EAU

NOVEMBER 2021

PROJECT ID: 8190-00-72

WITH: 8620-00-73

COUNTY: CHIPPEWA

ORDER OF SHEETS

TOTAL SHEETS = 182

PROJECT LOCATION

41

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8190-00-72	WISC 2022033	1
8620-00-73	WISC 2022036	1

BLOOMER - CORNELL

NORTH JUNCTION STH 40 TO CTH E

STH 64

CHIPPEWA

STATE PROJECT NUMBER

8190-00-72

BLOOMER - BRUCE

13TH AVENUE TO EAST JUNCTION STH 64

STH 40

CHIPPEWA

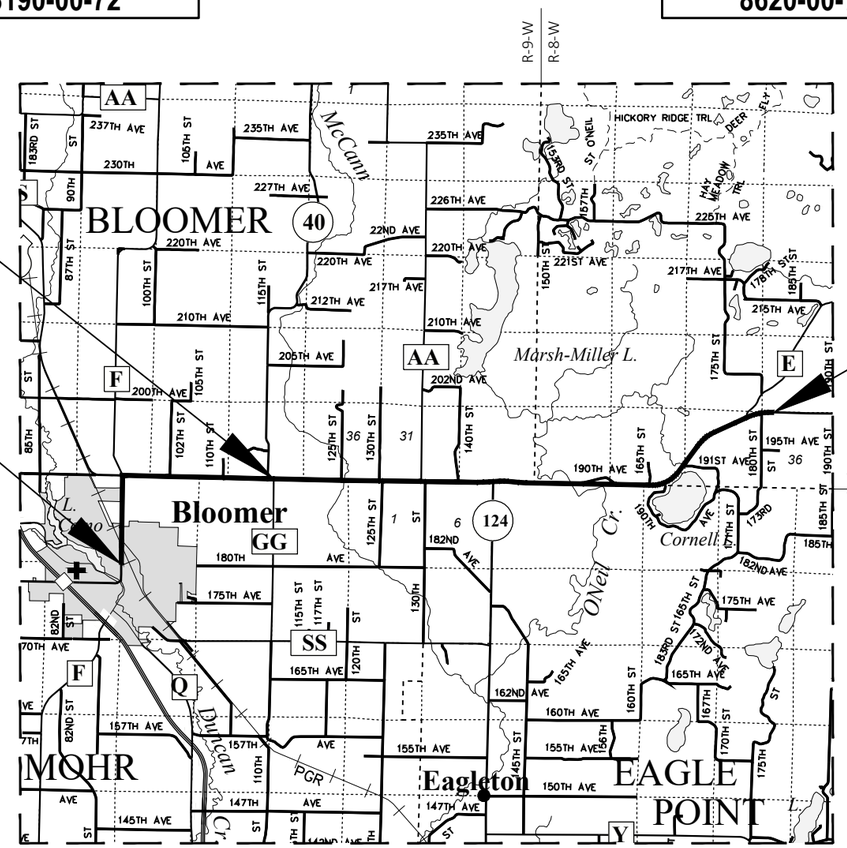
STATE PROJECT NUMBER

8620-00-73

END PROJECT 8620-00-73
BEGIN PROJECT 8190-00-72
STA 271+00
Y = 196584.311
X = 157671.099

BEGIN PROJECT 8620-00-73
STA 101+00
Y = 190537.218
X = 146803.033

END PROJECT 8190-00-72
STA 640+13



LAYOUT

SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 10.21 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), CHIPPEWA 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.

DESIGN DESIGNATION

A.A.D.T.	2017	=	4700
A.A.D.T.	2033	=	5100
D.H.V.		=	
D.D.		=	
T.		=	12.5%
DESIGN SPEED		=	55 MPH
ESALS		=	

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

ORIGINAL PLANS PREPARED BY

GREMMER & ASSOCIATES, INC.
CONSULTING ENGINEERS
Stevens Point • Fond du Lac
120 Wilshire Boulevard North • Stevens Point, WI 54481
(715) 341-4565 • fax (715) 341-1256

WISCONSIN
DEXTER D. KAETTERHENRY
E-43966
PLOVER
WI
PROFESSIONAL ENGINEER

7/5/2021 DATE

DEXTER D. KAETTERHENRY, PE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	GREMMER AND ASSOCIATES, INC.
Designer	GREMMER AND ASSOCIATES, INC.
Project Manager	TYLER RONGSTAD, P.E.
Regional Examiner	TOU YANG, P.E.
Regional Supervisor	JAMES KOENIG, P.E.

APPROVED FOR THE DEPARTMENT

DATE: Tyler Rongstad (Signature)

Digitally signed by Tyler Rongstad
DN: C=US, E=tyler.rongstad@dot.wi.gov, O=WisDOT NW Region, OU=PDS Unit 5, CN=Tyler Rongstad
Date: 2021.07.27 09:42:55-05'00'

E

GENERAL NOTES

ALL DISTANCES AND STATIONING SHOWN ON THIS PLAN ARE GROUND VALUES.

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE CONTRACTORS SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK.

THE CONTRACTORS PAVING OPERATION SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, AND PASSING LANE.

HMA PAVEMENT WEIGHT CALCULATION BASED ON 112 LB/SY/IN.

APPLY TACK COAT TO EXISTING ASPHALT OR MILLED SURFACES AT A RATE OF 0.07 GAL/SY.

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

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

CURVE DATA IS BASED ON ARC DEFINITION.

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

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION.

NO TRAPPING WATER ON ROADWAY OR BASE AGGREGATE SURFACE. INCIDENTAL TO HMA AND CIR ITEMS.

TRAFFIC CONTROL NOTES

PLACED G20-57 SIGNS 7 DAYS PRIOR TO WORK BEGINNING AT BOTH ENDS OF PROJECT. REMOVE ONCE CONSTRUCTION BEGINS.

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

PLACE TEMPORARY PORTABLE RUMBLE STRIP ARRAY ACCORDING TO SDD TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION.

PLACE TRAFFIC CONTROL SIGNS ACCORDING TO SDD TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION.

PLACE TRAFFIC CONTROL SIGN "ROAD WORK AHEAD" ON ALL SIDE ROADS APPROACHING STH 40/64 WITHIN THE WORK ZONE.

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

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE "WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (WMUTCD), A SUPPLEMENT TO THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

ORDER OF SECTION 2 SHEETS

DESIGN CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION
ATTN: TYLER RONGSTAD
NW REGION REPRESENTATIVE
718 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
OFFICE: 715.461.0372
EMAIL: tyler.rongstad@dot.wi.gov

GREMMER & ASSOCIATES, INC.
ATTN: DEXTER KAETTERHENRY
120 WILSHIRE BOULEVARD NORTH
STEVENS POINT, WI 54481
OFFICE: 715.341.4363
EMAIL: d.kaetterhenry@gremmerassociates.com

DEPARTMENT OF NATURAL RESOURCES
ATTN: LEAH NICOL
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701
OFFICE: 715.934.9014
EMAIL: leah.nicol@wisconsin.gov

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

UTILITIES

CITY OF BLOOMER - ELECTRICITY
ATTN: TIM KUHN
1503 MAIN STREET
BLOOMER WI, 54724-1640
PHONE: 715-568-4444

CITY OF BLOOMER - WATER
ATTN: BILL MILLER
1503 MAIN STREET
BLOOMER WI, 54724-1640
PHONE: 715-568-2424

BLOOMER TELEPHONE COMPANY - COMMUNICATION LINE
ATTN: TRAVIS MCFARLANE
1120 15TH AVENUE
BLOOMER WI, 54724-1697
PHONE: 715-568-4830

BLOOMER WASTEWATER TREATMENT FACILITY - SEWER
ATTN: BILL MILLER
1503 MAIN STREET
BLOOMER WI, 54724-1640
PHONE: 715-568-2424

CENTURY LINK - COMMUNICATION LINE
ATTN: BRIAN HUHN
425 ELLINGSTON AVENUE
HAWKINS WI, 54530
PHONE: 608-615-7347

CHARTER COMMUNICATIONS - COMMUNICATION LINE
ATTN: SHANE YODER
1201 MCCANN DRIVE
ALTOONA WI, 54720
PHONE: 715-214-1175

CHIPPEWA VALLEY ELECTRIC - ELECTRICITY
ATTN: NIC ALBERSON
317 SOUTH 8TH STREET
CORNELL WI, 54732-0575
PHONE: 715-239-6800

CINC - COMMUNICATION LINE
ATTN: DAREN BAUER
105 GARFIELD AVENUE
EAU CLAIRE WI, 54701
PHONE:

NORTHERN NATURAL GAS COMPANY - GAS/PETROLEUM
ATTN: DAVE BECKER
6579 420TH STREET
HARRIS MN, 55032-2116
PHONE: 402-530-3163

WE ENERGIES - GAS/PETROLEUM
ATTN: STEVEN CHAVERS
A299
333 WEST EVERETT STREET
MILWAUKEE WI, 53203
PHONE: 715-234-9605

XCEL ENERGY - ELECTRICITY
ATTN: CHADWICK ERICKSON
2911 PIONEER AVENUE SOUTH
RICE LAKE WI, 54868
PHONE: 715-236-5716

XCEL ENERGY - ELECTRICITY TRANSMISSION
ATTN: MITCHELL DIENGER
414 NICOLETT MALL, 5TH FLOOR
MINNEAPOLIS, MN 54401
PHONE: 612-321-3109

2

PROJECT LOCATION
CHIPPEWA COUNTY

N

F

100TH STREET

SS

210TH AVENUE

PGR

200TH AVENUE

64

102ND STREET

40

DUNCAN ROAD

MARTIN ROAD

175TH AVENUE

HWY 40 / 64
ROAD WORK
BEGINS XXX-XX

G20-57
72"X36"

PLACE G20-57 SIGN 7 DAYS PRIOR TO CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS

F

87TH STREET

53

Q

PGR

157TH AVENUE

END PROJECT 8620-00-73
BEGIN PROJECT 8190-00-72
STA 271+00

205TH AVENUE

125TH STREET

130TH STREET

AA

140TH STREET

BCH-0011
ST CATHERINE
CEMETERY

MILLING/CIR TRANSITION

RAILROAD CROSSING

GG

125TH STREET

180TH AVENUE

130TH STREET

MCCANN CREEK

120TH STREET

165TH AVENUE

117TH STREET

125TH STREET

MARSH-MILLER LAKE

226TH AVENUE/
225TH AVENUE

202ND AVENUE

MILLING/CIR TRANSITION

ARCH SITE:
47CH22
TIAMAN

CORNELL LAKE

64

124

ARCH SITE:
47CH168
SKYORA

182ND AVENUE

O'NEILL CREEK

163RD STREET

145TH STREET

160TH AVENUE

END PROJECT 8190-00-72
STA 640+13

215TH AVENUE

175TH STREET

E

190TH STREET

ARCH SITE:
47CH20
O'CONNER

ARCH SITE:
47CH21
NEUROHR

190TH AVENUE

171ST STREET

Z

E

205TH STREET

HWY 40 / 64
ROAD WORK
BEGINS XXX-XX

G20-57
72"X36"

PLACE G20-57 SIGN 7 DAYS PRIOR TO CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS

64

R

205TH STREET

210TH STREET

180TH STREET

185TH AVENUE

215TH STREET

182ND AVENUE

200TH STREET

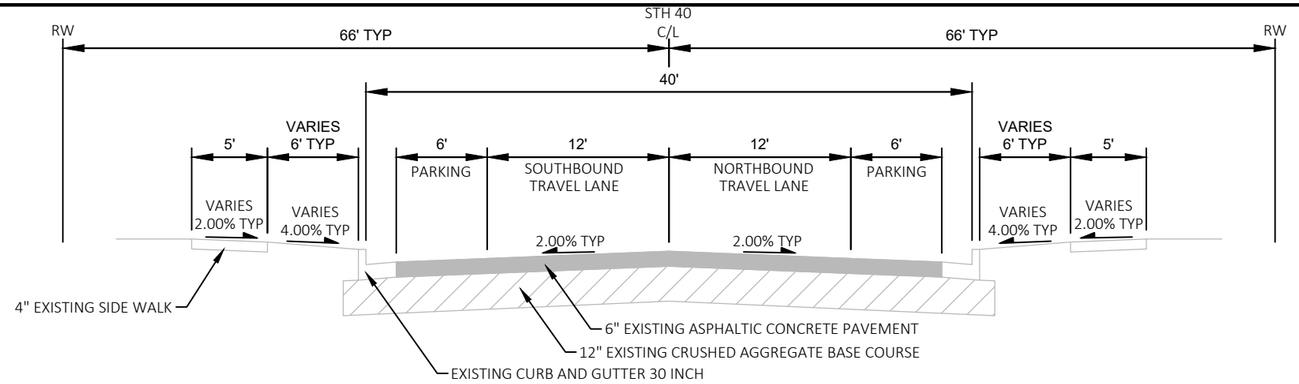
210TH STREET

165TH AVENUE

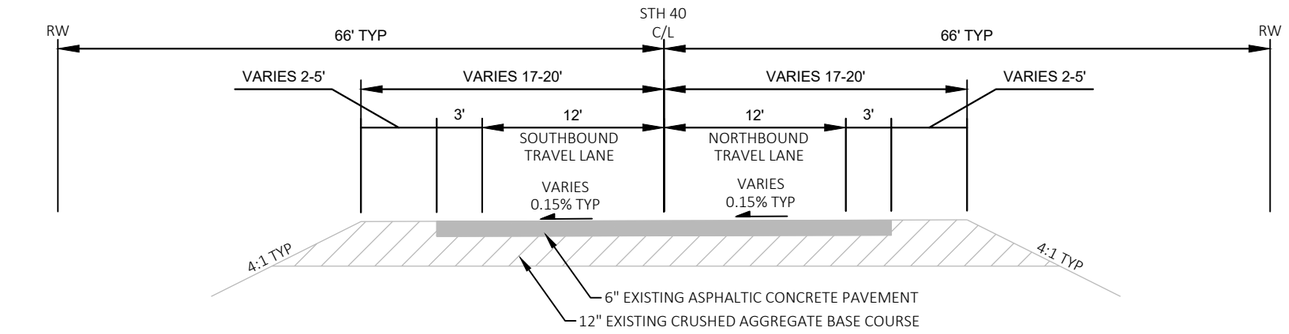
178

185TH STREET

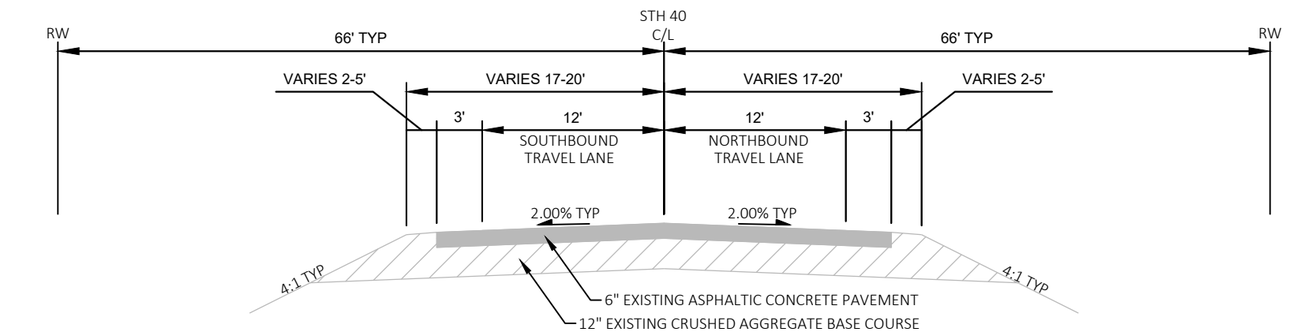
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PROJECT OVERVIEW	SHEET 3	E



TYPICAL EXISTING SECTION
STA 101+00 - STA 113+73.86 [STH 40]
STA 113+98.03 - STA 115+87 [STH 40]



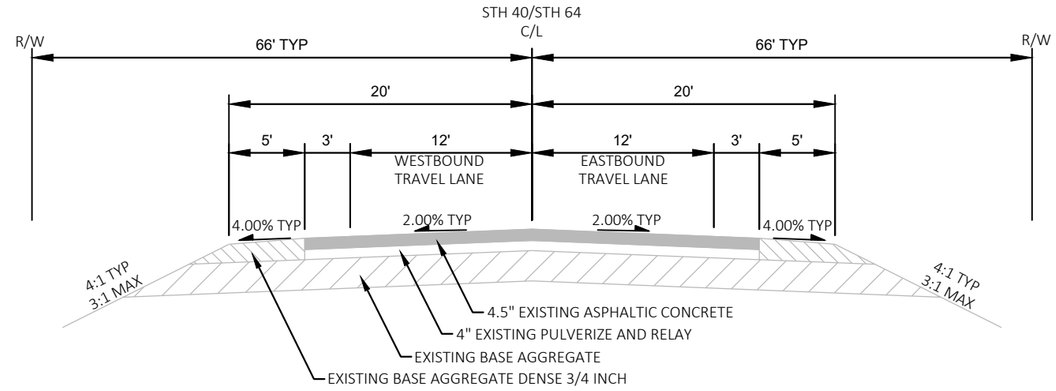
TYPICAL EXISTING SECTION
STA 113+73.86 - STA 113+98.03 [STH 40]
RAILROAD CROSSING



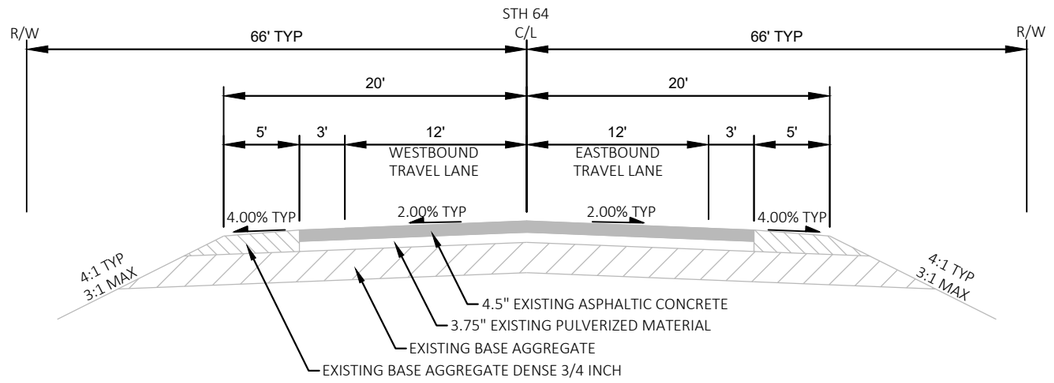
TYPICAL EXISTING SECTION
STA 115+87 - STA 162+26 [STH 40]

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	TYPICAL SECTION: EXISTING	SHEET 4	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\020301_TS\020301_TS - COMBINE.DWG
LAYOUT NAME - 01
PLOT DATE : 7/5/2021 12:59 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



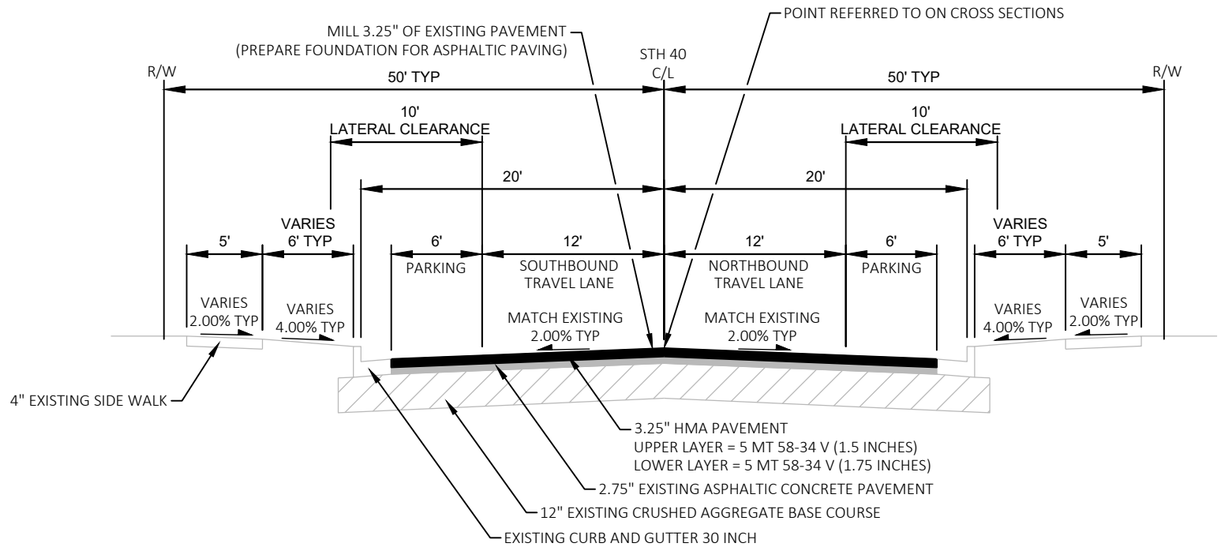
TYPICAL EXISTING SECTION
STA 162+26 - STA 271+00 [STH 40]
STA 271+00 - STA 420+00 [STH64]



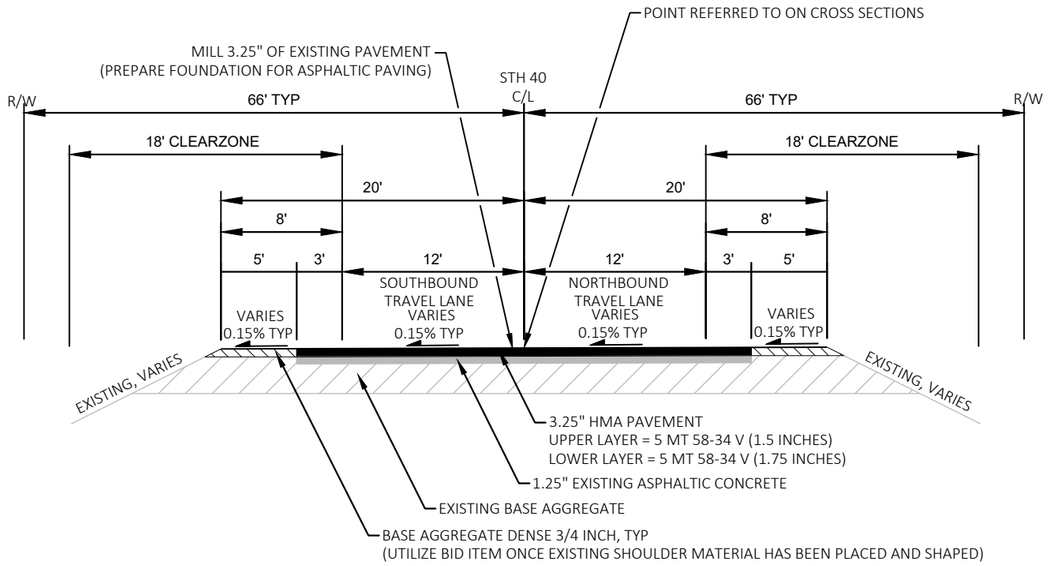
TYPICAL EXISTING SECTION
STA 420+00 - STA 640+13 [STH64]

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	TYPICAL SECTION EXISTING	SHEET 5	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\020301_TS\020301_TS - COMBINE.DWG
LAYOUT NAME - 02
PLOT DATE : 7/5/2021 12:59 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



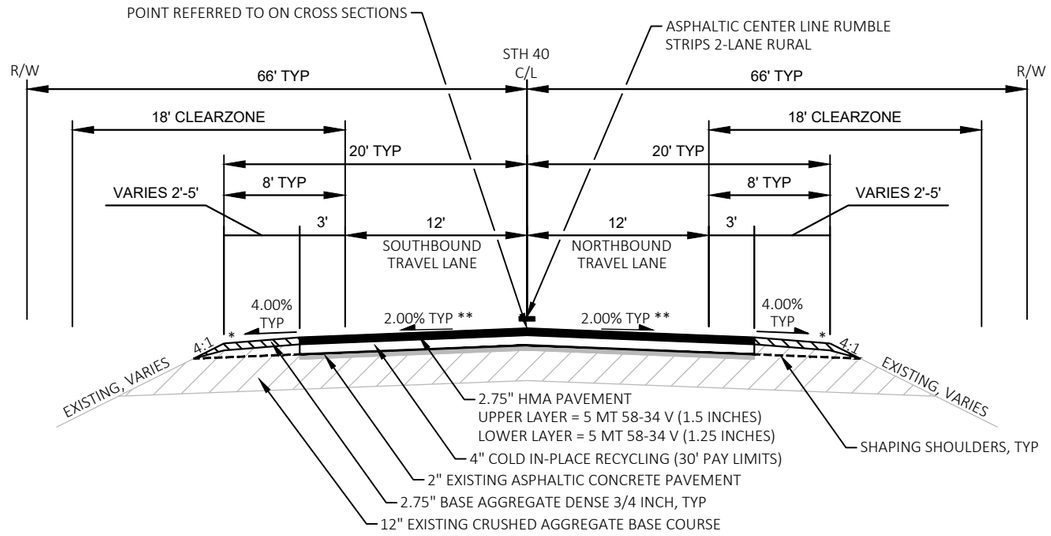
TYPICAL FINISHED SECTION
STA 101+00 - STA 113+73.86 [STH 40]
STA 113+98.03 - STA 115+87 [STH 40]



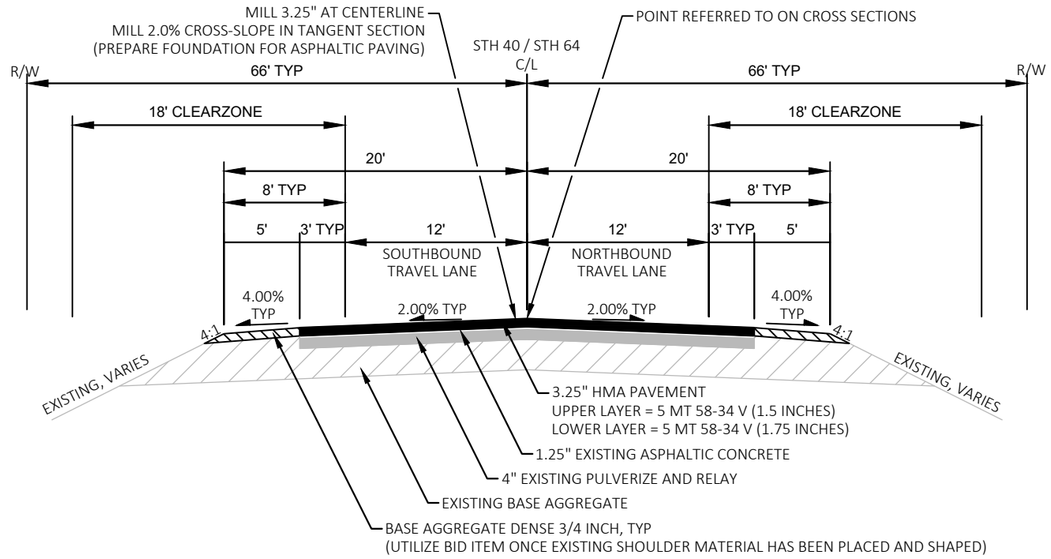
TYPICAL FINISHED SECTION
STA 113+73.86 - STA 113+98.03 [STH 40]
RAILROAD CROSSING

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	TYPICAL SECTION: FINISHED	SHEET 6	E

2



TYPICAL FINISHED SECTION
STA 129+00 - STA 160+52 [STH 40]



TYPICAL FINISHED SECTION
STA 115+87 - STA 129+00 [STH 40]
STA 160+52 - STA 167+32 [STH 40]
STA 259+97 - STA 270+12 [STH 40]
STA 367+47 - STA 375+81 [STH 64]
STA 416+89 - STA 424+04 [STH 64]

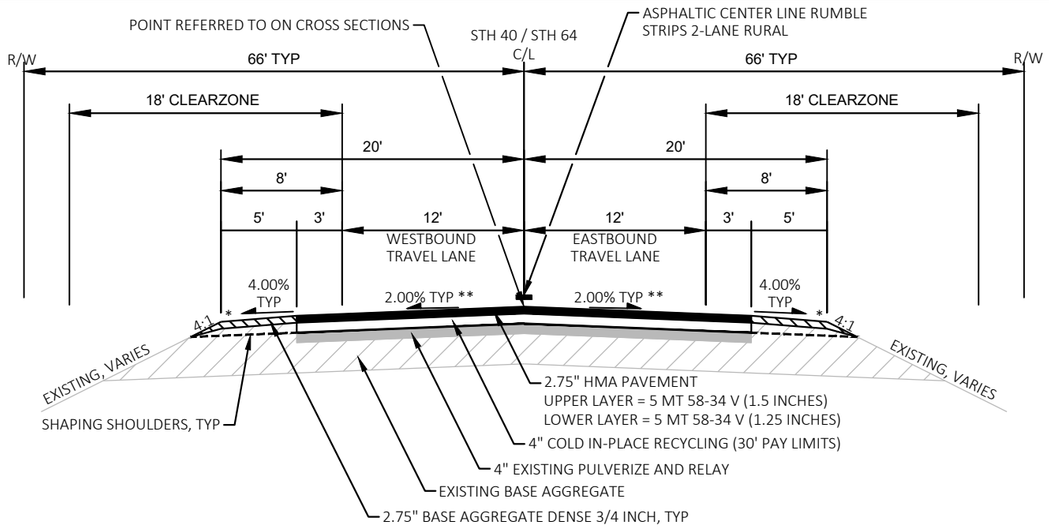
TYPICAL SECTION NOTES:

** CROSS-SLOPE IS SUPERELEVATED
STA. XXX+XX.XX TO STA. XXX+XX.XX

* ONE FOOT REDUCTION IN USABLE SHOULDER WIDTH PER ACCEPTABLE WITH CROSS SLOPE GREATER THAN 4.00% TO MEET SHOULDER HINGE POINT AND 4:1 SIDE SLOPE

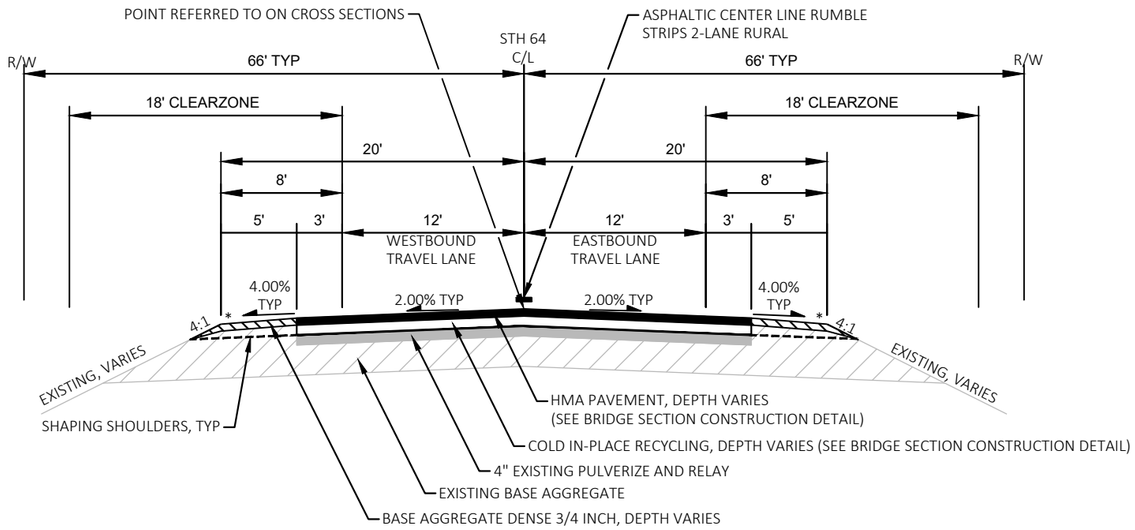
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	TYPICAL SECTION: FINISHED	SHEET 7	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\020301_TS\020301_TS - COMBINE.DWG
LAYOUT NAME - 04
PLOT DATE : 7/5/2021 12:59 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



TYPICAL FINISHED SECTION

STA 167+32 - STA 259+97 [STH 40]
STA 270+12 - STA 271+00 [STH 40]
STA 271+00 - STA 313+35 [STH 64]
STA 320+00 - STA 367+47 [STH 64]
STA 375+81 - STA 416+89 [STH 64]
STA 422+04 - STA 471+25 [STH 64]
STA 478+10 - STA 640+13 [STH 64]



TYPICAL FINISHED SECTION

STA 313+35 - STA 320+00 [STH 64]
STA 471+25 - STA 478+10 [STH 64]
BRIDGE APPROACHES

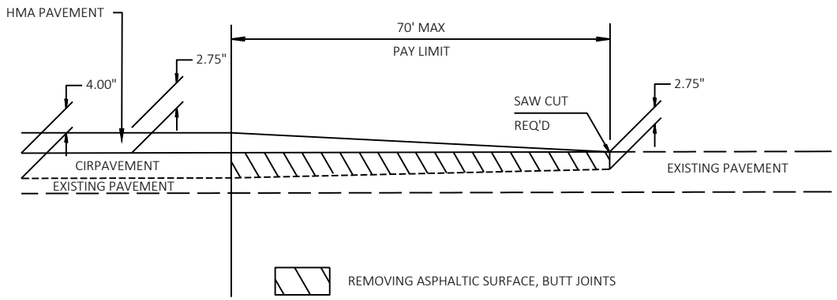
TYPICAL SECTION NOTES:

** CROSS-SLOPE IS SUPERELEVATED
STA. XXX+XX.XX TO STA. XXX+XX.XX

* ONE FOOT REDUCTION IN USABLE SHOULDER WIDTH PER ACCEPTABLE WITH CROSS SLOPE GREATER THAN 4.00% TO MEET SHOULDER HINGE POINT AND 4:1 SIDE SLOPE

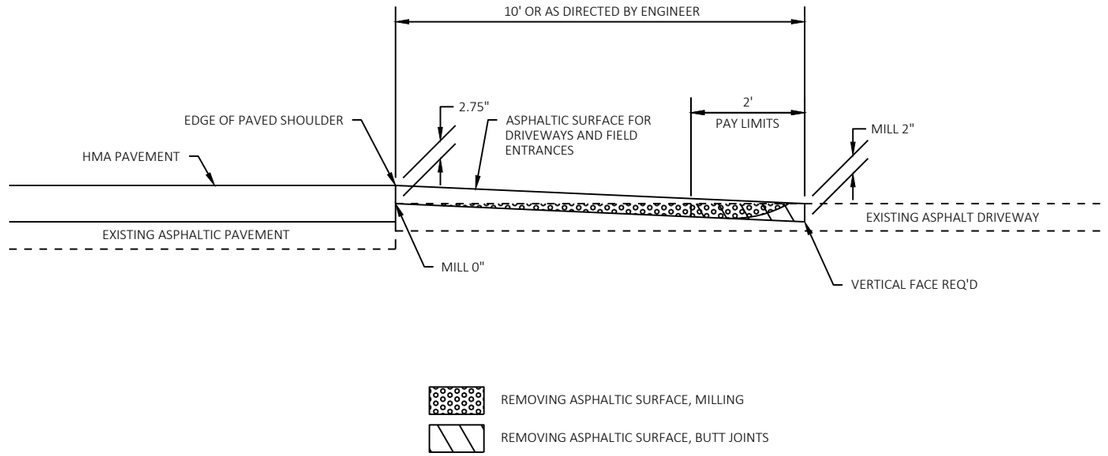
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	TYPICAL SECTION: FINISHED	SHEET 8	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\020301_TS\020301_TS - COMBINE.DWG
LAYOUT NAME - 05
PLOT DATE : 7/5/2021 12:59 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



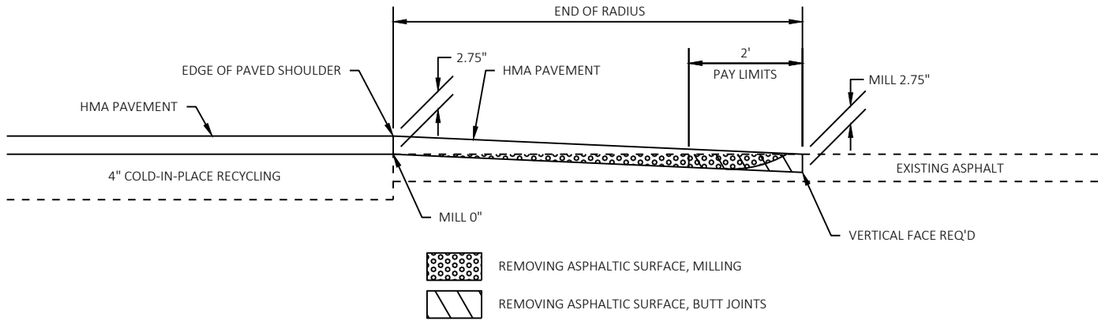
REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

MAINLINE (BEGIN/END OF PROJECT)
STH 40/64 INTERSECTIONS



REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

DRIVEWAYS

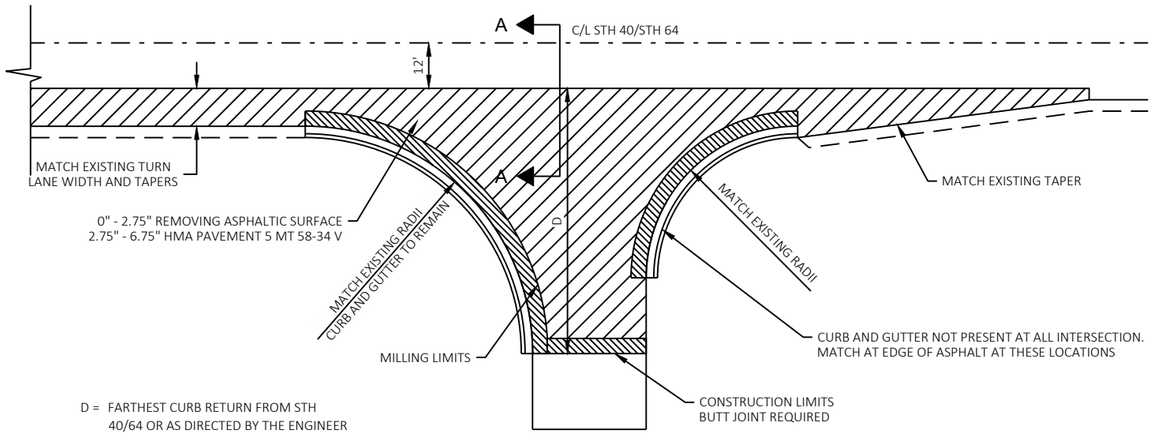


REMOVING ASPHALTIC SURFACE BUTT JOINTS DETAIL

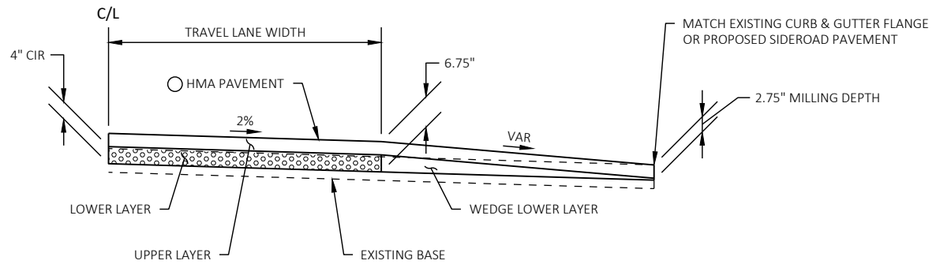
SIDEROAD

SUPERELEVATION DATA

ROADWAY	CURVE NO.	PC	PT	R (FT)	TRANSITION IN REGION					TRANSITION OUT REGION					MAX e	DESIGN SPEED (MPH)
					END NORMAL CROWN	LEVEL CROWN	REVERSE CROWN	LOW SHOULDER MATCH	BEGIN FULL SUPER	END FULL SUPER	LOW SHOULDER MATCH	REVERSE CROWN	LEVEL CROWN	BEGIN NORMAL CROWN		
STH 64	1	412+54.77	418+12.65	6000.00	411+55.69	412+08.77	412+61.84	-	412+77.77	417+89.65	-	418+05.57	418+58.65	419+11.73	2.60%	60
STH 64	2	424+10.61	432+32.53	4500.00	422+98.61	423+51.94	424+05.28	-	424+39.94	432+03.20	-	432+37.87	432+91.20	433+44.53	3.30%	60
STH 64	3	440+24.20	443+68.50	4000.00	439+06.87	439+60.20	440+13.53	-	440+56.20	443+36.50	-	443+79.17	444+32.50	444+85.83	3.60%	60
STH 64	4	530+90.63	552+92.45	2300.00	529+46.63	529+99.96	530+53.30	531+06.63	531+35.96	552+47.12	552+76.46	553+29.79	553+83.12	554+36.46	5.10%	60
STH 64	5	575+71.46	590+30.85	2900.00	574+38.12	574+91.46	575+44.79	575+98.12	576+11.46	589+90.85	590+04.18	59+57.52	591+10.85	591+64.18	4.50%	60
STH 64	6	615+38.09	632+86.19	3850.00	614+18.57	614+72.08	615+25.60	-	615+71.08	632+53.19	-	632+98.68	633+52.19	634+05.71	3.70%	60

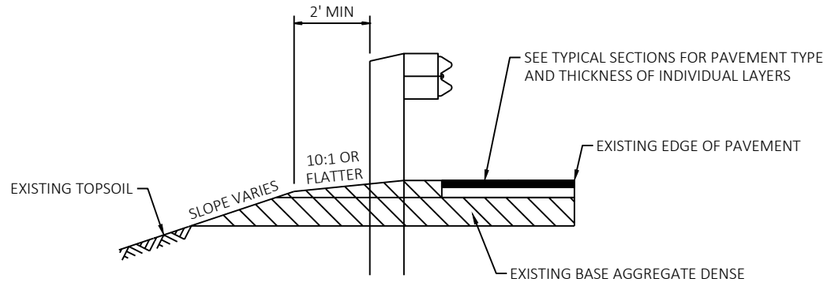


PLAN VIEW



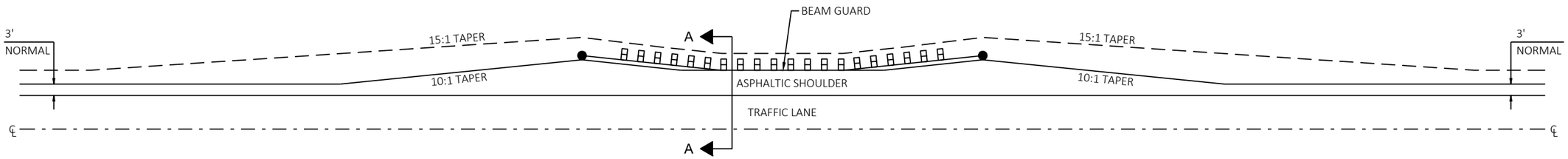
SECTION A-A

TYPICAL SIDE ROAD DETAIL



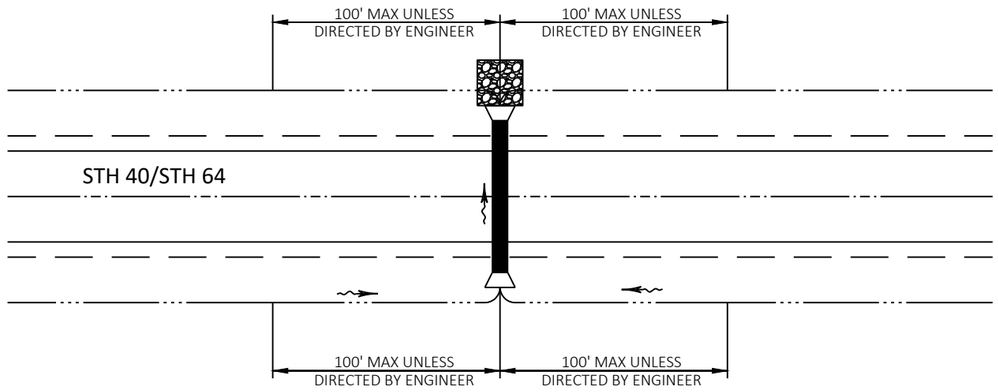
NOTE:
SEE STANDARD DETAIL DRAWINGS
FOR ADDITIONAL INFORMATION

SECTION A-A

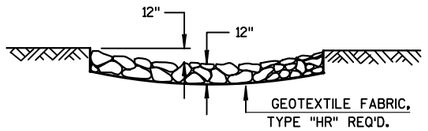


DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

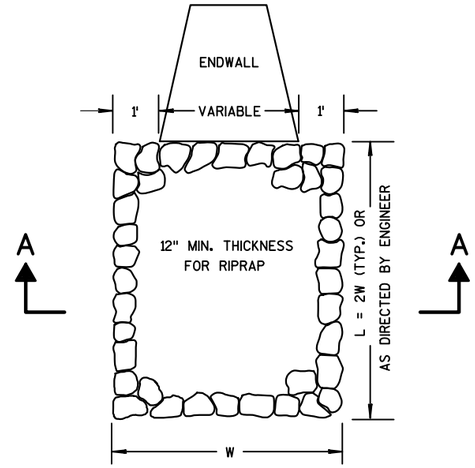
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS	SHEET 10	E



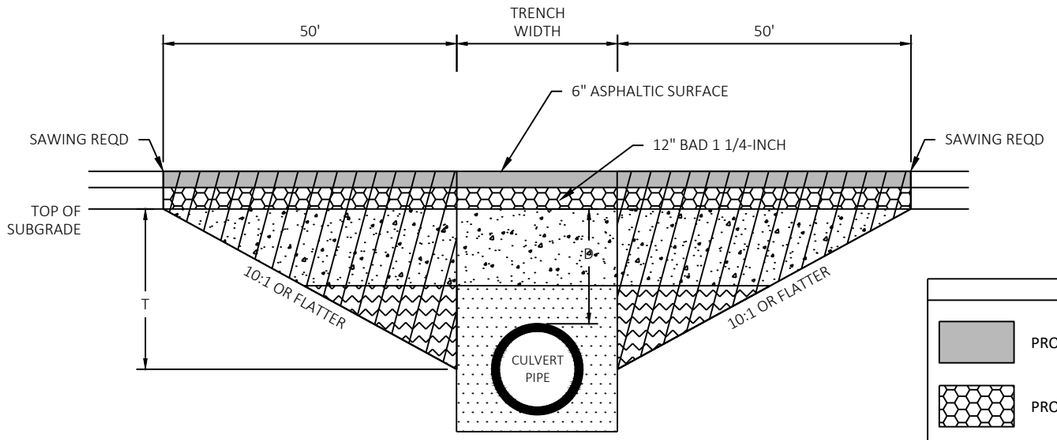
GRADING SHAPRING AND FINISHING DITCH DETAIL



SECTION A-A

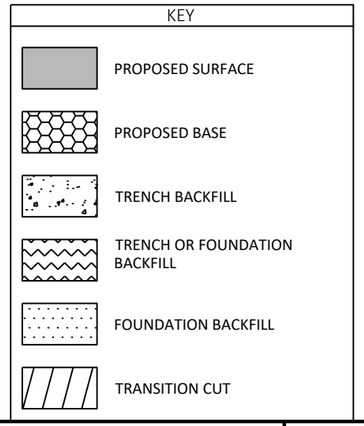


RIPRAP TREATMENT AT CULVERTS



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



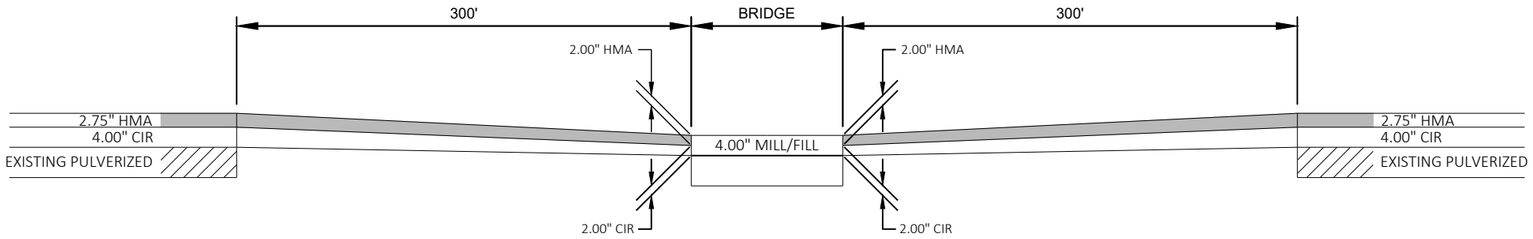
NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON.
TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT.
BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520.
PERFORM CULVERT PIPE INSTALLATION BEFORE MILLING AND PAVING OR COLD IN-PLACE RECYCLING.
PLACE ASPHALTIC SURFACE AFTER CULVERT PIPE INSTALLATION AND BEFORE HMA PAVEMENT RESURFACING.

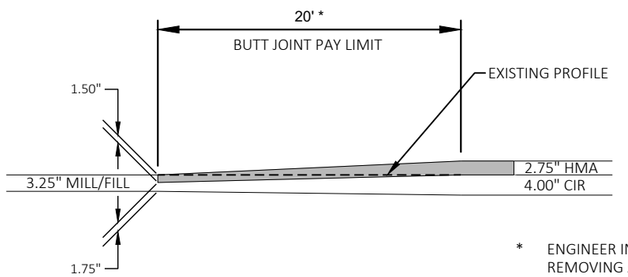
CULVERT PIPE TRANSITION

ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)	REMARKS
STH 40	261+04	1.28	15	
STH 64	310+27	1.61	15X25	
STH 64	339+86	1.45	15	
STH 64	398+62	2.49	24	
STH 64	419+91	0.80	24	

2

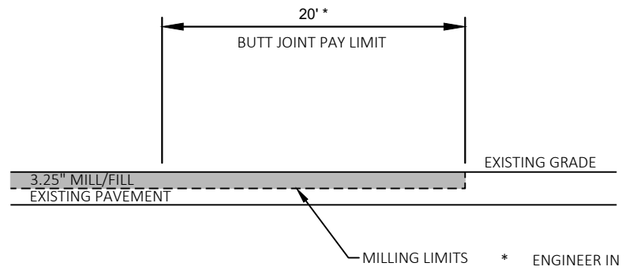


BRIDGE SECTION DETAIL
STA 313+35 - STA 320+00 [B-09-271]
STA 471+25 - STA 478+10 [B-09-016]



* ENGINEER IN FIELD MAY EXTEND TRANSITION. REMOVING ASPHALTIC SURFACE BUTT JOINT PAY LIMITS DO NOT CHANGE.

MILL/FILL AND CIR TRANSITION DETAIL



* ENGINEER IN FIELD MAY EXTEND TRANSITION. REMOVING ASPHALTIC SURFACE BUTT JOINT PAY LIMITS DO NOT CHANGE.

MILL/FILL AND RAILROAD TRANSITION DETAIL

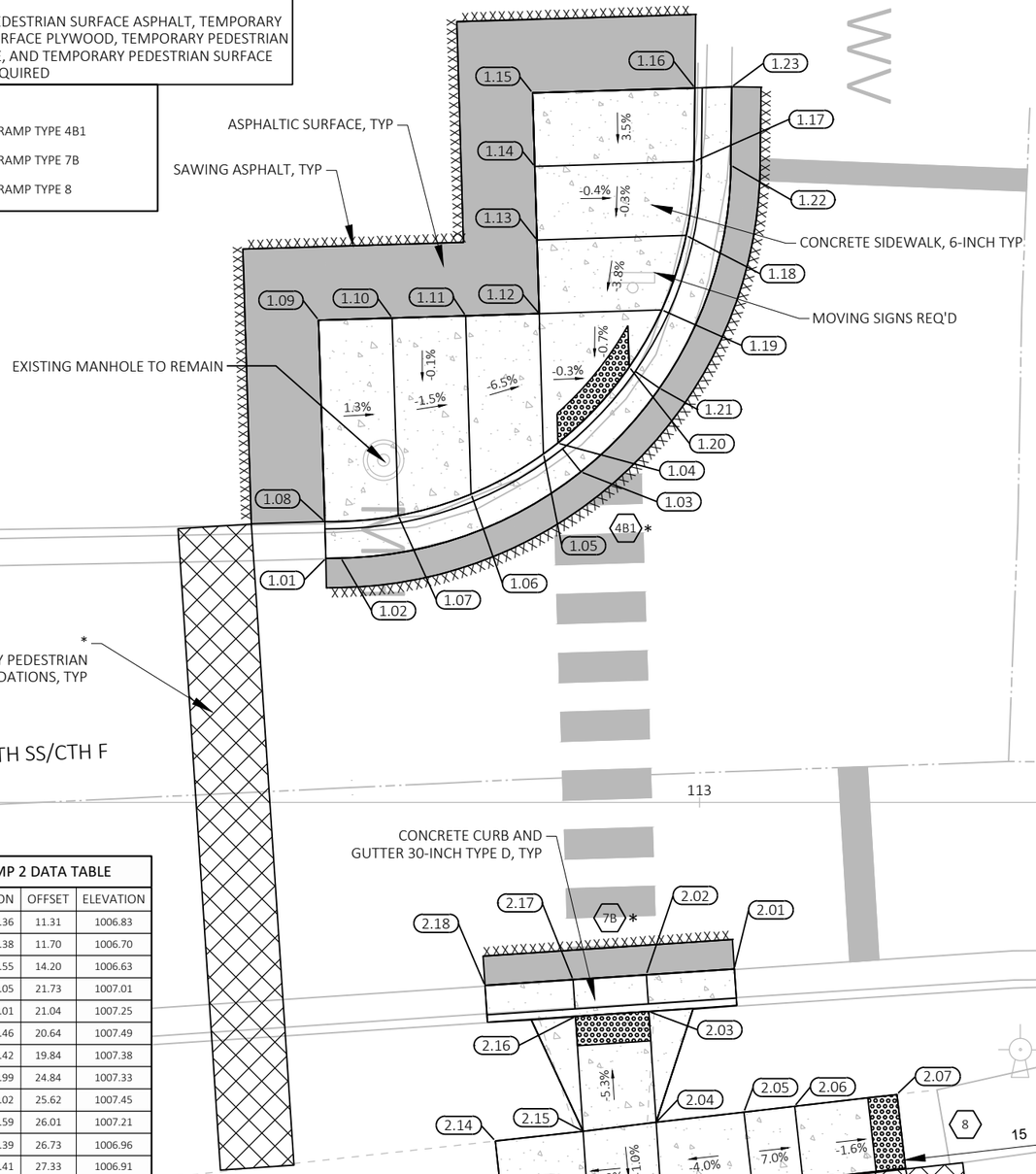
2

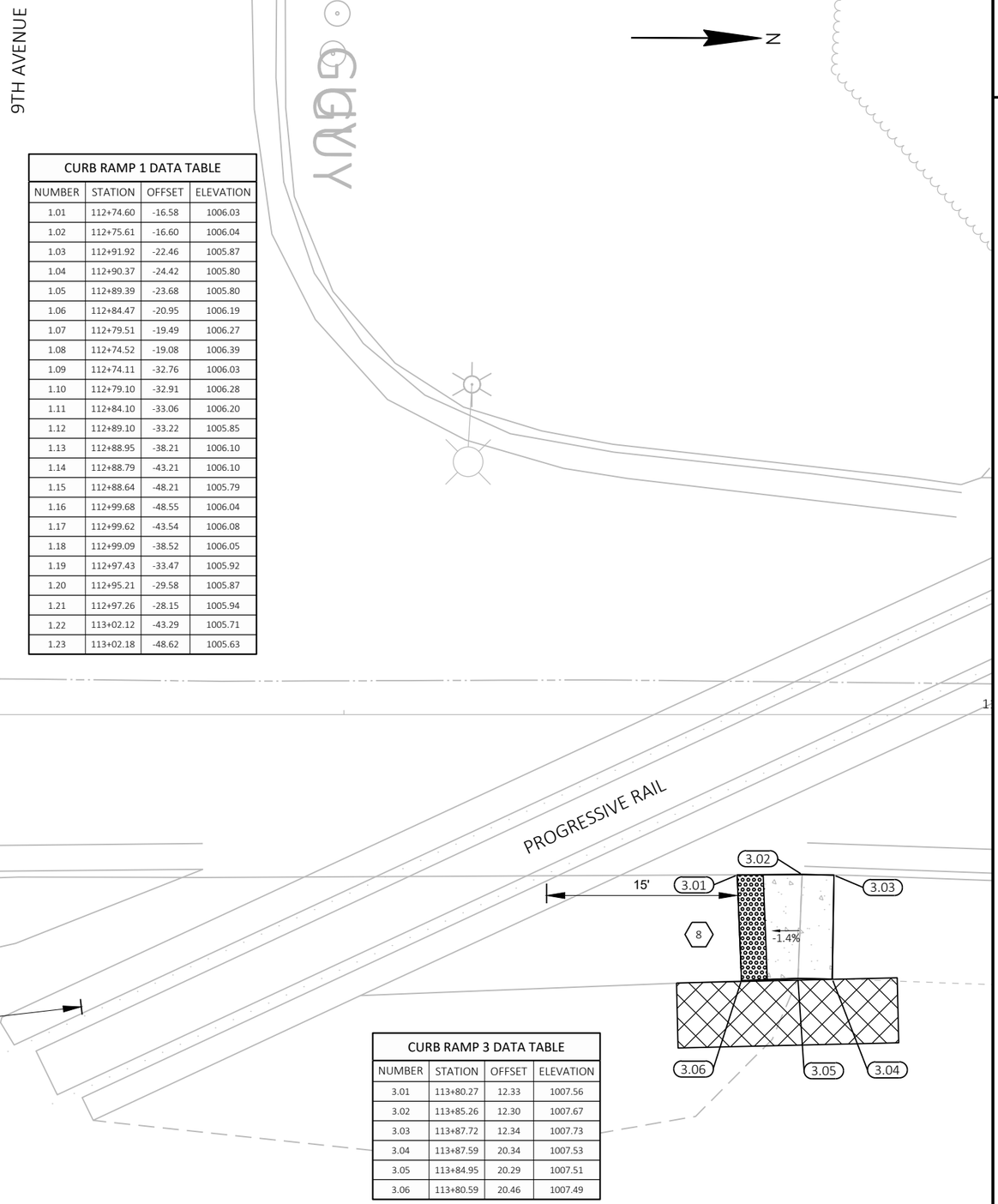
NOTES:
REFER TO SDD 8D5 "CURB RAMPS FOR JOINT LOCATIONS AND ADDITIONAL DETAILS

* TEMPORARY PEDESTRIAN SURFACE ASPHALT, TEMPORARY PEDESTRIAN SURFACE PLYWOOD, TEMPORARY PEDESTRIAN SURFACE PLATE, AND TEMPORARY PEDESTRIAN SURFACE CURB RAMP REQUIRED

LEGEND:

- 4B1 CONCRETE CURB RAMP TYPE 4B1
- 7B CONCRETE CURB RAMP TYPE 7B
- 8 CONCRETE CURB RAMP TYPE 8



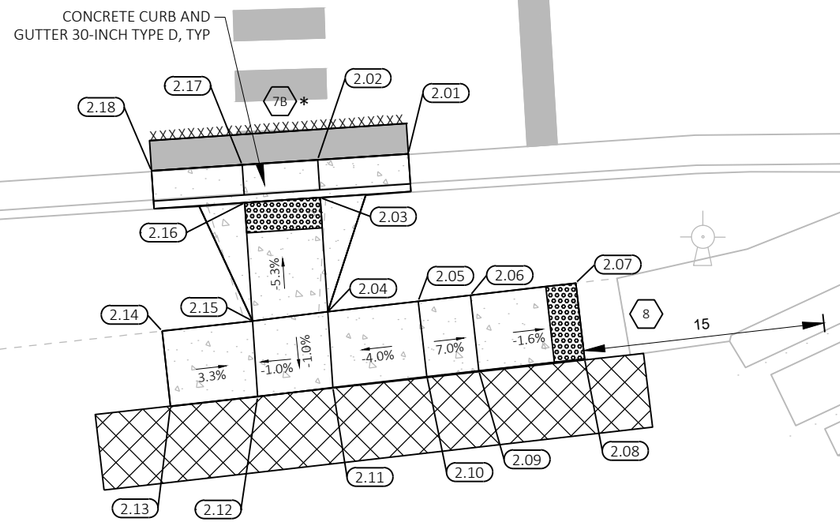


CURB RAMP 1 DATA TABLE

NUMBER	STATION	OFFSET	ELEVATION
1.01	112+74.60	-16.58	1006.03
1.02	112+75.61	-16.60	1006.04
1.03	112+91.92	-22.46	1005.87
1.04	112+90.37	-24.42	1005.80
1.05	112+89.39	-23.68	1005.80
1.06	112+84.47	-20.95	1006.19
1.07	112+79.51	-19.49	1006.27
1.08	112+74.52	-19.08	1006.39
1.09	112+74.11	-32.76	1006.03
1.10	112+79.10	-32.91	1006.28
1.11	112+84.10	-33.06	1006.20
1.12	112+89.10	-33.22	1005.85
1.13	112+88.95	-38.21	1006.10
1.14	112+88.79	-43.21	1006.10
1.15	112+88.64	-48.21	1005.79
1.16	112+99.68	-48.55	1006.04
1.17	112+99.62	-43.54	1006.08
1.18	112+99.09	-38.52	1006.05
1.19	112+97.43	-33.47	1005.92
1.20	112+95.21	-29.58	1005.87
1.21	112+97.26	-28.15	1005.94
1.22	113+02.12	-43.29	1005.71
1.23	113+02.18	-48.62	1005.63

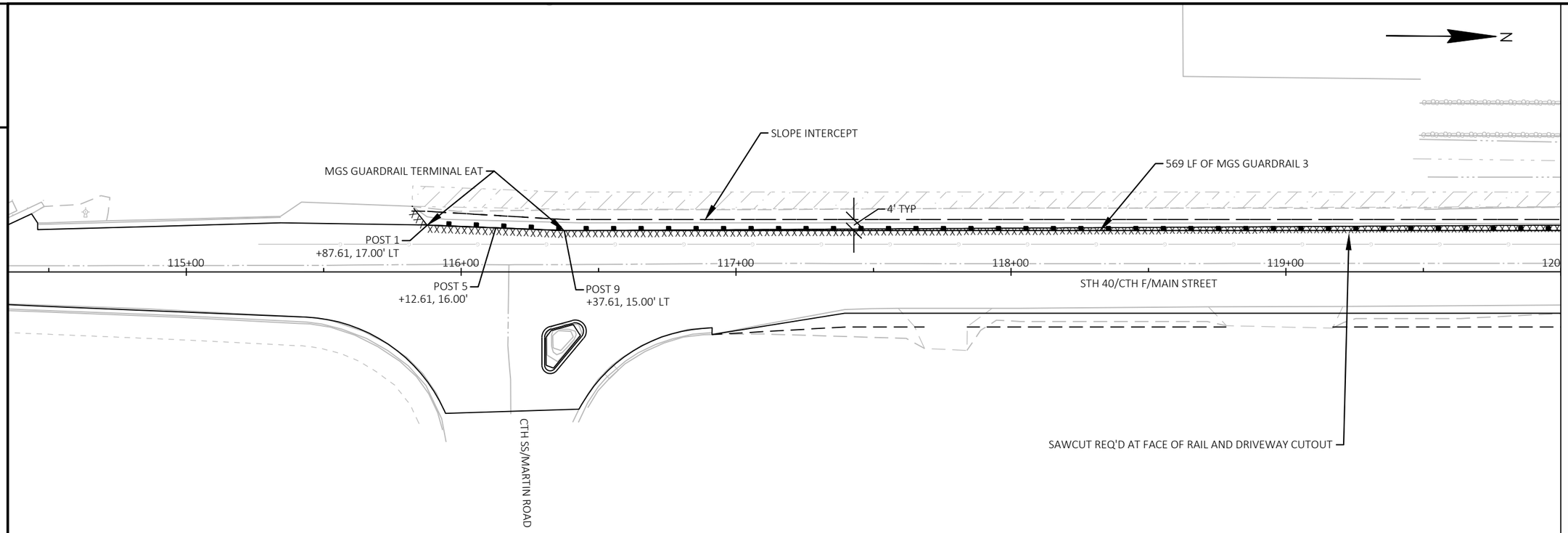
CURB RAMP 2 DATA TABLE

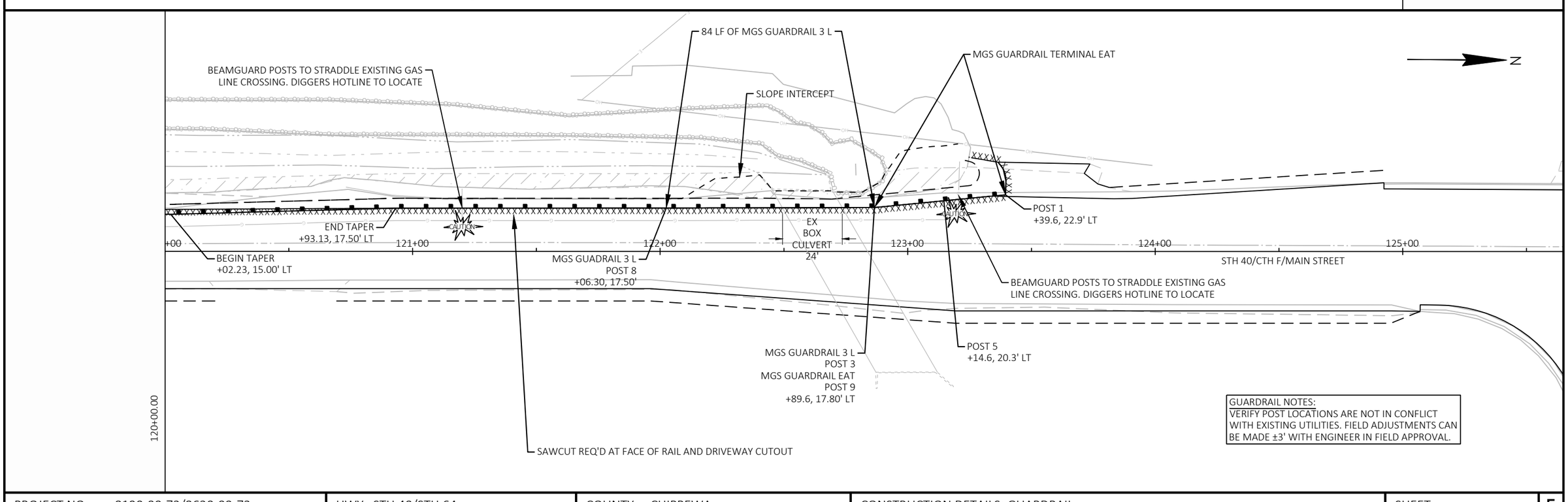
NUMBER	STATION	OFFSET	ELEVATION
2.01	113+02.36	11.31	1006.83
2.02	112+96.38	11.70	1006.70
2.03	112+96.55	14.20	1006.63
2.04	112+97.05	21.73	1007.01
2.05	113+03.01	21.04	1007.25
2.06	113+06.46	20.64	1007.49
2.07	113+13.42	19.84	1007.38
2.08	113+13.99	24.84	1007.33
2.09	113+07.02	25.62	1007.45
2.10	113+03.59	26.01	1007.21
2.11	112+97.39	26.73	1006.96
2.12	112+92.41	27.33	1006.91
2.13	112+86.67	27.97	1006.62
2.14	112+86.12	23.00	1006.86
2.15	112+92.08	22.34	1006.96
2.16	112+91.56	14.53	1006.53
2.17	112+91.39	12.04	1006.60
2.18	112+85.42	12.44	1006.48



CURB RAMP 3 DATA TABLE

NUMBER	STATION	OFFSET	ELEVATION
3.01	113+80.27	12.33	1007.56
3.02	113+85.26	12.30	1007.67
3.03	113+87.72	12.34	1007.73
3.04	113+87.59	20.34	1007.53
3.05	113+84.95	20.29	1007.51
3.06	113+80.59	20.46	1007.49





GUARDRAIL NOTES:
VERIFY POST LOCATIONS ARE NOT IN CONFLICT WITH EXISTING UTILITIES. FIELD ADJUSTMENTS CAN BE MADE ±3' WITH ENGINEER IN FIELD APPROVAL.

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS: GUARDRAIL	SHEET 14	E

2

2

N

MGS GUARDRAIL SHORT RADIUS TERMINAL

END
+88.47, 90.88' LT

RADIUS
+45.55, 77.50' LT

16 LF OF MGS GUARDRAIL 3

TRANSITION
+90.38, 79.03' LT

71 LF OF MGS GUARDRAIL SHORT RADIUS

END RADIUS
+92.91, 63.23' LT

125TH STREET

50 LF OF MGS GUARDRAIL 3

40 LF OF MGS THRIE BEAM TRANSITION

START RADIUS
+45.55, 22.50' LT

TRANSITION
+95.03, 22.50' LT

START
+35.02, 22.50' LT

22.50'

+65.99, 15.00' LT

314 315 316

STH 64

+23.73, 15.00' RT

10

1

1

15

7"

POST 1
+20.31, 24.50' RT

POST 5
+45.31, 23.50' RT

POST 9
+70.31, 22.50' RT

25 LF OF MGS GUARDRAIL 3

TRANSISTION
+95.31, 22.50' RT

START
+35.31, 22.50' RT

22.50'

MGS GUARDRAIL TERMINAL EAT

40 LF OF MGS THRIE BEAM TRANSITION

FO FO FO FO FO FO FO FO FO FO FO FO FO

BRIDGE B-09-271

SLOPE INTERCEPT

PROJECT NO: 8620-00-73/8190-00-72	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS	SHEET 15	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\SHEETSPLAN\021001_CD\021002_CD.DWG
LAYOUT NAME - Sheet - (1)
PLOT DATE : 5/18/2021 7:40 AM PLOT BY : JARED HALBUR PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

2

N

SLOPE INTERCEPT

MGS GUARDRAIL TERMINAL EAT

40 LF OF THRIE BEAM TRANSITION

7'

15

1

1

10

START
+02.25, 22.50' LT

TRANSITION
+42.25, 22.50' LT

25 LF OF MGS GUARDRAIL 3

POST 9
+67.25, 22.50' LT

POST 5
+92.25, 23.50' LT

POST 9
+17.25, 24.50' LT

+13.16, 15' LT

22.50'

318

319

STH 64

25 LF OF MGS GUARDRAIL 3

TRANSITION
+42.61, 22.50

22.50'

START
+02.61, 22.50' RT

POST 9
+67.61, 22.50' RT

POST 5
+92.61, 23.50' RT

POST 1
+17.61, 24.50' RT

+11.79, 15' RT

10

1

1

15

40 LF OF THRIE BEAM TRANSITION

7'

MGS GUARDRAIL TERMINAL EAT

FO FO FO FO FO FO FO FO FO FO FO FO FO FO

BRIDGE B-09-271

PROJECT NO: 8620-00-73/8190-00-72	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS	SHEET 16	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\SHEETSPLAN\021001_CD\021002_CD.DWG
LAYOUT NAME - Sheet - (2)

PLOT DATE : 5/18/2021 7:40 AM PLOT BY : JARED HALBUR PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 42

2

2

N

SLOPE INTERCEPT

BRIDGE B-09-016

MGS GUARDRAIL TERMINAL EAT

25 LF OF MGS GUARDRAIL 3

40 LF OF THRIE BEAM TRANSITION

15

1

10

1

7'

+90.49, 15' LT

POST 1
+10.49, 17' LT

POST 5
+35.49, 16' LT

POST 9
+60.49, 15' LT

TRANSITION
+85.49, 15' LT

START
+25.49, 15' LT

15'

473

474

STH 64

+04.18, 15' RT

POST 1
+24.18, 17' RT

POST 5
+49.18, 16' RT

POST 1
+74.18, 15' RT

TRANSITION
+99.18, 15' RT

START
+39.18, 15' RT

10

1

1

15

7'

MGS GUARDRAIL TERMINAL EAT

25 LF OF MGS GUARDRAIL 3

40 LF OF THRIE BEAM TRANSITION

PROJECT NO: 8620-00-73/8190-00-72	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS	SHEET 17	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\SHEETSPLAN\021001_CD\021002_CD.DWG
LAYOUT NAME - Sheet - (3)

PLOT DATE : 5/18/2021 7:40 AM PLOT BY : JARED HALBUR PLOT NAME : PLOT SCALE : 1 IN:15 FT

2

2

N

SLOPE INTERCEPT

40 LF OF THRIE BEAM TRANSITION

25 LF OF MGS GUARDRAIL 3

MGS GUARDRAIL TERMINAL EAT

7'

15

1

1

10

START
+96.13, 15' LT

TRANSITION
+36.13, 15' LT

POST 9
+61.13, 15' LT

POST 5
+86.13, 16' LT

POST 1
+11.13, 17' LT

+31.13, 15' LT

15'

476

477

STH 64

15'

START
+09.94, 15' RT

TRANSITION
+49.94, 15' RT

POST 9
+74.94, 15' RT

POST 5
+99.94, 16' RT

POST 9
+24.94, 17' RT

+44.94, 15' RT

1

10

1

15

7'

40 LF OF THRIE BEAM TRANSITION

25 LF OF MGS GUARDRAIL 3

MGS GUARDRAIL TERMINAL EAT

BRIDGE B-09-016

PROJECT NO: 8620-00-73/8190-00-72	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS	SHEET 18	E

NOTES:
SEE STANDARD DETAIL DRAWING - SIGNING AND PAVEMENT MARKING
DETAILS FOR RAILROAD -- HIGHWAY GRADE CROSSINGS FOR MORE DETAILS.

N

CLEARING BRUSH FOR VISION TRIANGLES

114+02
34' LT

114+33
39' LT

9TH AVE

PROGRESSIVE RAIL

150'

8'

115

MILL 3.25" EXISTING ASPHALT
PAVE 3.25" HMA PAVEMENT

STH 40/CTH F

MILL 3.25" EXISTING ASPHALT
PAVE 3.25" HMA PAVEMENT

8'

150'

MILL AND PAVE UP TO BOTH SIDES OF THE RAILROAD CROSSING

CTH SS/MARTIN ROAD

PROJECT NO: 8620-00-73/8190-00-72	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS: RAILROAD CROSSING	SHEET 19	E

2

2

N

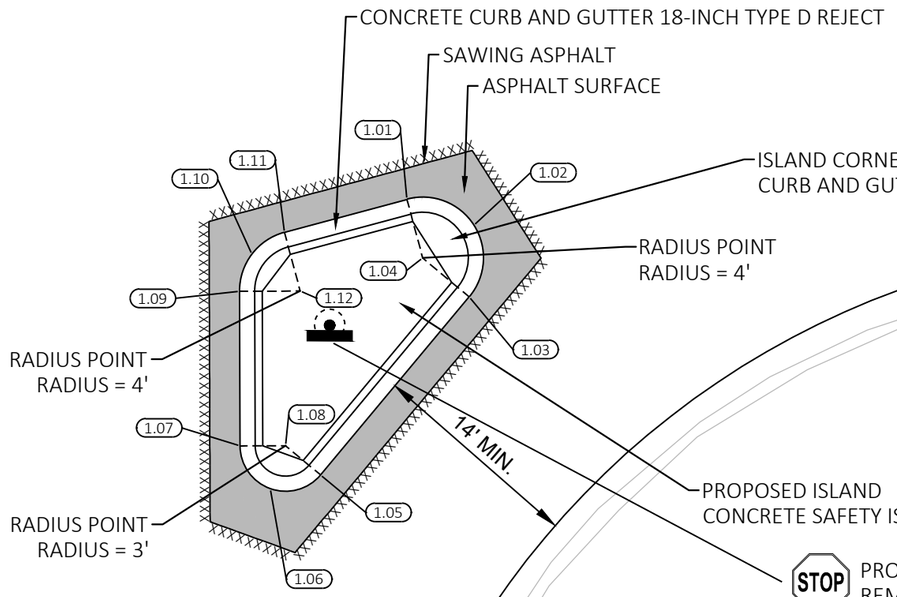
STH40/CTH F

116

117

3.25" MILL/RESURFACE

ISLAND 1 DATA TABLE			
NUMBER	STATION	OFFSET	ELEVATION
1.01	116+40.40	17.73	1004.92
1.02	116+44.81	19.43	1004.86
1.03	116+44.51	24.15	1004.84
1.04	116+41.44	21.59	1005.44
1.05	116+34.70	35.90	1004.87
1.06	116+31.38	36.80	1004.90
1.07	116+29.40	33.99	1004.94
1.08	116+32.40	33.98	1005.46
1.09	116+29.36	23.78	1005.00
1.10	116+30.18	21.34	1005.00
1.11	116+32.32	19.90	1004.99
1.12	116+33.36	23.77	1005.53



MARTIN ROAD/CTH SS

NOTES:
ELEVATIONS FOR PROPOSED ISLAND ARE BASED ON EXISTING C/L PROFILE. ADJUSTMENTS MAY BE REQUIRED BASED ON FINAL MILLING/PAVING ELEVATIONS.

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS: ISLAND (MARTIN ROAD / CTH SS)	SHEET 20	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\021001_CD\021005_CD.DWG
LAYOUT NAME - Sheet - (1)
PLOT DATE : 7/6/2021 2:15 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

2

2

N

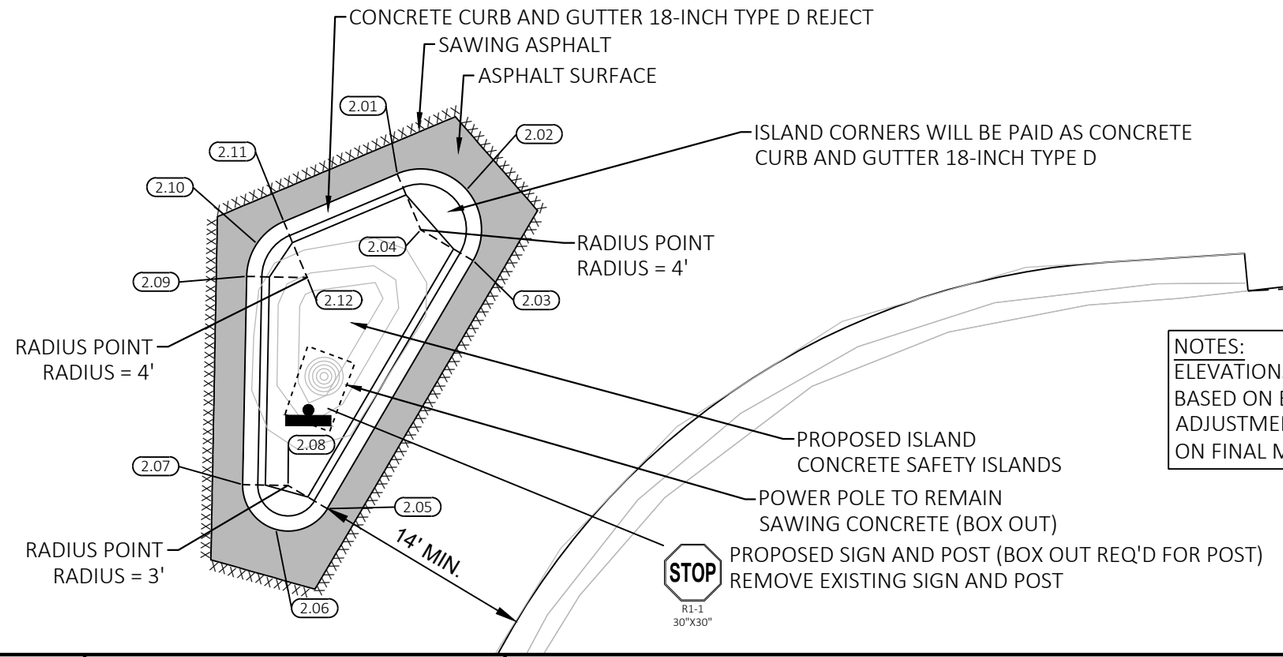
126

STH40/CTH F

3.25" MILL/RESURFACE

ISLAND 2 DATA TABLE			
NUMBER	STATION	OFFSET	ELEVATION
2.01	126+17.57	17.03	1005.44
2.02	126+22.13	18.09	1005.48
2.03	126+22.57	22.75	1005.47
2.04	126+19.12	20.72	1005.95
2.05	126+12.95	39.11	1005.33
2.06	126+09.55	40.47	1005.30
2.07	126+07.36	37.53	1005.29
2.08	126+10.36	37.59	1005.87
2.09	126+07.62	23.79	1005.33
2.10	126+08.31	21.62	1005.35
2.11	126+10.07	20.18	1005.37
2.12	126+11.62	23.87	1005.92

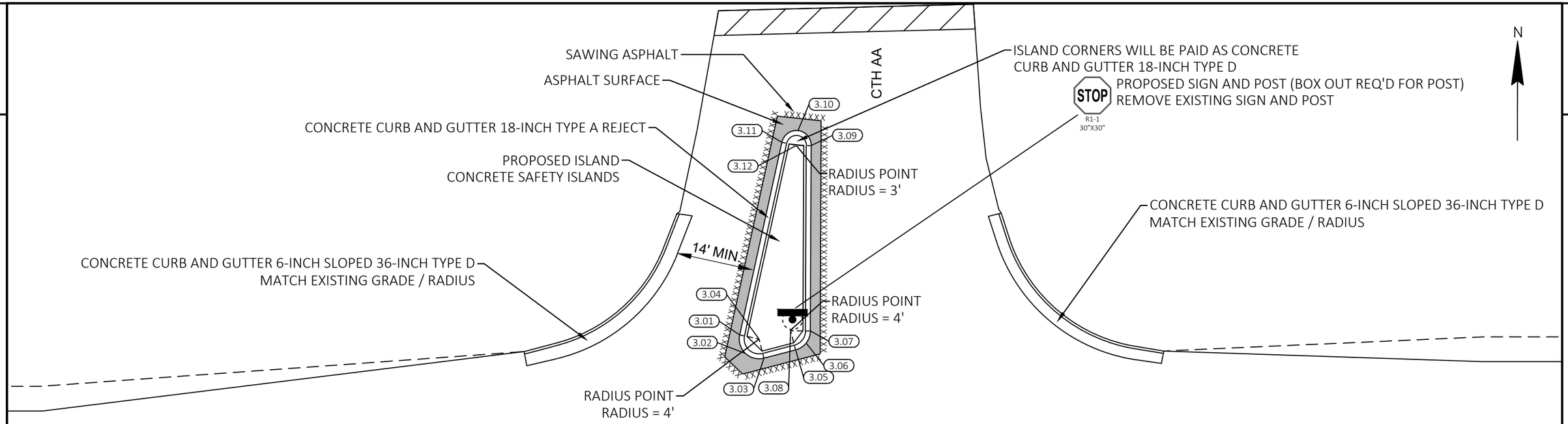
VETERANS MEMORIAL DRIVE



NOTES:
ELEVATIONS FOR PROPOSED ISLAND ARE BASED ON EXISTING C/L PROFILE. ADJUSTMENTS MAY BE REQUIRED BASED ON FINAL MILLING/PAVING ELEVATIONS.

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CONSTRUCTION DETAILS: ISLAND (VETERANS MEMORIAL DRIVE)	SHEET 21	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\021001_CD\021005_CD.DWG
LAYOUT NAME - Sheet - (2)
PLOT DATE : 7/7/2021 7:32 AM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



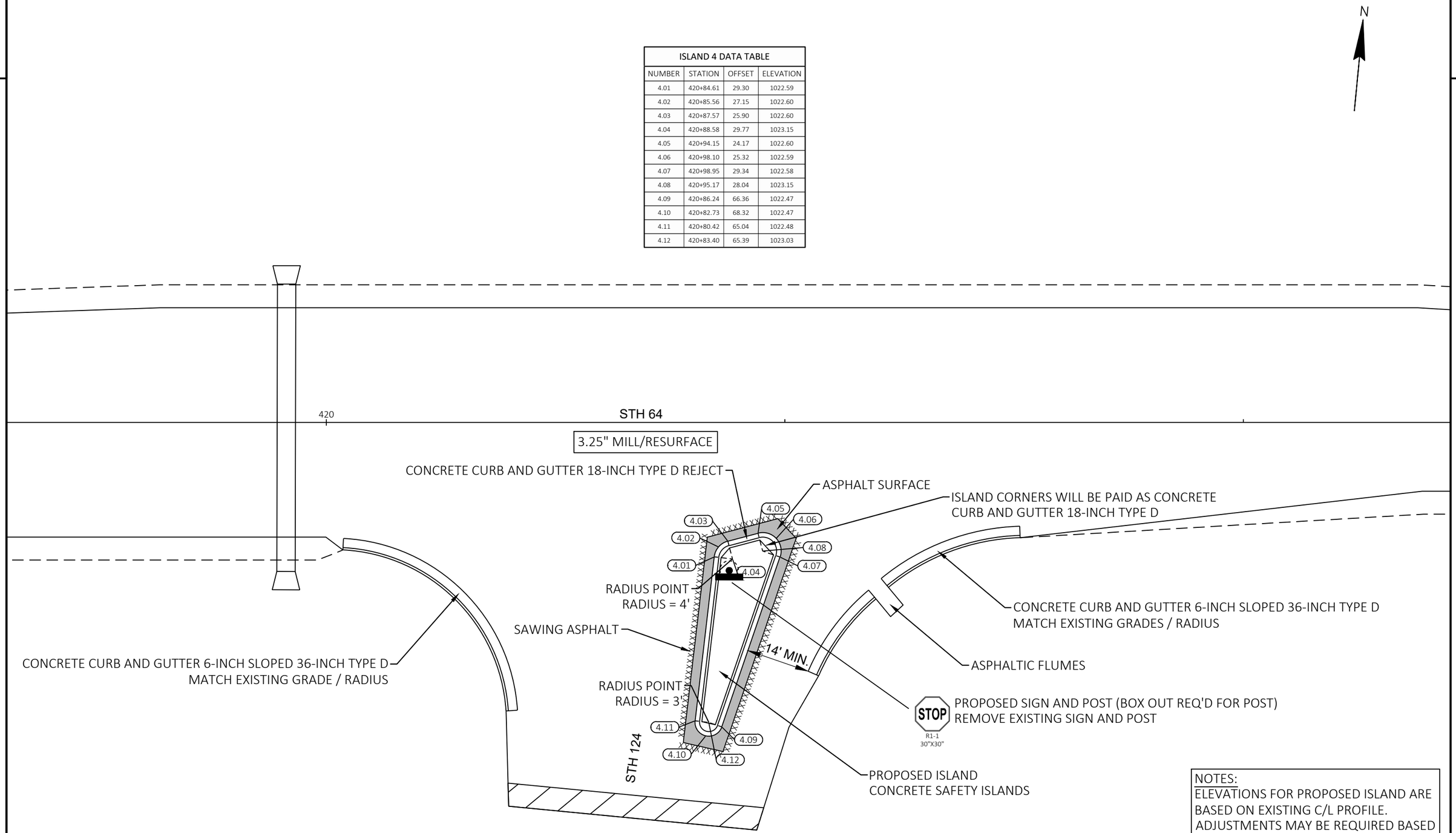
ISLAND 3 DATA TABLE			
NUMBER	STATION	OFFSET	ELEVATION
3.01	370+05.88	-30.41	1020.94
3.02	370+07.01	-26.67	1020.95
3.03	370+10.80	-25.68	1020.96
3.04	370+09.79	-29.55	1021.51
3.05	370+17.20	-27.35	1020.98
3.06	370+19.35	-28.77	1020.99
3.07	370+20.19	-31.21	1020.99
3.08	370+16.19	-31.22	1021.54
3.09	370+20.34	-68.70	1020.88
3.10	370+17.67	-71.69	1020.85
3.11	370+14.41	-69.35	1020.85
3.12	370+17.34	-68.71	1021.43

NOTES:
ELEVATIONS FOR PROPOSED ISLAND ARE BASED ON EXISTING C/L PROFILE. ADJUSTMENTS MAY BE REQUIRED BASED ON FINAL MILLING/PAVING ELEVATIONS.

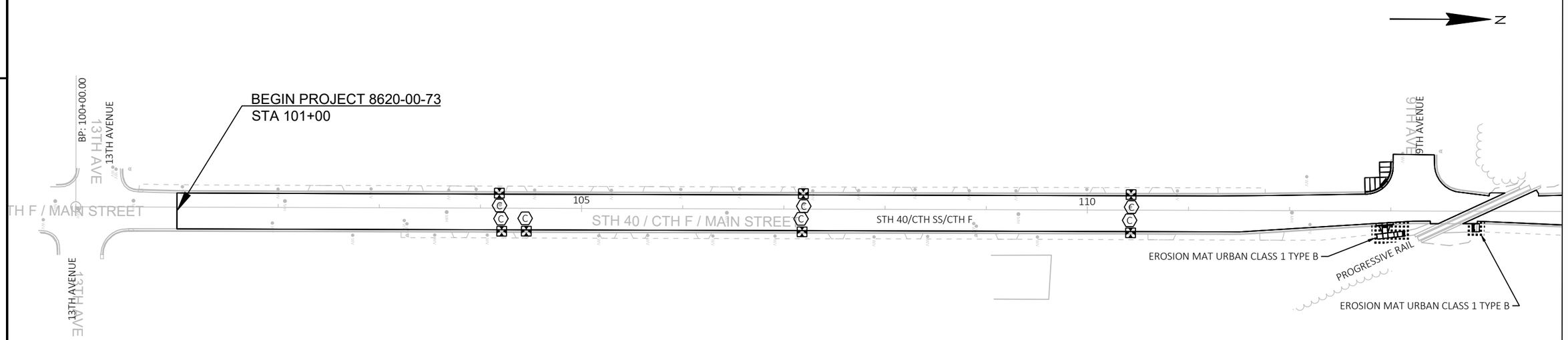
2

2

ISLAND 4 DATA TABLE			
NUMBER	STATION	OFFSET	ELEVATION
4.01	420+84.61	29.30	1022.59
4.02	420+85.56	27.15	1022.60
4.03	420+87.57	25.90	1022.60
4.04	420+88.58	29.77	1023.15
4.05	420+94.15	24.17	1022.60
4.06	420+98.10	25.32	1022.59
4.07	420+98.95	29.34	1022.58
4.08	420+95.17	28.04	1023.15
4.09	420+86.24	66.36	1022.47
4.10	420+82.73	68.32	1022.47
4.11	420+80.42	65.04	1022.48
4.12	420+83.40	65.39	1023.03



NOTES:
ELEVATIONS FOR PROPOSED ISLAND ARE BASED ON EXISTING C/L PROFILE. ADJUSTMENTS MAY BE REQUIRED BASED ON FINAL MILLING/PAVING ELEVATIONS.



LEGEND

- INLET PROTECTION (TYPE C)
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- CULVERT PIPE DITCH CHECK OR ROCK BAG
- EXISTING SURFACE WATER FLOW
- SILT FENCE RELIEF

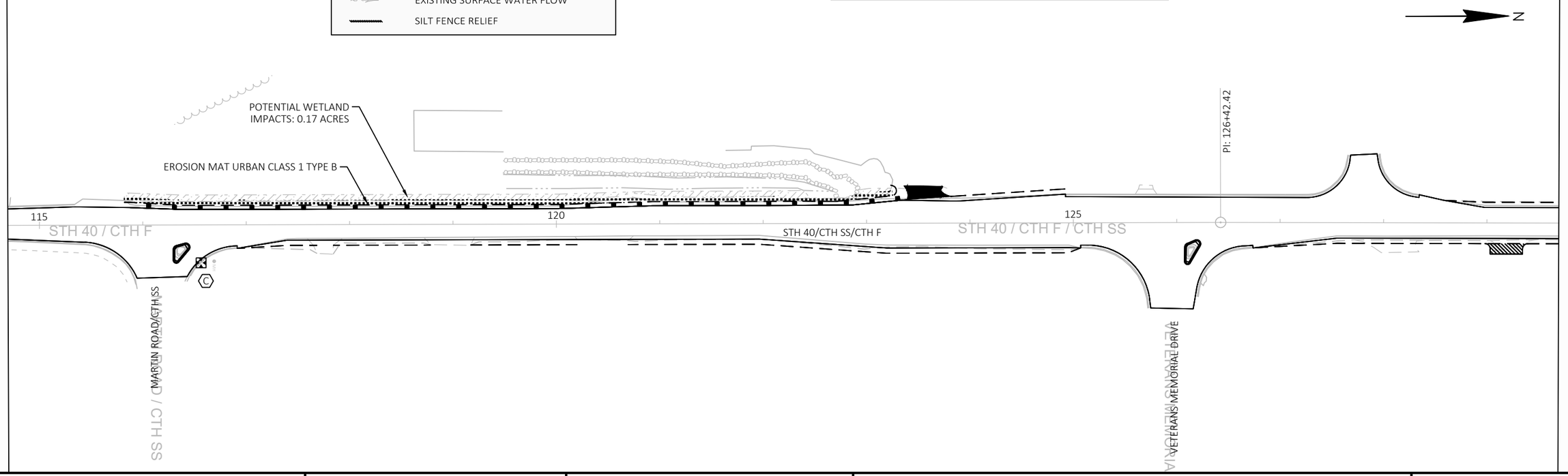
EROSION CONTROL NOTES

ALL EXISTING INLETS WITHIN THE PROJECT LIMITS SHALL RECEIVE PROTECTION.

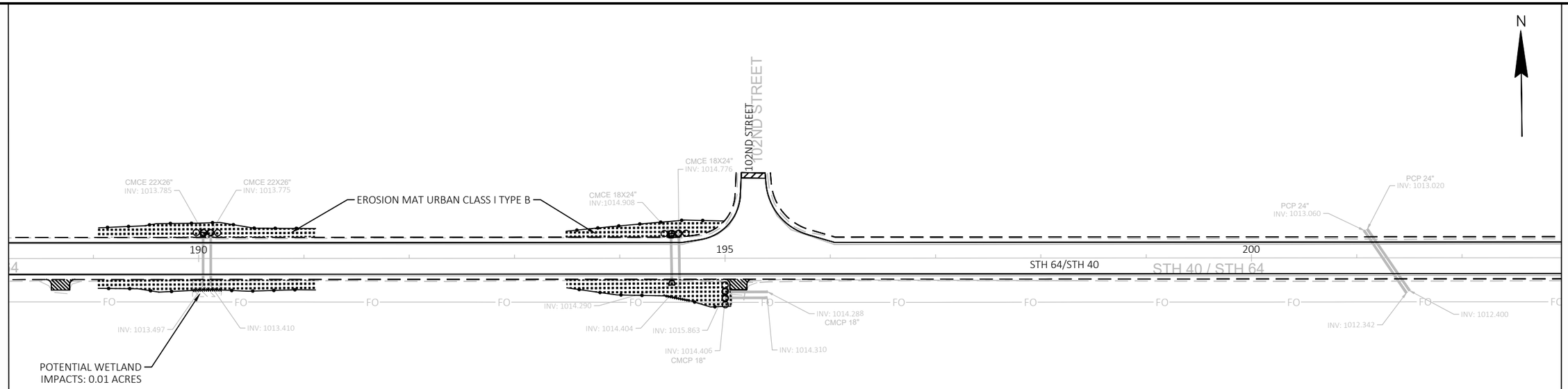
FINISHING ITEMS FOR TOPSOIL, SEED, FERTILIZER, AND EROSION MAT ARE SHOWN ON TYPICAL SECTIONS AND MISCELLANEOUS QUANTITIES.

URBAN SECTIONS SHALL RECEIVE PREP FOR LAWN TYPE TURF.

ANY INLETS THAT WILL NOT BE OPEN TO DRAINAGE AFTER EXISTING CURB AND GUTTER IS REMOVED DO NOT REQUIRE A TYPE A INLET PROTECTION.



