MAD

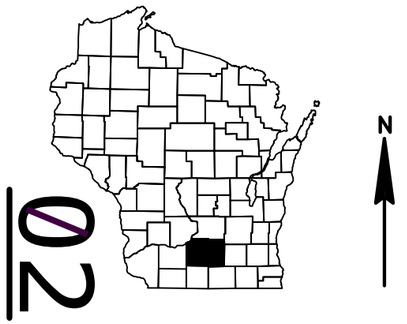
PROJECT ID: 1002-01-71

COUNTY: DANE

NOVEMBER 2017

ORDER OF SHEETS

TOTAL SHEETS = 122



02

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C OF MADISON

MILWAUKEE STREET BRIDGE B-13-0131

IH 39

DANE COUNTY

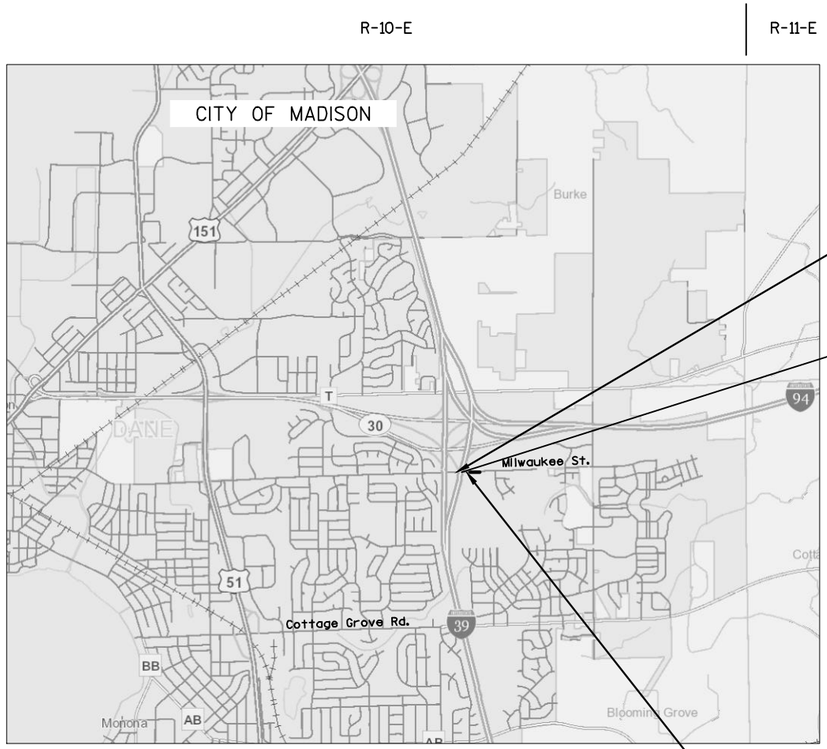
STATE PROJECT NUMBER
1002-01-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1002-01-71	WISC 2017500	1

DESIGN DESIGNATION		IH 39	MILWAUKEE ST.
A.A.D.T.	(2018) =	91,300	4900 (2016)
A.A.D.T.	(2038) =	114,700	
D.H.V.	=	11,470	
D.D.	=	52/48	
T.	=	18%	
DESIGN SPEED	=	70 MPH	40 MPH
ESALS	=	N/A	

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE			
SLOPE INTERCEPT		CULVERT (Profile View)	
REFERENCE LINE	300'EB'	UTILITIES	
EXISTING CULVERT		ELECTRIC	E
PROPOSED CULVERT (Box or Pipe)		FIBER OPTIC	FO
COMBUSTIBLE FLUIDS	CAUTION	GAS	G
		SANITARY SEWER	SAN
MARSH AREA		STORM SEWER	SS
		TELEPHONE	T
WOODED OR SHRUB AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
		TELEPHONE POLE	



LAYOUT

SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.000 mi.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES. VERTICAL POSITIONS ARE BASED ON NAVD88 (2012)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SURVEYOR
Designer	LAURETTE BROWN
Project Manager	AMY COUGHLIN
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	BRENDA SCHOENFELD

APPROVED FOR THE DEPARTMENT

DATE: 4/28/2017 Amy Coughlin (Signature)

E

STANDARD ABBREVIATIONS

AP	ACCESS POINT
AC	ACRE
ADJ	ADJUST
AECPRC	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE
AH	AHEAD
AC	ASPHALT CEMENT
ASPH	ASPHALTIC
ACP	ASPHALTIC PAVEMENT CONCRETE
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BK	BACK
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
CB	CATCH BASIN
C/L	CENTER LINE
C/L CONST	CENTER LINE CONSTRUCTION
△	CENTRAL ANGLE OR DELTA
CL	CLASS
CONC	CONCRETE
CONST	CONSTRUCTION
CMCP	CORRUGATED METAL CULVERT PIPE
CTH	COUNTY TRUNK HIGHWAY
CABC	CRUSHED AGGREGATE BASE COURSE
CFS	CUBIC FEET PER SECOND
CY	CUBIC YARD
CP	CULVERT PIPE
CPCS	CULVERT PIPE CORRUGATED STEEL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
C & G	CURB AND GUTTER
D	DEGREE OF CURVE
DRV	DESIGN HOUR VOLUME
DIA	DIAMETER
DD	DIRECTIONAL DISTRIBUTION
DWY	DRIVEWAY
E	EAST
X	EAST GRID COORDINATE
EB	EASTBOUND
EL	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FPS	FEET PER SECOND
FERT	FERTILIZE
FE	FIELD ENTRANCE
FL	FLOW LINE
FT	FOOT
GN	GRID NORTH
HES	HIGH EARLY STRENGTH
HP	HIGH POINT
HW	HIGH WATER
HMA	HOT MIX ASPHALT
CWA	HUNDREDWEIGHT
HYD	HYDRANT
INL	INLET
ID	INSIDE DIAMETER
I	INTERSECTION ANGLE
INV	INVERT
IP	IRON PIPE OR PIN
JT	JOINT
LT	LEFT
L	LENGTH OF CURVE
LF	LINEAR FOOT
LP	LOW POINT
LS	LUMP SUM
MH	MANHOLE
MAX	MAXIMUM
Mgal	MEGAGALLON
MPH	MILES PER HOUR
MIN	MINIMUM
MON	MONUMENT
NOM	NOMINAL
NC	NORMAL CROWN
N	NORTH
Y	NORTH GRID COORDINATE
NB	NORTHBOUND
NO	NUMBER
OPT	OPTIONAL
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PACS	PIPE ARCH CORRUGATED STEEL
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVC	POLYVINYL CHLORIDE
PCC	PORTLAND CEMENT CONCRETE
LB	POUND
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PE	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
PL	PROPERTY LINE
Q100	100 YEAR FLOW RATE
R	RADIUS
RR	RAILROAD
R	RANGE
R/L	REFERENCE LINE
REINF	REINFORCING OR REINFORCEMENT
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
SEC	SECTION CORNER
SHLDR	SHOULDER
S	SOUTH
SB	SOUTHBOUND
SQ	SQUARE
SF	SQUARE FEET
SW	SIDEWALK
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
ST	STREET
STR	STRUCTURE OR STRUCTURAL
SE	SUPERELEVATION
T	TANGENT
TEMP	TEMPORARY
TI	TEMPORARY INTEREST
TLE	TEMPORARY LIMITED EASEMENT
t	TON
T	TOWN
T/L	TRANSIT LINE
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
V	VELOCITY OF DESIGN SPEED
VERT	VERTICAL
VC	VERTICAL CURVE
VOL	VOLUME
WM	WATER MAIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
Y	YARD

GENERAL NOTES

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

PLACE 5.25" HMA PAVEMENT 4 MT 58-28 S IN TWO LIFTS.
FIRST LIFT IS 3"
SECOND LIFT IS 2.25"

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

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

THE CONTRACTOR WILL BE RESPONSIBLE FOR SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS, ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY, THE PRIME CONTRACTOR IS RESPONSIBLE FOR REMOVING THESE ITEMS WHEN NO LONGER NECESSARY.

NUMBER, LOCATION, AND SPACING OF SIGNS AND DEVICES, AS SHOWN IN THE PLANS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

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

DO NOT DRIVE EQUIPMENT OR STORE EQUIPMENT OR MATERIALS IN WETLANDS OR WATERWAYS.

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

UTILITY CONTACTS

JANE ROSSING
MADISON GAS AND ELECTRIC COMPANY - ELECTRICITY
P.O.BOX 1231
MADISON, WI 53701-1231
(608) 252-7099
GROSSING@MGE.COM

KEVIN PARRIS
PAETEC COMM - COMMUNICATION
1858 WRIGHT ST.
MADISON, WI 53704
(608) 819-5016
KEVIN.J.PARRIS@WINDSTREAM.COM

BRANDON STORM
CHARTER COMMUNICATIONS - COMMUNICATION LINE
2701 DANIELS ST.
MADISON, WI. 53718
(608) 274-3822
BRANDON.STORM@CHARTERCOM.COM

ADAM WIEDERHOEFT, P.E.
MADISON WATER UTILITY - WATER
119 E. OLIN AVE.
MADISON, WI 53713-1431
(608) 266-9121
AWIEDERHOEFT@CITYOFMADISON.COM

WILLIAM KOENIG - CONSULTANT
AT&T LEGACY - COMMUNICATION LINE
128 W SUNSET AVE.
APPLETON, WI 54911
(608) 628-0575
WEKOENIG@ATT.COM

JEFF MADSON
WISCONSIN DEPT. OF TRANSPORTATION - COMMUNICATION LINE
433 W. ST. PAUL AVE.
MILWAUKEE, WI. 53203-3007
(414) 225-3723
JEFFREY.MADSON@DOT.WI.GOV

DESIGN CONTACTS

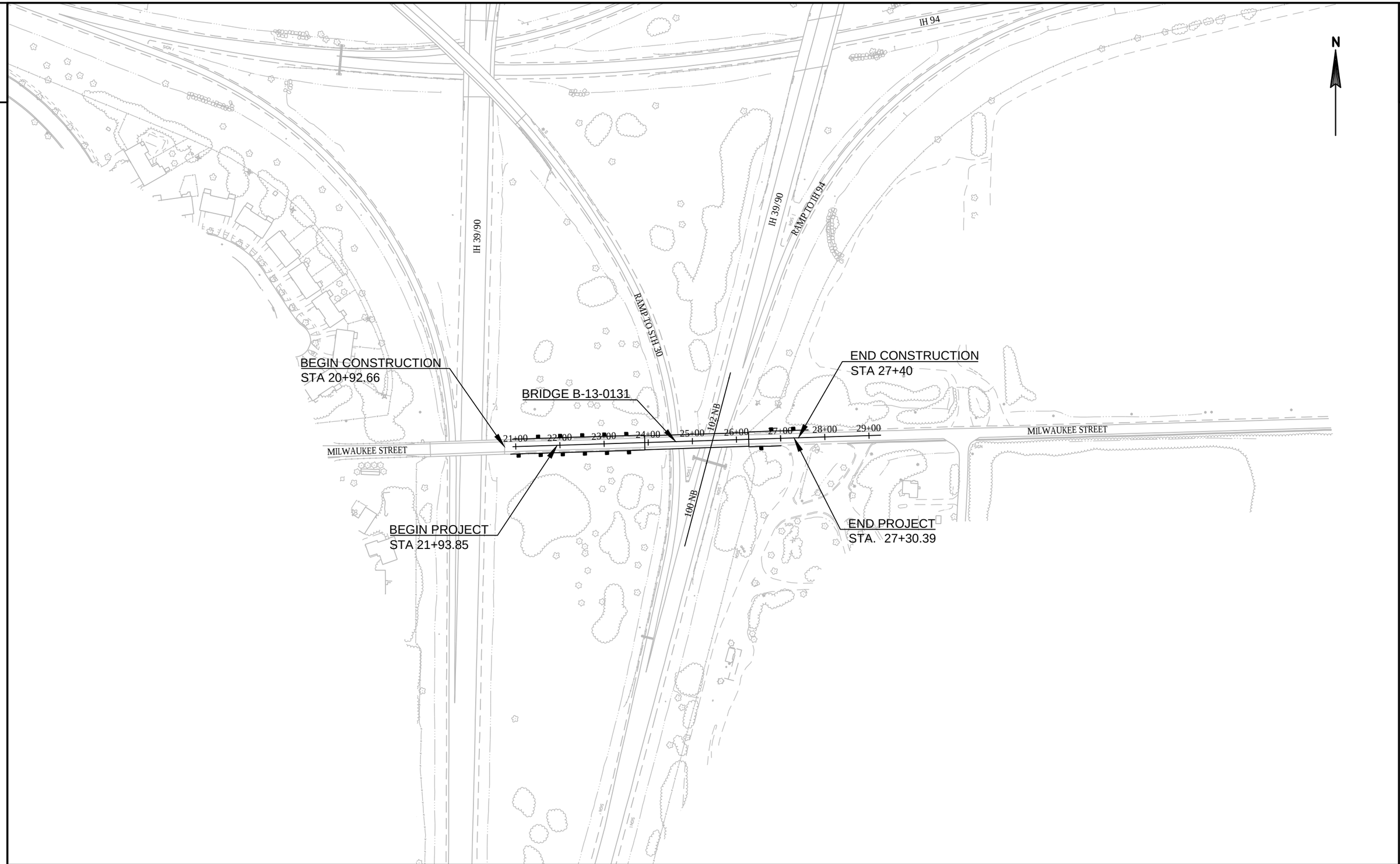
PROJECT LEADER
LAURETTE BROWN
DEPT. OF TRANSPORTATION
2102 WRIGHT ST.
MADISON, WI. 53704
(608) 246-5339

PROJECT MANAGER
AMY COUGHLIN
DEPT. OF TRANSPORTATION
2101 WRIGHT ST.
MADISON, WI. 53704
(608) 245-5358

WI DEPARTMENT OF NATURAL RESOURCES LIASON

ERIC HEGGELUND
3911 FISH HATCHERY RD.
FITCHBURG, WI. 53711-5397
(608)275-3301
ERIC.HEGGELUND@WISCONSIN.GOV

2



PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	PROJECT OVERVIEW	SHEET 3	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\020201_PO.DWG
LAYOUT NAME - OVERVIEW

PLOT DATE : 4/20/2017 2:23 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : 1 IN:200 FT

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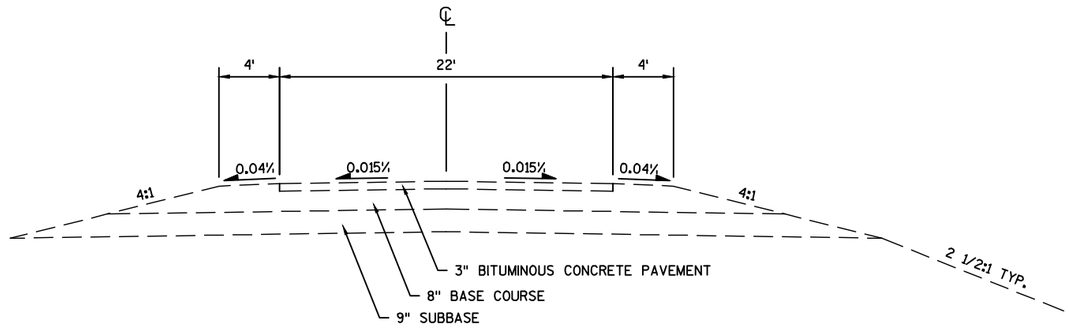
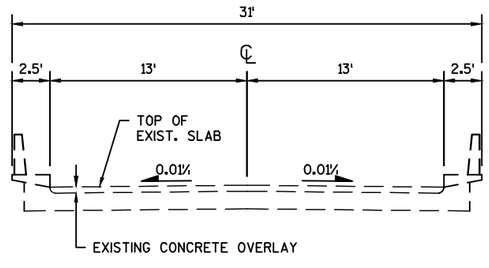


EXISTING TYPICAL SECTION

MILWAUKEE STREET
STA. 20+92.66 - 23+92.12
STA. 26+27.60 - 27+40

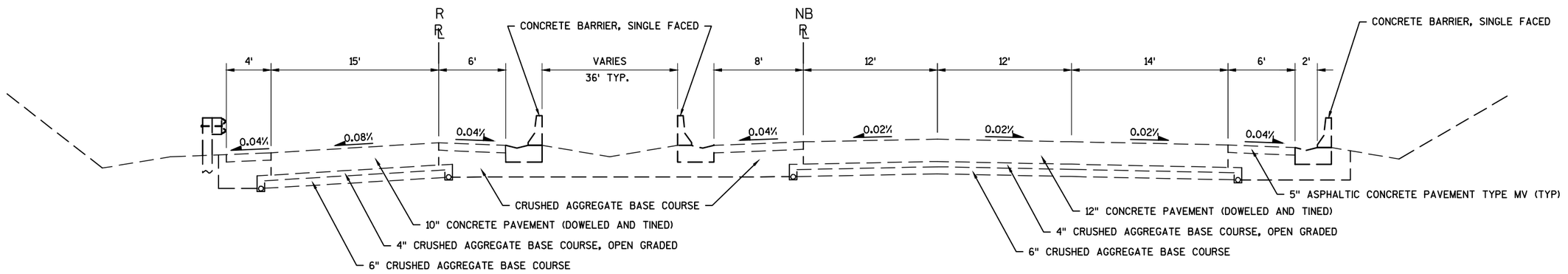


EXISTING BRIDGE TYPICAL SECTION

MILWAUKEE STREET
B-13-0131

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	EXISTING TYPICAL SECTIONS	SHEET 4	E

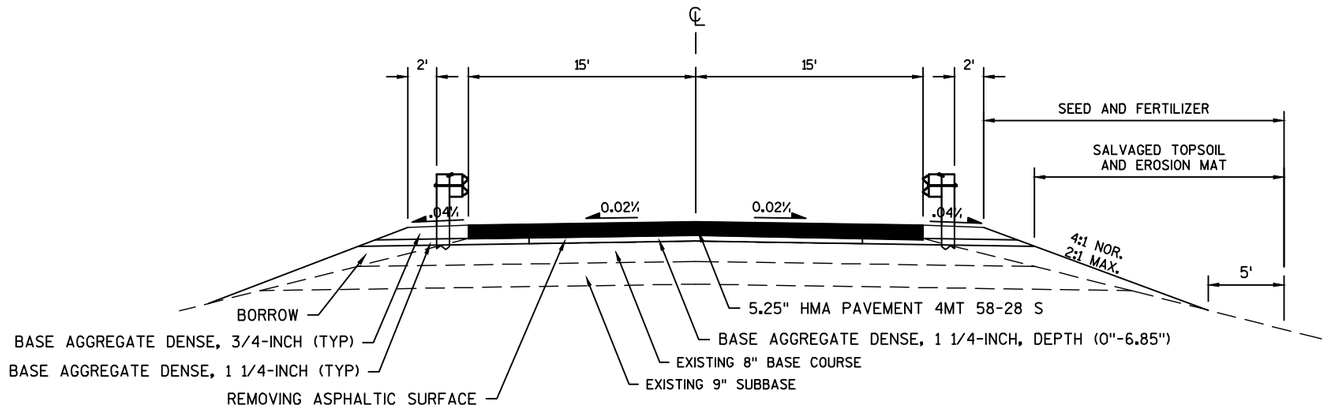
2



EXISTING TYPICAL SECTION

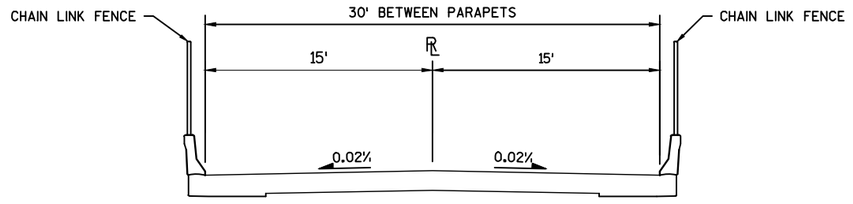
LOOKING NORTHBOUND
STA. 1+00 TO STA. 2+00

PROJECT NO:1002-01-71	HWY: IH 39	COUNTY: DANE	EXISTING TYPICAL SECTIONS	SHEET 5	E



PROPOSED TYPICAL SECTION

MILWAUKEE STREET
STA. 21+93.85 - 23+92.12
STA. 26+30.12 - 27+30.39

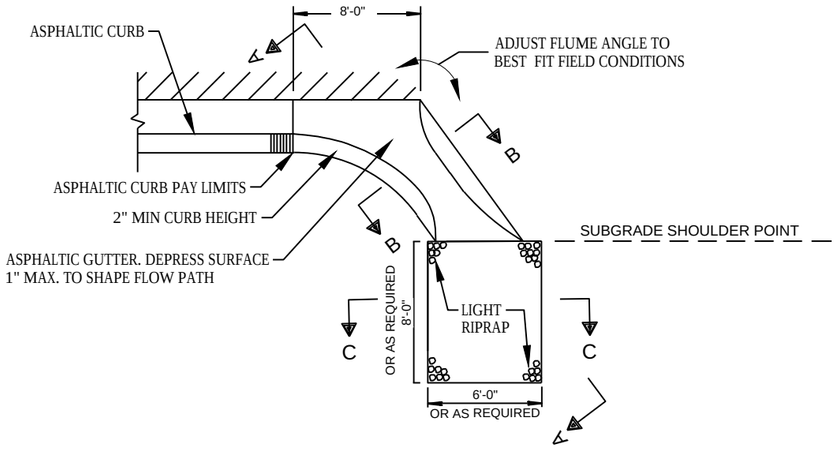


PROPOSED BRIDGE TYPICAL SECTION

MILWAUKEE STREET
B-13-0131
STA. 23+92.12 - 26+30.12

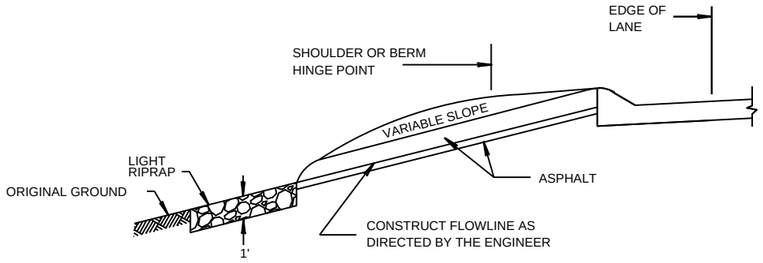
PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	PROPOSED TYPICAL SECTIONS	SHEET 6	E

2

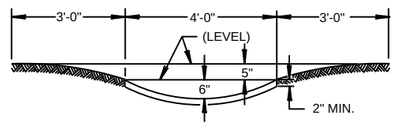


PLAN VIEW
FLUME AT CURB END

ASPHALTIC FLUME



SECTION A–A



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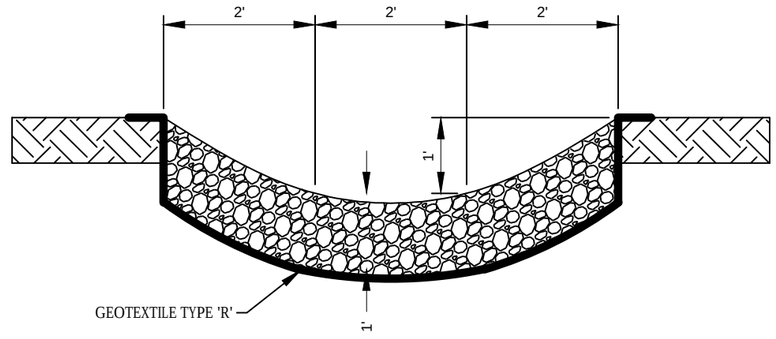
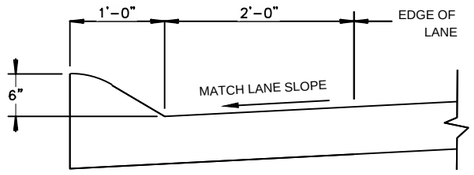


SECTION C–C



ASPHALTIC CURB

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	PLAN: CONSTRUCTION DETAILS	SHEET 7	E

LEGEND

- SILT FENCE
- SURFACE WATER FLOW
- SOIL STABILIZER TYPE B & EROSION MAT CLASS I TYPE B
- RIP RAP

N

MCLEOD USA

MG&E

MILWAUKEE ST

22+00 23+00 24+00 25+00 26+00 27+00

RIPRAP

SIGN

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET 8	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - Plan 1 IN 40 FT

PLOT DATE : 4/20/2017 2:26 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : ##########

2

LEGEND

1-1 SIGN NUMBER

SIGN WITH SINGLE SUPPORT

N

W5-52L
12"X36"
1-1

W5-52R
12"X36"
1-2

W5-52R
12"X36"
1-3

W5-52L
12"X36"
1-4

W5-52L
12"X36"
1-5

W5-52R
12"X36"
1-6

W5-52R
12"X36"
1-7

W5-52L
12"X36"
1-8

BP: 20+92.66

PAVEMENT MARKING, EPOXY
4-INCH DOUBLE YELLOW

PAVEMENT MARKING, EPOXY
4-INCH WHITE

MILWAUKEE ST.

21+00 22+00 23+00 24+00 25+00 26+00 27+00

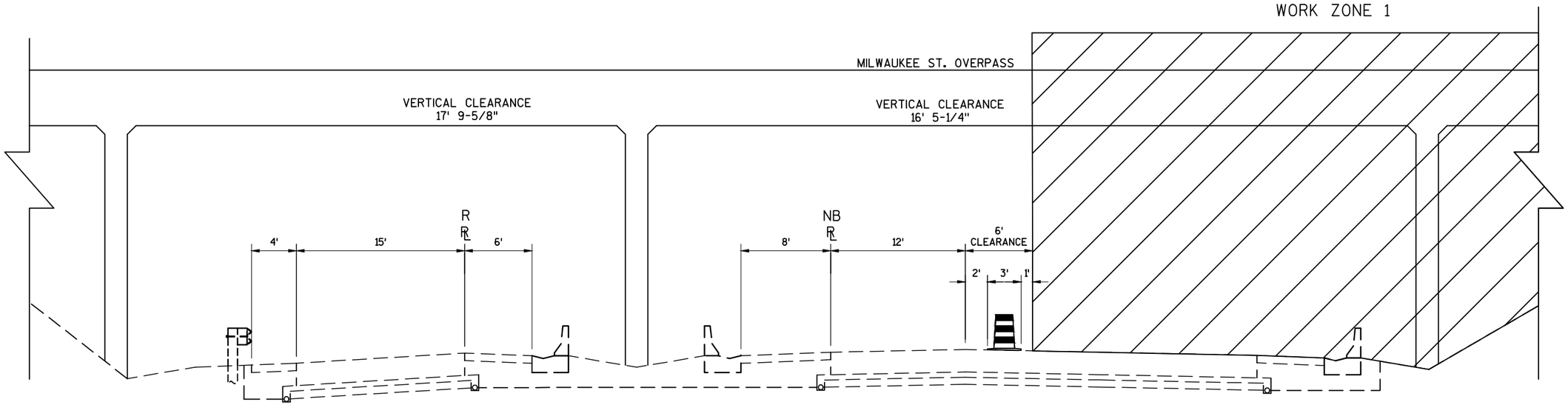
1.0'
1.0'

SIGN
SIGN
SIGN
SIGN

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET 9	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\023201_PS.DWG
LAYOUT NAME - PERM. SIGNING

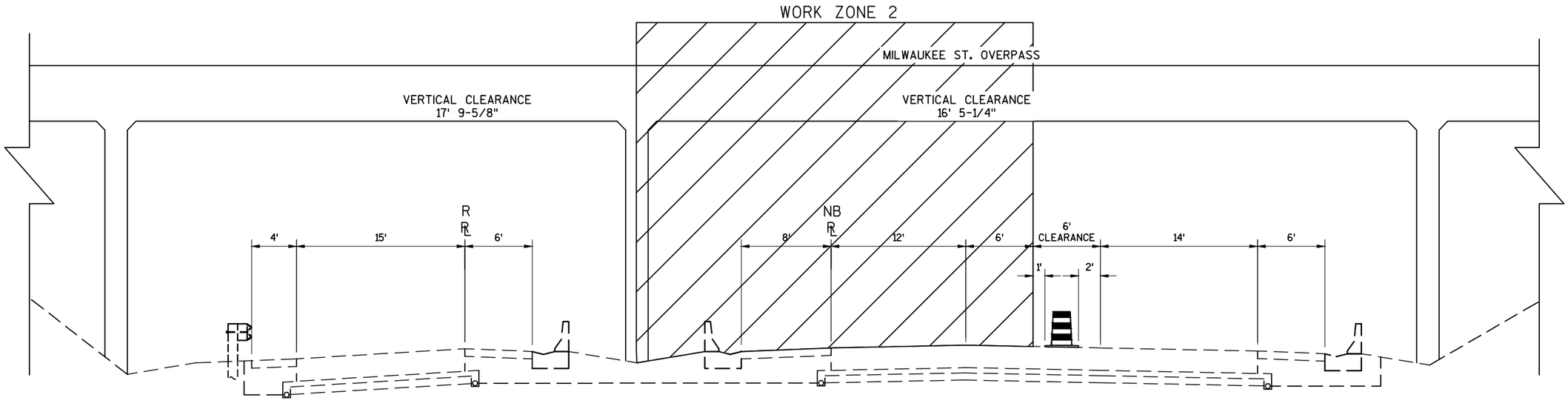
PLOT DATE : 4/20/2017 2:27 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : ##########



NB IH 39 OFF RAMP TO WB STH 30

I-39 NORTHBOUND RAMP CLOSURE

NB IH 39 LOOKING NORTHBOUND
(USED FOR WORK ON EDGE PIER &
DEBRIS CONTAINMENT INSTALL)



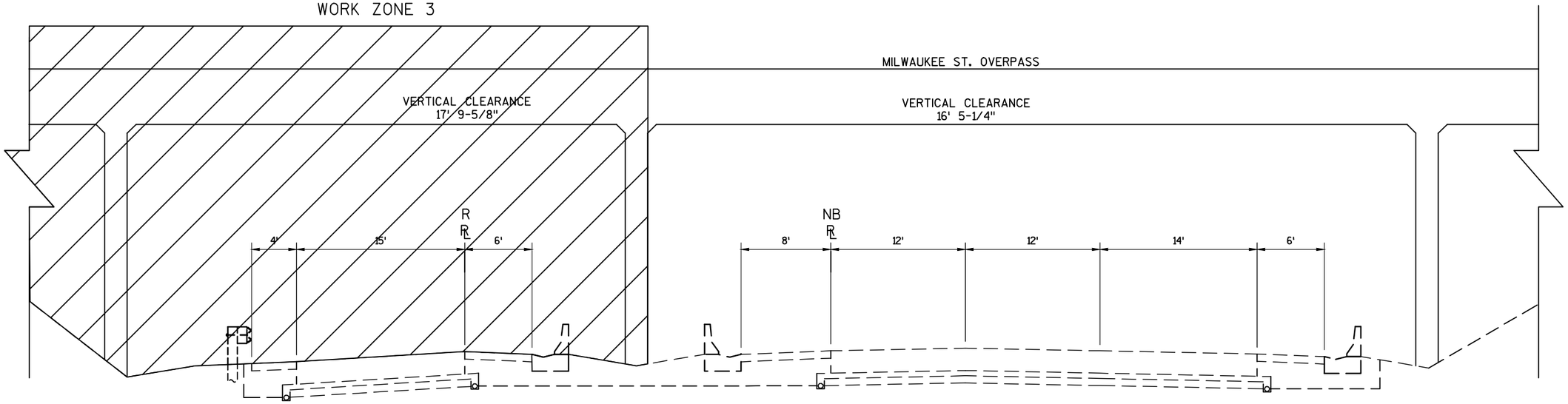
NB IH 39 OFF RAMP TO WB STH 30

I-39 NORTHBOUND TWO LANE CLOSURE

NB IH 39 LOOKING NORTHBOUND
(USED FOR WORK ON CENTER PIER &
DEBRIS CONTAINMENT INSTALL)

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL LANE CLOSURE DETAILS	SHEET 10	E

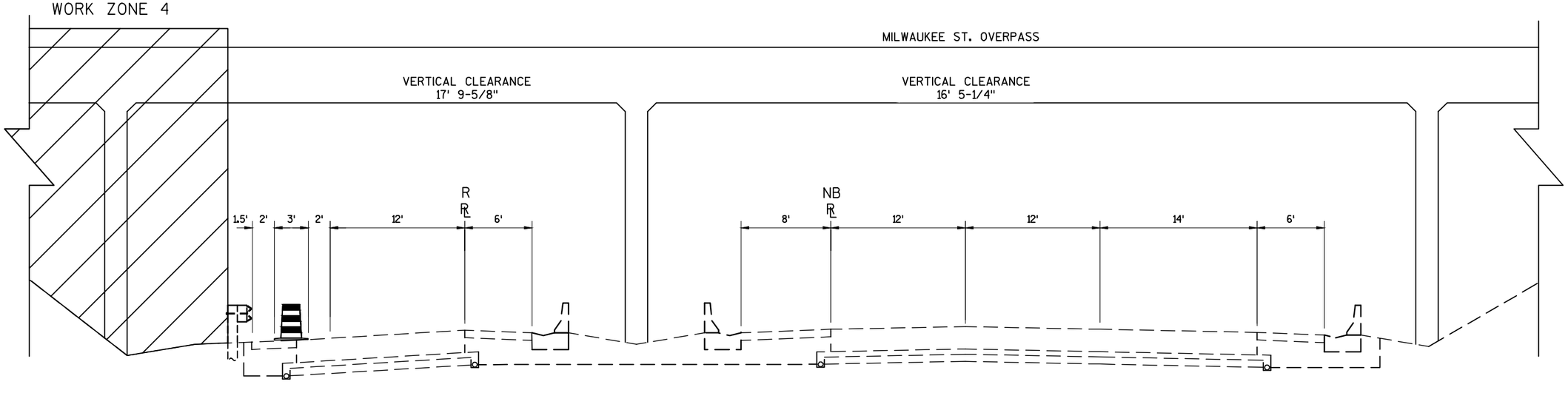
2



NB IH 39 OFF RAMP TO WB STH 30

I-39 NORTHBOUND RAMP CLOSURE

NB IH 39 LOOKING NORTHBOUND
(USED FOR WORK ON WEST END OF DECK
& DEBRIS CONTAINMENT INSTALL)



NB IH 39 OFF RAMP TO WB STH 30

I-39 NORTHBOUND TWO LANE CLOSURE

NB IH 39 LOOKING NORTHBOUND
(USED FOR WORK ON EDGE PIER &
DEBRIS CONTAINMENT INSTALL)

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL LANE CLOSURE DETAILS	SHEET 11	E

2

2

N

46 48 50 52 54 56 58 60

500'

9-237

9-236

1 MILE 2600' 1100' 500' 500'

ROAD WORK 2 MILES W20-1E

RIGHT TWO LANES CLOSED 1 MILE W20-5BF

RIGHT TWO LANES CLOSED 1/2 MILE W20-5BG

RIGHT TWO LANES CLOSED 1500 FT W20-5BB

W04-2R

LEGEND

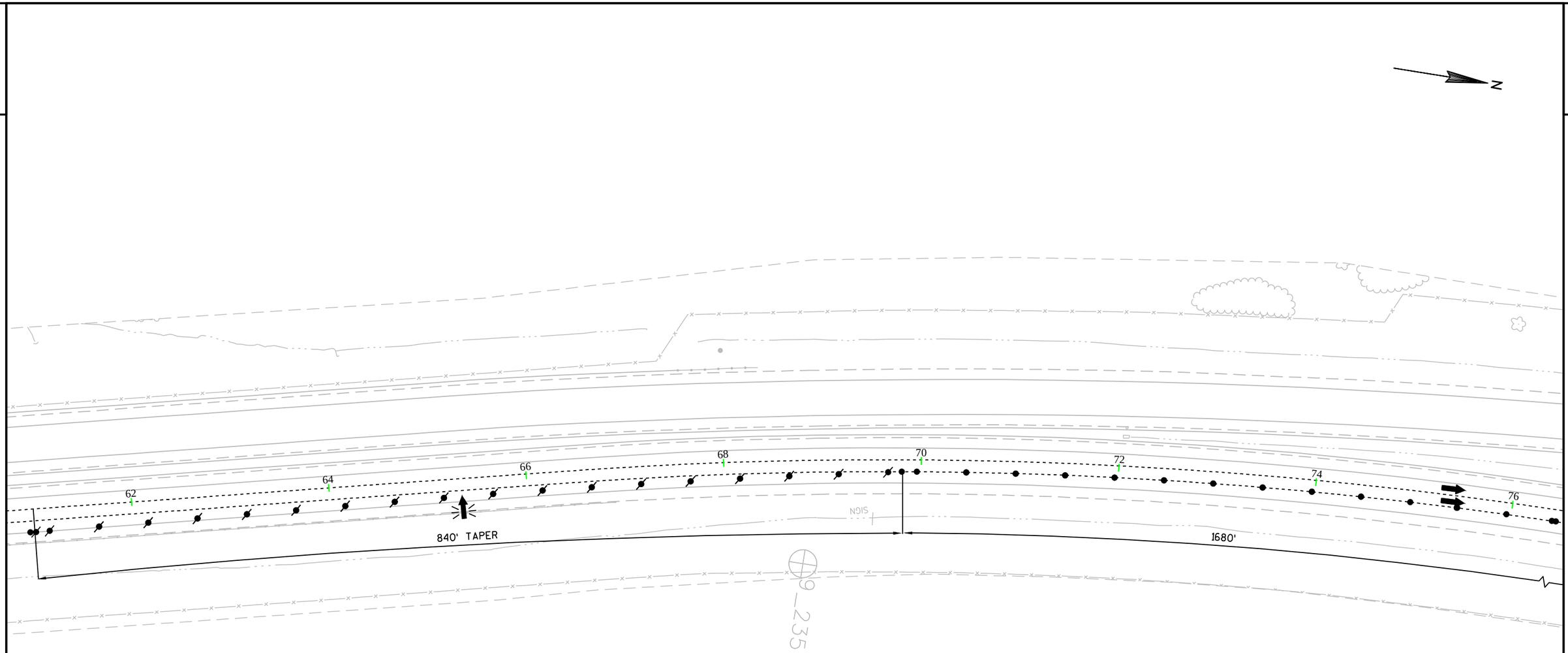
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TYPE 'A' WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- WORK AREA

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - WORK ZONE 1	SHEET 12	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - WZ1 - (0)

PLOT DATE : 4/20/2017 2:29 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : ##########

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TYPE 'A' WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- WORK AREA

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - WORK ZONE 1	SHEET 13	E

2

N

9-233

ISIGN

78 80 82 84 86 88 90 92

1680'

860' TAPER

W04-2R

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TYPE 'A' WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- WORK AREA

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - WORK ZONE 1	SHEET	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - WZ1 - (2)

PLOT DATE : 4/20/2017 2:29 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : ##########

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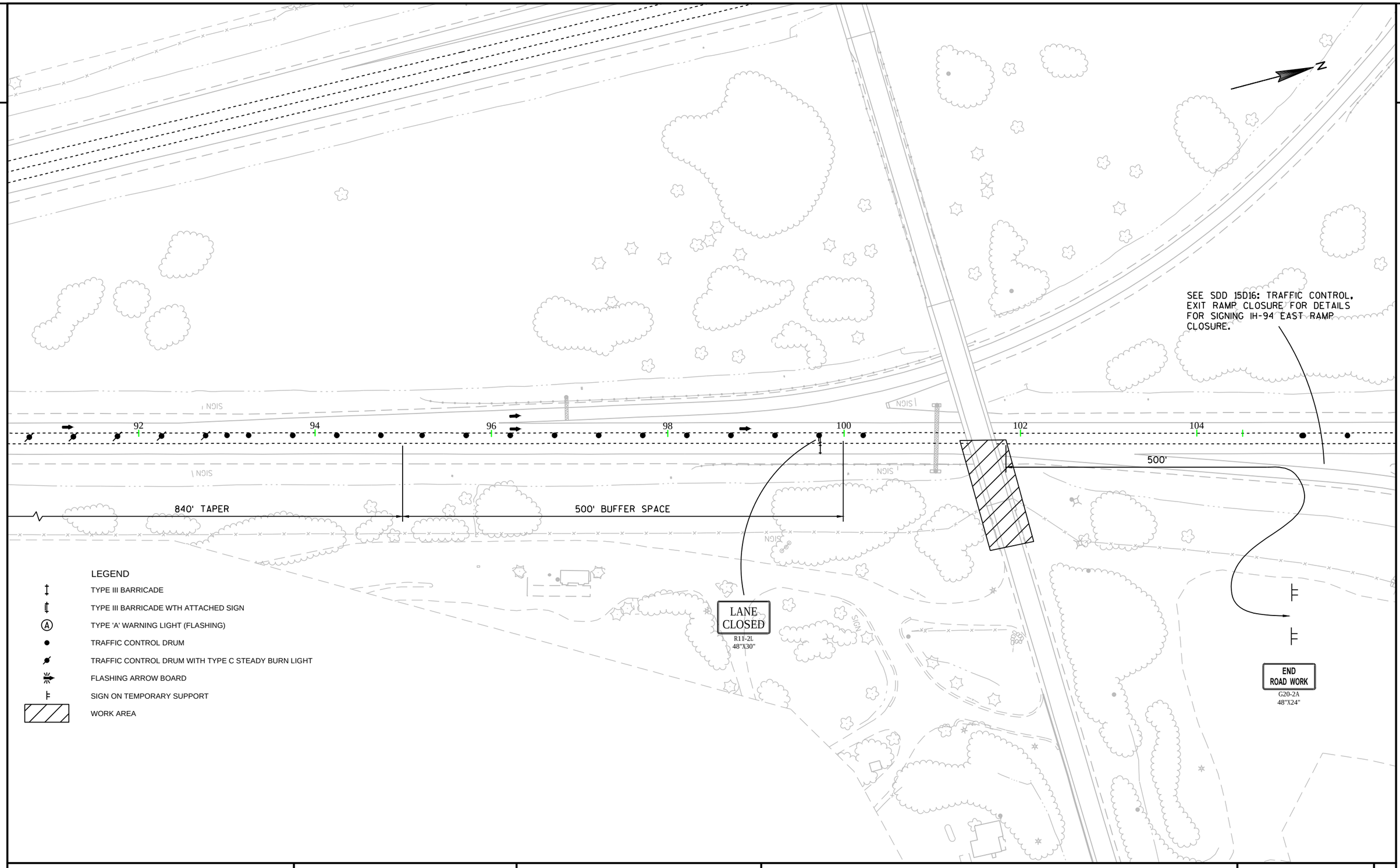
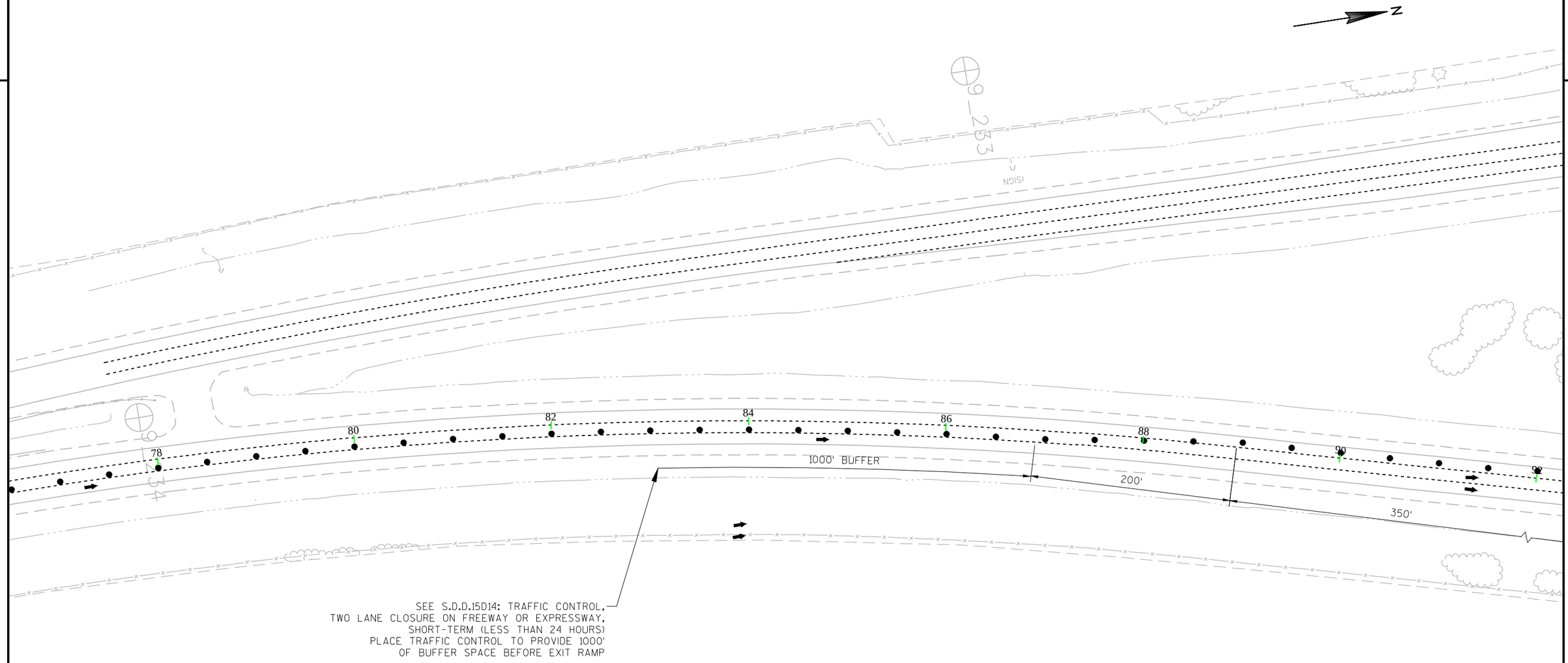


PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - WORK ZONE 1	SHEET	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - WZ1 - (3)

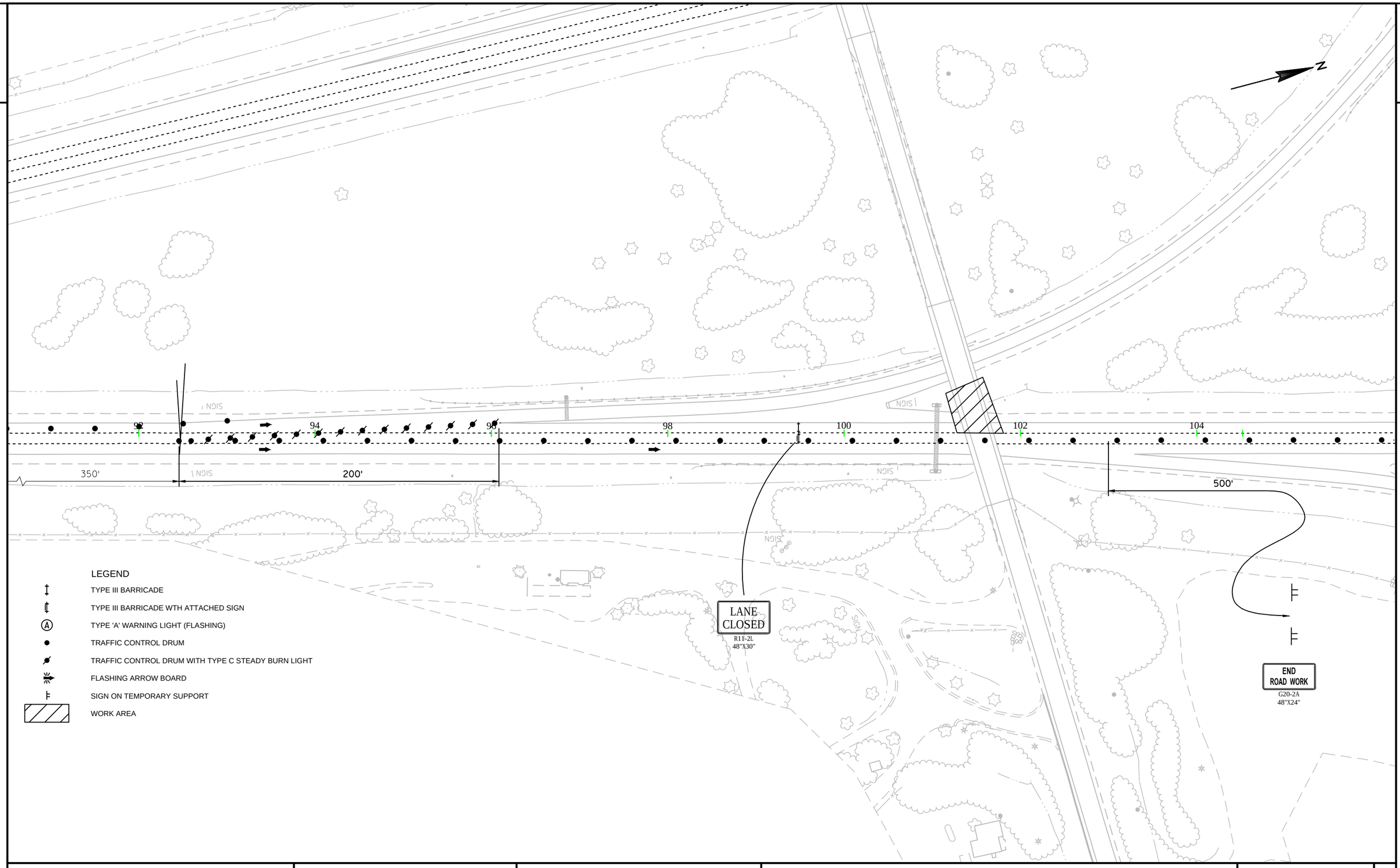
PLOT DATE : 4/20/2017 2:29 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : ##########

2



PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - WORK ZONE 2	SHEET 16	E

2



PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - WORK ZONE 2	SHEET 17	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - WZ2 - (2)

PLOT DATE : 4/20/2017 2:30 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : ##########

2

R11-2R
48" X 30"

RAMP CLOSED

TYPE III BARRICADE

COVER EXISTING EXIT SIGN

RAMP WILL BE CLOSED (TIME) BEGINNING (DATE)

R11-51
48"X48"

90 92 94 96 98 100 102

200'

500'

1500' 1500' 1000'

ROAD WORK AHEAD
W20-1A

RAMP CLOSED AHEAD
W20-53A

RAMP CLOSED 1000 FT
W20-53C

END ROAD WORK
G20-2A
48"X24"

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

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TYPE 'A' WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- WORK AREA

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - WORK ZONE 3	SHEET 18	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\025002_TC.DWG
LAYOUT NAME - WZ3 - (1)

PLOT DATE : 4/20/2017 2:30 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : ##########

GENERAL NOTES:

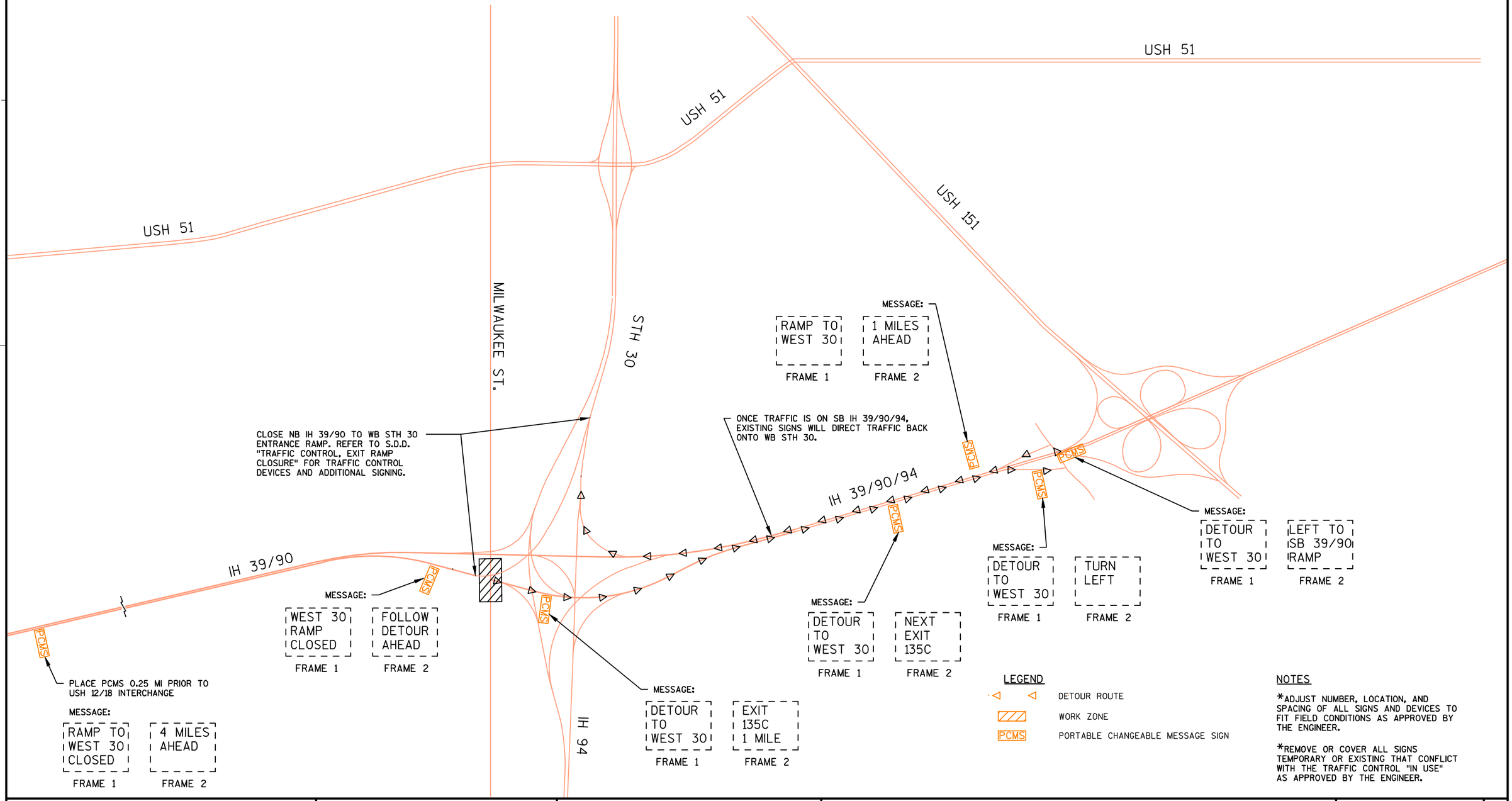
FOR TWO LANE CLOSURES ON NB IH 39/90
SEE S.D.D. 15D14 "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY SHORT TERM (LESS THAN 24 HOURS)"

FOR SINGLE LANE CLOSURES ON NB IH 39/90
SEE S.D.D. 15D12 "TRAFFIC CONTROL, LANE CLOSURE"

NB IH 39/90 RAMP TO WB STH 30

NIGHTTIME CLOSURE ONLY

N



LEGEND

- DETOUR ROUTE
- WORK ZONE
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN

NOTES

*ADJUST NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

*REMOVE OR COVER ALL SIGNS TEMPORARY OR EXISTING THAT CONFLICT WITH THE TRAFFIC CONTROL "IN USE" AS APPROVED BY THE ENGINEER.

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - RAMP CLOSURE	SHEET 19	E

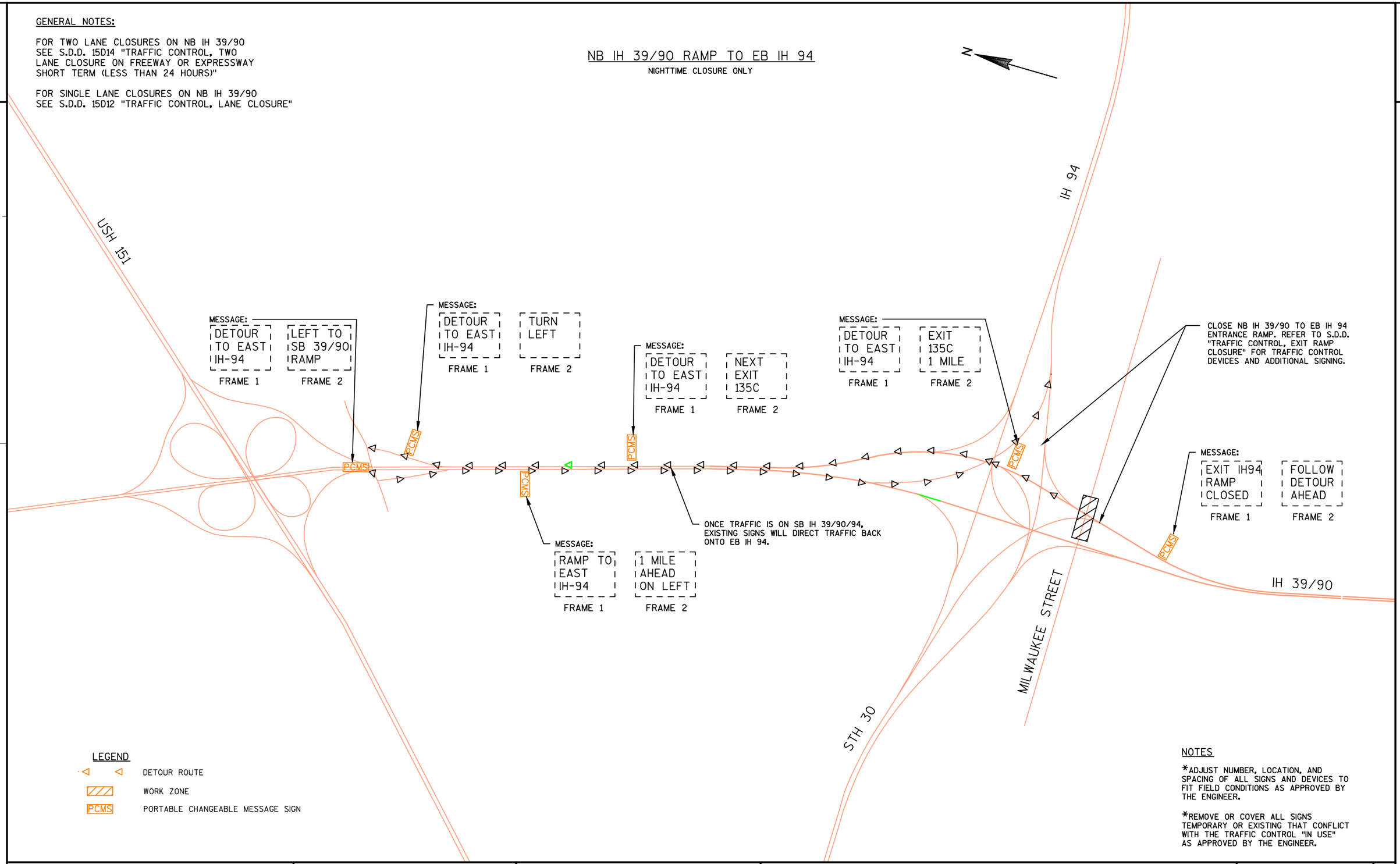
GENERAL NOTES:

FOR TWO LANE CLOSURES ON NB IH 39/90
SEE S.D.D. 15D14 "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY SHORT TERM (LESS THAN 24 HOURS)"

FOR SINGLE LANE CLOSURES ON NB IH 39/90
SEE S.D.D. 15D12 "TRAFFIC CONTROL, LANE CLOSURE"

NB IH 39/90 RAMP TO EB IH 94

NIGHTTIME CLOSURE ONLY



LEGEND

- DETOUR ROUTE
- WORK ZONE
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

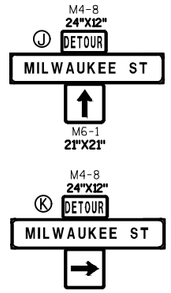
NOTES

*ADJUST NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

*REMOVE OR COVER ALL SIGNS TEMPORARY OR EXISTING THAT CONFLICT WITH THE TRAFFIC CONTROL "IN USE" AS APPROVED BY THE ENGINEER.

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - RAMP CLOSURE	SHEET 20	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\027001_DT.DWG
10020101 - 027001_DT - 02
PLOT DATE : 7/26/2017 8:33 AM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : Custom
WISDOT/CADDS SHEET 42



USH 51
N STOUGHTON RD
N STOUGHTON RD/USH 51
COMMERCIAL AVE
STH 30
N THOMPSON DR
SWANTON RD
MILWAUKEE ST
IH 39/90/94
IH 39/90
FELLAND RD
REINER RD
CTH T
SPRECHER RD
IH 94
RUSTIC DR.
MILKY WAY
ALTON DR.

SEE TRAFFIC CONTROL DETAIL
15C2, SHEET "b", DETAIL D
BARRICADES AND SIGNS FOR
MAINLINE CLOSURES;
ROAD CLOSURE BARRICADE DETAIL

GENERAL NOTES

FOR OTHER PERTINENT DETAILS, SEE THE FOLLOWING SDD'S:
- TRAFFIC CONTROL LANE CLOSURE, SPEEDS LESS THAN 45 MPH.
- TRAFFIC CONTROL, SHOULDER CLOSURE, SPEEDS LESS THAN 45 MPH.
- BARRICADES AND SIGNS FOR MAINLINE CLOSURE; 15C2 SHEET "a" DETAIL B
- BARRICADES AND SIGNS FOR SIDEROAD CLOSURE; 15C3 SHEET "c" DETAIL 2

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED, OR AS PROVIDED BY THE ENGINEER.

