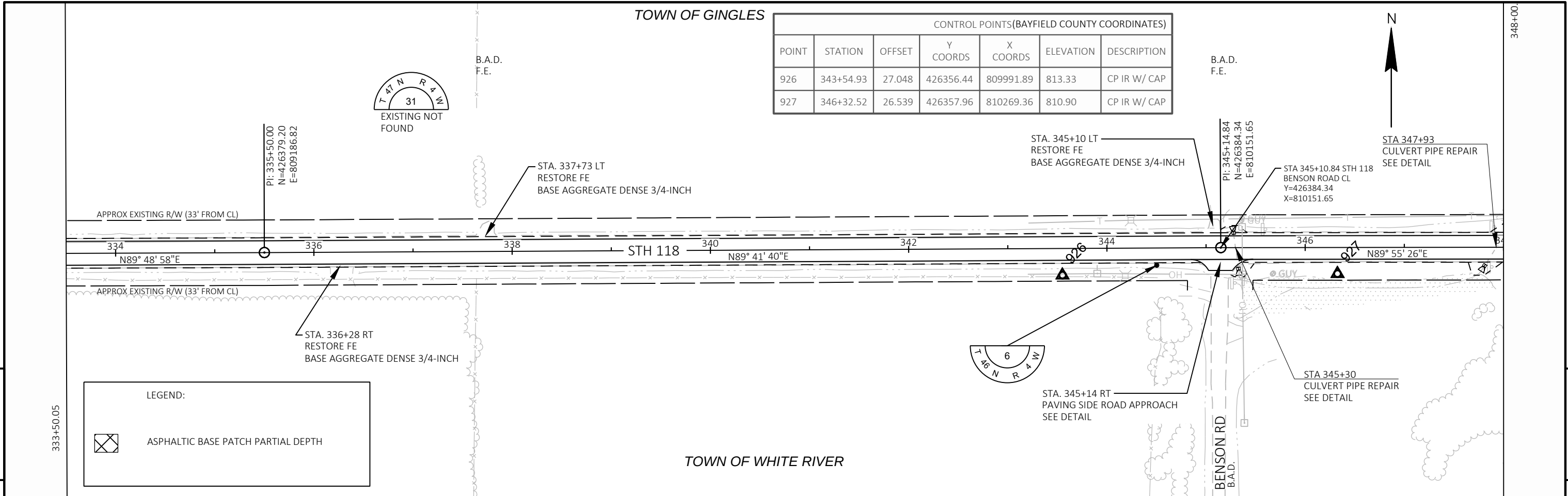






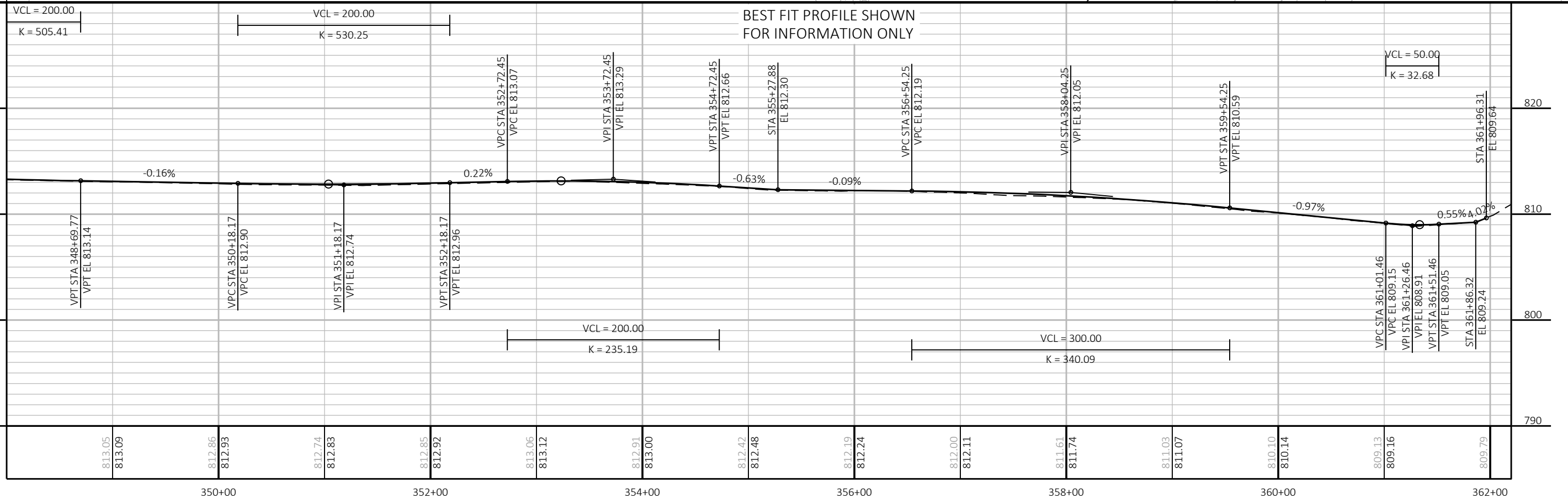
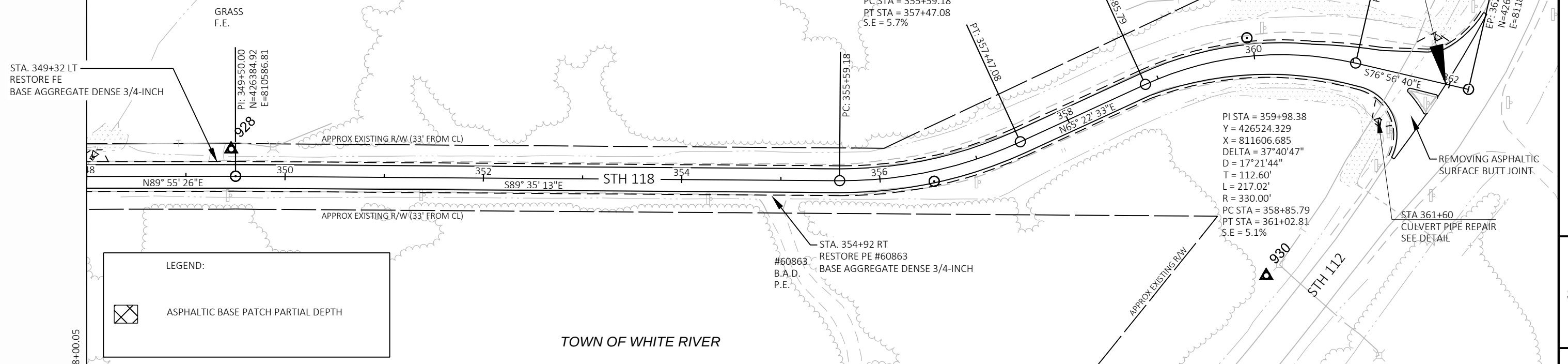
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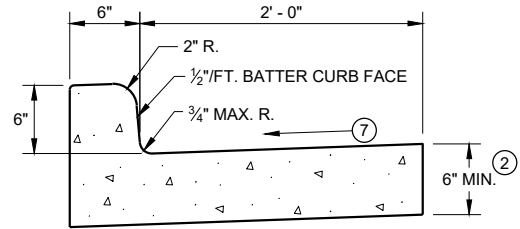
PROJECT NO:	8725-02-70	HWY:	STH 118	COUNTY:	BAYFIELD/ASHLAND	PLAN AND PROFILE:	STH 118	SHEET	E
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CONTROL POINTS (BAYFIELD COUNTY COORDINATES)						
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION	DESCRIPTION
928	349+45.69	-27.441	426412.36	810582.47	811.27	CP IR W/ CAP
930	359+80.29	221.390	426284.92	811626.31	807.79	CP IR W/ CAP

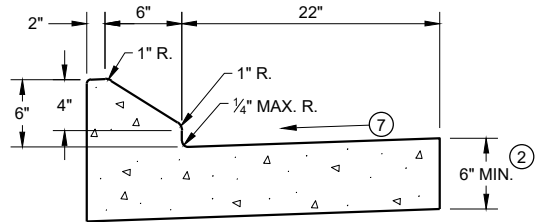


Standard Detail Drawing List

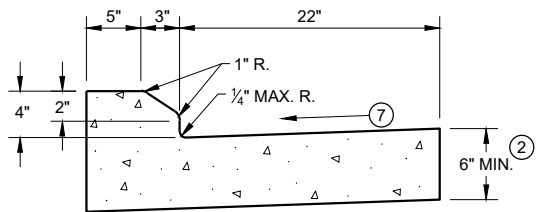
08D01-21A	CONCRETE CURB & GUTTER
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C27-03A	DOUBLE ARROW WARNING SIGN PLACEMENT
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
16A01-07	LANDMARK REFERENCE MONUMENTS AND COVERS



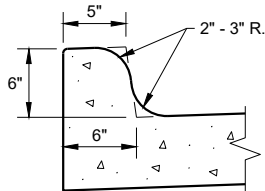
TYPES A^① & D



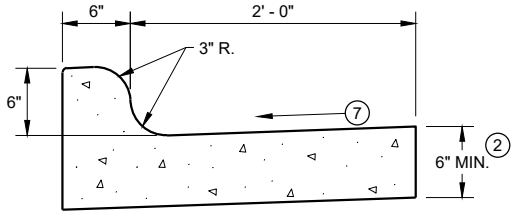
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

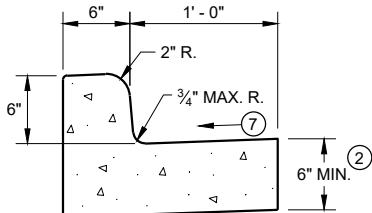


TYPES K^① & L
(OPTIONAL CURB SHAPE)



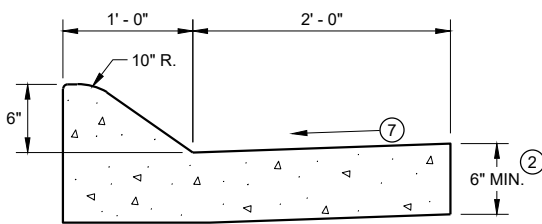
TYPES K^① & L

CONCRETE CURB AND GUTTER 30"

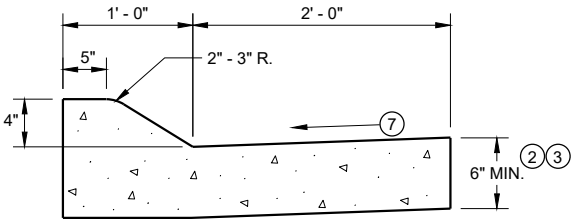


TYPES A^① & D

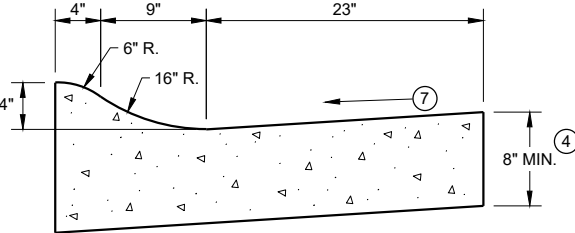
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D



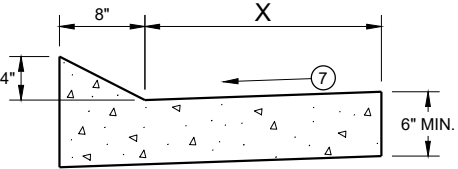
4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

CONCRETE CURB AND GUTTER 36"

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

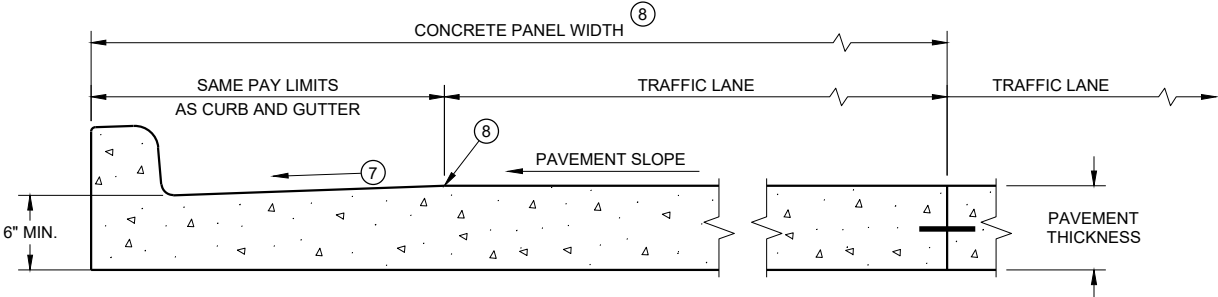


TYPES TBT & TBTT^①

CONCRETE CURB AND GUTTER

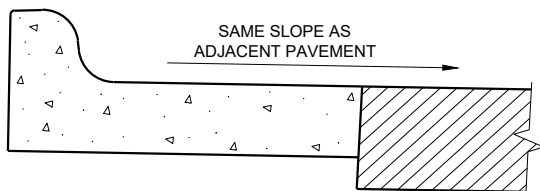
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

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

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

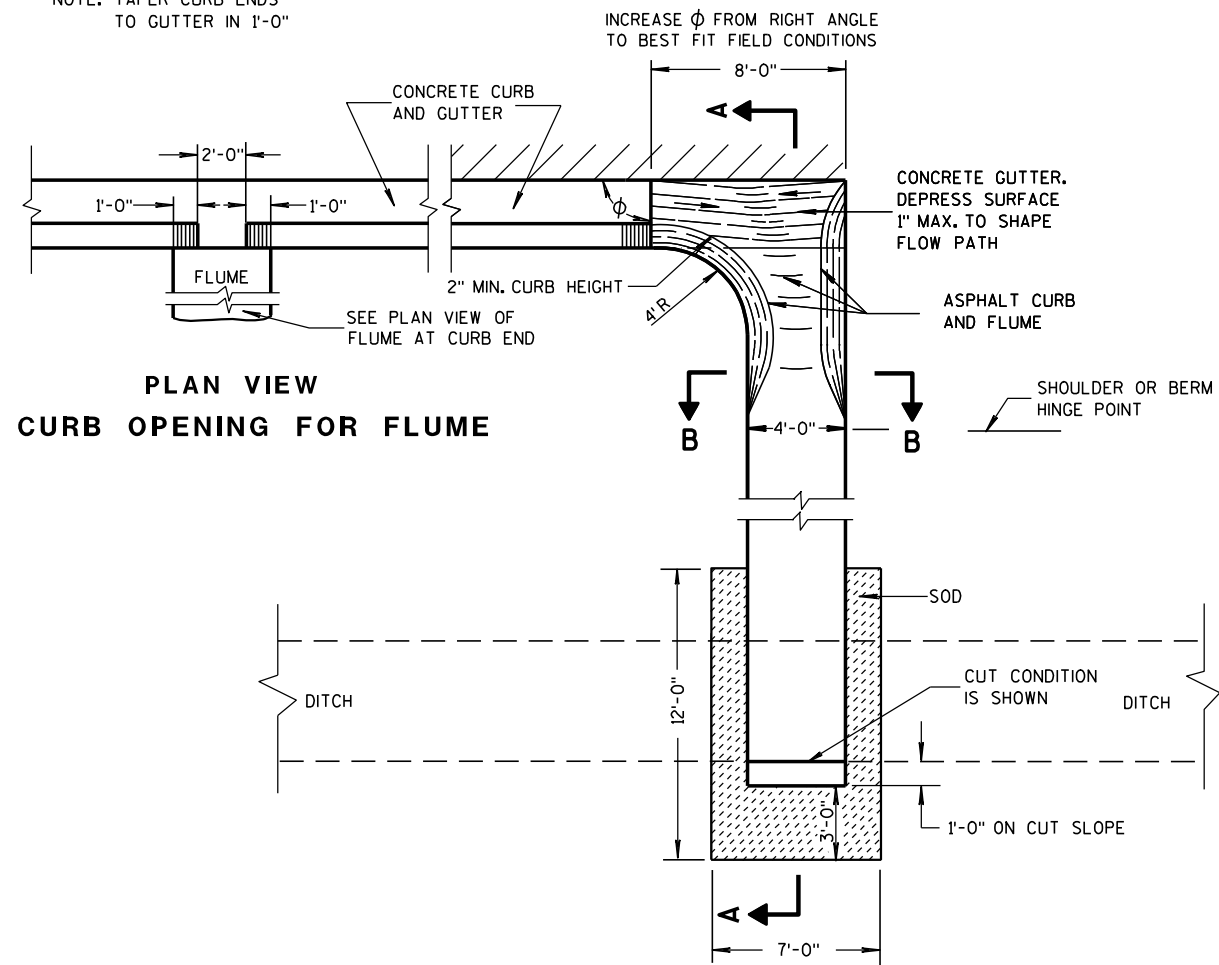
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

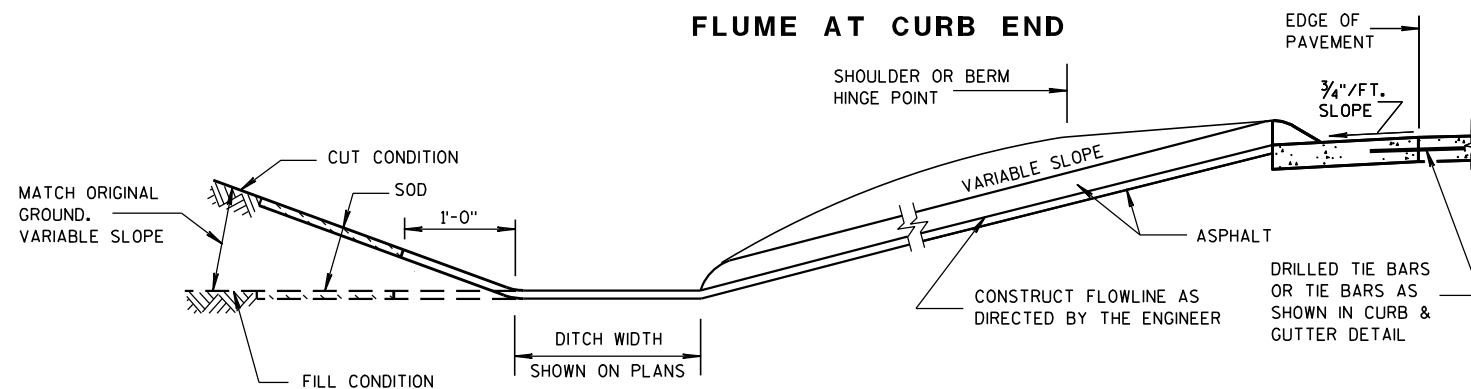
ASPHALTIC FLUME

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

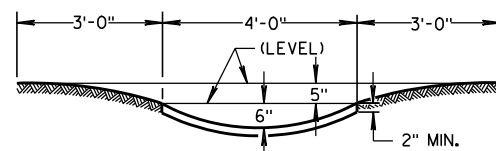


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

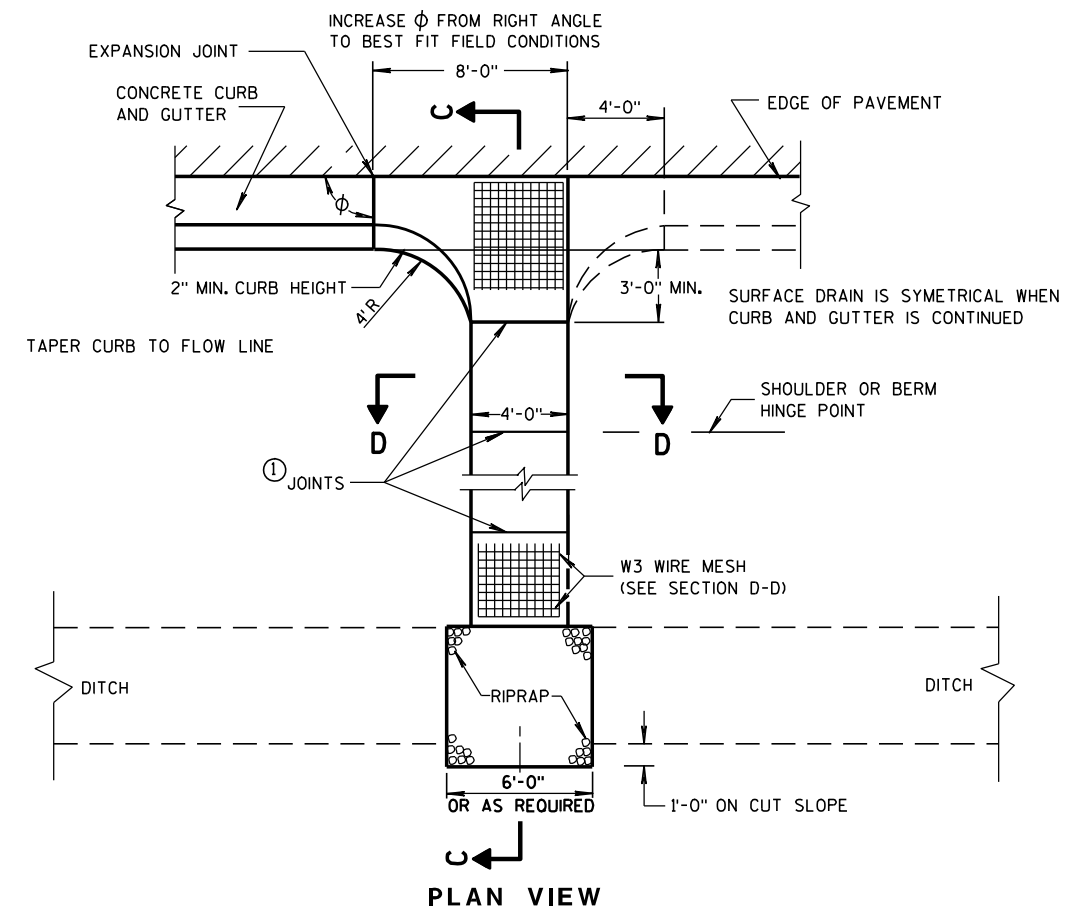
GENERAL NOTES

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

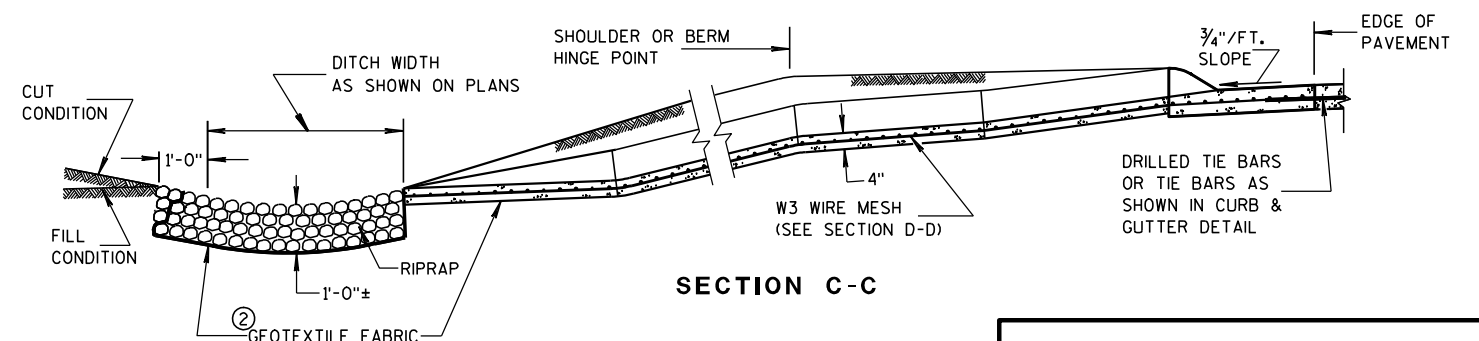
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

- ① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

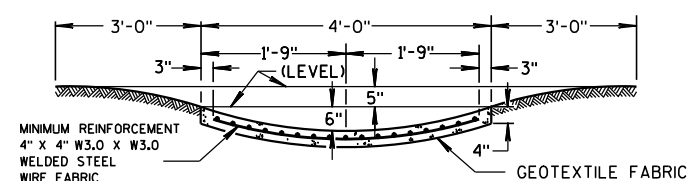
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

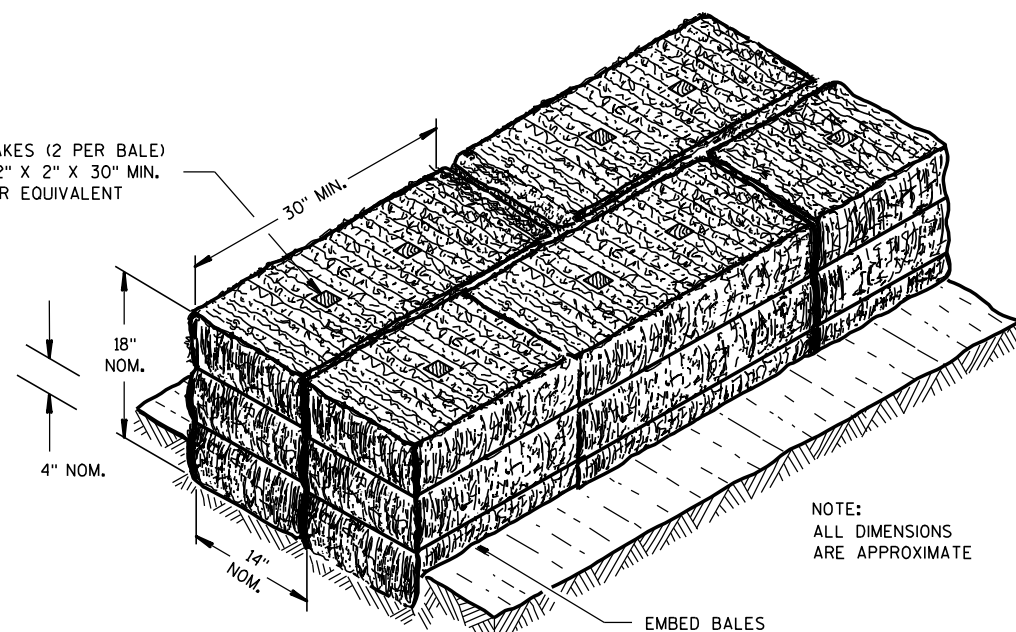
9-4-08

DATE

FHWA

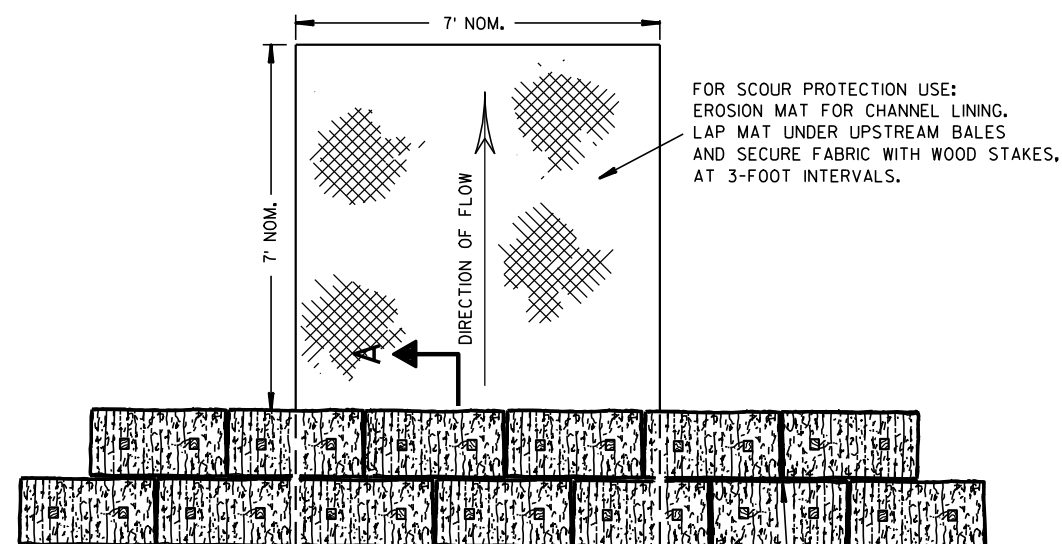
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

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



SECTION A-A

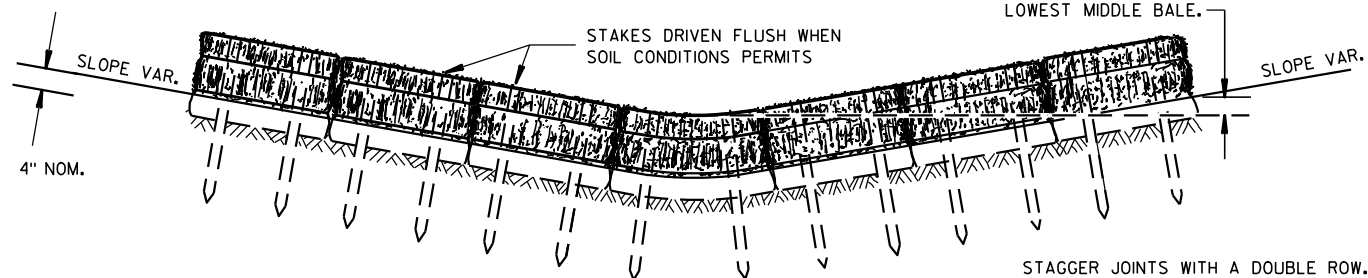
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE



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.



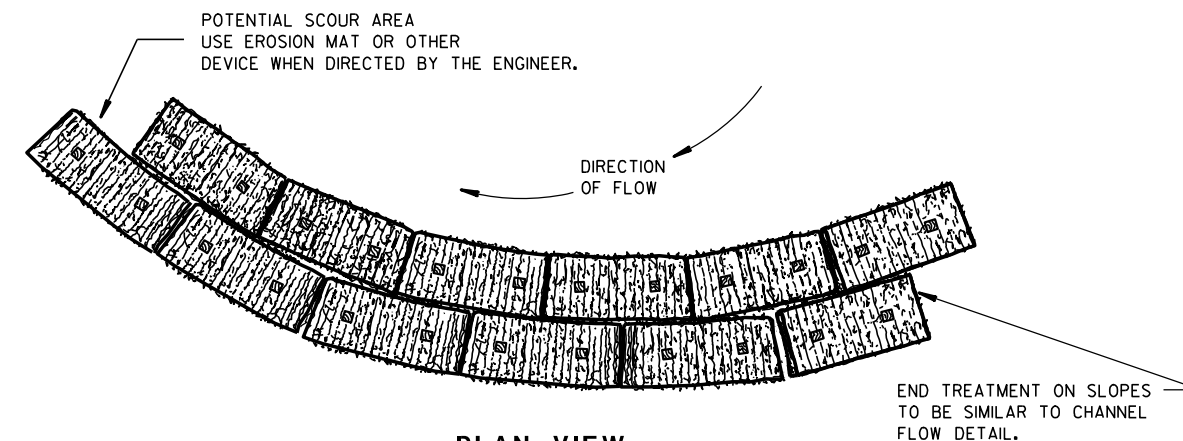
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

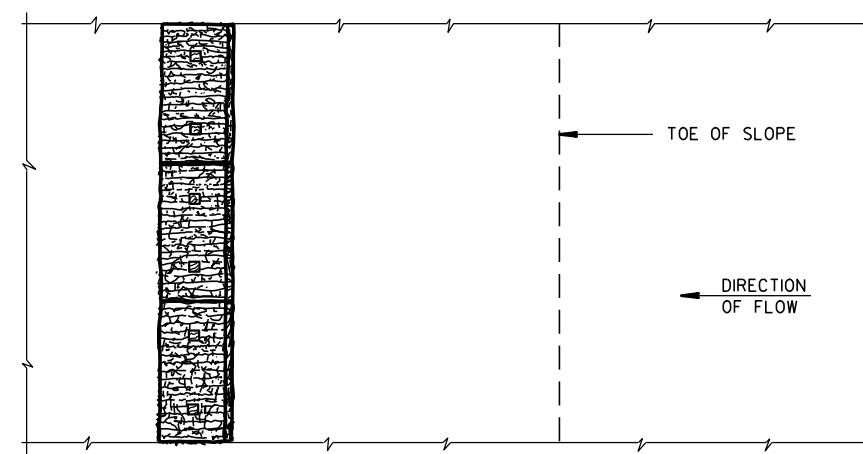
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

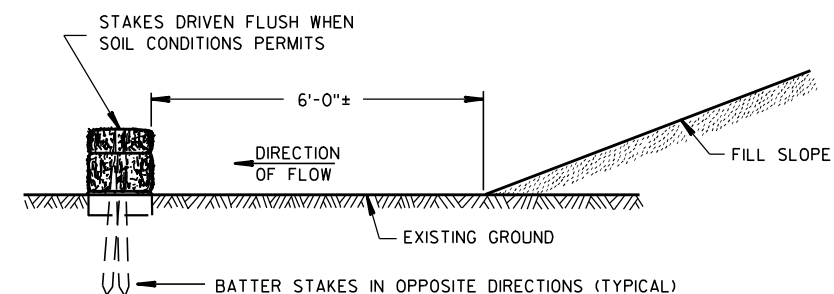


PLAN VIEW

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

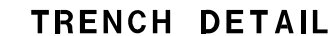
6/04/02
DATE

FHWA

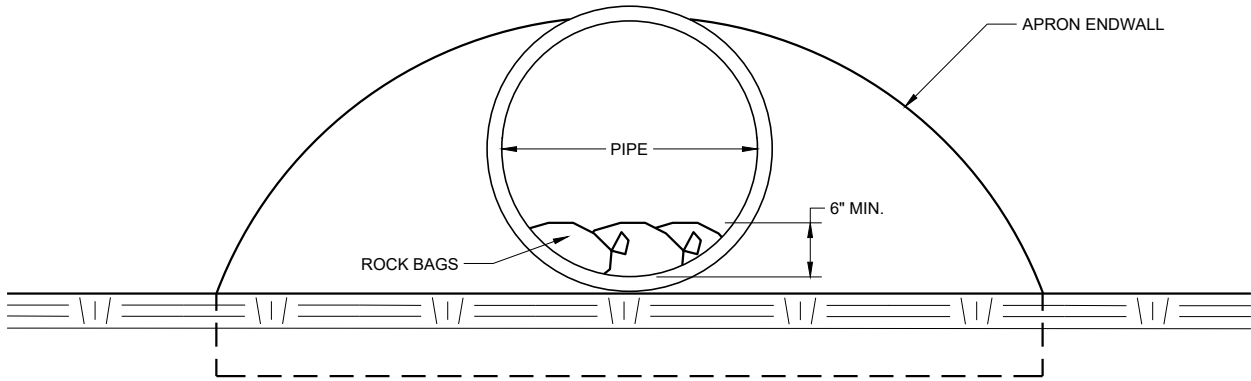
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



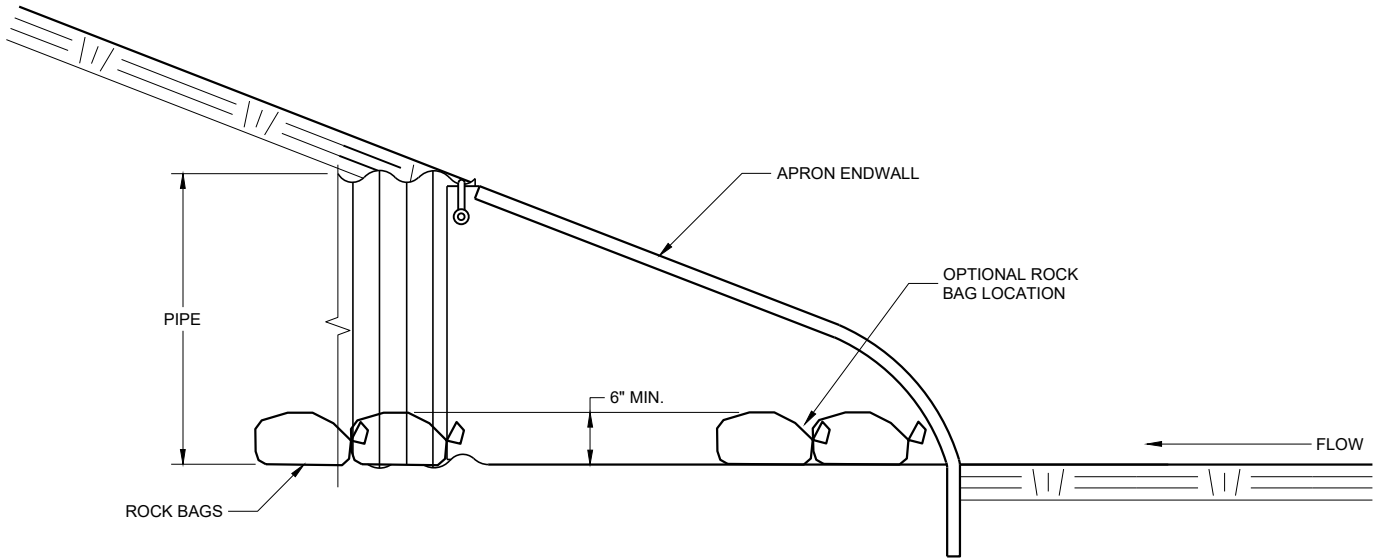
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" 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 Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



END VIEW



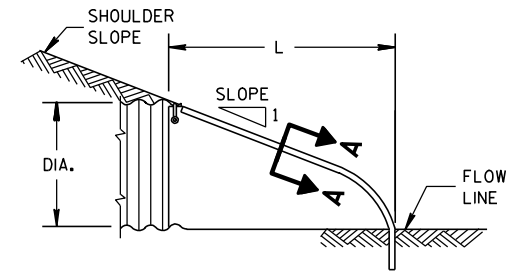
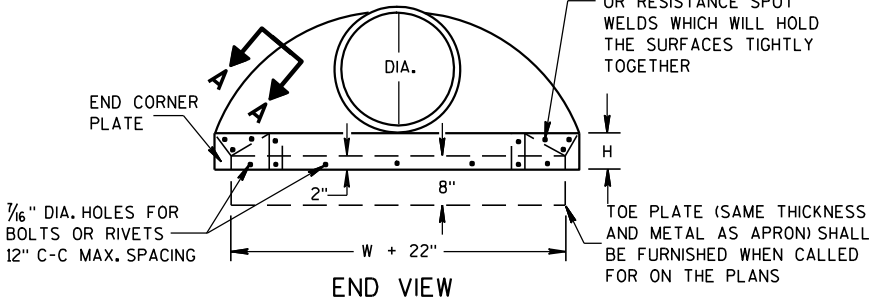
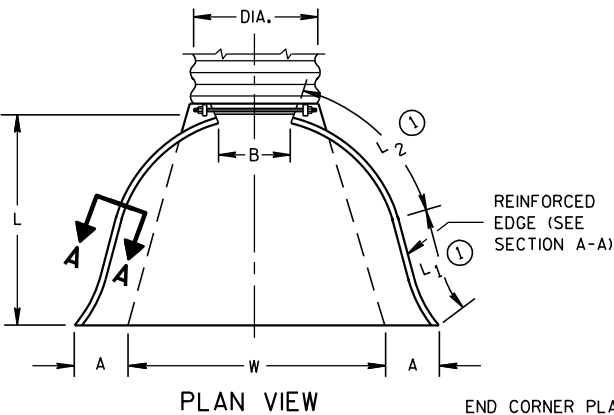
SIDE VIEW

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.