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	EROSION CONTROL	SHEET 24	E



LEGEND

- INLET PROTECTION (TYPE C)
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- CULVERT PIPE DITCH CHECK OR ROCK BAG
- EXISTING SURFACE WATER FLOW
- SILT FENCE RELIEF

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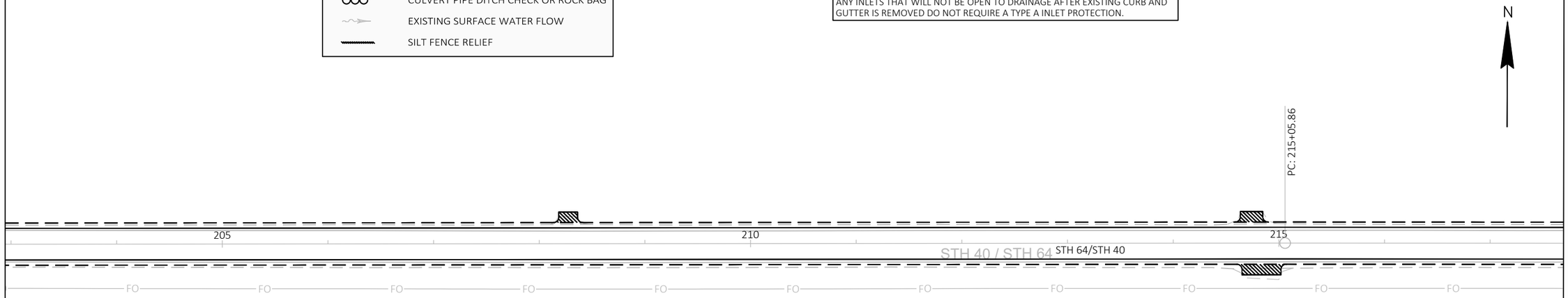
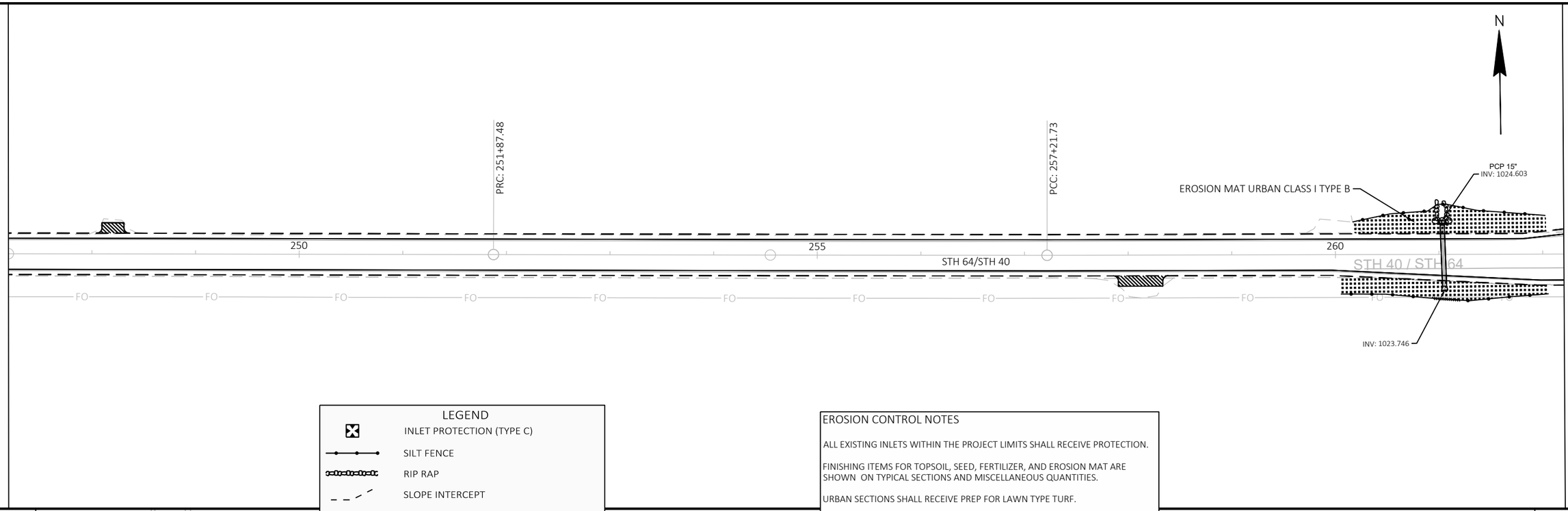


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	EROSION CONTROL	SHEET 25	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\022501_EC\022501_EC - COMBINE.DWG
LAYOUT NAME - SHEET - (178)
PLOT DATE : 8/19/2021 11:15 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



LEGEND

- INLET PROTECTION (TYPE C)
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- CULVERT PIPE DITCH CHECK OR ROCK BAG
- EXISTING SURFACE WATER FLOW
- SILT FENCE RELIEF

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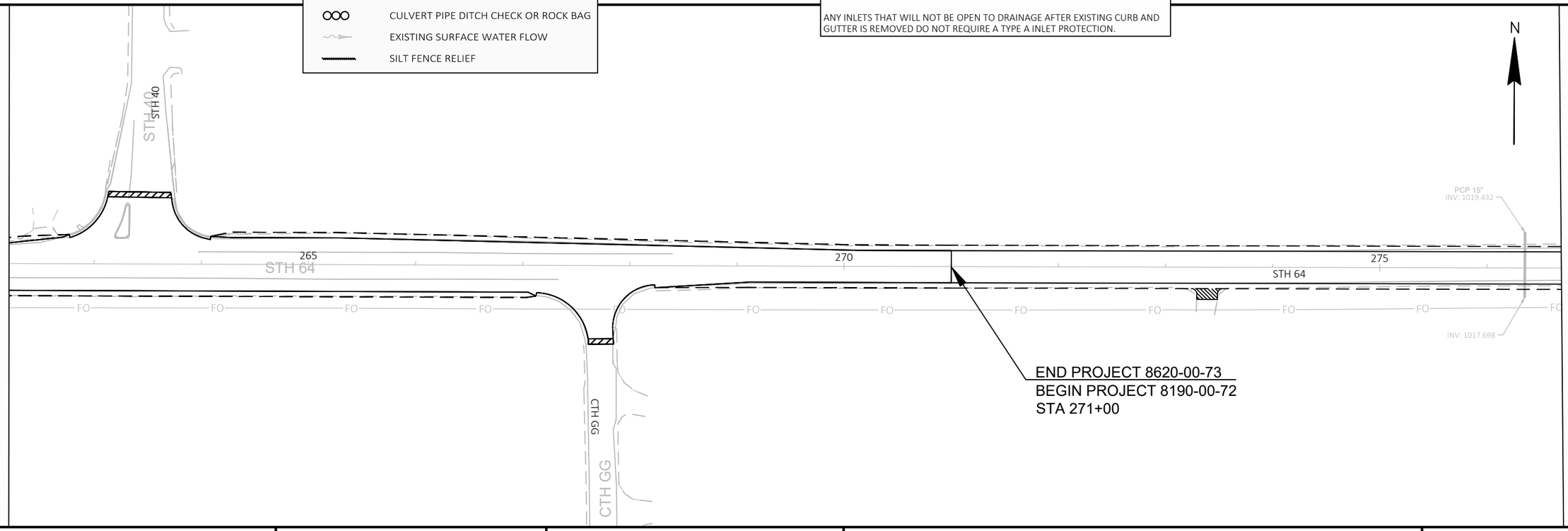
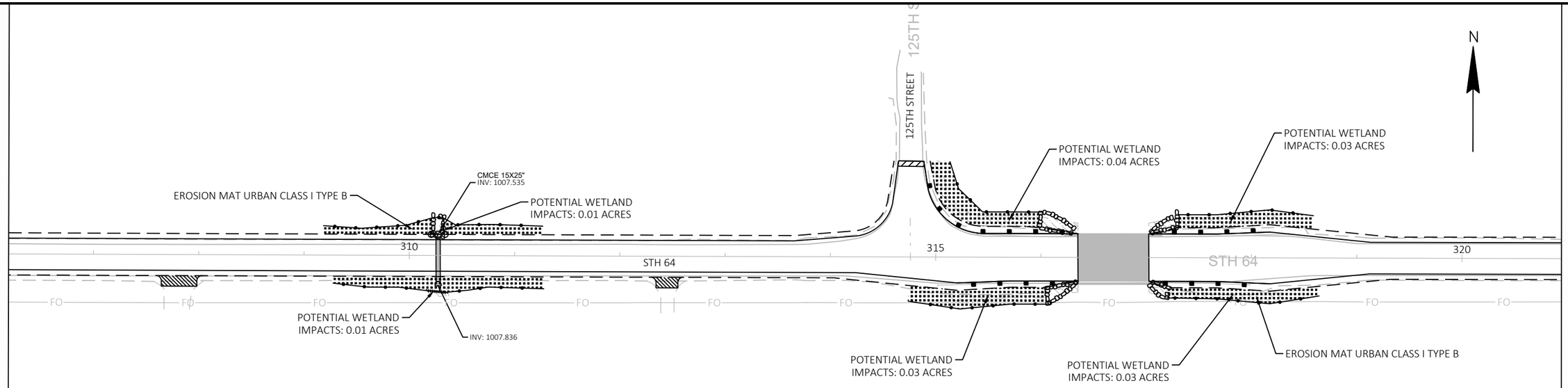


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	EROSION CONTROL	SHEET 26	E

2



LEGEND

- INLET PROTECTION (TYPE C)
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- CULVERT PIPE DITCH CHECK OR ROCK BAG
- EXISTING SURFACE WATER FLOW
- SILT FENCE RELIEF

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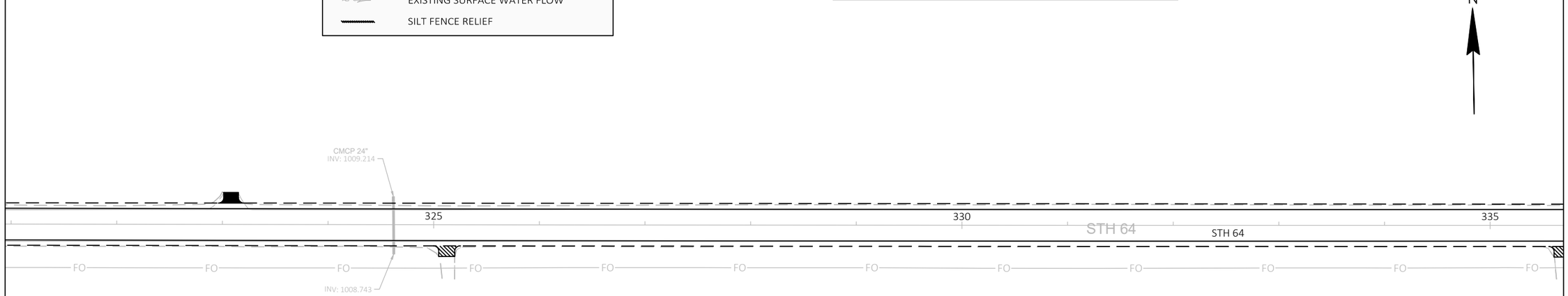
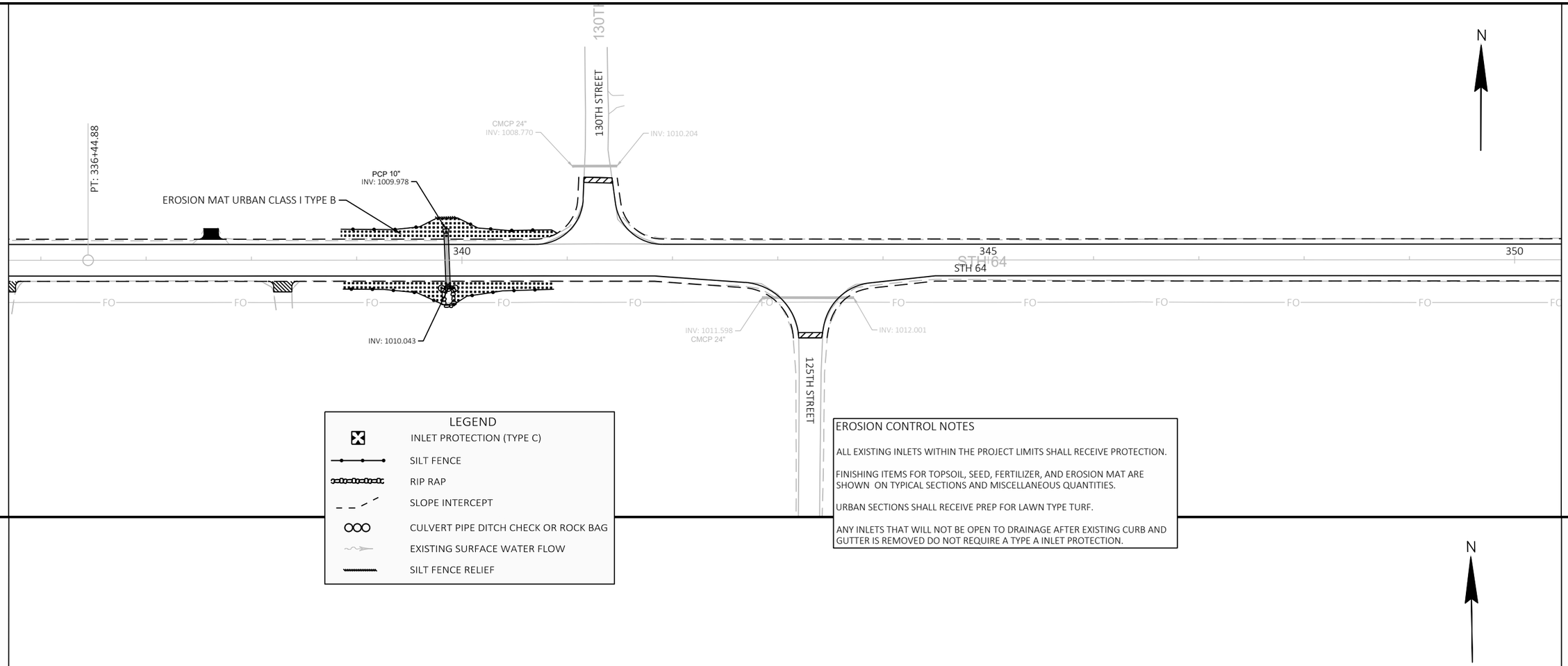


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	EROSION CONTROL	SHEET 27	E



LEGEND

- INLET PROTECTION (TYPE C)
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- CULVERT PIPE DITCH CHECK OR ROCK BAG
- EXISTING SURFACE WATER FLOW
- SILT FENCE RELIEF

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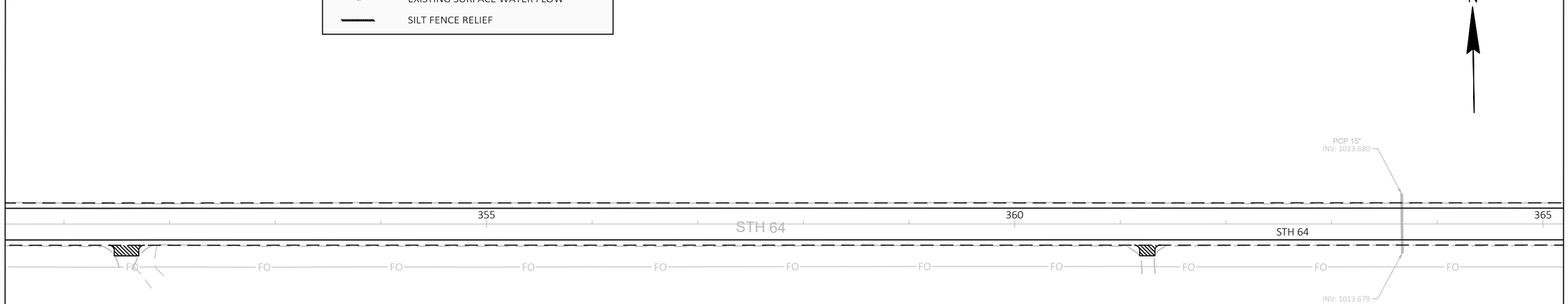
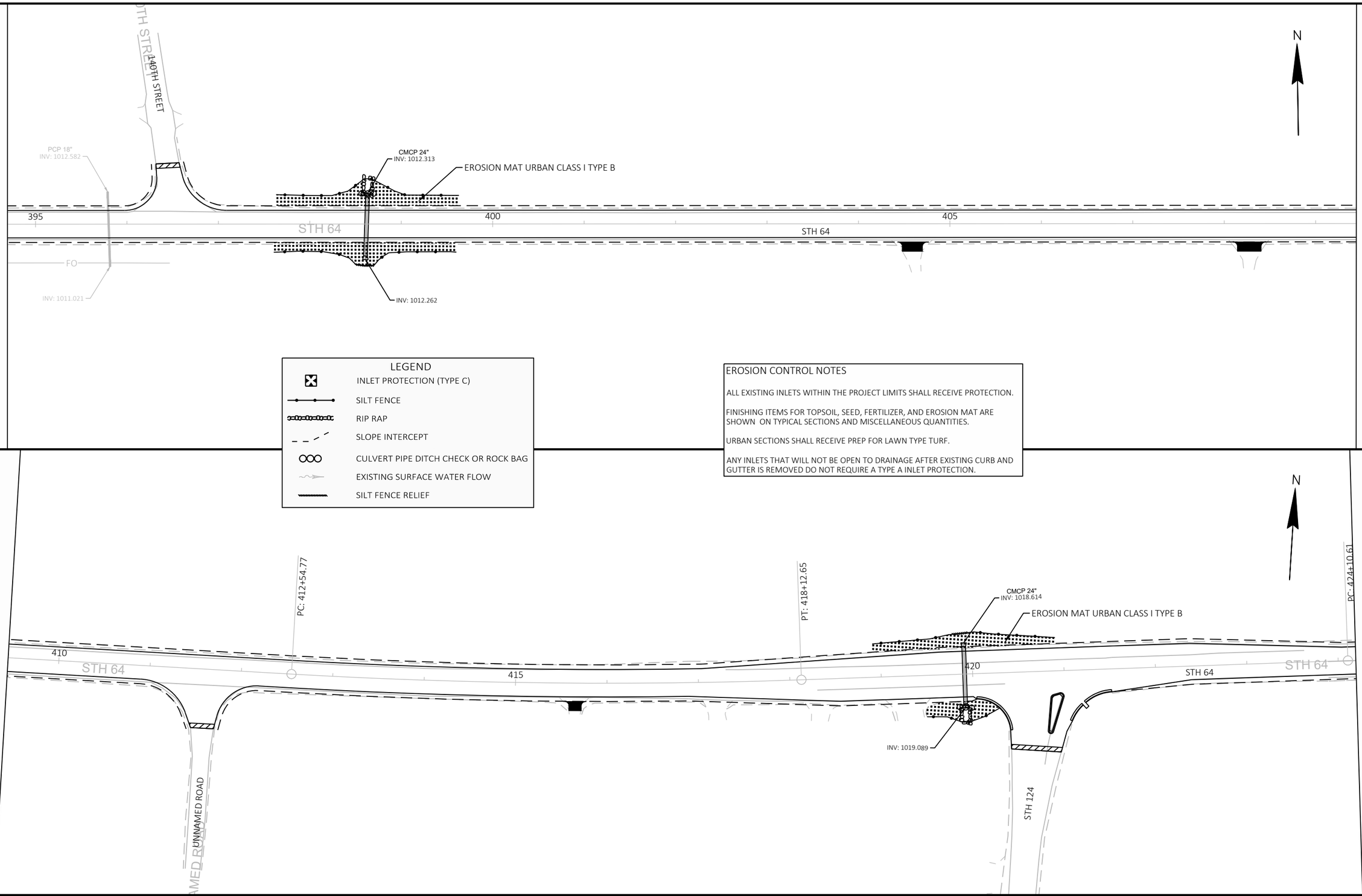
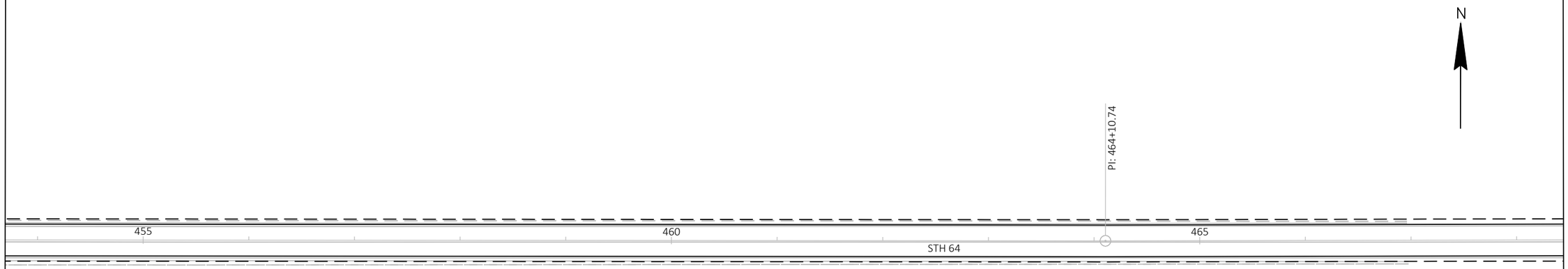


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	EROSION CONTROL	SHEET 28	E



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	EROSION CONTROL	SHEET 29	E

2



LEGEND

- INLET PROTECTION (TYPE C)
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- CULVERT PIPE DITCH CHECK OR ROCK BAG
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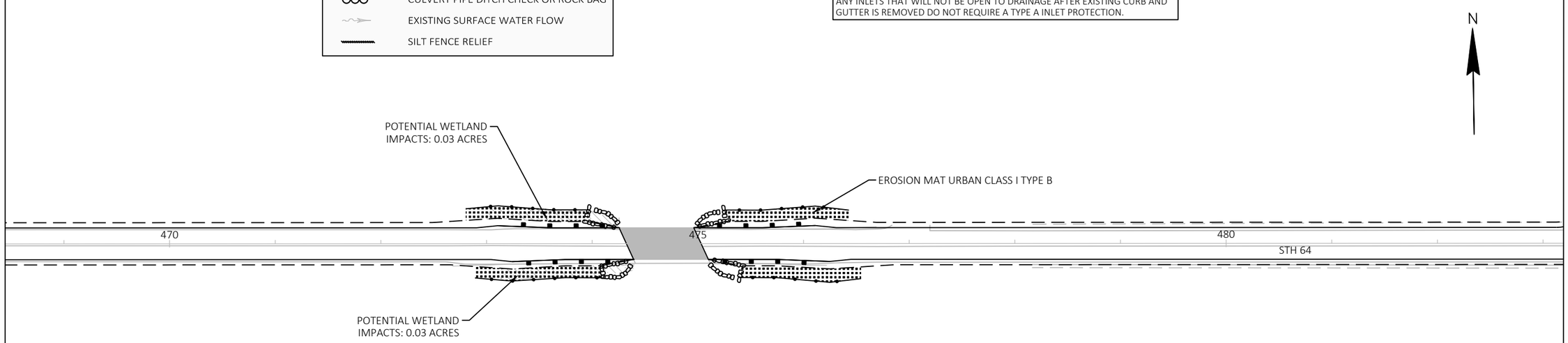
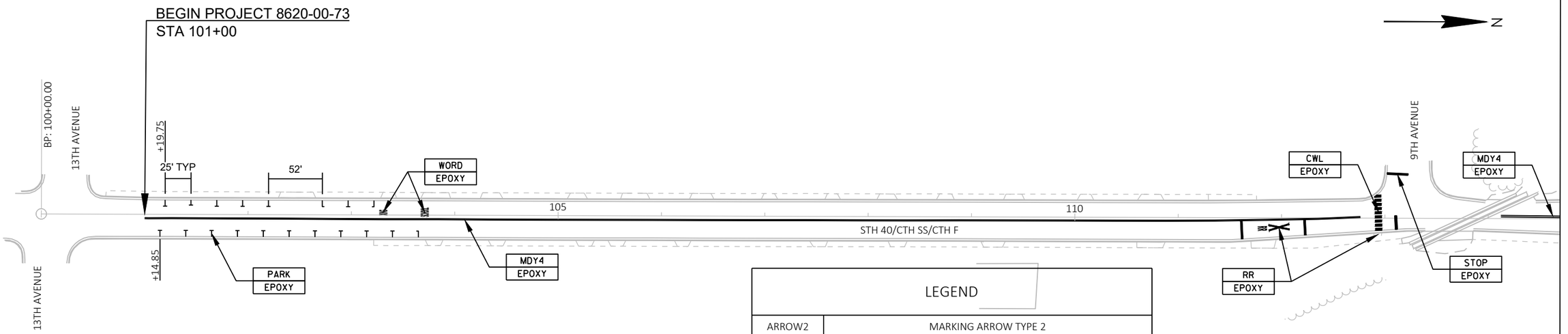


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	EROSION CONTROL	SHEET 30	E



NOTES:
TEMPORARY MARKING LINE PAINT 4-INCH SHALL BE PLACED ON CENTERLINE OF LOWER ASPHALT LAYER, CIR SURFACE, OR MILLED SURFACE. MATCH EXISTING CONDITIONS FOR PASSING/NO-PASSING ZONES.

DOUBLE YELLOW - MARKING LINE EPOXY 4-INCH SHALL BE PLACED ON ANY SIDE STREET CENTERLINES WITH EXISTING CENTERLINE PAVEMENT MARKING.

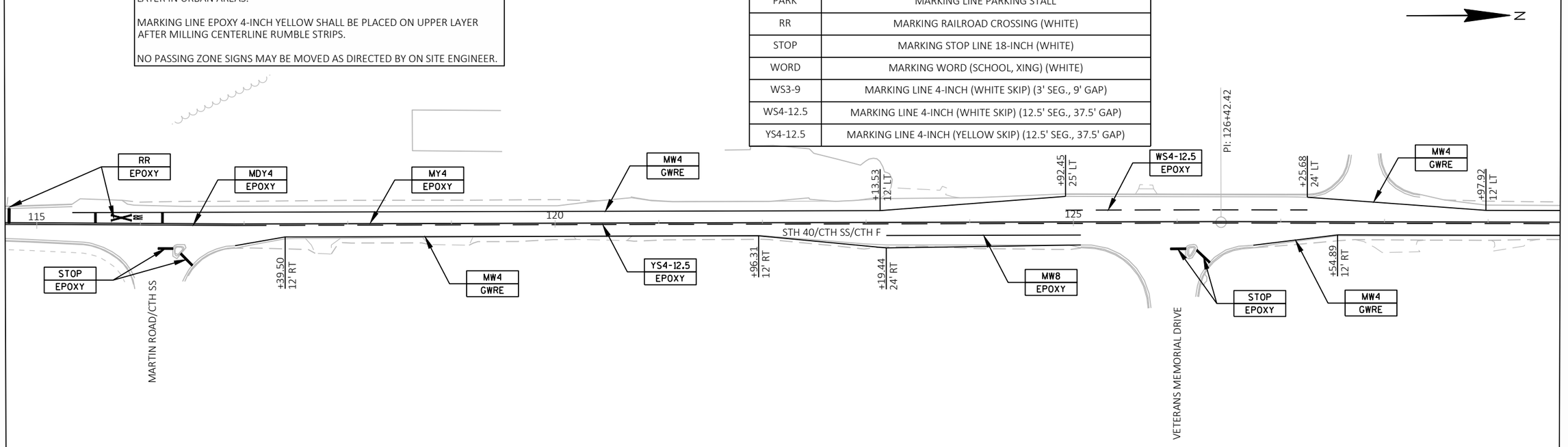
TEMPORARY EPOXY 4-INCH YELLOW SHALL BE PLACED ON UPPER LAYER BEFORE MILLING CENTERLINE RUMBLE STRIPS.

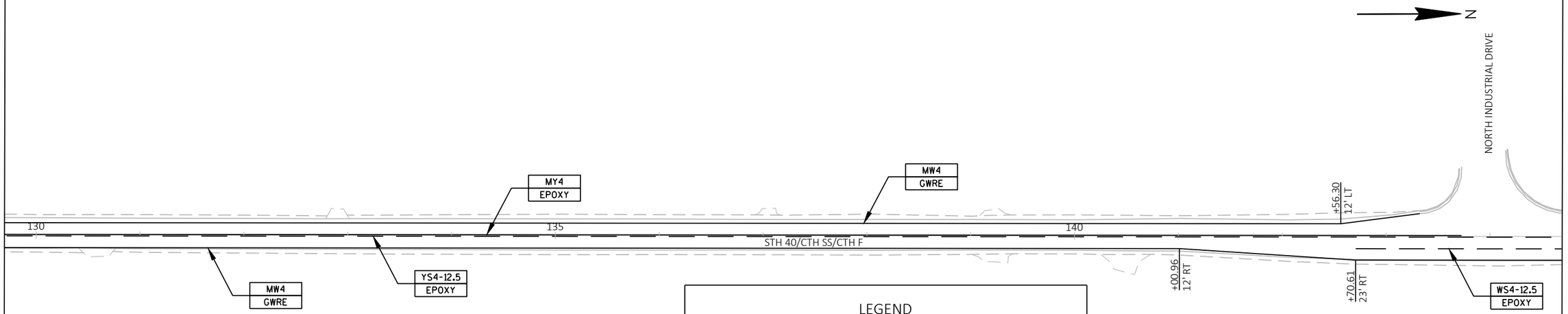
MARKING LINE SAME DAY EPOXY 4-INCH YELLOW SHALL BE PLACED ON UPPER LAYER IN URBAN AREAS.

MARKING LINE EPOXY 4-INCH YELLOW SHALL BE PLACED ON UPPER LAYER AFTER MILLING CENTERLINE RUMBLE STRIPS.

NO PASSING ZONE SIGNS MAY BE MOVED AS DIRECTED BY ON SITE ENGINEER.

LEGEND	
ARROW2	MARKING ARROW TYPE 2
CWL	MARKING CROSSWALK LADDER LINE (WHITE)
EPOXY	EPOXY
GWRE	GROOVED WET REFLECTIVE EPOXY
MDY4	MARKING LINE 4-INCH (DOUBLE YELLOW)
MY4	MARKING LINE 4-INCH (YELLOW)
MW4	MARKING LINE 4-INCH (WHITE)
MW8	MARKING LINE 8-INCH (WHITE)
PARK	MARKING LINE PARKING STALL
RR	MARKING RAILROAD CROSSING (WHITE)
STOP	MARKING STOP LINE 18-INCH (WHITE)
WORD	MARKING WORD (SCHOOL, XING) (WHITE)
WS3-9	MARKING LINE 4-INCH (WHITE SKIP) (3' SEG., 9' GAP)
WS4-12.5	MARKING LINE 4-INCH (WHITE SKIP) (12.5' SEG., 37.5' GAP)
YS4-12.5	MARKING LINE 4-INCH (YELLOW SKIP) (12.5' SEG., 37.5' GAP)





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MW8	MARKING LINE 8-INCH (WHITE)
PARK	MARKING LINE PARKING STALL
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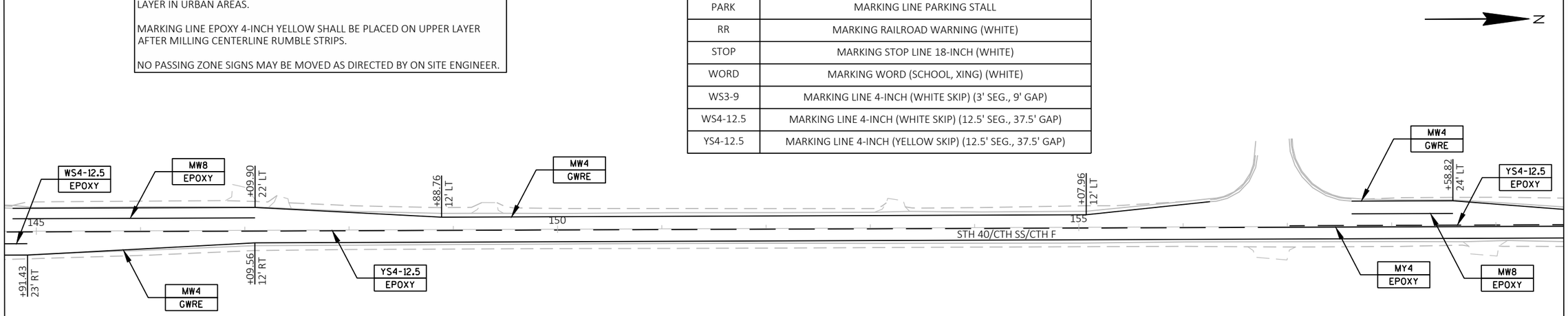

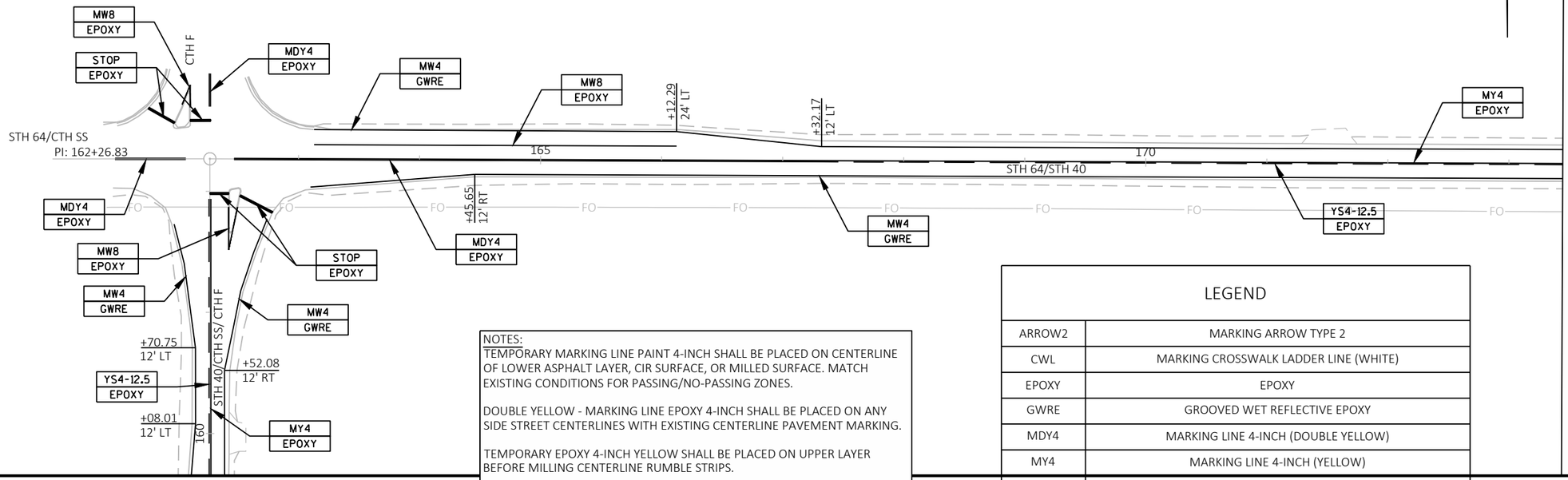

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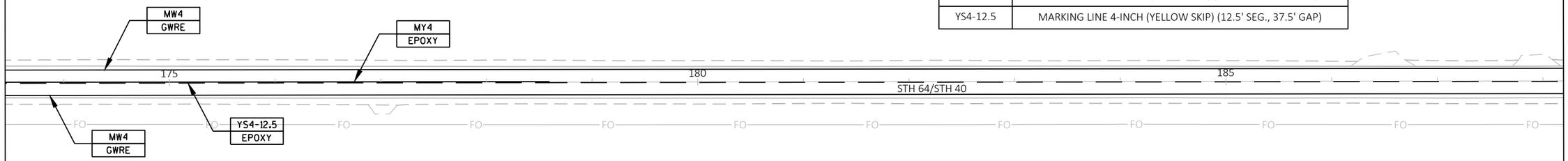
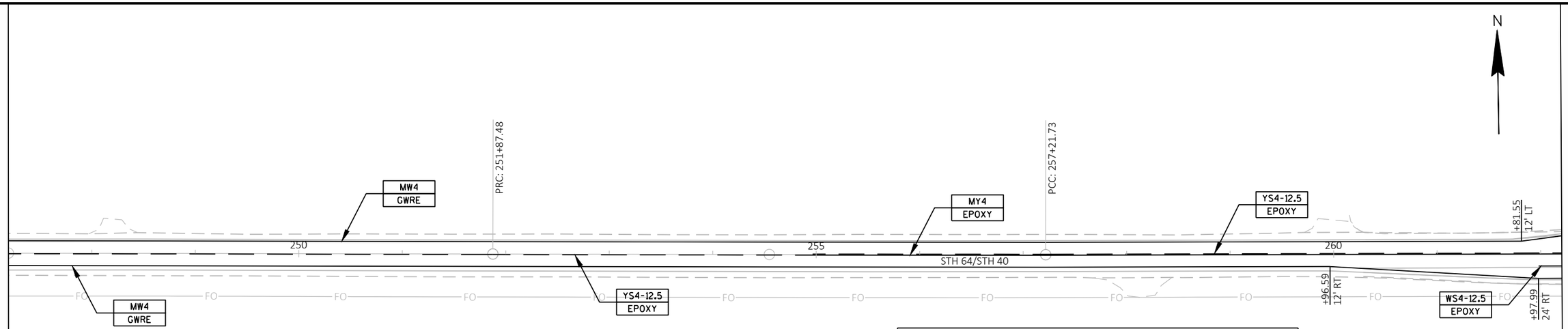


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PAVEMENT MARKING:	SHEET 33	E



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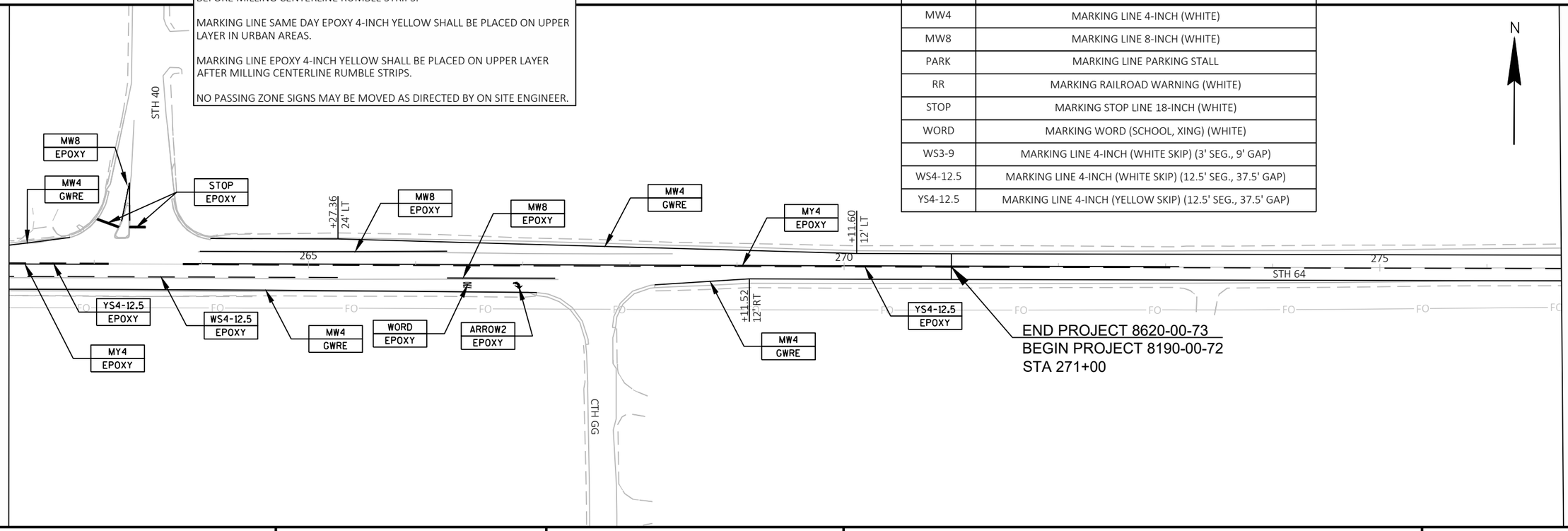
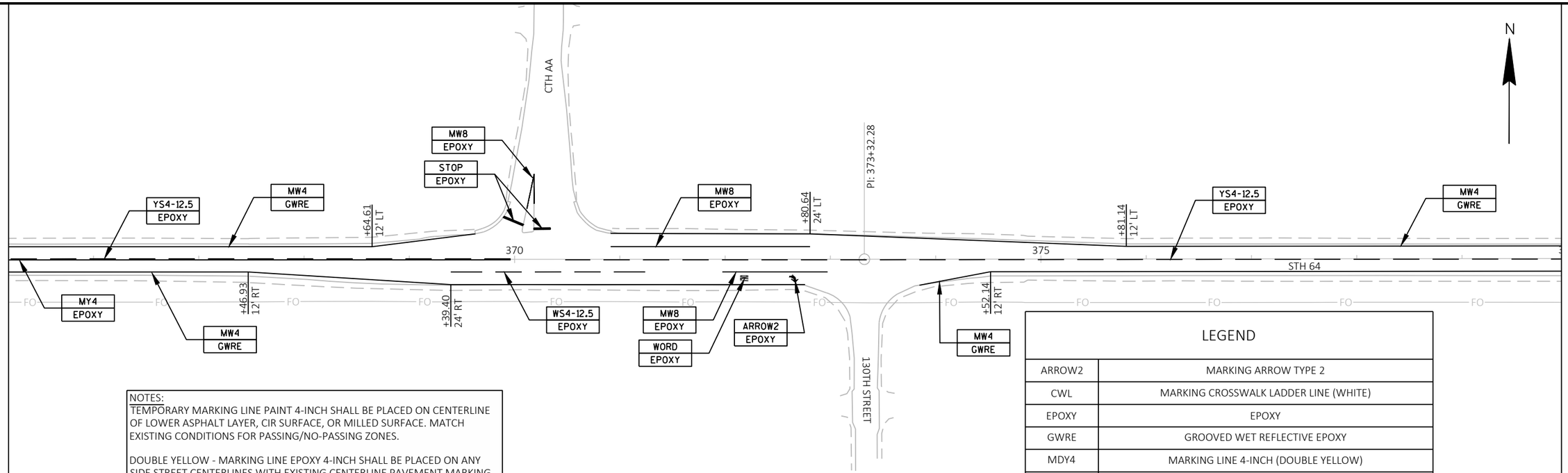


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PAVEMENT MARKING:	SHEET 34	E



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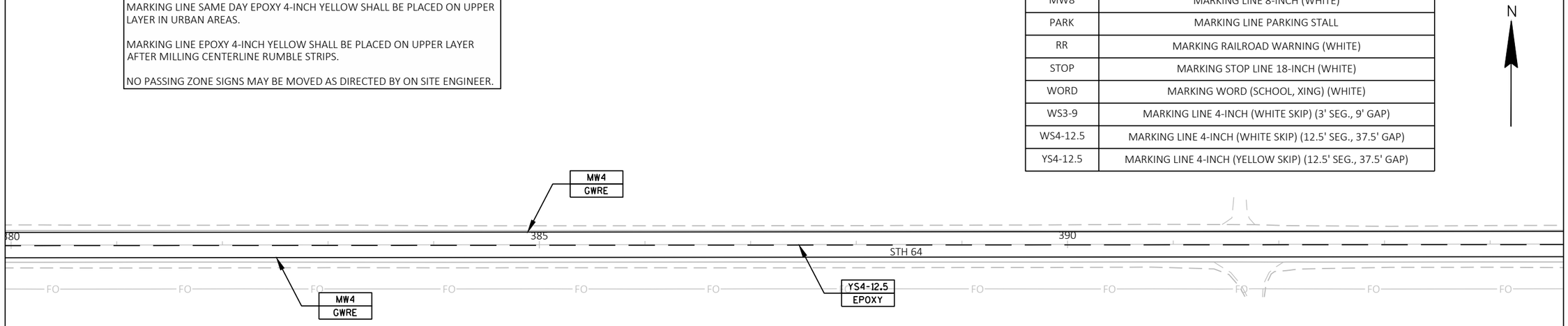
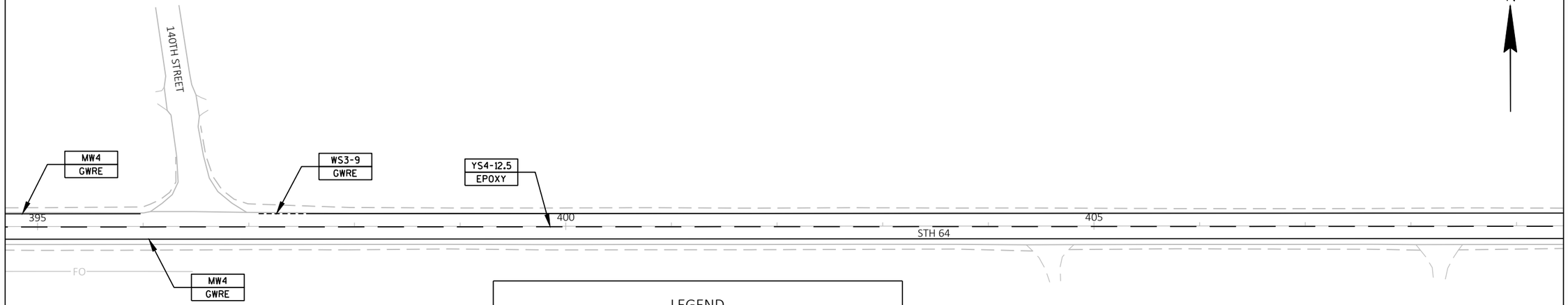


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PAVEMENT MARKING:	SHEET 35	E



NOTES:
TEMPORARY MARKING LINE PAINT 4-INCH SHALL BE PLACED ON CENTERLINE OF LOWER ASPHALT LAYER, CIR SURFACE, OR MILLED SURFACE. MATCH EXISTING CONDITIONS FOR PASSING/NO-PASSING ZONES.

DOUBLE YELLOW - MARKING LINE EPOXY 4-INCH SHALL BE PLACED ON ANY SIDE STREET CENTERLINES WITH EXISTING CENTERLINE PAVEMENT MARKING.

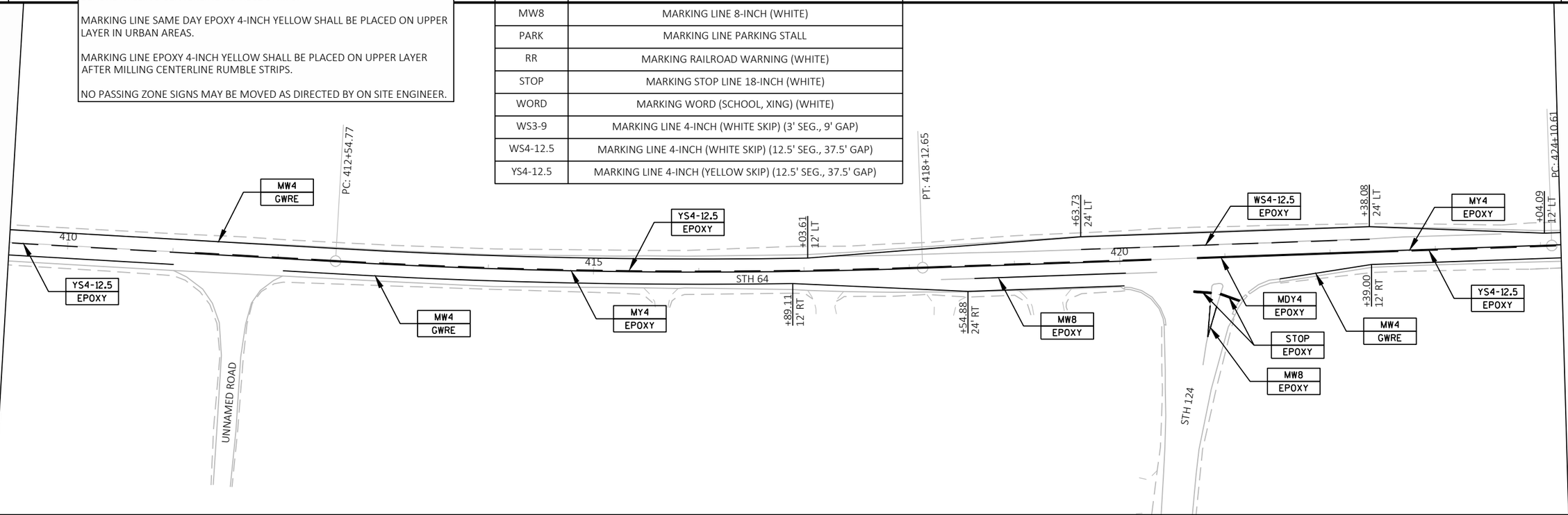
TEMPORARY EPOXY 4-INCH YELLOW SHALL BE PLACED ON UPPER LAYER BEFORE MILLING CENTERLINE RUMBLE STRIPS.

MARKING LINE SAME DAY EPOXY 4-INCH YELLOW SHALL BE PLACED ON UPPER LAYER IN URBAN AREAS.

MARKING LINE EPOXY 4-INCH YELLOW SHALL BE PLACED ON UPPER LAYER AFTER MILLING CENTERLINE RUMBLE STRIPS.

NO PASSING ZONE SIGNS MAY BE MOVED AS DIRECTED BY ON SITE ENGINEER.

LEGEND	
ARROW2	MARKING ARROW TYPE 2
CWL	MARKING CROSSWALK LADDER LINE (WHITE)
EPOXY	EPOXY
GWRE	GROOVED WET REFLECTIVE EPOXY
MDY4	MARKING LINE 4-INCH (DOUBLE YELLOW)
MY4	MARKING LINE 4-INCH (YELLOW)
MW4	MARKING LINE 4-INCH (WHITE)
MW8	MARKING LINE 8-INCH (WHITE)
PARK	MARKING LINE PARKING STALL
RR	MARKING RAILROAD WARNING (WHITE)
STOP	MARKING STOP LINE 18-INCH (WHITE)
WORD	MARKING WORD (SCHOOL, XING) (WHITE)
WS3-9	MARKING LINE 4-INCH (WHITE SKIP) (3' SEG., 9' GAP)
WS4-12.5	MARKING LINE 4-INCH (WHITE SKIP) (12.5' SEG., 37.5' GAP)
YS4-12.5	MARKING LINE 4-INCH (YELLOW SKIP) (12.5' SEG., 37.5' GAP)



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PAVEMENT MARKING:	SHEET 36	E

Estimate Of Quantities

Line	Item	Item Description	Unit	Total	8190-00-72 Qty	8620-00-73 Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	5.000	4.000	1.000
0004	204.0110	Removing Asphaltic Surface	SY	1,996.000	1,528.000	468.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	2,663.000	1,255.000	1,408.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	36,150.000	14,300.000	21,850.000
0010	204.0150	Removing Curb & Gutter	LF	810.000	624.000	186.000
0012	204.0155	Removing Concrete Sidewalk	SY	70.000		70.000
0014	204.0165	Removing Guardrail	LF	1,215.000	975.000	240.000
0016	204.9060.S	Removing (item description) Removing Apron Endwalls	EACH	3.000		3.000
0018	205.0100	Excavation Common	CY	2,450.000	2,000.000	450.000
0020	208.1500.S	Temporary Lane Shift During Culvert Work	EACH	5.000	4.000	1.000
0022	211.0700.S	Prepare Foundation for CIR Base Layer (project) 01. 8190-00-02	EACH	1.000	1.000	
0024	211.0700.S	Prepare Foundation for CIR Base Layer (project) 02. 8620-00-03	EACH	1.000		1.000
0026	211.0800.S	Base Repair for CIR Layer	CY	1,500.000	1,000.000	500.000
0028	213.0100	Finishing Roadway (project) 01. 8190-00-72	EACH	1.000	1.000	
0030	213.0100	Finishing Roadway (project) 02. 8620-00-73	EACH	1.000		1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	9,600.000	6,900.000	2,700.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	900.000	750.000	150.000
0036	305.0500	Shaping Shoulders	STA	1,048.000	738.000	310.000
0038	327.1000.S	CIR Asphaltic Base Layer	SY	155,700.000	114,000.000	41,700.000
0040	455.0605	Tack Coat	GAL	9,650.000	6,700.000	2,950.000
0042	455.0770.S	Asphalt Stabilizing Agent	TON	700.000	510.000	190.000
0044	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	4.000	2.000	2.000
0046	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	4.000	2.000	2.000
0048	460.2005	Incentive Density PWL HMA Pavement	DOL	16,900.000	11,570.000	5,330.000
0050	460.2010	Incentive Air Voids HMA Pavement	DOL	18,800.000	12,870.000	5,930.000
0052	460.6645	HMA Pavement 5 MT 58-34 V	TON	33,450.000	21,800.000	11,650.000
0054	460.9000.S	Material Transfer Vehicle 01. 8190-00-72	EACH	1.000	1.000	
0056	460.9000.S	Material Transfer Vehicle 02. 8620-00-73	EACH	1.000		1.000
0058	465.0105	Asphaltic Surface	TON	675.000	515.000	160.000
0060	465.0110	Asphaltic Surface Patching	TON	150.000	100.000	50.000
0062	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	115.000	40.000	75.000
0064	465.0315	Asphaltic Flumes	SY	15.000	15.000	
0066	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	52,400.000	36,900.000	15,500.000
0068	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	4.000	2.000	2.000
0070	520.1024	Apron Endwalls for Culvert Pipe 24-Inch	EACH	4.000	4.000	
0072	520.4115	Culvert Pipe Class IV 15-Inch	LF	130.000	62.000	68.000
0074	520.4124	Culvert Pipe Class IV 24-Inch	LF	150.000	150.000	
0076	520.8700	Cleaning Culvert Pipes	EACH	10.000	4.000	6.000
0078	522.2414	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 14x23-Inch	LF	62.000	62.000	
0080	522.2614	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 14x23-Inch	EACH	2.000	2.000	
0082	522.2619	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	3.000		3.000
0084	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	331.000	210.000	121.000
0086	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	179.000	114.000	65.000
0088	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	300.000	300.000	
0090	602.0415	Concrete Sidewalk 6-Inch	SF	646.000		646.000
0092	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	30.000		30.000
0094	602.0610	Curb Ramp Detectable Warning Field Radial White	SF	12.000		12.000
0096	602.2400	Concrete Safety Islands	SF	1,023.000	695.000	328.000
0098	606.0300	Riprap Heavy	CY	106.000	101.000	5.000

Estimate Of Quantities

Line	Item	Item Description	Unit	Total	8190-00-72 Qty	8620-00-73 Qty
0100	611.8110	Adjusting Manhole Covers	EACH	8.000		8.000
0102	614.0010	Barrier System Grading Shaping Finishing	EACH	3.000	2.000	1.000
0104	614.2300	MGS Guardrail 3	LF	785.000	216.000	569.000
0106	614.2340	MGS Guardrail 3 L	LF	84.000		84.000
0108	614.2350	MGS Guardrail Short Radius	LF	71.000	71.000	
0110	614.2500	MGS Thrie Beam Transition	LF	320.000	320.000	
0112	614.2610	MGS Guardrail Terminal EAT	EACH	9.000	7.000	2.000
0114	614.2630	MGS Guardrail Short Radius Terminal	EACH	1.000	1.000	
0116	619.1000	Mobilization	EACH	1.000	0.680	0.320
0118	624.0100	Water	MGAL	300.000	175.000	125.000
0120	625.0100	Topsoil	SY	4,562.000	2,588.000	1,974.000
0122	628.1504	Silt Fence	LF	3,997.000	2,872.000	1,125.000
0124	628.1520	Silt Fence Maintenance	LF	1,999.000	1,436.000	563.000
0126	628.1905	Mobilizations Erosion Control	EACH	8.000	4.000	4.000
0128	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	2.000	2.000
0130	628.2008	Erosion Mat Urban Class I Type B	SY	5,970.000	3,775.000	2,195.000
0132	628.7015	Inlet Protection Type C	EACH	8.000		8.000
0134	628.7555	Culvert Pipe Checks	EACH	54.000	24.000	30.000
0136	628.7570	Rock Bags	EACH	175.000	100.000	75.000
0138	629.0210	Fertilizer Type B	CWT	2.890	1.640	1.250
0140	630.0160	Seeding Mixture No. 60	LB	61.400	34.800	26.600
0142	630.0200	Seeding Temporary	LB	61.400	34.800	26.600
0144	630.0500	Seed Water	MGAL	114.000	65.000	49.000
0146	633.5200	Markers Culvert End	EACH	30.000	16.000	14.000
0148	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	18.000	11.000	7.000
0150	637.2210	Signs Type II Reflective H	SF	20.720	10.360	10.360
0152	638.2102	Moving Signs Type II	EACH	14.000	9.000	5.000
0154	638.2602	Removing Signs Type II	EACH	4.000	2.000	2.000
0156	638.3000	Removing Small Sign Supports	EACH	17.000	11.000	6.000
0158	642.5201	Field Office Type C	EACH	1.000	1.000	
0160	643.0300	Traffic Control Drums	DAY	30,000.000	24,000.000	6,000.000
0162	643.0420	Traffic Control Barricades Type III	DAY	900.000	900.000	
0164	643.0900	Traffic Control Signs	DAY	6,000.000	4,800.000	1,200.000
0166	643.5000	Traffic Control	EACH	1.000	0.680	0.320
0168	644.1430	Temporary Pedestrian Surface Plate	SF	265.000		265.000
0170	644.1601	Temporary Pedestrian Curb Ramp	DAY	14.000		14.000
0172	645.0120	Geotextile Type HR	SY	315.000	300.000	15.000
0174	646.1020	Marking Line Epoxy 4-Inch	LF	35,000.000	22,000.000	13,000.000
0176	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	101,900.000	72,300.000	29,600.000
0178	646.3020	Marking Line Epoxy 8-Inch	LF	1,600.000	450.000	1,150.000
0180	646.4520	Marking Line Same Day Epoxy 4-Inch	LF	2,900.000		2,900.000
0182	646.5020	Marking Arrow Epoxy	EACH	2.000	1.000	1.000
0184	646.5120	Marking Word Epoxy	EACH	4.000	1.000	3.000
0186	646.5320	Marking Railroad Crossings Epoxy	EACH	2.000		2.000
0188	646.6120	Marking Stop Line Epoxy 18-Inch	LF	305.000	75.000	230.000
0190	646.7520	Marking Crosswalk Epoxy Block Style 24-Inch	LF	34.000		34.000
0192	646.8320	Marking Parking Stall Epoxy	LF	185.000		185.000
0194	648.0100	Locating No-Passing Zones	MI	10.210	6.990	3.220
0196	649.0105	Temporary Marking Line Paint 4-Inch	LF	70,000.000	44,000.000	26,000.000

Line	Item	Item Description	Unit	Total	8190-00-72 Qty	8620-00-73 Qty
0198	649.0120	Temporary Marking Line Epoxy 4-Inch	LF	35,000.000	22,000.000	13,000.000
0200	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	510.000	324.000	186.000
0202	650.6000	Construction Staking Pipe Culverts	EACH	5.000	4.000	1.000
0204	650.8000	Construction Staking Resurfacing Reference	LF	39,300.000	22,300.000	17,000.000
0206	650.9000	Construction Staking Curb Ramps	EACH	3.000		3.000
0208	650.9910	Construction Staking Supplemental Control (project) 01. 8190-00-72	LS	1.000	1.000	
0210	650.9910	Construction Staking Supplemental Control (project) 02. 8620-00-73	LS	1.000		1.000
0212	690.0150	Sawing Asphalt	LF	2,959.000	829.000	2,130.000
0214	690.0250	Sawing Concrete	LF	30.000		30.000
0216	740.0440	Incentive IRI Ride	DOL	27,000.000	18,500.000	8,500.000
0218	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	100.000	100.000	
0220	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	650.000	650.000	
0222	SPV.0090	Special 01. Grading Shaping and Finishing Ditch	LF	1,500.000	1,000.000	500.000
0224	SPV.0180	Special 01. Prepare Topsoil for Lawn Type Turf	SY	85.000		85.000

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	COMMENTS
CATEGORY CODE 0010			
310+27	LT/RT	1	CMCE 15"X25"
339+85	LT/RT	1	PCP 10"
398+63	LT/RT	1	CMCP 24"
419+91	LT/RT	1	CMCP 24"
TOTALS		**4**	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION - STATION	LOCATION	204.0115 SY	COMMENTS
313+35	CL	67	BRIDGE APPROACH
314+76	LT	27	125TH STREET
320+00	CL	67	BRIDGE APPROACH
323+08	LT	8	DWY
337+61	LT	7	DWY
341+29	LT	29	130TH STREET
343+31	RT	24	125TH STREET
367+47	CL	67	MILL/FILL TO CIR TRANSITION
370+27	LT	58	CTH AA
373+34	RT	27	130TH STREET
375+81	CL	67	MILL/FILL TO CIR TRANSITION
391+77	RT	8	DWY
396+44	LT	28	140TH STREET
404+63	RT	6	DWY
408+26	RT	7	DWY
411+60	RT	28	UNNAMED ROAD
416+89	CL	67	MILL/FILL TO CIR TRANSITION
415+64	RT	7	DWY
417+20	RT	11	DWY
420+67	RT	60	STH 124
422+04	CL	67	MILL/FILL TO CIR TRANSITION
471.25	CL	67	BRIDGE APPROACH
478+10	CL	67	BRIDGE APPROACH
483+72	LT	31	190TH AVENUE
505+50	LT	31	190TH AVENUE
529+58	LT	27	165TH STREET
530+48	RT	7	DWY
540+05	RT	29	190TH AVENUE
558+67	RT	32	CORNELL LAKE DRIVE
547+54	LT	12	DWY
615+84	LT	24	CTH E
626+03	RT	24	180TH STREET
640+13	CL	167	END PROJECT
TOTALS		**1,255**	

REMOVING ASPHALTIC SURFACE

STATION - STATION	LOCATION	204.0110 SY	COMMENTS
310+27	LT & RT	333	CULVERT REPLACEMENT
339+85	LT & RT	333	CULVERT REPLACEMENT
370+10	LT	25	ISLAND REPLACEMENT
398+63	LT & RT	479	CULVERT REPLACEMENT
419+91	LT & RT	333	CULVERT REPLACEMENT
420+75	RT	25	ISLAND REPLACEMENT
TOTALS		**1,528**	

REMOVING ASPHALTIC SURFACE MILLING

STATION - STATION	LOCATION	204.0120 SY	COMMENTS
313+25 - 320+00	CL	3,275	STRUCTURE B 09-271
367+47 - 375+81	CL	4,780	STH 64/CTH AA INTERSECTION
416+89 - 424+04	CL	3,930	STH 64/STH 124 INTERSECTION
471+25 - 478+10	CL	2,315	STRUCTURE B 09-016
TOTALS		**14,300**	

REMOVING CURB AND GUTTER

STATION - STATION	LOCATION	204.0150 LF	COMMENTS
263+50	LT	100	STH 40 INTERSECTION
370+10	LT	206	CTH AA INTERSECTION
420+75	RT	318	STH 124 INTERSECTION
TOTAL		**624**	

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 LF
CATEGORY CODE 0010		
315+02 - 318+36	LT & RT	420
472+68 - 476+69	LT & RT	555
TOTAL		**975**

EXCAVATION COMMON

STATION	LOCATION	205.0100 EXCAVATION COMMON CY	COMMENTS
CATEGORY CODE 0010			
310+27	LT/RT	425	CMCE 15"X25"
339+85	LT/RT	450	PCP 10"
398+63	LT/RT	685	CMCP 24"
419+91	LT/RT	440	CMCP 24"
TOTALS		**2,000**	

TEMPORARY LANE SHIFT

STATION	LOCATION	208.1500.S TEMPORARY LANE SHIFT DURING CULVERT WORK EACH
CATEGORY CODE 0010		
310+27	LT & RT	1
339+85	LT & RT	1
398+63	LT & RT	1
419+91	LT & RT	1
TOTALS		**4**

PREPARE FOUNDATION FOR CIR PAVEMENT

STATION	LOCATION	211.0700.S PREPARE FOUNDATION FOR CIR PAVEMENT EACH
CATEGORY CODE 0010		
PROJECT	CL	1
TOTALS		**1**

BASE REPAIR FOR CIR PAVEMENT

STATION	LOCATION	211.0800.S BASE REPAIR FOR CIR PAVEMENT CY
CATEGORY CODE 0010		
PROJECT	CL	1,000
TOTALS		**1,000**

MISC. SHEET 1

ASPHALTIC ITEMS

STATION - STATION	LOCATION	455.0605 TACK COAT GAL	460.0105.S HMA PAVEMENT PWL TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PAVEMENT PWL TEST STRIP DENSITY EACH	465.6645 HMA PAVEMENT 5 MT 58-34 V TON	465.0105 ASPHALTIC SURFACE TON	465.0110 ASPHALTIC SURFACE PATCHING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	465.0315 ASPHALTIC FLUMES SY
CATEGORY CODE 0010									
PROJECT	CL	6,700	2	2	21,800	515	100	40	15
TOTALS		**6,700**	**2**	**2**	**21,800**	**515**	**100**	**40**	**15**

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12' Driving Lane	271+00 - 640+13	Upper Layer	5 MT 58-34V	5 MT 58-34 V	9,480	1.5"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12' Driving Lane	271+00 - 640+13	Lower Layer	Existing HMA Surface	5 MT 58-34 V	7,920	1.25"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
3' Shoulder / Side Roads / Guardrail	271+00 - 640+13	Upper Layer	5 MT 58-34V	5 MT 58-34 V	2,400	1.5"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department, not eligible for incentive
3' Shoulder / Side Roads / Guardrail	271+00 - 640+13	Lower Layer	Existing HMA Surface	5 MT 58-34 V	2,000	1.25"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department, not eligible for incentive
Various	271+00 - 640+13	Islands & Culvert Patches	Base Aggregate Dense	Asphaltic Surface	515	6"	QMP As Per SS 465	Acceptance By Ordinary Compaction

CULVERT PIPE ITEMS

STATION	LOCATION	520.4115 * CULVERT PIPE CLASS IV 15-INCH LF	520.4124 * CULVERT PIPE CLASS IV 24-INCH LF	520.8700 CLEANING CULVERT PIPES EACH	520.1015 APRON ENDWALLS FOR CULVERT PIPE 15-INCH EACH	520.1024 APRON ENDWALLS FOR CULVERT PIPE 24-INCH EACH	522.522.2414 * CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 14X23-INCH LF	522.2614 APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 14X23-INCH EACH	633.5200 MARKERS CULVERT END EACH	COMMENTS
CATEGORY CODE 0010										
284+43	LT & RT	--	--	1	--	--	--	--	2	
310+27	LT & RT	--	--	--	--	--	62	2	2	CULVERT REPLACEMENT
339+85	LT & RT	62	--	--	2	--	--	--	2	CULVERT REPLACEMENT
363+66	LT & RT	--	--	1	--	--	--	--	2	
398+63	LT & RT	--	74	--	--	2	--	--	2	CULVERT REPLACEMENT
419+91	LT & RT	--	76	--	--	2	--	--	2	CULVERT REPLACEMENT
631+70	LT & RT	--	--	1	--	--	--	--	2	
638+38	LT & RT	--	--	1	--	--	--	--	2	
		62	**150**	**4**	**2**	**4**	**62**	**2**	**16**	

* CONCRETE PIPE MUST BE TIED ACROSS THE ENTIRE LENGTH

COLD-IN-PLACE RECYCLING (CIR) ASPHALTIC PAVEMENT

STATION	LOCATION	327.1000.S COLD-IN-PLACE RECYCLING (CIR) ASPHALTIC PAVEMENT SY
CATEGORY CODE 0010		
PROJECT	CL	114,000
	TOTALS	**114,000**

BASE AGGREGATE DENSE AND BREAKER RUN ITEMS

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0500 SHAPING SHOULDERS STA	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
CATEGORY CODE 0010				
PROJECT	LT & RT	6,900	738	750
	TOTALS	**6,900**	**738**	**750**

RUMBLE STRIPS

STATION	LOCATION	465.0475 ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL LF
CATEGORY CODE 0010		
271+00 - 640+13	CL	36,900
	TOTALS	**36,900**

MISC. SHEET 2

CONCRETE SAFETY ISLANDS

STATION - STATION	LOCATION	602.2400 CONCRETE SAFETY ISLANDS SF	COMMENTS
CATEGORY CODE 0030			
370+10	LT	353	
420+75	RT	342	
TOTALS		**695**	

BEAMGUARD ITEMS

STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2350 MGS GUARDRAIL SHORT RADIUS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EACH	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	COMMENTS
CATEGORY CODE 0010								
314+86 - 318+18	LT & RT	116	71	160	3	1	1	B-09-271
473+10 - 476+25	LT & RT	100	--	160	4	--	1	B-09-016
TOTAL		**216**	**71**	**320**	**7**	**1**	**2**	

RIPRAP AND GEOTEXTILE FABRIC ITEMS

STATION	LOCATION	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
CATEGORY CODE 0010			
310+27	LT	5	14
316+69	LT & RT	37	111
339+85	RT	5	14
398+63	LT	5	14
419+91	TRT	5	14
474+61	LT & RT	44	133
TOTALS		**101**	**300**

LANDSCAPING ITEMS

STATION - STATION	LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0160 SEED MIX NO. 60 LBS	630.0200 SEEDING TEMPORARY LBS	630.0500 SEED WATER MGAL	COMMENTS
CATEGORY CODE 0010							
309+18 - 311+28	LT & RT	482	0.31	6.5	6.5	12	CULVERT REPLACEMENT
338+87 - 340+91	LT & RT	525	0.33	7.0	7.0	13	CULVERT REPLACEMENT
362+67 - 364+67	LT & RT	474	0.30	6.4	6.4	12	CULVERT REPLACEMENT
397+61 - 399+63	LT & RT	664	0.42	9.0	9.0	17	CULVERT REPLACEMENT
418+91 - 420+91	LT & RT	443	0.28	5.9	5.9	11	CULVERT REPLACEMENT
TOTALS		**2,588**	**1.64**	**34.8**	**34.8**	**65**	
FOR INFORMATIONAL PURPOSES:							
314+74 - 318+65	LT & RT	925	0.58	12.5	12.5	23	GUARDRAIL REPLACEMENT
472+80 - 476+54	LT & RT	642	0.41	8.7	8.7	16	GUARDRAIL REPLACEMENT

WATER

STATION - STATION	624.0100 WATER MGAL
CATEGORY CODE 0010	
PROJECT	175
TOTALS	**175**

SIGNING ITEMS

STATION	LOCATION	SIGN CODE	DESCRIPTION	SIZE	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	638.2102 MOVING SIGNS TYPE II EACH	634.0612 POSTS WOOD 4X6X12 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.2602 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
CATEGORY CODE 0010										
370+10	LT	R1-1	STOP	30"X30"	5.18	--	1	1	1	
420+75	RT	R1-1	STOP	30"X30"	5.18	--	1	1	1	
PROJECT		W14-3	NO PASSING ZONE	48"X48"	--	9	9	--	9	NO PASSING ZONE SIGNS RELOCATION
				TOTALS	**10.36**	**9**	**11**	**2**	**11**	

TRAFFIC CONTROL ITEMS

LOCATION	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III DAYS	643.0900 SIGNS DAYS	643.5000 TRAFFIC CONTROL EACH
CATEGORY CODE 0010				
PROJECT	24,000	900	4,800	1
TOTALS	**24,000**	**900**	**4,800**	**1**

CURB AND GUTTER ITEMS

STATION - STATION	LOCATION	601.0407 CONCRETE CURB AND GUTTER 18-INCH TYPE D LF	601.0411 CONCRETE CURB AND GUTTER 30-INCH TYPE D LF	601.0557 CONCRETE CURB AND GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	COMMENTS
263+50	LT	--	--	100	STH 40 INTERSECTION
370+10	LT	106	--	100	CTH AA INTERSECTION
420+75	RT	104	114	100	STH 124 INTERSECTION
TOTAL		**210**	**114**	**300**	

MISC. SHEET 3

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE	628.2008 EROSION MAT URBAN CLASS 1 TYPE B	628.7555 CULVERT PIPE CHECKS	628.7570 ROCK BAGS	628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL
				SY	EACH	EACH	EACH	EACH
CATEGORY CODE 0010								
PROJECT	--	--	--	--	24	--	4	2
309+18 - 311+28	LT & RT	390	195	438	--	--	--	--
314+74 - 318+65	LT & RT	524	262	841	--	--	--	--
338+87 - 340+91	LT & RT	394	197	477	--	--	--	--
362+67 - 364+67	LT & RT	384	192	431	--	--	--	--
397+61 - 399+63	LT & RT	392	196	604	--	--	--	--
418+91 - 420+91	LT & RT	266	133	403	--	--	--	--
472+80 - 476+54	LT & RT	472	236	581				
UNDISTRIBUTED	LT/RT	50	25	--	--	100	--	--
TOTALS		**2,872**	**1,436**	**3,775**	**24**	**100**	**4**	**2**

PAVEMENT MARKING

LOCATION	OFFSET	646.1020 MARKING LINE EPOXY 4-INCH YELLOW	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE	646.3020 MARKING LINE EPOXY 8-INCH WHITE	646.5020 MARKING ARROW EPOXY	646.5120 MARKING WORD EPOXY	646.6120 MARKING STOP LINE EPOXY 18-INCH	648.0100 LOCATING NO PASSING ZONES	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH	649.0120 TEMPORARY MARKING LINE EPOXY 4-INCH	COMMENTS
		LF	LF	LF	EACH	EACH	LF	MI	LF	LF	
CATEGORY CODE 0010											
PROJECT	CL	22,000	72,300	450	1	1	75	6.99	44,000	22,000	
TOTALS		**22,000**	**72,300**	**450**	**1**	**1**	**75**	**6.99**	**44,000**	**22,000**	

GRADING SHAPING AND FINISHING DITCH

STATION	LOCATION	SPV.0090.01 GRADING SHAPING AND FINISHING DITCH LF
CATEGORY CODE 0010		
284+43	LT & RT	100
310+27	LT & RT	100
339+85	LT & RT	100
363+66	LT & RT	100
398+63	LT & RT	100
419+91	LT & RT	100
631+70	LT & RT	100
638+38	LT & RT	100
UNDISTRIBUTED	LT & RT	200
TOTALS		**1,000**

ASPHALT STABILIZING AGENT

STATION	LOCATION	455.0770.S ASPHALT STABILIZING AGENT TON
CATEGORY CODE 0010		
PROJECT	CL	510
TOTALS		**510**

MATERIAL TRANSFER VEHICLE

STATION	LOCATION	460.9000.S MATERIAL TRANSFER VEHICLE EACH
CATEGORY CODE 0010		
PROJECT	LT & RT	1
TOTALS		**1**

SAWING ITEMS

LOCATION	690.0150 SAWING ASPHALT LF	COMMENTS
CATEGORY CODE 0010		
310+27	60	CULVERT REPLACEMENT
314+76	24	125TH STREET
323+08	14	DWY
337+61	13	DWY
339+85	60	CULVERT REPLACEMENT
341+29	26	130TH STREET
343+31	22	125TH STREET
370+27	52	CTH AA
373+34	24	130TH STREET
391+77	15	DWY
396+44	25	140TH STREET
398+63	60	CULVERT REPLACEMENT
404+63	10	DWY
408+26	12	DWY
411+60	25	UNNAMED ROAD
415+64	10	DWY
417+20	19	DWY
419+91	60	CULVERT REPLACEMENT
420+67	54	STH 124
483+72	28	190TH AVENUE
505+50	28	190TH AVENUE
529+58	24	165TH STREET
530+48	13	DWY
540+05	26	190TH AVENUE
558+67	29	CORNELL LAKE DRIVE
547+54	22	DWY
615+84	22	CTH E
626+03	22	180TH STREET
640+13	30	END PROJECT
TOTALS	**829**	

CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.5500 CURB & GUTTER LF	650.6000 PIPE CULVERTS EACH	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL LS
CATEGORY CODE 0010					
PROJECT	CL	324	4	22300	1
TOTALS		**324**	**4**	**22,300**	**1**

MISC. SHEET 4

3

REMOVING SMALL PIPE CULVERTS

STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	COMMENTS
CATEGORY CODE 0010			
261+04	LT/RT	1	PCP 15"
TOTALS		**1**	

REMOVING ASPHALTIC SURFACE

STATION - STATION	LOCATION	204.0110 SY	COMMENTS
113+00	LT/RT	48	CURB RAMP REPLACEMENT
116+35	RT	13	ISLAND REPLACEMENT
126+10	RT	14	ISLAND REPLACEMENT
261+04	LT/RT	393	CULVERT REPLACEMENT
TOTALS		**468**	

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION - STATION	LOCATION	204.0105 SY	COMMENTS
101+00	CL	194	BEGIN PROJECT
113+23	LT	46	9TH AVE
113+86	CL	170	RAILROAD CROSSING
115+62	LT	22	DWY
116+19	RT	54	MARTIN ROAD/CTH SS
117+76	RT	8	DWY
119+98	RT	22	DWY
120+45	RT	27	DWY
123+57	LT	29	DWY
125+70	LT	8	DWY
125+96	RT	46	VETERANS MEMORIAL DRIVE
127+81	LT	14	DWY
128+98	CL	67	MILL/FILL TO CIR TRANSITION
130+60	RT	11	DWY
132+90	LT	7	DWY
143+94	LT	47	NORTH INDUSTRIAL DRIVE
147+36	LT	6	DWY
149+34	LT	8	DWY
153+24	LT	8	DWY
156+87	LT	19	DWY
158+88	RT	14	DWY
159+96	RT	13	DWY
160+52	CL	67	MILL/FILL TO CIR TRANSITION
162+27	LT	57	CTHSS/STH64
162+27	LT	66	CTH F
167+32	CL	67	MILL/FILL TO CIR TRANSITION
171+51	LT	16	DWY
186+45	LT	17	DWY
195+28	LT	26	102ND STREET
232+37	LT	28	110TH STREET
25+97	CL	67	MILL/FILL TO CIR TRANSITION
263+42	LT	64	STH 40
267+73	RT	26	CTH GG
270+12	CL	67	MILL/FILL TO CIR TRANSITION
TOTALS		**1,408**	

REMOVING ASPHALTIC SURFACE MILLING

STATION - STATION	LOCATION	204.0120 SY	COMMENTS
CATEGORY CODE 0010			
101+00 - 129+00	CL	10,890	BEGIN PROJECT
160+52 - 167+32	CL	4,255	STH 40/64 INTERSECTION
259+97 - 270+12	CL	5,370	STH 40/64 INTERSECTION
CATEGORY CODE 0020		**20,515**	
101+00 - 111+50	LT & RT	1,335	PARKING LANES
TOTALS		**21,850**	

REMOVING CURB AND GUTTER

STATION - STATION	LOCATION	204.0150 LF	COMMENTS
113+00	LT/RT	65	CURB RAMP REPLACMENTS
116+35	RT	57	ISLAND REPLACEMENTS
126+10	RT	64	ISLAND REPLACEMENTS
TOTAL		**186**	

REMOVING CONCRETE SIDEWALK

STATION - STATION	LOCATION	204.0155 SY	COMMENTS
113+00	LT/RT	70	CURB RAMP REPLACEMENTS
TOTAL		**70**	

REMOVING GUARDRAIL

STATION - STATION	LOCATION	204.0165 LF
CATEGORY CODE 0010		
120+73 - 123+13	LT	240
TOTAL		**240**

BASE AGGREGATE DENSE ITEMS

STATION - STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0500 SHAPING SHOULDERS STA	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	COMMENTS
CATEGORY CODE 0010					
115+82 - 271+00	LT/RT	2,700	310	--	SHOULDERS
261+04	LT/RT	--	--	150	CULVERT
TOTALS		**2,700**	**310**	**150**	

MISC. SHEET 1

PROJECT NO: 8620-00-73	HWY: STH 40	COUNTY: CHIPPEWA	MISCELLANEOUS QUANTITIES	SHEET: 44	E

FILE NAME : 030201_mq.ppt PLOT DATE : PLOT BY : gaddk PLOT NAME : PLOT SCALE : 1:1

3

EXCAVATION COMMON

STATION	LOCATION	205.0100 EXCAVATION COMMON CY	COMMENTS
CATEGORY CODE 0010			
261+04	LT/RT	450	PCP 15"
TOTALS		**450**	

TEMPORARY LANE SHIFT

STATION	LOCATION	208.1500.S TEMPORARY LANE SHIFT DURING CULVERT WORK EACH
CATEGORY CODE 0010		
261+04	LT/RT	1
TOTALS		**1**

COLD-IN-PLACE RECYCLING (CIR) ASPHALTIC PAVEMENT

STATION	LOCATION	327.1000.S ASPHALTIC CIR PAVEMENT SY
CATEGORY CODE 0010		
PROJECT	CL	41,700
TOTALS		**41,700**

3

PREPARE FOUNDATION FOR CIR PAVEMENT

STATION	LOCATION	211.0700.S PREPARE FOUNDATION FOR CIR PAVEMENT EACH
CATEGORY CODE 0010		
PROJECT	CL	1
TOTALS		**1**

BASE REPAIR FOR CIR PAVEMENT

STATION	LOCATION	211.0800.S BASE REPAIR FOR CIR PAVEMENT CY
CATEGORY CODE 0010		
PROJECT	CL	500
TOTALS		**500**

RUMBLE STRIPS

STATION	LOCATION	465.0475 ASPHALTIC CENTERLINE RUMBLE STRIPS 2-LANE RURAL LF
CATEGORY CODE 0010		
115+87 - 271+00	CL	15,500
TOTALS		**15,500**

ASPHALTIC ITEMS

STATION - STATION	LOCATION	455.0605 TACK COAT GAL	460.0105.S HMA PAVEMENT PWL TEST STRIP VOLUMETRICS EACH	460.0110.S HMA PAVEMENT PWL TEST STRIP DENSITY EACH	460.6645 HMA PAVEMENT 5 MT 58-34 V TON	465.0105 ASPHALTIC SURFACE TON	465.0110 ASPHALTIC SURFACE PATCHING TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
CATEGORY CODE 0010								
PROJECT	CL	2,880	2	2	11,405	160	50	75
CATEGORY CODE 0020								
101+00 - 111+50		70	--	--	245	--	--	--
	TOTALS	**2,950**	**2**	**2**	**11,650**	**160**	**50**	**75**

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
12' Driving Lane	101+00 - 271+00	Upper Layer	5 MT 58-34V	5 MT 58-34 V	4,270	1.5"	PWL Incentive Air Voids HMA Pavement 460.2010	Incentive Density PWL HMA Pavement 460.2005
12' Driving Lane	101+00 - 271+00	Lower Layer	Existing HMA Surface	5 MT 58-34 V	4,980	1.25" - 1.75"	PWL Incentive Air Voids HMA Pavement 460.2009	Incentive Density PWL HMA Pavement 460.2005
3' Shoulder / Side Roads / Guardrail	101+00 - 271+00	Upper Layer	5 MT 58-34V	5 MT 58-34 V	1,100	1.5"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department, not eligible for incentive
3' Shoulder / Side Roads / Guardrail	101+00 - 271+00	Lower Layer	Existing HMA Surface	5 MT 58-34 V	1,300	1.25" - 1.75"	PWL Incentive Air Voids HMA Pavement 460.2010	Acceptance testing by the department, not eligible for incentive
Various	101+00 - 271+00	Curb Ramps, Islands, & Culvert Patch	Base Aggregate Dense	Asphaltic Surface	160	6"	QMP As Per SS 465	Acceptance By Ordinary Compaction

MISC. SHEET 2

CULVERT PIPE ITEMS

STATION	LOCATION	204.9060.S REMOVE APRON ENDWALLS EACH	520.4115 * CULVERT PIPE CLASS IV 15-INCH LF	520.8700 CLEANING CULVERT PIPES EACH	521.1015 APRON ENDWALLS FOR CULVERT PIPE 15-INCH EACH	522.2619 APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE ELLIPTICAL 19X30-INCH EACH	633.5200 CULVERT MARKERS EACH	COMMENTS
CATEGORY CODE 0010								
190+04	LT & RT	1	--	1	--	1	2	ENDWALL REPLACEMENT
190+12	LT & RT	--	--	1	--	--	2	
194+49	LT & RT	2	--	1	--	2	2	ENDWALL REPLACEMENT
194+57	LT & RT	--	--	1	--	--	2	
243+44	LT & RT	--	--	1	--	--	2	
243+50	LT & RT	--	--	1	--	--	2	
261+04	LT & RT	--	68	--	2	--	2	CULVERT REPLACEMENT
	TOTALS	**3**	**68**	**6**	**2**	**3**	**14**	

* CONCRETE PIPE MUST BE TIED ACROSS THE ENTIRE LENGTH

WATER

STATION - STATION	624.0100 WATER MGAL
CATEGORY CODE 0010	
PROJECT	125
TOTALS	**125**

BEAMGUARD ITEMS

STATION - STATION	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.2300 MGS GUARDRAIL 3 LF	614.2340 MGS GUARDRAIL 3 L LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	COMMENTS
CATEGORY CODE 0010						
115+88 - 123+20	LT	1	569	84	2	DRAINAGE WAY
TOTAL		**1**	**569**	**84**	**2**	

RIPRAP AND GEOTEXTILE FABRIC ITEMS

STATION	LOCATION	606.0300 RIPRAP HEAVY CY	645.0120 GEOTEXTILE FABRIC TYPE HR SY
CATEGORY CODE 0010			
261+04	LT	5	15
	TOTALS	**5**	**15**

CONCRETE SAFETY ISLANDS

STATION - STATION	LOCATION	602.2400 CONCRETE SAFETY ISLANDS SF	COMMENTS
CATEGORY CODE 0030			
116+35	RT	151	
126+10	RT	177	
	TOTALS	**328**	

CURB AND GUTTER ITEMS

STATION - STATION	LOCATION	601.0407 CONCRETE CURB AND GUTTER 18-INCH TYPE D LF	601.0411 CONCRETE CURB AND GUTTER 30-INCH TYPE D LF	COMMENTS
113+00	LT/RT	--	65	CURB RAMP REPLACMENTS
116+35	RT	57	--	ISLAND REPALCEMENTS
126+10	RT	64	--	ISLAND REPALCEMENTS
	TOTAL	**121**	**65**	

CONCRETE SIDEWALK ITEMS

STATION - STATION	LOCATION	602.0415 CONCRETE SIDEWALK 6-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	602.0610 CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW SF	COMMENTS
CATEGORY CODE 0030					
113+00	LT & RT	646	30	12	CURB RAMP REPLACEMENT
	TOTALS	**646**	**30**	**12**	

MISC. SHEET 3

LANDSCAPING ITEMS

STATION - STATION	LOCATION	625.0100 TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0160 SEED MIX NO. 60 LBS	630.0200 SEEDING TEMPORARY LBS	630.0500 SEED WATER MGAL	SPV.0180.01 PREPARE TOPSOIL FOR LAWN TYPE TURF SY	COMMENTS
CATEGORY CODE 0010								
112+80 - 113+18	RT	62	0.04	0.9	0.9	2	62	CURB RAMP REPLACEMENT
113+76 - 113+93	RT	23	0.01	0.3	0.3	1	23	CURB RAMP REPLACEMENT
189+04 - 191+12	LT & RT	532	0.34	7.2	7.2	13	--	ENDWALL REPLACEMENT
193+49 - 195+06	LT & RT	524	0.33	7.0	7.0	13	--	ENDWALL REPLACEMENT
260+05 - 262+06	LT & RT	833	0.53	11.2	11.2	21	--	CULVERT REPLACEMENT
	TOTALS	**1,974**	**1.25**	**26.6**	**26.6**	**49**	**85**	
FOR INFORMATIONAL PURPOSES:								
115+82 - 123+26	LT	439	0.28	5.9	5.9	11	--	GUARDRAIL REPLACEMENT

ADJUSTING MANHOLE COVERS

STATION - STATION	LOCATION	611.8110 ADJUSTING MANHOLE COVERS EACH
CATEGORY CODE 0030		
102+07	LT	1
103+67	RT	1
104+20	LT	1
106+44	RT	1
107+20	LT	1
109+32	RT	1
110+42	LT	1
112+02	RT	1
TOTALS		**8**

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE	628.2008 EROSION MAT URBAN CLASS 1 TYPE B SY	628.7105 INLET PROTECTION TYPE C EACH	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY ERSION CONTROL EACH
CATEGORY CODE 0010									
PROJECT	--	--	--	--	8	30	--	4	2
112+80 - 113+18	RT	--	--	56	--	--	--	--	--
113+76 - 113+93	RT	--	--	21	--	--	--	--	--
115+82 - 123+26	LT	--	--	400	--	--	--	--	--
189+04 - 191+12	LT & RT	400	200	485	--	--	--	--	--
193+49 - 195+06	LT & RT	300	150	476	--	--	--	--	--
260+05 - 262+06	LT & RT	375	188	757	--	--	--	--	--
UNDISTRIBUTED	LT/RT	50	25	--	--	--	75	--	--
	TOTALS	**1,125**	**563**	**2,195**	**8**	**30**	**75**	**4**	**2**

SIGNING ITEMS

STATION	LOCATION	SIGN CODE	DESCRIPTION	SIZE	637.2210 SIGNS TYPE II REFLECTIVE H S.F.	638.2102 MOVING SIGNS TYPE II EACH	634.0612 POSTS WOOD 4X6X12 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.2602 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
CATEGORY CODE 0010										
116+35	RT	R1-1	STOP	30"X30"	5.18	--	1	1	1	
126+10	RT	R1-1	STOP	30"X30"	5.18	--	1	1	--	EXISTING MOUNTED ON POWER POLE
PROJECT		W14-3	NO PASSING ZONE		--	5	5	--	5	NO PASSING ZONE SIGNS RELOCATION
	TOTALS				**10.36**	**5**	**7**	**2**	**6**	

TRAFFIC CONTROL ITEMS

LOCATION	643.0300 DRUMS DAY	643.0900 SIGNS DAY	643.5000 TRAFFIC CONTROL EACH	644.1430 TEMPORARY PEDESTRIAN SURFACE PLATE SF	644.1601 TEMPORARY PEDESTRIAN CURB RAMP DAY
CATEGORY CODE 0010					
PROJECT	6,000	1,200	1	265	14
TOTALS	**6,000**	**1,200**	**1**	**265**	**14**

MISC. SHEET 4

PAVEMENT MARKING

LOCATION	OFFSET	646.1020 MARKING LINE EPOXY 4-INCH YELLOW LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH WHITE LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE LF	646.4520 MARKING LINE SAME DAY EPOXY 4-INCH LF	646.5020 MAKRING ARROW EPOXY EACH	646.5120 MARKING WORD EPOXY EACH	646.5320 MARKING RAILROAD CROSSING EPOXY EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.7520 MARKING CROSSWALK EPOXY LADDER PATTERN 24-INCH LF	646.8320 MARKING PARKING STALL EPOXY LF	648.0100 LOCATING NO PASSING ZONES MI	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH LF	649.0120 TEMPORARY MARKING LINE EPOXY 4-INCH LF
CATEGORY CODE 0010														
PROJECT	CL	13,000	29,600	1,150	2,900	1	3	2	230	34	185	3.22	26,000	13,000
TOTALS		**13,000**	**29,600**	**1,150**	**2,900**	**1**	**3**	**2**	**230**	**34**	**185**	**3.22**	**26,000**	**13,000**

SAWING ASPHALT

LOCATION	690.0150 SAWING ASPHALT LF	COMMENTS
CATEGORY CODE 0010		
101+00	35	BEGIN PROJECT
113+00	134	CURB RAMPS
113+23	42	9TH AVE
114+00	152	RAILROAD CROSSING
115+80 - 123+50	770	GUARDRAIL
116+19	50	MARTIN ROAD/CTH SS
116+35	70	ISLAND
117+76	15	DWY
119+98	40	DWY
120+45	49	DWY
123+57	53	DWY
125+70	14	DWY
125+96	41	VETERANS MEMEORIAL DRIVE
126+10	76	ISLAND
127+81	26	DWY
130+60	20	DWY
132+90	12	DWY
143+94	42	NORTH INDUSTRIAL DRIVE
147+36	11	DWY
149+34	14	DWY
153+24	15	DWY
156+87	34	DWY
158+88	25	DWY
159+96	23	DWY
162+27	51	CTH SS/STH64
162+27	59	CTH F
171+51	28	DWY
186+45	30	DWY
195+28	23	102ND STREET
232+37	25	110TH STREET
261+04	70	CULVERT REPLACEMENT
263+42	58	STH 40
267+73	23	CTH GG
TOTALS	**2,130**	

CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.5500 CURB & GUTTER LF	650.6000 PIPE CULVERTS EACH	650.8000 RESURFACING REFERENCE LF	650.9000 CURB RAMPS EACH	650.9910 SUPPLEMENTAL CONTROL LS
CATEGORY CODE 0010						
PROJECT	CL	186	1	17000	3	1
TOTALS		**186**	**1**	**17,000**	**3**	**1**

SAWING CONCRETE

LOCATION	690.0250 SAWING CONCRETE LF	COMMENTS
CATEGORY CODE 0010		
113+00	30	CURB RAMPS
TOTALS	**30**	

GRADING SHAPING AND FINISHING DITCH

STATION	LOCATION	SPV.0090.01 GRADING SHAPING AND FINISHING DITCH LF
CATEGORY CODE 0010		
190+08	LT & RT	100
194+53	LT & RT	100
243+47	LT & RT	100
261+04	LT & RT	100
UNDISTRIBUTED	LT & RT	100
TOTALS		**500**

MATERIAL TRANSFER VEHICLE

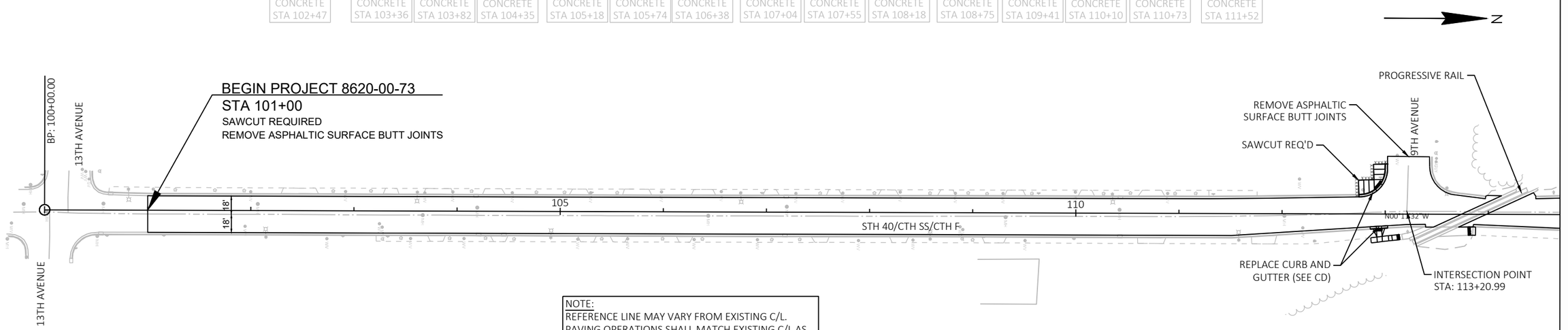
STATION	LOCATION	460.9000.S MATERIAL TRANSFER VEHICLE EACH
CATEGORY CODE 0010		
PROJECT	LT & RT	1
TOTALS		**1**

ASPHALT STABILIZING AGENT

STATION	LOCATION	455.0770.S ASPHALT STABILIZING AGENT TON
CATEGORY CODE 0010		
PROJECT	CL	190
TOTALS		**190**

MISC. SHEET 5

31' P.E. CONCRETE STA 102+47 | 11' P.E. CONCRETE STA 103+36 | 24' P.E. CONCRETE STA 103+82 | 16' P.E. CONCRETE STA 104+35 | 13' P.E. CONCRETE STA 105+18 | 24' P.E. CONCRETE STA 105+74 | 18' P.E. CONCRETE STA 106+38 | 10' P.E. CONCRETE STA 107+04 | 10' P.E. CONCRETE STA 107+55 | 14' P.E. CONCRETE STA 108+18 | 12' P.E. CONCRETE STA 108+75 | 15' P.E. CONCRETE STA 109+41 | 10' P.E. CONCRETE STA 110+10 | 19' P.E. CONCRETE STA 110+73 | 53' P.E. CONCRETE STA 111+52

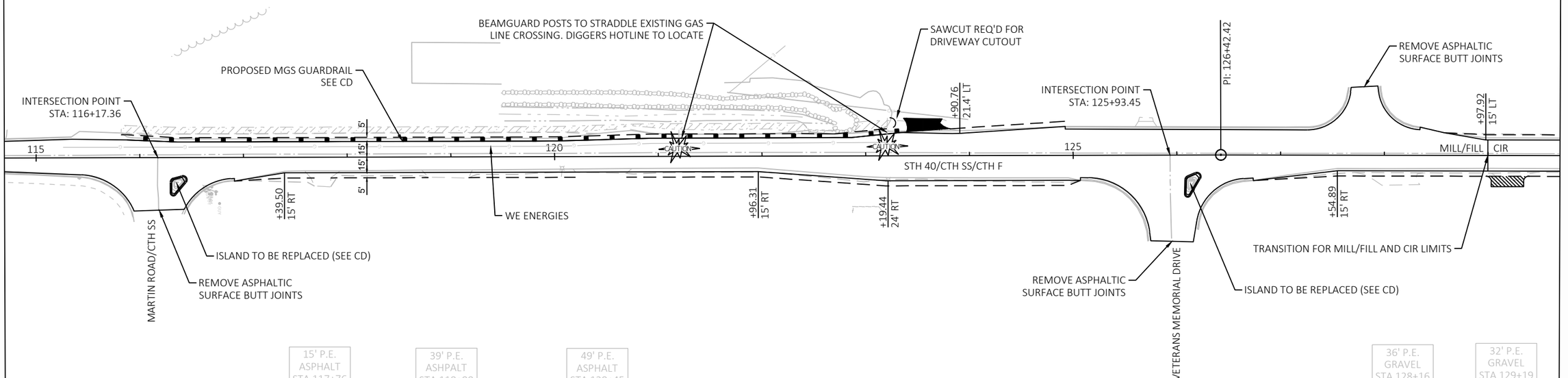


NOTE:
REFERENCE LINE MAY VARY FROM EXISTING C/L. PAVING OPERATIONS SHALL MATCH EXISTING C/L AS BEST AS POSSIBLE. EXISTING GRAVEL SHOULDERS VARY IN WIDTH. INTENT IS TO SHOULDER TO EXISTING WIDTH UNLESS GREATER THAN SHOWN IN TYPICALS.