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

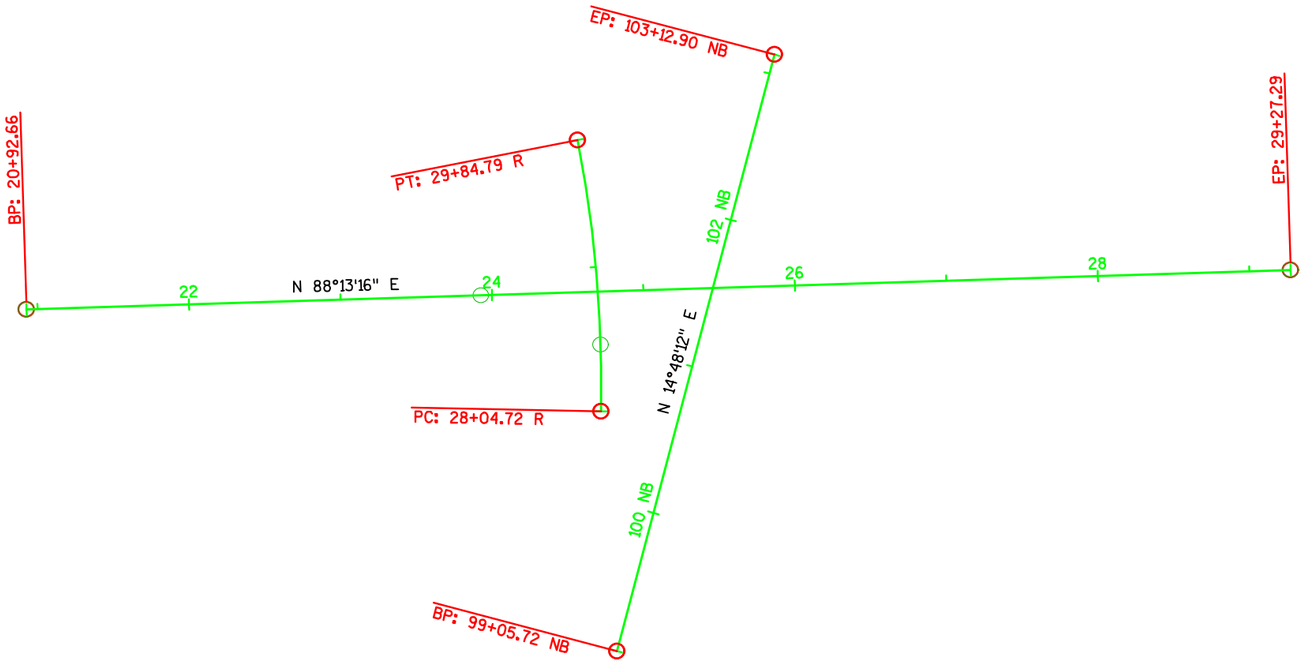
THE R11-2, R11-3 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

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

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL - DETOUR ROUTE	SHEET 21	E

2



BP = 20+92.66
Y 491,743.906
X 847,535.605

EP = 29+27.29
Y 491,769.813
X 848,369.832

P.I. = 28+95.09 R
Y 491,767.073
X 847,916.626
Δ = 12°12'18" LT.
D = 6°46'41"
T = 90.38'
L = 180.07'
R = 845.30'

PC = 28+04.72 R
Y 491,676.715
X 847,914.850

PT = 29+84.79 R
Y 491,855.764
X 847,899.258

BP = 99+05.72 NB
Y 491,518.415
X 847,925.201

EP = 103+12.90 NB
Y 491,912.079
X 848,029.237

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	ALIGNMENT DETAIL	SHEET 22	E

1002-01-71

Line	Item	Item Description	Unit	Total	Qty
0002	203.0200	Removing Old Structure (station) 01. 25+12.62	LS	1.000	1.000
0004	203.0225.S	Debris Containment (structure) 01. B-13-0131	LS	1.000	1.000
0006	204.0110	Removing Asphaltic Surface	SY	774.000	774.000
0008	204.0165	Removing Guardrail	LF	666.000	666.000
0010	204.0170	Removing Fence	LF	106.000	106.000
0012	205.0100	Excavation Common	CY	10.000	10.000
0014	206.1000	Excavation for Structures Bridges (structure) 01. B-13-0131	LS	1.000	1.000
0016	208.0100	Borrow	CY	156.000	156.000
0018	210.1500	Backfill Structure Type A	TON	196.000	196.000
0020	213.0100	Finishing Roadway (project) 01. 1002-01-71	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	76.000	76.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	46.000	46.000
0026	415.0120	Concrete Pavement 12-Inch	SY	24.000	24.000
0028	415.0410	Concrete Pavement Approach Slab	SY	64.000	64.000
0030	455.0605	Tack Coat	GAL	50.000	50.000
0032	460.2000	Incentive Density HMA Pavement	DOL	190.000	190.000
0034	460.6224	HMA Pavement 4 MT 58-28 S	TON	282.000	282.000
0036	465.0310	Asphaltic Curb	LF	30.000	30.000
0038	465.0315	Asphaltic Flumes	SY	14.000	14.000
0040	502.0100	Concrete Masonry Bridges	CY	311.000	311.000
0042	502.2000	Compression Joint Sealer Preformed Elastomeric (width) 01. 3 Inch	LF	130.000	130.000
0044	502.3100	Expansion Device (structure) 01. B-13-0131	LS	1.000	1.000
0046	502.3200	Protective Surface Treatment	SY	793.000	793.000
0048	502.3210	Pigmented Surface Sealer	SY	221.000	221.000
0050	502.4204	Adhesive Anchors No. 4 Bar	EACH	32.000	32.000
0052	502.4205	Adhesive Anchors No. 5 Bar	EACH	186.000	186.000
0054	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	61,890.000	61,890.000
0056	506.2610	Bearing Pads Elastomeric Laminated	EACH	8.000	8.000
0058	506.4000	Steel Diaphragms (structure) 01. B-13-0131	EACH	14.000	14.000
0060	506.7050.S	Removing Bearings (structure) 01. B-13-0131	EACH	8.000	8.000
0062	509.1500	Concrete Surface Repair	SF	230.000	230.000
0064	516.0500	Rubberized Membrane Waterproofing	SY	20.000	20.000
0066	604.9015.S	Reseal Crushed Aggregate Slope Paving	SY	310.000	310.000
0068	606.0100	Riprap Light	CY	10.000	10.000
0070	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	100.000	100.000
0072	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0074	614.2300	MGS Guardrail 3	LF	434.000	434.000
0076	614.2500	MGS Thrie Beam Transition	LF	200.000	200.000

1002-01-71

Line	Item	Item Description	Unit	Total	Qty
0078	614.2610	MGS Guardrail Terminal EAT	EACH	1.000	1.000
0080	616.0100	Fence Woven Wire (height) 01. 4 FT	LF	106.000	106.000
0082	616.0206	Fence Chain Link 6-FT	LF	525.000	525.000
0084	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1002-01-71	EACH	1.000	1.000
0086	619.1000	Mobilization	EACH	1.000	1.000
0088	624.0100	Water	MGAL	1.200	1.200
0090	625.0500	Salvaged Topsoil	SY	584.440	584.440
0092	628.1504	Silt Fence	LF	770.000	770.000
0094	628.1520	Silt Fence Maintenance	LF	770.000	770.000
0096	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0098	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0100	628.2004	Erosion Mat Class I Type B	SY	584.440	584.440
0102	628.6510	Soil Stabilizer Type B	ACRE	0.120	0.120
0104	629.0210	Fertilizer Type B	CWT	0.370	0.370
0106	630.0130	Seeding Mixture No. 30	LB	10.520	10.520
0108	630.0400	Seeding Nurse Crop	LB	4.200	4.200
0110	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	8.000	8.000
0112	637.2230	Signs Type II Reflective F	SF	24.000	24.000
0114	642.5001	Field Office Type B	EACH	1.000	1.000
0116	643.0100	Traffic Control (project) 01. 1002-01-71	EACH	1.000	1.000
0118	643.0300	Traffic Control Drums	DAY	2,673.000	2,673.000
0120	643.0420	Traffic Control Barricades Type III	DAY	1,576.000	1,576.000
0122	643.0705	Traffic Control Warning Lights Type A	DAY	2,990.000	2,990.000
0124	643.0715	Traffic Control Warning Lights Type C	DAY	1,522.000	1,522.000
0126	643.0800	Traffic Control Arrow Boards	DAY	65.000	65.000
0128	643.0900	Traffic Control Signs	DAY	533.000	533.000
0130	643.0920	Traffic Control Covering Signs Type II	EACH	21.000	21.000
0132	643.1000	Traffic Control Signs Fixed Message	SF	36.000	36.000
0134	643.1050	Traffic Control Signs PCMS	DAY	183.000	183.000
0136	643.2000	Traffic Control Detour (project) 01. 1002-01-71	EACH	1.000	1.000
0138	643.3000	Traffic Control Detour Signs	DAY	4,225.000	4,225.000
0140	645.0111	Geotextile Type DF Schedule A	SY	44.000	44.000
0142	645.0130	Geotextile Type R	SY	18.000	18.000
0144	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,172.000	2,172.000
0146	650.5000	Construction Staking Base	LF	298.000	298.000
0148	650.6500	Construction Staking Structure Layout (structure) 01. B-13-0131	LS	1.000	1.000
0150	650.9910	Construction Staking Supplemental Control (project) 01. 1002-01-71	LS	1.000	1.000

1002-01-71

Line	Item	Item Description	Unit	Total	Qty
0152	650.9920	Construction Staking Slope Stakes	LF	298.000	298.000
0154	690.0150	Sawing Asphalt	LF	80.000	80.000
0156	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0158	715.0502	Incentive Strength Concrete Structures	DOL	3,110.000	3,110.000
0160	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	500.000	500.000
0162	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	375.000	375.000
0164	SPV.0060	Special 01. Cleaning and Painting Bearings	EACH	28.000	28.000
0166	SPV.0060	Special 02. BEAT SSCC-CM-44 Crash Cushion System	EACH	1.000	1.000
0168	SPV.0105	Special 01. Vegetation Removal B-13-131	LS	1.000	1.000
0170	SPV.0165	Special 01. Fiber Wrap Girder Reinforcing	SF	480.000	480.000

3

REMOVING ASPHALTIC SURFACE

STATION	TO	STATION	LOCATION	204.0110 SY
21+94	-	23+92	Roadway	485
26+30	-	27+30	Roadway	245
27+00	-	27+30	Driveway	44
			TOTAL 0010	774

REMOVING GUARDRAIL

STATION	TO	STATION	LOCATION	204.0165 LF
20+93	-	23+88	LT	296
26+43	-	26+81	LT	38
20+93	-	23+88	RT	296
26+43	-	26+79	RT	36
			TOTAL 0010	666

REMOVING FENCE

STATION	TO	STATION	LOCATION	204.0170 LF
26+30	-	26+72	LT	56
26+30	-	26+43	RT	50
			TOTAL 0010	106

3

EARTHWORK

LOCATION	205.0100 EXCAVATION COMMON CY	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	208.0100 BORROW CY	624.0100 WATER MGAL
EAST OF BRIDGE	0	53	37	51	0.9
NORTH FLUME	5	0	0	0	0.0
SOUTH FLUME	5	0	0	0	0.0
WEST OF BRIDGE	0	23	9	85	0.3
UNDISTRIBUTED				20	0.0
TOTAL	10	76	46	156	1.2

415-CONCRETE ITEMS

STATION	TO	STATION	LOCATION	415.0120 CONCRETE PAVEMENT 12-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
23+79	-	23+92	LT Shoulder	6	-
23+79	-	23+92	RT Shoulder	6	-
23+79	-	23+92	-	-	32
26+30	-	26+43	LT Shoulder	6	-
26+30	-	26+43	RT Shoulder	6	-
26+30	-	26+43	-	-	32
			TOTAL 0010	24	64

460-ASPHALT ITEMS

STATION	TO	STATION	LOCATION	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	455.0605 TACK COAT GAL
21+94	-	23+79	Roadway	183	32
26+43	-	27+30	Roadway	86	15
27+00	-	27+30	Driveway	13	2
			TOTAL 0010	282	50

465-ASPHALTIC FLUME

STATION	TO	STATION	LOCATION	465.0310 ASPHALTIC CURB LF	465.0315 ASPHALTIC FLUMES SY	606.0100 RIPRAP LIGHT CY	645.0130 GEOTEXTILE TYPE R SY
26+43	-	26+62	LT	19	-	-	-
26+43	-	26+54	RT	11	-	-	-
26+61	-	26+67	LT	-	7	5	9
26+53	-	26+59	RT	-	7	5	9
			TOTAL 0010	30	14	10	18

3

614-GUARDRAIL ITEMS

STATION	TO	STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	SPV.0060.02 BEAT SSCC-CM-44 CRASH CUSHION SYSTEM EACH
20+84	-	21+24	LT	-	40	-	-
21+24	-	23+42	LT	217	-	-	-
23+42	-	23+82	LT	-	40	-	-
26+41	-	26+81	LT	-	40	-	-
26+81	-	27+34	LT	-	-	1	-
20+84	-	21+24	RT	-	40	-	-
21+24	-	23+42	RT	217	-	-	-
23+42	-	23+82	RT	-	40	-	-
26+38	-	26+88	RT	-	-	-	1
			TOTAL 0010	434	200	1	1

630-RESTORATION

STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0400 SEEDING NURSE CROP LB
20+80	-	22+00	LT	-	-	-	-
22+00	-	23+00	LT	22	0.01	0	0
23+00	-	24+00	LT	111	0.07	2	1
26+30	-	27+40	LT	159	0.10	3	1
20+80	-	22+00	RT	-	-	-	-
22+00	-	23+00	RT	22	0.01	0	0
23+00	-	24+00	RT	111	0.07	2	1
26+30	-	27+40	RT	159	0.10	3	1
			TOTAL 0010	584	0.37	11	4

3

628-EROSION CONTROL

STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2004 EROSION MAT CLASS I TYPE B SY	628.6510 SOIL STABILIZER TYPE B ACRE
21+75	-	24+00	LT	245	245	-	-	-	-
26+25	-	27+40	LT	140	140	-	-	-	-
20+80	-	22+00	LT	-	-	-	-	0	0.000
22+00	-	23+00	LT	-	-	-	-	22	0.005
23+00	-	24+00	LT	-	-	-	-	111	0.023
26+30	-	27+40	LT	-	-	-	-	159	0.033
21+75	-	24+00	RT	245	245	-	-	-	-
26+25	-	27+40	RT	140	140	-	-	-	-
20+80	-	22+00	RT	-	-	-	-	0	0.000
22+00	-	23+00	RT	-	-	-	-	22	0.005
23+00	-	24+00	RT	-	-	-	-	111	0.023
26+30	-	27+40	RT	-	-	-	-	159	0.033
-		-	Project	-	-	3	2	-	-
			TOTAL 0010	770	770	3	2	584	0.12

FENCE WOVEN WIRE (4-FT)

STATION	TO	STATION	LOCATION	616.0100 LF
26+30	-	26+72	LT	56
26+30	-	26+43	RT	50
			TOTAL 0010	106

3

643-TRAFFIC CONTROL

LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAY
Advance Warning	-	-	-	-	-	-	-	14	-
Milwaukee St Detour	-	845	1690	-	-	-	36	-	4225
Bridge Closure	-	650	1300	-	-	130	-	-	-
Work Zone 1 Closure	651	14	-	487	21	98	-	49	-
Work Zone 2 Closure	1586	39	-	1035	39	208	-	78	-
Work Zone 3 Closure	336	28	-	-	-	77	-	42	-
Work Zone 4 Closure	100	-	-	-	5	20	-	-	-
TOTAL 0010	2673	1576	2990	1522	65	533	36	183	4225

PAVEMENT MARKING EPOXY 4-INCH

STATION	TO	STATION	LOCATION	646.0106 LF
21+90	-	27+33	LT	543
21+90	-	27+33	Center Line	1086
21+90	-	27+33	RT	543
			TOTAL 0010	2172

3

TRAFFIC CONTROL COVERING SIGNS TYPE II

LOCATION	NUMBER OF CYCLES	NUMBER OF SIGNS	643.0920 EACH	REMARKS
Work Zone 1 Closure	7	1	7	"EXIT 138A"
Work Zone 1 Closure	7	1	7	"EXIT 55MPH"
Work Zone 3 Closure	7	1	7	"EXIT 138B"
TOTAL 0010			21	

637-TYPE II SIGNS

PLAN NUMBER	LOCATION	SIGN SIZE IN X IN	SIGN PLATE NUMBER	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF
1 - 1	B-13-0477 NW	12 x 36	W5-52L	1	3.0
1 - 2	B-13-0477 SW	12 x 36	W5-52R	1	3.0
1 - 3	B-13-0477 NE	12 x 36	W5-52R	1	3.0
1 - 4	B-13-0477 SE	12 x 36	W5-52L	1	3.0
1 - 5	B-13-0131 NW	12 x 36	W5-52L	1	3.0
1 - 6	B-13-0131 SW	12 x 36	W5-52R	1	3.0
1 - 7	B-13-0131 NE	12 x 36	W5-52R	1	3.0
1 - 8	B-13-0131 SE	12 x 36	W5-52L	1	3.0
			TOTAL 0010	8	24.0

3

650-STAKING

STATION	TO	STATION	LOCATION	650.5000 CONSTRUCTION STAKING BASE LF	650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-13-0131) LS	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (1002-01-71) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
					-		
21+94	-	23+92	-	198	-	-	198
26+30	-	27+30	-	100	-	-	100
-		-	B-13-0131	-	1	-	-
-		-	Project	-	-	1	-
			TOTAL 0010	298	1	1	298

SAWING ASPHALT

STATION	LOCATION	690.0150 LF
21+94	Transverse	26
27+30	Transverse	26
27+30 RT	Driveway	28
	TOTAL 0010	80

3

CONTROL POINTS

NO.	STATION	OFFSET	Y	X	DESCRIPTION
501	22+68.05	17.64' LT.	847,710.36	491,766.98	REBAR
903	24+79.37	18.08' LT.	847,921.57	491,773.98	PENNY NAIL
502	27+76.24	22.54'	848,219.55	491,742.60	REBAR

BENCHMARKS

NO.	STATION	OFFSET	DESCRIPTION	ELEV.
1000	20+98.74	15.29' LT.	CHISLED SQUARE	1019.88
13191	23+89.76	14.14' RT.	SURVEY DISC.	1019.01

BEGIN CONSTRUCTION
STA. 20+92.66

BEGIN PROJECT
STA. 21+93.85

BP: 20+92.66

MCLEOD USA

MILWAUKEE ST

S.I.

SAWCUT REQ'D.
FULL DEPTH

BRIDGE BEGINNING
STA. 23+92.12

CONCRETE PAVEMENT 12-INCH

PT: 29+84.79 R

RAMP TO STH 30

29+00 R

PC: 28+04.72 R

STA. 24+69.95=
STA. 28+83.68 R

B-13-131

STA. 25+45.78=
STA. 101+53.50 NB

102+00 NB

101+00 NB

IH 39/90

BRIDGE END
STA. 26+30.12

MG&E

EXISTING R/W

REMOVING FENCE
FENCE WOVEN WIRE

ASPHALT FLUME

END CONSTRUCTION
STA. 27+40

END PROJECT
STA. 27+30.39

N

21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00

5

5

21+75.00 22+00.00 23+00.00 24+00.00 25+00.00 26+00.00 27+00.00 27+50.00

1030.00 1020.00 1010.00 1000.00

STA 21+93.85
EL 1018.12

VPC STA 23+25.00
VPC EL 1018.50

VPI STA 25+25.00
VPI EL 1019.10

VPT STA 27+25.00
VPT EL 1013.84

STA 27+30.39
EL 1013.70

PROPOSED GROUND

EXISTING GROUND

0.30%

-2.63%

VCL = 400.00

K = 136.76

EXISTING GROUND ELEVATION

PROPOSED GROUND ELEVATION

21 22 23 24 25 26 27 27

1018.05	1018.11	1018.08	1017.99	1017.99	1018.17	1017.93	1017.46	1016.98	1016.25	1015.39	1014.42
	1018.13	1018.28	1018.43	1018.56	1018.52	1018.30	1017.90	1017.32	1016.56	1015.61	1014.48

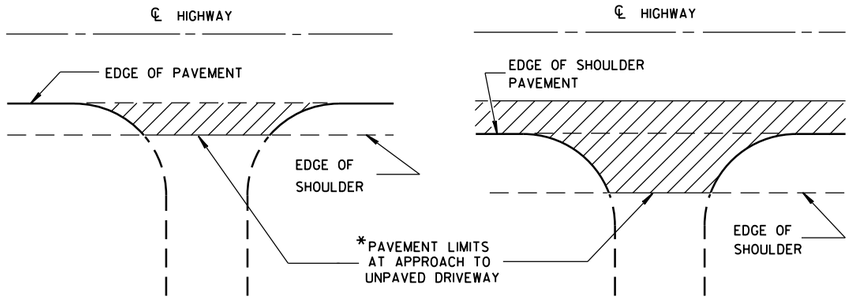
PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	PLAN AND PROFILE: MILWAUKEE STREET	SHEET 30 E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\050101_PP_2.DWG
LAYOUT NAME - PLAN PROFILE

PLOT DATE : 4/20/2017 2:34 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : 1 IN:50 FT

Standard Detail Drawing List

08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E09-06	SILT FENCE
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15B03-15A	FENCE CHAIN LINK
15B03-15B	FENCE CHAIN LINK
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15D03-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D03-04	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D12-06B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D14-03	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-03B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-03C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

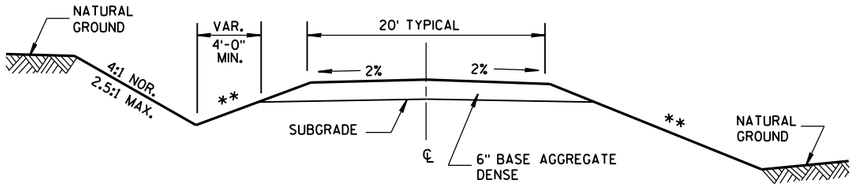


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)

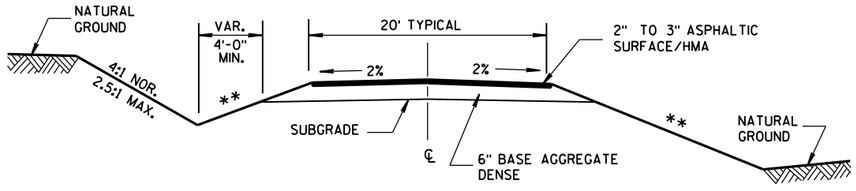


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

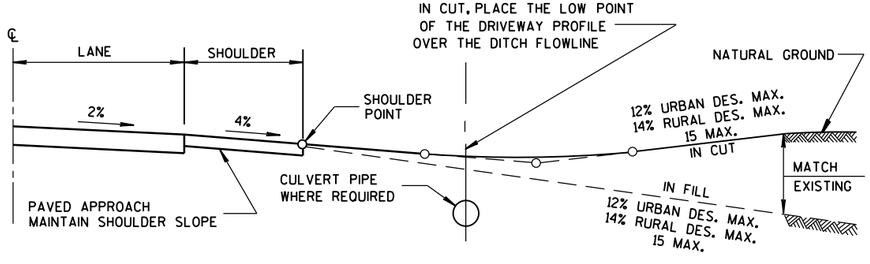
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

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



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE



TYPICAL DRIVEWAY PROFILES

DRIVEWAYS WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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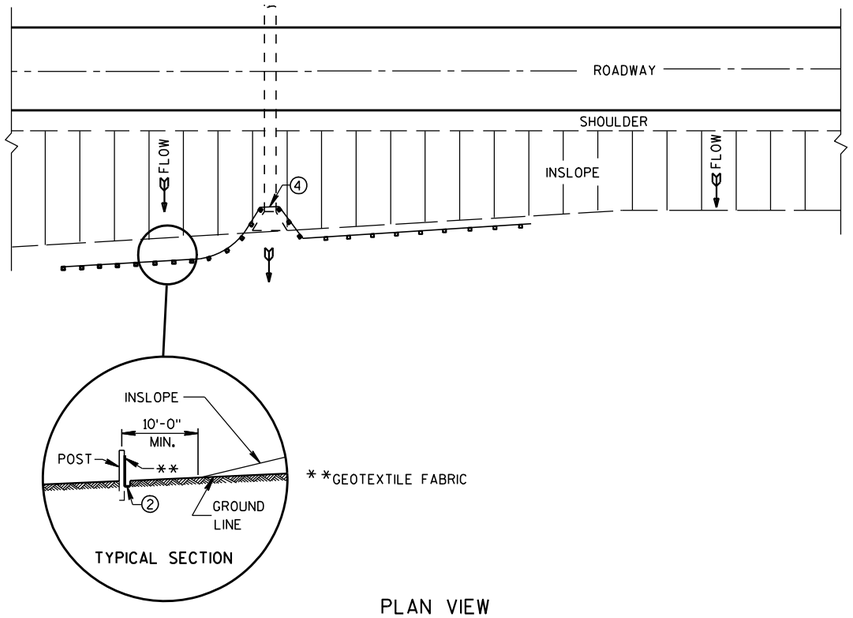
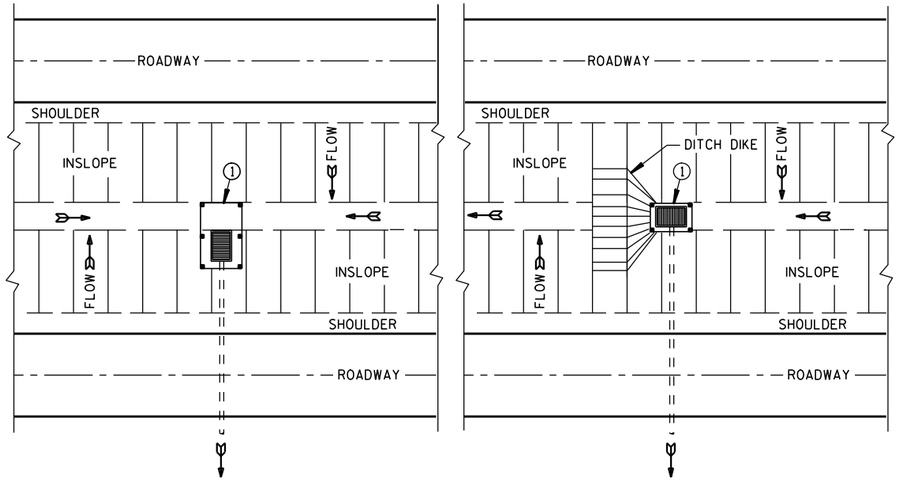
S.D.D. 8 D 21-1



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



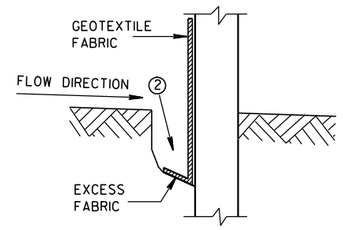
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

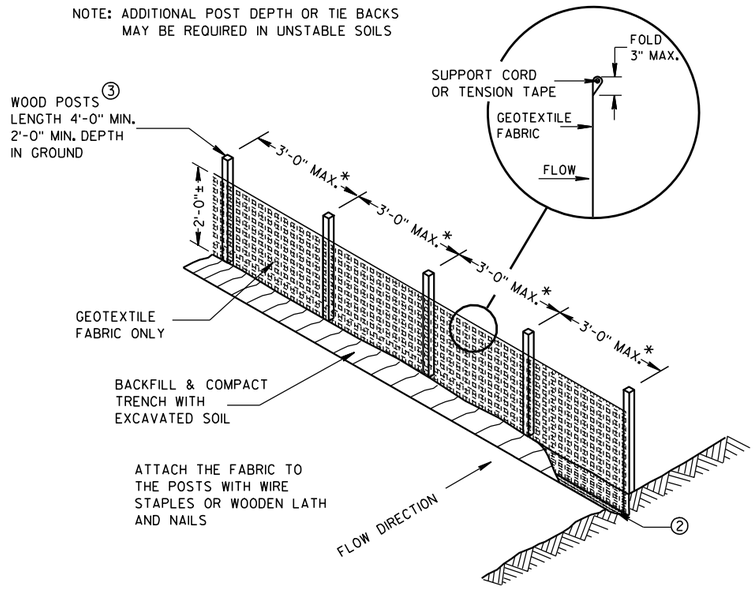
GENERAL NOTES

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

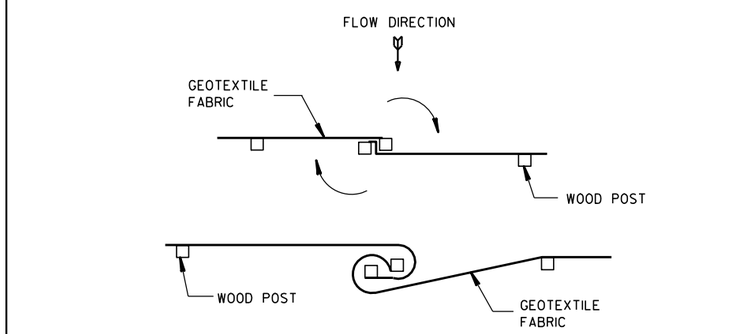
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



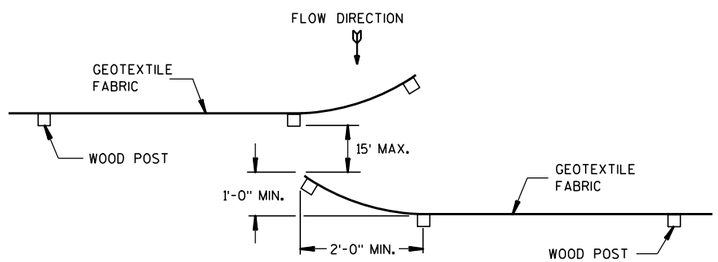
TRENCH DETAIL



SILT FENCE

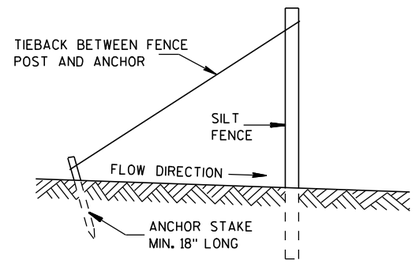


TWIST METHOD



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

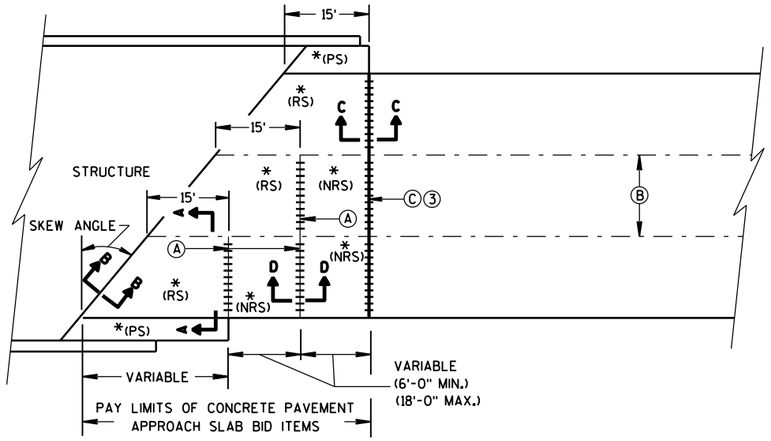
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

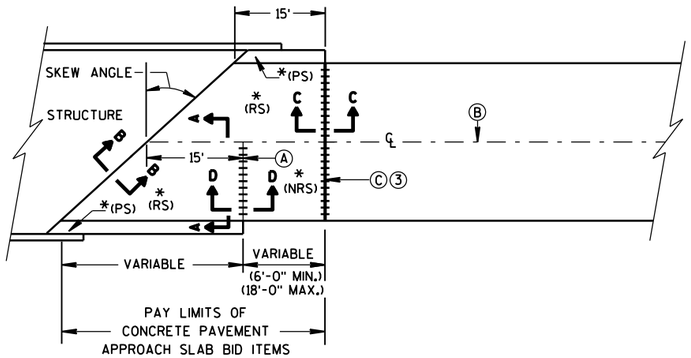
S.D.D. 8 E 9-6

6

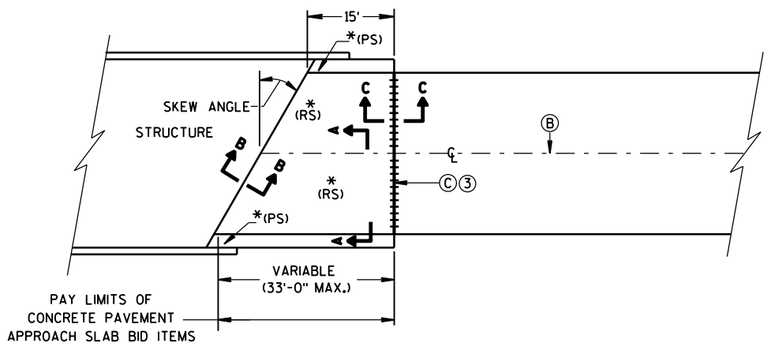
S.D.D. 8 E 9-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



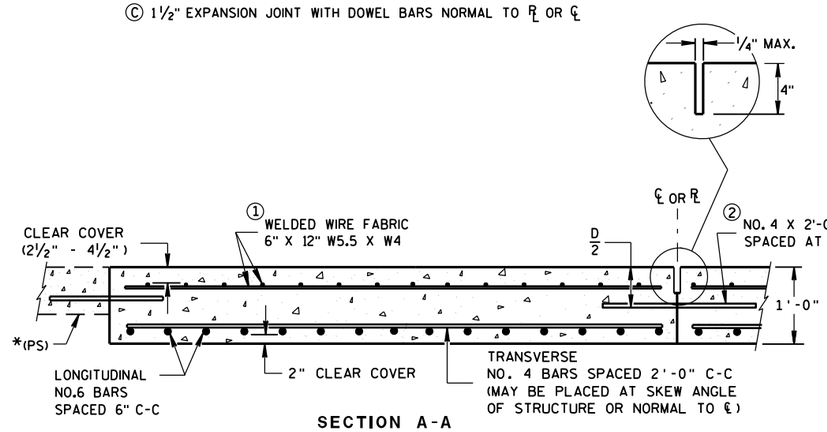
SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

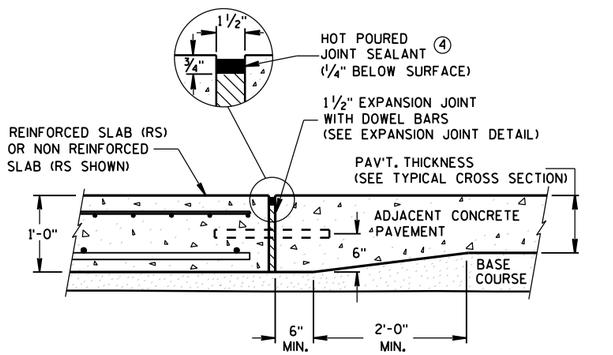
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

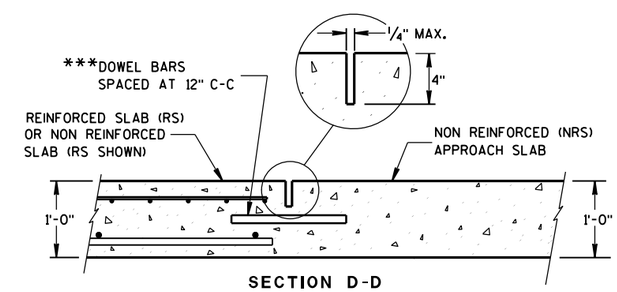
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

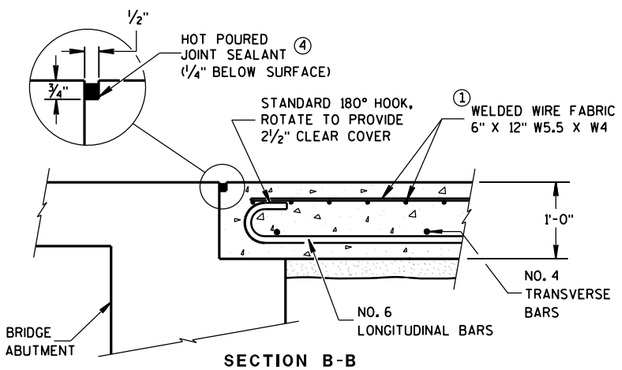
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

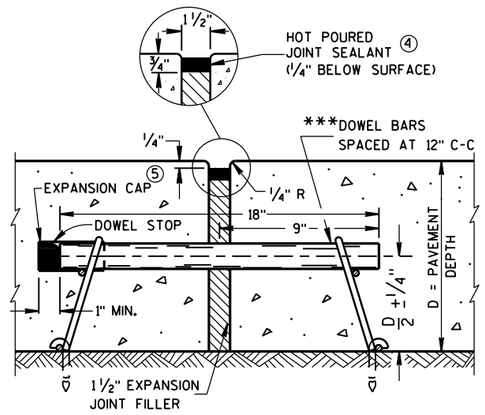
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6
S.D.D. 13 B 2-8a

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.

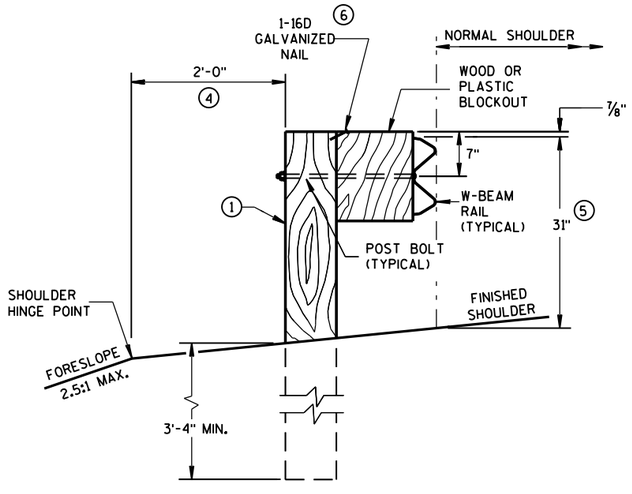
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ 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).

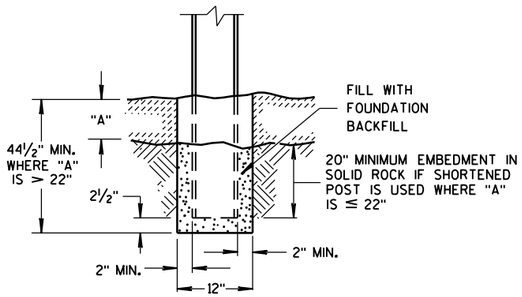
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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.



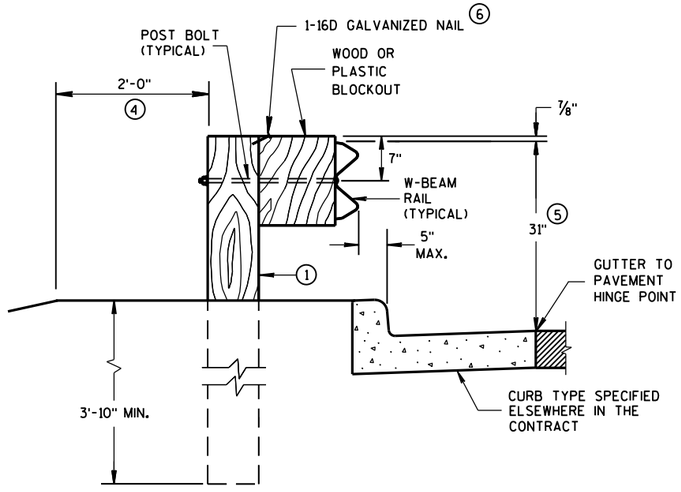
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



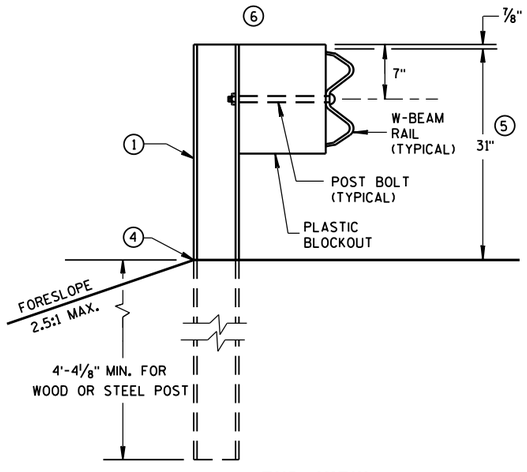
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



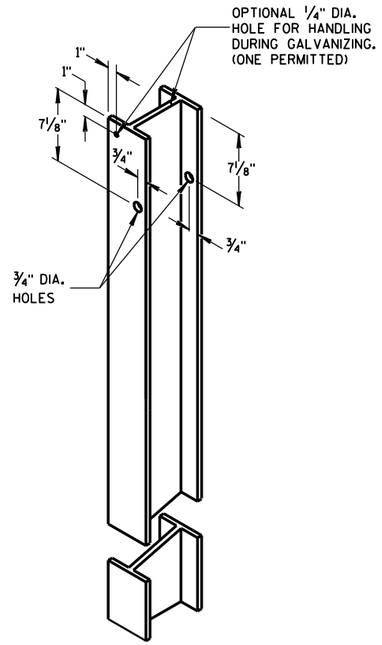
END VIEW

LOCATED ALONG A CURBED ROADWAY

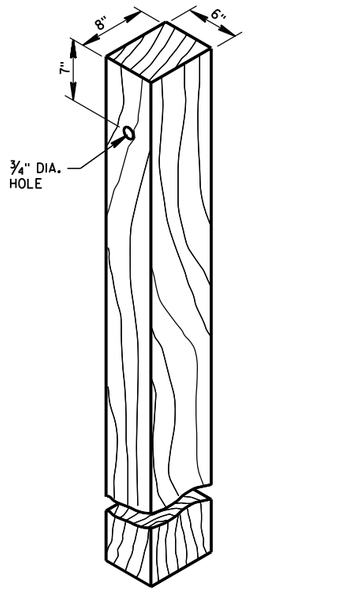


END VIEW

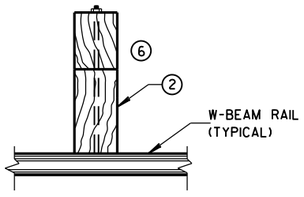
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



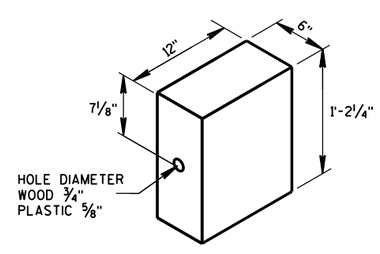
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



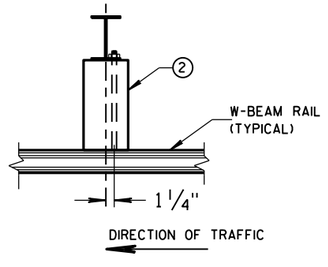
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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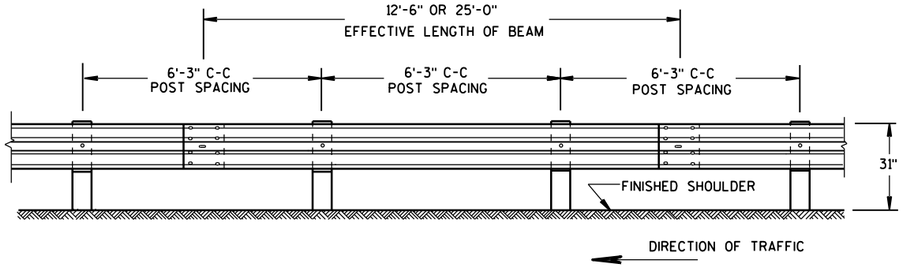
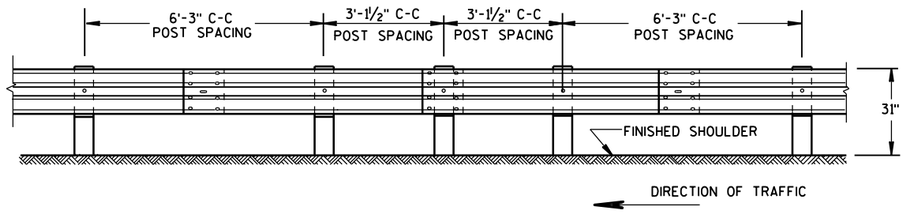


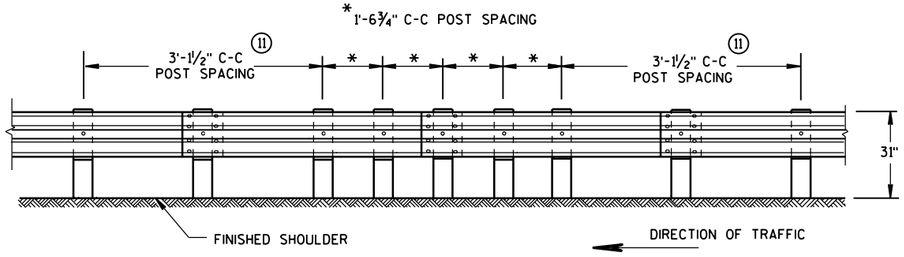
FRONT VIEW

POST SPACING STANDARD INSTALLATION



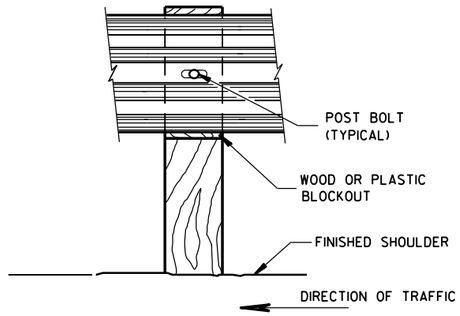
FRONT VIEW

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

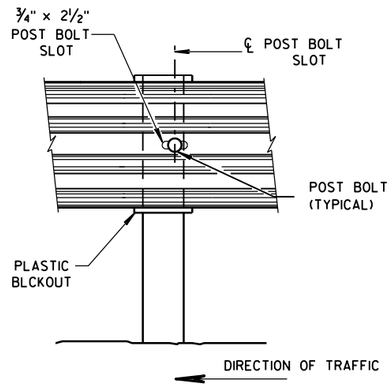


FRONT VIEW

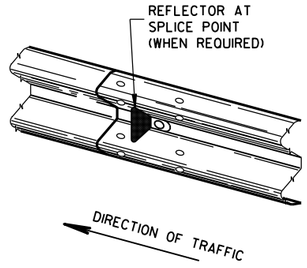
QUARTER POST SPACING (QS)

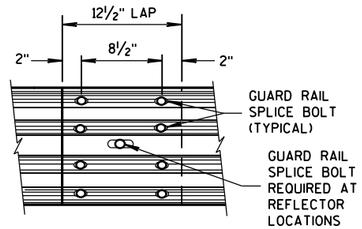


FRONT VIEW AT WOOD POST



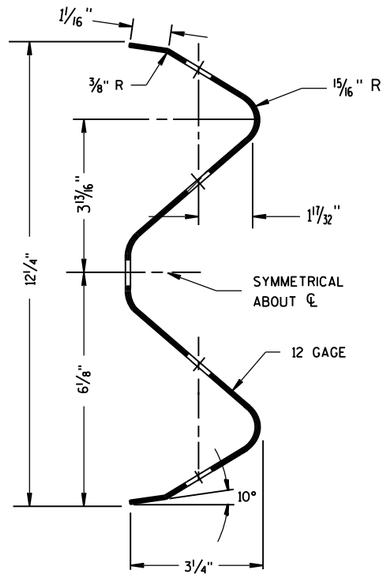
FRONT VIEW AT STEEL POST



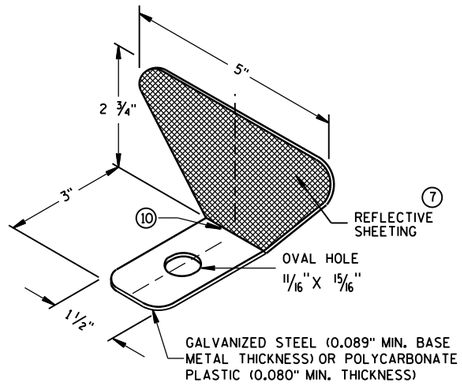


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 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.

REFLECTOR SPACING ⑧

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 ⑨ 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 ⑩	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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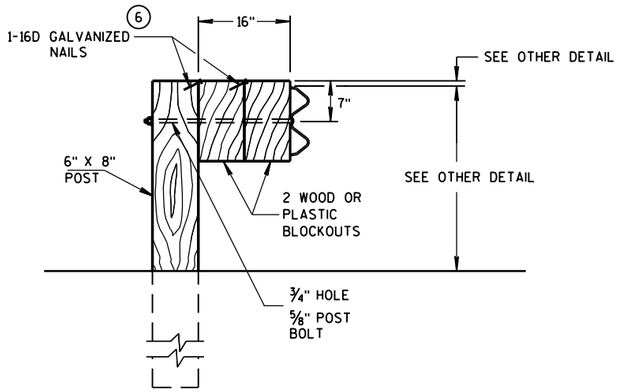
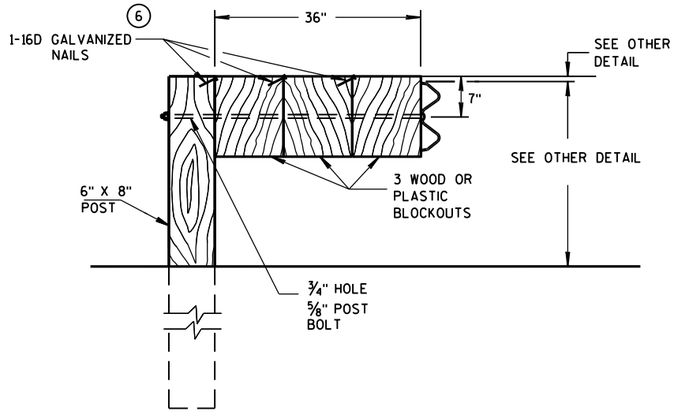


DETAIL FOR 16" BLOCKOUT DEPTH

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.

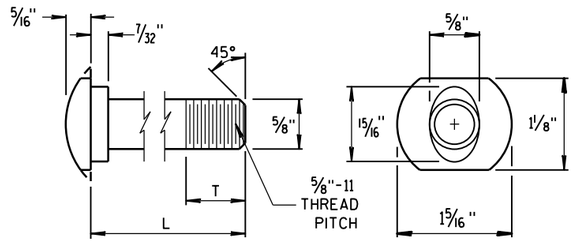


DETAIL FOR 36" BLOCKOUT DEPTH

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.

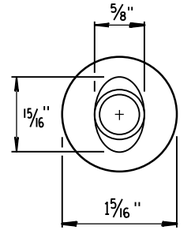
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

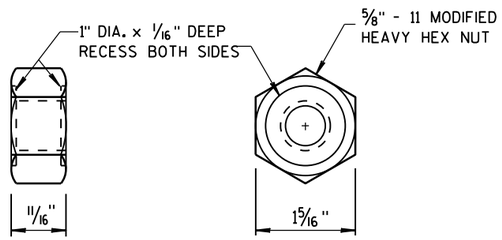


POST BOLT TABLE

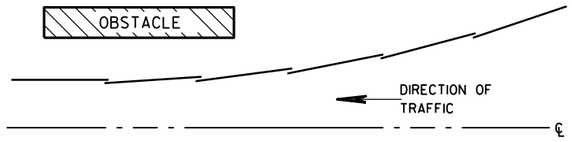
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

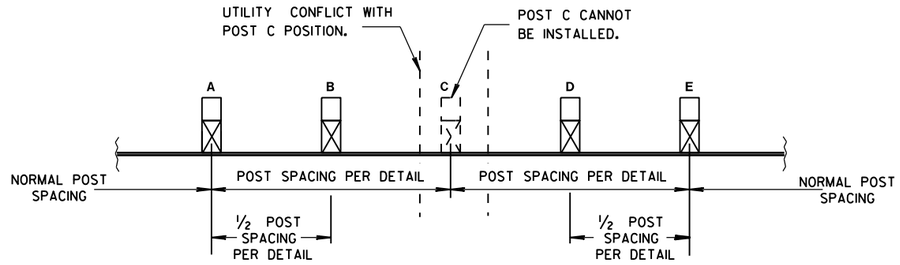


POST BOLT, SPLICE BOLT AND RECESS NUT

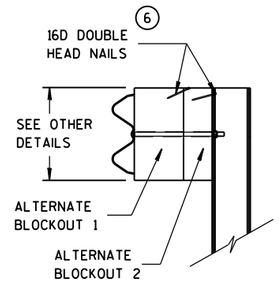


PLAN VIEW

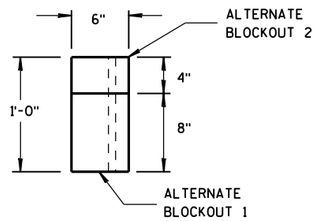
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 42-4c

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 MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

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

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

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

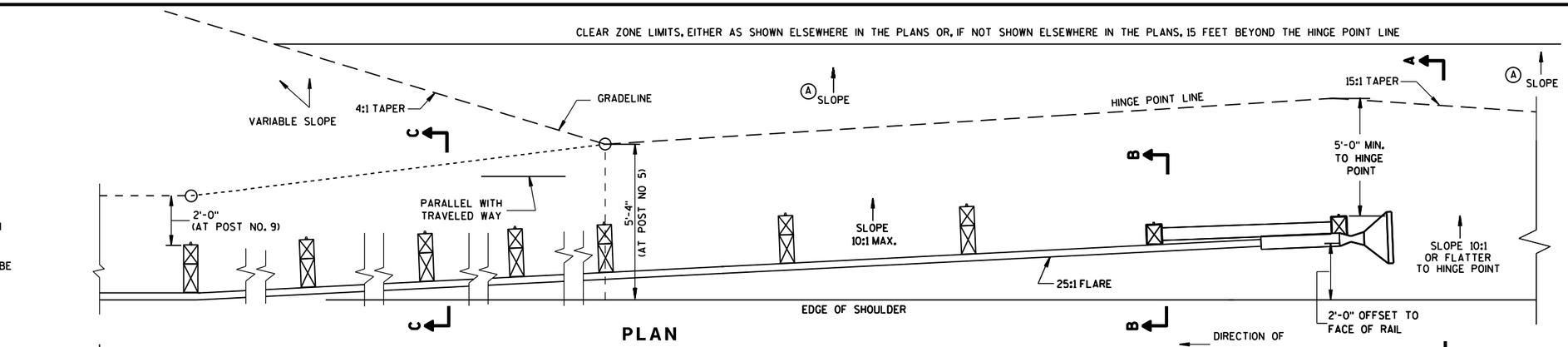
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

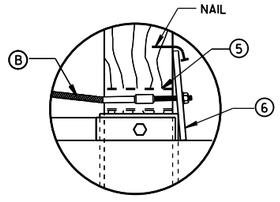
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

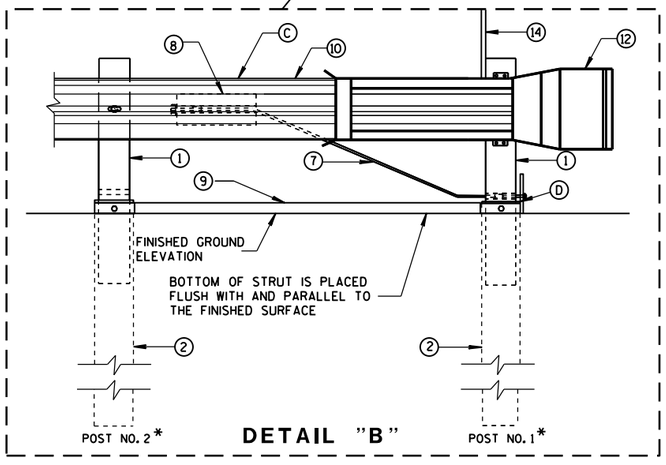
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

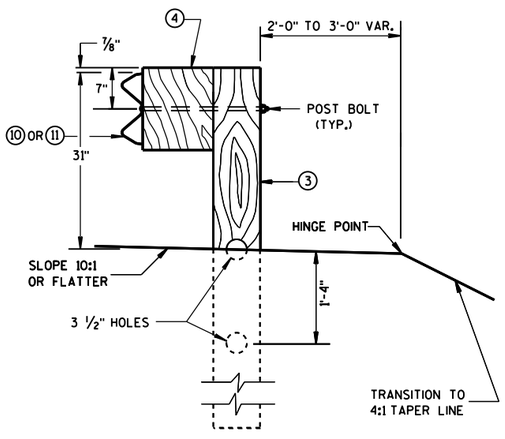
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



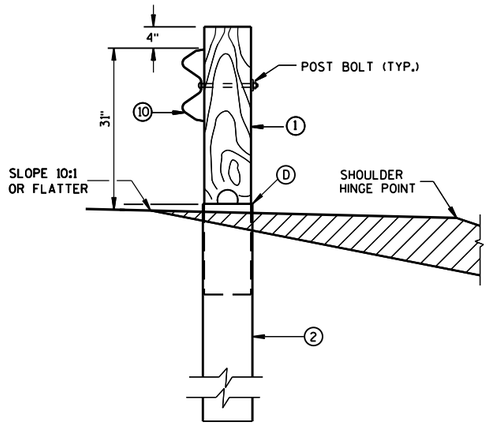
ELEVATION







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



SECTION B-B
TYPICAL AT POST NO. 2*

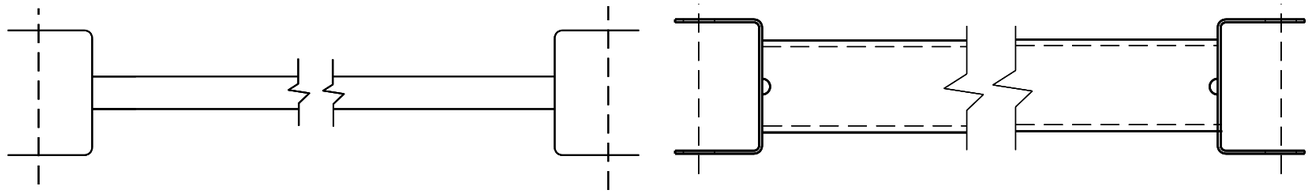
SECTION A-A
TYPICAL AT POST NO. 1*

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

S.D.D. 14 B 44-2a

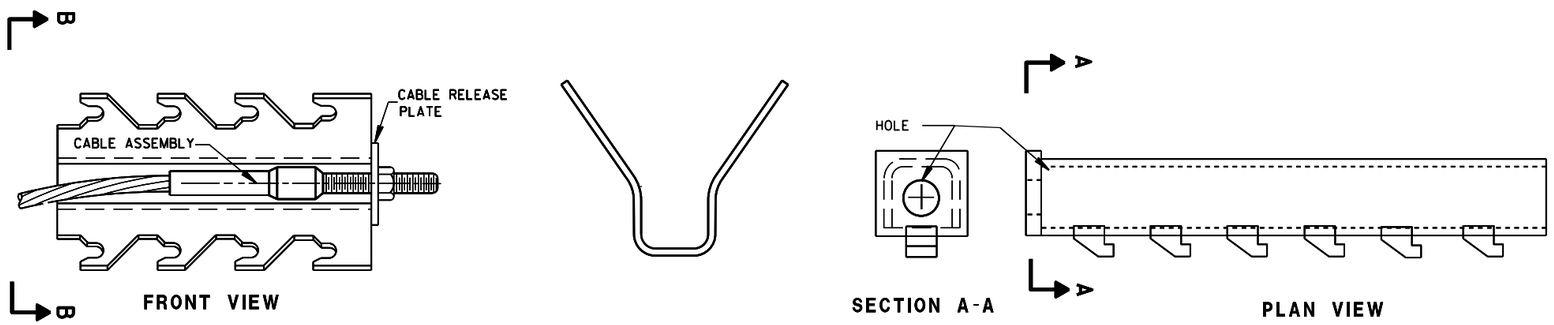


⑨ Ⓗ

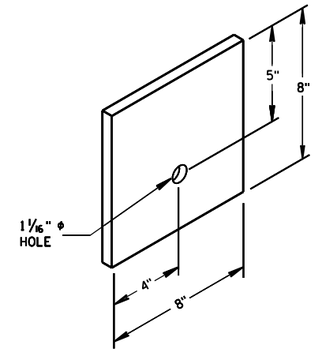
GENERIC GROUND STRUT

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
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	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



GENERIC ANCHOR CABLE BOX ⑧ Ⓗ



BEARING PLATE ⑥

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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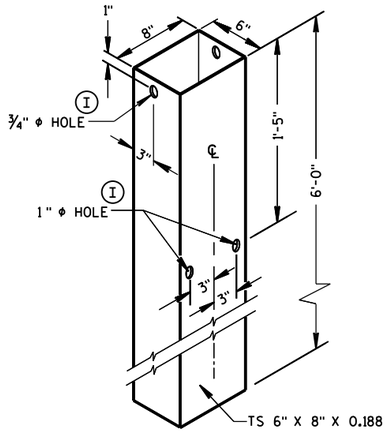
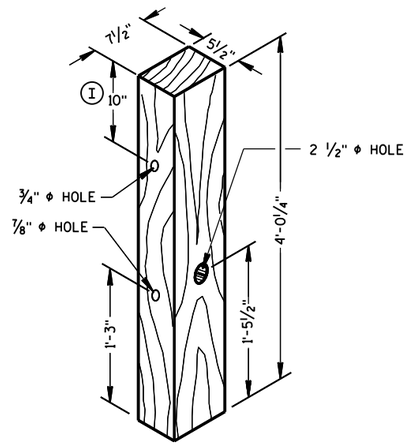
S.D.D. 14 B 44-2b

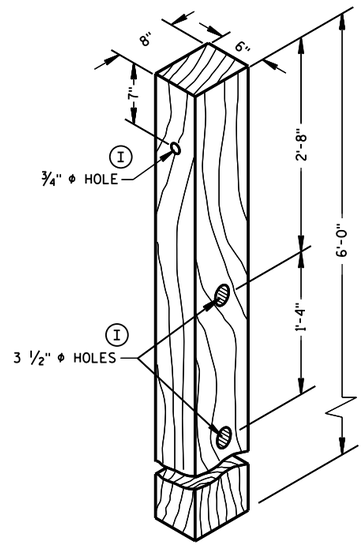


FOUNDATION TUBE (2)



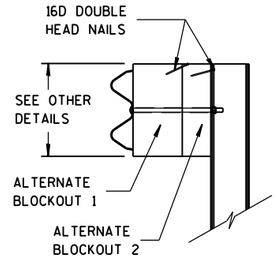
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

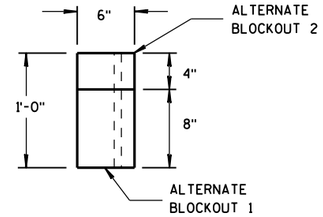


POSTS NUMBER 3-9

WOOD CRT POST (3)

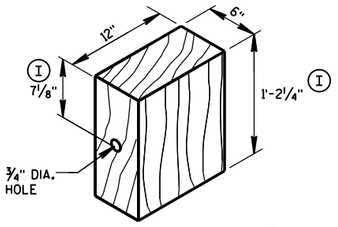


SIDE VIEW



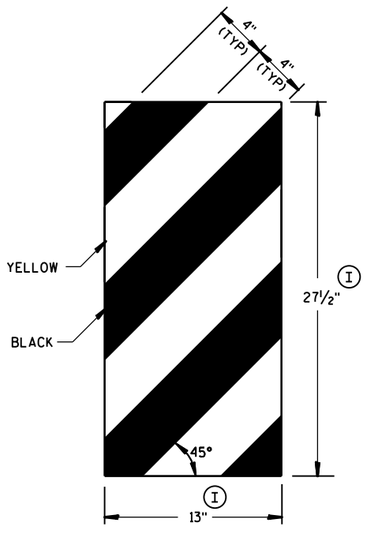
TOP VIEW

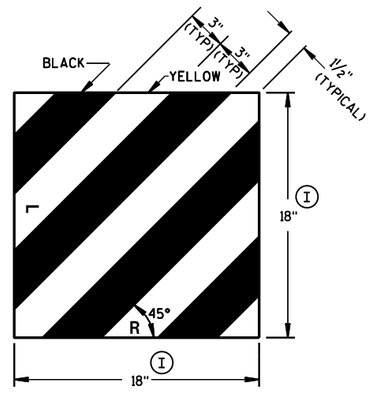
ALTERNATE WOOD BLOCKOUT DETAIL



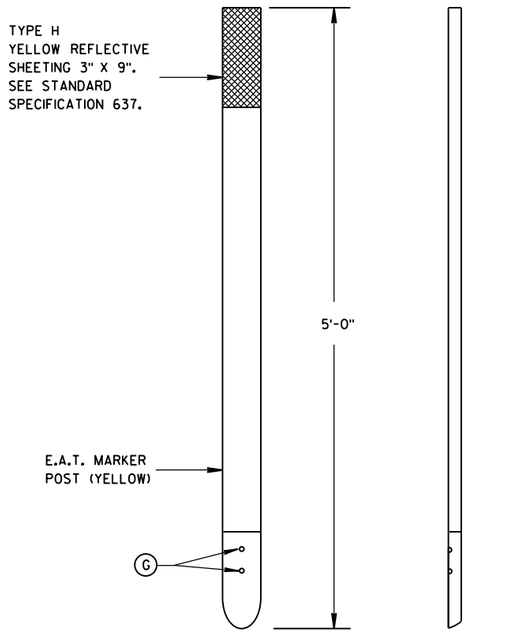
WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2





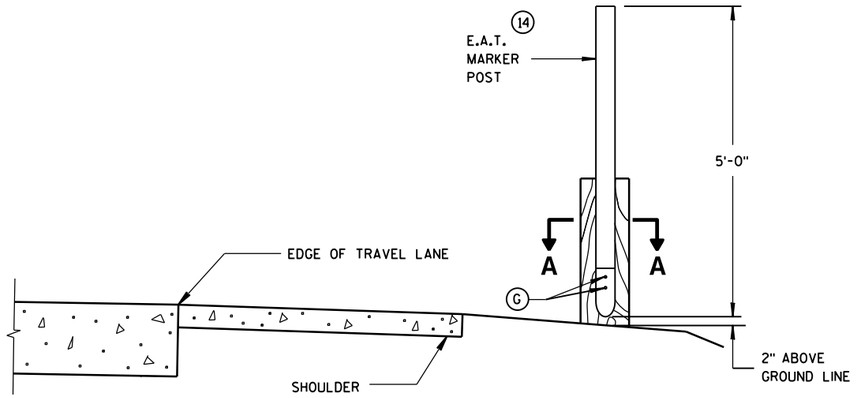
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

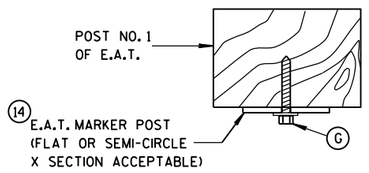
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

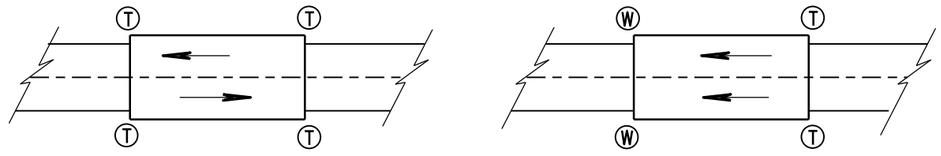
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