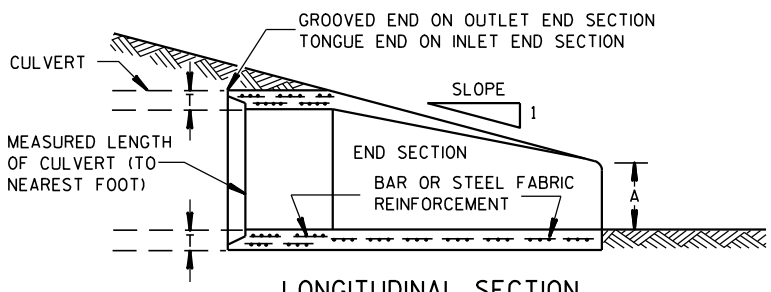
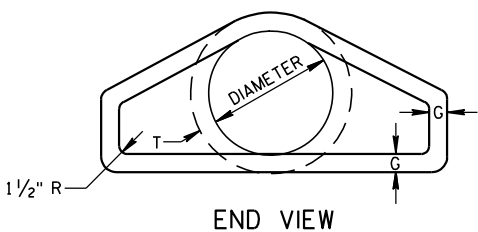
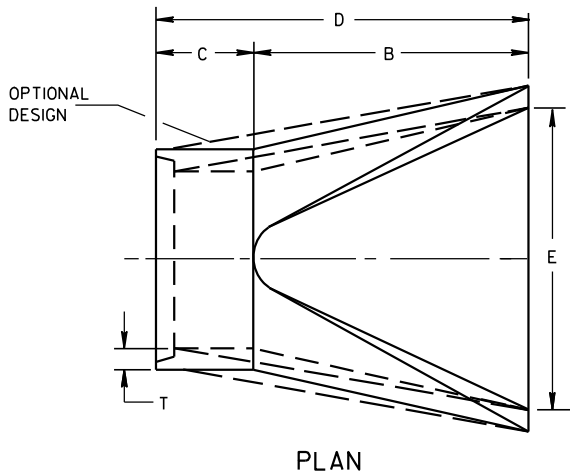
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

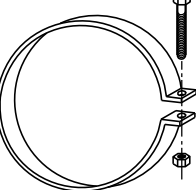
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1				
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1				
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1				
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1				
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1				
48	5	24	72	26	98	84	5	3 to 1				
54	5 1/2	27	65	33 1/4	98 1/4	90	5 1/2	2 1/2 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

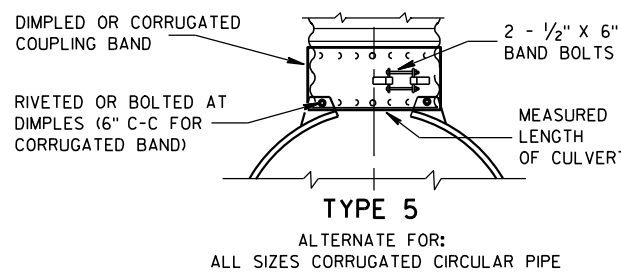
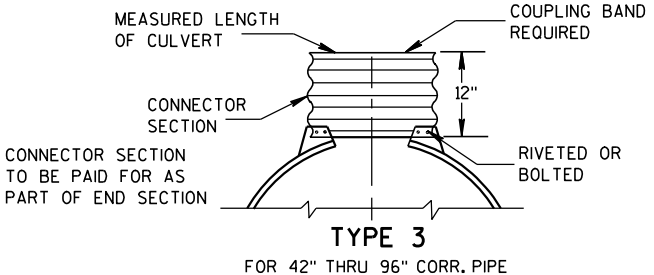
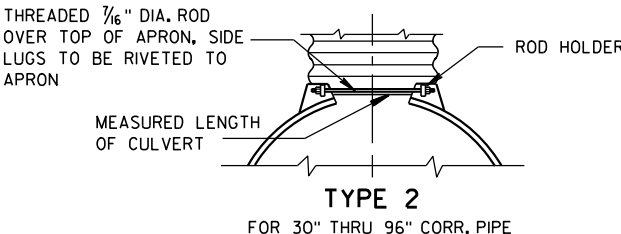
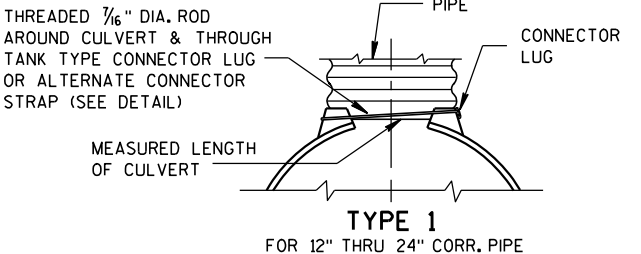


CONCRETE ENDWALLS

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



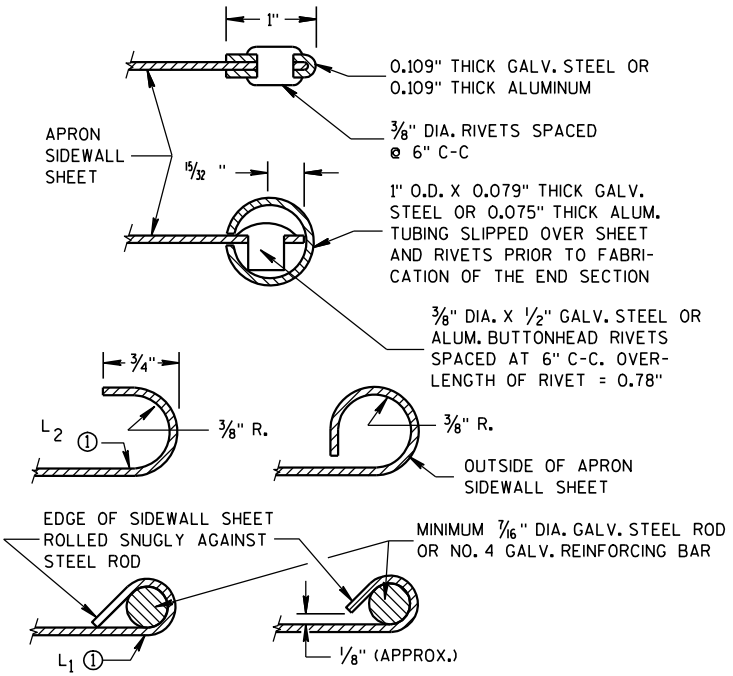
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

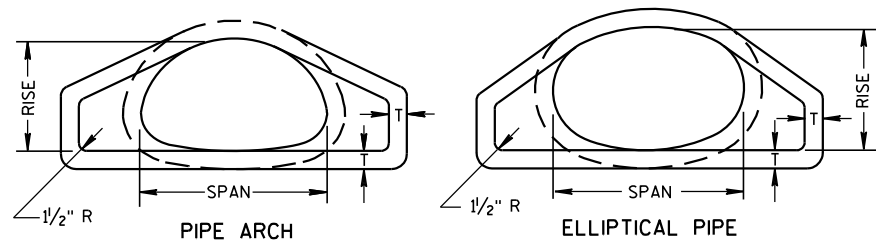
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

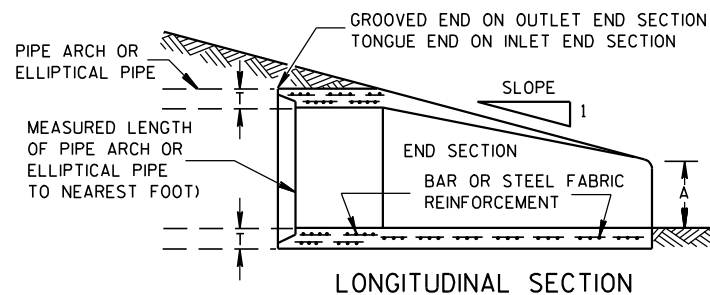
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

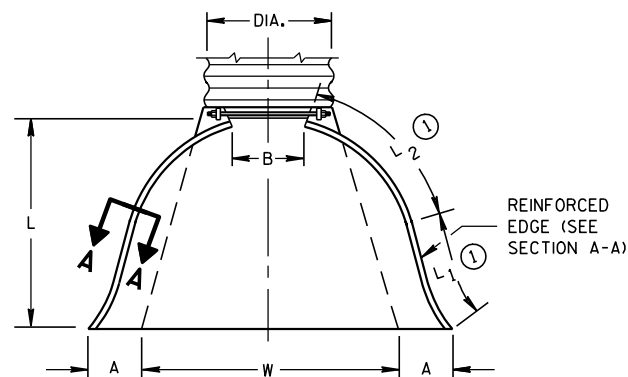


END VIEW



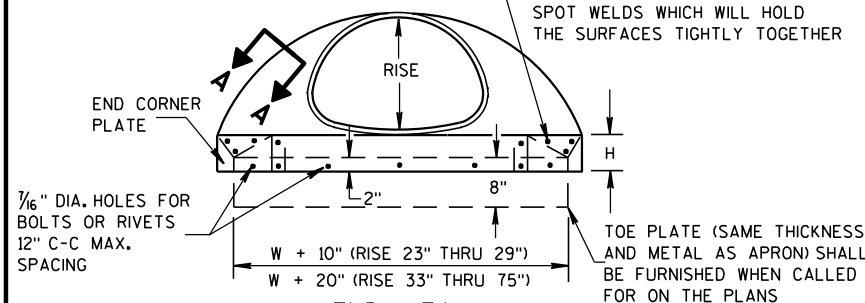
LONGITUDINAL SECTION

CONCRETE ENDWALLS

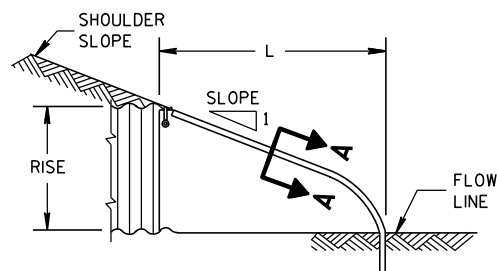
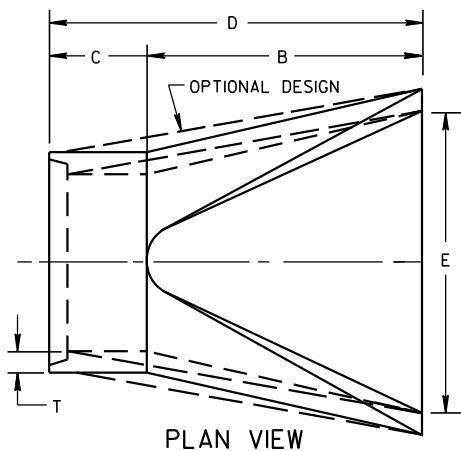


PLAN VIEW

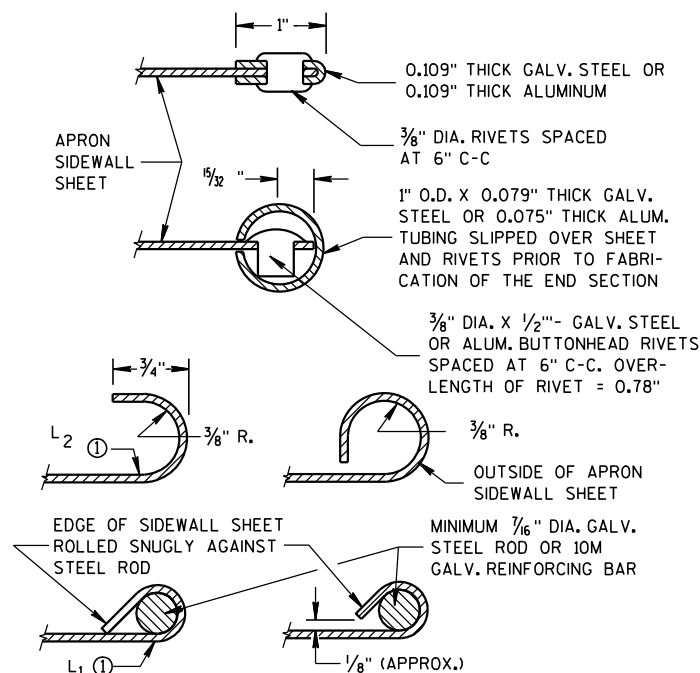
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW



SECTION A-A

2- 2 ² / ₃ " x 1 ¹ / ₂ " CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 ¹ / ₂ ")	L ₁ ①	L ₂ ①	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 ¹ / ₂ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 ³ / ₈	36	2 ¹ / ₂ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 ³ / ₄	42	2 ¹ / ₂ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 ¹ / ₂	48	2 ¹ / ₂ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 ⁵ / ₈	60	2 ¹ / ₂ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 ³ / ₈	75	2 ¹ / ₂ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 ³ / ₄	85	2 ¹ / ₂ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 ¹ / ₂ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 ³ / ₄	102	2 ¹ / ₄ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 ¹ / ₄	114	2 ¹ / ₄ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

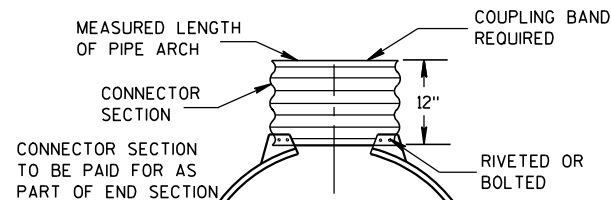
3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1/2")	L ₁ ⓪	L ₂ ⓪	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

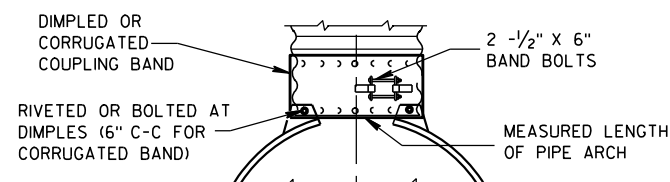
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	29	18	3	8 1/2	39	33	72	48	3 to 1
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1
36	44	27	4	11 1/8	60	36	96	72	3 to 1
42	51	31	4 1/2	15 1/8	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28 1/2	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE
	** SPAN	** RISE	T	A	B	C	D	E	
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1
42	53	34	5	15 1/4	60	36	96	78	2 1/2 to 1
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1

**NOMINAL SIZE

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH 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 ARCH 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 77" X 52" THROUGH 112" X 75" 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.

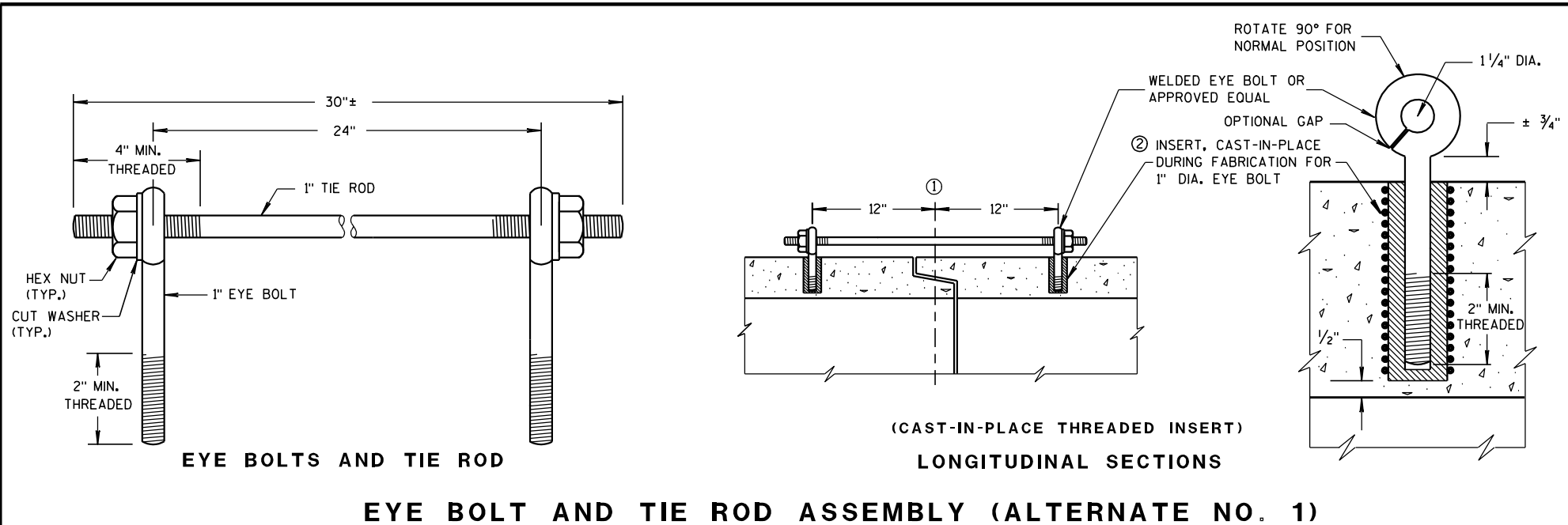
① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPESTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

FHWA



GENERAL NOTES

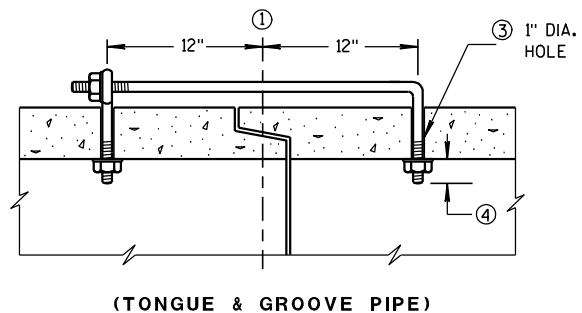
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

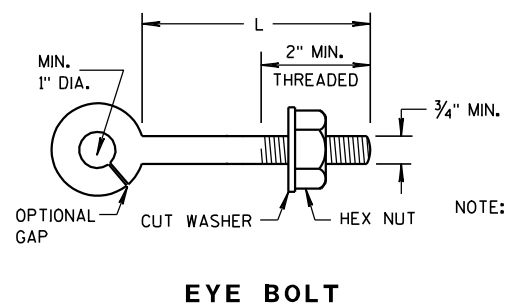
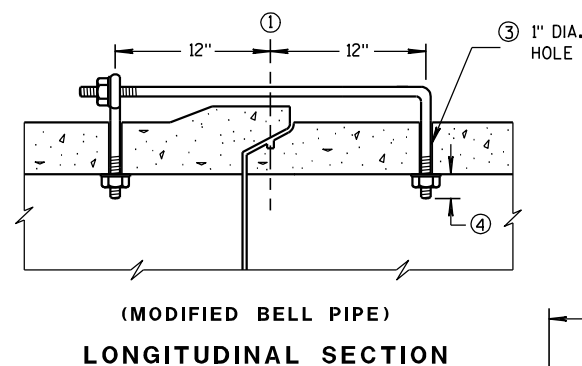
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- ① ϕ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ϕ OF TONGUE AND GROOVE.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



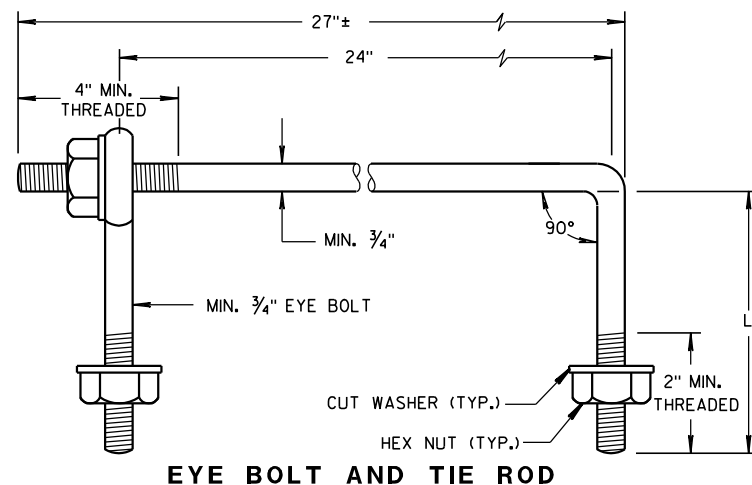
EYE BOLT DIMENSION TABLE

PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.

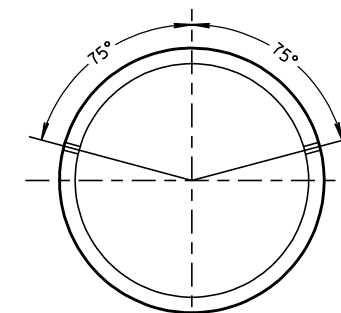
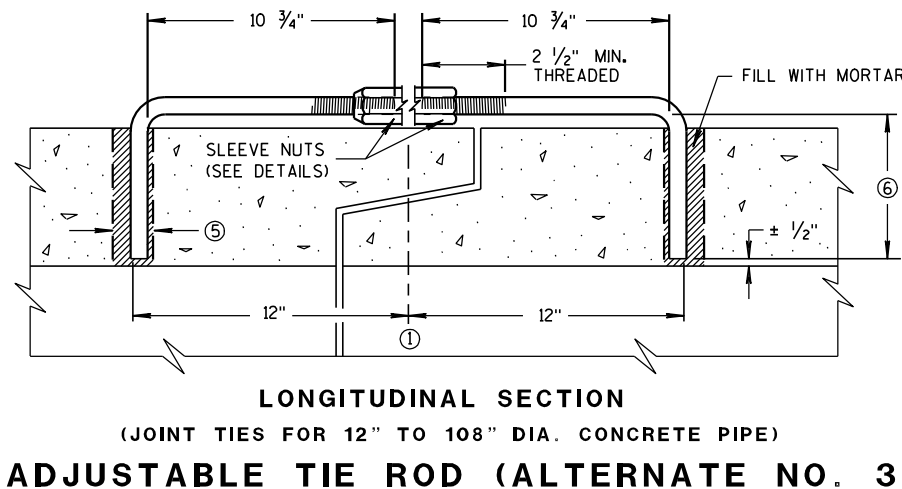
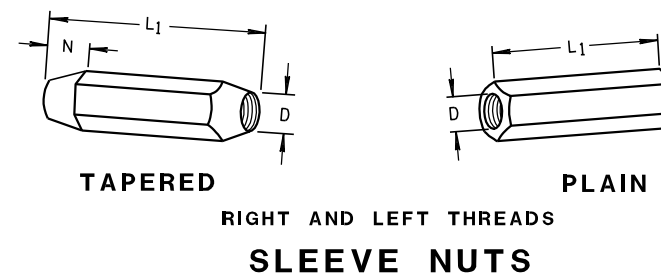
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)
EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)



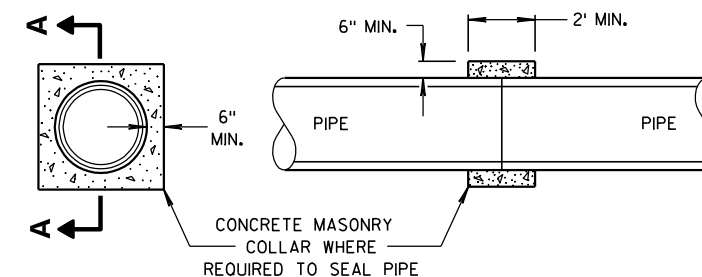
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

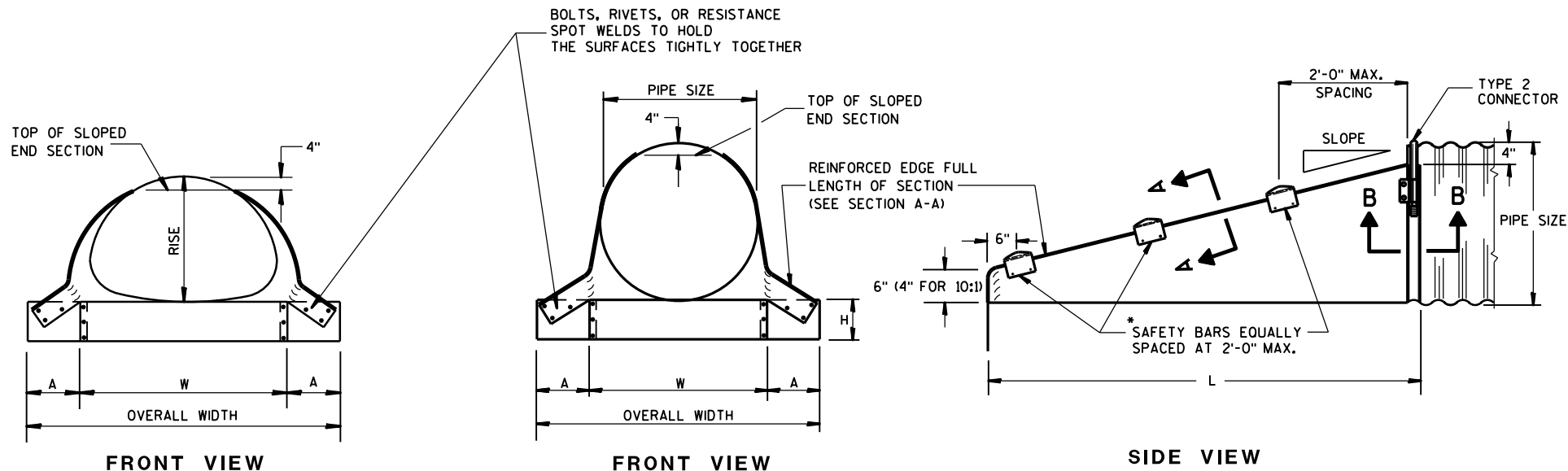


CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



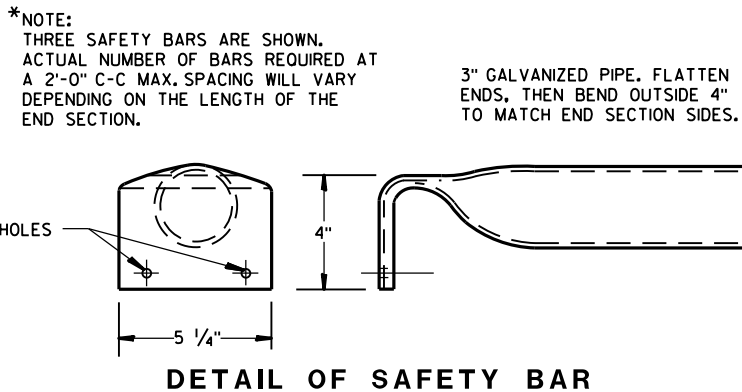
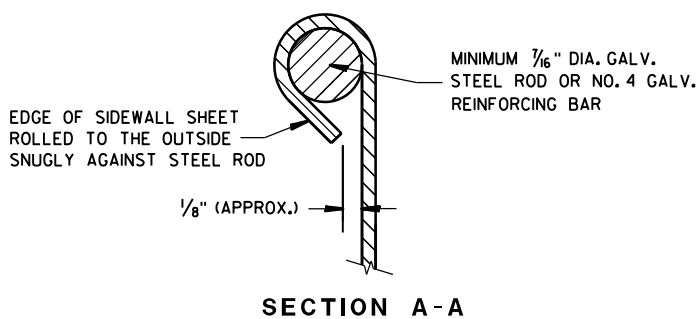
GENERAL NOTES

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.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

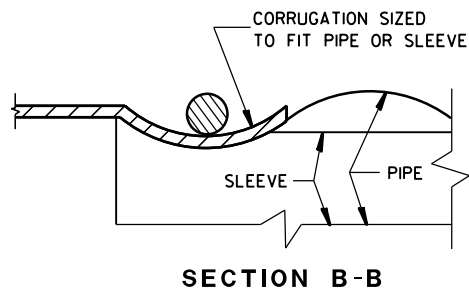
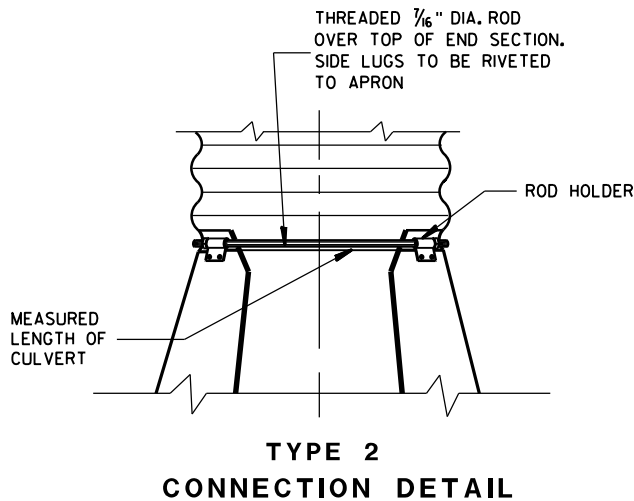
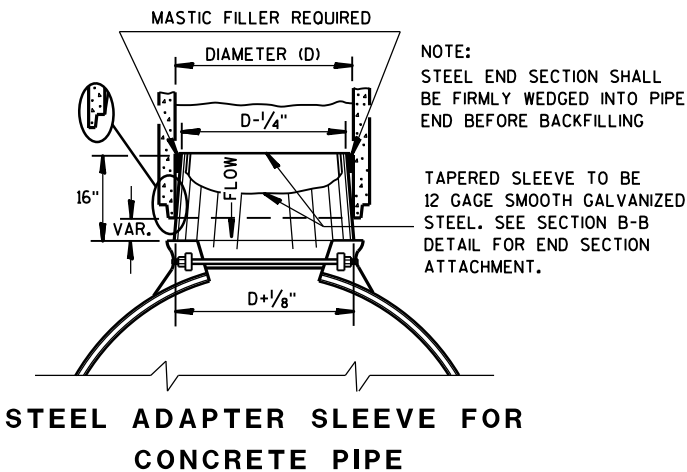
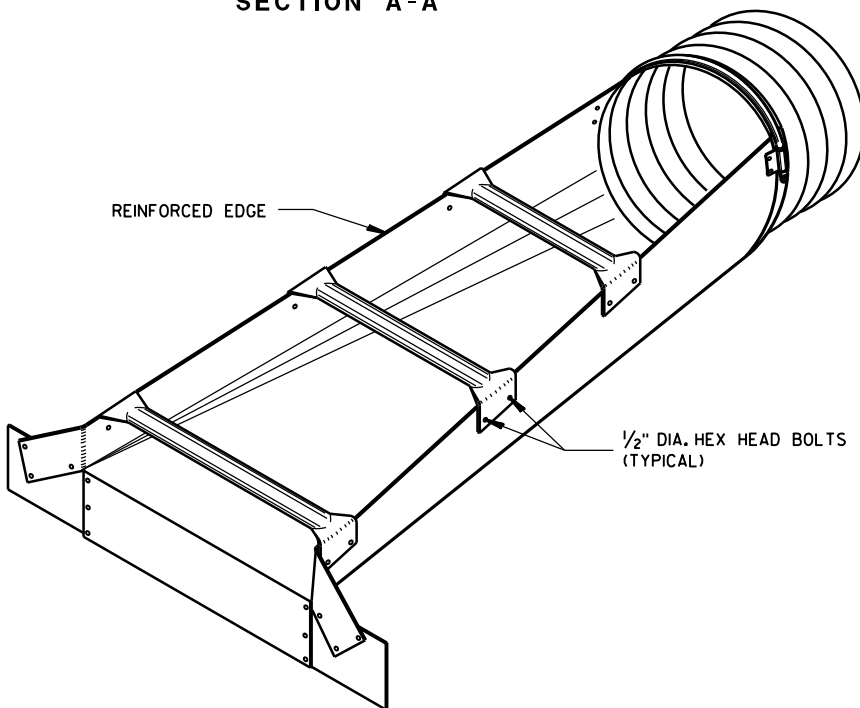
STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	—	—
48	.109	16	12	54	86	4:1	152	6:1	228	—	—
54	.109	16	12	60	92	4:1	176	6:1	264	—	—
60	.109	16	12	66	98	4:1	200	6:1	300	—	—



STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS											
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches) ①	DIMENSIONS (Inches)				L DIMENSIONS			
	SPAN	RISE		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30 10:1 ②
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30 10:1 ②
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48 10:1 ②
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60 10:1 ②
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84 10:1 ②
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114 10:1 ②
42	49	33	.109	16	12	55	87	4:1	92	6:1	138 —
48	57	38	.109	16	12	63	95	4:1	112	6:1	168 —
54	64	43	.109	16	12	70	102	4:1	132	6:1	198 —

① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".