LEGEND
- ASPHALT PAVEMENT DRIVEWAYS AND FIELD ENTRANCES
- BASE AGGREGATE DENSE 3/4 INCH DRIVEWAYS AND FIELD ENTRANCES

12' P.E. CONCRETE STA 103+80 | 11' P.E. CONCRETE STA 104+41 | 13' P.E. CONCRETE STA 105+26 | 12' P.E. CONCRETE STA 105+57 | 10' P.E. CONCRETE STA 106+20 | 12' P.E. CONCRETE STA 107+52 | 13' P.E. CONCRETE STA 108+28 | 18' P.E. CONCRETE STA 109+21 | 25' P.E. CONCRETE STA 110+72 | 22' P.E. CONCRETE STA 111+81

40' P.E. ASPHALT STA 115+62 | 53' P.E. ASPHALT STA 123+57 | 14' P.E. APHALT STA 125+70 | 26' P.E. ASPHALT STA 127+80



15' P.E. ASPHALT STA 117+76 | 39' P.E. ASHPALT STA 118+98 | 49' P.E. ASPHALT STA 120+45 | 36' P.E. GRAVEL STA 128+16 | 32' P.E. GRAVEL STA 129+19

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 49	E

12' P.E.
ASPHALT
STA 132+90

13' P.E.
GRAVEL
STA 137+05

14' P.E.
GRAVEL
STA 139+20

N

NORTH INDUSTRIAL DRIVE

REMOVE ASPHALTIC
SURFACE BUTT JOINTS

INTERSECTION POINT
STA: 143+92.10

+56.30
15' LT

5'
15'
15'
5'

130
135
140

STH 40/CTH SS/CTH F

N00°03'36"E

+00.96
15' RT

+70.61
24' RT

20' P.E.
ASPHALT
STA 130+60

LEGEND

ASPHALT PAVEMENT DRIVEWAYS AND FIELD ENTRANCES

BASE AGGREGATE DENSE 3/4 INCH DRIVEWAYS AND FIELD ENTRANCES

23' P.E.
GRAVEL
STA 139+24

20' P.E.
GRAVEL
STA 140+48

5

5

17' P.E.
GRAVEL
STA 146+96

11' P.E.
ASPHALT
STA 147+36

14' P.E.
ASPHALT
STA 149+34

15' P.E.
ASPHALT
STA 153+24

34' P.E.
ASHPALT
STA 156+87

N

+09.90
22' LT

+88.76
15' LT

5'
15'
15'
5'

145
150
155

STH 40/CTH SS/CTH F

REMOVE ASPHALTIC
SURFACE BUTT JOINTS

+58.82
25' LT

+91.43
24' RT

+09.56
15' RT

31' P.E.
GRAVEL
STA 156+84

25' P.E.
ASPHALT
STA 158+88

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 50	E

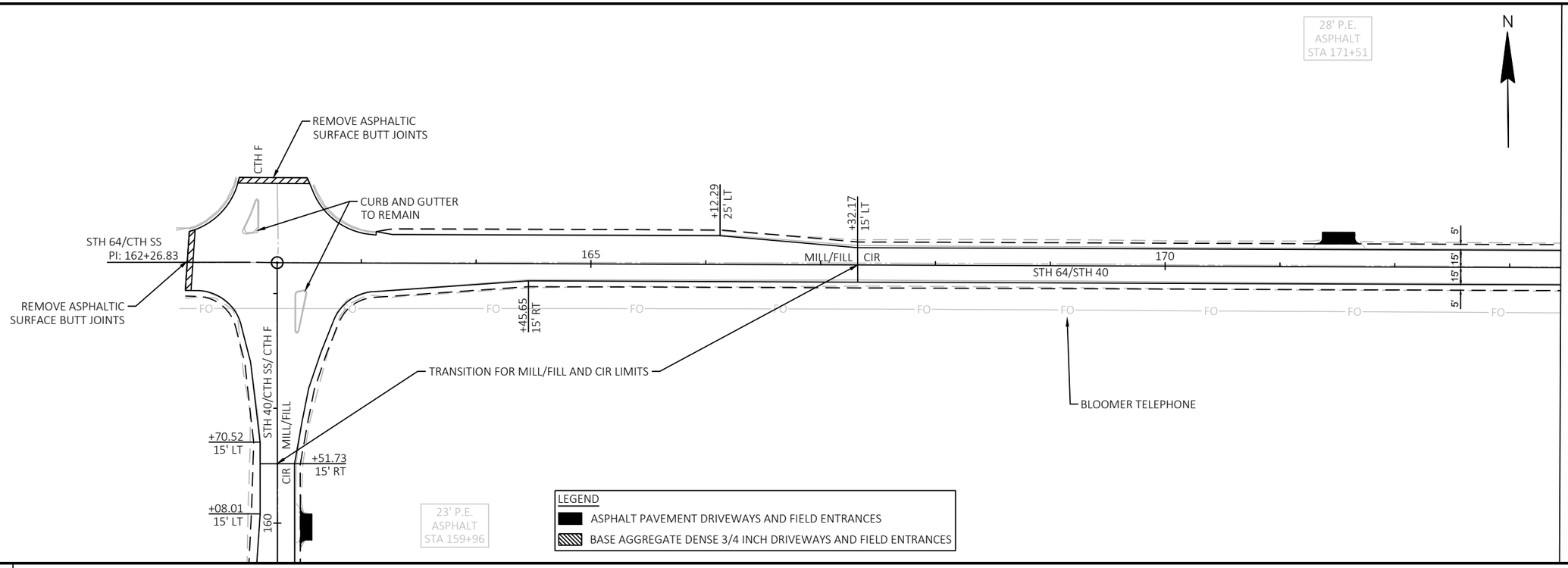
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (176)

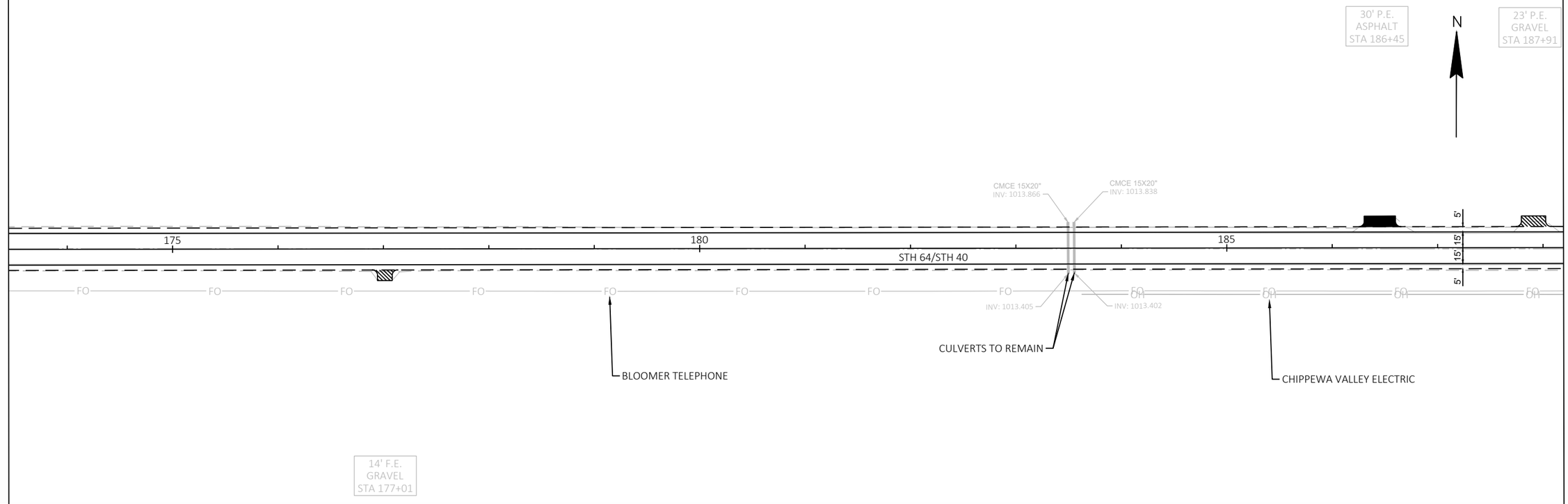
PLOT DATE : 7/8/2021 8:08 AM

PLOT BY : DEXTER KAETTERHENRY

PLOT NAME :

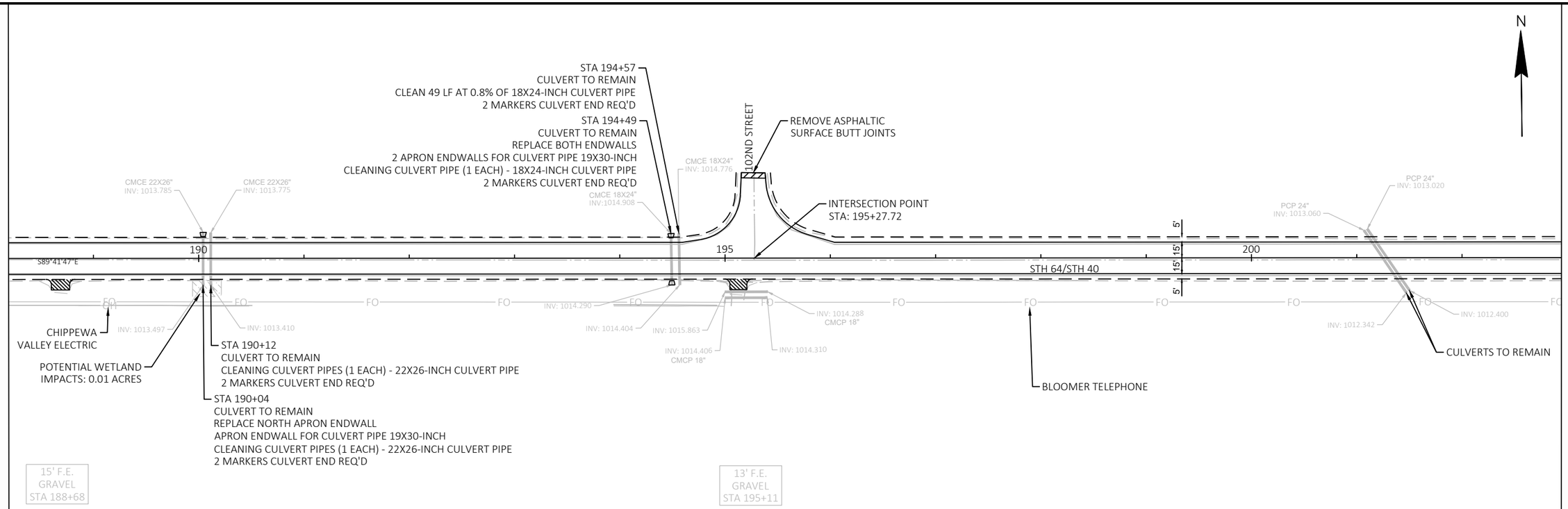
PLOT SCALE : 1 IN:100 FT

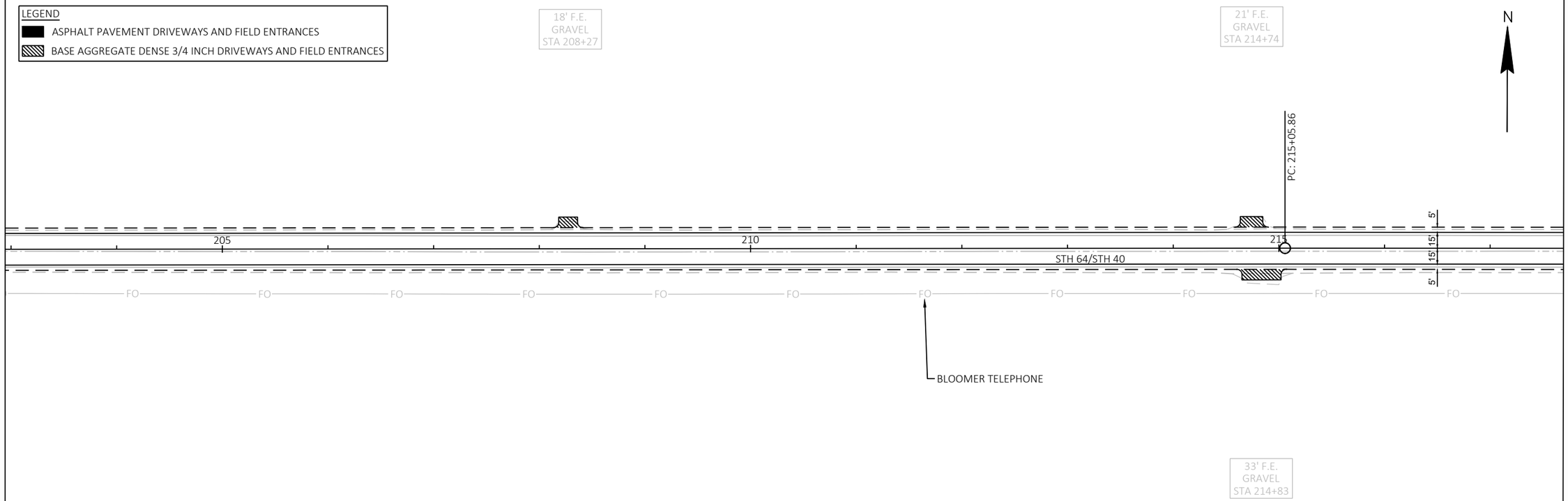




PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 51	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (177)
PLOT DATE : 7/8/2021 8:08 AM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT





PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 52 E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (178)
PLOT DATE : 7/8/2021 8:08 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME : PLOT SCALE : 1 IN:100 FT

19' P.E.
GRAVEL
STA 219+86

N

REMOVE ASPHALTIC
SURFACE BUTT JOINTS

110TH STREET

CULVERT TO REMAIN

PCP 24"
INV: 1016.371

220 225 230

5' 15' 15' 5'

STH 64/STH 40

FO FO FO FO FO OH FO FO FO FO FO FO FO

INV: 1015.707

INTERSECTION POINT
STA: 232+38.24

BLOOMER TELEPHONE

CL CURVE DATA
CURVE 1

PI	228+78.545
N	196627.334
E	153449.871
DELTA	00°09'58"
D	00°00'22"
T	1372.685'
L	2745.369'
R	946727.254'
LC	2745.368'
LCB	S89°33'10"E

LEGEND

ASPHALT PAVEMENT DRIVEWAYS AND FIELD ENTRANCES

BASE AGGREGATE DENSE 3/4 INCH DRIVEWAYS AND FIELD ENTRANCES

16' F.E.
GRAVEL
STA 246+05

N

CL CURVE DATA
CURVE 2

PI	247+19.357
N	196609.239
E	155290.594
DELTA	00°08'06"
D	00°00'52"
T	468.127'
L	936.254'
R	397165.541'
LC	936.254'
LCB	S89°16'22"E

PCC: 242+51.23

CMCE 20X28"
INV: 1021.626

CMCE 20X28"
INV: 1021.533

235 240 245

5' 15' 15' 5'

STH 64/STH 40

FO FO FO FO FO FO FO FO FO OH FO FO FO

INV: 1020.974

INV: 1020.825

BLOOMER TELEPHONE

STA 243+50
CULVERT TO REMAIN
CLEANING CULVERT PIPES (1 EACH) - 20X28-INCH CULVERT PIPE
2 MARKERS CULVERT END REQ'D

STA 243+44
CULVERT TO REMAIN
CLEANING CULVERT PIPES (1 EACH) - 20X28-INCH CULVERT PIPE
2 MARKERS CULVERT END REQ'D

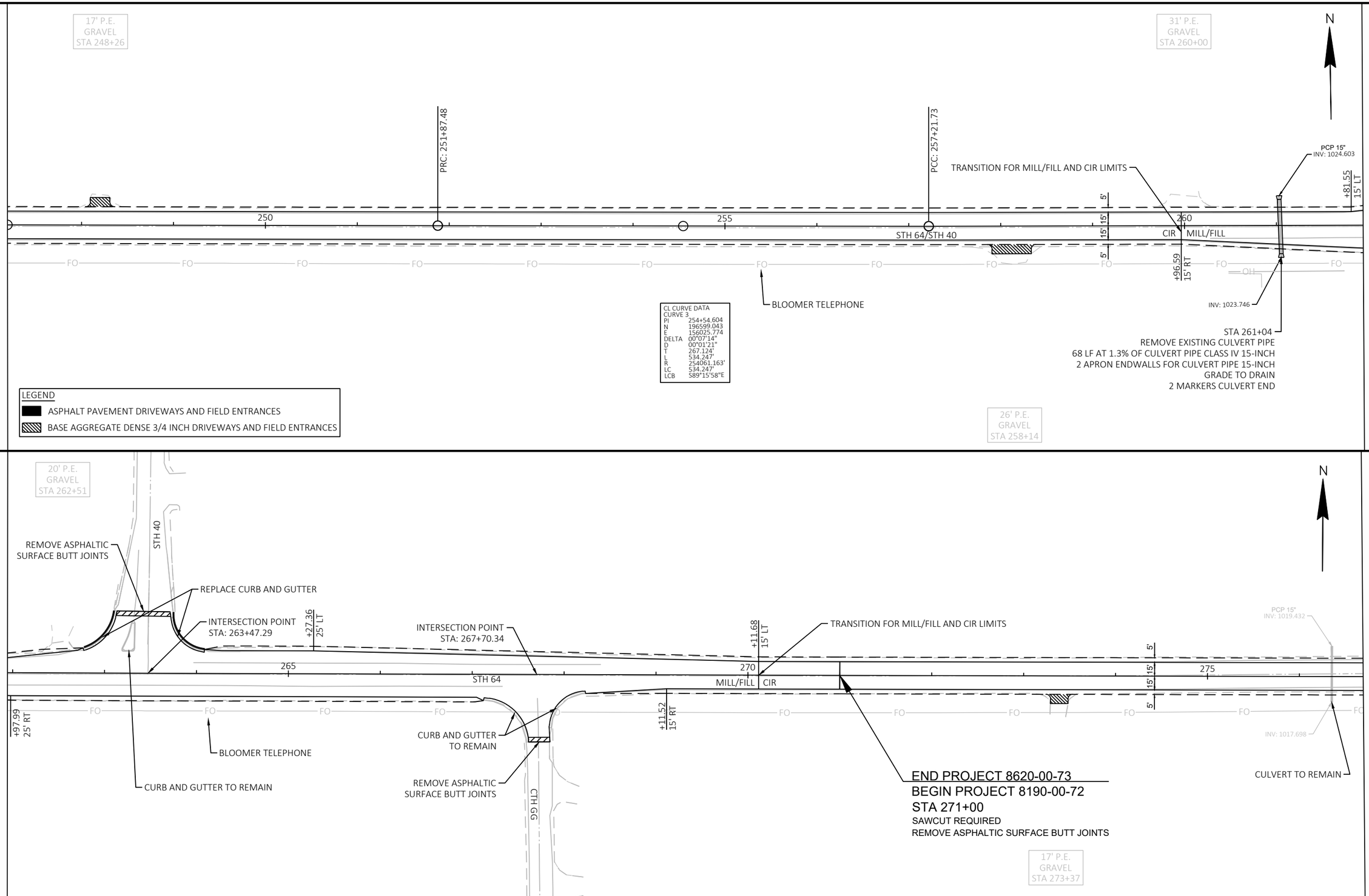
19' P.E.
GRAVEL
STA 234+57

19' F.E.
GRAVEL
STA 241+64

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 53 E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (179)

PLOT DATE : 7/8/2021 8:08 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME : PLOT SCALE : 1 IN:100 FT



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 54	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (180)
PLOT DATE : 8/18/2021 12:55 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

15' P.E.
GRAVEL
STA 278+88

12' P.E.
GRAVEL
STA 280+44

13' F.E.
GRAVEL
STA 281+63

13' P.E.
GRAVEL
STA 290+66

N

STA 284+43
CULVERT TO REMAIN
CLEANING CULVERT PIPE (1 EACH) - 15" PCP
2 MARKERS CULVERT END REQ'D

PCP 15"
INV: 1012.109

280

285

290

STH 64

5'

15'

15'

5'

FO FO FO FO FO FO FO FO FO FO FO FO

INV: 1011.855

BLOOMER TELEPHONE

LEGEND

ASPHALT PAVEMENT DRIVEWAYS AND FIELD ENTRANCES

BASE AGGREGATE DENSE 3/4 INCH DRIVEWAYS AND FIELD ENTRANCES

15' F.E.
GRAVEL
STA 281+61

12' F.E.
GRAVEL
STA 291+02

5

5

16' P.E.
GRAVEL
STA 293+27

18' F.E.
GRAVEL
STA 294+68

N

PCP 18"
INV: 1008.143

PCP 18"
INV: 1008.300

295

300

305

STH 64

5'

15'

15'

5'

FO FO FO FO FO FO FO FO FO FO FO FO

INV: 1007.694

INV: 1007.883

BLOOMER TELEPHONE

CULVERTS TO REMAIN

CL CURVE DATA
CURVE 4

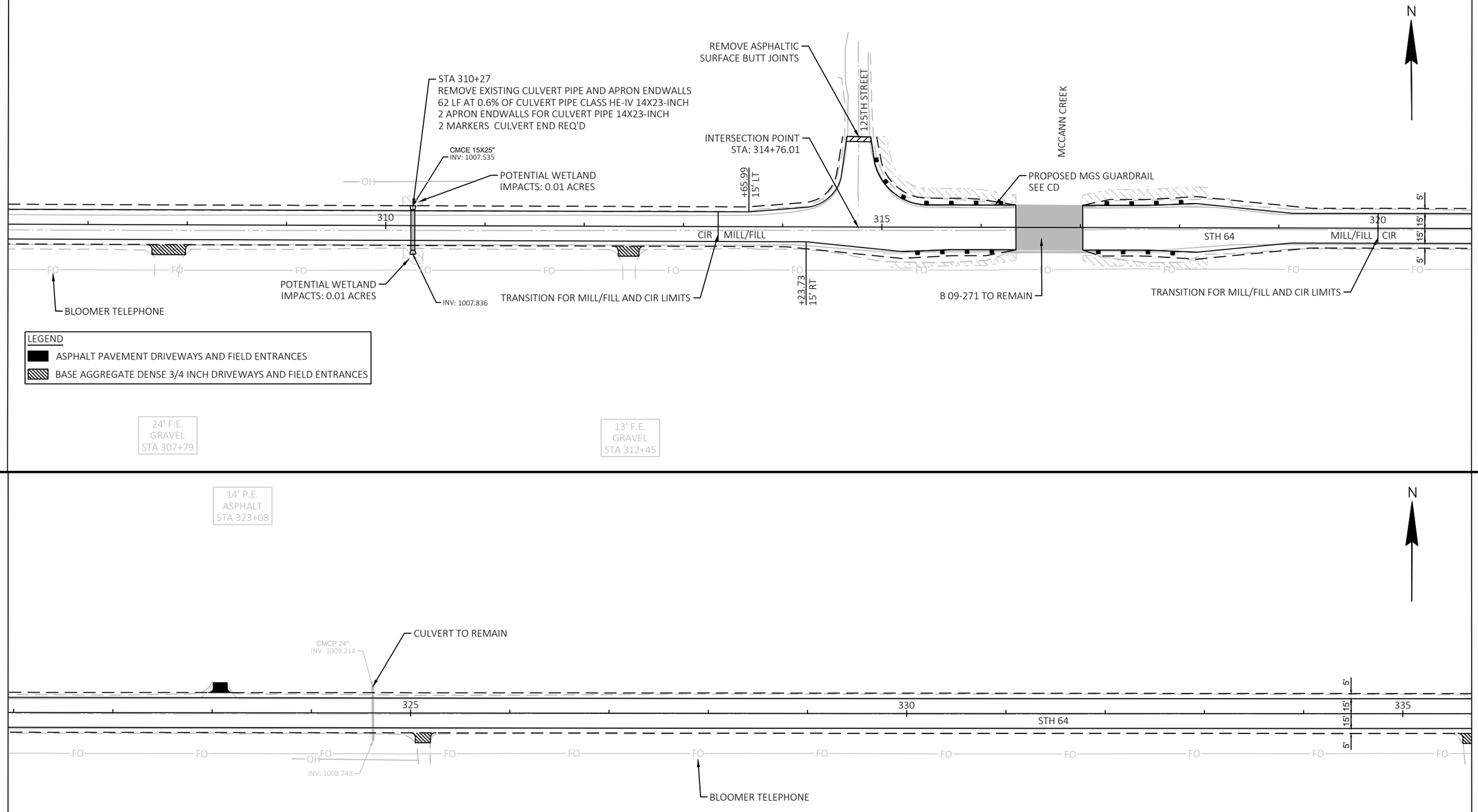
PI	296+83.346
N	196558.829
E	160254.321
DELTA	00°37'29"
D	00°00'28"
T	3961.616'
L	7923.153'
R	726527.751'
LC	7923.114'
LCB	S89°46'34"E

13' F.E.
GRAVEL
STA 303+05

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 55	E

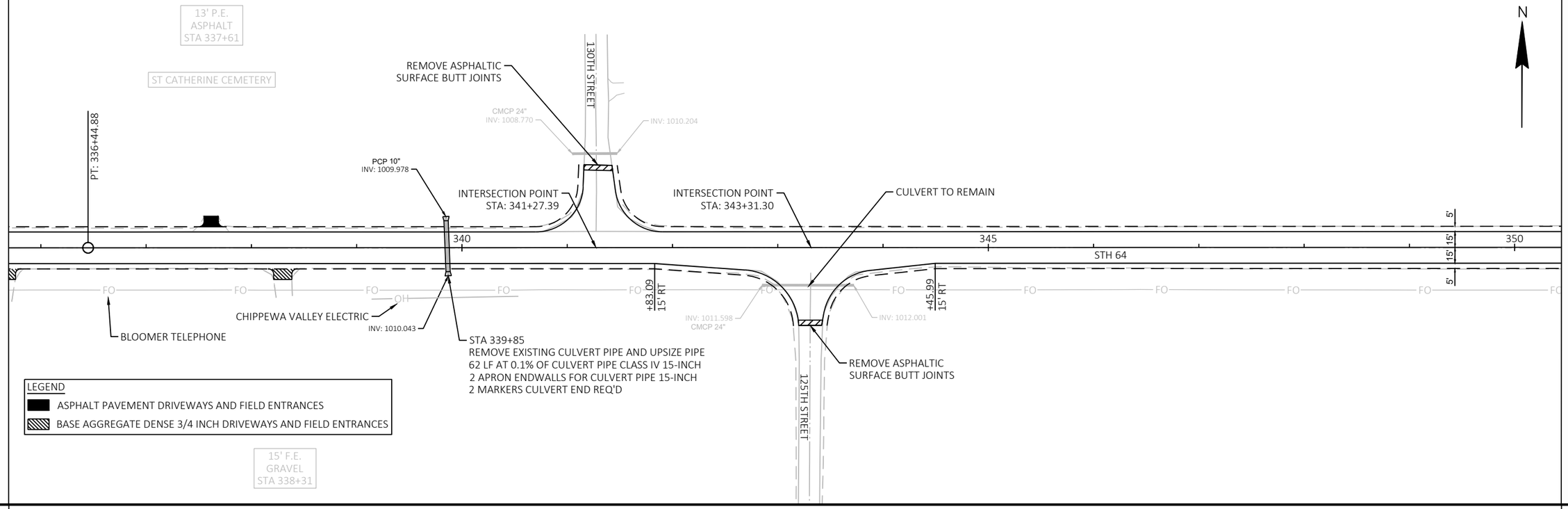
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (200)

PLOT DATE : 7/8/2021 8:08 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME : PLOT SCALE : 1 IN:100 FT



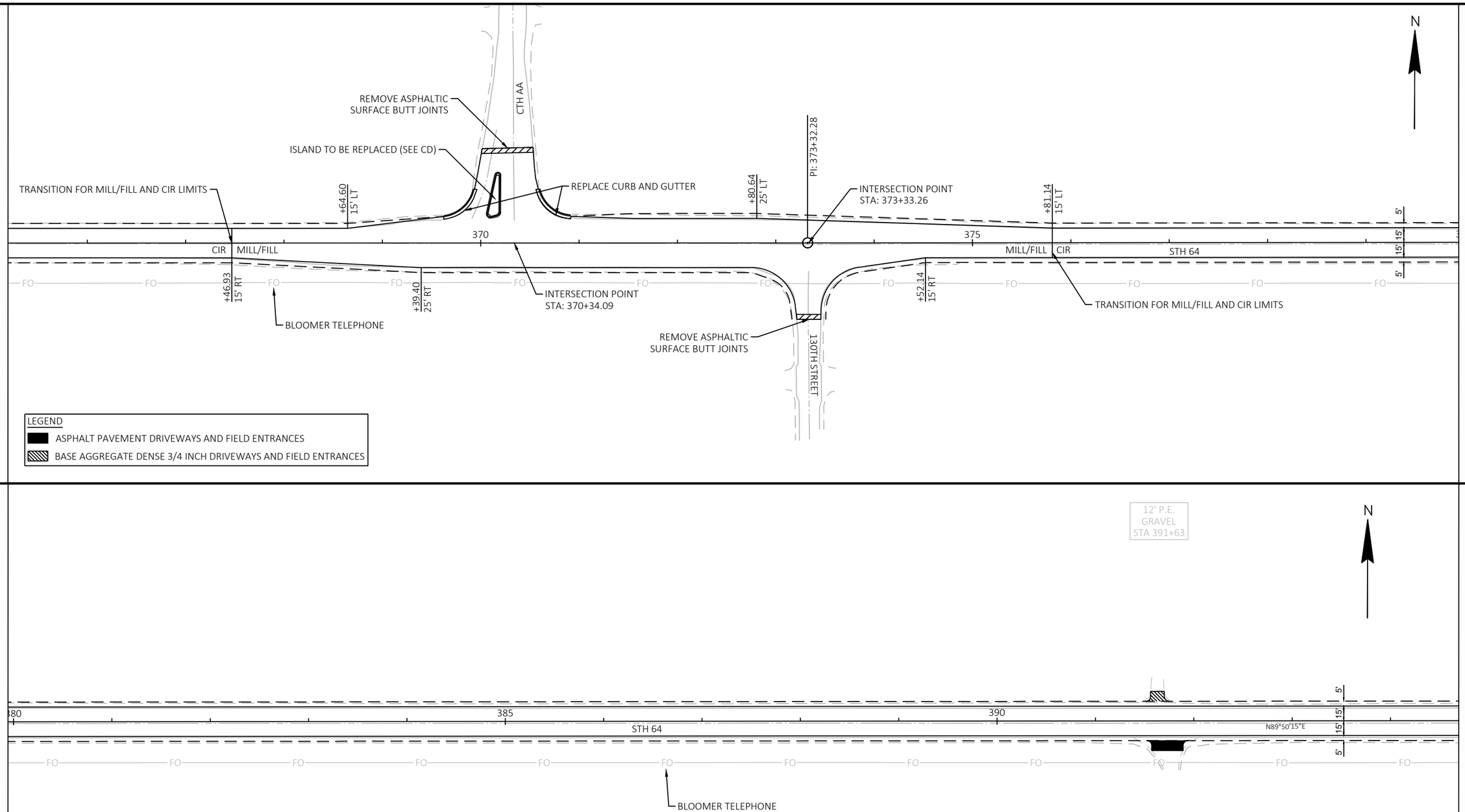
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 56 E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (201)
PLOT DATE : 8/18/2021 12:55 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



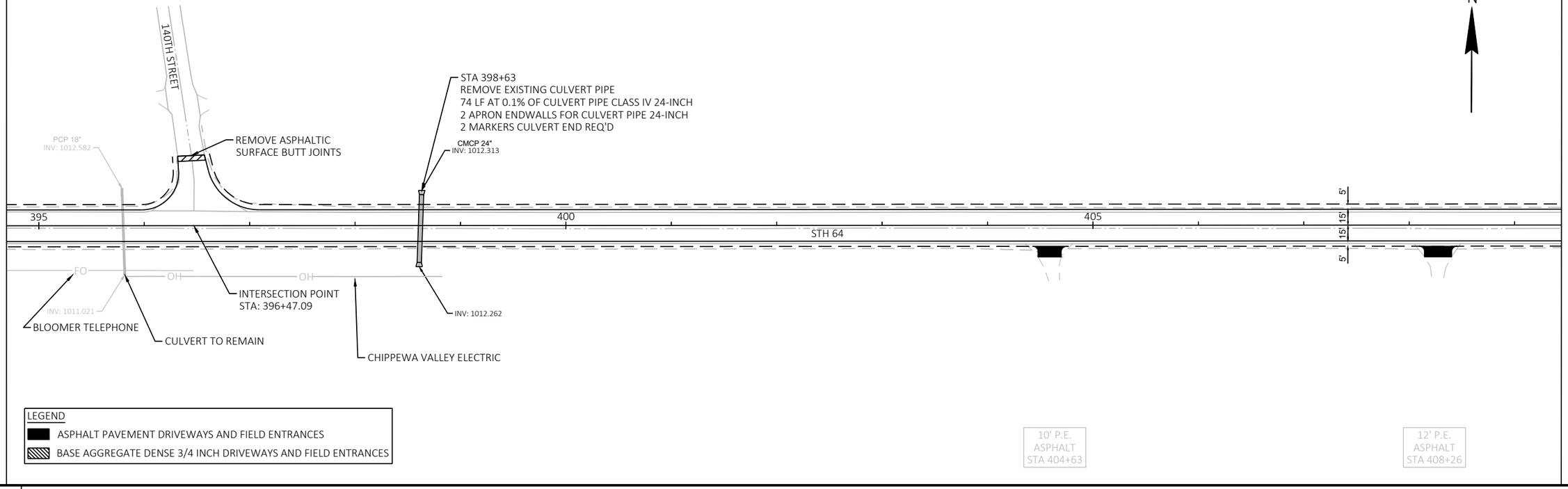
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 57	E

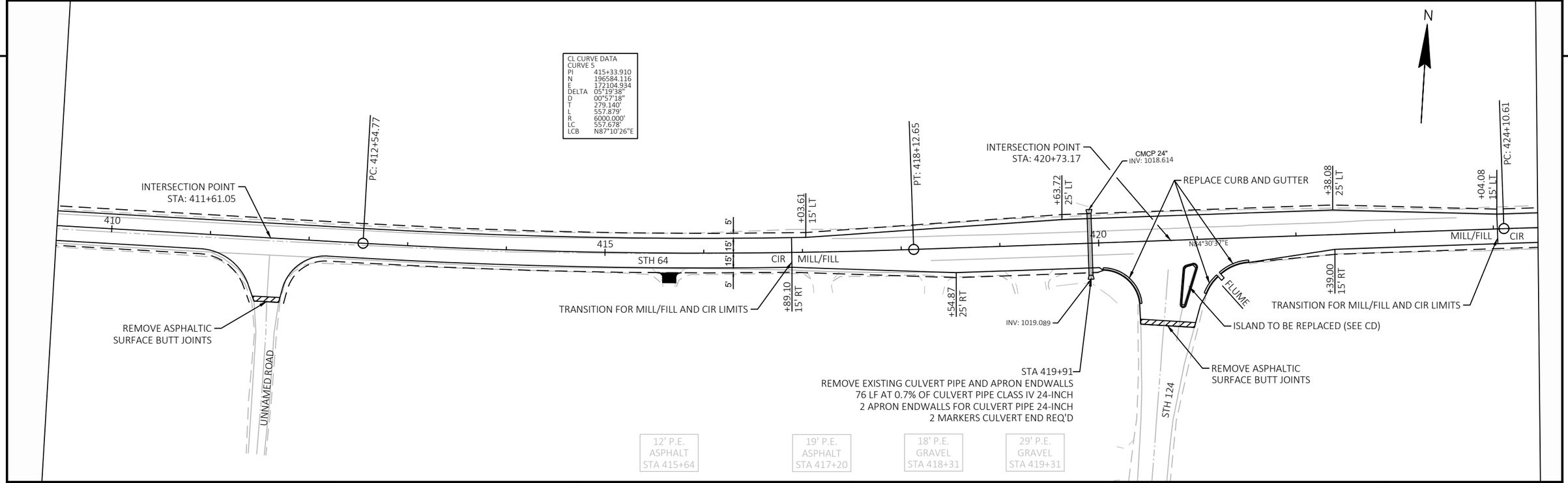
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (202)
PLOT DATE : 7/8/2021 8:08 AM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 58 E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (203)
PLOT DATE : 8/18/2021 12:55 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44





PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 59 E

23' P.E.
ASPHALT
STA 426+39

N

PT: 432+32.53

425 430 435

STH 64

S85°01'29"E

5' 15' 15' 5'

CL CURVE DATA	
CURVE 6	
PI	428+22.716
N	196707.454
E	173388.231
DELTA	10°27'54"
D	01°16'24"
T	412.106'
L	821.919'
R	4500.000'
LC	820.777'
LCB	N89°44'34"E

ARCH SITE: 47CH168 SKYORA

LEGEND

ASPHALT PAVEMENT DRIVEWAYS AND FIELD ENTRANCES

BASE AGGREGATE DENSE 3/4 INCH DRIVEWAYS AND FIELD ENTRANCES

5

5

N

PC: 440+24.20

PT: 443+68.50

CL CURVE DATA	
CURVE 7	
PI	441+96.454
N	196588.120
E	174759.077
DELTA	04°55'54"
D	01°25'57"
T	172.254'
L	344.295'
R	4000.000'
LC	344.189'
LCB	S87°29'26"E

440 445 450

STH 64

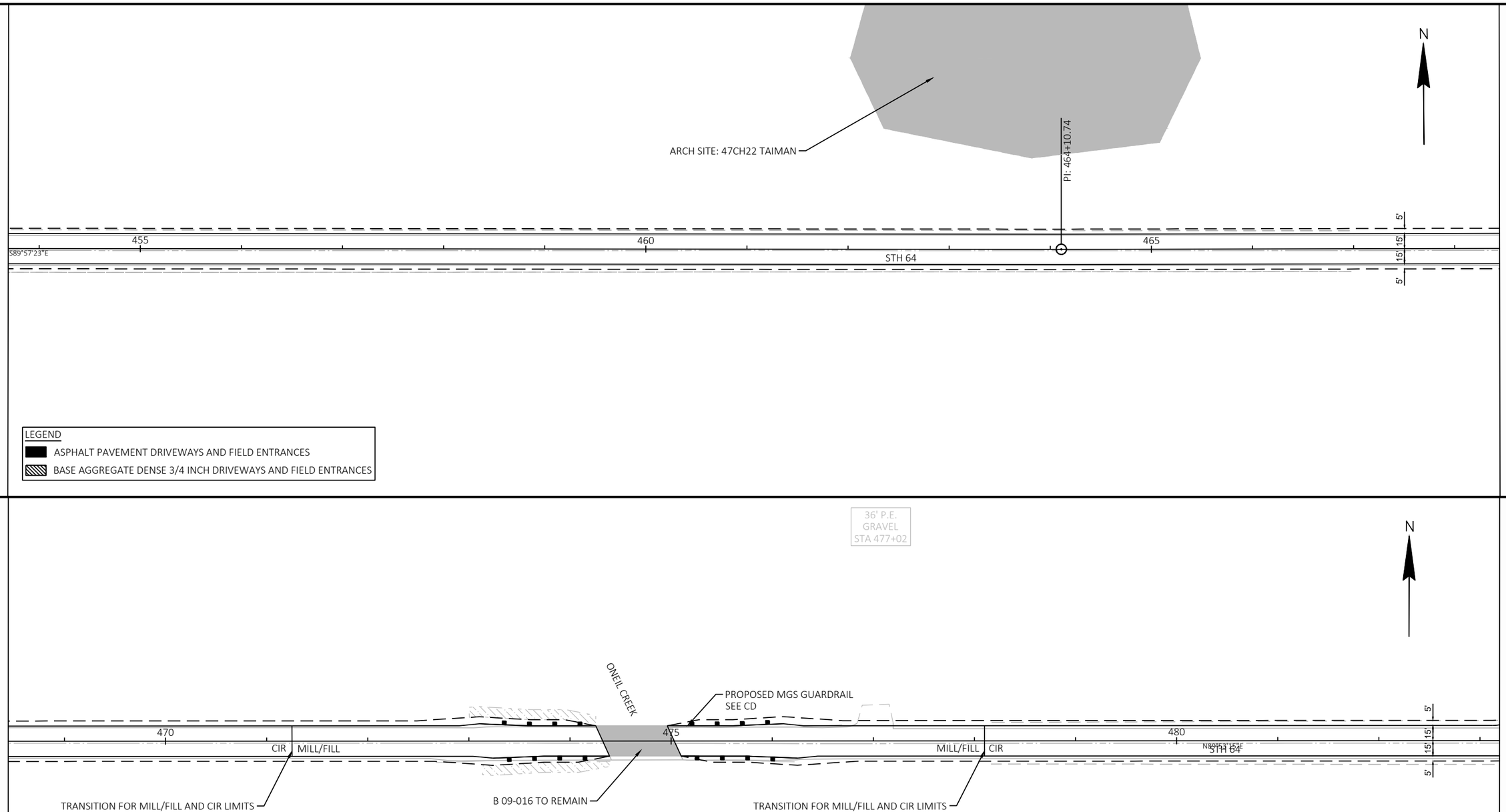
5' 15' 15' 5'

ARCH SITE: 47CH168 SKYORA

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 60	E

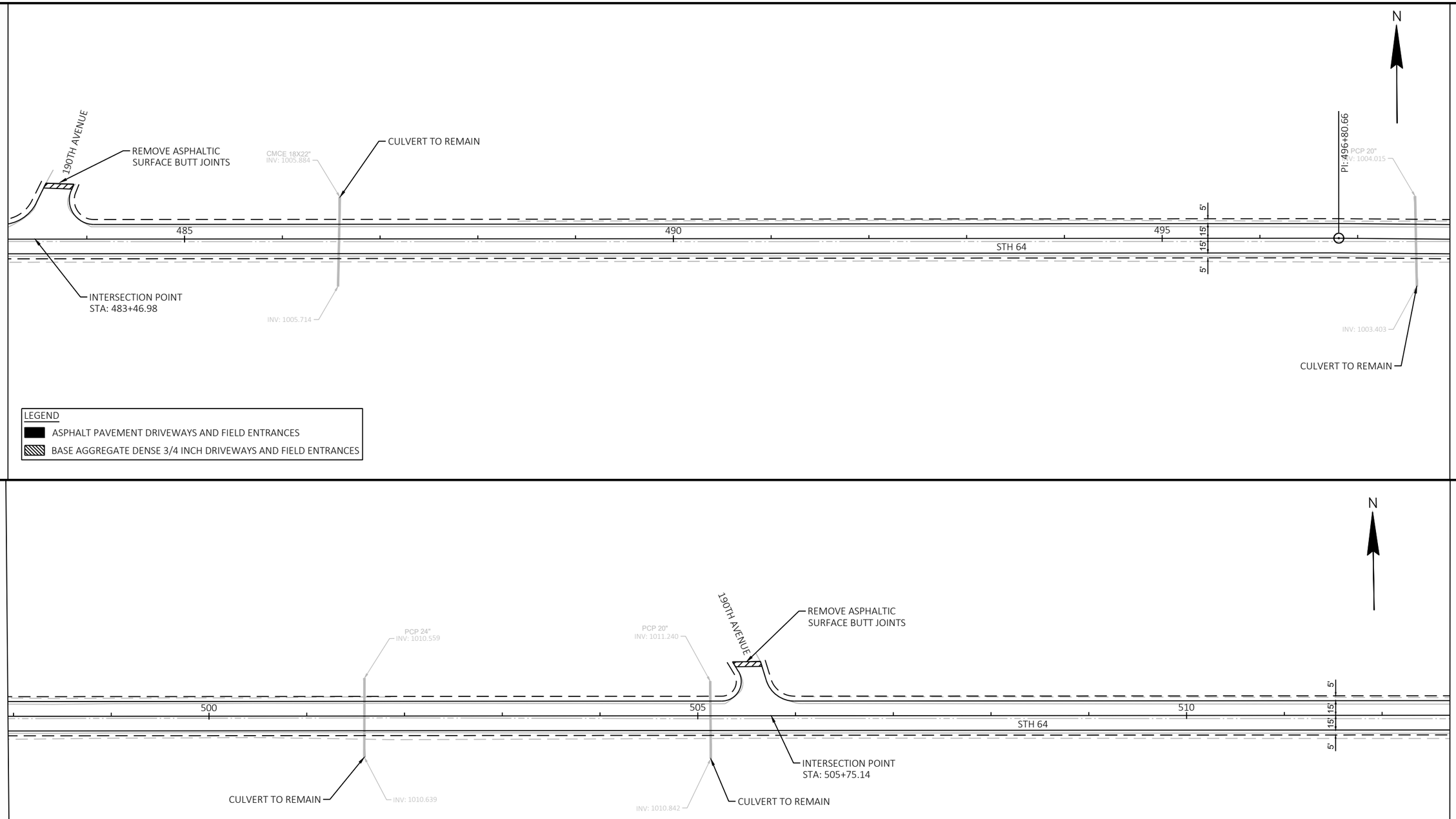
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (205)

PLOT DATE : 9/1/2021 2:01 PM PLOT BY : DEXTER KAETTERHENRY PLOT NAME : PLOT SCALE : 1 IN:100 FT



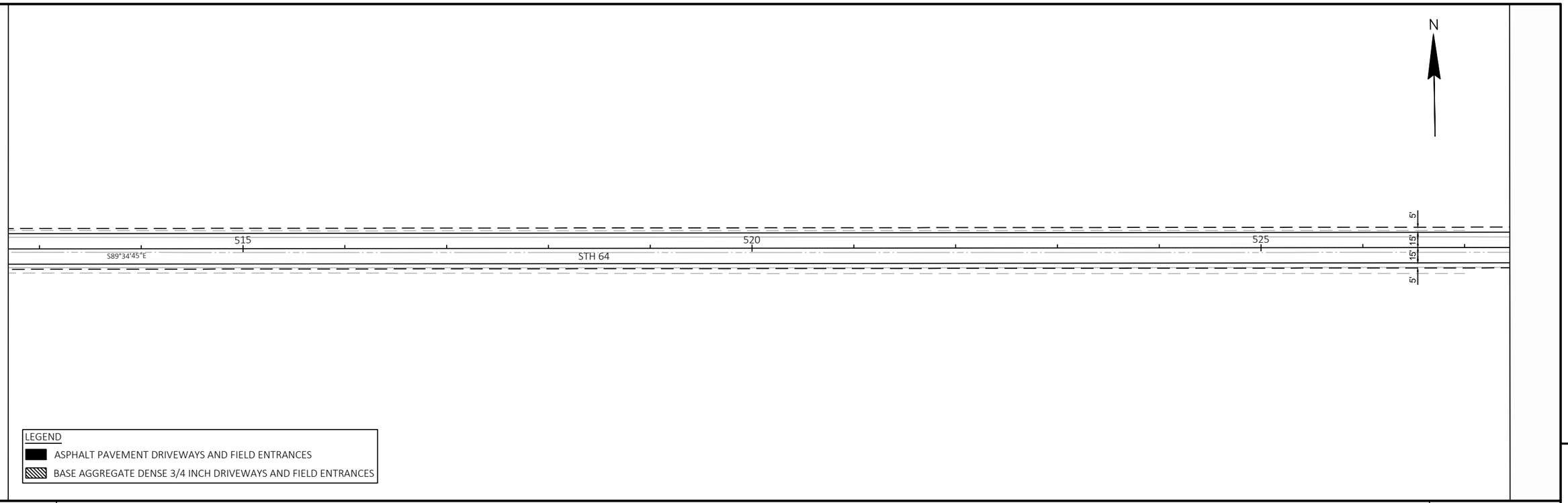
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 61 E

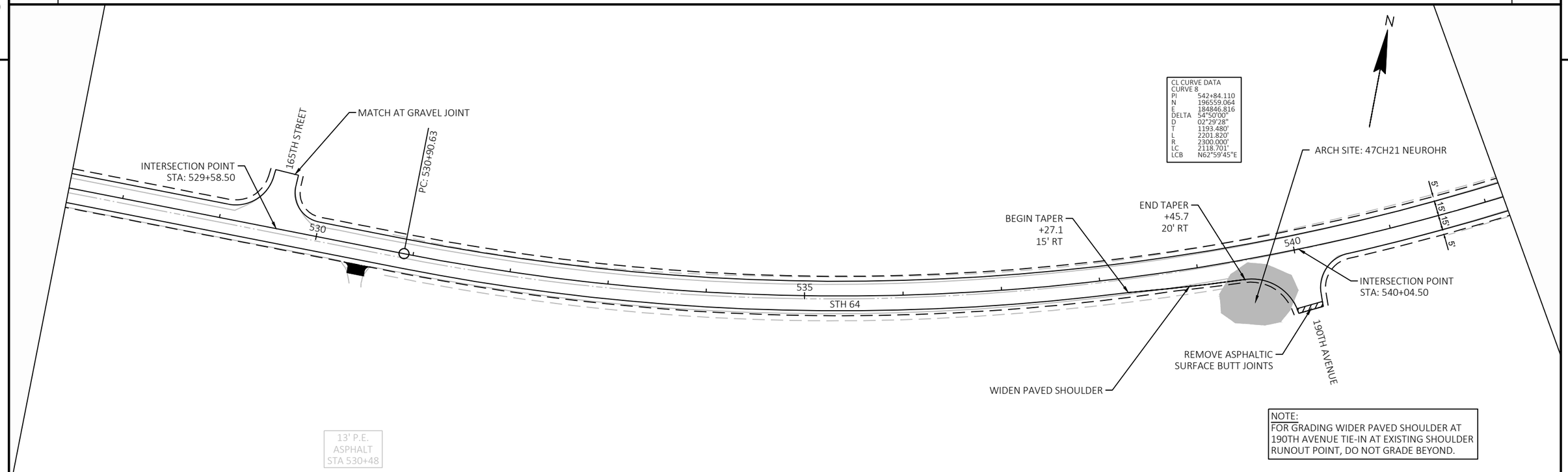
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (206)
PLOT DATE : 9/1/2021 2:04 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 62	E

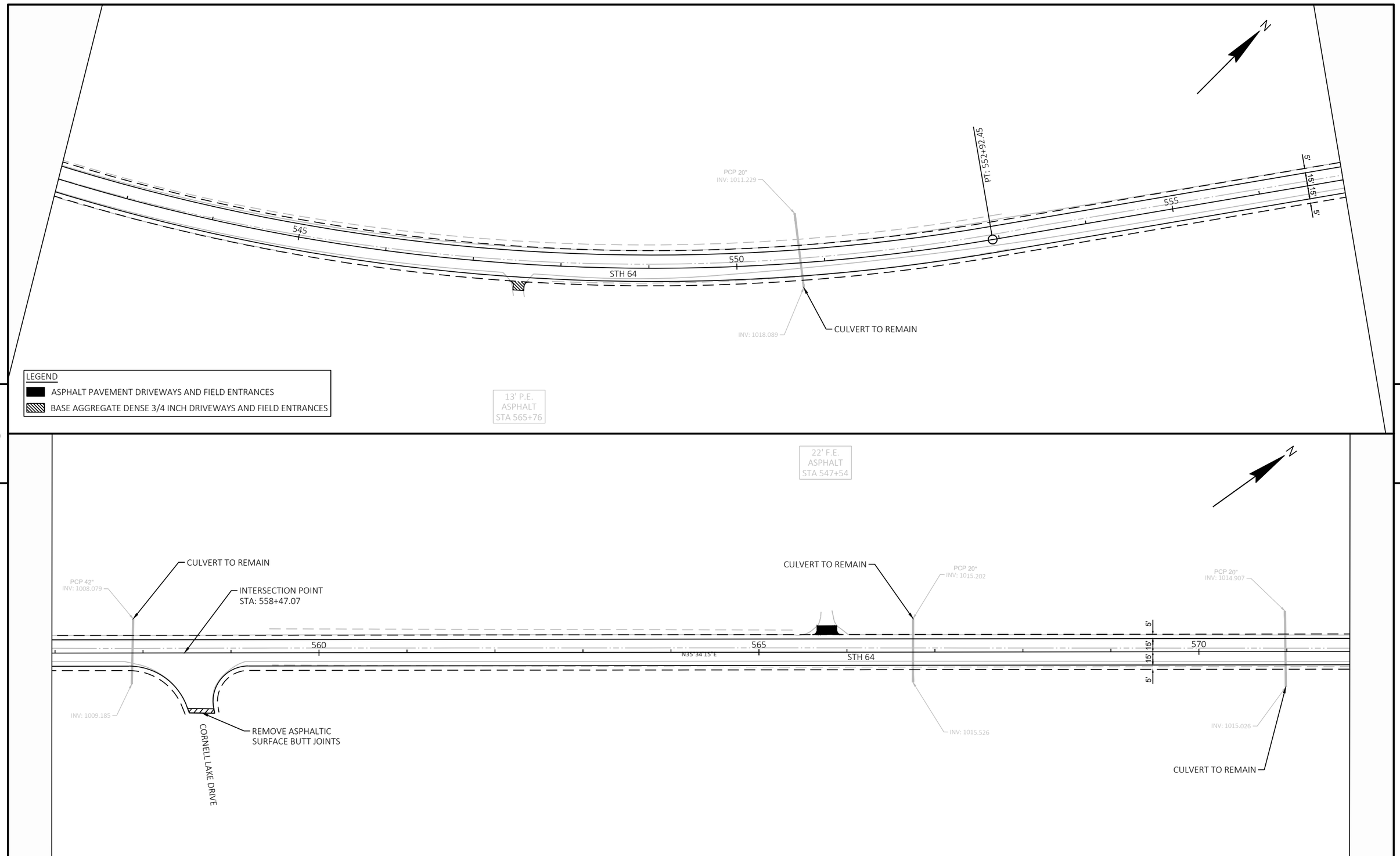
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (207)
PLOT DATE : 7/8/2021 8:09 AM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



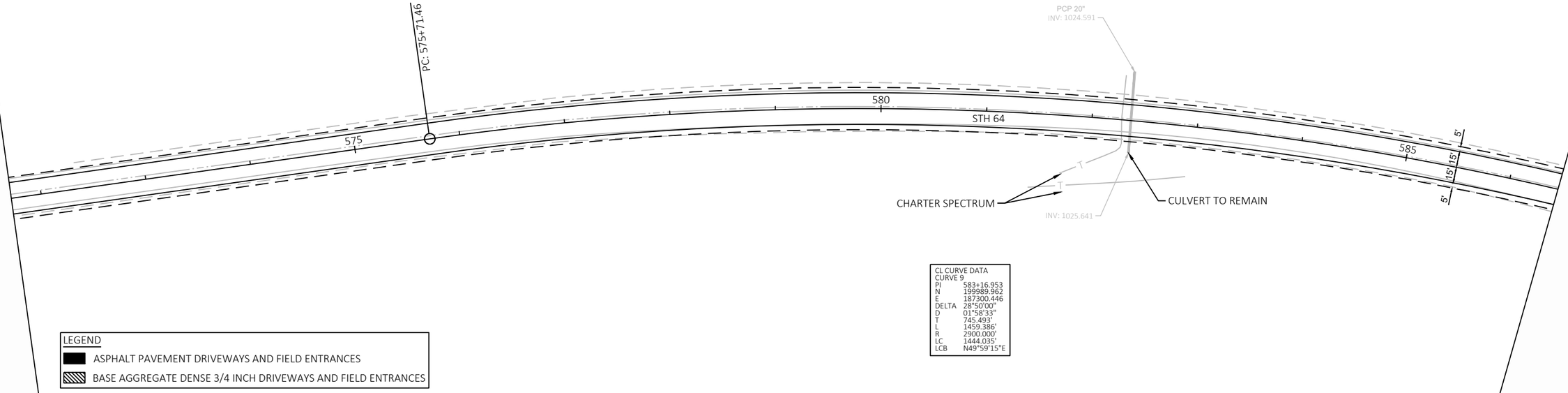


PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 63	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (208)
PLOT DATE : 9/1/2021 2:05 PM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 64	E

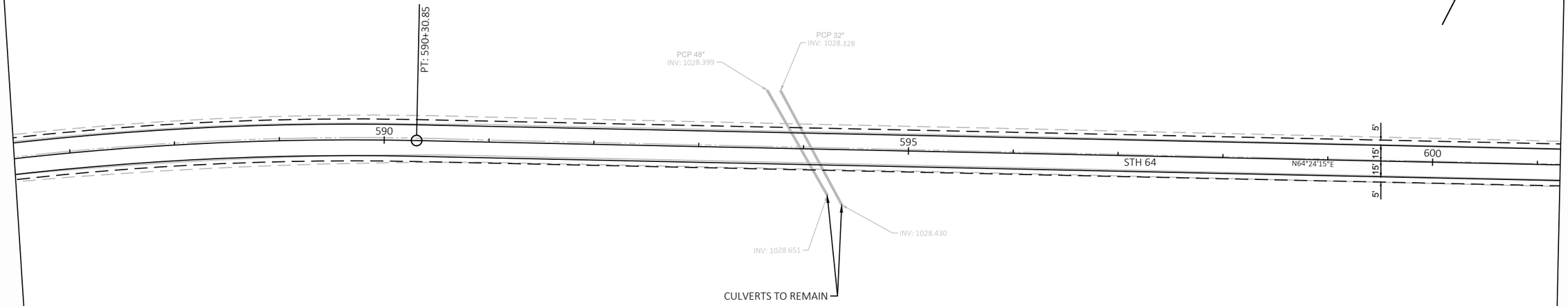


LEGEND

ASPHALT PAVEMENT DRIVEWAYS AND FIELD ENTRANCES

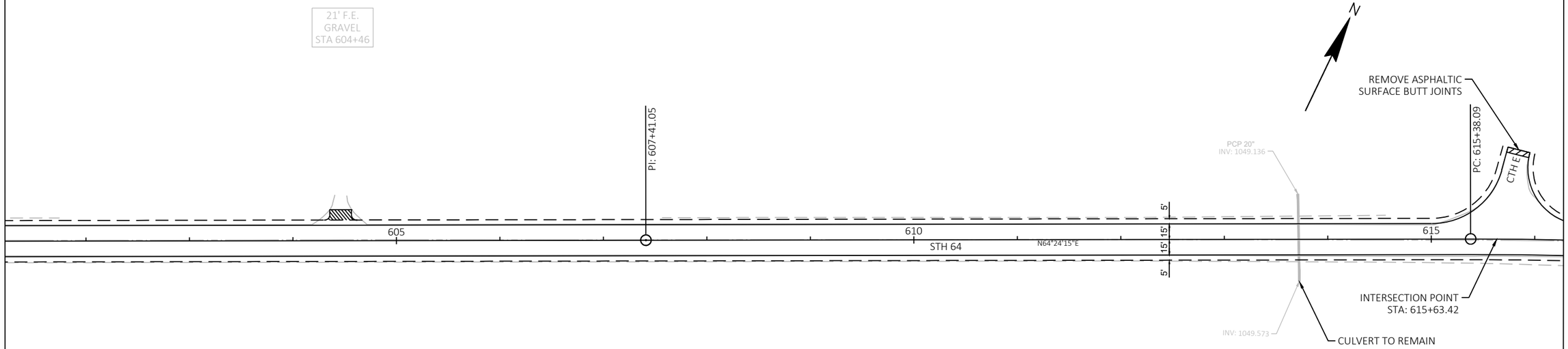
BASE AGGREGATE DENSE 3/4 INCH DRIVEWAYS AND FIELD ENTRANCES

CL CURVE DATA	
CURVE 9	
PI	583+16.953
N	199989.962
E	187300.446
DELTA	28°50'00"
D	01°58'33"
T	745.493'
L	1459.386'
R	2900.000'
LC	1444.035'
LCB	N49°59'15"E



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 65	E

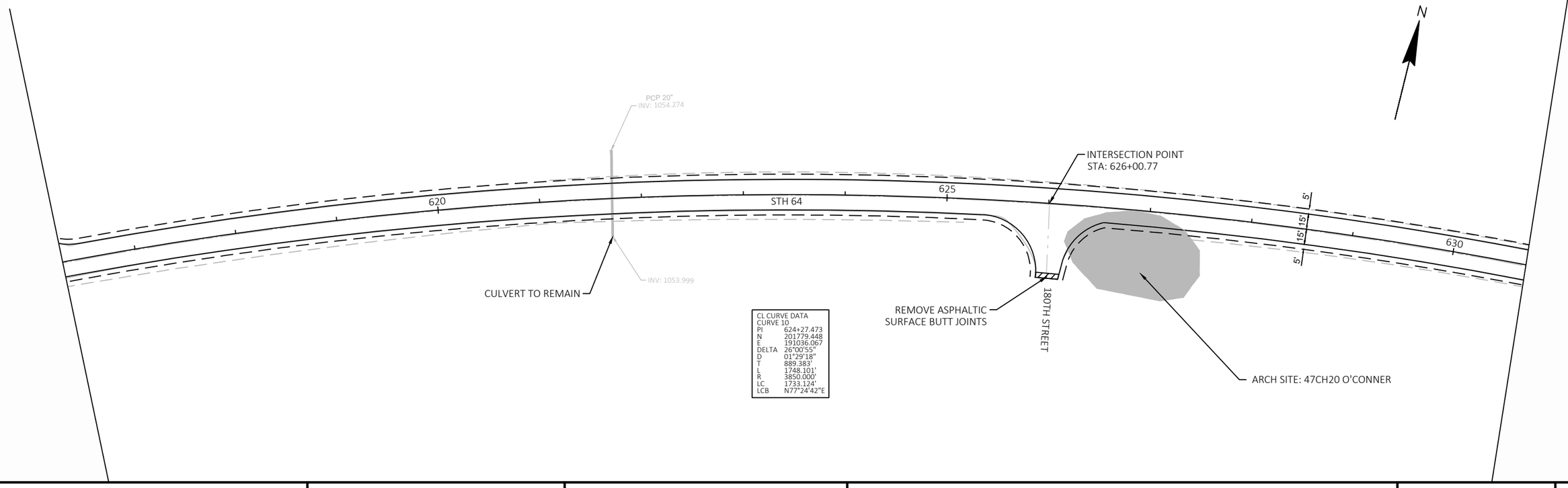
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (210)
PLOT DATE : 7/8/2021 8:09 AM
PLOT BY : DEXTER KAETTERHENRY
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



LEGEND

ASPHALT PAVEMENT DRIVEWAYS AND FIELD ENTRANCES

BASE AGGREGATE DENSE 3/4 INCH DRIVEWAYS AND FIELD ENTRANCES

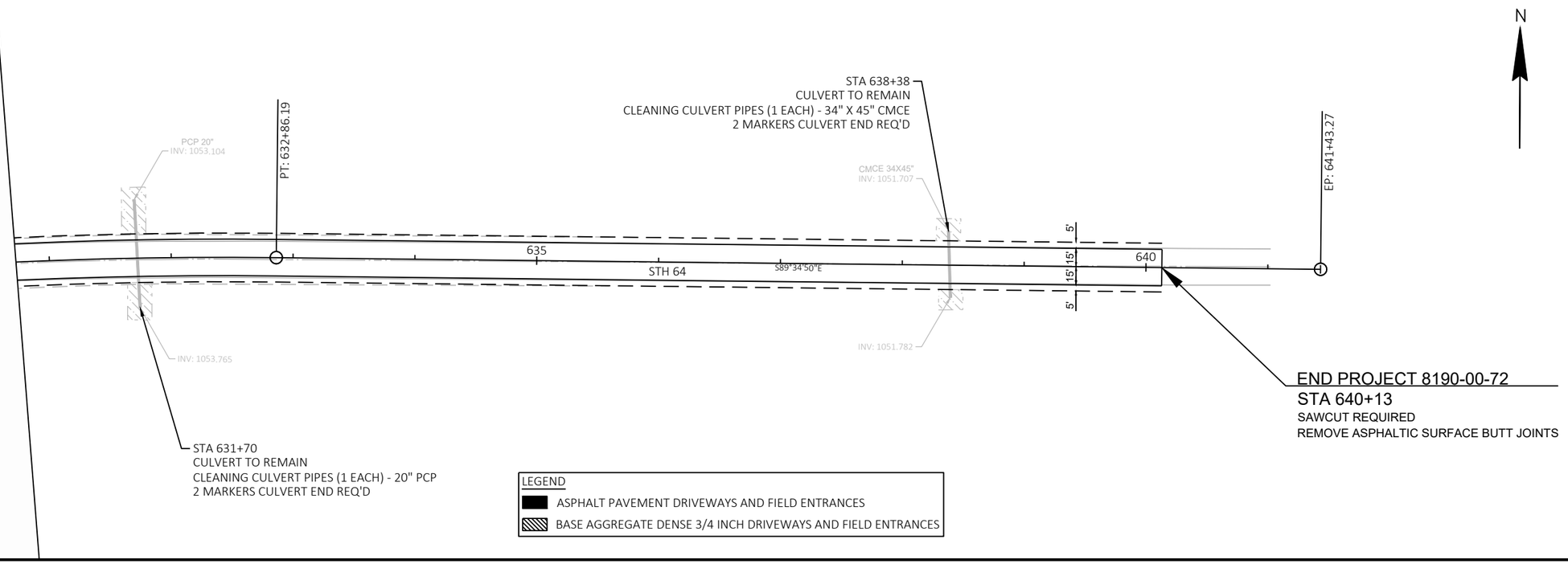


CL CURVE DATA	
CURVE 10	
PI	624+27.473
N	201779.448
E	191036.067
DELTA	26°00'55"
D	01°29'18"
T	889.383'
L	1748.101'
R	3850.000'
LC	1733.124'
LCB	N77°24'42"E

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 66 E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (211)

PLOT DATE : 9/1/2021 2:05 PM PLOT BY : DEXTER KAETTERHENRY PLOT NAME : PLOT SCALE : 1 IN:100 FT



5

5

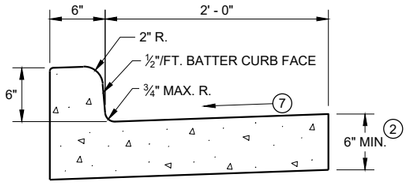
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	PLAN:	SHEET 67	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 40 (8620-00-03)\ACAD\SHEETSPLAN\050501_PP\050501_PP - COMBINE.DWG
LAYOUT NAME - SHEET - (212)
PLOT DATE : 7/8/2021 8:09 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME : PLOT SCALE : 1 IN:100 FT

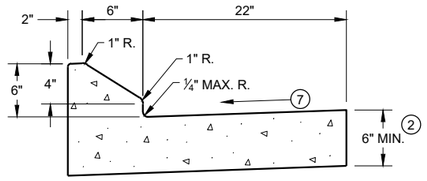
Standard Detail Drawing List

08D01-22A	CONCRETE CURB & GUTTER
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D22-01	DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09A01-13B	AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C07-15A	PAVEMENT MARKING SYMBOLS
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C08-20B	PAVEMENT MARKING (TURN LANES)
15C08-20C	PAVEMENT MARKING (TURN LANES)
15C09-12A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-09A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-09B	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
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-04A	PAVEMENT MARKING (INTERSECTIONS)
15D06-04	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D12-09A	TRAFFIC CONTROL, LANE CLOSURE
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-06A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-06B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-06C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
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
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL
15D48-01	TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION

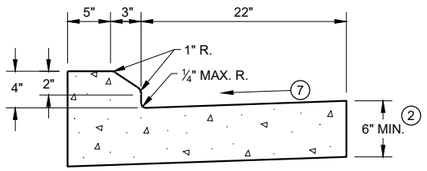
6



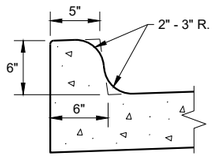
TYPES A[1] & D



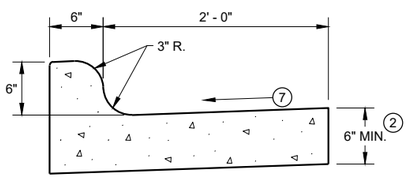
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

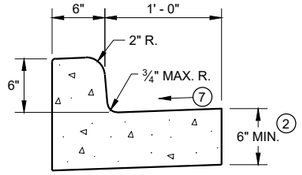


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



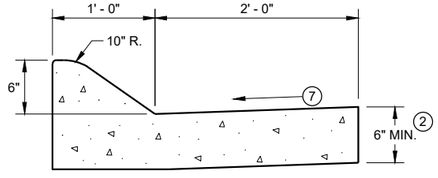
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"



TYPES A[1] & D

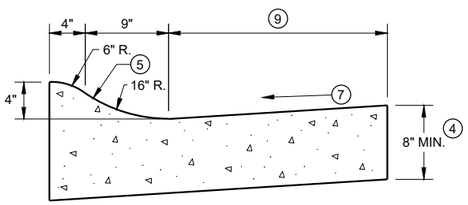
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D

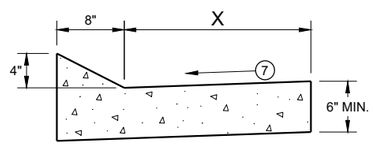
4" SLOPED CURB TYPES A[1] & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R[1] & T

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

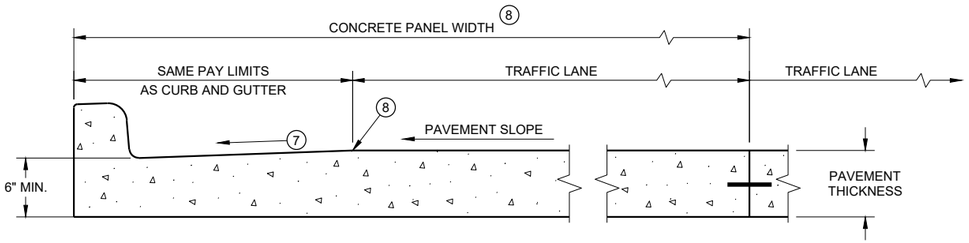


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

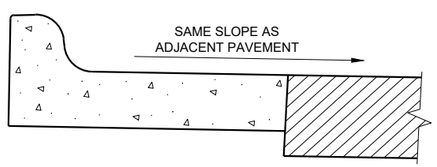
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

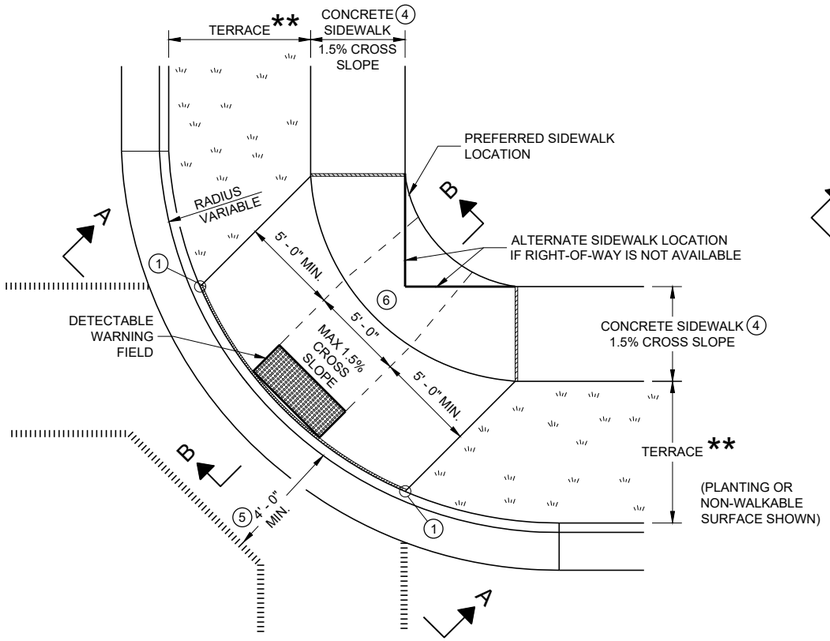
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
4. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
5. UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
6. WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
7. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
8. INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
9. CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
   CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

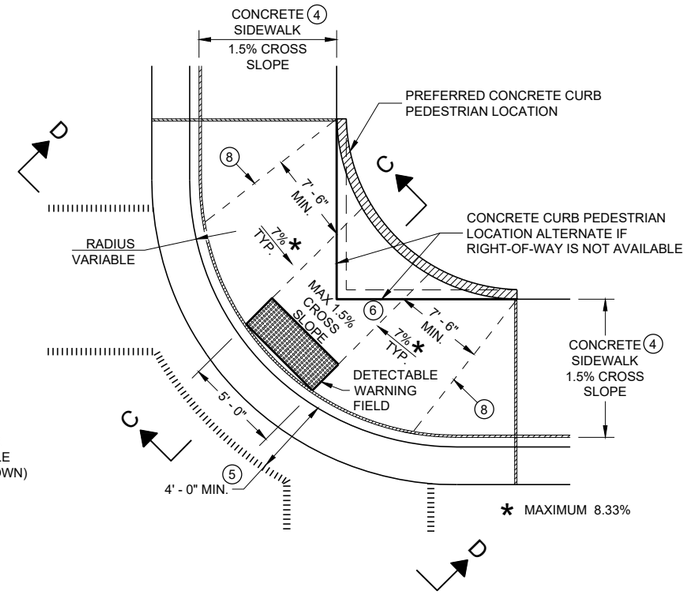
SDD 08D01 - 22a
6



PLAN VIEW

CURB RAMP TYPE 1

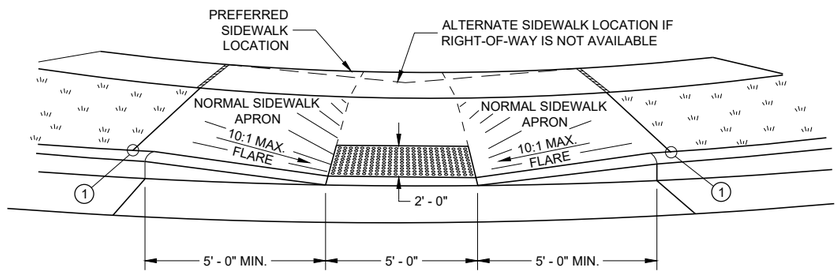
(CENTER OF CORNER RADIUS)



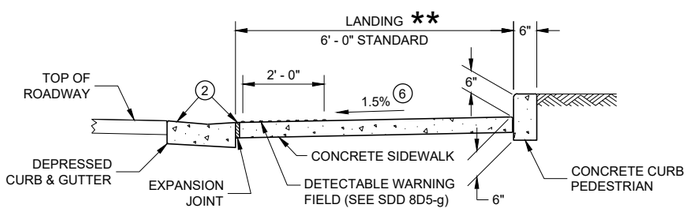
PLAN VIEW

CURB RAMP TYPE 1 - A

(NO TERRACE)

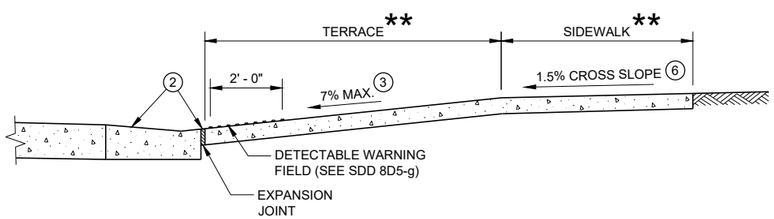


VIEW A - A FOR TYPE 1

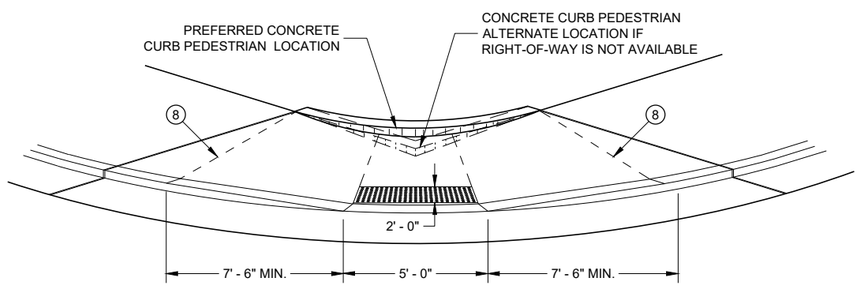


SECTION C - C FOR TYPE 1 - A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FILED SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

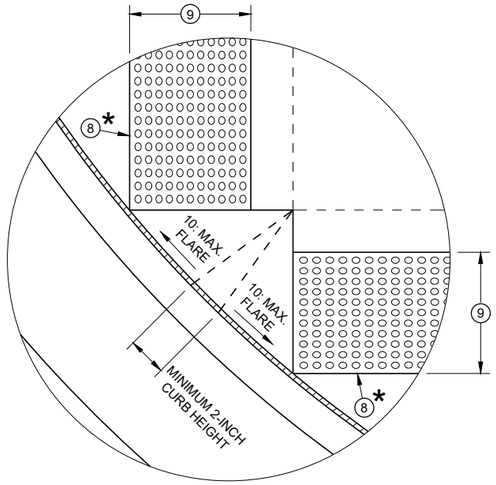
LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

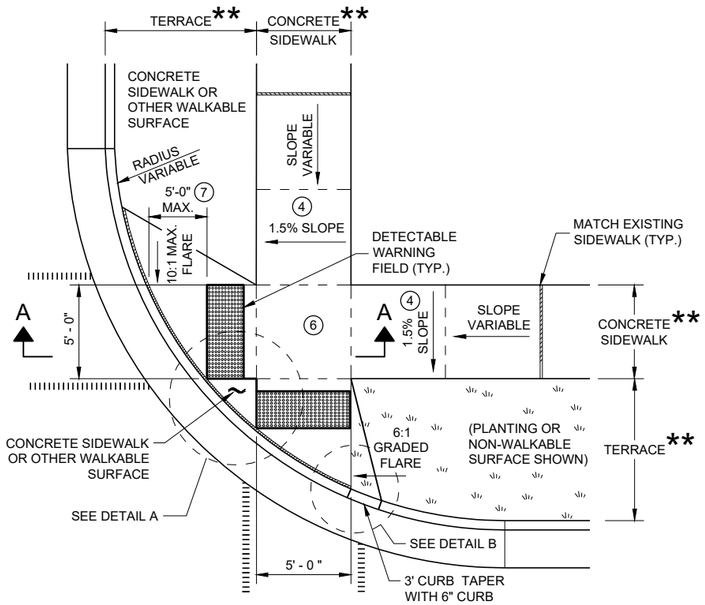
CURB RAMPS
TYPE 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 08D05 - 20a



DETAIL A



PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.

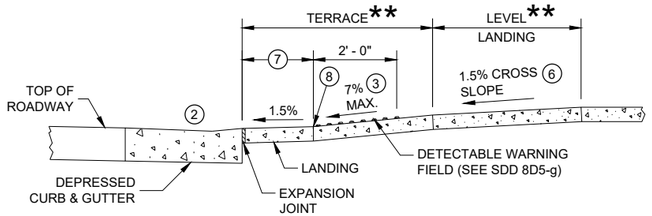
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.

(7) WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

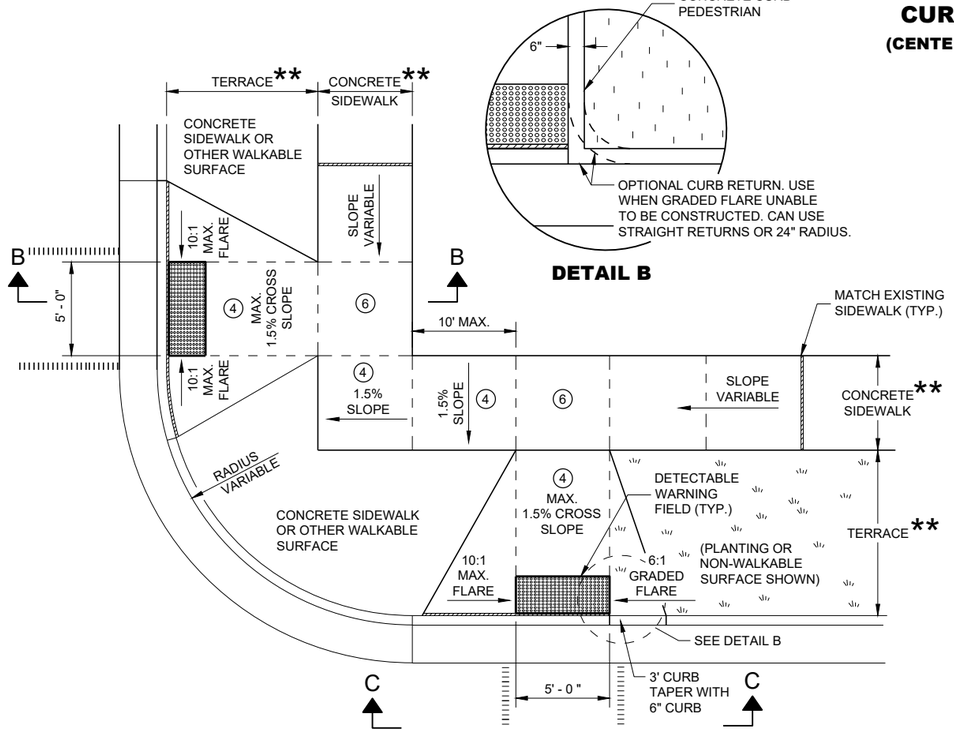
(9) WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.



SECTION A - A FOR TYPE 2

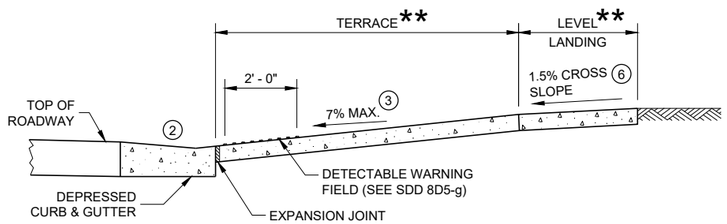
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

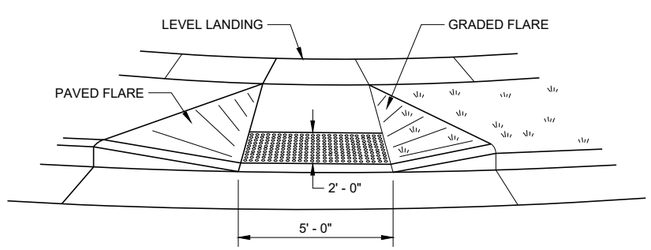


DETAIL B

PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

LEGEND

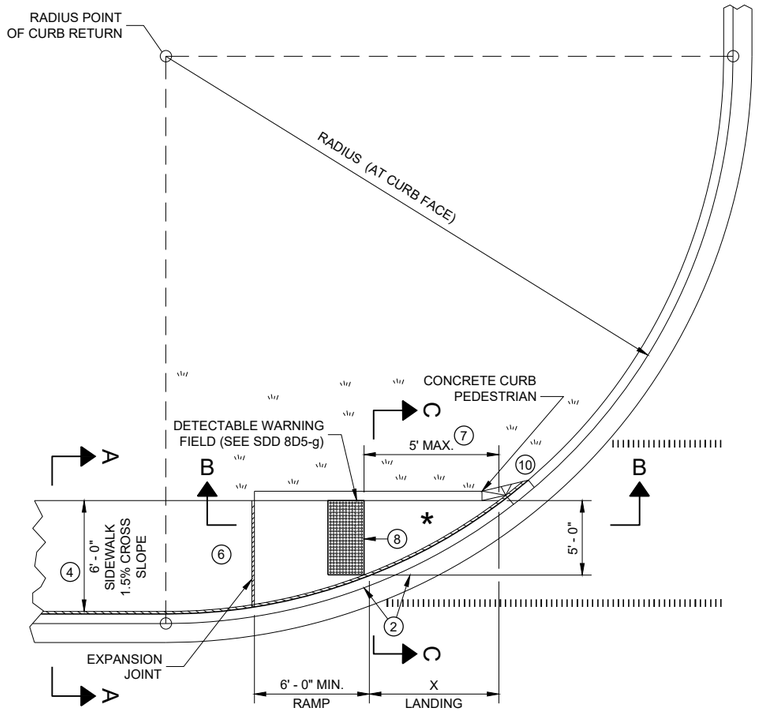
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D05 - 20b

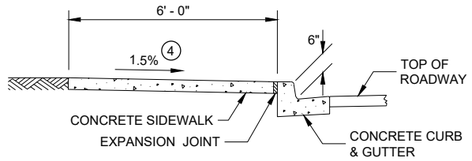


PLAN VIEW

CURB RAMP TYPE 4A

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"
15 FEET	6' - 5½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A - A FOR TYPE 4A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

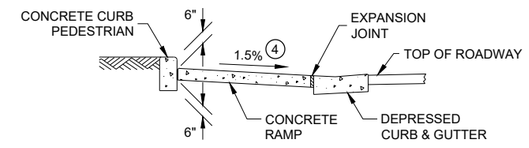
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

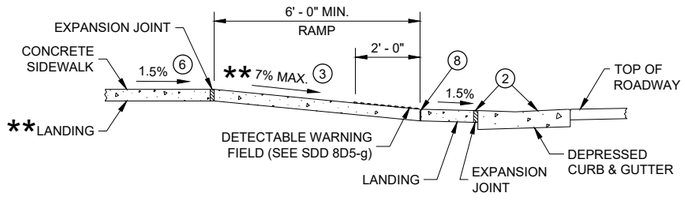
½" EXPANSION JOINT SIDEWALK

CONTRACTION JOINT SIDEWALK

PAVEMENT MARKING CROSSWALK (WHITE)



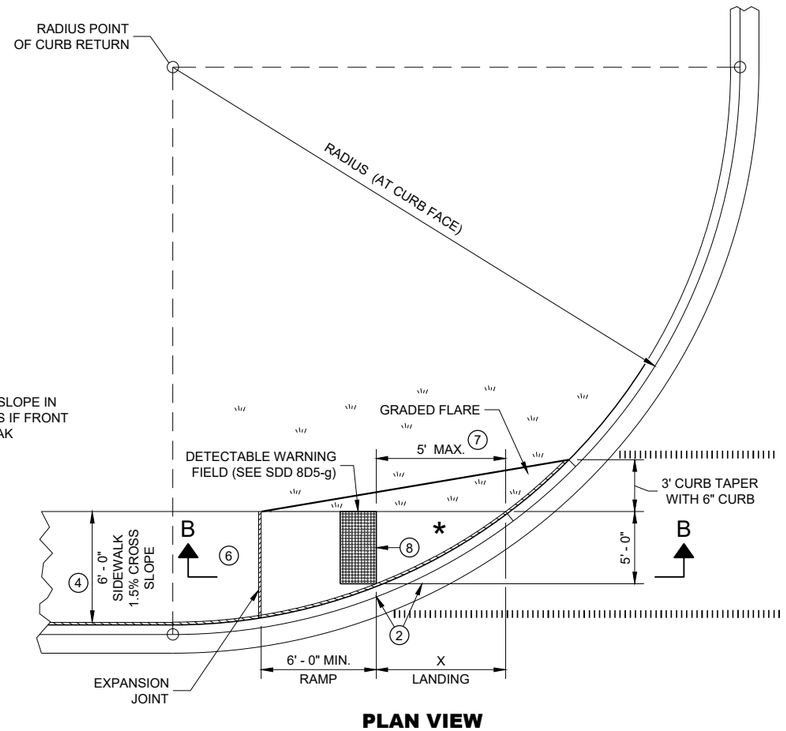
SECTION C - C FOR TYPE 4A



** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

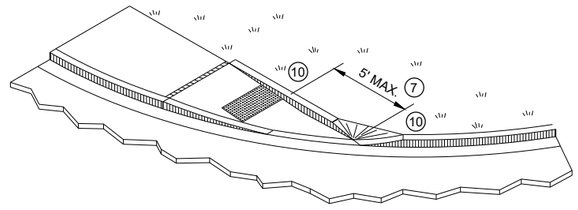
SECTION B - B FOR TYPE 4A AND TYPE 4A1

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

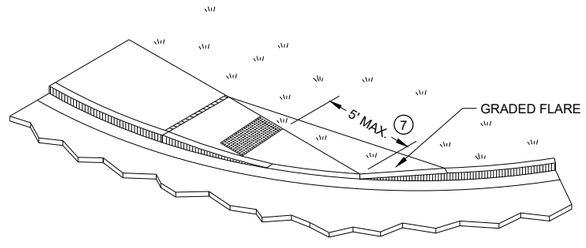


PLAN VIEW

CURB RAMP TYPE 4A1



ISOMETRIC VIEW FOR TYPE 4A



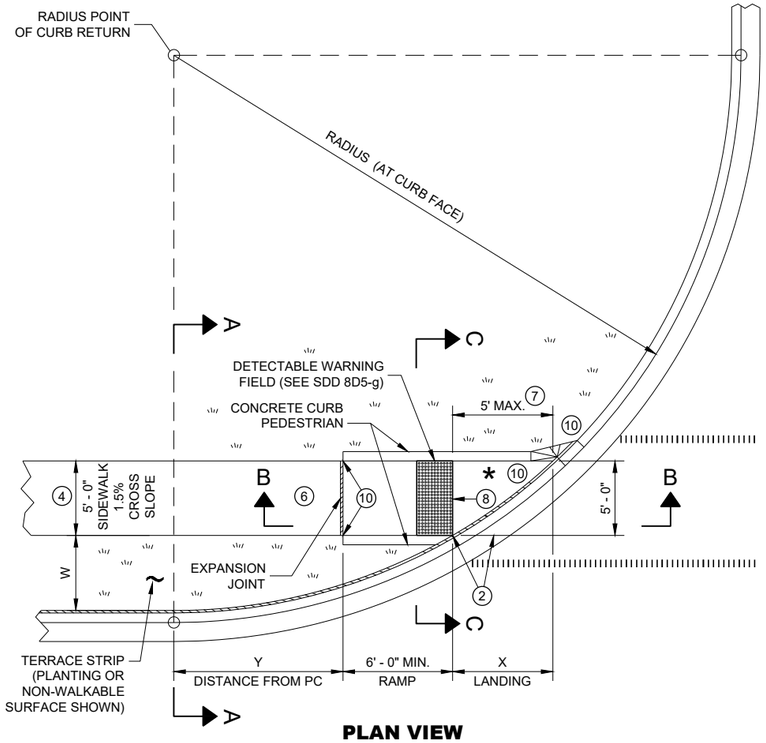
ISOMETRIC VIEW FOR TYPE 4A1

CURB RAMPS
TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 08D05 - 20c



PLAN VIEW

CURB RAMP TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 ¼"	0' - 5"	2' - 1"	1' - 4 ½"	1' - 5"	2' - 1"	0' - 10"	2' - 7 ½"	0' - 3 ¼"	3' - 0 ¼"						
15 FEET	4' - 6 ¾"	2' - 1 ¾"	3' - 9"	3' - 5 ¾"	3' - 1 ¼"	4' - 6"	2' - 6 ¾"	5' - 4 ½"	2' - 1"	6' - 1"	1' - 8"	6' - 8 ½"	1' - 3 ¼"	7' - 2 ½"	0' - 10 ¾"	7' - 7 ¼"
20 FEET	5' - 9 ¾"	3' - 6 ½"	4' - 11 ½"	5' - 1 ¾"	4' - 3 ¼"	6' - 5 ½"	3' - 8 ¾"	7' - 7"	3' - 3"	8' - 6 ½"	2' - 10"	9' - 4 ½"	2' - 5 ½"	10' - 1 ¼"	2' - 1 ¼"	10' - 9"
30 FEET			6' - 9 ¼"	7' - 11 ¼"	6' - 0 ¼"	9' - 8"	5' - 5"	11' - 1 ¾"	4' - 10 ¾"	12' - 5 ¾"	4' - 5 ½"	13' - 7 ¾"	4' - 0 ¾"	14' - 8 ½"	3' - 8 ½"	15' - 8 ¼"
40 FEET									6' - 1 ¾"	15' - 8 ½"	5' - 8"	17' - 2"	5' - 3"	18' - 5 ¾"	4' - 10 ¾"	19' - 8 ¼"
50 FEET															5' - 10 ¼"	23' - 2"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

SECTION C - C FOR TYPE 4B

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

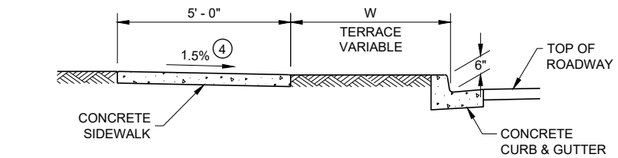
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

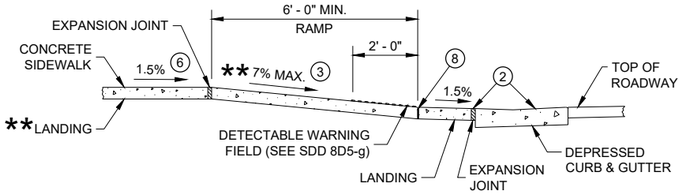
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



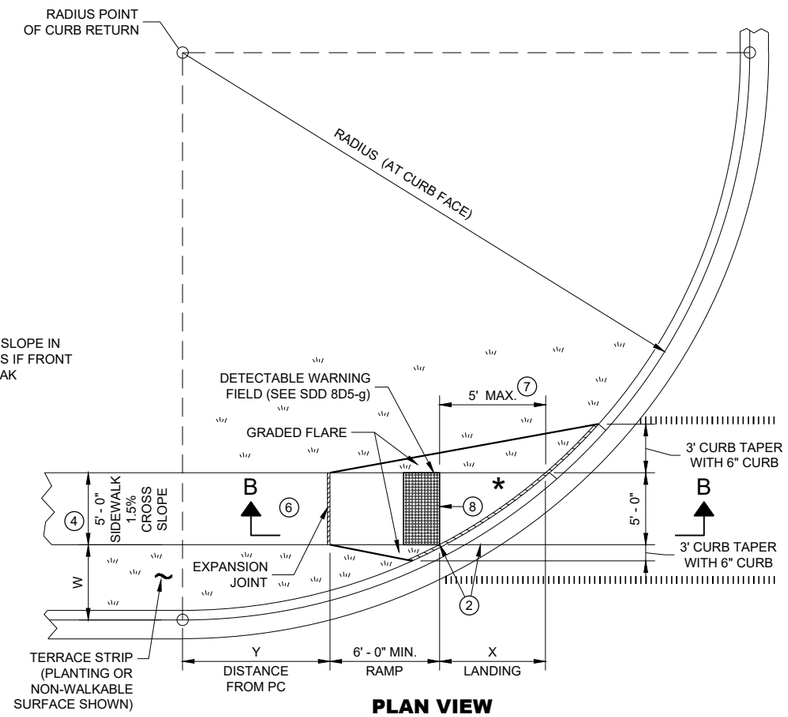
SECTION A - A FOR TYPE 4B



SECTION B - B FOR TYPE 4B AND TYPE 4B1

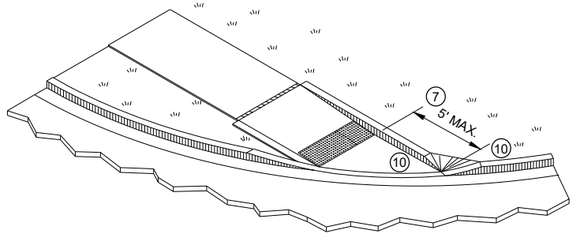
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

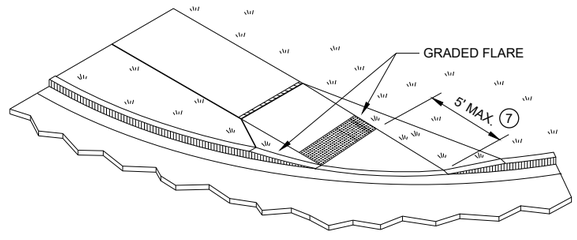


PLAN VIEW

CURB RAMP TYPE 4B1



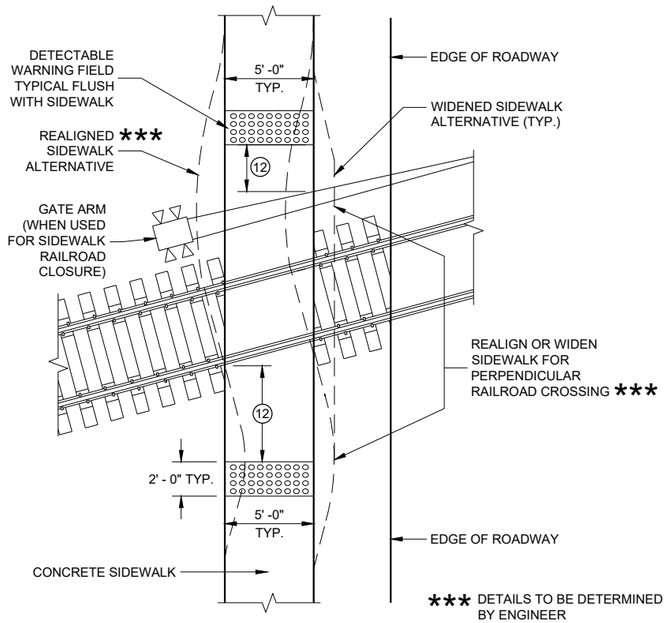
ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

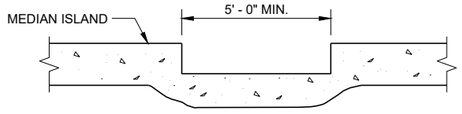
CURB RAMPS TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

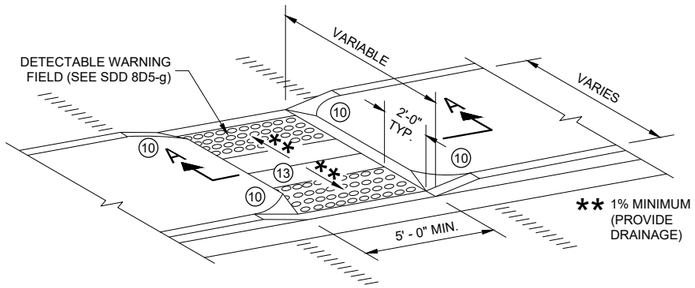


CURB RAMP TYPE 8

DETECTABLE WARNINGS AT RAILROAD CROSSING



SECTION A - A FOR TYPE 5



CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ½ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

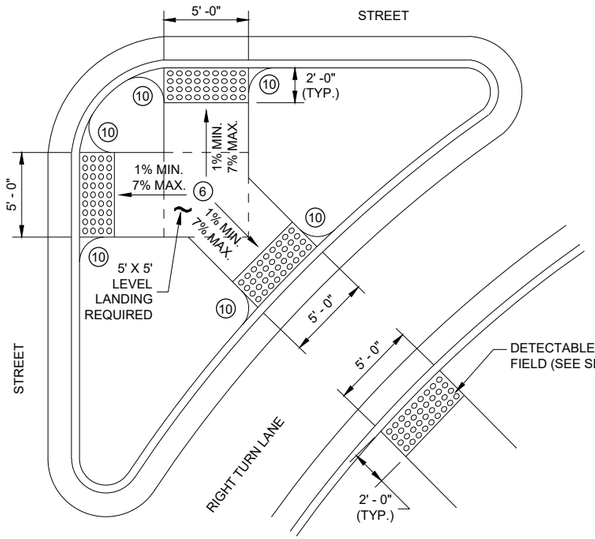
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

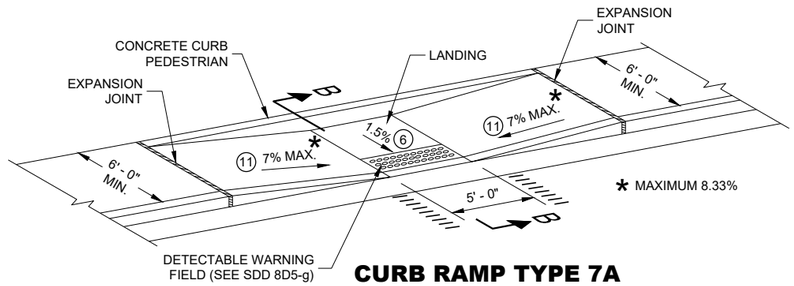
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



CURB RAMP TYPE 6

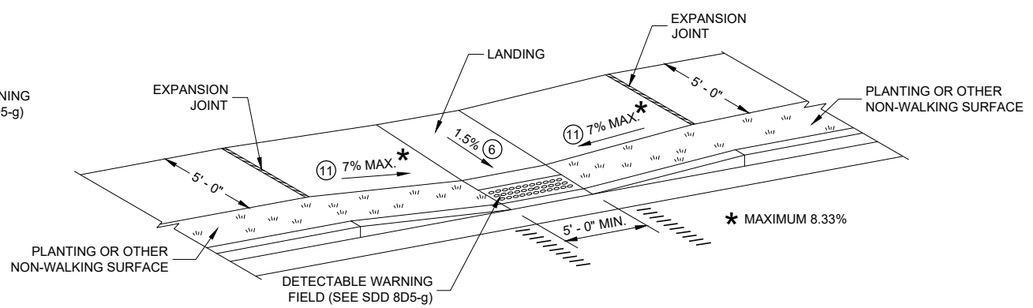
DETECTABLE WARNING AT ISLANDS

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS



CURB RAMP TYPE 7A

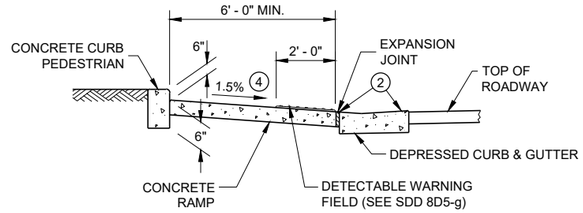
MID BLOCK CROSSING



CURB RAMP TYPE 7B

MID BLOCK CROSSING

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.