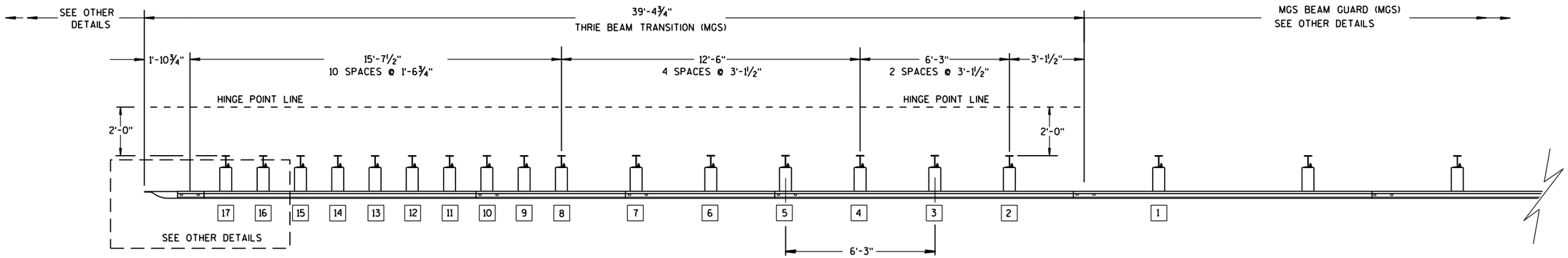
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

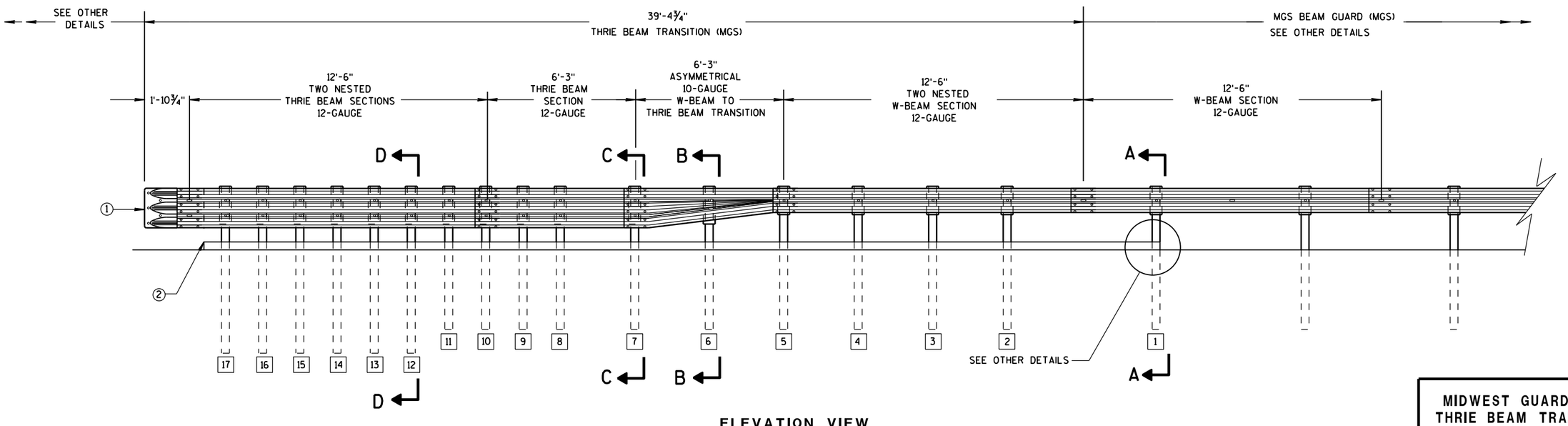
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 45-4a

6

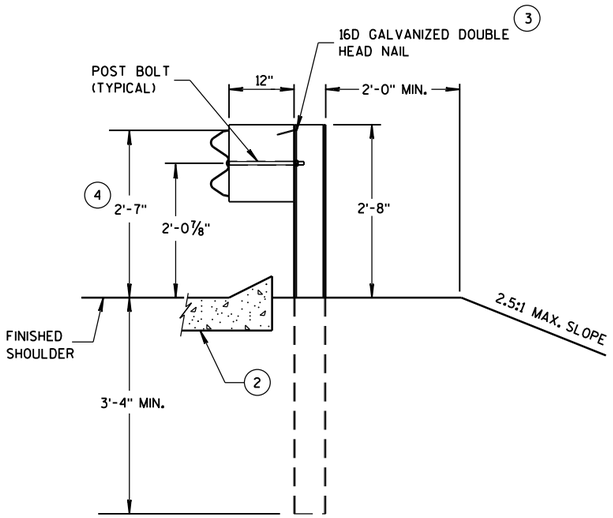
S.D.D. 14 B 45-4a

GENERAL NOTES

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

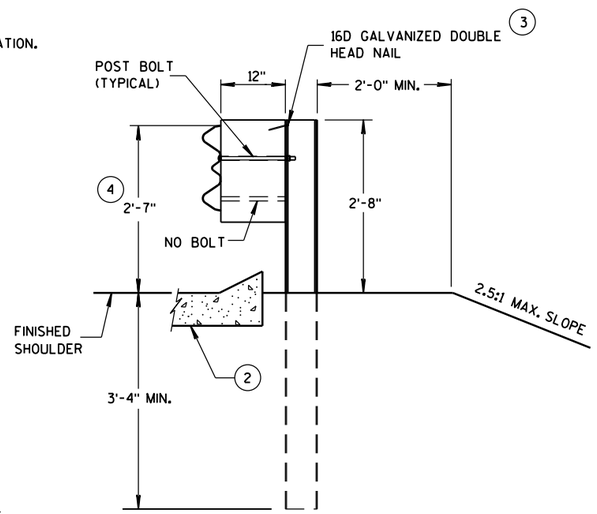
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



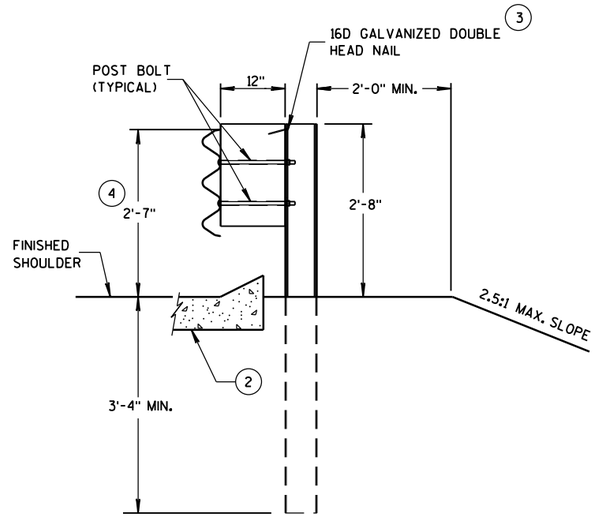
SECTION A-A

POSTS 1-5



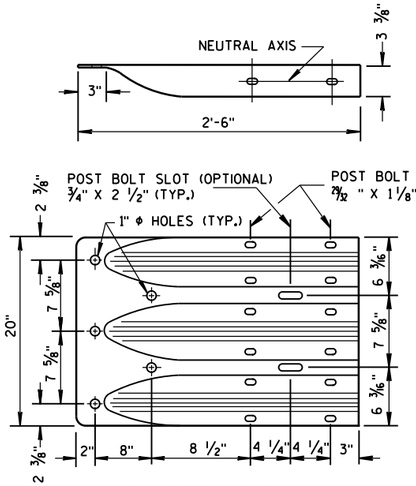
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

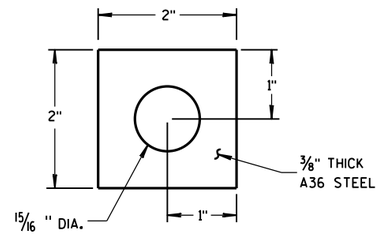
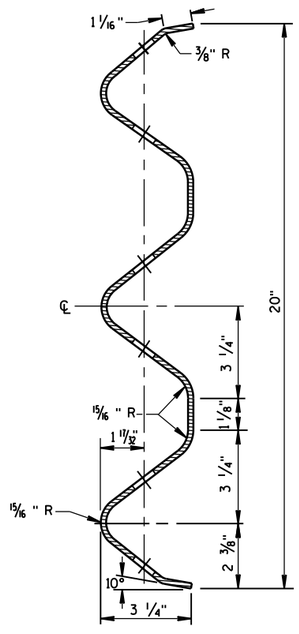
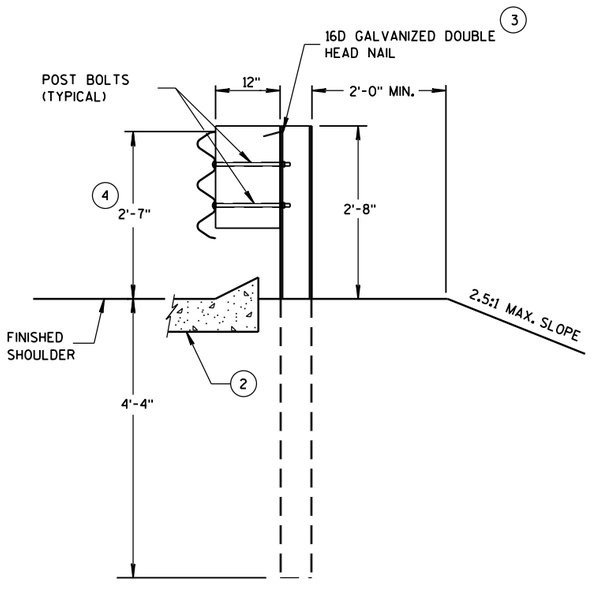


PLATE WASHER DETAIL

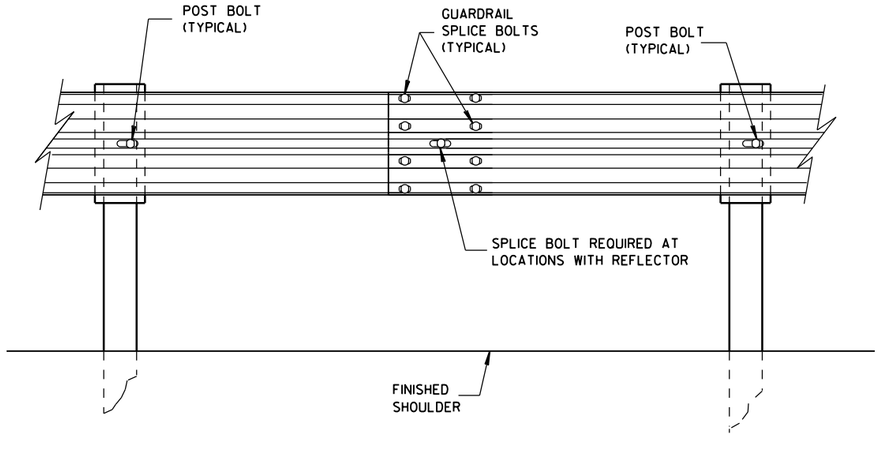


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



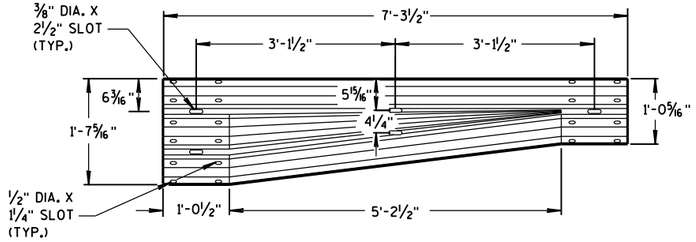
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

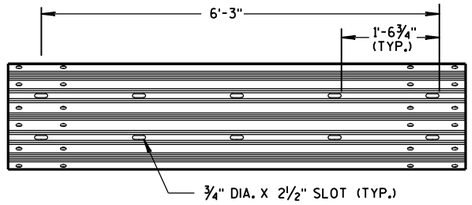
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

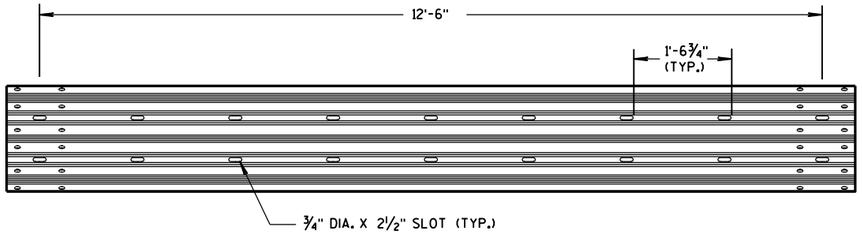
S.D.D. 14 B 45-4b



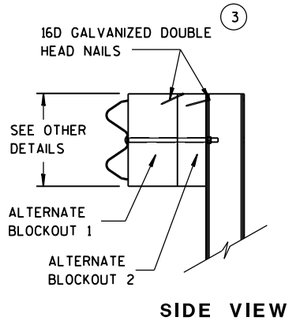
W-BEAM TO THRIE BEAM TRANSITION SECTION



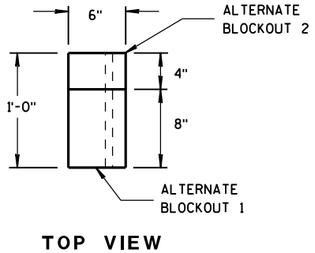
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

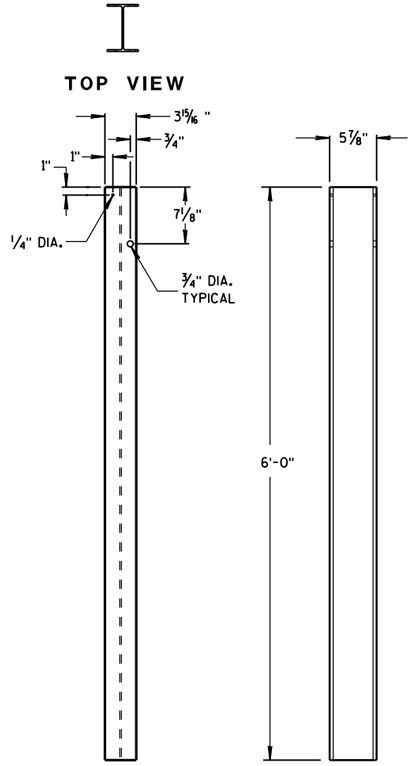


SIDE VIEW

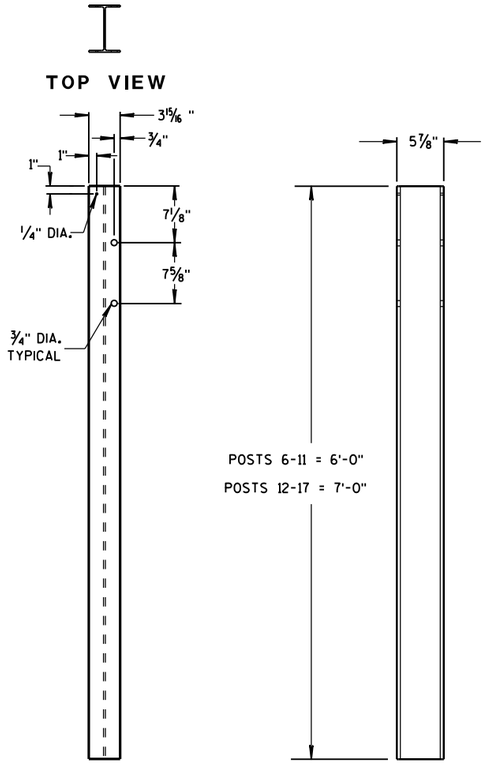


TOP VIEW

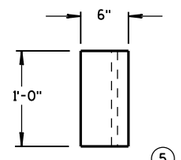
ALTERNATE WOOD BLOCKOUT DETAIL



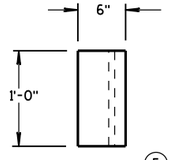
STEEL POSTS 1-5



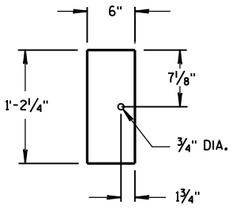
STEEL POSTS 6-17



TOP VIEW (5)

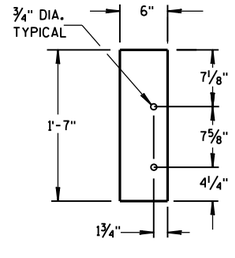


TOP VIEW (5)



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.

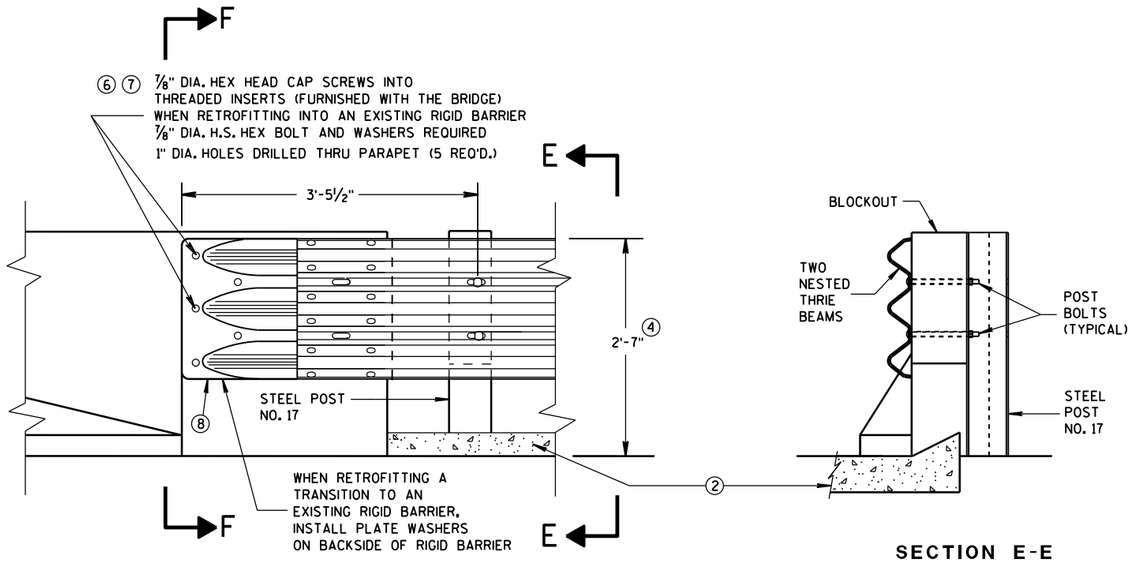
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 45-4c



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.

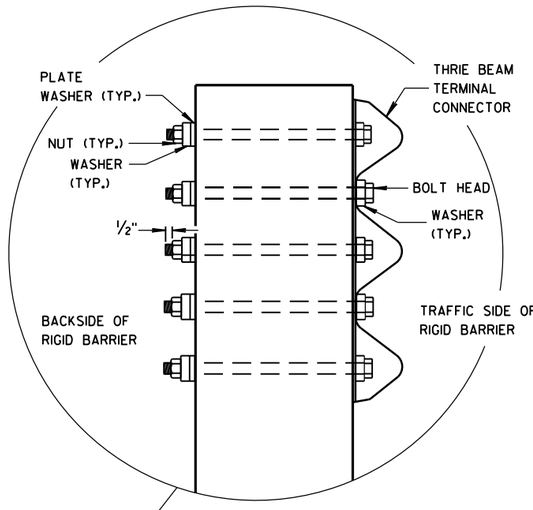
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

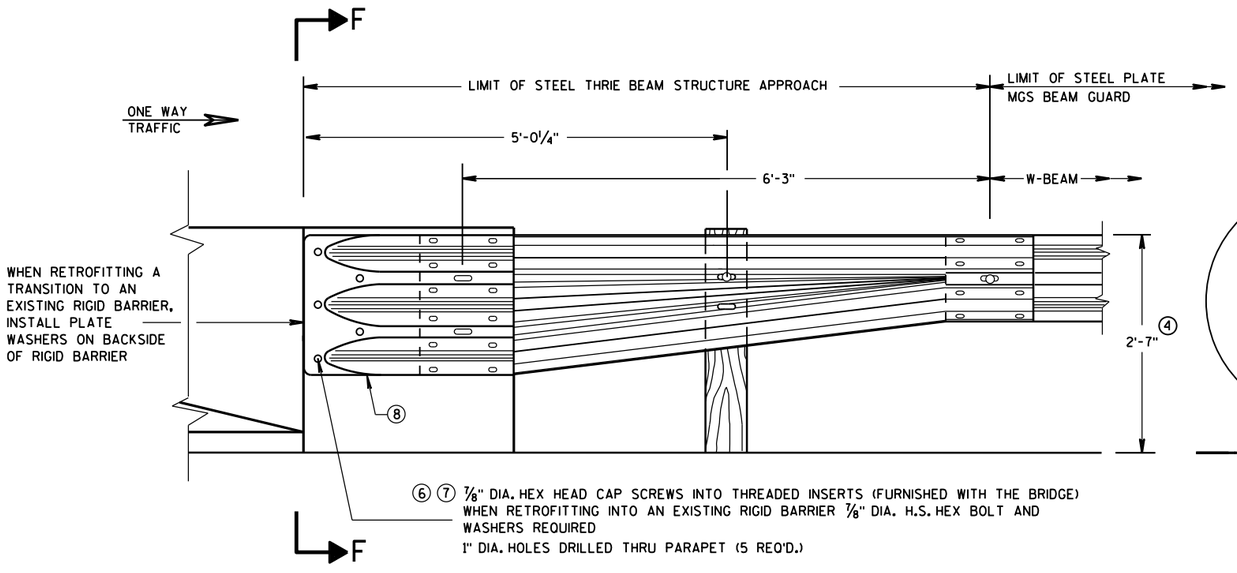
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

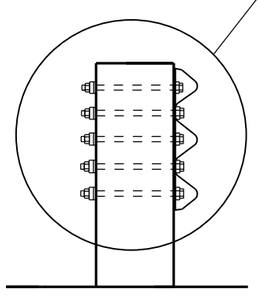
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" 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".

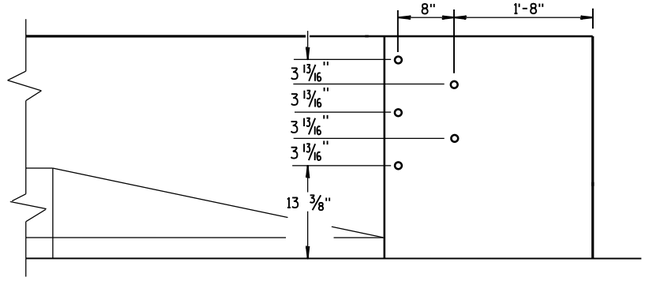




FRONT VIEW



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
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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.

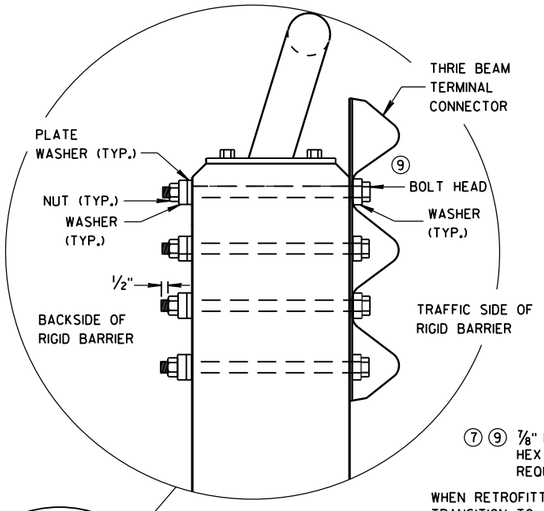
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

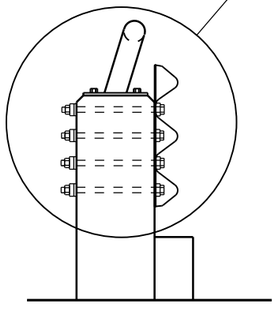
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

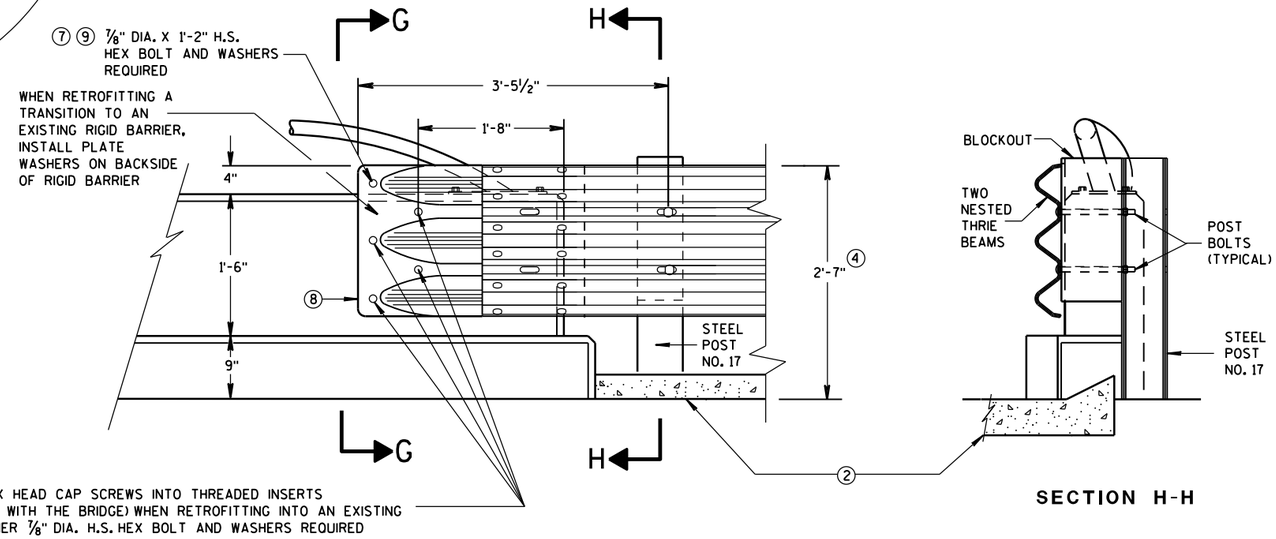
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(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.





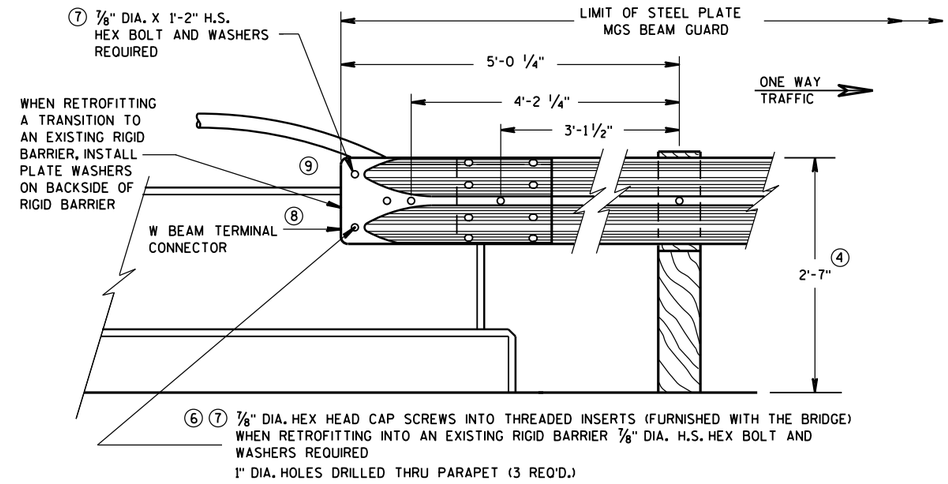
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

(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
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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S.D.D. 14 B 45-4e

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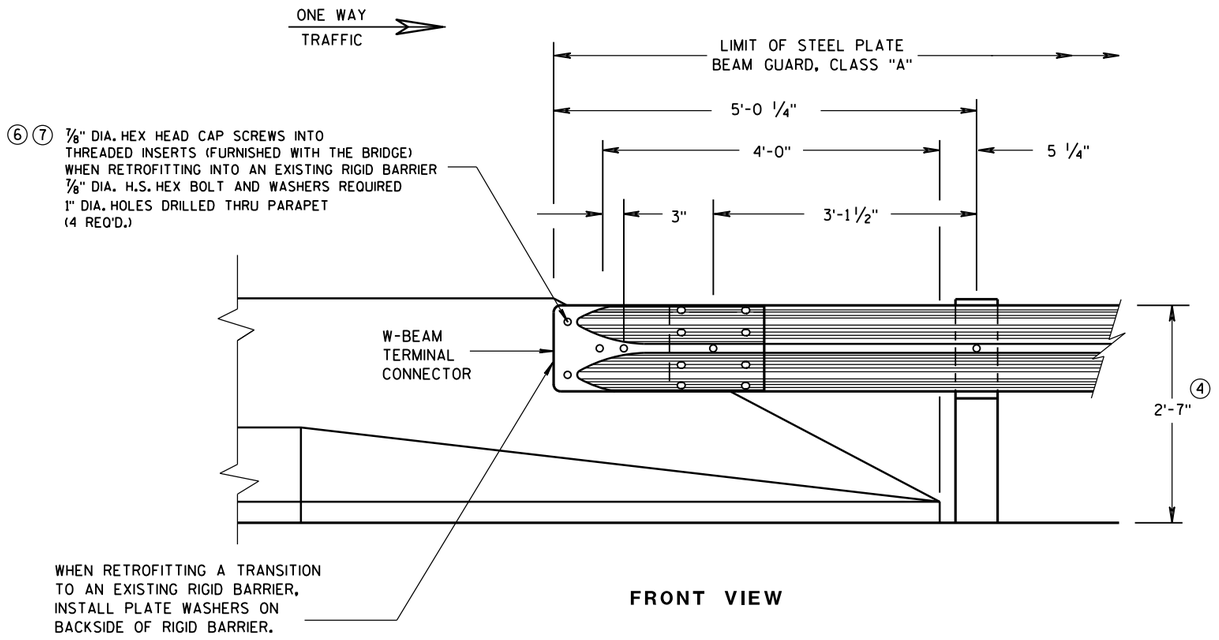
S.D.D. 14 B 45-4e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

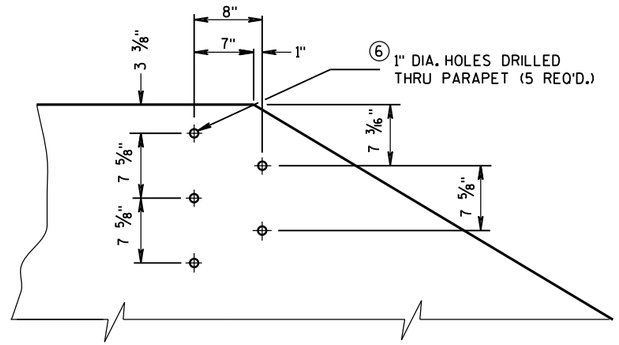
GENERAL NOTES

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

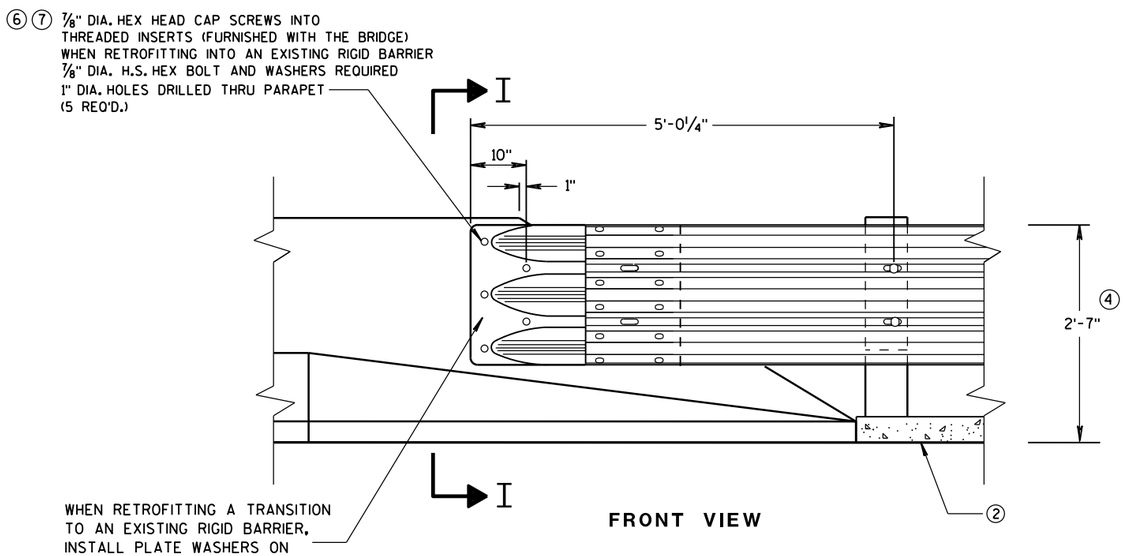
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

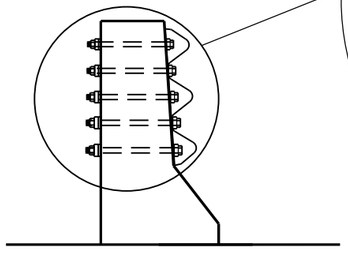
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



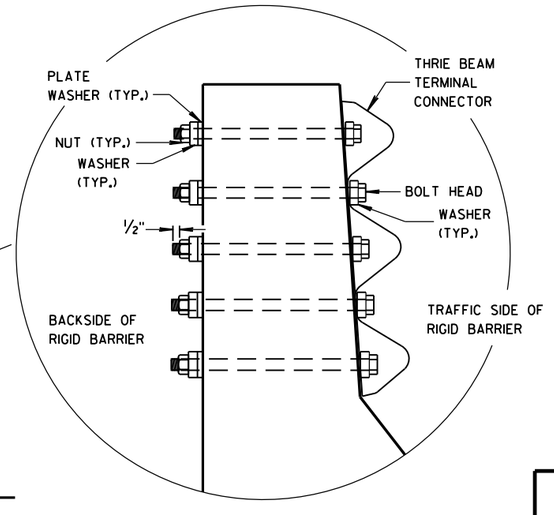
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



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
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 45-4f

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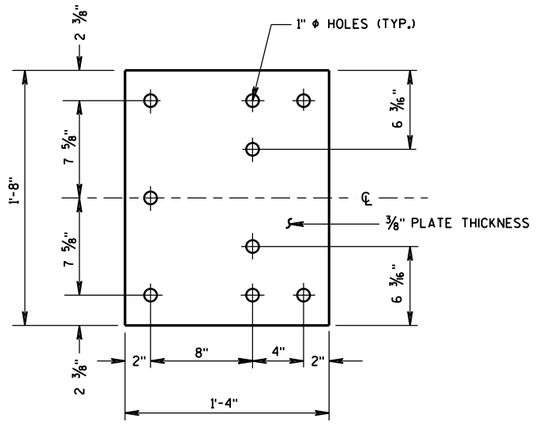
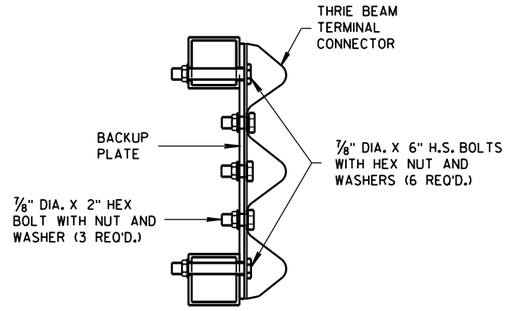
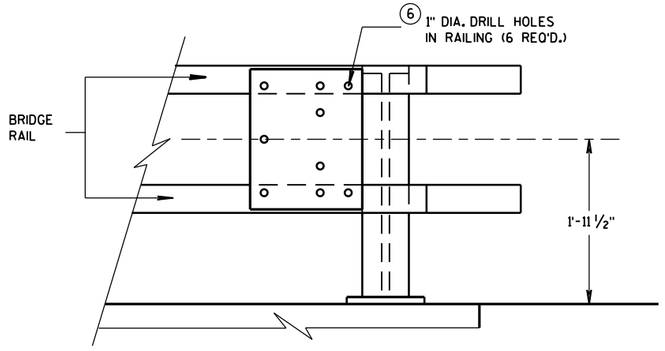
S.D.D. 14 B 45-4f



BACK-UP PLATE DETAIL



SECTION J-J

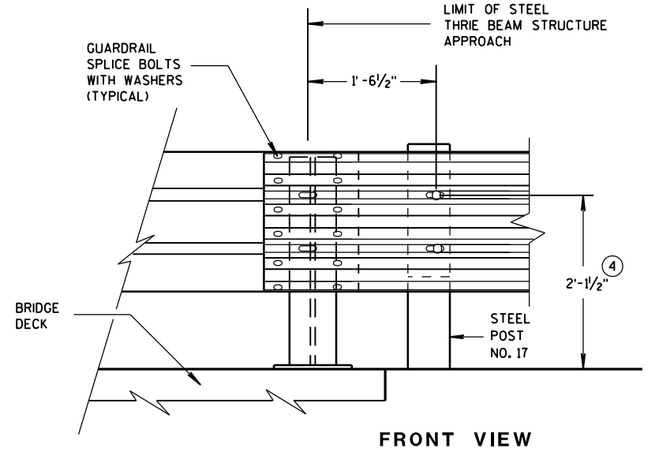


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

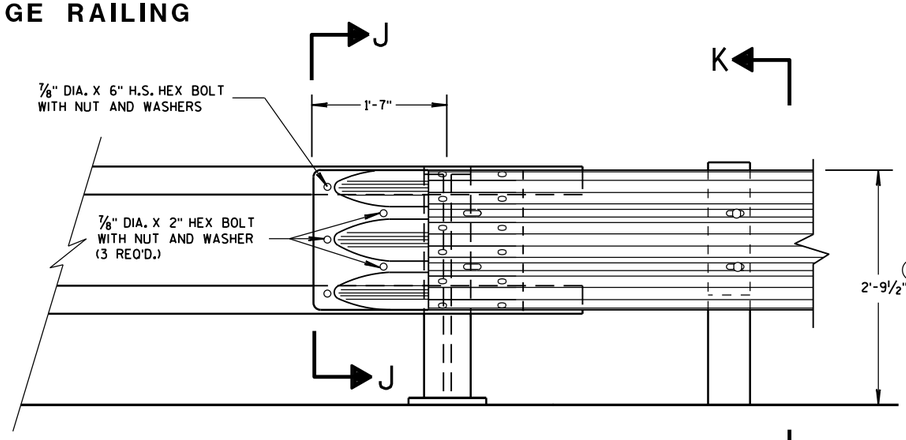
4 TOLERANCE FOR TOP OF BEAM IS ± 1".

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

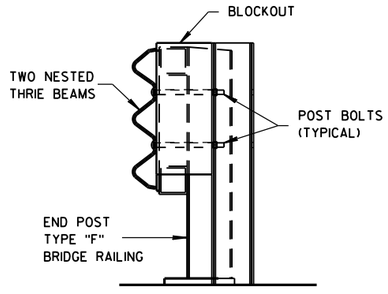


FRONT VIEW

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
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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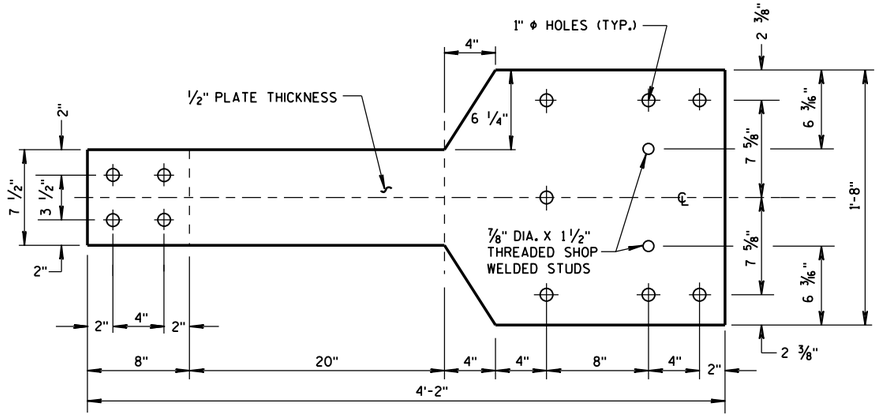
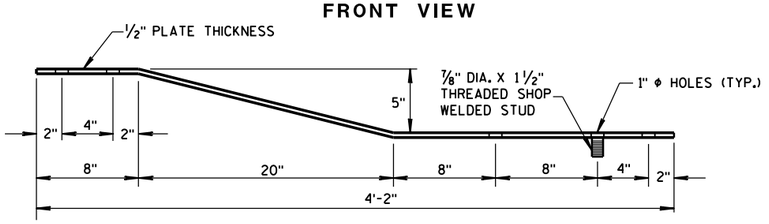
GENERAL NOTES

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

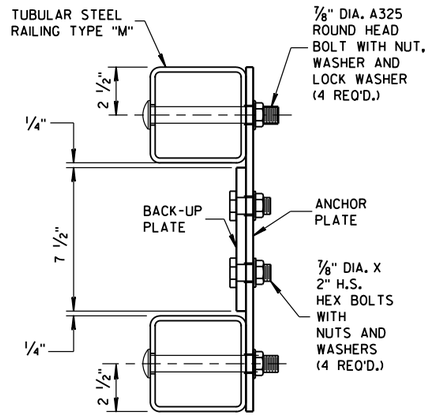


FRONT VIEW

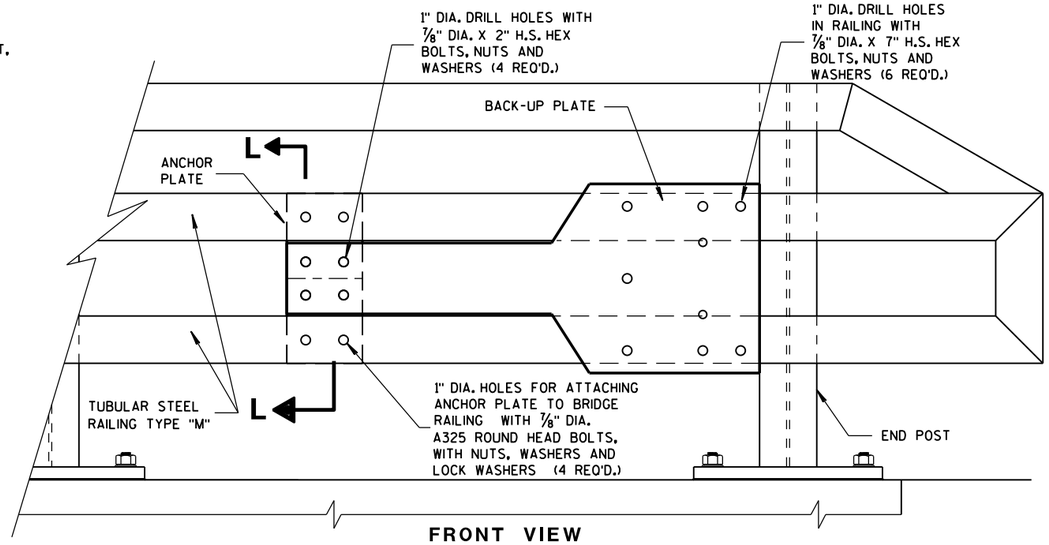


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

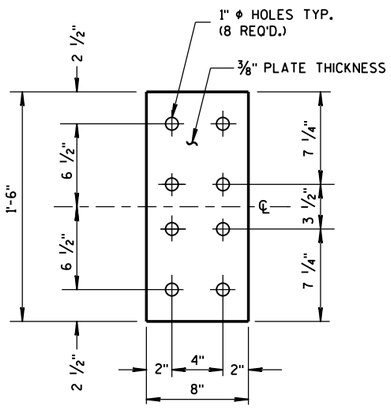


SECTION L-L



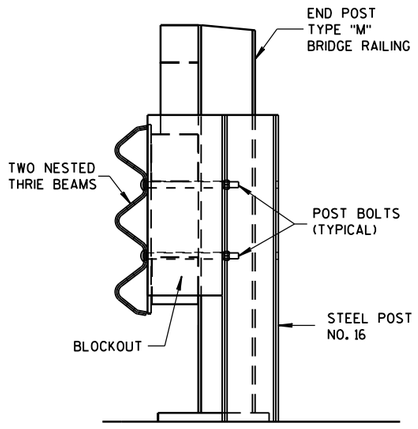
FRONT VIEW

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

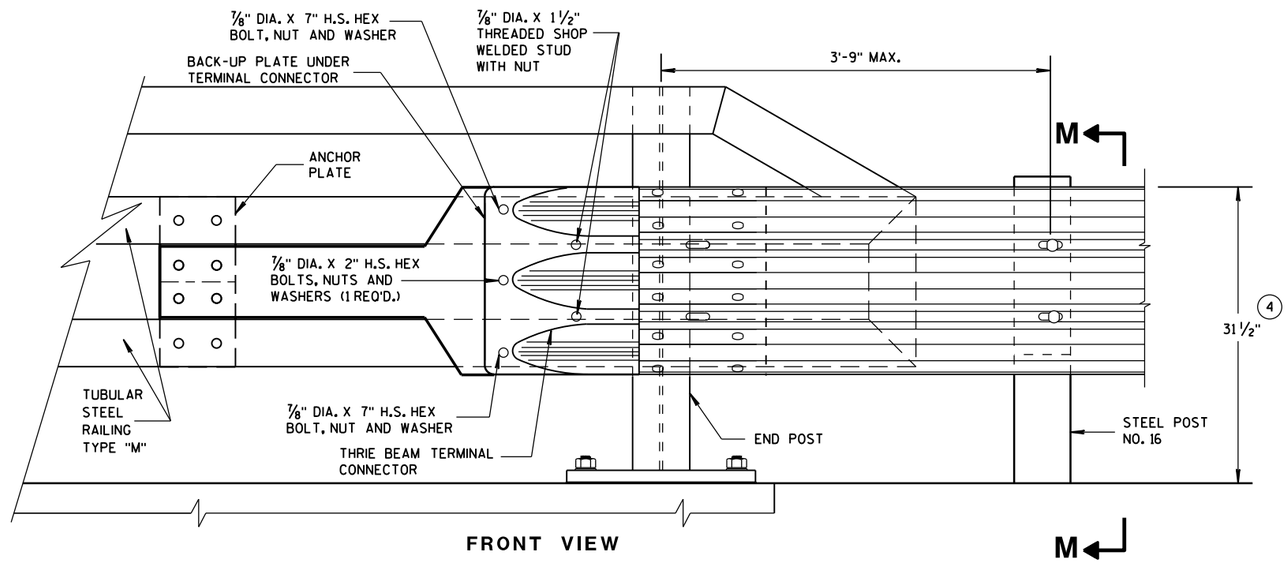


FRONT VIEW

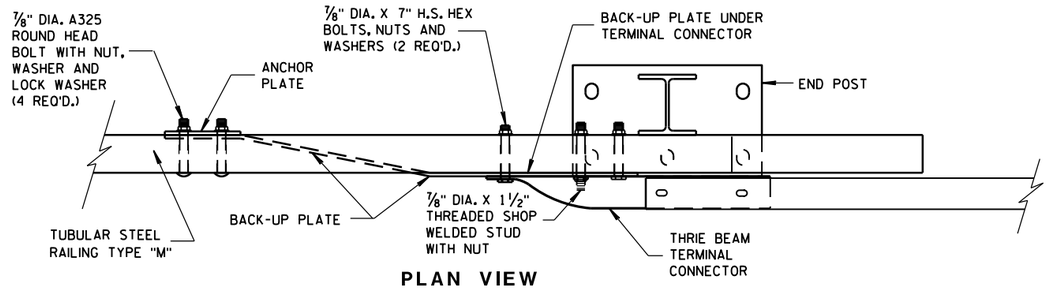
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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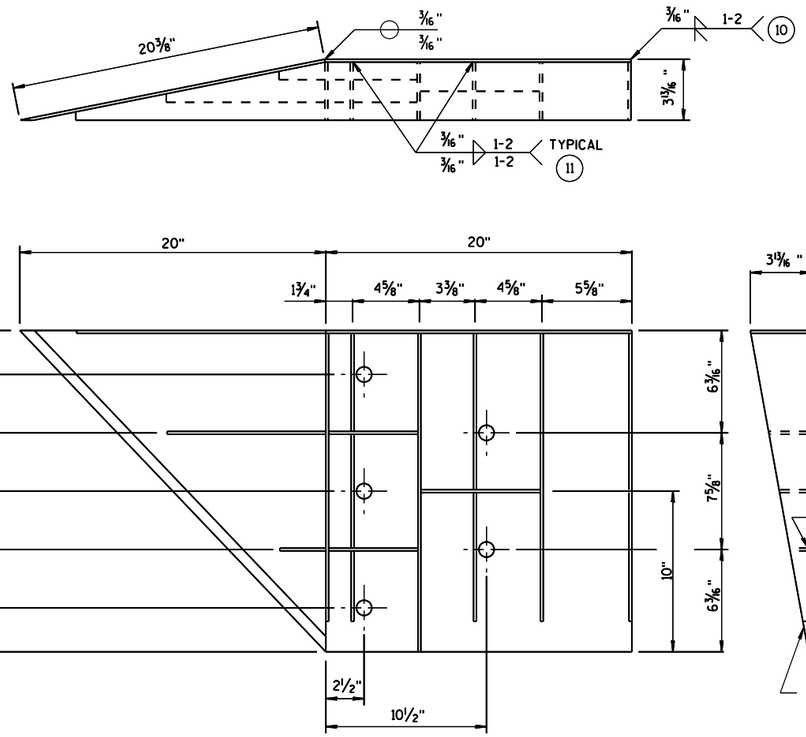

WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

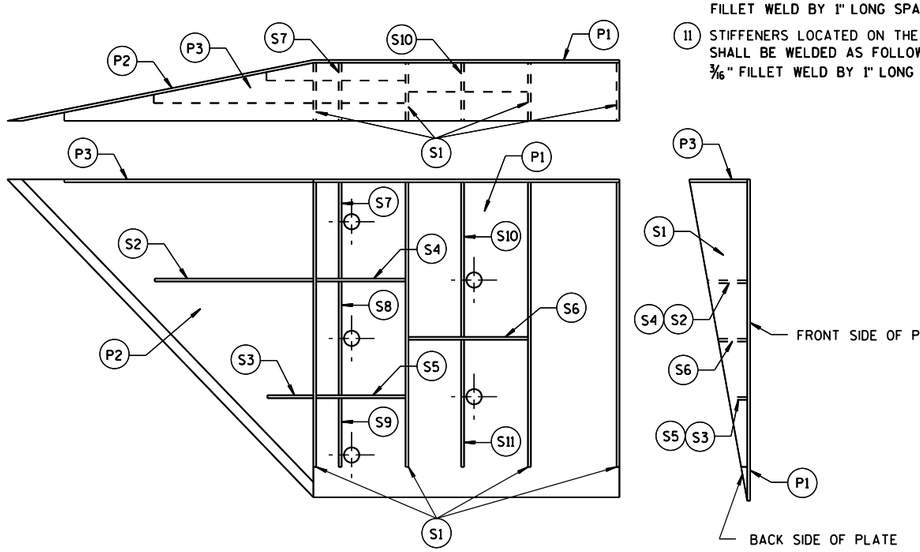

PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 3/8" 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 1/32"	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
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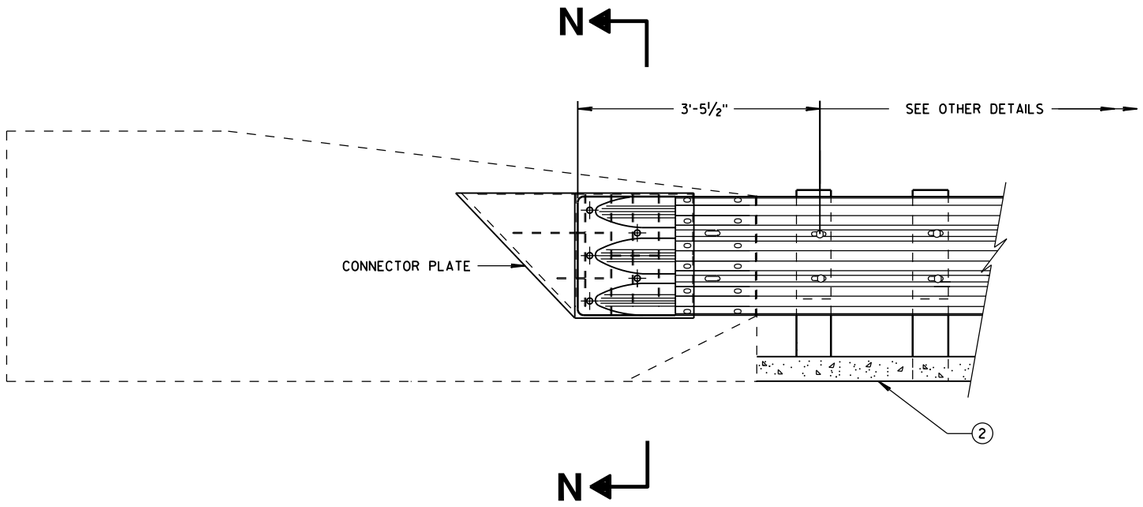
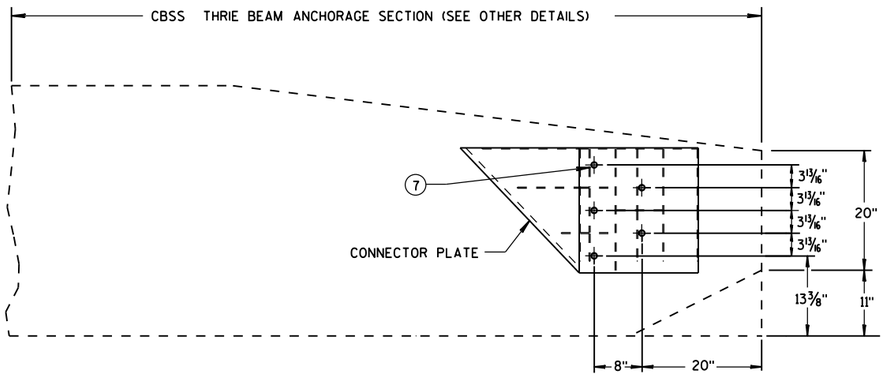


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



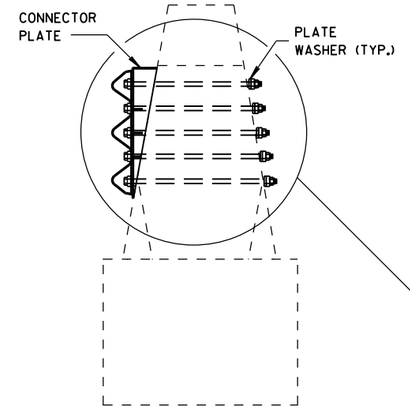
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

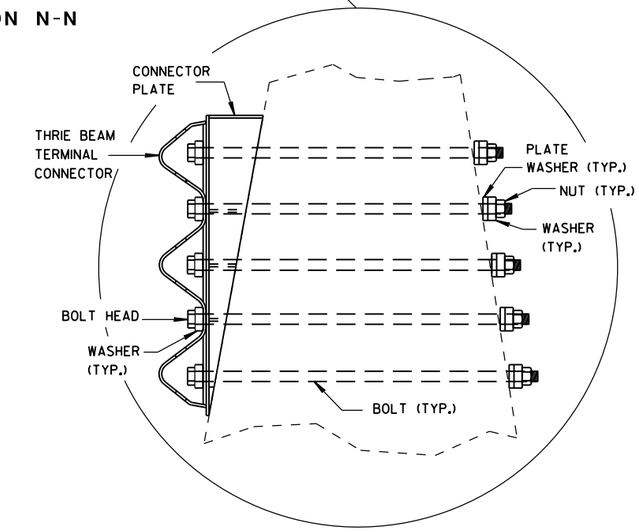
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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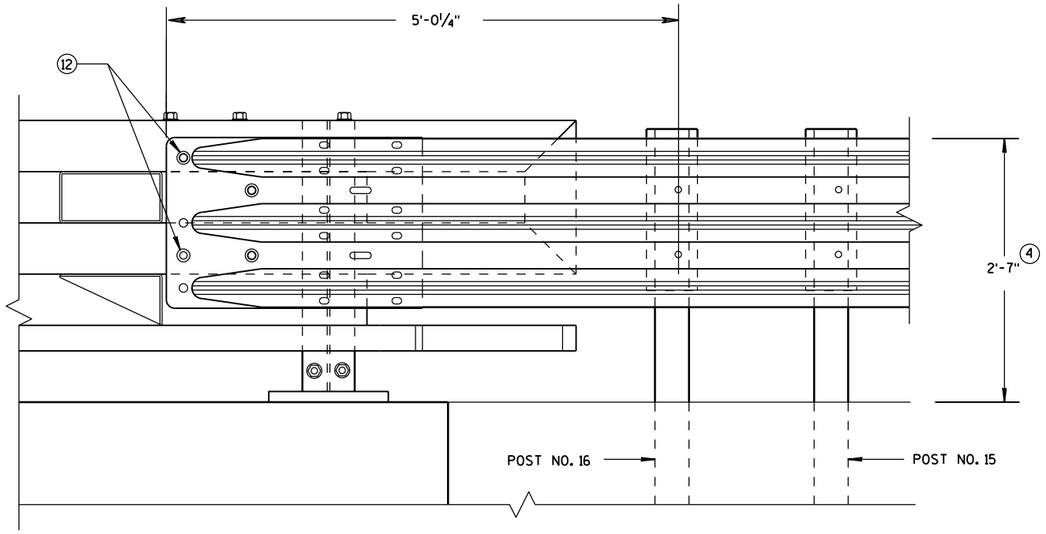
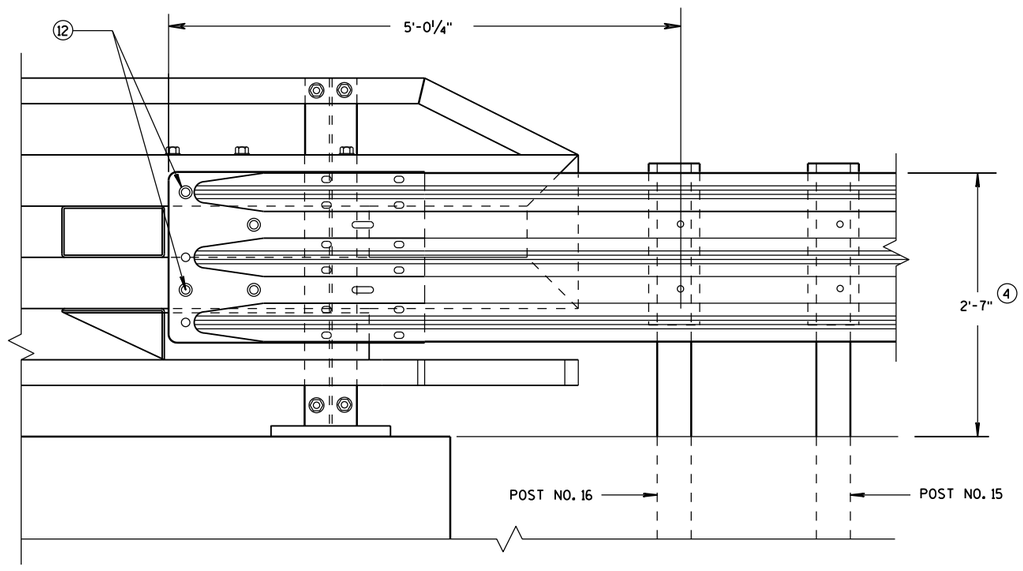


ELEVATION OF DETAIL AT NY3 END POST

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 ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

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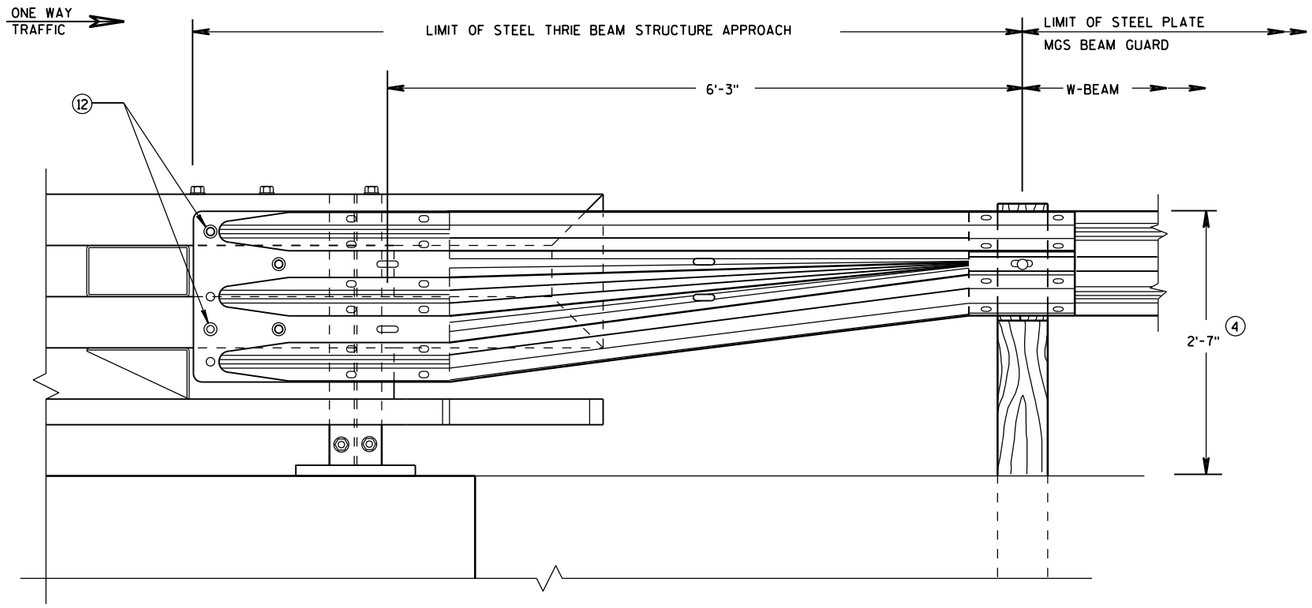


FRONT VIEW

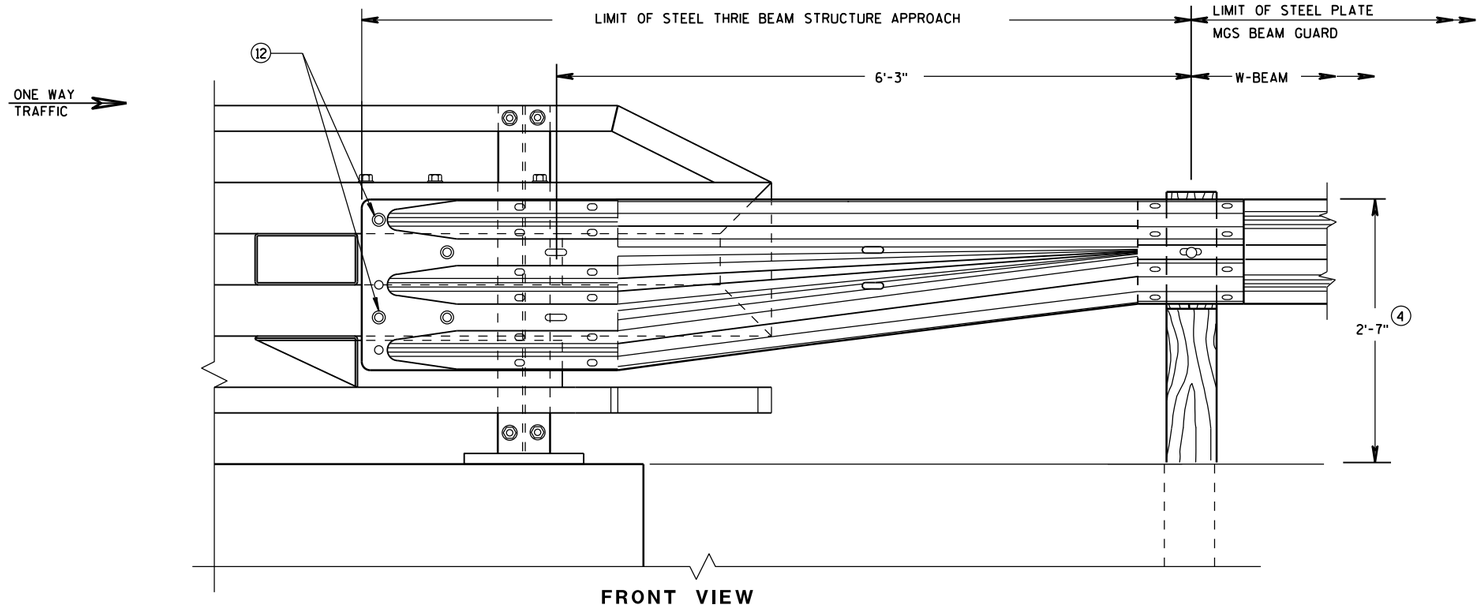
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(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 ½-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)

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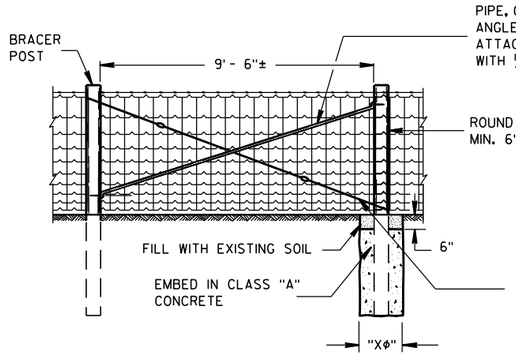
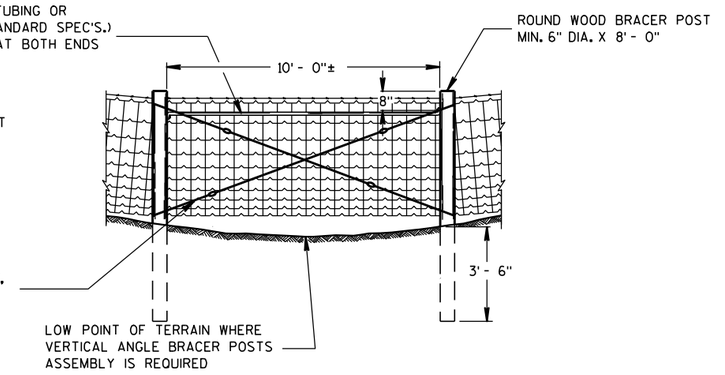
NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

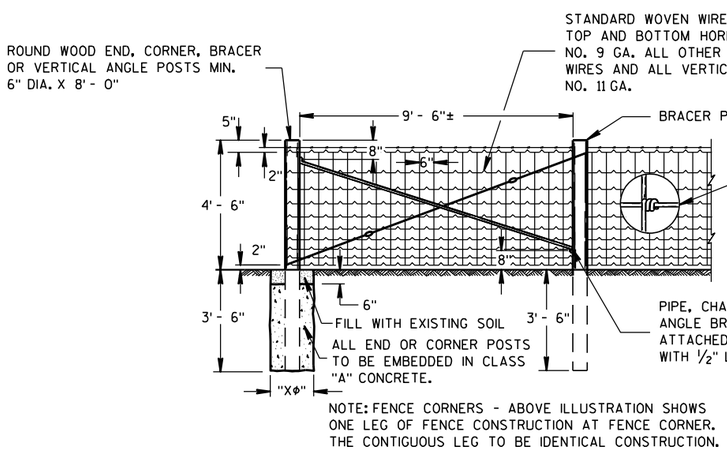
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

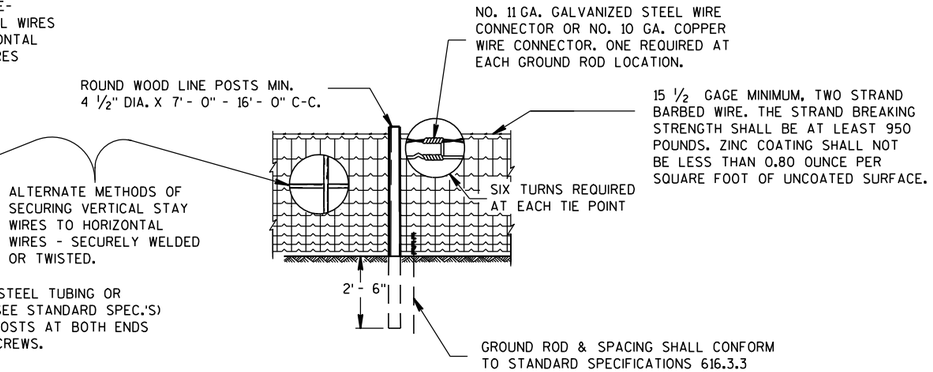
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



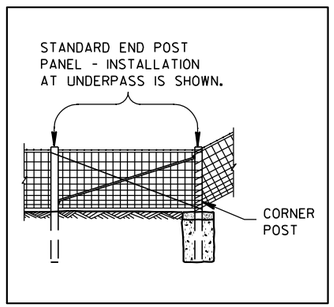
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

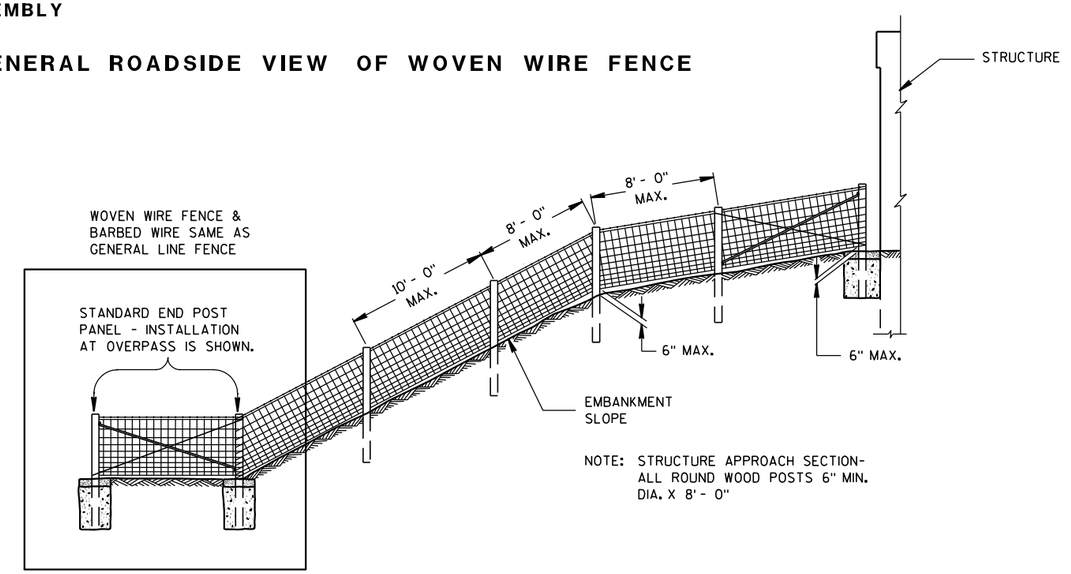


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

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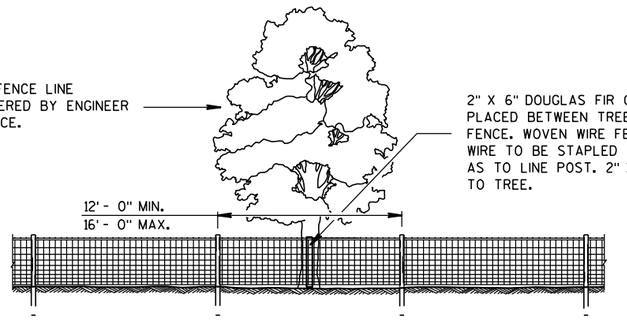
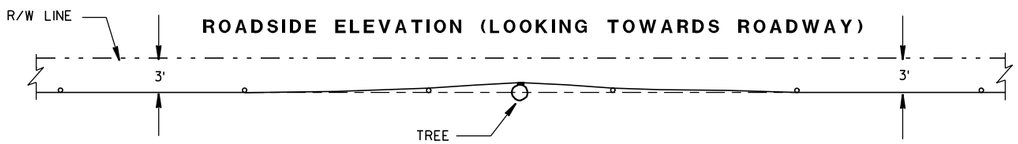
NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.