② ACTUAL SLOPE GREATER THAN 10:1.



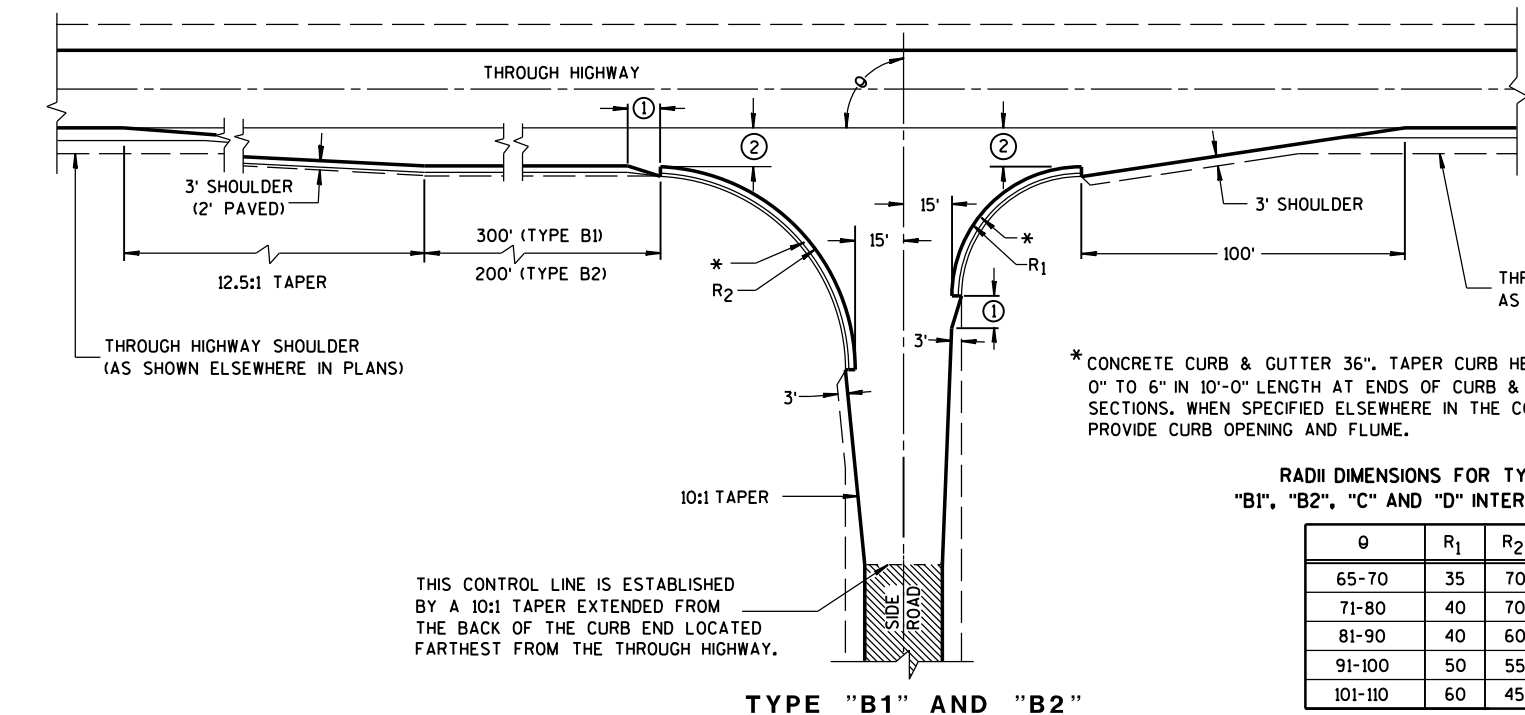
STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



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

θ	R ₁	R ₂
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45

GENERAL NOTES

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

SIDE ROAD SURFACING NOTE

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

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

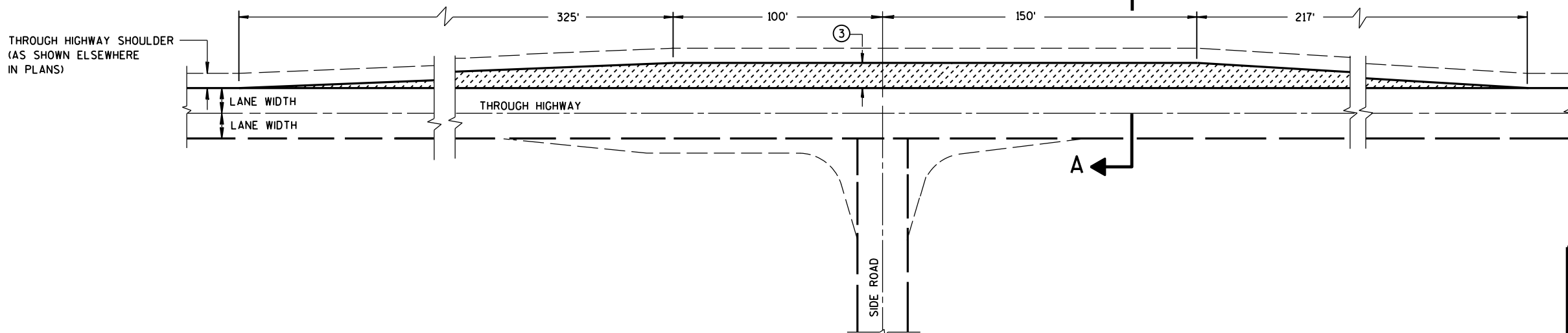
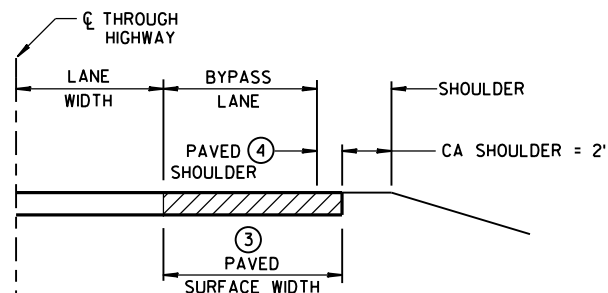
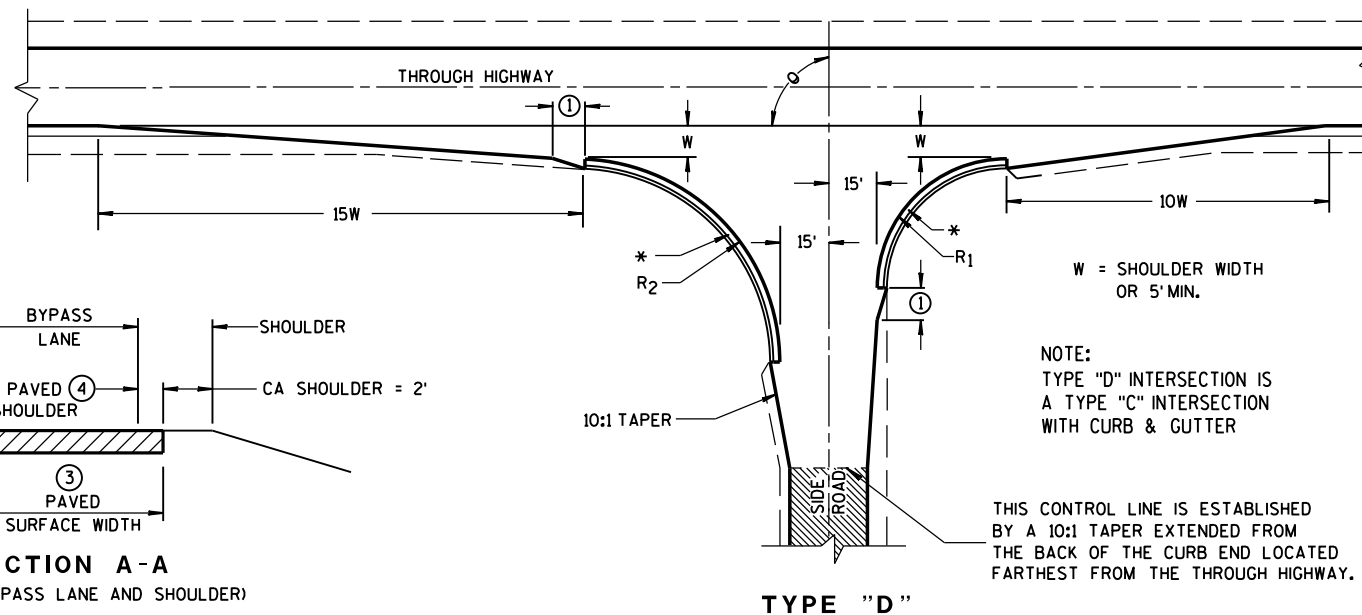
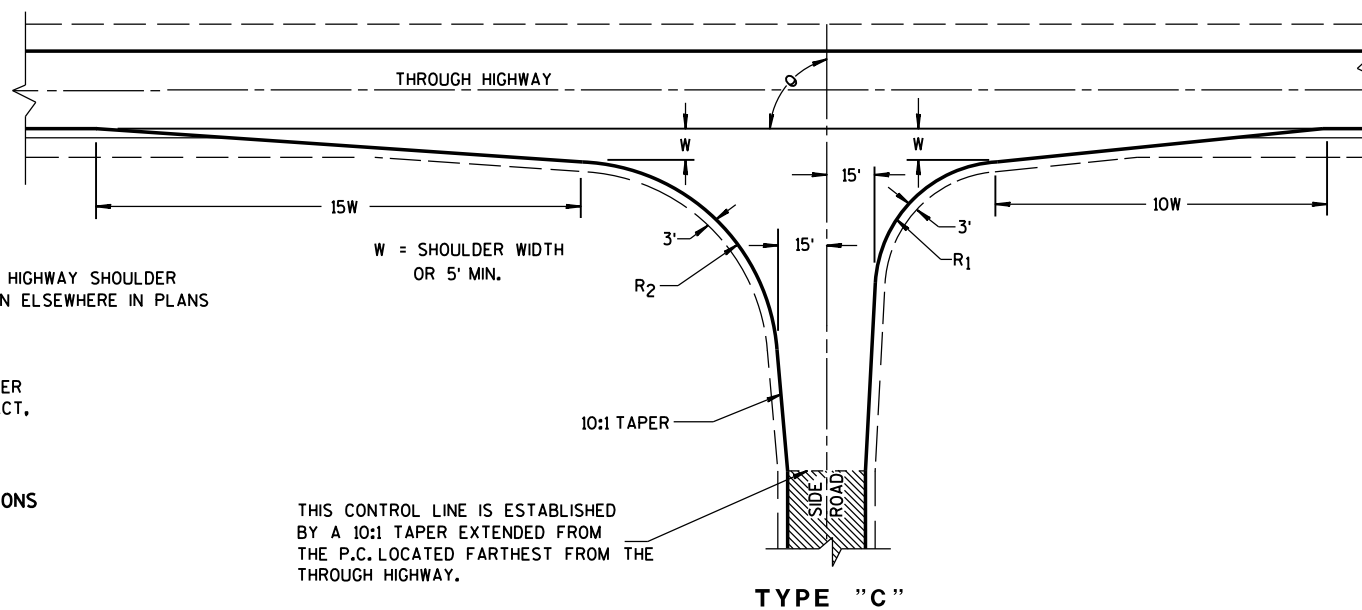
WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

- 10-FT TYPICAL.
- 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

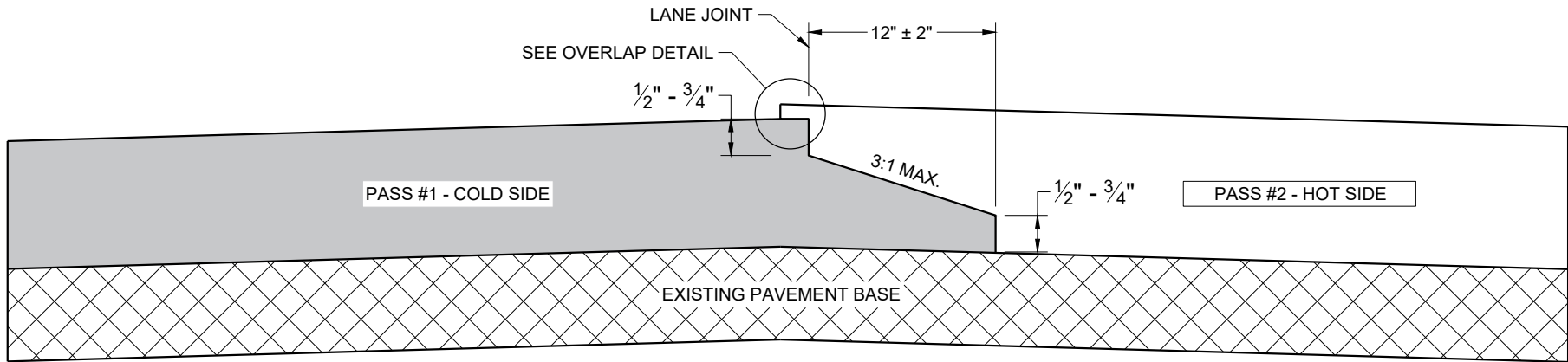
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



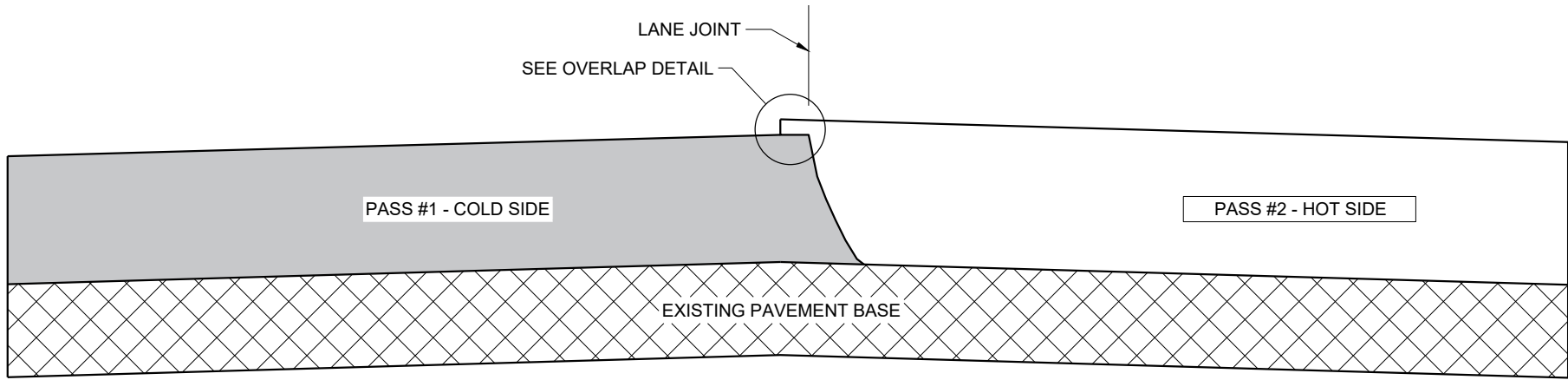
TEE INTERSECTION BYPASS LANE DETAIL

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

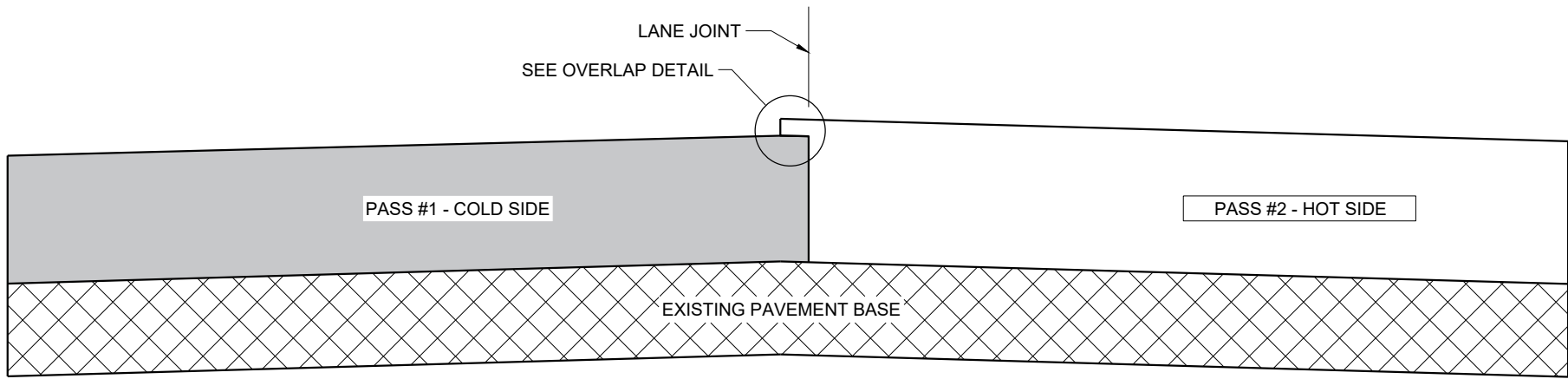
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



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

GENERAL NOTES

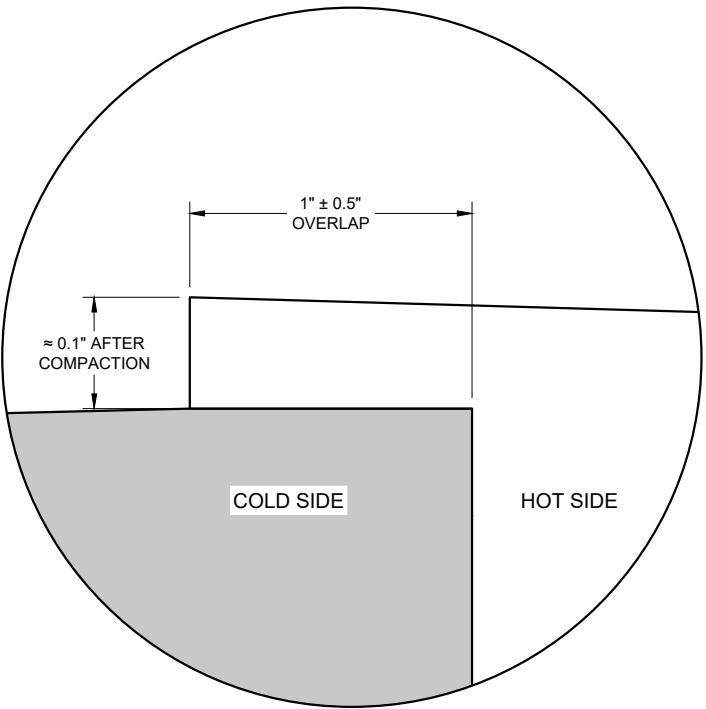
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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.

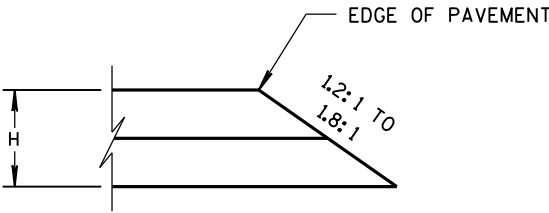


OVERLAP DETAIL (TYPICAL)

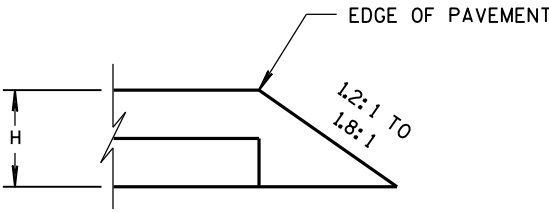
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

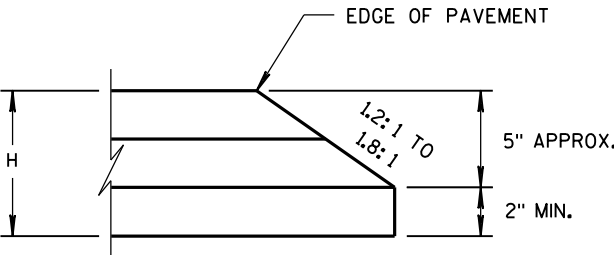
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER
FHWA



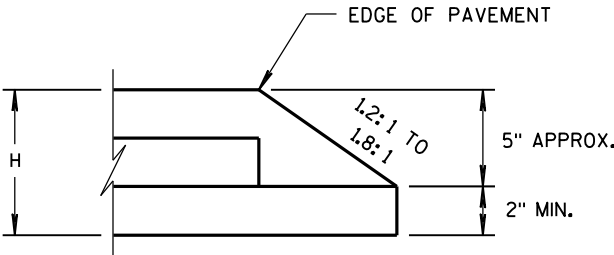
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

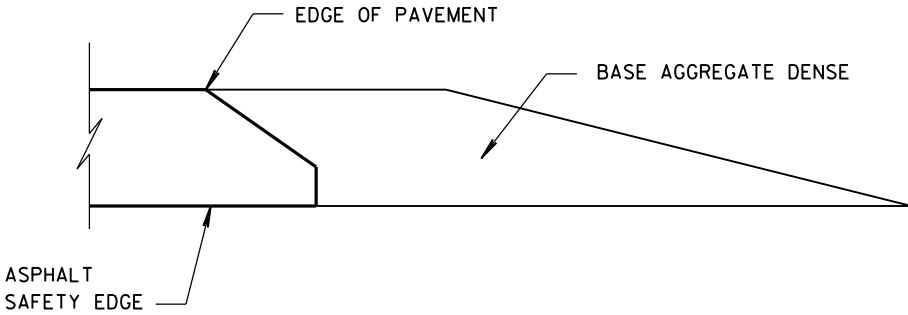


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



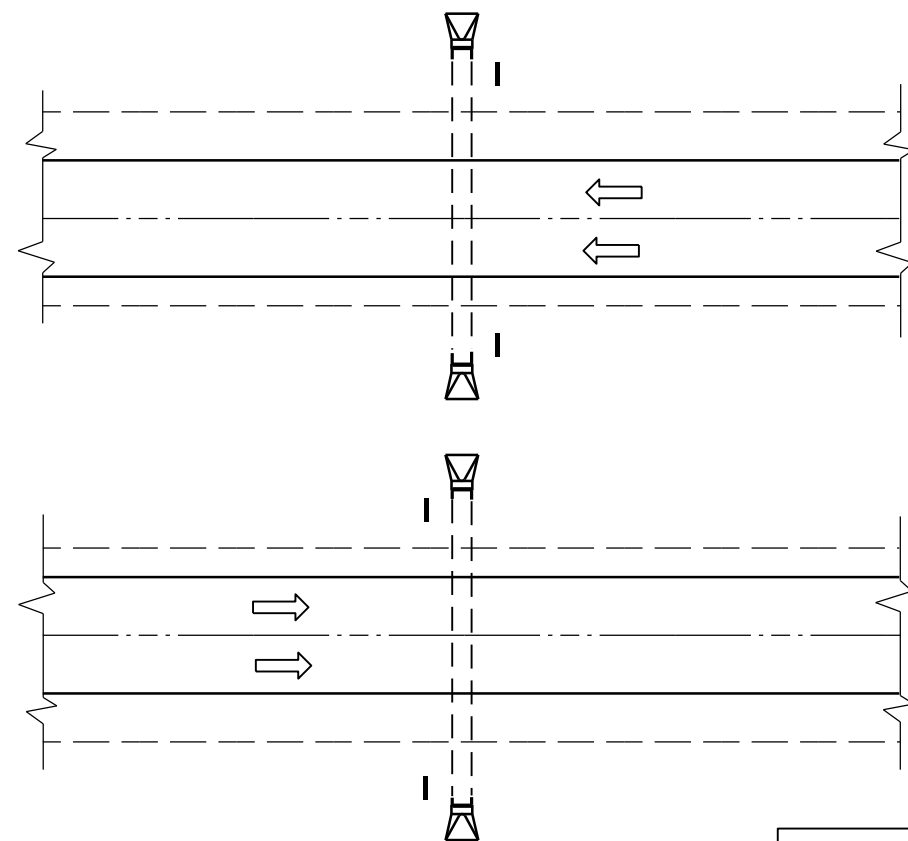
CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS

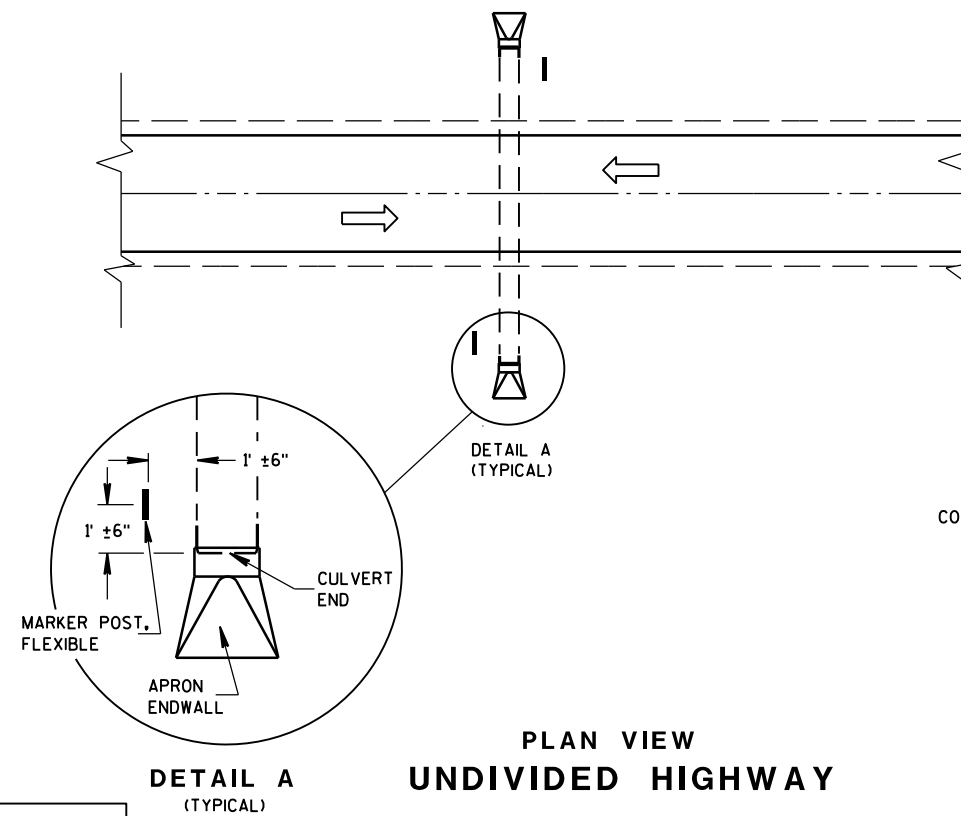
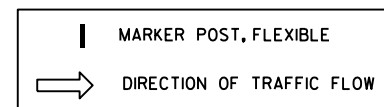


FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE _{SM}	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 11/30/2012	/s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA



PLAN VIEW
DIVIDED HIGHWAY

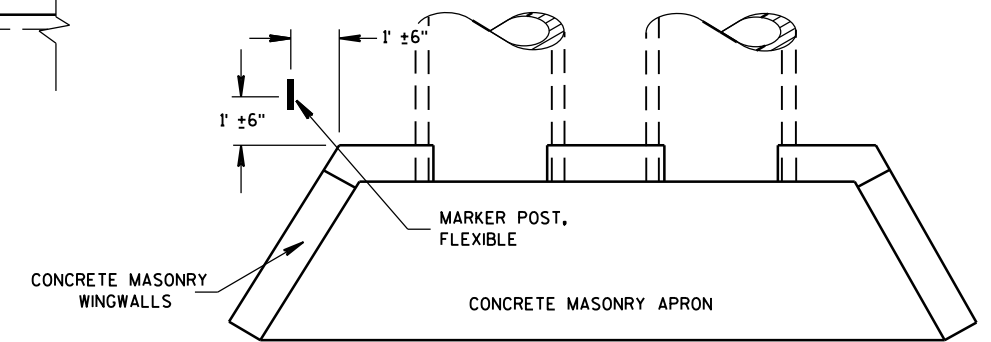


PLAN VIEW
UNDIVIDED HIGHWAY

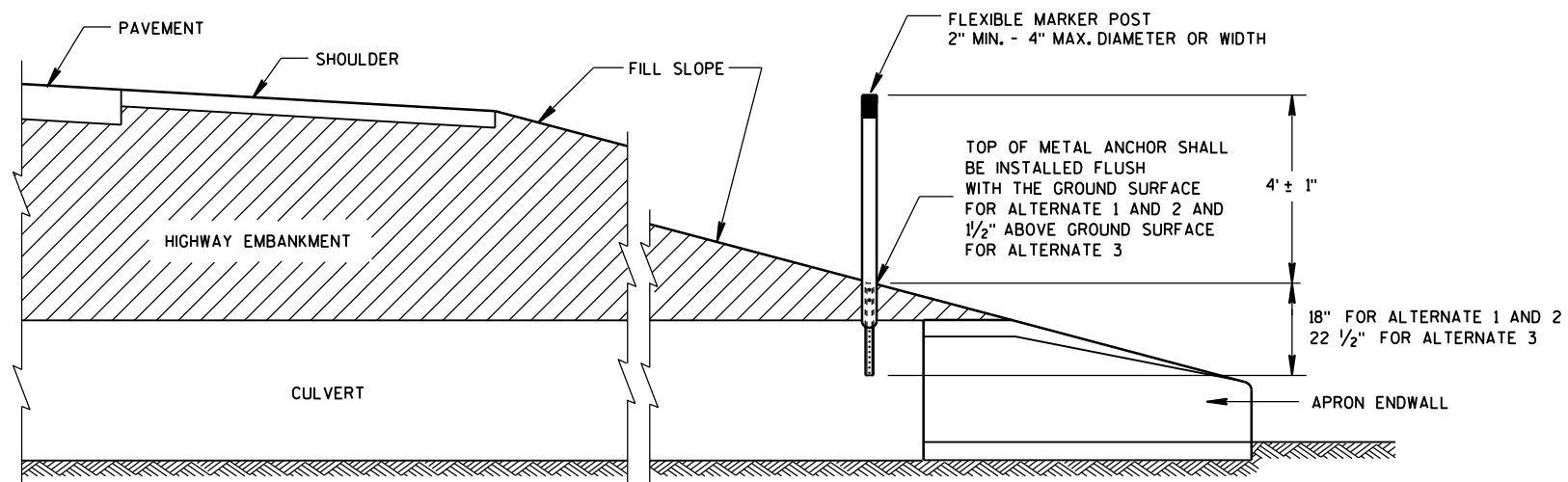
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



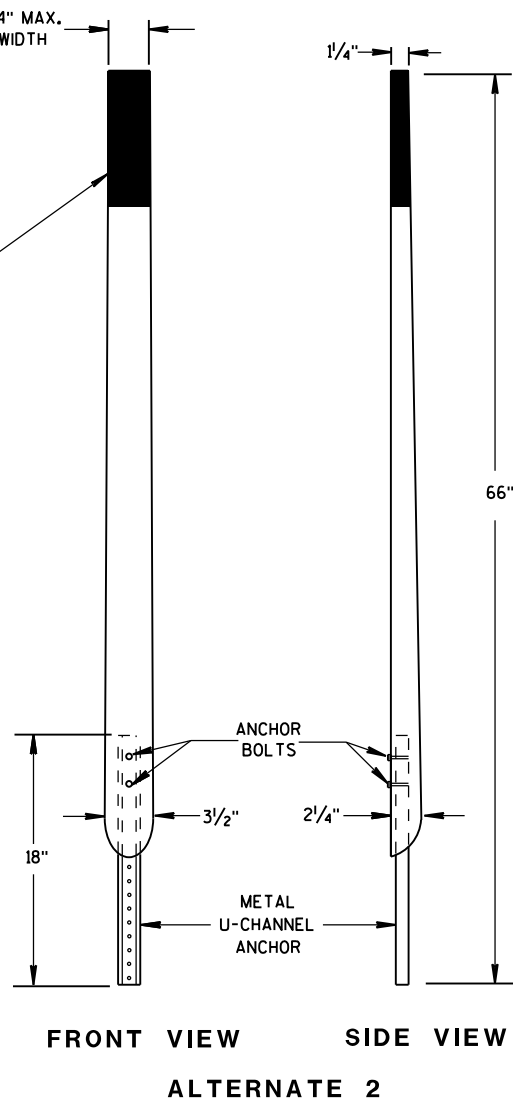
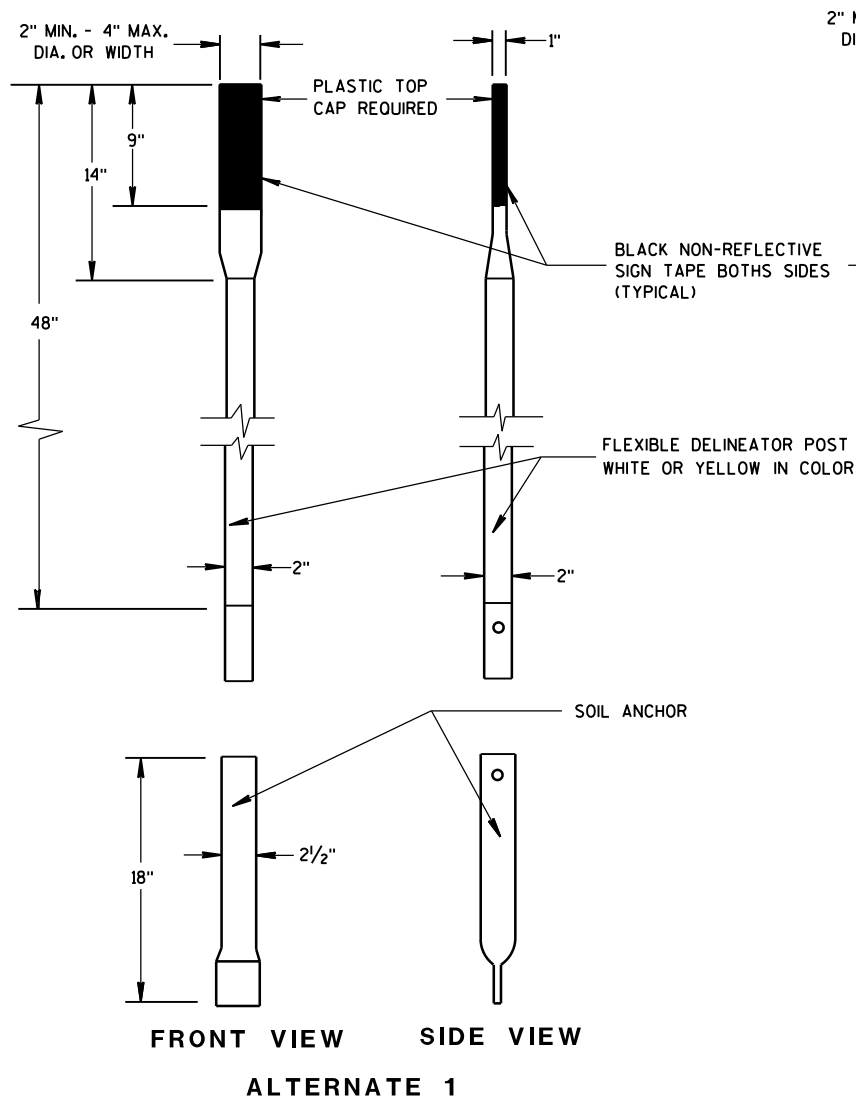
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



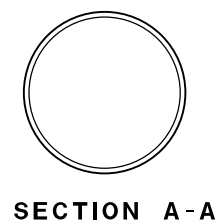
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

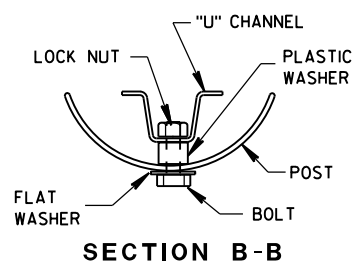
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



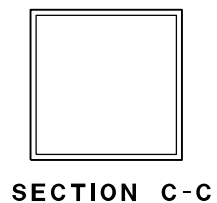
FLEXIBLE MARKER POSTS



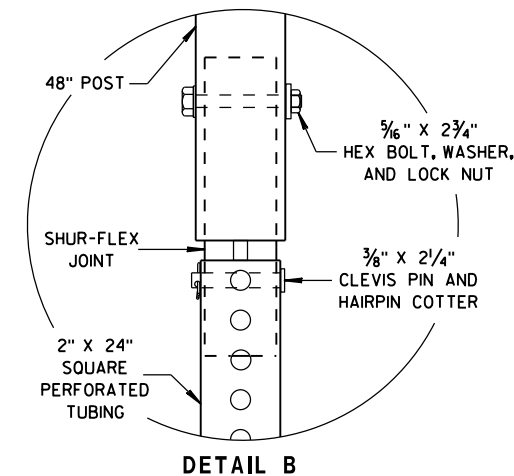
SECTION A-A



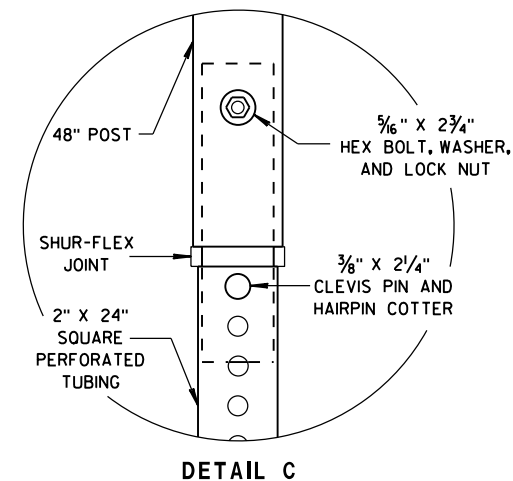
SECTION B-B



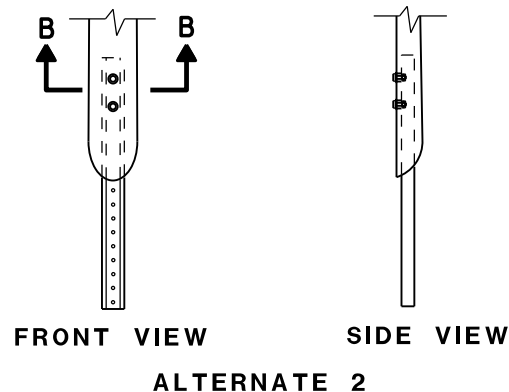
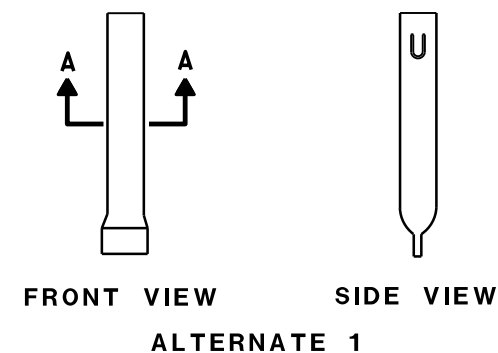
SECTION C-C



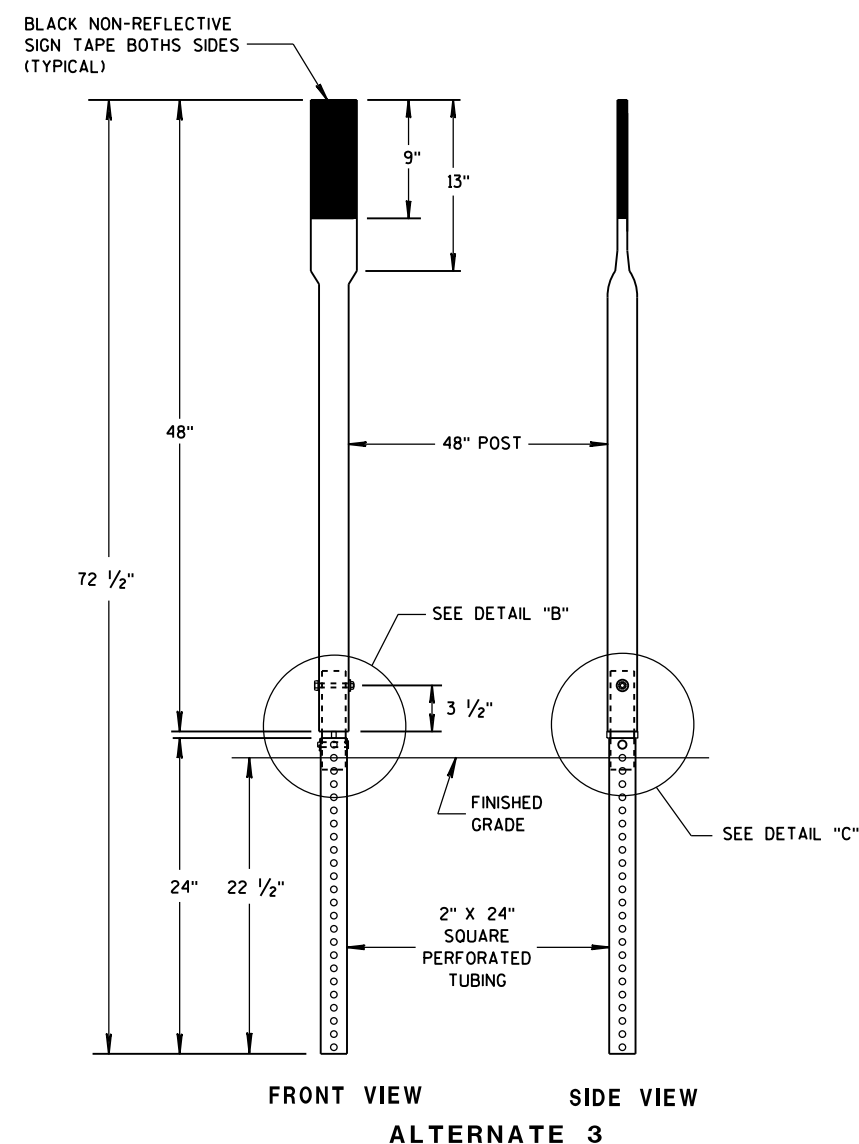
DETAIL B



DETAIL C

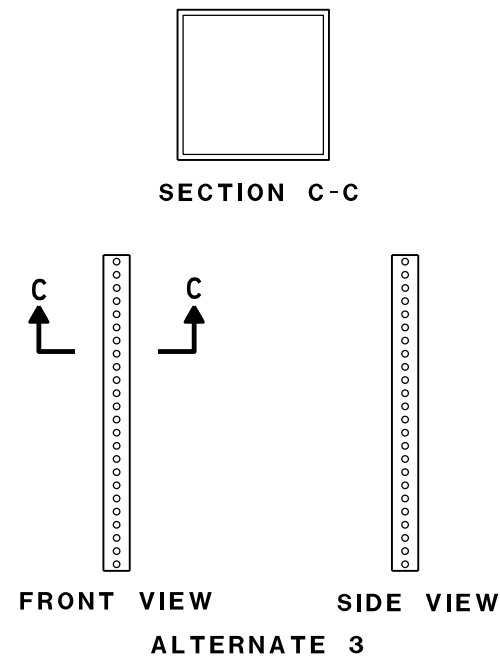


FLEXIBLE MARKER POST ANCHORS



FRONT VIEW SIDE VIEW

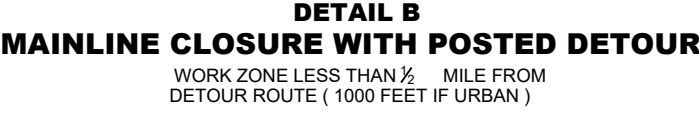
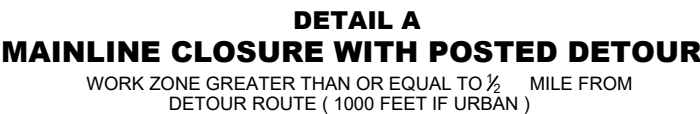
ALTERNATE 3



FRONT VIEW SIDE VIEW

ALTERNATE 3

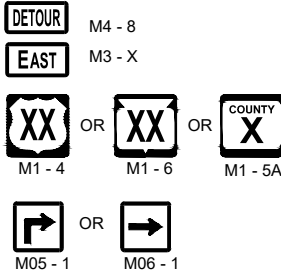
FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750



	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)



SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

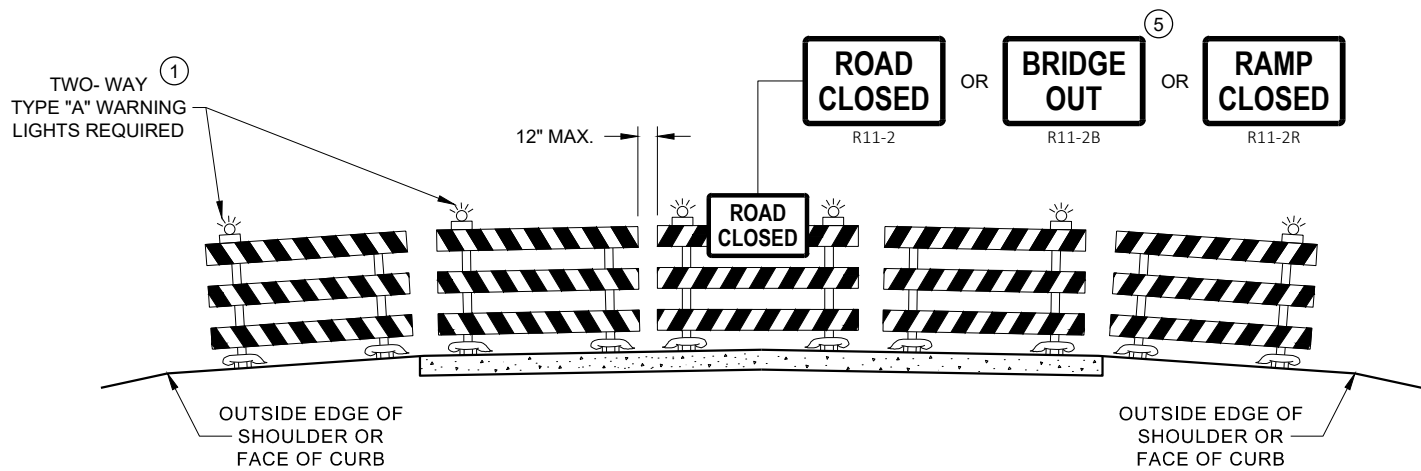
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

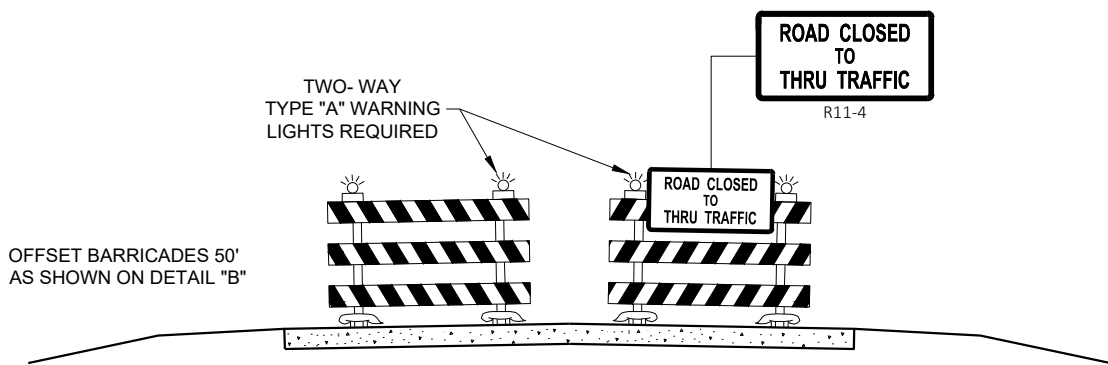
APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

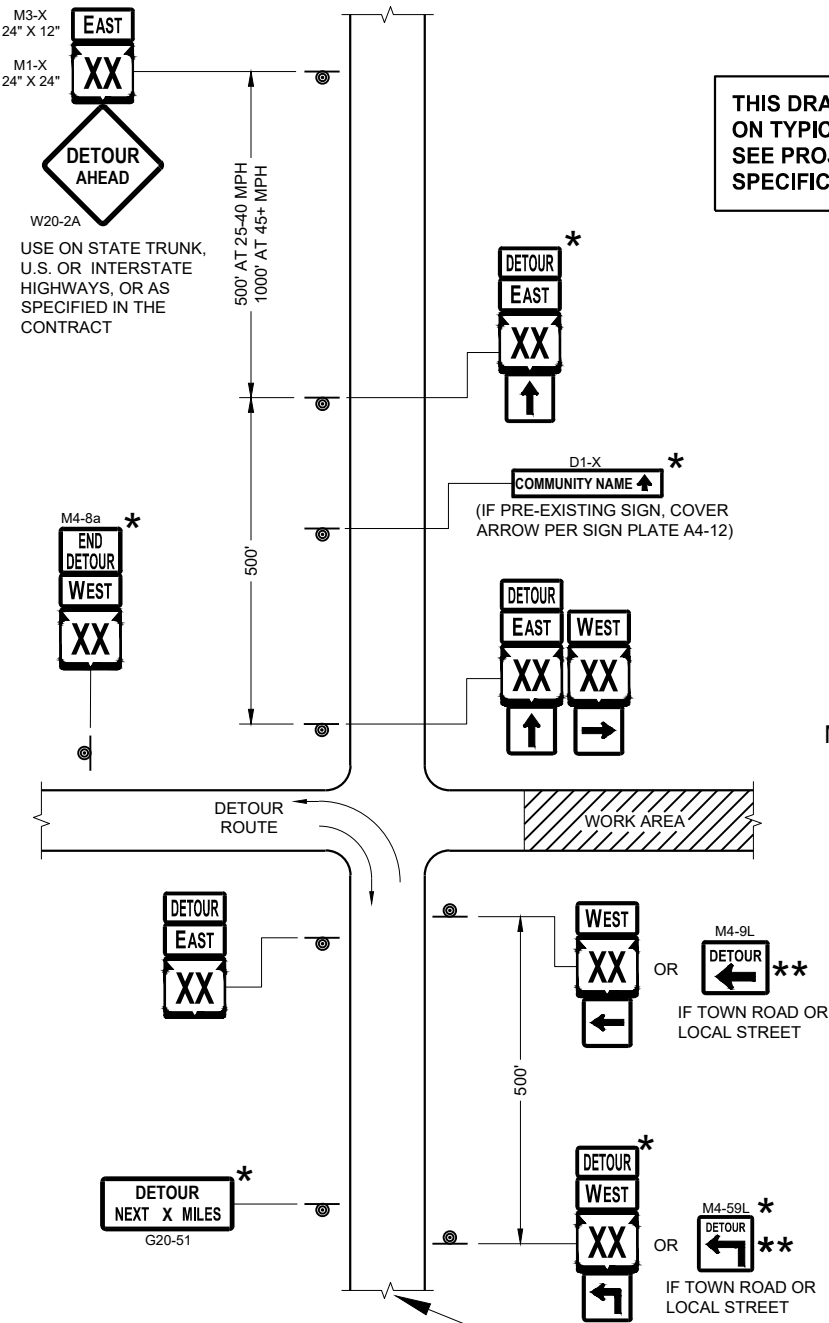
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

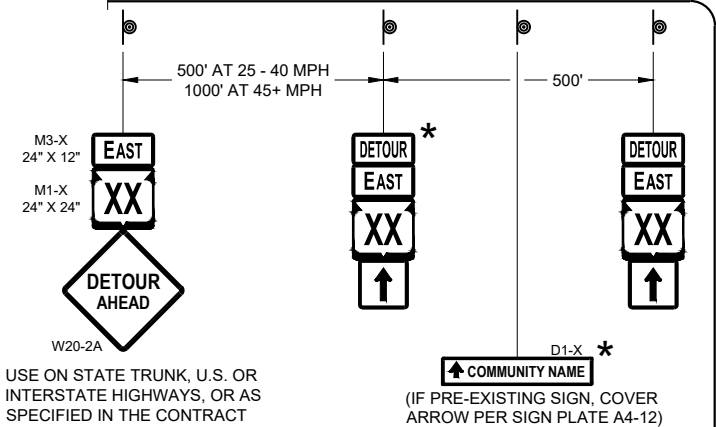
FHWA



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

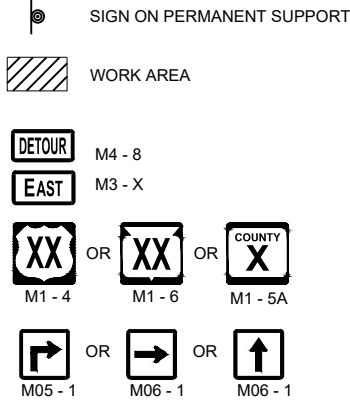
THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

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.

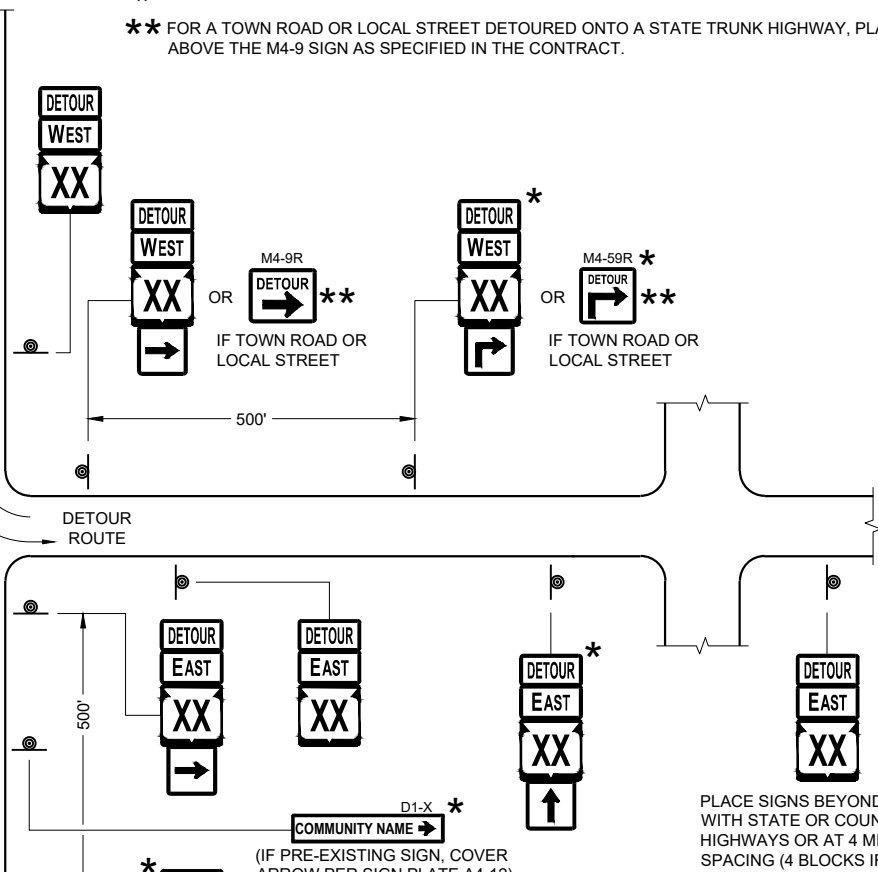
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

"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" (30" X 30" 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.



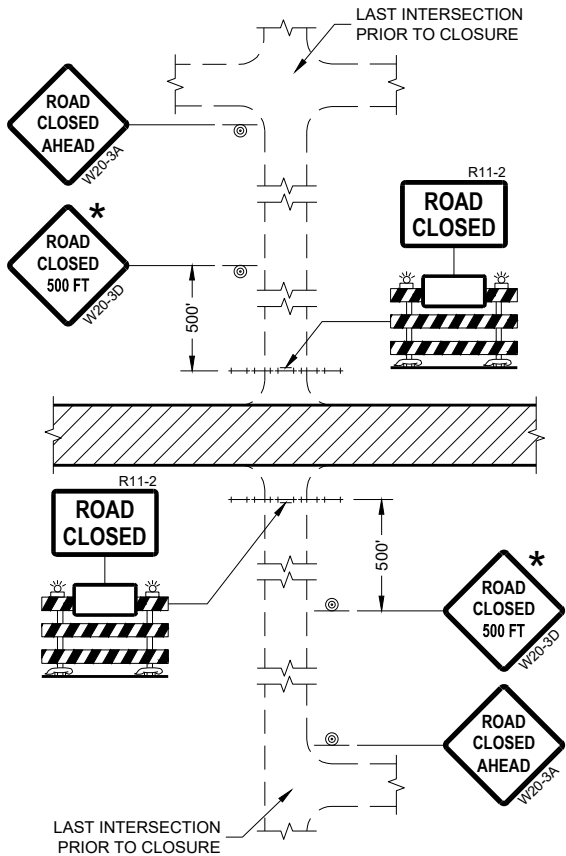
PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING
FOR MAINLINE CLOSURES

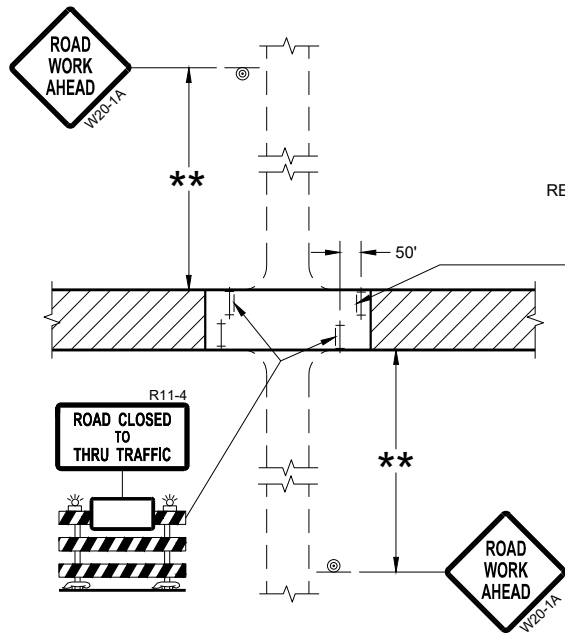
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

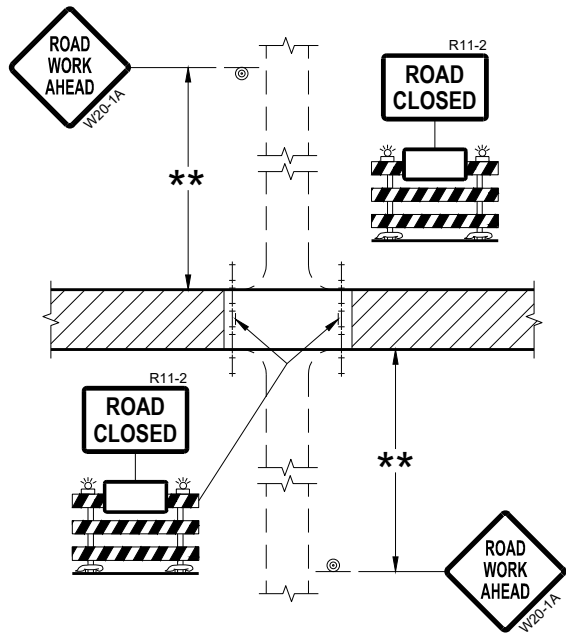
FHWA



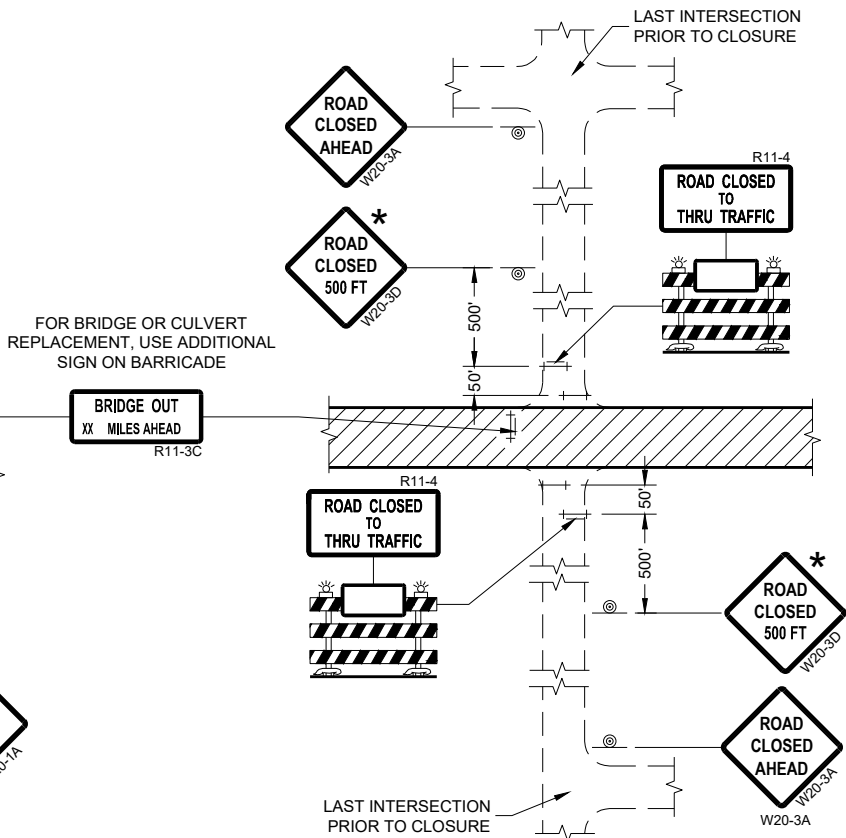
DETAIL 1
(NO ACCESS TO PROJECT)



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

GENERAL NOTES

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

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

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

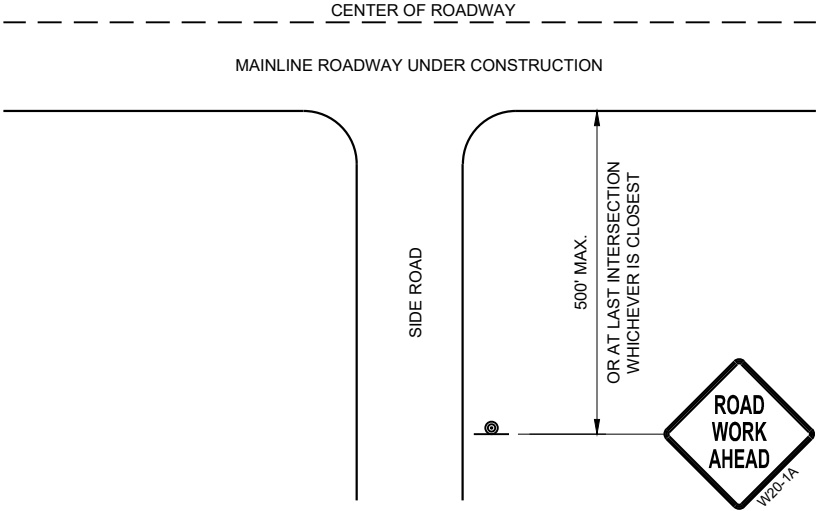
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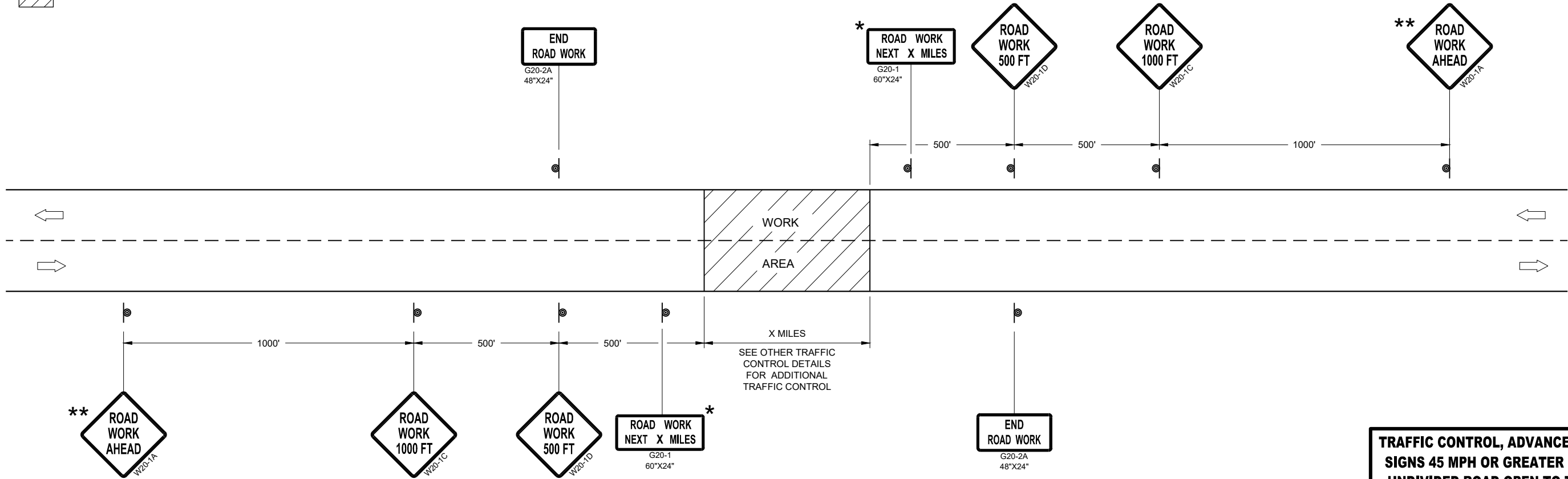
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL

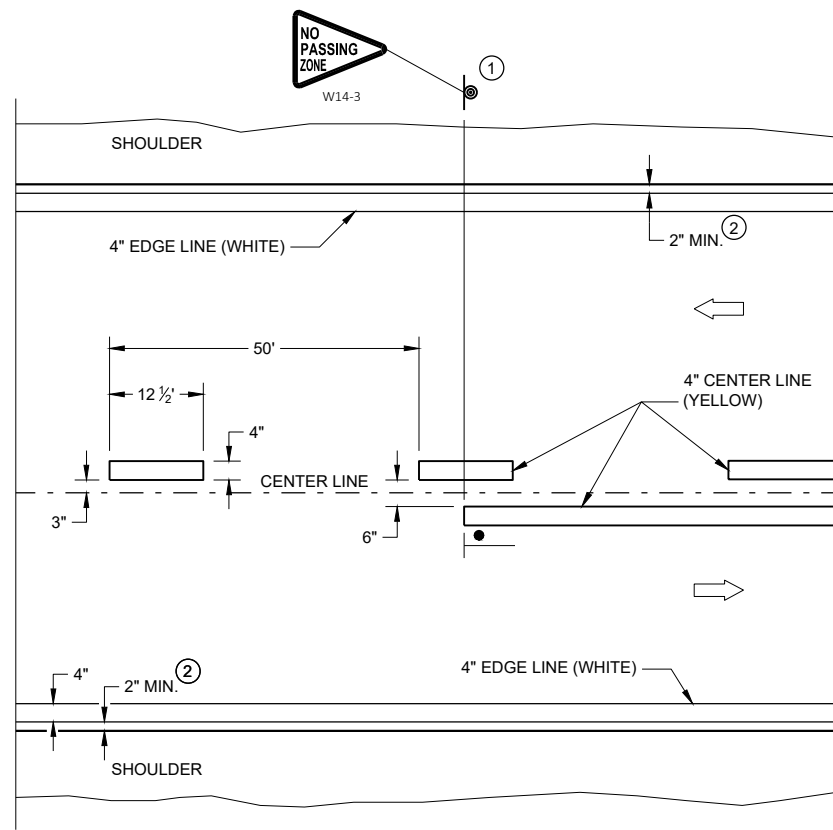


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

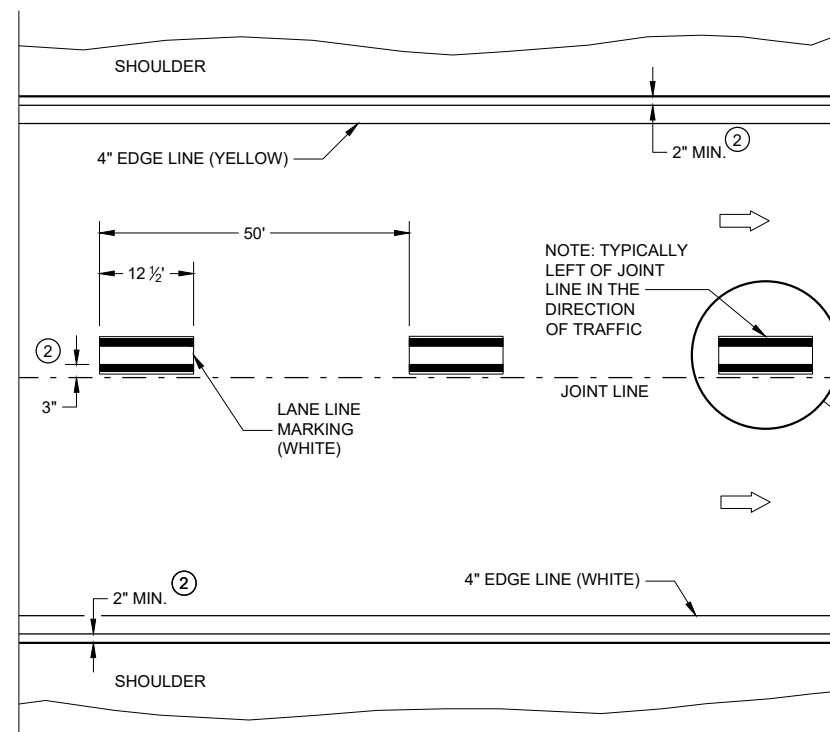
TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFICE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