SECTION B - B FOR TYPE 7A

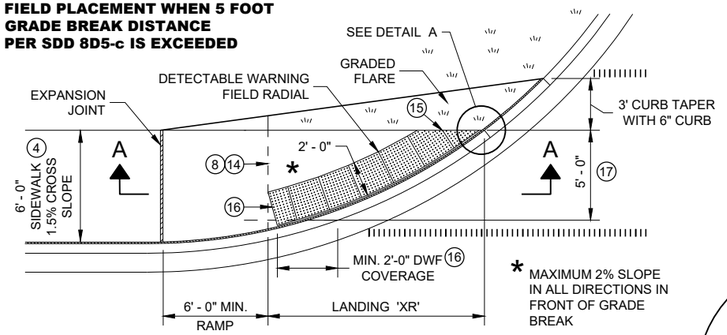
CURB RAMPS TYPE 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D05 - 20e

SDD 08D05 - 20e

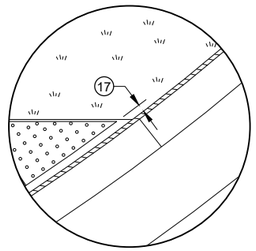
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED



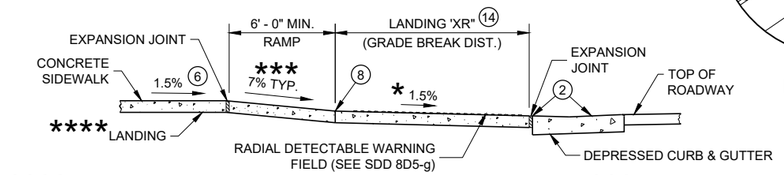
PLAN VIEW

CURB RAMP TYPE 4A1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL A

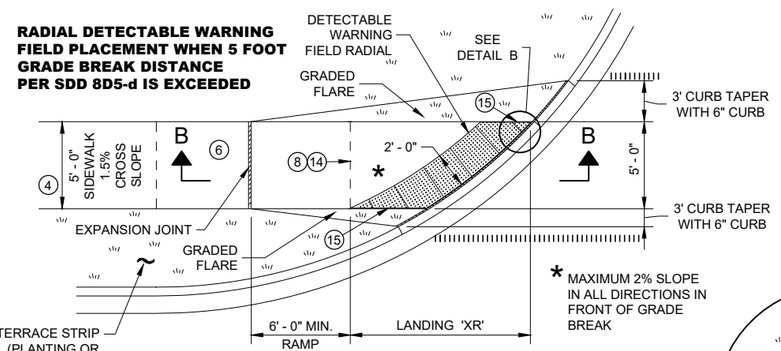


**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

SECTION A - A FOR TYPE 4A1

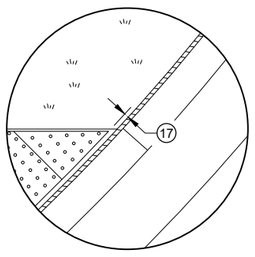
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED



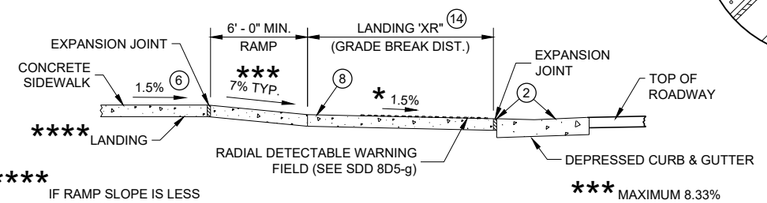
PLAN VIEW

CURB RAMP TYPE 4B1

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL B



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

SECTION B - B FOR TYPE 4B1

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

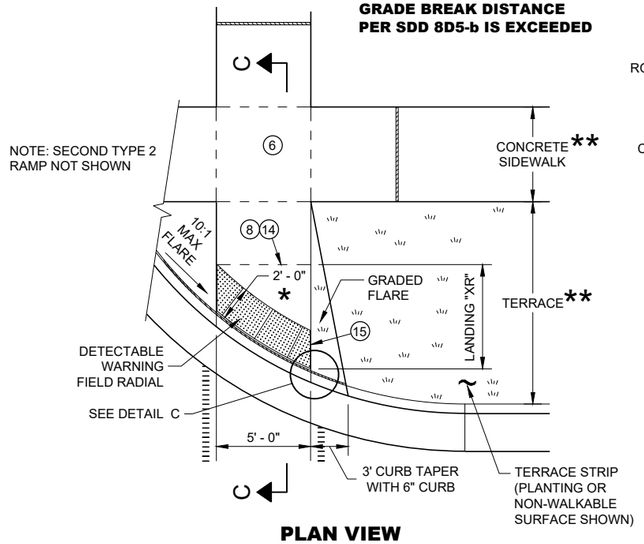
(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

(17) A MAXIMUM 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-b IS EXCEEDED

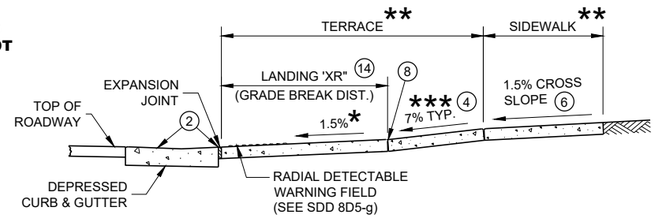


PLAN VIEW

CURB RAMP TYPE 2

(GRADE BREAK DISTANCE GREATER THAN 5 FEET)

(ON LINE WITH SIDEWALK)

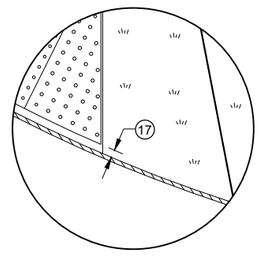


SECTION C - C FOR TYPE 2

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%



DETAIL C

CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS

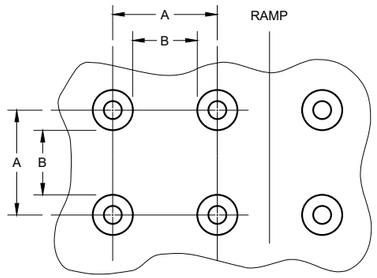
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D05 - 20f

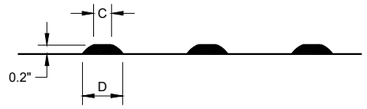
SDD 08D05 - 20f

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

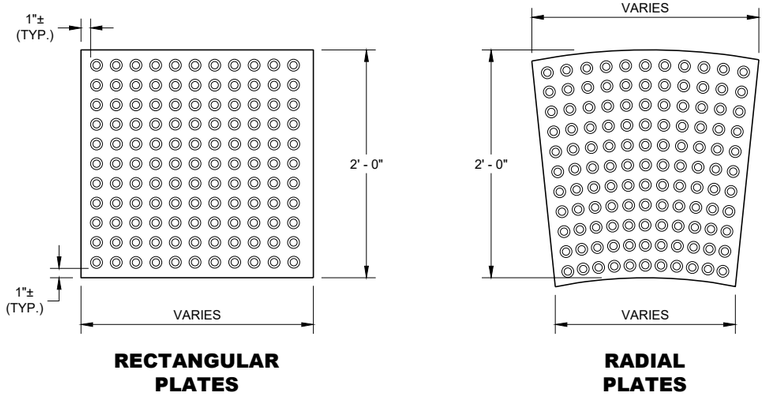


PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



RECTANGULAR PLATES

RADIAL PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

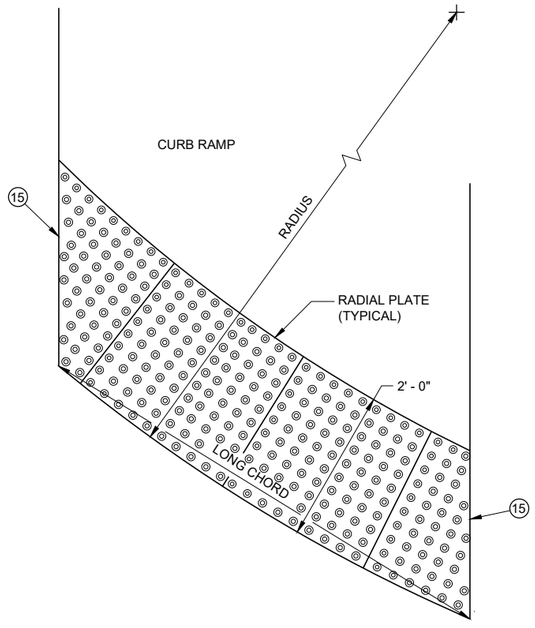
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

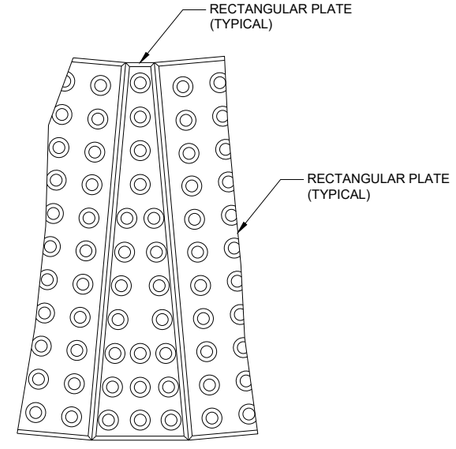
REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



PLAN VIEW
RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE CONNECTION DETAIL

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

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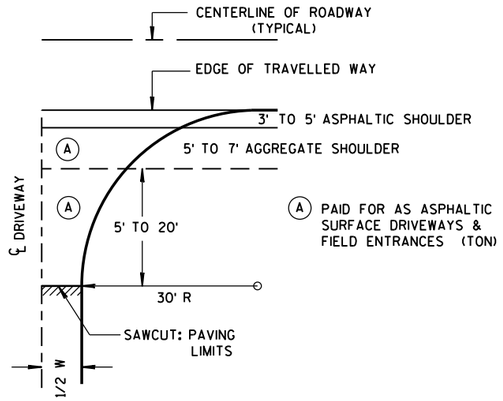
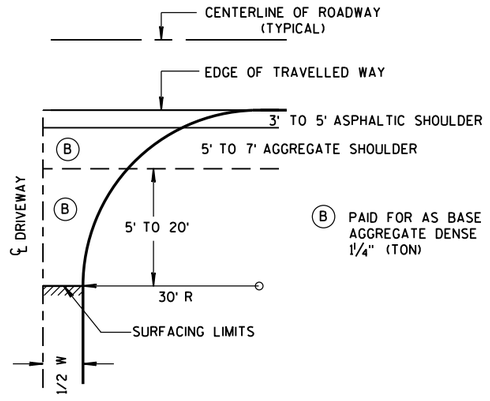
SDD 08D05 - 20g



PLAN VIEW
HALF SECTION

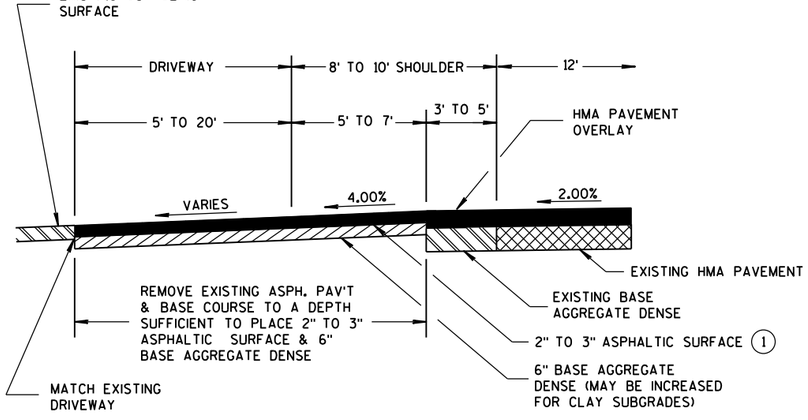
W MIN. = 16'
W MAX. = 24'



PLAN VIEW
HALF SECTION

GENERAL NOTES

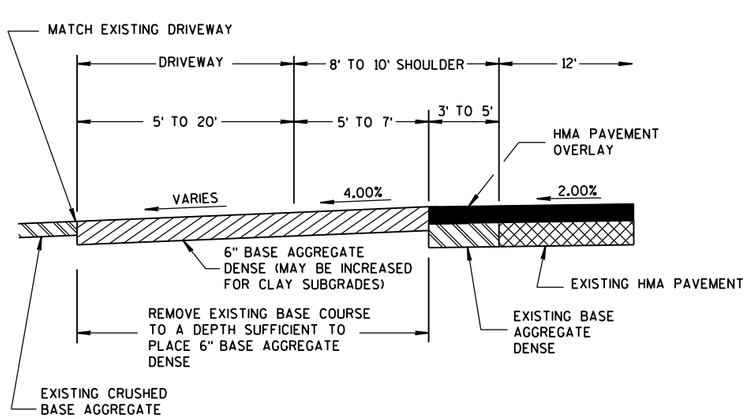
(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.



PROFILE VIEW

RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS



PROFILE VIEW

RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — /S/ Rodney Taylor
DATE — ROADWAY STANDARDS UNIT SUPERV — ENT
FHWA

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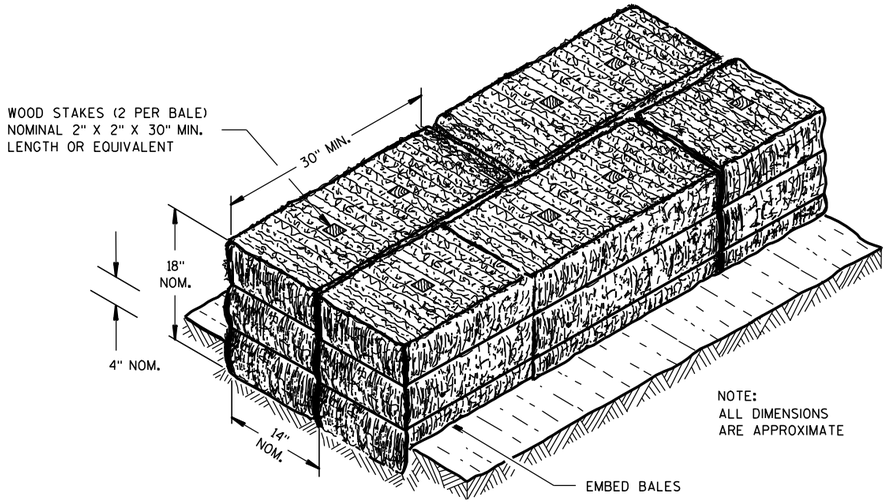
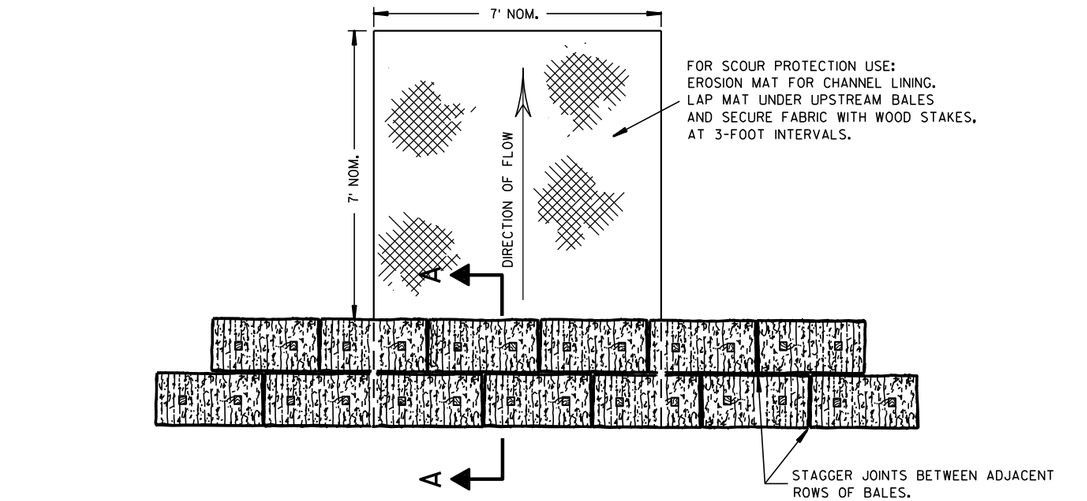
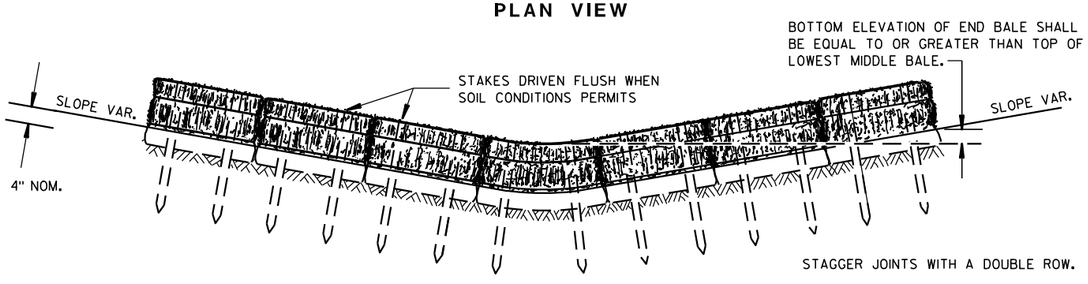


SECTION A-A



PLAN VIEW



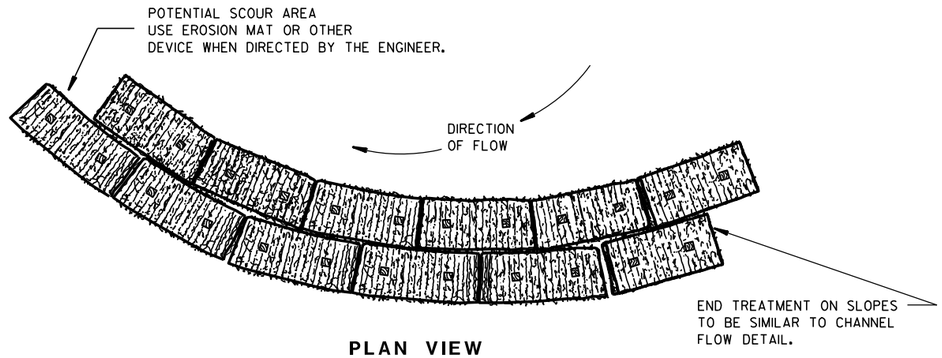
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

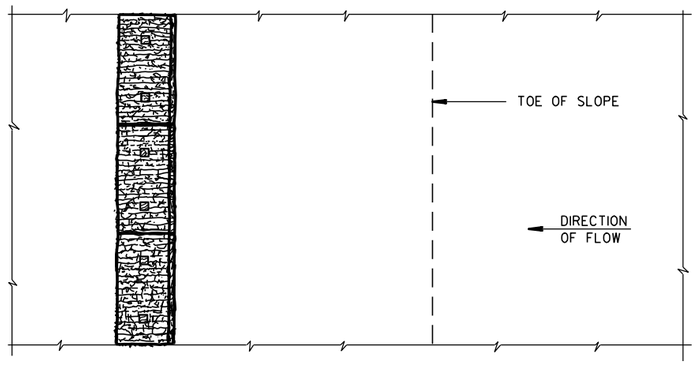
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

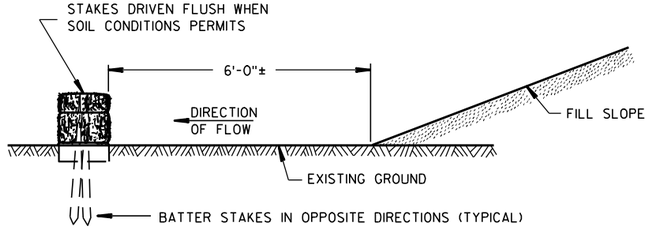


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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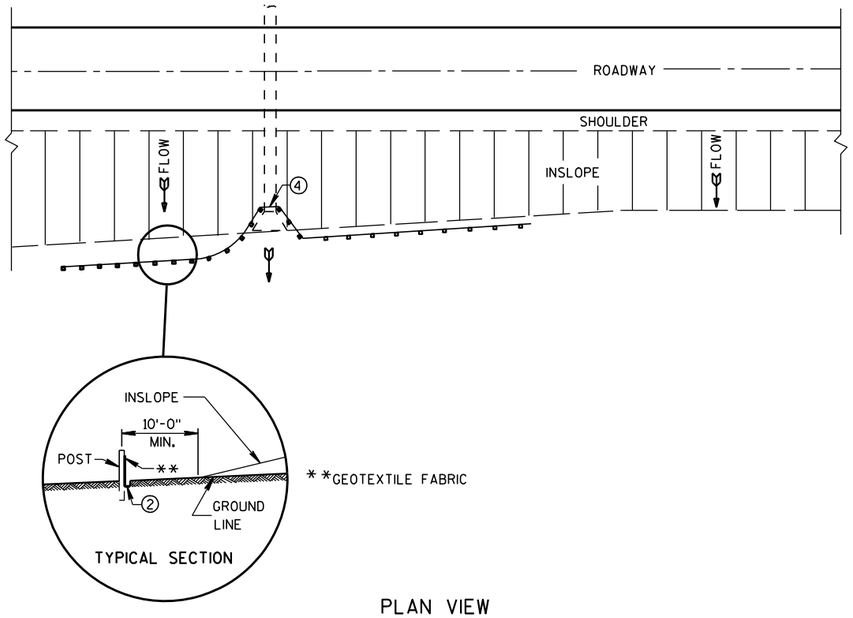
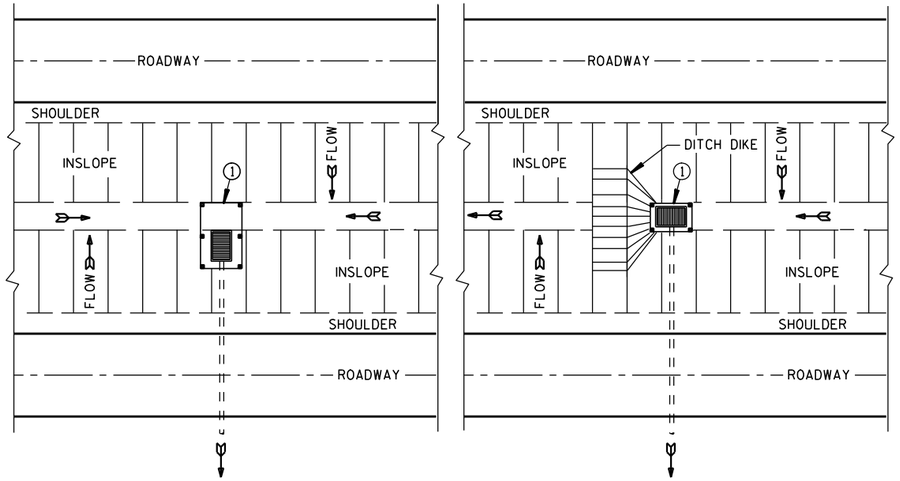
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



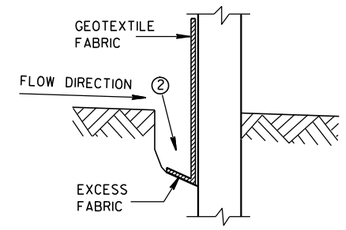
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

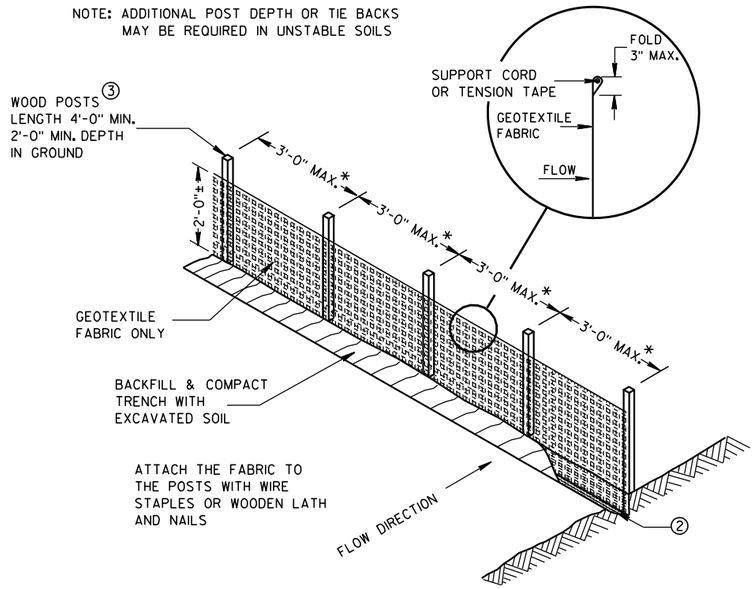
GENERAL NOTES

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

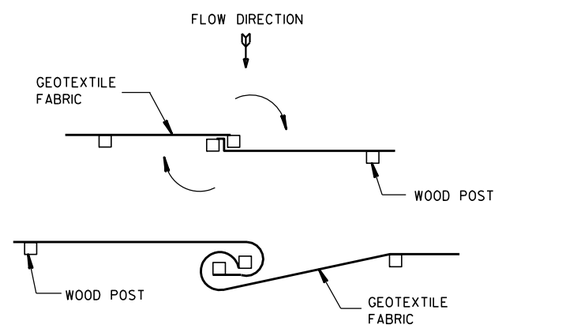
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



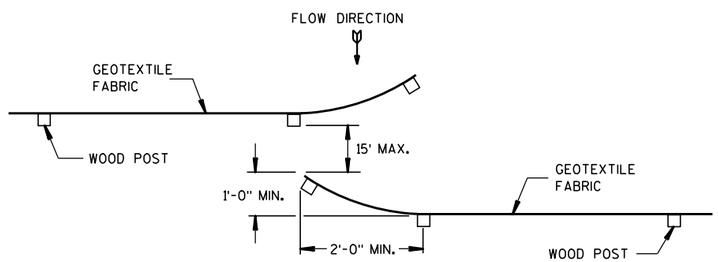
TRENCH DETAIL



SILT FENCE

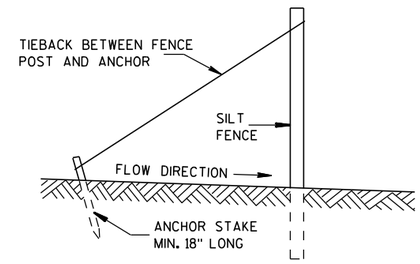


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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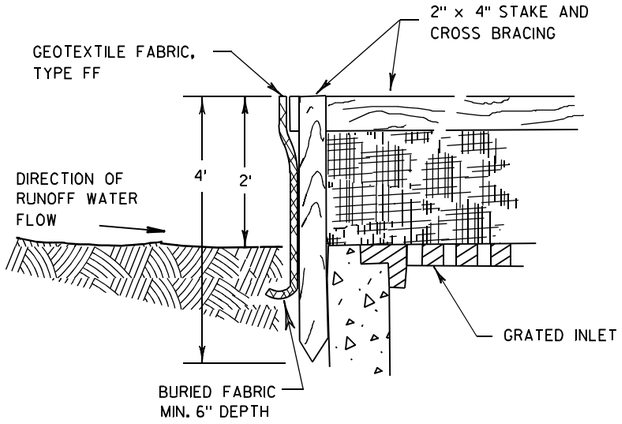
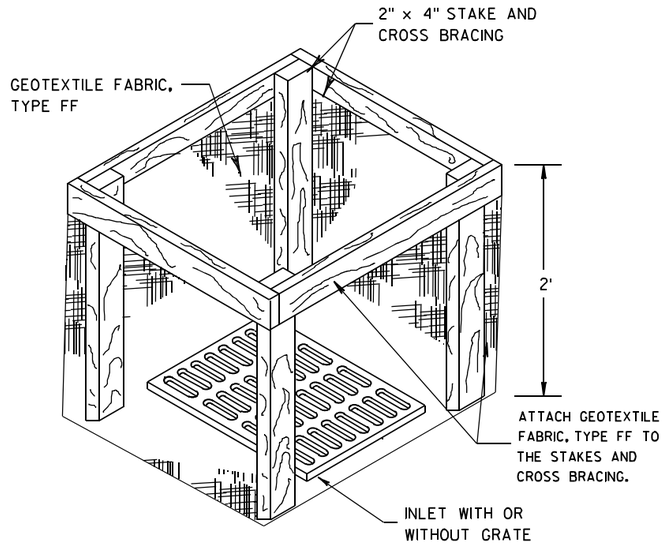
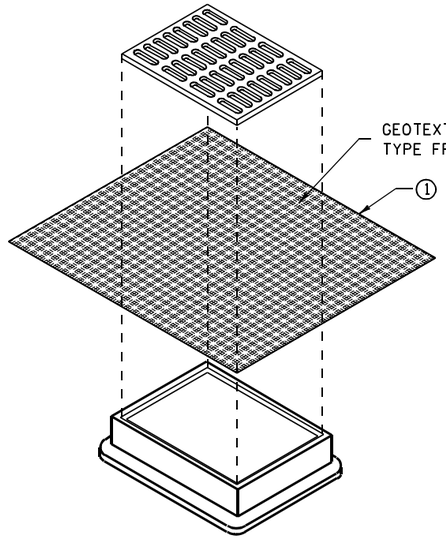


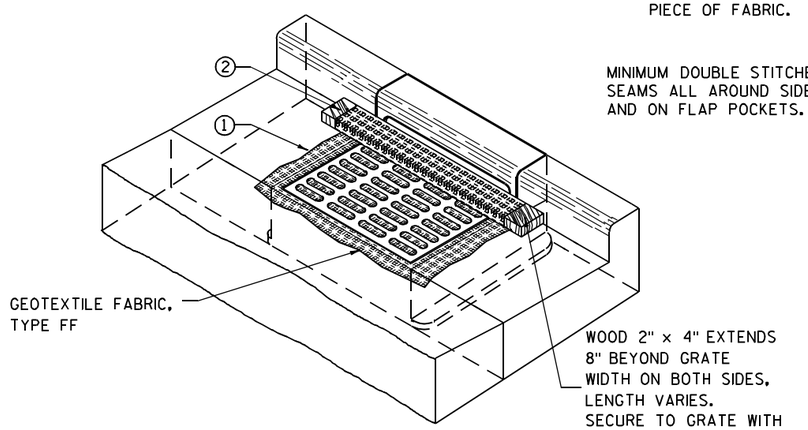


INLET PROTECTION, TYPE A

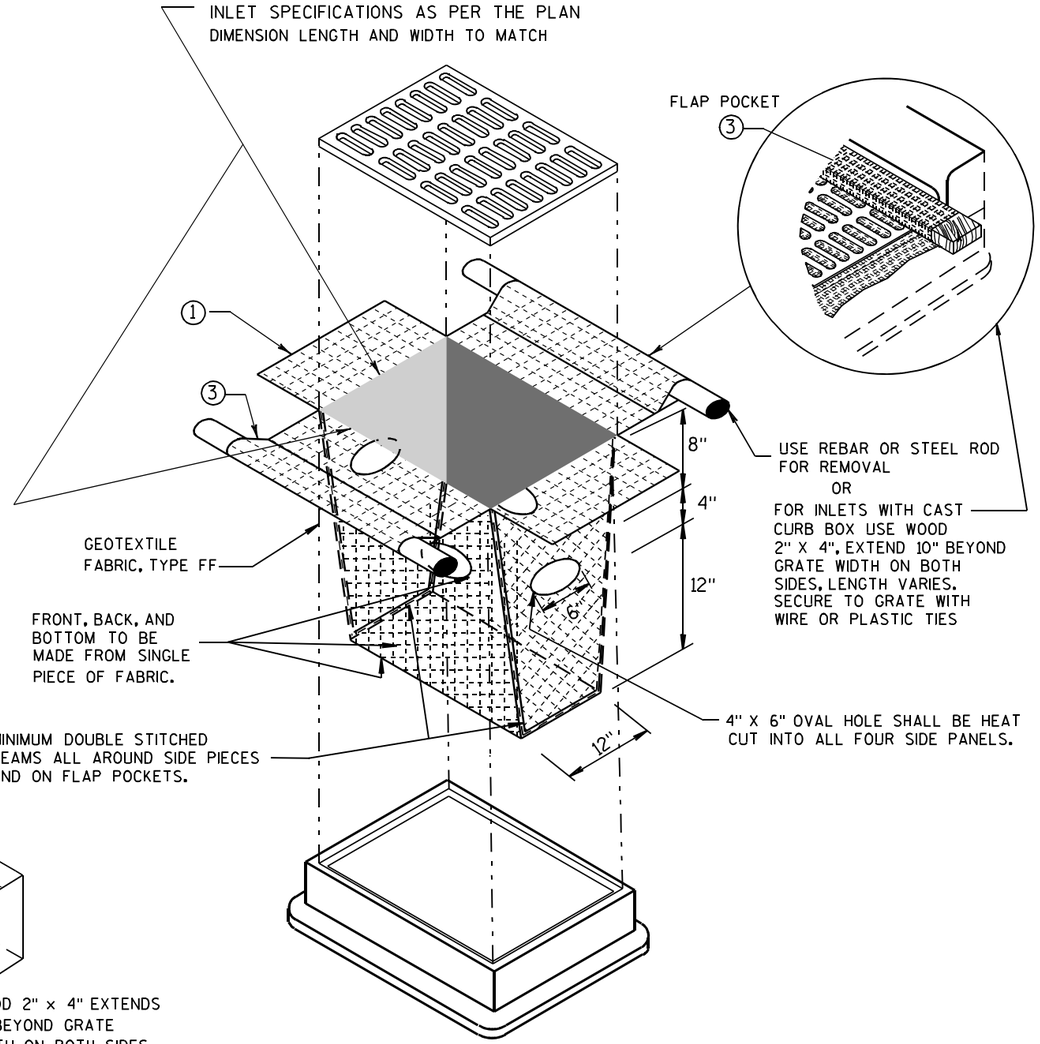


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ②)

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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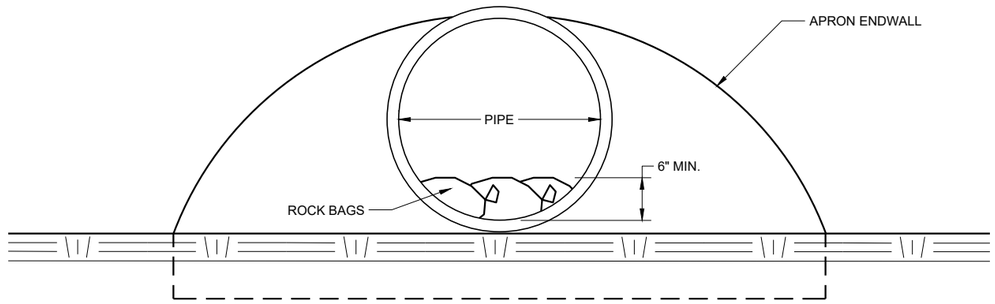
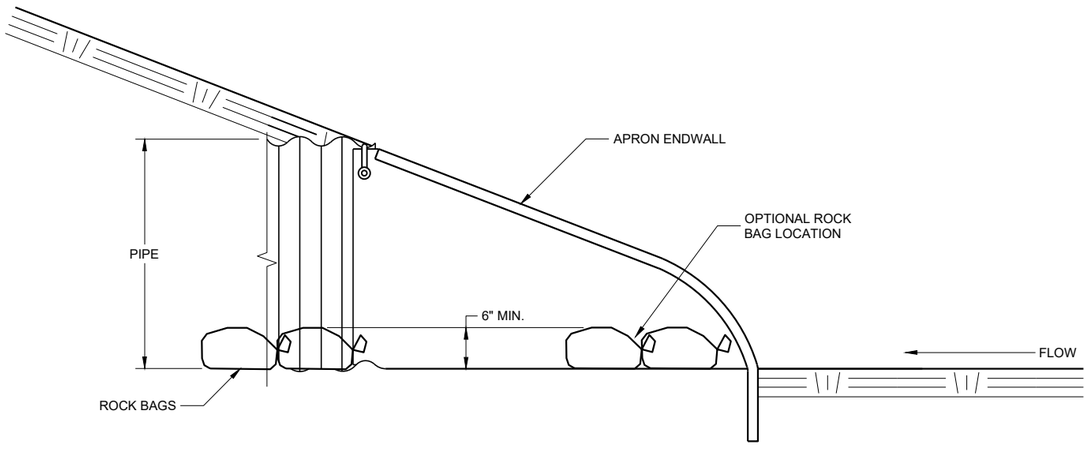
S.D.D. 8 E 10-2



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

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

6

SDD 08E15 - 01

METAL APRON ENDWALLS

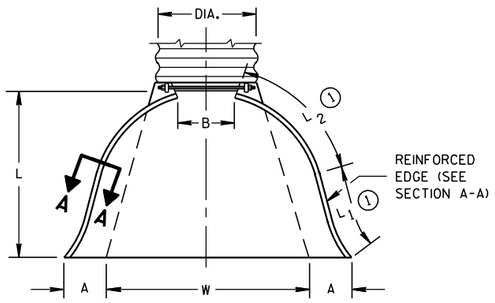
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

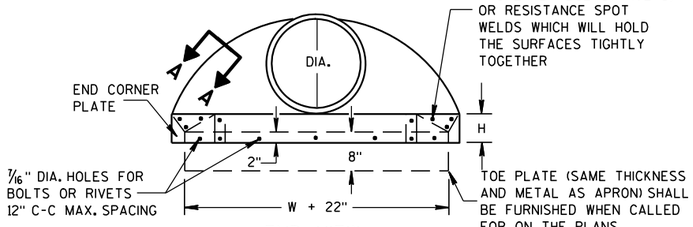
REINFORCED CONCRETE APRON ENDWALLS

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

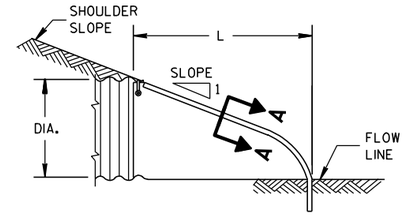
*MINIMUM
**MAXIMUM



PLAN VIEW

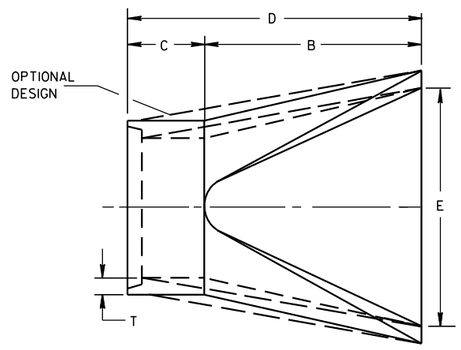


END VIEW

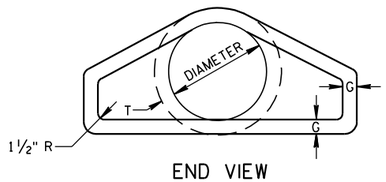


SIDE ELEVATION

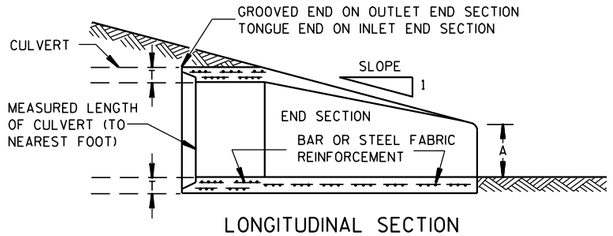
METAL ENDWALLS



PLAN

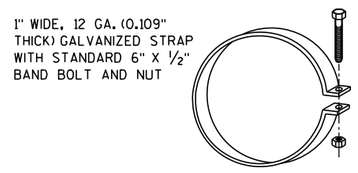


END VIEW



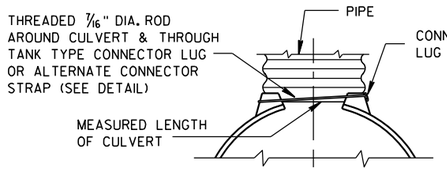
LONGITUDINAL SECTION

CONCRETE ENDWALLS

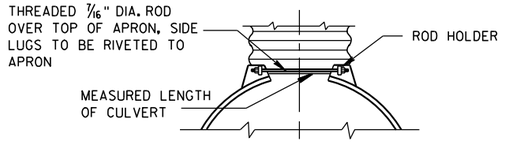


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

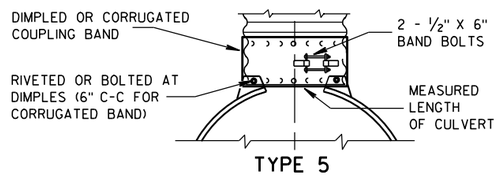


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

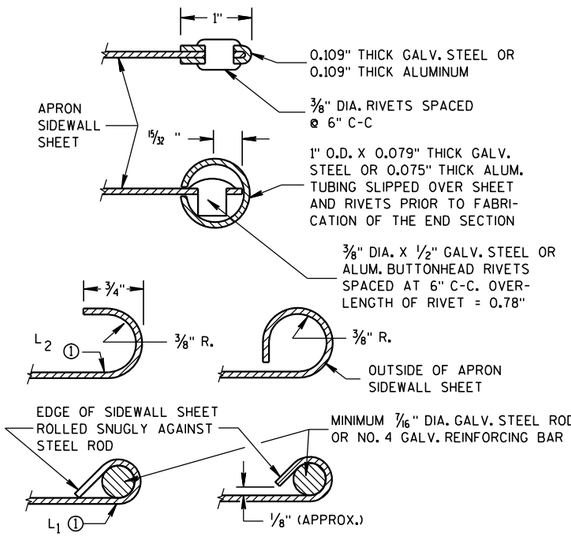
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

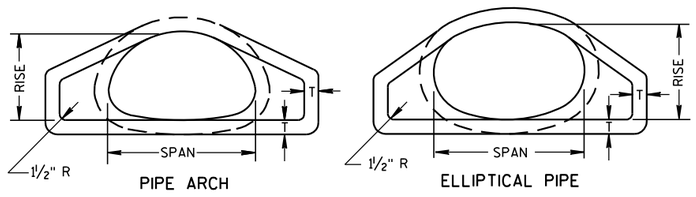
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

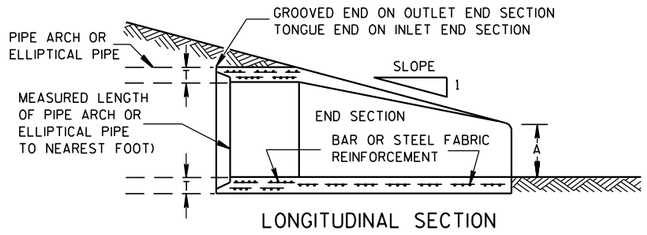
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

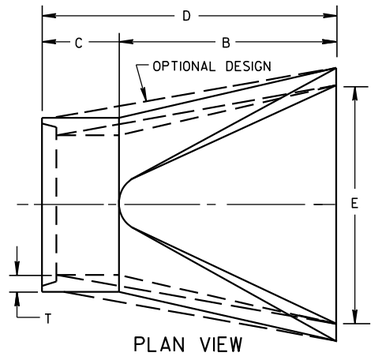
6
S.D.D. 8 F 1-11



END VIEW

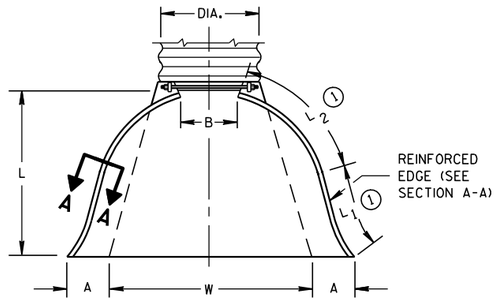


LONGITUDINAL SECTION

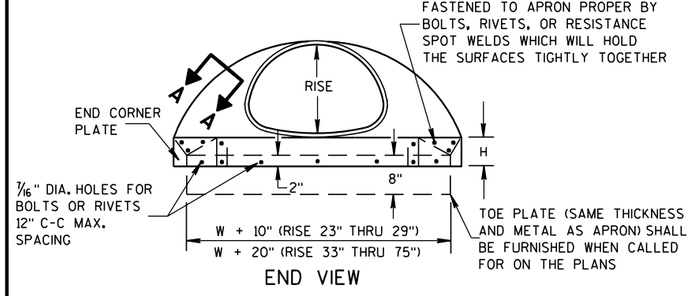


PLAN VIEW

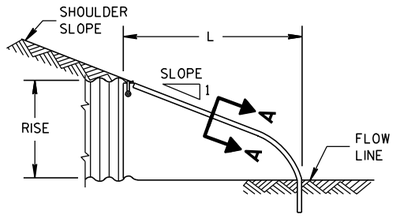
CONCRETE ENDWALLS



PLAN VIEW

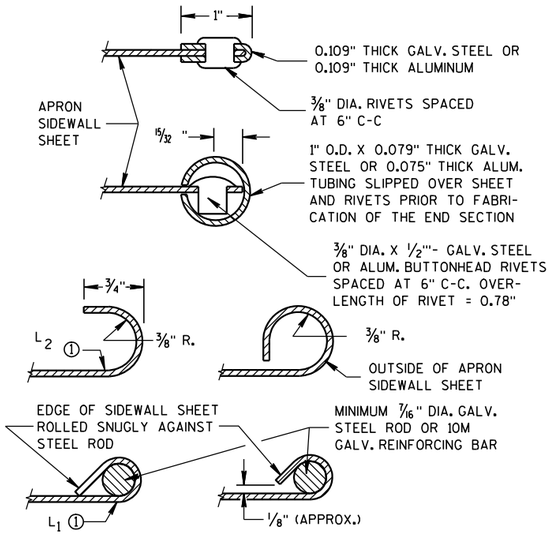


END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ 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) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
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

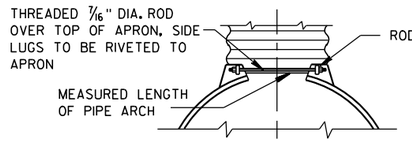
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	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	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

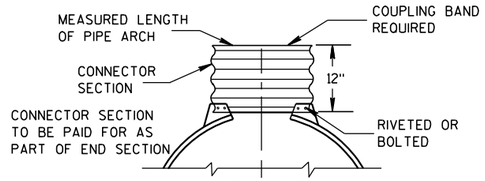
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



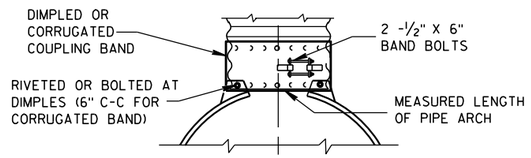
TYPE 2

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

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 PIPE

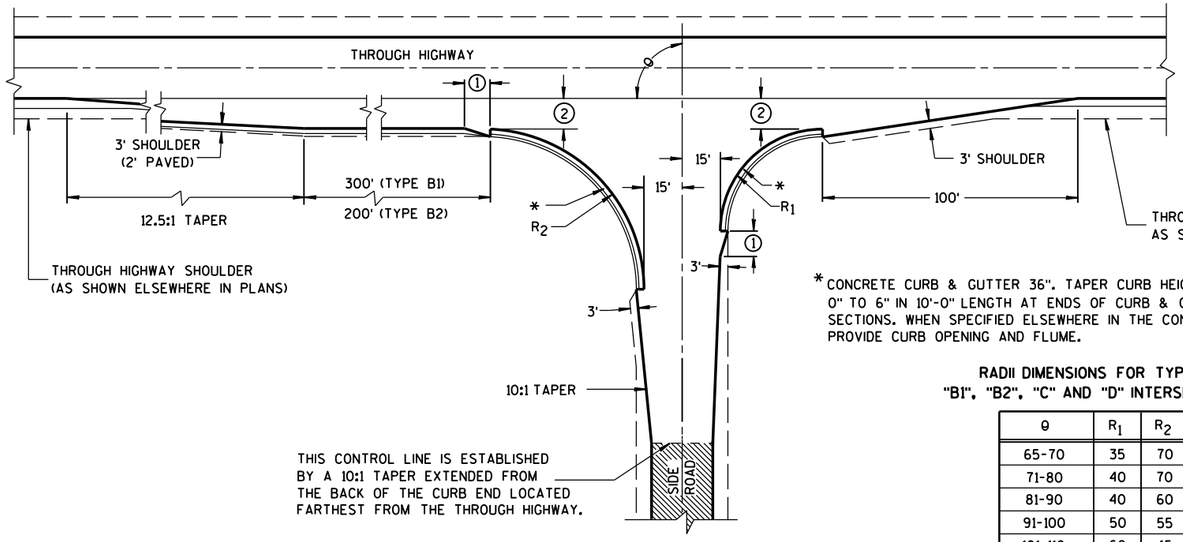
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

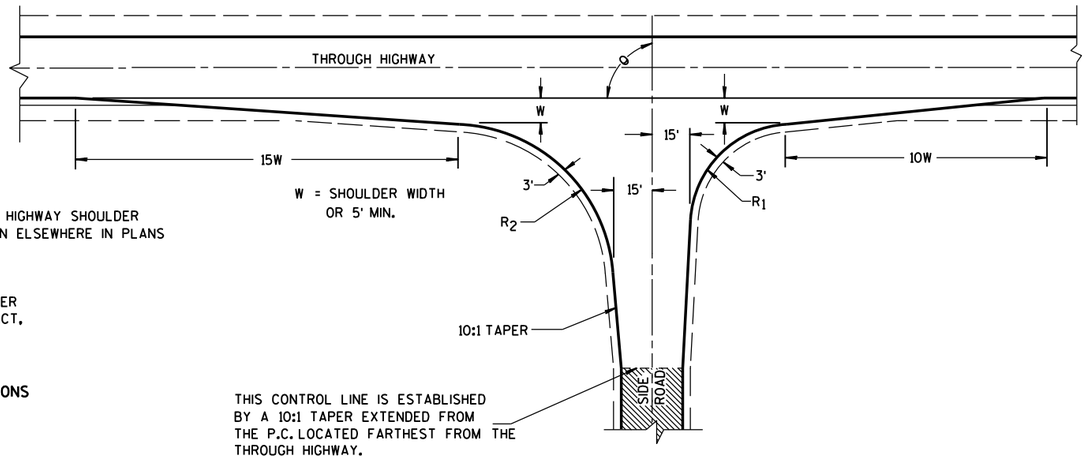


TYPE "B1" AND "B2"

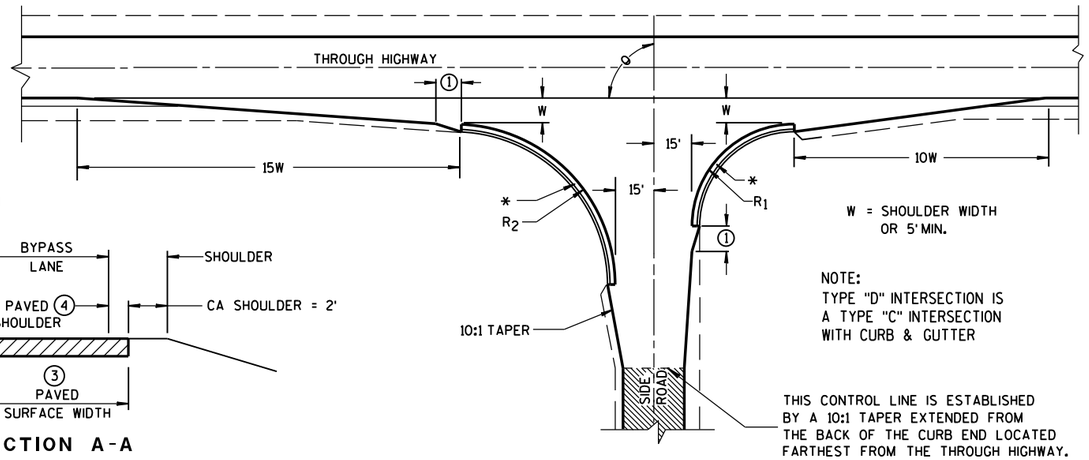
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

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



TYPE "C"



TYPE "D"

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

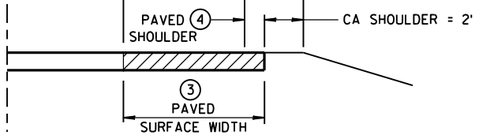
(1) 10-FT TYPICAL.

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

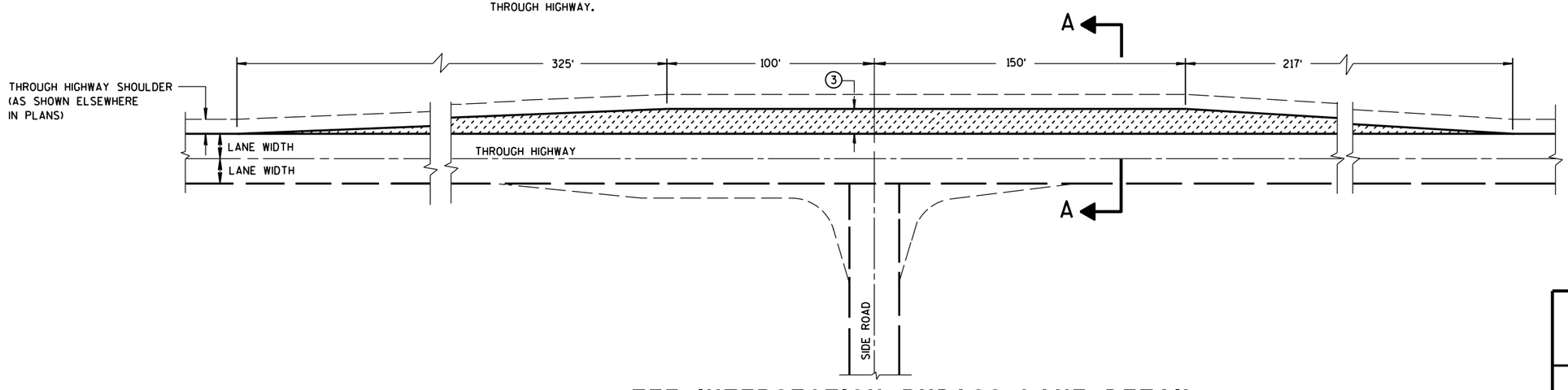
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

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

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



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



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 TRANSPO

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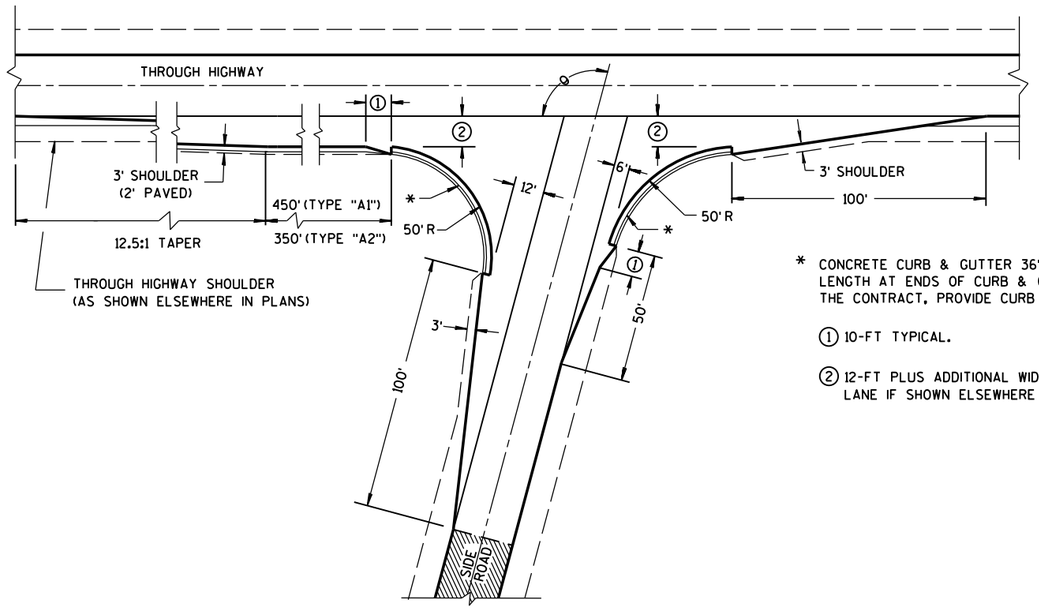
S.D.D. 9 A 1-13a



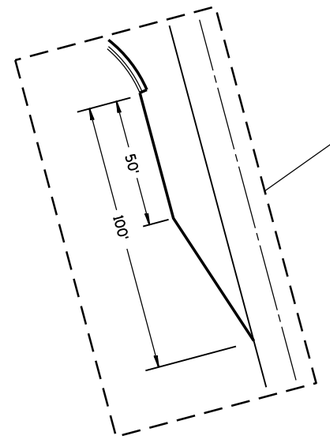
θ = MORE THAN 80°

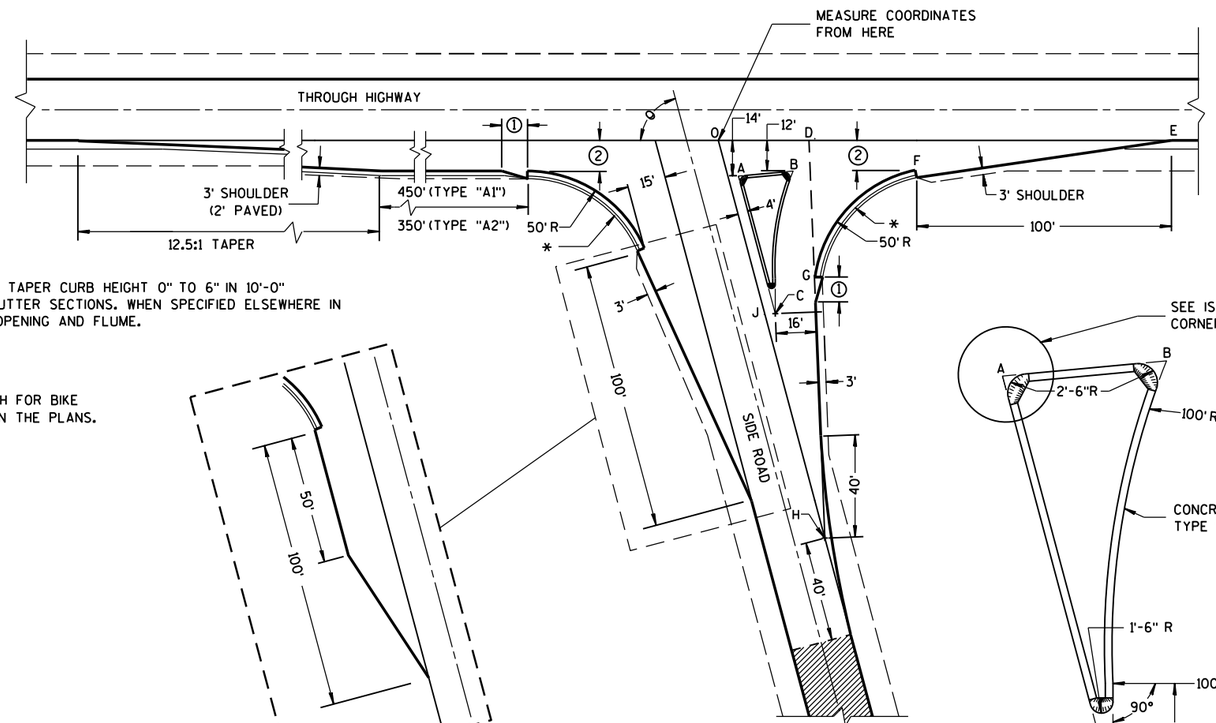
* CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

① 10-FT TYPICAL.

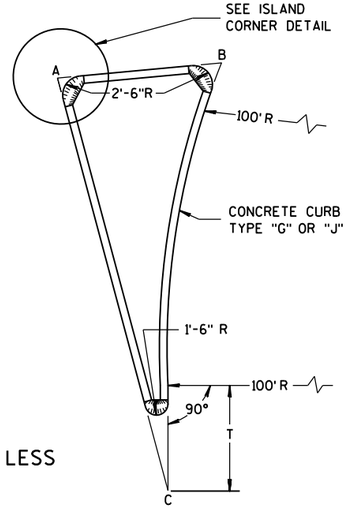
② 12-FT PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLANS.

EXISTING PAVED SURFACE

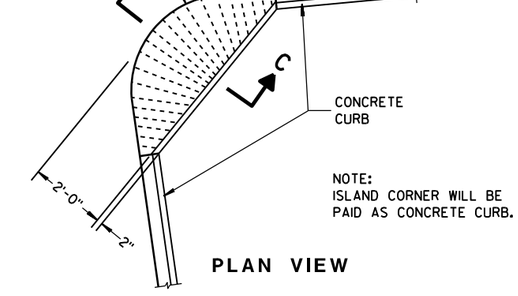




θ = ACUTE ANGLES 80° OR LESS

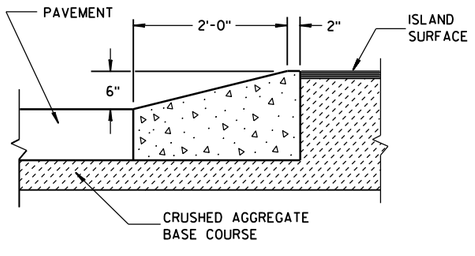


SIDE ROAD WIDENING AND TAPER REQUIRED WHERE THE THROUGH HIGHWAY CARRIES TWO-WAY TRAFFIC
θ = ACUTE ANGLES 70° OR LESS



NOTE:
ISLAND CORNER WILL BE PAID AS CONCRETE CURB.

PLAN VIEW



SECTION C-C

ISLAND CORNER DETAIL

(TO BE CONSTRUCTED AT ALL ISLAND CORNERS)

TABLE OF DIMENSIONS FOR
VARIABLE SIDE ROAD INTERSECTION ANGLES
(INTERPOLATE VALUES FOR ANGLES NOT SHOWN)

ANGLE θ DEGREES	COORDINATES IN FEET (MEASURED FROM POINT "O") X/Y								LENGTH IN FEET				
	A	B	C	D	E	F	G	H	AB	AC	T	OJ	OH
60	12.7 / -14.0	44.9 / -12.0	46.4 / -72.4	41.9 / 0.0	205.0 / 0.0	104.6 / -12.0	64.0 / -75.5	85.0 / -147.1	32.3	67.4	4.9	85.9	169.9
65	10.9 / -14.0	39.0 / -12.0	37.8 / -71.6	39.4 / 0.0	196.1 / 0.0	95.7 / -12.0	54.1 / -71.5	70.5 / -151.3	28.2	63.6	8.5	80.9	166.9
70	9.4 / -14.0	33.9 / -12.0	29.8 / -70.1	37.4 / 0.0	188.3 / 0.0	87.8 / -12.0	45.6 / -67.5	56.1 / -154.2	24.6	59.7	11.5	76.1	164.1
75	7.9 / -14.0	29.3 / -12.0	22.3 / -67.9	35.7 / 0.0	181.2 / 0.0	80.7 / -12.0	38.2 / -63.4	41.8 / -155.9	21.5	55.8	13.8	71.4	161.4
80	6.5 / -14.0	25.4 / -12.0	15.6 / -65.2	34.4 / 0.0	174.8 / 0.0	74.4 / -12.0	31.8 / -59.3	27.6 / -156.5	18.9	52.0	15.6	66.9	158.9

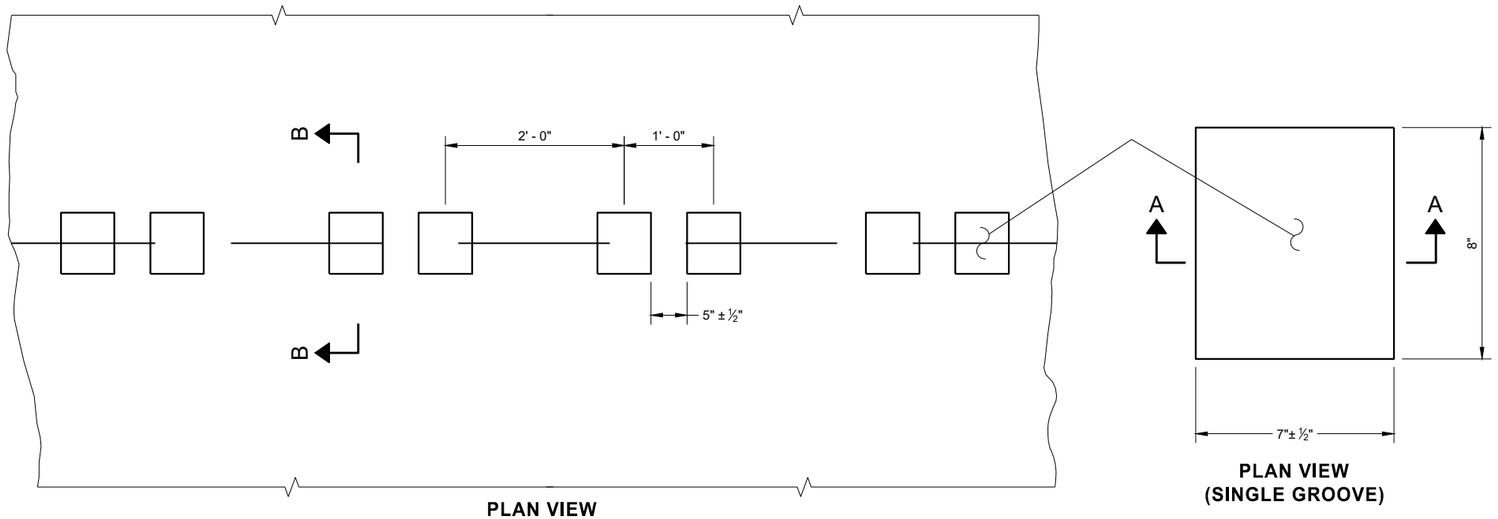
TYPE "A1" & "A2" SIDE ROAD INTERSECTION DETAILS

AT-GRADE SIDE ROAD INTERSECTION, TYPE "A1" & "A2"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/12 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

S.D.D. 9 A 1-13b



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

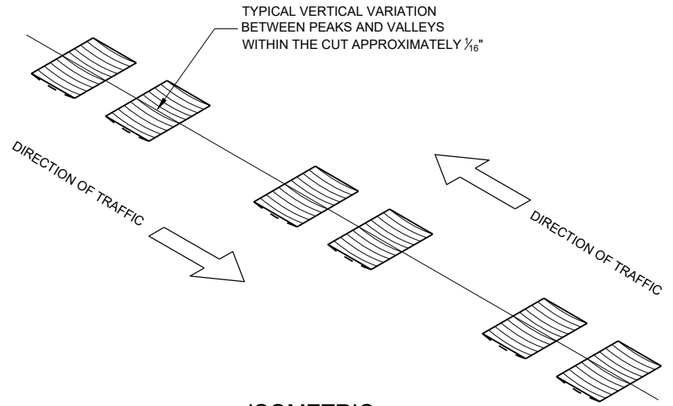
DETAILS OF CONSTRUCTION NO SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

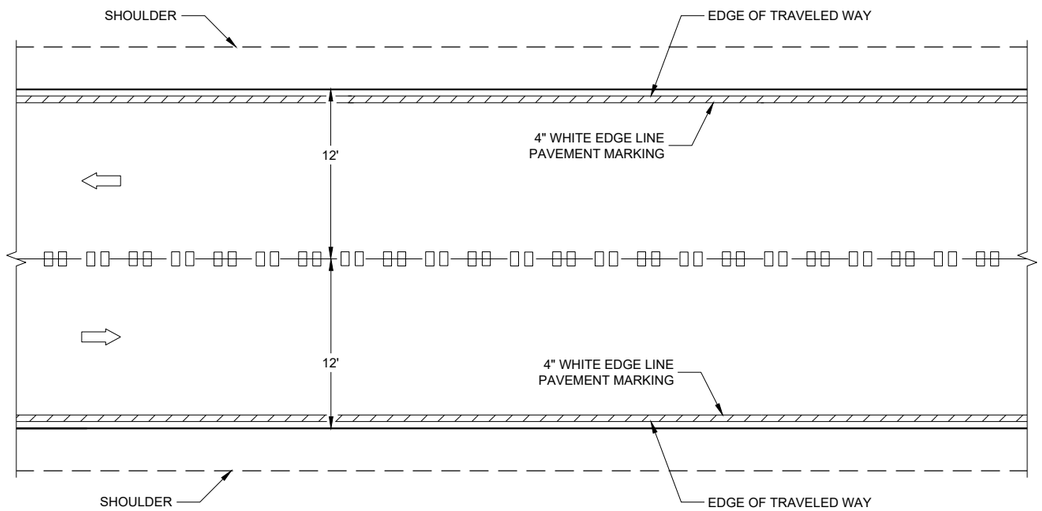
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

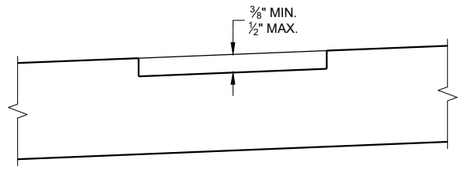
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



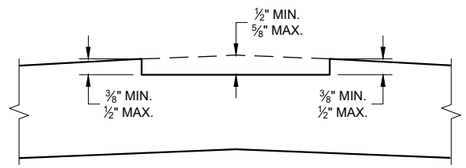
ISOMETRIC



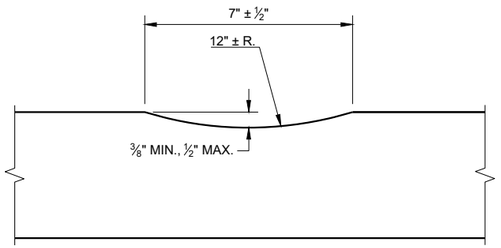
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



SECTION B - B
CROWNED ROADWAY



SECTION A - A

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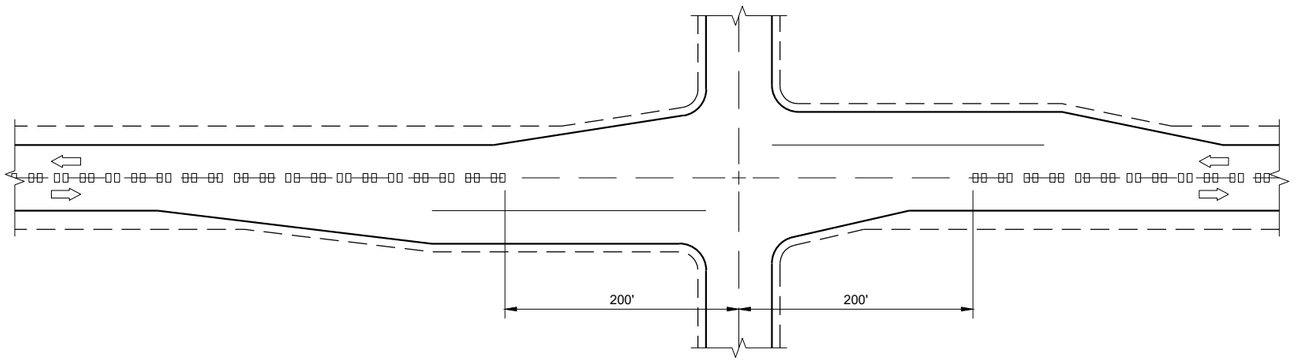
SDD 13A11 - 03a

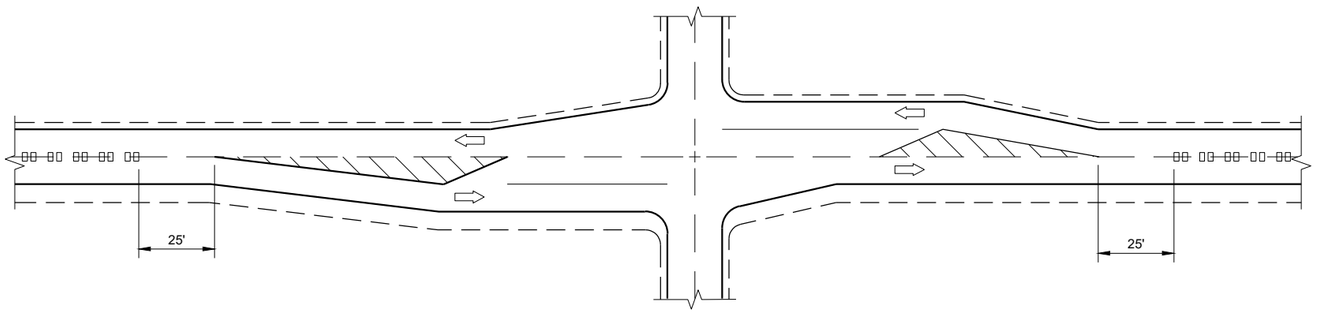
SDD 13A11 - 03a

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

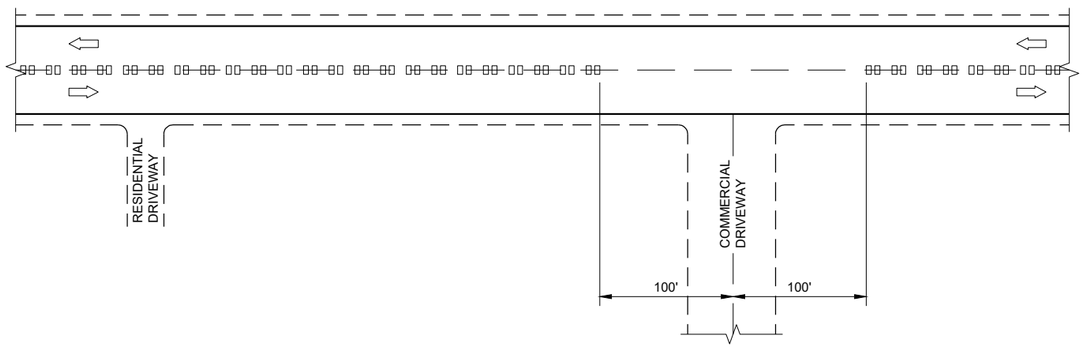
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CENTERLINE GROOVES AT INTERSECTIONS



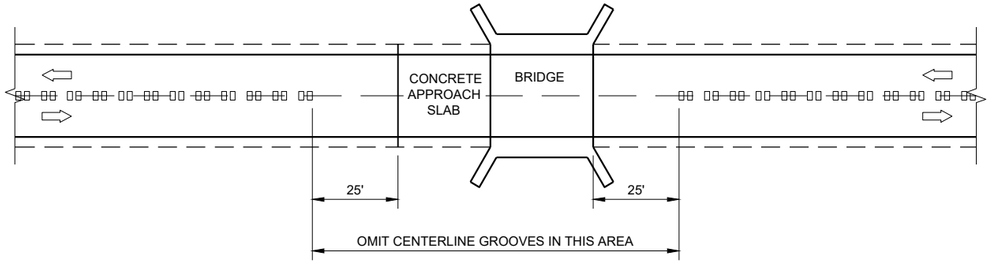
CENTERLINE GROOVES AT INTERSECTIONS (WITH LEFT TURN LANES)



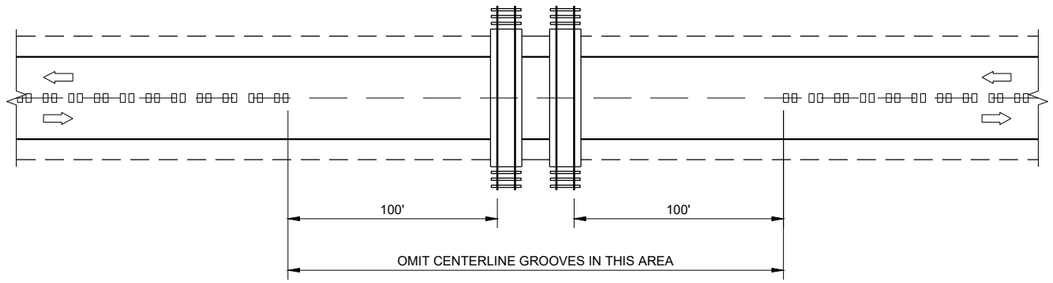
CENTERLINE GROOVES AT DRIVEWAYS (1)

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES



CENTERLINE GROOVES AT RAILROADS

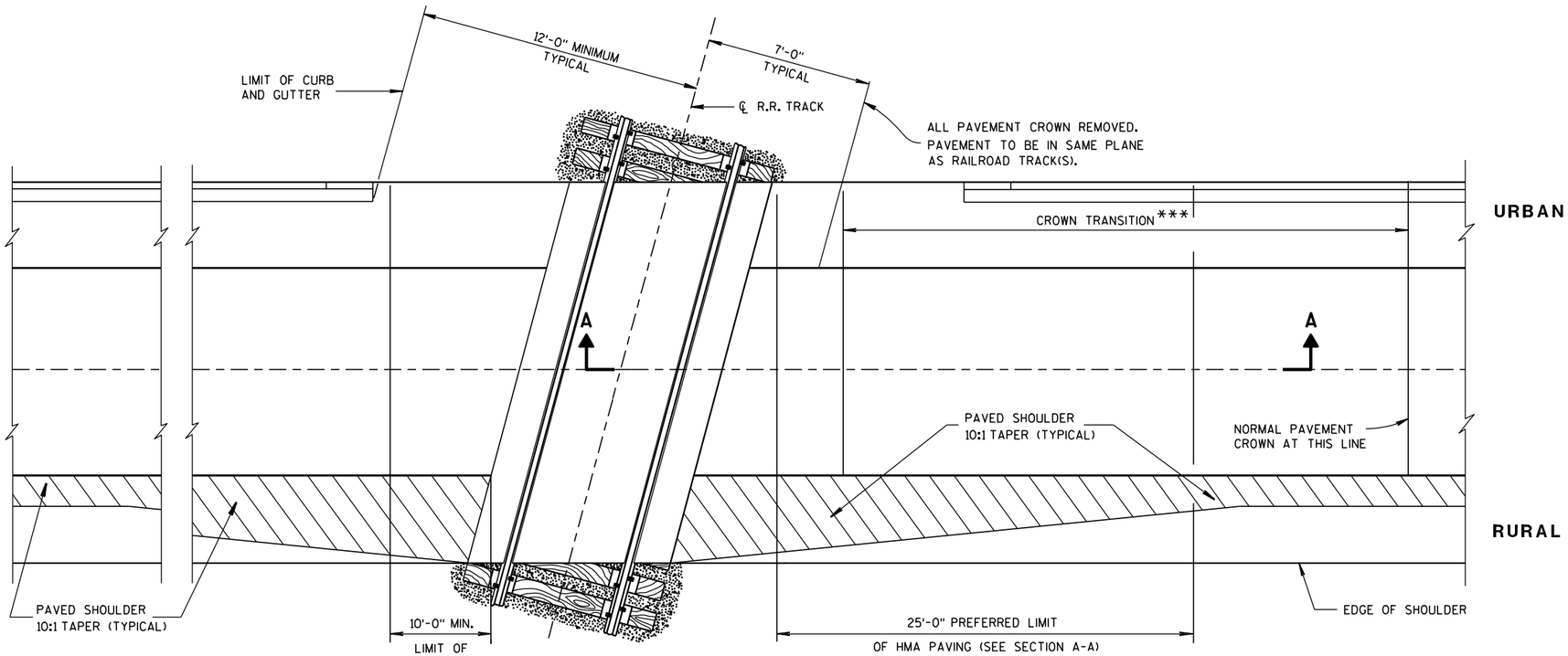
2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING

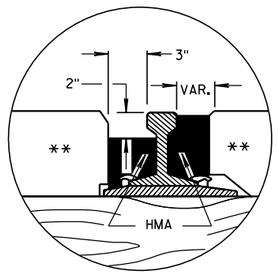
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE ENGINEER

FHWA

6
SDD 13A11 - 03b





DETAIL B

HMA FLANGEWAY AND FIELD FILLERS

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.