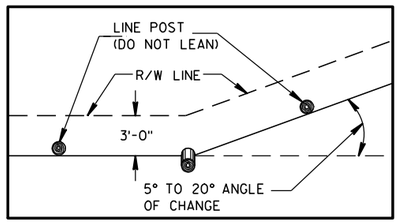


ROADSIDE ELEVATION (LOOKING TOWARDS ROADWAY)

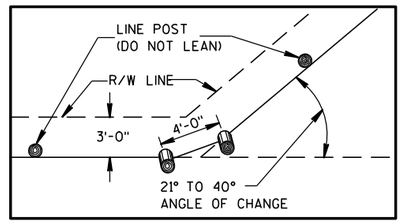


PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



PLAN VIEW
SINGLE POST CORNER

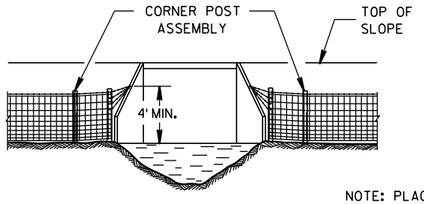


PLAN VIEW
DOUBLE POST CORNER

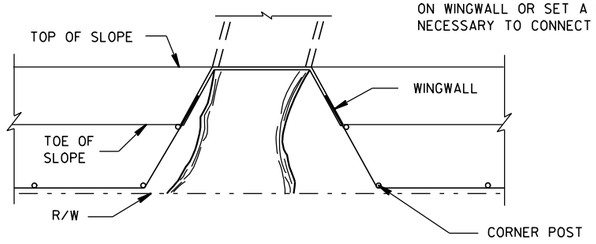
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

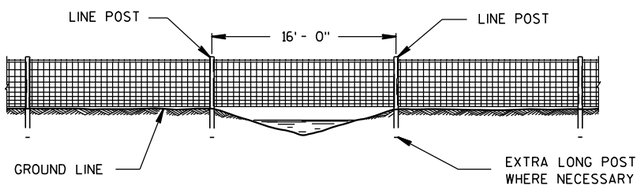
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



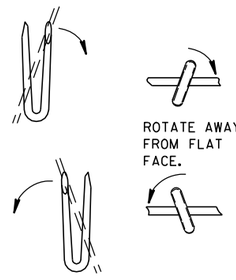
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

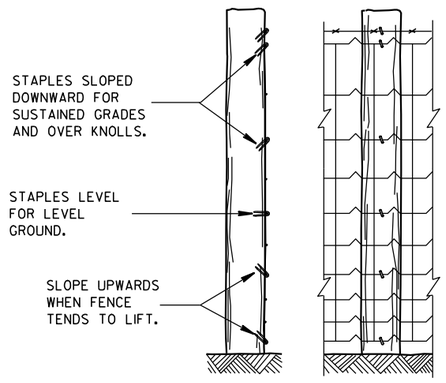


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



LINE POST

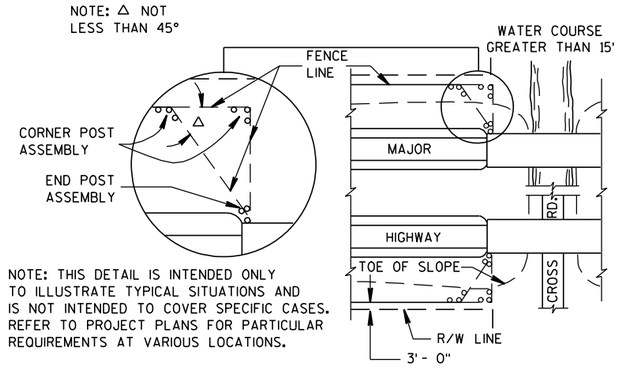
NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION — FARM SIDE ELEVATION

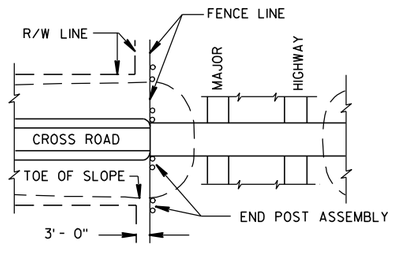
FENCE MOUNTING DETAIL

NOTE: △ NOT LESS THAN 45°



NOTE: THIS DETAIL IS INTENDED ONLY TO ILLUSTRATE TYPICAL SITUATIONS AND IS NOT INTENDED TO COVER SPECIFIC CASES. REFER TO PROJECT PLANS FOR PARTICULAR REQUIREMENTS AT VARIOUS LOCATIONS.

PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

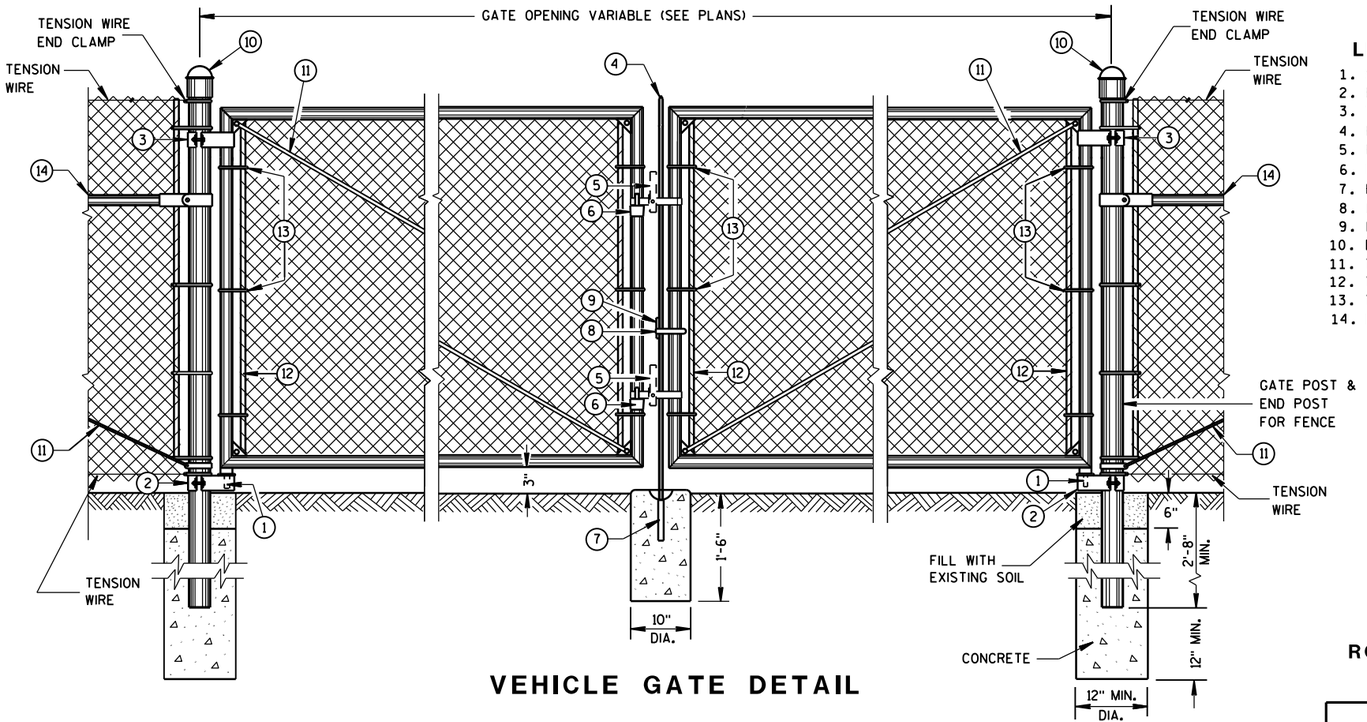
FENCE LOCATION AT STRUCTURES

FENCE WOVEN WIRE

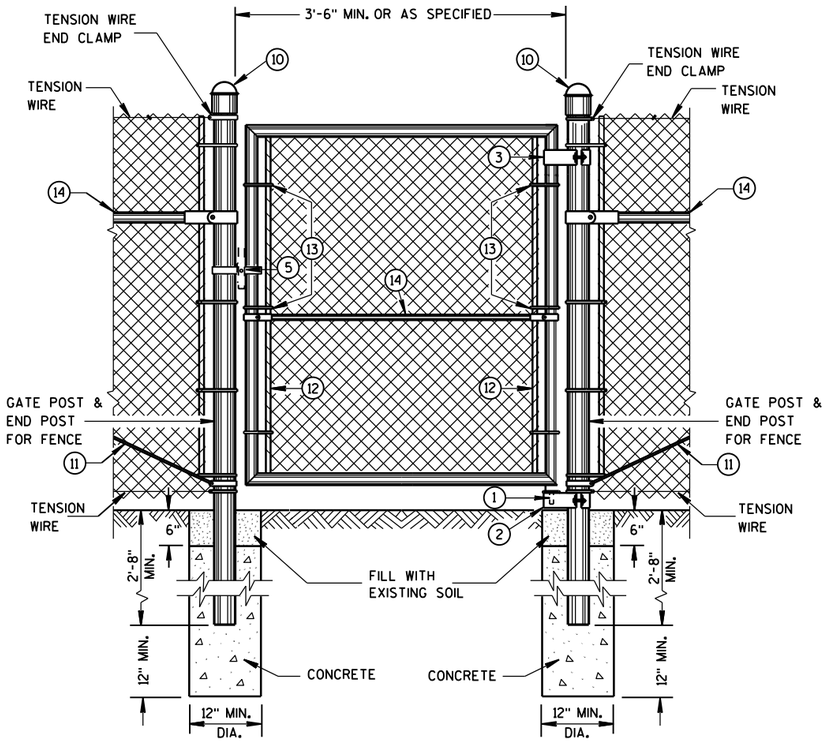
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER
FHWA

S.D.D. 15 B 1-8b
6



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

1. STRAIGHT PLUG
2. BOTTOM HINGE
3. TOP HINGE
4. PLUNGER ROD
5. FULCRUM LATCH
6. FORK CATCH *
7. PLUNGER ROD CATCH
8. LOCK KEEPER GUIDE
9. LOCK KEEPER
10. DOME TOPS
11. TRUSS RODS
12. TENSION BAR
13. TENSION BANDS
14. BRACE RAIL

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

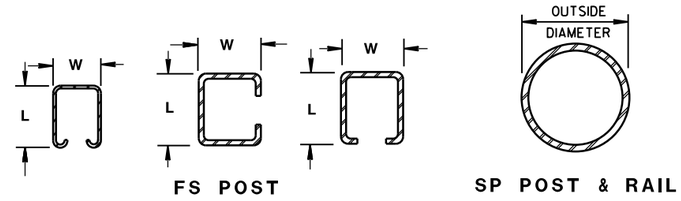
USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

FOR LEAF GATES GREATER THAN 8 FEET WIDE, INSTALL INTERIOR VERTICAL BRACE RAIL AT 8 FOOT INTERVALS.

FOR FABRIC HEIGHTS GREATER THAN 8 FEET, INSTALL INTERIOR HORIZONTAL BRACE RAILS TO LEAF GATE.

MAXIMUM SAG FOR OUTER GATE MEMBER SHALL NOT EXCEED THE GREATER OF 1% OF THE LEAF GATE WIDTH OR 2 INCHES.

USE TYPE 2, CLASS 3, MARCELLED/CRIMPED, TENSION WIRE PER ASTM A 817.



CROSS SECTIONS OF POSTS AND RAILS

ROLLED-FORMED STEEL FENCE POST (2.0 OZ./SQ. FT. COATING)

POST TYPE	LENGTH (L) INCH	WIDTH (W) INCH	WEIGHT LBS/FT
FS1	1.625	1.25	1.35
FS2†	1.875	1.625	1.850
FS2	1.875	1.625	2.400
FS3	2.250	1.700	2.780

ROUND STEEL FENCE POST (1.8 OZ./SQ. FT. COATING)

POST TYPE	OUTSIDE DIMENSION INCH	WALL THICKNESS INCH	WEIGHT LBS/FT
SP1	1.660	0.140	2.270
SP2	1.900	0.145	2.720
SP3	2.375	0.154	3.650
SP4	2.875	0.203	5.800
SP5	4.000	0.226	9.120
SP6	6.625	0.280	18.990
SP7	8.625	0.322	28.580

REQUIRED FENCE POST SIZES

USE	FABRIC HEIGHTS FEET	POST TYPE
TERMINAL POSTS **	LESS THAN OR EQUAL TO 6 FT.	SP3
	GREATER THAN OR EQUAL TO 6 FT.	SP4
LINE POSTS	LESS THAN OR EQUAL TO 6 FT.	SP2
	LESS THAN OR EQUAL TO 8 FT.	SP3
	GREATER THAN OR EQUAL TO 8 FT.	SP4
	LESS THAN OR EQUAL TO 8 FT.	FS2 OR FS2†
	GREATER THAN OR EQUAL TO 8 FT.	FS3

REQUIRED POST SIZE FOR GATES

USE	LEAF WIDTHS FEET	POST TYPE
GATES	LESS THAN OR EQUAL TO 6 FT.	SP4
	LESS THAN OR EQUAL TO 13 FT.	SP5
	LESS THAN OR EQUAL TO 18 FT.	SP6
	LESS THAN OR EQUAL TO 23 FT.	SP7

BRACE RAIL TYPES

USE		TYPE
BRACE RAIL		SP1 OR FS1

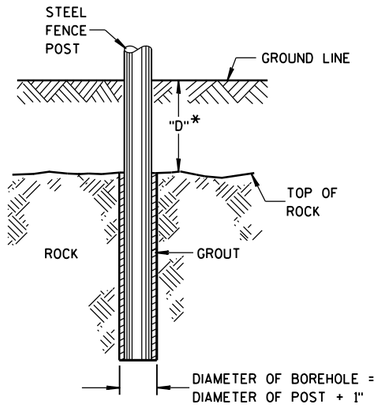
** INCLUDES END, CORNER, ANGLE, INTERSECTION AND INTERMEDIATE BRACED POSTS

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

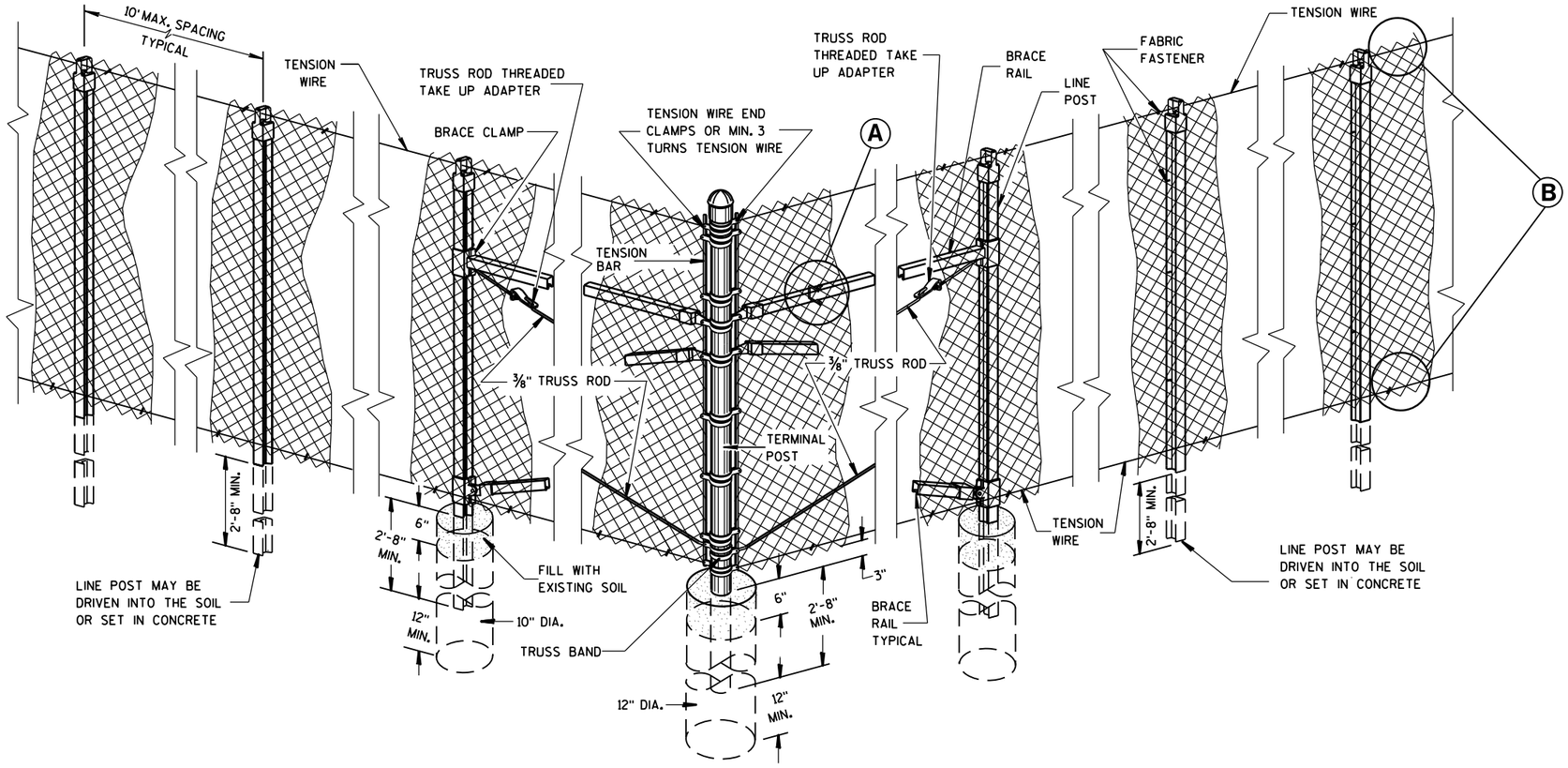
6

S.D.D. 15 B 3-15a

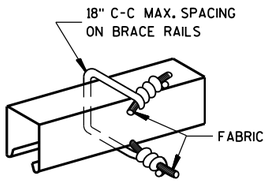


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST



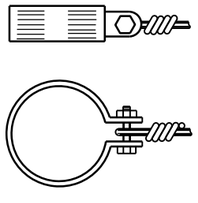
END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



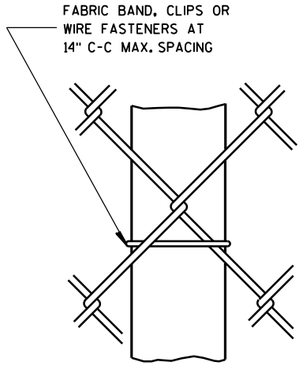
BRACE RAIL

FABRIC FASTENER

Ⓐ



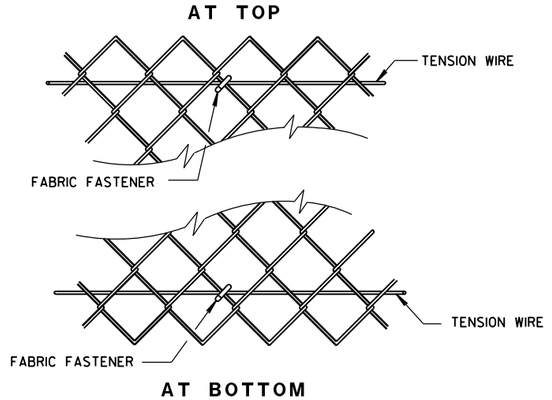
TENSION WIRE END CLAMP



LINE POST

FABRIC FASTENER

AT TOP



AT BOTTOM

SELVAGES

Ⓑ

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

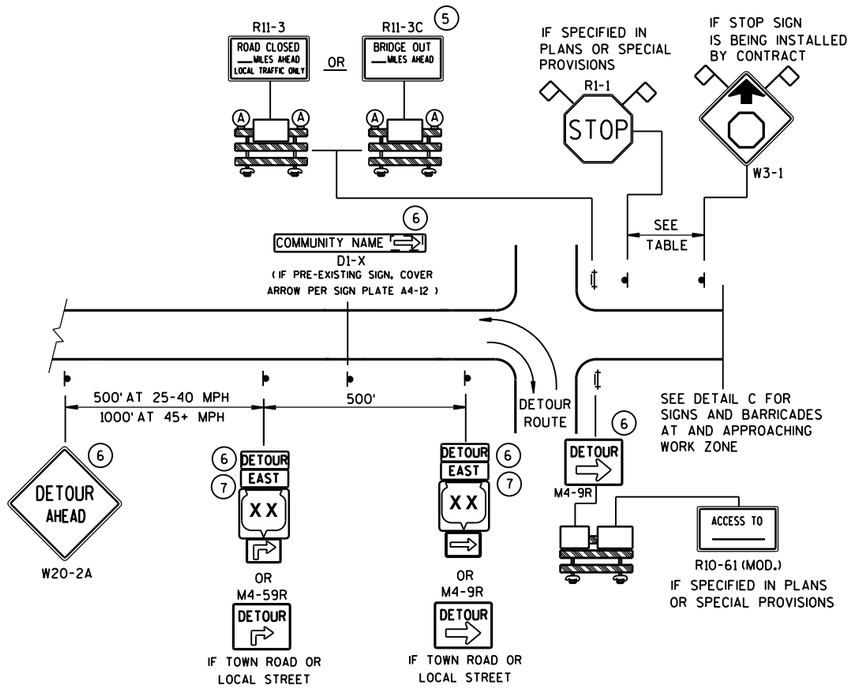
APPROVED
FEB. 2015 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 15 B 3-15b

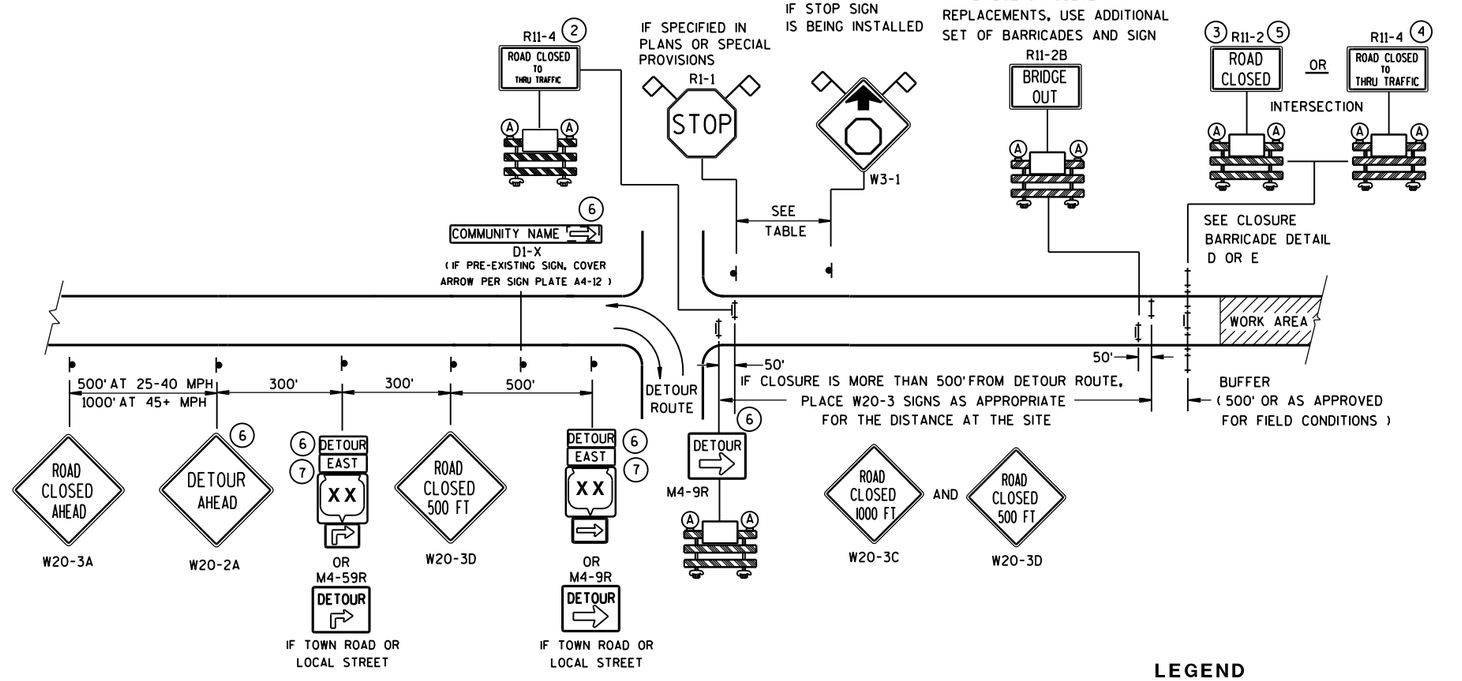
6

S.D.D. 15 B 3-15b



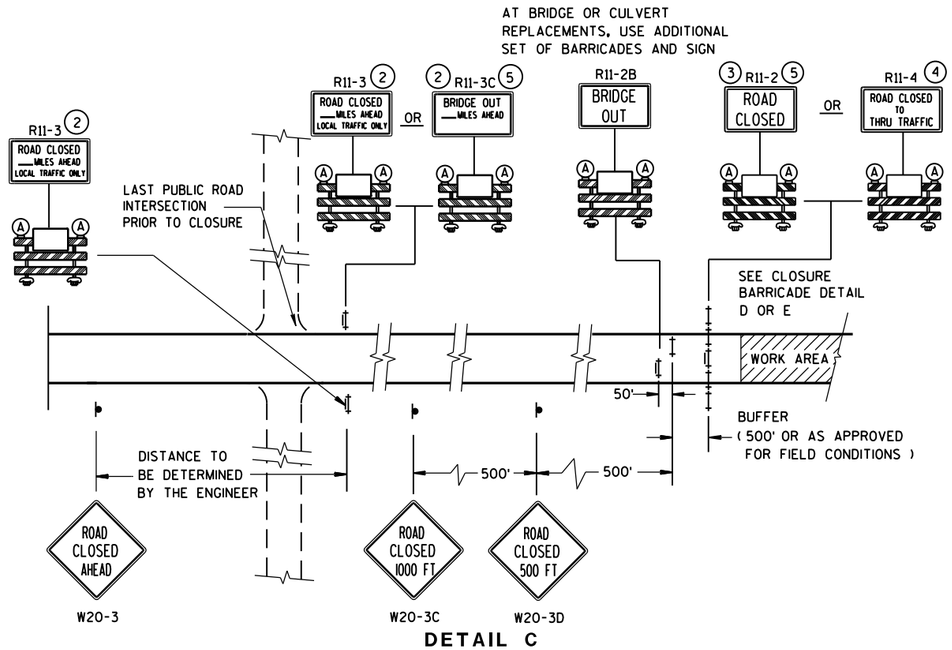
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

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

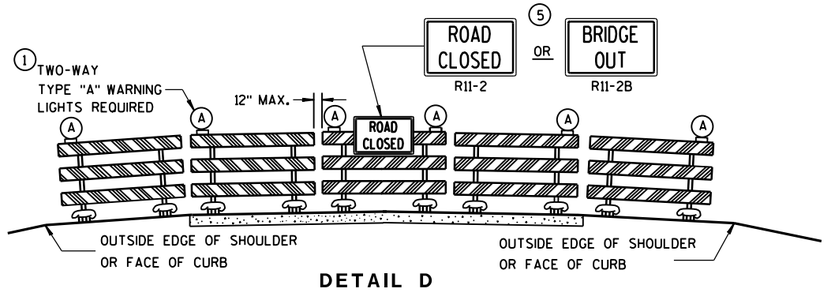
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

S.D.D. 15 C 2-6a

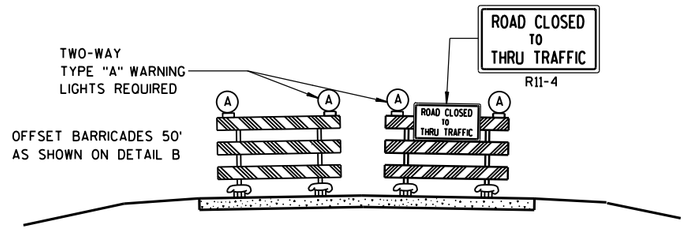
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI — FHWA — FIC

6

S.D.D. 15 C 2-6b

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

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

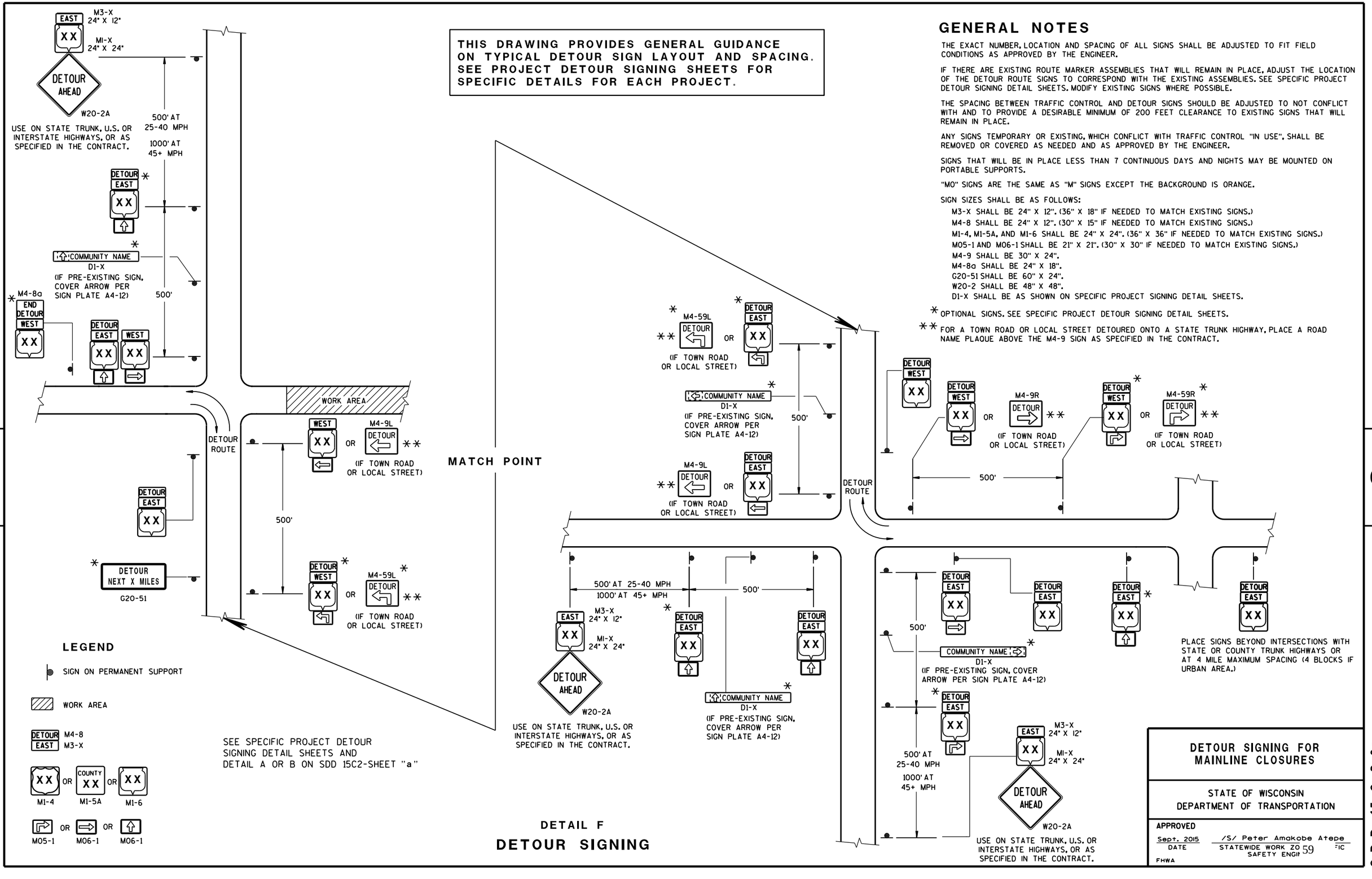
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.



LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- M05-1 OR M06-1 OR M06-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

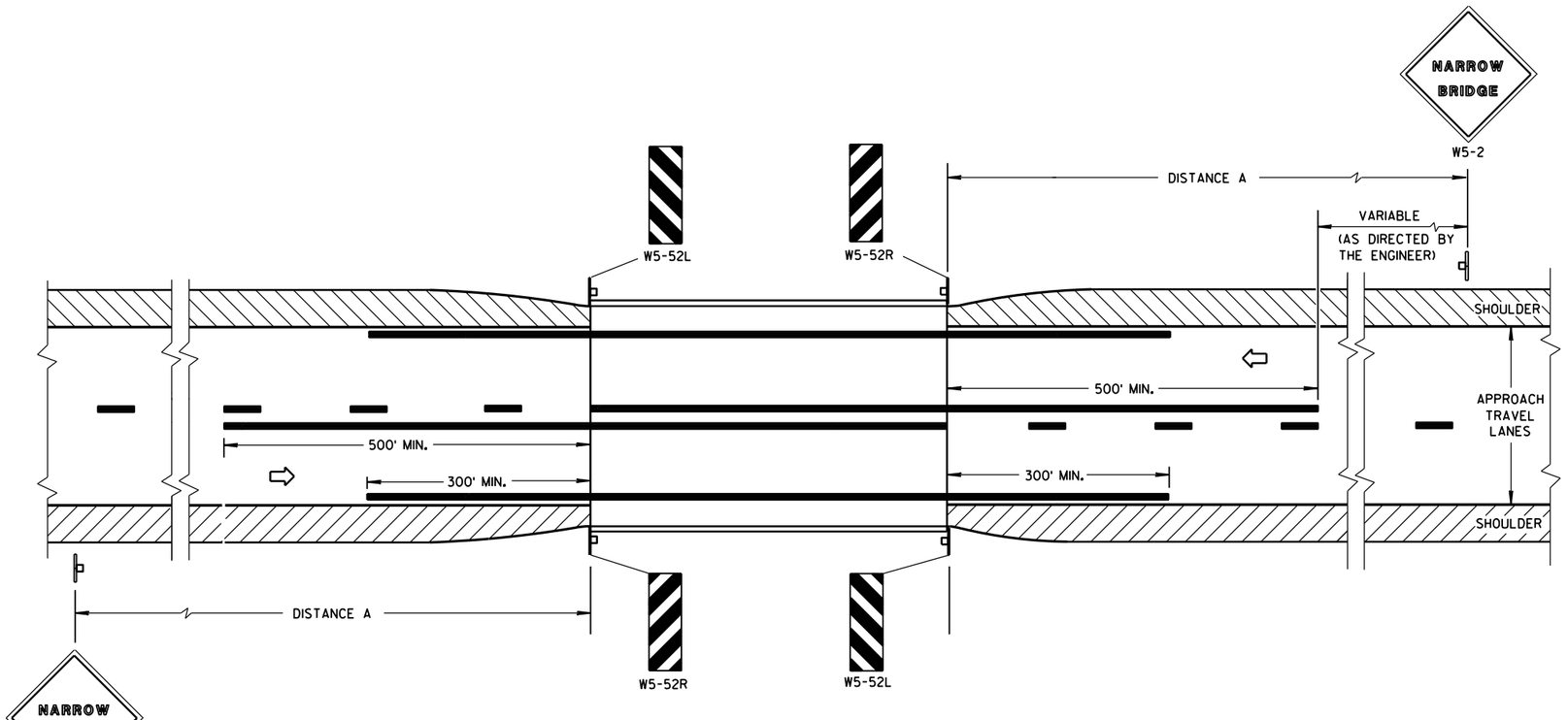
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible] FIC

FHWA

S.D.D. 15 C 2-6c

S.D.D. 15 C 2-6c

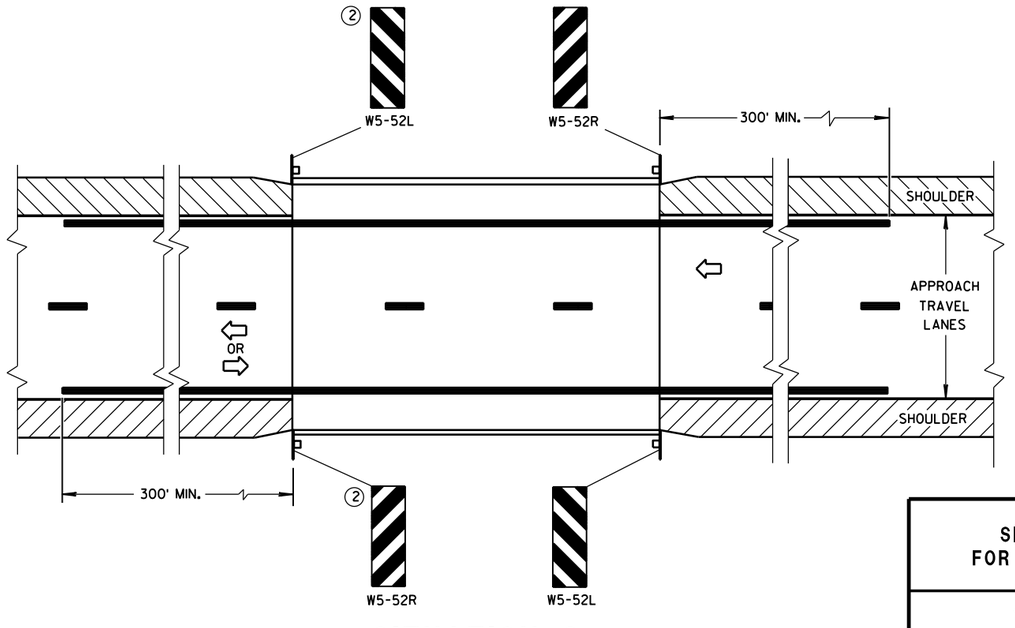


SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

GENERAL NOTES

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

① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

② OMIT ON ONE-WAY TRAVELLED WAYS.

③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

SIGNING & MARKING FOR TWO LANE BRIDGES

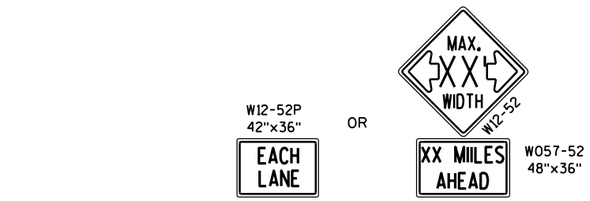
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

LEGEND

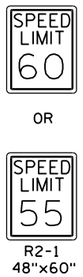
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

L, TAPER LENGTH (MPH)									
SPEED (MPH)	W, LATERAL OFFSET (FT)								
	10	11	12	13	14	15	16	17	18
45	450	495	540	585	630	675	720	765	810
50	500	550	600	650	700	750	800	850	900
55	550	605	660	715	770	825	880	935	990
60	600	660	720	780	840	900	960	1020	1080
65	650	715	780	845	910	975	1040	1105	1170
70	700	770	840	910	980	1050	1120	1190	1260



INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



R2-1
48"x60"
(BLACK AND WHITE)
LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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.

ALL SIGNS ARE 48"x48" 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.

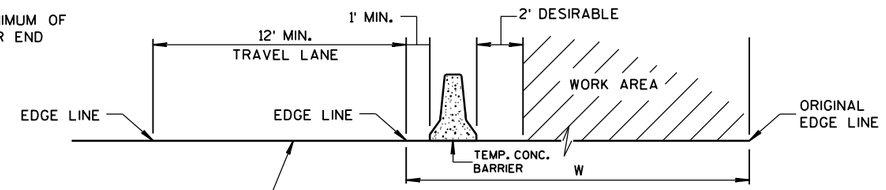
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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 FOR 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.

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 1/2 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.



TYPICAL SECTION

TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN — IC
FHWA

S.D.D. 15 D 3-3

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

L, TAPER LENGTH (MPH)							
SPEED (MPH)	W, LATERAL OFFSET (FT)						
	10	11	12	13	14	15	16
45	450	495	540	585	630	675	720
50	500	550	600	650	700	750	800
55	550	605	660	715	770	825	880
60	600	660	720	780	840	900	960
65	650	715	780	845	910	975	1040
70	700	770	840	910	980	1050	1120

XX MILES AHEAD — W057-52 48"x36"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1 FOOT LESS THAN AVAILABLE WIDTH (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET).

OR

LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.

OR

R2-1 48"x60" (BLACK AND WHITE)

LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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.

ALL SIGNS ARE 48"x48" 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.

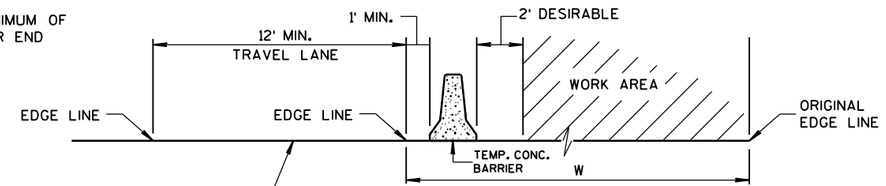
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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 FOR 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.

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 1/2 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.



TYPICAL SECTION

TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN — IC

FHWA

6

S.D.D. 15 D 3-4

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S.D.D. 15 D 3-4

LEGEND

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

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 DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

ALL SIGNS ARE 48"×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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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 FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

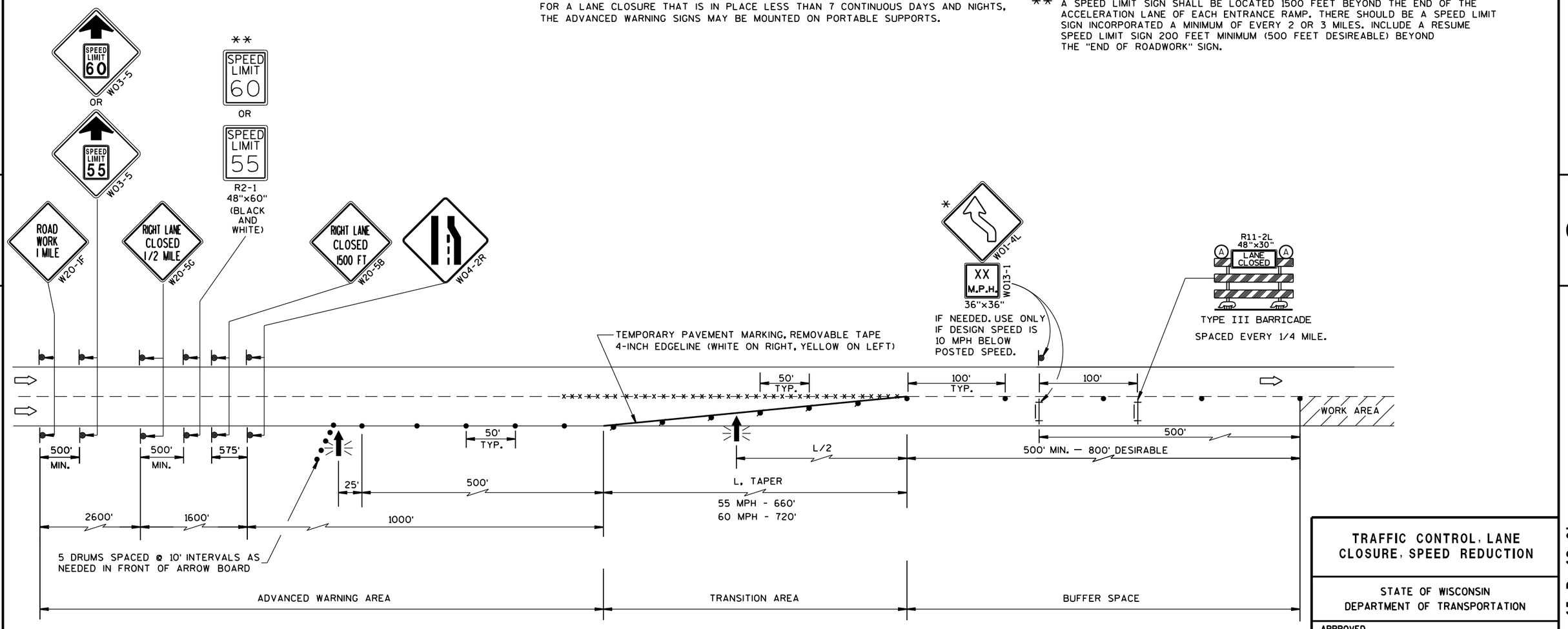
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST 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 1/2 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.

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



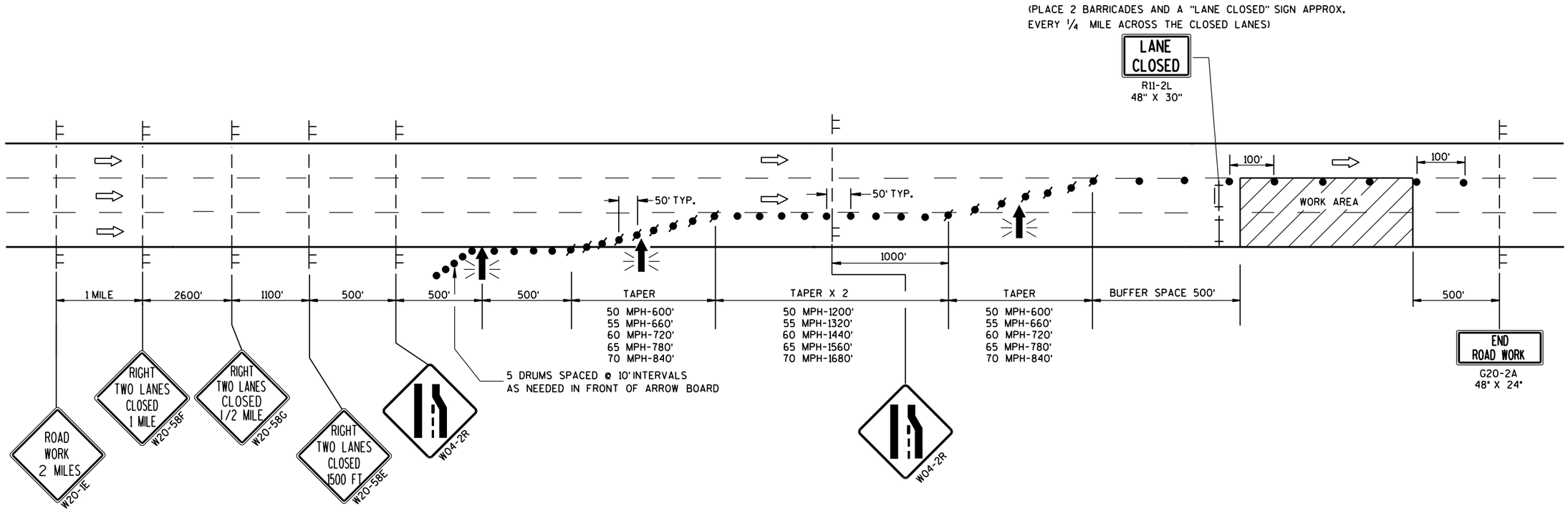
TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 12-6b



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT TWO LANES. FOR CLOSING THE LEFT TWO LANES, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

W20-1E AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

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

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

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

TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 14, 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

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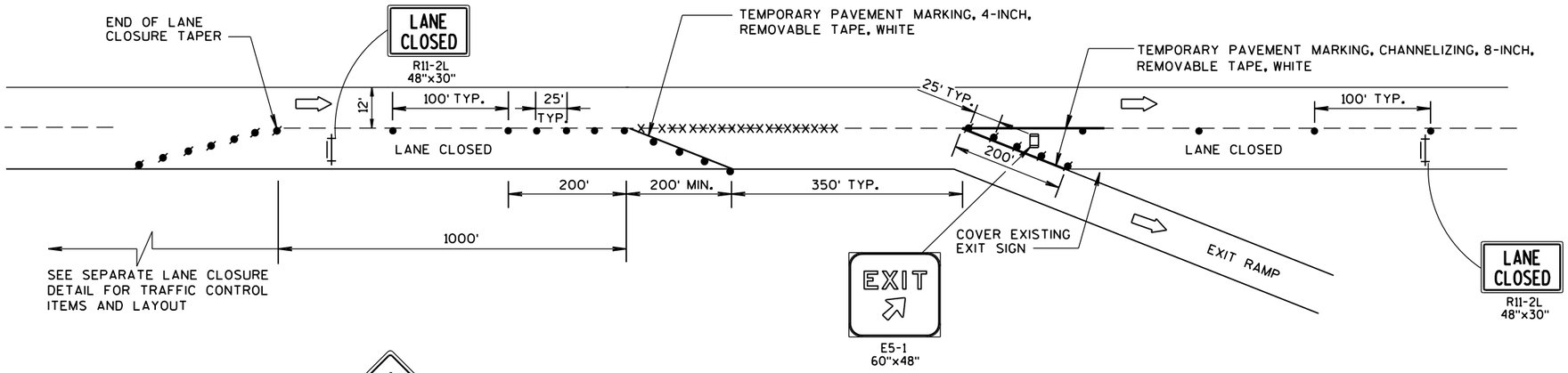
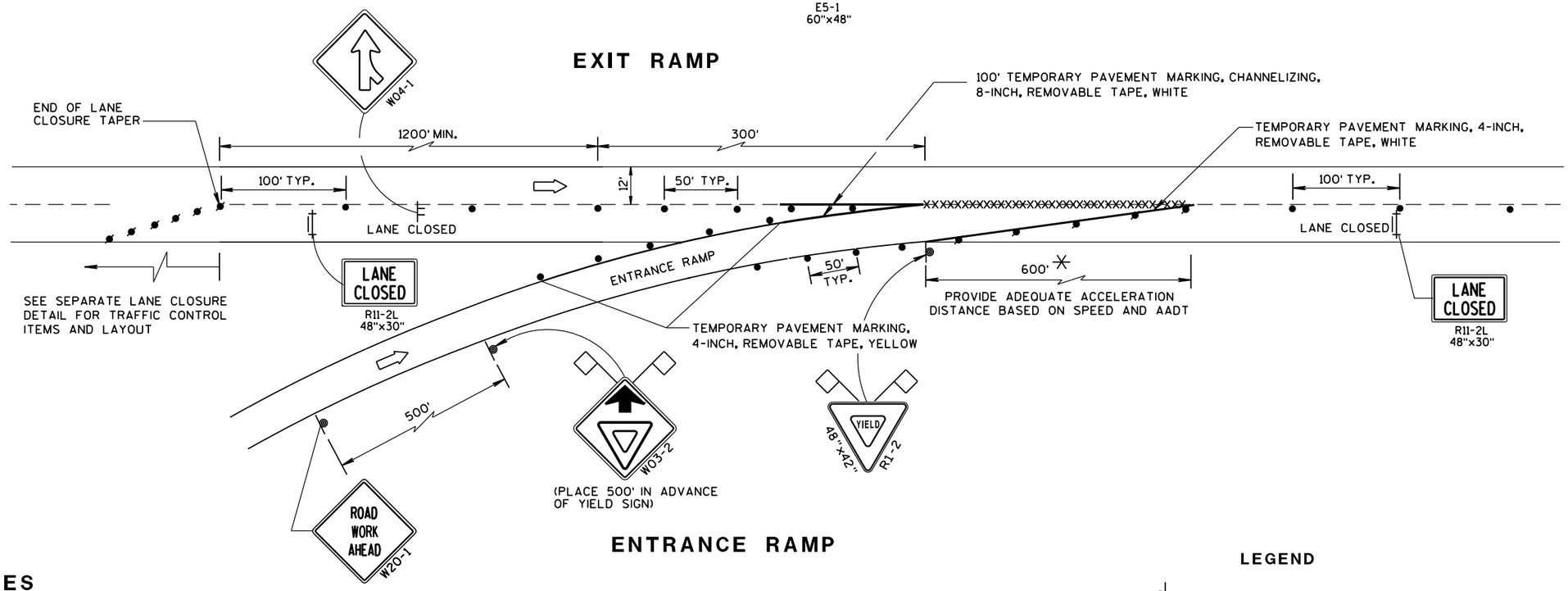
S.D.D. 15 D 14-3



EXIT RAMP



ENTRANCE RAMP

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH 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.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

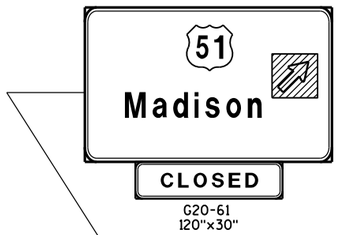
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

S.D.D. 15 D 15-2

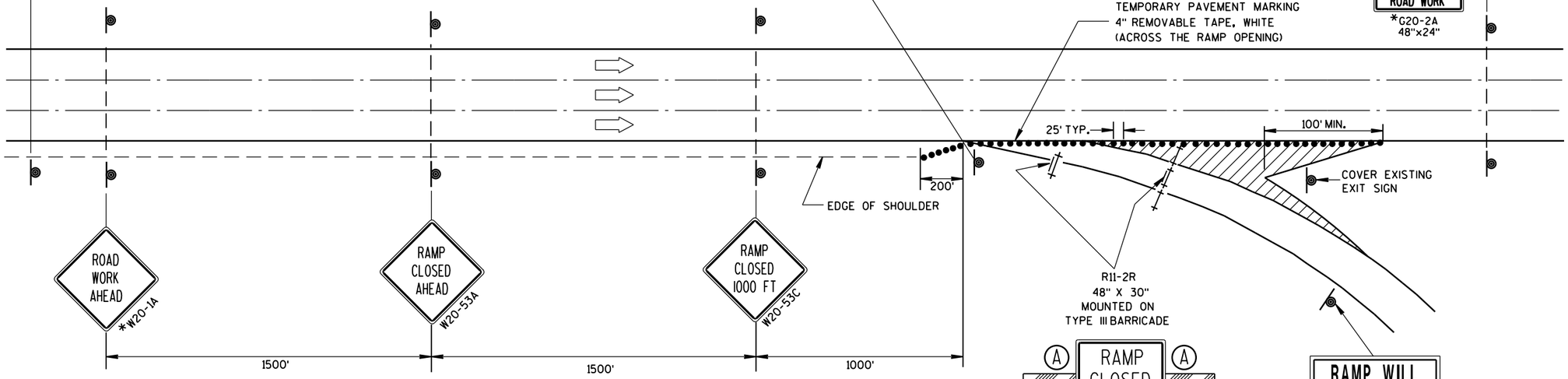
S.D.D. 15 D 15-2

PLACE SIGN G20-60 OVER MILEAGE ON EXISTING E1-1A SIGN



COVER ARROW ON EXISTING E4-1A SIGN (COVERING SIGNS TYPE I)

G20-61
120"x30"



GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

* W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI FIC
FHWA

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S.D.D. 15 D 16-3

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S.D.D. 15 D 16-3

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

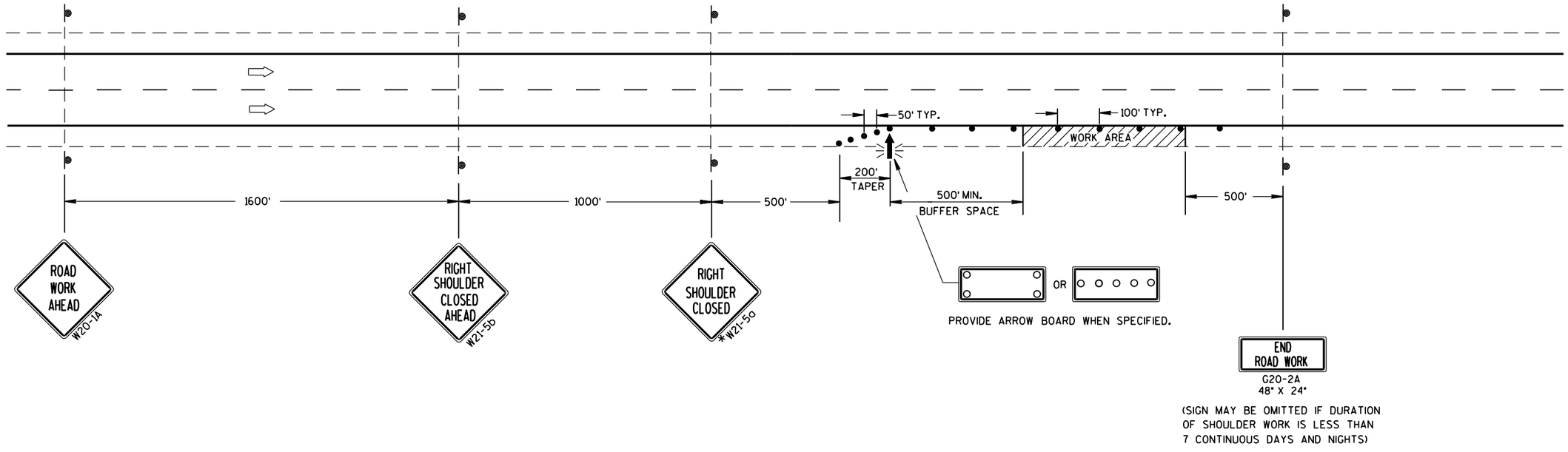
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

WHEN A 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.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

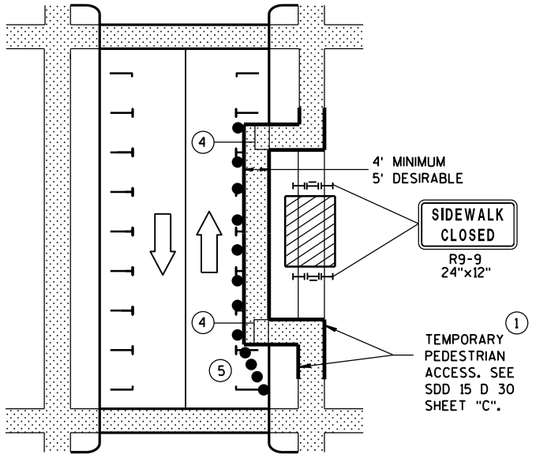
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

6

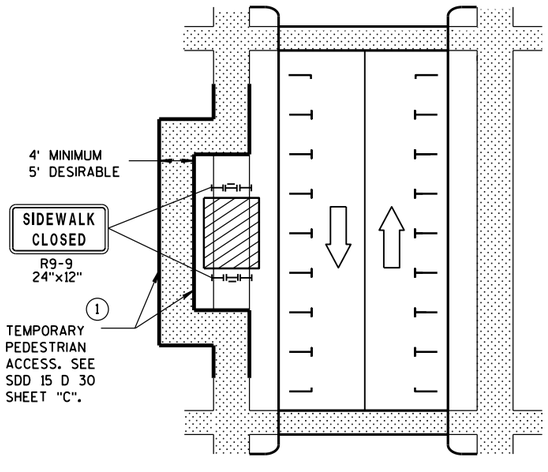
S.D.D. 15 D 27-3

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

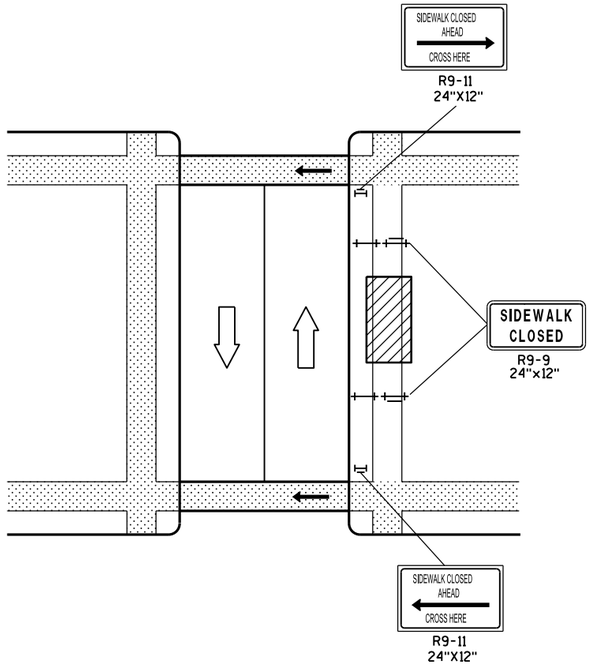


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

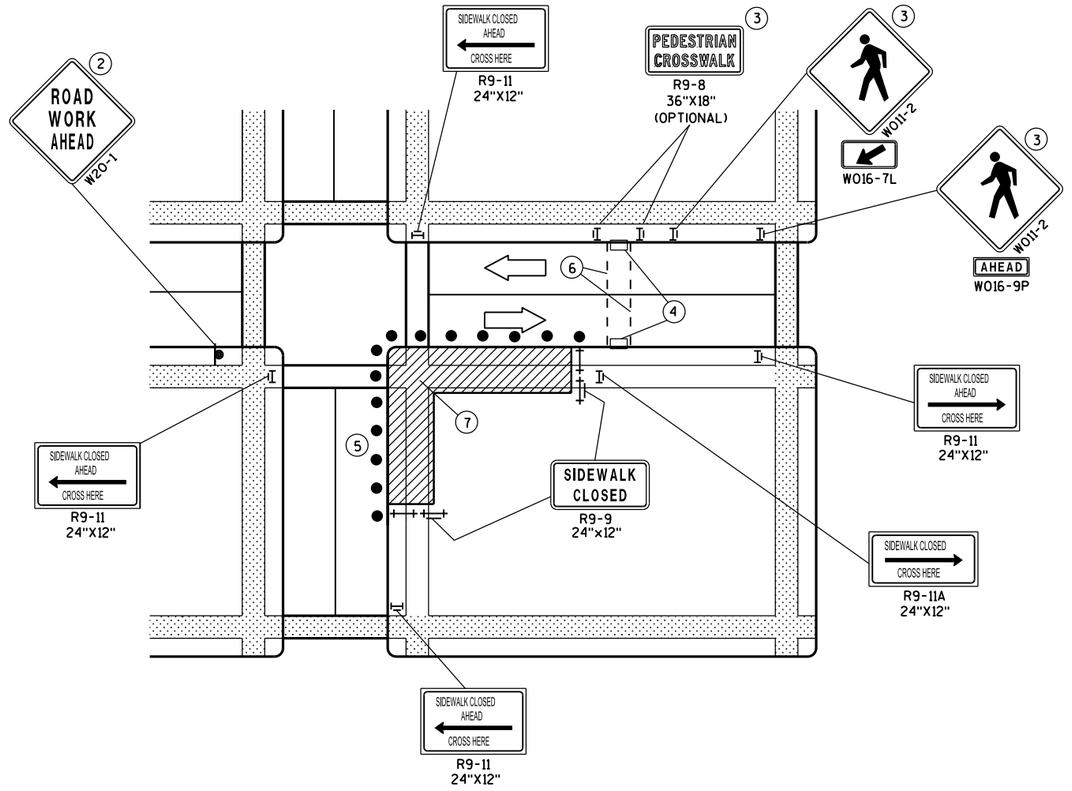
NOTE: LAYOUT SAME AS ABOVE.