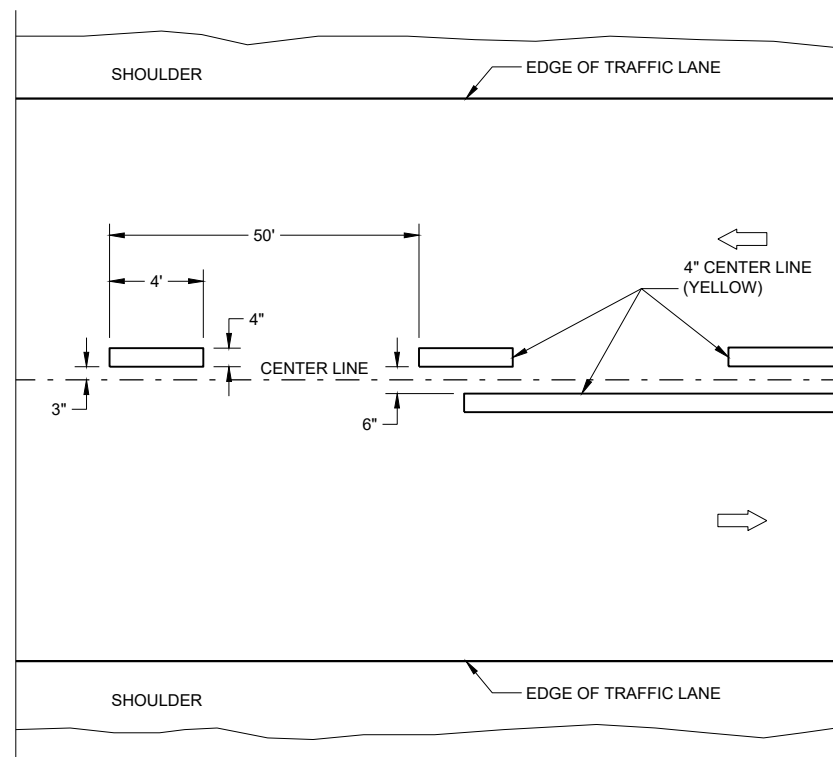


TWO WAY TRAFFIC

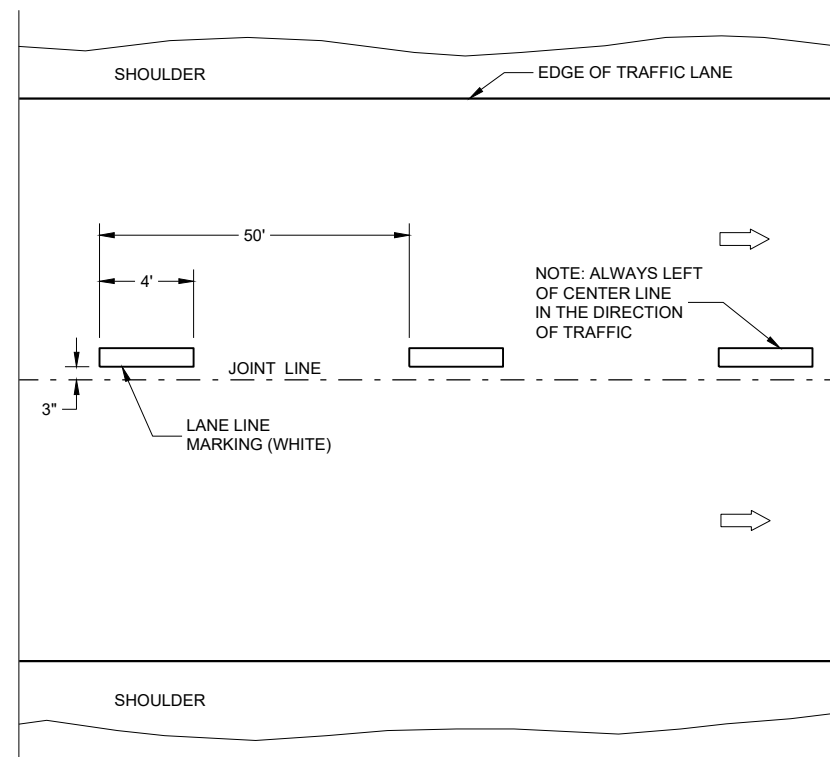


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

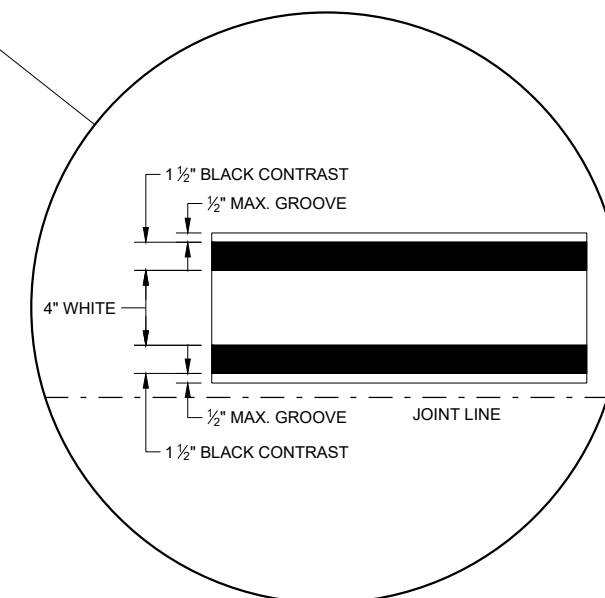
GENERAL NOTES

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

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITH 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

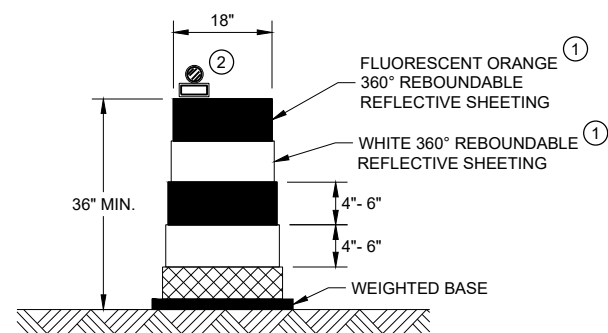
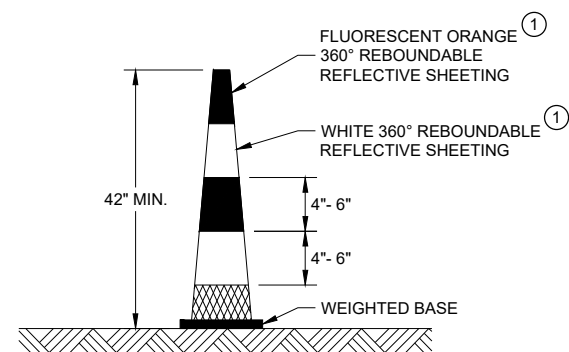


LONGITUDINAL MARKING (MAINLINE)

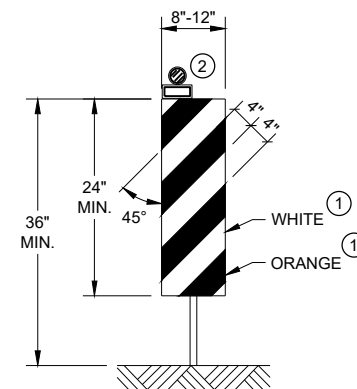
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

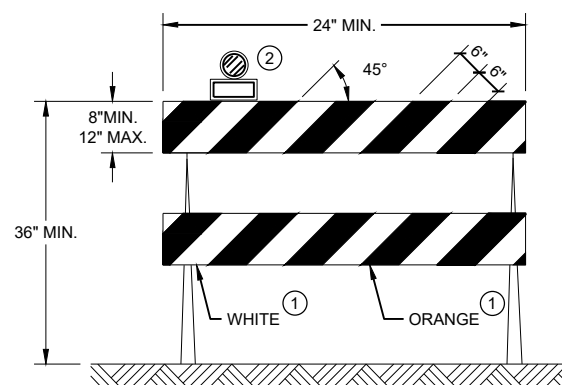
/S/ Matthew Rauch
STATEWIDE SIGNING AND MARKING
ENGINEER

**DRUM****42" CONE**

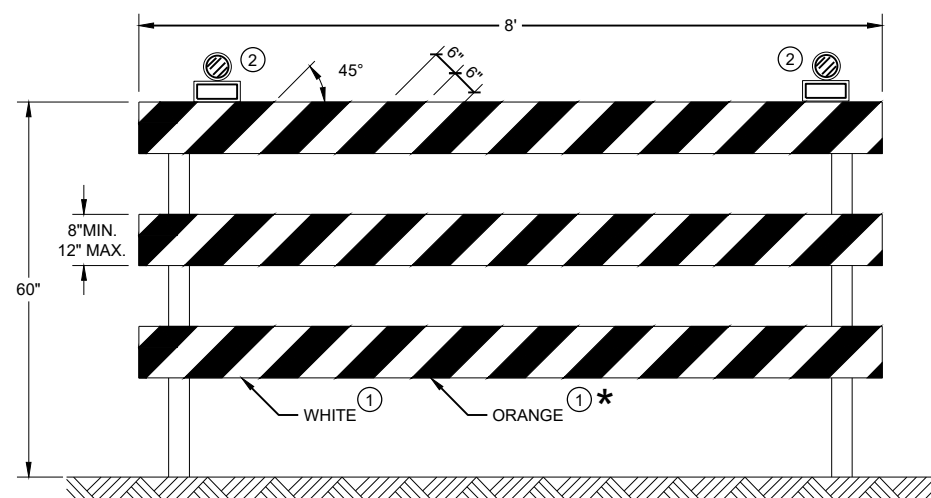
DO NOT USE IN TAPERS
 $\frac{1}{2}$ SPACING OF DRUMS

**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
 June 2017 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER

FHWA

LEGEND

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

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

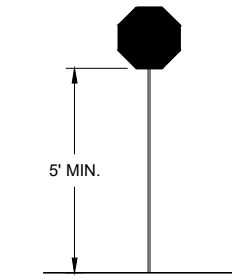
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FOR THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.



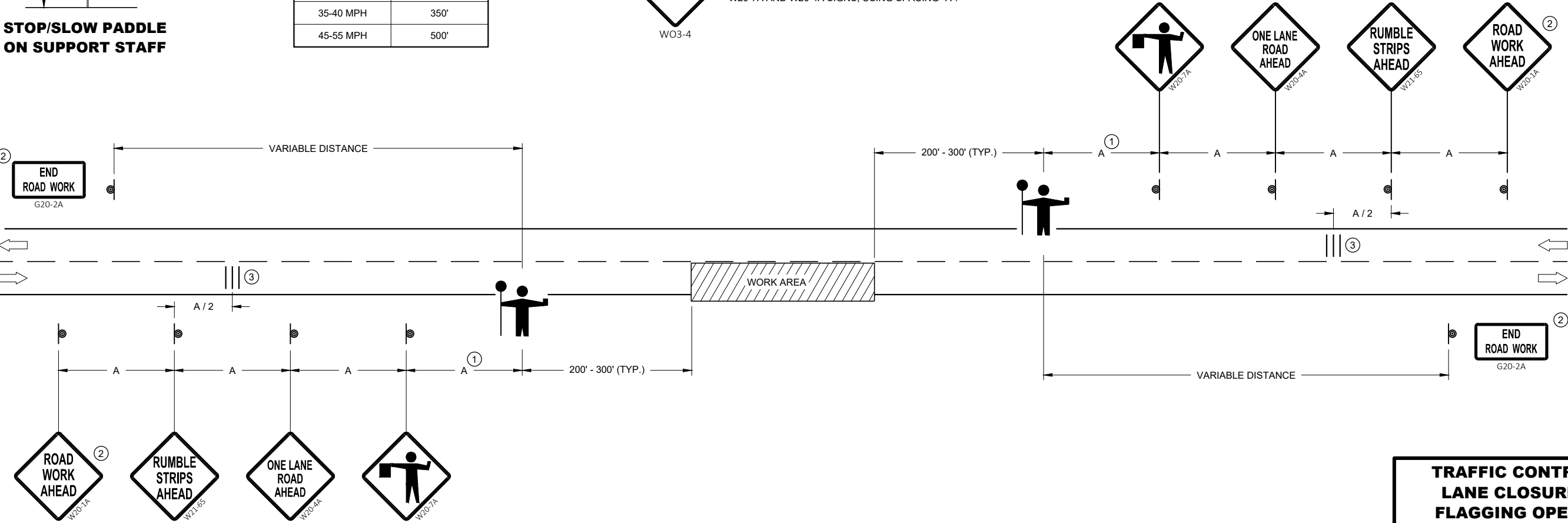
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING "A"
25-30 MPH	200'
35-40 MPH	350'
45-55 MPH	500'



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

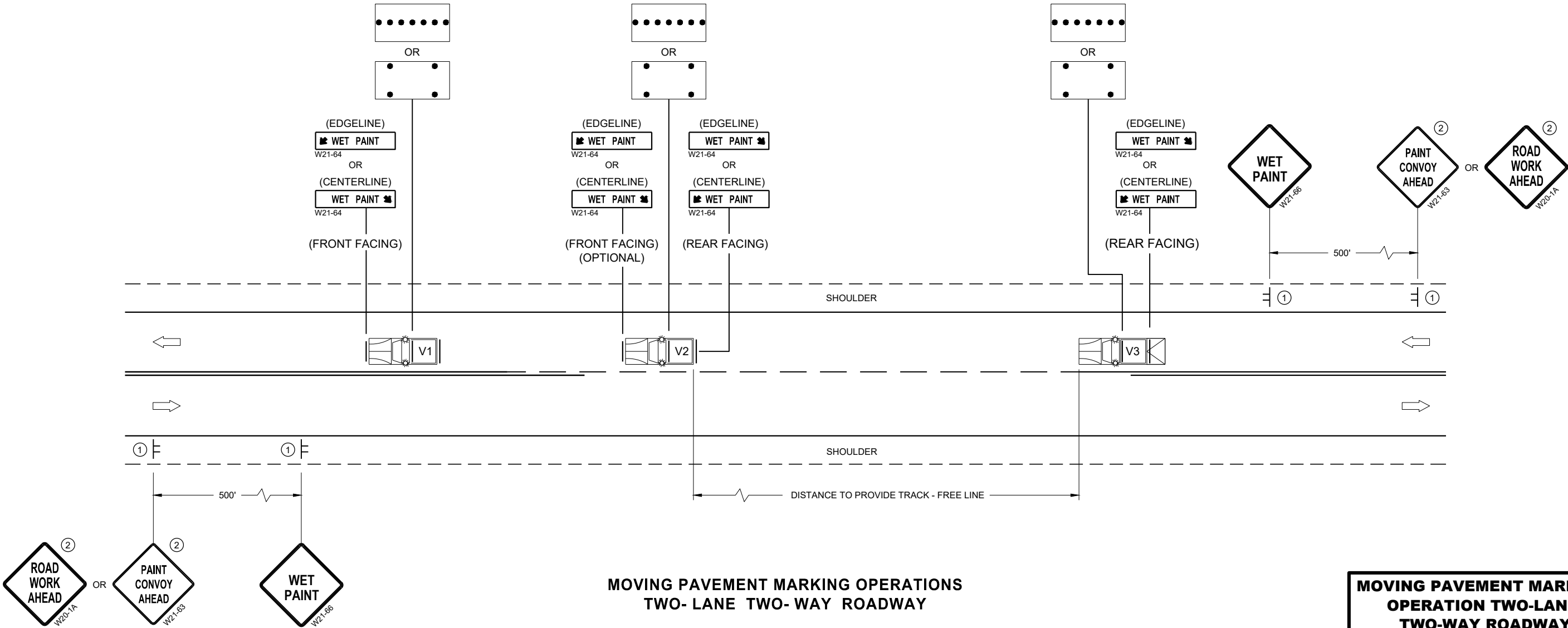
- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.
- CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- CONES SHALL BE A MINIMUM OF 18" FOR WET PAVEMENT MARKING .

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

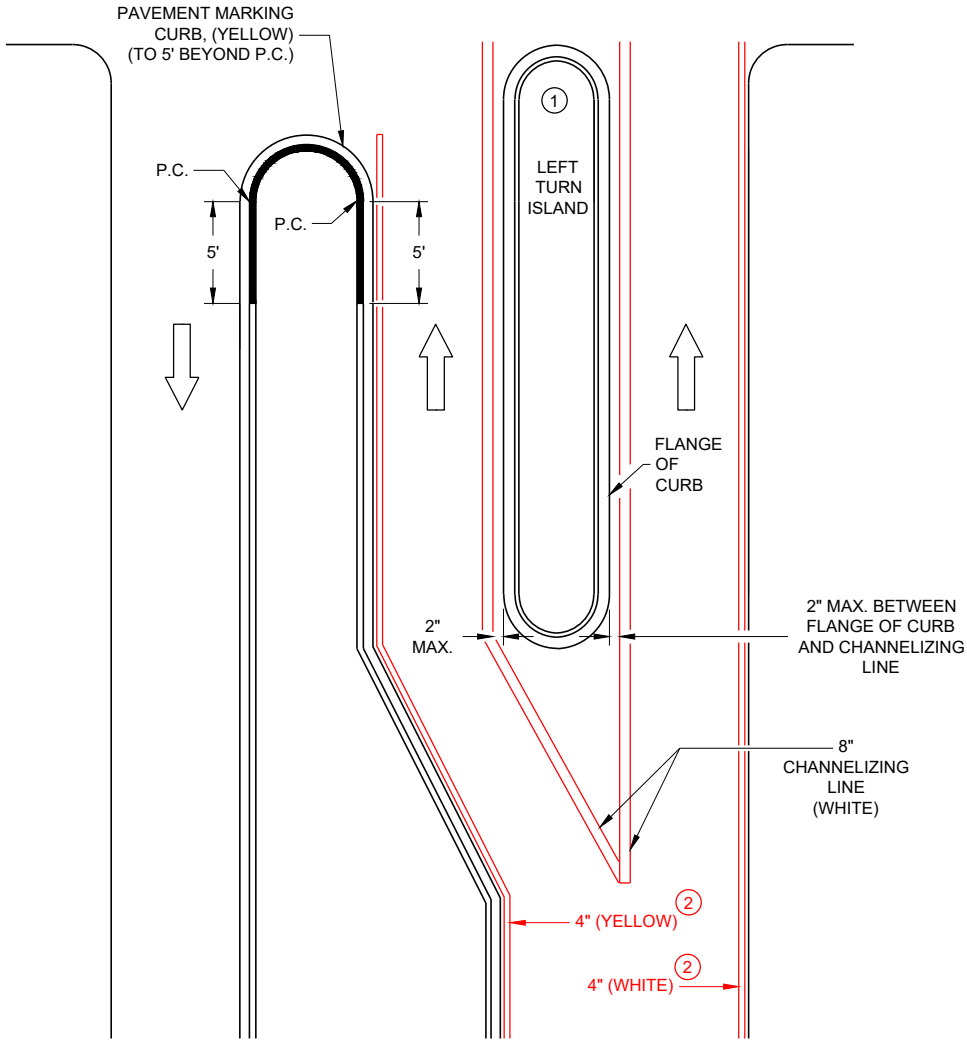


MOVING PAVEMENT MARKING
OPERATION TWO-LANE
TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



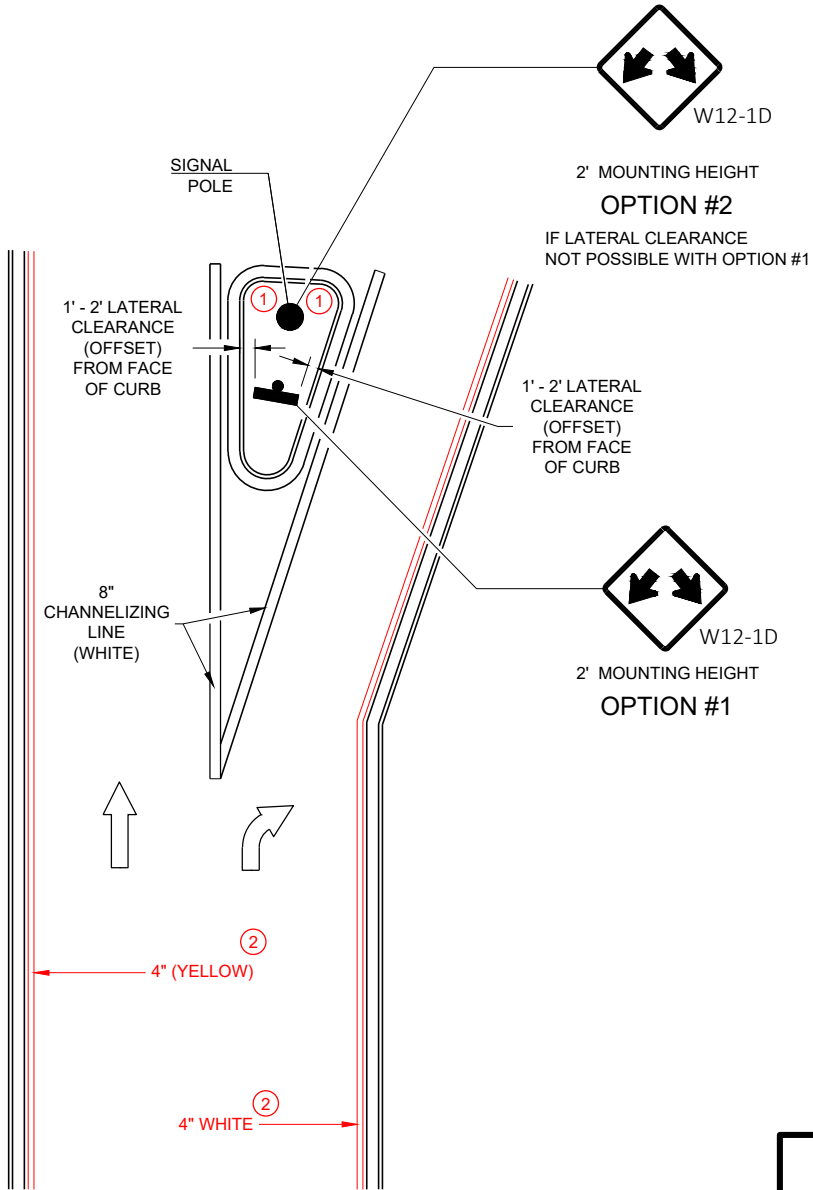
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

- ① MARK CURB NOSES YELLOW.
- ② MARK ACCORDING TO TABLE.

DIRECTION OF TRAVEL



RIGHT TURN ISLAND

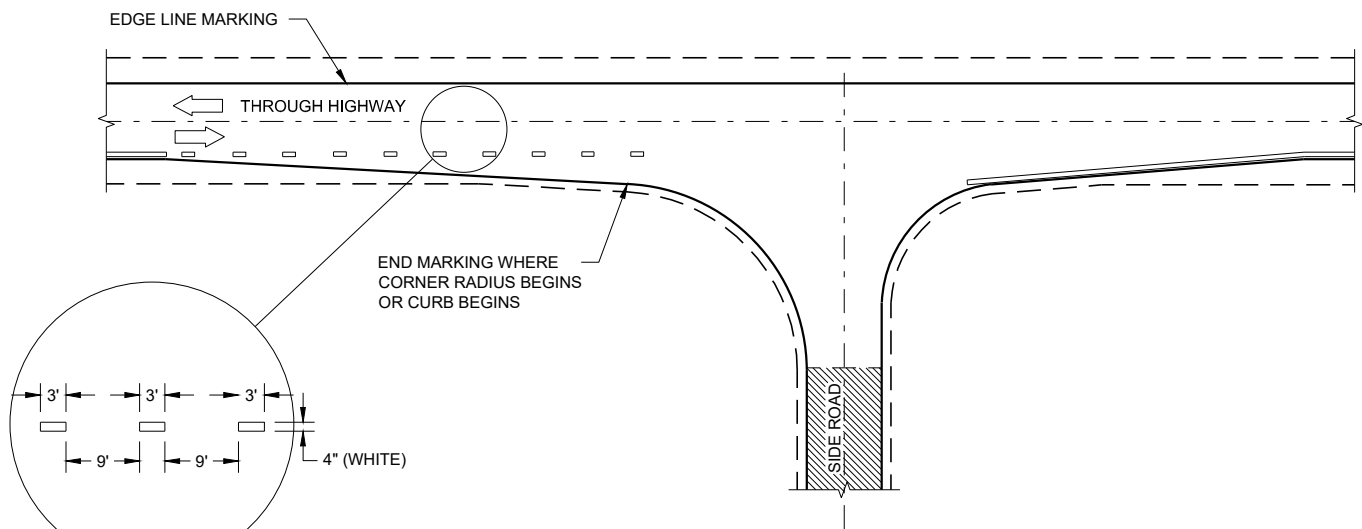
DOUBLE ARROW
WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

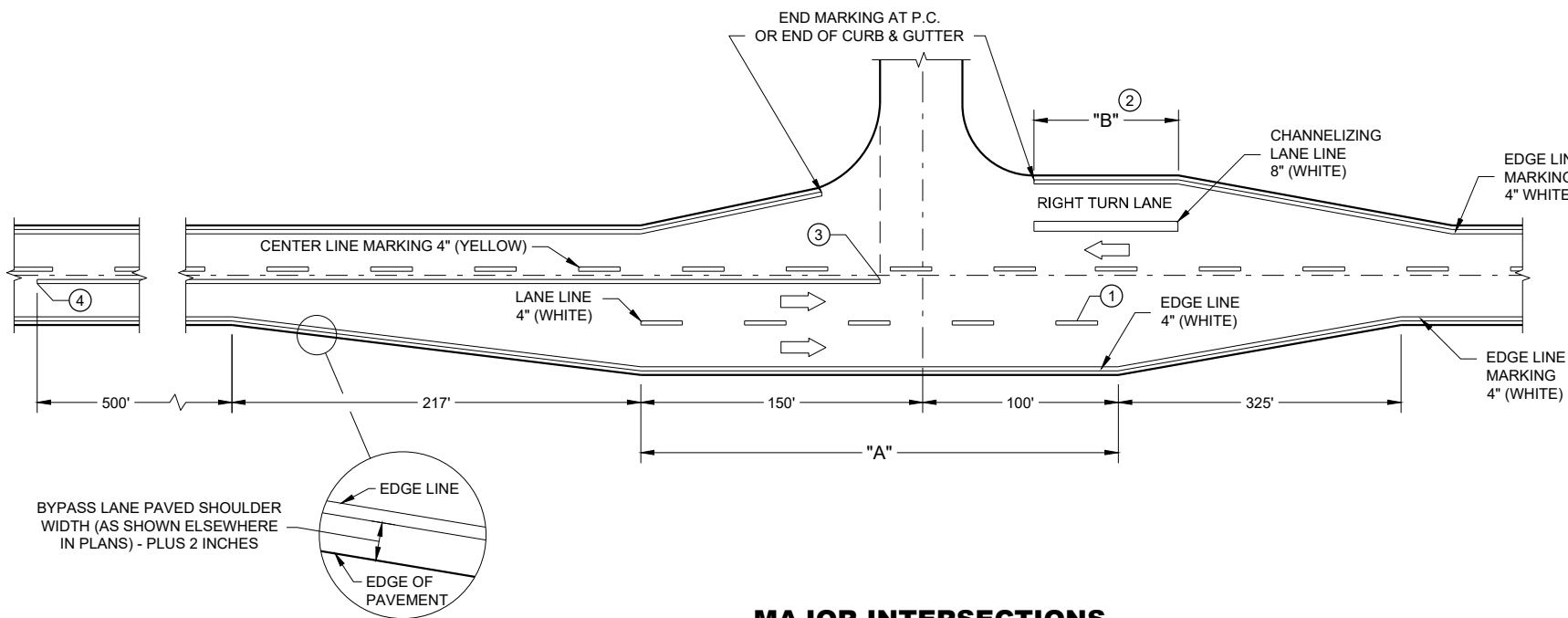
APPROVED
7/2018
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING
ENGINEER

FHWA



MINOR INTERSECTION



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

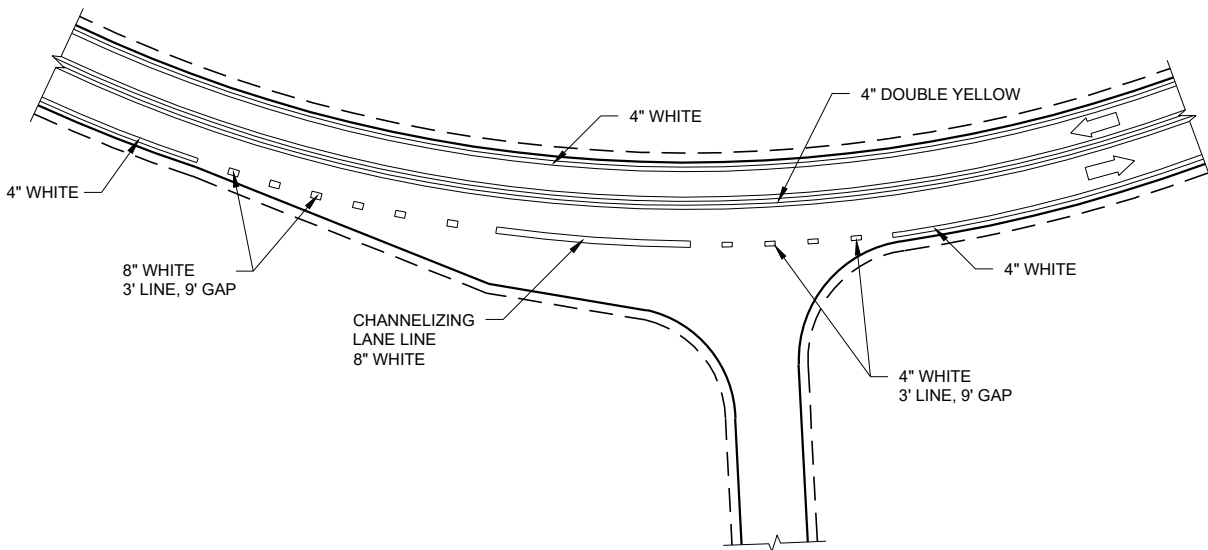
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

LEGEND

➡ DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

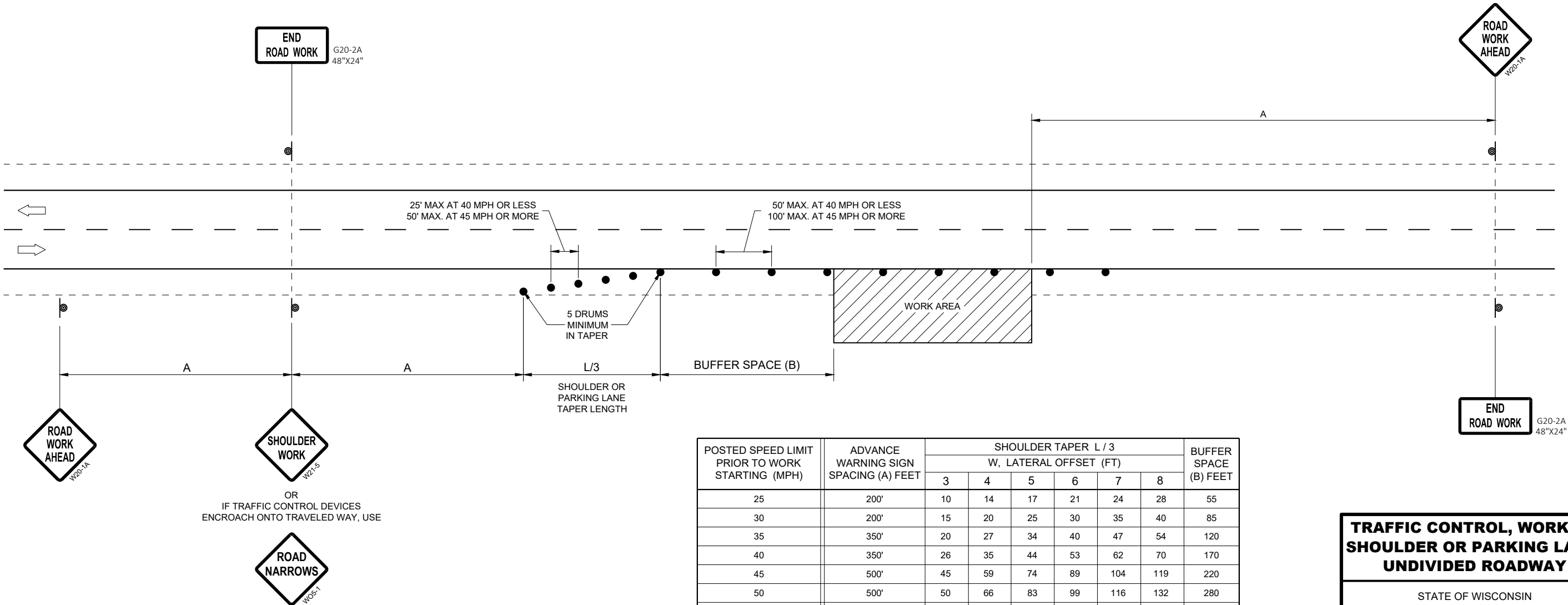
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

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

6

6



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

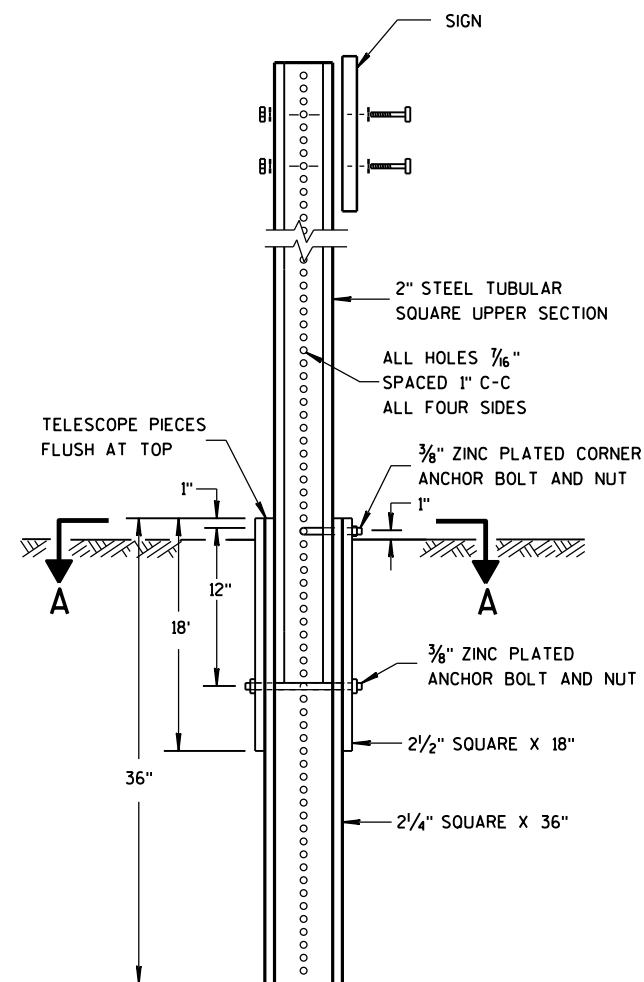
TRAFFIC CONTROL, WORK ON
SHOULDER OR PARKING LANE,
UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

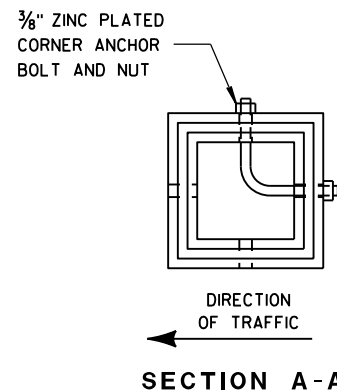


DETAIL OF TUBULAR
STEEL SIGN POST

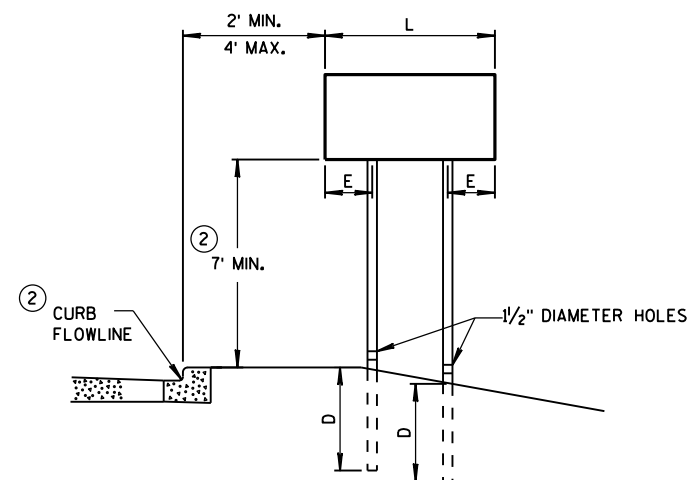
TUBULAR STEEL POSTS

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

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



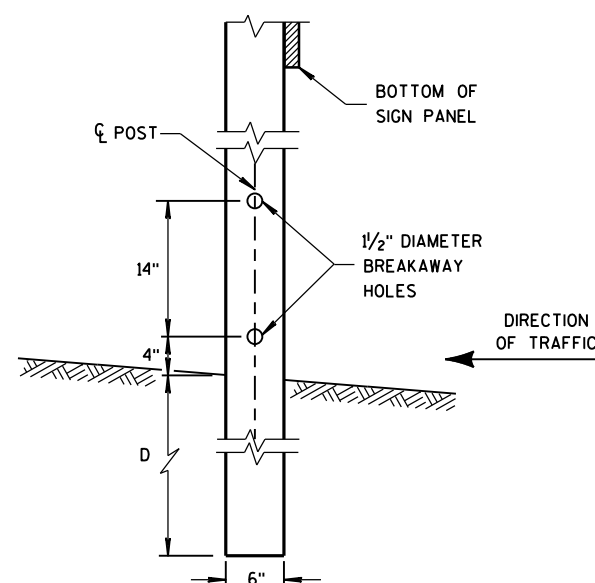
SECTION A-A



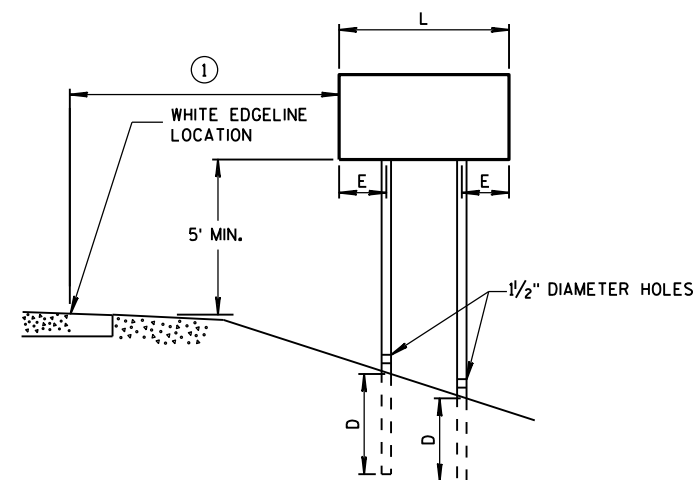
URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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



4 "x6 " WOOD POST
MODIFICATION



RURAL AREA

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

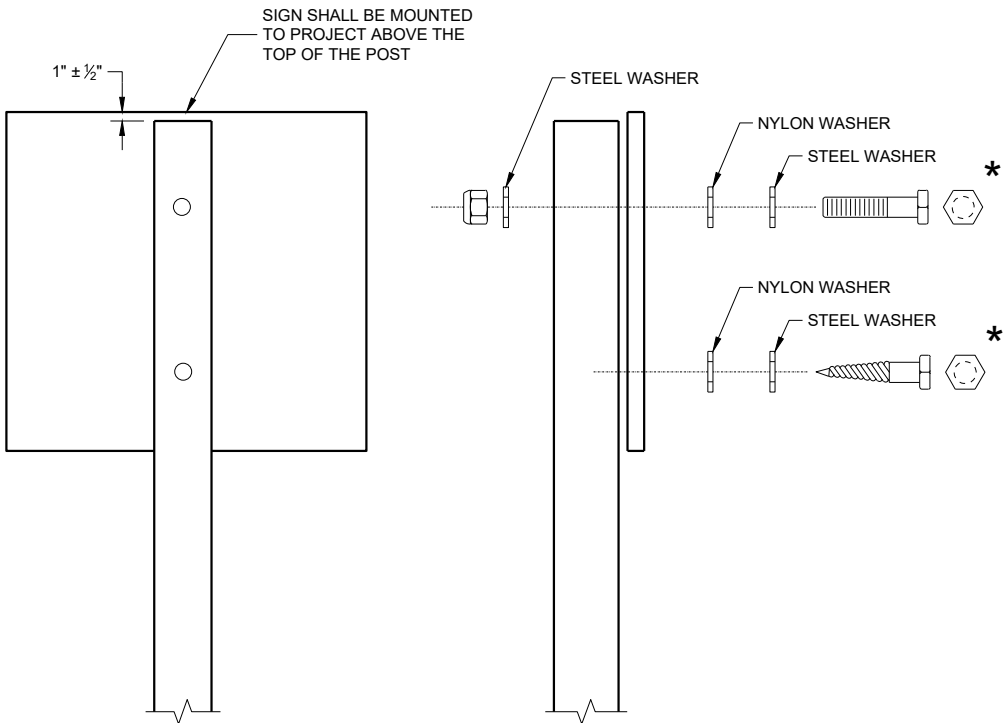
SEE NOTE ③

GENERAL NOTES

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

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

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

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

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

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - 3/8" x 3 1/4" LENGTH W/NUTS
RIVETS - 3/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM
BODY/MANDREL O.D. FLANGE 0.720 - 0.765 INCH,
GRIP RANGE 0.042 - 0.375 INCH

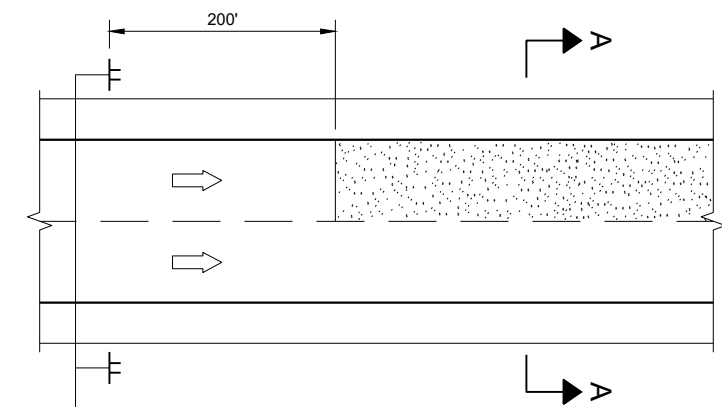
WASHERS (ALL POSTS) -
1 1/4" O.D. x 3/8" I.D. x 1/16" STEEL
1 1/4" O.D. x 3/8" I.D. x 0.080 NYLON

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER
THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

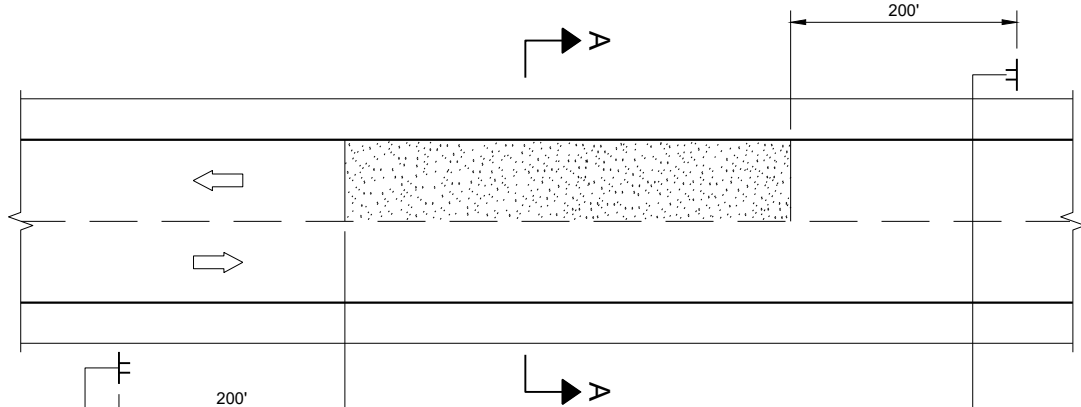
ATTACHMENT OF SIGNS
TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

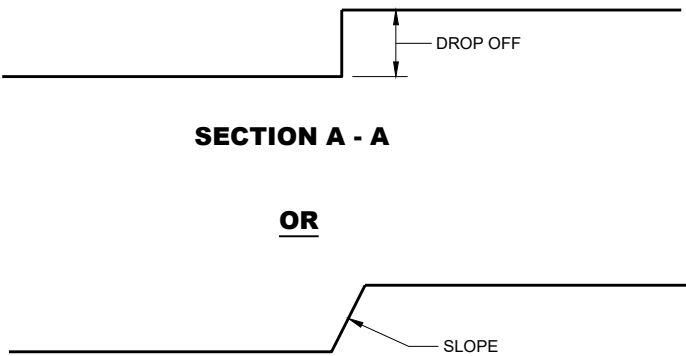
APPROVED
June 2017 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



MULTI-LANE



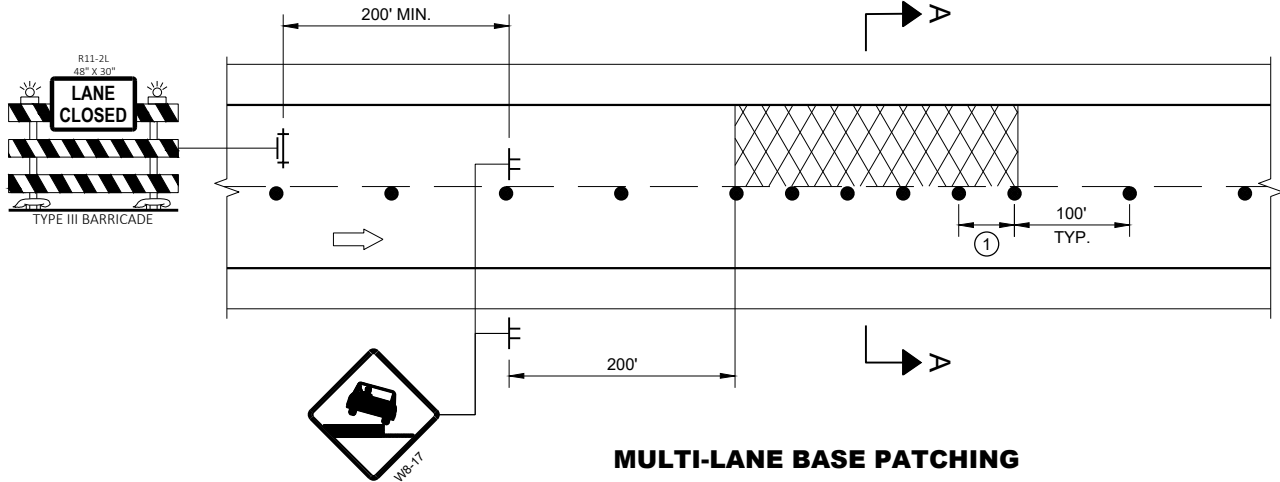
TWO-WAY TWO LANE



SECTION A - A

OR

SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

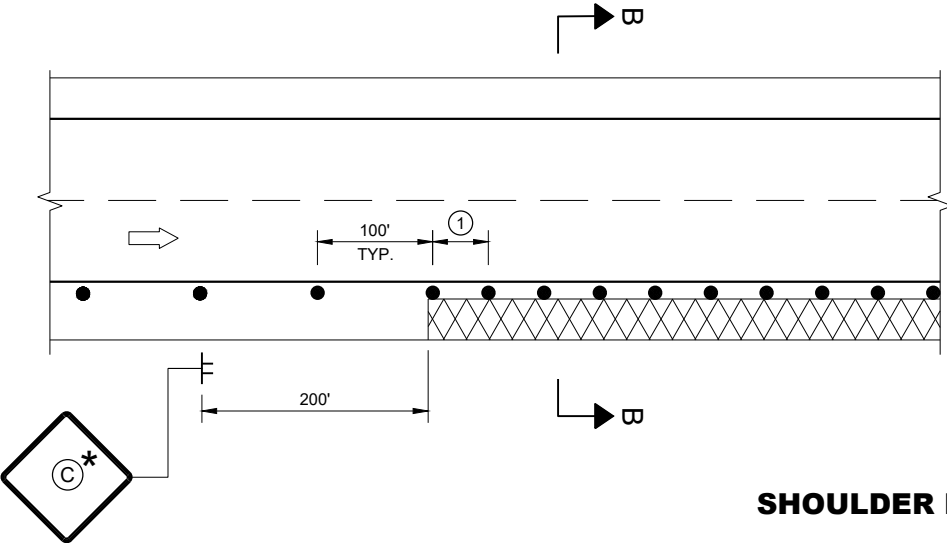
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

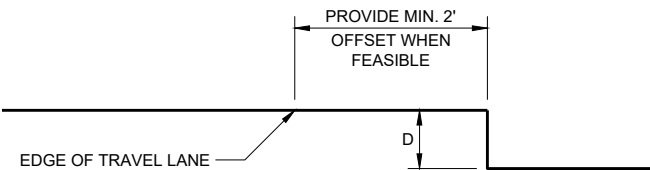
① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

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



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL,
DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

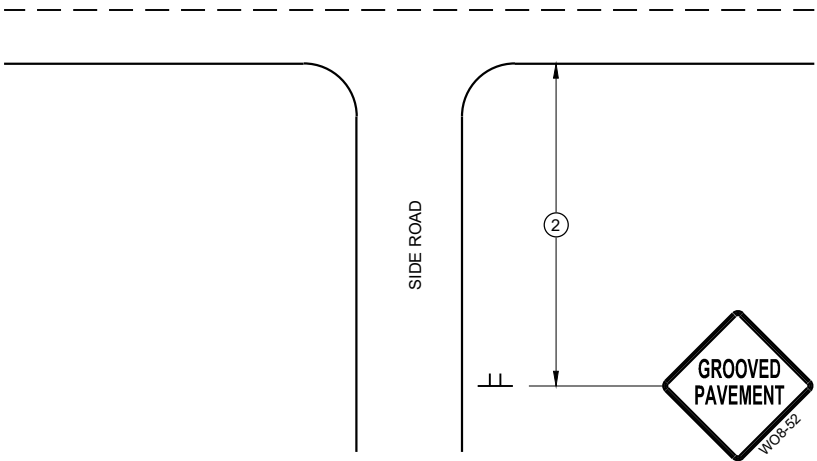
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

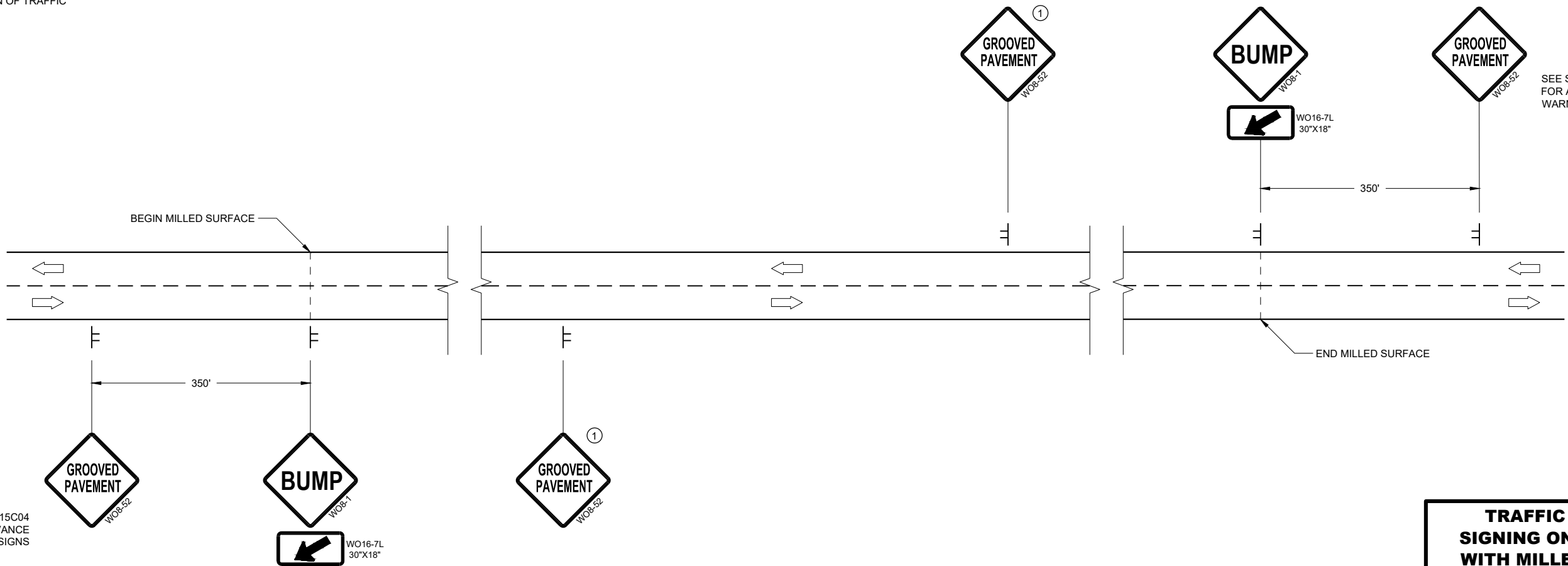
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

SEE SDD15C04
FOR ADVANCE
WARNING SIGNS

DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

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

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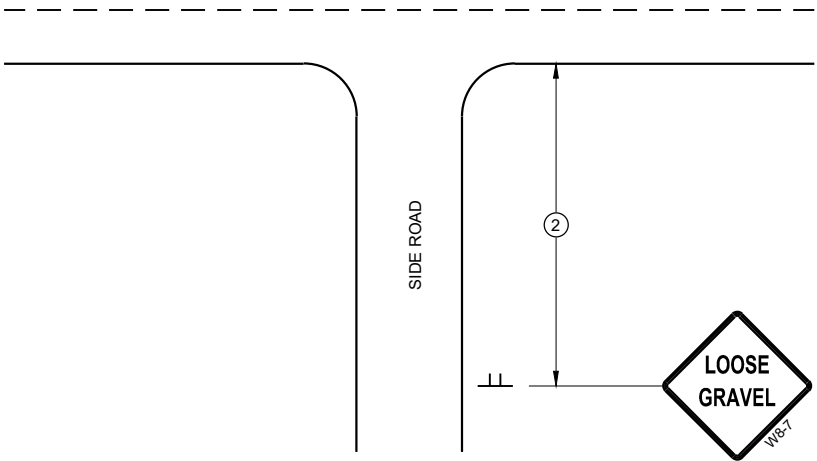
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

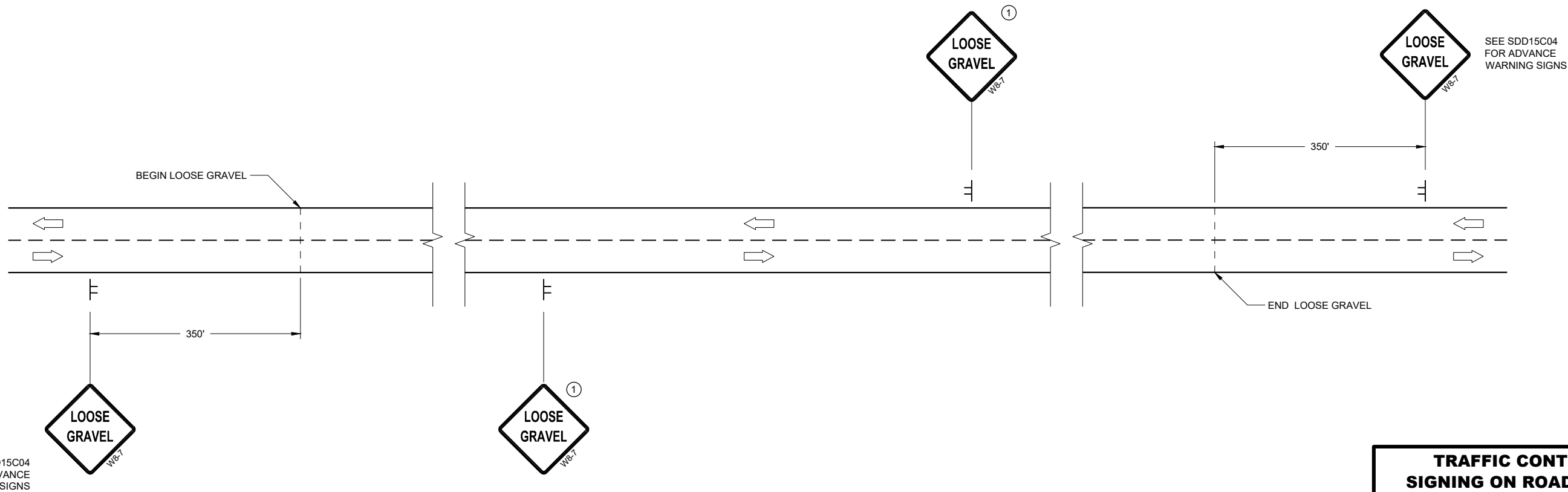
- ① PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



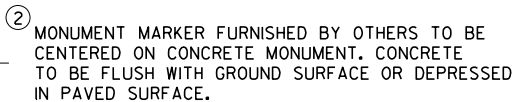
DETAIL FOR SIGNING ON CHIP SEALED SURFACES

TRAFFIC CONTROL
SIGNING ON ROADWAYS
WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

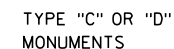
FHWA



PRECAST



(INCLUDES MARKER)



(APPROXIMATE WEIGHT 2 LBS)
(FOR CONCRETE PAVEMENT ONLY)



(APPROXIMATE WEIGHT 95 LBS)

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.

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

PERMANENT MAGNETS SHALL BE INSERTED NEAR THE TOP AND BOTTOM OF ALL ALUMINUM MONUMENTS SO THE MONUMENT CAN EASILY BE DETECTED BY A METAL DETECTOR.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

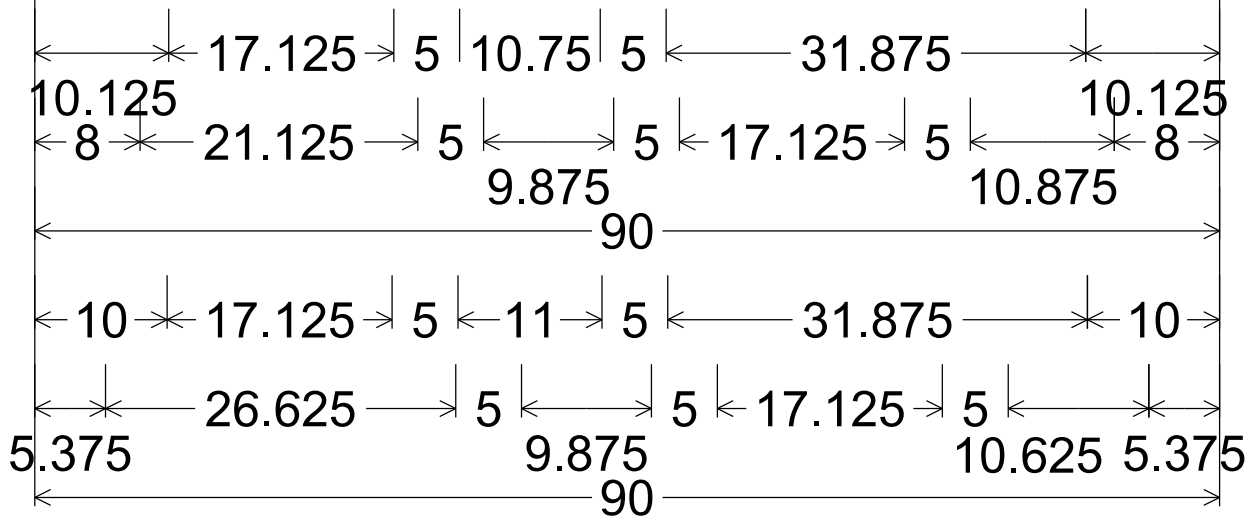
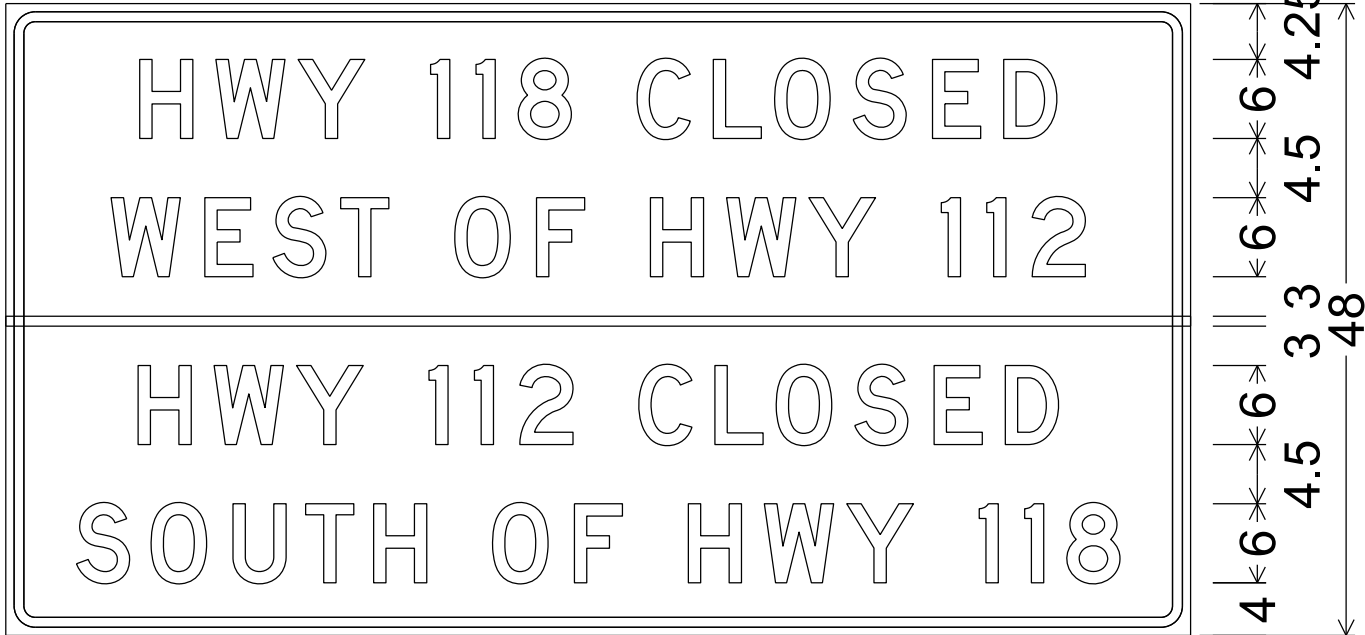
THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER

- ① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.
- ② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.

NOTES

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



2.250" Radius, 0.750" Border, 0.625" Indent

7

7

PROJECT 8725-02-70											
Division	From/To Station	Location	Common Excavation	(item # 205.0100)	Unusable Material - See Comment A	Available Material (1)	Unexpanded Fill	Expanded Fill (2)	Mass Ordinate +/- (3)	Waste	Comment:
			Cut (2)	EBS Excavation				Factor 1.25			
CULVERT PIPES	0+48	PIPE EXCAVATION	550	0	0	550	0	0	550		Trench Excavation Only-See Detail
	305+00	PIPE EXCAVATION	220	0	0	220	0	0	220		Trench Excavation Only-See Detail
	308+13	PIPE EXCAVATION	295	0	0	295	0	0	295		Trench Excavation Only-See Detail
Culvert Pipes Subtotal			1065	0	0	1065	0	0	1065	1065	
DITCH EXCAVATION-WEST	92+96 - 99+85	STH 118 DITCH RT	125	0	0	125	100	125	0		
	100+42-105+65	STH 118 DITCH RT	116	0	0	116	63	79	37		
	108+50-114+25	STH 118 DITCH LT/RT	137	0	0	137	69	86	51		
Ditch Excavation-West Subtotal			378	0	0	378	231	289	88	88	
DITCH EXCAVATION-EAST	271+00-310+50	STH 118 DITCH LT/RT	1191	0	0	1191	481	602	589		
Ditch Excavation-East Subtotal			1191	0	0	1191	481	602	589	589	
PROJECT 8725-02-70 TOTAL			2634	0	0	2634	713	891	1743	1743	

1) Available Material = Cut -Unusuable Material
2) Expanded Fill. Factor = 1.25
3) 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.

STA 93+00-99+85

DITCH EXCAVATION-WEST

Station	Cut Area (Sq.ft.)	Cut Volume (Cu.yd.)	Reusable Volume (Cu.yd.)	Fill Area (Sq.ft.)	Fill Volume (Cu.yd.)	Cum. Cut Vol. (Cu.yd.)	Cum. Reusable Vol. (Cu.yd.)	Cum. Fill Vol. (Cu.yd.)	Cum. Net Vol. (Cu.yd.)
92+96.409	1.9	0	0	0.51	0	0	0	0	0
93+00.000	2.51	0.29	0.29	2.97	0.23	0.29	0.29	0.23	0.06
93+50.000	1.55	3.76	3.76	3.52	6.01	4.05	4.05	6.24	-2.19
94+00.000	3.56	4.73	4.73	3.3	6.31	8.78	8.78	12.55	-3.77
94+50.000	9.61	12.2	12.2	2.71	5.56	20.98	20.98	18.12	2.86
95+00.000	5.04	13.56	13.56	3.45	5.7	34.55	34.55	23.82	10.73
95+50.000	1.15	5.73	5.73	6.68	9.38	40.27	40.27	33.2	7.08
96+00.000	2.73	3.59	3.59	5.11	10.92	43.87	43.87	44.11	-0.25
96+50.000	6.59	8.63	8.63	1.53	6.15	52.5	52.5	50.27	2.23
97+00.000	4.07	9.87	9.87	5.37	6.39	62.36	62.36	56.65	5.71
97+50.000	3.72	7.21	7.21	6.2	10.71	69.58	69.58	67.36	2.21
98+00.000	7.26	10.17	10.17	5.47	10.8	79.75	79.75	78.17	1.59
98+50.000	10.54	16.49	16.49	3.13	7.96	96.24	96.24	86.12	10.11
99+00.000	6.36	15.65	15.65	1.12	3.93	111.89	111.89	90.05	21.84
99+50.000	2.62	8.32	8.32	3.9	4.65	120.21	120.21	94.7	25.51
99+85.000	4.38	4.54	4.54	3.82	5	124.75	124.75	99.7	25.05

STA 108+50-114+25

DITCH EXCAVATION-WEST

Station	Cut Area (Sq.ft.)	Cut Volume (Cu.yd.)	Reusable Volume (Cu.yd.)	Fill Area (Sq.ft.)	Fill Volume (Cu.yd.)	Cum. Cut Vol. (Cu.yd.)	Cum. Reusable Vol. (Cu.yd.)	Cum. Fill Vol. (Cu.yd.)	Cum. Net Vol. (Cu.yd.)
108+50.000	0.08	0	0	2.66	0	0	0	0	0
109+00.000	7.28	6.82	6.82	3.84	6.02	6.82	6.82	6.02	0.8
109+50.000	11.21	17.12	17.12	1.79	5.21	23.94	23.94	11.23	12.71
110+00.000	2.25	12.47	12.47	4.76	6.06	36.41	36.41	17.29	19.12
110+50.000	3.28	5.12	5.12	5.81	9.79	41.53	41.53	27.08	14.46
111+00.000	4.02	6.76	6.76	3.02	8.18	48.3	48.3	35.26	13.04
111+50.000	2.72	6.24	6.24	6.53	8.84	54.54	54.54	44.1	10.44
112+00.000	15.19	16.58	16.58	0	6.04	71.12	71.12	50.14	20.97
112+50.000	5.61	19.26	19.26	3.63	3.36	90.38	90.38	53.51	36.87
113+00.000	4.93	9.76	9.76	2.8	5.95	100.14	100.14	59.46	40.68
113+50.000	16.96	20.27	20.27	0.42	2.98	120.42	120.42	62.44	57.98
114+00.000	0.34	16.02	16.02	3.02	3.18	136.44	136.44	65.62	70.82
114+25.000	0	0.16	0.16	3.6	3.06	136.6	136.6	68.68	67.92