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

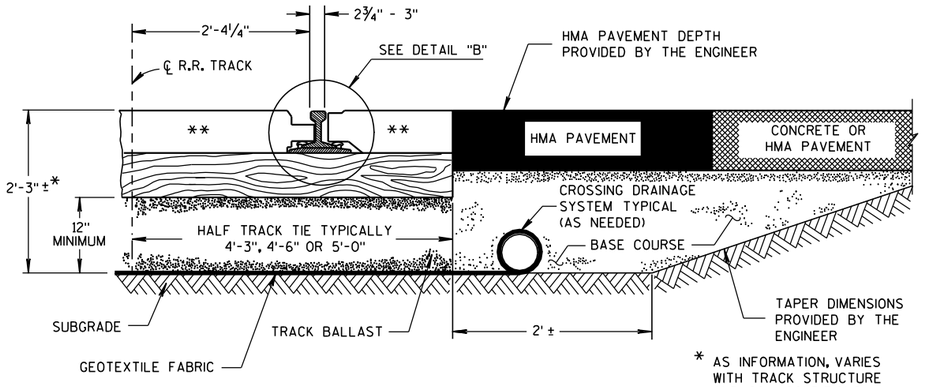
HMA PAVEMENT APPROACHES AND HMA PAVEMET CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

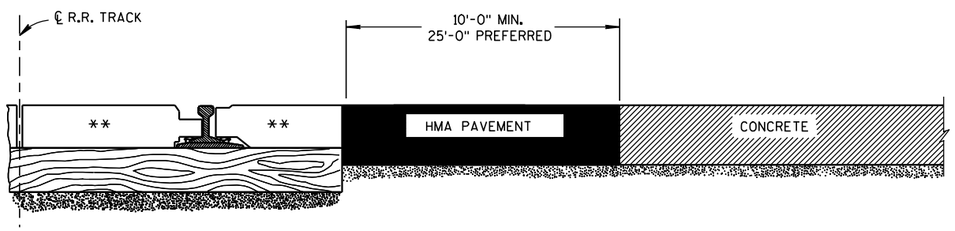
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

** CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

*** CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.



TYPICAL HALF SECTION



SECTION A-A

CONCRETE PAVEMENT APPROACH

SECTION A-A

HMA PAVEMENT APPROACH

EXAMPLES OF PAVEMENT APPROACHES

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-28-09 DATE
/S/ Ronald E. Adams
CHIEF, RAILROADS & HAI 88 CTION
FHWA

6

S.D.D. 13 B 1-10

6

S.D.D. 13 B 1-10

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

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

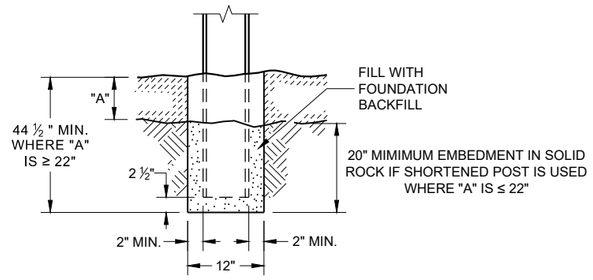
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

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

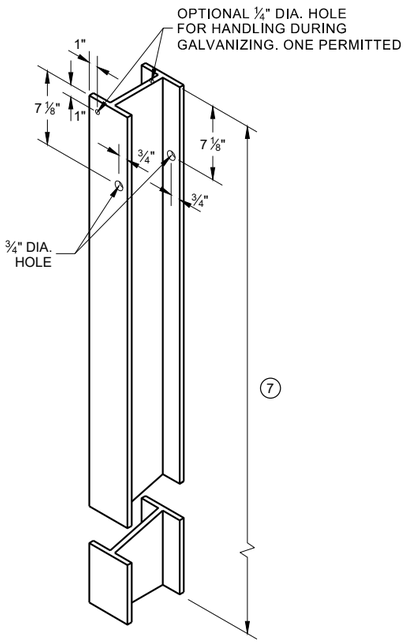
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

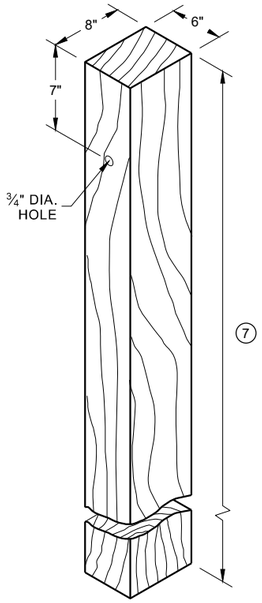
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



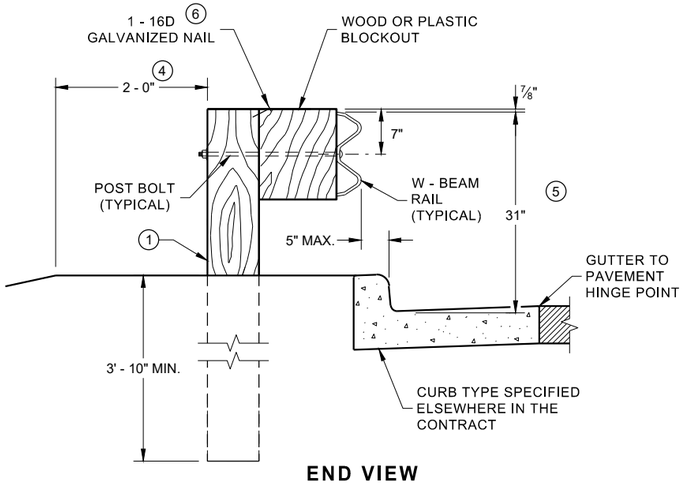
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



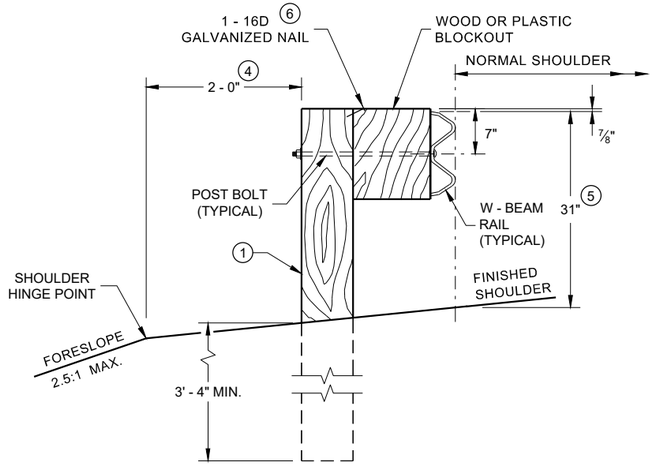
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



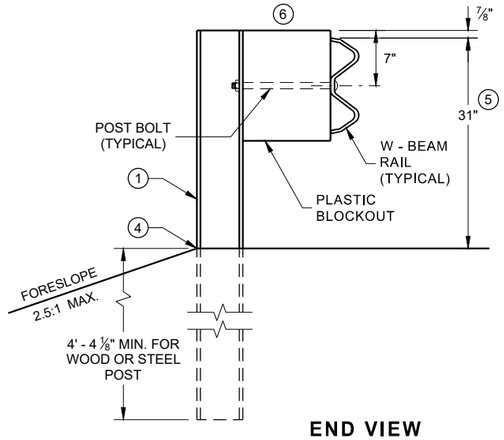
WOOD POST (6" X 8") NOMINAL (1)



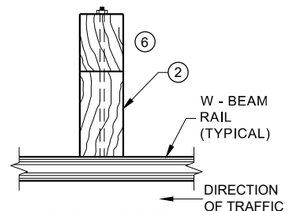
END VIEW
LOCATED ALONG A CURBED ROADWAY



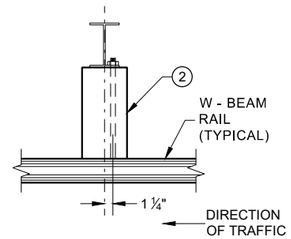
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



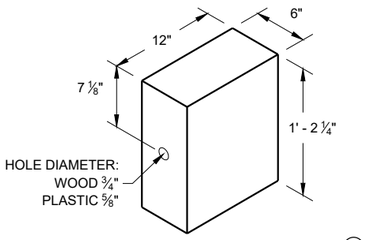
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B42 - 07a

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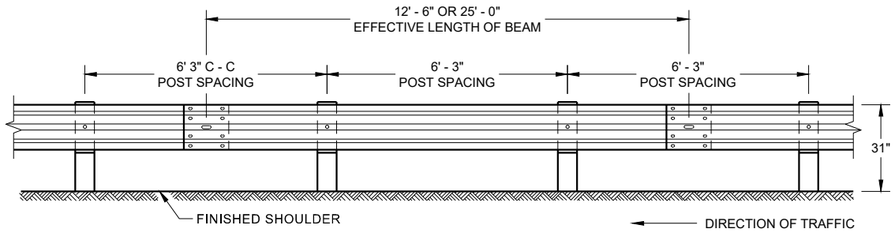
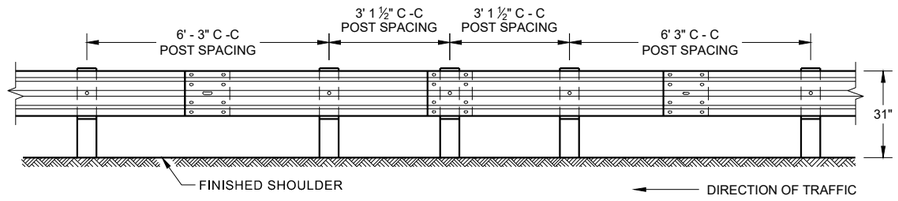
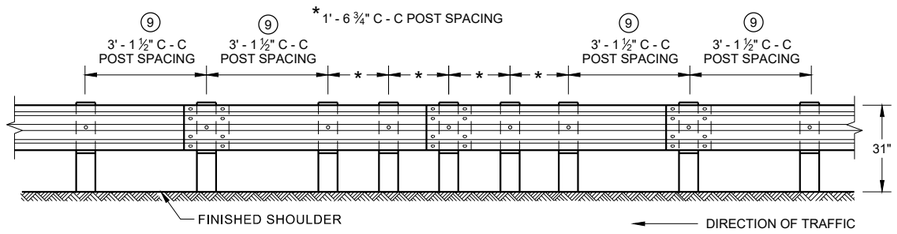
SDD 14B42 - 07a



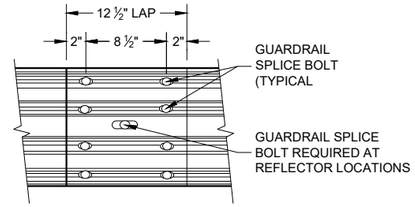
FRONT VIEW
POST SPACING STANDARD INSTALLATION



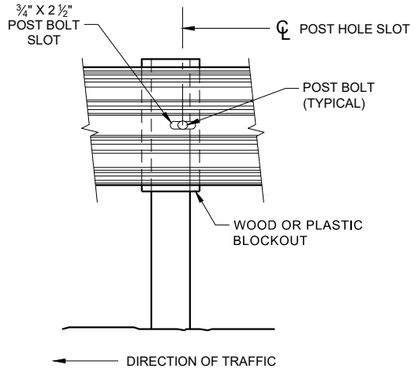
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



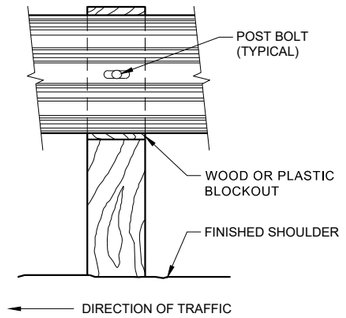
FRONT VIEW
QUARTER POST SPACING (QS)



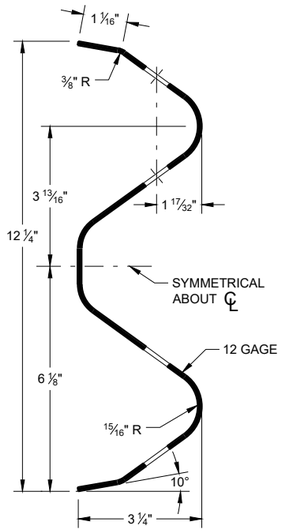
FRONT VIEW
MID-SPAN BEAM SPLICE



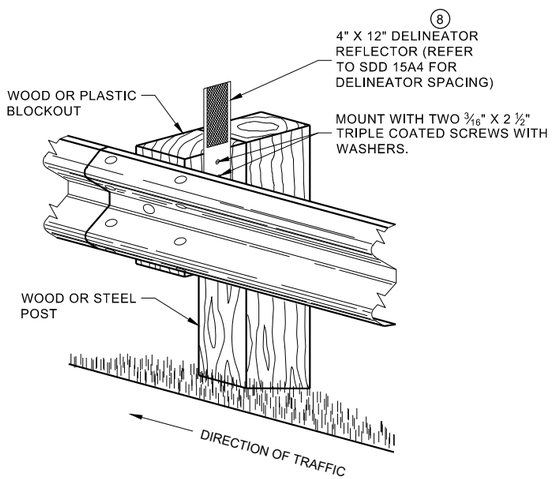
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

GENERAL NOTES

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

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

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

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

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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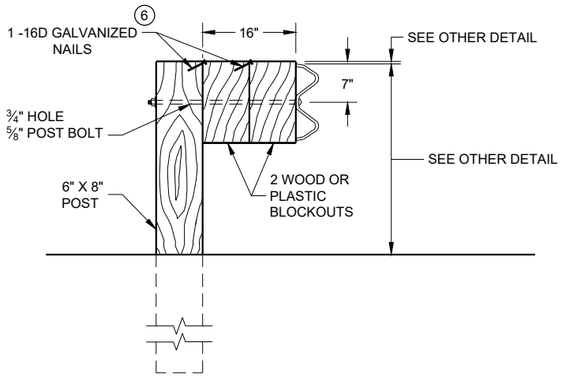
SDD 14B42 - 07b

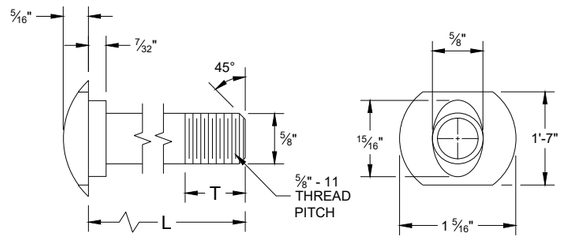


DETAIL FOR 16" BLOCKOUT DEPTH

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

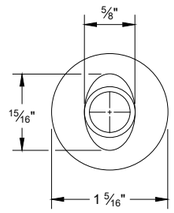
NOTE:

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

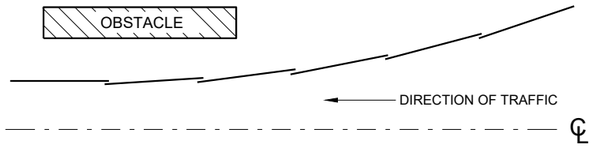


POST BOLT TABLE

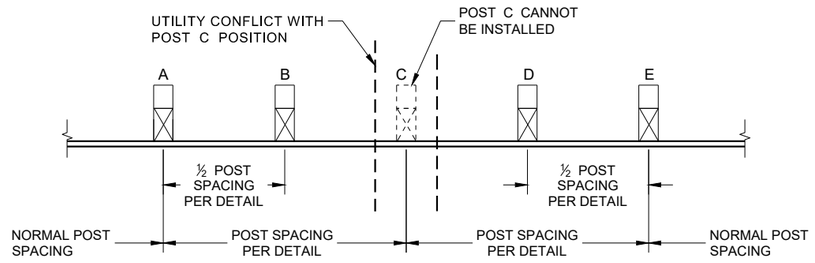
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



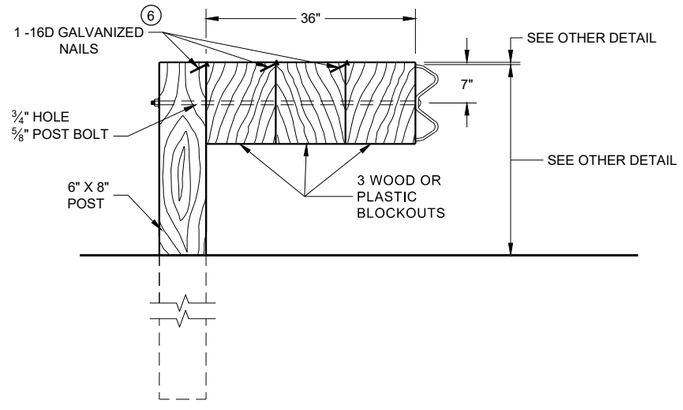
ALTERNATE BOLT HEAD



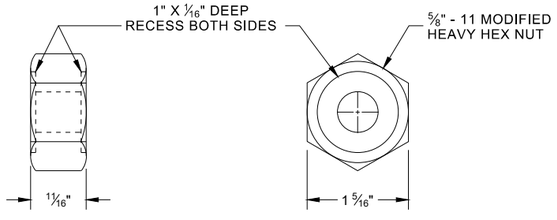
PLAN VIEW
BEAM LAPPING DETAIL



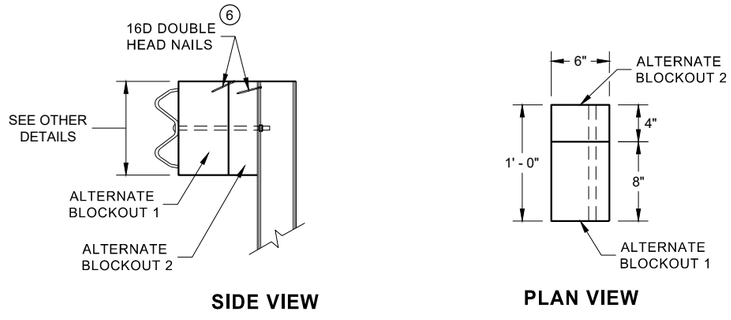
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW

PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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

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

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

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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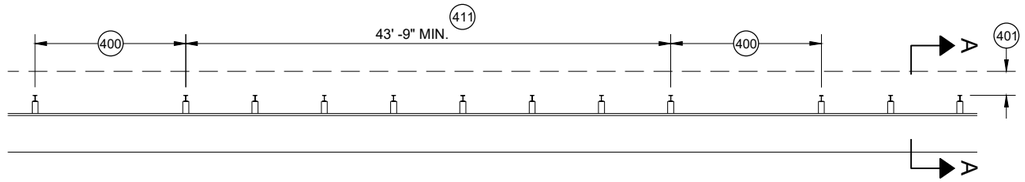
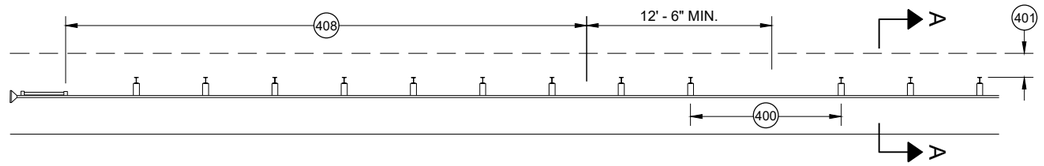
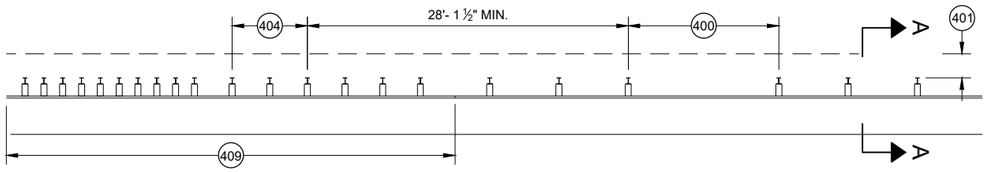
SDD 14B42 - 07c



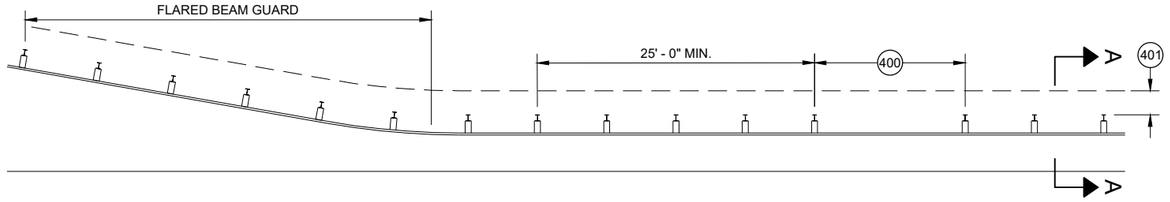
MISSING POST IN MGS GUARDRAIL



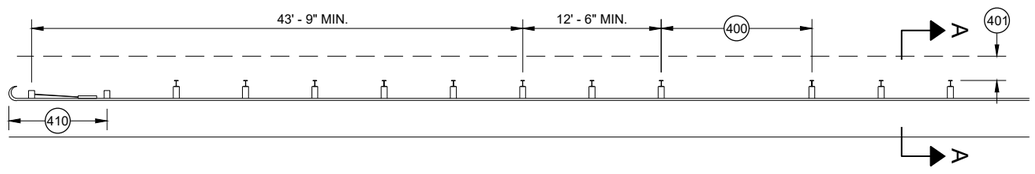
MISSING POST IN MGS GUARDRAIL NEAR EAT



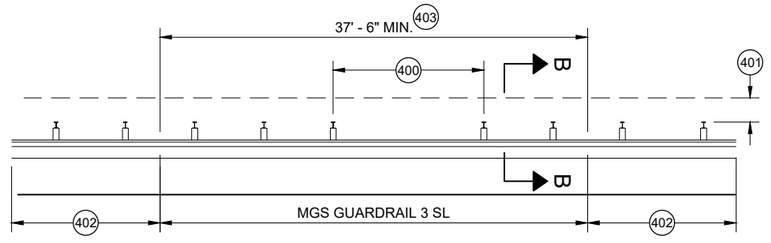
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

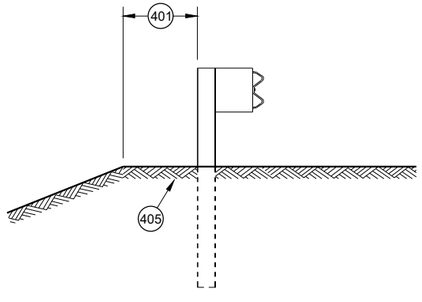


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

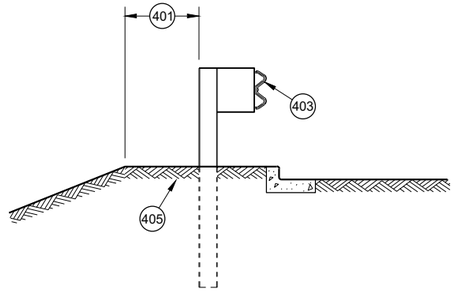


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

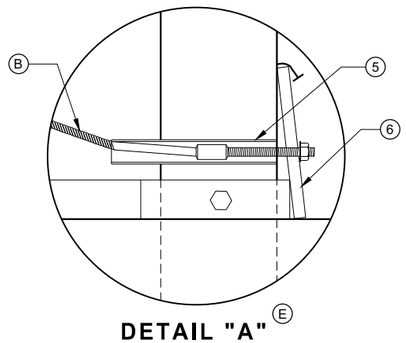
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

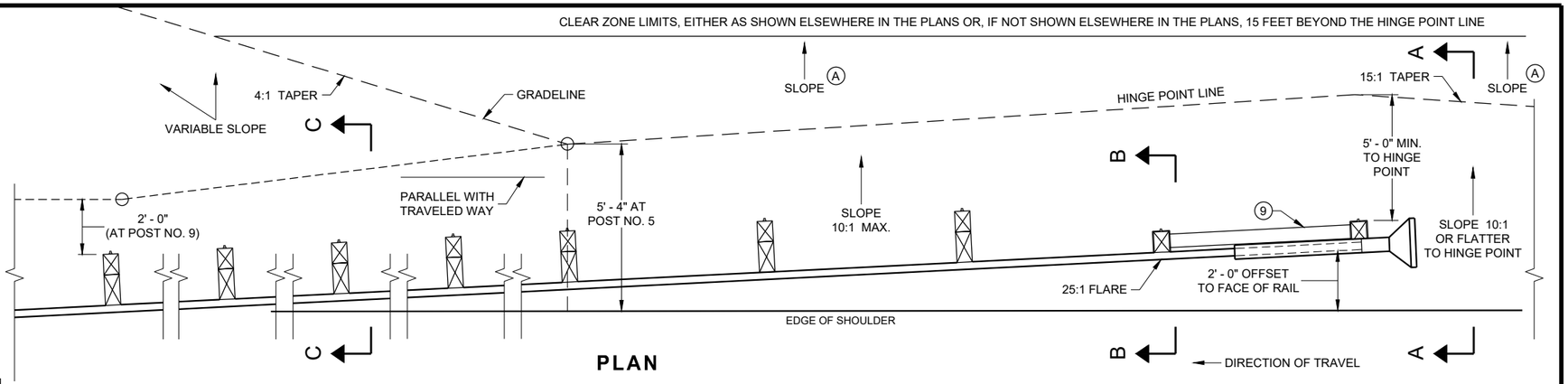
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

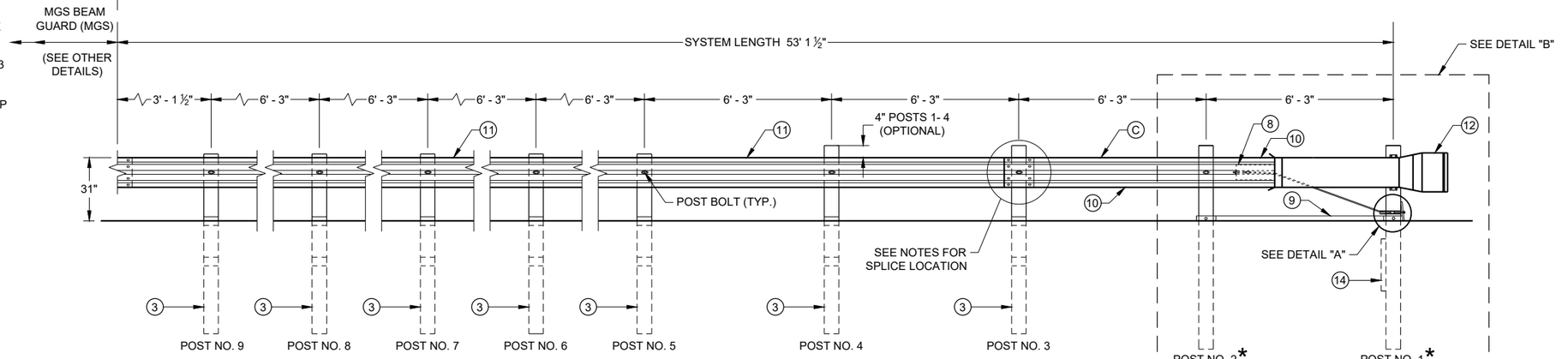
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



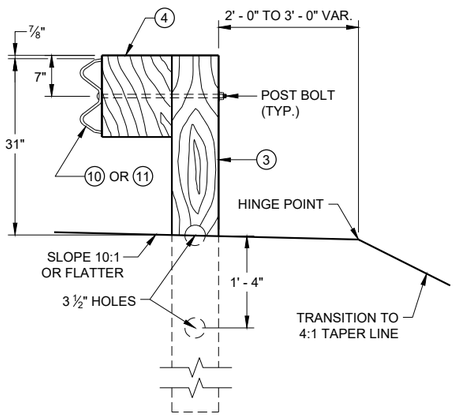
DETAIL "A" (E)



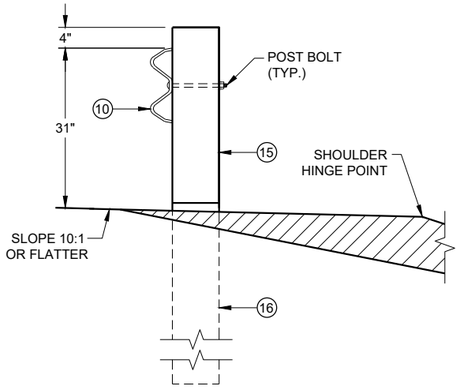
PLAN



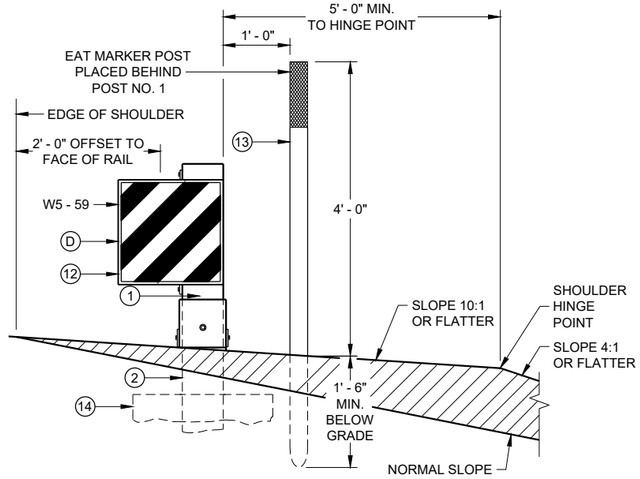
ELEVATION



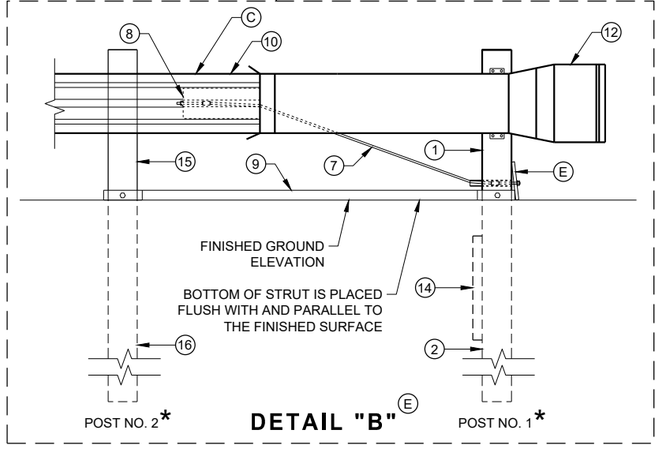
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

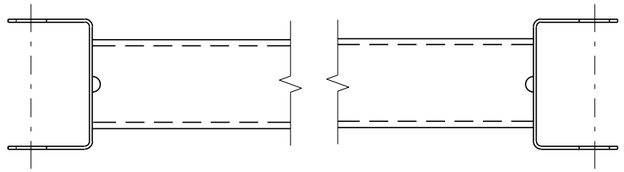
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

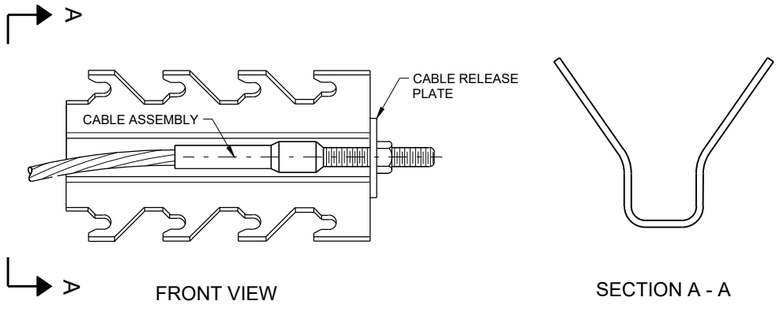
SDD 14B44 - 04a

BILL OF MATERIALS

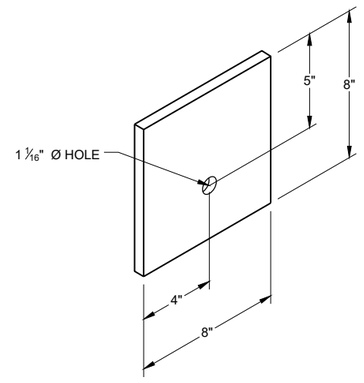
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL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



GENERIC GROUND STRUT ⑨ Ⓔ



GENERIC ANCHOR CABLE BOX ⑧ Ⓔ



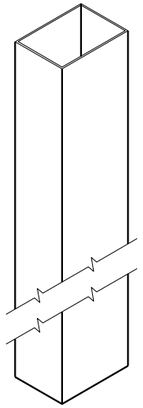
BEARING PLATE ⑥ Ⓔ

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

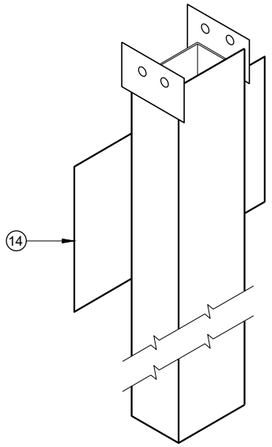
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

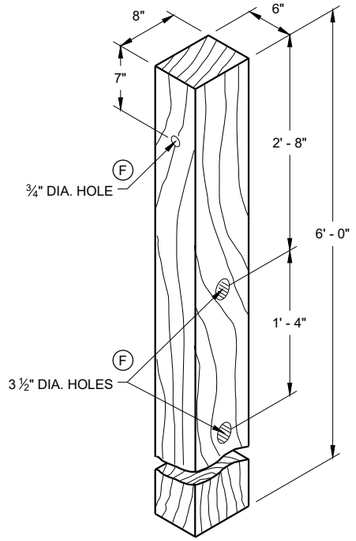
SDD 14B44 - 04b



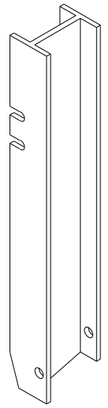
UPPER POST NO. 1 (1) (E)



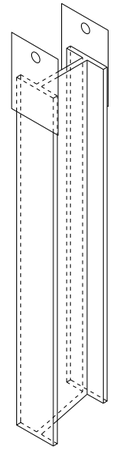
LOWER POST NO. 1 (2) (E)



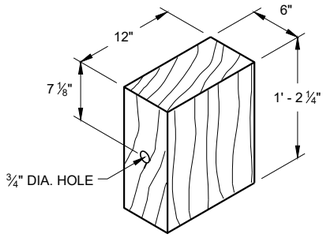
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



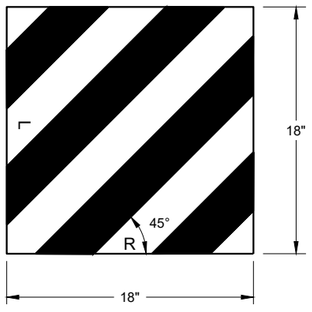
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

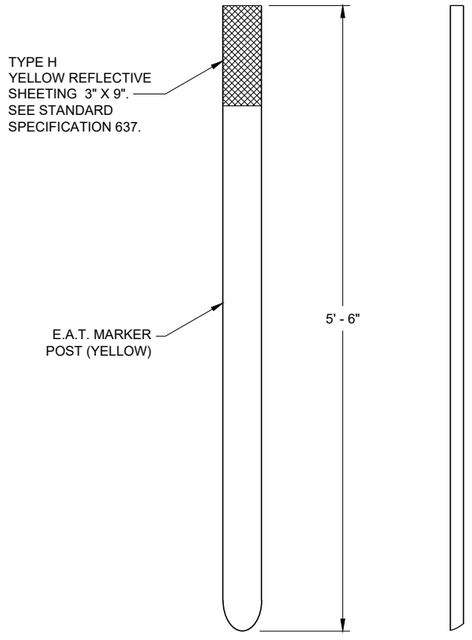


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



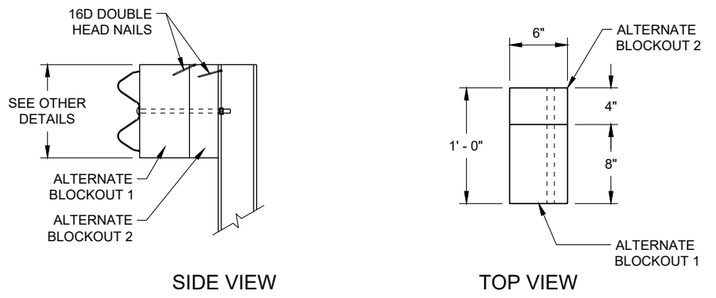
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

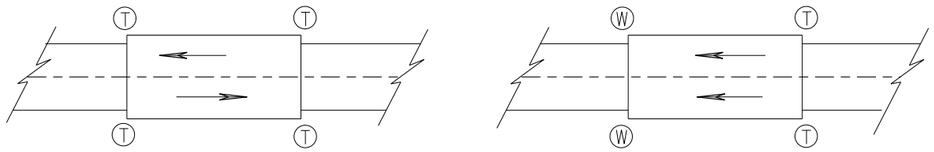
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

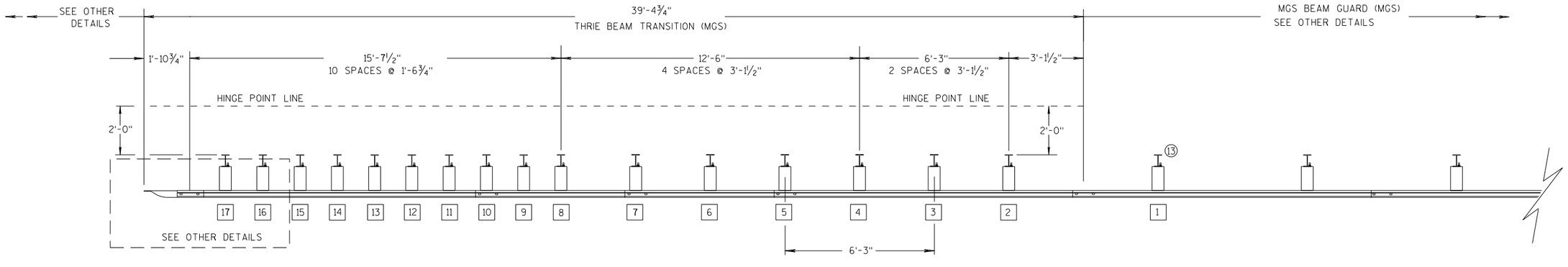
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

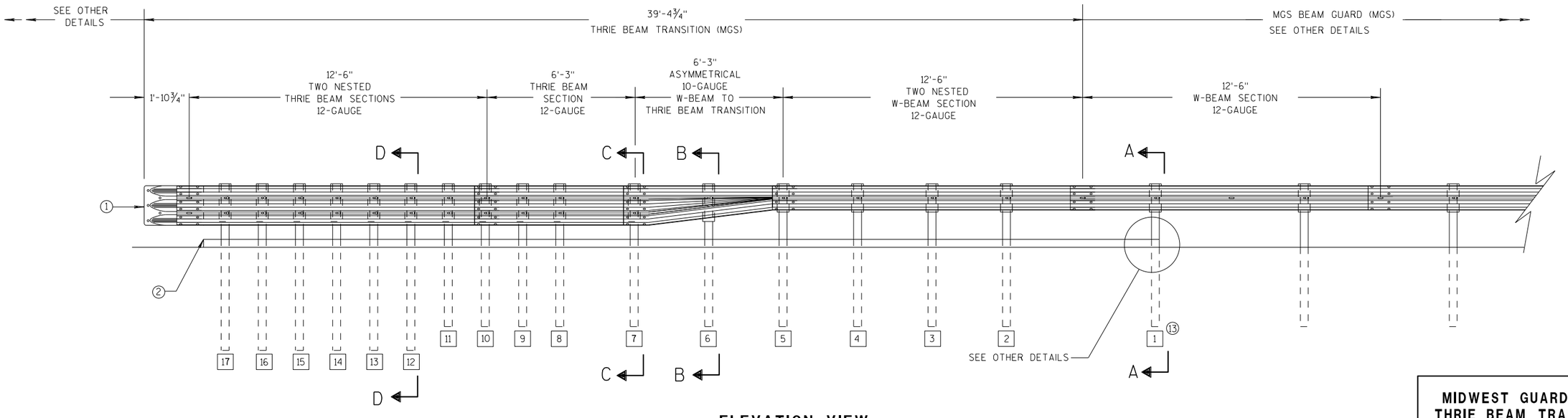
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

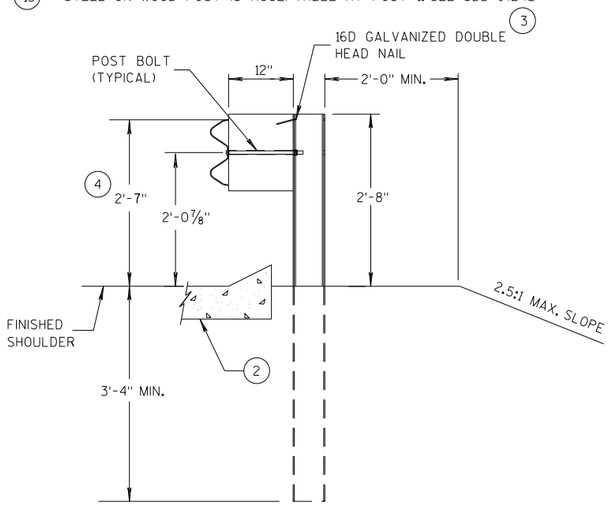
GENERAL NOTES

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

(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

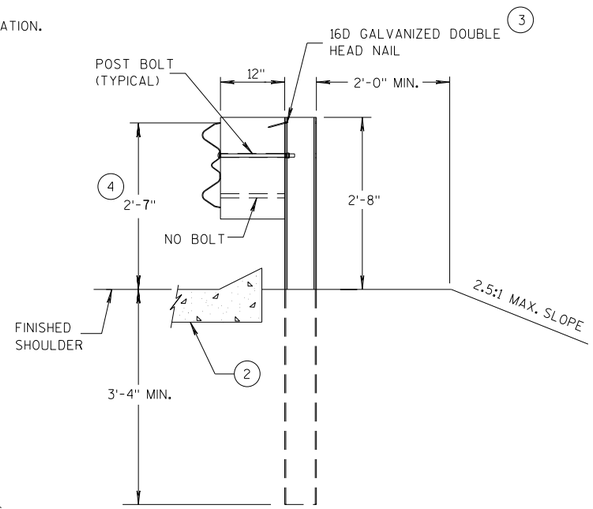
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



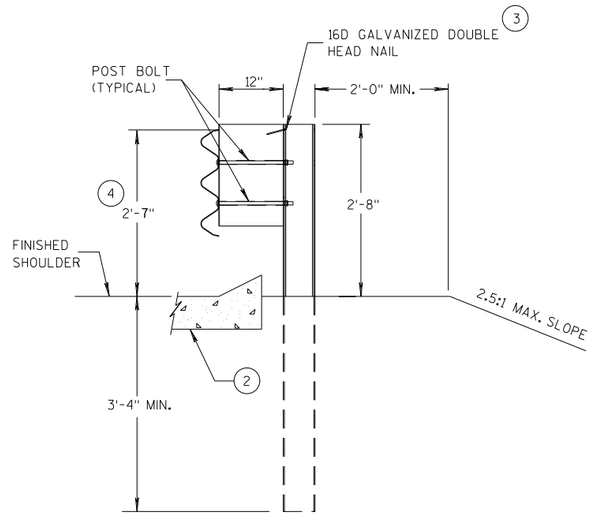
SECTION A-A (13)

POSTS 1-5



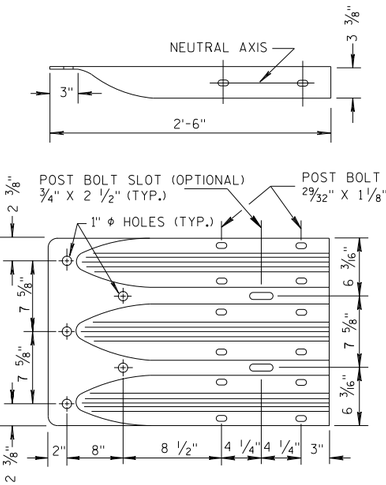
SECTION B-B

POST 6

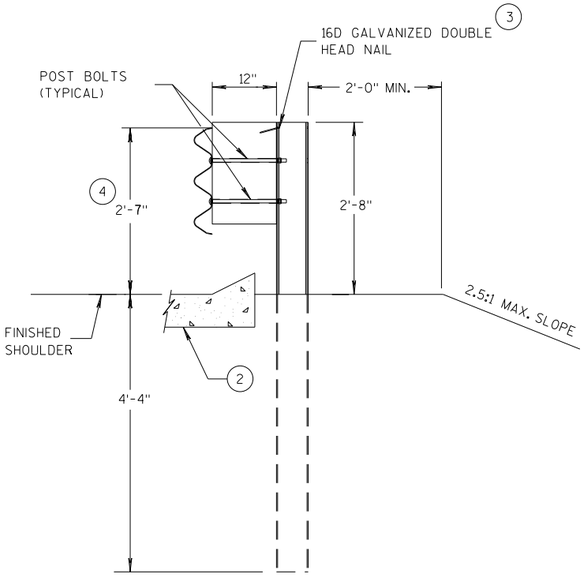


SECTION C-C

POSTS 7-11

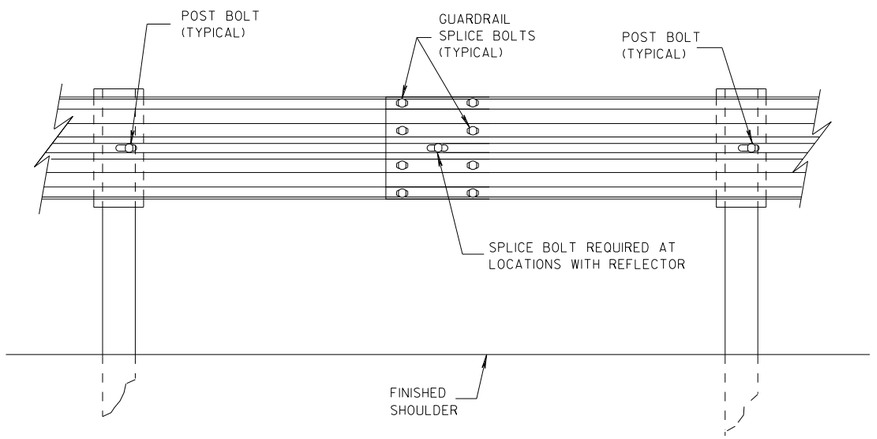


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

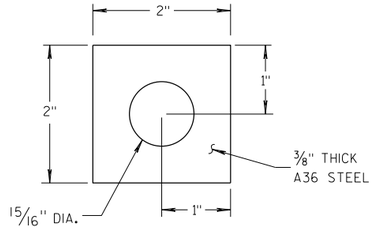
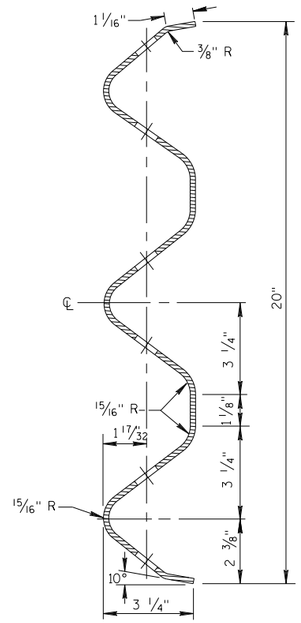


PLATE WASHER DETAIL



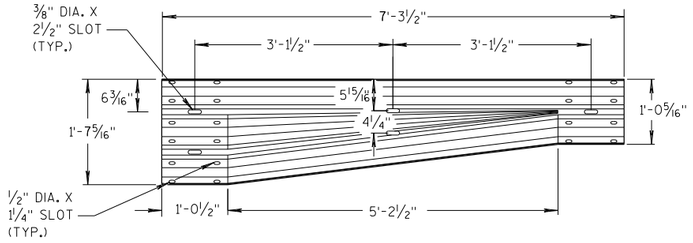
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

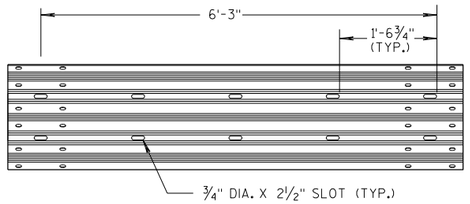
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

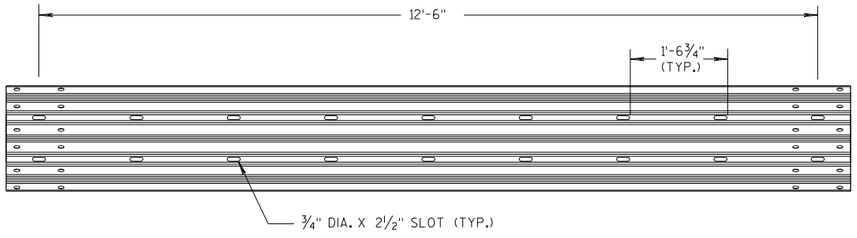
S.D.D. 14 B 45-5b



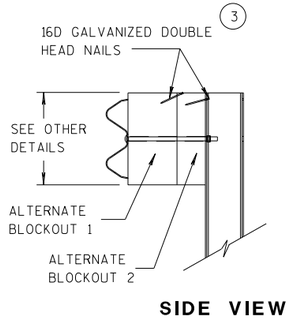
W-BEAM TO THRIE BEAM TRANSITION SECTION



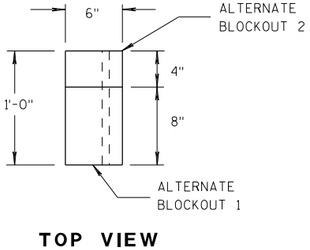
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

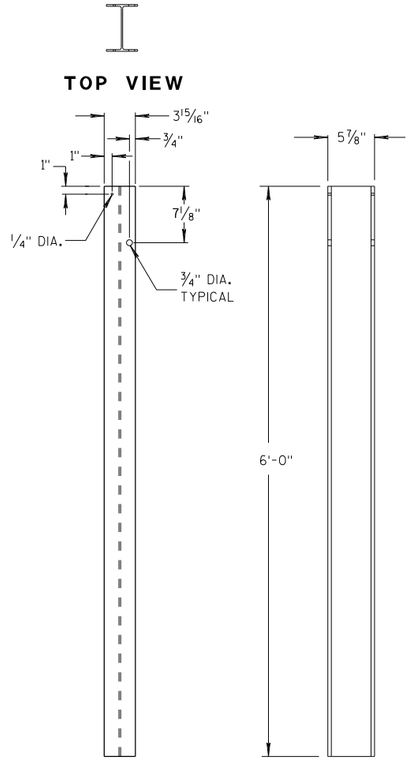


SIDE VIEW



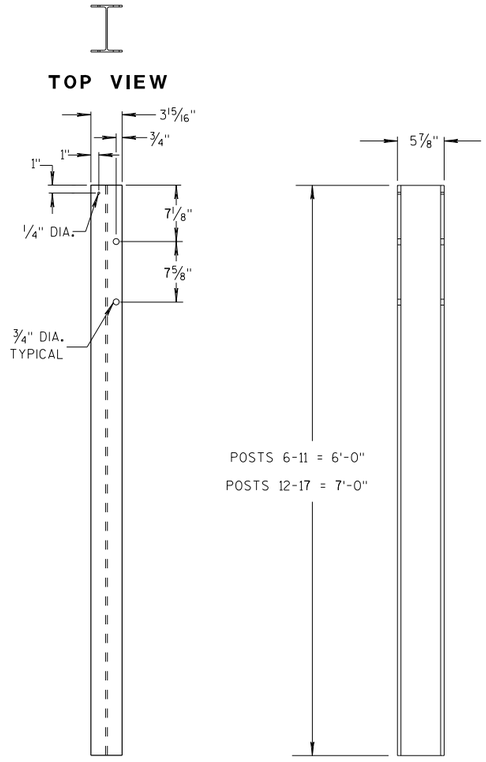
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



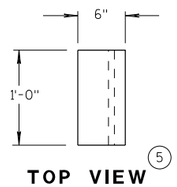
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

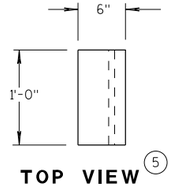


FRONT VIEW SIDE VIEW

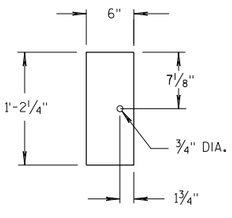
STEEL POSTS 6-17



TOP VIEW (5)

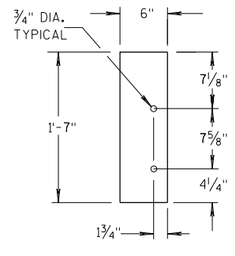


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

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

(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

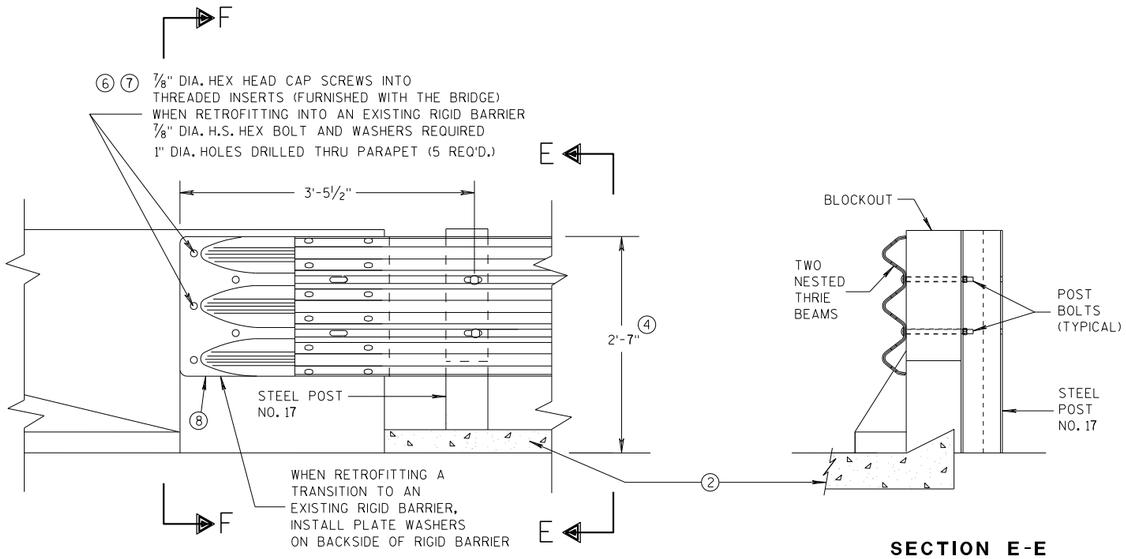
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

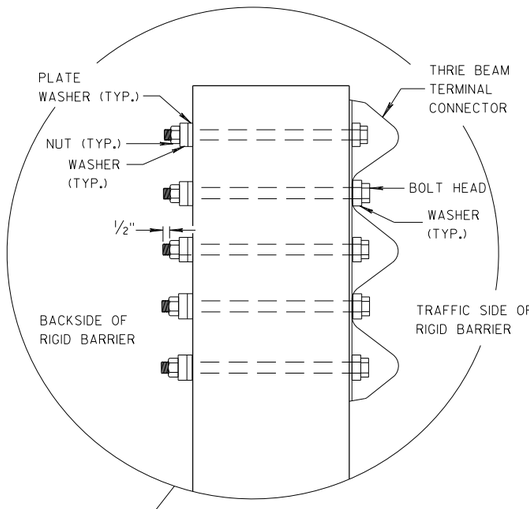
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

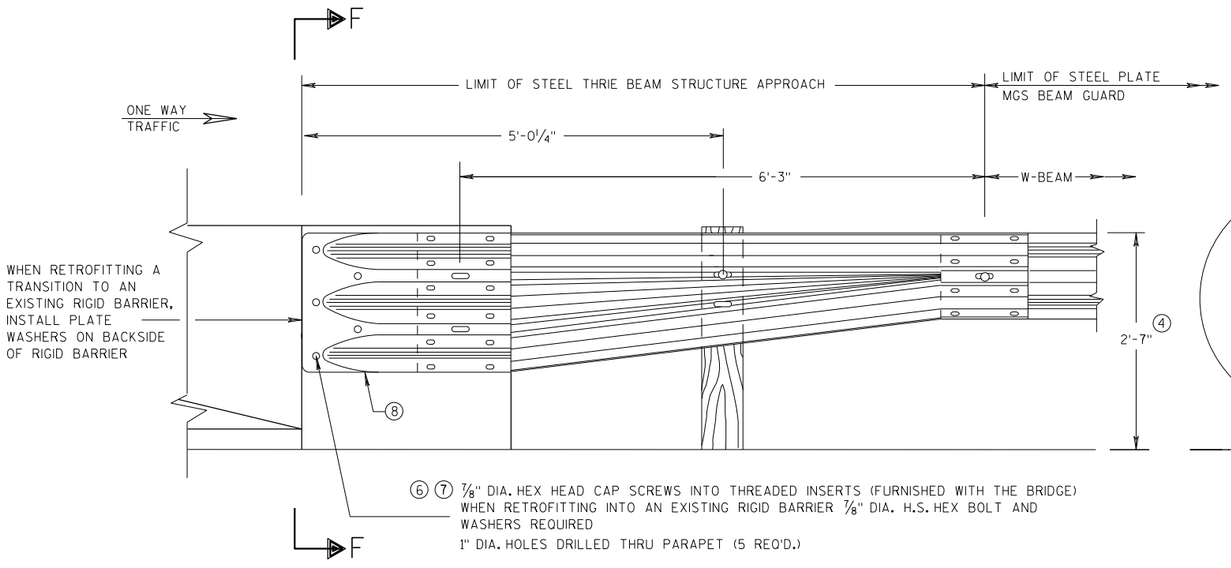
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

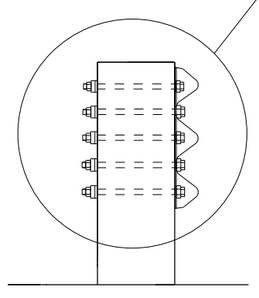
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

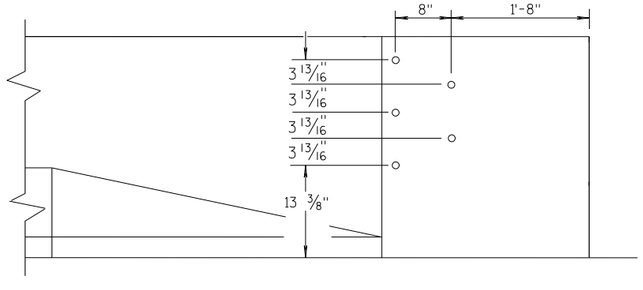




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVI
NT
FHWA

6

S.D.D. 14 B 45-5d

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S.D.D. 14 B 45-5d

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

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

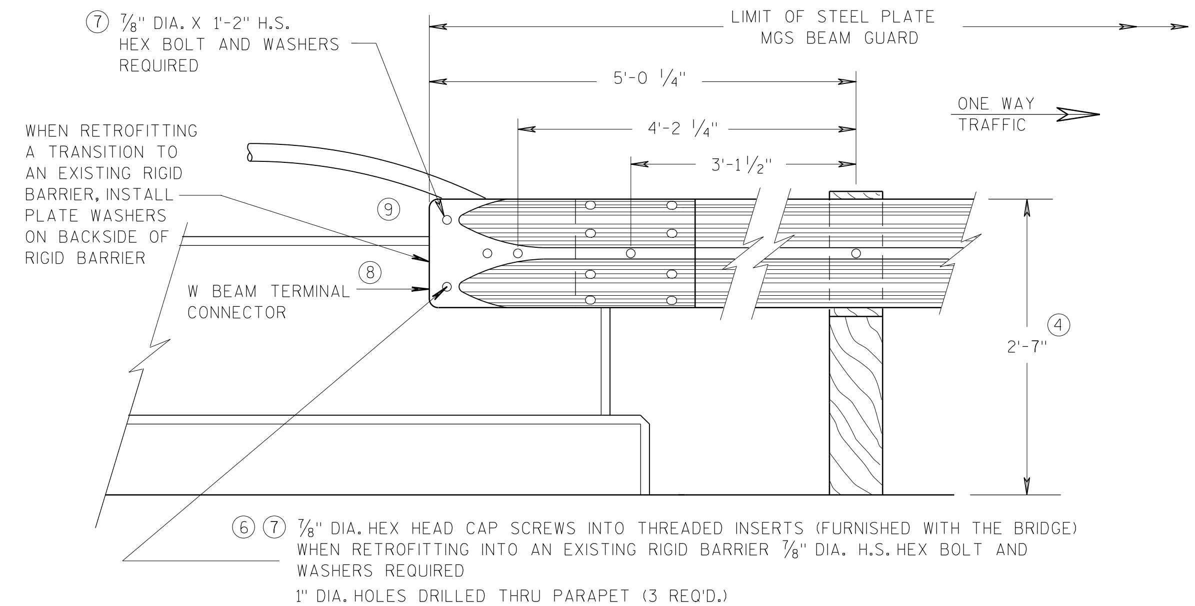
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

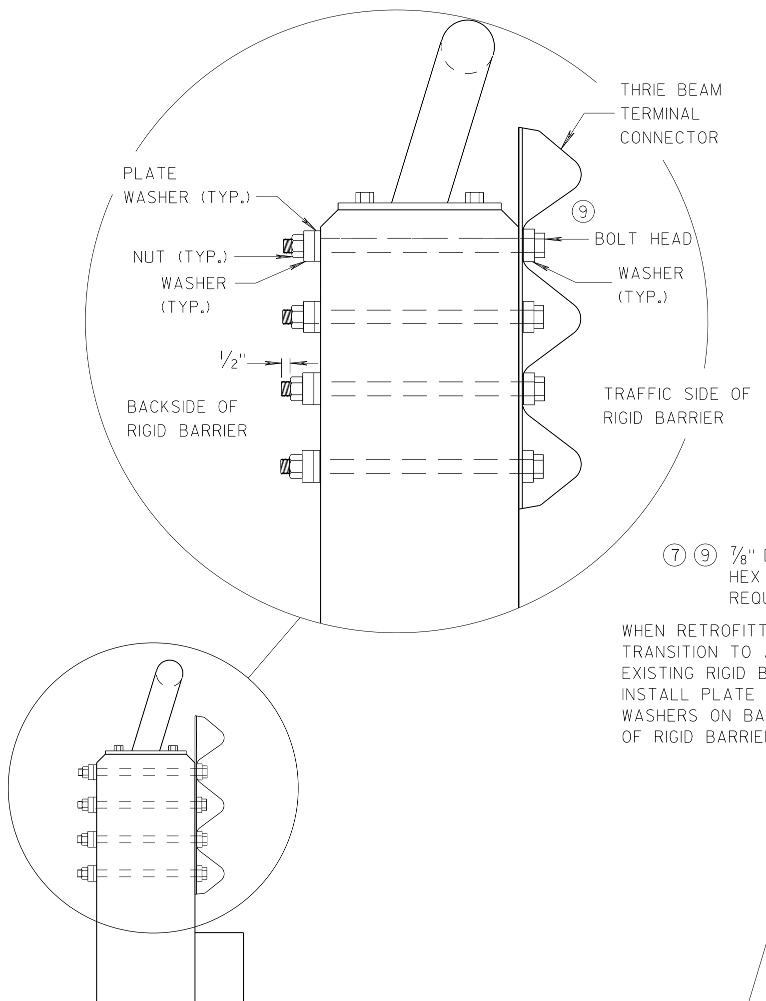
(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



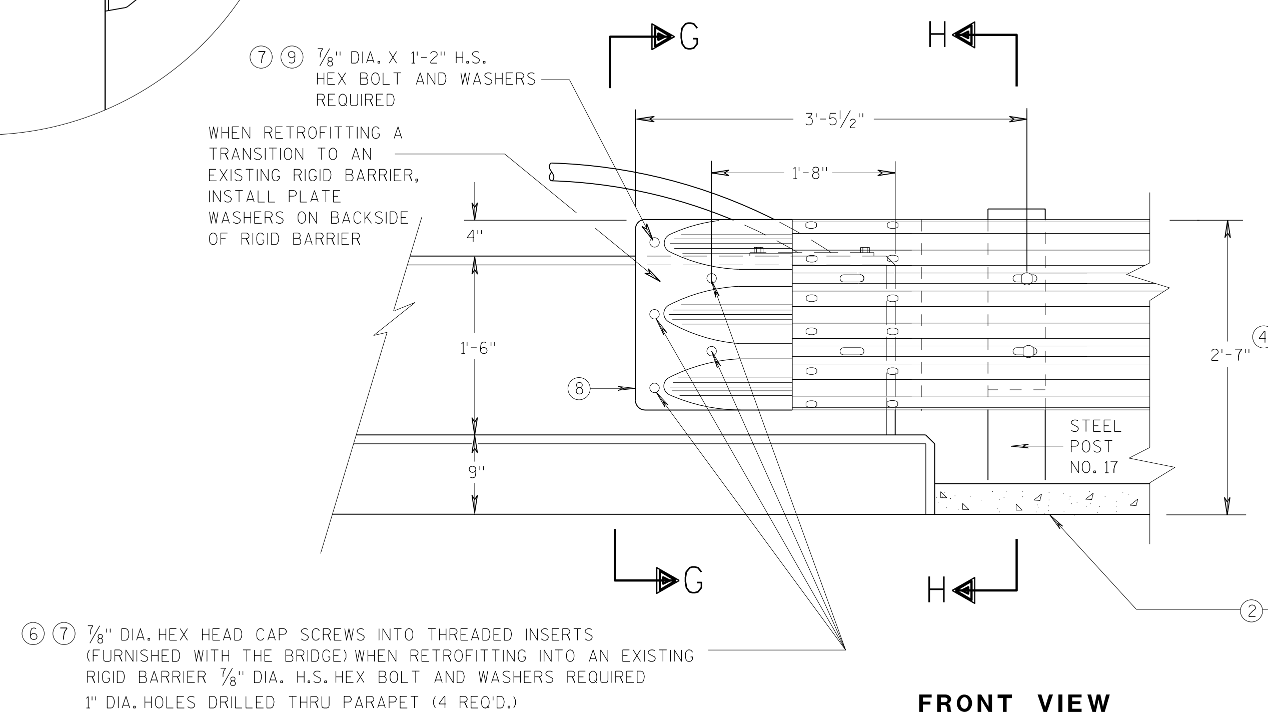
FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

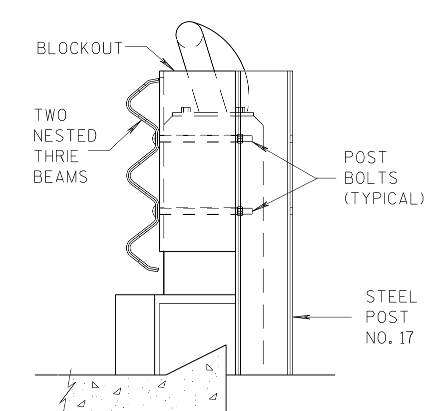
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



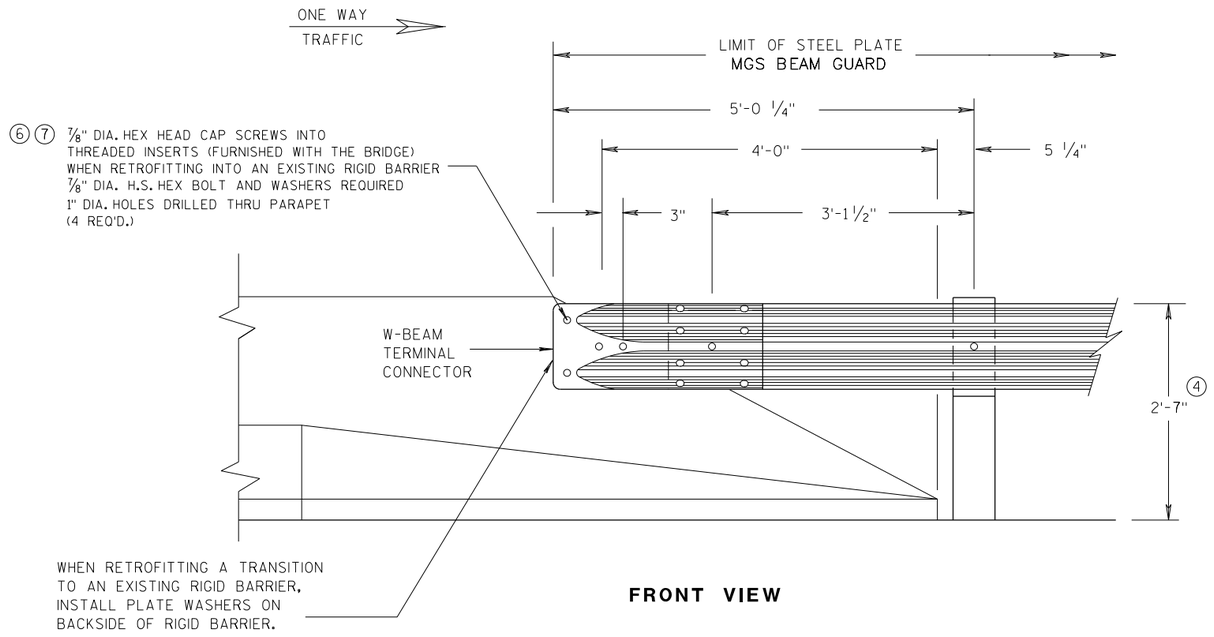
FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED 07/2018 DATE FHWA — /S/ Rodney Taylor ROADWAY STANDARDS D... UNIT SUPERVIS... NT



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

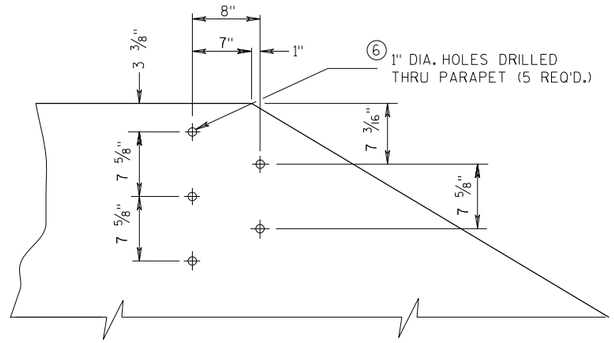
GENERAL NOTES

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

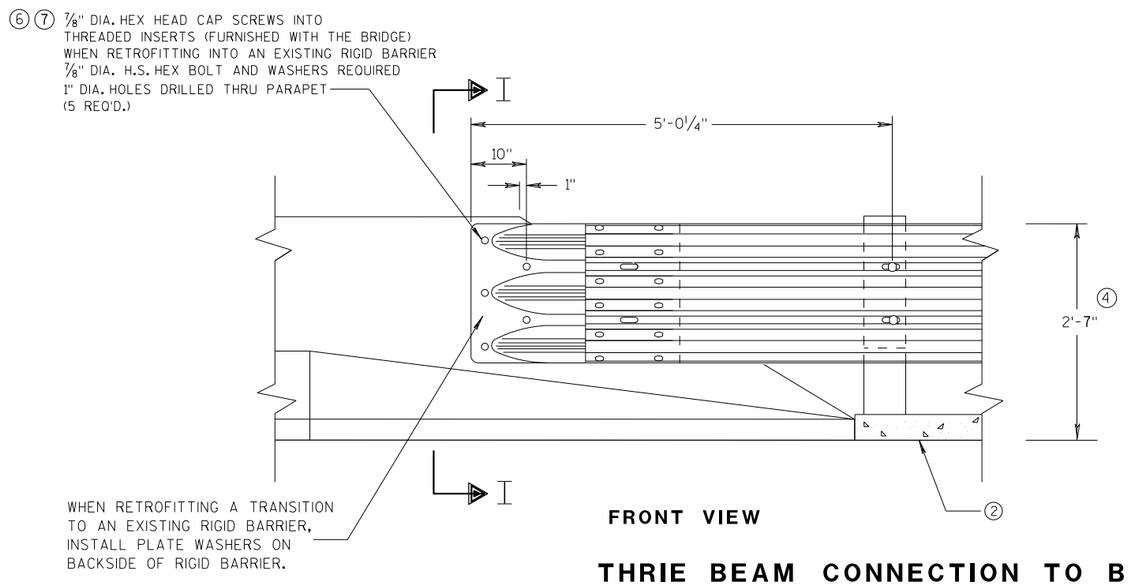
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

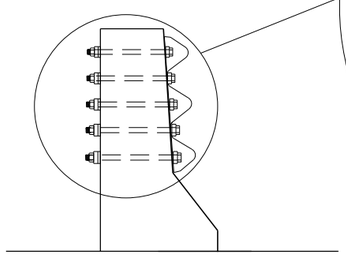
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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



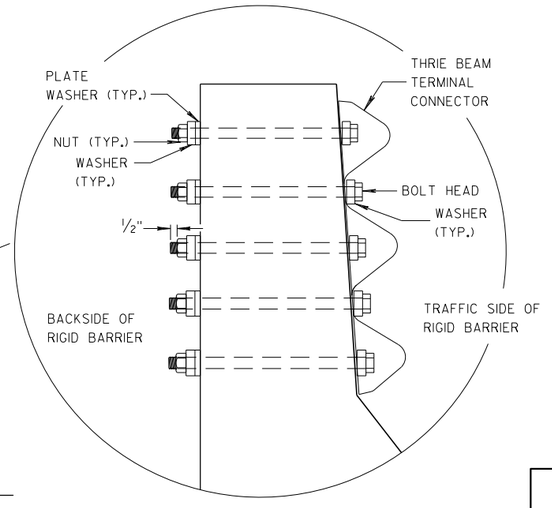
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

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S.D.D. 14 B 45-5f

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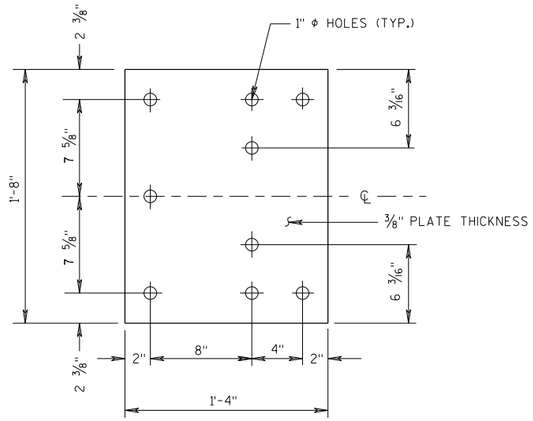
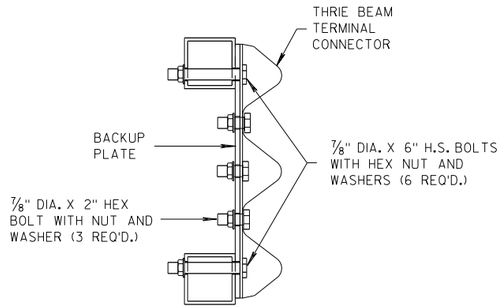
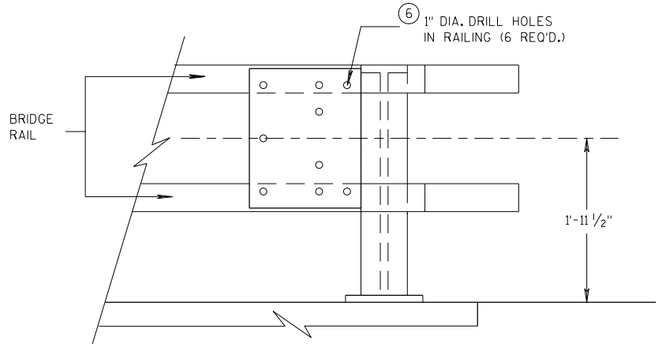
S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL



SECTION J-J

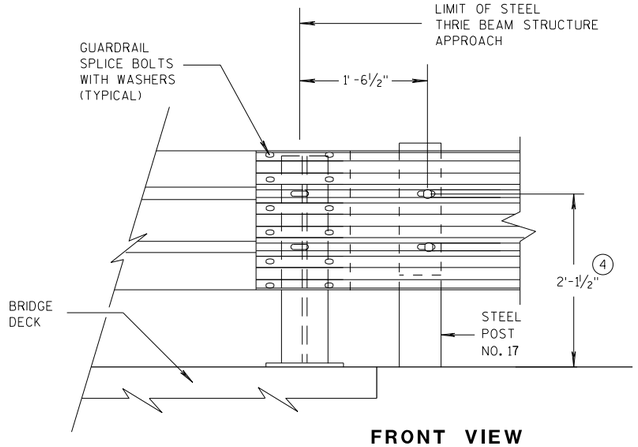


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

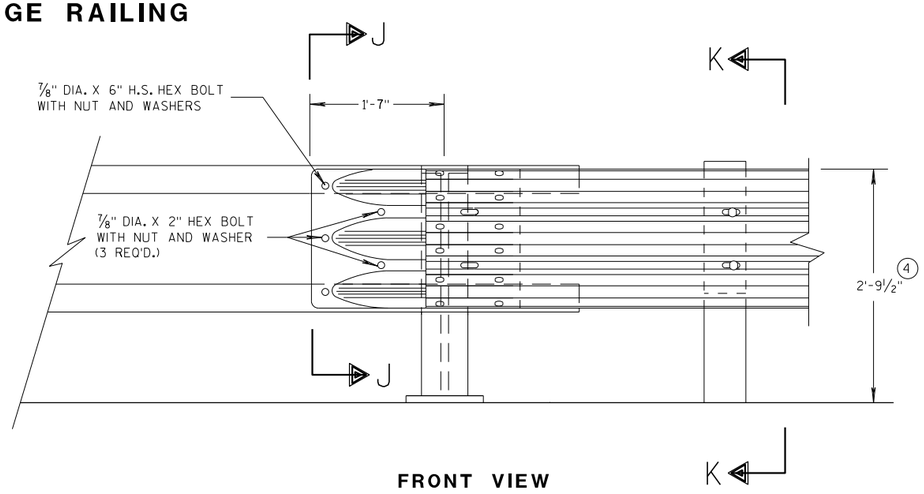
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

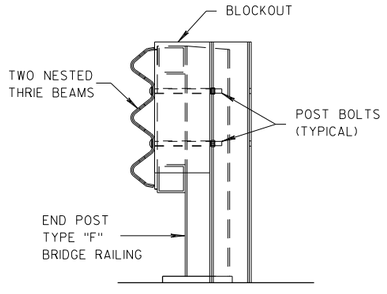


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE
FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

102

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S.D.D. 14 B 45-5g

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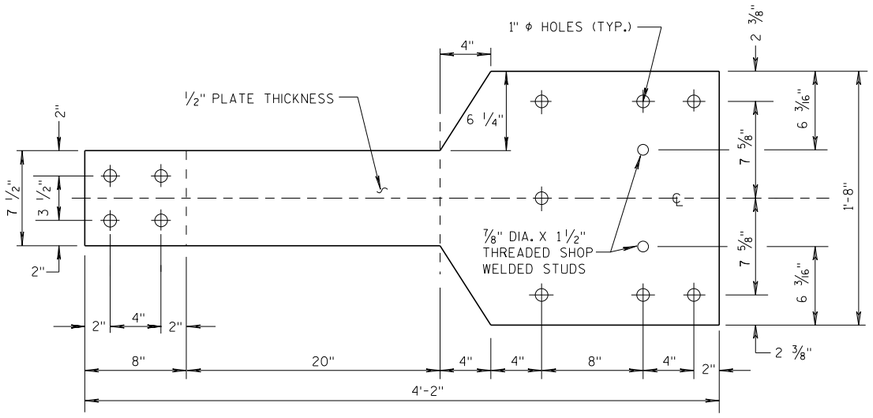
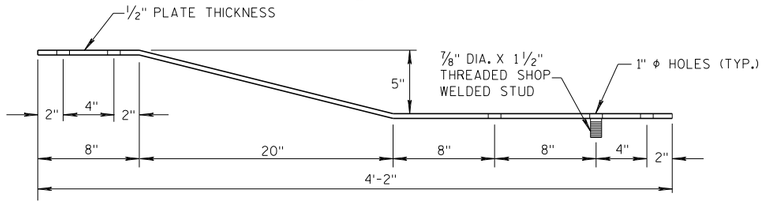
S.D.D. 14 B 45-5g

GENERAL NOTES

(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

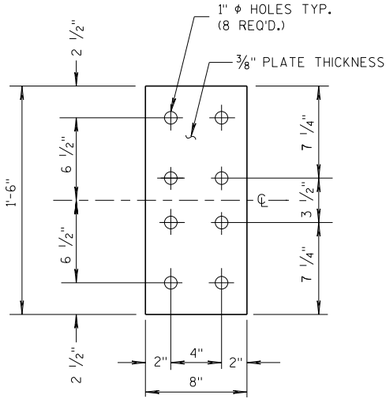


FRONT VIEW



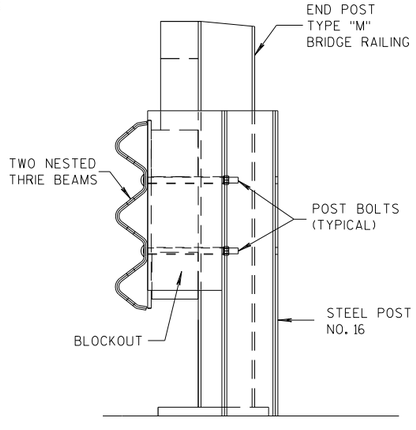
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

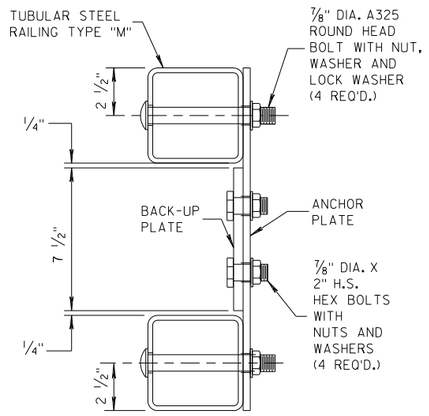


FRONT VIEW

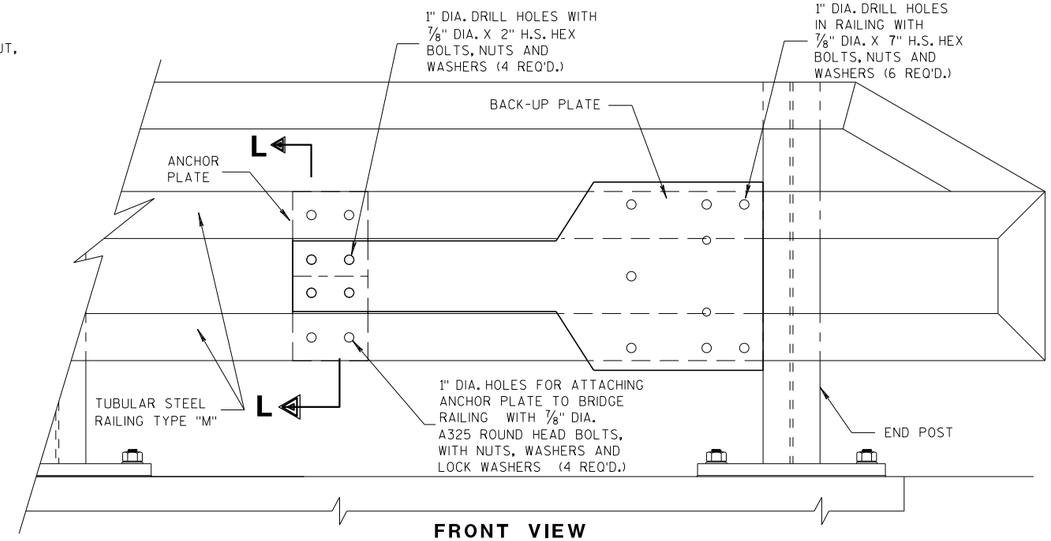
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

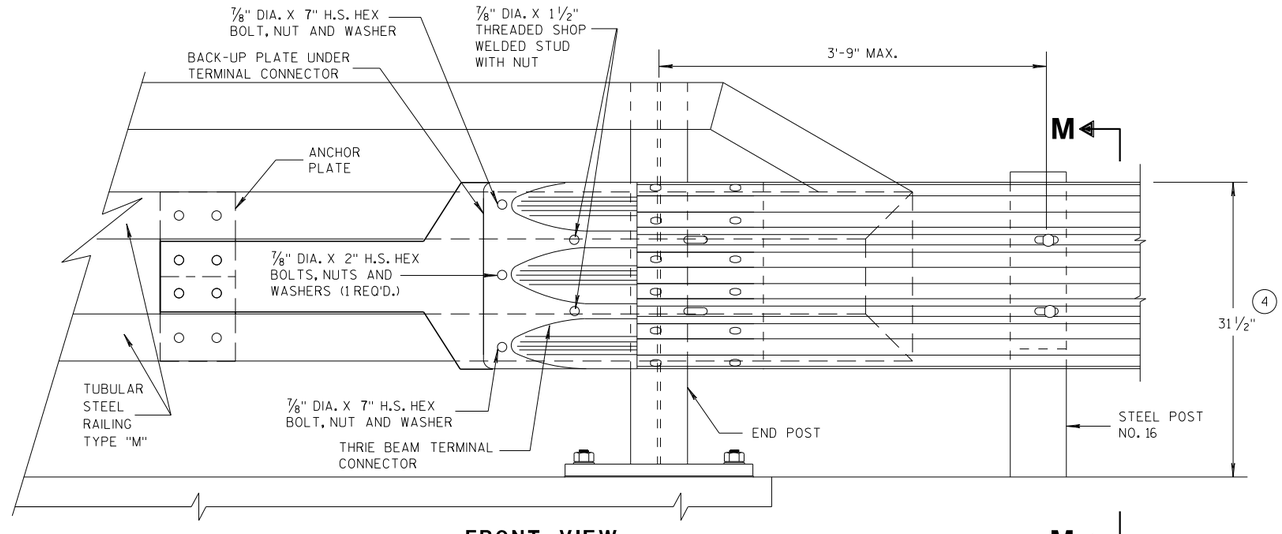


SECTION L-L

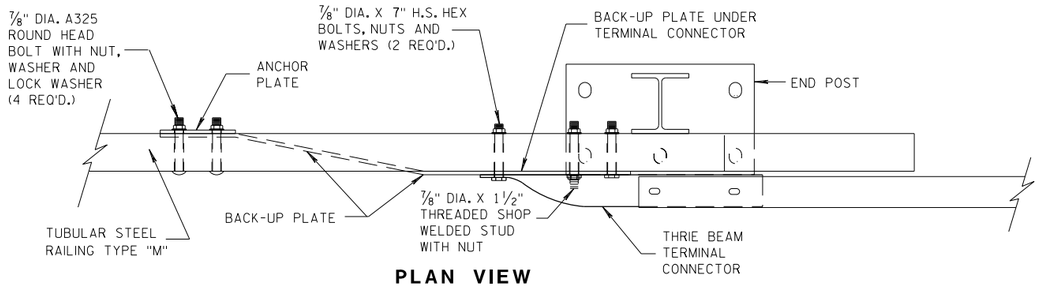


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6

S.D.D. 14 B 45-5h

6

S.D.D. 14 B 45-5h

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

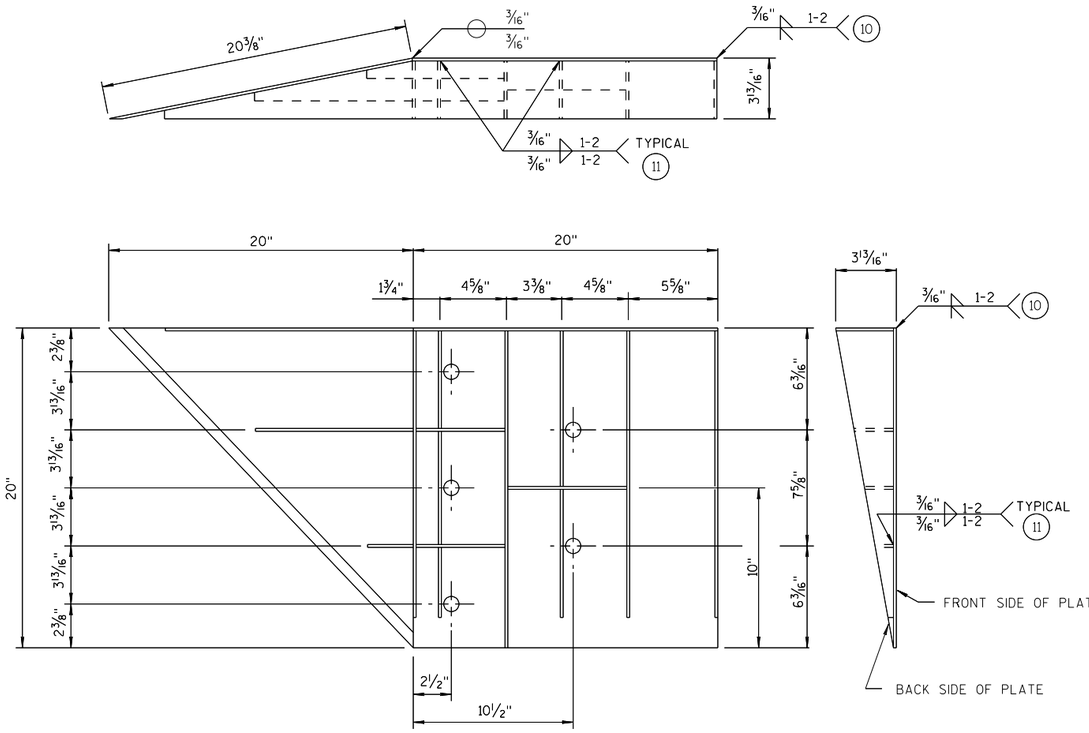
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

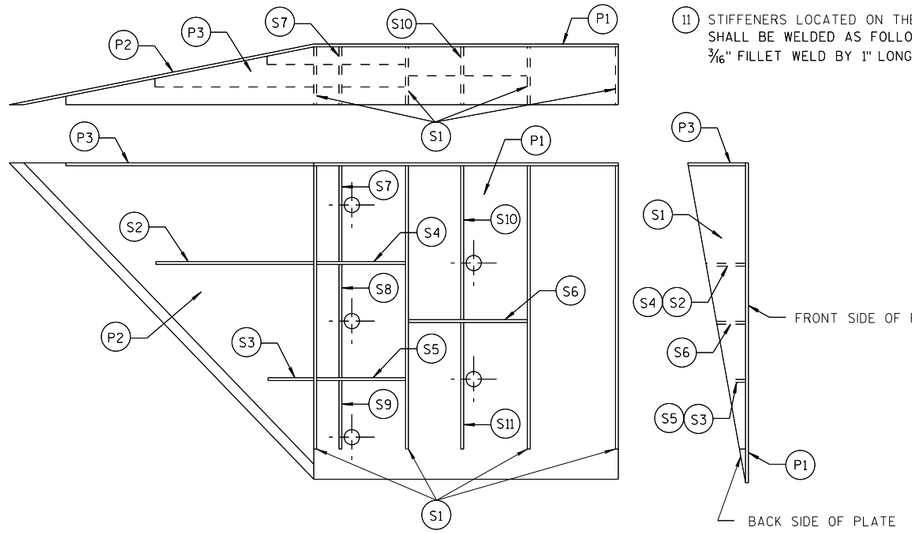


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

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ROADWAY STANDARDS I
UNIT SUPERVI

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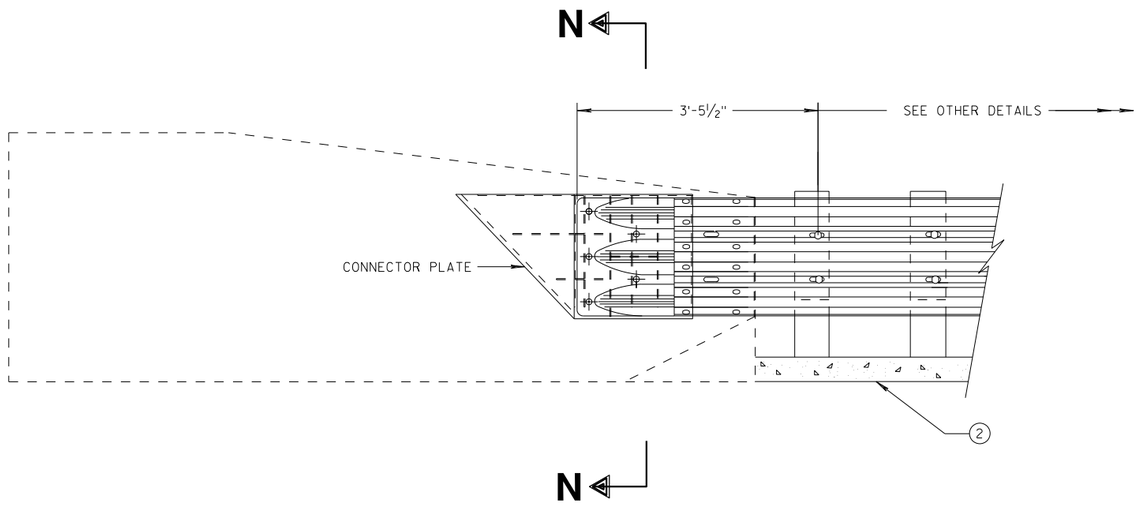
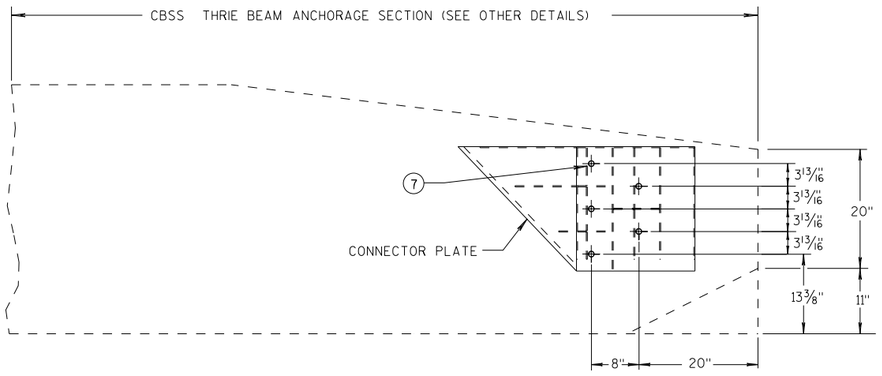
S.D.D. 14 B 45-5i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



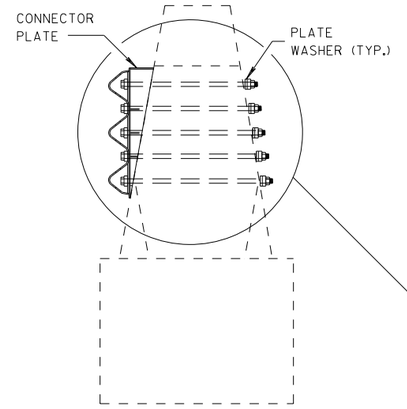
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

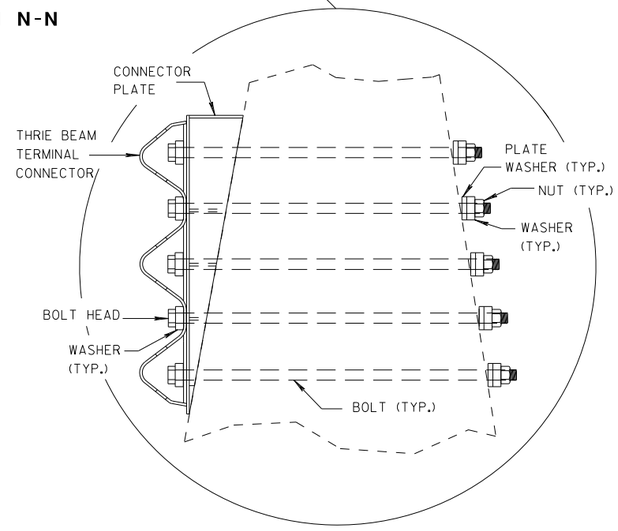
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DI UNIT SUPERVIS NT
FHWA

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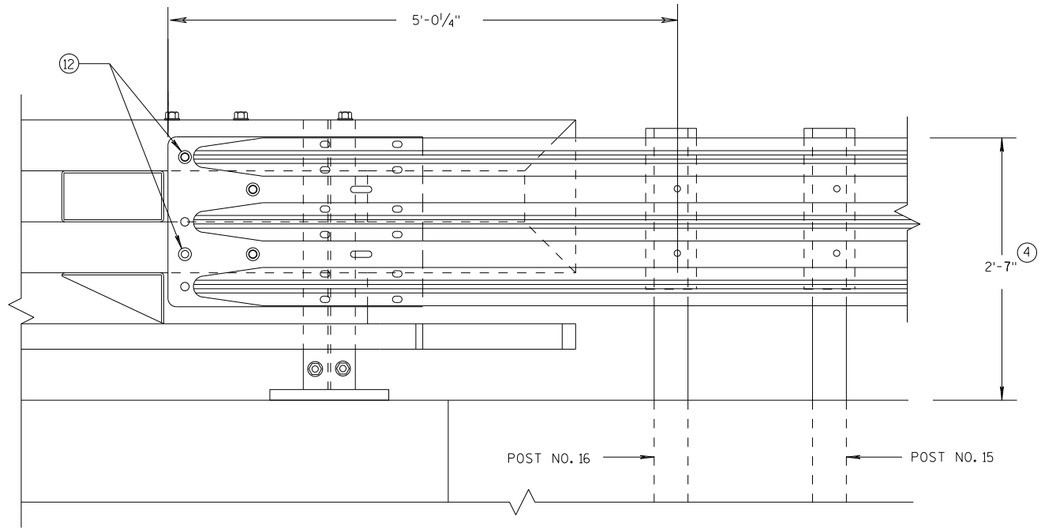
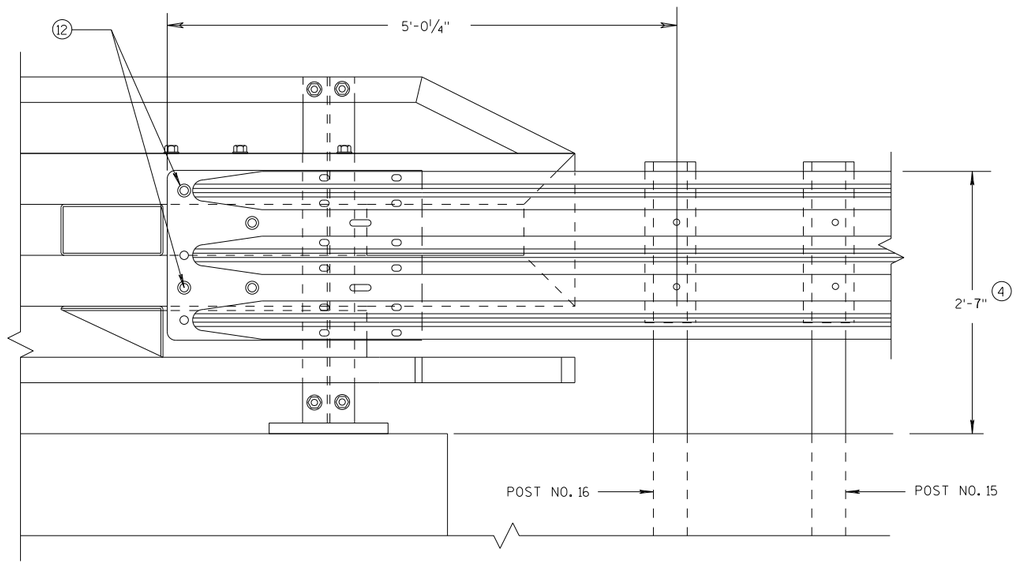
S.D.D. 14 B 45-5j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS

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S.D.D. 14 B 45-5k

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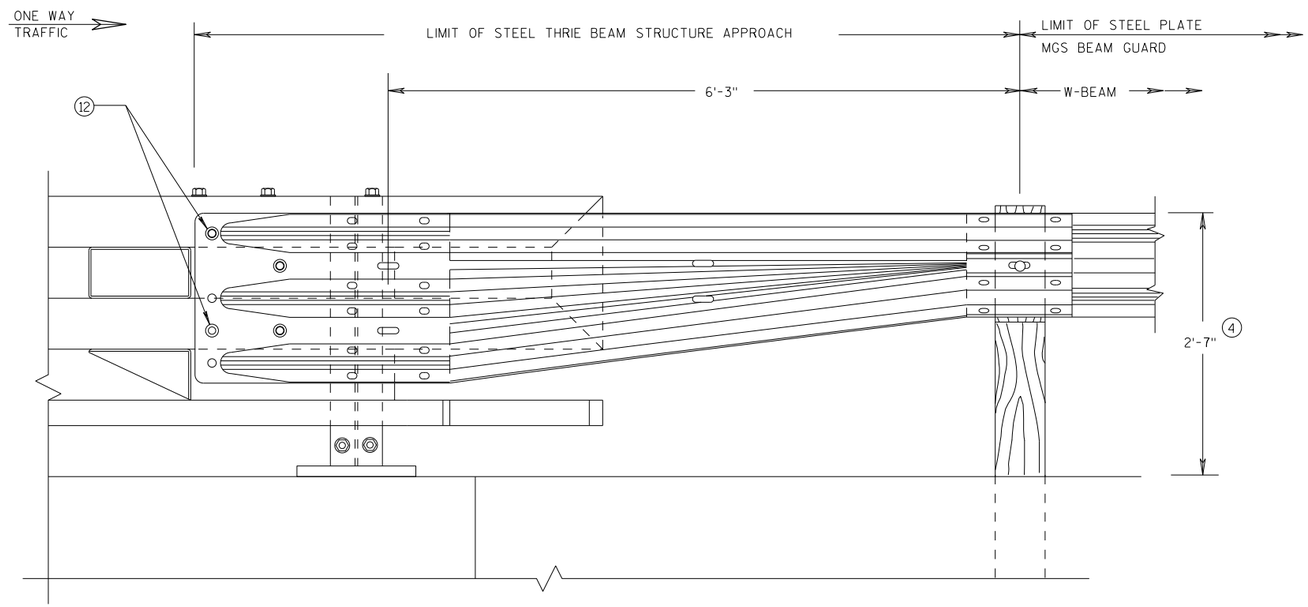
S.D.D. 14 B 45-5k



FRONT VIEW

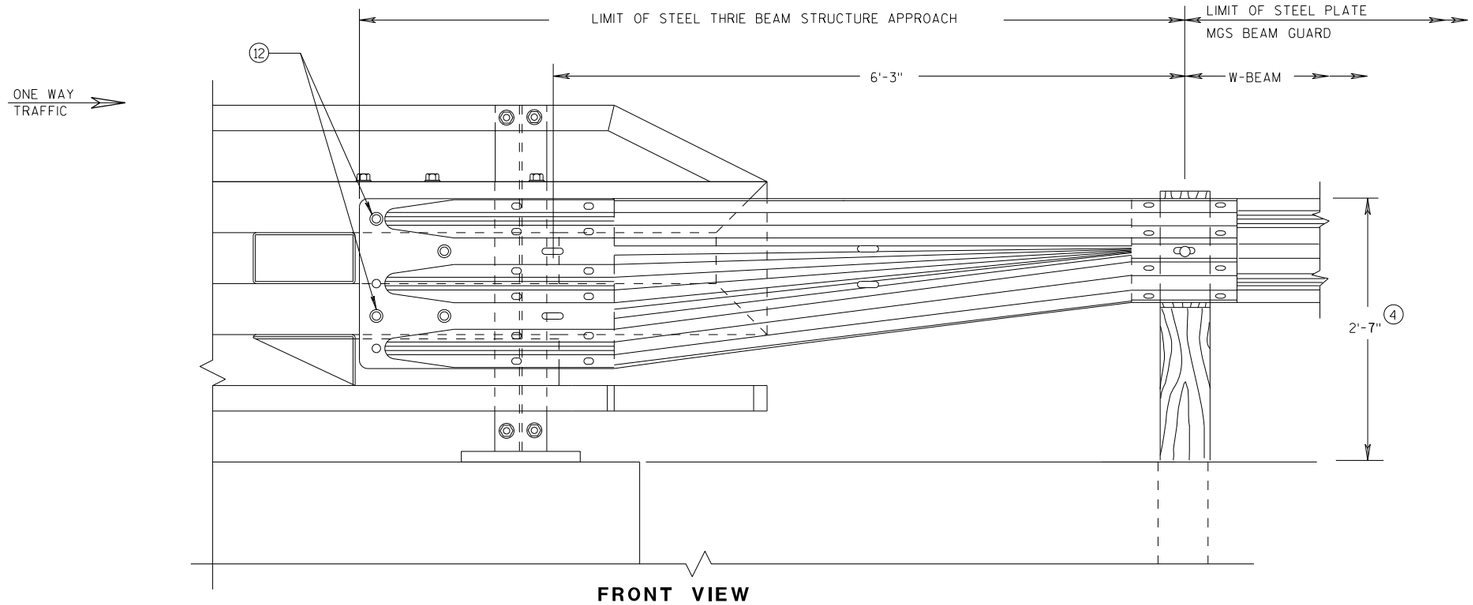
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND 1/2-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D UNIT SUPERVIS
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FHWA

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S.D.D. 14 B 45-5L

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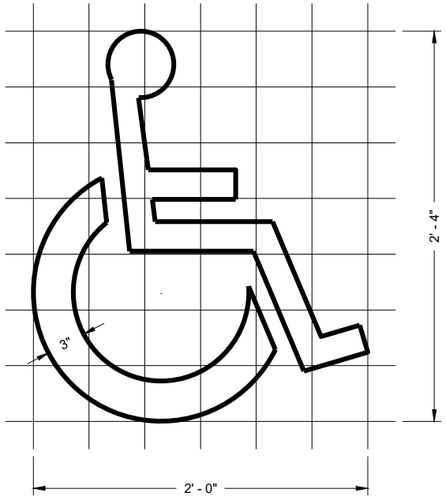
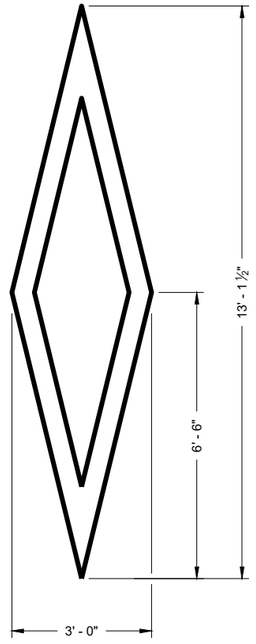
S.D.D. 14 B 45-5L