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 NIGHTTIME 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 BETWEEN 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 W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 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

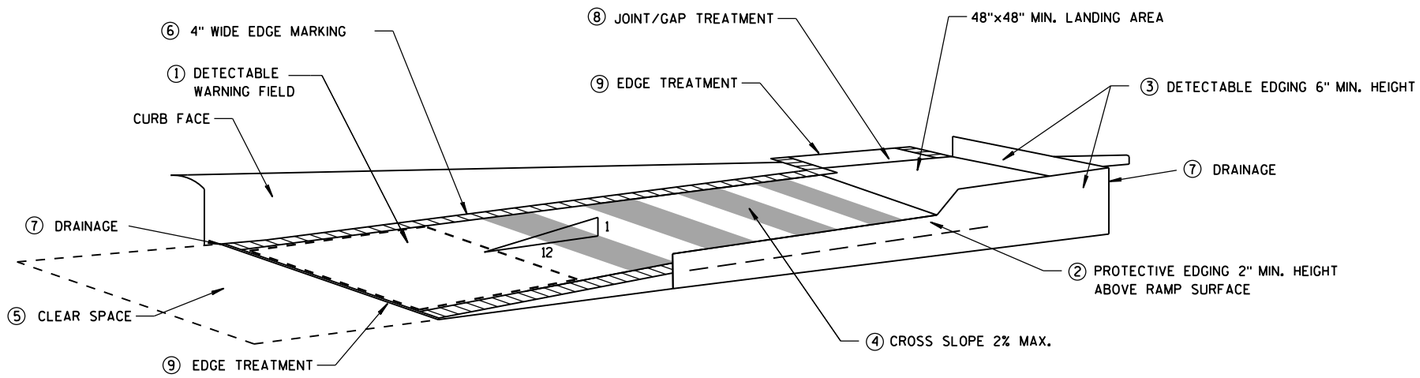
- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)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

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 30-3a



TEMPORARY CURB RAMP PARALLEL 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 FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 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"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

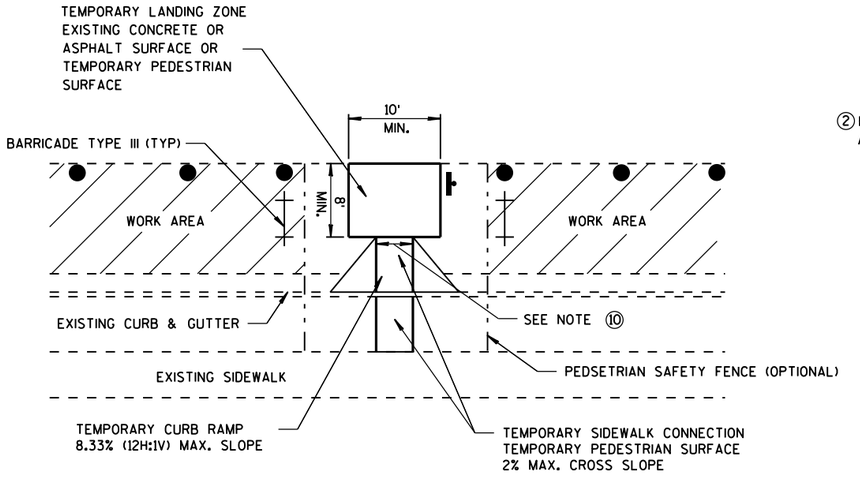
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

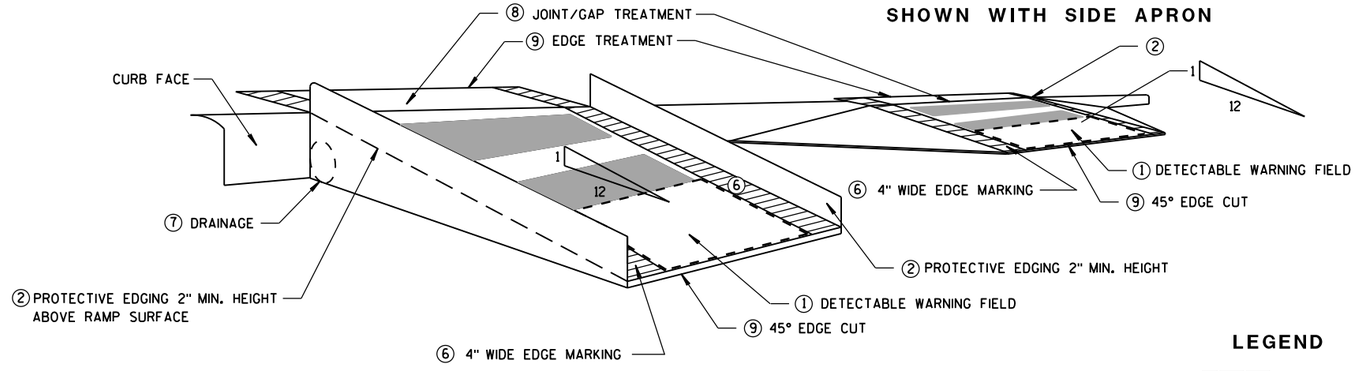
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI IC

FHWA

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S.D.D. 15 D 30-3b

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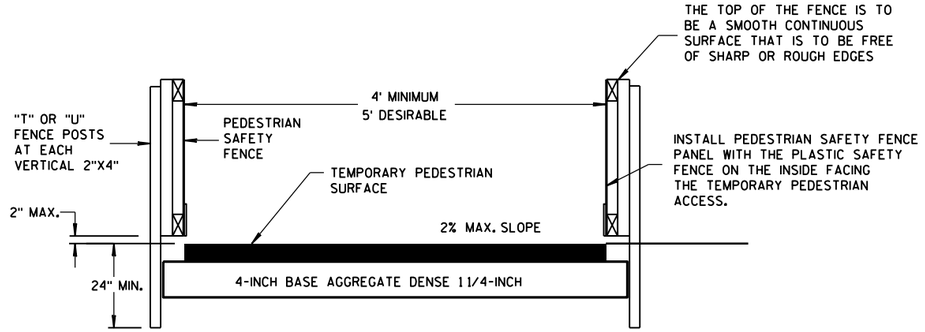
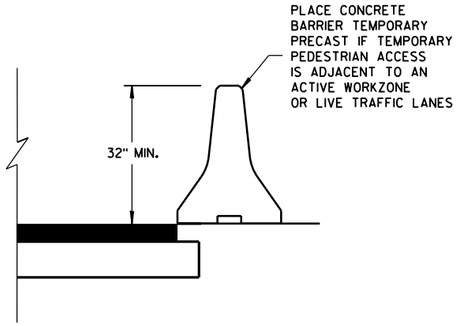
S.D.D. 15 D 30-3b

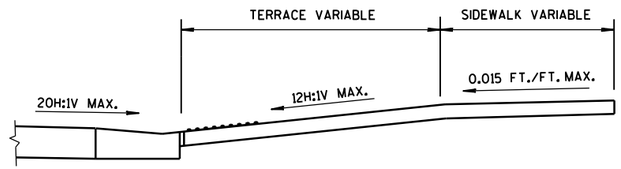




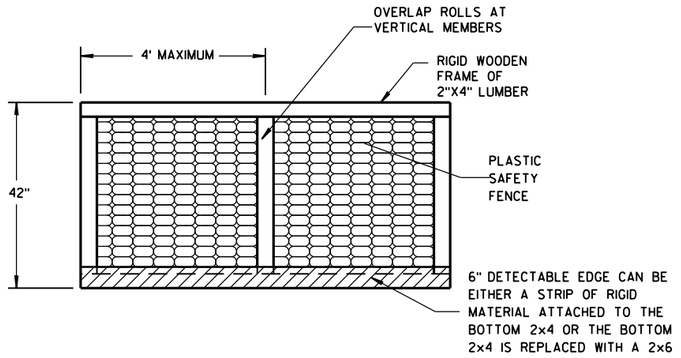
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

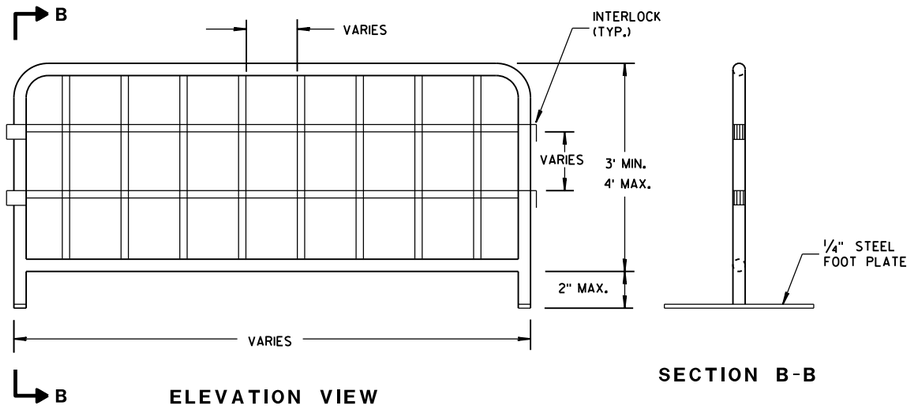
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



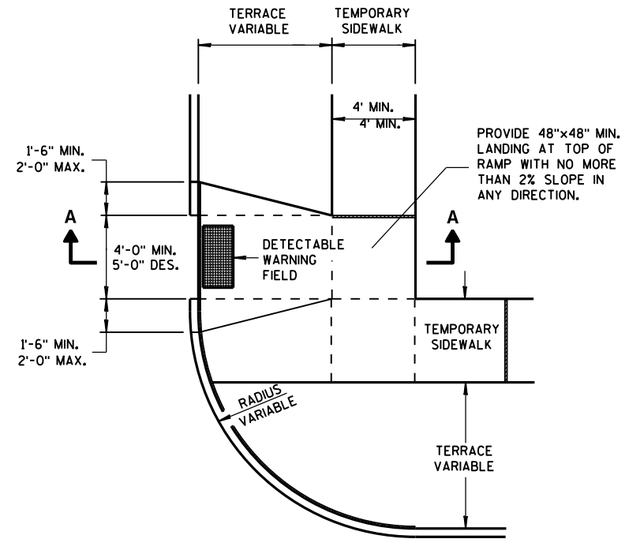
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

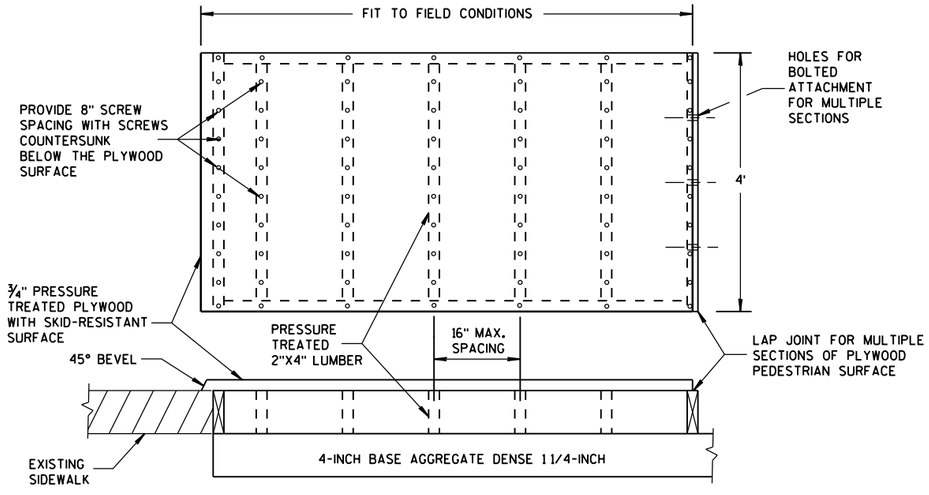
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



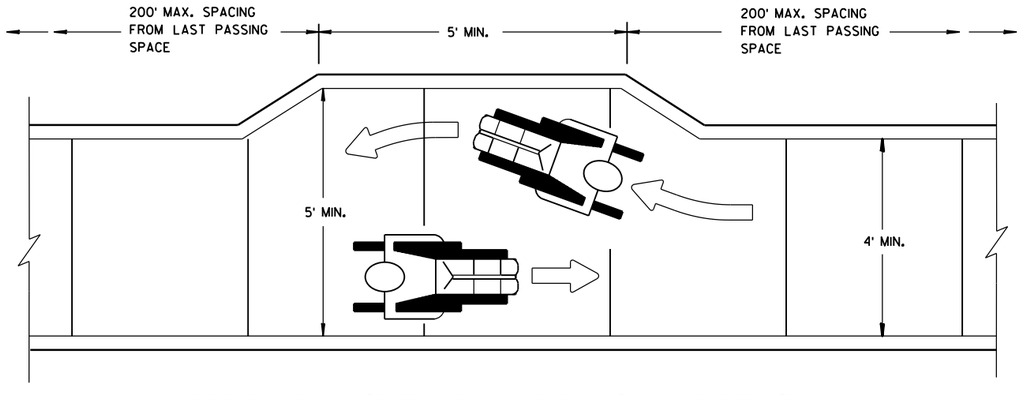
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGIN IC
FHWA

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S.D.D. 15 D 30-3c

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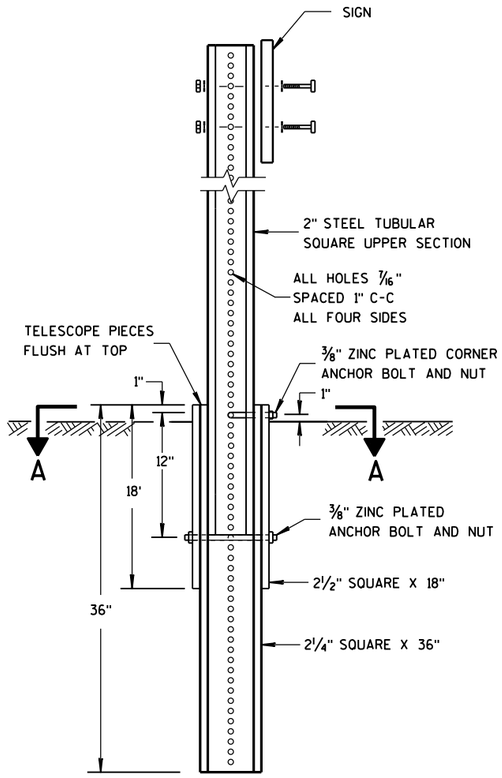
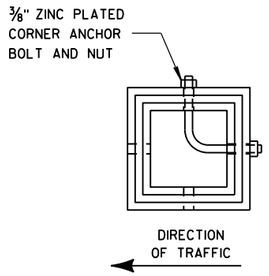
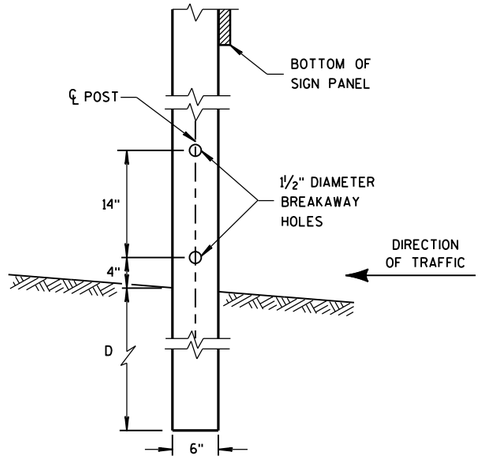


DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



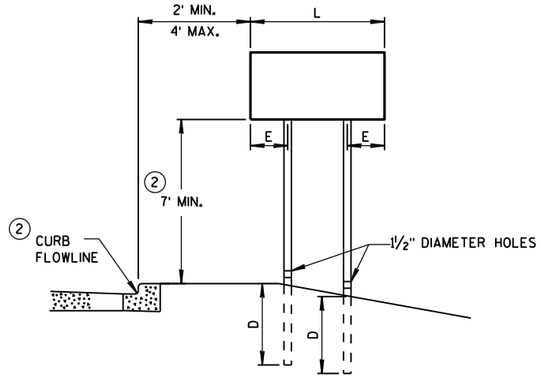
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

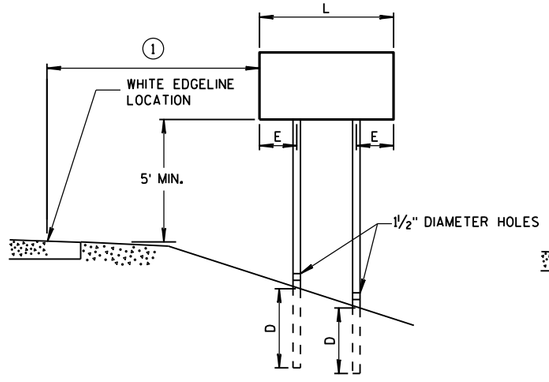
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

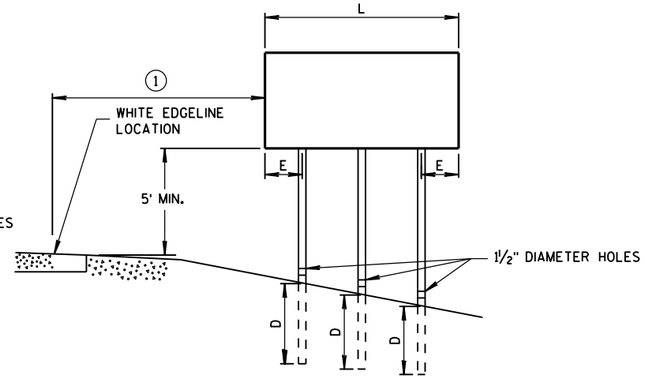
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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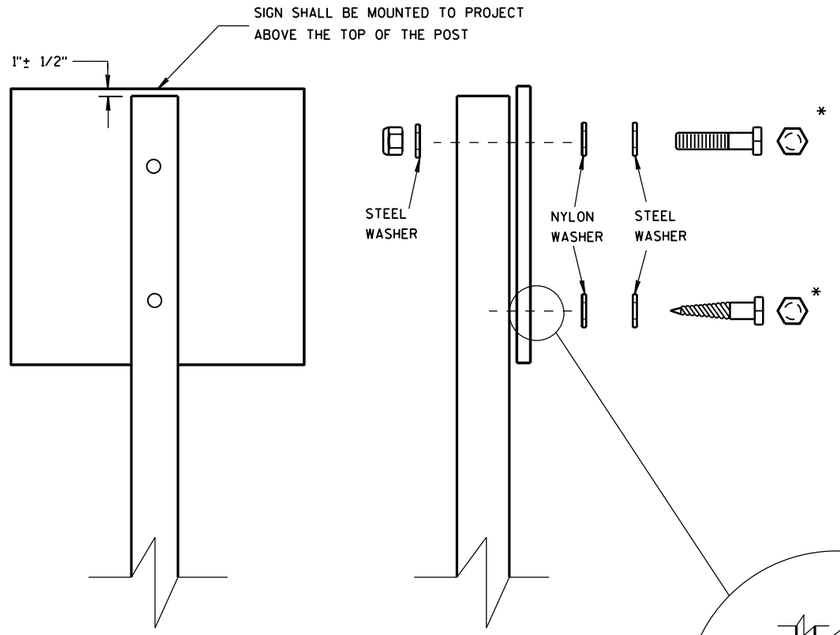
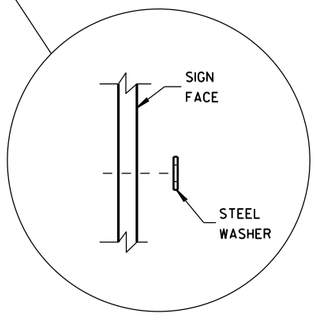
S.D.D. 15 D 38-1a





WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

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

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S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

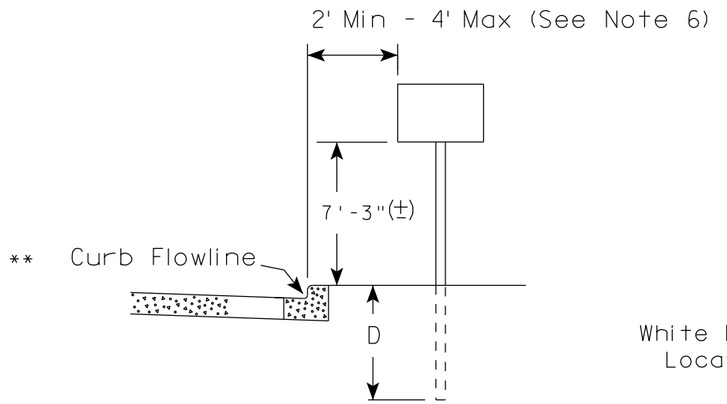
ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

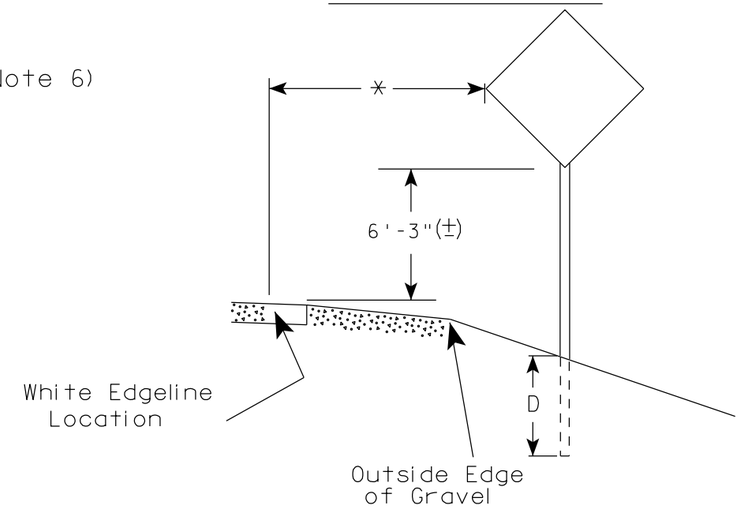
APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

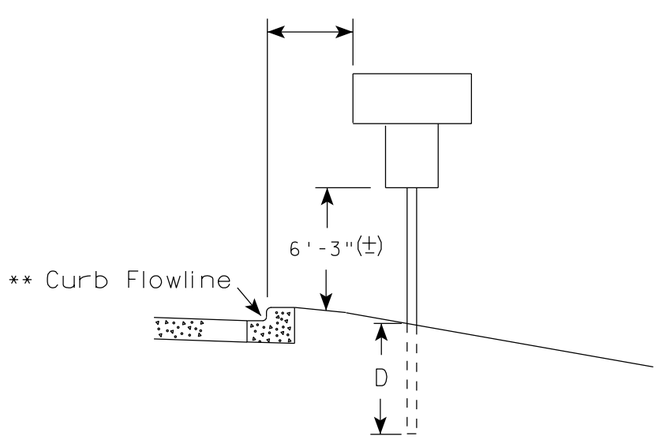
SIGN

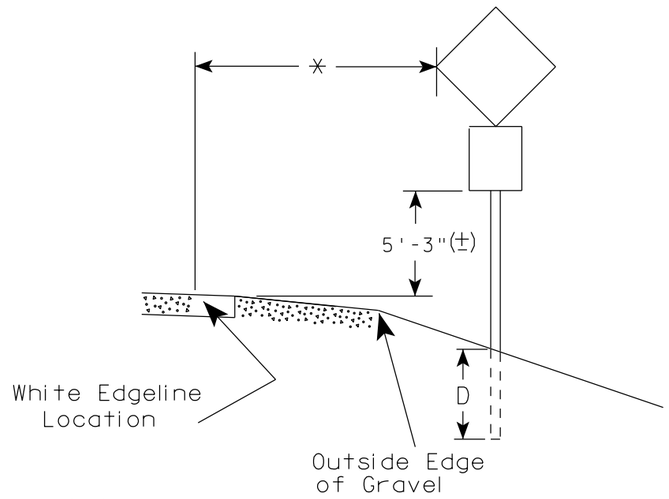
URBAN AREA



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 barrier wall, see A4-10 sign plate.
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 J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. 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), 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" (±).

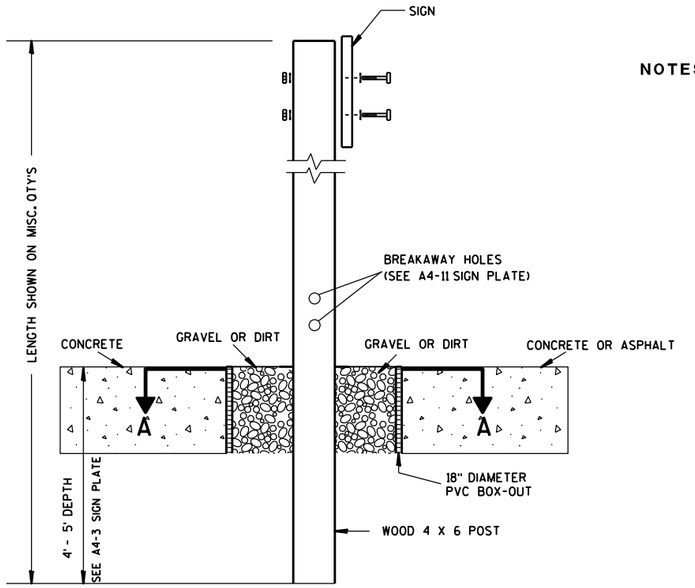
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

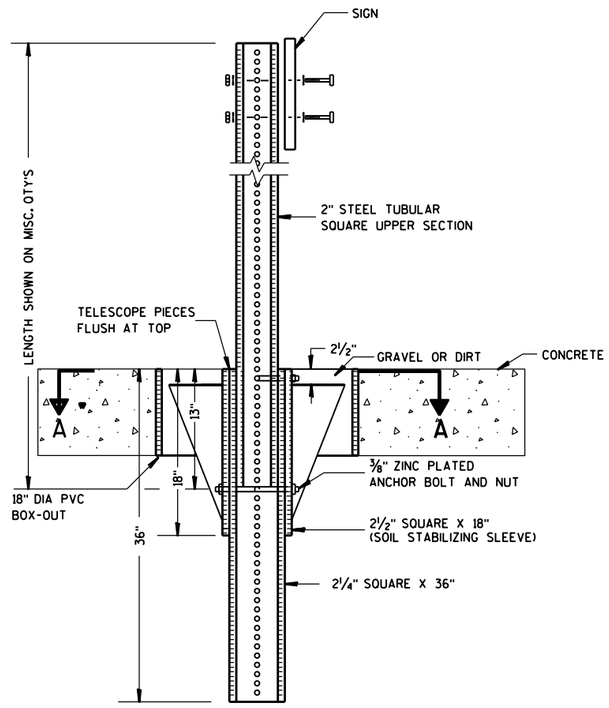
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

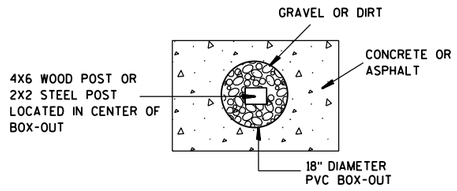
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

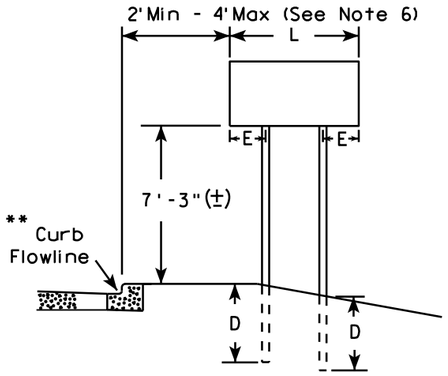
APPROVED Matthew R Rauch
for State Traffic Engineer

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

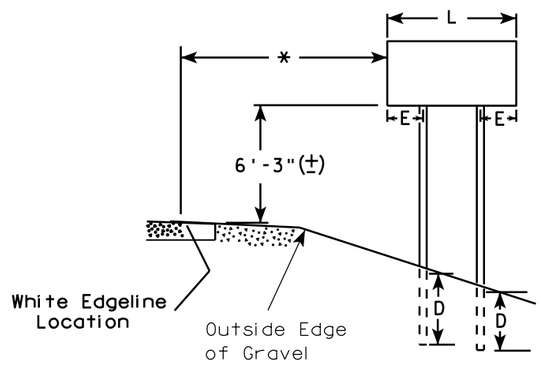
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

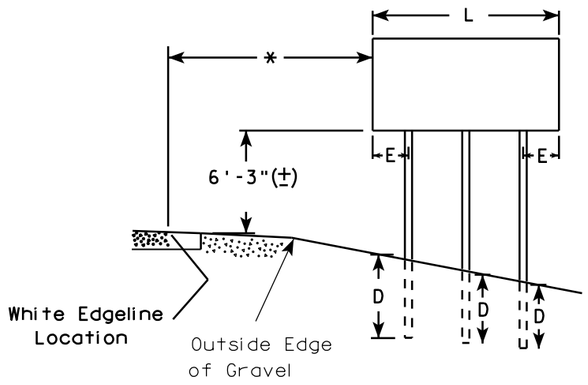
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

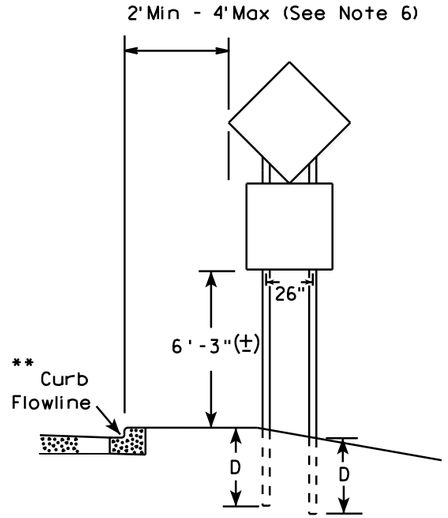
URBAN AREA



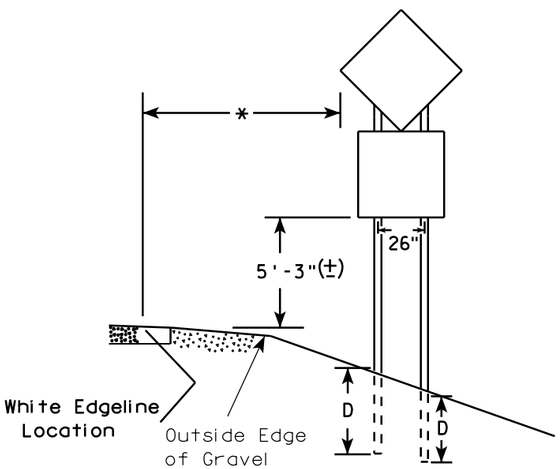
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
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.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

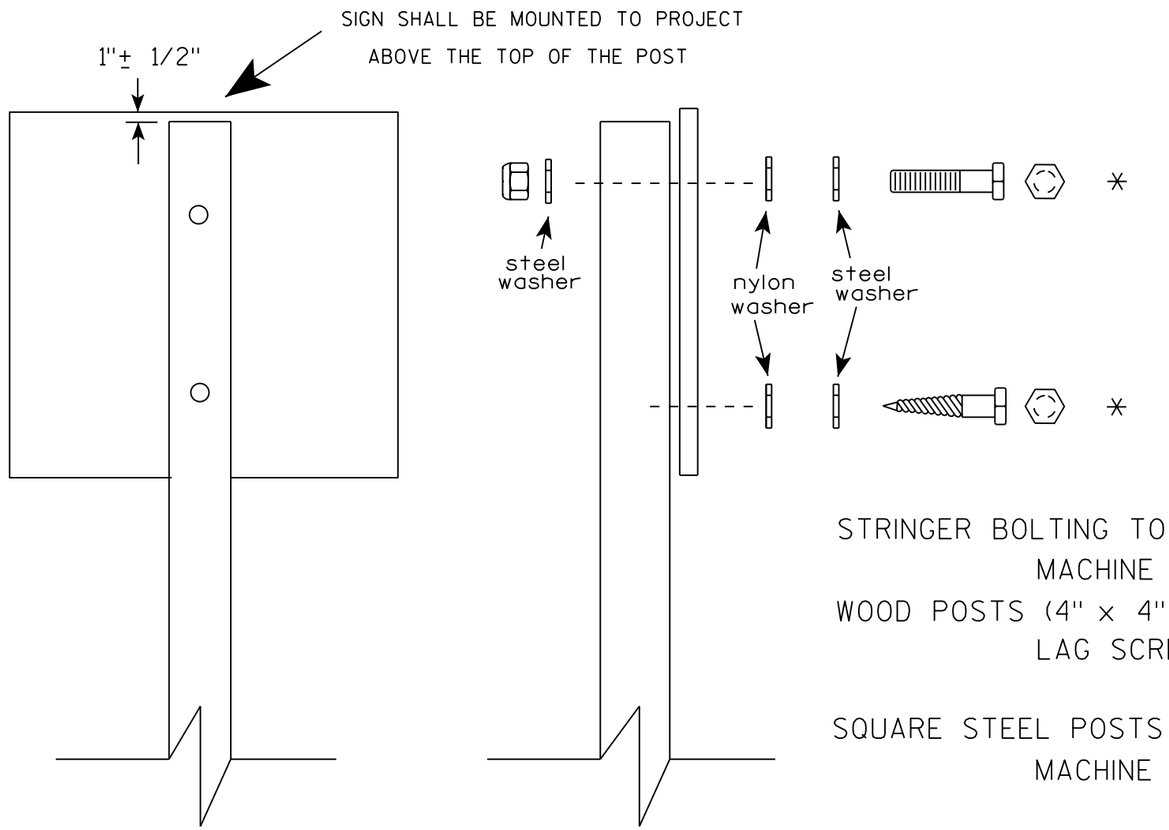
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 75 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	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 4" or 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

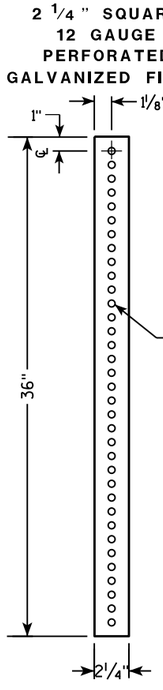
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

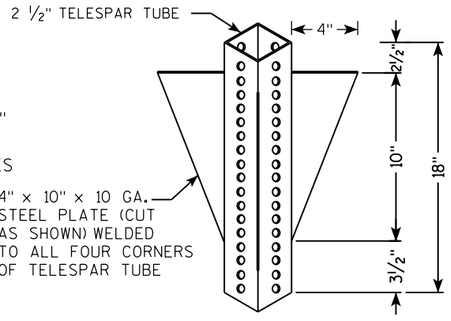
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

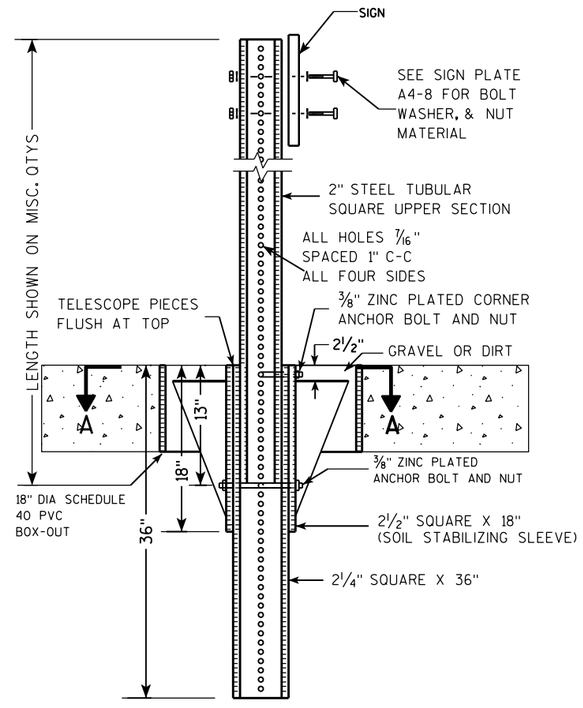
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



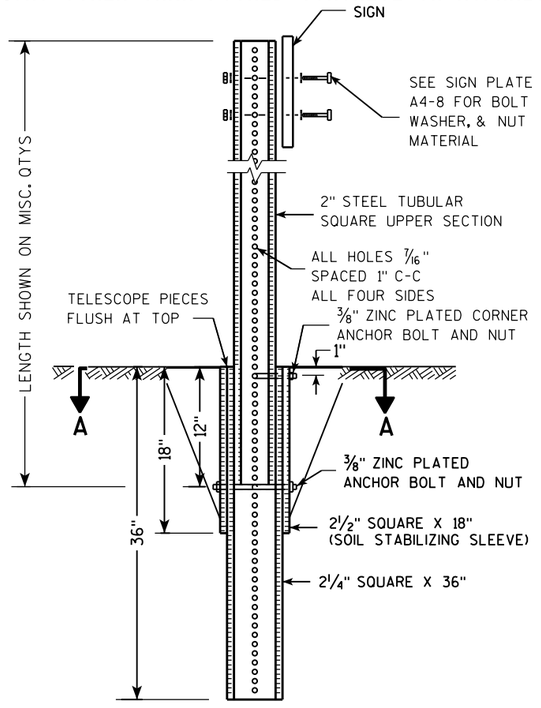
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

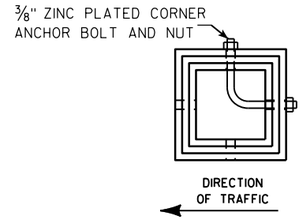


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

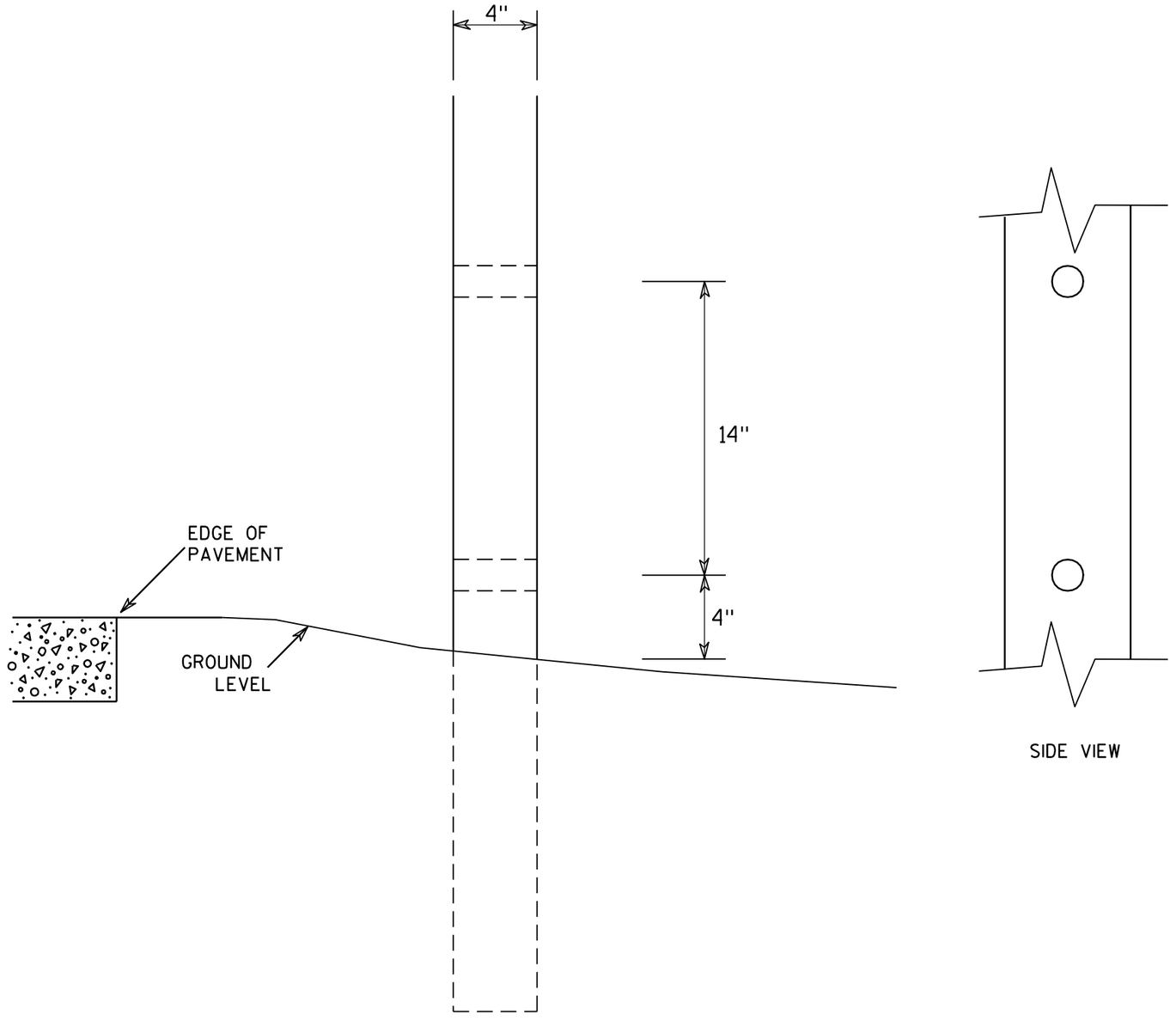
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 77 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



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.

7

7

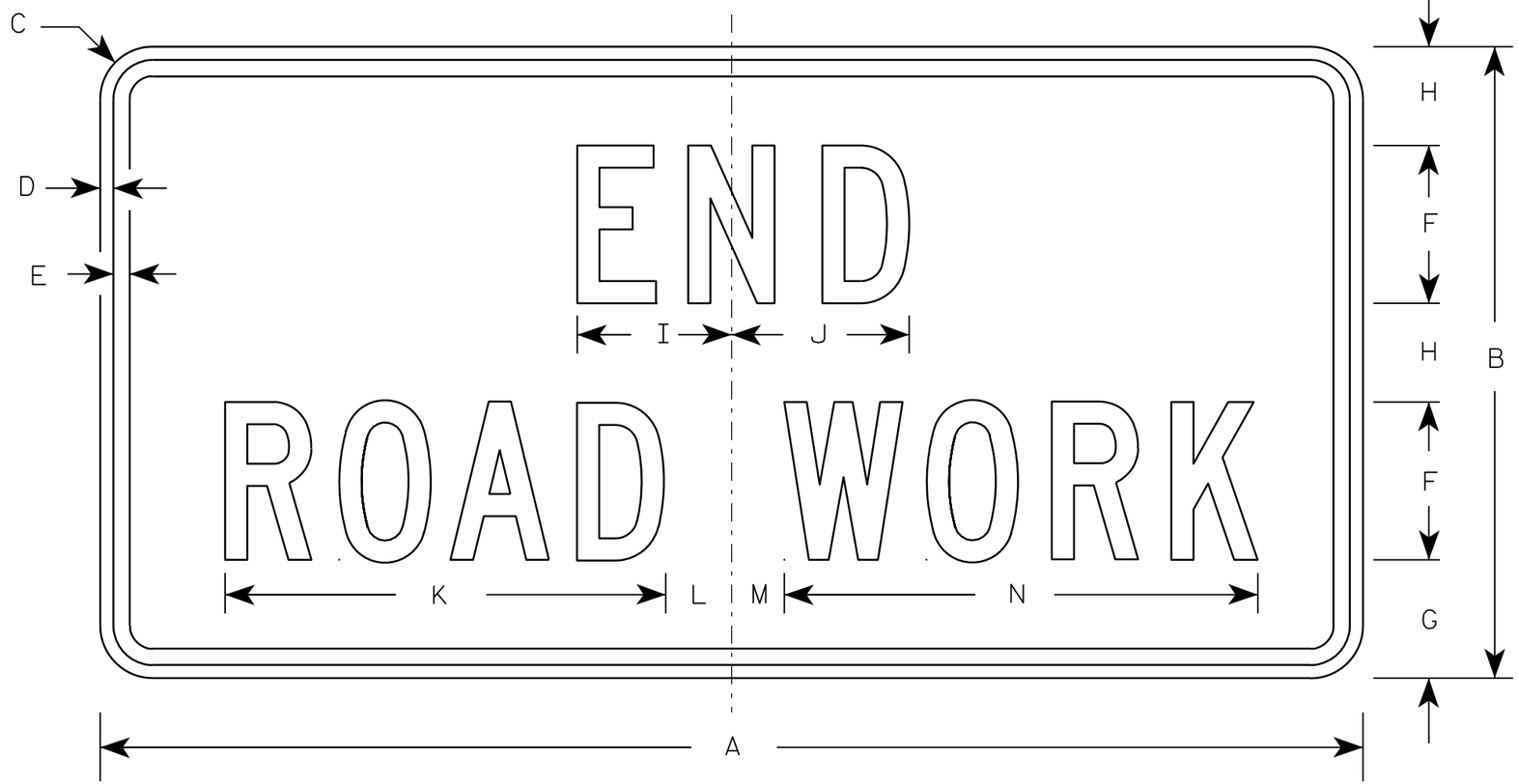
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 78	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

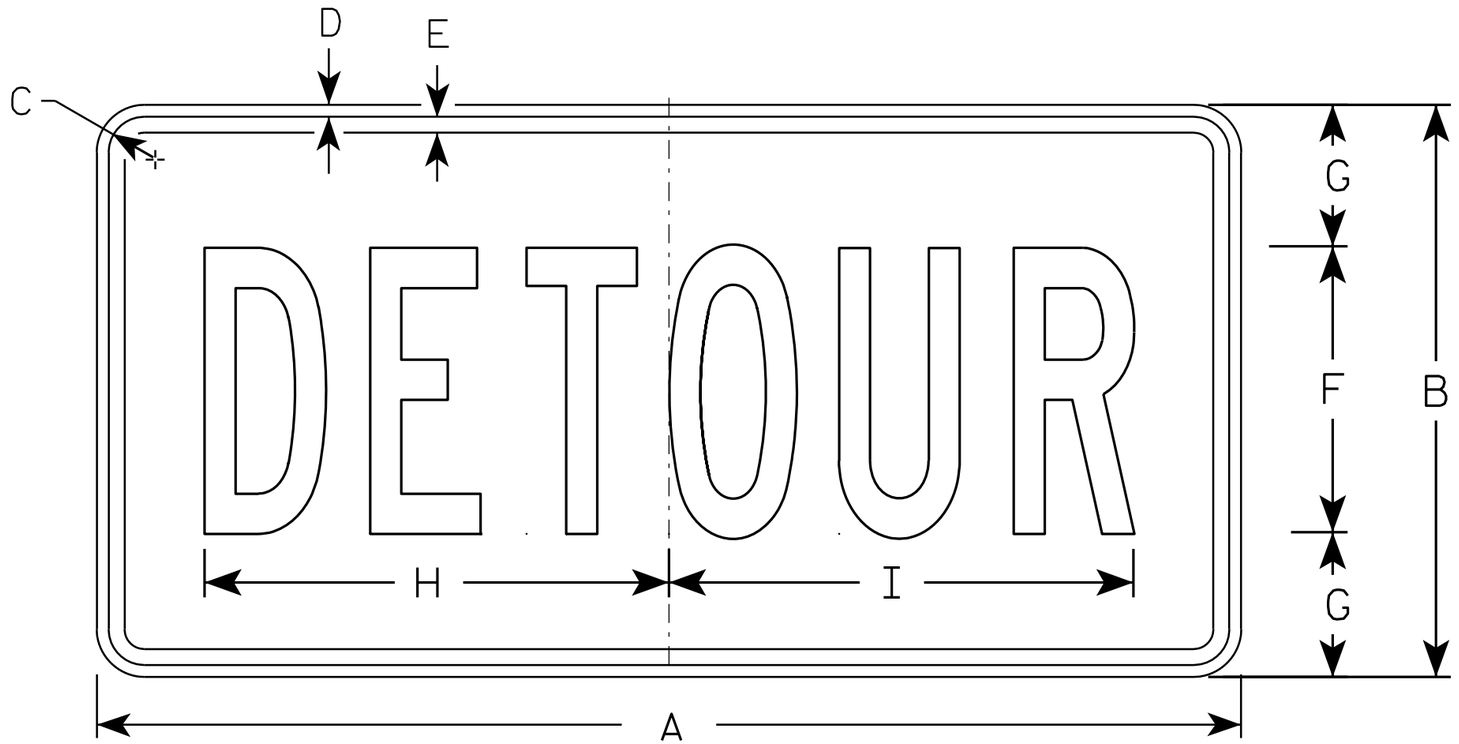
STANDARD SIGN
G20-2A

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: 79	E



M4-8

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 - B
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																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

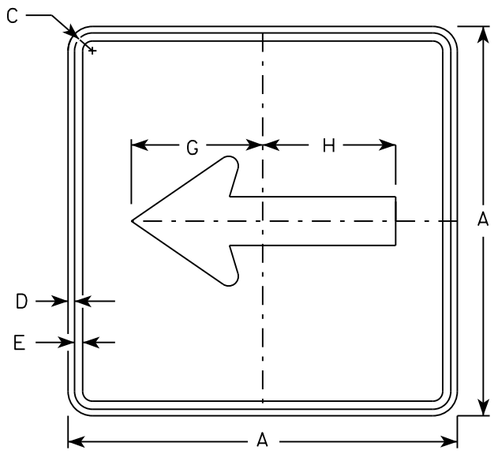
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

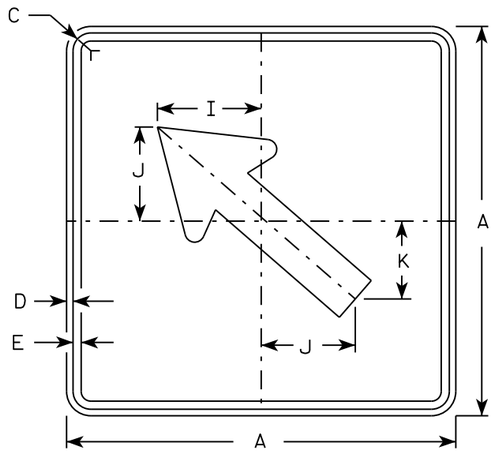
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 80	E



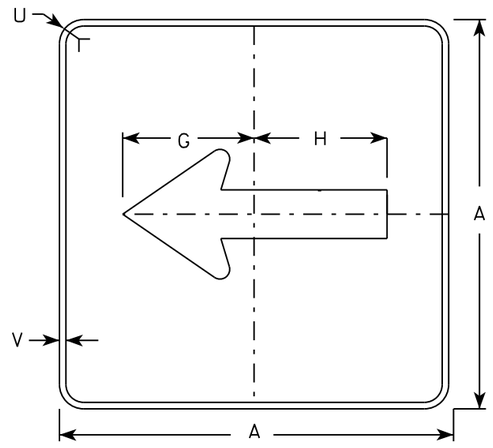
M6-1
MM6-1
MO6-1
MP6-1



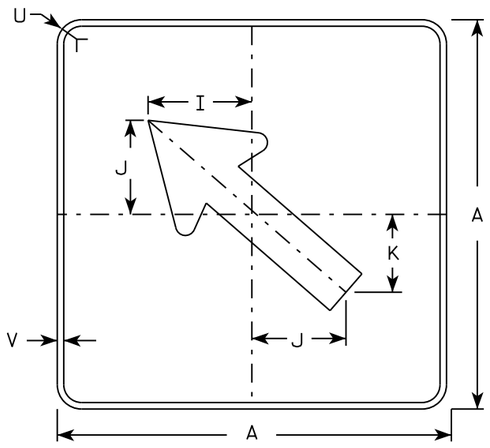
M6-2
MM6-2
MO6-2
MP6-2

NOTES

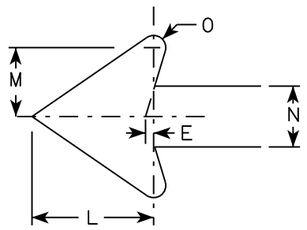
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

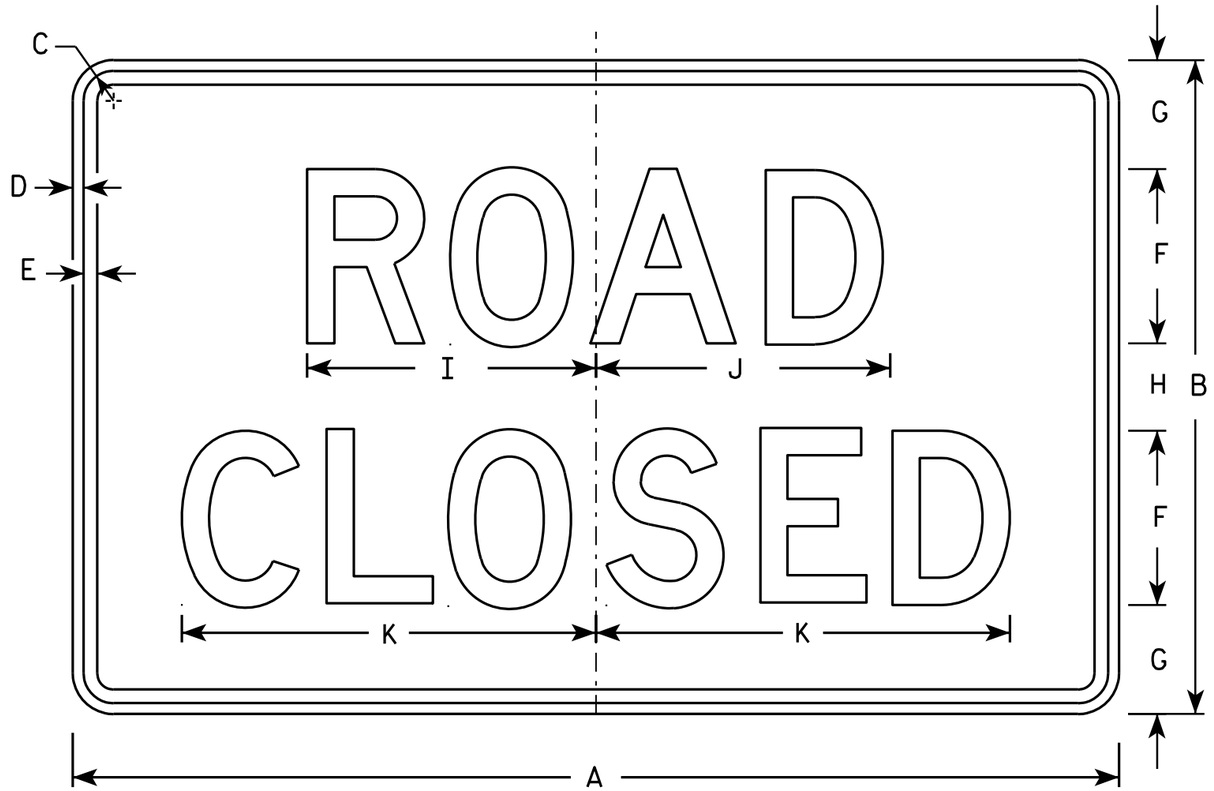
STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 81 M6-1.15

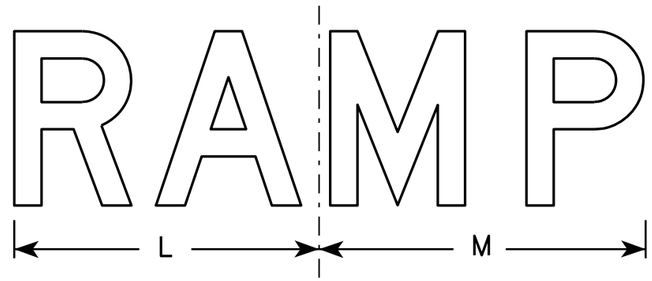
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



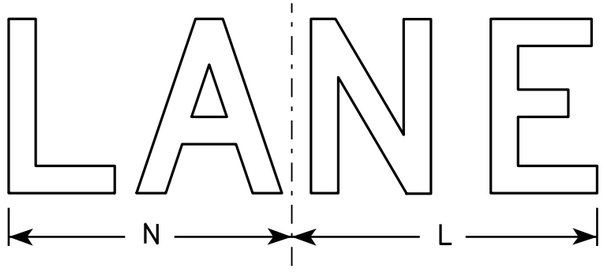
R11-2

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.
5. Modify the message as required.