STA 100+50-105+65

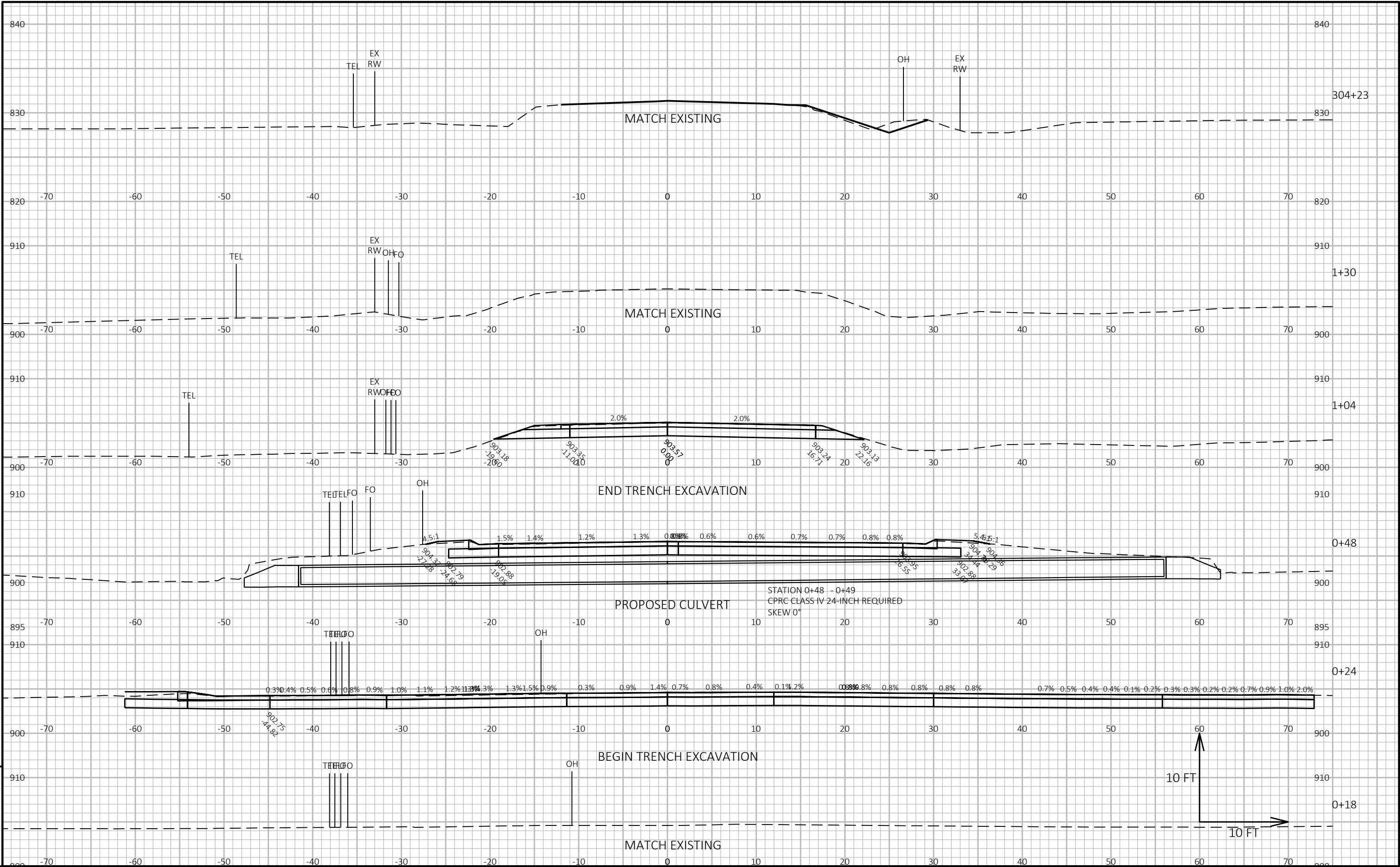
DITCH EXCAVATION-WEST

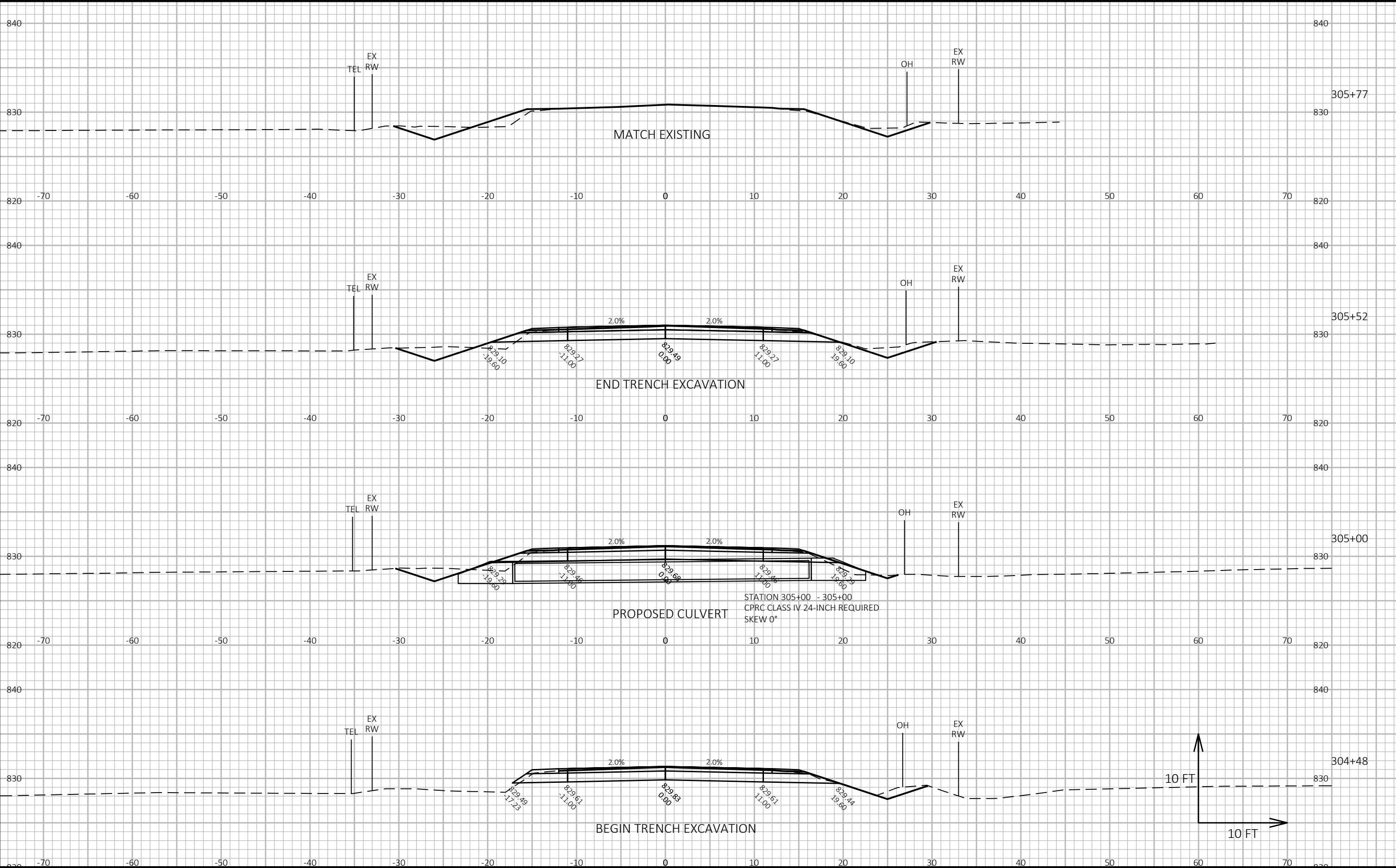
Station	Cut Area (Sq.ft.)	Cut Volume (Cu.yd.)	Reusable Volume (Cu.yd.)	Fill Area (Sq.ft.)	Fill Volume (Cu.yd.)	Cum. Cut Vol. (Cu.yd.)	Cum. Reusable Vol. (Cu.yd.)	Cum. Fill Vol. (Cu.yd.)	Cum. Net Vol. (Cu.yd.)
100+42.000	0.06	0	0	6.29	0	0	0	0	0
100+50.000	0.81	0.13	0.13	4.85	1.65	0.13	0.13	1.65	-1.52
101+00.000	1.51	2.15	2.15	2.54	6.84	2.28	2.28	8.5	-6.22
101+50.000	2.83	4.02	4.02	4.07	6.12	6.3	6.3	14.61	-8.32
102+00.000	2.38	4.83	4.83	4.71	8.13	11.13	11.13	22.74	-11.62
102+50.000	2.94	4.93	4.93	4.43	8.47	16.05	16.05	31.21	-15.16
103+00.000	4.54	6.93	6.93	3.18	7.05	22.98	22.98	38.26	-15.28
103+50.000	22.04	24.62	24.62	0.24	3.17	47.6	47.6	41.43	6.17
104+00.000	5.59	25.59	25.59	3.05	3.04	73.19	73.19	44.47	28.72
104+50.000	9.39	13.87	13.87	2.49	5.13	87.06	87.06	49.6	37.46
105+00.000	10.99	18.87	18.87	2.35	4.49	105.93	105.93	54.09	51.84
105+50.000	0.11	10.28	10.28	5.67	7.43	116.21	116.21	61.52	54.69
105+65.000	0	0.03	0.03	0	1.58	116.24	116.24	63.1	53.15

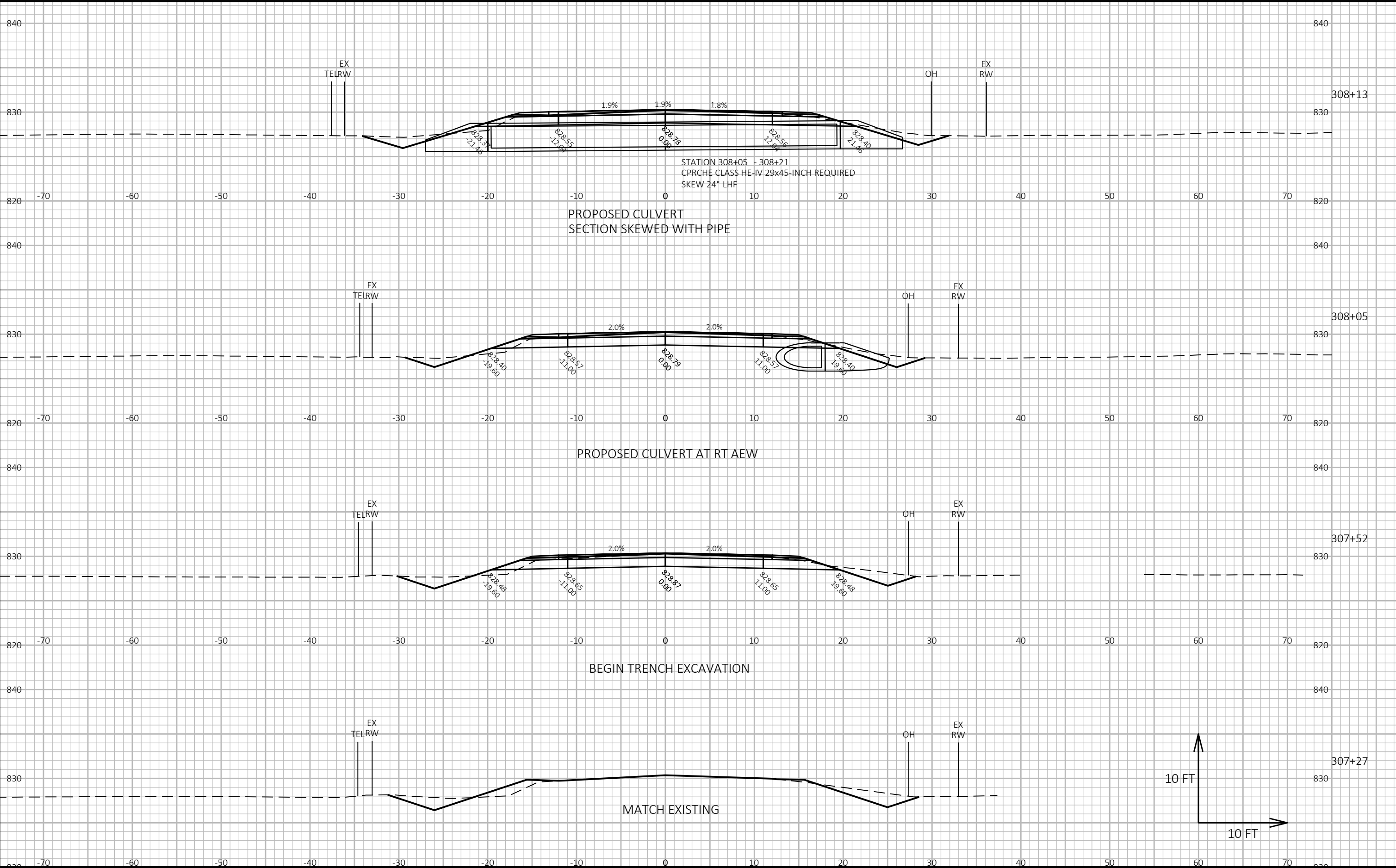
STA 271-00-310+50
DITCH EXCAVATION-EAST

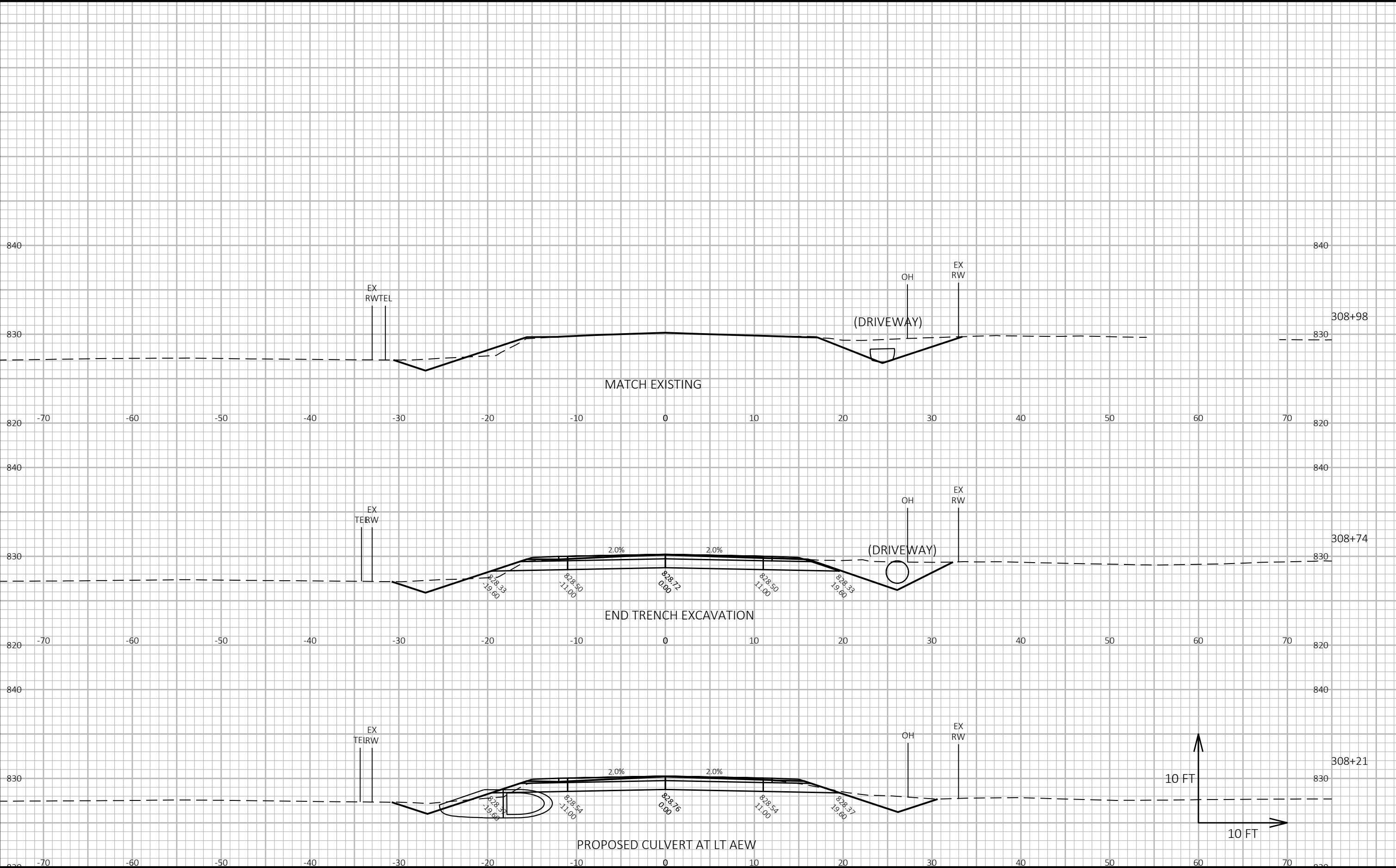
Station	Cut Area (Sq.ft.)	Cut Volume (Cu.yd.)	Reusable Volume (Cu.yd.)	Fill Area (Sq.ft.)	Fill Volume (Cu.yd.)	Cum. Cut Vol. (Cu.yd.)	Cum. Reusable Vol. (Cu.yd.)	Cum. Fill Vol. (Cu.yd.)	Cum. Net Vol. (Cu.yd.)
271+00.000	0.87	0	0	3.64	0	0	0	0	0
271+50.000	5.66	6.05	6.05	1.79	5.03	6.05	6.05	5.03	1.01
272+00.000	8.29	12.91	12.91	1.61	3.15	18.96	18.96	8.18	10.78
272+50.000	9.6	16.56	16.56	0.2	1.67	35.53	35.53	9.85	25.67
273+00.000	5.47	13.96	13.96	1.45	1.53	49.49	49.49	11.38	38.1
273+50.000	3.78	8.57	8.57	3.27	4.38	58.06	58.06	15.76	42.3
274+00.000	3.51	6.75	6.75	4.1	6.83	64.81	64.81	22.58	42.23
274+50.000	2.72	5.77	5.77	4.53	8	70.58	70.58	30.58	40
275+00.000	4.37	6.57	6.57	3.9	7.81	77.15	77.15	38.39	38.76
275+50.000	30.92	32.68	32.68	0	3.62	109.83	109.83	42.01	67.82
276+00.000	3.48	31.86	31.86	0.91	0.84	141.69	141.69	42.85	98.84
276+50.000	2.31	5.36	5.36	2.04	2.73	147.05	147.05	45.58	101.48
277+00.000	3.12	5.03	5.03	3.31	4.95	152.08	152.08	50.53	101.56
277+50.000	2.7	5.39	5.39	5.61	8.26	157.47	157.47	58.79	98.68
278+00.000	2.16	4.5	4.5	4.24	9.12	161.96	161.96	67.91	94.06
278+50.000	2.52	4.33	4.33	5.05	8.6	166.3	166.3	76.51	89.79
279+00.000	3.99	6.03	6.03	2.23	6.74	172.32	172.32	83.25	89.07
279+50.000	12.67	15.42	15.42	1.77	3.71	187.74	187.74	86.96	100.79
280+00.000	9.34	20.38	20.38	1.18	2.74	208.12	208.12	89.69	118.43
280+50.000	8.48	16.5	16.5	1.36	2.35	224.62	224.62	92.04	132.58
281+00.000	7.09	14.41	14.41	2.42	3.5	239.03	239.03	95.54	143.49
281+50.000	7.09	13.13	13.13	2.76	4.79	252.16	252.16	100.33	151.83
282+00.000	8.38	14.33	14.33	1.93	4.34	266.49	266.49	104.67	161.82
282+50.000	7.98	15.15	15.15	1.55	3.22	281.64	281.64	107.9	173.74
283+00.000	8.78	15.52	15.52	1.42	2.74	297.16	297.16	110.64	186.52
283+50.000	10.22	17.6	17.6	1.12	2.35	314.76	314.76	112.99	201.78
284+00.000	8.65	17.48	17.48	1.27	2.22	332.24	332.24	115.2	217.04
284+50.000	8.86	16.21	16.21	1.29	2.37	348.46	348.46	117.58	230.88
285+00.000	11.28	18.65	18.65	2.38	3.39	367.1	367.1	120.97	246.13
285+50.000	12.28	21.81	21.81	2.35	4.38	388.91	388.91	125.35	263.56
286+00.000	7.34	18.17	18.17	3.8	5.7	407.08	407.08	131.05	276.03
286+50.000	10.54	16.56	16.56	3.07	6.36	423.64	423.64	137.41	286.23
287+00.000	10.49	19.48	19.48	1.82	4.53	443.11	443.11	141.94	301.17
287+50.000	11.79	20.63	20.63	1.32	2.91	463.75	463.75	144.85	318.9
288+00.000	7.69	18.04	18.04	1.74	2.83	481.79	481.79	147.67	334.12
288+50.000	7.22	13.81	13.81	1.94	3.4	495.6	495.6	151.08	344.52
289+00.000	6.69	12.87	12.87	1.64	3.32	508.48	508.48	154.4	354.08
289+50.000	7.21	12.86	12.86	1.78	3.17	521.34	521.34	157.57	363.77
290+00.000	7.84	13.93	13.93	2.08	3.58	535.27	535.27	161.15	374.12
290+50.000	9.72	16.25	16.25	2.35	4.1	551.52	551.52	165.24	386.28
291+00.000	8.64	16.99	16.99	2.52	4.5	568.52	568.52	169.75	398.77
291+50.000	8.59	15.95	15.95	2.62	4.76	584.47	584.47	174.51	409.96
292+00.000	9.98	17.2	17.2	2.71	4.94	601.66	601.66	179.45	422.22
292+50.000	36.61	43.14	43.14	0	2.51	644.8	644.8	181.95	462.85

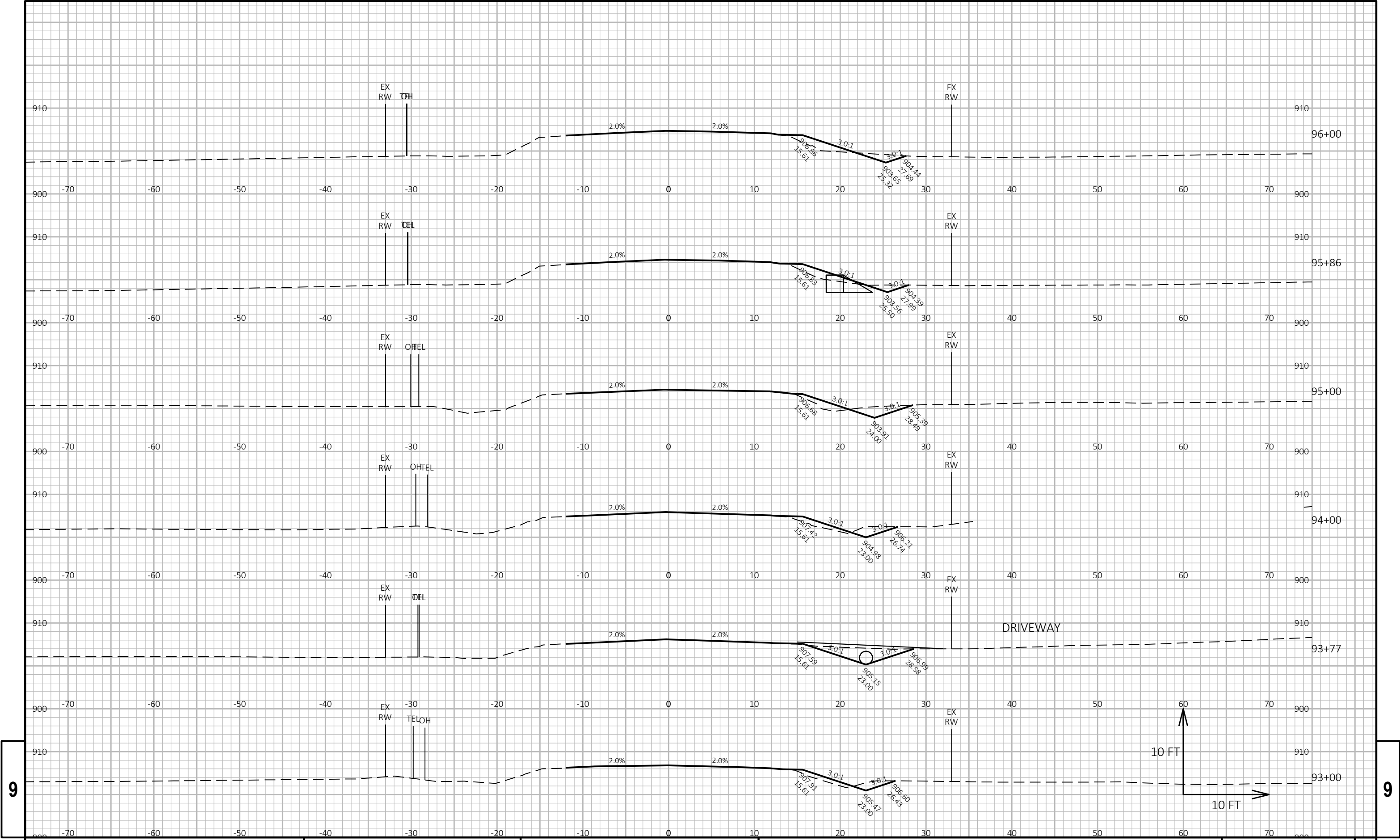
Station	Cut Area (Sq.ft.)	Cut Volume (Cu.yd.)	Reusable Volume (Cu.yd.)	Fill Area (Sq.ft.)	Fill Volume (Cu.yd.)	Cum. Cut Vol. (Cu.yd.)	Cum. Reusable Vol. (Cu.yd.)	Cum. Fill Vol. (Cu.yd.)	Cum. Net Vol. (Cu.yd.)
293+00.000	12.95	45.89	45.89	1.32	1.22	690.69	690.69	183.18	507.52
293+50.000	9.22	20.53	20.53	1.7	2.8	711.22	711.22	185.97	525.25
294+00.000	6.89	14.92	14.92	1.88	3.32	726.14	726.14	189.29	536.85
294+50.000	5.39	11.37	11.37	2.46	4.01	737.51	737.51	193.3	544.2
295+00.000	2.56	7.35	7.35	3.62	5.62	744.86	744.86	198.93	545.94
295+50.000	2.72	4.89	4.89	3.88	6.94	749.75	749.75	205.87	543.88
296+00.000	3.15	5.44	5.44	4.41	7.67	755.19	755.19	213.54	541.65
296+50.000	5.17	7.7	7.7	3.81	7.61	762.89	762.89	221.14	541.75
297+00.000	5.44	9.82	9.82	4.68	7.86	772.71	772.71	229	543.71
297+50.000	7.53	12.01	12.01	4.7	8.68	784.72	784.72	237.69	547.03
298+00.000	6.38	12.88	12.88	3.57	7.65	797.6	797.6	245.34	552.26
298+50.000	6.39	11.83	11.83	2.6	5.72	809.42	809.42	251.06	558.37
299+00.000	6.25	11.7	11.7	2.73	4.94	821.13	821.13	256	565.13
299+50.000	5.18	10.58	10.58	3.03	5.33	831.71	831.71	261.33	570.38
300+00.000	4.26	8.74	8.74	3.16	5.73	840.45	840.45	267.06	573.39
300+50.000	3.97	7.62	7.62	3.64	6.29	848.08	848.08	273.35	574.72
301+00.000	3.71	7.11	7.11	3.43	6.55	855.19	855.19	279.9	575.29
301+50.000	4.5	7.59	7.59	3.61	6.52	862.78	862.78	286.42	576.36
302+00.000	4.82	8.63	8.63	4.17	7.2	871.41	871.41	293.62	577.79
302+50.000	3.51	7.72	7.72	4.25	7.79	879.12	879.12	301.41	577.71
303+00.000	3.84	6.81	6.81	4.38	7.99	885.93	885.93	309.41	576.52
303+50.000	2.25	5.64	5.64	5.27	8.93	891.57	891.57	318.34	573.23
304+00.000	3.19	5.04	5.04	3.1	7.75	896.61	896.61	326.09	570.52
304+50.000	3.33	6.04	6.04	0.8	3.61	902.65	902.65	329.7	572.95
304+75.000	1.66	2.31	2.31	9.14	4.6	904.96	904.96	334.3	570.66
305+00.000	6.69	3.87	3.87	9.43	8.6	908.82	908.82	342.9	565.93
305+50.000	14.37	19.5	19.5	5.42	13.75	928.33	928.33	356.64	571.68
306+00.000	14.71	26.93	26.93	5.64	10.24	955.25	955.25	366.88	588.37
306+50.000	18.56	30.8	30.8	4.99	9.84	986.05	986.05	376.72	609.33
307+00.000	17.92	33.77	33.77	6.31	10.46	1019.82	1019.82	387.18	632.64
307+50.000	12.87	28.51	28.51	7.19	12.49	1048.33	1048.33	399.67	648.66
308+00.000	9.46	20.68	20.68	5.26	11.52	1069.01	1069.01	411.19	657.81
308+50.000	10.81	18.77	18.77	6.91	11.27	1087.78	1087.78	422.46	665.32
309+00.000	22.43	30.78	30.78	3.85	9.96	1118.57	1118.57	432.43	686.14
309+50.000	5.37	25.75	25.75	9.9	12.73	1144.31	1144.31	445.15	699.16
310+00.000	22.28	25.61	25.61	4.34	13.18	1169.92	1169.92	458.33	711.59
310+50.000	0.28	20.89	20.89	10.21	13.48	1190.82	1190.82	471.81	719
311+00.000	0	0.26	0.26	0	9.46	1191.08	1191.08	481.27	709.81







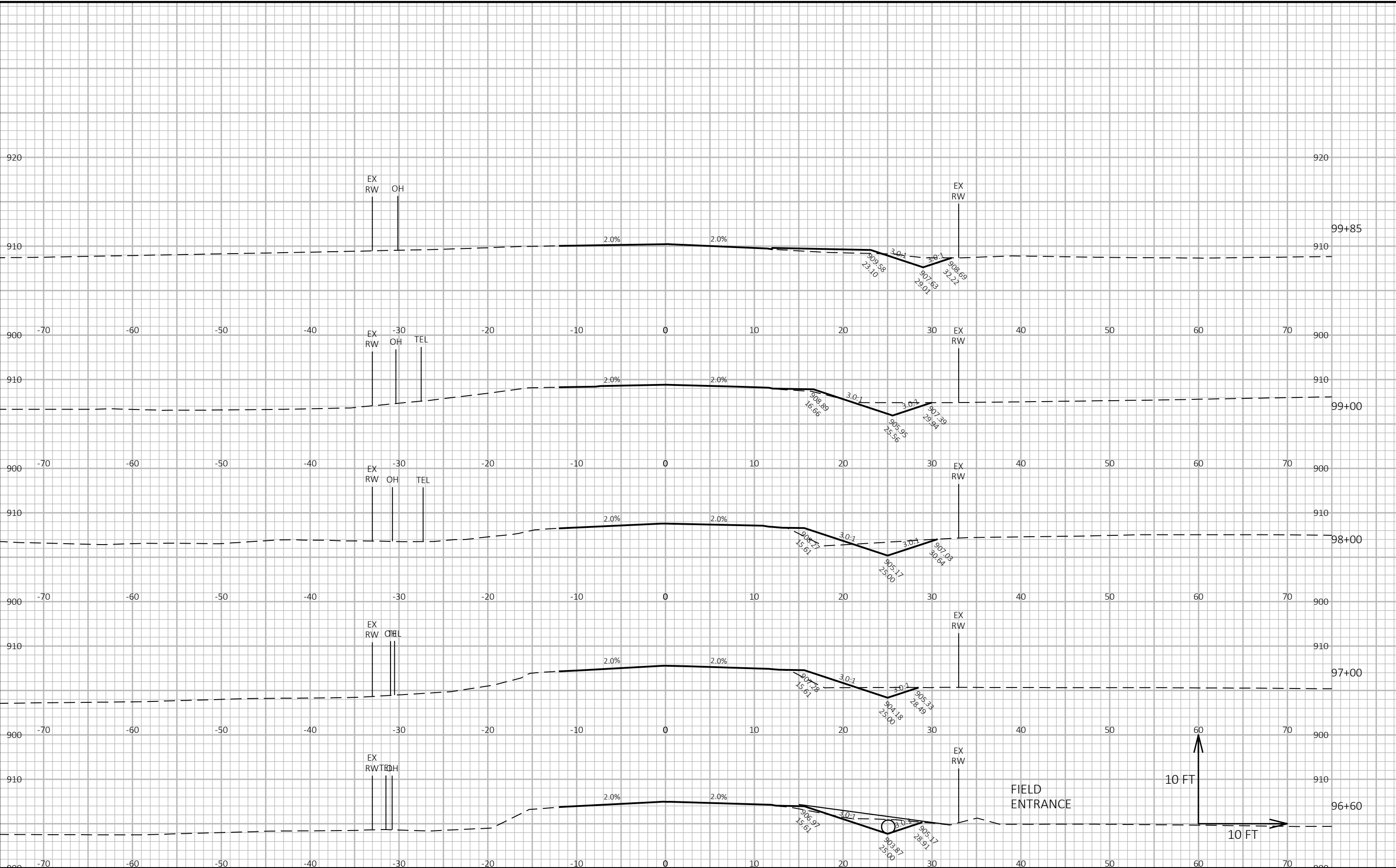




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PROJECT NO: 8725-02-70		HWY: STH 118	COUNTY: BAYFIELD	CROSS SECTIONS: DITCH EXCAVATION-WEST	SHEET	E
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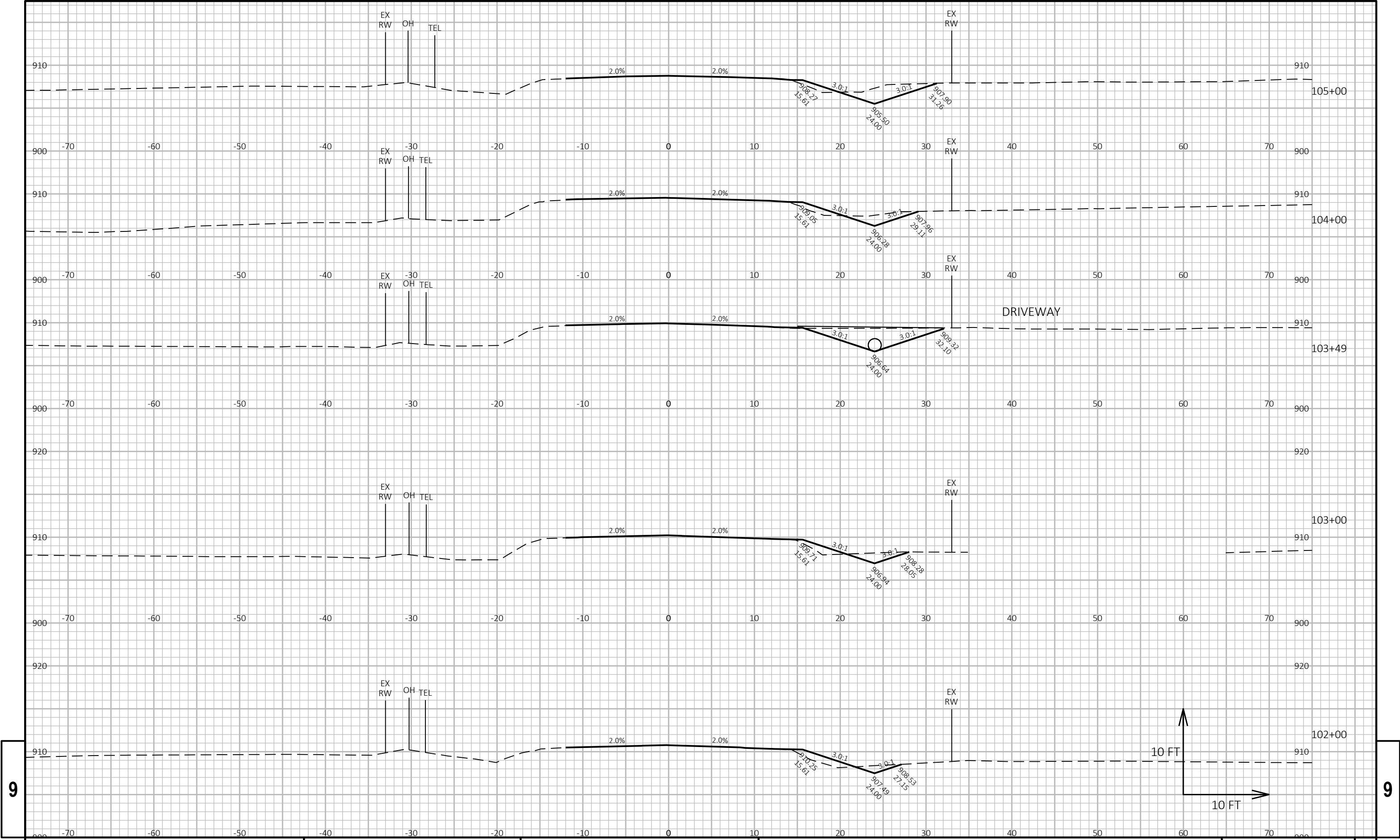




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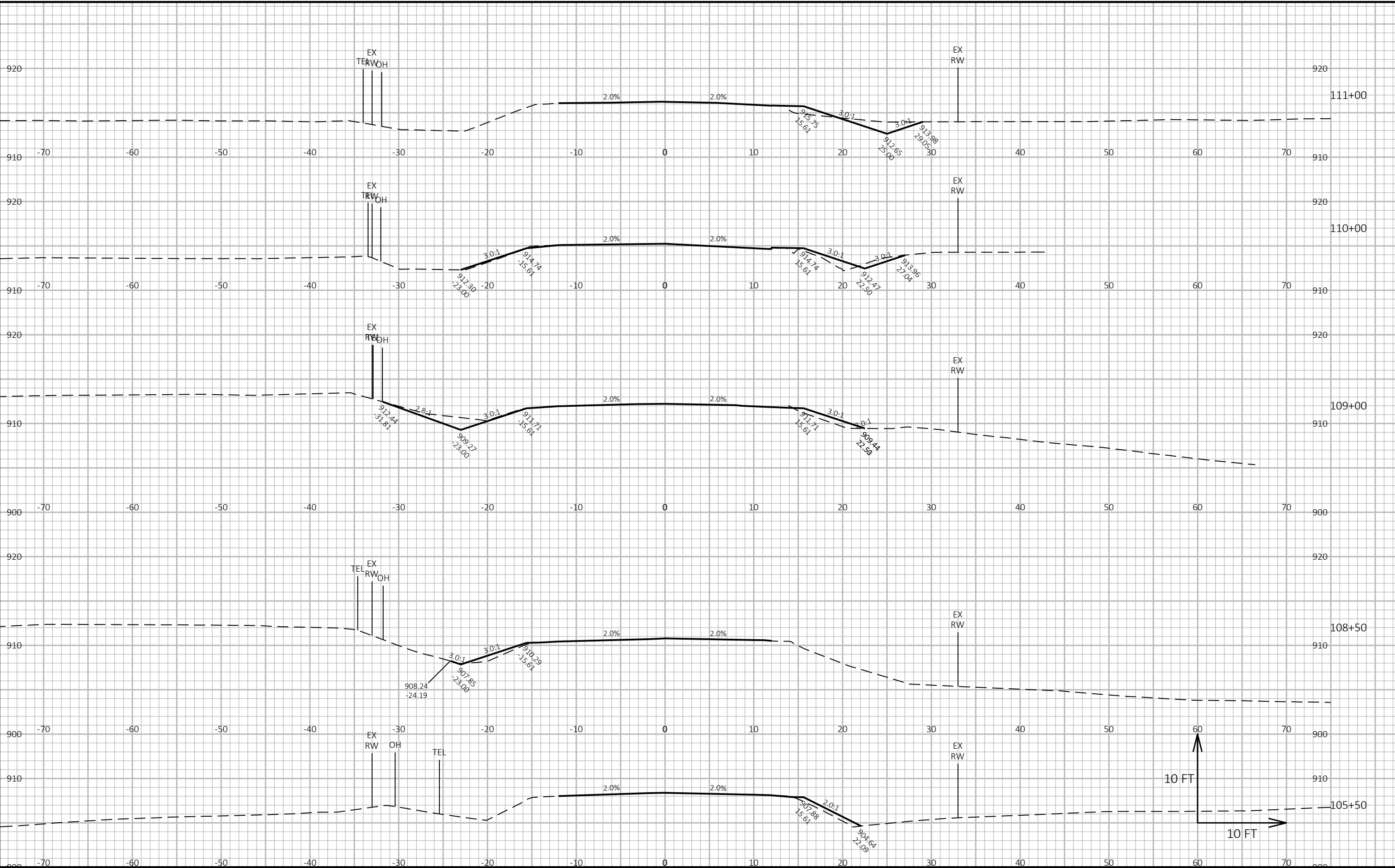
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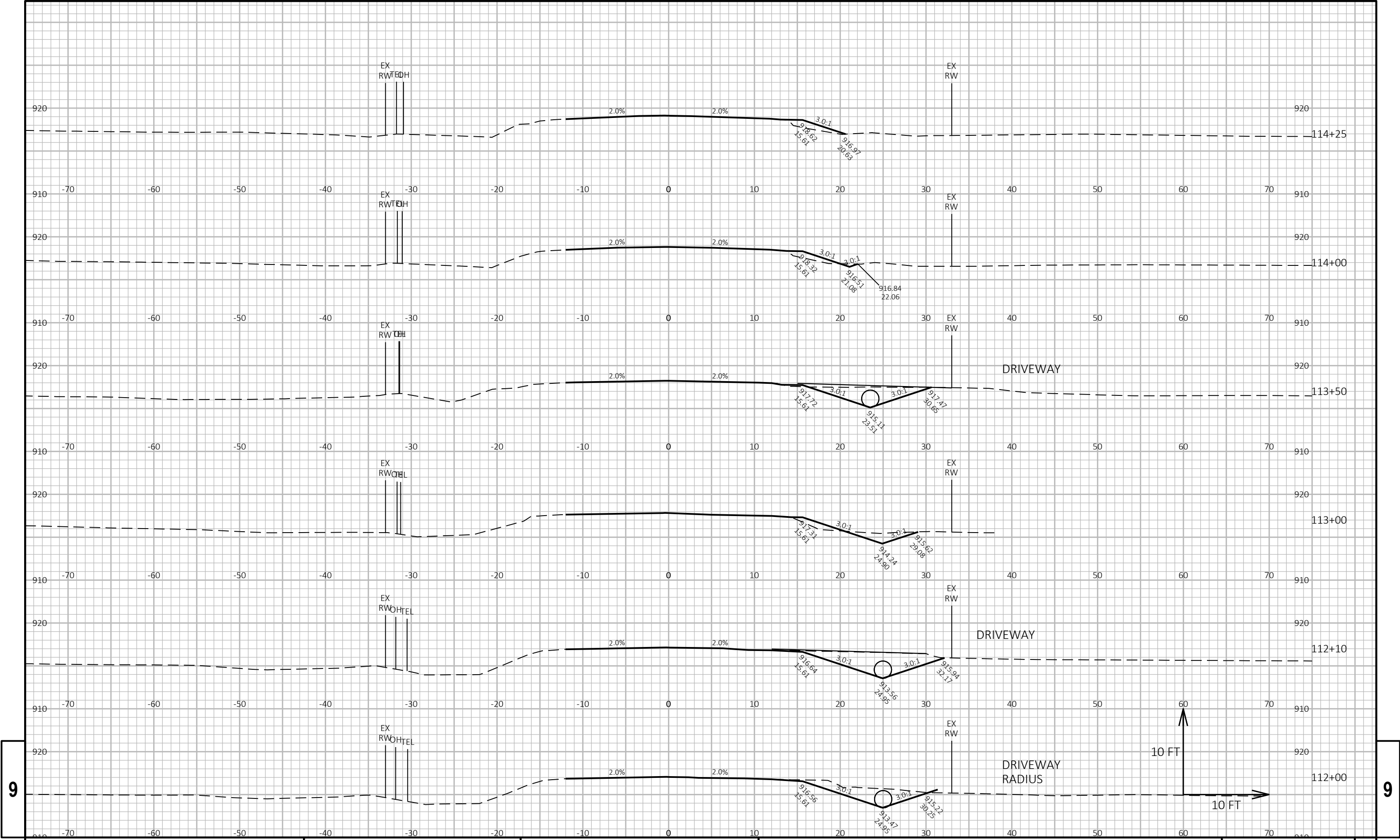


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PROJECT NO: 8725-02-70	HWY: STH 118	COUNTY: BAYFIELD	CROSS SECTIONS: DITCH EXCAVATION- WEST	SHEET E
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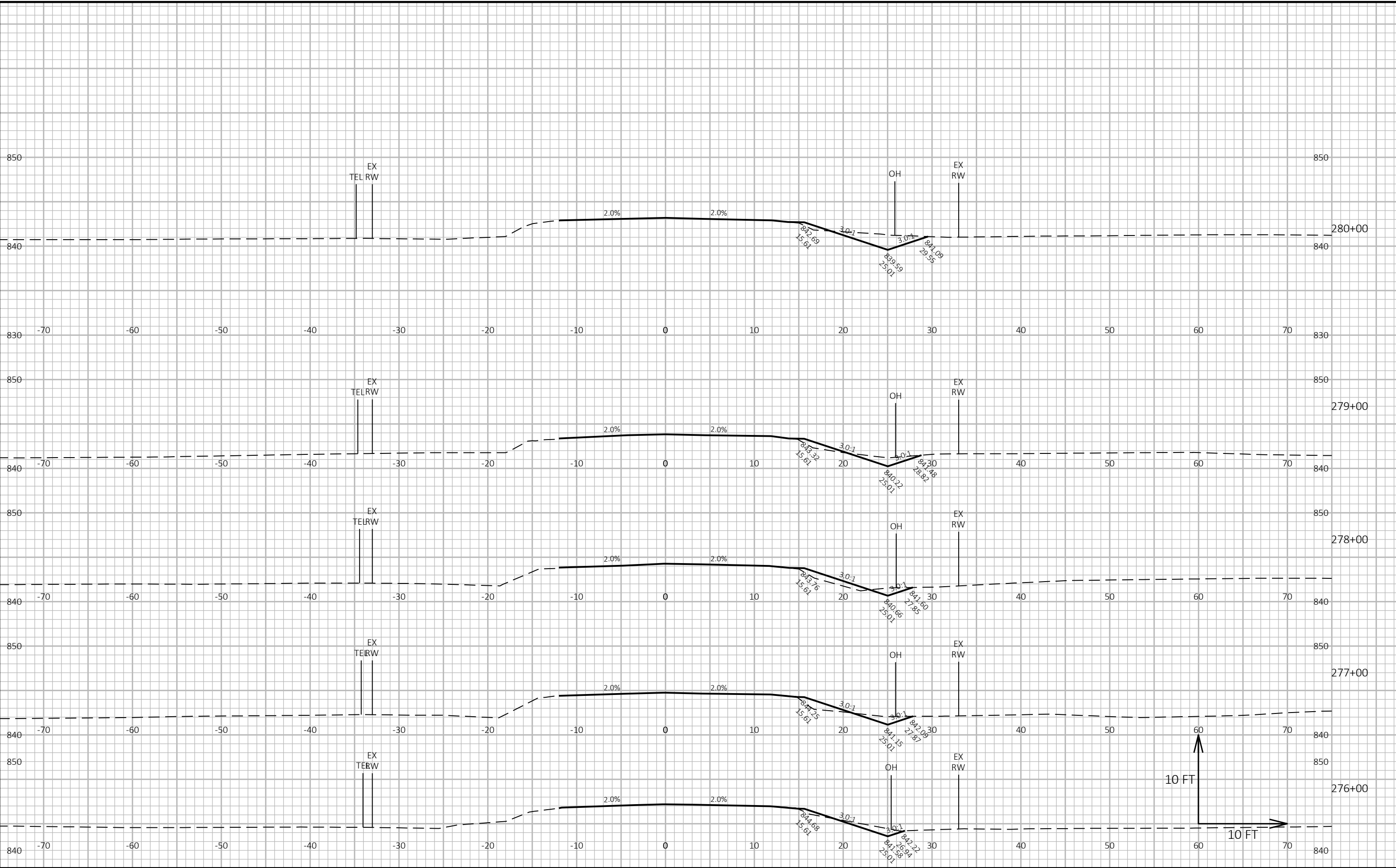
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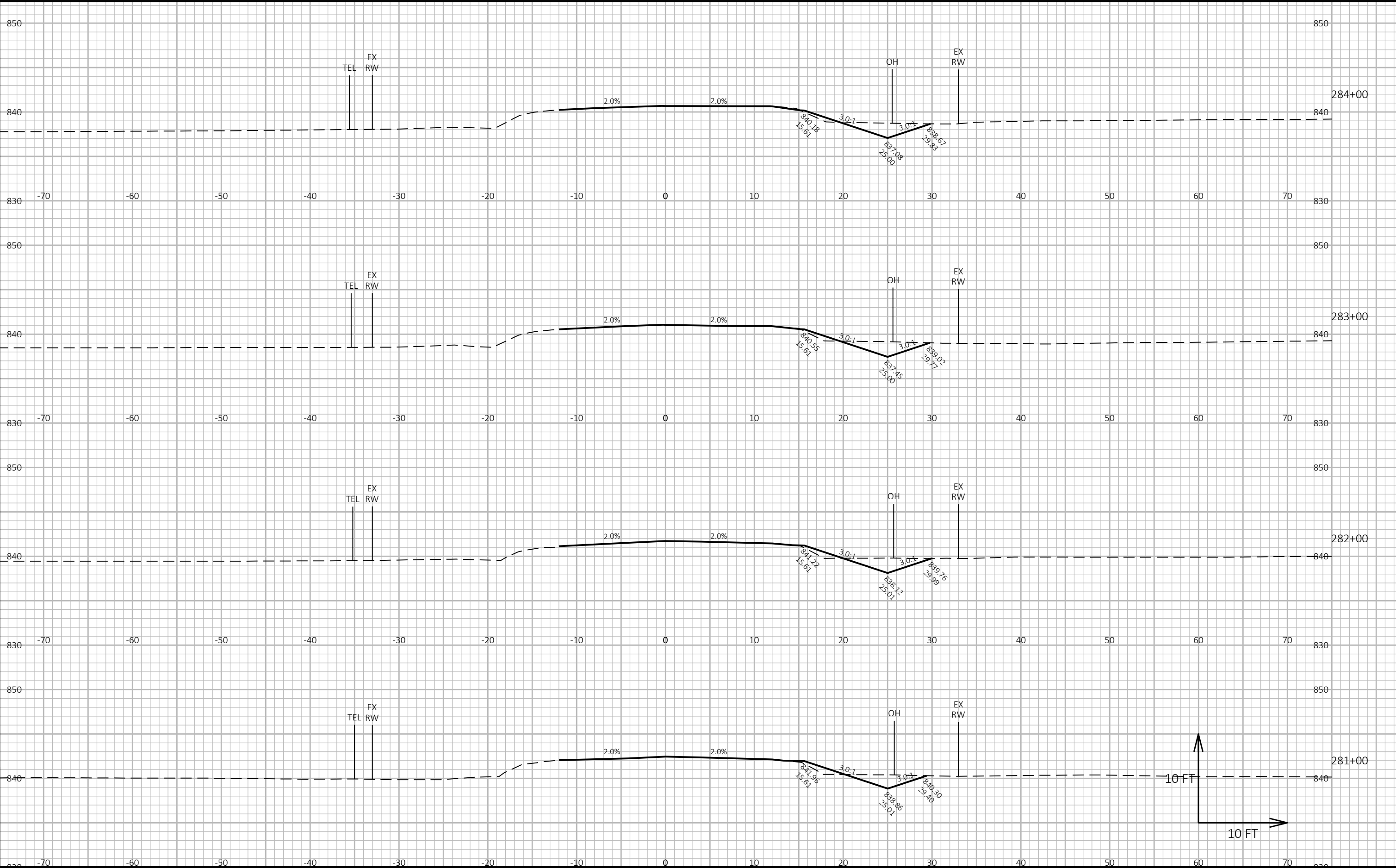
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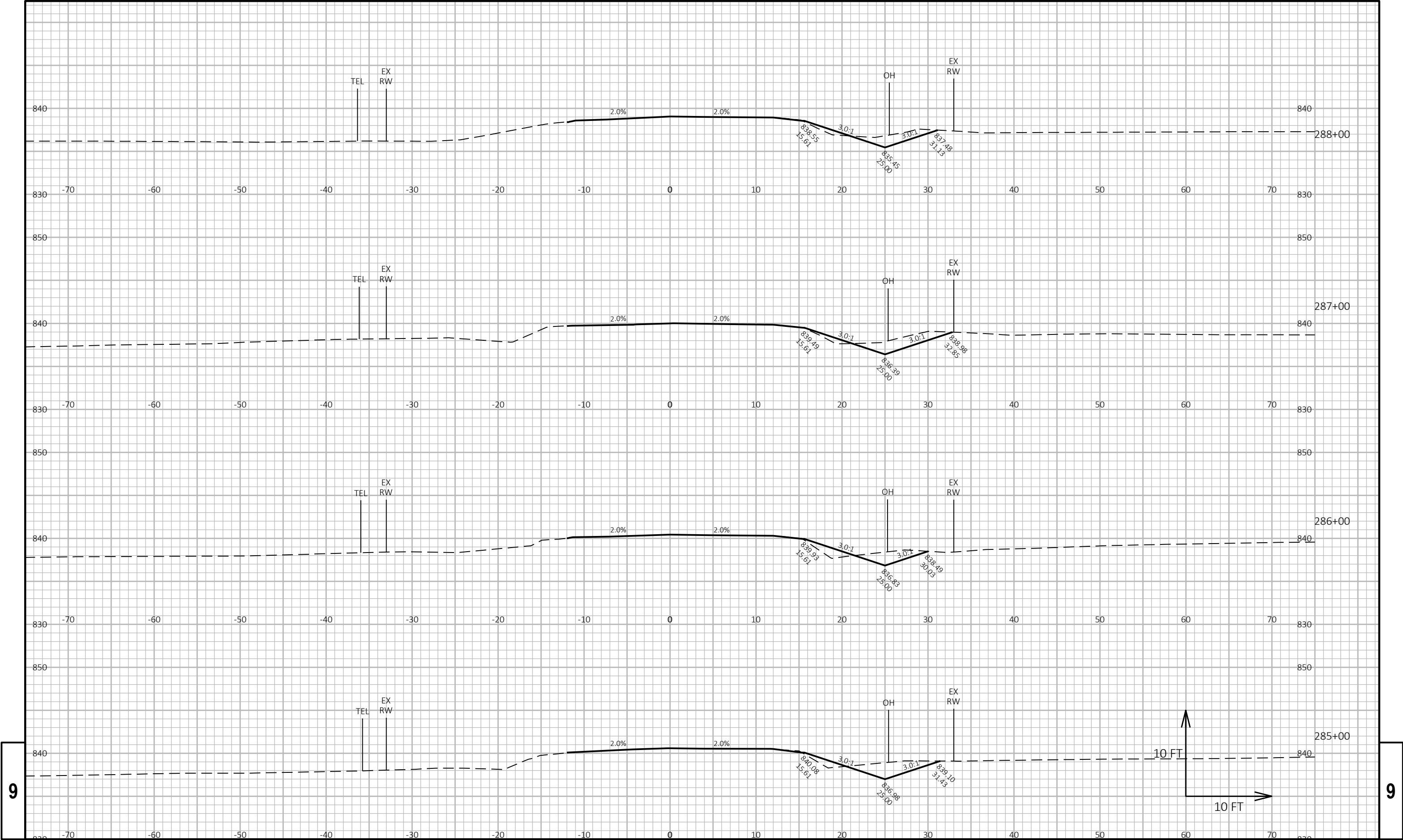
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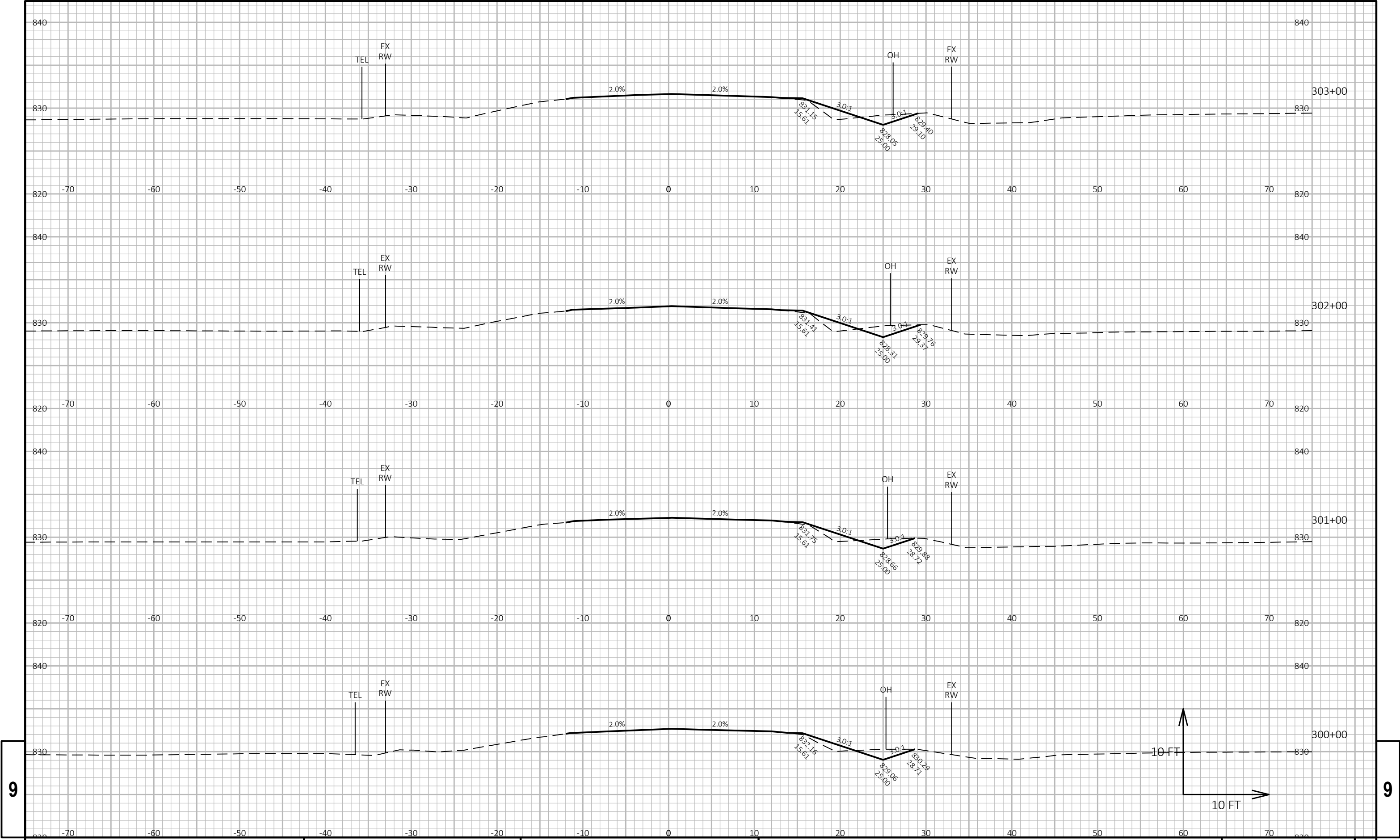
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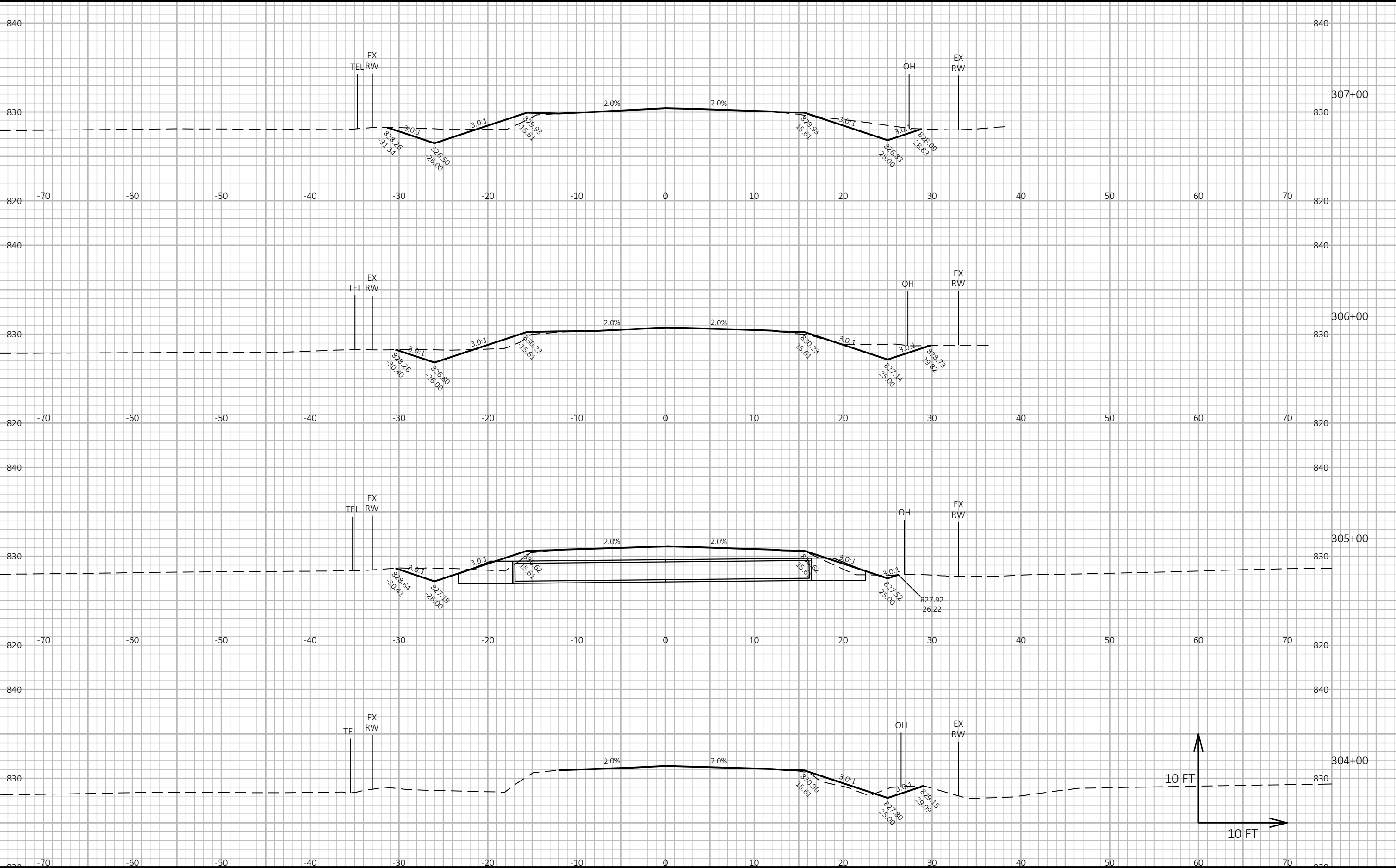


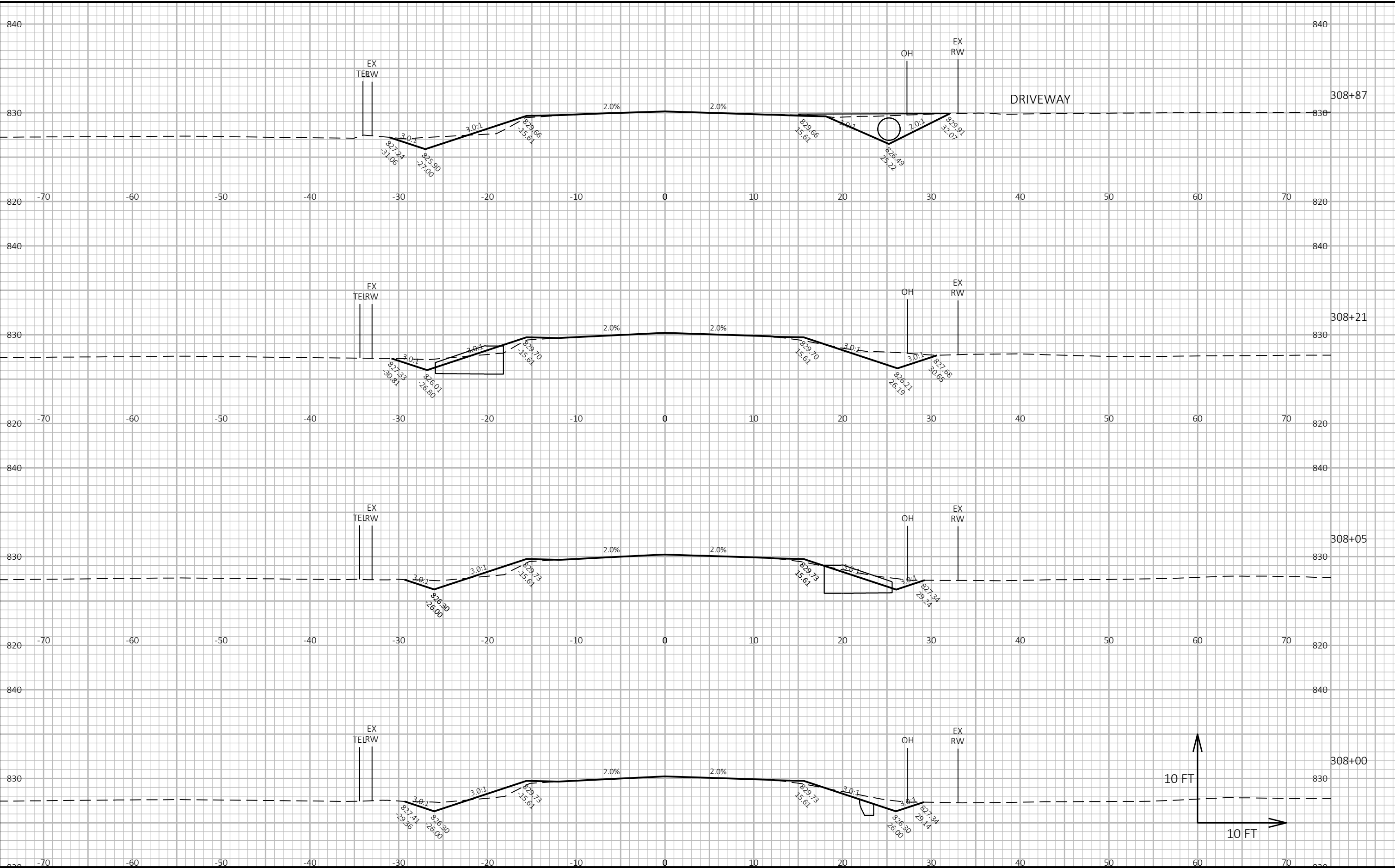
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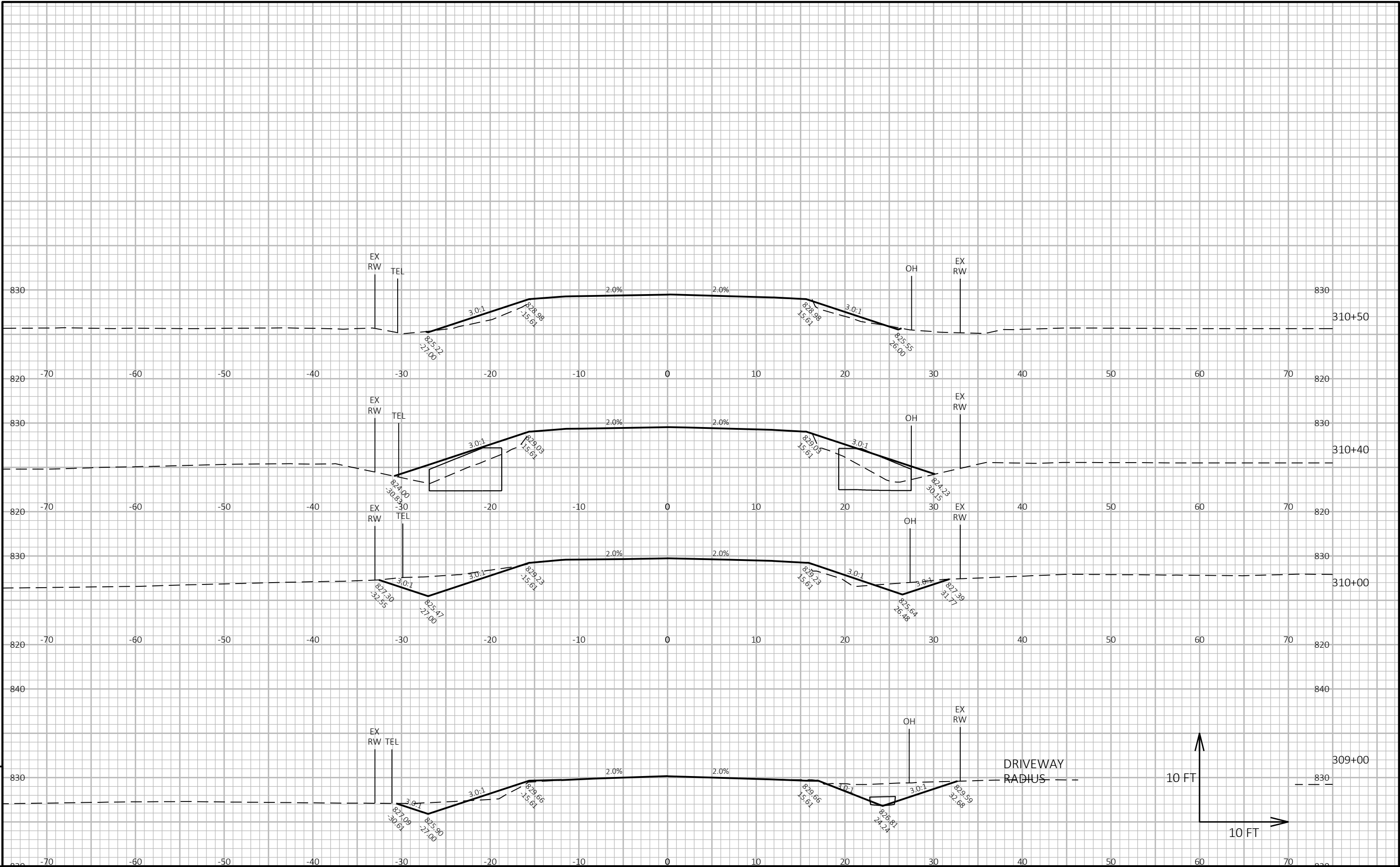


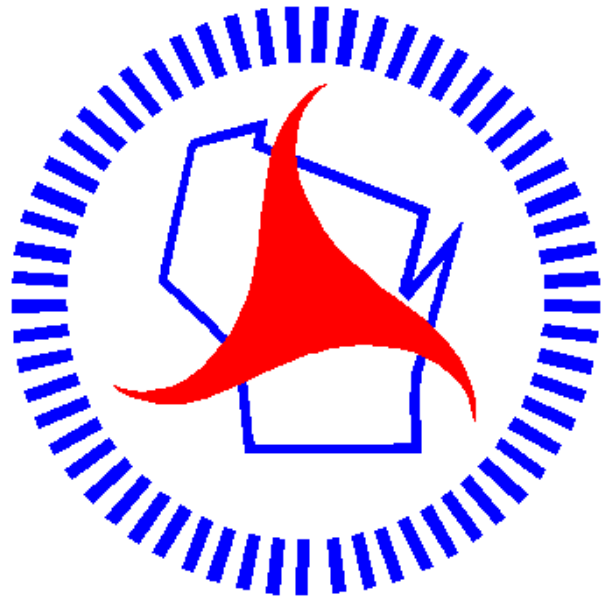












Wisconsin Department of Transportation

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