GENERAL NOTES

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



HANDICAP SYMBOL



PREFERENTIAL LANE SYMBOL

6

6

SDD 15C07 - 15a

SDD 15C07 - 15a

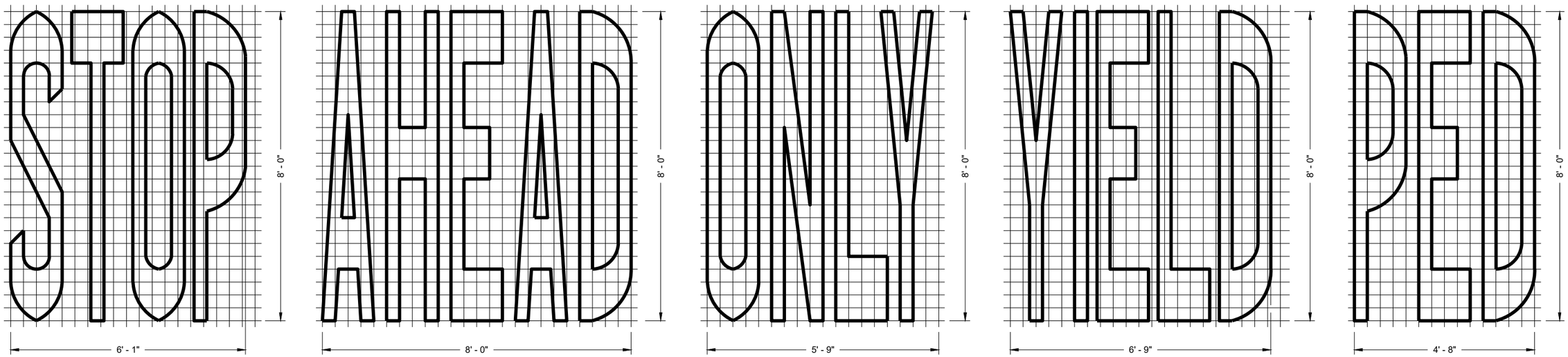
PAVEMENT MARKING SYMBOLS

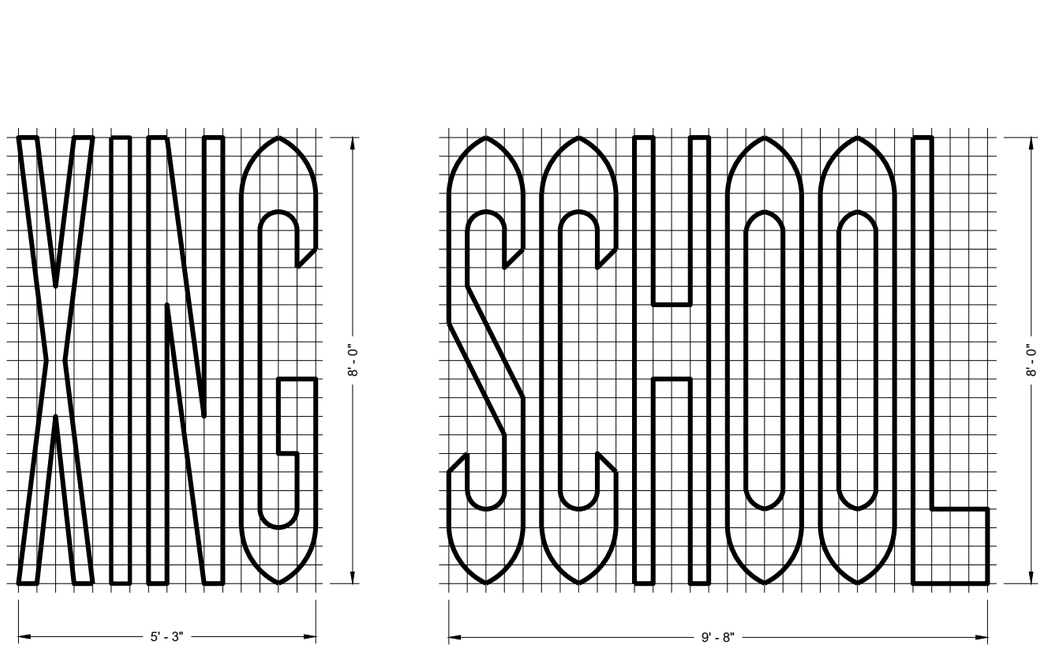
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

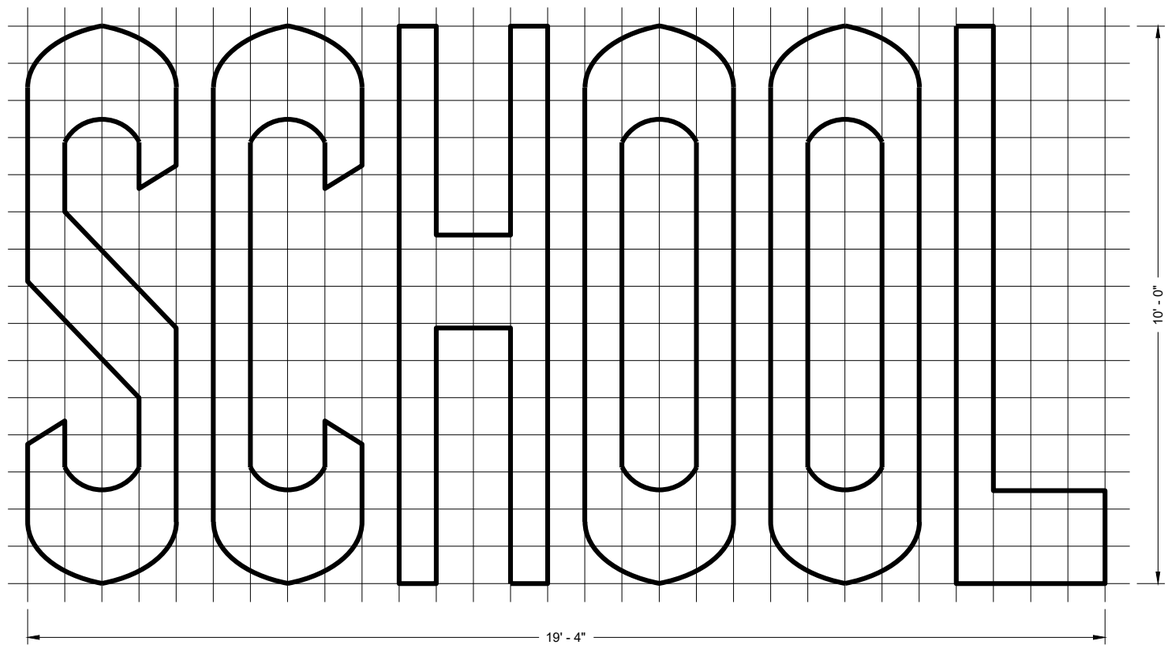
/S/ Matthew Rauch
STATE SIGNING AND MAR ENGINEER

FHWA





SINGLE LANE



TWO - LANE

GENERAL NOTES

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

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MAF ENGINEER

FHWA

6

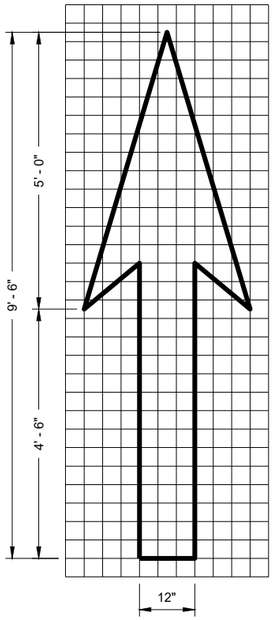
SDD 15C07 - 15b

6

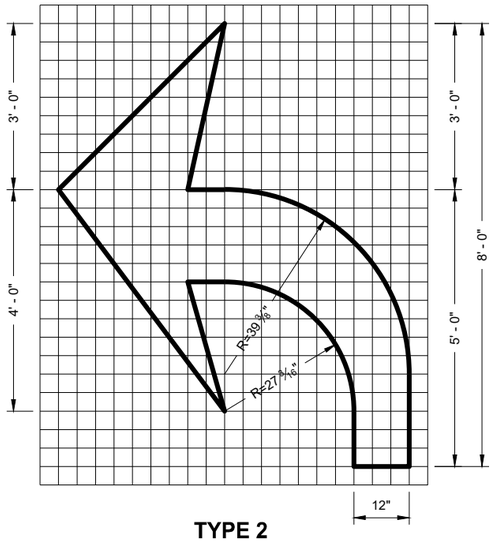
SDD 15C07 - 15b

GENERAL NOTES

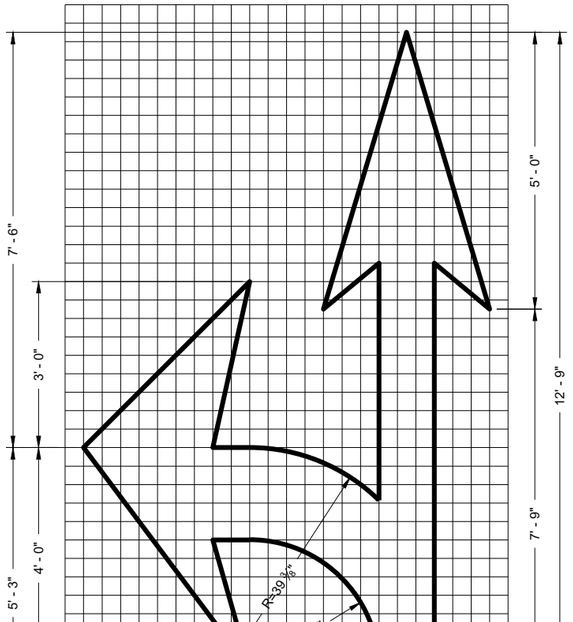
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



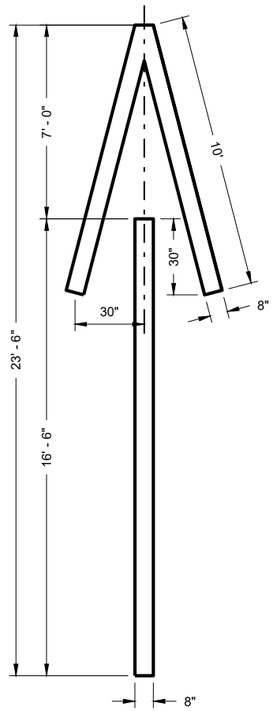
TYPE 1



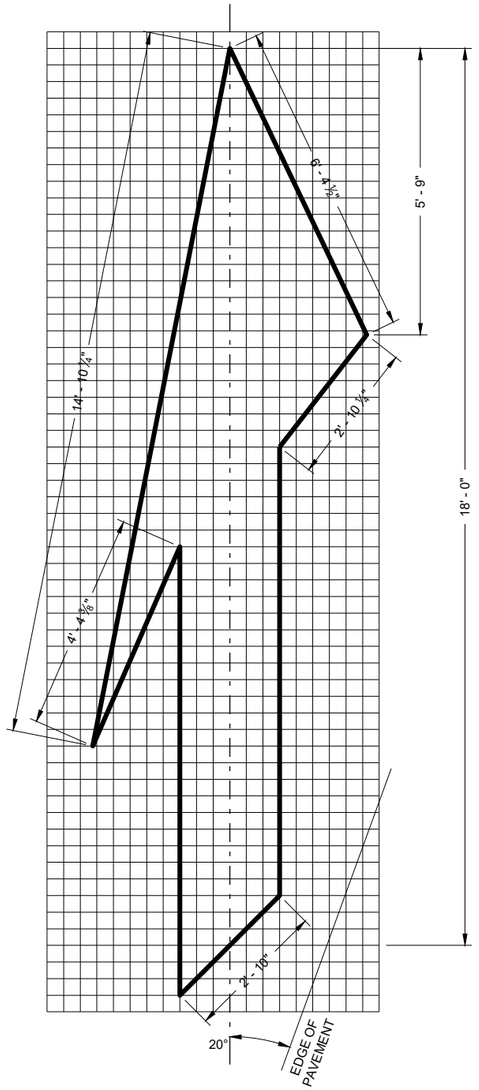
TYPE 2



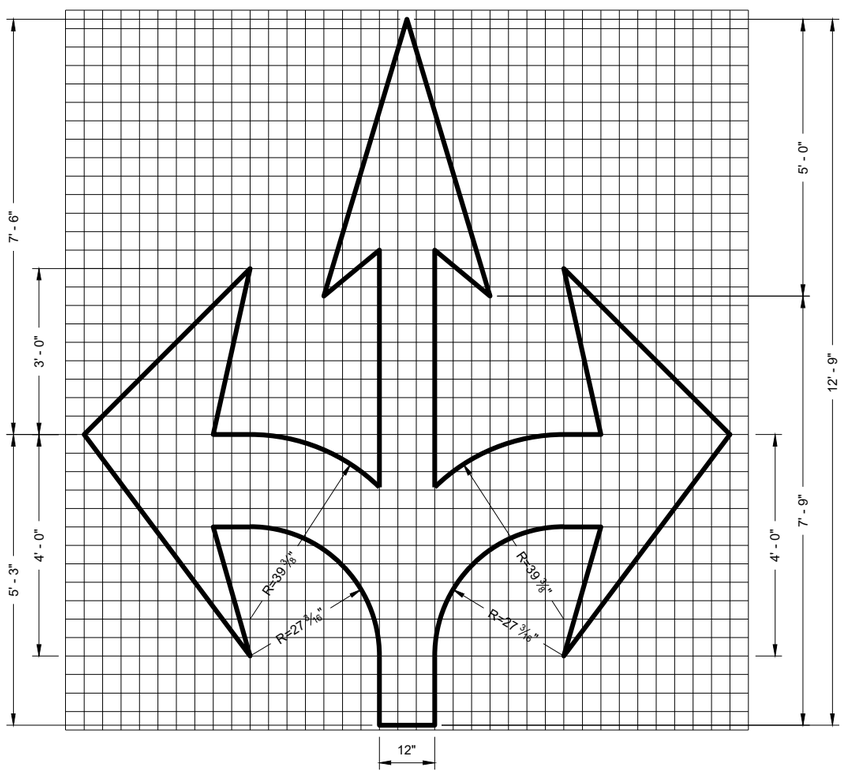
TYPE 3



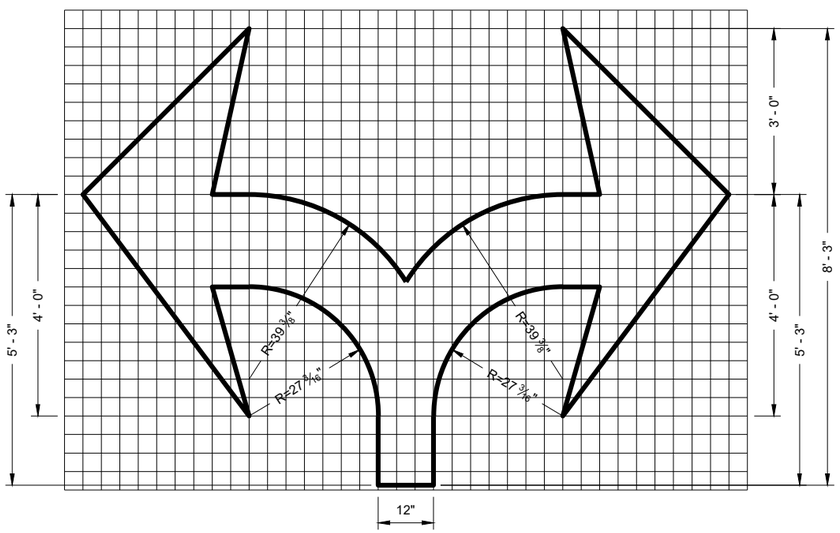
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 — DATE
/S/ Matthew Rauch — STATE SIGNING AND MAF ENGINEER

FHWA

6

SDD 15C07 - 15c

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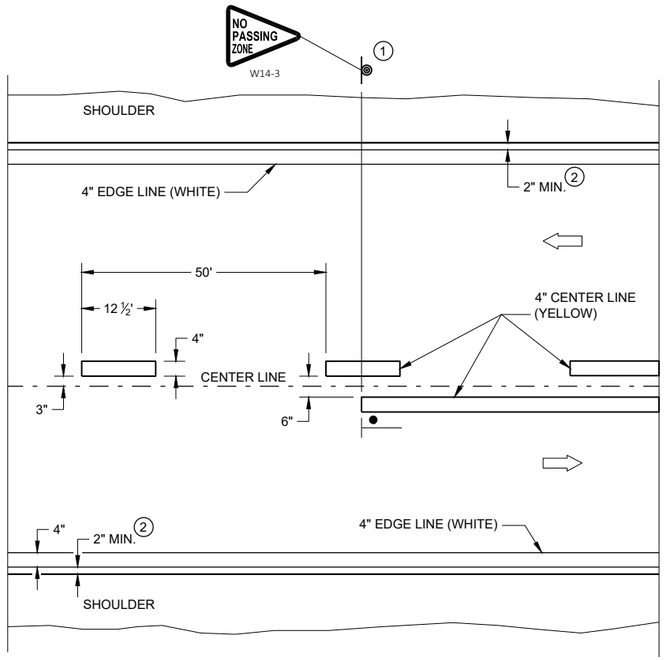
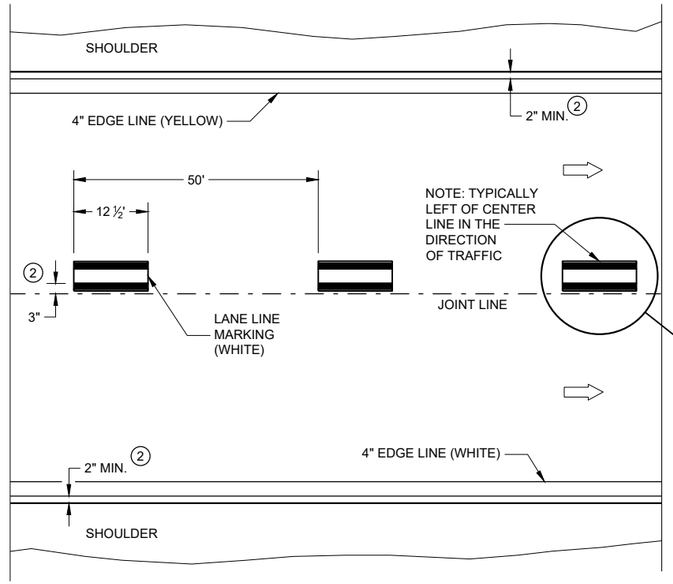
SDD 15C07 - 15c

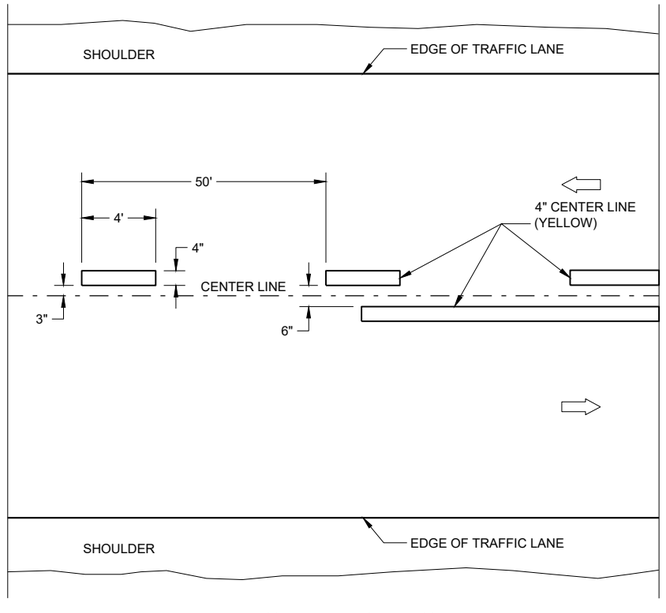


TWO WAY TRAFFIC

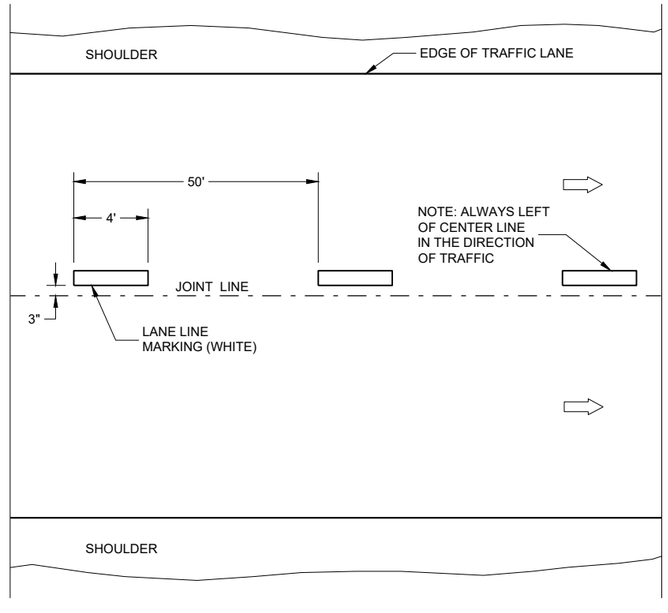


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

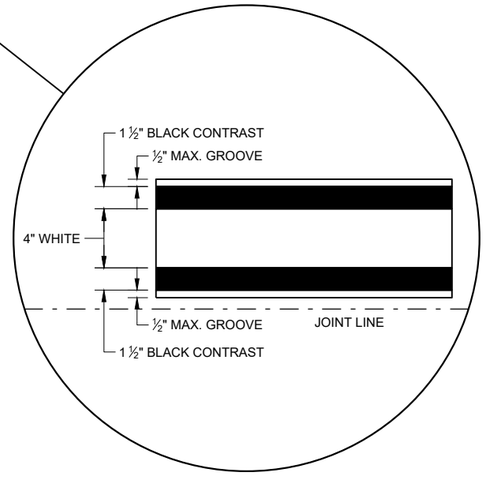
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

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 M ENGINEER

FHWA

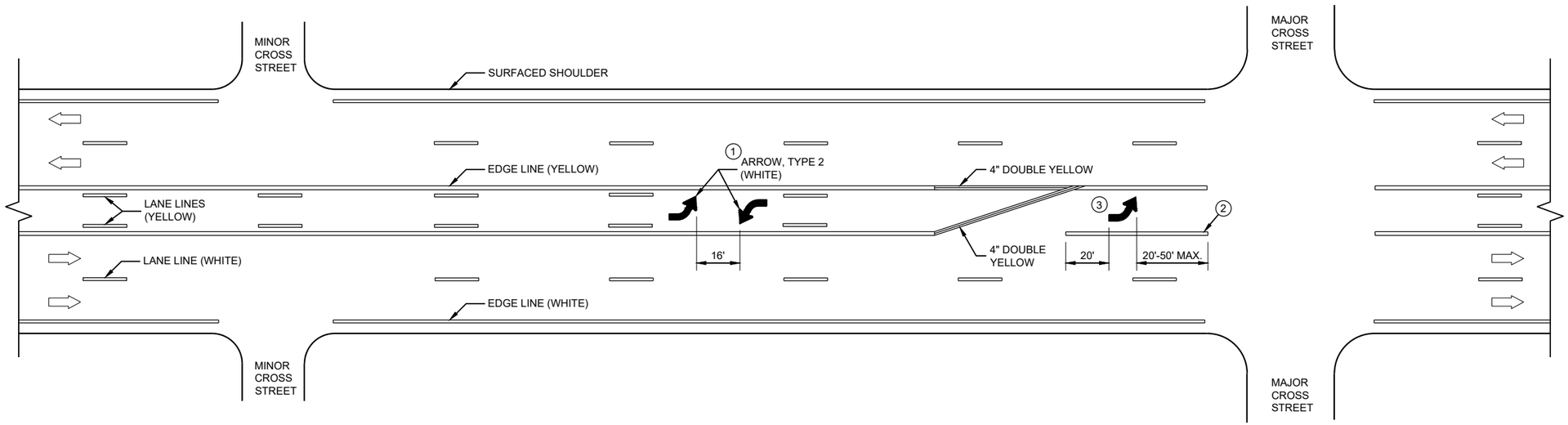
SDD 15C08 - 20a

SDD 15C08 - 20a

GENERAL NOTES

1. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
2. 8" WHITE
3. TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

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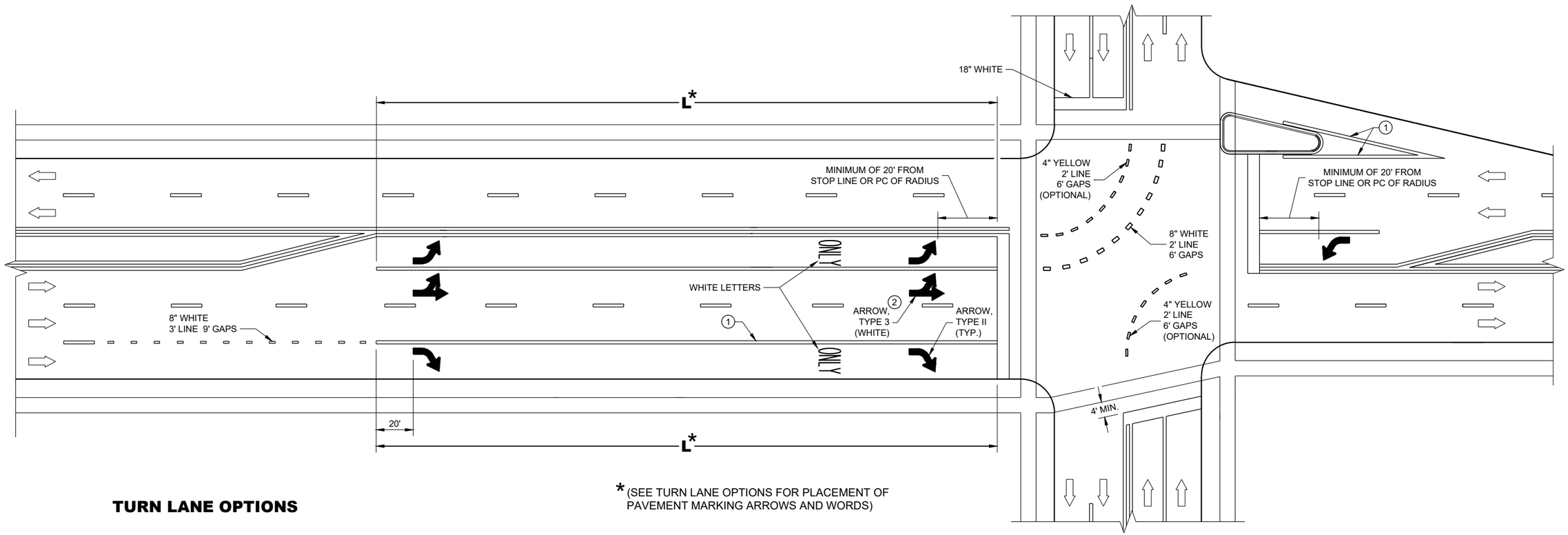
SDD 15C08 - 20b

SDD 15C08 - 20b

PAVEMENT MARKING (TURN LANES)

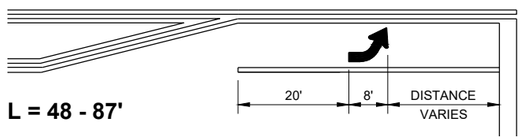
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



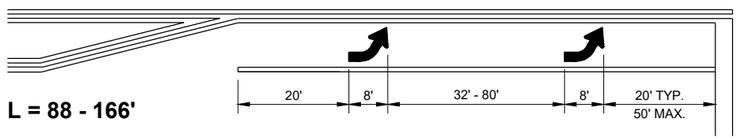
* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

TURN LANE OPTIONS

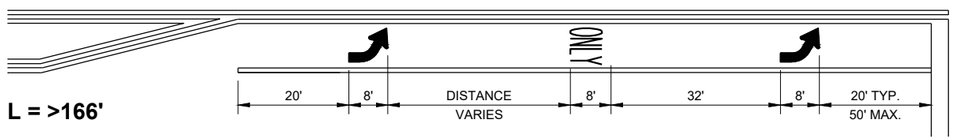
LENGTH OF TURN BAY (**L**) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



L = 48 - 87'



L = 88 - 166'



L = >166'

GENERAL NOTES

1. 8" WHITE
2. QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

DIRECTION OF TRAFFIC

L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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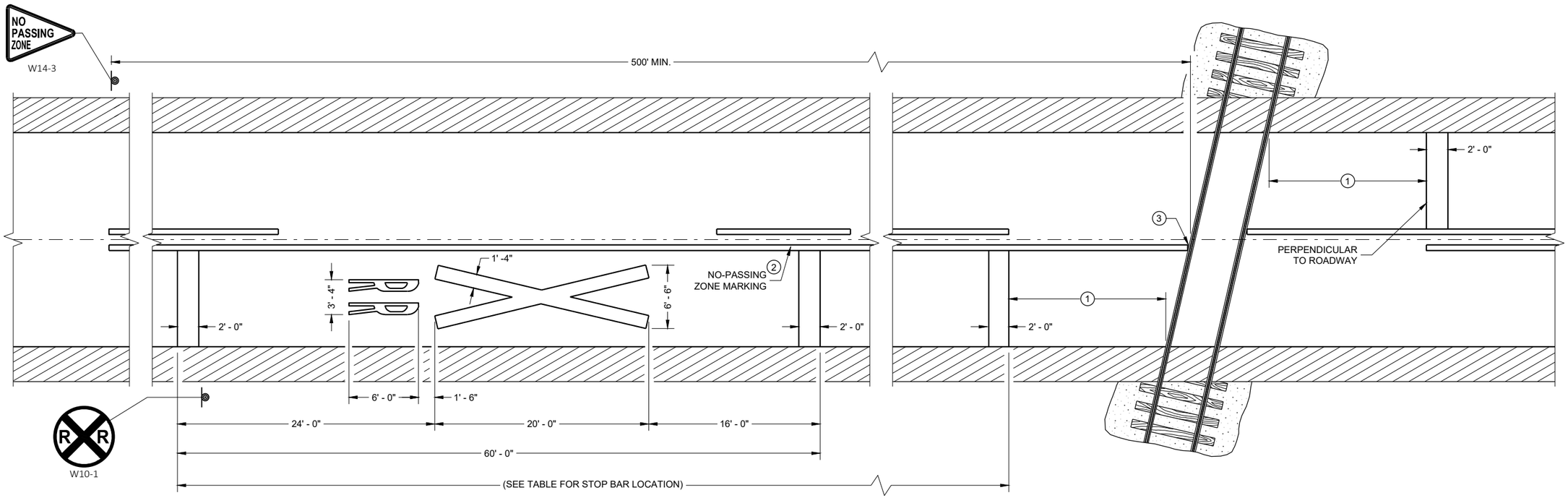
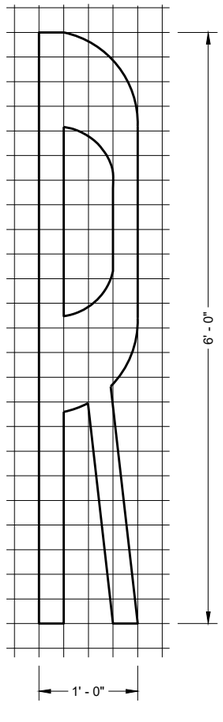
SDD 15C08 - 20c



PAVEMENT MARKING



LEGEND

SIGN ON PERMANENT SUPPORT

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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

TRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

(1) MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNAL , GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.

(2) 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.

(3) FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

DISTANCE TABLE

TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

POSTED SPEED (M.P.H.)	DIMENSION RANGE (FEET)
25	150* - 250'
30	200* - 300'
35	250* - 450'
40	300* - 500'
45	400* - 650'
50	550* - 800'
55	750* - 1000'
60	1000* - 1250'
65	1000* - 1250'

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSED PROXIMITY OF DRIVEWAYS, BRIDGES, SIDE ROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.

SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD - HIGHWAY GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

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

FHWA

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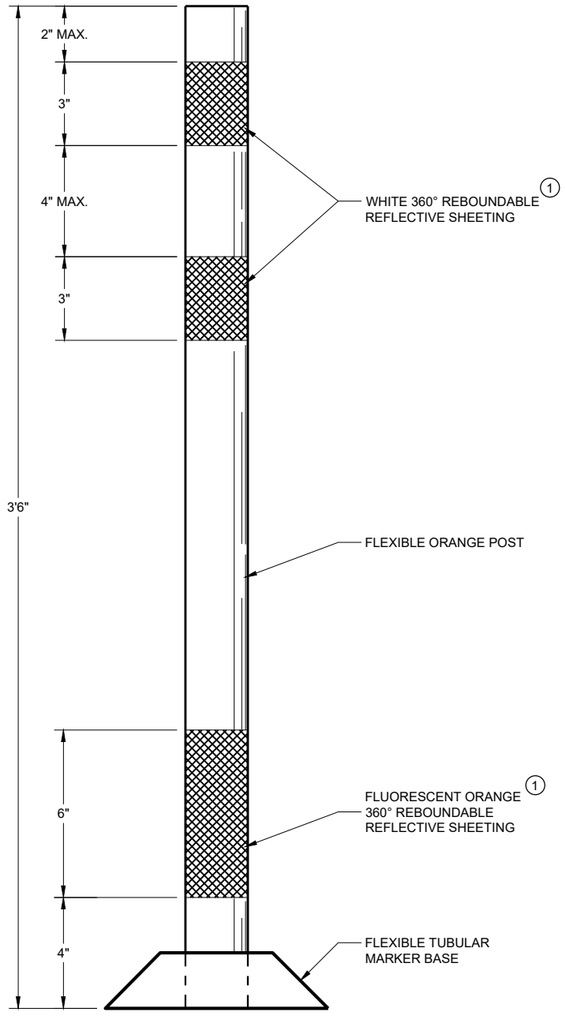
SDD15C09 - 12a



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

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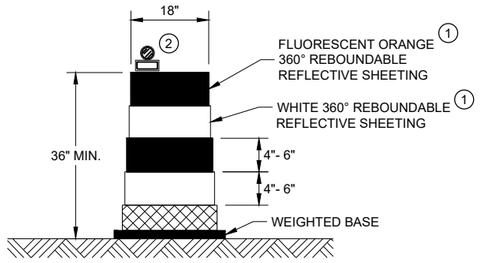
SDD 15C11 - 09a

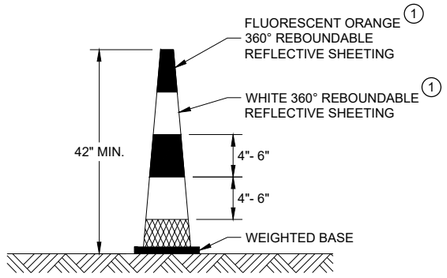
SDD 15C11 - 09a

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.

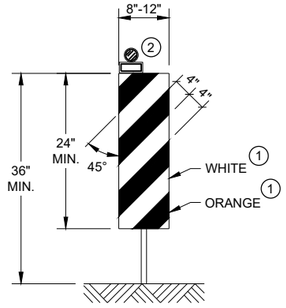


DRUM



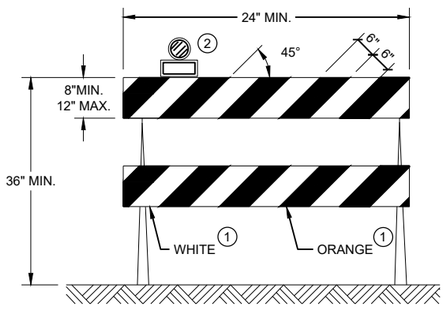
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



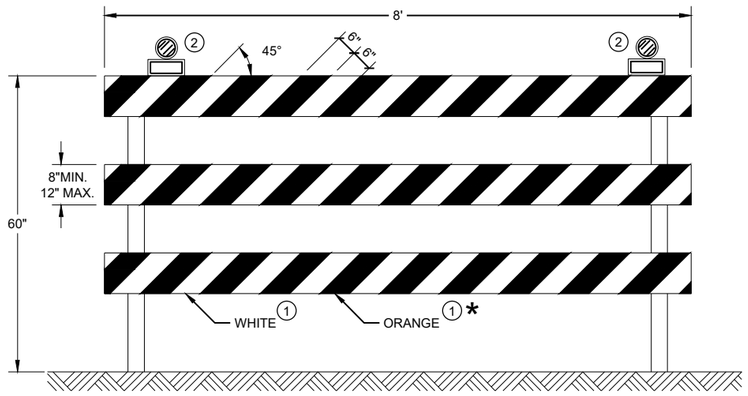
VERTICAL PANEL

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.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD15C11 - 09b

6

SDD15C11 - 09b

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.

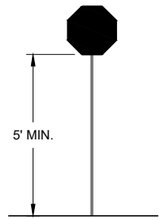
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

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.



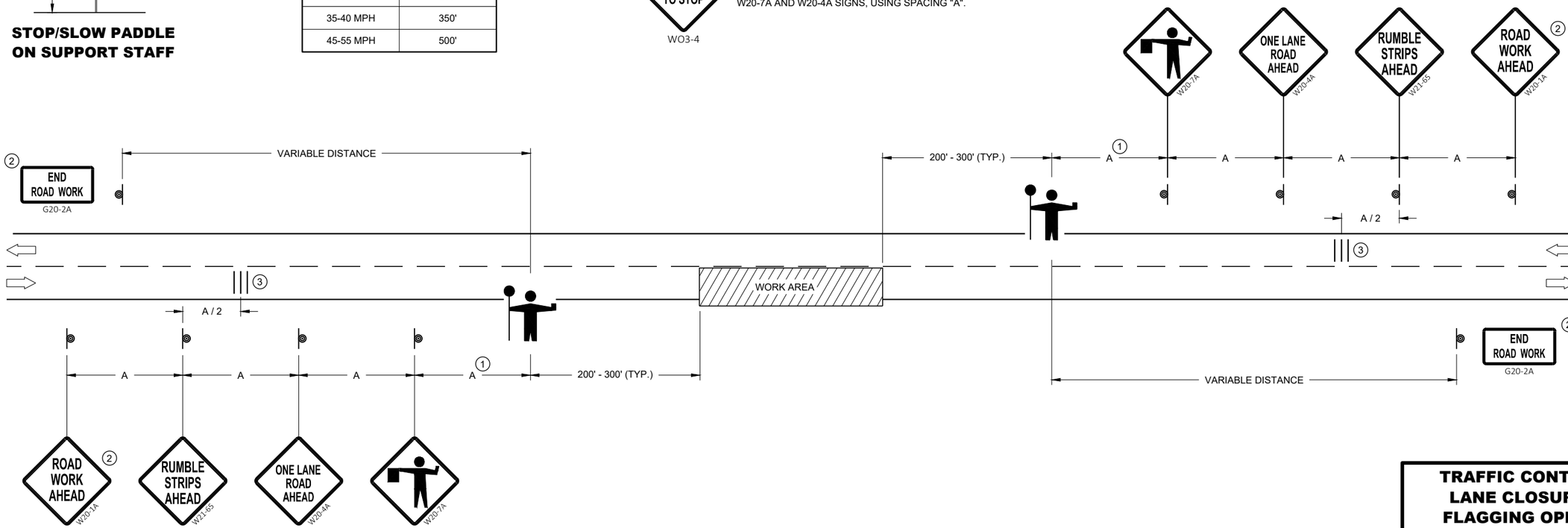
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEE
FHWA	117

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SDD 15C12 - 07

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.

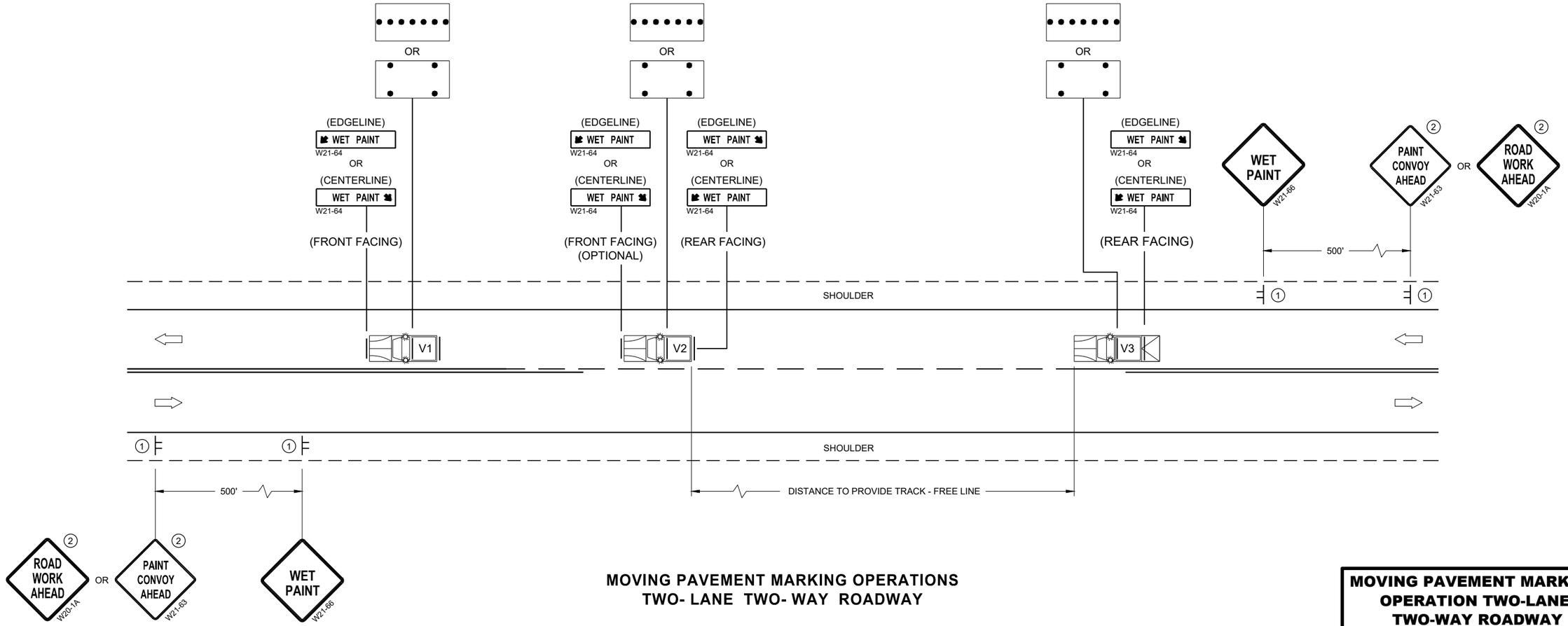
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

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 OPERATIONS TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

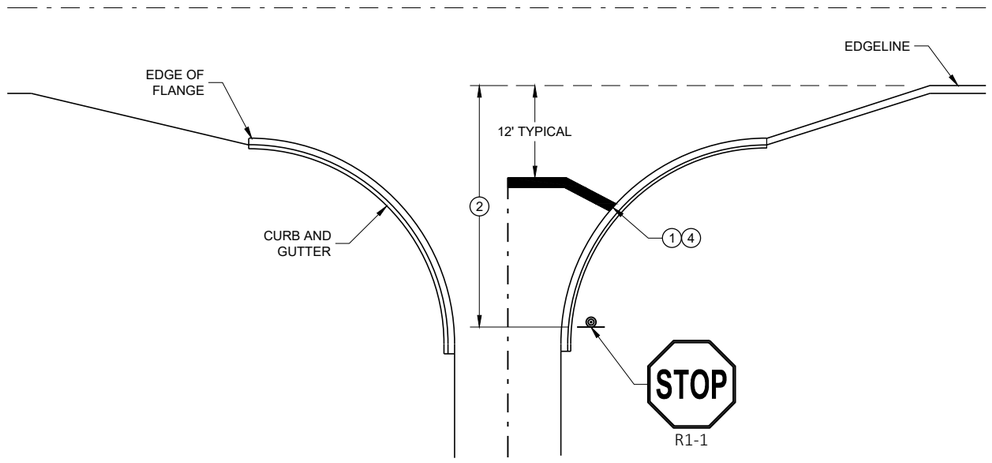
SDD 15C19 - 06a

SDD 15C19 - 06a

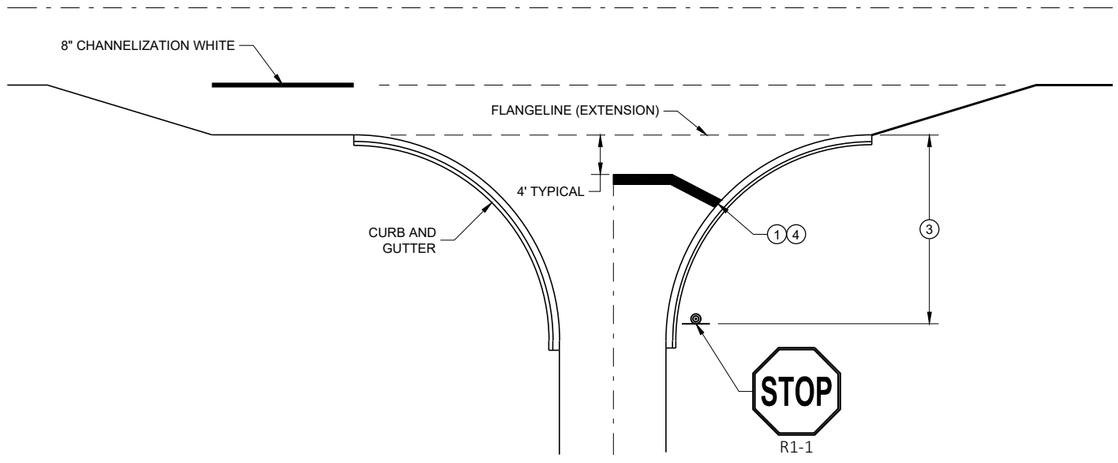
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

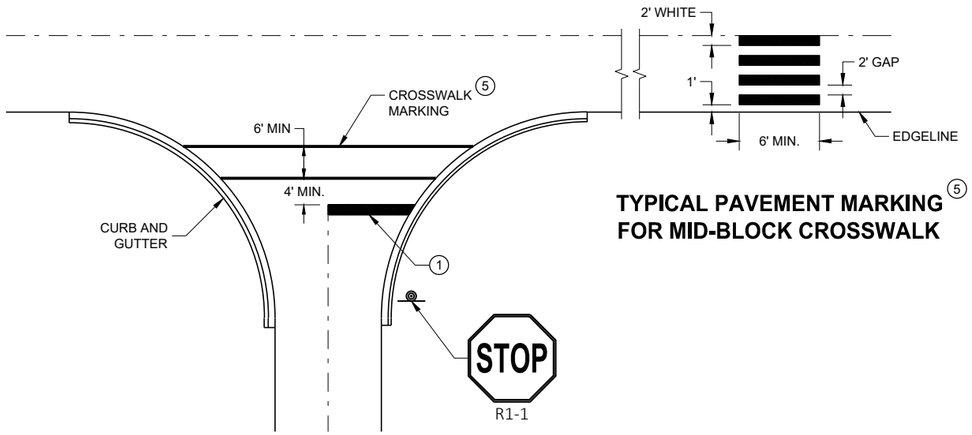
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

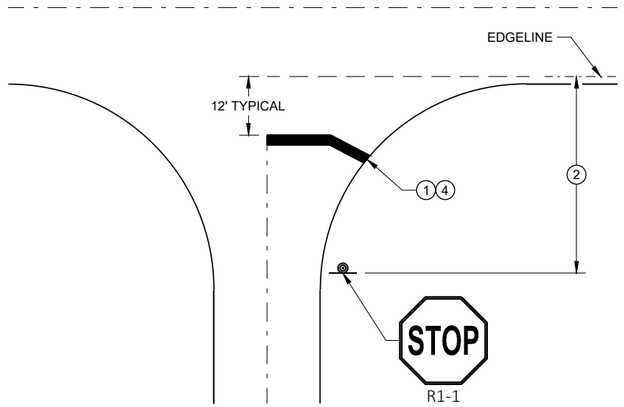


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER

FHWA

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SDD 15C33 - 04

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SDD 15C33 - 04

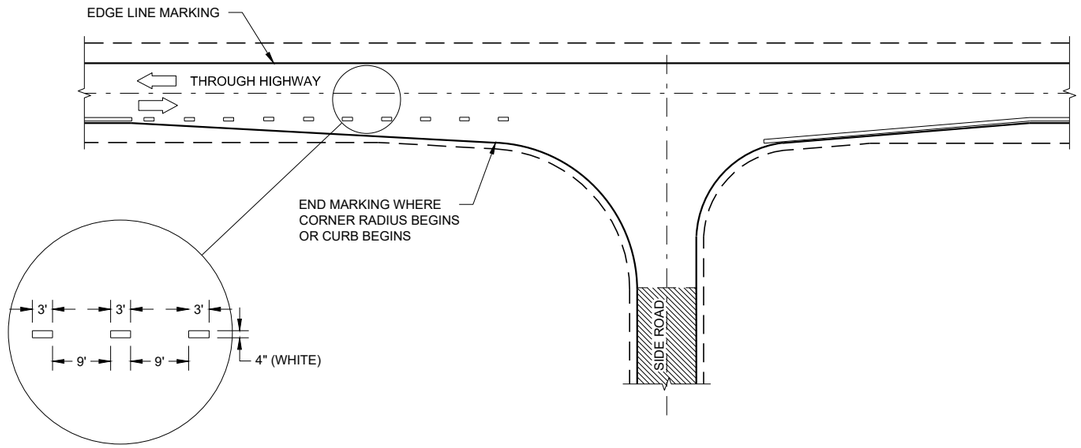
GENERAL NOTES

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

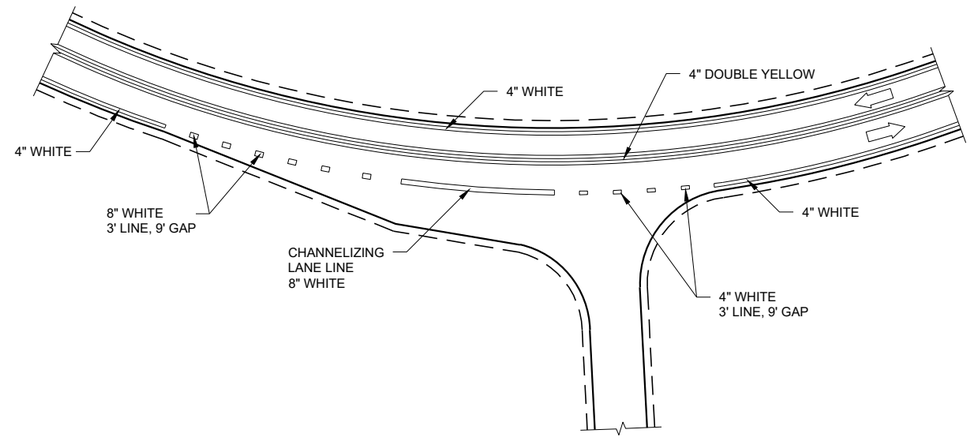
1. WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
2. WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
3. BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
4. BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

LEGEND

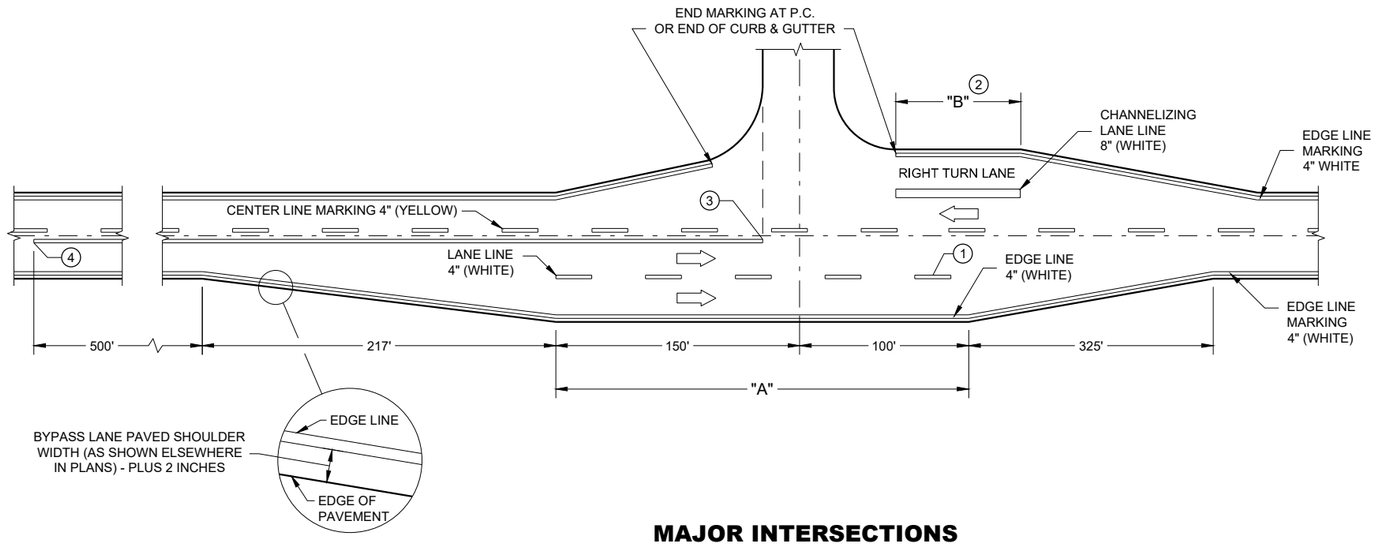
DIRECTION OF TRAVEL



MINOR INTERSECTION



INTERSECTION ON OUTSIDE OF CURVE



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING (INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15C35 - 04a

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SDD 15C35 - 04a

LEGEND

SIGN ON PERMANENT SUPPORT

DELINEATOR, FLEXIBLE/TUBULAR MARKER

DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

"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. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50 FOOT SPACING.

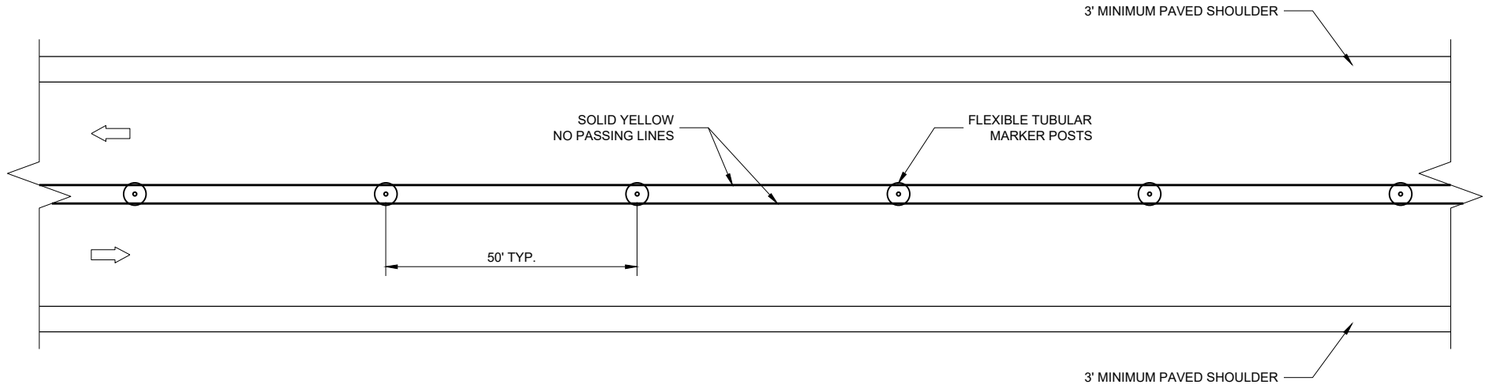
COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4 INCH DOUBLE YELLOW.

(1)

(2)

(1) THE WO6-3 AND WO57-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND / OR 500 FEET BEYOND ANY SIDE ROAD. THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE WO6-3 AND THE WO57-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN THE SIGNS.

(2) CONVENTIONAL: 24" X 30"
FREEWAY AND EXPRESSWAY: 36" X 48"



TWO LANE, TWO WAY OPERATION

TRAFFIC CONTROL
TWO LANE TWO WAY
OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
STATE TRAFFIC ENGINEER

FHWA

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SDD 15D06 - 04

6

SDD 15D06 - 04

GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

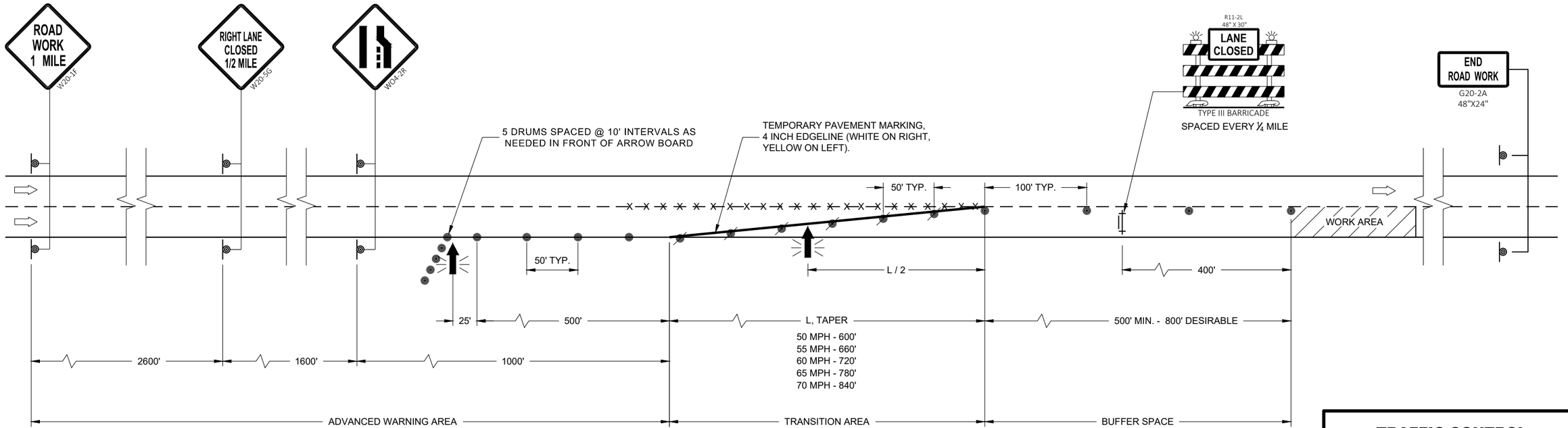
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



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SDD 15D12 - 09a

TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

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SDD 15D12 - 09a

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.

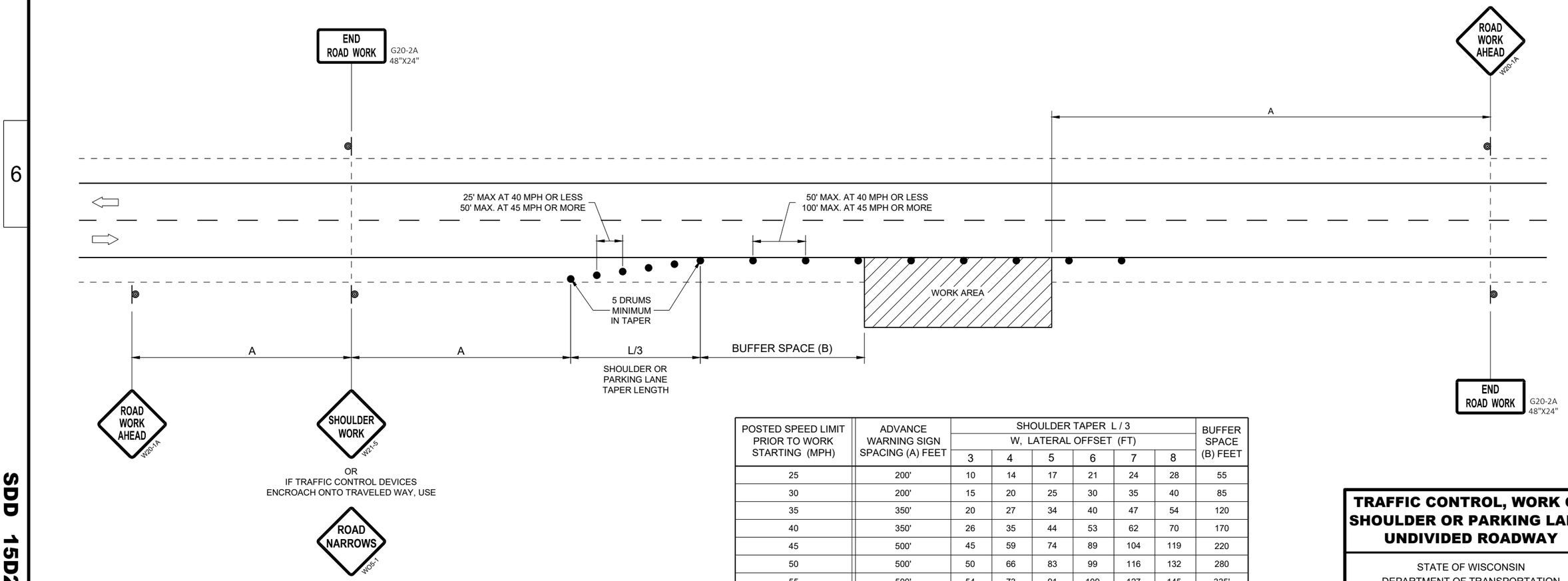
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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.



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

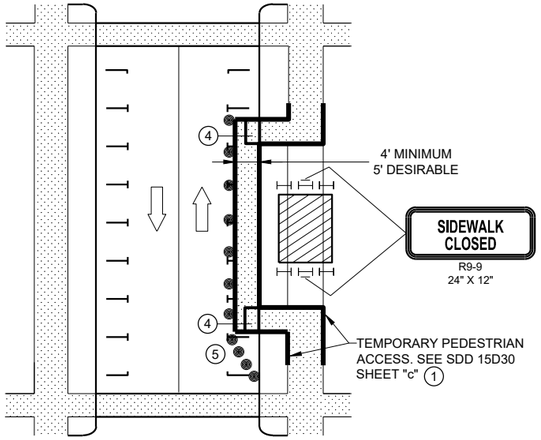
/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

SDD 15D28 - 04

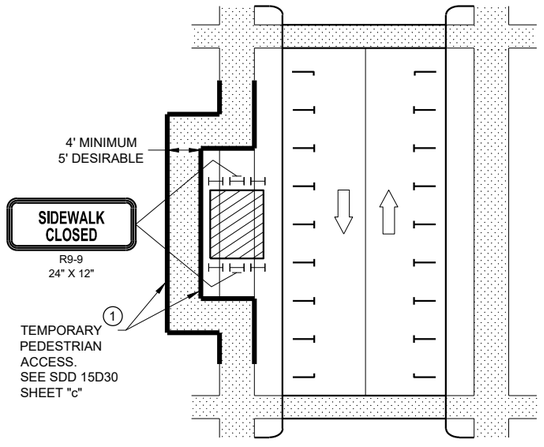
SDD 15D28 - 04

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

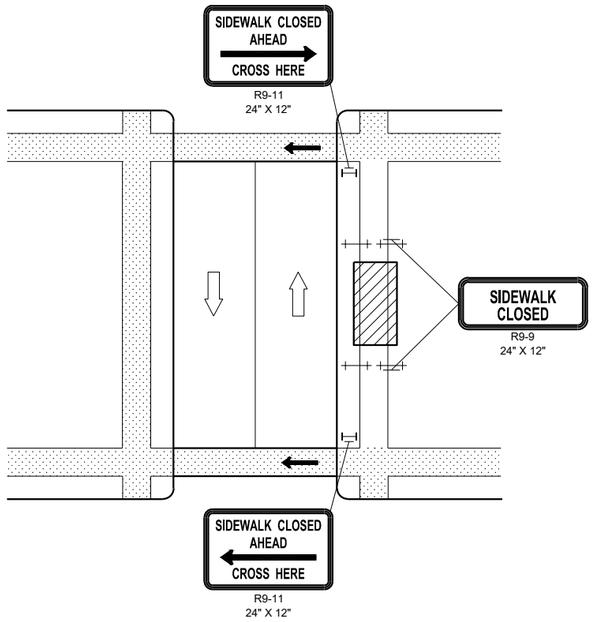


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

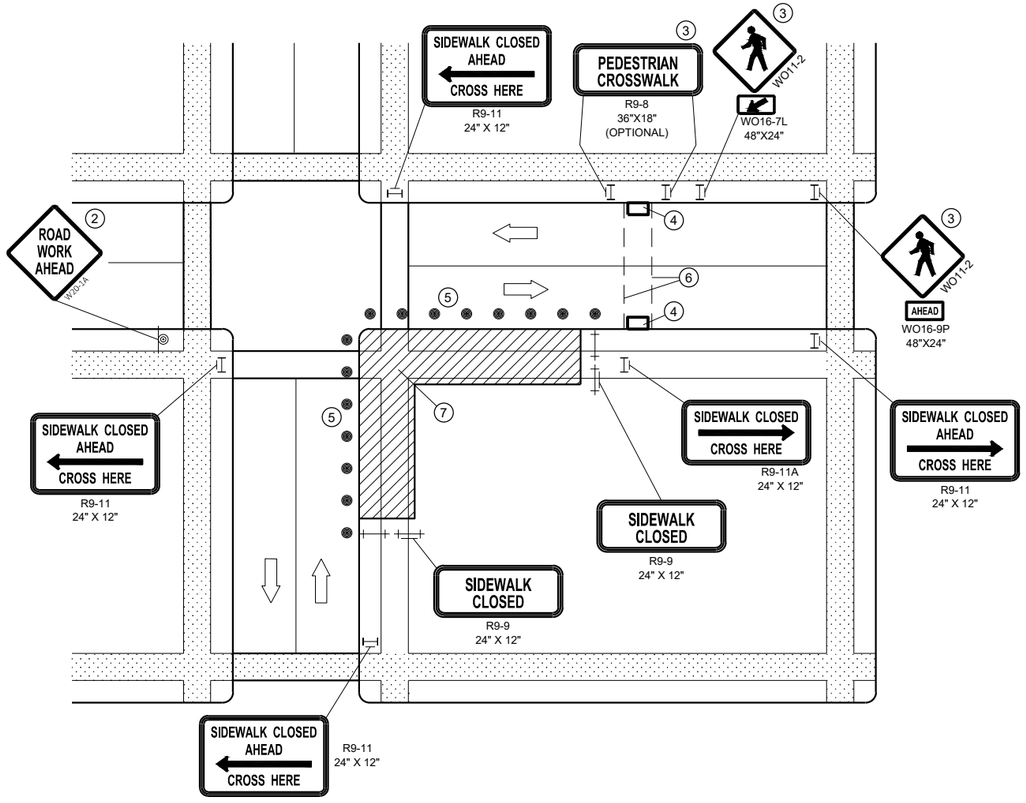
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTIME CLOSURE, USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEK LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

1. IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE
2. "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.
3. IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND WO11-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.
4. TEMPORARY CURB RAMPS. SEE SDD 15D30 SHEET "b'.
5. DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.
6. TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
7. LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW INTENSITY FLASHING)
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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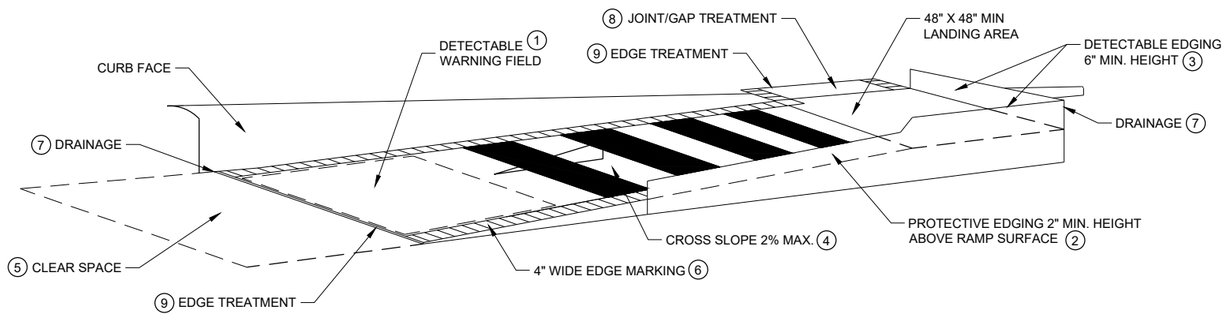
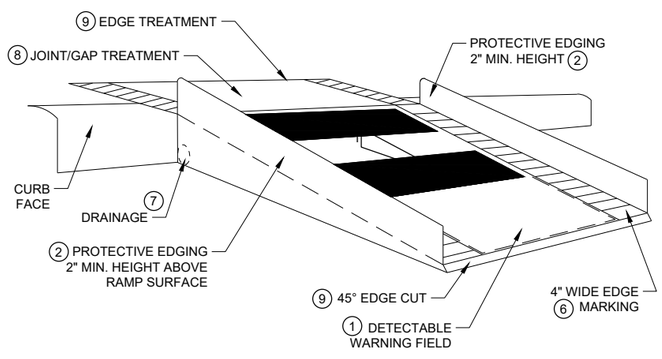
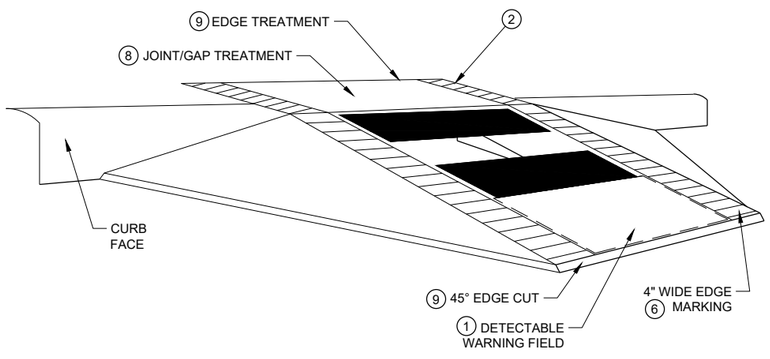
SDD15D30 - 06a



TEMPORARY CURB RAMP PARALLEL TO CURB



WITH PROTECTIVE EDGE



WITH SIDE APRON

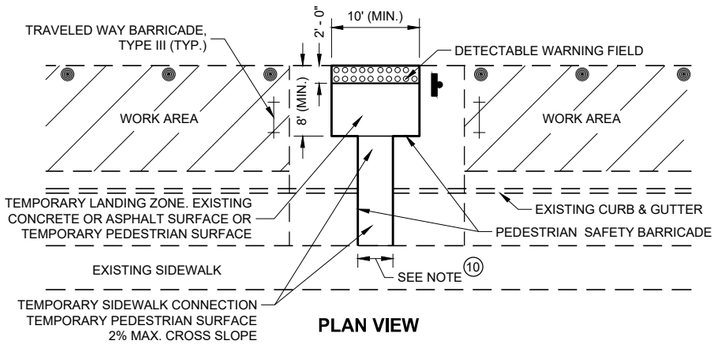
TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

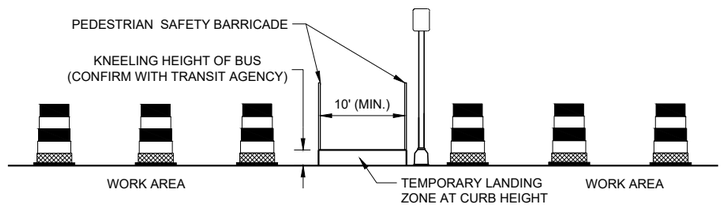
NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

1. CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 08D05, SHEET "e".
2. PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
5. CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
6. THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.
7. DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES SHALL BE VERTICAL UP TO ¼" HIGH AND BEVELED AT 1:2 BETWEEN ¼" AND ½".
10. 5" WIDE MIN. WITH PEDESTRIAN SAFETY BARRICADE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY BARRICADE.



PLAN VIEW



PROFILE VIEW

TEMPORARY BUS STOP PAD

LEGEND

- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE
- WORK AREA

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

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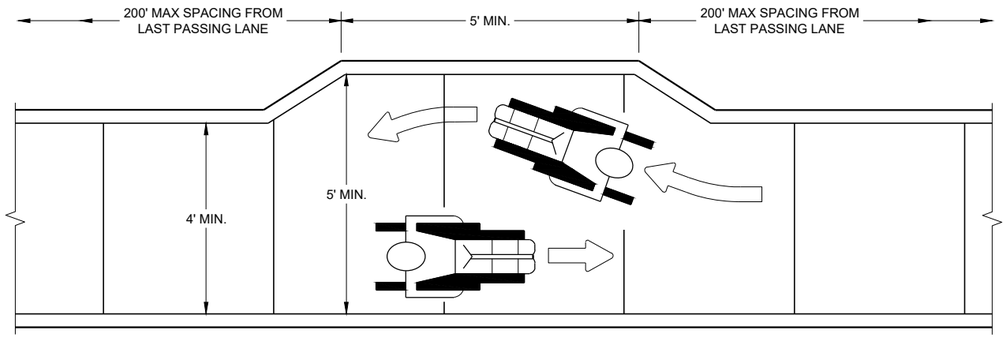
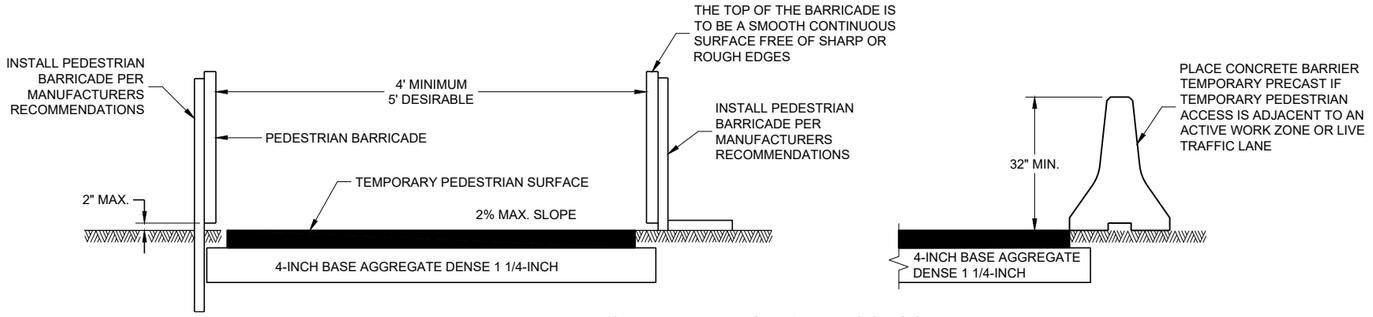
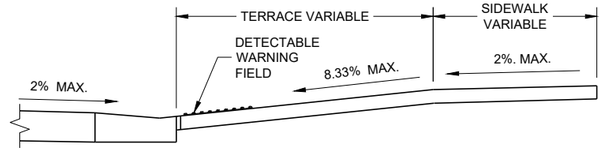
SDD 15D30 - 06b



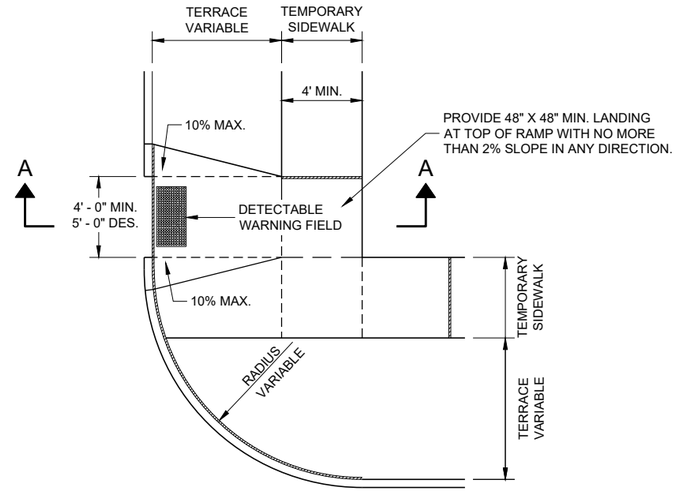
NARROW SIDEWALK PASSING DETAIL



TEMPORARY PEDESTRIAN ACCESS



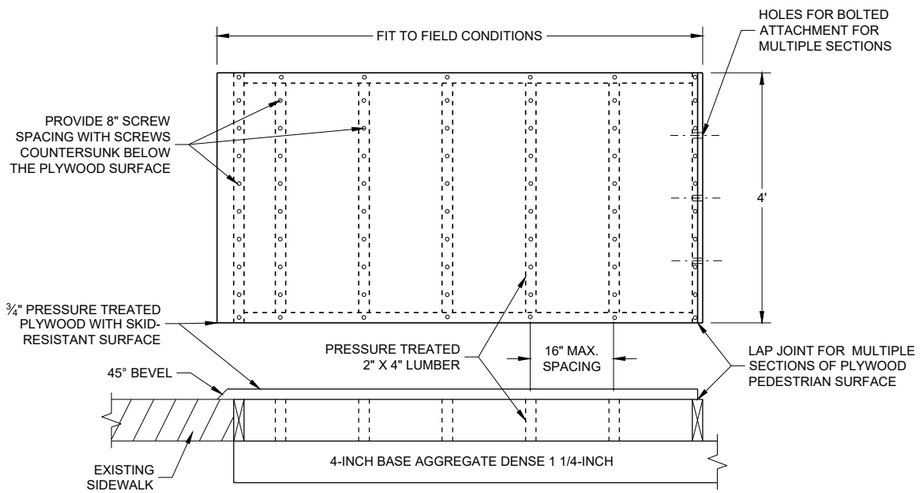
SECTION A - A



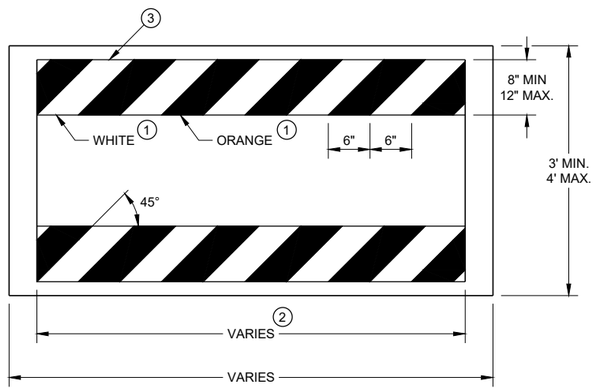
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



TEMPORARY PEDESTRIAN BARRICADE *

GENERAL NOTES

BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

(2) SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

(3) PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

* USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

SDD 15D30 - 06c

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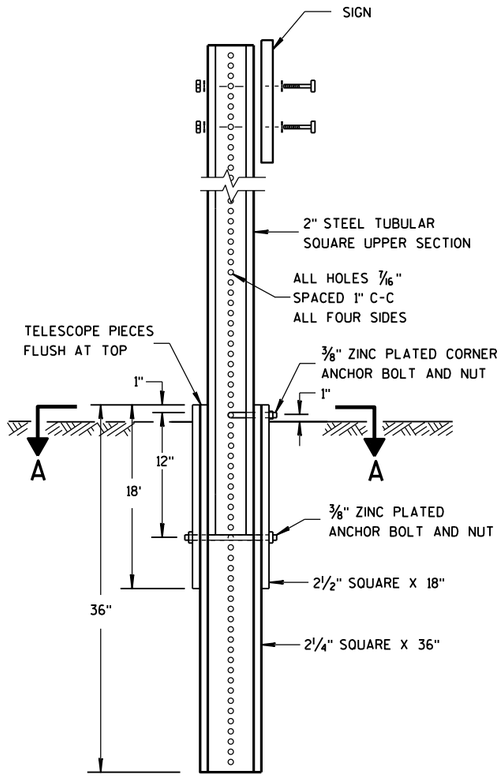
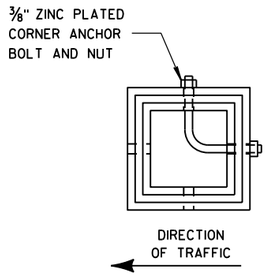
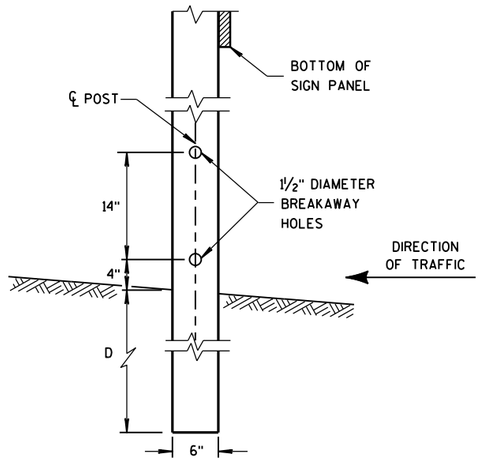
SDD 15D30 - 06c



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



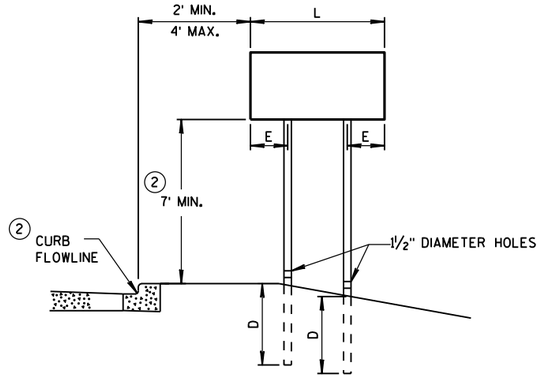
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

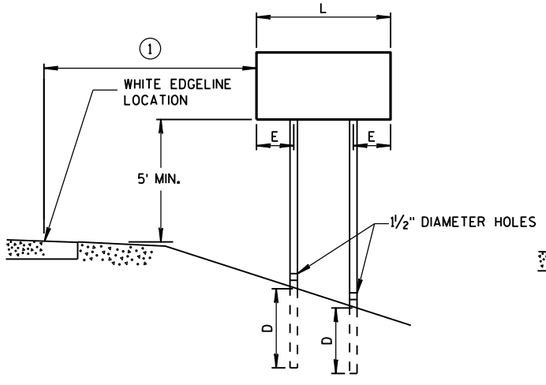
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

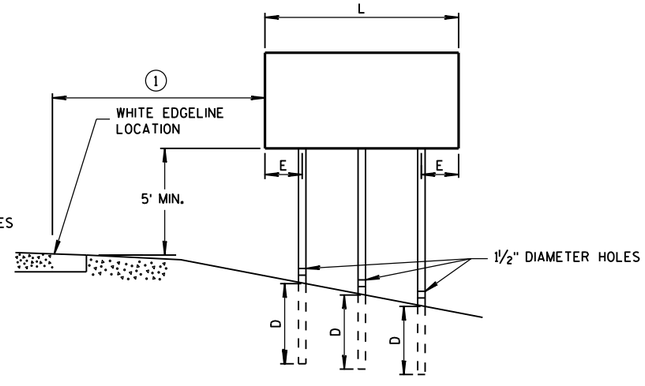
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK 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.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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.

WOOD POST EMBEDMENT DEPTH

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

4" X 6" WOOD POST

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

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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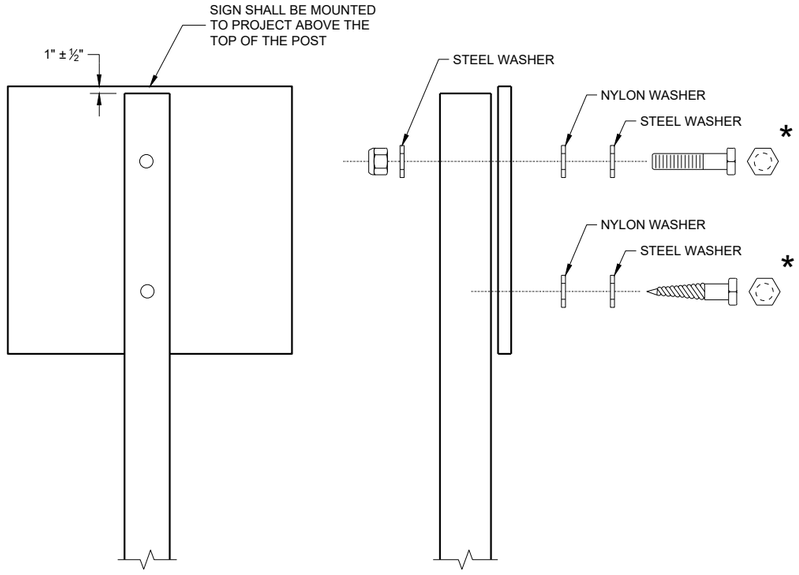
S.D.D. 15 D 38-2a
S.D.D. 15 D 38-2a



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 - ⅜" x 3"
MACHINE BOLTS - 5/16" x 6 ½" OR 7" LENGTH W/NUTS

SQUARE STEEL POST (2" x 2")
MACHINE BOLTS - ⅜" x 3 ¼" LENGTH W/NUTS
RIVETS - 9/32" (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 ¼" O.D. x ⅜" I.D. x 1/16" STEEL
1 ¼" O.D. x ⅜" 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.

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SDD 15D38 - 02b

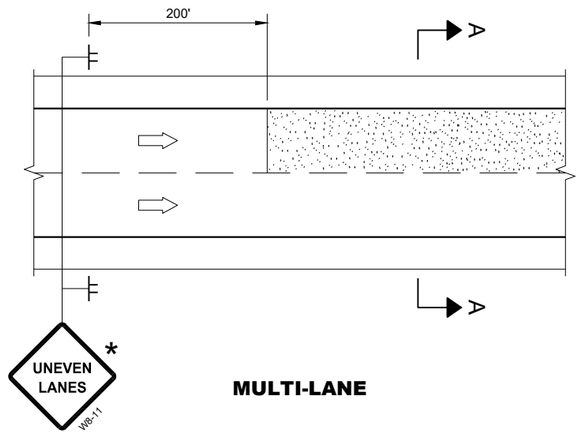
SDD15D38 - 02b

ATTACHMENT OF SIGNS TO POSTS

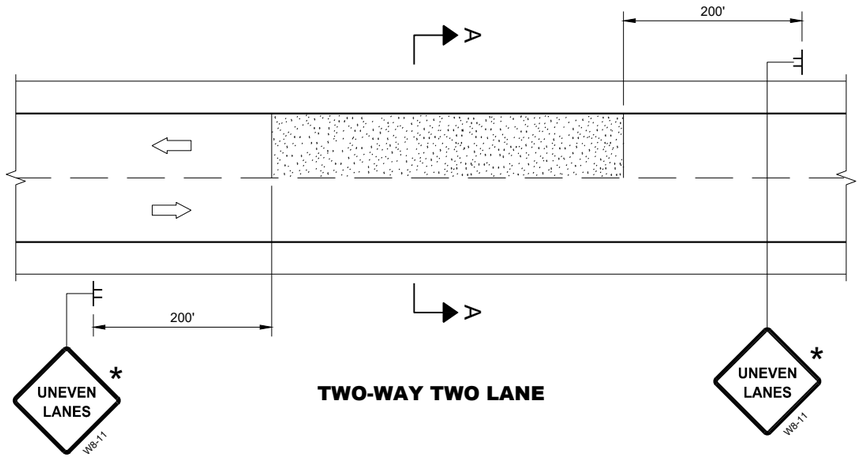
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

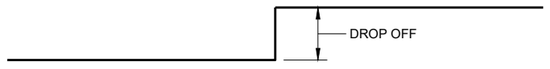
FHWA



MULTI-LANE

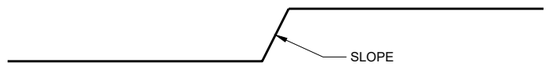


TWO-WAY TWO LANE

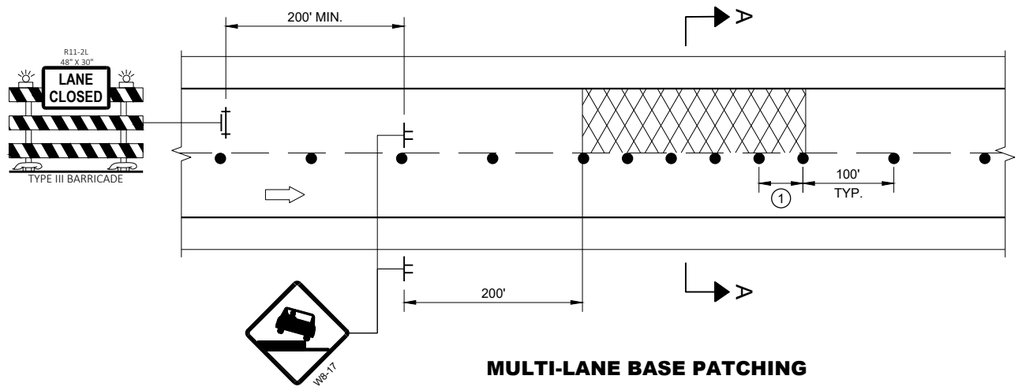


SECTION A - A

OR

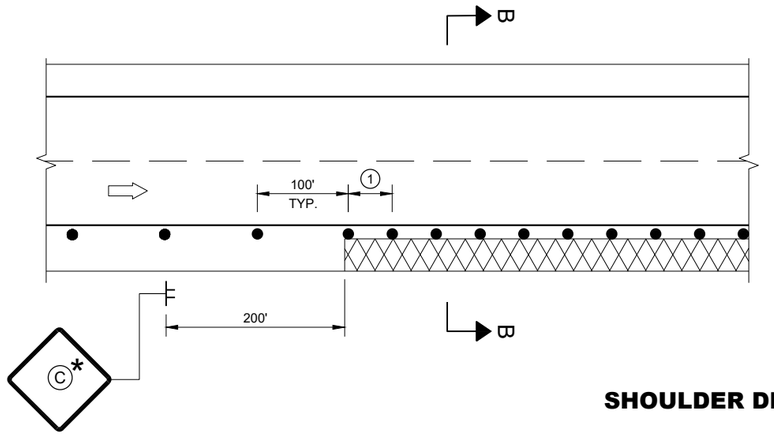


SECTION A - A

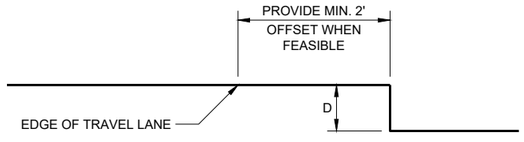


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



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

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

TRAFFIC CONTROL, DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE

FHWA

6

SDD 15D39 - 02

6

SDD 15D39 - 02

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.

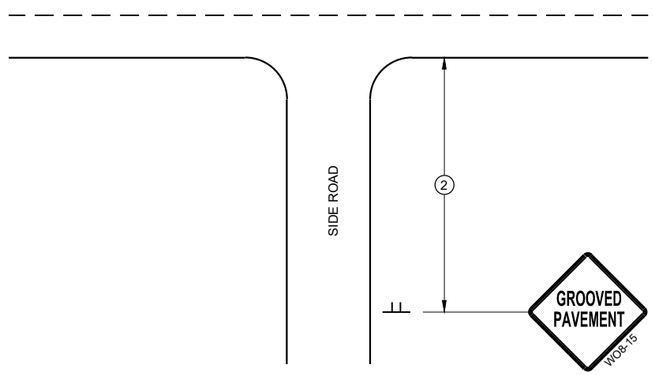
(1) PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

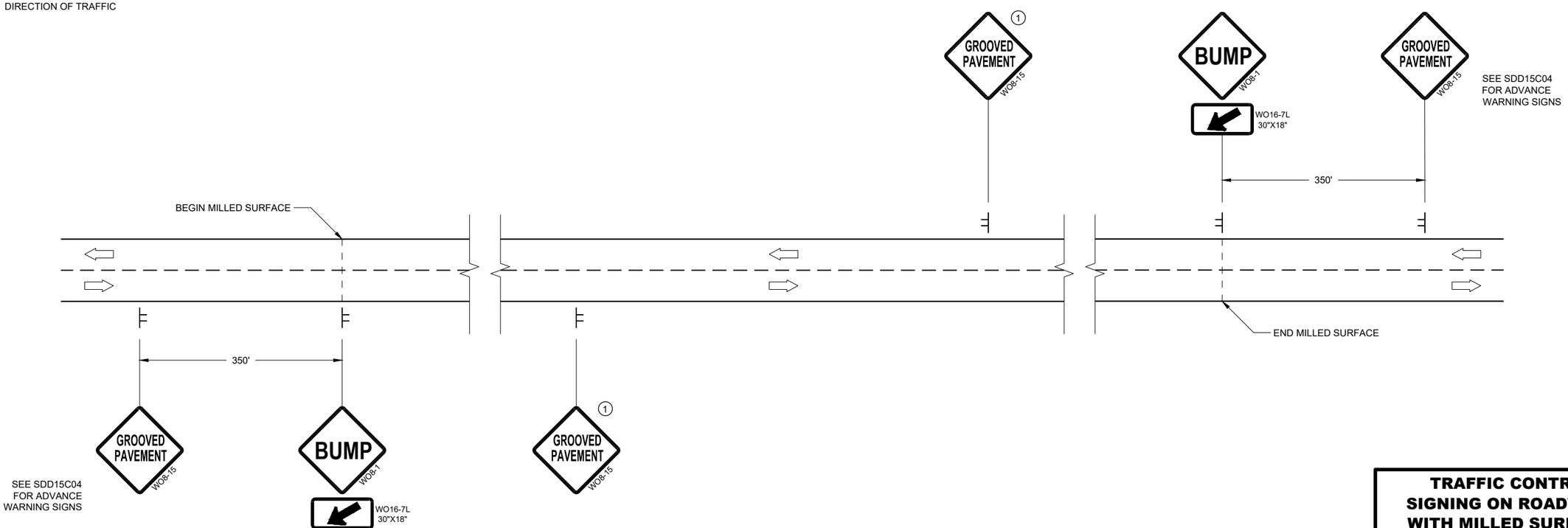
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6
SDD 15D44 - 02

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 CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.