R11-2R



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													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													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													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													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													10.0

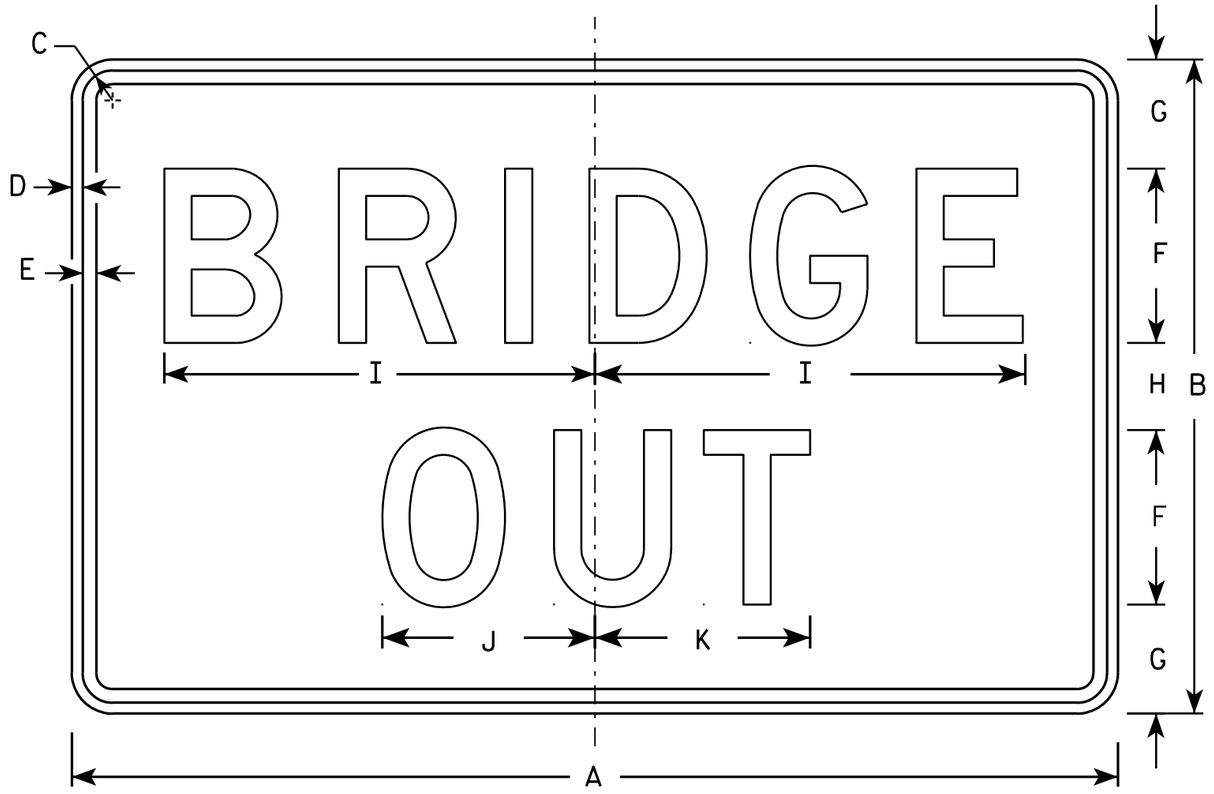
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 82 | E



R11-2B

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																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

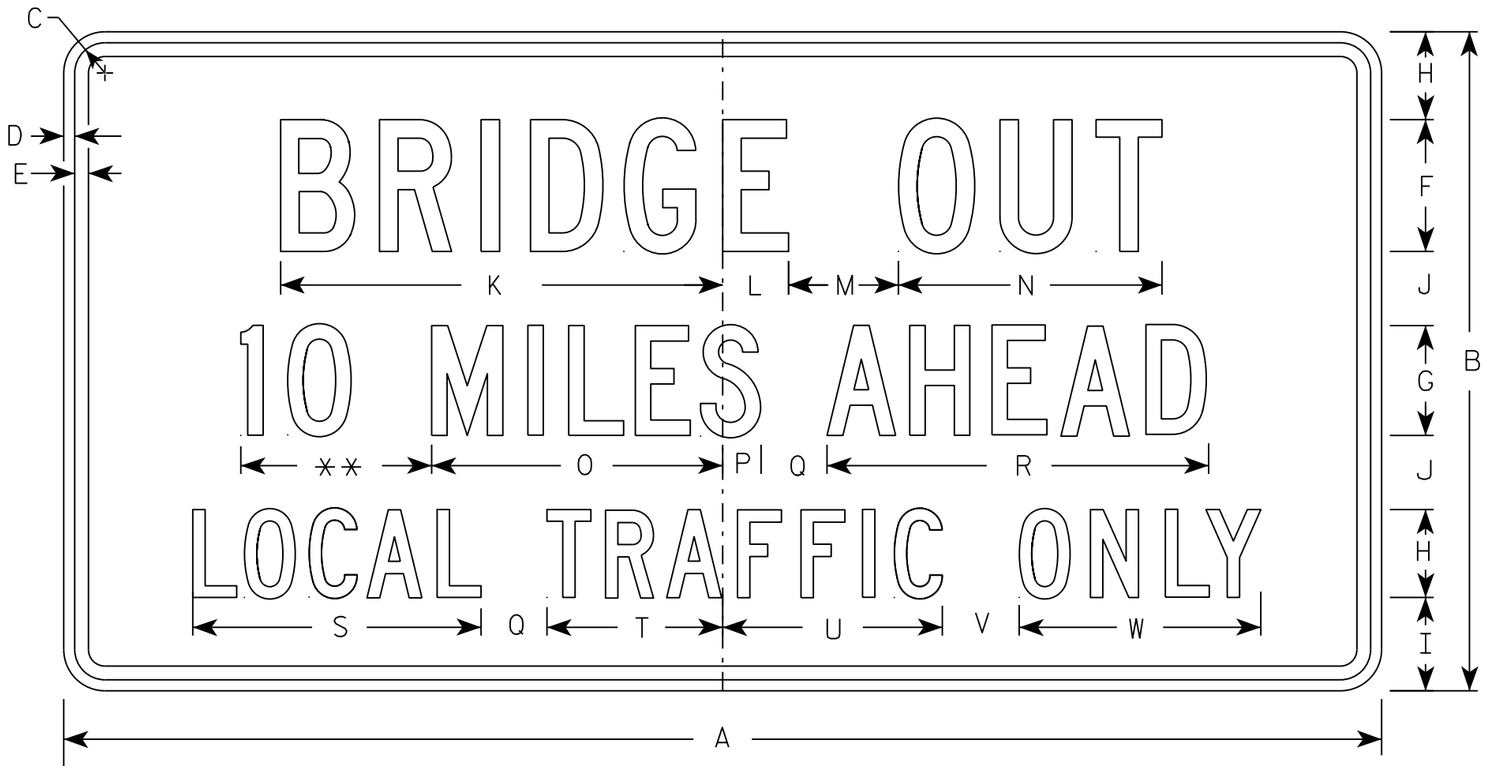
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

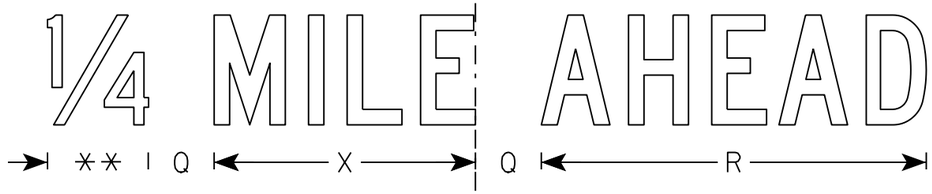
PROJECT NO:

SHEET NO: 83 E



R11-3B

** See Note 5



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. Substitute appropriate numerals to nearest quarter mile 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 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

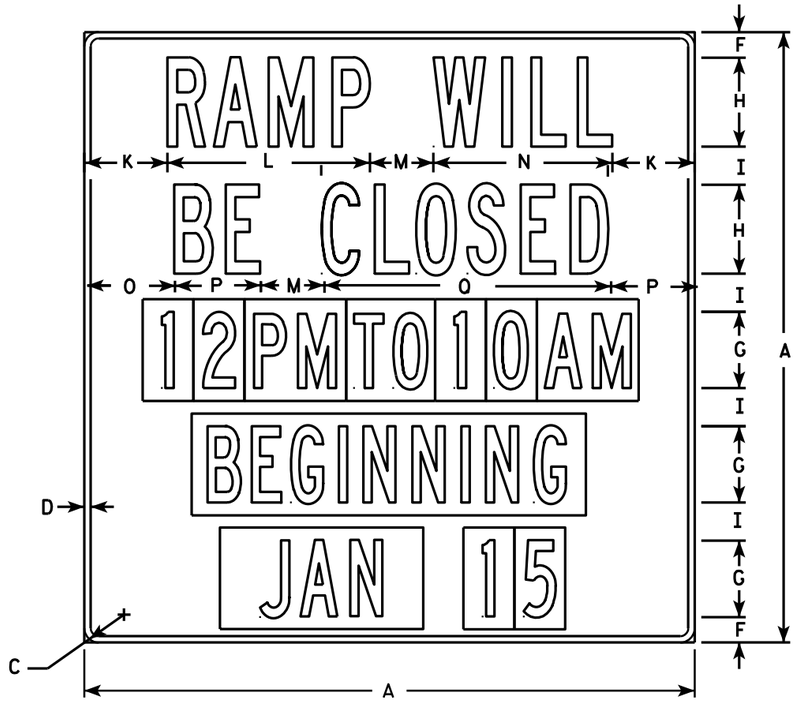
STANDARD SIGN
R11-3B

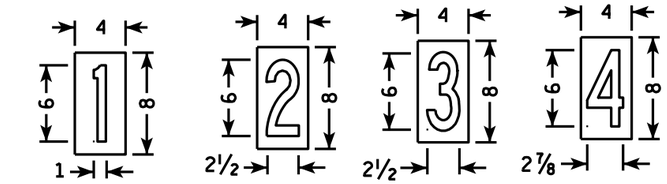
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

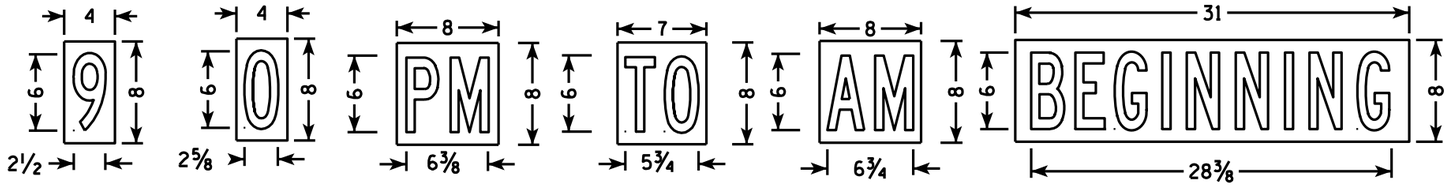
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 84 | E

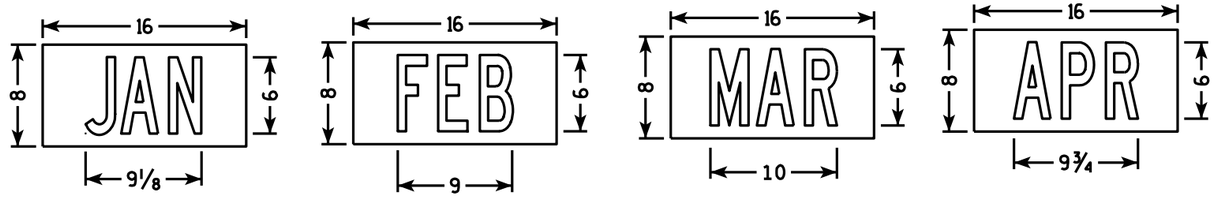


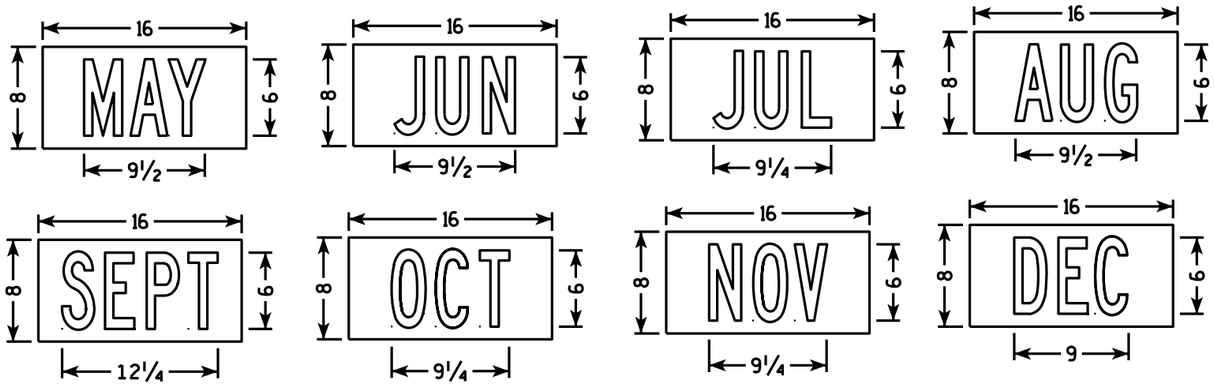


NOTES

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 - B
4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.







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		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

STANDARD SIGN
R11-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-51.4

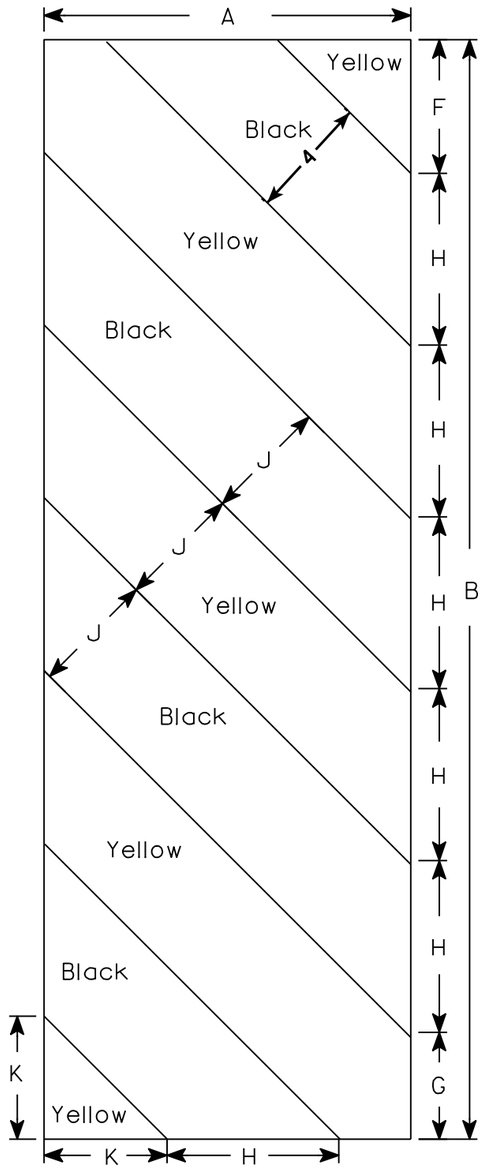
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 85	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R1151.DGN PLOT DATE : 01-APR-2011 14:07 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000

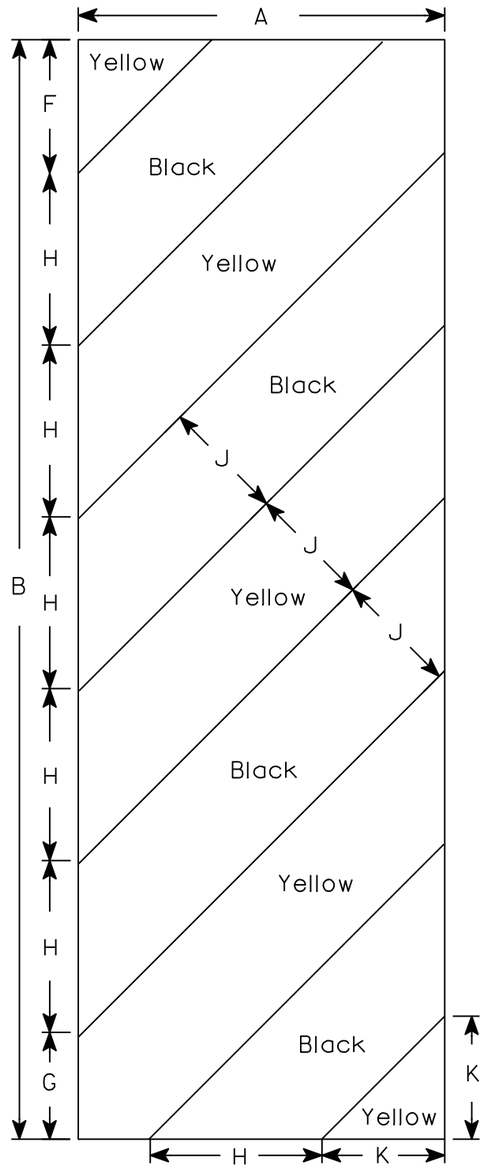
WISDOT/CADDS SHEET 42

7

7



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   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.
4. Alternate colors of stripes as shown.

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	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

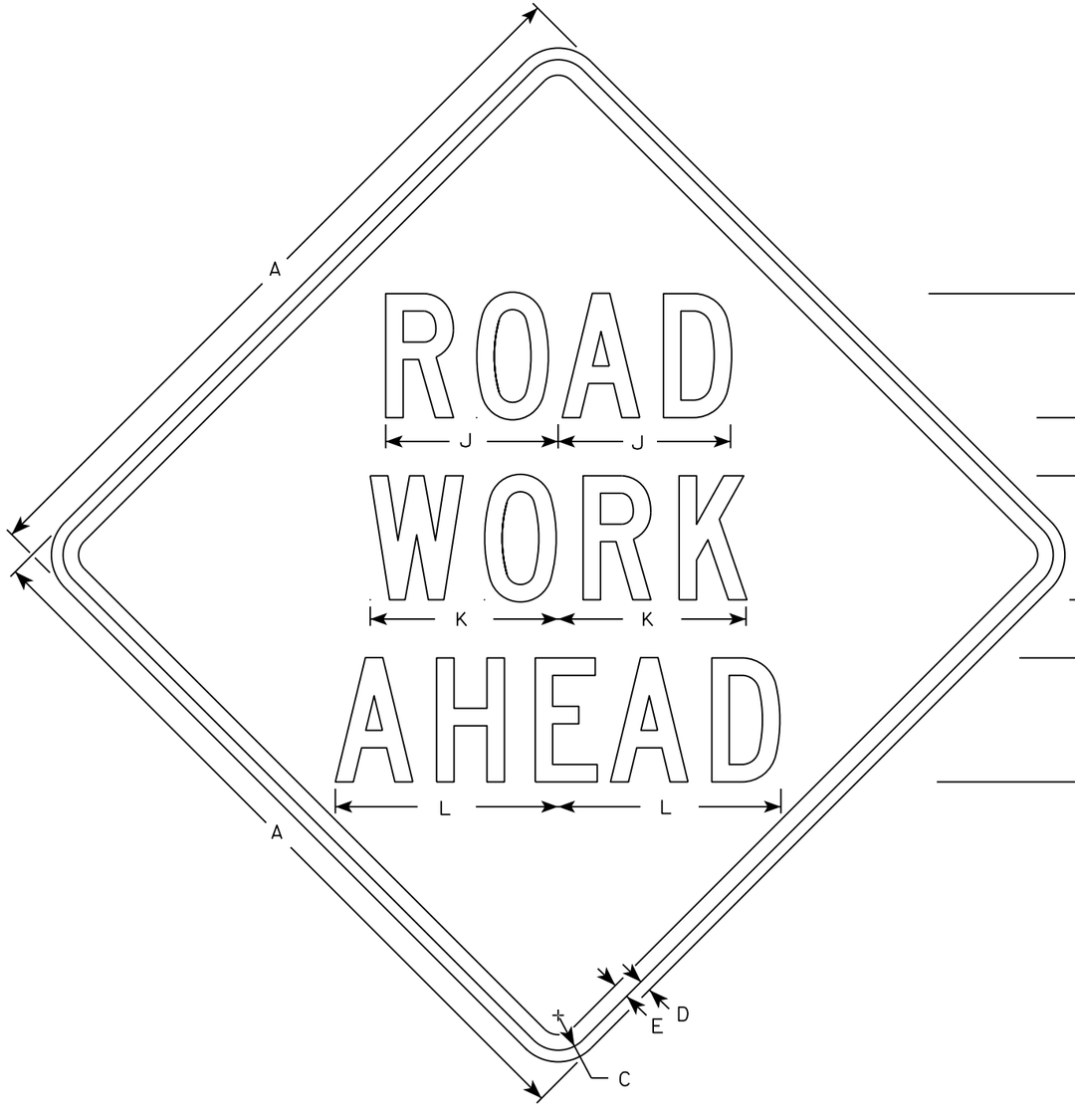
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 86 | E

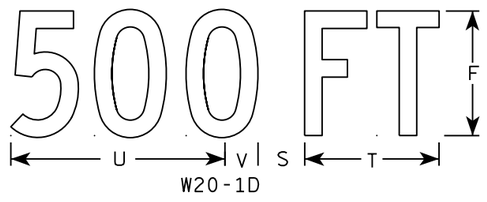
7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

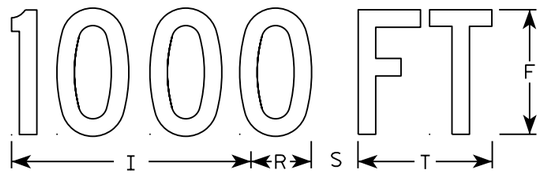
WISDOT/CADDS SHEET 42



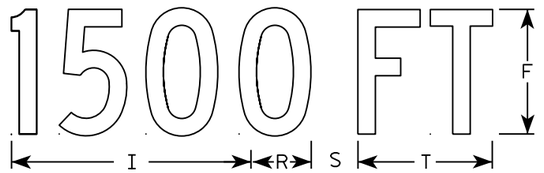
W20-1A



W20-1D

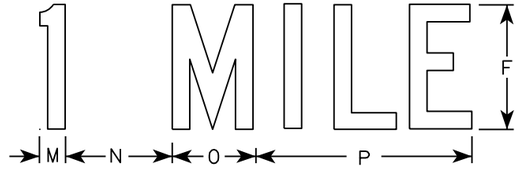


W20-1C

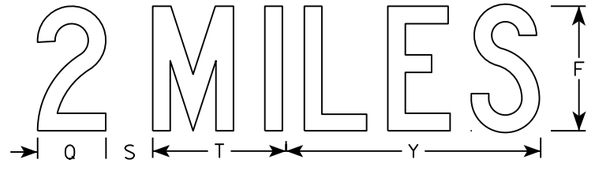


W20-1B

W20-1G



W20-1F



W20-1E

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 3/8	1/2	5/8	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		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, F & G

WISCONSIN DEPT OF TRANSPORTATION

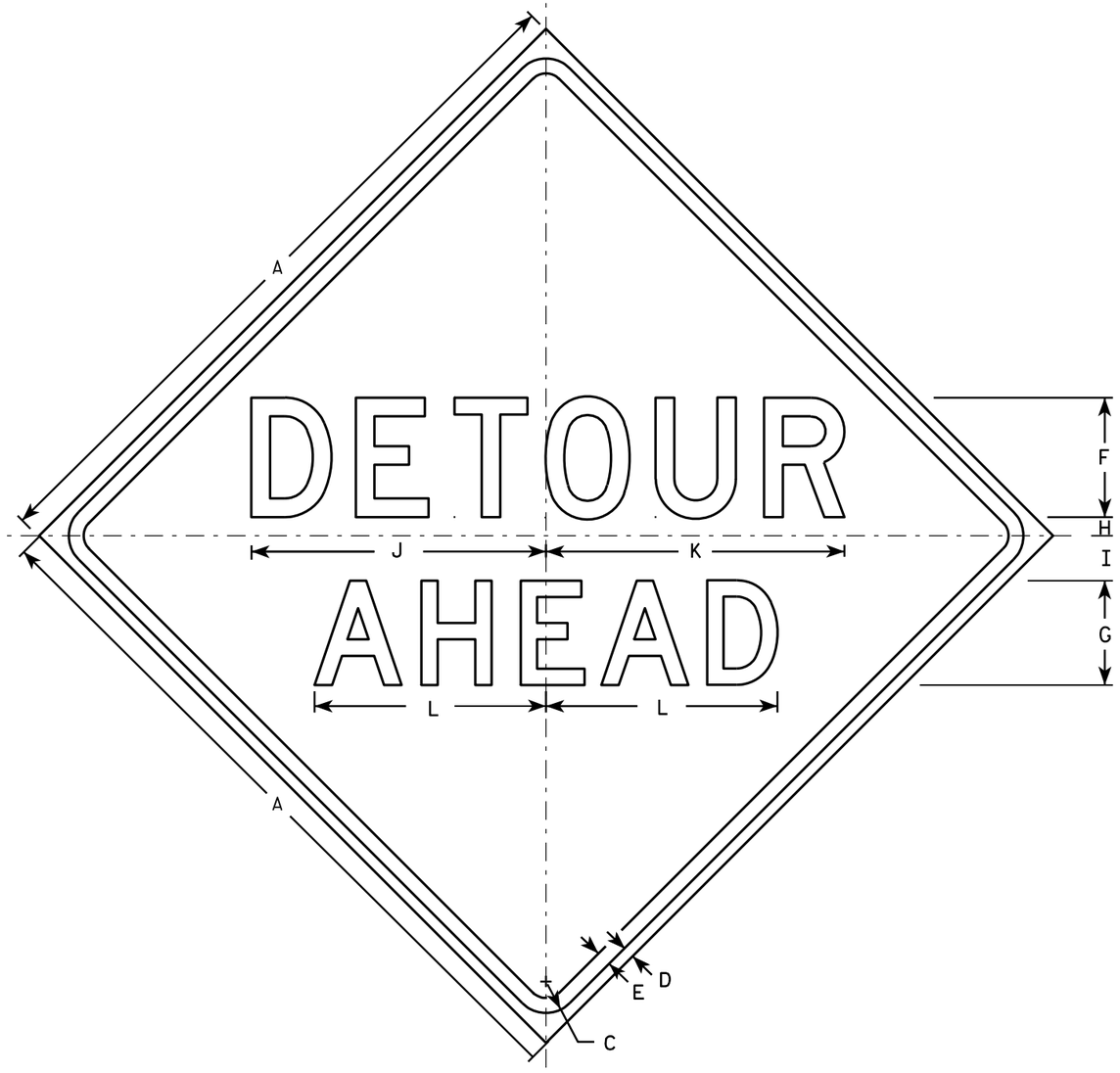
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

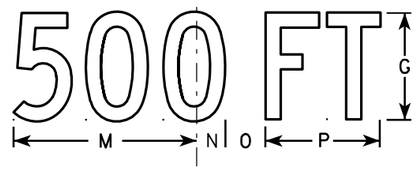
PROJECT NO:

SHEET NO: E

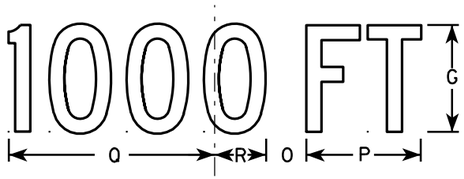
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



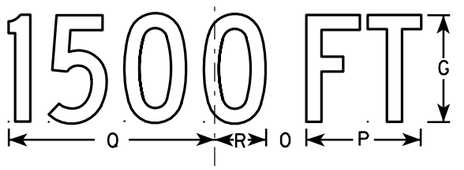
W20-2A



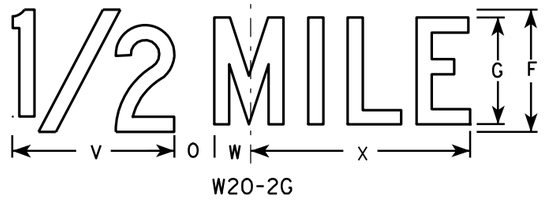
W20-2D



W20-2C



W20-2B



W20-2G

W20-2F

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 - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

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

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

WISCONSIN DEPT OF TRANSPORTATION

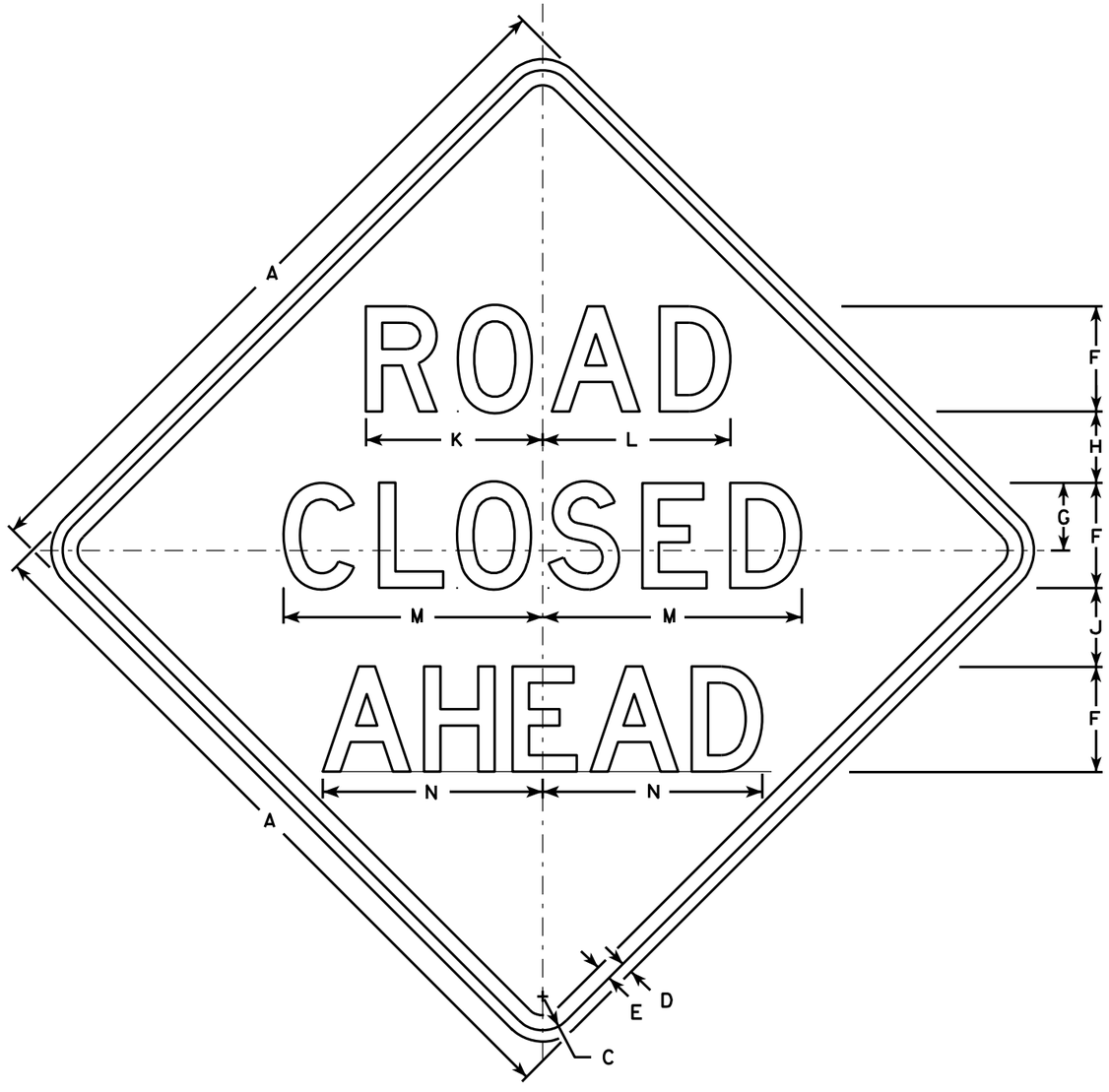
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

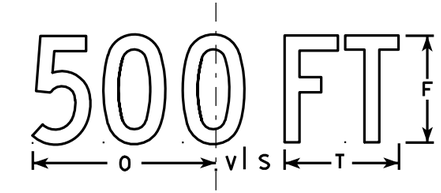
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 88 | E

7

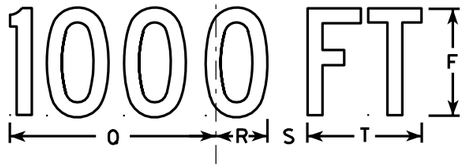
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



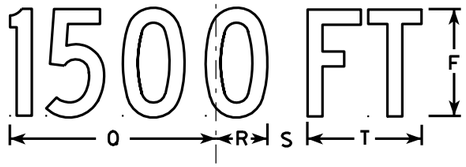
W20-3A



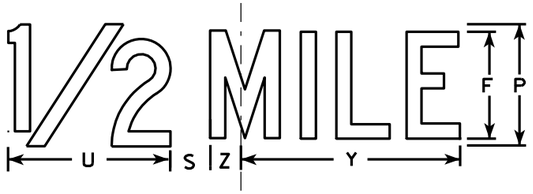
W20-3D



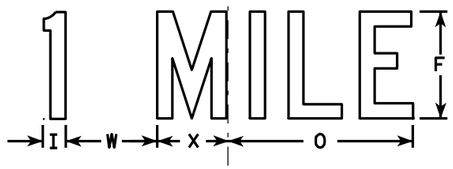
W20-3C



W20-3B



W20-3G



W20-3F

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 - 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. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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

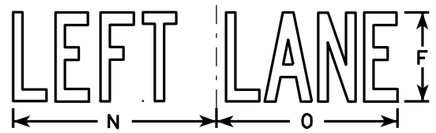
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

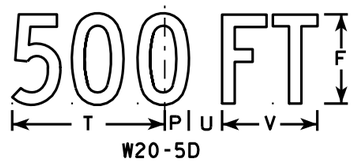
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 89 | E

W20-56A

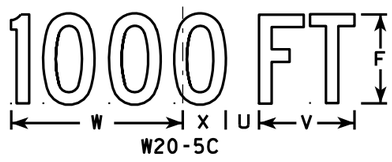


W20-55A

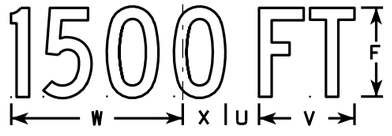
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

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 - 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. " _____ LANE" is Series B.
   All other copy is 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	36	6	1 5/8	5/8	3/4	5	1/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

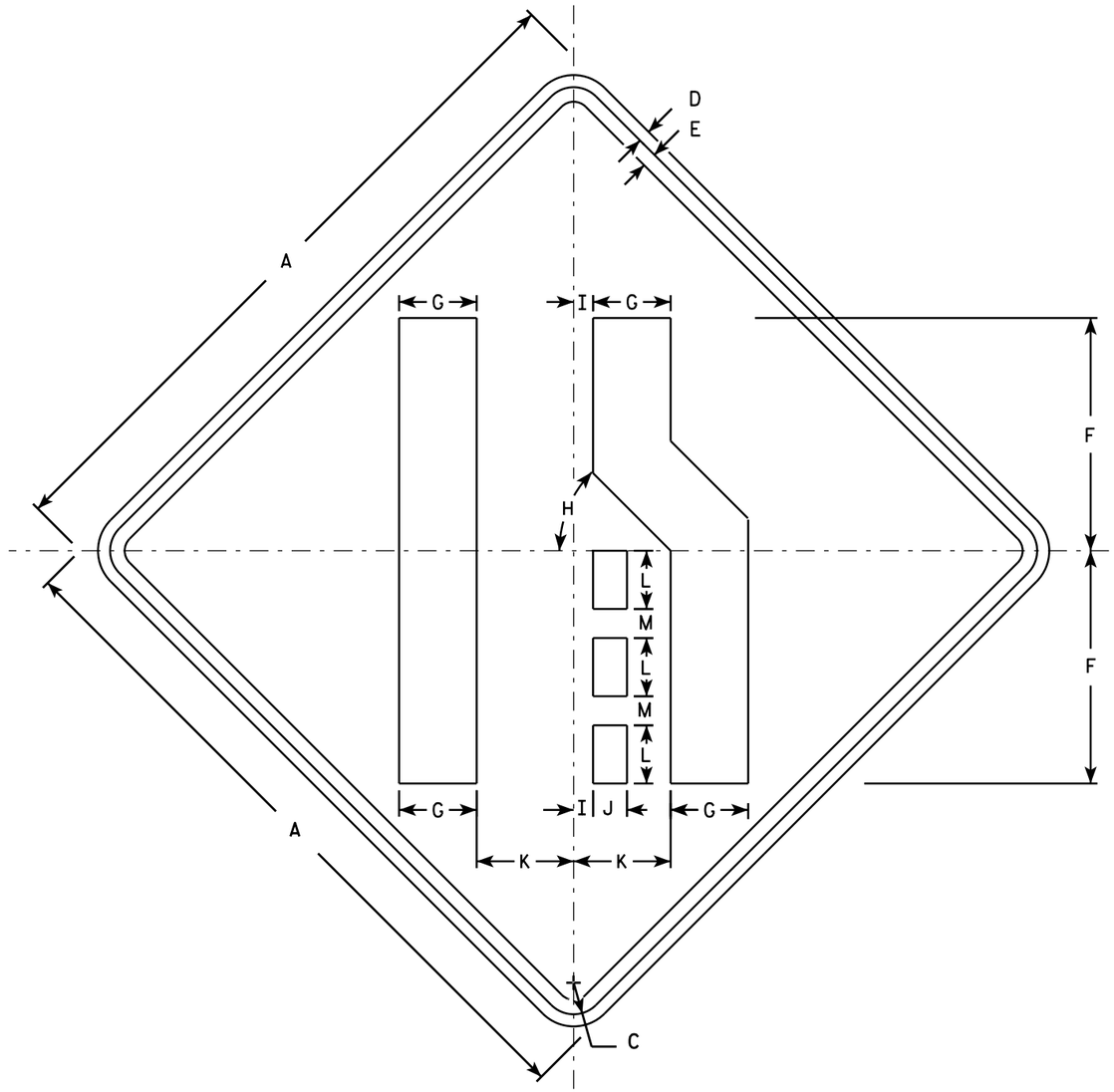
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 90 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



W04-2R

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.
4. W04-2L is the same as W04-2R except the symbol 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	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

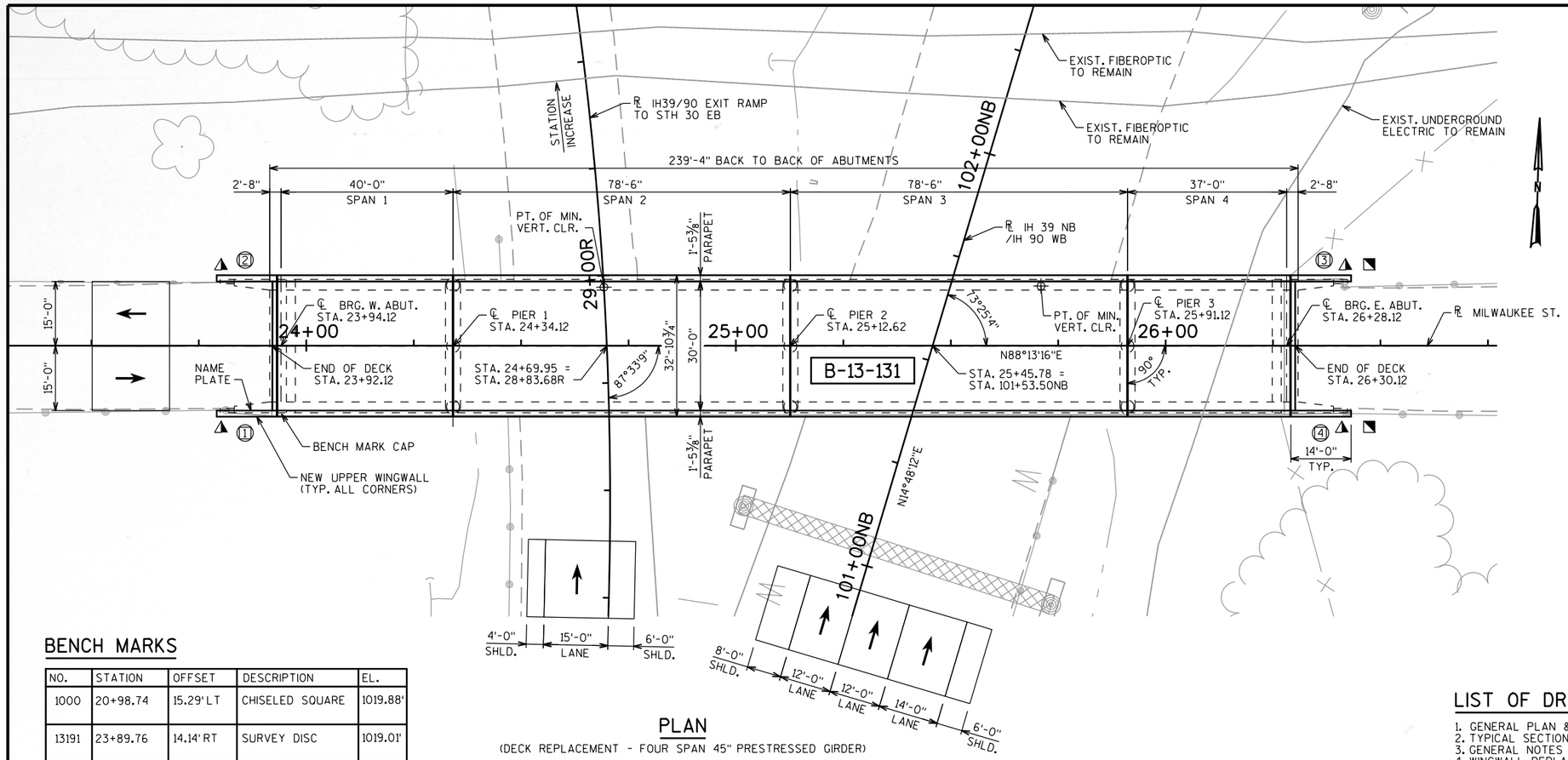
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 91 W04-2.1

PROJECT NO: | SHEET NO: E

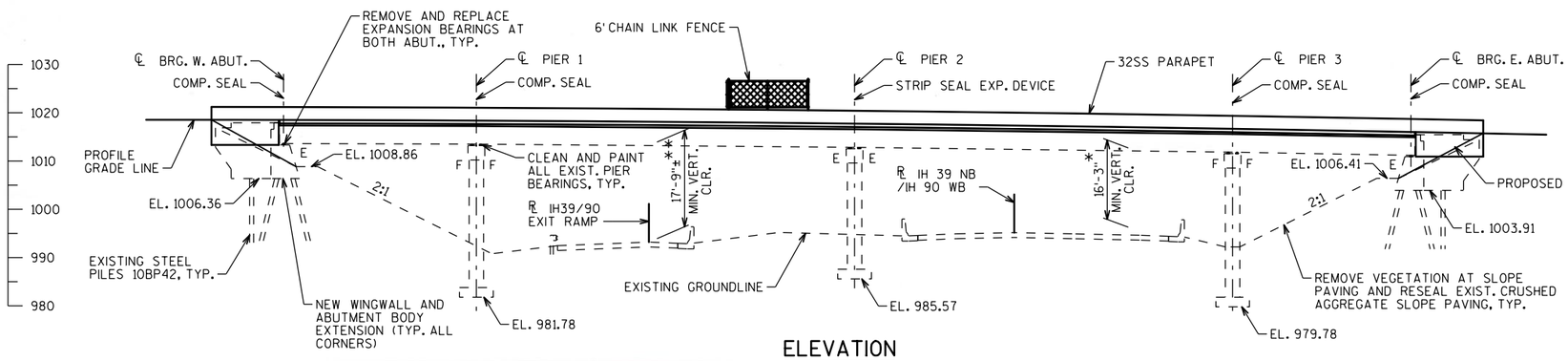


PLAN

(DECK REPLACEMENT - FOUR SPAN 45" PRESTRESSED GIRDER)

BENCH MARKS

NO.	STATION	OFFSET	DESCRIPTION	EL.
1000	20+98.74	15.29' LT	CHISELED SQUARE	1019.88'
13191	23+89.76	14.14' RT	SURVEY DISC	1019.01'



ELEVATION

LOOKING NORTH

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-16
OPERATING RATING: HS-27
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 230 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY
SUPERSTRUCTURE..... f'c = 4,000 psi
OTHER..... f'c = 3,500 psi
BAR STEEL REINFORCEMENT..... fy = 60,000 psi

TRAFFIC DATA

MILWAUKEE ST.

AADT = 4,650 (2013)
RDS = 40 MPH

IH 39 NB/IH 90 WB

AADT = 45,650 (2018)
AADT = 57,350 (2038)
RDS = 70 MPH

EXIT RAMP

AADT = 2,800 (2012)
AADT = 3,800 (2038)
RDS = 70 MPH

LEGEND

(X) WING NUMBER

▲ LOCATION OF "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD"

◥ LOCATION OF SURFACE DRAINS, SEE ROADWAY PLANS FOR DETAILS. NOT A BRIDGE ITEM.

* VERTICAL CLEARANCE TAKEN FROM HSI SITE ON 12/7/15

** VERTICAL CLEARANCE TAKEN FROM EXISTING PLANS

UTILITIES

OVERHEAD ELECTRICAL LINES ARE NOT SHOWN ON THE PLAN AND ARE LOCATED NORTH OF THE BRIDGE. THESE OVERHEAD UTILITIES SHOULD NOT AFFECT CONTRACTOR'S WORK BUT THE CONTRACTOR SHOULD BE AWARE OF THE LOCATION OF THESE LINES WHEN MOBILIZING EQUIPMENT AND PERFORMING BRIDGE WORK.

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
WILLIAM DREHER (608) 266-8489
CONSULTANT:
HEATHER ANDERS (414) 359-2300

STATE PROJECT NUMBER

1002-01-71

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

HNTB 11414 W. PARK PLACE MILWAUKEE, WI 53224 (414) 359-2300

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 05/22/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

WISCONSIN MATTHEW S SCHROEDER E-42428 JOHNSON CREEK WI 4-28-17 PROFESSIONAL ENGINEER

STRUCTURE B-13-131

MILWAUKEE ST OVER IH 39 NB/IH 90 WB

COUNTY	TOWN/CITY/~~VILLAGE~~
DANE	MADISON

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
MSS	HDA	MSS	HDA

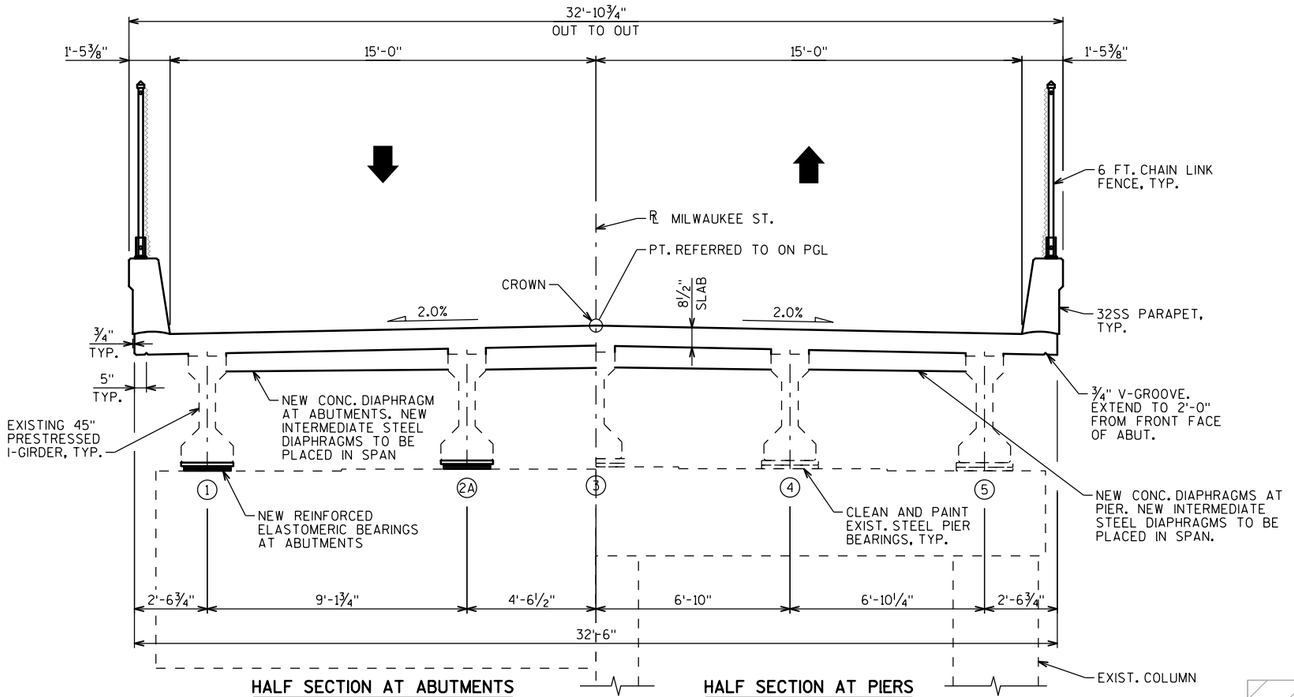
GENERAL PLAN & ELEVATION

SHEET 1 OF 14

FILE NAME : I:\59970 W06\cds\080101_gp.dgn PLOT DATE : 4/24/2017 11:16:04 AM PLOT BY : msschroeder PLOT NAME : $FILE$ PLOT SCALE : 30:1

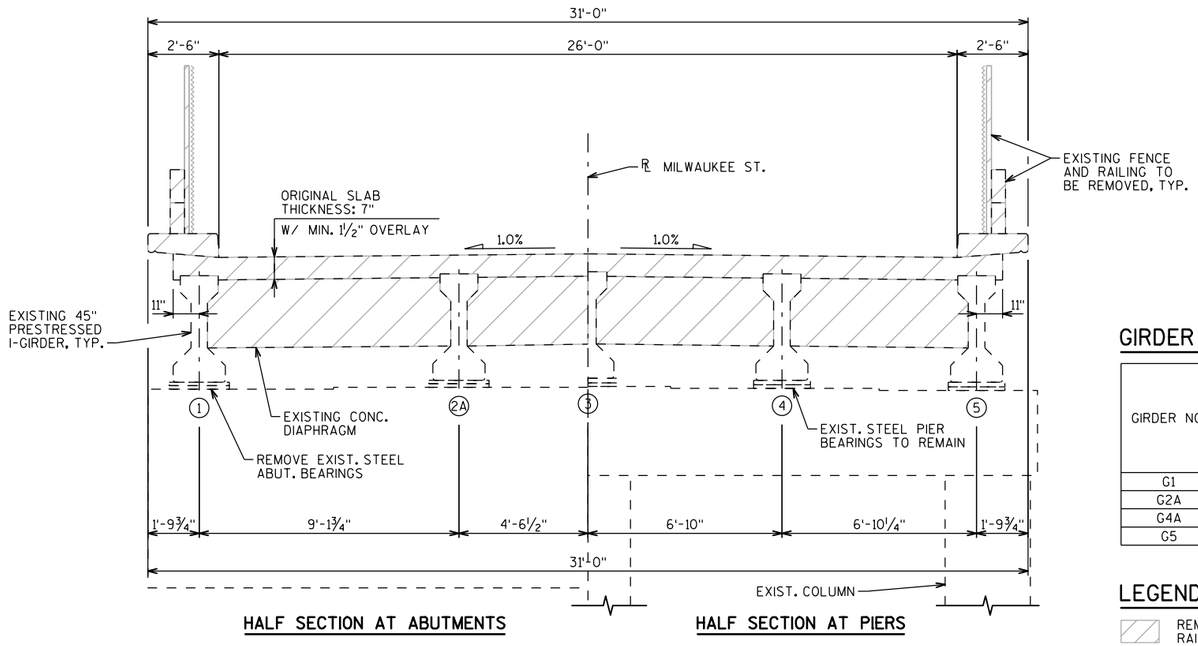
STATE PROJECT NUMBER

1002-01-71



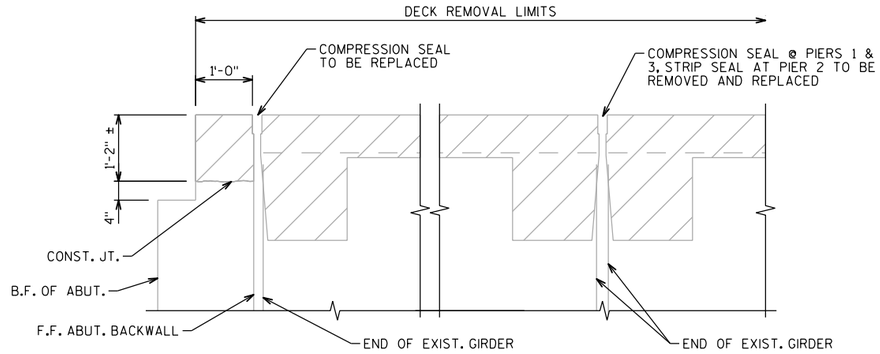
PROPOSED TYPICAL SECTION

LOOKING EAST

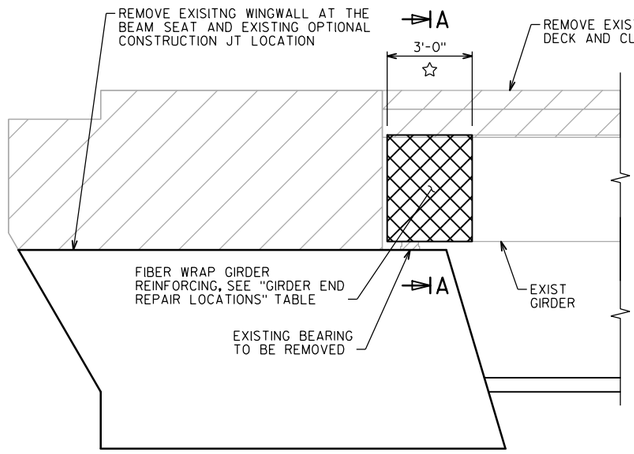


EXISTING TYPICAL SECTION

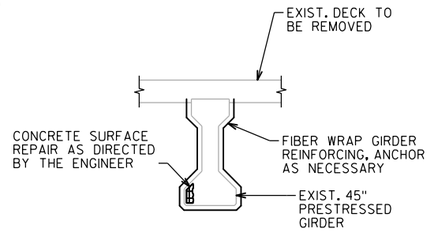
LOOKING EAST



PAVING BLOCK AND DECK REMOVAL LIMITS



EXISTING WING AND SUPERSTRUCTURE REMOVAL



SECTION A-A

GIRDER END REPAIR LOCATIONS

GIRDER NO.	LOCATION							
	W. ABUT.	PIER 1		PIER 2		PIER 3		E. ABUT.
		W. BRG.	E. BRG.	W. BRG.	E. BRG.	W. BRG.	E. BRG.	
G1	X	X	X		X	X	X	X
G2A	X						X	X
G4A		X					X	
G5		X	X			X	X	X

LEGEND

REMOVAL LIMITS. REMOVAL TO INCLUDE DECK, PARAPETS, FENCE, RAILINGS, AND INTERMEDIATE AND END CONCRETE DIAPHRAGMS.

☆ LIMITS OF FIBER WRAP GIRDER REINFORCING

GIRDER REPAIR NOTES

WORK PERFORMED FOR GIRDER END REPAIR SHALL BE INCLUDED IN THE BID ITEMS "CONCRETE SURFACE REPAIR" AND "FIBER WRAP GIRDER REINFORCING".

PERFORM "CONCRETE SURFACE REPAIR" PRIOR TO INSTALLATION OF "FIBER WRAP GIRDER REINFORCING" AS DIRECTED BY THE FIELD ENGINEER AT THE LOCATIONS INDICATED IN THE "GIRDER END REPAIR LOCATIONS" TABLE.

FIBER WRAP GIRDER REINFORCING SHALL BE IN ACCORDANCE WITH THE "FIBER WRAP GIRDER REINFORCING" SPECIAL PROVISION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

DRAWN BY MSS | PLANS CK'D. HDA

TYPICAL SECTION

SHEET 2 OF 14

8

8

FILE NAME : I:\59970 W06\cds\080102_ts.dgn PLOT DATE : 4/24/2017 11:16:10 AM PLOT BY : msschroeder PLOT NAME : $FILE$ PLOT SCALE : 5.33333:1

STATE PROJECT NUMBER
1002-01-71

GENERAL NOTES

THE EXISTING STRUCTURE IS A FOUR-SPAN, PRESTRESSED CONCRETE 45" I-GIRDER BRIDGE WITH AN OVERALL LENGTH OF 234 FEET AND AN OVERALL WIDTH OF 31 FEET. THE PIER BEARINGS ARE TO BE CLEANED AND PAINTED. THE DECK, RAILING, FENCE, EXPANSION JOINTS, AND ABUTMENT BEARINGS ARE TO BE REPLACED. THE NEW DECK AND ABUTMENTS WILL BE WIDENED. THE REMAINING EXISTING SUPERSTRUCTURE AND SUBSTRUCTURE WILL UNDERGO CONCRETE SURFACE REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

AT ABUTMENTS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE, SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE B-13-131".

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR 1961. NAME PLATE SHALL BE CONSIDERED INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH HEIGHT SHOWN ON THE "SUPERSTRUCTURE DETAILS" SHEET.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN REMOVING OLD DECK AS TO NOT DAMAGE THE EXISTING GIRDERS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF THE DECK. PIGMENTED SURFACE SEALER SHALL BE APPLIED TO THE TOP AND INTERIOR FACE OF THE PARAPETS.

BOTTOM OF GIRDER ELEVATIONS AT ABUTMENTS AND PIERS ARE BASED ON FIELD SURVEY.

PERFORM CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITY SHOWN IS APPROXIMATE.

CLEAN AND PAINT EXISTING PIER BEARINGS. COLOR TO BE LIGHT GRAY, FEDERAL COLOR NUMBER 26293.

REMOVE ALL VEGETATION FROM EXISTING CRUSHED AGGREGATE SLOPE PAVING PRIOR TO RESEALING THE SLOPE PAVING. THIS WORK INCLUDED IN BID ITEM "VEGETATION REMOVAL B-13-131".

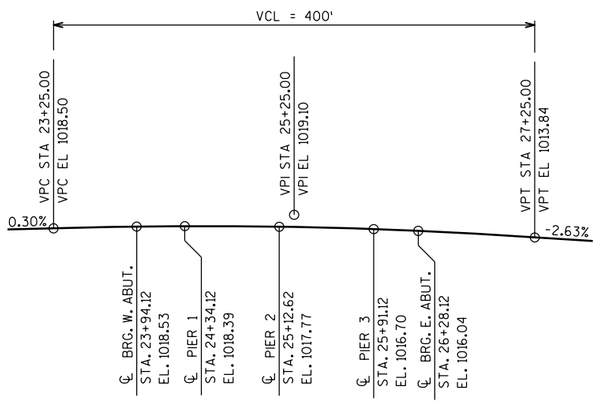
CONTRACTOR IS RESPONSIBLE FOR GIRDER STABILITY DURING REMOVAL AND REPLACEMENT OF THE GIRDER DIAPHRAGMS.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM	UNIT	W. ABUT.	PIER 1	PIER 2	PIER 3	E. ABUT.	SUPER	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 25+12.62	LS	-	-	-	-	-	-	1
203.0225.S	DEBRIS CONTAINMENT B-13-131	LS	-	-	-	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-131	LS	-	-	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	98	-	-	-	98	-	196
502.0100	CONCRETE MASONRY BRIDGES	CY	14	-	-	-	14	283	311
502.2000	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC 3-INCH	LF	-	-	-	-	-	130	130
502.3100	EXPANSION DEVICE B-13-131	LS	-	-	-	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	-	-	793	793
502.3210	PIGMENTED SURFACE SEALER	SY	12	-	-	-	12	197	221
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	16	-	-	-	16	-	32
◑ 502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	93	-	-	-	93	-	186
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,530	-	-	-	1,520	58,840	61,890
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	4	-	-	-	4	-	8
506.4000	STEEL DIAPHRAGMS B-13-131	EACH	-	-	-	-	-	14	14
506.7050.S	REMOVING BEARINGS B-13-131	EACH	4	-	-	-	4	-	8
509.1500	CONCRETE SURFACE REPAIR	SF	10	25	10	25	35	125	230
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	10	-	-	-	10		20
604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	170	-	-	-	140	-	310
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	50	-	-	-	50	-	100
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-	-	-	2	-	4
616.0206	FENCE CHAIN LINK 6-FT	LF	-	-	-	-	-	525	525
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	22	-	-	-	22	-	44
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	9	10	9	-	-	28
SPV.0105.01	VEGETATION REMOVAL B-13-131	LS	-	-	-	-	-	-	1
SPV.0165.01	FIBER WRAP GIRDER REINFORCING	SF	-	-	-	-	-	480	480
	NON-BID ITEMS								
	NAME PLATE	EACH	-	-	-	-	-	-	1
	RODENT SHIELD	EACH	-	-	-	-	-	-	4

ALL ITEMS ARE CATEGORY 20

◑ EPOXY USED FOR ANCHORING BARS TO HAVE A MINIMUM CHARACTERISTIC BOND STRESS IN CRACKED CONCRETE OF 563 PSI.

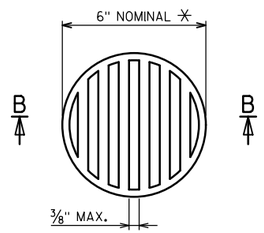


PROFILE GRADE LINE MILWAUKEE ST.

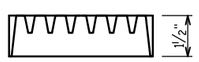
HORIZONTAL CURVE DATA

℞ R (EXIT RAMP)

P.I. = 28+95.09R
X: 847916.63
Y: 491767.07
Δ = 12°12'18" LEFT
D = 6°46'41"
T = 90.38'
L = 180.07'
R = 845.30'
P.C. = 28+04.72R
X: 847914.85
Y: 491676.72
P.T. = 29+84.79R
X: 847899.26
Y: 491855.76



RODENT SHIELD DETAIL

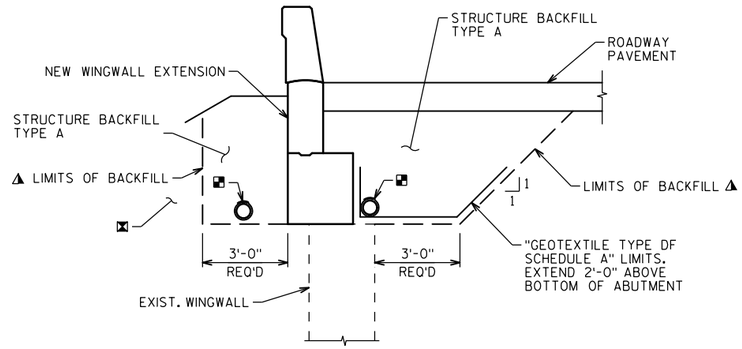


SECTION B-B

⁎ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



EXCAVATION/BACKFILL LIMITS

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

☒ EXCAVATION AND RESHAPING OF SLOPE IN FRONT OF WINGWALL TO BE INCIDENTAL TO "EXCAVATION FOR STRUCTURES BRIDGES B-13-131".

▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

DRAWN BY MSS | PLANS CK'D. HDA

GENERAL NOTES & QUANTITIES

SHEET 3 OF 14

8

8

FILE NAME : \\milw00\ingrproj\59970 W06\cds\080103_qu.dgn
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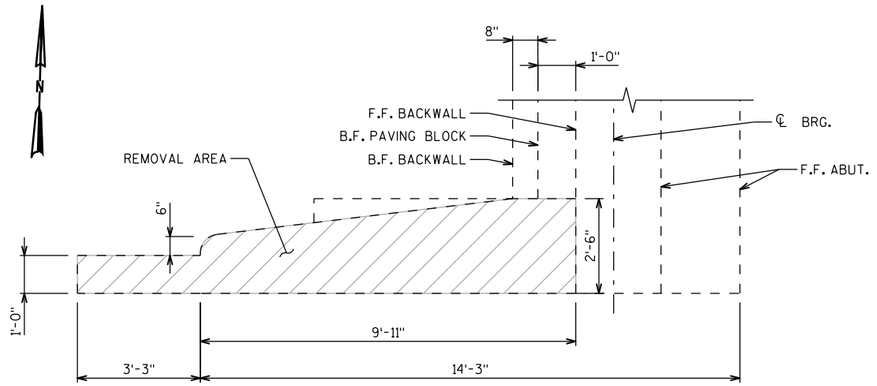
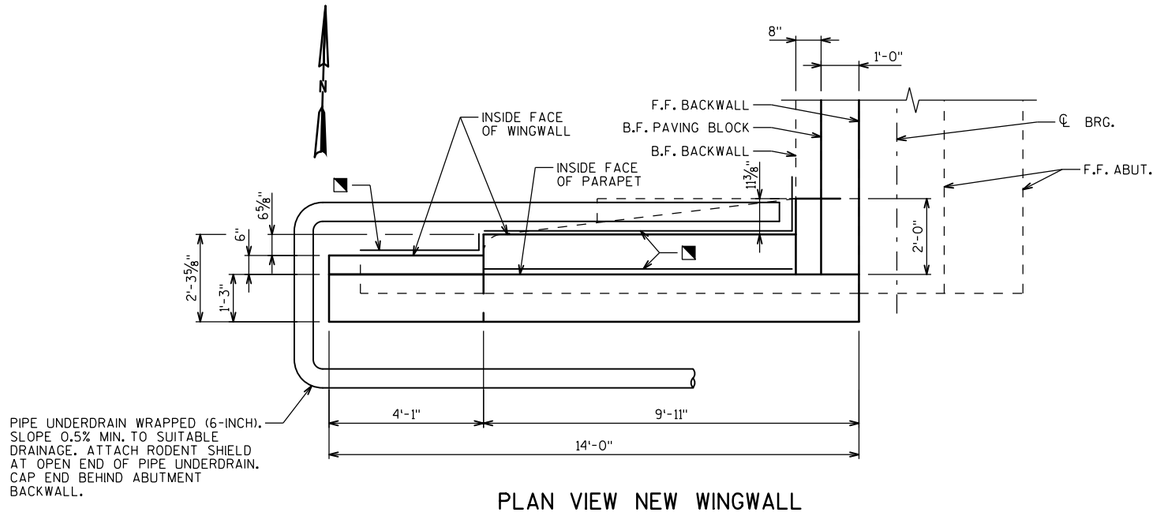
STATE PROJECT NUMBER
1002-01-71



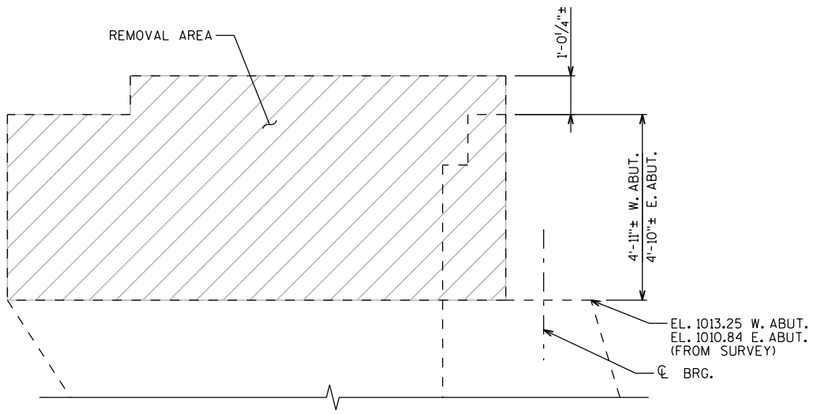
PLAN VIEW EXISTING WINGWALL

WINGWALL 1 SHOWN, OTHERS SIMILAR



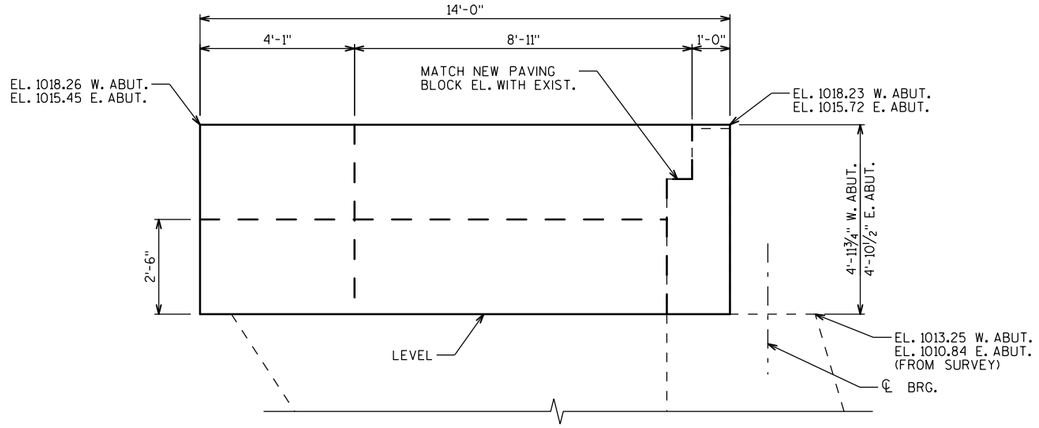
PLAN VIEW NEW WINGWALL

WINGWALL 1 SHOWN, OTHERS SIMILAR



OUTSIDE ELEVATION VIEW EXISTING WINGWALL

WINGWALL 1 SHOWN LOOKING NORTH, OTHERS SIMILAR



OUTSIDE ELEVATION VIEW NEW WINGWALL

WINGWALL 1 SHOWN LOOKING NORTH, OTHERS SIMILAR
PIPE UNDERDRAIN NOT SHOWN

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ALONG BACKFACE.
- REMOVAL AREA

NOTES

FOR REINFORCEMENT AND SECTIONS, SEE SHEET "WINGWALL REPLACEMENT DETAILS (2 OF 2)".

SEE "EXCAVATION/BACKFILL LIMITS" DETAIL ON "GENERAL NOTES & QUANTITIES" SHEET FOR EXCAVATION, STRUCTURE BACKFILL, GEOTEXTILE, AND ADDITIONAL PIPE UNDERDRAIN INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

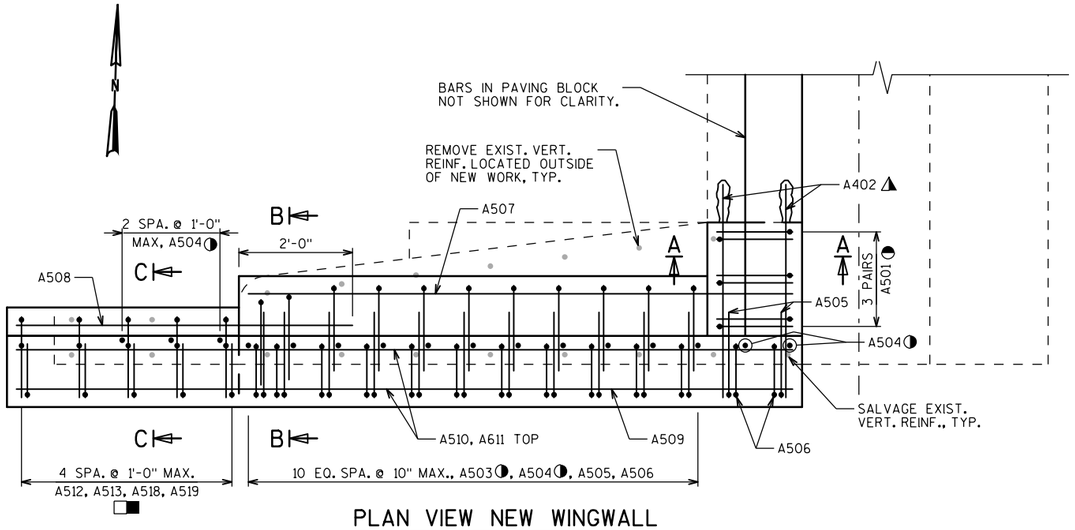
DRAWN BY	MSS	PLANS CK'D.	HDA

WINGWALL REPLACEMENT DETAILS (1 OF 2)

SHEET 4 OF 14

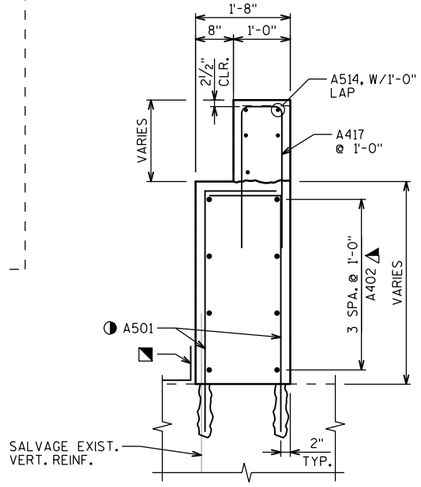
FILE NAME : \\milw00\ingrproj\59970 WO6\cds\080301_wg.dgn PLOT DATE : 4/27/2017 11:28:18 AM PLOT BY : HAnders PLOT NAME : $FILE$ PLOT SCALE : 4:1

STATE PROJECT NUMBER
1002-01-71

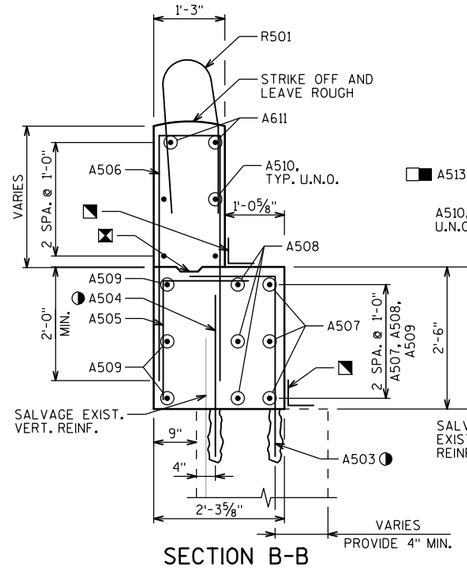


PLAN VIEW NEW WINGWALL

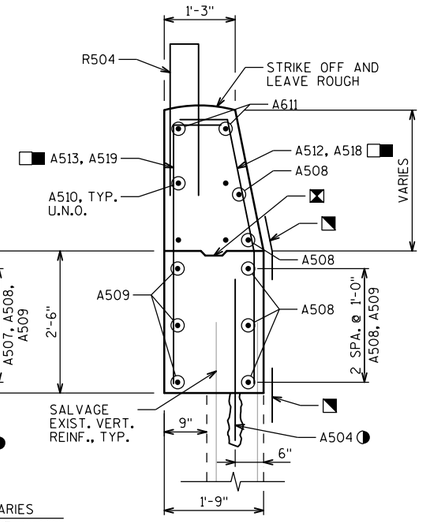
WINGWALL 1 SHOWN, OTHERS SIMILAR



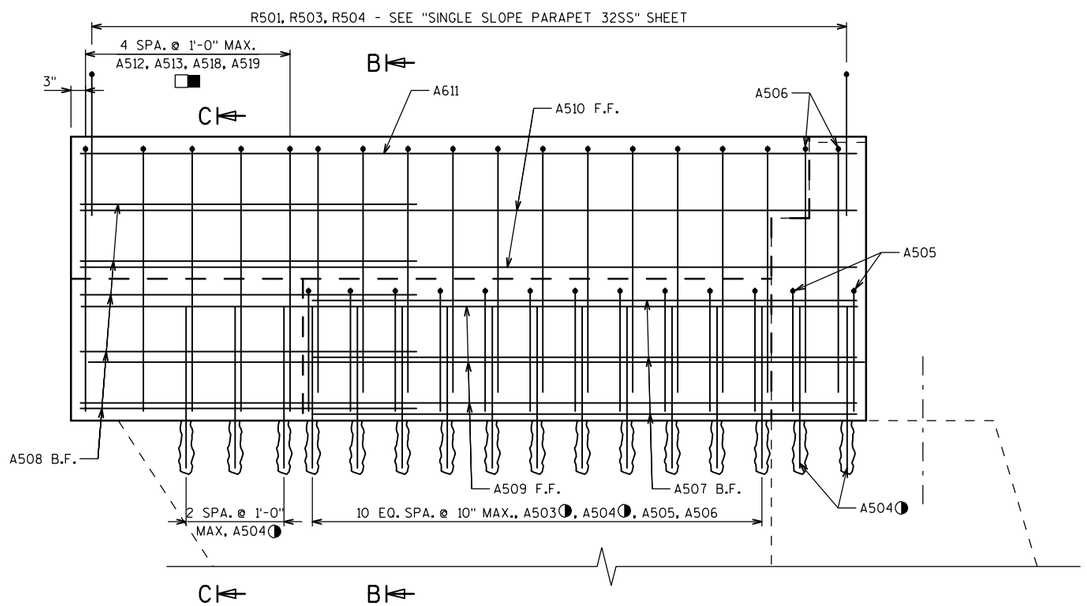
SECTION A-A



SECTION B-B



SECTION C-C



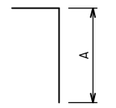
OUTSIDE ELEVATION VIEW NEW WINGWALL

WINGWALL 1 SHOWN LOOKING NORTH, OTHERS SIMILAR

BILL OF BARS

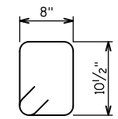
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	SERIES	LOCATION
A501	X	24	5'-5"	X		BACKWALL - VERT.
A402	X	32	3'-9"			BACKWALL - HORIZ. DOWEL
A503	X	44	4'-7"	X		WINGWALL LOWER BODY - VERT. DOWEL
A504	X	64	2'-10"			WINGWALL LOWER BODY - VERT. DOWEL
A505	X	52	3'-7"	X		WINGWALL LOWER BODY - VERT.
A506	X	52	9'-4"	X		WINWALL UPPER BODY - VERT.
A507	X	12	9'-7"			WINGWALL LOWER BODY - HORIZ.
A508	X	20	5'-11"			WINGWALL BODY - HORIZ.
A509	X	12	13'-8"			WINGWALL LOWER BODY - HORIZ.
A510	X	16	13'-8"			WINGWALL UPPER BODY - HORIZ.
A611	X	8	13'-8"			WINGWALL UPPER BODY - HORIZ. TOP
A512	X	10	5'-4"	X		WINGWALLS 1 & 2 LOWER BODY - VERT.
A513	X	10	5'-4"	X		WINGWALLS 1 & 2 LOWER BODY - VERT.
A514	X	50	7'-0"			PAVING BLOCK - HORIZ.
A415	X	54	3'-7"	X		PAVING BLOCK - STIRRUP
A516	X	54	3'-2"	X		PAVING BLOCK - VERT. DOWEL
A417	X	12	5'-6"	X		WINGWALL BACKWALL - VERT. AT PAVING BLOCK
A518	X	10	4'-11"	X		WINGWALLS 3 & 4 LOWER BODY - VERT.
A519	X	10	5'-0"	X		WINGWALLS 3 & 4 LOWER BODY - VERT.

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.

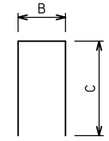


A501, A503, A505, A513, A516, A519

MARK	A
A501	4'-3"
A503	3'-2"
A505	2'-2"
A513	4'-7"
A516	2'-5"
A519	4'-3"

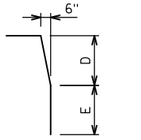


A415



A506, A417

MARK	B	C
A506	11"	4'-4"
A417	8"	2'-6"



A512, A518

MARK	D	E
A512	2'-4"	2'-3"
A518	1'-11"	2'-3"

NOTES

UTILIZE EXISTING REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS NOTED OTHERWISE

F.F. = FRONT FACE
B.F. = BACK FACE

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ALONG BACKFACE.
- ◑ ADHESIVE ANCHOR NO. 5 BAR. EMBED 10" INTO EXISTING CONCRETE.
- ◭ ADHESIVE ANCHOR NO. 4 BAR. EMBED 8" INTO EXISTING CONCRETE.
- ⊠ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY.
- ◨ A512 AND A513 TO BE USED AT WINGWALLS 1 & 2. A518 AND A519 TO BE USED AT WINGWALLS 3 & 4.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

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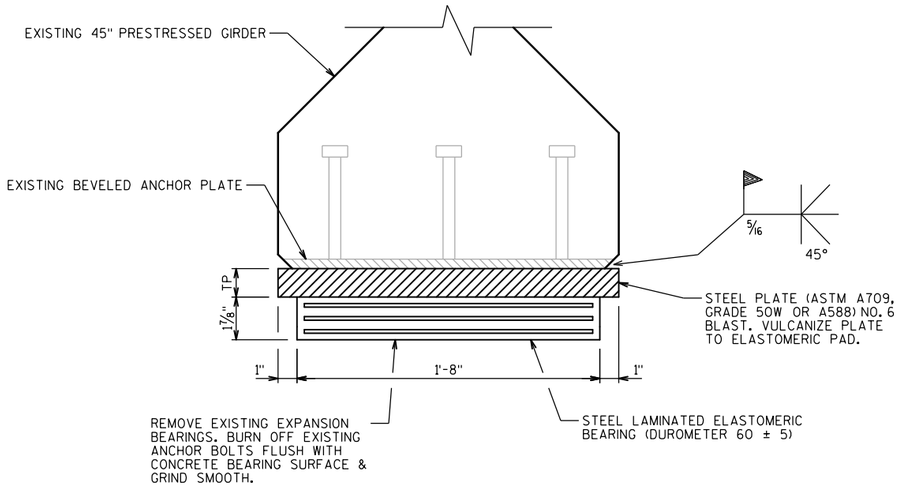
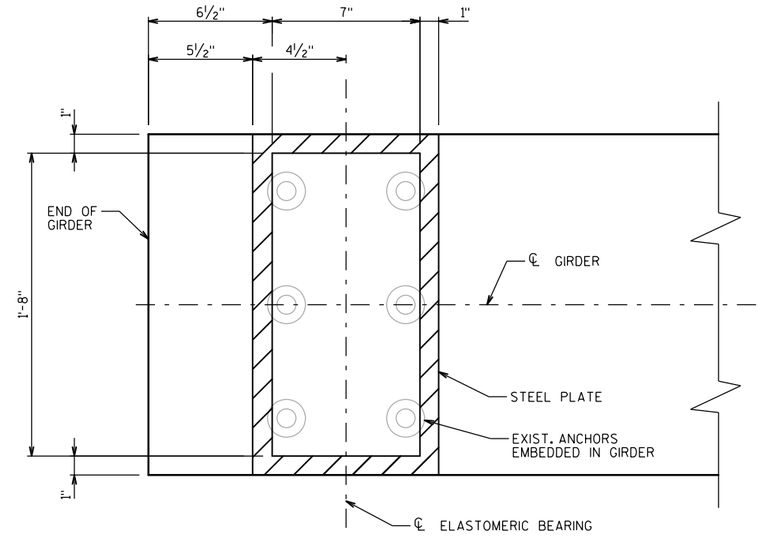
WINGWALL REPLACEMENT DETAILS (2 OF 2)

SHEET 5 OF 14

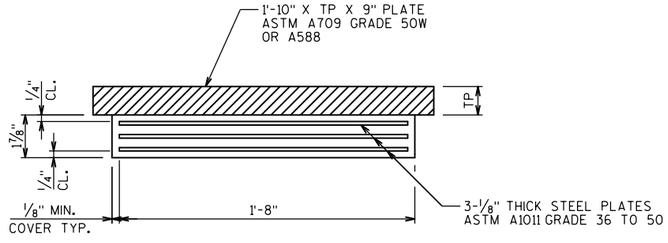
STATE PROJECT NUMBER
1002-01-71



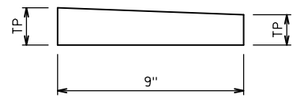
FRONT ELEVATION



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING



STEEL TOP PLATE THICKNESS		
LOCATION	TP (W. EDGE)	TP (E. EDGE)
WEST ABUTMENT	1 11/16 "	1 11/16 "
EAST ABUTMENT	1 3/4"	1 5/8"

STEEL TOP PLATE THICKNESS

BEARING NOTES

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH. REMOVAL OF THE EXISTING BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "REMOVING BEARINGS B-13-131", EACH.

GRIND EXIST. WELD THAT ATTACHED EXIST. TOP PLATE TO EXIST. BOT. FLANGE. GRIND AFFECTED AREAS SMOOTH.

COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED.

ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

8

8

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

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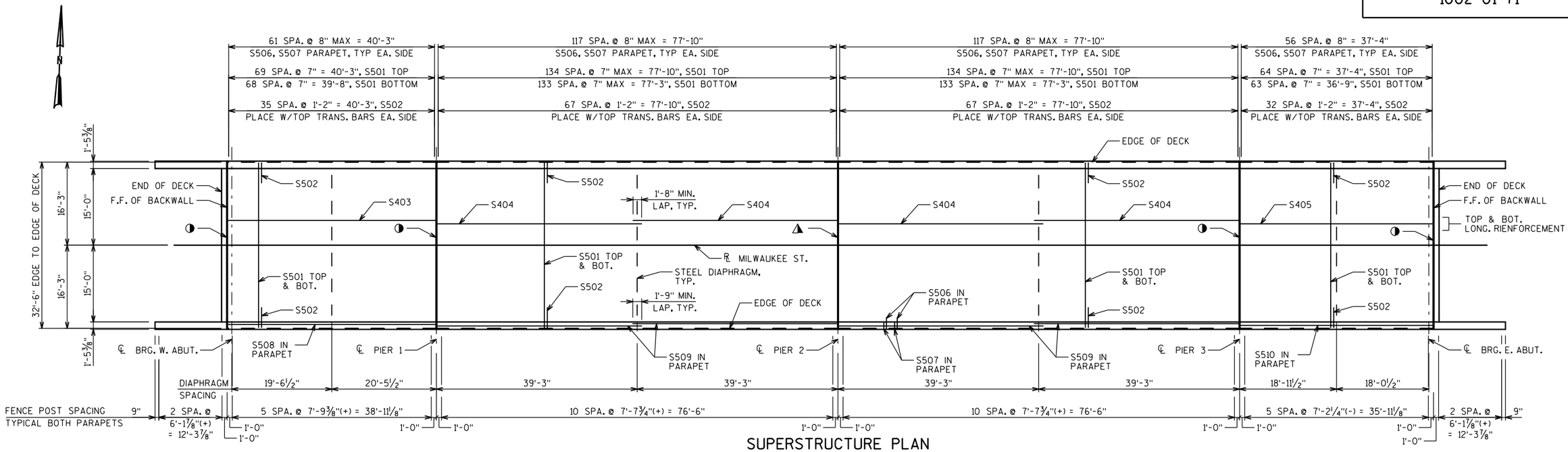
BEARING DETAILS

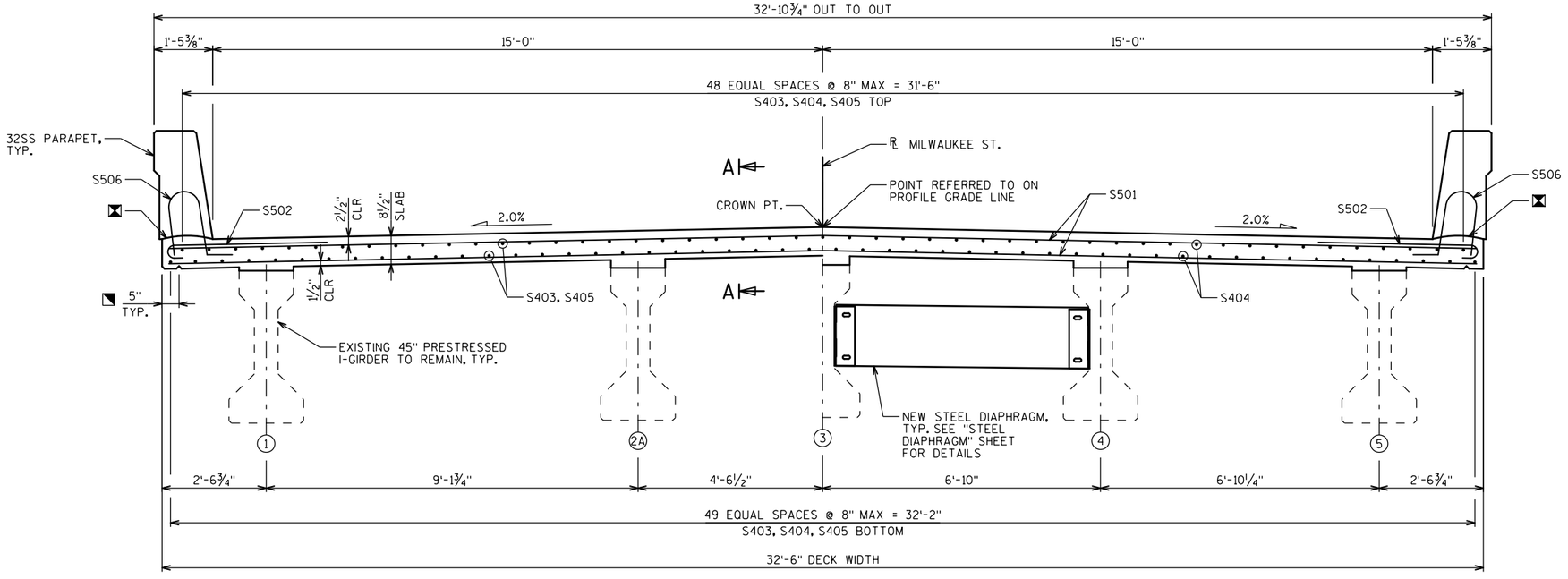
SHEET 6 OF 14

FILE NAME : I:\59970 W06\cds\080501_brg.dgn PLOT DATE : 4/24/2017 11:16:26 AM PLOT BY : msschroeder PLOT NAME : $FILE$ PLOT SCALE : 0.666667:1

STATE PROJECT NUMBER
1002-01-71



SUPERSTRUCTURE PLAN

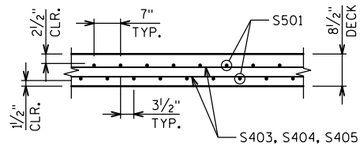


SPANS 1 AND 4

SPANS 2 AND 3

SUPERSTRUCTURE SECTION

LOOKING EAST



SECTION A-A

LEGEND

- ◑ COMPRESSION SEAL, SEE "COMPRESSION SEAL DETAILS" SHEET FOR DETAILS
- ◭ STRIP SEAL EXPANSION DEVICE, SEE "EXPANSION DEVICE" SHEET FOR DETAILS
- ◹ ¾" V-GROOVE, TERMINATE 2'-0" FROM FRONT FACE OF ABUTMENTS
- ⧓ CONST. JOINT - STRIKE OFF AS SHOWN

NO.	DATE	REVISION	BY

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STRUCTURE B-13-131

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SUPERSTRUCTURE PLAN

SHEET 7 OF 14

FILE NAME : I:\59970 W06\cds\080502_ss.dgn PLOT DATE : 4/24/2017 11:16:31 AM PLOT BY : msschroeder PLOT NAME : $FILE$ PLOT SCALE : 20:1

STATE PROJECT NUMBER
1002-01-71

TOP OF DECK ELEVATIONS, SPANS 1 & 4

LOCATION	℄ BRG. W. ABUT.	SPAN 1									℄ PIER 1
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
NORTH EDGE OF DECK	1018.23	1018.22	1018.21	1018.20	1018.19	1018.18	1018.16	1018.15	1018.13	1018.11	1018.09
NORTH FLOWLINE	1018.23	1018.22	1018.21	1018.20	1018.19	1018.18	1018.16	1018.15	1018.13	1018.11	1018.09
GIRDER 1	1018.26	1018.25	1018.24	1018.23	1018.22	1018.20	1018.19	1018.17	1018.16	1018.14	1018.12
GIRDER 2A	1018.44	1018.43	1018.42	1018.41	1018.40	1018.39	1018.37	1018.36	1018.34	1018.32	1018.30
PGL	1018.53	1018.52	1018.51	1018.50	1018.49	1018.48	1018.46	1018.45	1018.43	1018.41	1018.39
GIRDER 4A	1018.44	1018.43	1018.42	1018.41	1018.40	1018.39	1018.37	1018.36	1018.34	1018.32	1018.30
GIRDER 5	1018.26	1018.25	1018.24	1018.23	1018.22	1018.20	1018.19	1018.17	1018.16	1018.14	1018.12
SOUTH FLOWLINE	1018.23	1018.22	1018.21	1018.20	1018.19	1018.18	1018.16	1018.15	1018.13	1018.11	1018.09
SOUTH EDGE OF DECK	1018.23	1018.22	1018.21	1018.20	1018.19	1018.18	1018.16	1018.15	1018.13	1018.11	1018.09

℄ PIER 3	SPAN 4									℄ BRG. E. ABUT.
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
1016.40	1016.34	1016.28	1016.22	1016.15	1016.09	1016.02	1015.95	1015.88	1015.81	1015.74
1016.40	1016.34	1016.28	1016.22	1016.15	1016.09	1016.02	1015.95	1015.88	1015.81	1015.74
1016.43	1016.37	1016.31	1016.24	1016.18	1016.11	1016.05	1015.98	1015.91	1015.84	1015.77
1016.61	1016.55	1016.49	1016.43	1016.36	1016.30	1016.23	1016.16	1016.09	1016.02	1015.95
1016.70	1016.64	1016.58	1016.52	1016.45	1016.39	1016.32	1016.25	1016.18	1016.11	1016.04
1016.61	1016.55	1016.49	1016.43	1016.36	1016.30	1016.23	1016.16	1016.09	1016.02	1015.95
1016.43	1016.37	1016.31	1016.24	1016.18	1016.11	1016.05	1015.98	1015.91	1015.84	1015.77
1016.40	1016.34	1016.28	1016.22	1016.15	1016.09	1016.02	1015.95	1015.88	1015.81	1015.74
1016.40	1016.34	1016.28	1016.22	1016.15	1016.09	1016.02	1015.95	1015.88	1015.81	1015.74

TOP OF DECK ELEVATIONS, SPANS 2 & 3

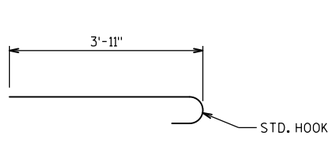
LOCATION	℄ PIER 1	SPAN 2									℄ PIER 2
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
NORTH EDGE OF DECK	1018.09	1018.05	1018.00	1017.95	1017.90	1017.84	1017.77	1017.71	1017.63	1017.56	1017.47
NORTH FLOWLINE	1018.09	1018.05	1018.00	1017.95	1017.90	1017.84	1017.77	1017.71	1017.63	1017.56	1017.47
GIRDER 1	1018.12	1018.08	1018.03	1017.98	1017.92	1017.87	1017.80	1017.73	1017.66	1017.58	1017.50
GIRDER 2	1018.25	1018.21	1018.17	1018.12	1018.06	1018.00	1017.94	1017.87	1017.80	1017.72	1017.64
PGL/GIRDER 3	1018.39	1018.35	1018.30	1018.25	1018.20	1018.14	1018.07	1018.01	1017.93	1017.86	1017.77
GIRDER 4	1018.25	1018.21	1018.17	1018.12	1018.06	1018.00	1017.94	1017.87	1017.80	1017.72	1017.64
GIRDER 5	1018.12	1018.08	1018.03	1017.98	1017.92	1017.87	1017.80	1017.73	1017.66	1017.58	1017.50
SOUTH FLOWLINE	1018.09	1018.05	1018.00	1017.95	1017.90	1017.84	1017.77	1017.71	1017.63	1017.56	1017.47
SOUTH EDGE OF DECK	1018.09	1018.05	1018.00	1017.95	1017.90	1017.84	1017.77	1017.71	1017.63	1017.56	1017.47

℄ PIER 2	SPAN 3									℄ PIER 3
	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
1017.47	1017.39	1017.30	1017.20	1017.10	1017.00	1016.89	1016.77	1016.65	1016.53	1016.40
1017.47	1017.39	1017.30	1017.20	1017.10	1017.00	1016.89	1016.77	1016.65	1016.53	1016.40
1017.50	1017.41	1017.32	1017.23	1017.13	1017.02	1016.91	1016.80	1016.68	1016.56	1016.43
1017.64	1017.55	1017.46	1017.36	1017.26	1017.16	1017.05	1016.94	1016.82	1016.70	1016.57
1017.77	1017.69	1017.60	1017.50	1017.40	1017.30	1017.19	1017.07	1016.95	1016.83	1016.70
1017.64	1017.55	1017.46	1017.36	1017.26	1017.16	1017.05	1016.94	1016.82	1016.70	1016.57
1017.50	1017.41	1017.32	1017.23	1017.13	1017.02	1016.91	1016.80	1016.68	1016.56	1016.43
1017.47	1017.39	1017.30	1017.20	1017.10	1017.00	1016.89	1016.77	1016.65	1016.53	1016.40
1017.47	1017.39	1017.30	1017.20	1017.10	1017.00	1016.89	1016.77	1016.65	1016.53	1016.40

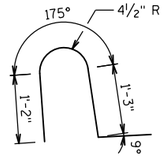
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	SERIES	LOCATION
S501	X	806	32'-2"			DECK - TRANSVERSE
S502	X	410	4'-6"	X		DECK - OVERHANG TOP
S403	X	99	40'-5"			DECK - LONG. SPAN 1
S404	X	396	39'-11"			DECK - LONG. SPANS 2 & 3
S405	X	99	37'-5"			DECK - LONG. SPAN 4
S506	X	710	4'-5"	X		PARAPET - TRANSVERSE
S507	X	710	5'-0"	X		PARAPET - TRANSVERSE
S508	X	12	40'-5"			PARAPET - LONG. SPAN 1
S509	X	48	39'-11"			PARAPET - LONG. SPANS 2 & 3
S510	X	12	37'-5"			PARAPET - LONG. SPAN 4
S611	X	96	5'-2"			DIAPHRAGM - LONG. SPANS 2 & 3
S412	X	248	4'-3"	X		DIAPHRAGM - TRANS.
S413	X	16	5'-2"			DIAPHRAGM - LONG. AT EXPANSION JOINT
S714	X	72	7'-5"			DIAPHRAGM - LONG. SPANS 1& 4

NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



S502



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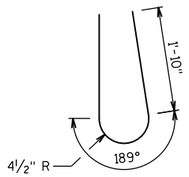

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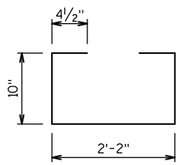
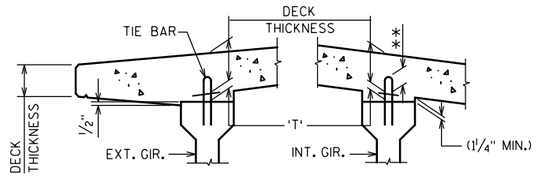


S412



DECK HAUNCH DETAIL

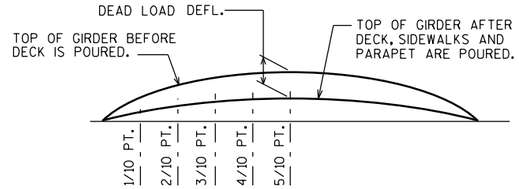
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM

SPAN	DEAD LOAD DEFL. (IN.)				
	1/10	2/10	3/10	4/10	5/10
SPAN 1	0	1/8	1/8	1/8	1/8
SPAN 2	3/8	3/4	1 1/8	1 1/4	1 3/8
SPAN 3	3/8	3/4	1 1/8	1 1/4	1 3/8
SPAN 4	0	0	1/8	1/8	1/8

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

DRAWN BY MSS | PLANS CK'D. HDA

SUPERSTRUCTURE DETAILS

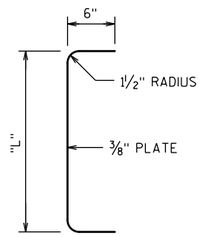
SHEET 8 OF 14

FILE NAME : I:\59970 W06\cds\080503_ss.dgn
PLOT DATE : 4/24/2017 11:16:37 AM PLOT BY : msschroeder PLOT NAME : $FILE$ PLOT SCALE : 5.33333:1

STATE PROJECT NUMBER
1002-01-71

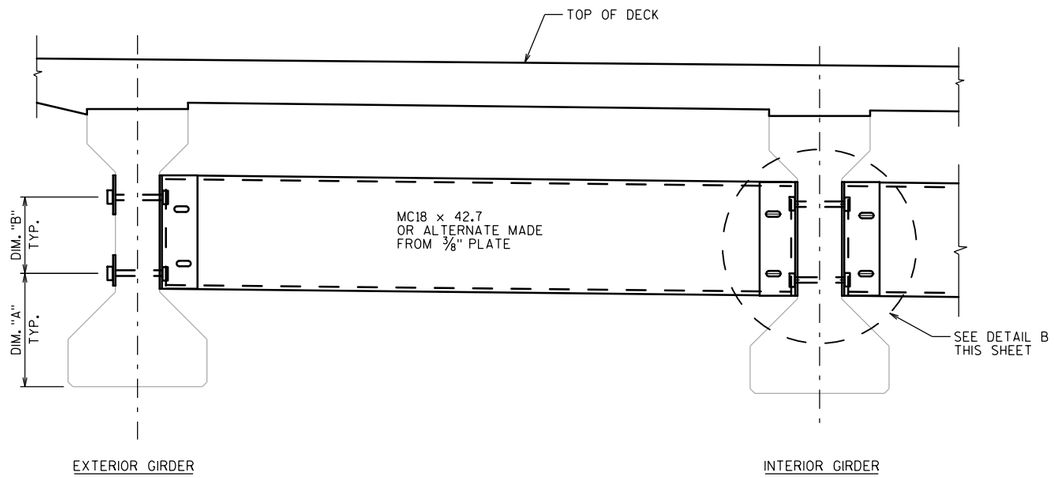
DIMENSION TABLE

GIRDER HEIGHT	DIM. "A"	DIM. "B"	DIM. "L"	* DIM "X"
45"	1'-5⅜"	1'-1⅞"	1'-5½"	2¼"



SECTION THRU ALTERNATE DIAPHRAGM

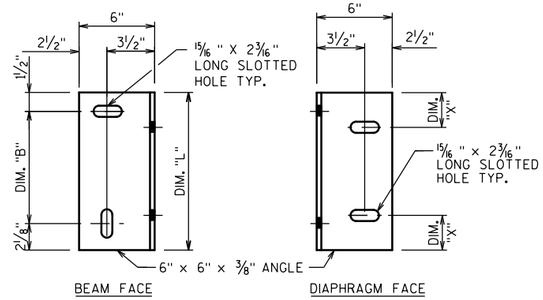
* DIM. "X" = 2½" FOR ALTERNATE PLATE DIAPHRAGM



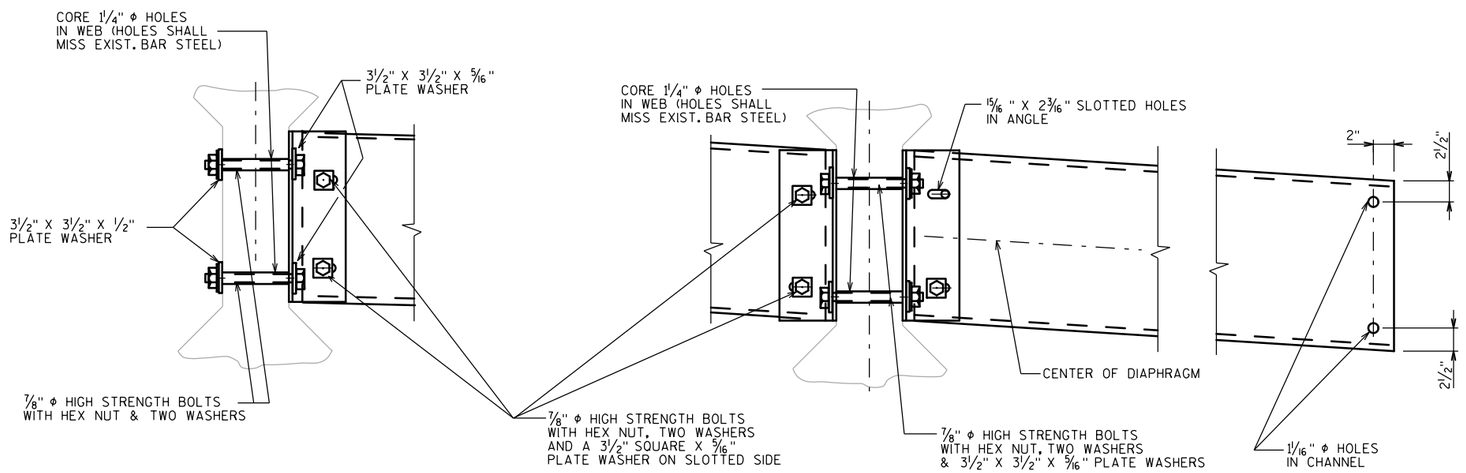
PART TRANSVERSE SECTION AT DIAPHRAGM

NOTES

1. ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-13-131", EACH.
2. EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.
3. ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.
4. ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.
5. STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN.



DIAPHRAGM SUPPORT



DETAIL B

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

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STEEL DIAPHRAGM

SHEET 9 OF 14

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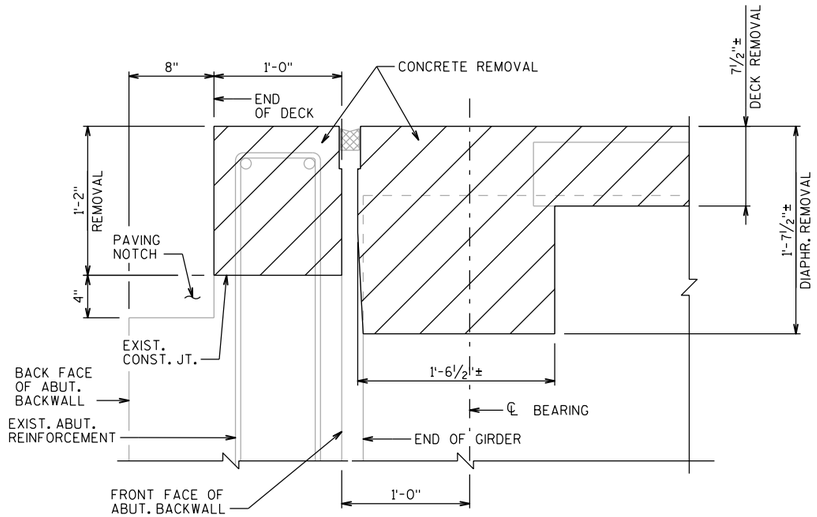
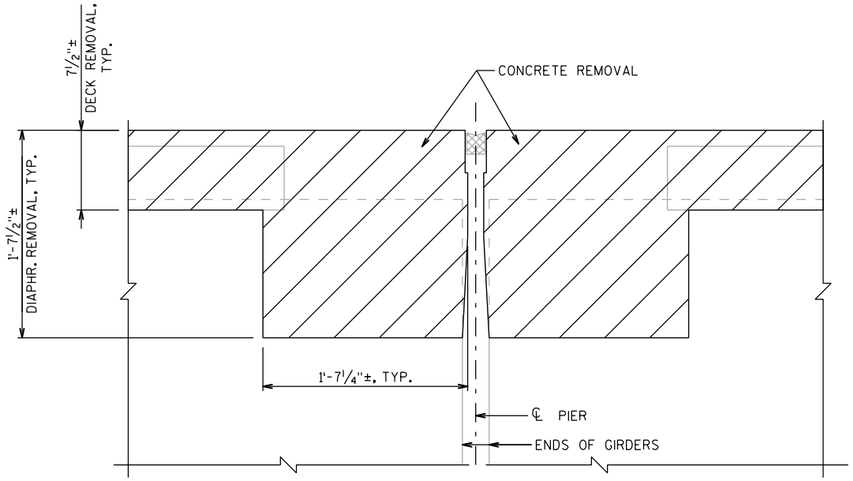


EXISTING SECTION AT ABUTMENT

AT ROADWAY



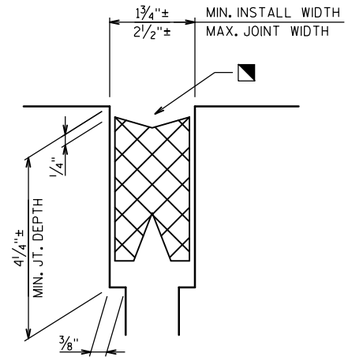
EXISTING SECTION AT PIERS 1 AND 3

AT ROADWAY

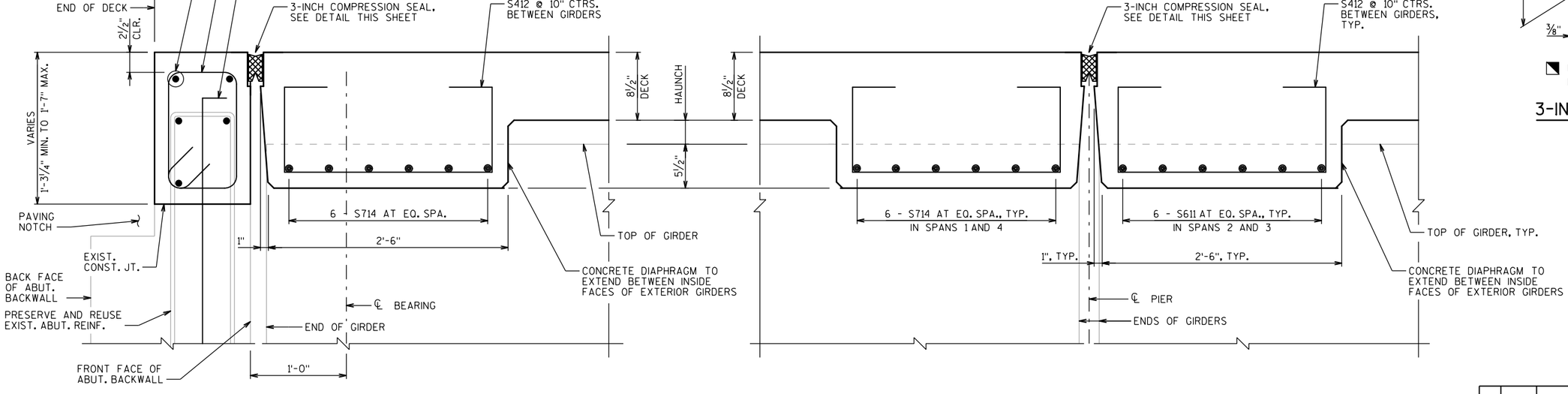
NOTES

☆ ADHESIVE ANCHORS NO. 5 BAR. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0" MAX. TURN 10" LEG AS NECESSARY TO FIT. ANCHORS SHALL BE APPROVED FOR USE IN CRACKED CONCRETE.

EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.



3-INCH COMPRESSION SEAL DETAIL



PROPOSED SECTION AT ABUTMENT

AT ROADWAY

PROPOSED SECTION AT PIERS 1 AND 3

AT ROADWAY

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STRUCTURE B-13-131

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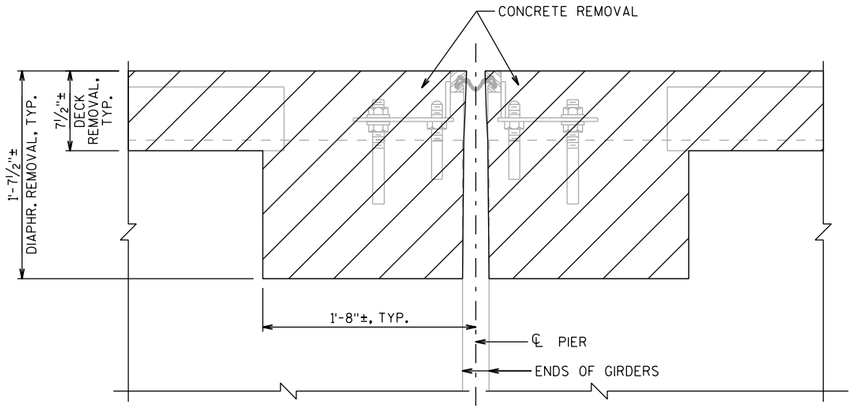
COMPRESSION SEAL DETAILS

SHEET 10 OF 14

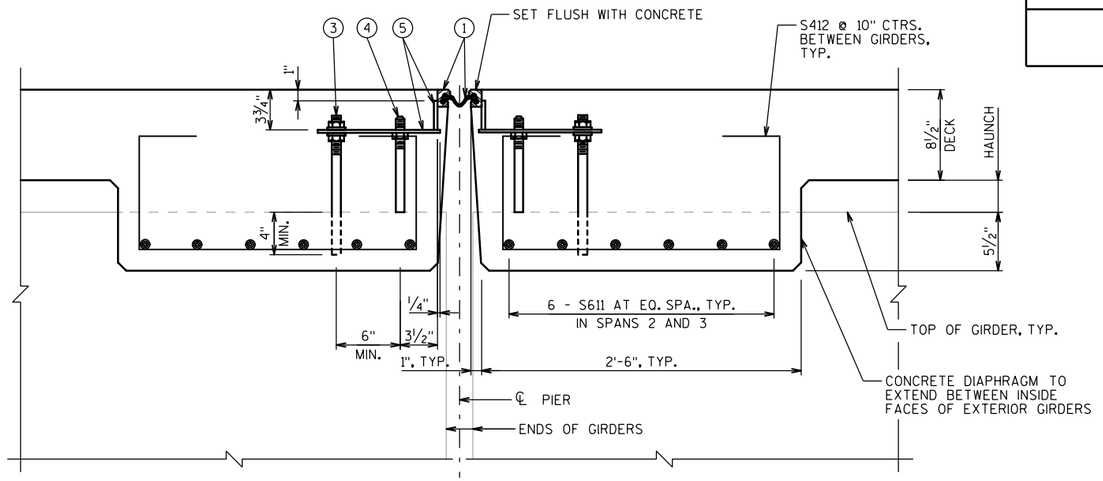
FILE NAME : I:\59970 W06\cds\080505_comp.dgn PLOT DATE : 4/24/2017 11:16:45 AM PLOT BY : msschroeder PLOT NAME : $FILE$ PLOT SCALE : 1.18519:1

STATE PROJECT NUMBER
1002-01-71



EXISTING SECTION AT PIER 2

AT ROADWAY

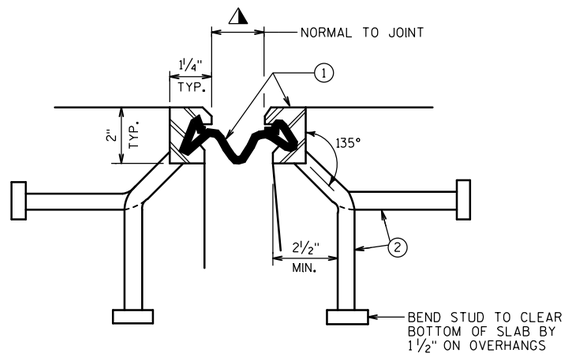


SHOWING EXPANSION DEVICE COMPONENTS

SHOWING EXPANSION REINFORCEMENT

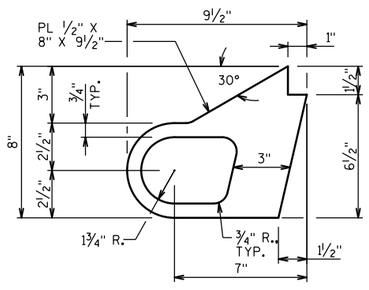
PROPOSED SECTION AT PIER 2

AT ROADWAY

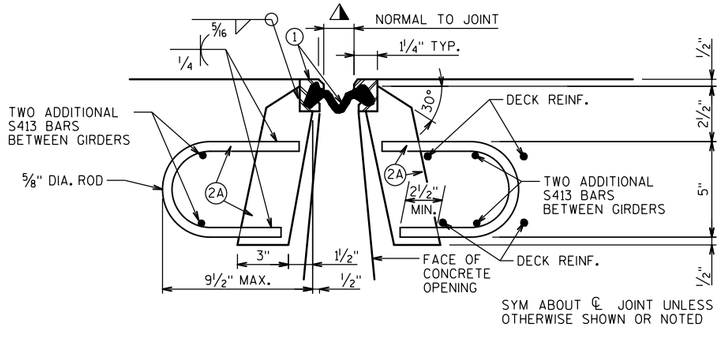


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS

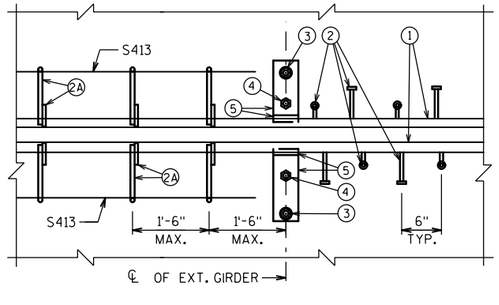


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS



PART PLAN

LEGEND

⚠ (1) NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1¾".

(2) STUDS ⅝" DIA. × 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" × ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 AND 1" DIA. HOLE FOR NO. 4.

(6) GALVANIZED PLATE ⅜" × 10" × 2'-2" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.

(7) ¾" DIA. × 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16". BELOW PLATE SURFACE.

(8) ¾" DIA. × 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA. × 2 ¼" GALVANIZED THREADED COUPLING.

(10) 1" × 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-13-131".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

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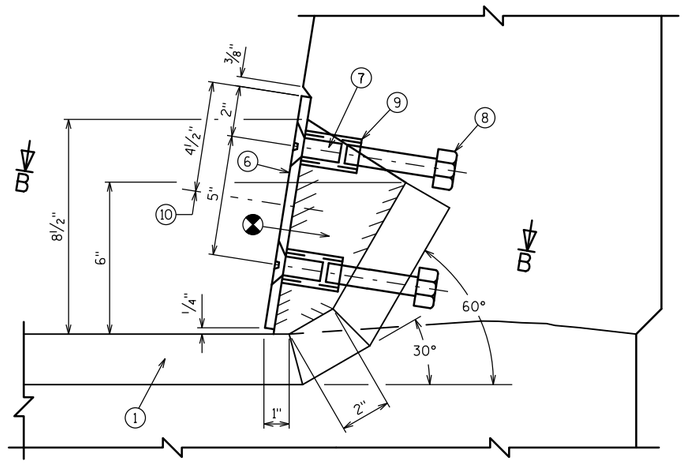
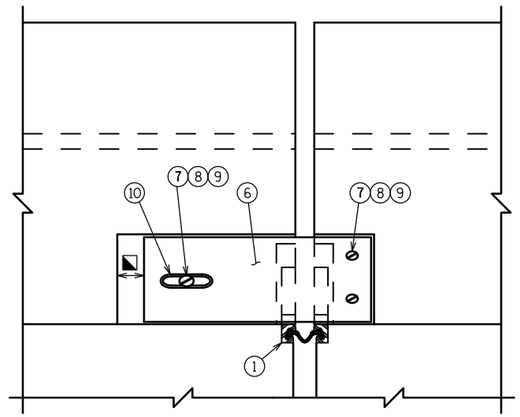
EXPANSION DEVICE

SHEET 11 OF 14

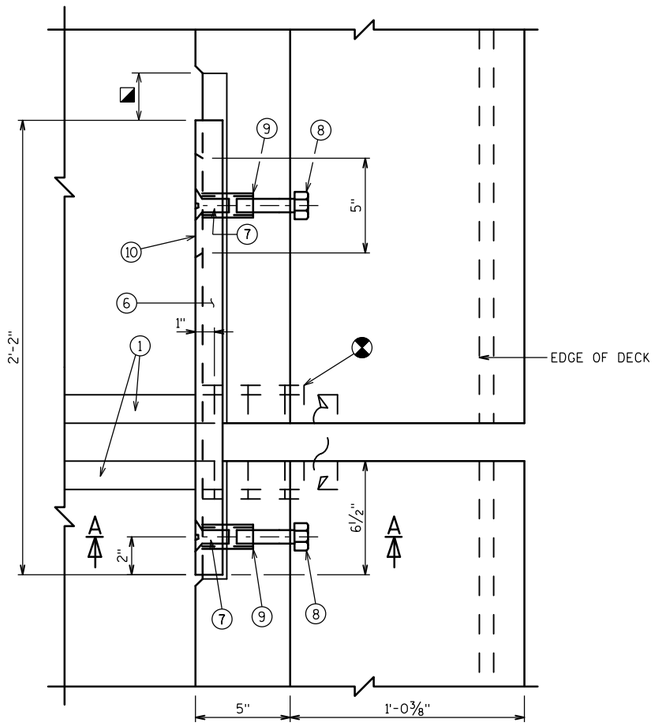
STATE PROJECT NUMBER
1002-01-71



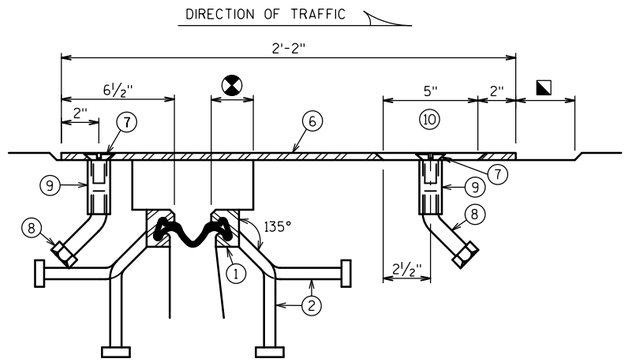
SECTION A-A



VIEW OF PARAPET PLATE
FROM ROADWAY



PLAN



SECTION B-B

BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

JOINT OPENING DIMENSION PLUS 1/2".

NOTE

SEE "EXPANSION DEVICE" SHEET FOR ADDITIONAL INFORMATION.

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

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COVER PLATE DETAILS

SHEET 12 OF 14

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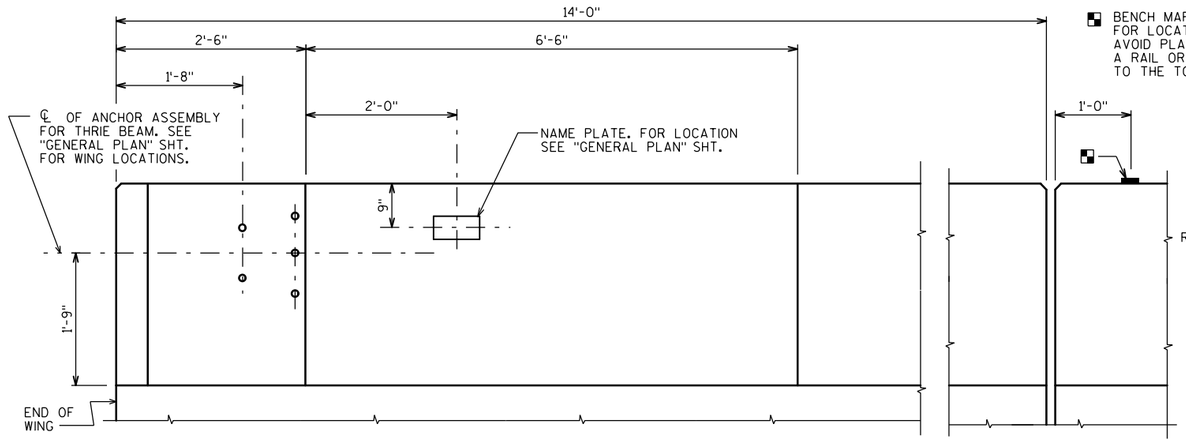
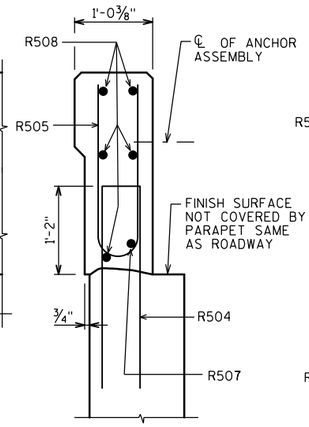
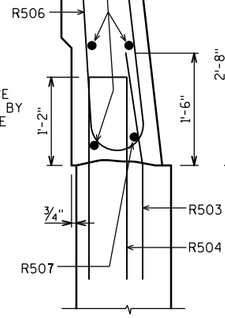


INSIDE ELEVATION

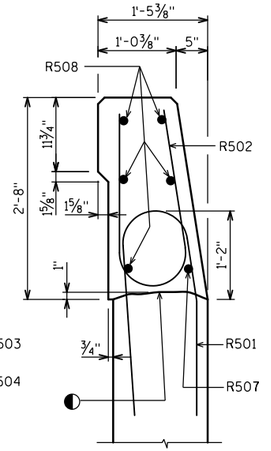
■ BENCH MARK CAP (SUPPLIED BY WISDOT). FOR LOCATION SEE "GENERAL PLAN" SHT. AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.



SECTION A



SECTION B

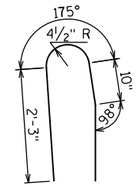


SECTION C

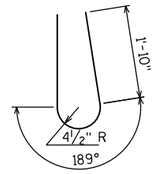
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
R501	X	36	5'-10"	X	PARAPET - VERT.
R502	X	36	5'-0"	X	PARAPET - VERT.
R503	X	48	3'-0"	X	PARAPET - VERT.
R504	X	68	5'-7"	X	PARAPET - VERT.
R505	X	44	4'-9"	X	PARAPET - VERT.
R506	X	24	4'-10"	X	PARAPET - VERT.
R507	X	4	13'-7"	X	PARAPET - HORIZ.
R508	X	20	13'-6"		PARAPET - HORIZ.

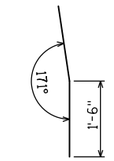
NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR.
THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE.



R501

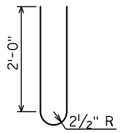


R502

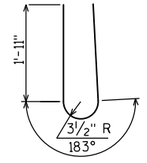


R503

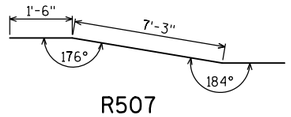
R504



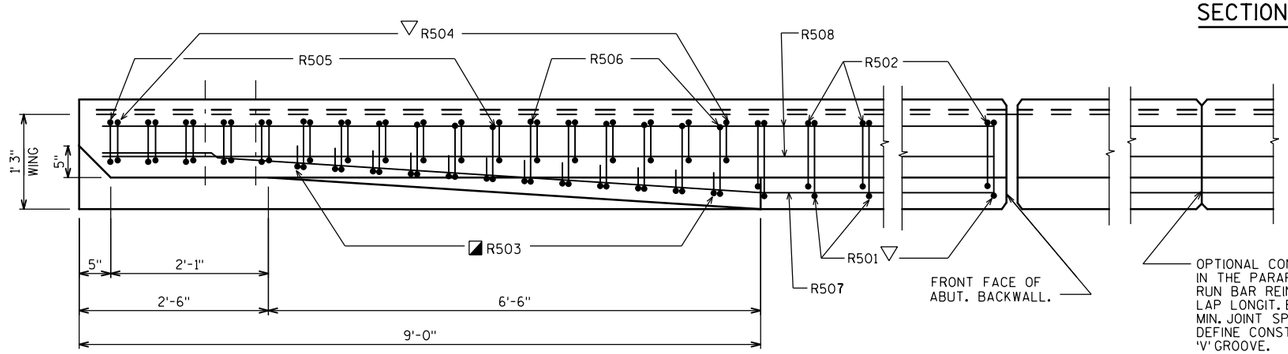
R505



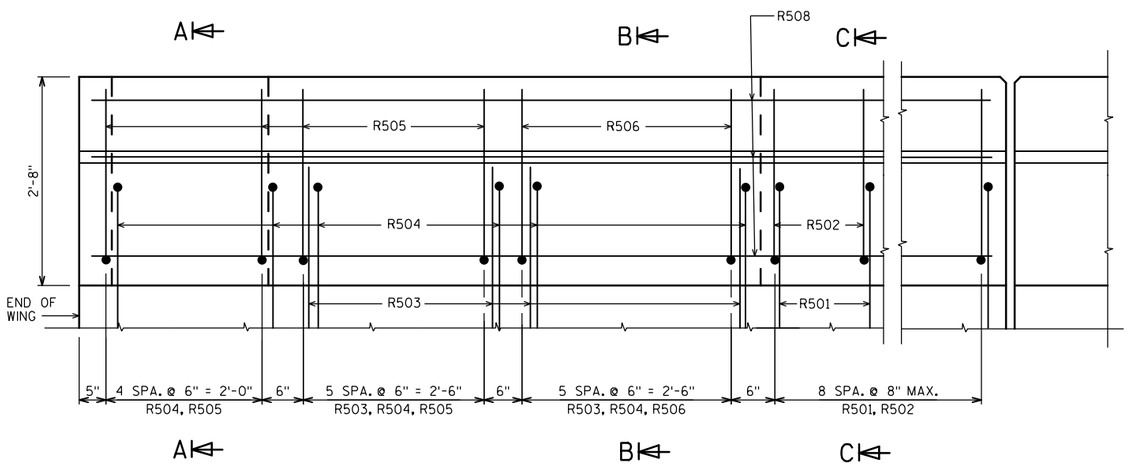
R506



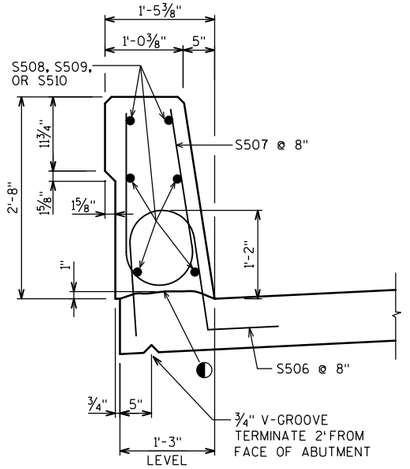
R507



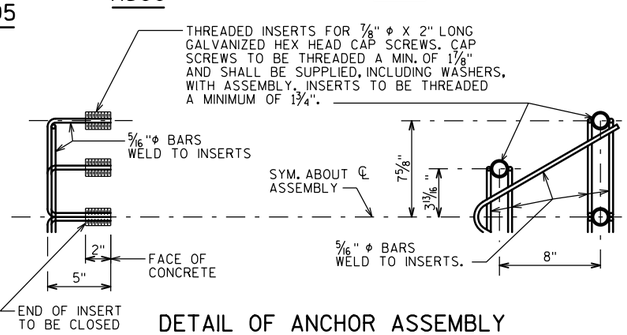
PLAN



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

DRAWN BY HDA | PLANS CK'D. MSS

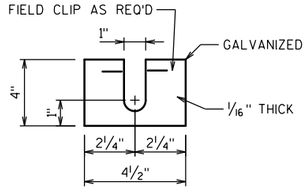
SINGLE SLOPE PARAPET 32SS

SHEET 13 OF 14

STATE PROJECT NUMBER
1002-01-71

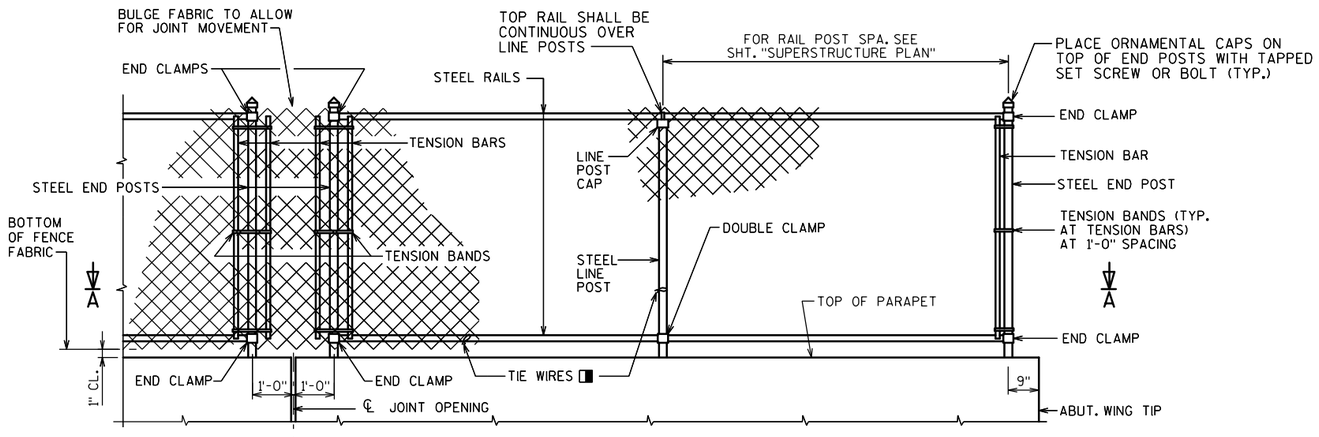
FENCE MEMBER SIZE & WEIGHT

STEEL FENCE MEMBER	OUTSIDE DIAMETER (INCHES)	WEIGHT (LB/FT)
RAILS	1.660	2.27
END POST	2.875	5.80
OVERHANG POST	2.875	5.80
LINE POST	2.375	3.65
POST SLEEVE	4.000	9.12



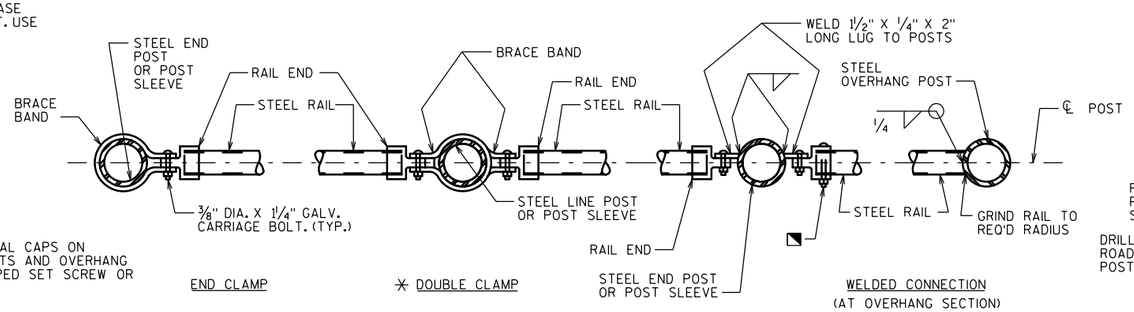
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN END POSTS AND LINE POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST. USE WHERE REQUIRED FOR ALIGNMENT.