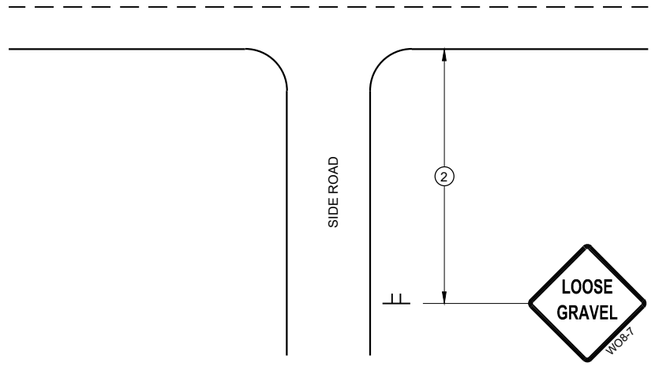
(2) PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

(3) ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

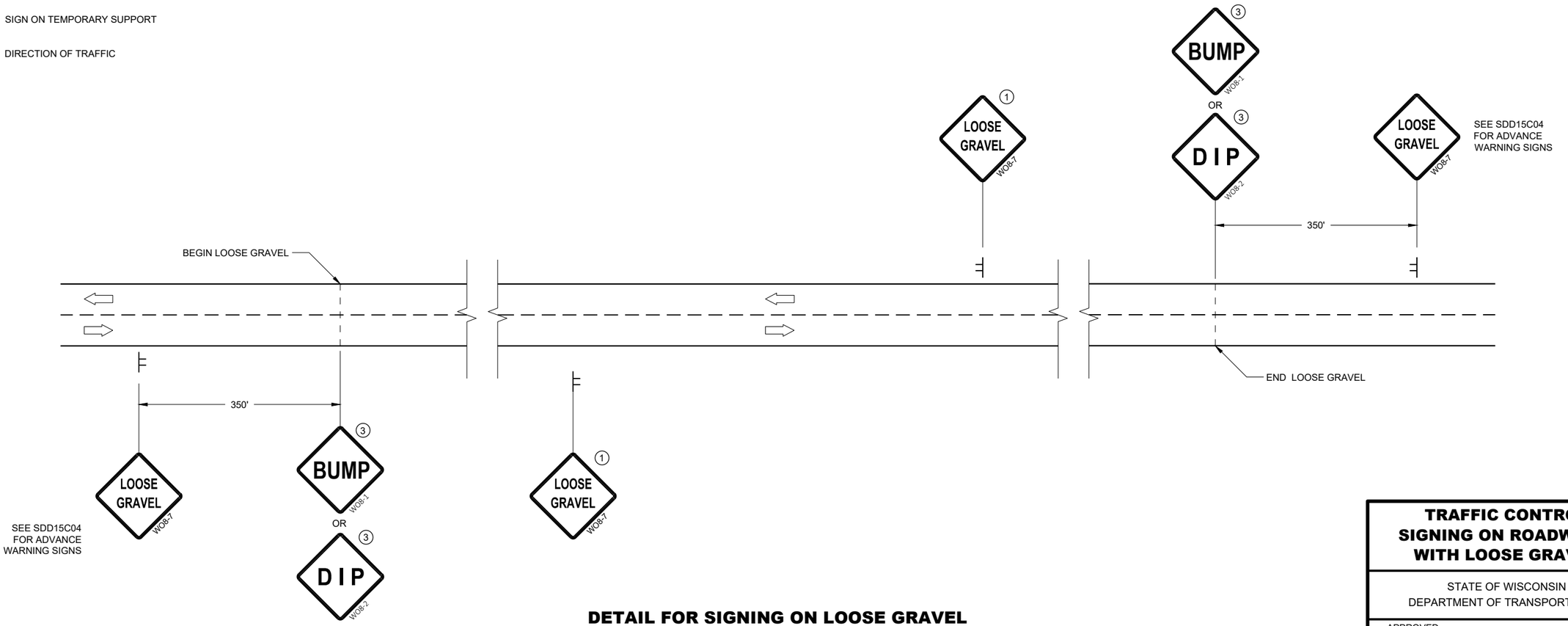
LEGEND

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

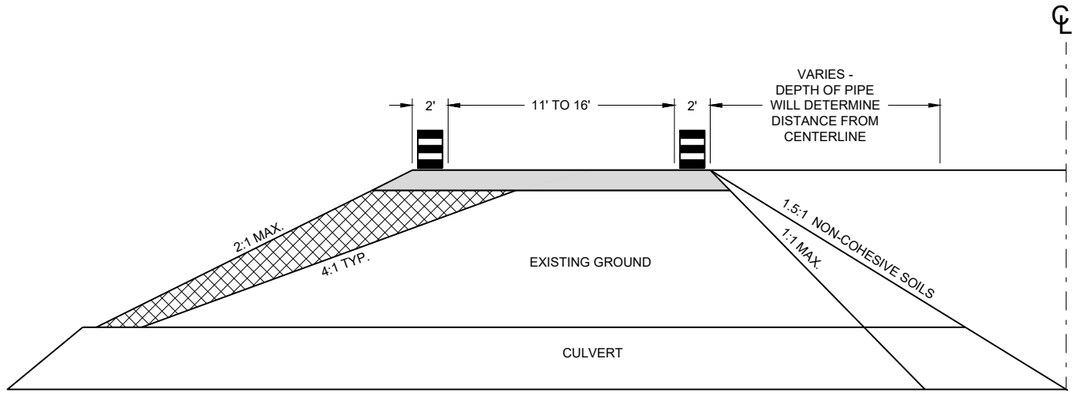
APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15D45 - 03



CROSS SECTION

GENERAL NOTES

USE 1:1 FOR COHESIVE CLAYS AND SILTS, LOAMS, SANDY CLAYS AND ANGULAR GRAVEL SOILS.
USE 1.5:1 FOR NON-COHESIVE SOILS.

THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.

ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

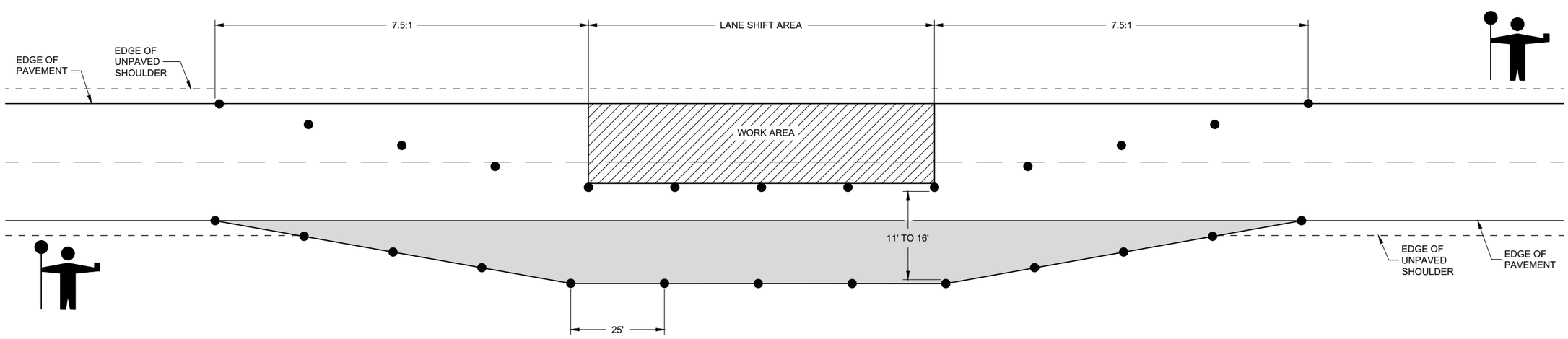
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

USE WITH SDD 15C12 "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS"

USE WITH SDD 15D45 "SIGNING ON ROADWAYS WITH LOOSE GRAVEL"

LEGEND

- DRUM WITHOUT WARNING LIGHT
- 6" BASE AGGREGATE DENSE 1 ¼" -INCIDENTAL TO LANE SHIFT ITEM
- FILL - INCIDENTAL TO LANE SHIFT ITEM
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



LANE SHIFT IN FLAGGING OPERATION

TRAFFIC CONTROL, TEMPORARY LANE SHIFT DURING CULVERT WORK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

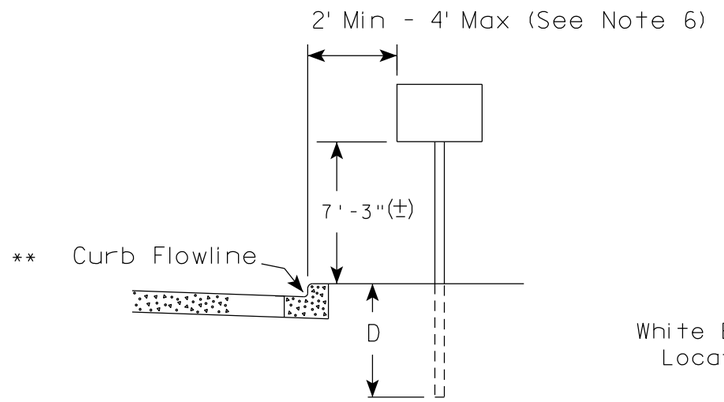
6

SDD 15D48 - 01

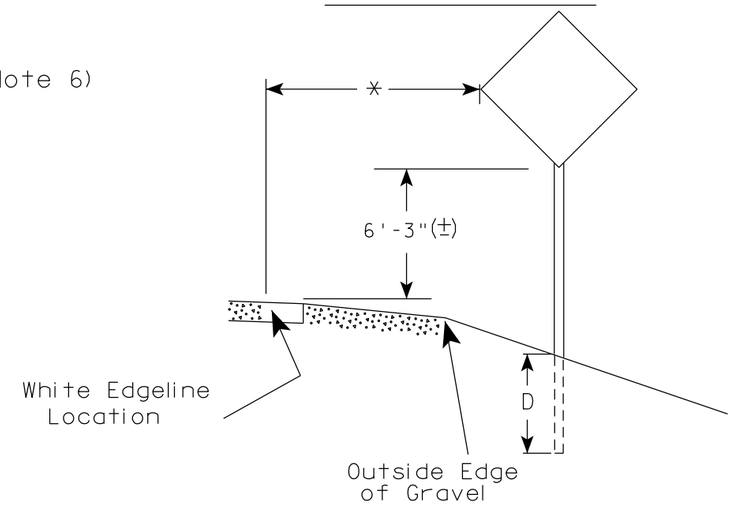
6

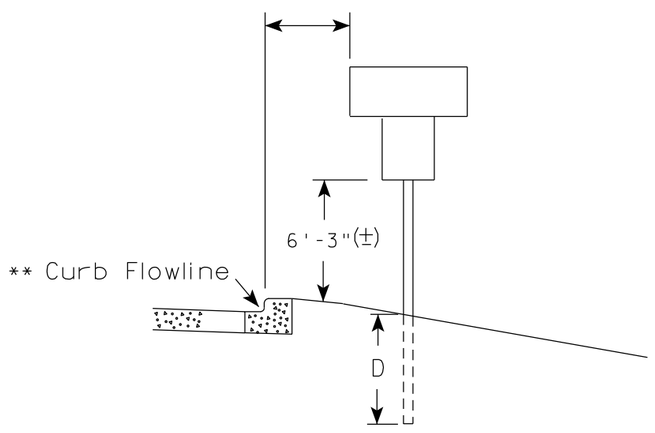
SDD 15D48 - 01

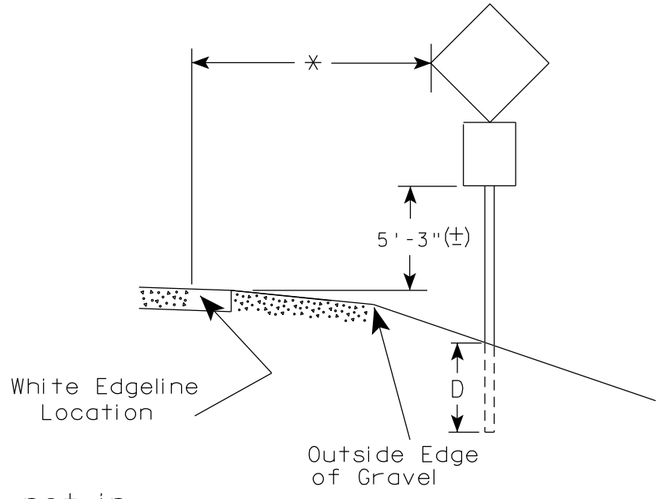
URBAN AREA



RURAL AREA (See Note 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. Offset of signs is measured from the flow line.

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

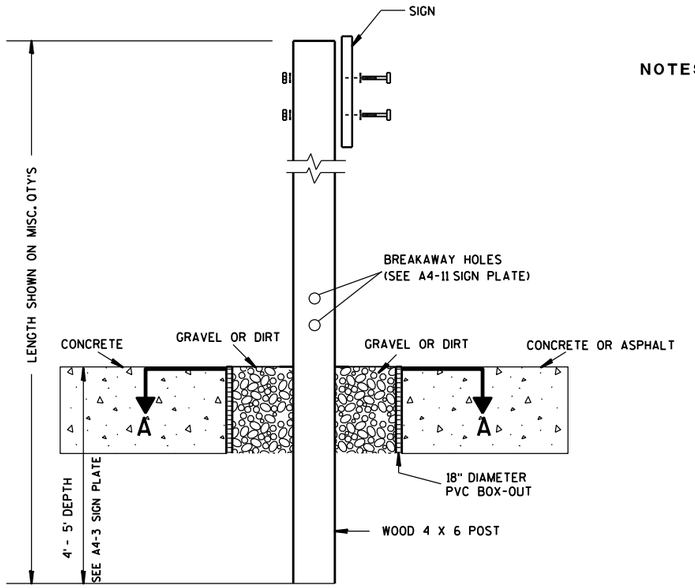
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

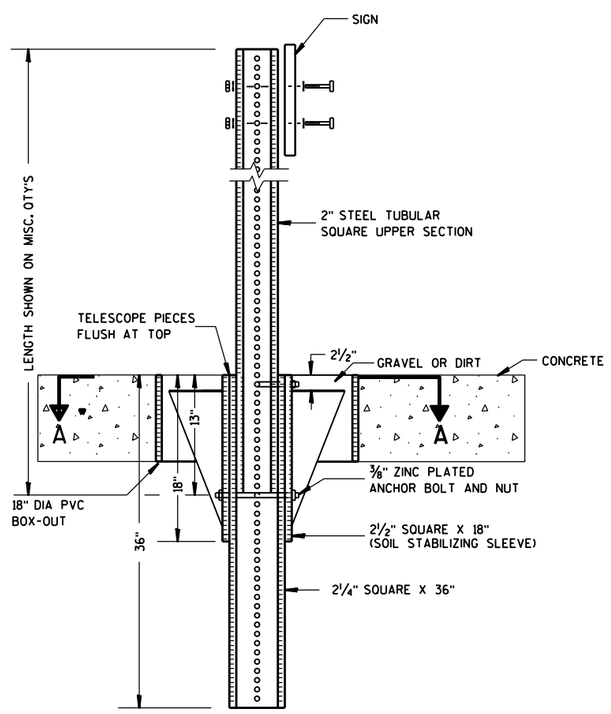
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 133	E



ELEVATION VIEW

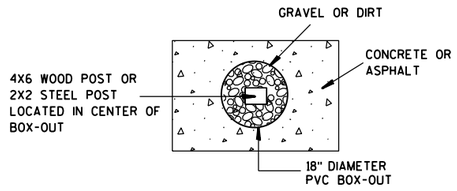
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

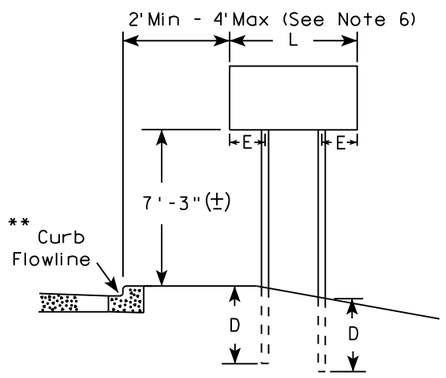
APPROVED Matthew R Rauch
for State Traffic Engineer

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

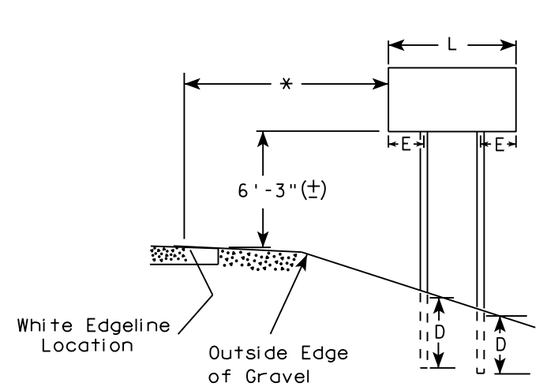
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

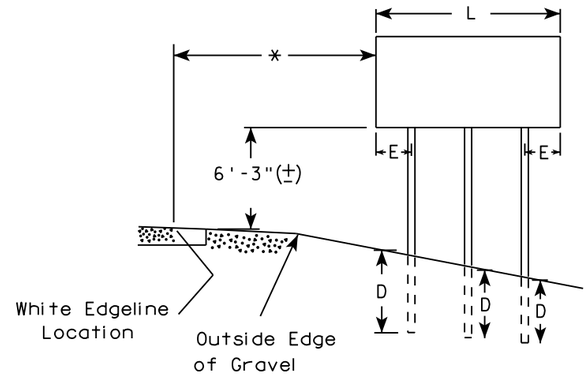
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

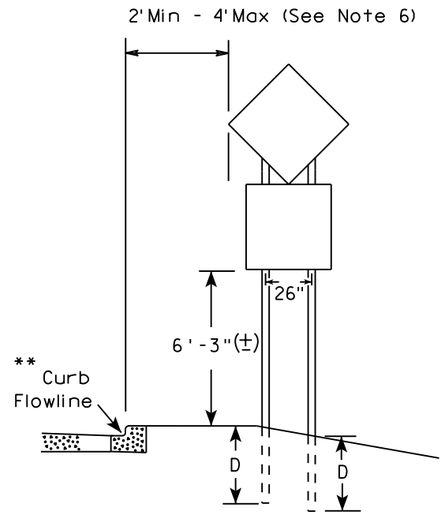
URBAN AREA



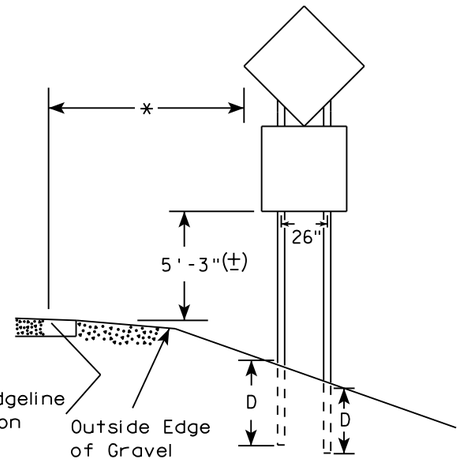
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

** The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

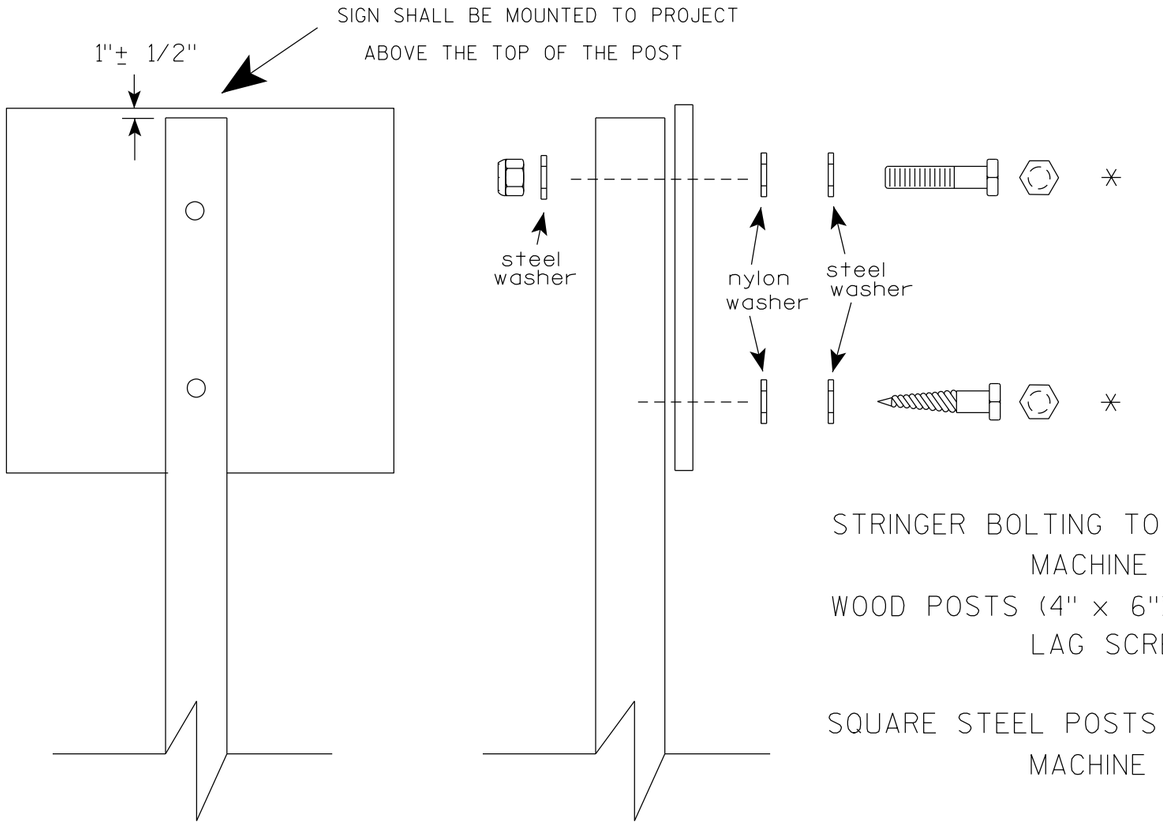
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 135	E



Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

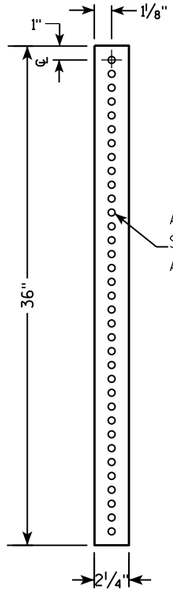
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

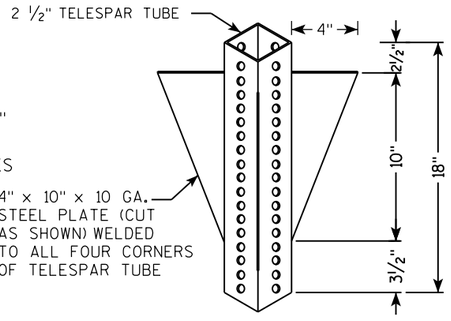
SHEET NO: 136 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

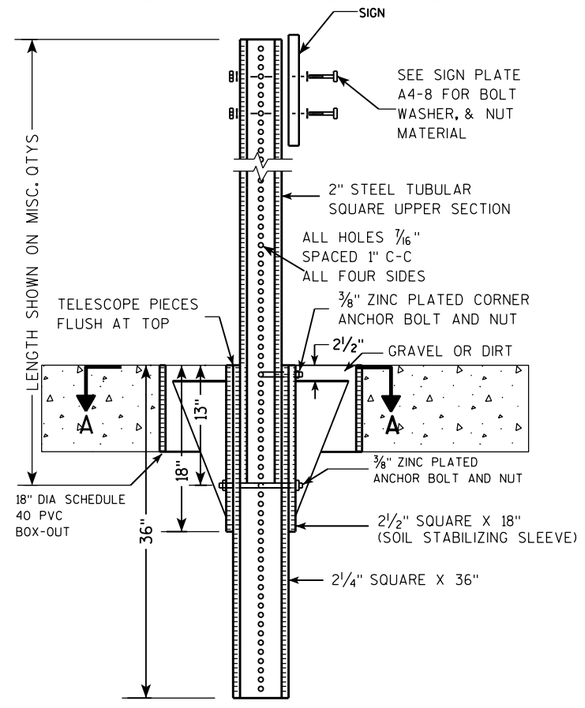
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



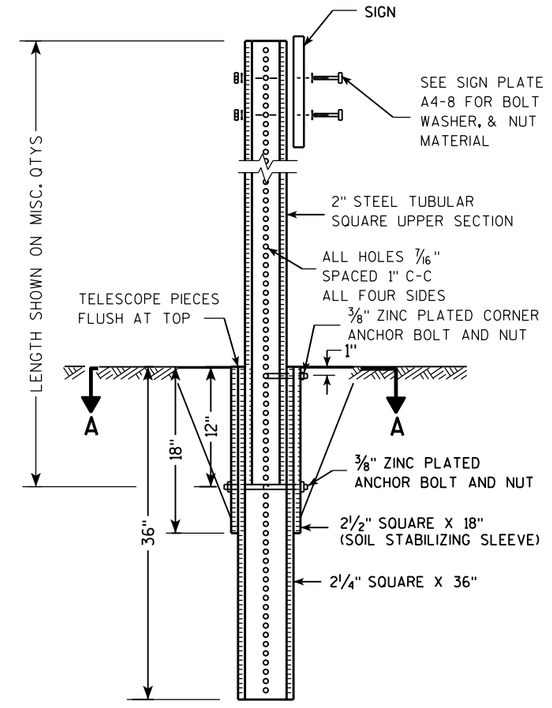
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

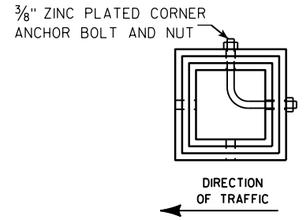


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

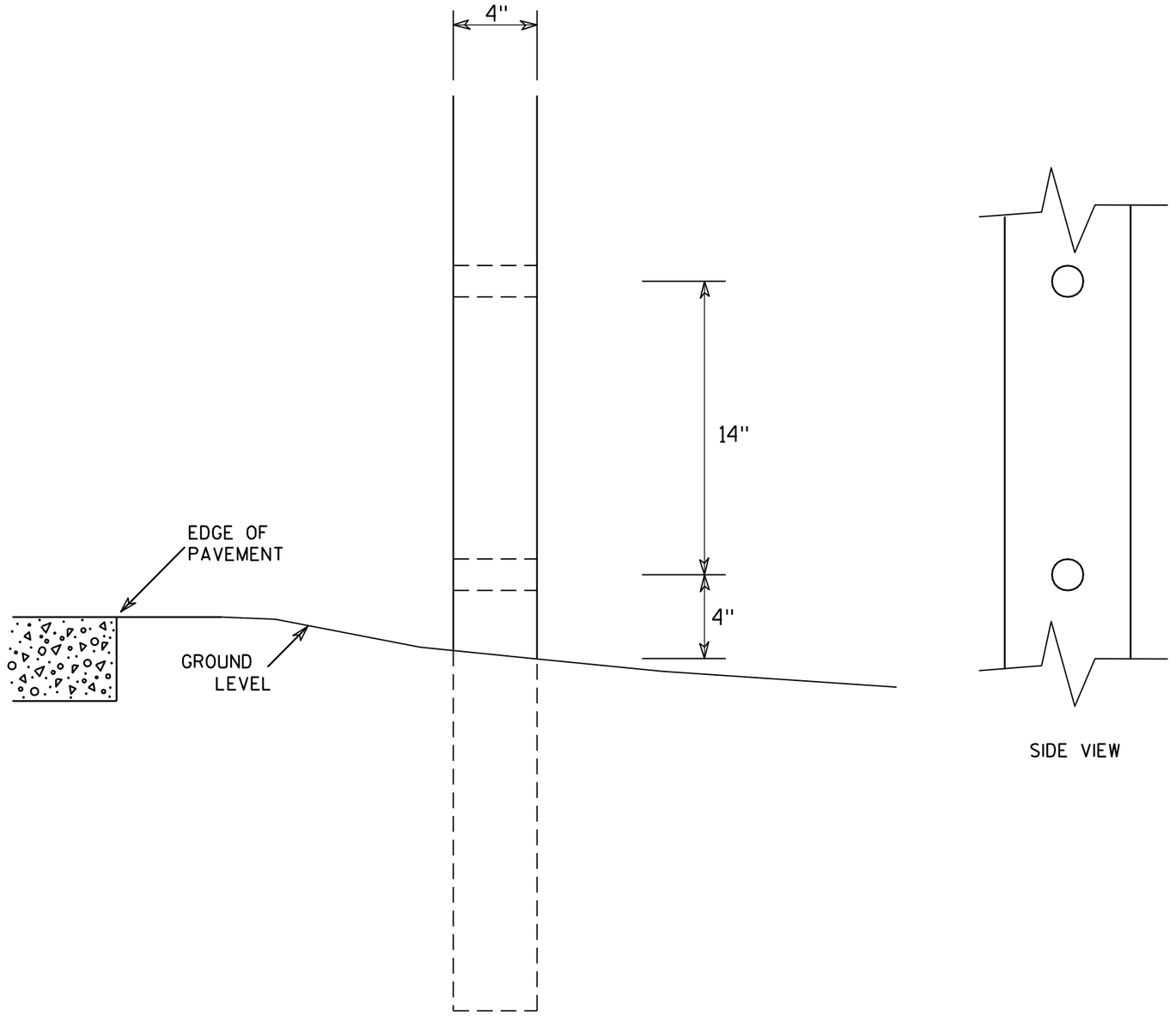
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

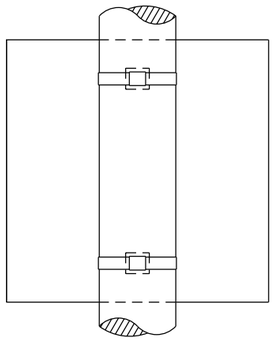
APPROVED Chester J Spang for State Traffic Engineer

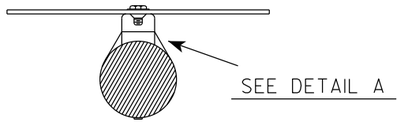
DATE 3/27/97 PLATE NO. A4-11.2

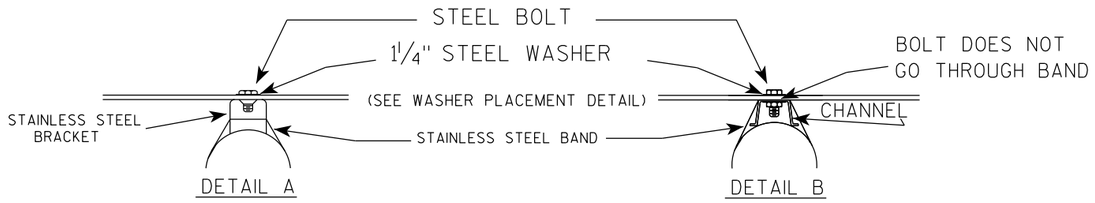
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 138	E

BANDING

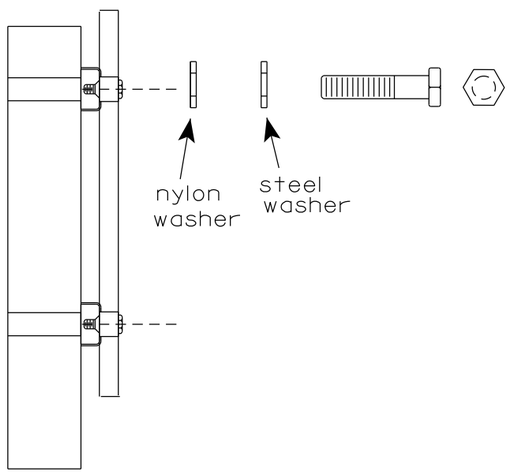
SINGLE SIGN







WASHER PLACEMENT

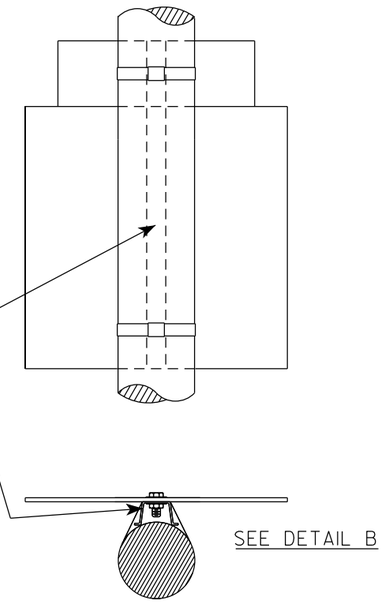


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

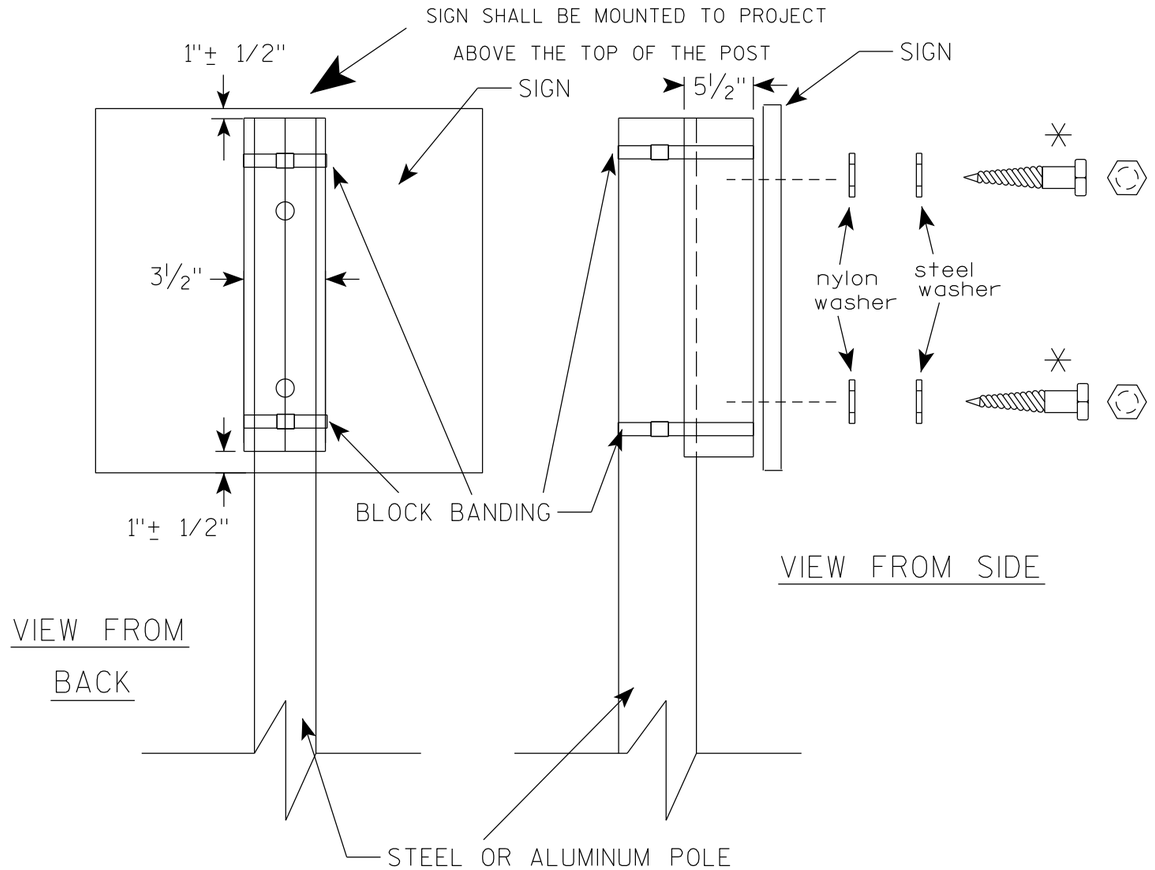
DATE 6/10/19 PLATE NO. A5-9.4

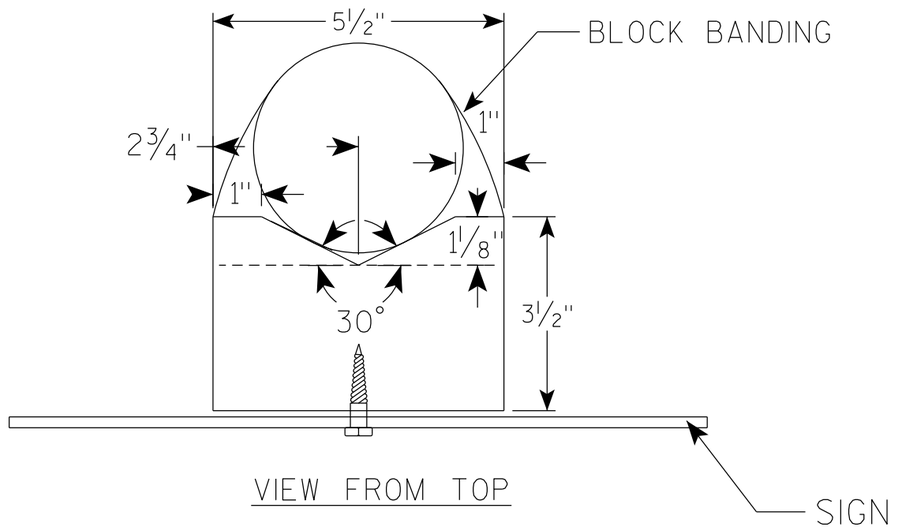
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 139	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

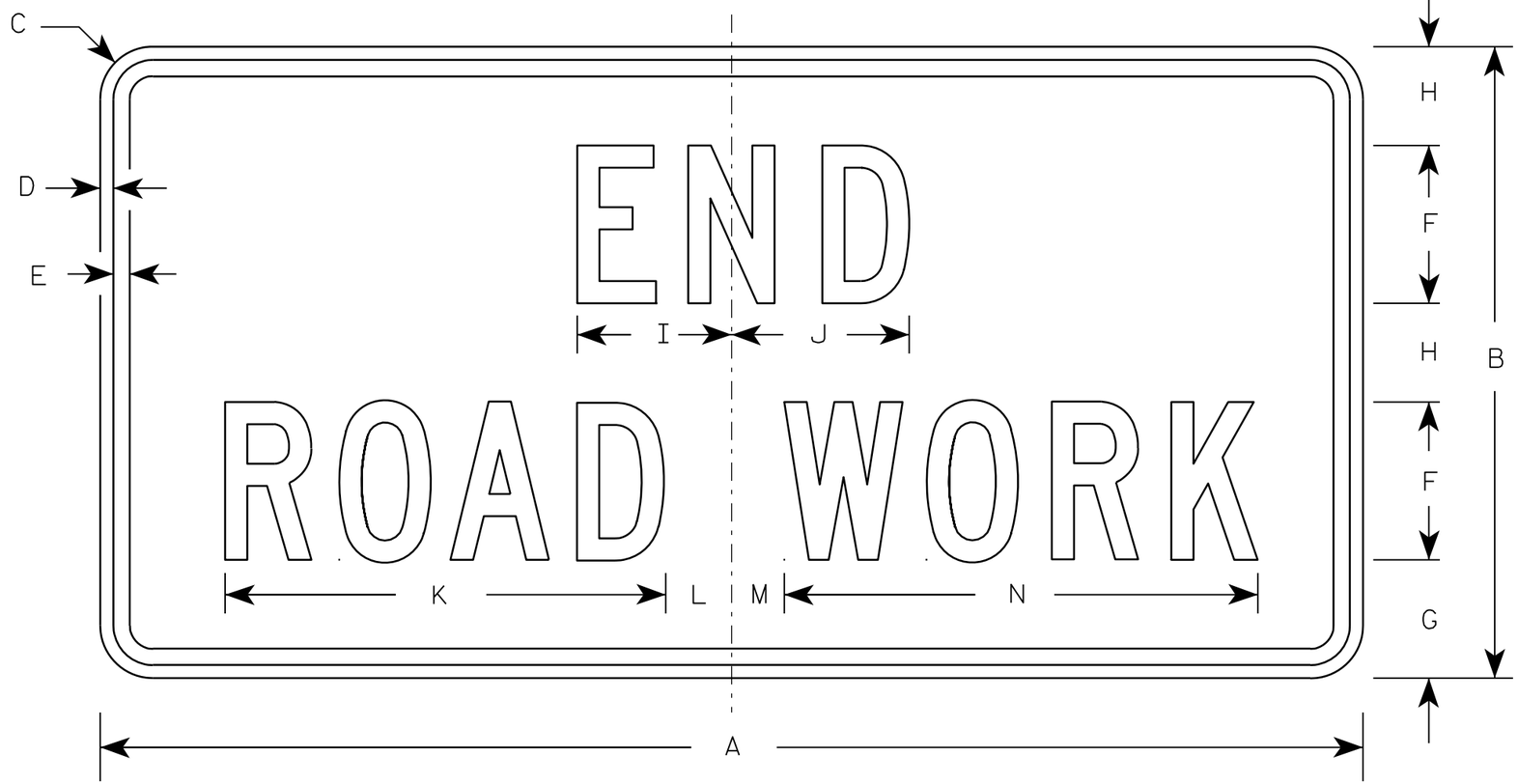
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO: | SHEET NO: 140 | E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

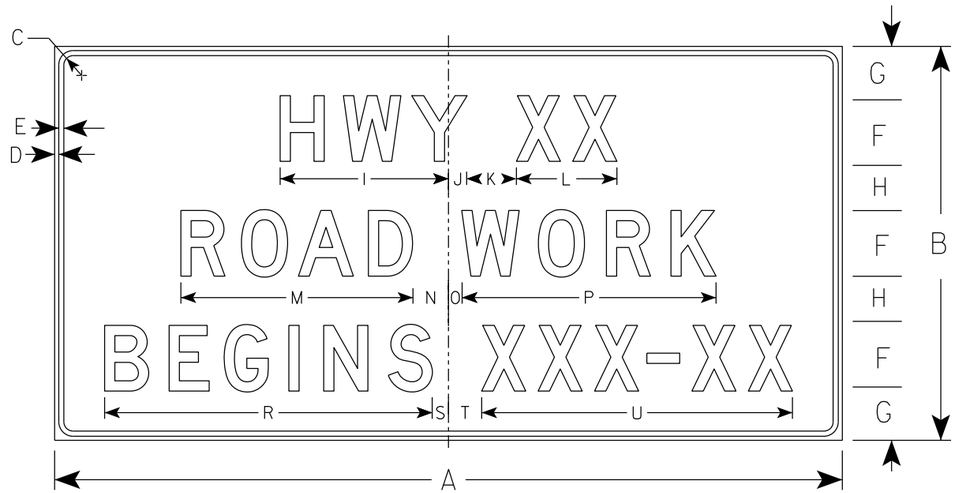
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 141	E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3	72	36	1 1/8	1/2	5/8	6	5	4	15 5/8	1 5/8	5	9 1/4	21 1/4	3 1/2	1 1/2	23 1/4		29 7/8	1 3/4	3 1/4	28 1/2						18.0
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	2 1/4	6	12 1/4	28 1/4	4 3/8	1 5/8	31		39 1/4	2	4	37 7/8						32.0
5																											

STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

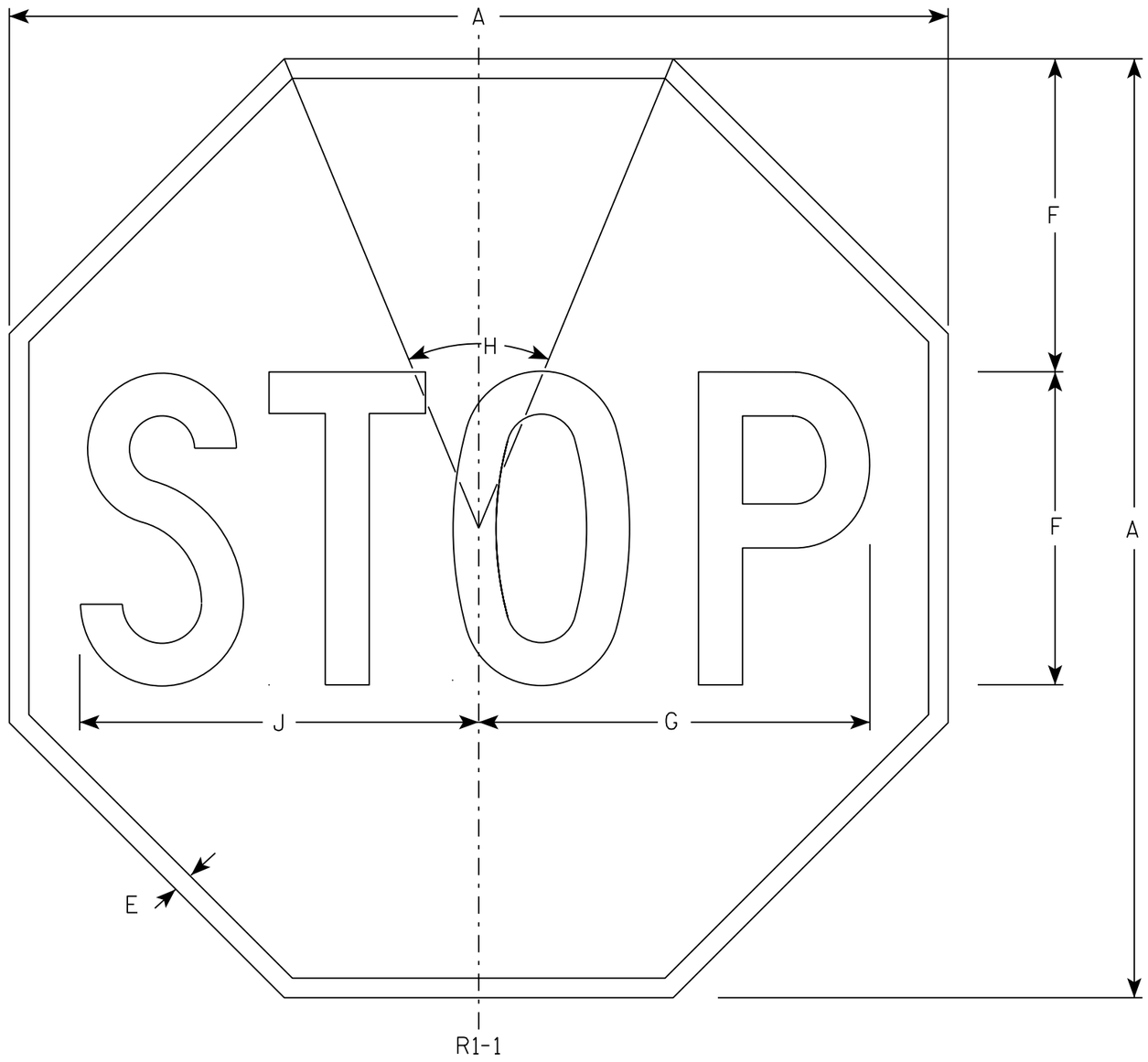
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/22/19 PLATE NO. G20-57.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 142 | E

7

7



NOTES

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

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

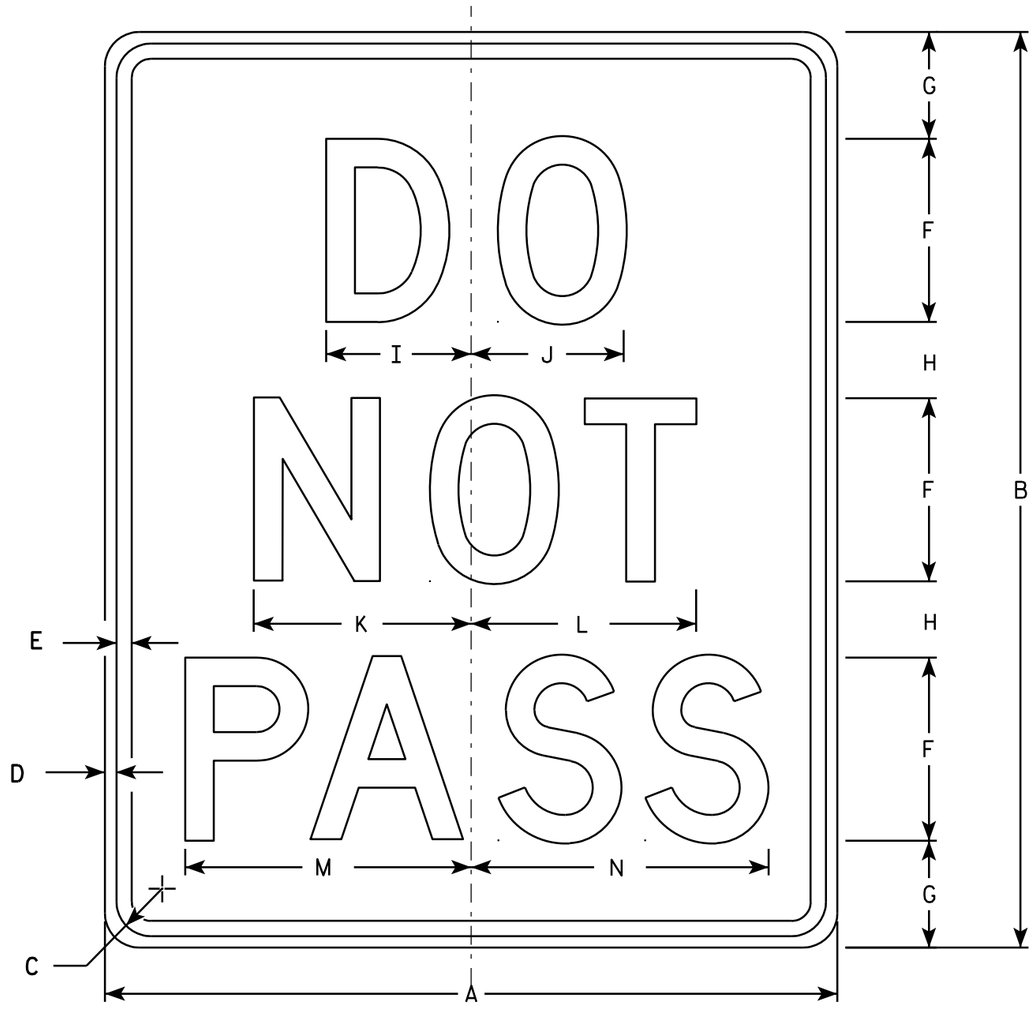
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 143	E



R4-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 1/8	3 1/4	4 3/4	4 7/8	6 1/4	6 1/2													3.0
2S	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
2M	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
3																											
4	36	48	1 5/8	5/8	3/4	8	7	5	6 1/4	6 5/8	9 1/2	9 3/4	12 1/2	13													12.0
5	48	60	2 1/4	3/4	1	10	8	7	7 3/4	8 3/8	11 7/8	12 1/4	15 5/8	16 1/4													20.0

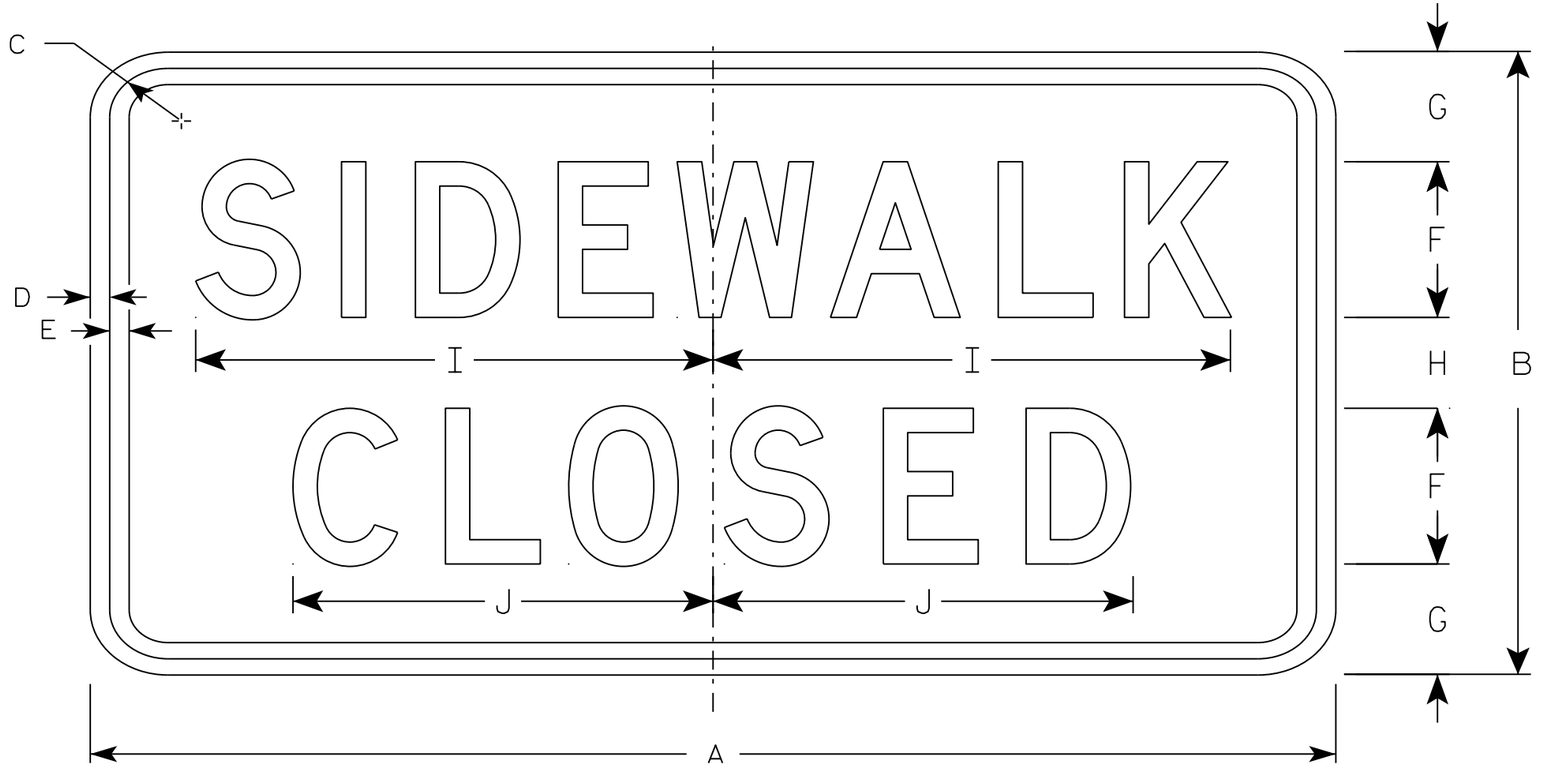
STANDARD SIGN
R4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-1.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 144 | E



R9-9

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

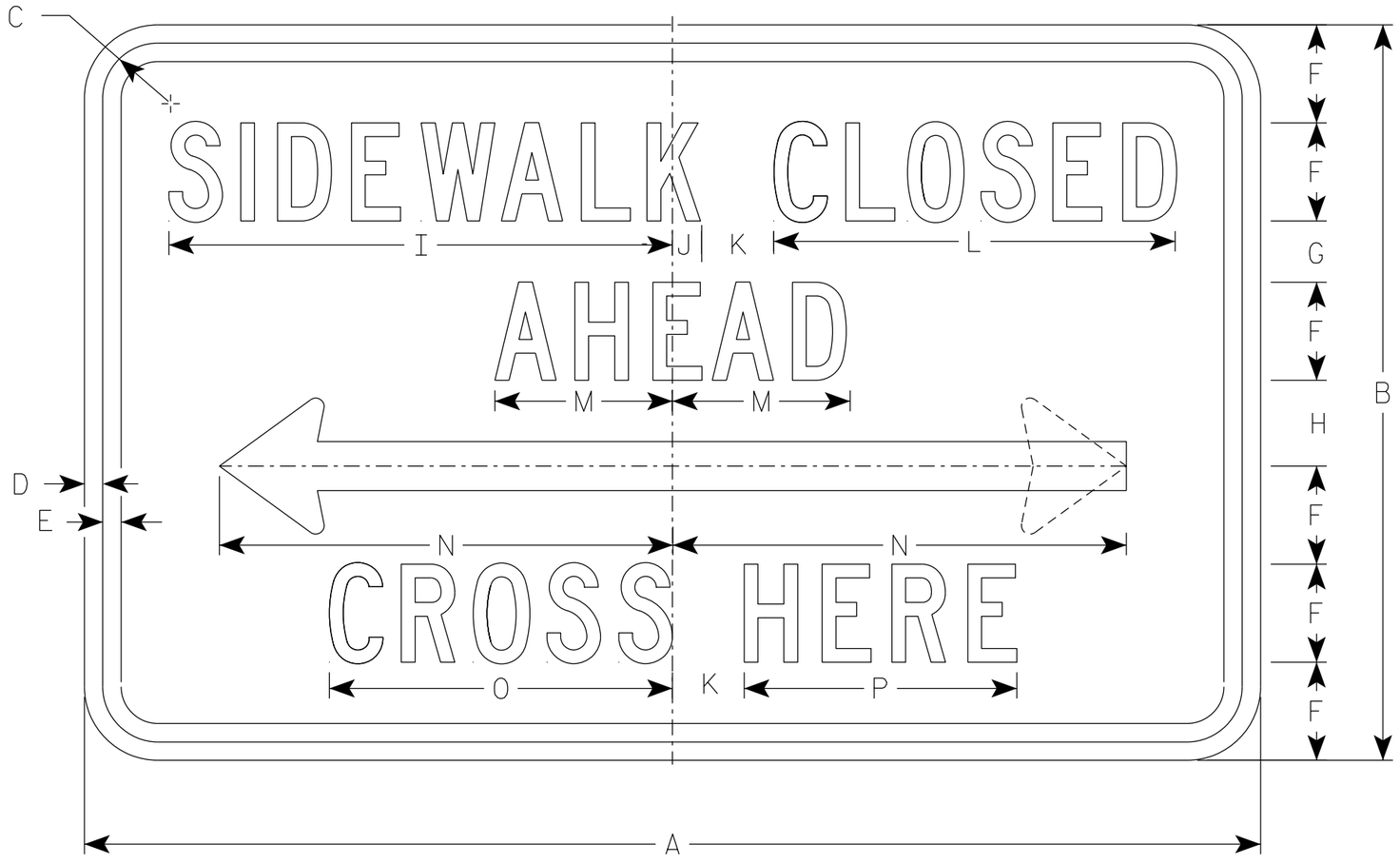
STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

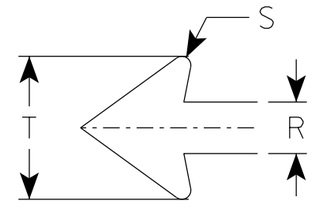
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 145 R9-9.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



R9-11



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C except Size 1 is Series D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.
6. R9-11 D (double arrow)
   R9-11 L (left arrow)
   R9-11 R (right arrow)

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/8	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

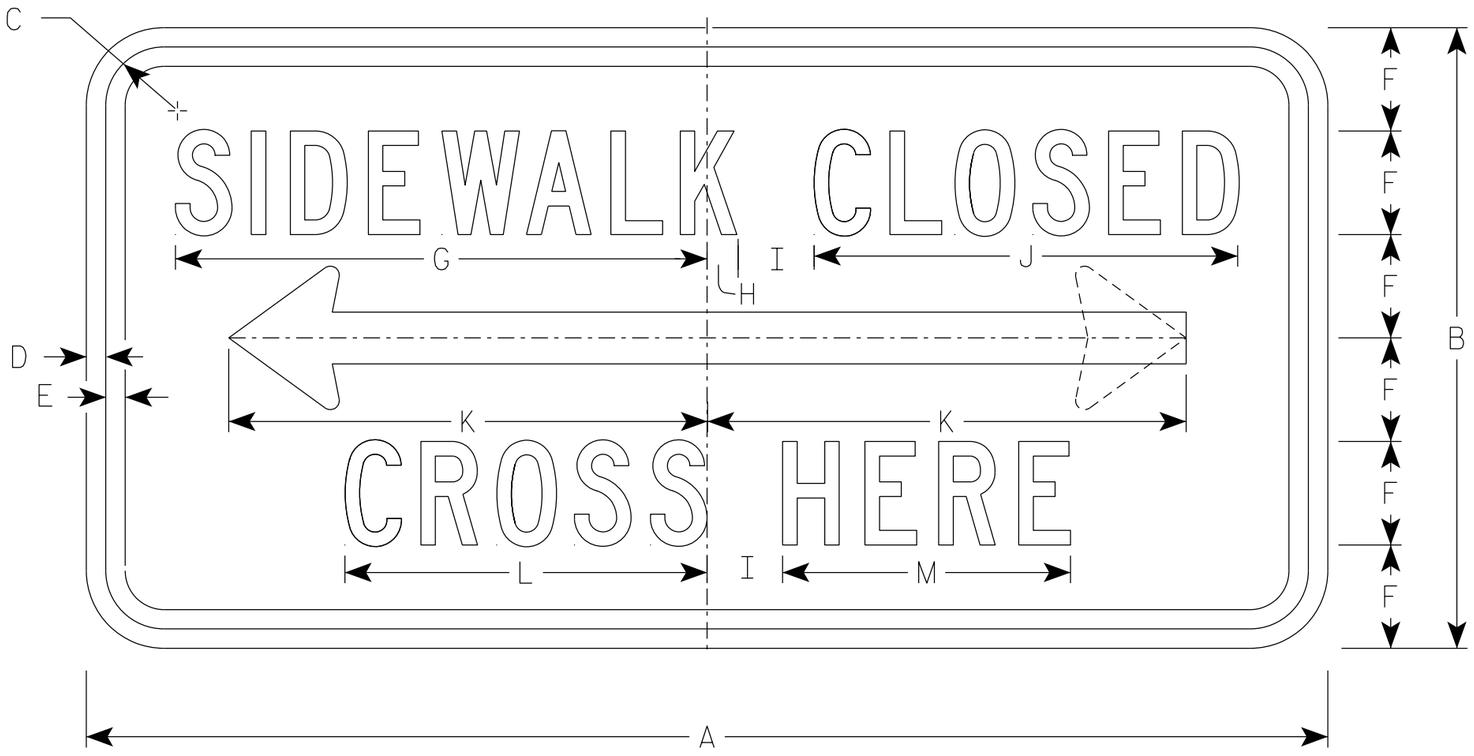
STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 3/30/2021 PLATE NO. R9-11.4

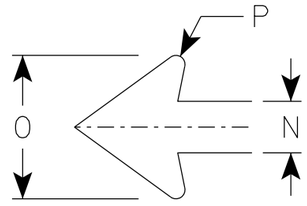
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 146 | E



R9-11A

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for paths and Trails.
6. R9-11AD (double arrow)
   R9-11AL (left arrow)
   R9-11AR (right arrow)



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	2	10 1/4	5/8	1 1/2	8 1/4	9 1/4	7	5 5/8	1	2 3/4	1/8											2.0
2M	24	12	1 1/8	3/8	3/8	2	10 1/4	5/8	1 1/2	8 1/4	9 1/4	7	5 5/8	1	2 3/4	1/8											2.0
3	30	15	1 1/8	3/8	1/2	2 1/2	12 3/4	1/2	2	10 1/4	12 3/8	8 5/8	6 3/4	1 1/4	3 5/8	1/4											3.125
4																											
5																											

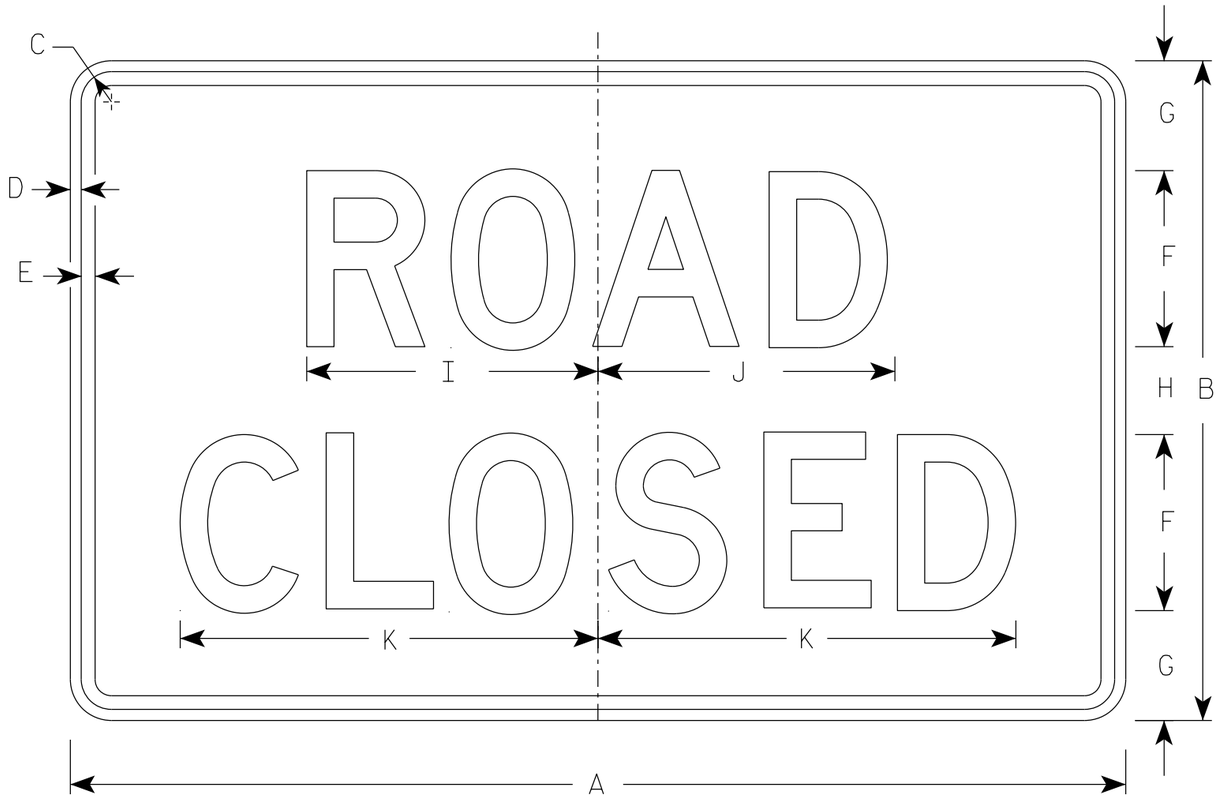
STANDARD SIGN
R9-11A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2021 PLATE NO. R9-11A.5

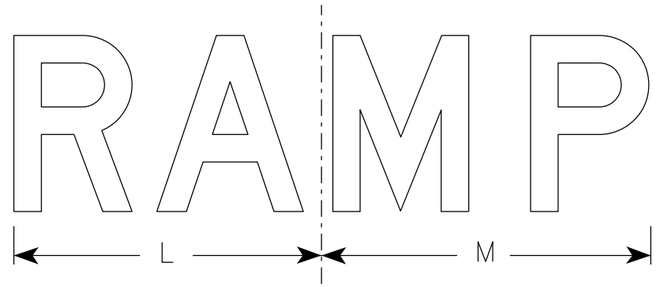
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 147 | E



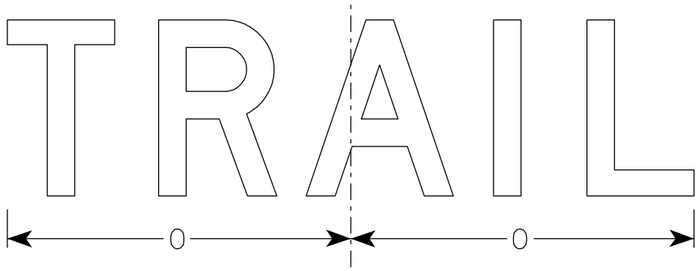
R11-2

NOTES

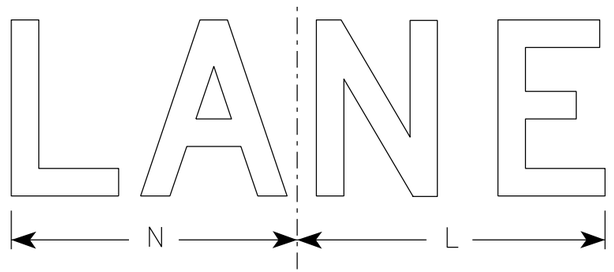
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

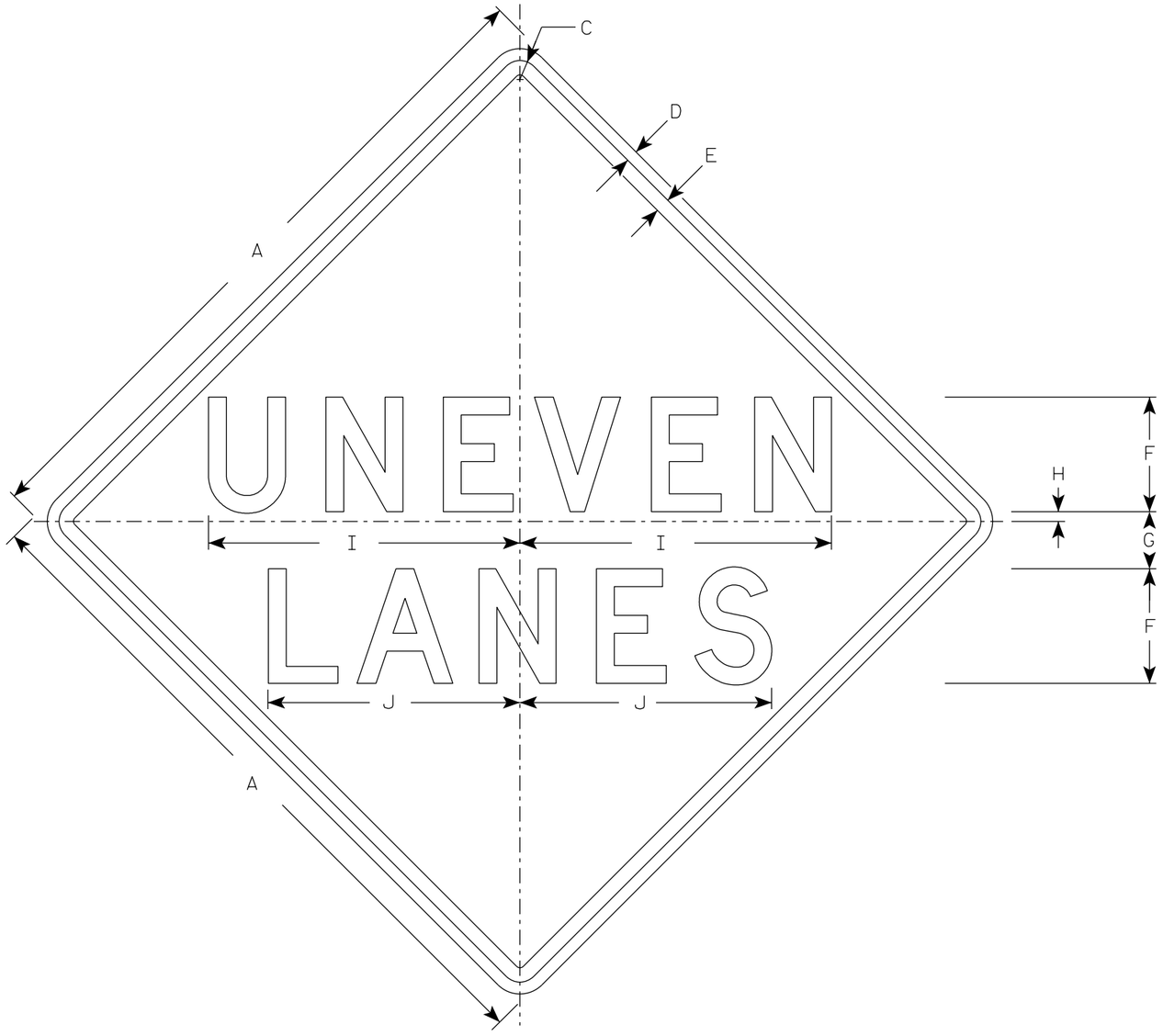
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112.dgn PLOT DATE : 29-MAR 2021 8:15 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7



W8-11

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	3	1/2	16 3/8	13 1/4																	9.0
2S	48		2 1/4	3/4	1	8	4	1	21 3/4	17 5/8																	16.0
2M	48		2 1/4	3/4	1	8	4	1	21 3/4	17 5/8																	16.0
3	48		2 1/4	3/4	1	8	4	1	21 3/4	17 5/8																	16.0
4	48		2 1/4	3/4	1	8	4	1	21 3/4	17 5/8																	16.0
5	48		2 1/4	3/4	1	8	4	1	21 3/4	17 5/8																	16.0

STANDARD SIGN
W8-11

WISCONSIN DEPT OF TRANSPORTATION

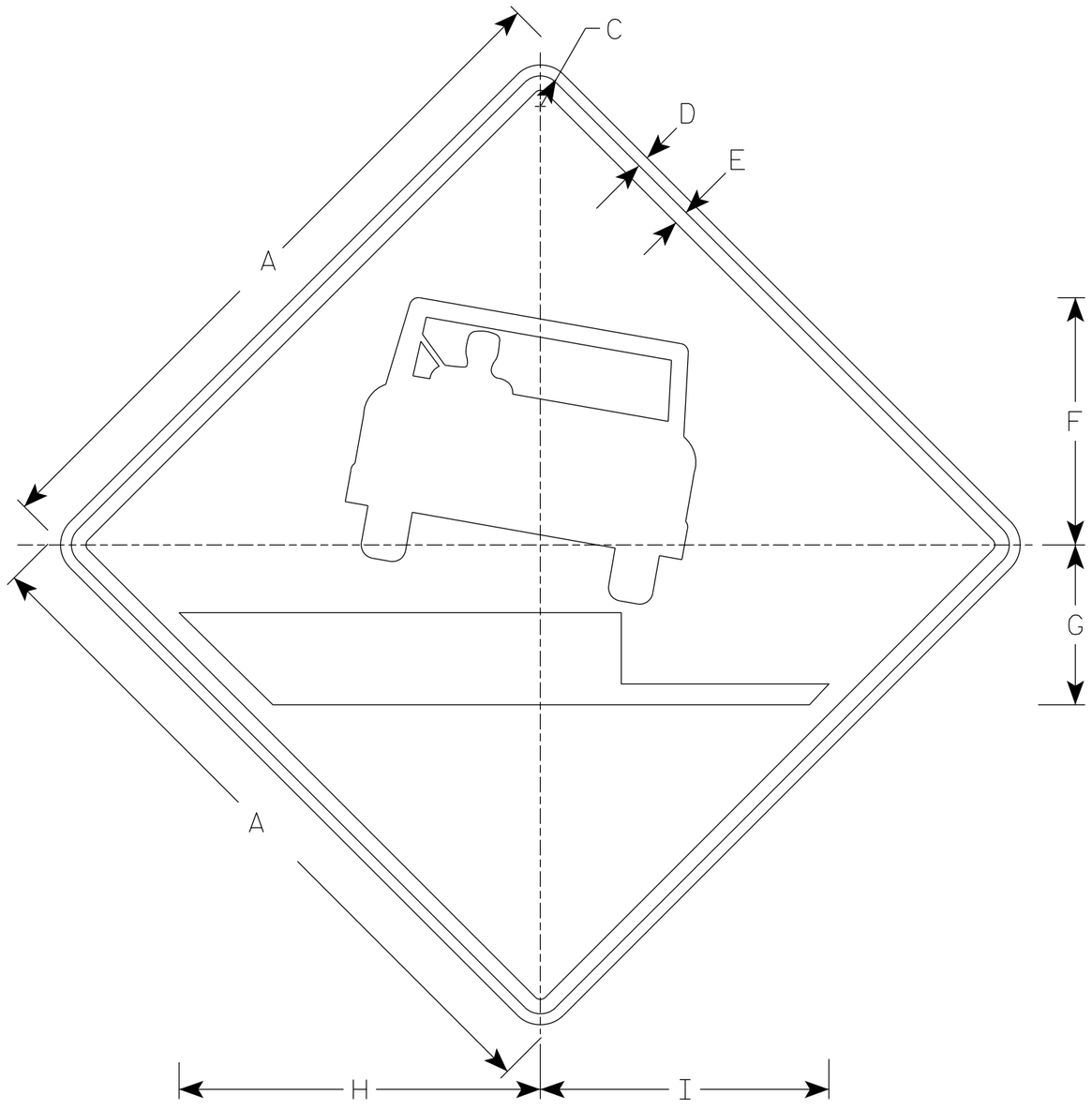
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/20/2020 PLATE NO. W8-11.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W811.dgn PLOT DATE : 20-APRIL 2020 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7



W8-17

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12 3/4	8 1/4	18 5/8	14 7/8																		9.0
2S	48		2 1/4	3/4	1	17	11	24 7/8	19 7/8																		16.0
2M	48		2 1/4	3/4	1	17	11	24 7/8	19 7/8																		16.0
3	48		2 1/4	3/4	1	17	11	24 7/8	19 7/8																		16.0
4	48		2 1/4	3/4	1	17	11	24 7/8	19 7/8																		16.0
5	48		2 1/4	3/4	1	17	11	24 7/8	19 7/8																		16.0

STANDARD SIGN
W8-17

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/16/2020 PLATE NO. W8-17.2

PROJECT NO:

SHEET NO: 150 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W817.dgn

PLOT DATE : 16-APRIL 2020

PLOT BY : dotc4c

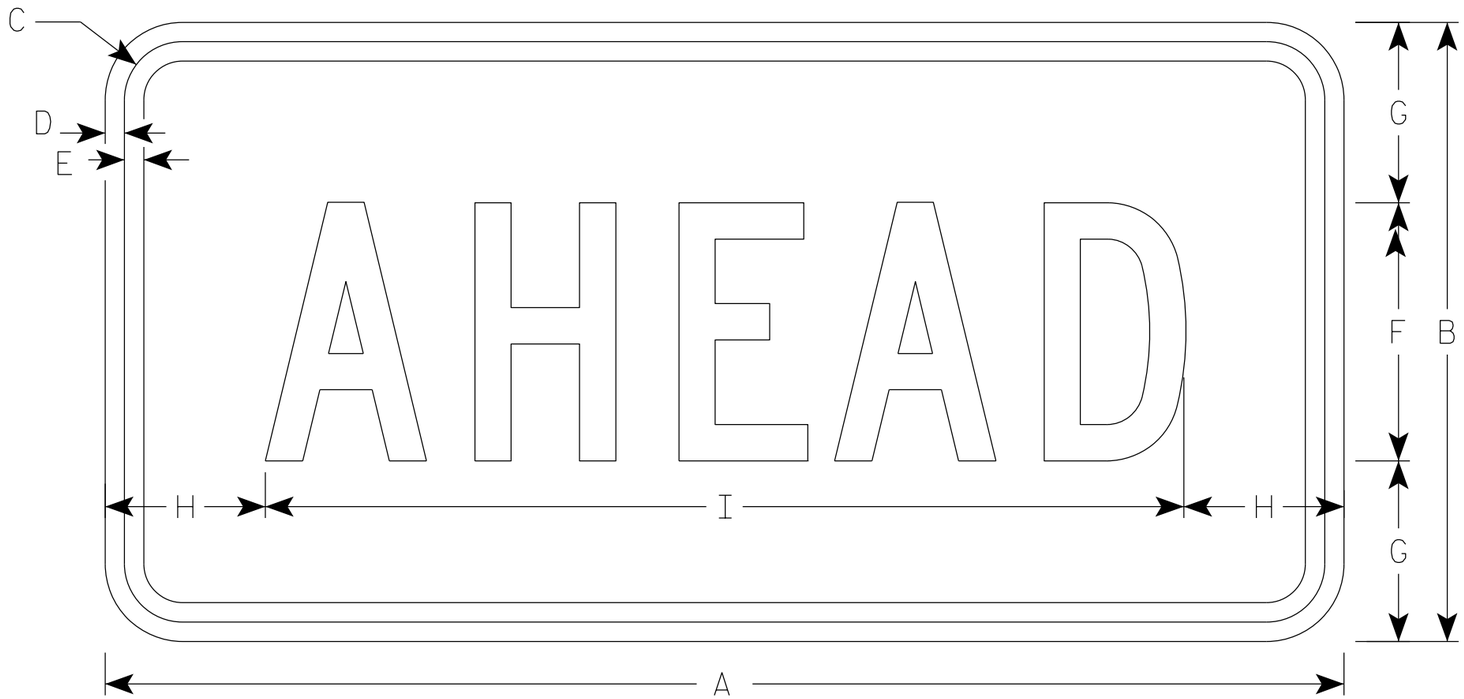
WISDOT/CADDS SHEET 42

7

7

NOTES

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



W16-9P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

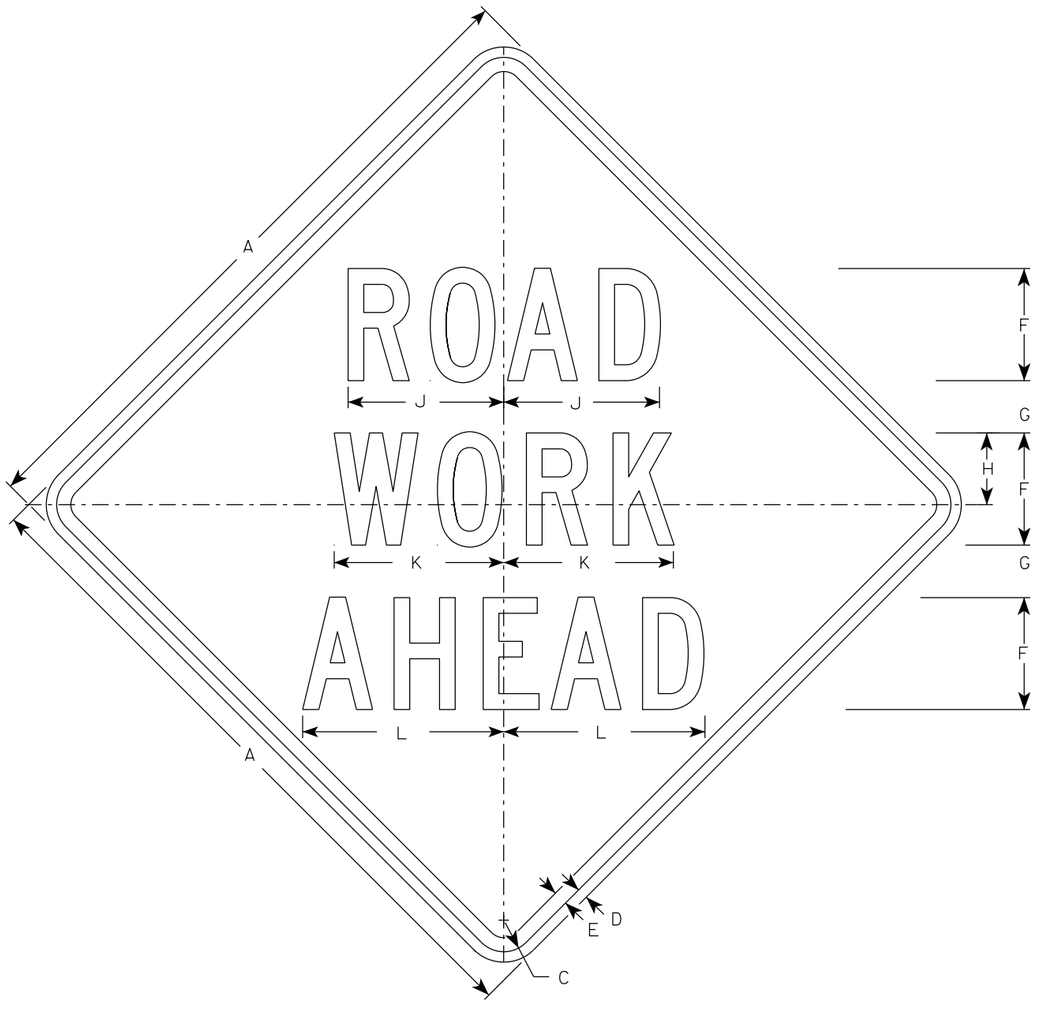
STANDARD SIGN
W16-9P

WISCONSIN DEPT OF TRANSPORTATION

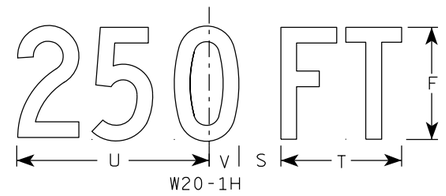
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/7/19 PLATE NO. W16-9P.7

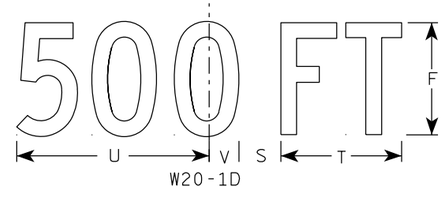
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 151 E



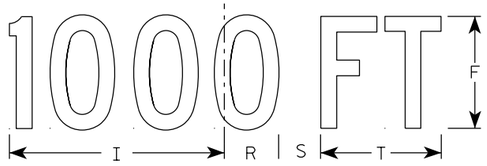
W20-1A



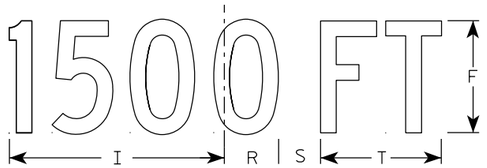
W20-1H



W20-1D



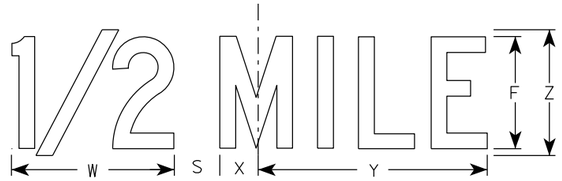
W20-1C



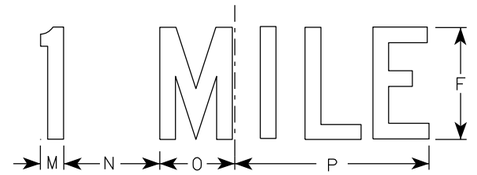
W20-1B

NOTES

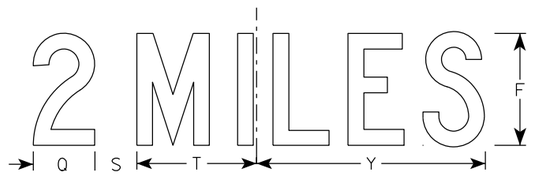
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

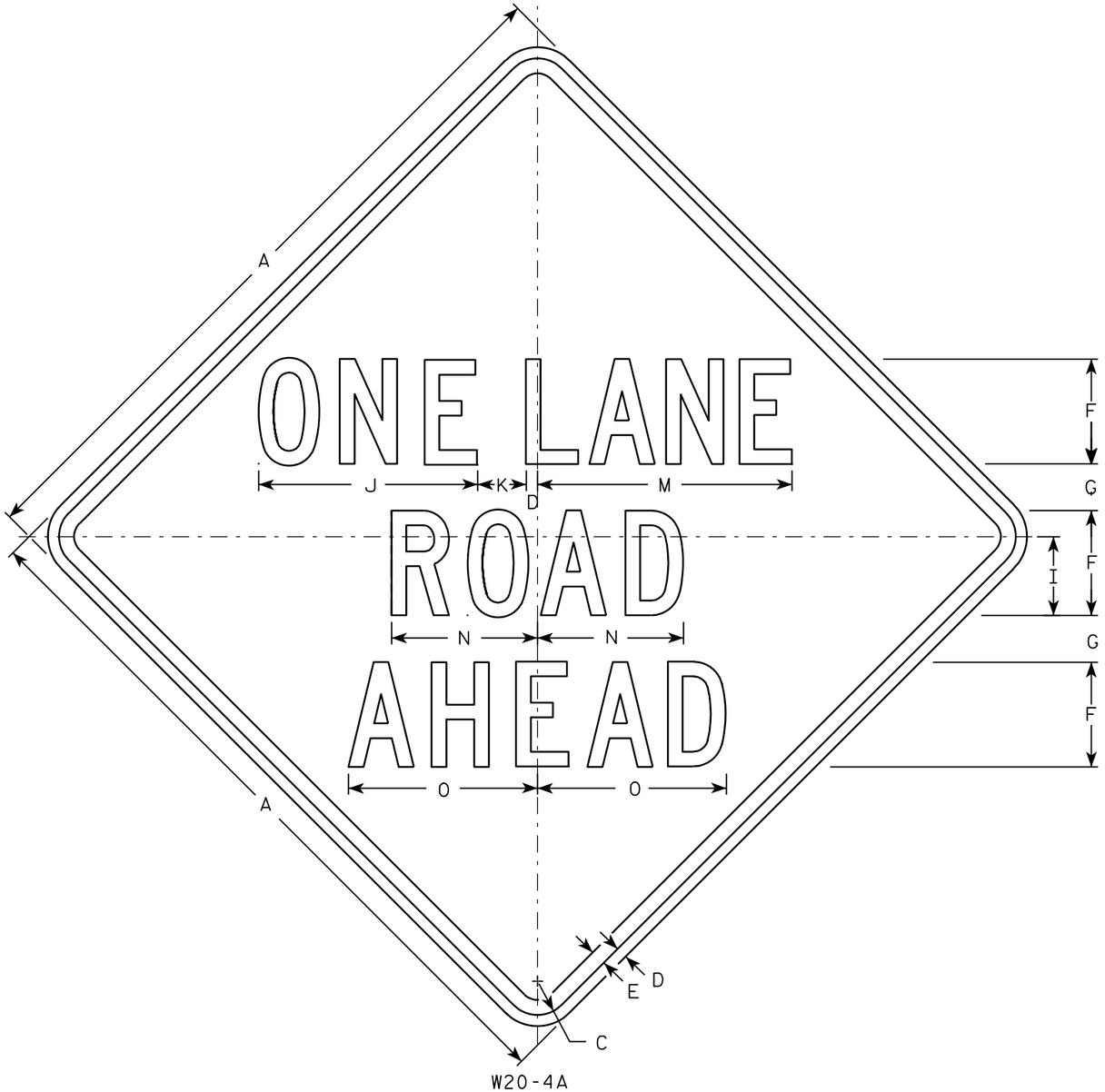
WISCONSIN DEPT OF TRANSPORTATION

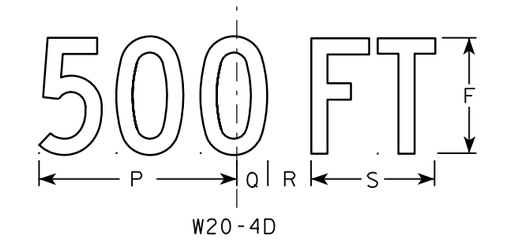
APPROVED Matthew R Rauch
for State Traffic Engineer

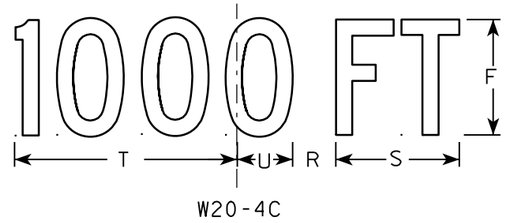
DATE 3/25/2020 PLATE NO. W20-1.11

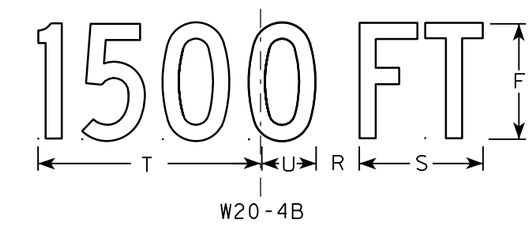
PROJECT NO:

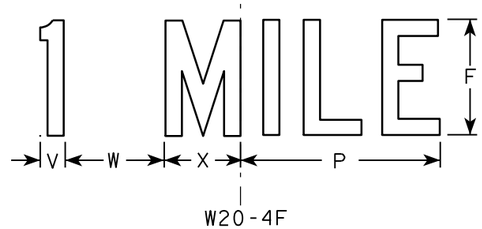
SHEET NO: E











NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

STANDARD SIGN
W20-4A, B, C, D, F & G

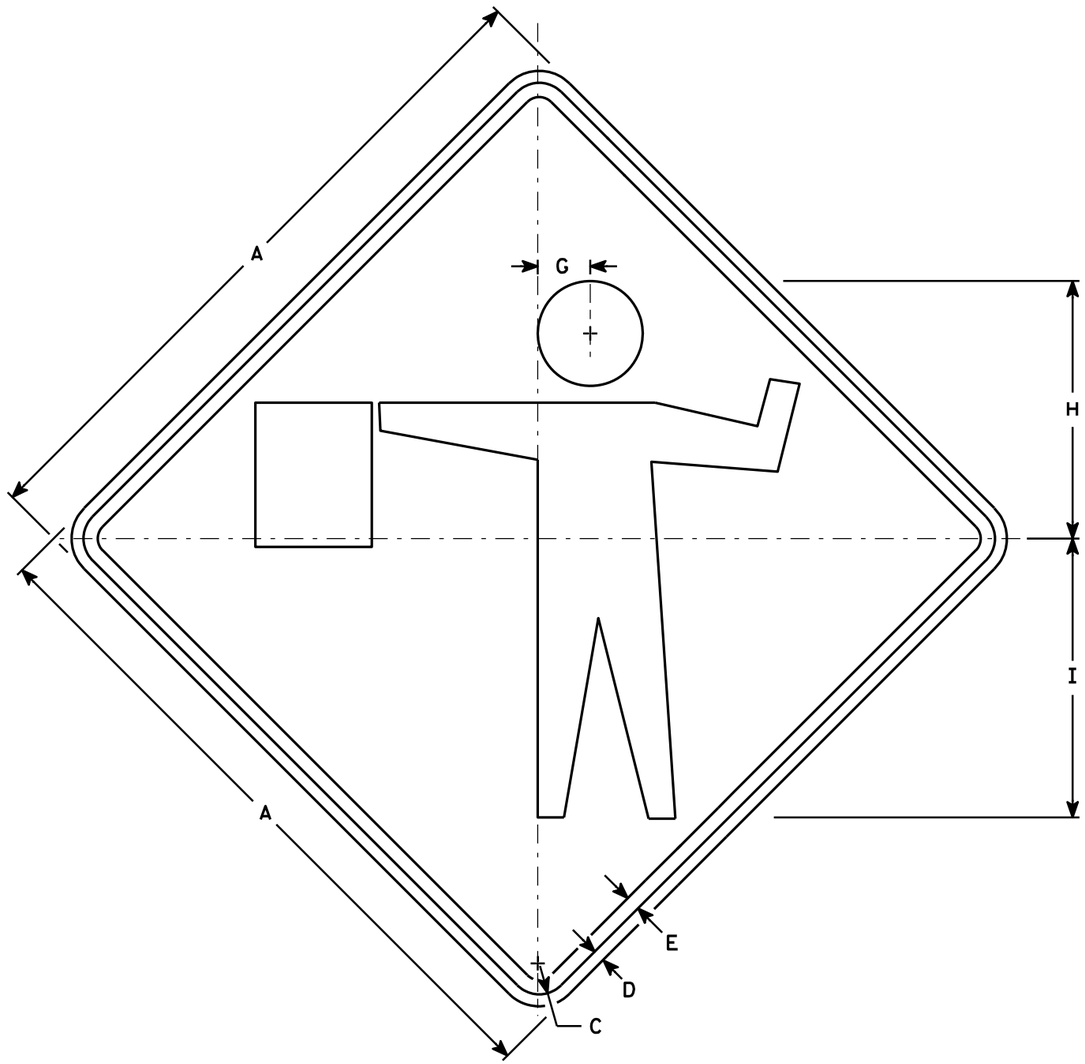
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-4.9

PROJECT NO:

SHEET NO: 153 E



W20-7A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4		2 3/4	13 1/2	14 5/8																		9.00
2S	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
2M	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
3	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
4	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00
5	48		2 1/4	3/4	1		3 3/4	18	19 1/2																		16.00

STANDARD SIGN
W20-7A

WISCONSIN DEPT OF TRANSPORTATION

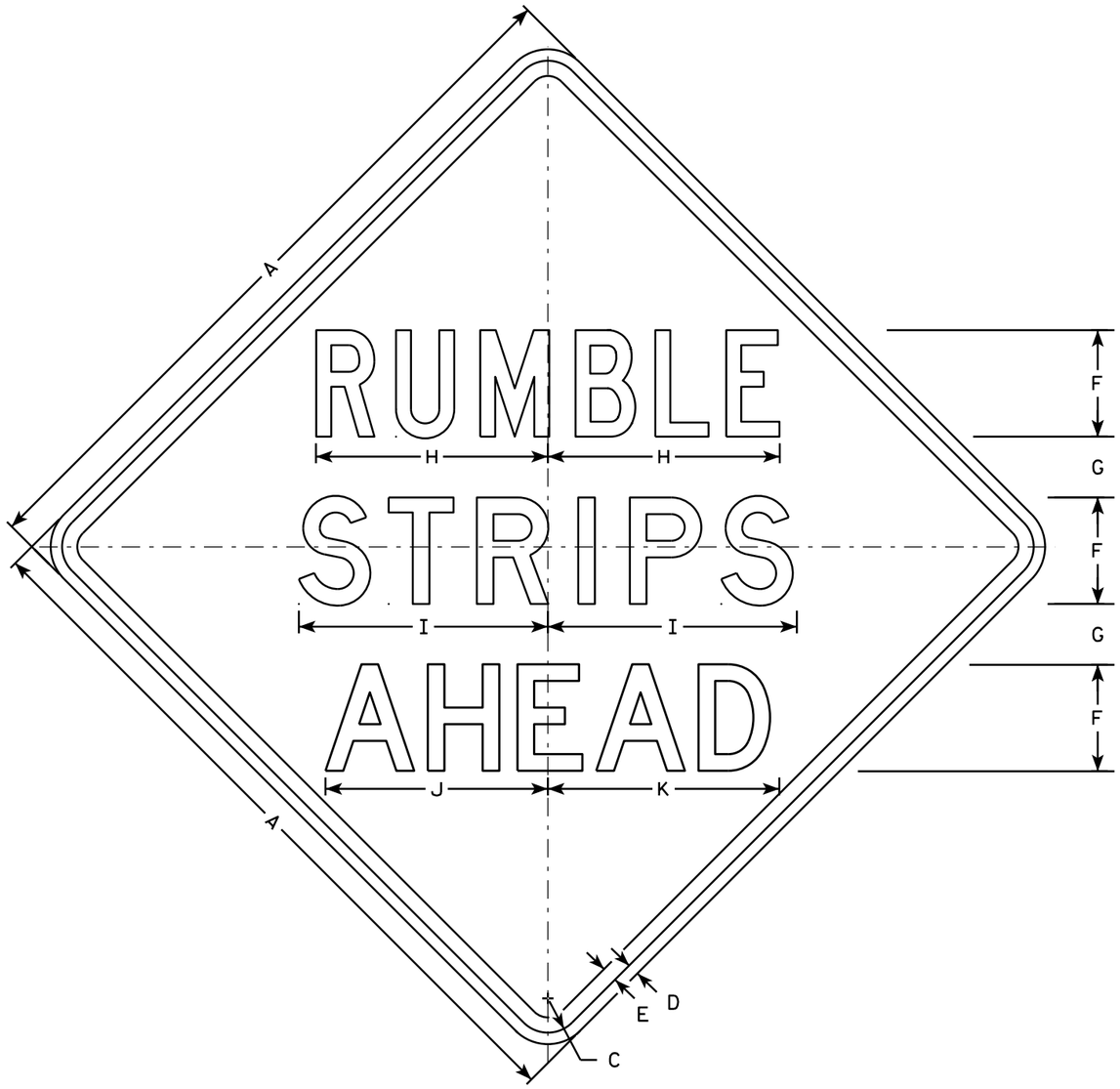
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-7A.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 154 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W207A.DGN PLOT DATE : 18-MAR-2011 13:14 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 7.945391:1.000000 WISDOT/CADDS SHEET 42



W21-65

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 1/4	10 7/8	11 5/8	11	11 5/8																9.0
2S	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
2M	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
3	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
4	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0
5	48		2 1/4	3/4	1	7	4	15 1/4	16 3/8	14 5/8	15 1/4																16.0

STANDARD SIGN

W21-65

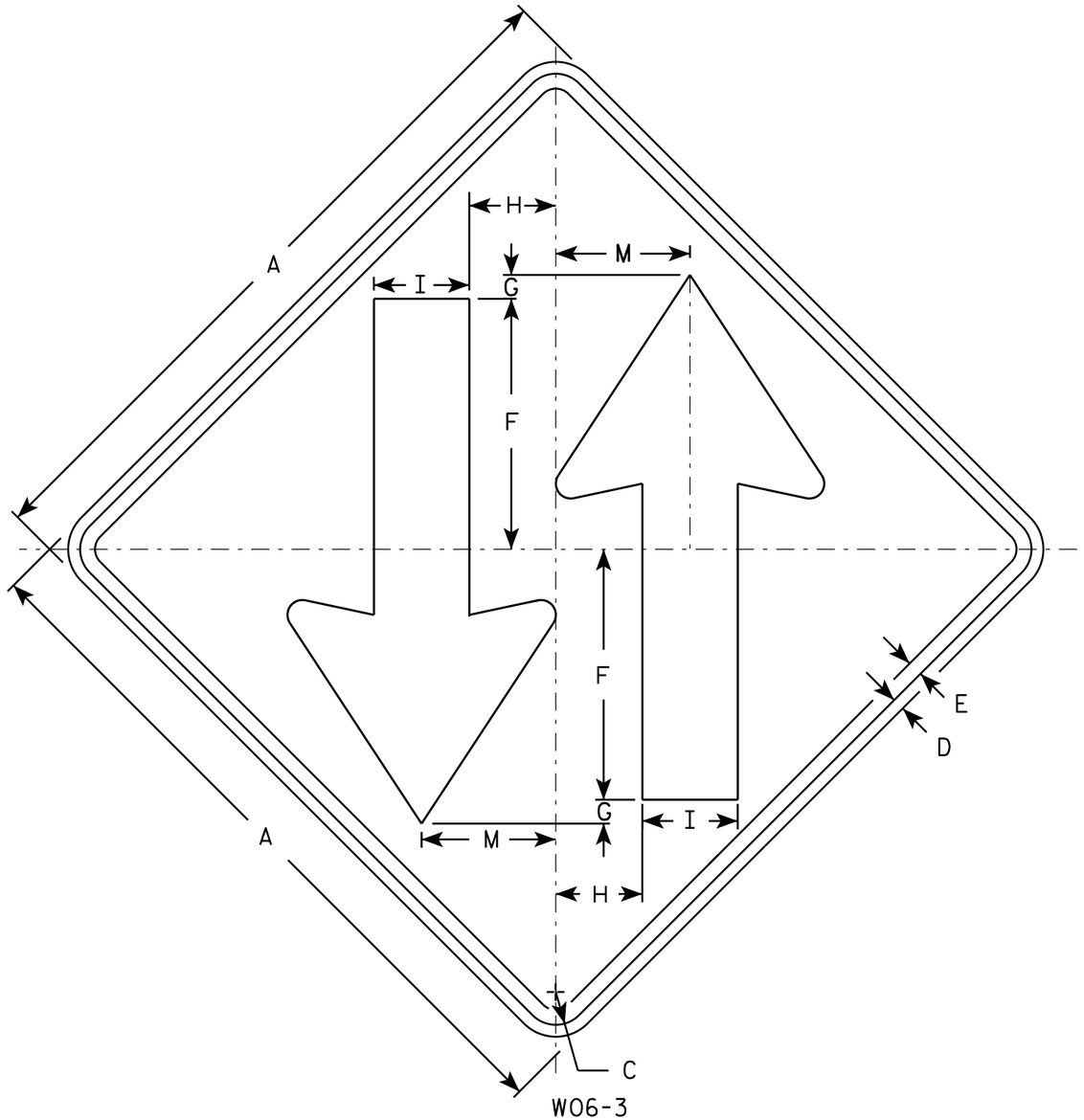
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/28/14 PLATE W21-65.1

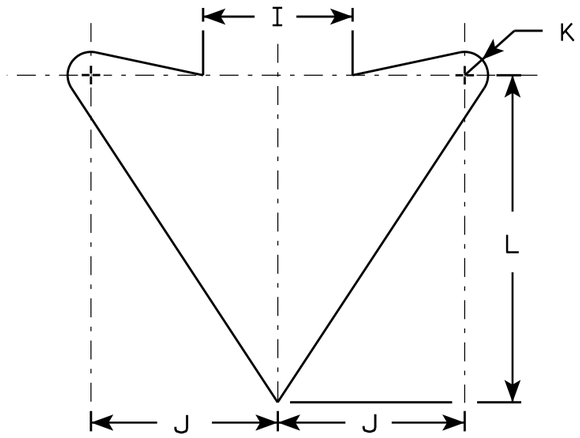
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W2165.dgn PLOT DATE : 28-MAY-2014 13:24 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 9.729210:1.000000 WISDOT/CADDS SHEET 42



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



ARROW DETAIL

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

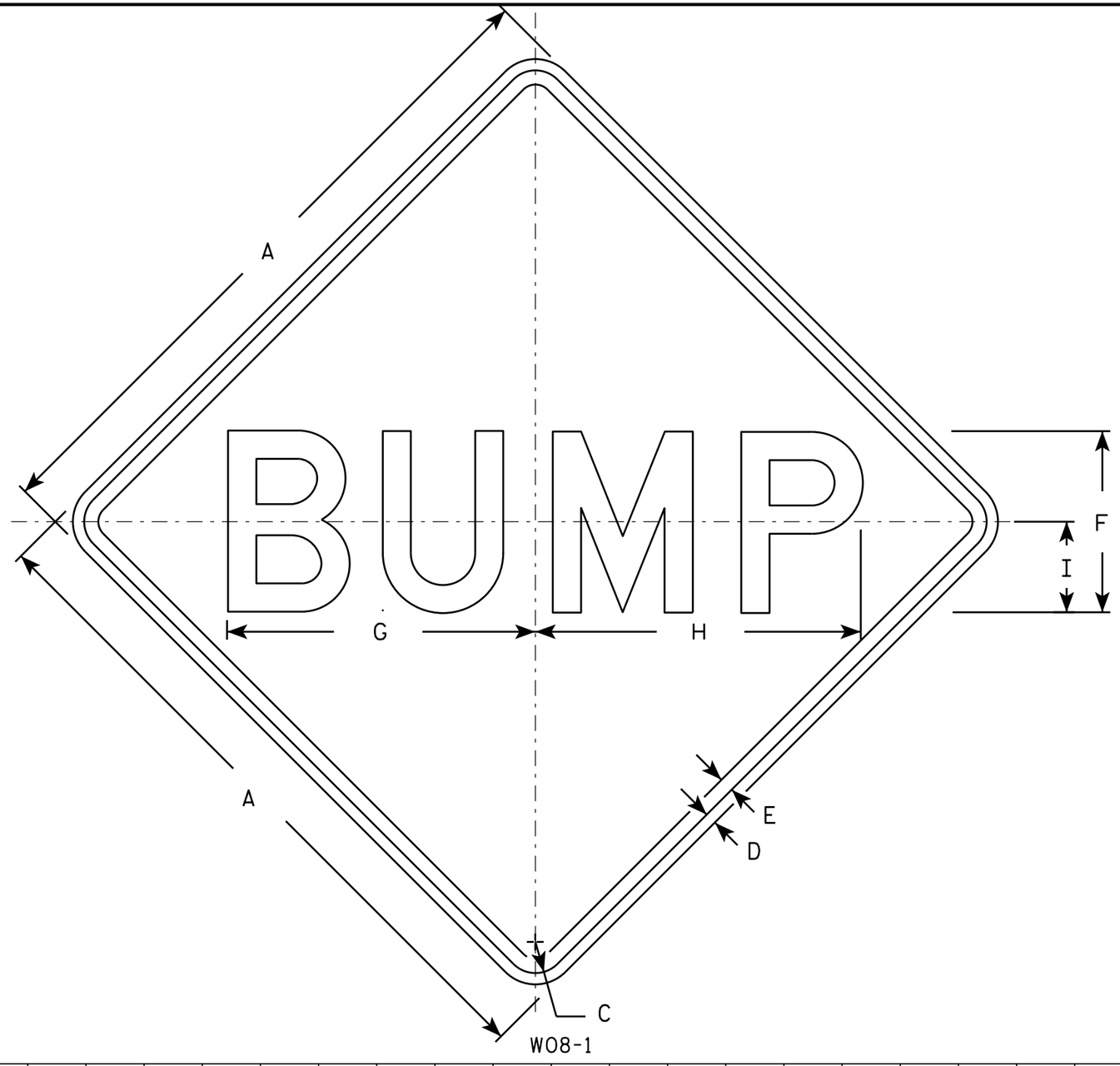
STANDARD SIGN
W06-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 156 W06-3.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	10	16 7/8	17 7/8	5																		9.0
2S	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
2M	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
3	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
4	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0
5	48		2 1/4	3/4	1	12	20 3/8	21 5/8	6																		16.0

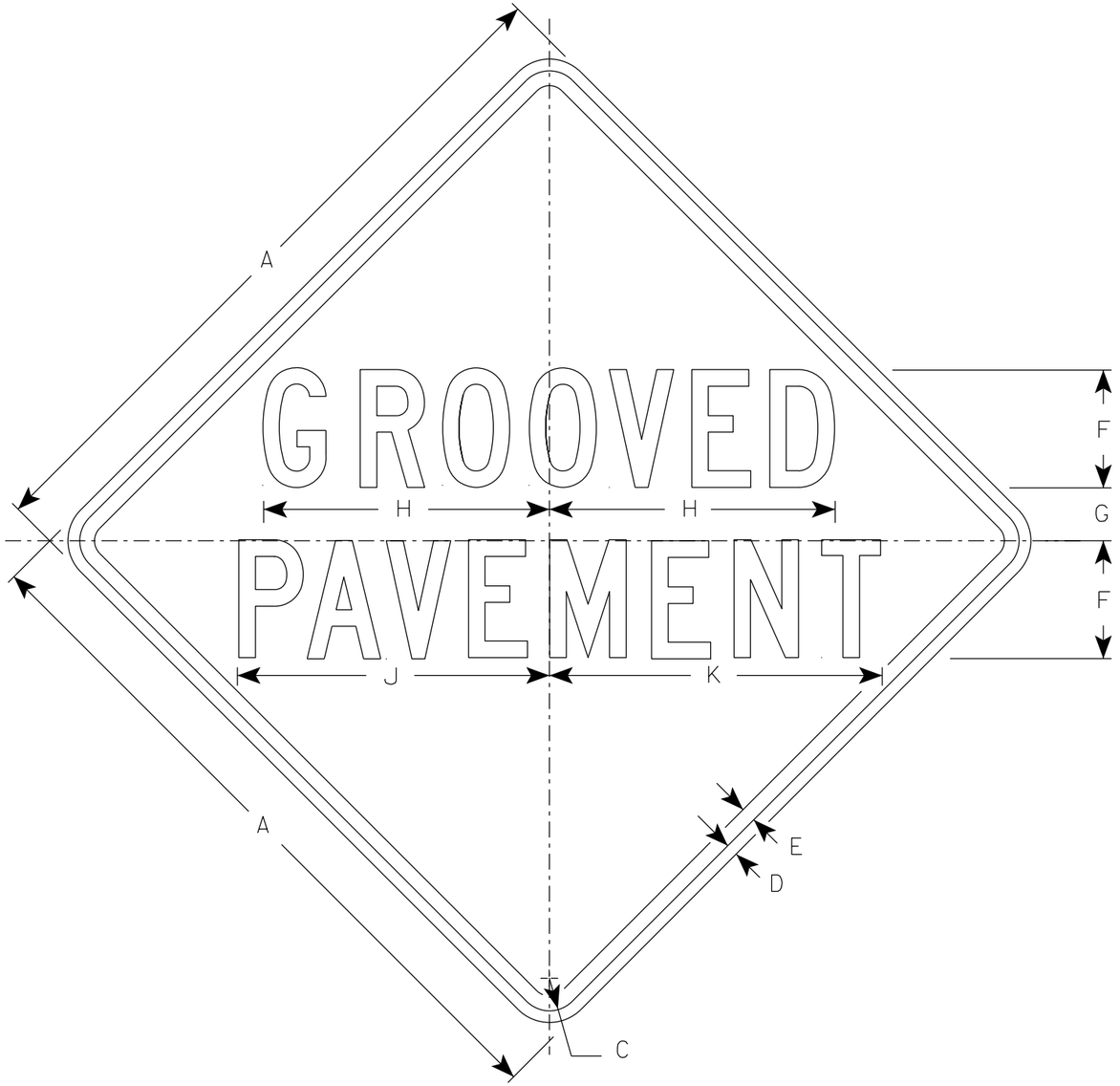
STANDARD SIGN
W08-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W08-1.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



W08-15

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	2 5/8	14 1/2		15 7/8	17																9.0
2S	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
2M	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
3	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
4	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0
5	48		2 1/4	3/4	1	8	3 1/2	19 3/8		21 1/4	22 5/8																16.0

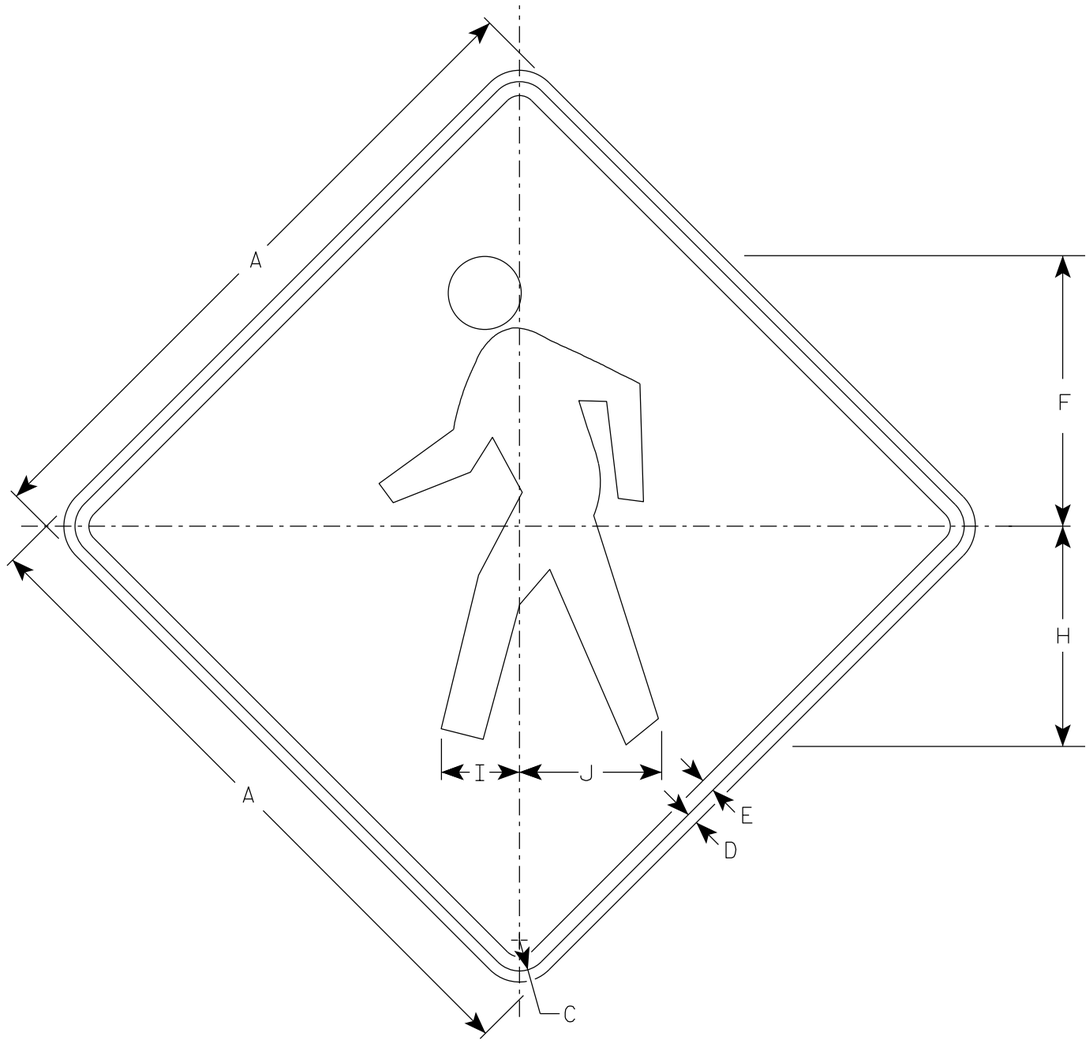
STANDARD SIGN
W08-15

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/16/2020 PLATE NO. W08-15.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 158 | E



WO11-2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

STANDARD SIGN

WO11-2

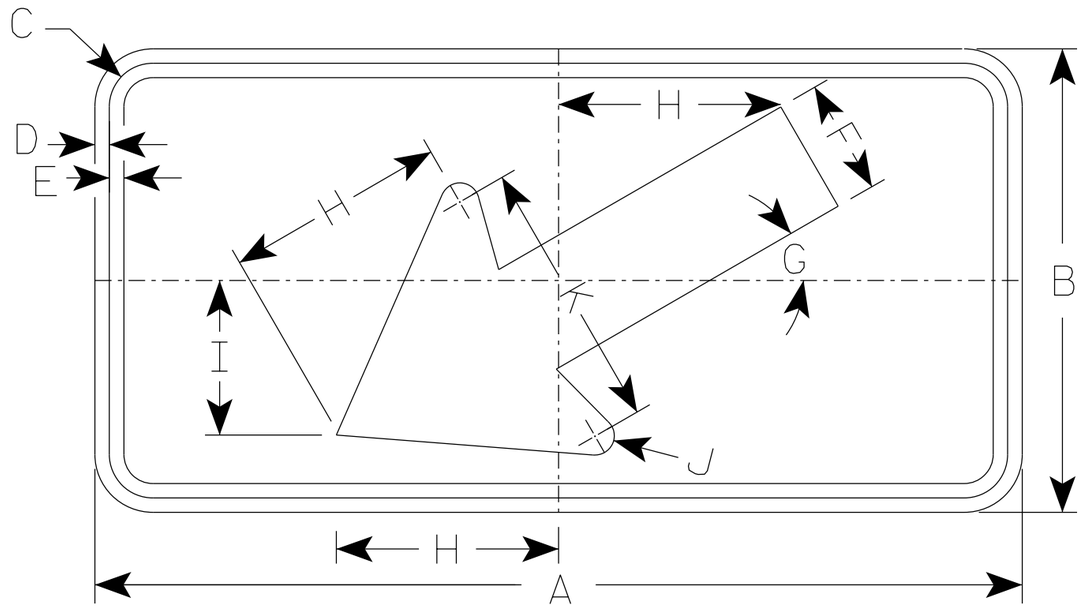
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 4/8/2020 PLATE NO. WO11-2.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 159	E



W016-7L

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded but corners shall be rounded when base material is metal.
4. W016-7R is the same as W016-L except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/8	3/8	1/2	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2S	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
2M	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
3	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
4	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
5	48	24	1 3/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0

STANDARD SIGN
W016-7

WISCONSIN DEPT OF TRANSPORTATION

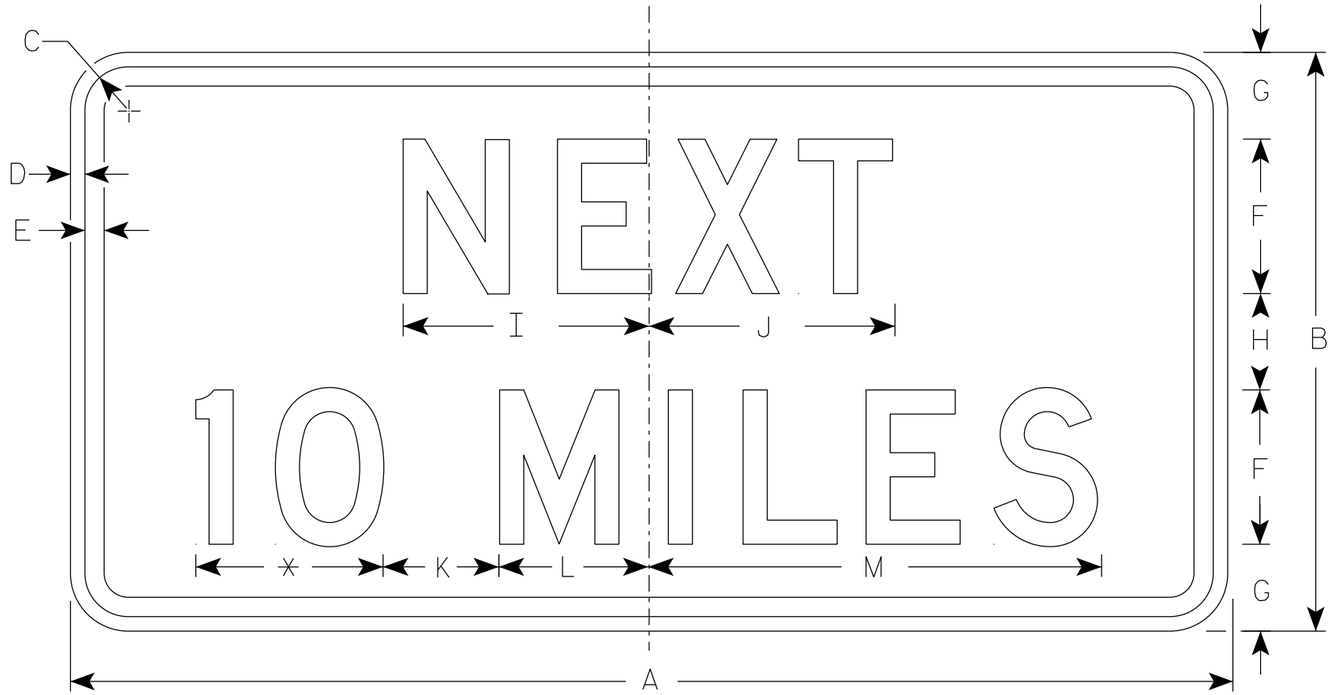
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/2021 PLATE NO. W016-7.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 160 E

7

7



W057-51

* See note 5

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Round distance to the nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 3/4	2 1/2	7 7/8	8	5	4 1/8	15 3/8														4.5
2S	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
2M	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
3	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
4	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
5	48	24	1 3/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0

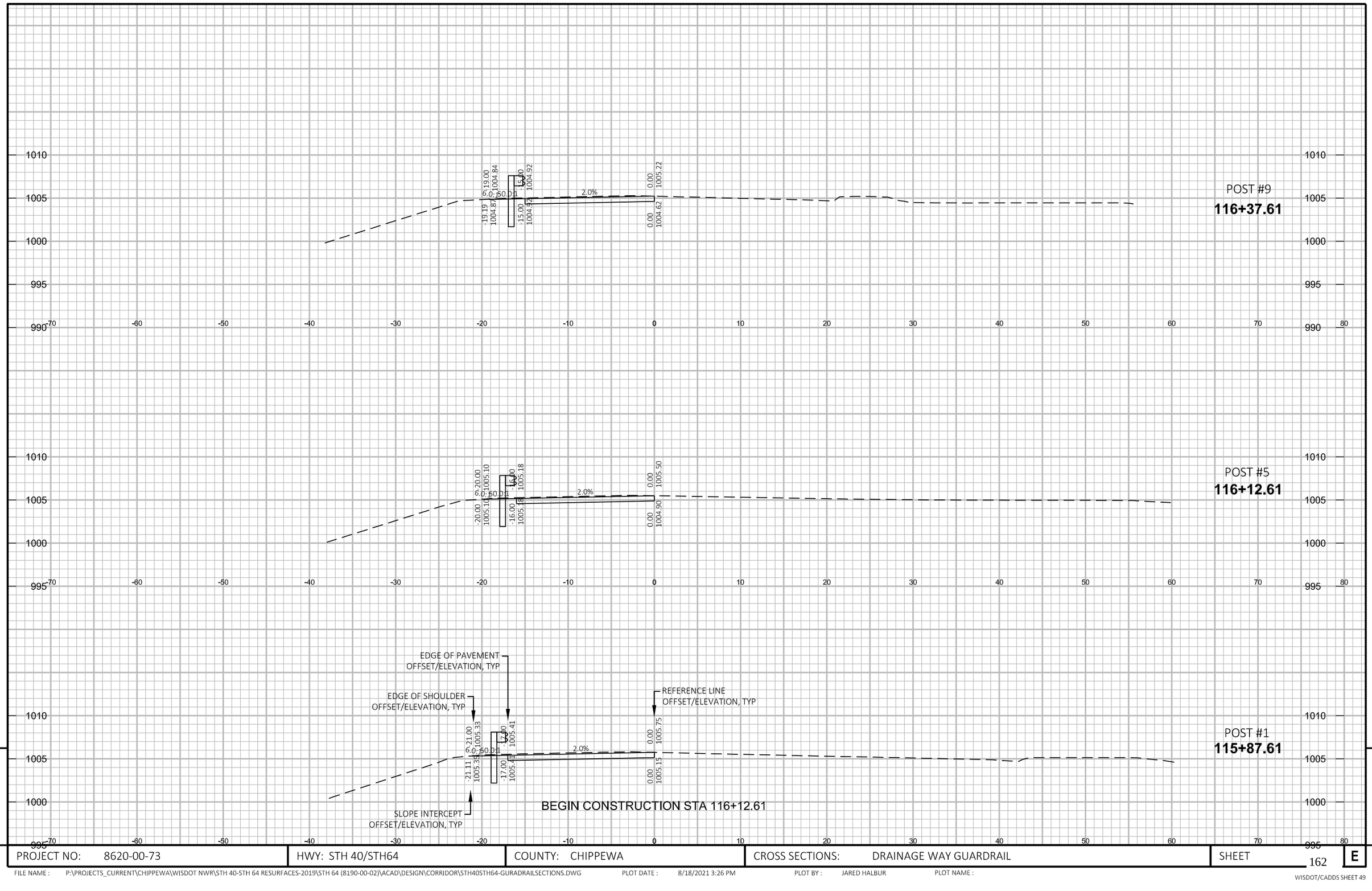
STANDARD SIGN
W057-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/1/19 PLATE NO. W057-51.3

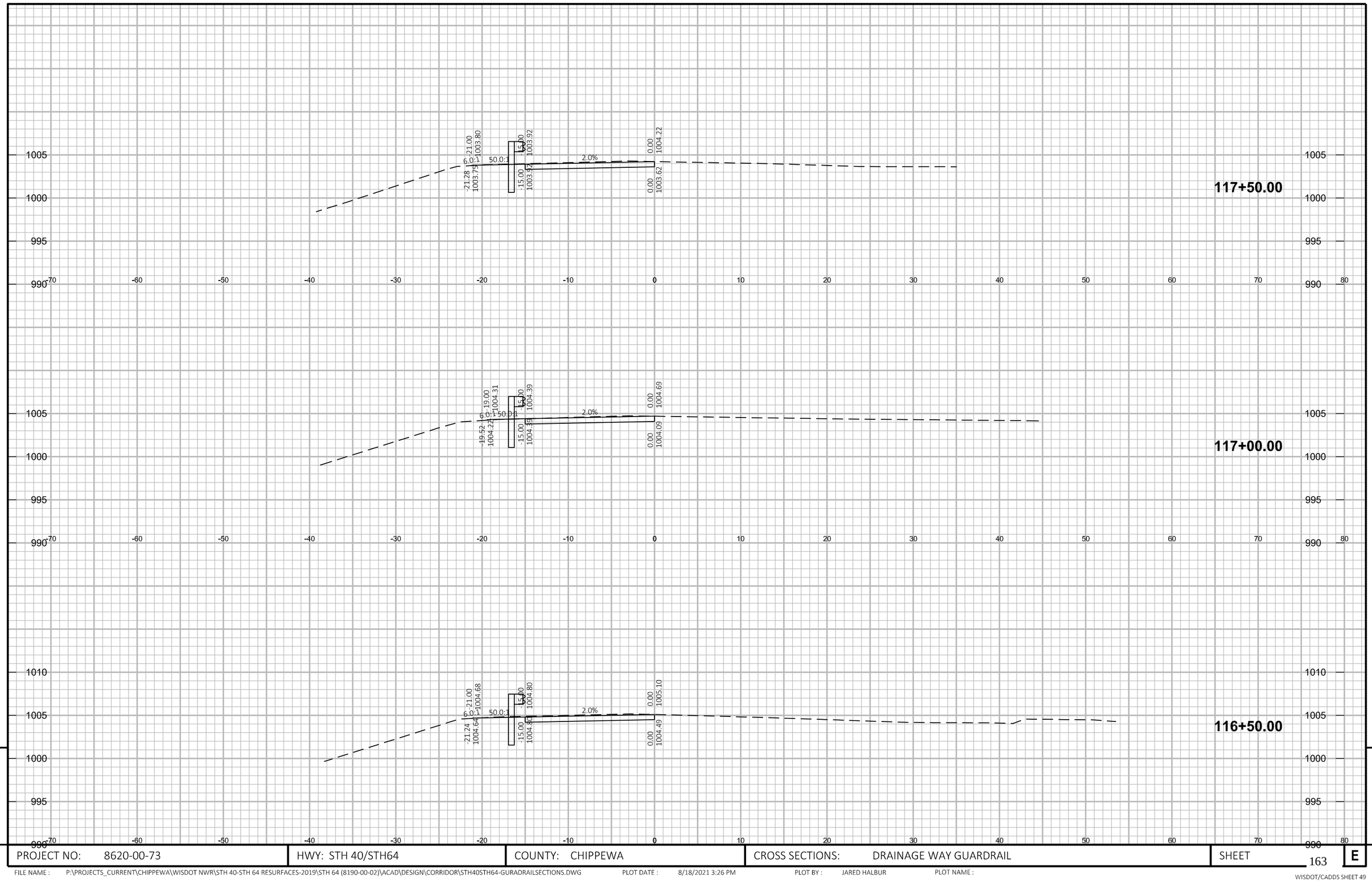
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 161 | E



PROJECT NO: 8620-00-73	HWY: STH 40/STH64	COUNTY: CHIPPEWA	CROSS SECTIONS: DRAINAGE WAY GUARDRAIL	SHEET 162	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-GURADRAILSECTIONS.DWG PLOT DATE : 8/18/2021 3:26 PM PLOT BY : JARED HALBUR PLOT NAME :

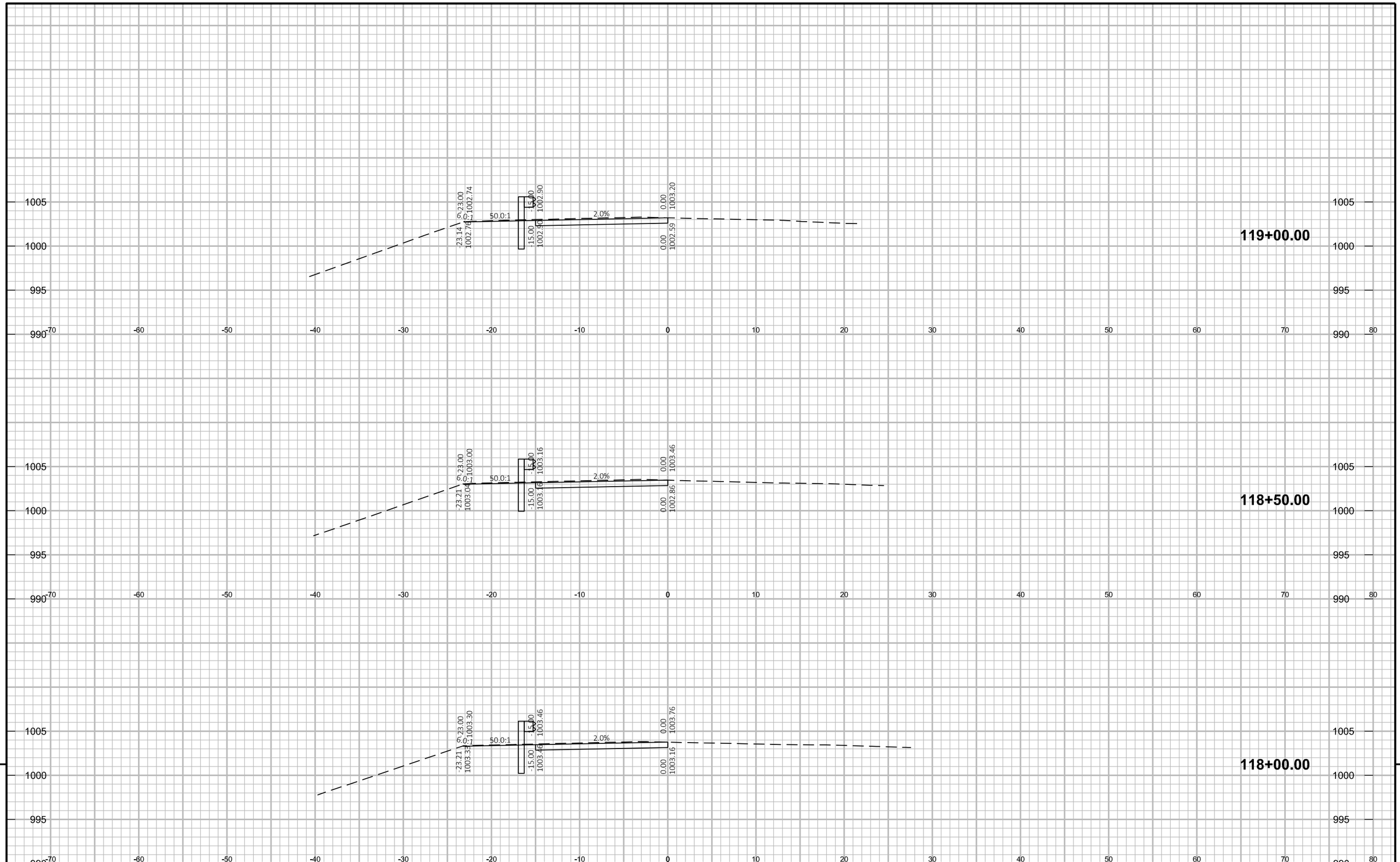
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8620-00-73	HWY: STH 40/STH64	COUNTY: CHIPPEWA	CROSS SECTIONS: DRAINAGE WAY GUARDRAIL	SHEET 163 E



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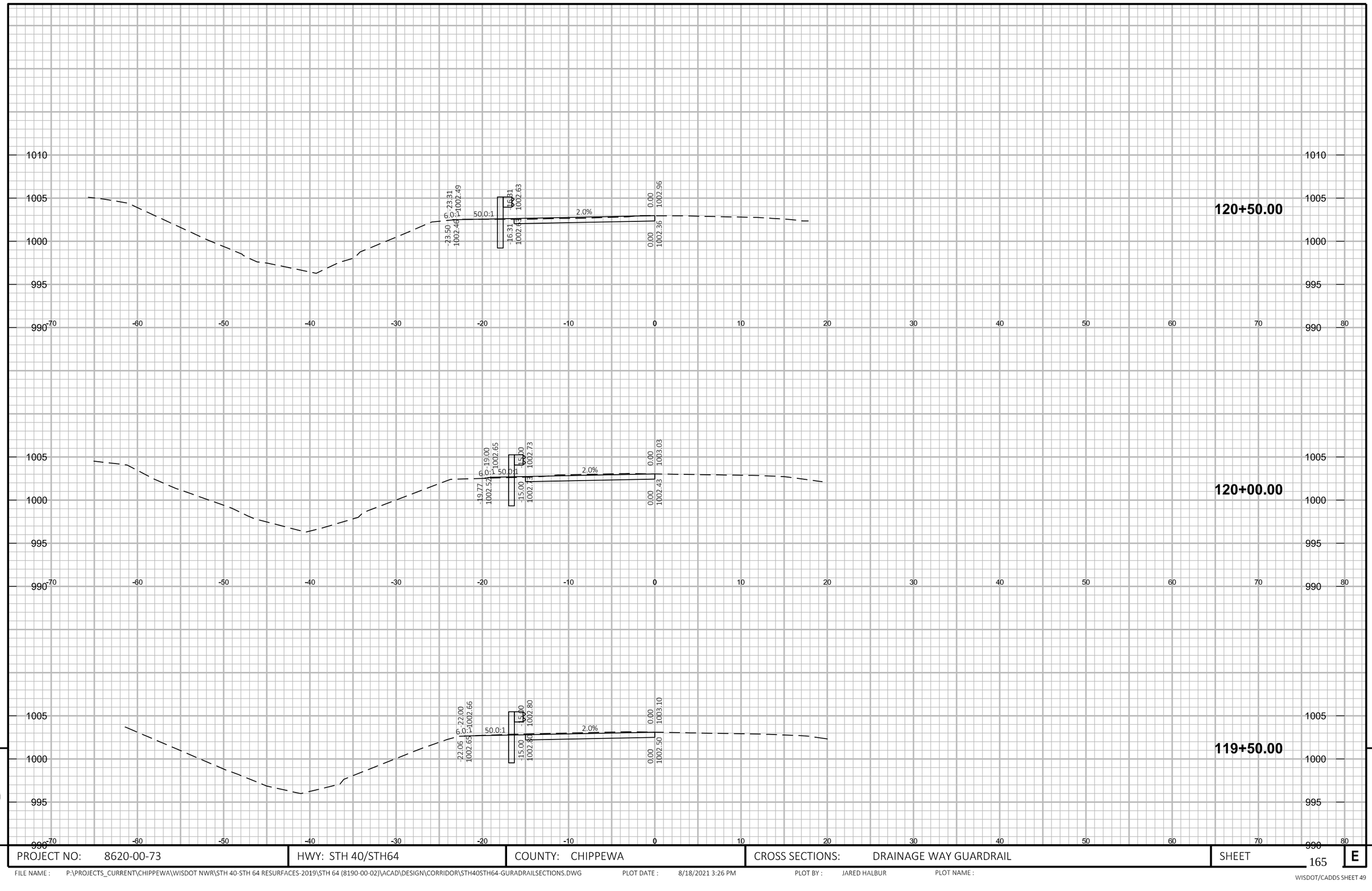
PROJECT NO: 8620-00-73	HWY: STH 40/STH64	COUNTY: CHIPPEWA	CROSS SECTIONS: DRAINAGE WAY GUARDRAIL	SHEET 164	E



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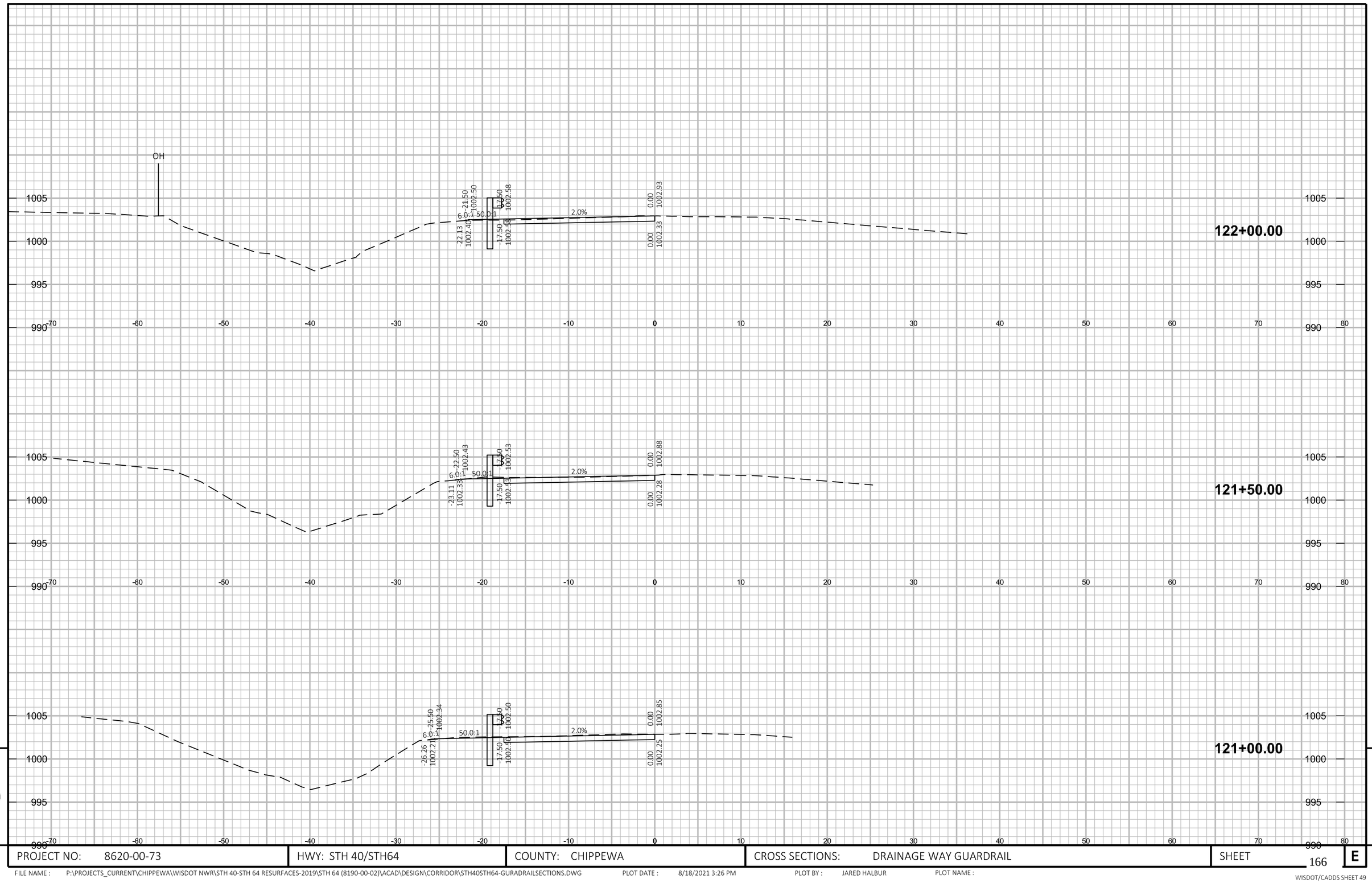
PROJECT NO: 8620-00-73	HWY: STH 40/STH64	COUNTY: CHIPPEWA	CROSS SECTIONS: DRAINAGE WAY GUARDRAIL	SHEET 165	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-GURADRAILSECTIONS.DWG PLOT DATE : 8/18/2021 3:26 PM PLOT BY : JARED HALBUR PLOT NAME :

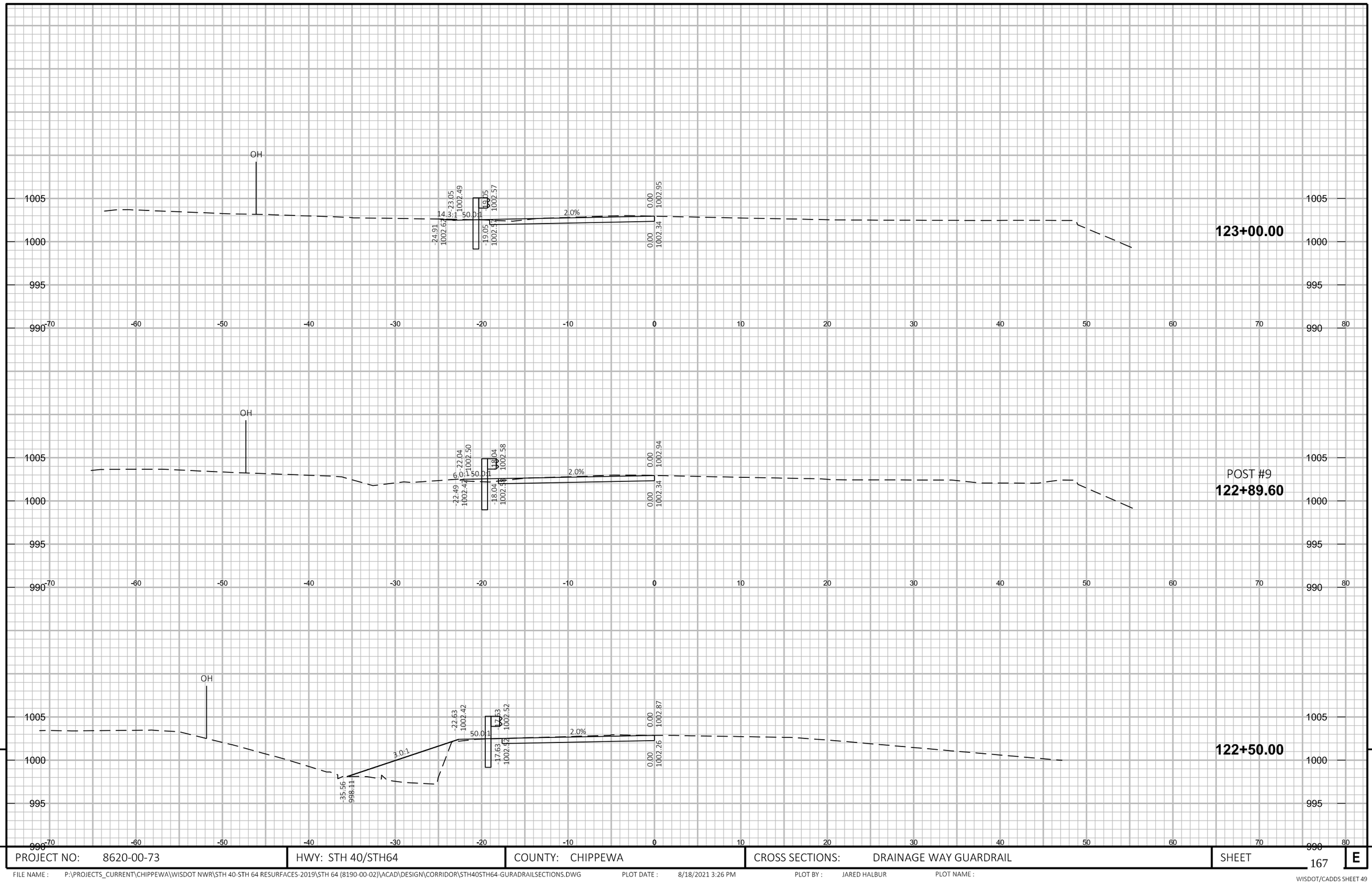


9

9

PROJECT NO: 8620-00-73	HWY: STH 40/STH64	COUNTY: CHIPPEWA	CROSS SECTIONS: DRAINAGE WAY GUARDRAIL	SHEET 166	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-GURADRAILSECTIONS.DWG PLOT DATE : 8/18/2021 3:26 PM PLOT BY : JARED HALBUR PLOT NAME :



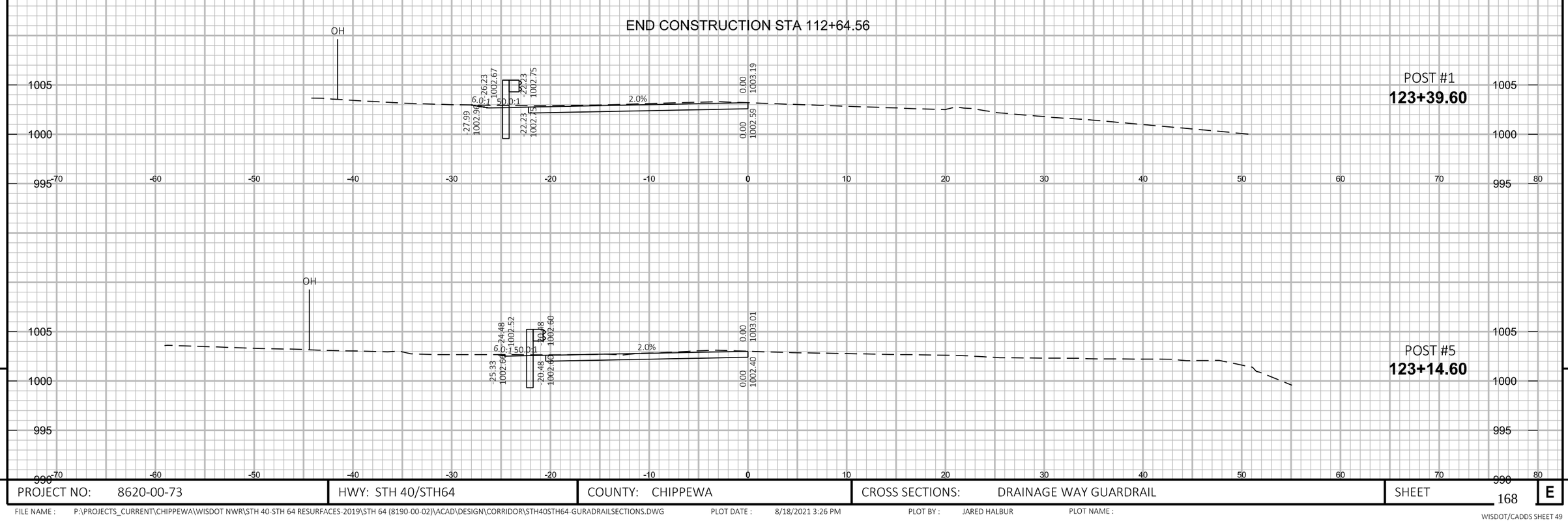
9

9

PROJECT NO: 8620-00-73	HWY: STH 40/STH64	COUNTY: CHIPPEWA	CROSS SECTIONS: DRAINAGE WAY GUARDRAIL	SHEET 167 E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-GURADRAILSECTIONS.DWG PLOT DATE : 8/18/2021 3:26 PM PLOT BY : JARED HALBUR PLOT NAME :

END CONSTRUCTION STA 112+64.56



POST #1
123+39.60

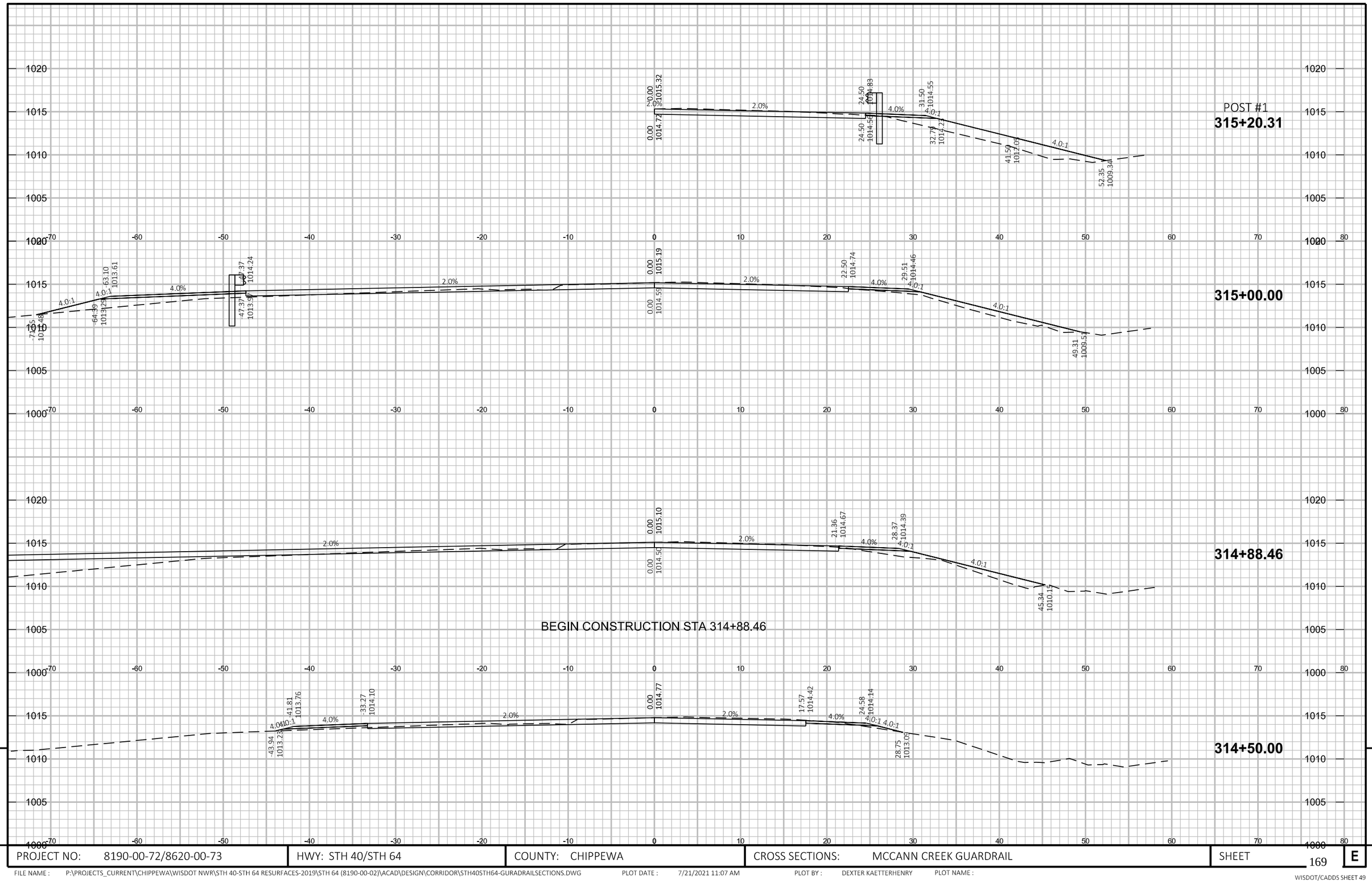
POST #5
123+14.60

9

9

PROJECT NO: 8620-00-73	HWY: STH 40/STH64	COUNTY: CHIPPEWA	CROSS SECTIONS: DRAINAGE WAY GUARDRAIL	SHEET 168	E

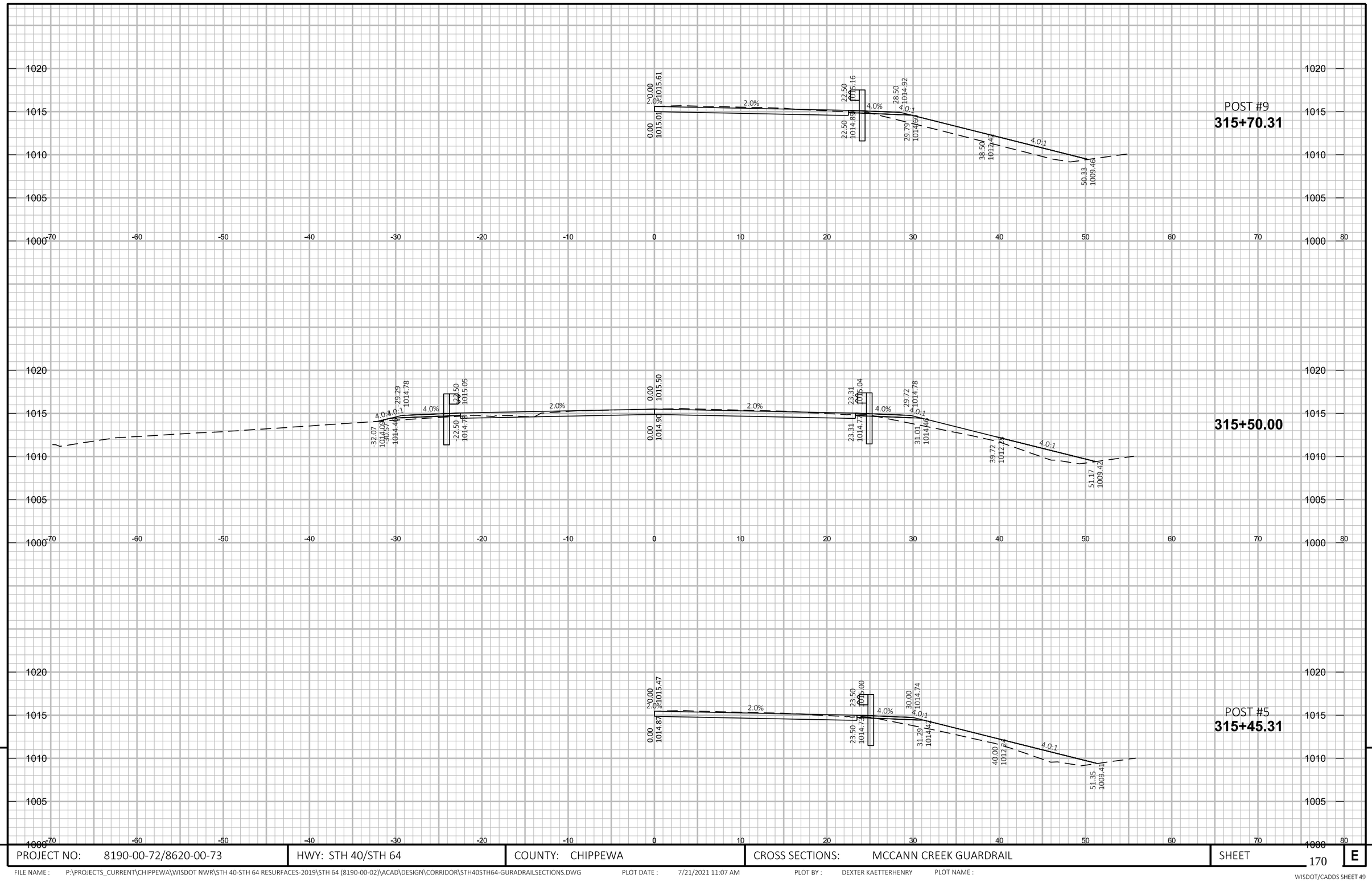
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-GURADRAILSECTIONS.DWG PLOT DATE : 8/18/2021 3:26 PM PLOT BY : JARED HALBUR PLOT NAME :



9

9

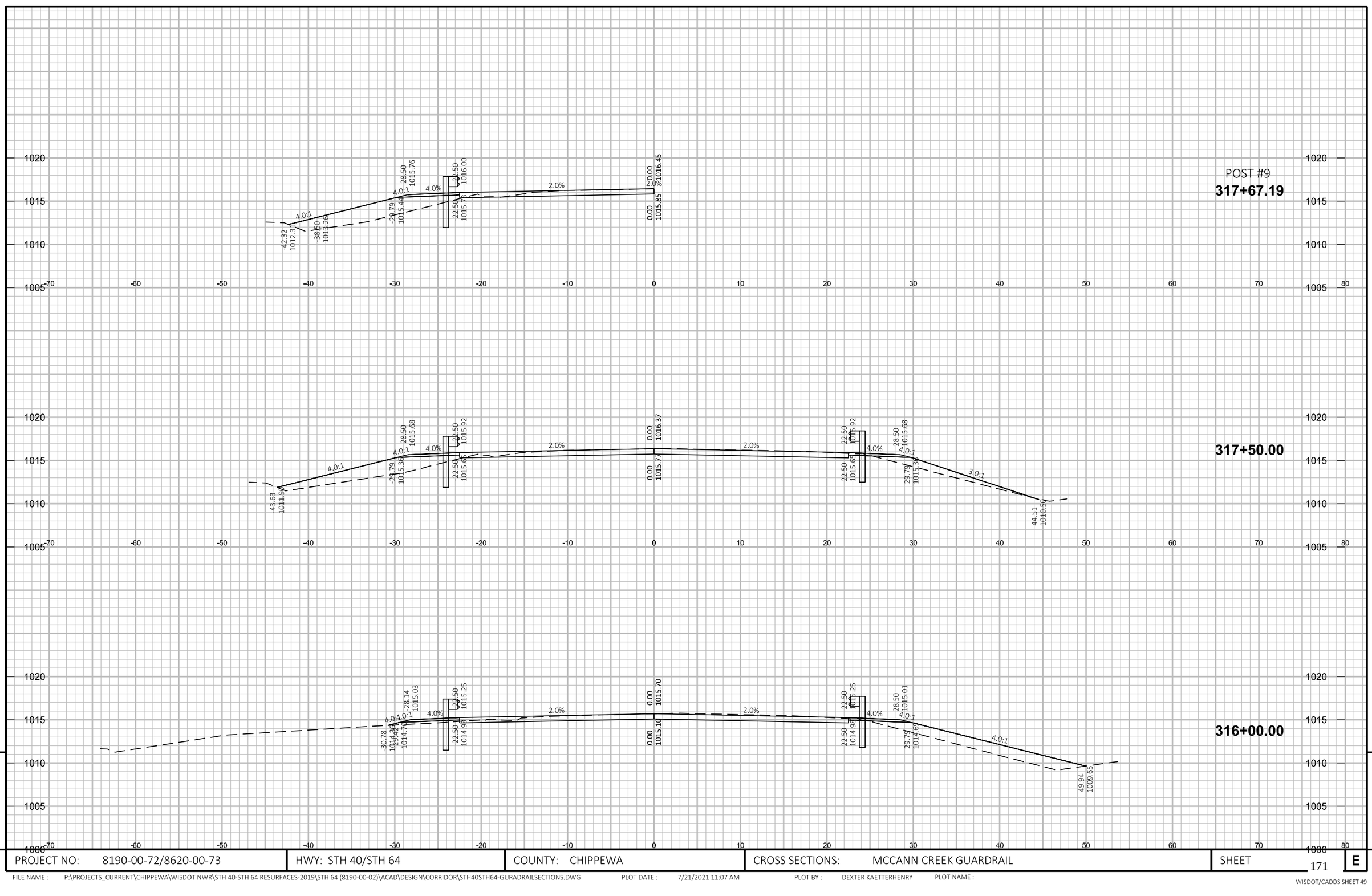
PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: MCCANN CREEK GUARDRAIL	SHEET 169	E

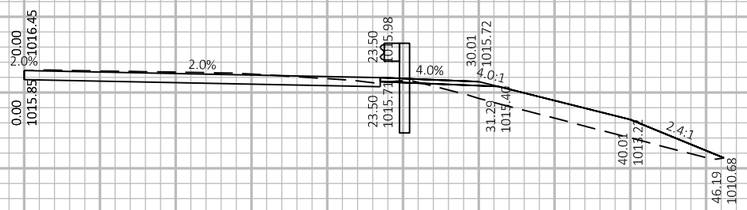


9

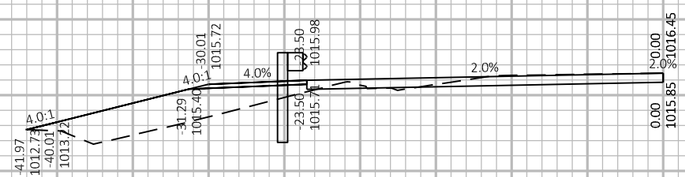
9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: MCCANN CREEK GUARDRAIL	SHEET 170 E

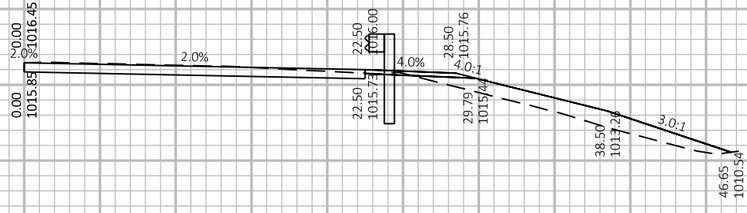

POST #9
317+67.19
317+50.00
316+00.00
4.0:1
4.0%
2.0%
3.0:1
-28.50
1015.76
-22.50
1016.00
-22.50
1015.78
0.00
1016.45
0.00
1015.85
-42.32
1012.31
-38.50
1013.26
-29.79
1015.44
-43.63
1011.99
-28.50
1015.68
-22.50
1015.92
-22.50
1015.65
0.00
1016.37
0.00
1015.77
22.50
1015.92
22.50
1015.62
28.50
1015.68
29.79
1015.38
44.51
1010.50
-30.78
1014.81
-28.14
1015.03
-22.50
1015.25
-22.50
1014.98
0.00
1015.70
0.00
1015.10
22.50
1015.25
22.50
1014.95
28.50
1015.01
29.79
1014.65
49.94
1009.65



POST #5
317+92.61



POST #5
317+92.26

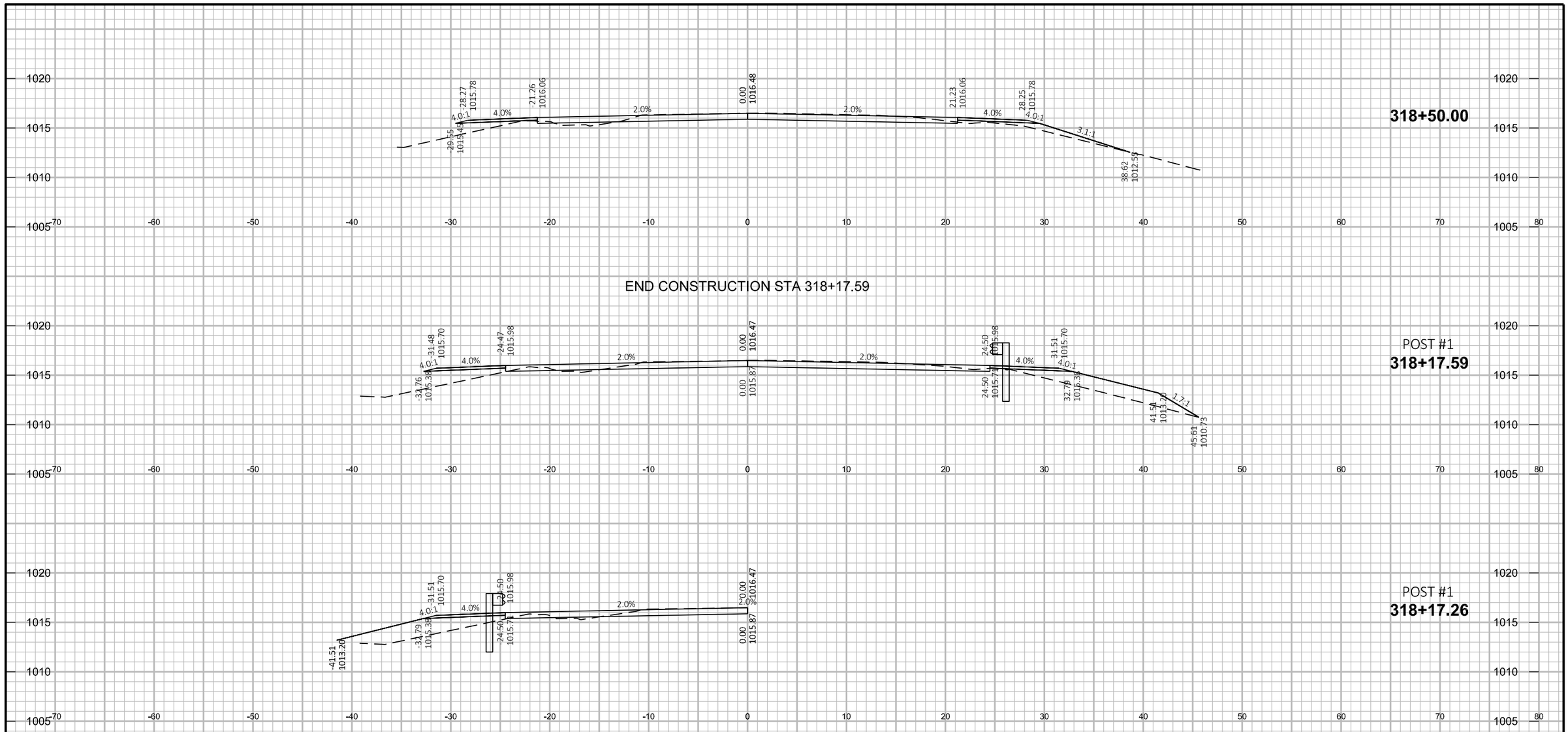


POST #9
317+67.61

9

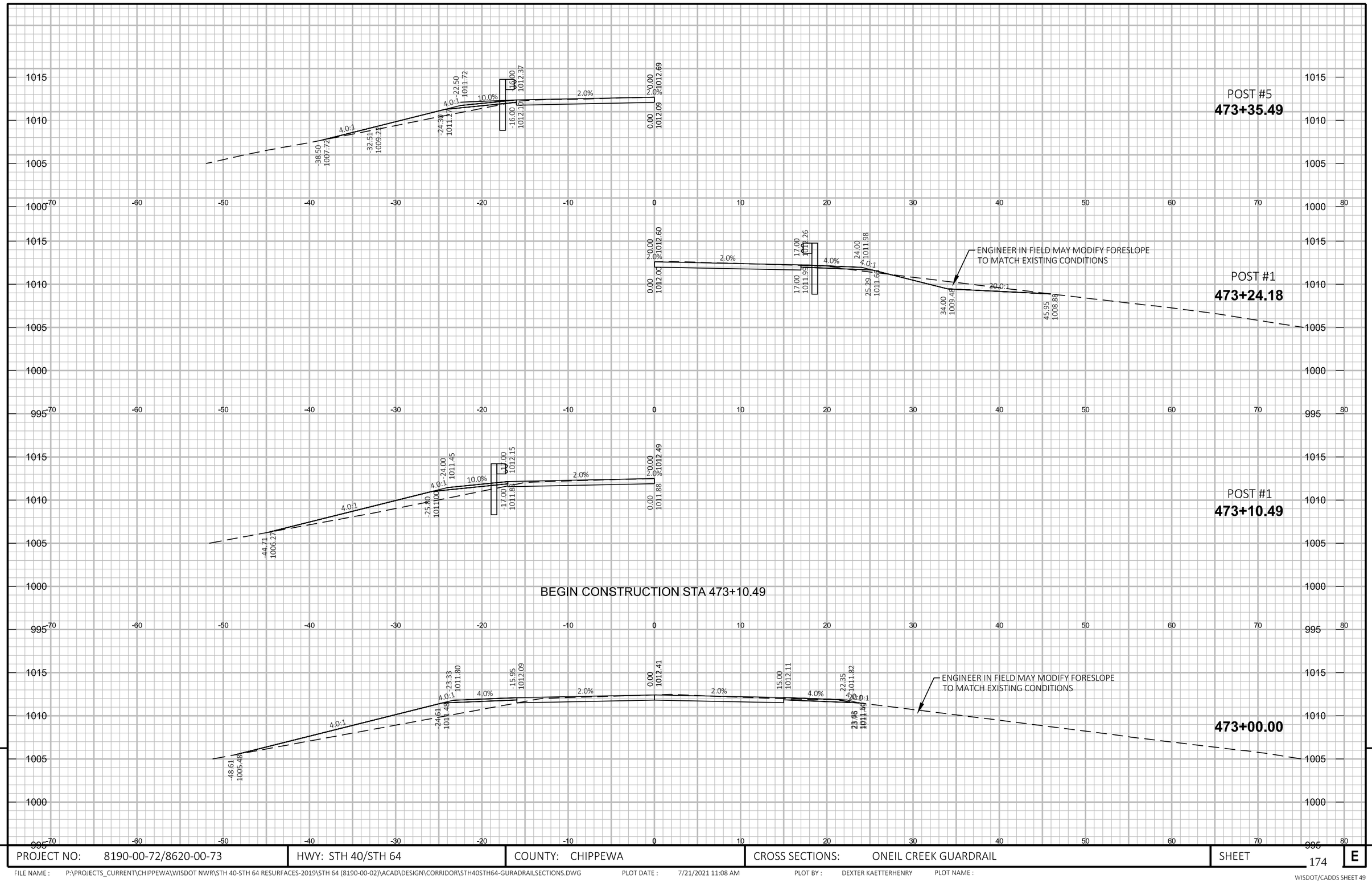
9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: MCCANN CREEK GUARDRAIL	SHEET 172	E



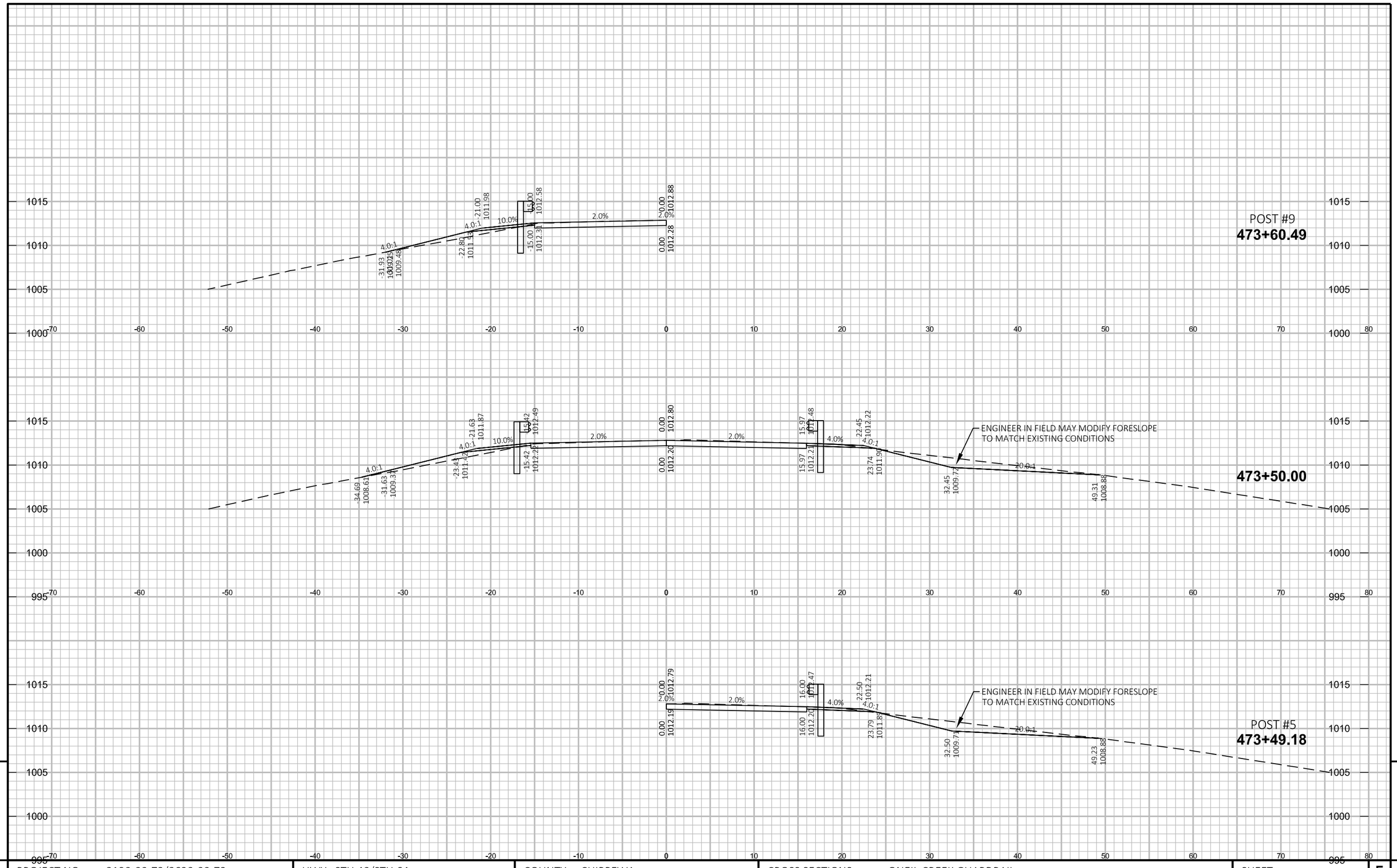
9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: MCCANN CREEK GUARDRAIL	SHEET 173	E



9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: ONEIL CREEK GUARDRAIL	SHEET 174	E

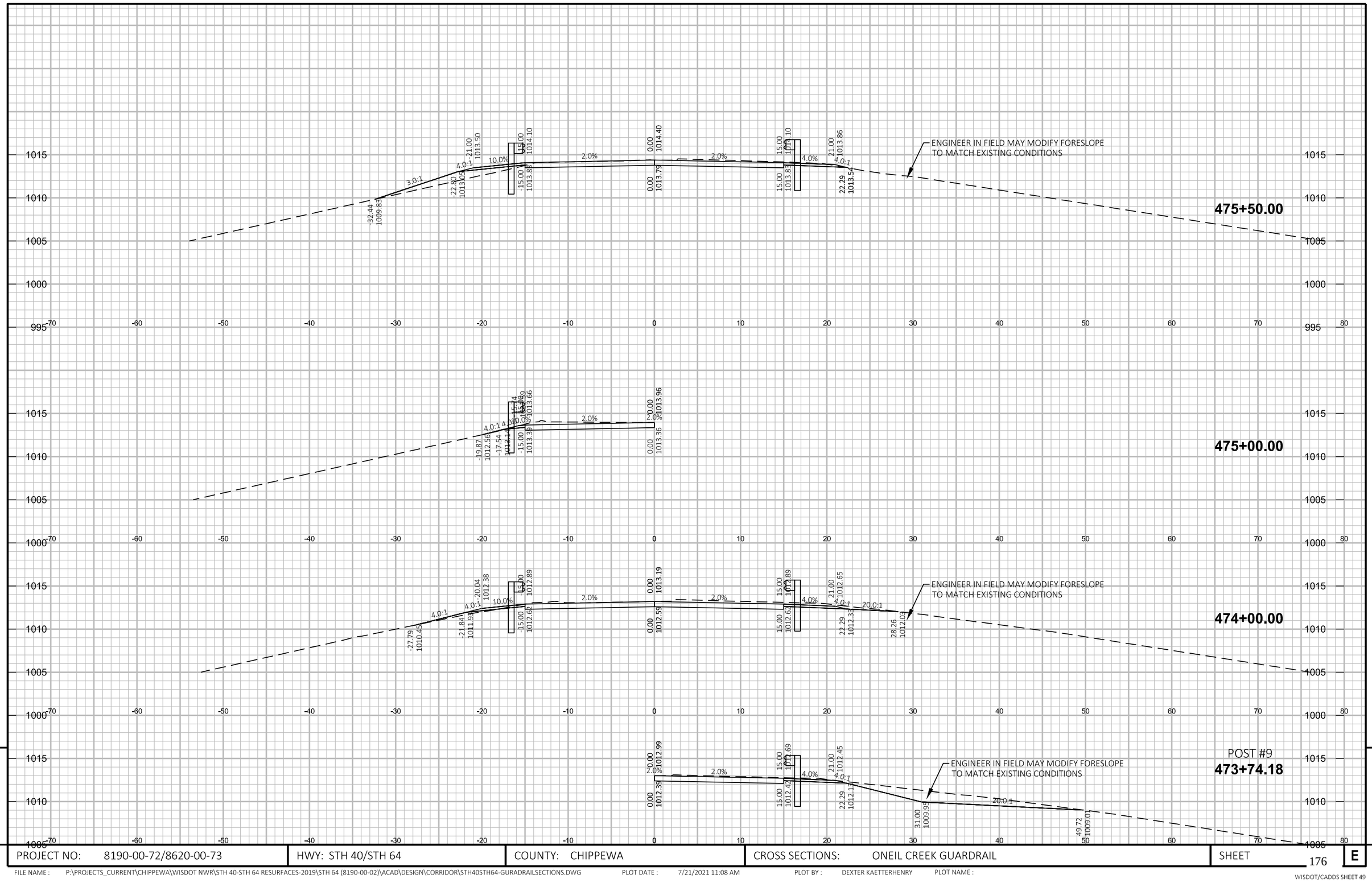


9

9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: ONEIL CREEK GUARDRAIL	SHEET 175	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-GURADRAILSECTIONS.DWG PLOT DATE : 7/21/2021 11:08 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME :

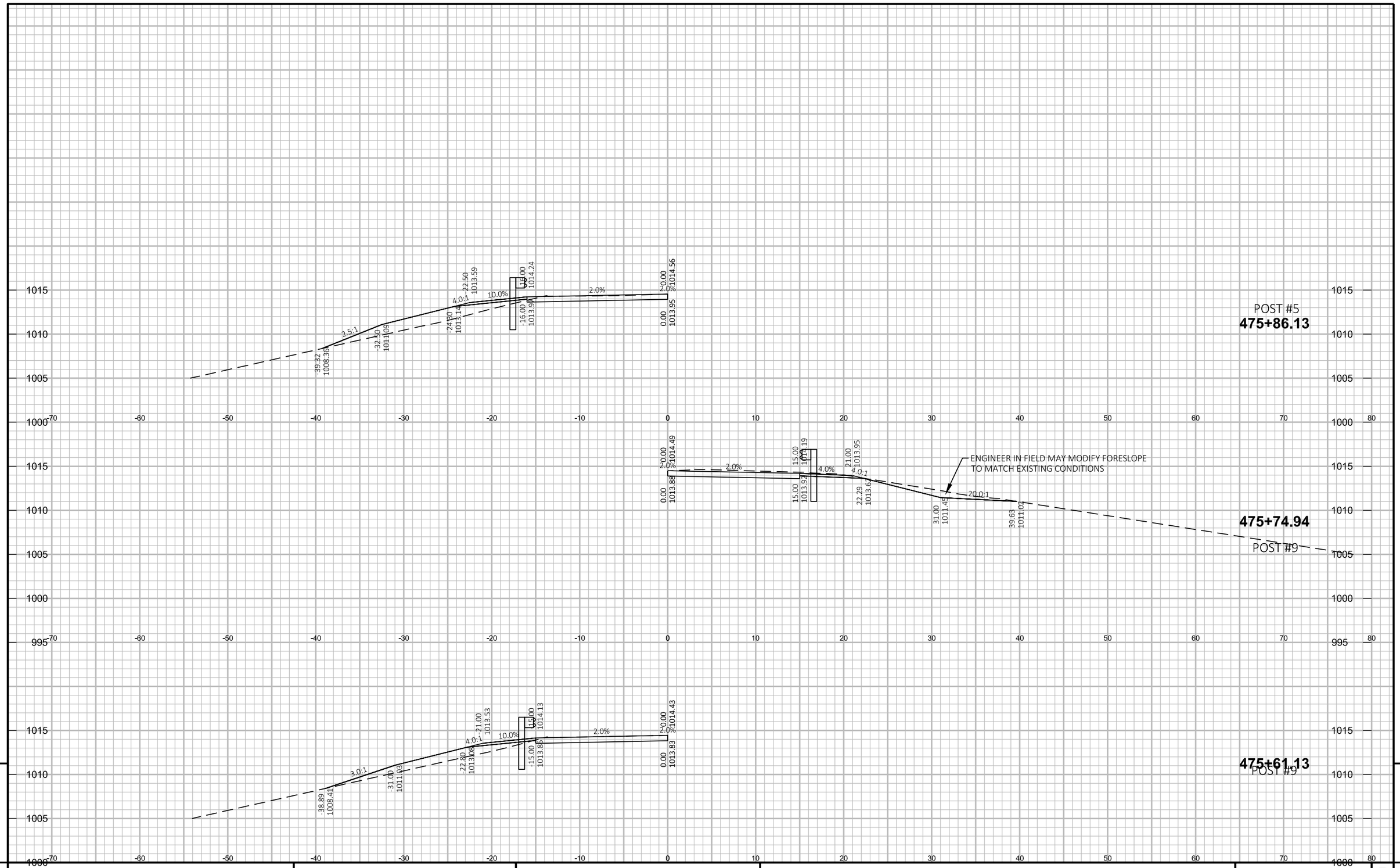


9

9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: ONEIL CREEK GUARDRAIL	SHEET 176 E

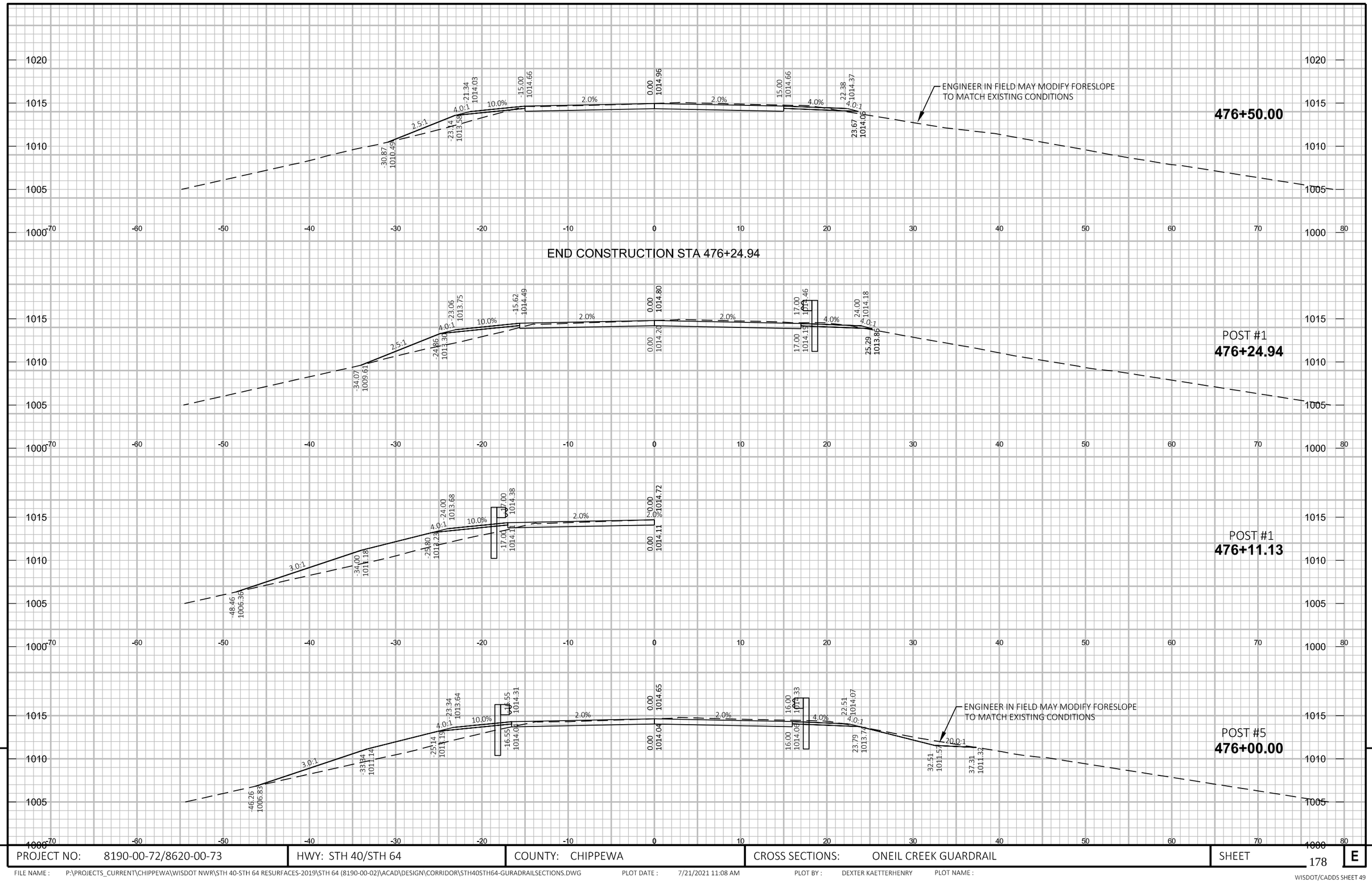
FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-GURADRAILSECTIONS.DWG PLOT DATE : 7/21/2021 11:08 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME :



PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: ONEIL CREEK GUARDRAIL	SHEET 177 E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-GURADRAILSECTIONS.DWG PLOT DATE : 7/21/2021 11:08 AM PLOT BY : DEXTER KAETTERHENRY PLOT NAME :

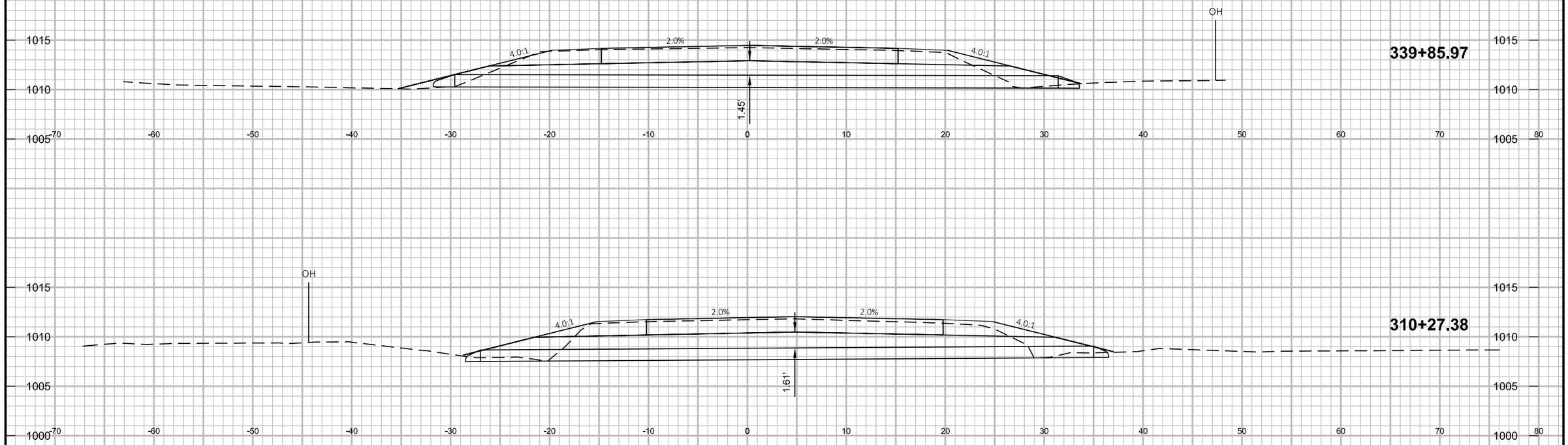
WISDOT/CADDS SHEET 49

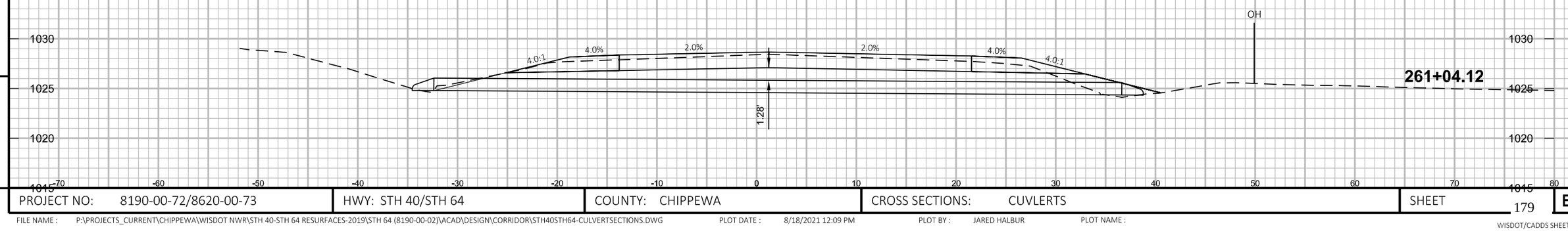


9

9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: ONEIL CREEK GUARDRAIL	SHEET 178	E



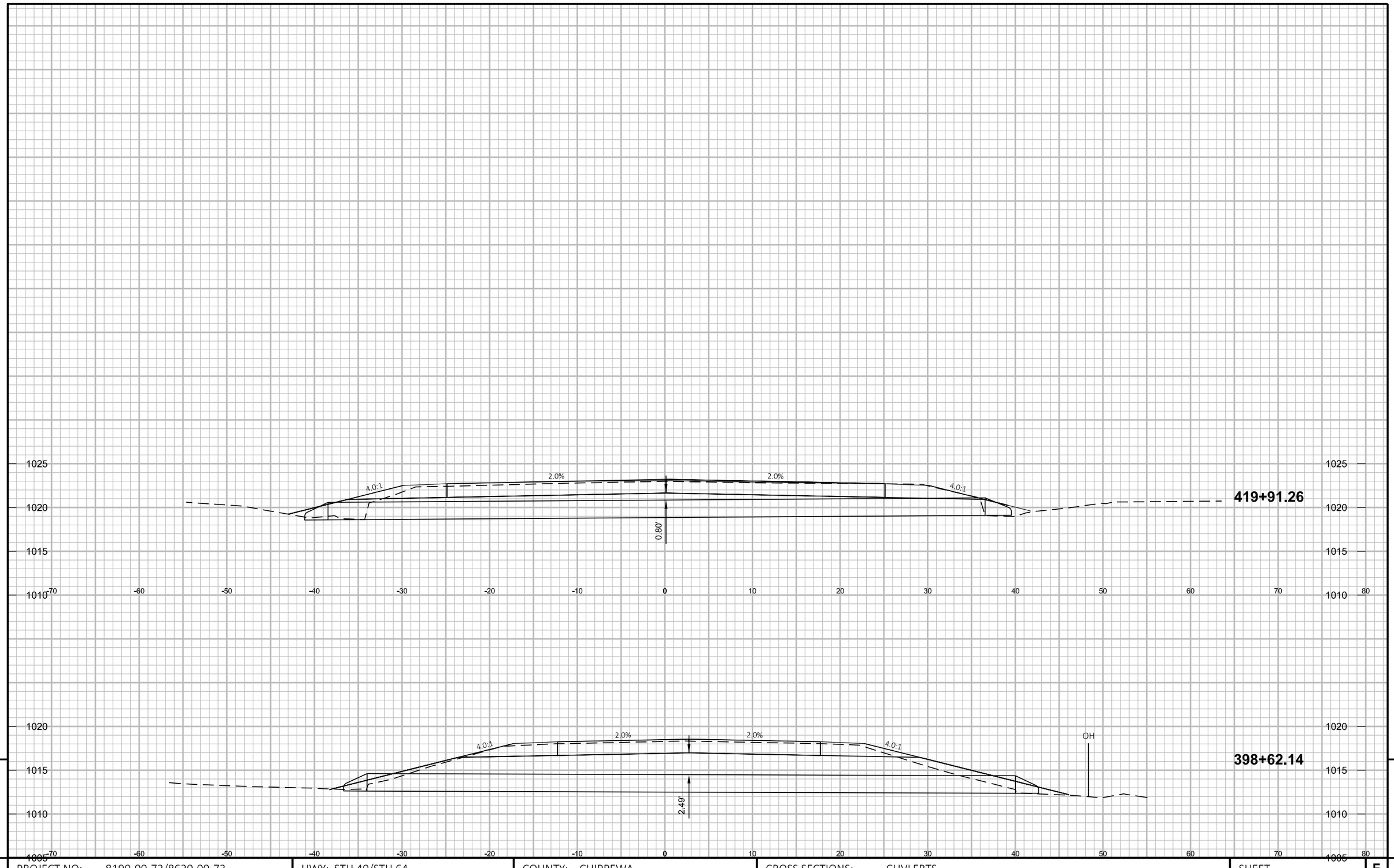


9

9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: CUVLERTS	SHEET 179	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-CULVERTSECTIONS.DWG PLOT DATE : 8/18/2021 12:09 PM PLOT BY : JARED HALBUR PLOT NAME :



9

9

PROJECT NO: 8190-00-72/8620-00-73	HWY: STH 40/STH 64	COUNTY: CHIPPEWA	CROSS SECTIONS: CUVLERTS	SHEET 180	E

FILE NAME : P:\PROJECTS_CURRENT\CHIPPEWA\WISDOT NWR\STH 40-STH 64 RESURFACES-2019\STH 64 (8190-00-02)\ACAD\DESIGN\CORRIDOR\STH40STH64-CULVERTSECTIONS.DWG PLOT DATE : 8/18/2021 12:09 PM PLOT BY : JARED HALBUR PLOT NAME :

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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http://www.dot.wisconsin.gov