FENCE PART ELEVATION

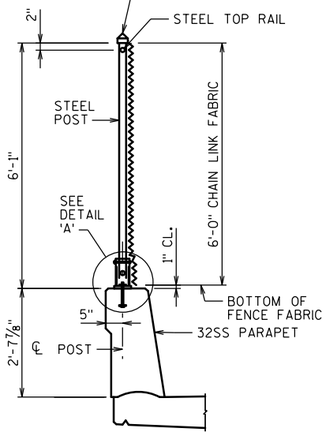
VIEWING FABRIC SIDE



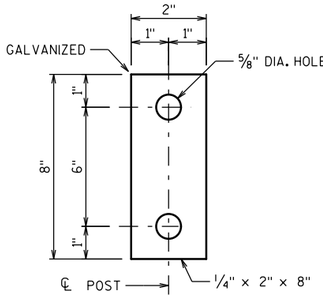
END CLAMP ✳ DOUBLE CLAMP WELDED CONNECTION (AT OVERHANG SECTION)

SECTION A-A

NOTE: PLACE ALL BOLT HEADS ON SIDE OF FENCE ADJACENT TO PEDESTRIANS

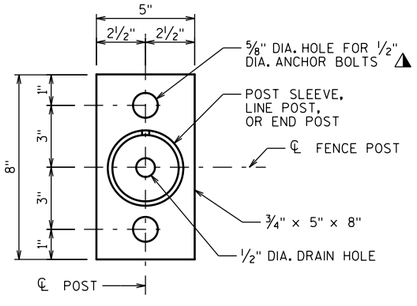


SECTION THRU FENCE ON SINGLE SLOPE PARAPET

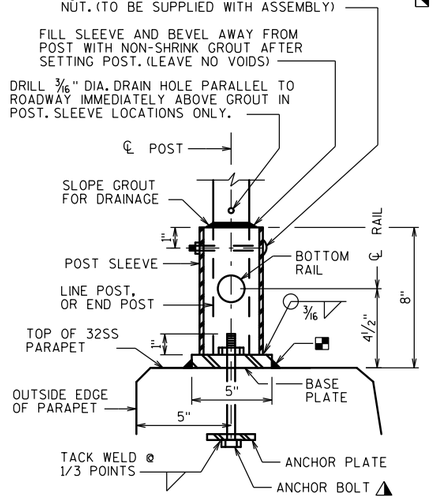


ANCHOR PLATE

☆ NOTE: ANCHOR PLATE NOT REQUIRED WHEN ADHESIVE ANCHORS ARE USED.



BASE PLATE



DETAIL 'A'

UNIT SHALL BE GALVANIZED AFTER FABRICATION

NOTE: IN LIEU OF USING THE POST SLEEVE, THE FENCE POST MAY BE WELDED TO THE BASE PLATE.

NOTES

POSTS ARE TO BE SET VERTICAL.

ALL FENCE COMPONENTS SHALL BE GALVANIZED STEEL EXCEPT THE FENCE FABRIC WHICH MAY BE ALUMINUM-COATED STEEL OR GALVANIZED STEEL.

FABRIC SHALL CONFORM TO ASTM A491 OR A392, CLASS 2. STEEL RAILS, POSTS AND POST SLEEVES SHALL CONFORM TO ASTM F1083, STANDARD WEIGHT PIPE (SCHEDULE 40). FITTINGS SHALL CONFORM TO ASTM F626.

THE BID ITEM SHALL BE "FENCE CHAIN LINK 6-FT.", LF.

COMPLETE ANY REQUIRED WELDING OF COMPONENTS BEFORE GALVANIZING.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

BASE PLATES, ANCHOR PLATES AND SHIMS SHALL BE ASTM A709, GRADE 36.

ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG THE C/L OF THE POST.

◪ CAULK AROUND PERIMETER OF BASE PLATE AND FILL PORTION OF SLOTTED HOLE AROUND ANCHOR BOLT IN SHIM WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

✳ ALTERNATE TO DOUBLE CLAMP: USE LINE RAIL CLAMP (BOULEVARD) OR 180° BRACE BAND, WHICH MAY BE USED WHEN THE POSTS ARE EITHER BOLTED TO THE POST SLEEVES OR DIRECTLY WELDED TO THE BASE PLATE.

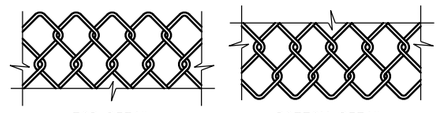
◭ 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. ☆

☆ ALTERNATIVE ANCHORAGE: CONCRETE ADHESIVE ANCHORS 1/2-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTION 502.2.12 OF THE STANDARD SPECIFICATIONS.

◨ ATTACH FABRIC TO RAILS, AND TO POSTS WITHOUT TENSION BANDS, WITH TIE WIRES (ROUND, 9-GAGE) SPACED AT 1'-0".

◩ BOLT RAIL TO RAIL END TO SECURE OVERHANG SECTION. ALTERNATE IS TO WELD RAIL DIRECTLY TO END POST.

MINIMUM LENGTH OF TOP RAIL BETWEEN SPLICES SHALL BE 20'-0". LOCATE SPLICES NEAR 1/4 POINT OF POST SPACING.



FENCE FABRIC

FENCE FABRIC WOVEN OF 9-GAGE WIRE IN 2" DIAMOND PATTERN MESH WITH BOTH THE TOP AND BOTTOM SELVAGES KNUCKLED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-131

DRAWN BY HDA | PLANS CK'D. MSS

CHAIN LINK FENCE DETAILS

SHEET 14 OF 14

8

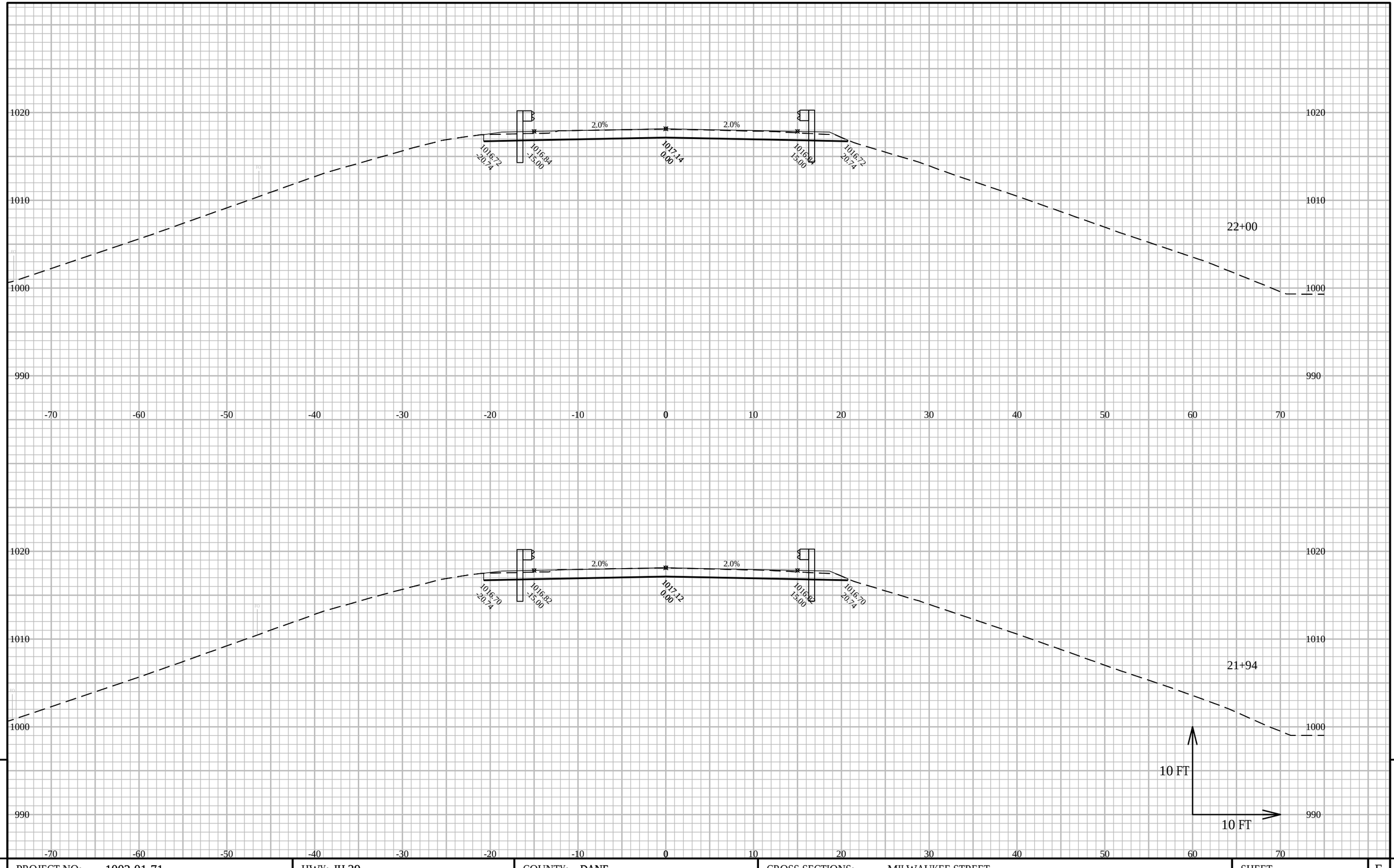
8

FILE NAME : I:\59970 W06\cds\080601_fnc.dgn PLOT DATE : 4/24/2017 11:17:00 AM PLOT BY : msschroeder PLOT NAME : $FILE$ PLOT SCALE : 2.66667:1

EARTHWORK VOLUMES

EXPANSION FACTOR = 1.25

	STATION	END-AREA (SF) CUT	END-AREA (SF) FILL	INCREMENTAL VOLUME (CY) CUT	INCREMENTAL VOLUME (CY) FILL	CUMULATIVE VOLUME (CY) CUT	CUMULATIVE VOLUME (CY) UNEXPANDED FILL	CUMULATIVE VOLUME (CY) EXPANDED FILL
Start	21+93.850	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22+00.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22+25.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22+50.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	22+75.000	0.00	0.03	0.00	0.01	0.00	0.01	0.02
	23+00.000	0.00	1.38	0.00	0.65	0.00	0.67	0.83
	23+25.000	0.00	5.27	0.00	3.08	0.00	3.75	4.68
	23+50.000	0.00	12.76	0.00	8.35	0.00	12.09	15.12
	23+75.000	0.00	28.92	0.00	19.30	0.00	31.39	39.24
End	23+92.120	0.00	0.00	0.00	9.17	0.00	40.56	50.70
Start	26+30.120	0.00	0.00	0.00	0.00	0.00	40.56	50.70
	26+43.000	0.00	70.89	0.00	16.91	0.00	57.47	71.83
	26+50.000	0.00	38.04	0.00	14.12	0.00	71.59	89.48
	26+60.000	0.00	13.23	0.00	9.49	0.00	81.08	101.35
	26+70.000	0.00	6.75	0.00	3.70	0.00	84.78	105.98
	26+75.000	0.00	6.82	0.00	1.26	0.00	86.04	107.55
	26+80.000	0.00	5.47	0.00	1.14	0.00	87.18	108.97
	26+85.000	0.00	27.14	0.00	3.02	0.00	90.20	112.74
	26+90.000	0.00	52.01	0.00	7.33	0.00	97.52	121.90
	26+95.000	0.00	26.52	0.00	7.27	0.00	104.80	130.99
	26+97.060	0.00	18.74	0.00	1.73	0.00	106.52	133.15
	27+00.000	0.00	2.20	0.00	1.14	0.00	107.66	134.58
	27+05.000	0.00	1.92	0.00	0.38	0.00	108.04	135.05
	27+10.000	0.00	1.39	0.00	0.31	0.00	108.35	135.44
	27+15.000	0.00	0.86	0.00	0.21	0.00	108.56	135.70
	27+20.000	0.00	0.00	0.00	0.08	0.00	108.64	135.80
	27+25.000	0.00	0.00	0.00	0.00	0.00	108.64	135.80
	27+30.390	0.00	0.00	0.00	0.00	0.00	108.64	135.80
End	27+40.000	0.00	0.00	0.00	0.00	0.00	108.64	135.80



PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 107	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\090201_XS_PLF.DWG
LAYOUT NAME - xs - (1)

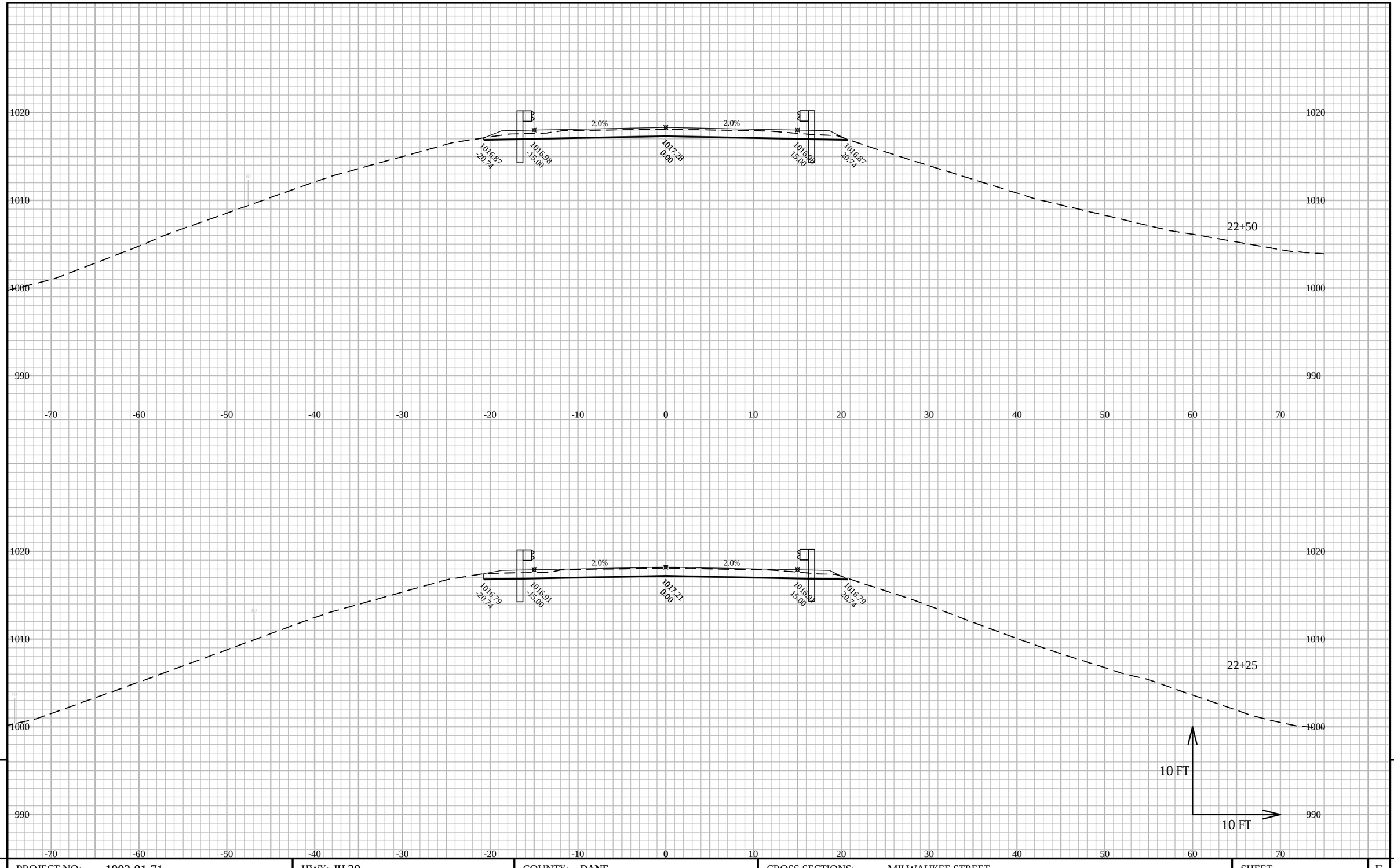
PLOT DATE : 7/18/2017 5:15 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 108	E

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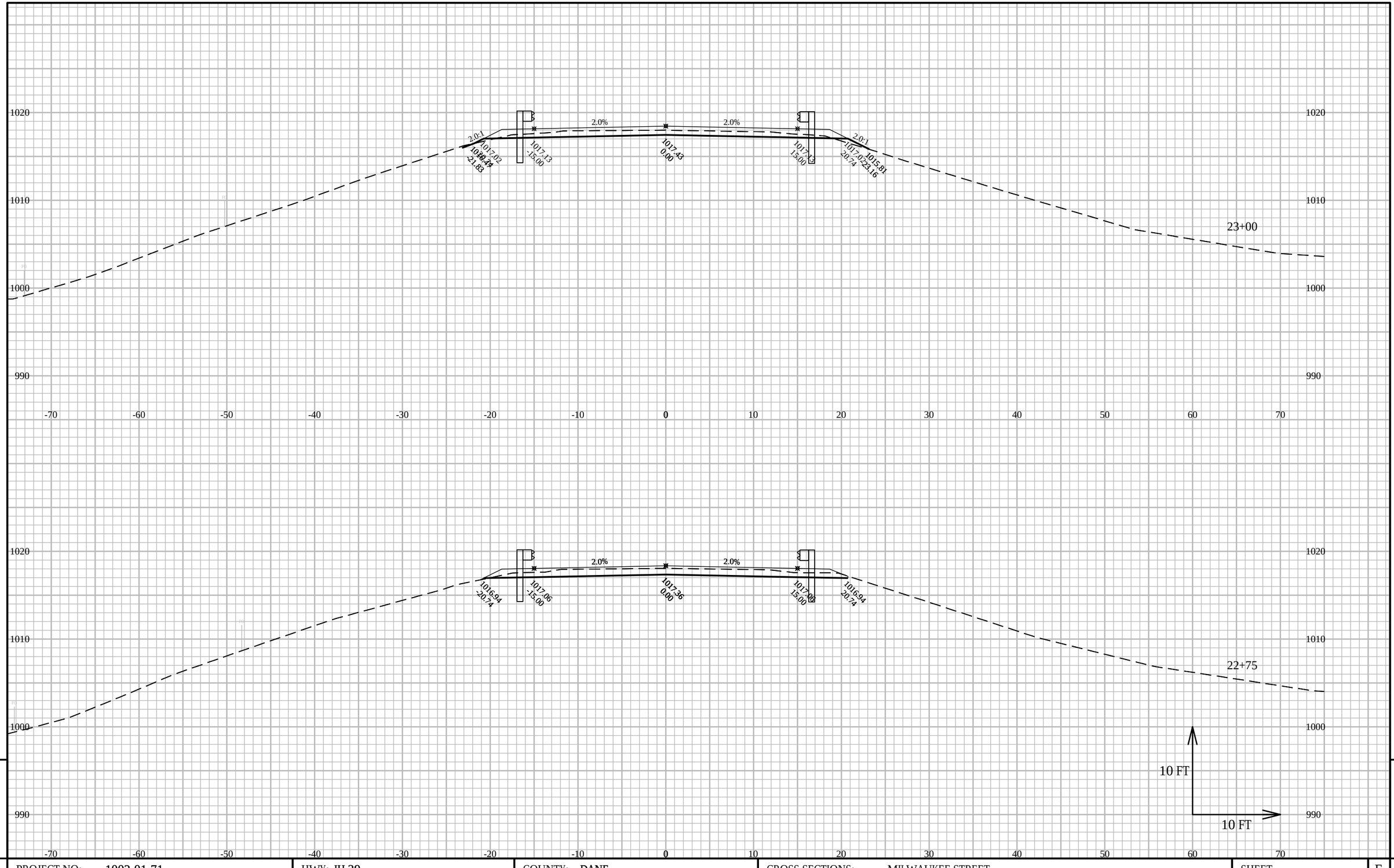

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PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 109	E

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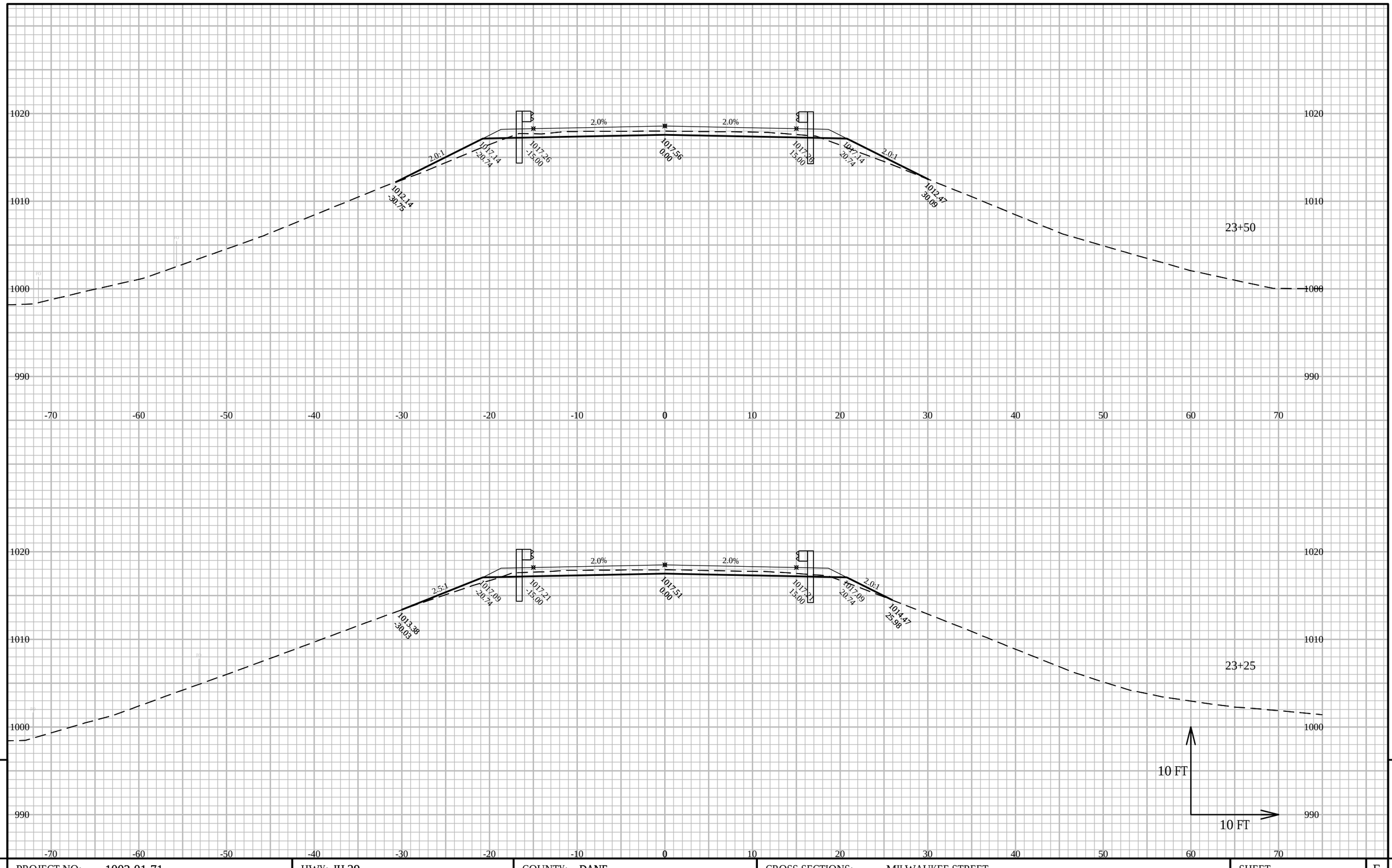
LAYOUT NAME - xs - (3)

PLOT DATE : 7/18/2017 5:15 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 110	E

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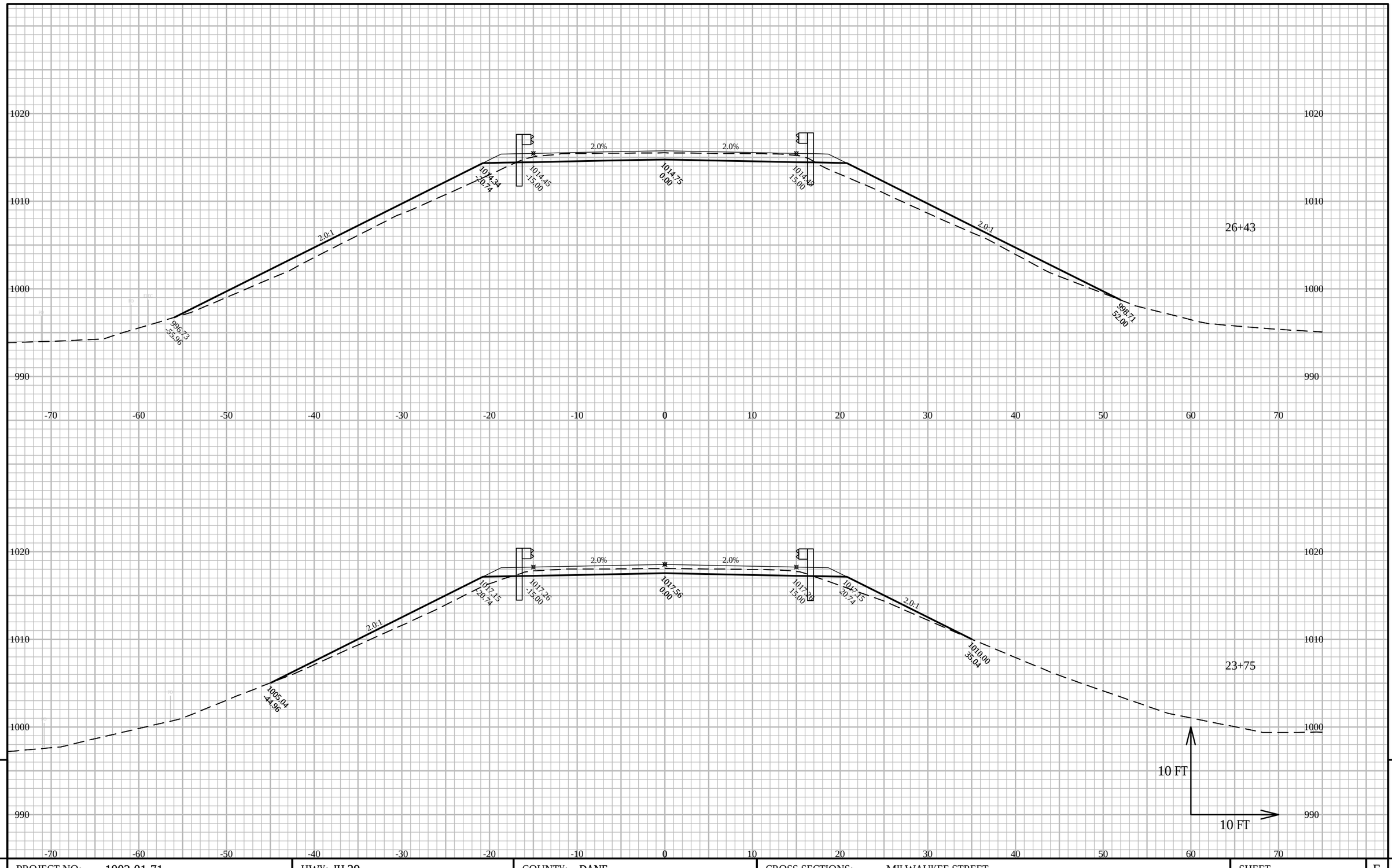
LAYOUT NAME - xs - (4)

PLOT DATE : 7/18/2017 5:15 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 111 E

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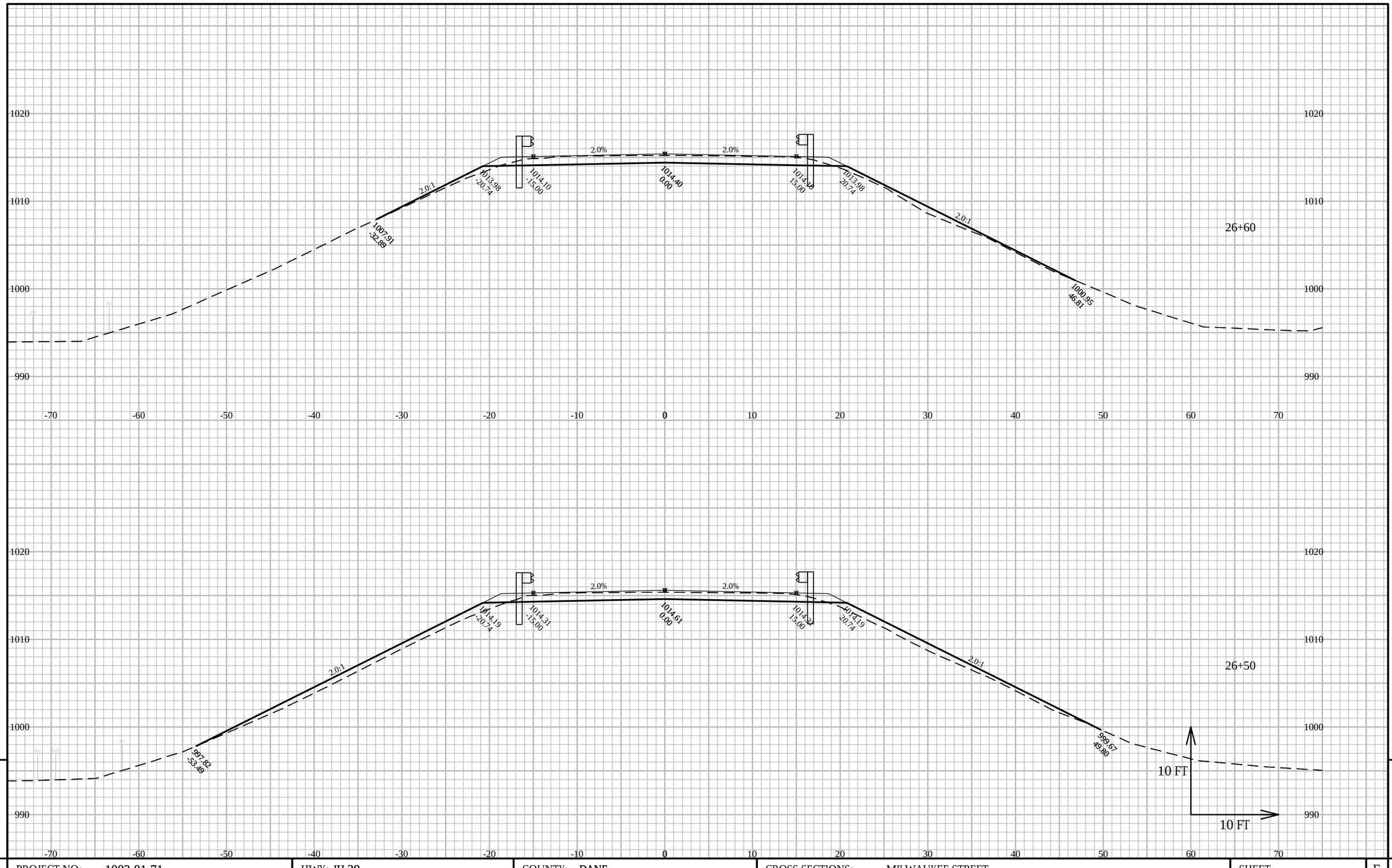

PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 112	E

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LAYOUT NAME - xs - (6)

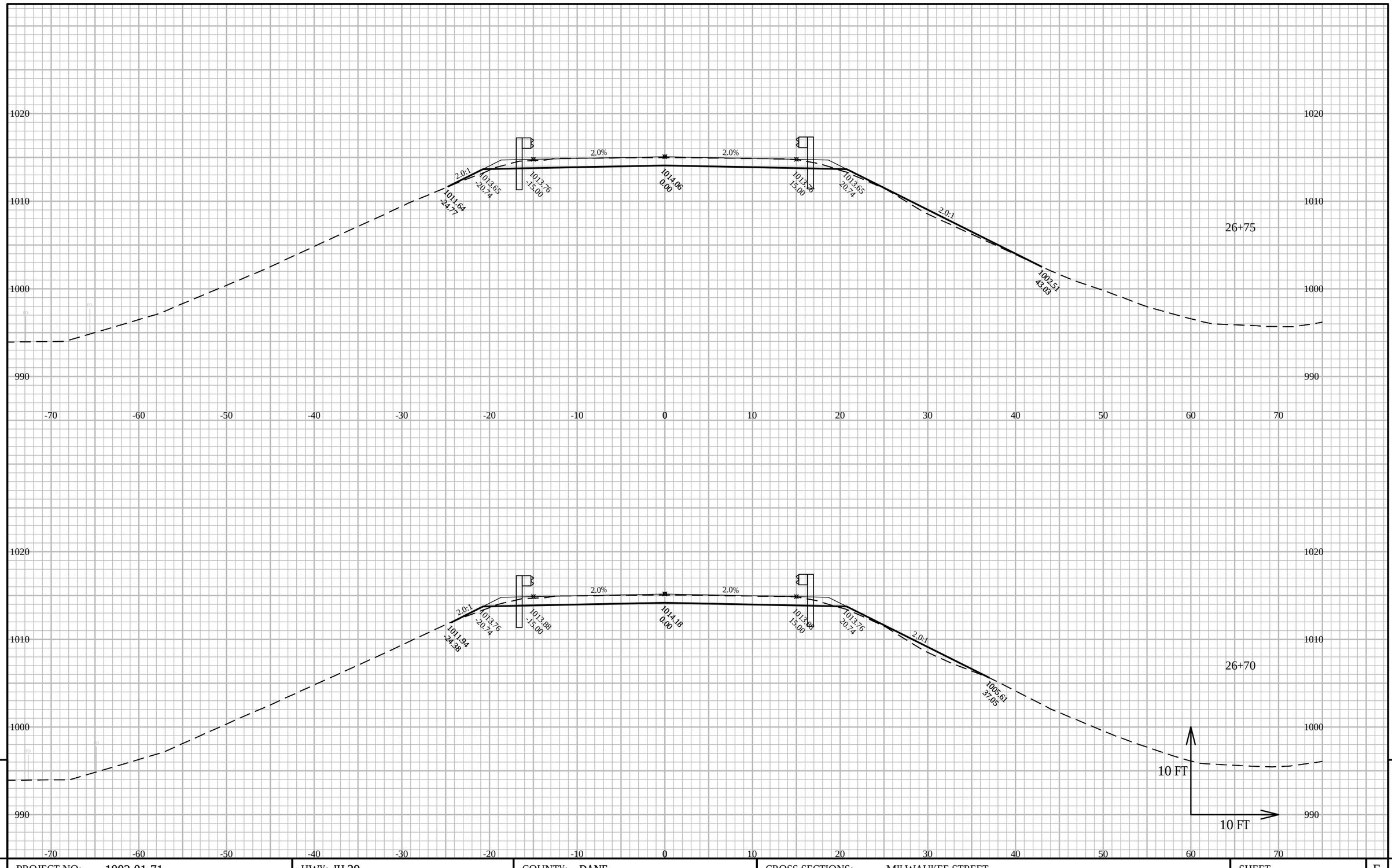
PLOT DATE : 7/18/2017 5:15 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 113	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\090201_XS_PLF.DWG
LAYOUT NAME - xs - (7)

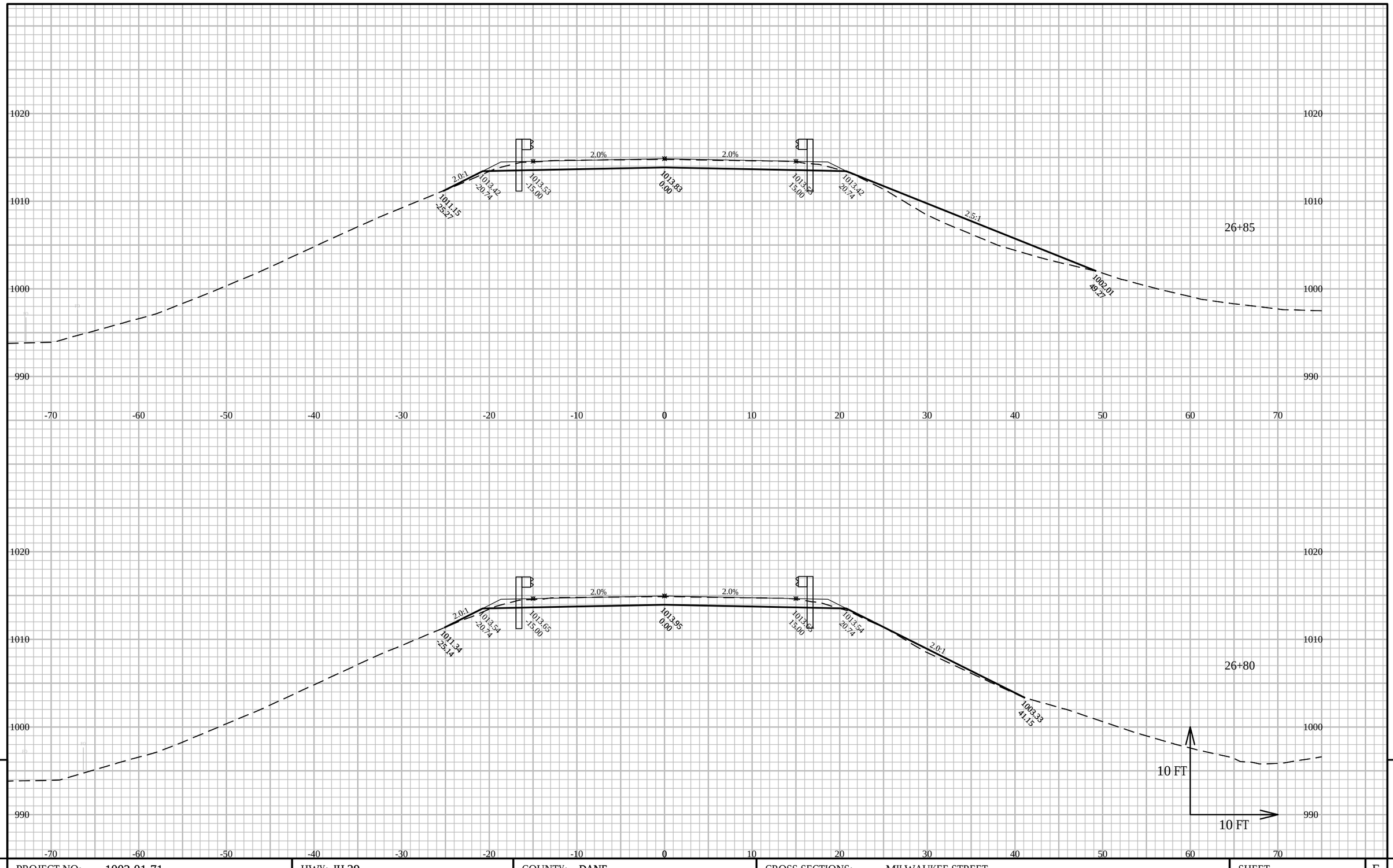
PLOT DATE : 7/18/2017 5:15 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 114	E

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LAYOUT NAME - xs - (8)

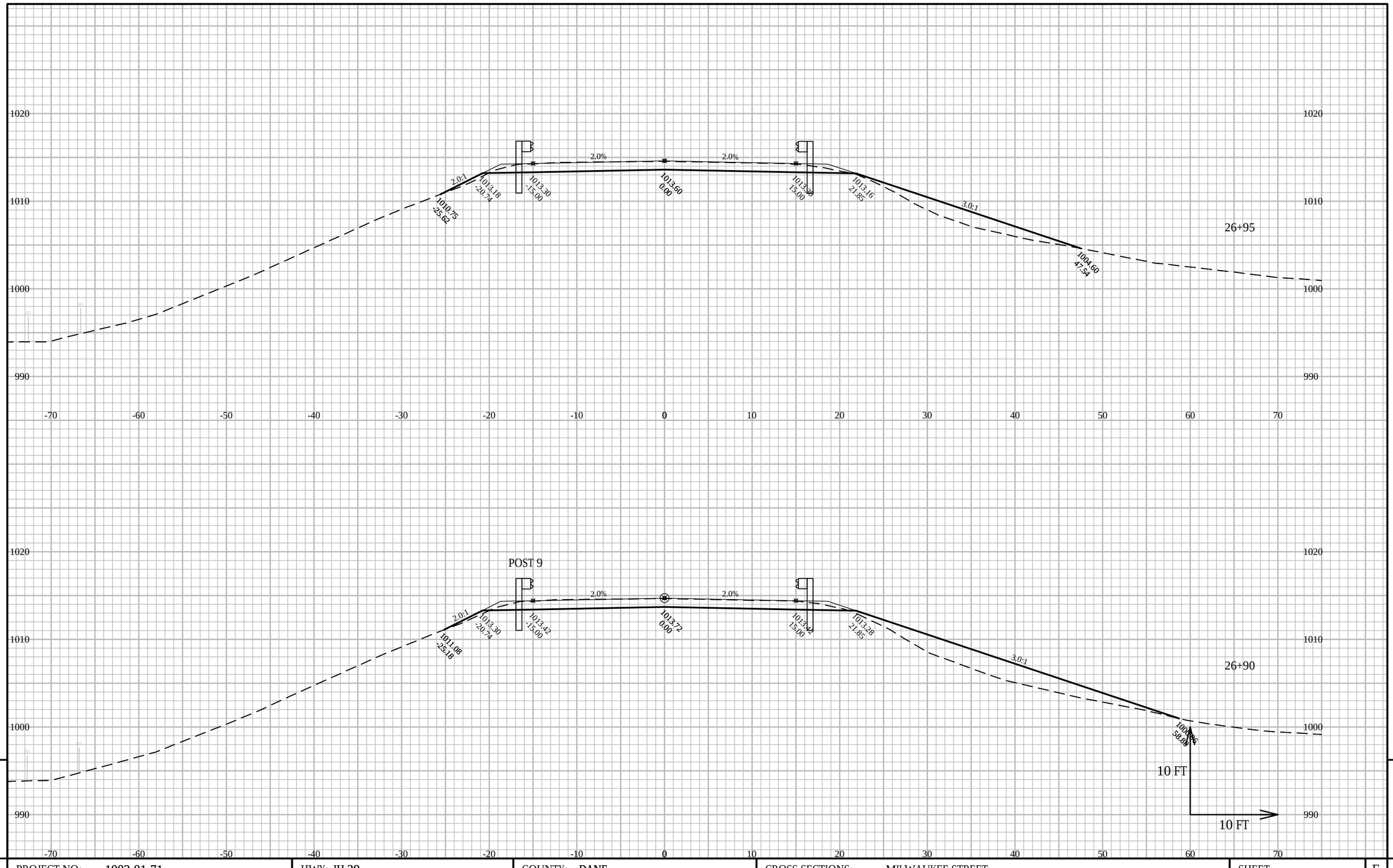
PLOT DATE : 7/18/2017 5:15 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 115 E

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LAYOUT NAME - xs - (9)

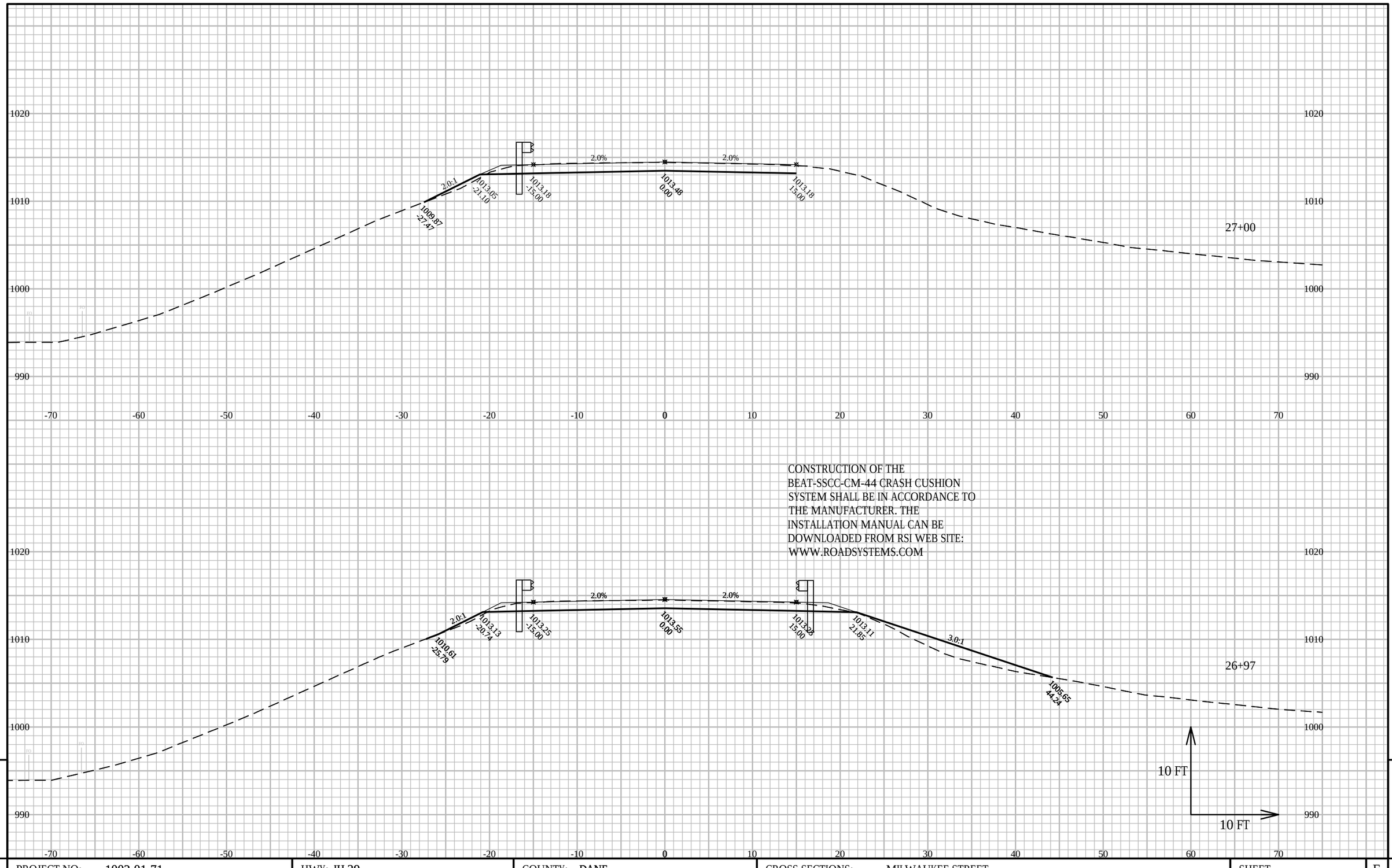
PLOT DATE : 7/18/2017 5:15 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 116	E

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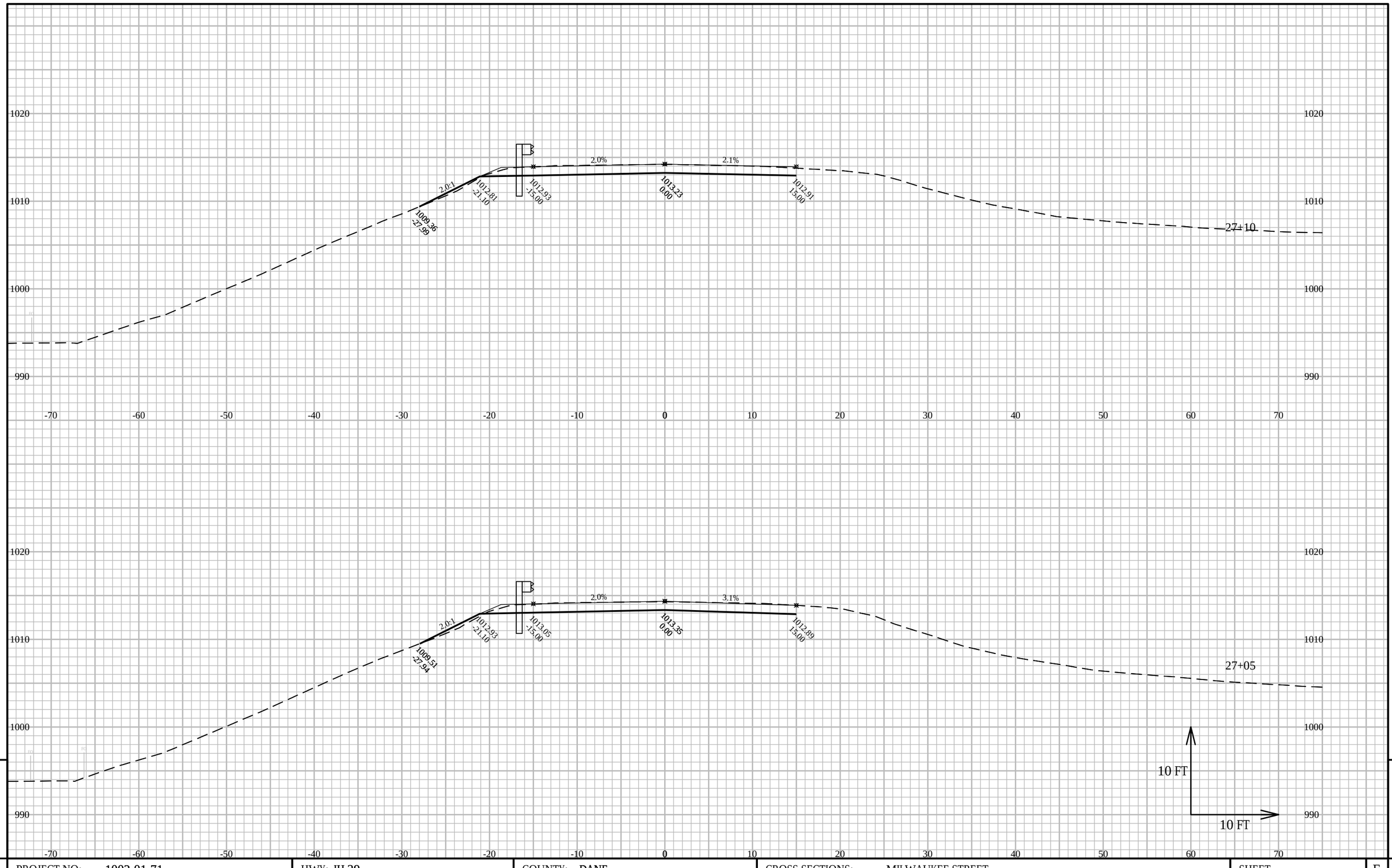
LAYOUT NAME - xs - (10)

PLOT DATE : 7/18/2017 5:15 PM PLOT BY : FILLIPI, PETER L PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 117	E

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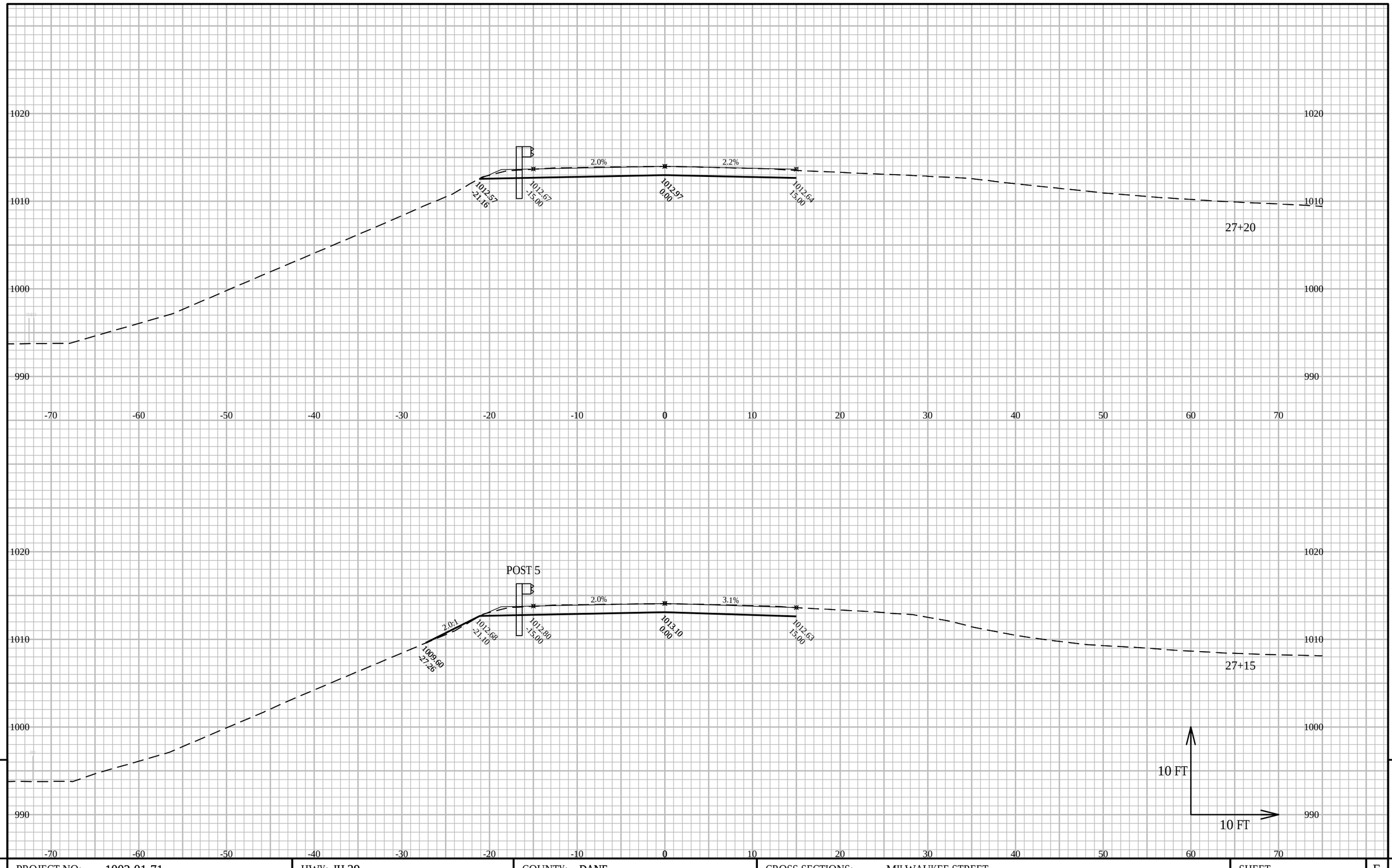
LAYOUT NAME - xs - (11)

PLOT DATE : 7/18/2017 5:16 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 118	E

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LAYOUT NAME - xs - (12)

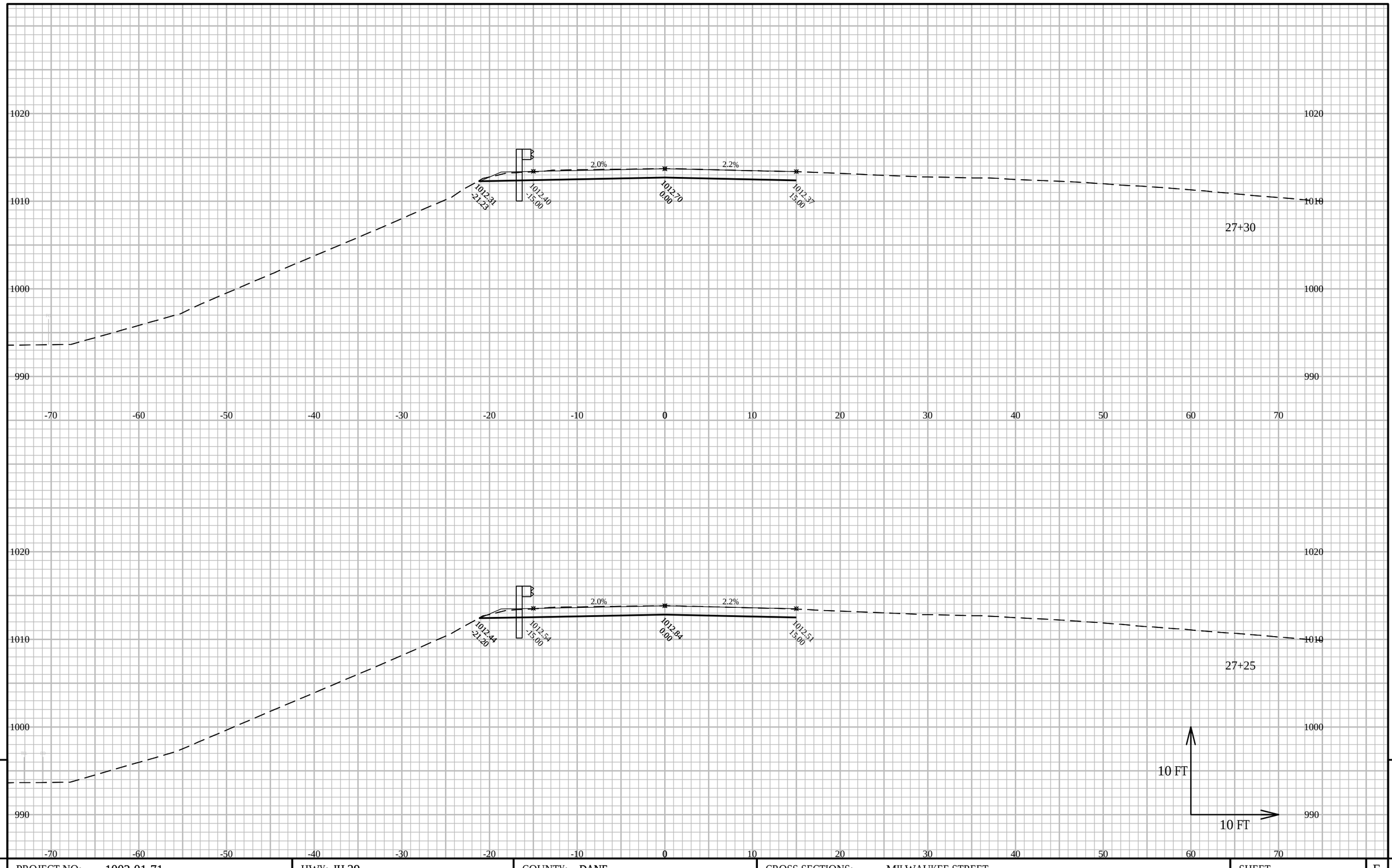
PLOT DATE : 7/18/2017 5:16 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 119	E

FILE NAME : N:\PDS\C3D\10020101\SHEETSPLAN\090201_XS_PLF.DWG
LAYOUT NAME - xs - (13)

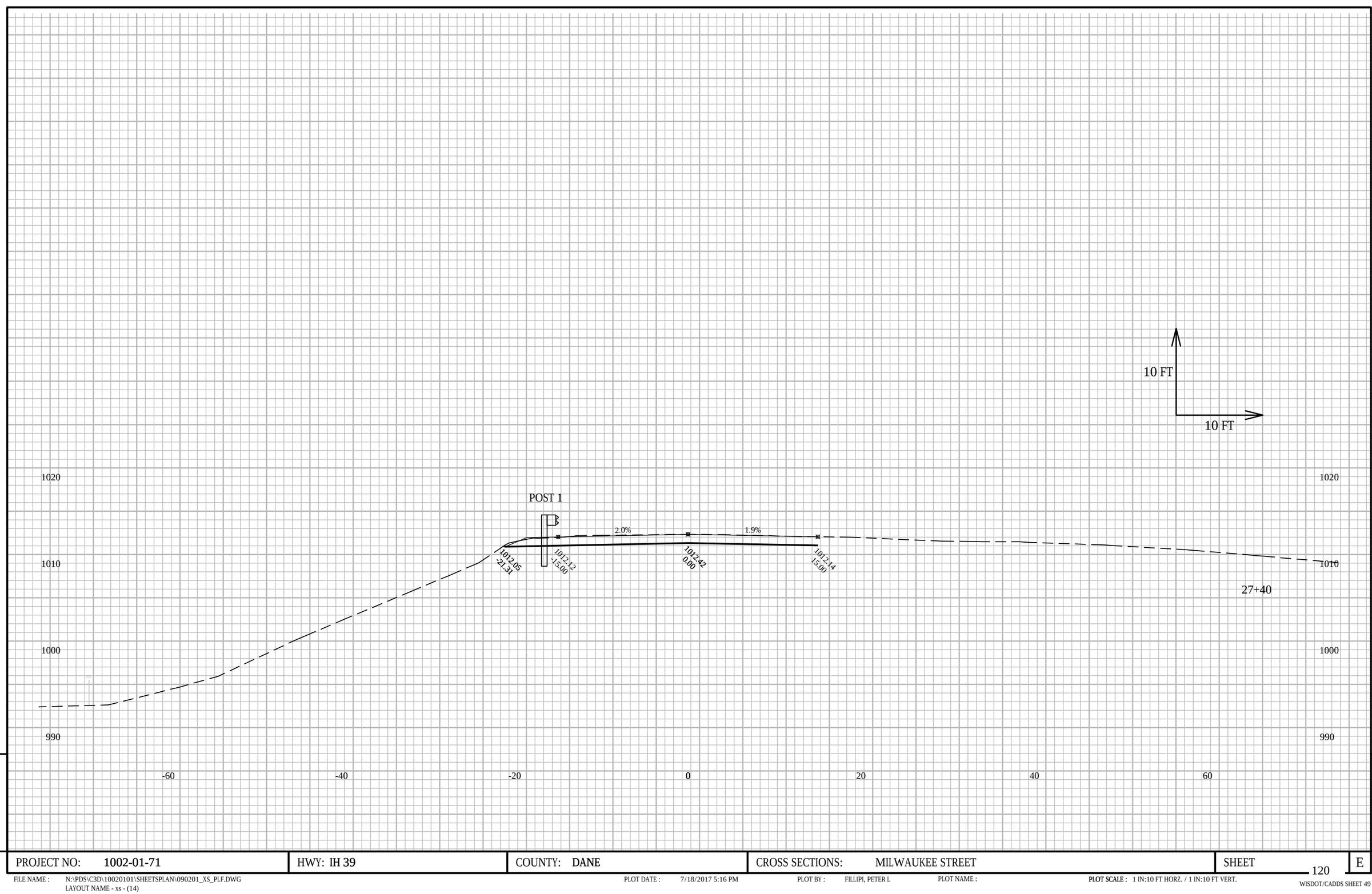
PLOT DATE : 7/18/2017 5:16 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1002-01-71	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: MILWAUKEE STREET	SHEET 120	E

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LAYOUT NAME - xs - (14)

PLOT DATE : 7/18/2017 5:16 PM

PLOT BY : FILLIPI, PETER L

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov