WKE

MAY 2016

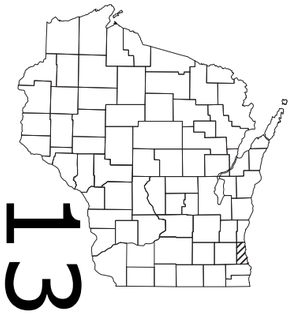
PROJECT ID: 1060-34-86

COUNTY: MILWAUKEE

ORDER OF SHEETS

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

TOTAL SHEETS = 98



13

N

DESIGN DESIGNATION USH 45

A.A.D.T.	(2015)	= 144,000
A.A.D.T.	(2035)	= 193,000
D.H.V.		= 6,680 NB/6,991 SB
D.D.		= 48.9% NB/51.1% SB
T.		= 11.6%
DESIGN SPEED		= 60 MPH
ESALS		= 31,835,300

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ZOO IC, DEEP STORM SEWER

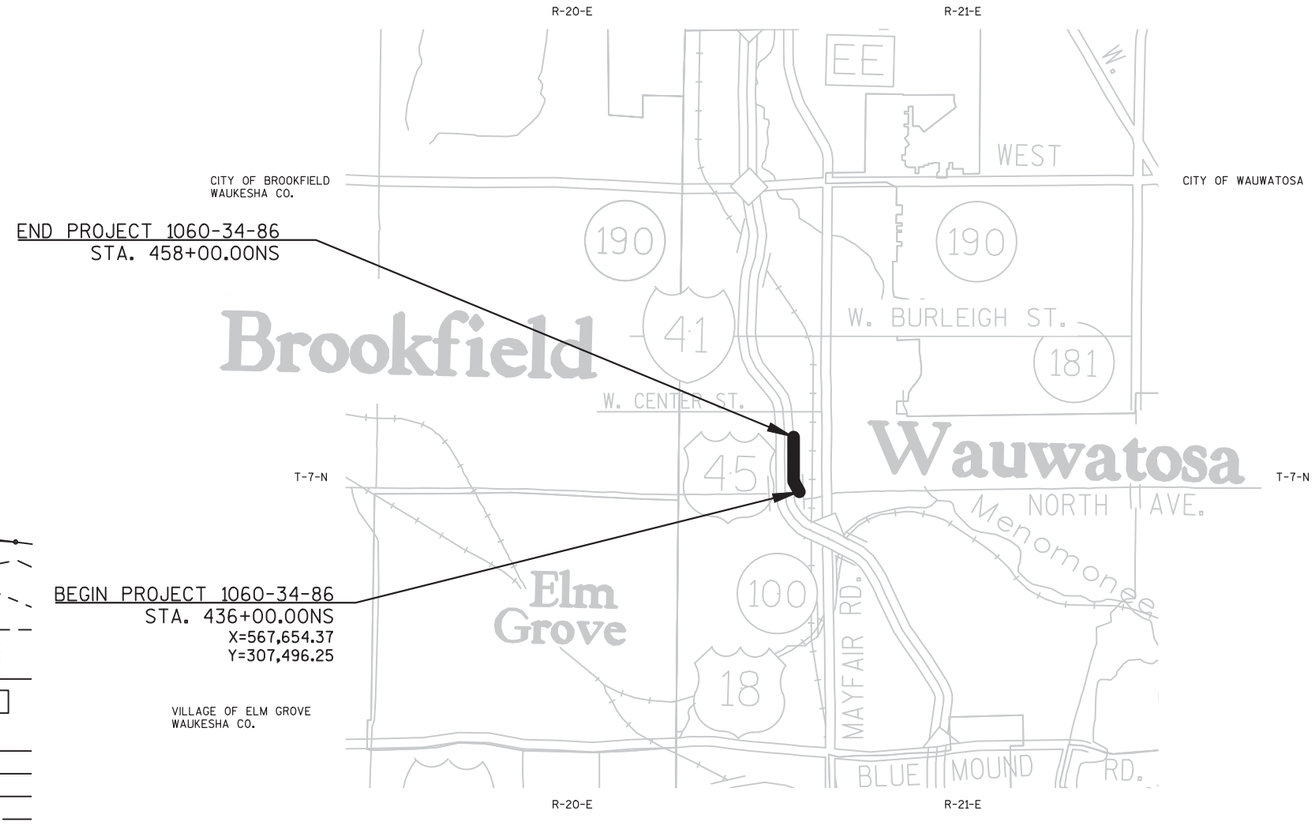
NORTH AVENUE TO CENTER STREET

USH 45

MILWAUKEE COUNTY

STATE PROJECT NUMBER
1060-34-86

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1060-34-86	———	———



LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, MILWAUKEE COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD88 (2007)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	FORWARD 45
Designer	WISDOT
Project Manager	CHRIS ZACHARIAS, P.E.
Regional Examiner	
Regional Supervisor	WILLIAM S. MOHR, P.E.

APPROVED FOR THE DEPARTMENT

DATE 2/15/16 (Signature)

E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\010101_TI.DWG

PLOT DATE : 1/27/2016 11:26 AM

PLOT BY : SCHWENN, BRANDON C PLOT NAME :

WISDOT/CADDS SHEET 10

GENERAL NOTES

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

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

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

INLET PROTECTION IS REQUIRED AT ALL INLETS AS PER DETAIL OR AS DIRECTED BY THE ENGINEER.

REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.

RE-TOPSOIL OF GRADED AREAS, AS DESIGNATED BY THE ENGINEER, IMMEDIATELY AFTER GRADING IS COMPLETED WITHIN THOSE AREAS. SEED, FERTILIZE, AND EROSION MAT TOP-SOILED AREAS, AS DESIGNATED BY THE ENGINEER, WITHIN FIVE (5) CALENDAR DAYS AFTER PLACEMENT OF TOPSOIL. IF GRADED AREAS ARE LEFT EXPOSED FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THOSE AREAS WITH TEMPORARY SEED.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDAR DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

EROSION CONTROL DEVICES ARE AT SUGGESTED LOCATIONS. THE ACTUAL LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S ECIP AND BY THE ENGINEER. EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED OR UNTIL THE ENGINEER DETERMINES THAT THE DEVICEIS NO LONGER REQUIRED.

ORDER OF SECTION 2 DETAIL SHEETS

STANDARD ABBREVIATIONS

AEW	APRON ENDWALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCHMARK
C&G	CURB AND GUTTER
CL OR $^{C}_{L}$	CENTER LINE OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALTIC
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
M/L	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON END WALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SLV	SALVAGED
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWING
SE	SUPER ELEVATION
SF	SQUARE FOOT
SI	SLOPE INTERCEPT
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT

UTILITY CONTACTS

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WAUWATOSA, WI 53213
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WWEHRLEY@WAUWATOSA.NET

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PHONE: (414) 651-3948, CELL: (262) 483-3896
ERICH.WUESTENHAGEN@WE-ENERGIES.COM

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WWEHRLEY@WAUWATOSA.NET

MILWAUKEE COUNTY TRANSIT SYSTEM
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COORDINATOR OF STREET SUPERVISION
1942 N. 17TH STREET
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MFLYNN@MCTS.ORG

SOUTHEASTERN WISONSIN REGIONAL PLANNING COMMISSION
ROB MERRY
W239 N1812 ROCKWOOD DRIVE
P.O. BOX 1607
WAUKESHA, WI 53187-1607
PHONE: (262) 953-4289
CELL: (920) 912-1036
RMERRY@SEWRPC.ORG

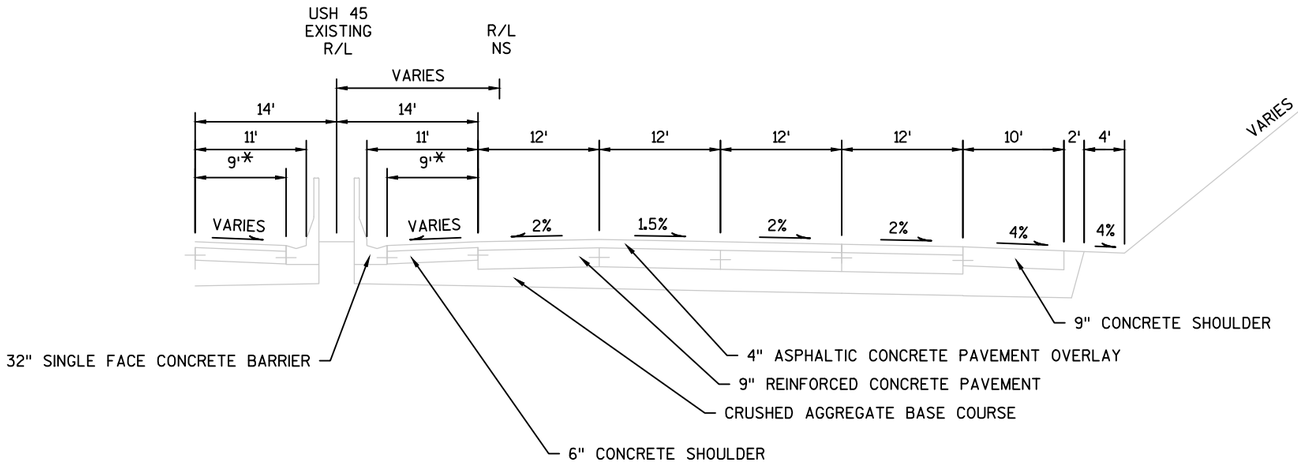
TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGOURND FACILITIES BEFORE YOU DIG IN WISCONSIN

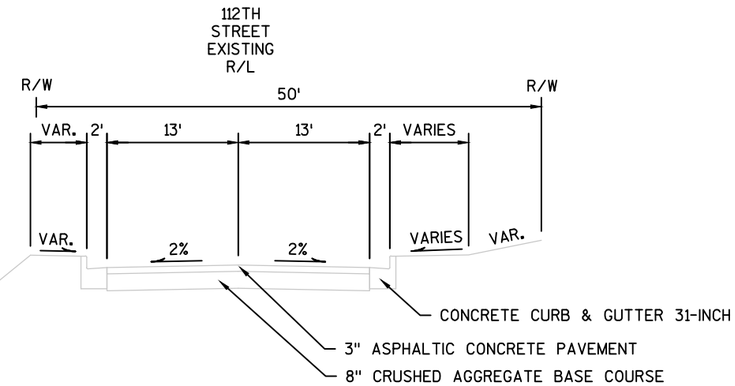
WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

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

2

2





TYPICAL EXISTING SECTION
IH 41/USH 45
STA. 436+00NS TO STA. 458+00NS

PROJECT NO:1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 4	E

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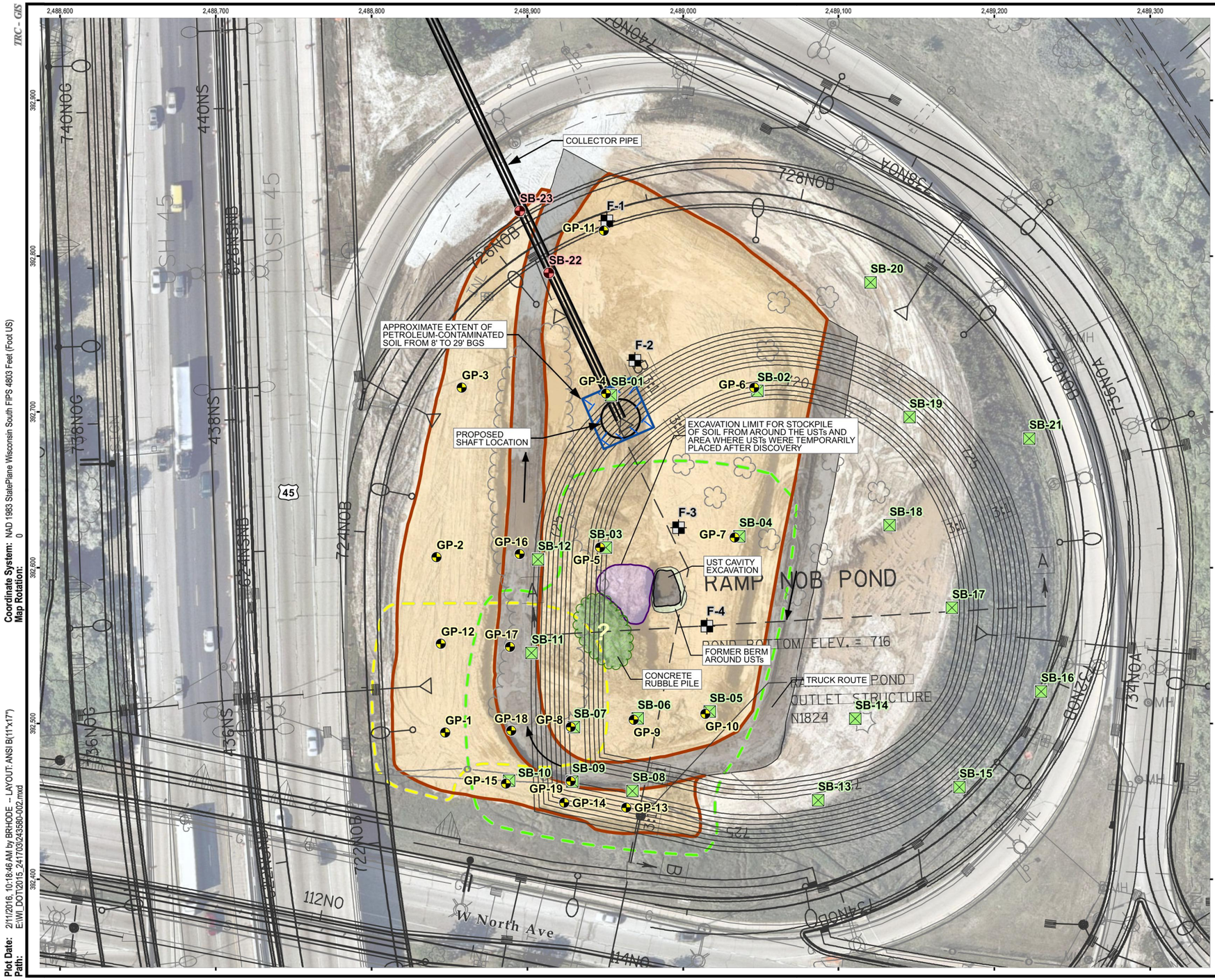

Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet (Foot US)
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Plot Date: 2/11/2016, 10:18:46 AM by BRHODE – LAYOUT: ANSI B(11"x17")
Path: E:\WI_DOT\2015_241703\243580-002.mxd

LEGEND

- GEOPROBE/TEMPORARY WELL LOCATION (1/29/2016)
- GEOPROBE LOCATION (12/18/2015)
- GEOPROBE LOCATION (8/8/2015)
- FOUNDATION GEOPROBE/TEMPORARY WELL LOCATION (1/29/2016)
- PROPOSED SHAFT & TRENCH LOCATION
- 1' CONTOUR INTERVAL
- APPROXIMATE LIMITS OF BORROW SOIL LEFT IN PLACE FROM THE USH 45 PEDESTRIAN BRIDGE PROJECT
- CONCRETE RUBBLE PILE
- APPROXIMATE EXTENT OF PETROLEUM-CONTAMINATED SOIL PRESENT AT ~8'+ BGS WHEN MEASURED FROM GRADE IN AUGUST 2015
- APPROXIMATE EXTENT OF PAH- AND LEAD-CONTAMINATED SOIL FROM ~0'-8' BGS WHEN MEASURED FROM GRADE IN AUGUST 2015
- APPROXIMATE EXTENT OF PETROLEUM-CONTAMINATED SOIL FROM 8' TO 29' BGS

NOTES

1. BASE MAP IMAGERY FROM NEARMAP, 8/22/2015.
2. MAP PROJECTION AND GRID COORDINATES ARE NAD83 STATE PLANE WISCONSIN- SOUTH (US SURVEY FEET).
3. PROPOSED SHAFT/TRENCH LOCATION & CONSTRUCTION PLANS PROVIDED BY WisDOT, LOCATIONS ARE APPROXIMATE.

N

0 60 120 Feet

1 " = 60 '

1:720

PROJECT: **WISDOT ID# 1060-34-86**
ZOO IC - DEEP STORM SEWER
USH 45, NORTH AVE. TO CENTER ST.
WAUWATOSA, MILWAUKEE COUNTY, WISCONSIN

TITLE: **SOIL BORING LOCATION MAP**

DRAWN BY:	RHODE B	PROJ NO.:	243580
CHECKED BY:	BERGMANN B		
APPROVED BY:	MORSE J		**FIGURE 2**
DATE:	FEBRUARY 2016		

TRC
150 North Patrick Blvd., Suite 180
Brookfield, WI 53045
Phone: 262.879.1212
www.trcsolutions.com

FILE NO.: 243580-002.mxd

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS - PETROLEUM CONTAMINATION	SHEET 5 E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\021001_CD.DWG
LAYOUT NAME - ****
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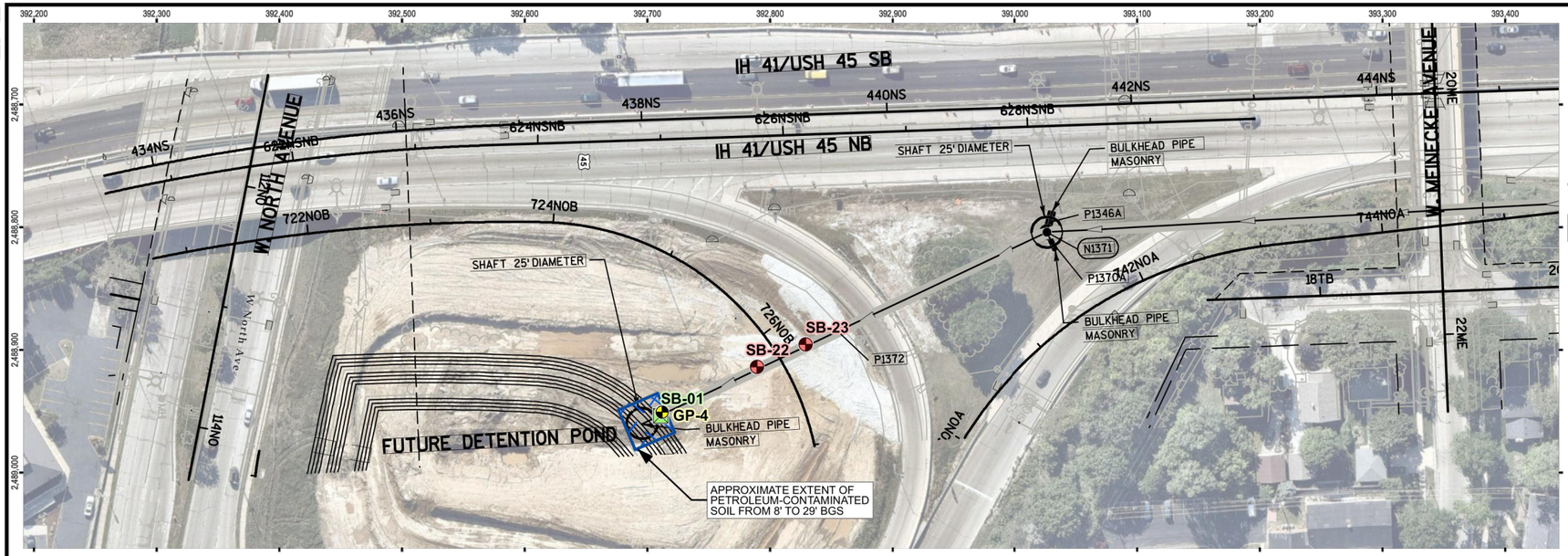

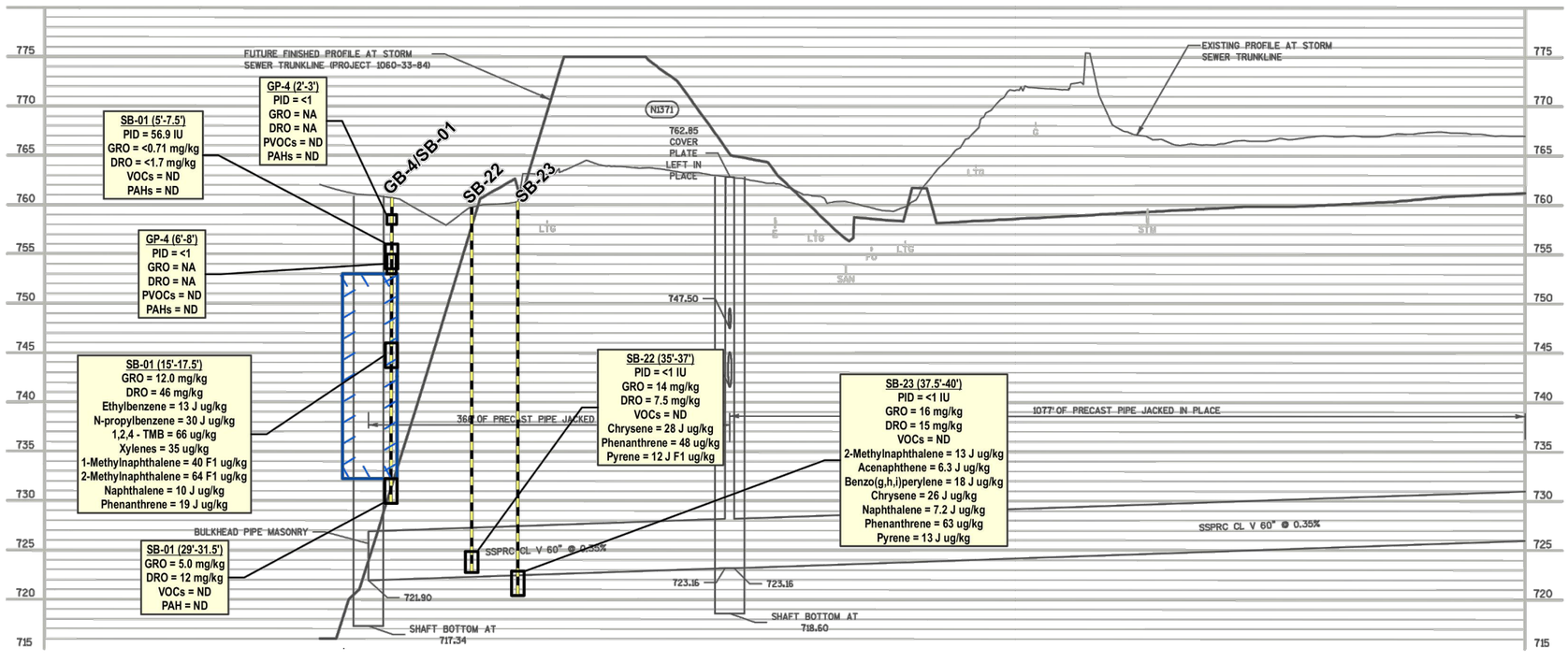

LEGEND

- GEOPROBE/TEMPORARY WELL LOCATION (1/29/2016)
- GEOPROBE LOCATION (12/18/2015)
- GEOPROBE LOCATION (8/8/2015)
- PROPOSED SHAFT & TRENCH LOCATION
- APPROXIMATE EXTENT OF PETROLEUM-CONTAMINATED SOIL FROM 8' TO 29' BGS

NOTES

1. BASE MAP IMAGERY FROM NEARMAP, 8/22/2015.
2. MAP PROJECTION AND GRID COORDINATES ARE NAD83 STATE PLANE WISCONSIN- SOUTH (US SURVEY FEET).
3. PROPOSED SHAFT/TRENCH LOCATION & CONSTRUCTION PLANS PROVIDED BY WisDOT, LOCATIONS ARE APPROXIMATE.

IU = INSTRUMENT UNITS
ND = NOT DECTED
NA= NOT ANALYZED
J = RESULT IS LESS THAN THE REPORTING LIMIT, BUT GREATER THAN OR EQUAL TO THE METHOD DETECTION LIMIT AND THE CONCENTRATION IS AN APPROXIMATE VALUE
F1 = MATRIX SPIKE AND/OR MATRIX SPIKE DUPLICATE RECOVERY IS OUTSIDE THE ACCEPTANCE LIMITS

0 100 200 Feet

1 " = 100 '
1:1,200

NOT TO SCALE (LOCATIONS ARE APPROXIMATE)

PROJECT: WISDOT ID# 1060-34-86
ZOO IC - DEEP STORM SEWER
USH 45, NORTH AVE. TO CENTER ST.
WAUWATOSA, MILWAUKEE COUNTY, WISCONSIN

TITLE: CROSS SECTION OF STORM SEWER SHAFT AND PIPE

DRAWN BY:	RHODE B	PROJ NO.:	243580
CHECKED BY:	BERGMANN B		
APPROVED BY:	MORSE J		FIGURE 3
DATE:	FEBRUARY 2016		

TRC
150 North Patrick Blvd., Suite 180
Brookfield, WI 53045
Phone: 262.879.1212
www.trcsolutions.com

FILE NO.: 243580-003.mxd

Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet (Foot US)
Map Rotation: 270
Plot Date: 2/11/2016, 11:21:51 AM by BRHODE – LAYOUT: ANSI B (11"x17")
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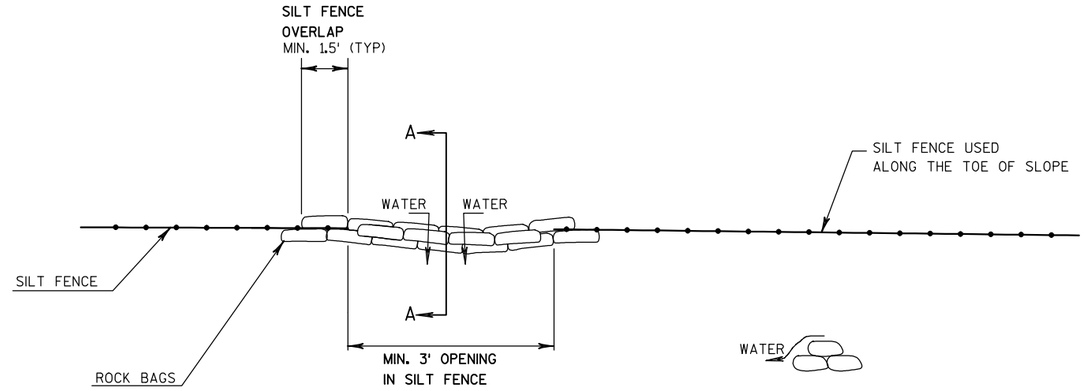
TRC - GIS

2



SECTION A-A

TOP VIEW

ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

LEGEND

EROSION MAT CLASS I TYPE B

SILT FENCE

INLET PROTECTION TYPE A

INLET PROTECTION TYPE D

EROSION BALES

NOTES:

1. INSTALL TYPE A INLET PROTECTION AS SHOWN IN THE PLANS UNTIL SITE RESTORATION IS FINALIZED. AFTER SITE RESTORATION IS FINISHED, INSTALL ALTERNATE INLET PROTECTION AS IDENTIFIED IN THE PLANS.

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	EROSION CONTROL - LEGEND	SHEET 8	E

2

N. 113TH STREET

N

USH 45 SB

USH 45 NB

430NS

432NS

434NS

436NS

438NS

440NS

442NS

444NS

W. NORTH AVENUE

N. 112TH STREET

W. MEINECKE AVENUE

PLACE ROCK BAG SILT FENCE OPENING AT LOW POINT AS DETERMINED IN THE FIELD

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 9	E

2

2

W. MEINECKE AVENUE

N. 113TH STREET

N. 112TH STREET

USH 45 SB

USH 45 NB

444NS 446NS 448NS 450NS 452NS 454NS 456NS 458N

D

INLET COVER PLATES LEFT IN PLACE UNDER PREVIOUS CONTRACT

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	EROSION CONTROL	SHEET 10	E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\022001_EC.DWG
LAYOUT NAME - 02_EC

PLOT DATE : 1/26/2016 9:10 PM PLOT BY : SCHWENN, BRANDON C PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

GENERAL DRAINAGE NOTES

LOCATION OF STRUCTURES AT BARRIER SECTION REFER TO BARRIER FLOW LINE. LOCATION OF STRUCTURES NOT IN CURB AND GUTTER SECTION REFER TO CENTER OF STRUCTURE OR AS NOTED ON PLAN.

RIM ELEVATIONS ARE GIVEN AT FLOW LINE OF INLET GRATE OR AT CENTER OF MANHOLE GRATE. SEE STRUCTURE LOCATION DETAIL.

PLAN LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND IS USED FOR ESTIMATING. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE AND IS USED TO COMPUTE PIPE SLOPE.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES AND PIPES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

UTILITY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE. LOCATIONS SHOWN ARE TAKEN FROM EXISTING RECORDS AND BEST INFORMATION AVAILABLE FROM EXISTING PLANS. IT IS EXPECTED THAT THERE MAY BE DISCREPANCIES AND OMISSIONS IN THE LOCATION OF UTILITIES AND STRUCTURES SHOWN. VERIFY ALL LOCATIONS IN THE FIELD.

COORDINATE WITH DIGGERS HOTLINE TO FIELD LOCATE UTILITIES. SHEETING SHALL NOT GO THROUGH UTILITIES. ANY UTILITIES DAMAGED DUE TO CONTRACTOR ACTIVITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE COMPLETE SATISFACTION OF THE UTILITY FACILITY.

VERIFY THE STORM SEWER SYSTEM CONNECTIONS, LOCATIONS, AND ELEVATIONS PRIOR TO ORDERING DRAINAGE STRUCTURES AND PIPES. NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE INFORMATION SHOWN ON THE PLANS PRIOR TO INSTALLING THE PROPOSED STORM SEWER.

PROVIDE TEMPORARY POSITIVE DRAINAGE THROUGHOUT THE PROJECT DURING ALL PROJECT STAGES. PROVIDING TEMPORARY POSITIVE DRAINAGE IS INCIDENTAL TO CONSTRUCTION.

SUPPORTING UTILITIES DURING STORM SEWER CONSTRUCTION IS INCIDENTAL TO STORM SEWER PIPE AND/OR STORM SEWER STRUCTURE.

STORM SEWER PLAN & PROFILE NOTE:
PLAN VIEW HIGHLIGHTS CORRESPOND TO PROFILES SHOWN IN PROFILE BELOW PLAN VIEW (SAME SHEET). STORM SEWER STRUCTURES AND PIPES LABELED IN PLAN VIEW WITHOUT HIGHLIGHT ARE SHOWN ON THE NEXT PROFILE ONLY SHEET(S).

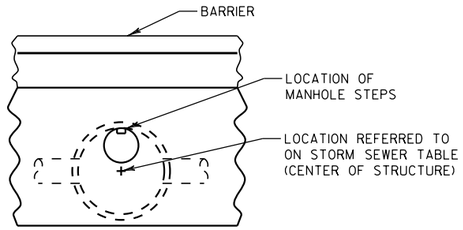
STORM SEWER LEGEND

N***	PROPOSED DRAINAGE STRUCTURE
●	PROPOSED MANHOLE
■	PROPOSED INLET
◄——	PROPOSED STORM SEWER PIPE
EXISTING PE***	EXISTING STORM SEWER PIPE
P***	PROPOSED STORM SEWER PIPE

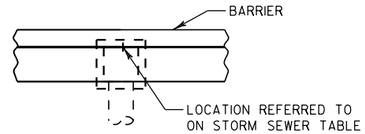
NOTE

1) LOCATION OF STRUCTURE MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

2) LOCATION AND SIZE OF STRUCTURE COVER OPENINGS DEPENDS ON TYPE OF CASTING. CASTING TYPES ARE SHOWN ON THE STORM SEWER TABLE.

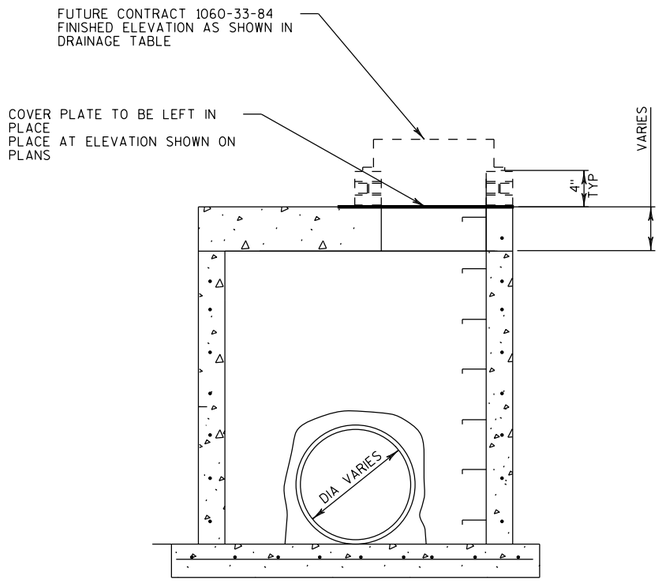


MANHOLE NOT AT BARRIER



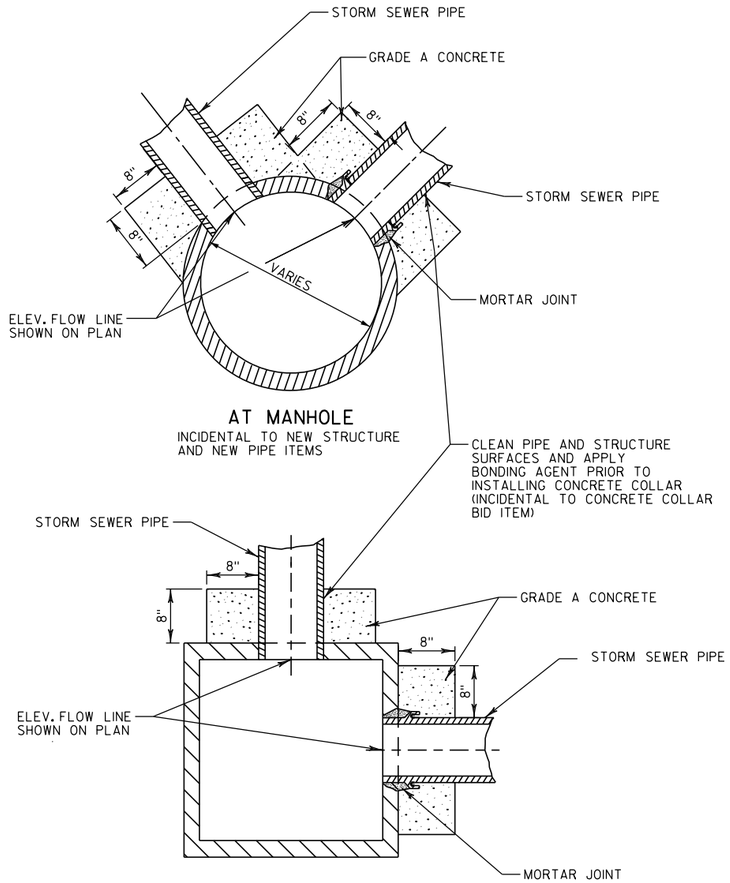
INLET AT BARRIER

STRUCTURE LOCATION DETAIL



COVER PLATE LEFT IN PLACE

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	STORM SEWER - CONSTRUCTION DETAILS	SHEET	E



AT MANHOLE

INCIDENTAL TO NEW STRUCTURE AND NEW PIPE ITEMS

AT STORM SEWER INLET

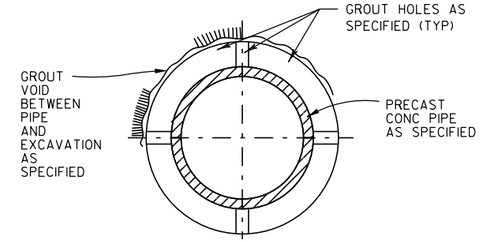
INCIDENTAL TO NEW STRUCTURE AND NEW PIPE ITEMS

NOTE

CONCRETE COLLAR TO BE PAID AS A BID ITEM WHEN CONNECTING AN EXISTING PIPE TO A NEW STRUCTURE.

CONCRETE COLLAR DETAIL

FOR LOCATIONS SEE MISCELLANEOUS QUANTITIES SHEETS

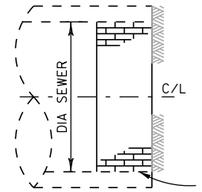


TYPICAL SECTION

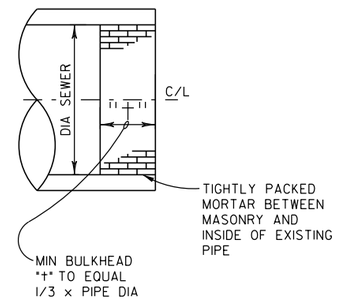
PRECAST PIPE JACKED IN PLACE

NTS

TO BE PAID FOR AS PART OF TUNNEL EXCAVATION



REMOVING BULKHEAD



BULKHEAD PIPE MASONRY

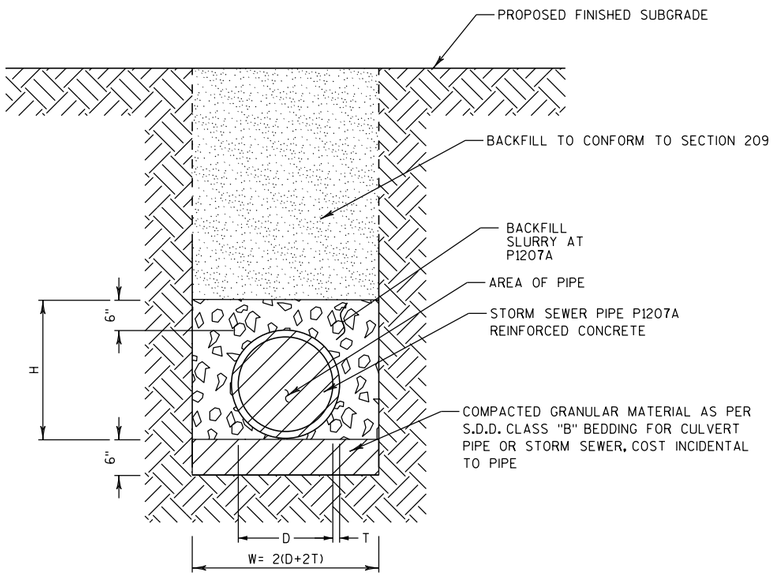
ITEM TO BE PAID FOR UNDER ITEM "SEALING PIPES"
FOR LOCATIONS SEE MISCELLANEOUS QUANTITIES SHEETS

2

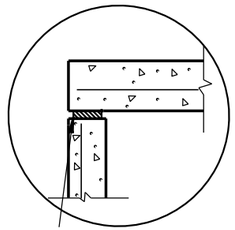
BACKFILL SLURRY TRENCHES (FOR INFORMATION ONLY)

PIPE DIAMETER D	Wall Thickness T	Trench Width W	Height of Pipe Zone H (From pipe bottom to 6" above top of pipe)	Area of Pipe Zone	Area of Pipe	Backfill Slurry Area
INCHES	Inches	FT		SF	SF	SF
24	3.00	5.00	3.00	15.00	4.91	10.09

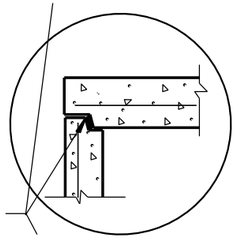
BACKFILL SLURRY VOLUME (CUBIC YARDS) = $\frac{\text{(PIPE ZONE AREA - PIPE AREA) X PIPE PLAN LENGTH}}{27}$



BACKFILL SLURRY DETAIL - STORM SEWER TRENCH - P1207A

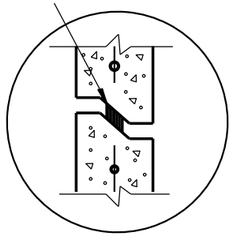


TOP WITH PLAIN END JOINT



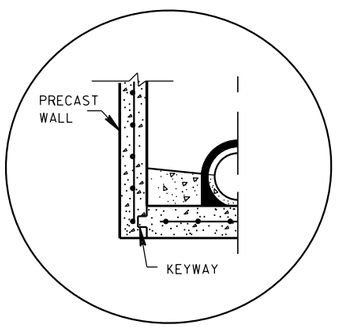
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT

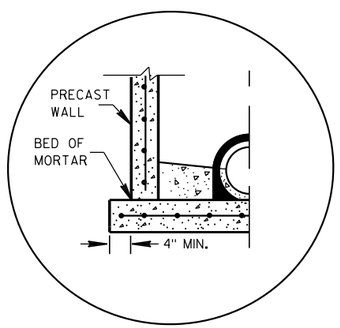


RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"



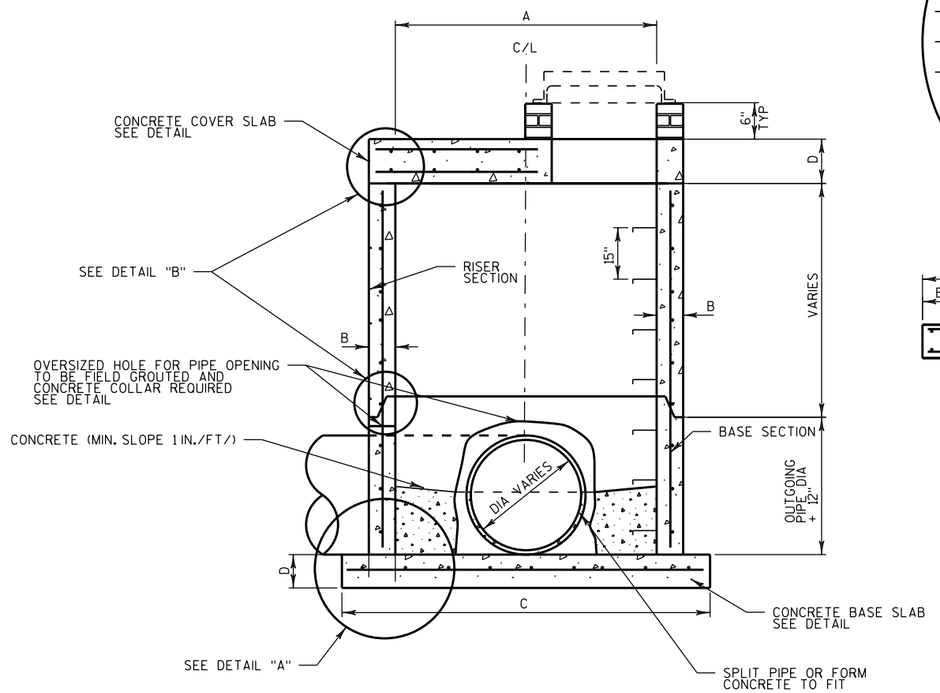
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"

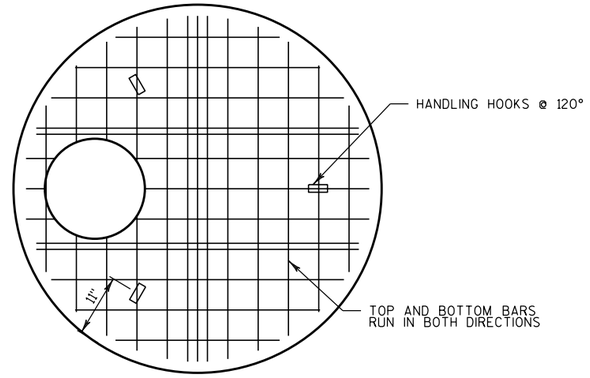
	A	B	C	D
MANHOLE 9-FT SPECIAL	108"	10"	132"	12"

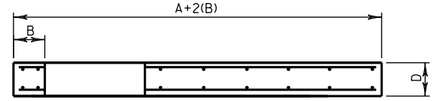


MANHOLE 9-FT SPECIAL

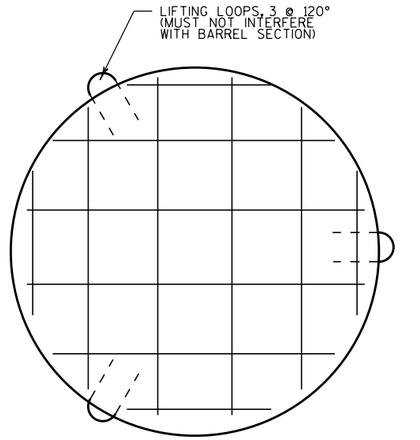
NOTES

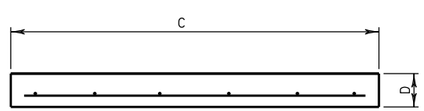
1) REINFORCING COMPLIES WITH ASTM C-478.
2) STEPS PLACED AT 15". STEPS COMPLY WITH ASTM C-478.
3) RISER & SLABS DESIGN FOR HS20 LOADING.



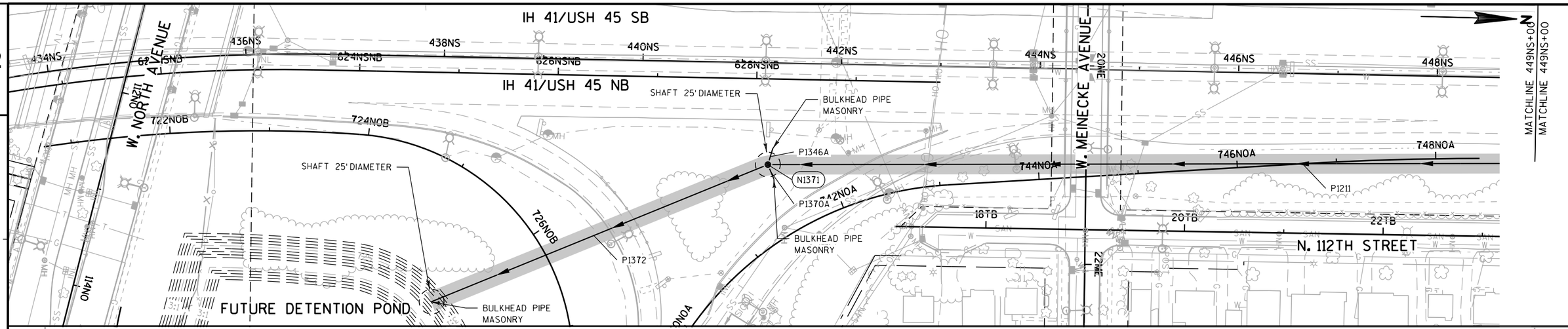


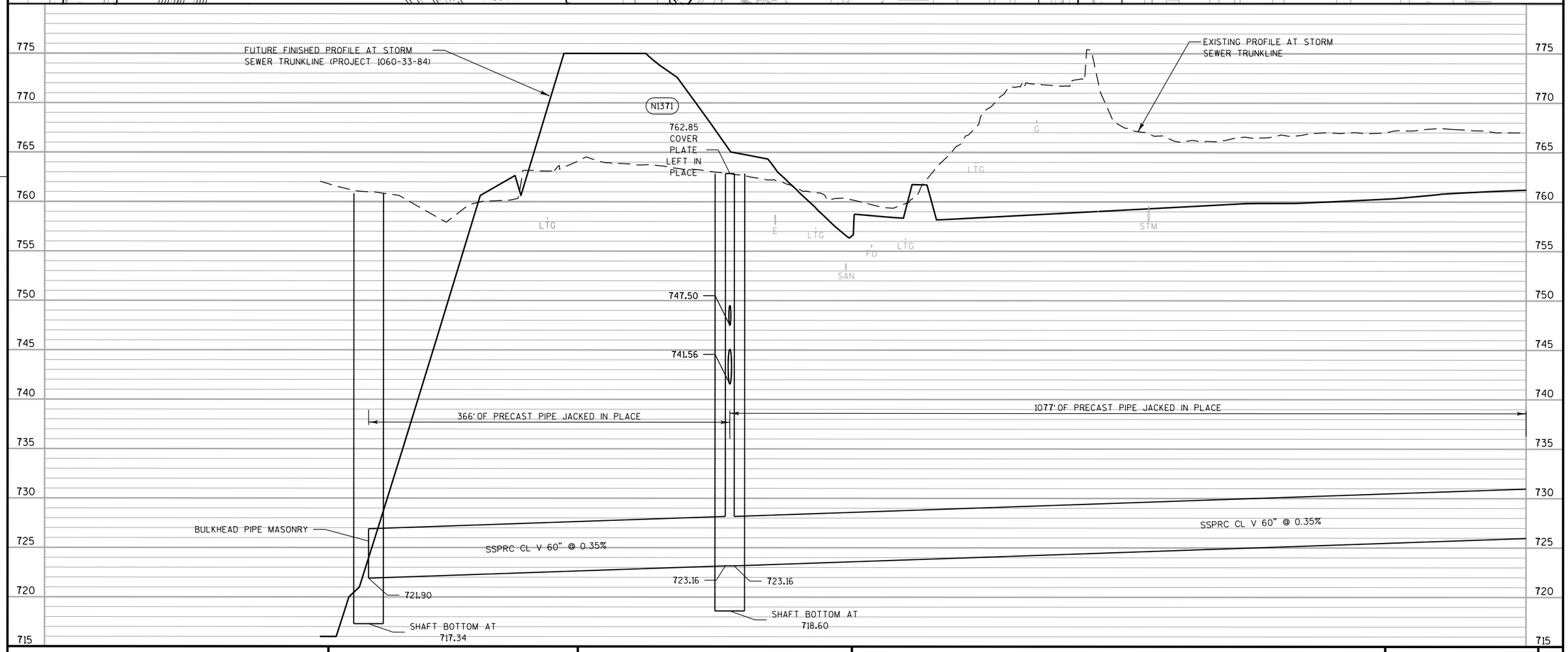
CONCRETE COVER SLAB



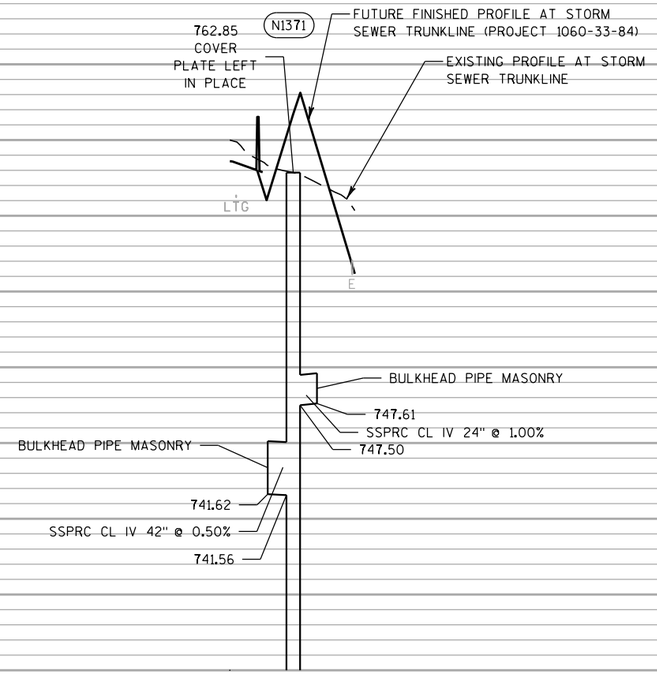


CONCRETE BASE SLAB





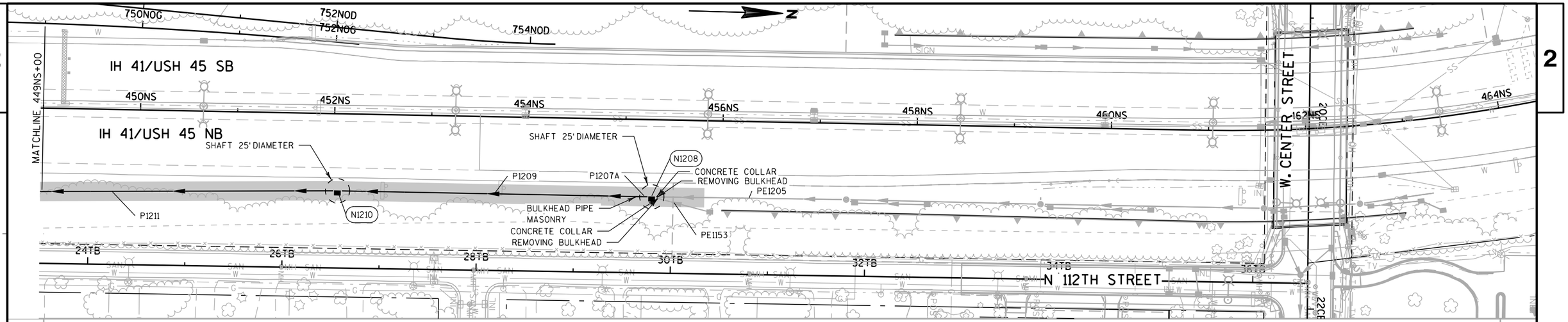
PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	STORM SEWER	SHEET	E

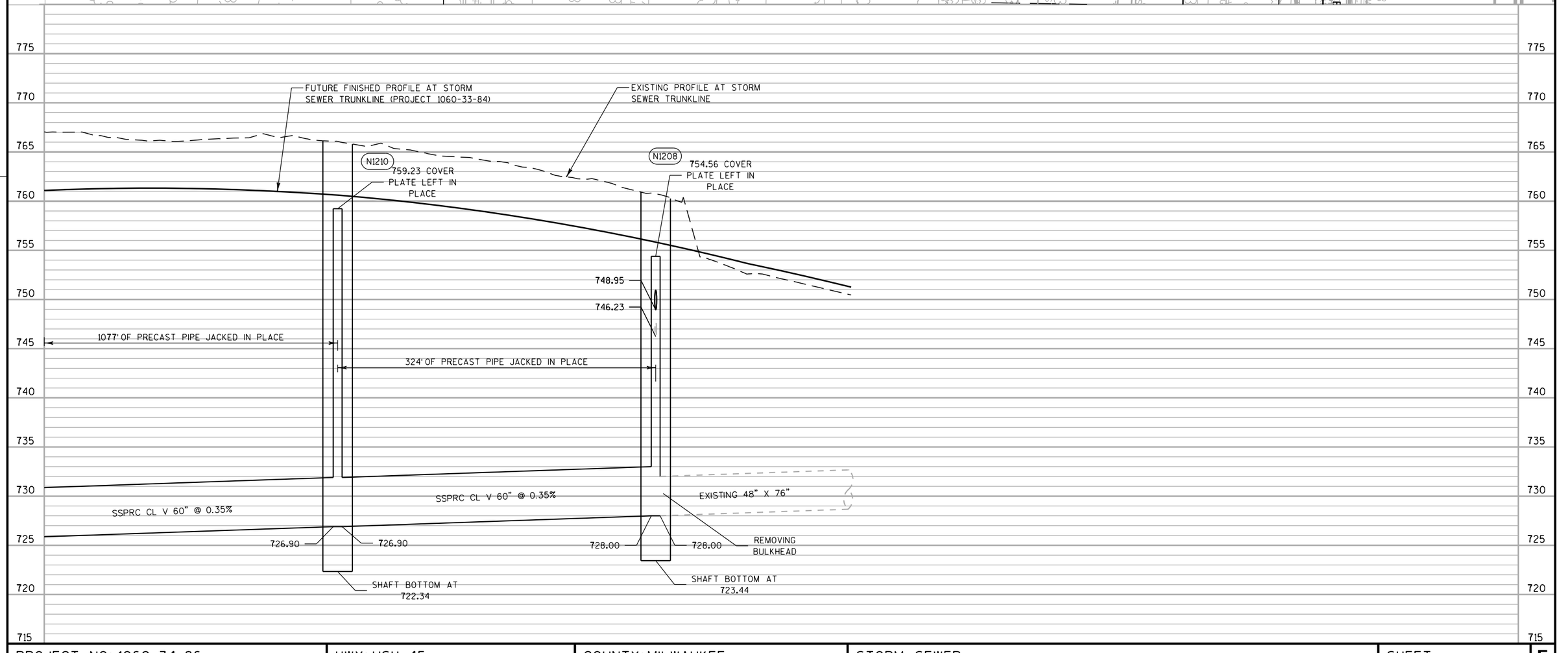


2

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	STORM SEWER	SHEET	E

FILE NAME : W:\Cadd\Final\10603486_ZN5\Roads\cds\022525a_ss.dgn PLOT DATE : 14-JAN-2016 07:54 PLOT BY : MSCJXF PLOT NAME : 022525a_ss PLOT SCALE : 100:1

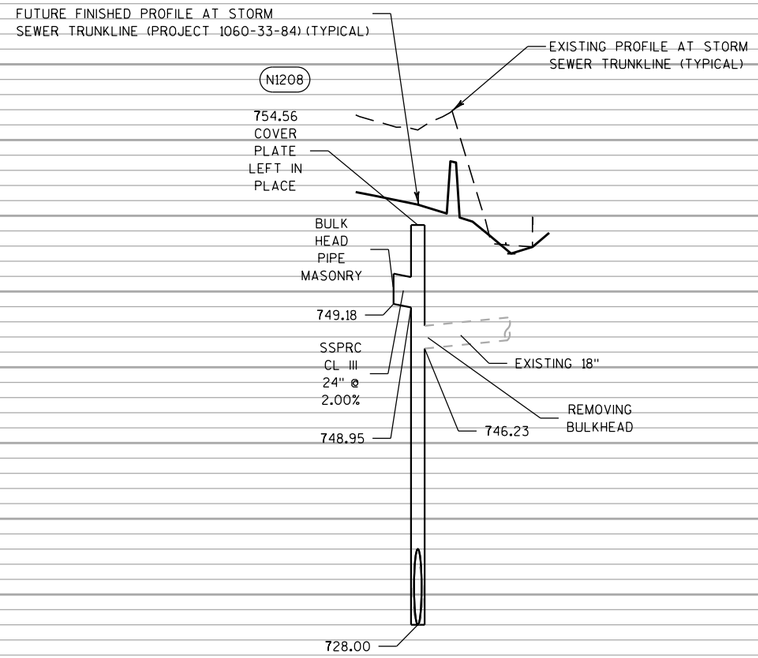




PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	STORM SEWER	SHEET E

FILE NAME : W:\Cadd\Final\10603486_ZN5\Roads\cds\022527_ss.dgn PLOT DATE : 14-JAN-2016 07:54 PLOT BY : MSCJXF PLOT NAME : 022527_ss PLOT SCALE : 100:1

WISDOT/CADDS SHEET 41



2

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	STORM SEWER	SHEET	E

LEGEND

EXISTING SIGN MOUNTED ON POST(S)

PROPOSED SIGN MOUNTED ON POST(S)

(XXX) DENOTES SIGN NUMBER

(X) INDICATES SIGN SIZE

2

W4-2R

TYPE II SIGN
MOVE
REMOVE DURING CONSTRUCTION.
REPLACE AFTER COMPLETION
OF PROJECT

W. CLARKE ST.

N. 113TH ST.

USH 45 SB

USH 45 NB

450NS 452NS 454NS 456NS 458NS 460NS 462NS 464NS

EXISTING LOCATION

NEW TEMPORARY LOCATION

TEMPORARILY MOVE TO APPROXIMATELY 456+50NS, BETWEEN EXISTING RETAINING WALL AND EXISTING TEMP CONCRETE BARRIER LEFT IN PLACE

N. 112TH ST.

W. CLARKE ST.

CENTER ST.

1

EXIT 43

Burleigh St

1/2 MILE

TYPE I SIGN
MOVE TEMPORARILY TO WOOD
POSTS (STATION 456+50)
AND THEN TO STEEL POSTS
AT END OF PROJECT
(STATION 452+50)

N

SHEET 1 OF 1

PROJECT NO: 1060-34-86	HWY: IH 41	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET 19	E

FILE NAME : W:\PDS\C3D\CAD\10603486\SIGN\023201_PS.DWG
LAYOUT NAME - ****

PLOT DATE : 1/27/2016 7:25 AM PLOT BY : VANDE LEEST, CYNTHIA PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

GENERAL NOTES FOR TRAFFIC CONTROL

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

2) LOCAL STREETS - A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER.
FLAGGING IS NOT PERMITTED ON FREEWAY LANES.

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

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

5) FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C STEADY BURN WARNING LIGHT.

6) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

7) DIMENSIONS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF BARRIER ADJACENT TO TRAFFIC. STATION CALL-OUTS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF BARRIER.

8) TRAFFIC CONTROL DRUM SPACING SHALL BE 50' UNLESS OTHERWISE NOTED.

9) REMOVE ANY PAVEMENT MARKINGS THAT CONFLICT WITH TEMPORARY PAVEMENT MARKINGS SHOWN IN THIS TRAFFIC CONTROL PLAN, OR AS DIRECTED BY THE ENGINEER.

10) REMOVE OR COVER ANY SIGNS THAT CONFLICT WITH THIS TRAFFIC CONTROL PLAN, OR AS DIRECTED BY THE ENGINEER.

2

LEGEND

- SIGN ON PERMANENT SUPPORT
- CC — CRASH CUSHION TEMPORARY
- WORK ZONE THIS STAGE
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- TRAFFIC FLOW ARROW

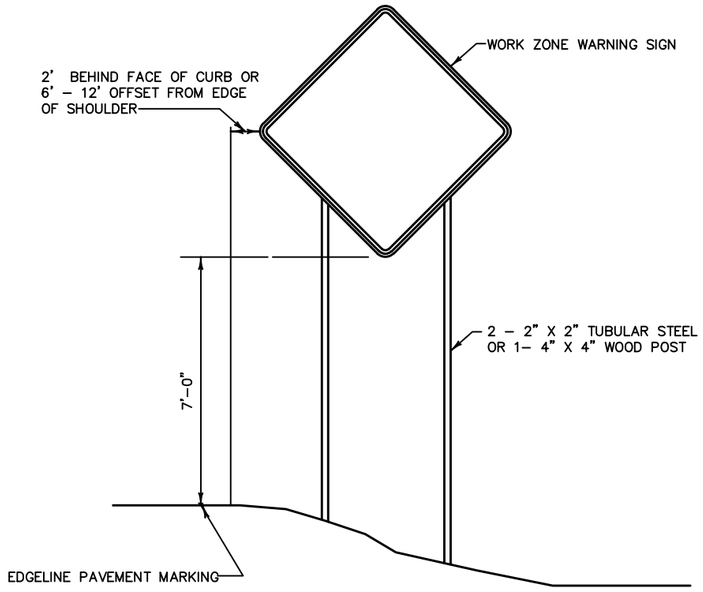
TEMPORARY PAVEMENT MARKING LEGEND

(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(19) PAVEMENT MARKING ARROWS EPOXY TYPE 5 (WHITE)

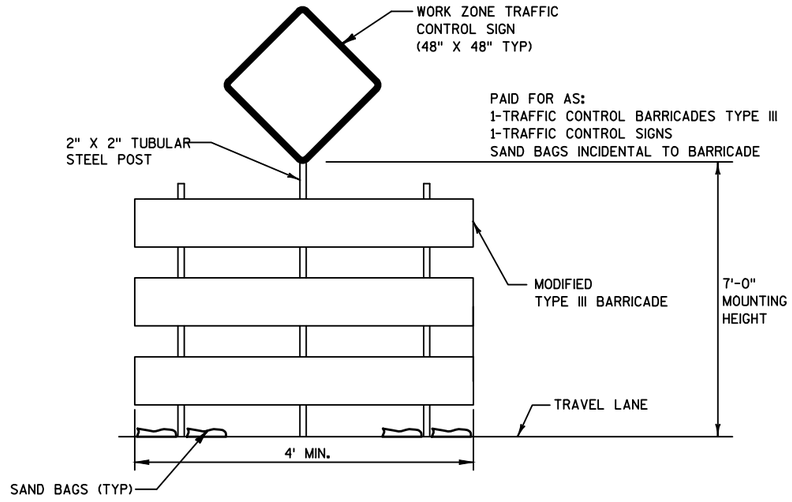
PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL NOTES AND LEGENDS	SHEET 20	E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\025100_TC.DWG
LAYOUT NAME - ****
PLOT DATE : 1/26/2016 9:14 PM PLOT BY : SCHWENN, BRANDON C PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



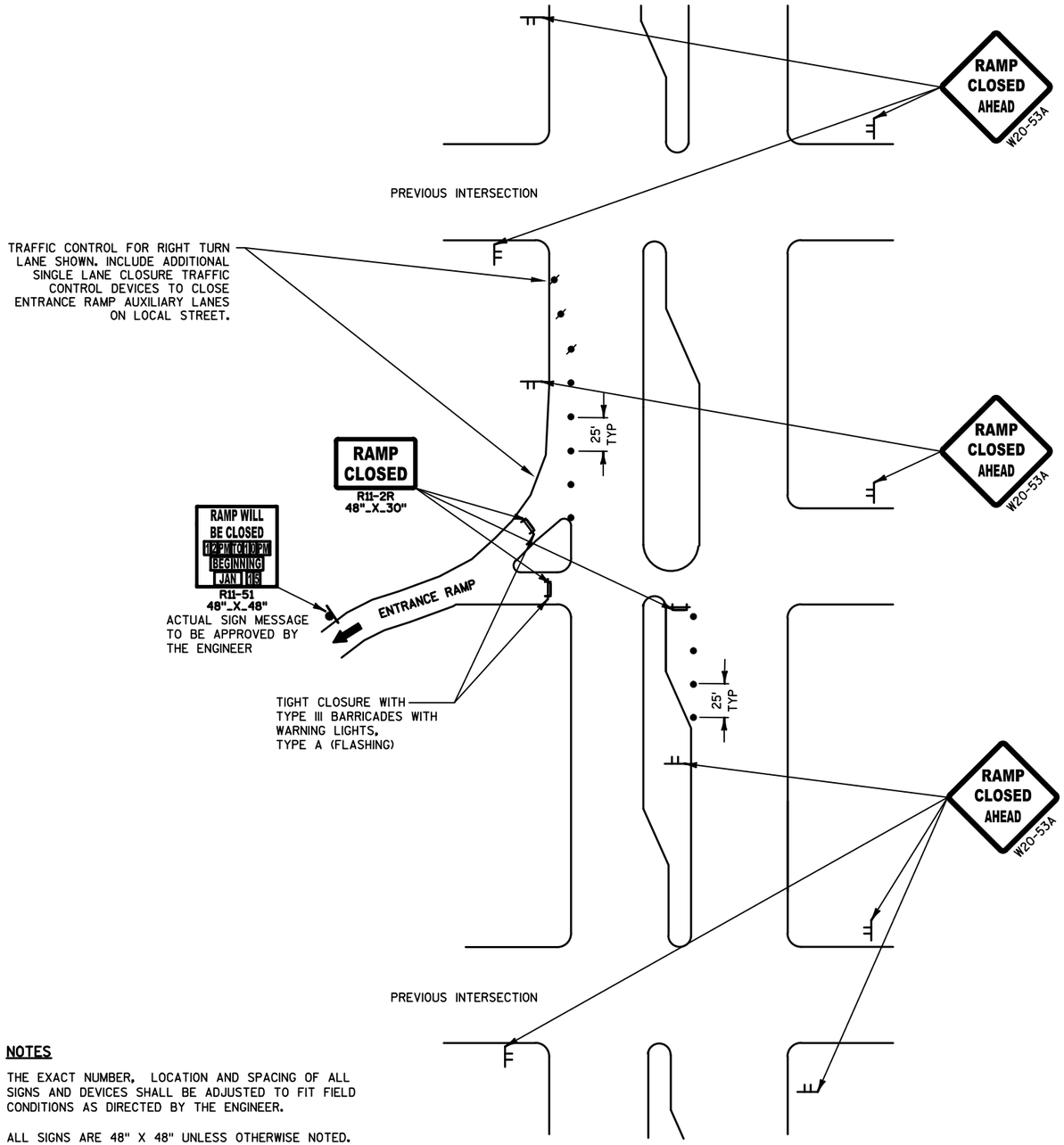
TYPICAL TEMPORARY TRAFFIC CONTROL SIGN
MOUNTING ON FIXED SUPPORT

LONG TERM
7 DAYS OR MORE



TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL
MOUNTING ON TEMPORARY SUPPORT

2



NOTES

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

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

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

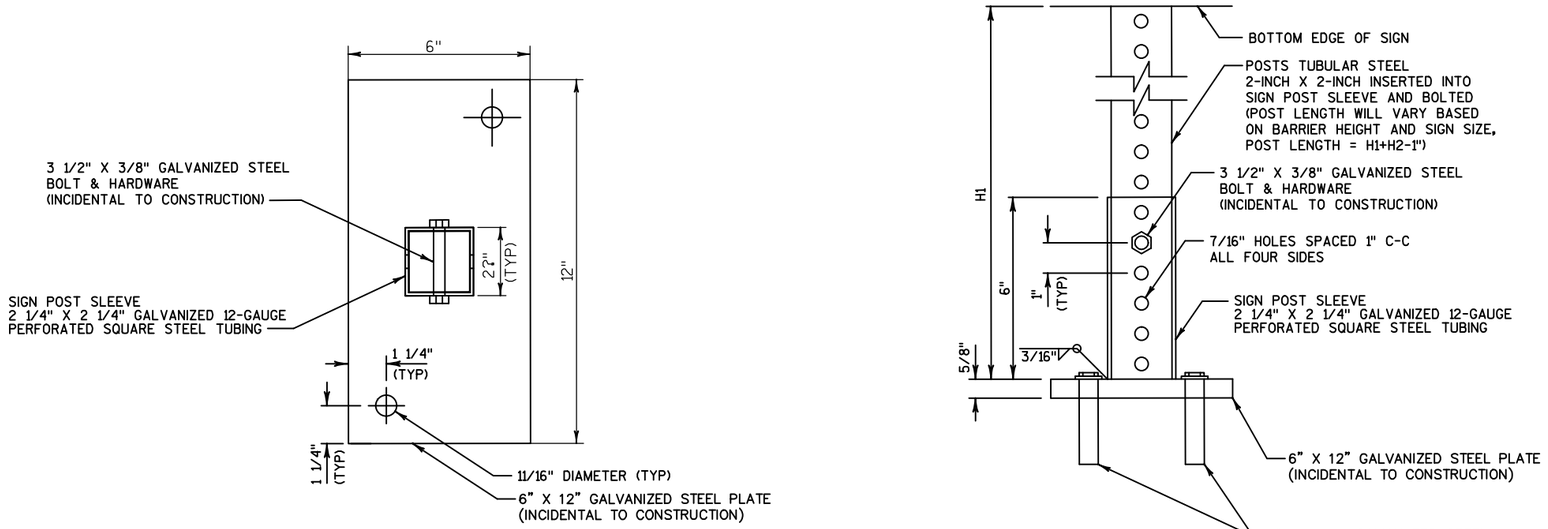
LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH LIGHT TYPE C
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL III BARRICADE FOR SHORT TERM 3 DAYS OR LESS
- TRAFFIC CONTROL III BARRICADE WITH LIGHT TYPE A AND ATTACHED SIGN
- DIRECTION OF TRAFFIC

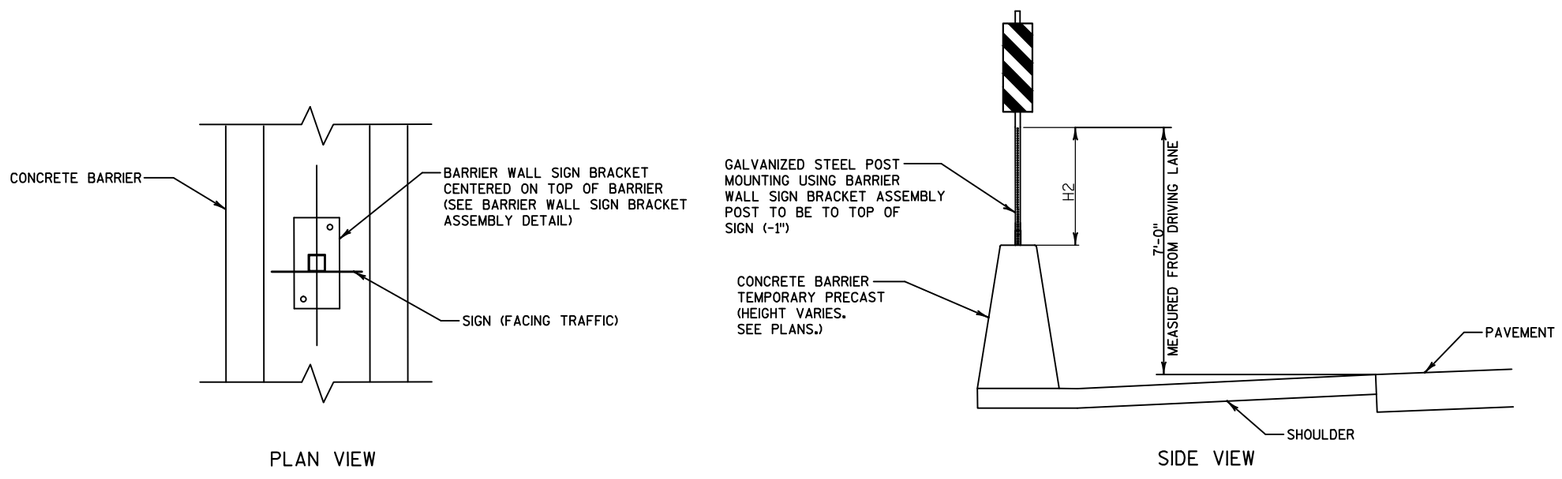
TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

(SHORT TERM ONLY)

2



BARRIER WALL SIGN BRACKET ASSEMBLY DETAIL

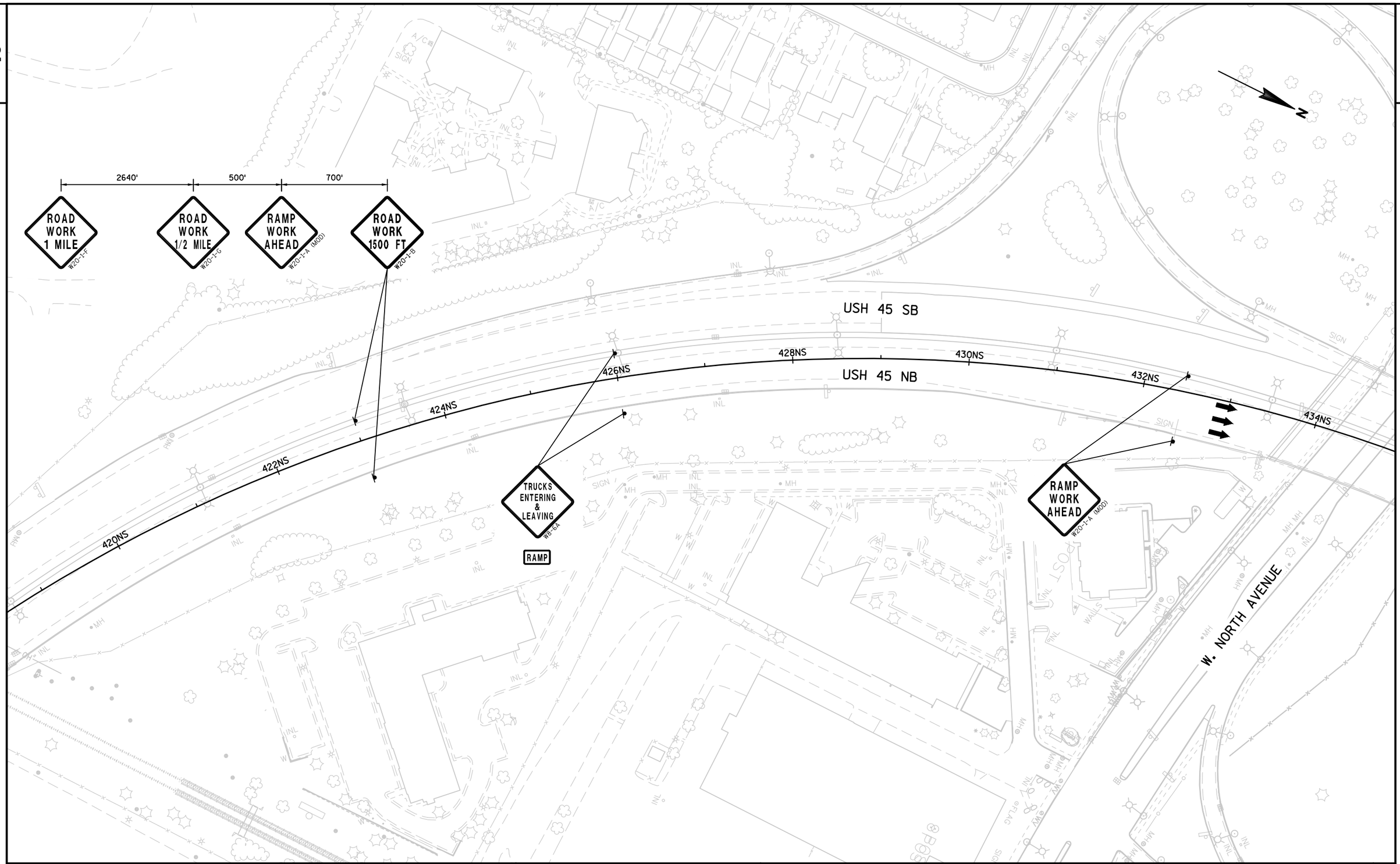


MEDIAN BARRIER MOUNTING DETAIL

MOUNTING SIGNS TO MEDIAN BARRIER

NOT TO SCALE

2



PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SHEET 24	E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\025101_TC.DWG
LAYOUT NAME - 1_TC
PLOT DATE : 1/8/2016 10:40 AM PLOT BY : SCHWENN, BRANDON C PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

N. 113TH STREET

439+00.23NS
56.58' RT
BEGIN CONCRETE BARRIER
TEMPORARY PRECAST
JOIN WITH THRIE
BEAM CONNECTION

438+67.99NS
56.60' RT
BEGIN CONCRETE BARRIER
TEMPORARY PRECAST

USH 45 SB

USH 45 NB

434NS 436NS 438NS 440NS 442NS 444NS 446NS 448N

8' SHY

442+25.00NS
55.68' RT
END CONCRETE BARRIER
TEMPORARY PRECAST

445+00.82NS
68.78' RT

SHY 4'

+11NS

2

439+47.94NS
113.21' RT

30*

5' SHY

PLACE TEMPORARY BARRIER
IN FRONT OF EXISTING
BEAM GUARD

442+25.00NS
103.83' RT
END CONCRETE BARRIER
TEMPORARY PRECAST

4' SHY

444+70.21NS
66.72' RT
BEGIN CONCRETE BARRIER
TEMPORARY PRECAST.
CONNECT TO EXISTING BARRIER.
SEE SDD CONCRETE BARRIER
TEMPORARY PRECAST 12'-6"

N. 112TH STREET

W. NORTH AVENUE

W. MEINECKE AVENUE

W104-2R

RAMP

440+20.42NS
232.54' RT
END CONCRETE BARRIER
TEMPORARY PRECAST

15' SHY

440+70.00NS
256.85' RT
BEGIN CONCRETE BARRIER
TEMPORARY PRECAST.
CONNECT TO EXISTING BARRIER.
SEE SDD CONCRETE BARRIER
TEMPORARY PRECAST 12'-6"

RAMP
NARROWS
W05-1 (MOD)

NOTE:
ZOO IC, PHASE II CONTRACTOR USING
ADJACENT LOOP RAMP INFIELD FOR
STAGING. THIS AREA WILL BE
UNAVAILABLE FOR THE DURATION OF
THIS CONTRACT.

ROAD
WORK
AHEAD
W20-1-A

*PROVIDE 30' MINIMUM CLEAR DISTANCE
FROM BACK OF CURB. NO STORAGE OR
STOCKPILING OF MATERIALS WILL BE
PERMITTED ADJACENT TO THE RAMP
WITHIN THIS DISTANCE.

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SHEET 25	E

2

2

N

N. 113TH STREET

USH 45 SB

USH 45 NB

448NS 450NS 452NS 454NS 456NS 458NS 460NS 462NS

+50NS

4' SHY

4' SHY

19

2

451+00.00NS
61.09' RT
BEGIN 30:1 TAPER

454+60.00NS
47.76' RT
END 30:1 TAPER

456+30.00NS
47.30' RT
END CONCRETE BARRIER
TEMPORARY PRECAST

END
ROAD WORK
G20-2A
48"X24"

W04-2R

RAMP

W05-52R
18"X54"

W05-52R
18"X54"

N. 112TH STREET

W. CENTER STREET

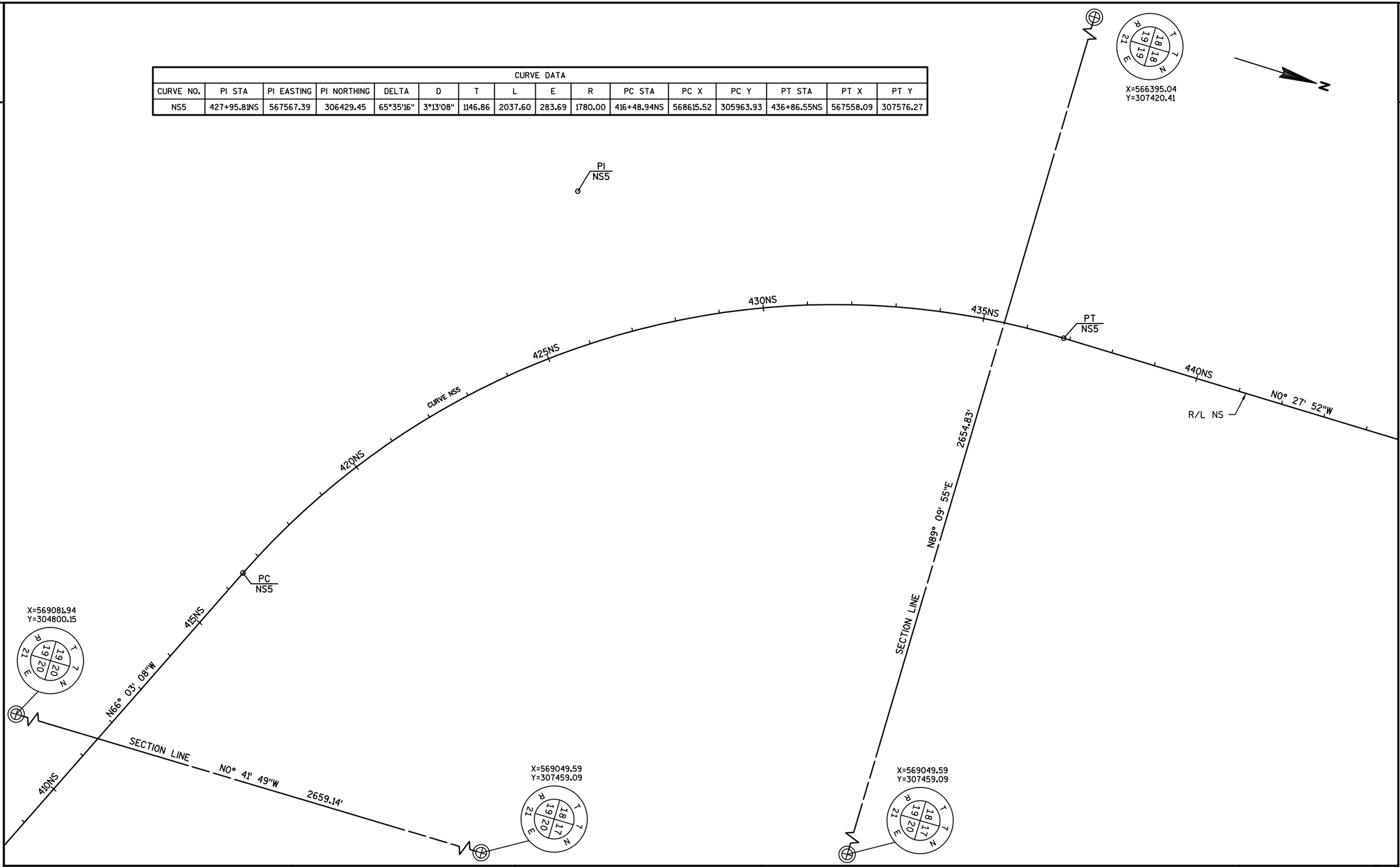
NOTE:
SHAFT LOCATIONS AT MANHOLES N1208 AND N1210 WILL NOT BE AVAILABLE FOR STAGING OR CONSTRUCTION UNTIL AFTER SEPT. 5, 2016, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	TRAFFIC CONTROL	SHEET 26	E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\025101_TC.DWG
LAYOUT NAME - 3_TC

PLOT DATE : 1/26/2016 9:58 PM PLOT BY : SCHWENN, BRANDON C PLOT NAME : PLOT SCALE : 1 IN:100 FT

CURVE DATA															
CURVE NO.	PI STA	PI EASTING	PI NORTHING	DELTA	D	T	L	E	R	PC STA	PC X	PC Y	PT STA	PT X	PT Y
NS5	427+95.81NS	567567.39	306429.45	65°35'16"	3°13'08"	1146.86	2037.60	283.69	1780.00	416+48.94NS	568615.52	305963.93	436+86.55NS	567558.09	307576.27



PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT	SHEET 27	E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\027201_AD.DWG
LAYOUT NAME - 027201_AD - 02_AD

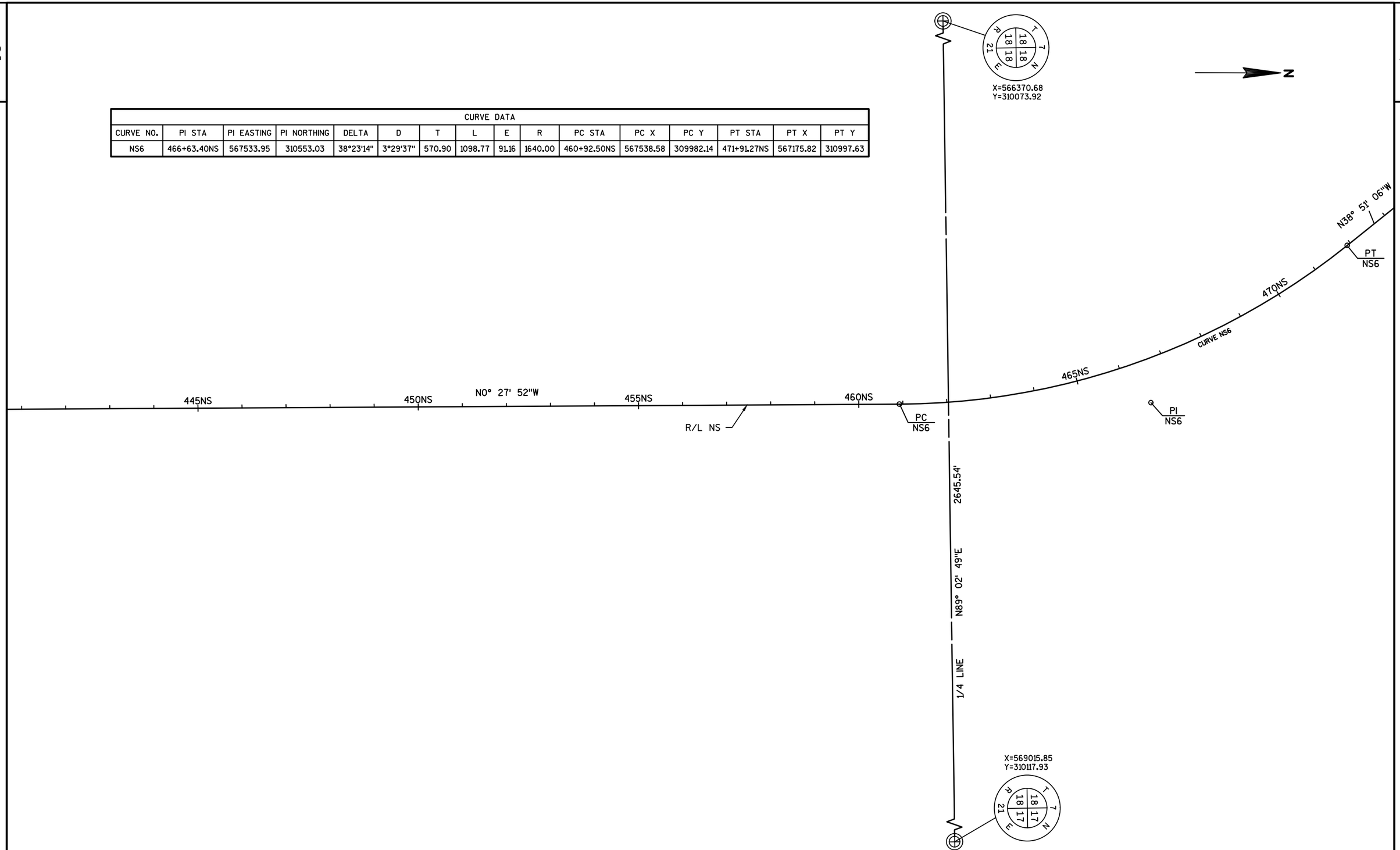
PLOT DATE : 1/13/2016 12:22 PM PLOT BY : SCHWENN, BRANDON C PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42

2

CURVE DATA															
CURVE NO.	PI STA	PI EASTING	PI NORTHING	DELTA	D	T	L	E	R	PC STA	PC X	PC Y	PT STA	PT X	PT Y
NS6	466+63.40NS	567533.95	310553.03	38°23'14"	3°29'37"	570.90	1098.77	91.16	1640.00	460+92.50NS	567538.58	309982.14	471+91.27NS	567175.82	310997.63



PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT	SHEET 28	E

2

2

N

CITY OF WAUWATOSA

W. NORTH AVENUE

W. MEINECKE AVENUE

W. CLARKE STREET

CP 642

BM 908

BM 907

CP 643

N. 113TH STREET

USH 45 SB

USH 45 NB

BM 909

CP 641

BM 911

N. 112TH STREET

W. CLARKE STREET

W. CENTER STREET

CP 640

CP 638

CITY OF WAUWATOSA

UNION PACIFIC RAILROAD

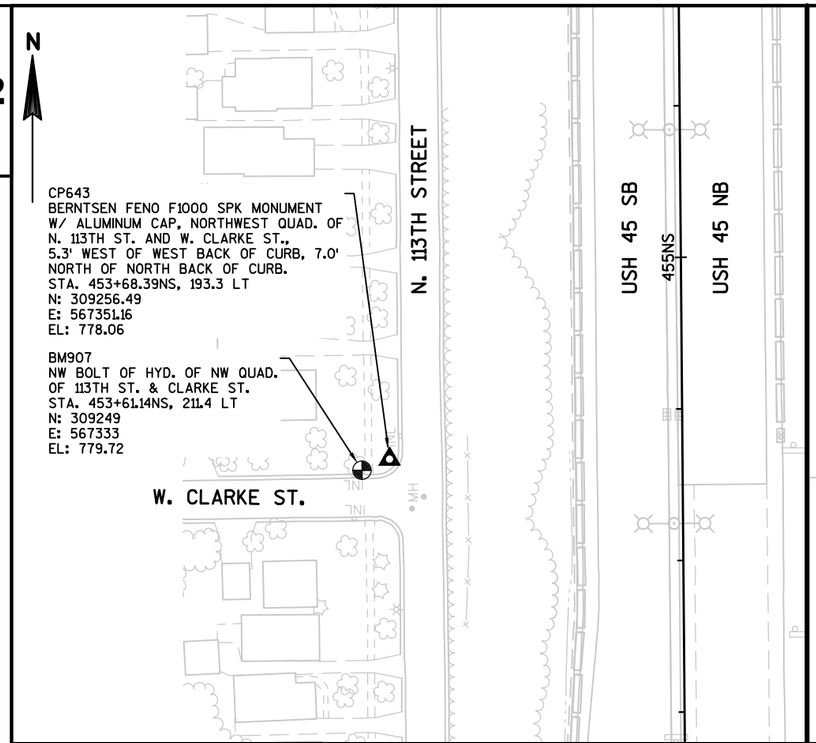
PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT SURVEY CONTROL OVERVIEW	SHEET 29	E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\027210_AD_CP.DWG
LAYOUT NAME - ****

PLOT DATE : 1/12/2016 10:17 AM PLOT BY : SCHWENN, BRANDON C PLOT NAME : PLOT SCALE : 1 IN:200 FT

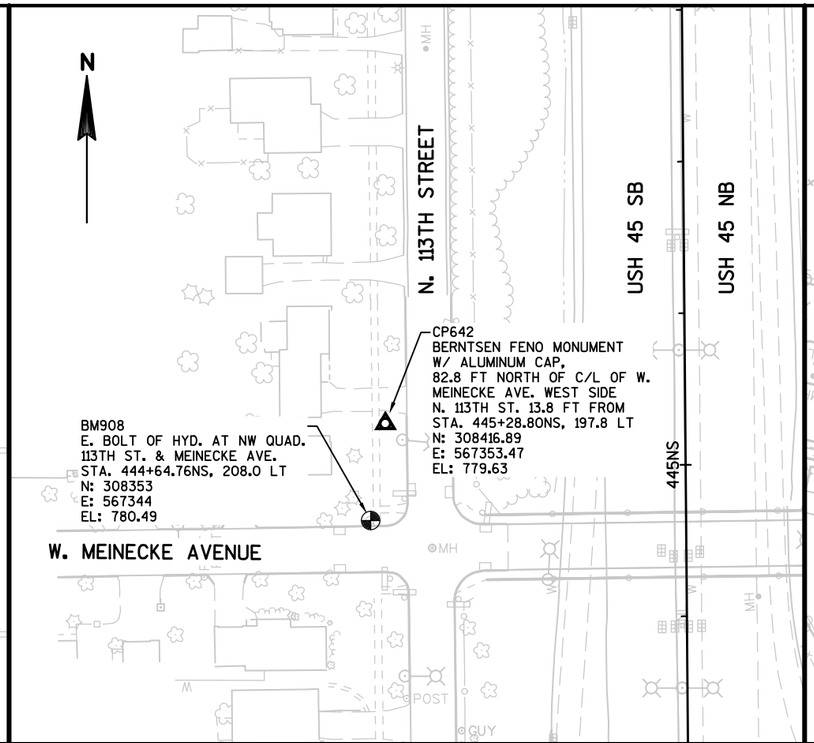
WISDOT/CADDS SHEET 42

2



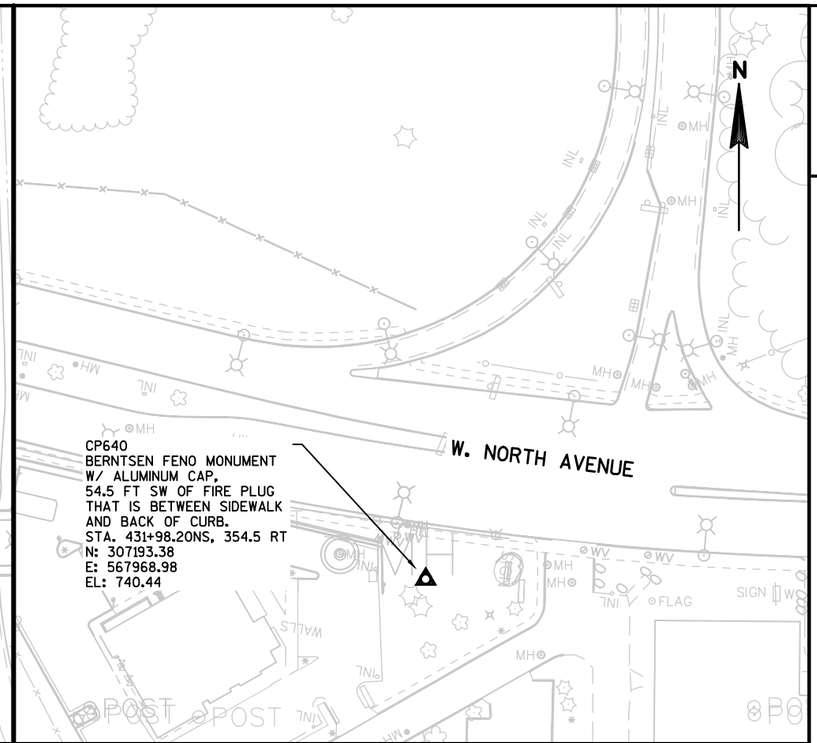
CP643
BERNTSEN FENO F1000 SPK MONUMENT
W/ ALUMINUM CAP, NORTHWEST QUAD. OF
N. 113TH ST. AND W. CLARKE ST.,
5.3' WEST OF WEST BACK OF CURB, 7.0'
NORTH OF NORTH BACK OF CURB.
STA. 453+68.39NS, 193.3 LT
N: 309256.49
E: 567351.16
EL: 778.06

BM907
NW BOLT OF HYD. OF NW QUAD.
OF 113TH ST. & CLARKE ST.
STA. 453+61.14NS, 211.4 LT
N: 309249
E: 567333
EL: 779.72



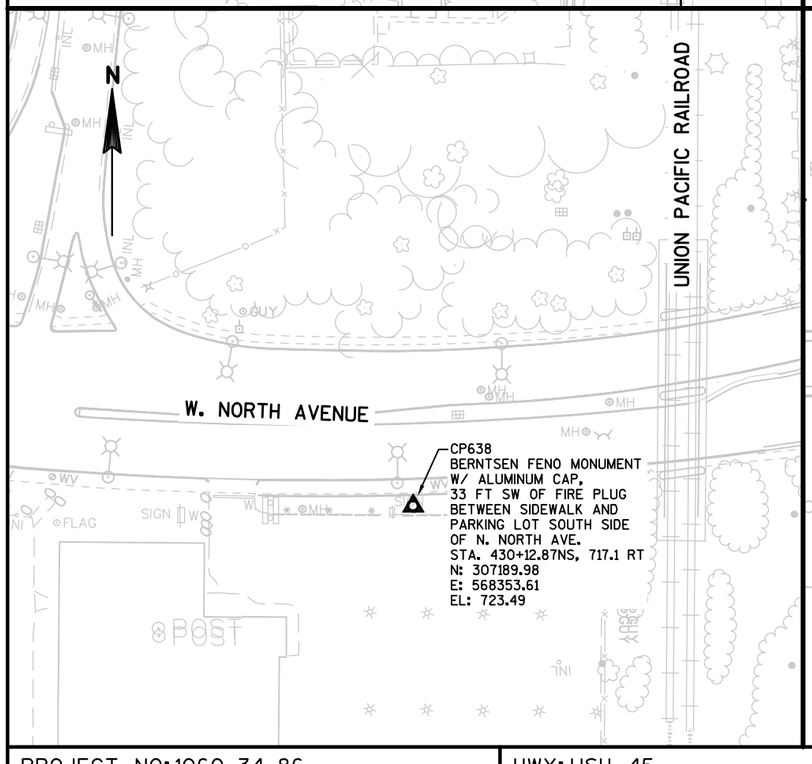
CP642
BERNTSEN FENO MONUMENT
W/ ALUMINUM CAP,
82.8 FT NORTH OF C/L OF W.
MEINECKE AVE. WEST SIDE
N. 113TH ST. 13.8 FT FROM
STA. 445+28.80NS, 197.8 LT
N: 308416.89
E: 567353.47
EL: 779.63

BM908
E. BOLT OF HYD. AT NW QUAD.
113TH ST. & MEINECKE AVE.
STA. 444+64.76NS, 208.0 LT
N: 308353
E: 567344
EL: 780.49

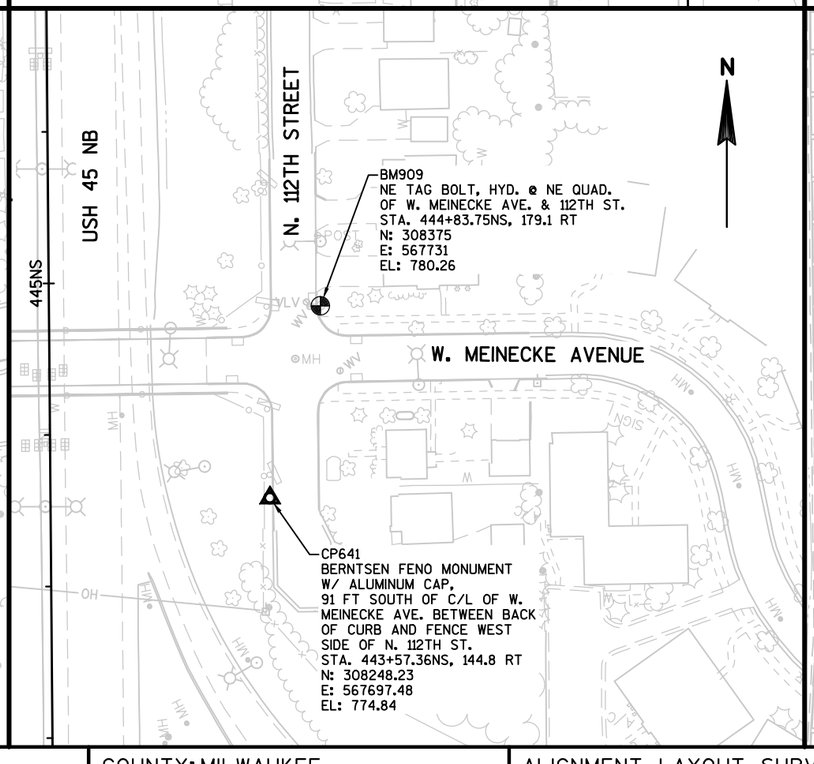


CP640
BERNTSEN FENO MONUMENT
W/ ALUMINUM CAP,
54.5 FT SW OF FIRE PLUG
THAT IS BETWEEN SIDEWALK
AND BACK OF CURB.
STA. 431+98.20NS, 354.5 RT
N: 307193.38
E: 567968.98
EL: 740.44

2

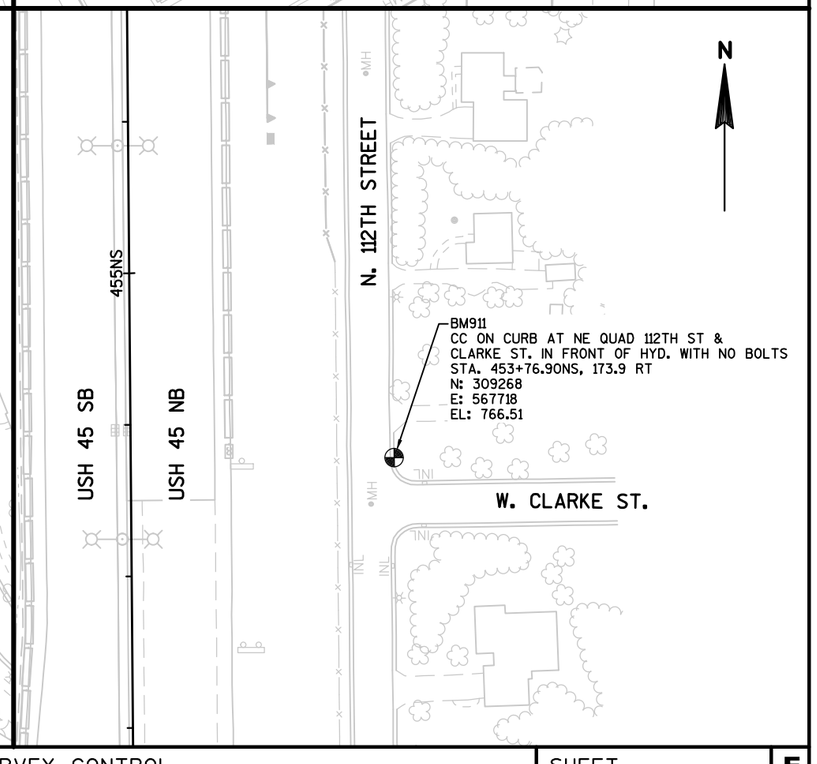


CP638
BERNTSEN FENO MONUMENT
W/ ALUMINUM CAP,
33 FT SW OF FIRE PLUG
BETWEEN SIDEWALK AND
PARKING LOT SOUTH SIDE
OF N. NORTH AVE.
STA. 430+12.87NS, 717.1 RT
N: 307189.98
E: 568353.61
EL: 723.49



BM909
NE TAG BOLT, HYD. @ NE QUAD.
OF W. MEINECKE AVE. & 112TH ST.
STA. 444+83.75NS, 179.1 RT
N: 308375
E: 567731
EL: 780.26

CP641
BERNTSEN FENO MONUMENT
W/ ALUMINUM CAP,
91 FT SOUTH OF C/L OF W.
MEINECKE AVE. BETWEEN BACK
OF CURB AND FENCE WEST
SIDE OF N. 112TH ST.
STA. 443+57.36NS, 144.8 RT
N: 308248.23
E: 567697.48
EL: 774.84



BM911
CC ON CURB AT NE QUAD 112TH ST &
CLARKE ST. IN FRONT OF HYD. WITH NO BOLTS
STA. 453+76.90NS, 173.9 RT
N: 309268
E: 567718
EL: 766.51

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	ALIGNMENT LAYOUT SURVEY CONTROL	SHEET 30	E

DATE 09MAR16 — E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-34-86 QUANTITY
0010	108.4400	CPM Progress Schedule	EACH	1.000	1.000
0020	204.0280	Sealing Pipes	EACH	4.000	4.000
0030	204.9060.S	Removing (item description) 0001. CRASH CUSHION	EACH	1.000	1.000
0040	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	650.000	650.000
0050	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0060	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,825.000	1,825.000
0070	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,038.000	2,038.000
0080	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	16.000	16.000
0090	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	16.000	16.000
0100	608.0442	Storm Sewer Pipe Reinforced Concrete Class IV 42-Inch	LF	17.000	17.000
0110	619.1000	Mobilization	EACH	1.000	1.000
0120	624.0100	Water	MGAL	4.000	4.000
0130	628.1104	Erosion Bales	EACH	60.000	60.000
0140	628.1504	Silt Fence	LF	2,450.000	2,450.000
0150	628.1520	Silt Fence Maintenance	LF	2,450.000	2,450.000
0160	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0170	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0180	628.2004	Erosion Mat Class I Type B	SY	11,000.000	11,000.000
0190	628.7005	Inlet Protection Type A	EACH	3.000	3.000
0200	628.7020	Inlet Protection Type D	EACH	21.000	21.000
0210	628.7560	Tracking Pads	EACH	5.000	5.000
0220	628.7570	Rock Bags	EACH	80.000	80.000
0230	629.0205	Fertilizer Type A	CWT	2.600	2.600
0240	630.0130	Seeding Mixture No. 30	LB	203.000	203.000
0250	630.0200	Seeding Temporary	LB	363.000	363.000
0260	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	1.000	1.000
0270	634.0622	Posts Wood 4x6-Inch X 22-FT	EACH	4.000	4.000
0280	635.0200	Sign Supports Structural Steel HS	LB	1,000.000	1,000.000
0290	636.0100	Sign Supports Concrete Masonry	CY	1.600	1.600
0300	636.0500	Sign Supports Steel Reinforcement	LB	98.000	98.000
0310	638.2101	Moving Signs Type I	EACH	2.000	2.000
0320	638.2102	Moving Signs Type II	EACH	1.000	1.000
0330	638.3000	Removing Small Sign Supports	EACH	5.000	5.000
0340	643.0200	Traffic Control Surveillance and Maintenance (project) 0001. 1060-34-86	DAY	132.000	132.000
0350	643.0300	Traffic Control Drums	DAY	3,120.000	3,120.000
0360	643.0420	Traffic Control Barricades Type III	DAY	170.000	170.000
0370	643.0705	Traffic Control Warning Lights Type A	DAY	340.000	340.000
0380	643.0715	Traffic Control Warning Lights Type C	DAY	590.000	590.000
0390	643.0800	Traffic Control Arrow Boards	DAY	70.000	70.000
0400	643.0900	Traffic Control Signs	DAY	3,068.000	3,068.000
0410	643.1050	Traffic Control Signs PCMS	DAY	70.000	70.000
0420	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,609.000	2,609.000
0430	646.0600	Removing Pavement Markings	LF	2,100.000	2,100.000
0440	647.0196	Pavement Marking Arrows Epoxy Type 5	EACH	4.000	4.000
0450	647.0955	Removing Pavement Markings Arrows	EACH	4.000	4.000
0460	SPV.0060	Special 0001. CRASH CUSHION TEMPORARY LEFT IN PLACE	EACH	1.000	1.000

3

DATE 09MAR16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1060-34-86 QUANTITY
0470	SPV.0060	Special 0002. TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP	EACH	20.000	20.000
0480	SPV.0060	Special 0003. TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE	EACH	10.000	10.000
0490	SPV.0060	Special 0004. TRAFFIC CONTROL INTERIM FREEWAY TWO LANE CLOSURE	EACH	10.000	10.000
0500	SPV.0060	Special 0005. CRASH CUSHION TEMPORARY	EACH	2.000	2.000
0510	SPV.0060	Special 8005. COVER PLATES LEFT IN PLACE	EACH	3.000	3.000
0520	SPV.0060	Special 8012. MANHOLES 9-FT SPECIAL	EACH	3.000	3.000
0530	SPV.0060	Special 8018. REMOVING BULKHEAD	EACH	2.000	2.000
0540	SPV.0060	Special 8099. INTERMEDIATE JACKING STATION	EACH	2.000	2.000
0550	SPV.0075	Special 8097. OBSTRUCTIONS TUNNEL EXCAVATION	HRS	40.000	40.000
0560	SPV.0090	Special 0001. CONCRETE BARRIER TEMPORARY PRECAST DELIVERED SPECIAL	LF	213.000	213.000
0570	SPV.0090	Special 0002. MAINTAIN CONCRETE BARRIER TEMPORARY PRECAST	LF	213.000	213.000
0580	SPV.0090	Special 0003. FENCE TEMPORARY 6-FOOT	LF	500.000	500.000
0590	SPV.0090	Special 0004. REMOVING CONCRETE BARRIER PRECAST	LF	213.000	213.000
0600	SPV.0090	Special 8096. TUNNEL EXCAVATION	LF	1,767.000	1,767.000
0610	SPV.0105	Special 0001. SURVEY PROJECT 1060-34-86	LS	1.000	1.000
0620	SPV.0105	Special 0002. PAVEMENT CLEANUP PROJECT 1060-34-86	LS	1.000	1.000
0630	SPV.0105	Special 0003. ECAVATING, GRADING, AND SHAPING FOR DEEP STORM SEWER SHAFT LOCATIONS	LS	1.000	1.000
0640	SPV.0105	Special 8098. CONTROL OF WATER	LS	1.000	1.000
0650	SPV.0105	Special 8099. GEOTECHNICAL INSTRUMENTATION	LS	1.000	1.000
0660	SPV.0135	Special 0001. VIBRATION MONITORING	MON	4.000	4.000
0670	SPV.0165	Special 8095. SHAFT EXCAVATION SUPPORT SYSTEM	SF	13,255.000	13,255.000
0680	SPV.0180	Special 0001. TOPSOIL SPECIAL	SY	11,000.000	11,000.000

3

SURVEY PROJECT

LOCATION	SPV.0105.0001 SURVEY PROJECT 1060-34-86 LS
PROJECT	1
TOTAL:	1

PAVEMENT CLEANUP

LOCATION	SPV.0105.0002 PAVEMENT CLEANUP PROJECT 1060-34-86 LS
PROJECT	1
TOTAL:	1

VIBRATION MONITORING

LOCATION	SPV.0135.0001 VIBRATION MONITORING MON
UNDISTISTRIBUTED	4
TOTAL:	4

CPM PROGRESS SCHEDULE

LOCATION	108.4400 CPM PROGRESS SCHEDULE EACH
PROJECT	1
TOTAL:	1

EXCAVATION

LOCATION	STATION	OFFSET	205.0501.S EXCAVATION, HAULING, AND DISPOSAL (BIOREMEDIATION) OF PETROLEUM CONTAMINATED SOIL TON
USH 45 NB STORM SEWER SHAFT EXCAVATED MATERIAL	437+92	247.2' RT	650
TOTAL:			650

MOBILIZATION

LOCATION	619.1000 MOBILIZATION EACH
PROJECT	1
TOTAL:	1

CATEGORY 1000 UNLESS OTHERWISE NOTED

3

TEMPORARY CONCRETE BARRIER ITEMS

LOCATION	STATION	TO	STATION	OFFSET	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	204.9060.S.0001 REMOVING CRASH CUSHION EACH	SPV.0060.0001 CRASH CUSHION TEMPORARY LEFT IN PLACE EACH	SPV.0060.0005 CRASH CUSHION TEMPORARY EACH	SPV.0090.0001 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED SPECIAL LF	SPV.0090.0002 MAINTAIN CONCRETE BARRIER TEMPORARY PRECAST LF	SPV.0090.0004 REMOVING CONCRETE BARRIER PRECAST LF
USH 45 NB	436+68NS		442+25NS	RT	225	225	--	--	1	--	--	--
	436+86NS		440+20NS	RT	212.5	212.5	--	--	1	--	--	--
	444+70NS		442+25NS	RT	225	225	--	--	--	--	--	--
	444+70NS		456+30NS	RT	1,162.5	1,162.5	--	--	--	--	--	--
	453+86NS		456+00NS	RT	--	212.5	1	1	--	212.5	212.5	212.5
TOTALS:					1,825	2,038	1	1	2	213	213	213

3

FENCING ITEMS

ROADWAY	SPV.0090.0003 FENCE TEMPORARY 6-FOOT LF
UNDISTRIBUTED	500

GRADING

LOCATION	SPV.0105.0003 EXCAVATING, GRADING, AND SHAPING FOR DEEP STORM SEWER SHAFT LOCATIONS LS
PROJECT	1
TOTAL:	1

CATEGORY 1000 UNLESS OTHERWISE NOTED

3

3

EROSION CONTROL ITEMS

ROADWAY	STATION	TO	STATION	LOCATION	624.0100 WATER MGAL	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH
NORTH AVE OFF RAMP NB	436+00NS		440+00NS	RT	--	30	600	600	--	--	--	40
NORTH AVE ON RAMP NB	440+00NS		442+00NS	RT	--	0	700	700	--	--	--	0
USH 45 NB	450+00NS		456+00NS	RT	--	0	650	650	--	--	--	0
UNDISTRIBUTED					4	30	500	500	3	3	5	40
TOTALS:					4	60	2,450	2,450	3	3	5	80

RESTORATION ITEMS

ROADWAY	STATION	TO	STATION	LOCATION	628.2004 EROSION MAT CLASS I TYPE B SY	629.0205 FERTILIZER TYPE A CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	SPV.0180.0001 TOPSOIL SPECIAL SY
NORTH AVE OFF RAMP NB	436+00NS		440+00NS	RT	4,000	0.9	72	108	4,000
NORTH AVE ON RAMP NB	440+00NS		442+00NS	RT	1,000	0.3	18	27	1,000
USH 45 NB	450+00NS		456+00NS	RT	4,000	0.9	72	108	4,000
UNDISTRIBUTED					2,000	0.5	41	120	2,000
TOTALS:					11,000	2.6	203	363	11,000

INLET PROTECTION ITEMS

ROADWAY	STATION	TO	STATION	OFFSET	628.7005 INLET PROTECTION TYPE A EACH	628.7020 INLET PROTECTION TYPE D EACH
NORTH AVE OFF RAMP NB	436+00NS		440+00NS	RT	1	9
NORTH AVE ON RAMP NB	440+00NS		442+00NS	RT	1	4
USH 45 NB	450+00NS		456+00NS	RT	0	4
UNDISTRIBUTED					1	4
TOTALS:					3	21

CATEGORY 1000 UNLESS OTHERWISE NOTED

TRAFFIC CONTROL ITEMS

LOCATION	DURATION DAYS	643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE 1060-34-86 DAYS	643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 DAYS	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH	643.0715 DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH	643.0900 DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH	643.1050 DAYS
USH 45 NB	132	132	--	--	--	--	--	--	--	--	--	--	19	2,508	--	--
SINGLE LANE FREEWAY CLOSURE	10	--	72	720	3	30	6	60	13	130	2	20	15	150	1	10
2-LANE FREEWAY CLOSURE	10	--	112	1,120	6	60	12	120	26	260	3	30	17	170	--	--
FREEWAY ENTRANCE RAMP CLOSURE	20	--	56	1,120	4	80	8	160	10	200	1	20	12	240	1	20
UNDISTRIBUTED	20	--	8	160	--	--	--	--	--	--	--	--	--	--	1	40
TOTALS:		132		3,120		170		340		590		70		3,068		70

TRAFFIC CONTROL CLOSURE

LOCATION	SPV.0060.0002 TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP EACH	SPV.0060.0003 TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE EACH	SPV.0060.0004 TRAFFIC CONTROL INTERIM FREEWAY TWO LANE CLOSURE EACH
USH 45 NB	20	10	10
TOTAL:	20	10	10

CATEGORY 1000 UNLESS OTHERWISE NOTED

3

PAVEMENT MARKING ITEMS

LOCATION	STATION	TO	STATION	* 646.0106 PAVEMENT MARKING EPOXY 4-INCH 3 FT LINE, 9 FT SKIP WHITE LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	* 647.0196 PAVEMENT MARKING ARROWS EPOXY TYPE 5 WHITE EACH
USH 45 NB	448+03NS		460+34NS	136	1,034	2
TOTALS:				1,170		2

*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN.

TEMPORARY PAVEMENT MARKING ITEMS

LOCATION	STATION	TO	STATION	646.0600 REMOVING PAVEMENT MARKINGS LF	647.0955 REMOVING PAVEMENT MARKING ARROWS EACH	* 646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF	* 647.0196 PAVEMENT MARKING ARROWS EPOXY TYPE 5 WHITE EACH
USH 45 NB	446+11NS		460+50NS	2,100	4	1,439	2
TOTALS:				2,100	4	1,439	2

*ADDITIONAL QUANTITIES LISTED ELSEWHERE IN PLAN.

CATEGORY 1000 UNLESS OTHERWISE NOTED

SEALING PIPES

ROADWAY	STATION	OFFSET	PIPE END	PIPE ID	204.0280 SEALING PIPES EACH	NOTES:
MAINLINE						
USH 45						
	437NS+92	247' RT	DOWNSTREAM	P1372	1	
	441NS+32	86' RT	UPSTREAM	P1346A	1	INSTALL MARKER BOARD, COST INCIDENTAL TO SEALING PIPES
	441NS+34	117' RT	UPSTREAM	P1370A	1	INSTALL MARKER BOARD, COST INCIDENTAL TO SEALING PIPES
	455NS+12	80' RT	UPSTREAM	P1207A	1	
TOTAL					4	

CONCRETE COLLARS FOR PIPE

ROADWAY	STATION	OFFSET	520.8000 CONCRETE COLLARS FOR PIPE EACH
MAINLINE			
USH 45			
	455NS+32	81' RT	1
	455NS+33	79' RT	1
TOTAL			2

COVER PLATES LEFT IN PLACE

ROADWAY	STRUCTURE ID	STATION	OFFSET	FUTURE CASTING	FUTURE CASTING PLUS 0.33' THICKNESS FT	SPV.0060.8005 COVER PLATES LEFT IN PLACE EACH
MAINLINE						
USH 45						
	N1371	441NS+28	102' RT	J-S	1.07'	1
	N1210	452NS+04	84' RT	V	1.17'	1
	N1208	455NS+28	84' RT	27-M	1.00'	1
TOTAL						3

REMOVING BULKHEAD

ROADWAY	STATION	OFFSET	SPV.0060.8018 REMOVING BULKHEAD EACH
MAINLINE			
USH 45			
	455NS+32	81' RT	1
	455NS+33	79' RT	1
TOTAL			2

INTERMEDIATE JACKING STATION

ROADWAY	TUNNEL SECTION FROM	TO	TUNNEL LENGTH (FT)	SPV.0060.8099 INTERMEDIATE JACKING STATION EACH
MAINLINE				
USH 45				
	N1371	N1210	1077	2
TOTAL			1077	2

OBSTRUCTIONS

ROADWAY	STRUCTURE	TO STRUCTURE	SPV.0075.8097 OBSTRUCTIONS TUNNEL EXCAVATION HOURS
MAINLINE			
USH 45			
	PIPE END IN FUTURE DETENTION POND	N1208	40
TOTAL			40

CONTROL OF WATER

ROADWAY	SPV.0105.8098 CONTROL OF WATER LS
UNDISTRIBUTED	1
TOTAL	1

GEOTECHNICAL INSTRUMENTATION

ROADWAY	SPV.0105.8099 GEOTECHNICAL INSTRUMENTATION LS
UNDISTRIBUTED	1
TOTAL	1

SHAFT EXCAVATION SUPPORT SYSTEM

ROADWAY	STRUCTURE NUMBER	SPV.0165.8095 SHAFT EXCAVATION SUPPORT SYSTEM SF
MAINLINE		
USH 45		
	PIPE END IN FUTURE DETENTION POND	3,429
	N1371	3,475
	N1210	3,427
	N1208	2,923
TOTAL		13,255

ALL ITEMS CATEGORY 1000

STORM SEWER STRUCTURES										STORM SEWER PIPES										
ROADWAY	STRUCTURE NO.	STATION	OFFSET (FT)	LOCATION	RIM OR FLOW ELEV	STRUCTURE TYPE	INLET/MANHOLE COVERS TYPE	DEPTH[1] (FT)	STRUCTURE COMMENTS	PIPE ID	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE[A] %	PIPE LENGTH[B] (FT)	PLAN LENGTH[C] (FT)	PIPE CLASS	PIPE SIZE (INCH)	PIPE COMMENTS[D]
---	---	---	---	---	---	---	---	--	---	PE1153	---	N1208	---	746.23	---	---	---	---	18	EXIST PIPE INTERPOL ELEV
---	---	---	---	---	---	---	---	--	---	PE1205	---	N1208	---	728.00	---	---	---	---	48x76	EXIST PIPE INTERPOL ELEV
---	---	---	---	---	---	---	---	--	---	P1207A	BULKHEAD	N1208	749.18	748.95	2.00	12	16	III	24	IN
USH 45	N1208	455NS+28.03	84.0	RT	755.56	MANHOLES 9-FT SPECIAL	---	27.56	COVER PLATE LEFT IN PLACE ELEV. 754.56, FUTURE 27-M COVER AT BARRIER	P1209	N1208	N1210	728.00	726.90	0.35	315	324	V	60	REFER TO SPV.0090.8096 STORM SEWER CONSTRUCTION SPECIAL
USH 45	N1210	452 NS+04.39	84.0	RT	760.40	MANHOLES 9-FT SPECIAL	---	33.50	COVER PLATE LEFT IN PLACE ELEV. 759.23, FUTURE V COVER AT BARRIER	P1211	N1210	N1371	726.90	723.16	0.35	1068	1077	V	60	REFER TO SPV.0090.8096 STORM SEWER CONSTRUCTION SPECIAL
---	---	---	---	---	---	---	---	--	---	P1346A	BULKHEAD	N1371	741.62	741.56	0.50	12	17	IV	42	OUT
---	---	---	---	---	---	---	---	--	---	P1370A	BULKHEAD	N1371	747.61	747.50	1.00	11	16	IV	24	OUT
USH 45	N1371	441NS+27.74	102.4	RT	765.04	MANHOLES 9-FT SPECIAL	---	41.88	COVER PLATE LEFT IN PLACE ELEV. 762.85, FUTURE J-S COVER OUTSIDE PAVEMENT	P1372	N1371	BULKHEAD	723.16	721.90	0.35	361	366	V	60	REFER TO SPV.0090.8096 STORM SEWER CONSTRUCTION SPECIAL

STORM SEWER STRUCTURE SUMMARY
SPV.0060.8012
MANHOLES 9-FT SPECIAL EACH
3

STORM SEWER PIPE SUMMARY			
608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0424 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF	608.0442 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 42-INCH LF	SPV.0090.8096 TUNNEL EXCAVATION LF
16	16	17	1767

[1]DEPTH = RIM OR FLOW ELEV - LOWEST PIPE INVERT ELEVATION.

[A] SLOPE CALCULATED BASED ON PIPE LENGTH. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE

[B]PIPE LENGTH SHOWN FOR SLOPE CALCULATION ONLY. NOT INTENDED FOR PAY QUANTITY.

[C]PLAN LENGTH SHOWN FOR PAY QUANTITY.

[D] IN = PIPE OR STORM STRUCTURE WILL BE WITHIN PROPOSED OR FUTURE TRAVELED WAY. BACKFILL SLURRY REQUIRED.
OUT = PIPE OR STORM STRUCTURE WILL BE OUTSIDE THE PROPOSED OR FUTURE TRAVELED WAY. BACKFILL SLURRY NOT REQUIRED.

ALL ITEMS CATEGORY 1000

TYPE I&II PERMANENT SIGNING -

Category Code 1000 **1060-34-86 zoo interchange tunnel project**

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	**637.2210** SIGNS TYPE II REFLECTIVE H [SF]	**637.2230** SIGNS TYPE II RELFECTIVE F [SF]	**638.3000** REM SMALL SIGN SUP [EA]	**638.2102** MOVING SIGNS TYPE II [EA]	**638.2602** REM SIGNS TYPE II [EA]	**634.0618** WOOD POSTS 4"X 6"x18' [EA]	**634.0622** WOOD POSTS 4"X 6"x22' [EA]	**634.0816** POSTS TUBULAR STEEL 2" X 2" X 16' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT.] x [FT.]	**638.2101** MOVING SIGNS TYPE I [EA]	**638.3100** REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	**636.0100** SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	**636.0500** SIGN SUPPORTS STEEL REINF. [LBS]	**635.0200** SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR			
																					POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
1	E1-1A	BURLEIGH ST 1/2 MILE EXIT 43				4				4			INSTALL TEMPORARILY ON WOOD POSTS THEN MOVE TO STEEL POSTS AT END OF PROJECT		2		B	1.6	98	1000				
2	W4-2R					1	1		1															
TOTALS				0.000	0.000	5	1	0	1	4	0	--	--		2	0	--	1.6	98	1000				

3

3

SHEET: 1 OF 1

PROJECT NO: 1060-34-86	HWY: IH 41	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES – PERMANENT SIGNING	SHEET:	**E**

LEGEND

(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(4) PAVEMENT MARKING EPOXY 4-INCH (DOT PATTERN WHITE)
(3 FT LINE 9 FT SKIP)

(19) PAVEMENT MARKING ARROWS EPOXY TYPE 5 (WHITE)

N

USH 45 SB

USH 45 NB

W. NORTH AVENUE

4NS

435NS

436NS

437NS

438NS

439NS

440NS

BEGIN CONSTRUCTION
STA. 436+00.00NS

SIGN

MH

INL

5

5

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	PLAN	SHEET 41 E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\050201_PN.DWG
LAYOUT NAME - 01_PN

PLOT DATE : 1/26/2016 10:17 PM PLOT BY : SCHWENN, BRANDON C PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

LEGEND

(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(4) PAVEMENT MARKING EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)

(19) PAVEMENT MARKING ARROWS EPOXY TYPE 5 (WHITE)

N

USH 45 SB

440NS 441NS 442NS 443NS 444NS 445NS 446NS

5

USH 45 NB

5

N. 112TH STREET

W. MEINECKE AVENUE

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	PLAN	SHEET 42 E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\050201_PN.DWG
LAYOUT NAME - 02_PN

PLOT DATE : 1/26/2016 10:19 PM PLOT BY : SCHWENN, BRANDON C PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(4) PAVEMENT MARKING EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)

(19) PAVEMENT MARKING ARROWS EPOXY TYPE 5 (WHITE)

N. 113TH STREET

N

USH 45 SB

5

5

446NS

447NS

448NS

449NS

450NS

451NS

36'

12'

+03NS
MATCH EXISTING GORE

4

USH 45 NB

+00NS

2

N. 112TH STREET

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	PLAN	SHEET 43	E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\050201_PN.DWG
LAYOUT NAME - 01_PN

PLOT DATE : 1/26/2016 10:20 PM PLOT BY : SCHWENN, BRANDON C PLOT NAME :

PLOT SCALE : 1 IN:40 FT

LEGEND

(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(4) PAVEMENT MARKING EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)

(19) PAVEMENT MARKING ARROWS EPOXY TYPE 5 (WHITE)

N. 113TH STREET

N

USH 45 SB

452NS 453NS 454NS 455NS 456NS 457NS

USH 45 NB

36'

12'

4

+46NS

+86.42NS
64.92' RT

CC

19

2

+00.00NS
64.39' RT

REMOVING CRASH CUSHION
INSTALL NEW CRASH CUSHION TEMPORARY LEFT IN PLACE

REMOVING CONCRETE BARRIER PRECAST
PLACE CONCRETE BARRIER TEMPORARY PRECAST DELIVERED SPECIAL

N. 112TH STREET

PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	PLAN	SHEET 44	E

LEGEND

(2) PAVEMENT MARKING EPOXY 4-INCH (WHITE)

(4) PAVEMENT MARKING EPOXY 4-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)

(19) PAVEMENT MARKING ARROWS EPOXY TYPE 5 (WHITE)

N. 113TH STREET

N

SIGN

END CONSTRUCTION
STA. 458+00.00NS

USH 45 SB

458NS

459NS

460NS

461NS

462NS

463NS

5

5

USH 45 NB

(2)

+34NS
MATCH EXISTING PAVEMENT MARKING

N. 112TH STREET

W. CENTER STREET

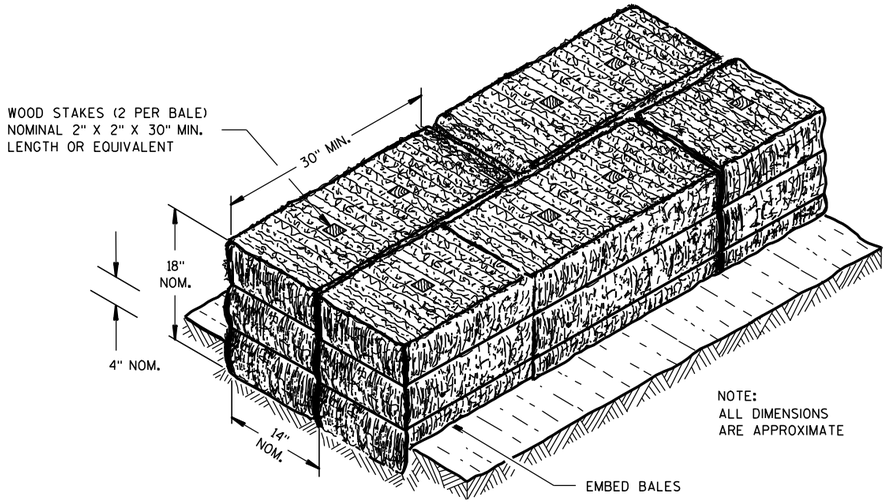
PROJECT NO: 1060-34-86	HWY: USH 45	COUNTY: MILWAUKEE	PLAN	SHEET 45	E

FILE NAME : W:\PDS\C3D\10603316\86\DSN\PLAN\050201_PN.DWG
LAYOUT NAME - 02_PN

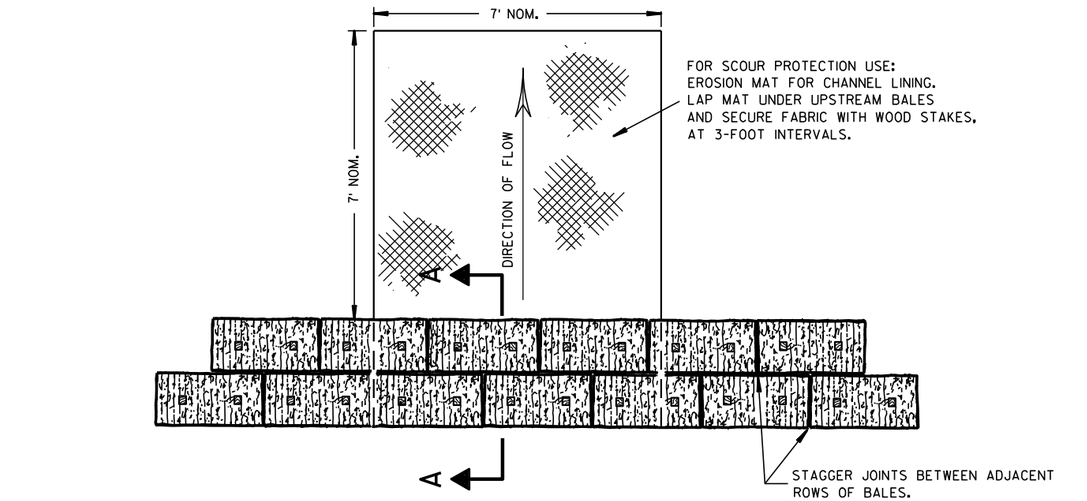
PLOT DATE : 1/26/2016 10:24 PM PLOT BY : SCHWENN, BRANDON C PLOT NAME : PLOT SCALE : 1 IN:40 FT

Standard Detail Drawing List

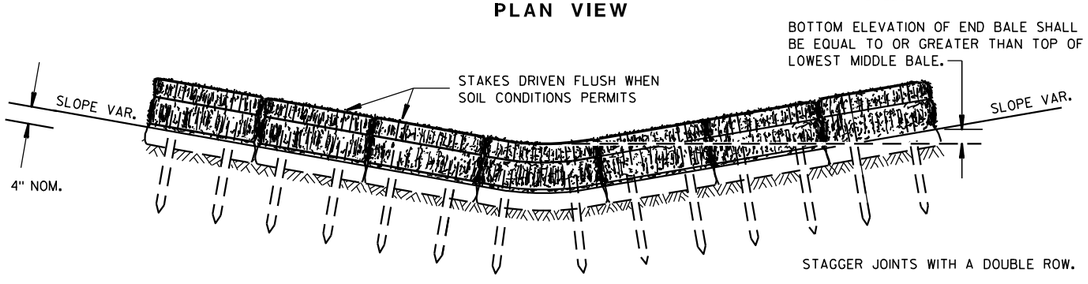
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F05-01	CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-03C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-01D	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15D03-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D14-03	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-02	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-03	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D29-03	TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD



SECTION A-A



PLAN VIEW



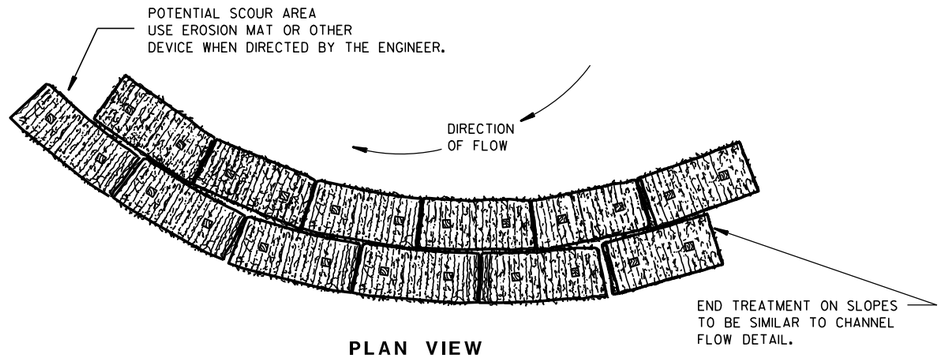
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

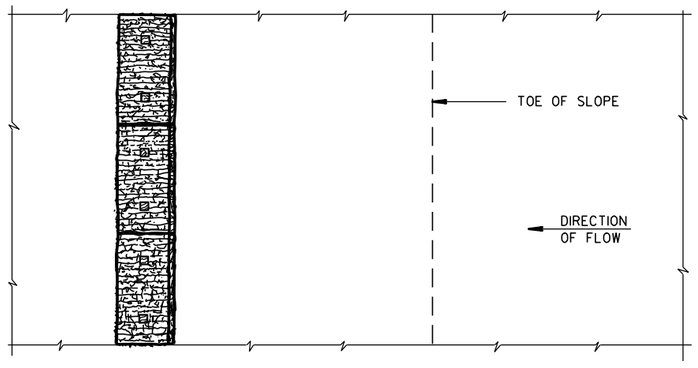
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

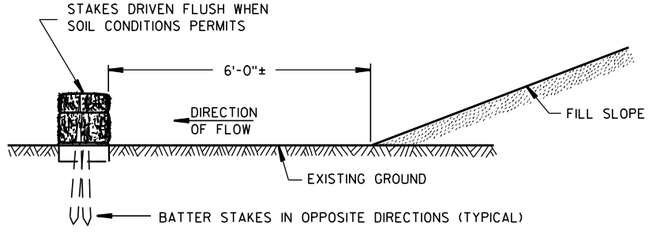


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

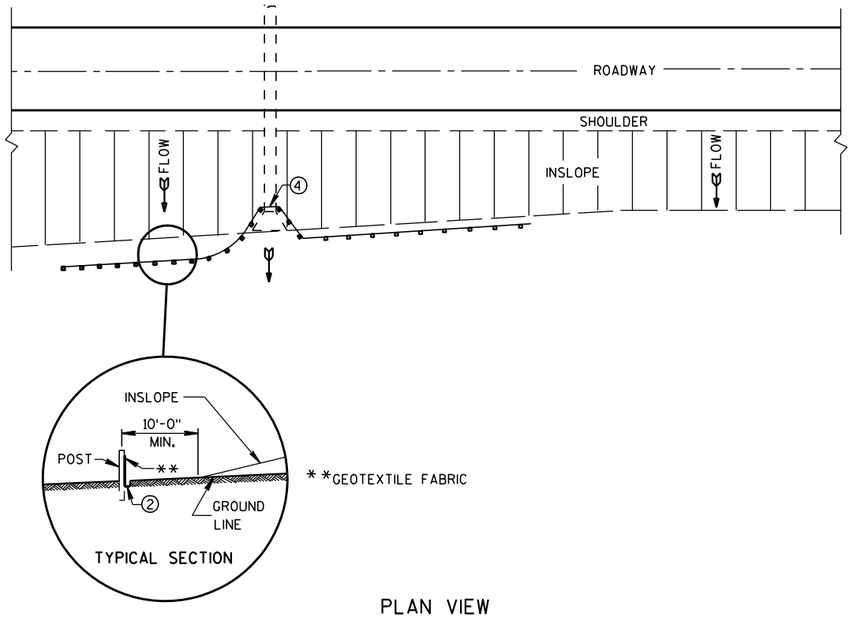
FHWA

6

S.D.D. 8 E 8-3

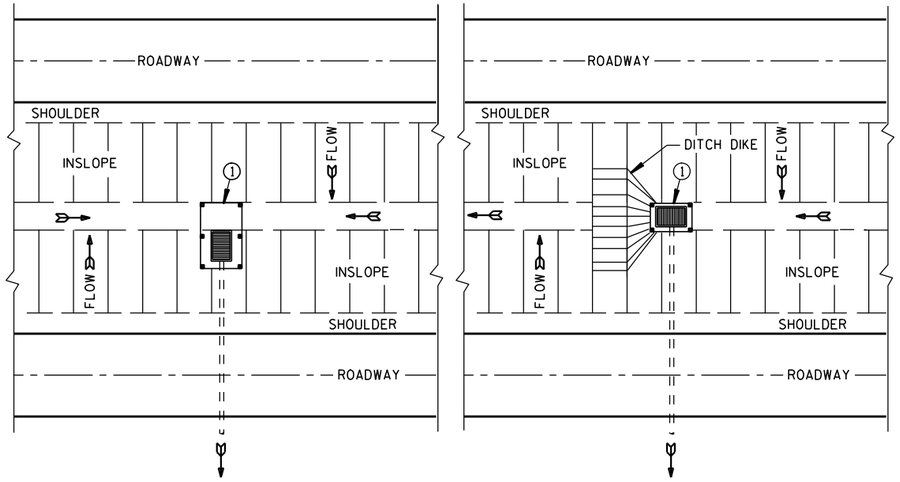
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

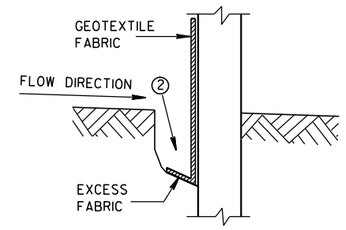
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

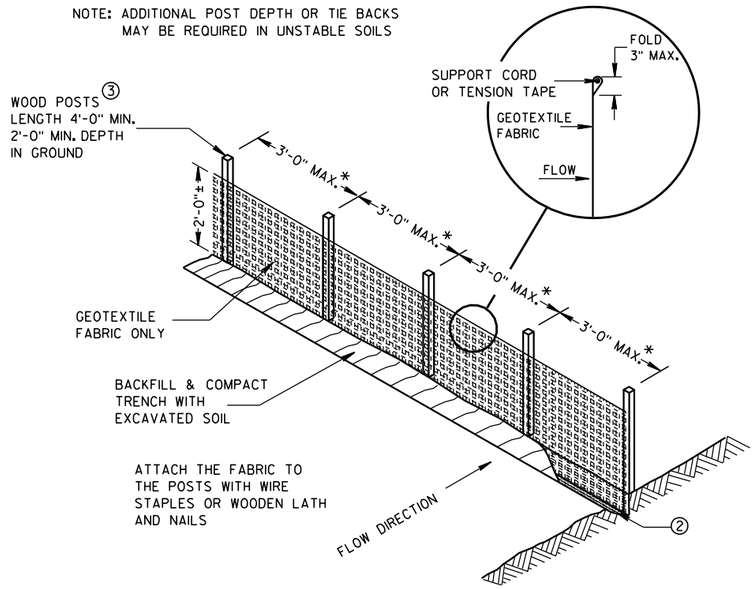
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

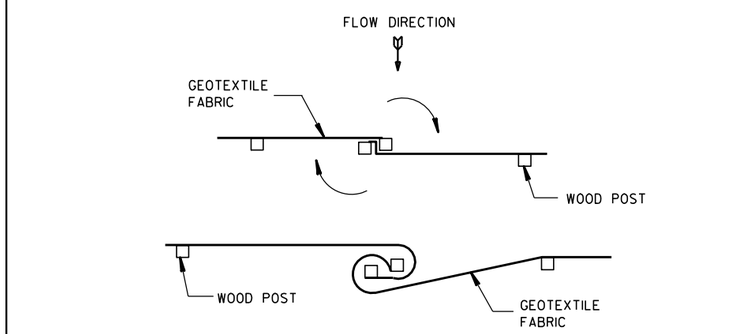
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



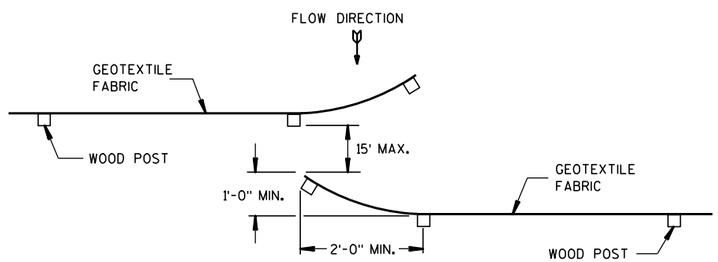
TRENCH DETAIL



SILT FENCE

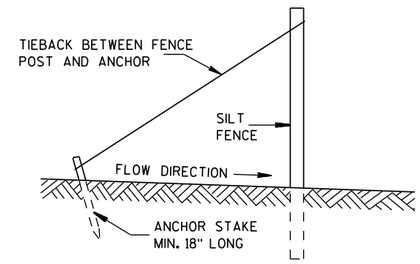


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

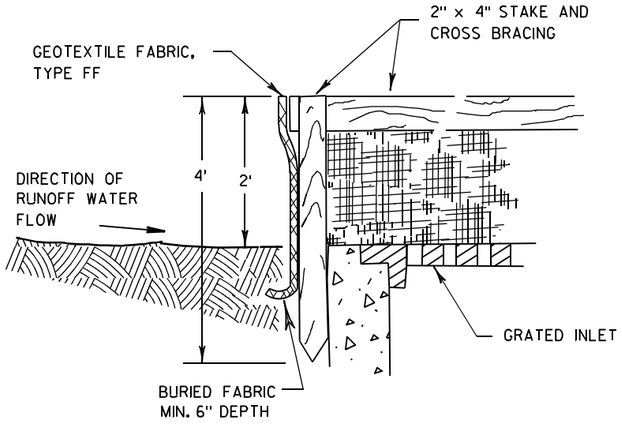
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

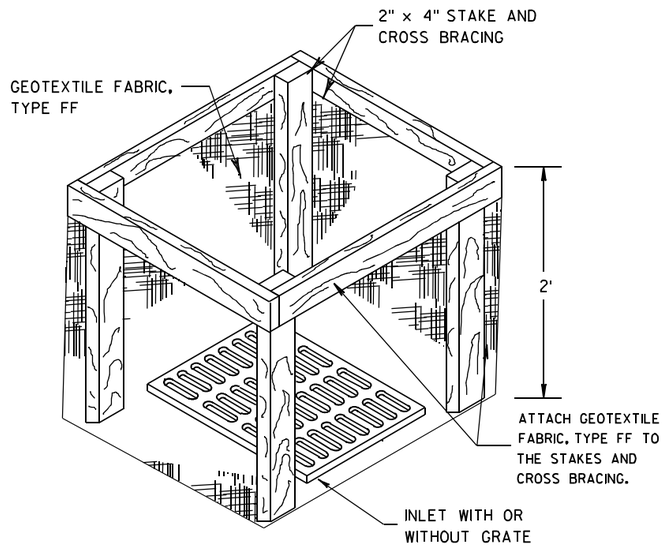
6

S.D.D. 8 E 9-6

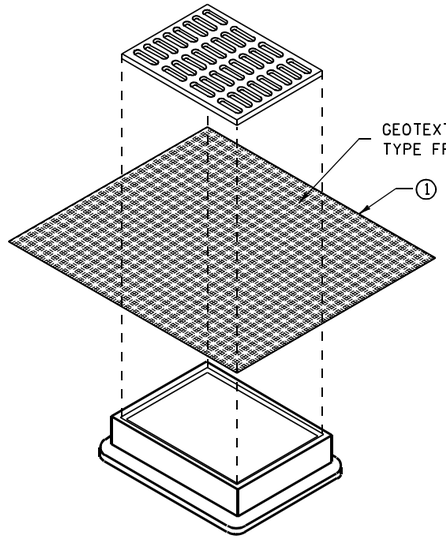
6

S.D.D. 8 E 9-6



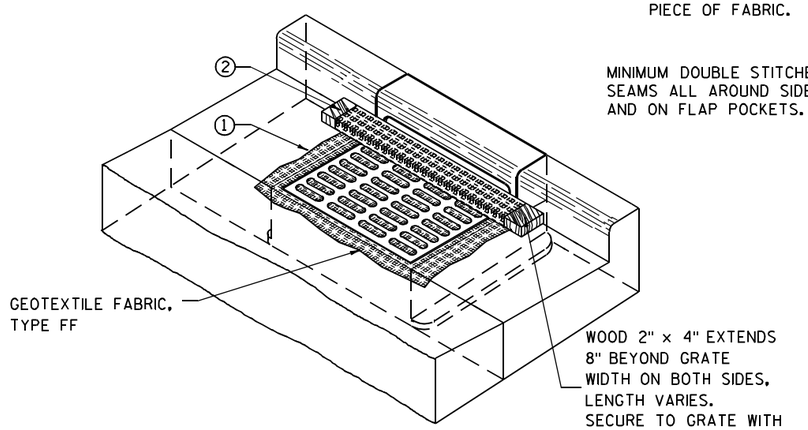


INLET PROTECTION, TYPE A

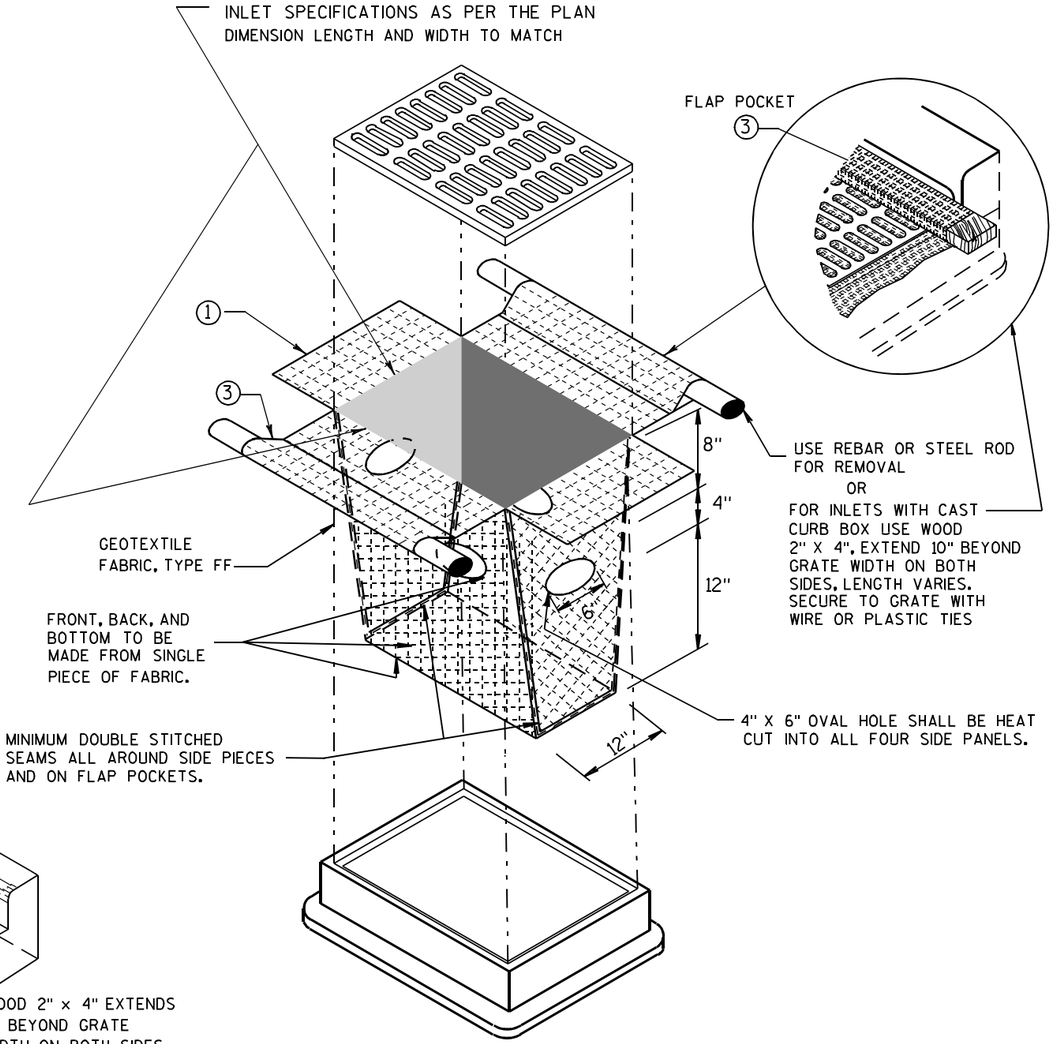


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

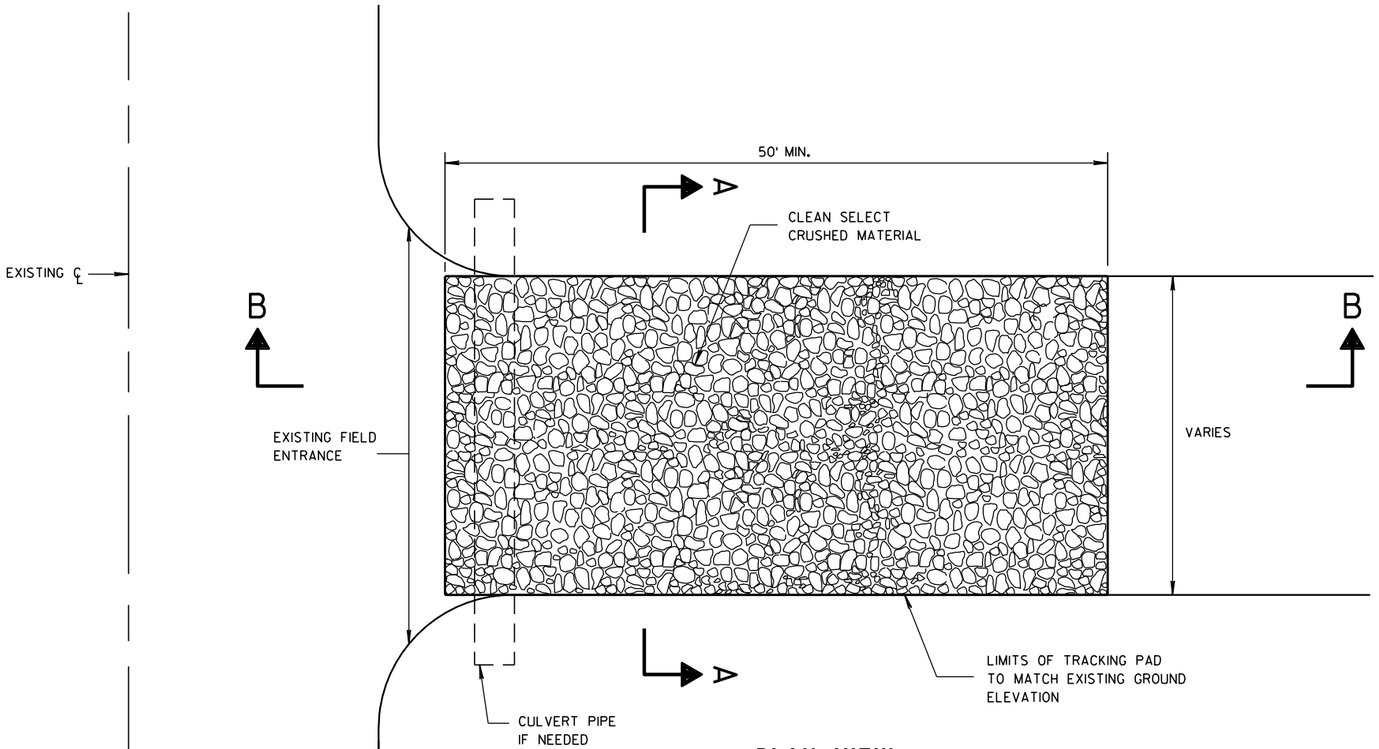
10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

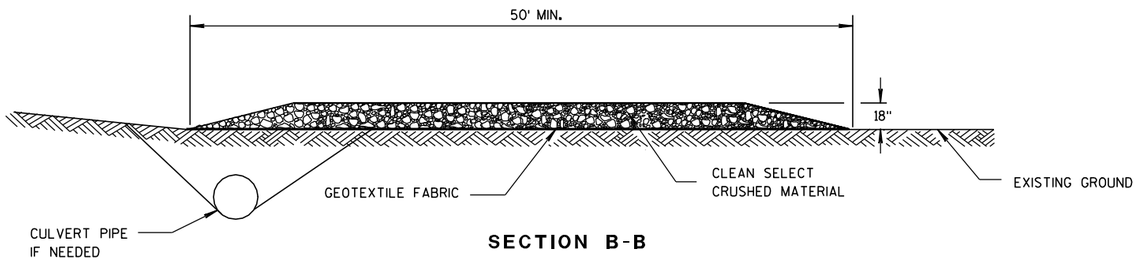
FHWA

6

S.D.D. 8 E 10-2



PLAN VIEW



SECTION B-B

GENERAL NOTES

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

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

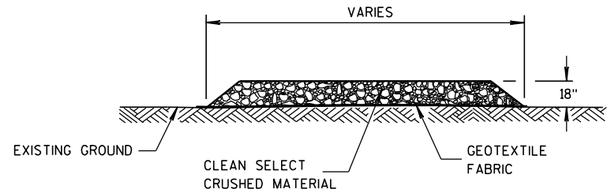
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

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

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

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



SECTION A-A

TRACKING PAD

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011	/S/ Jerry H. Zoda	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

6

S.D.D. 8 E 14-1

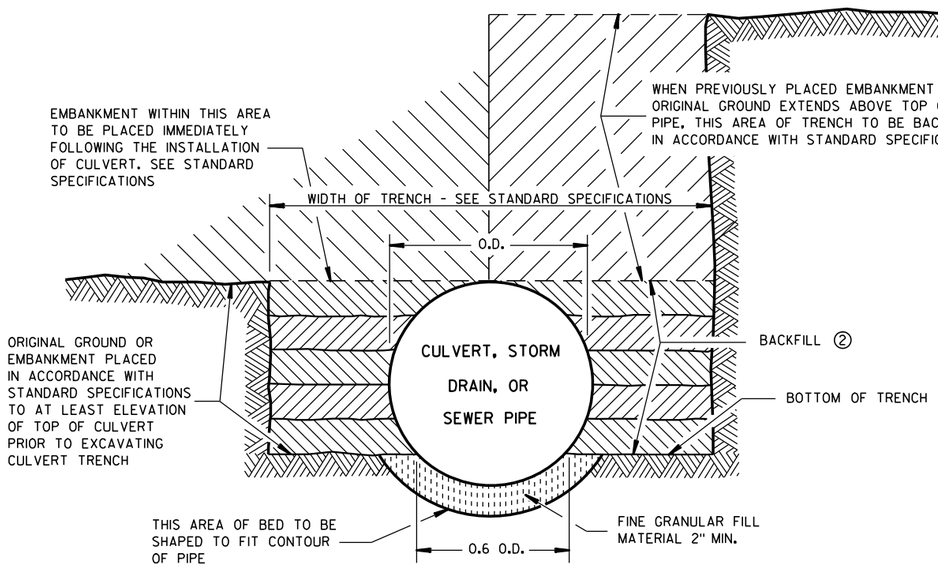
GENERAL NOTES

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

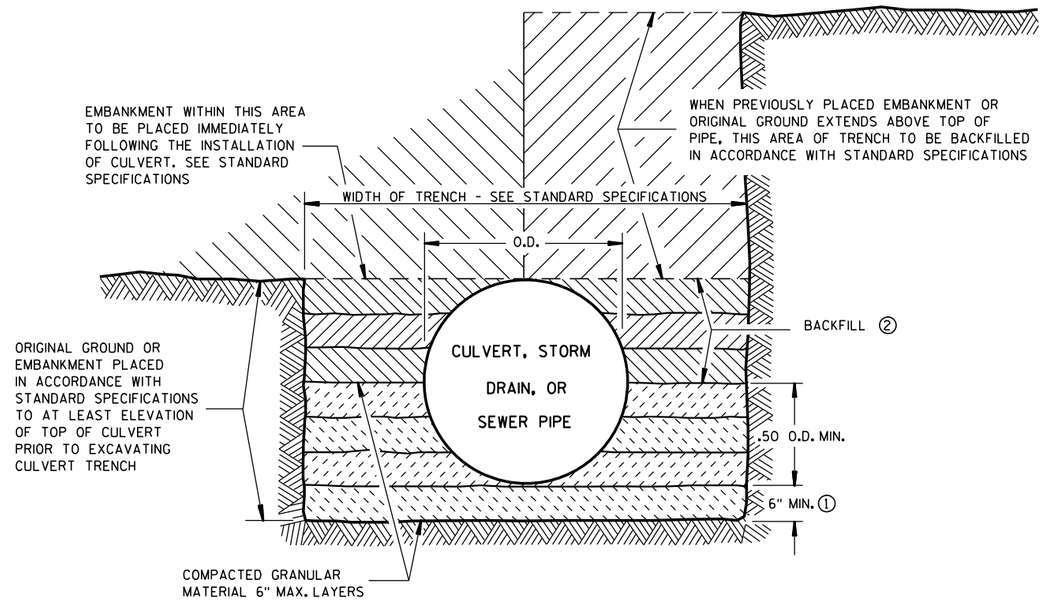
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

① WHERE ROCK, HARD PAN OR FRAGMENTED MATERIAL IS ENCOUNTERED, THE TRENCH SHALL BE EXCAVATED BELOW THE BOTTOM OF THE PIPE AN AMOUNT EQUAL TO ½ INCH PER FOOT OF PROPOSED EMBANKMENT ABOVE THE TOP OF THE PIPE, BUT NOT LESS THAN 6 INCHES.

② TRENCH SHALL BE BACKFILLED AS REQUIRED BY STANDARD SPECIFICATIONS; SECTION 520 FOR PIPE CULVERTS AND SECTION 607 FOR STORM SEWERS.



SHAPED SUBGRADE WITH GRANULAR FOUNDATION



GRANULAR FOUNDATION

CLASS "B" BEDDING

CLASS "B" BEDDING FOR CULVERT PIPE OR STORM SEWER	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
4/7/83 DATE	/S/ D. L. Strand STATE DESIGN ENGINEER
FHWA	HWYS

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S.D.D. 8 F 5-1

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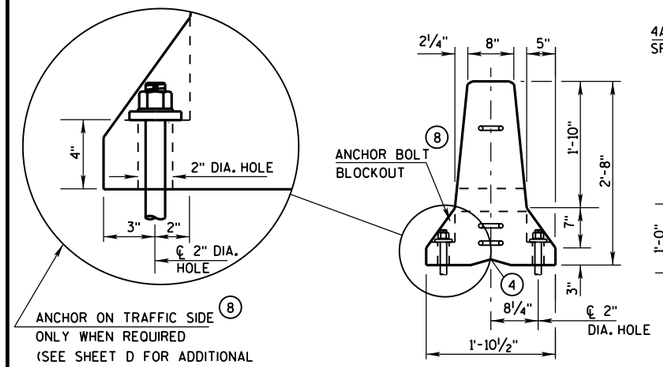
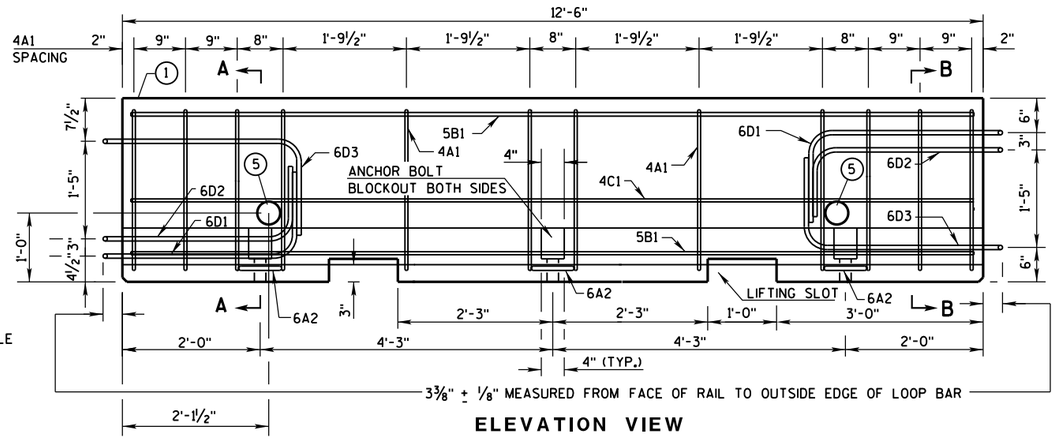
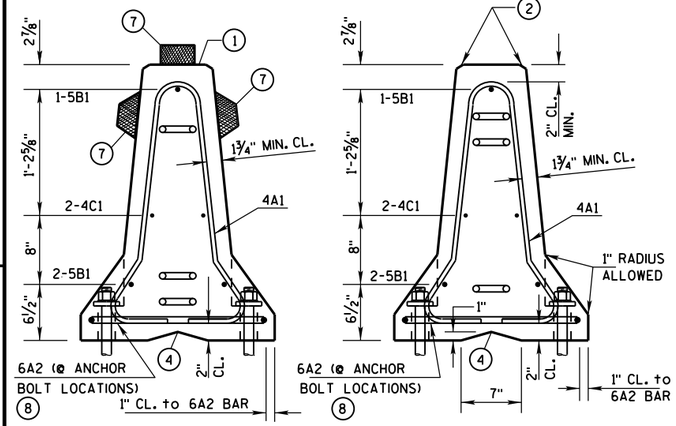


END VIEW

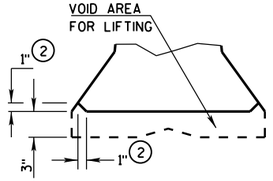


ELEVATION VIEW

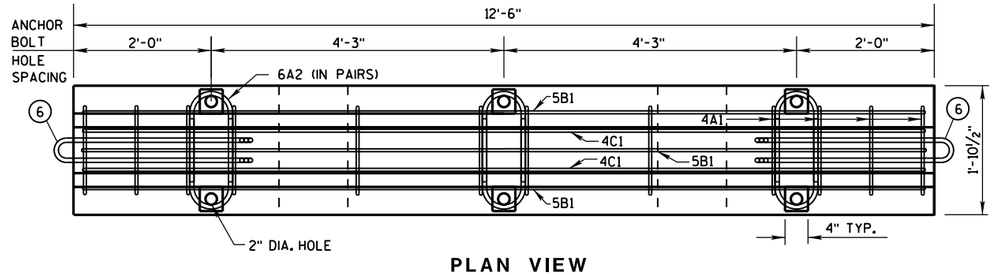


SECTION A-A
(STIRRUP PLACEMENT)

SECTION B-B
(STIRRUP PLACEMENT)

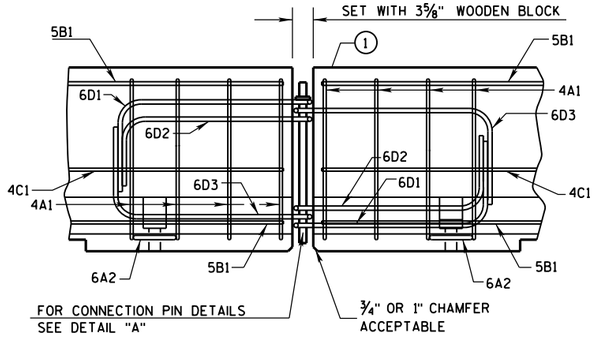


DETAIL "B"
LIFTING SLOT DETAIL

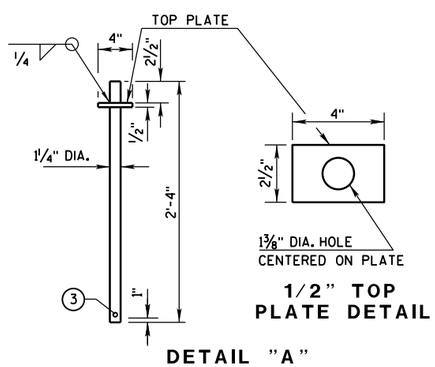


PLAN VIEW

DETAILS OF BARRIER SECTION

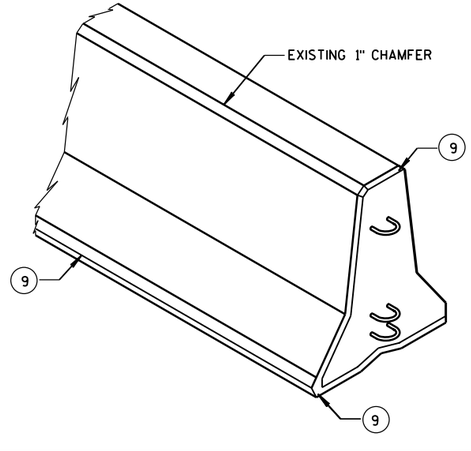


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

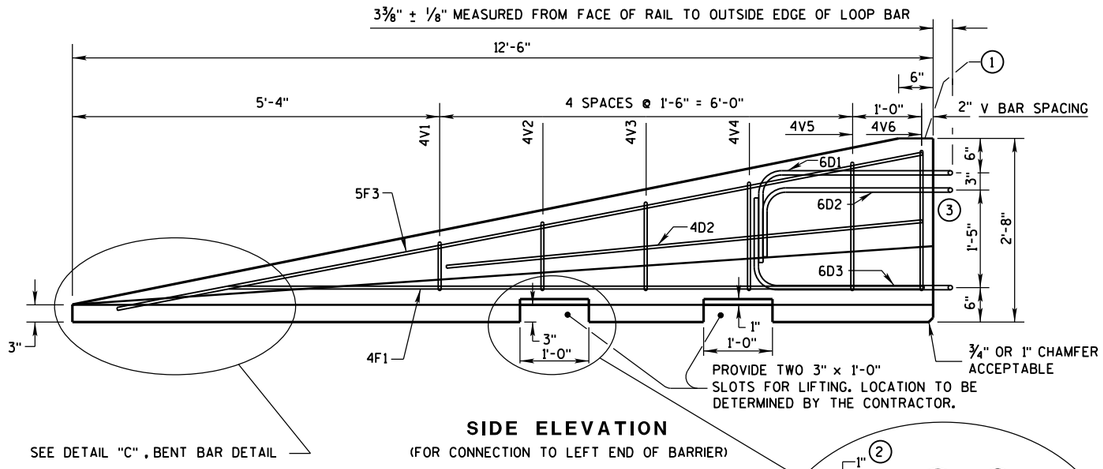
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR ANCHORING CRITERIA.

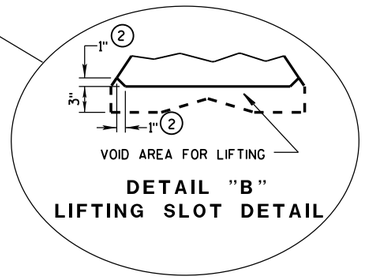
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

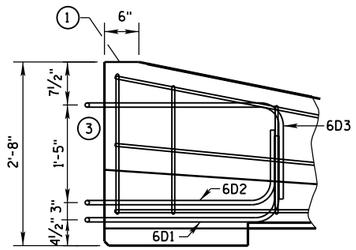
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



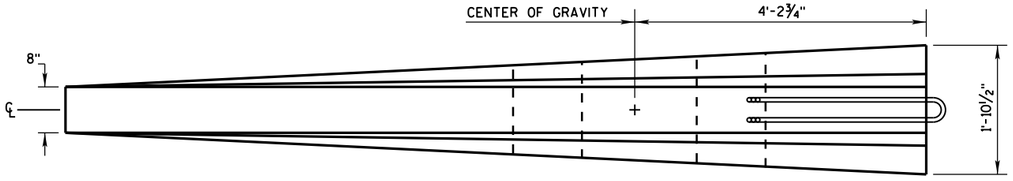
DETAIL "B"
LIFTING SLOT DETAIL



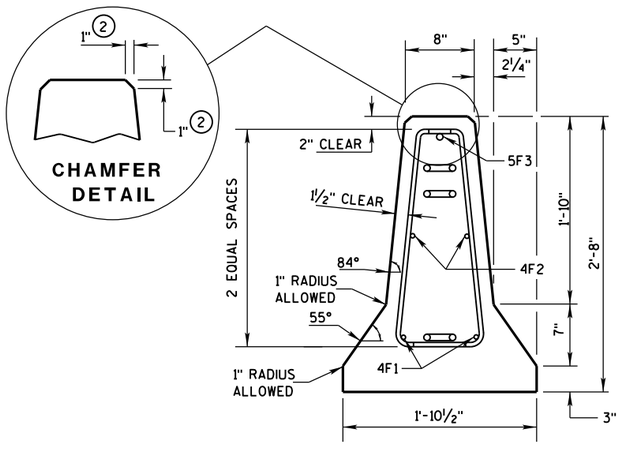
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

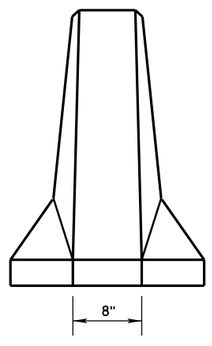
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



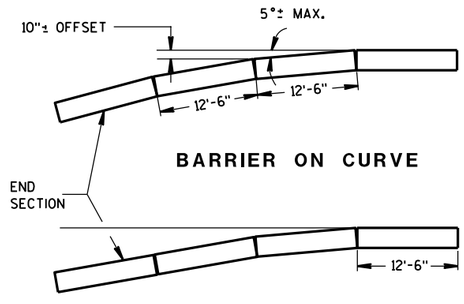
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

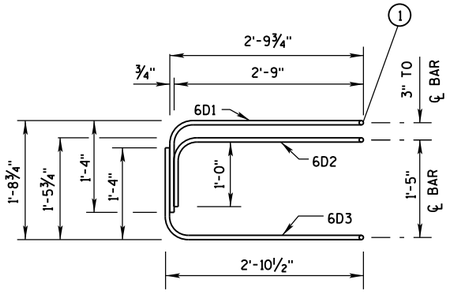
6

S.D.D. 14 B 7-14b

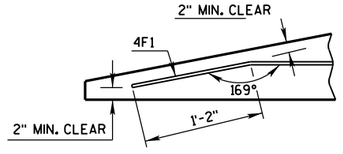
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

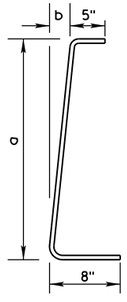
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

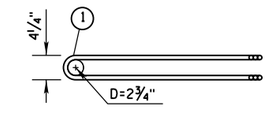
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

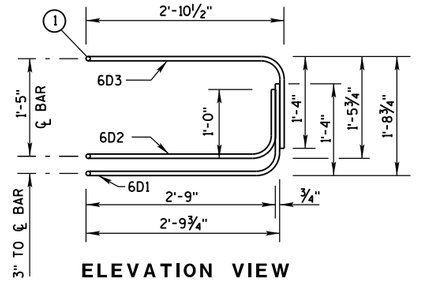
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

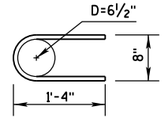
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



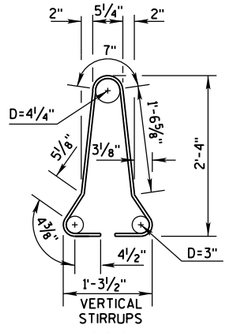
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

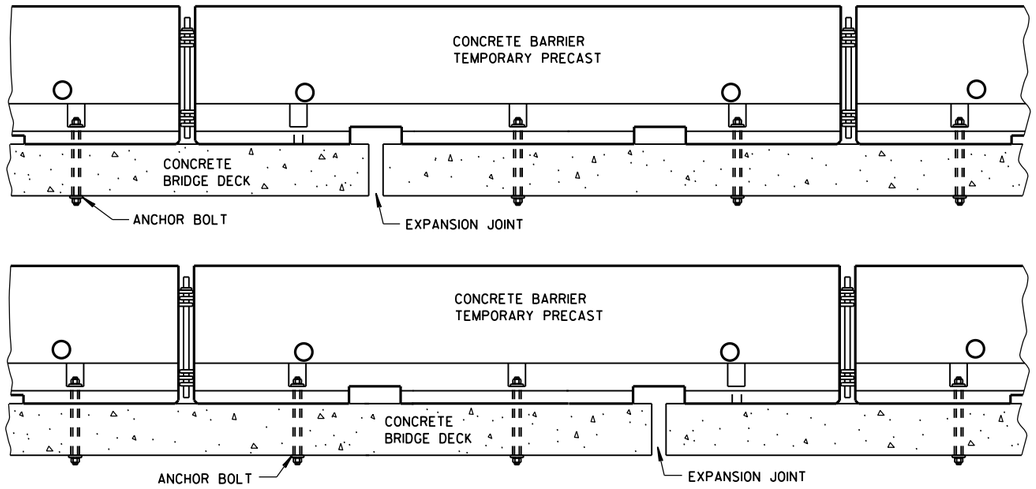
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

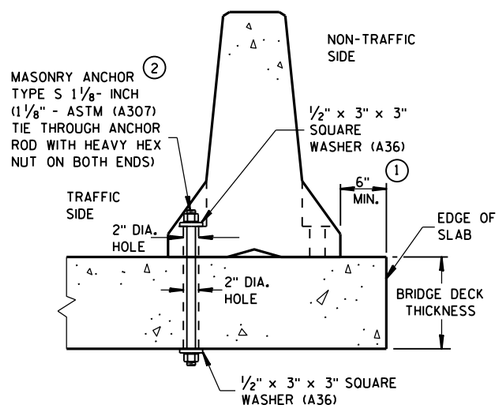
6

S.D.D. 14 B 7-14c



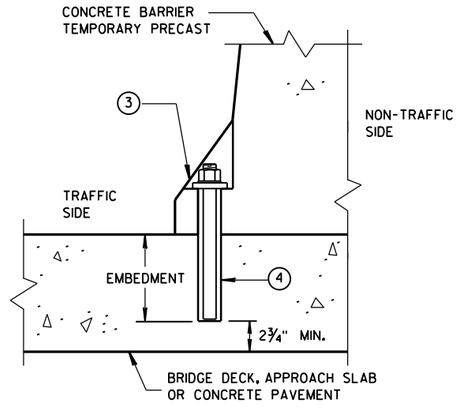
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

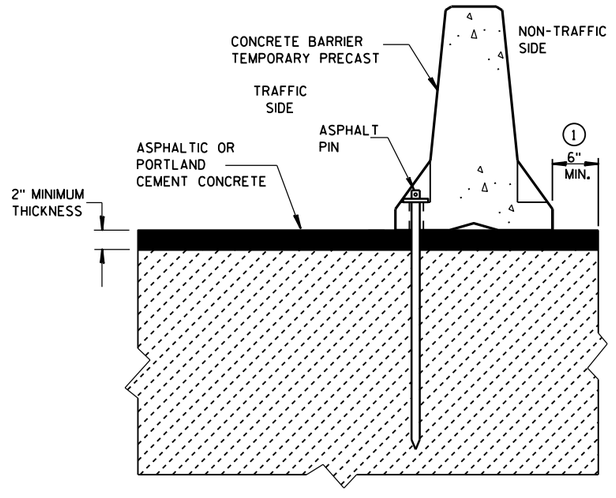
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

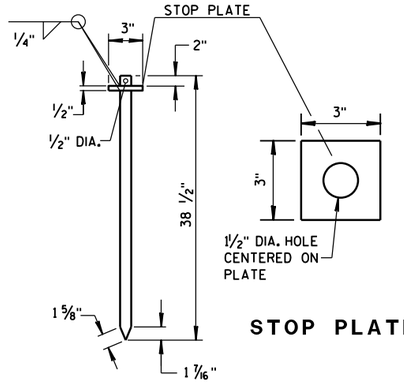
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

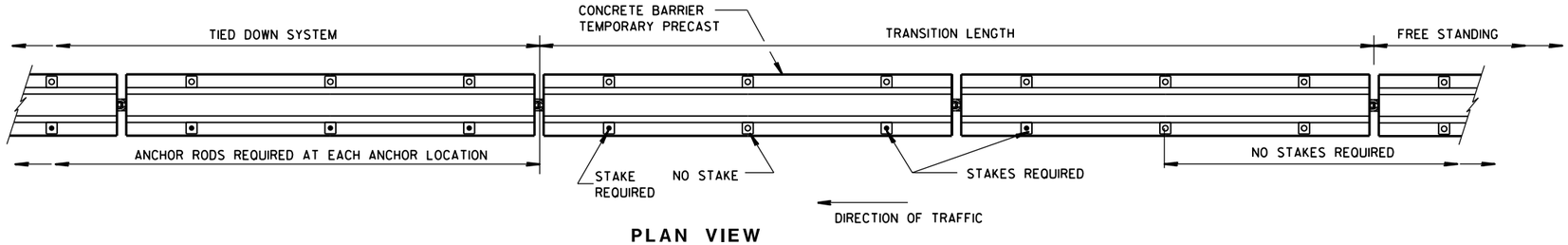
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

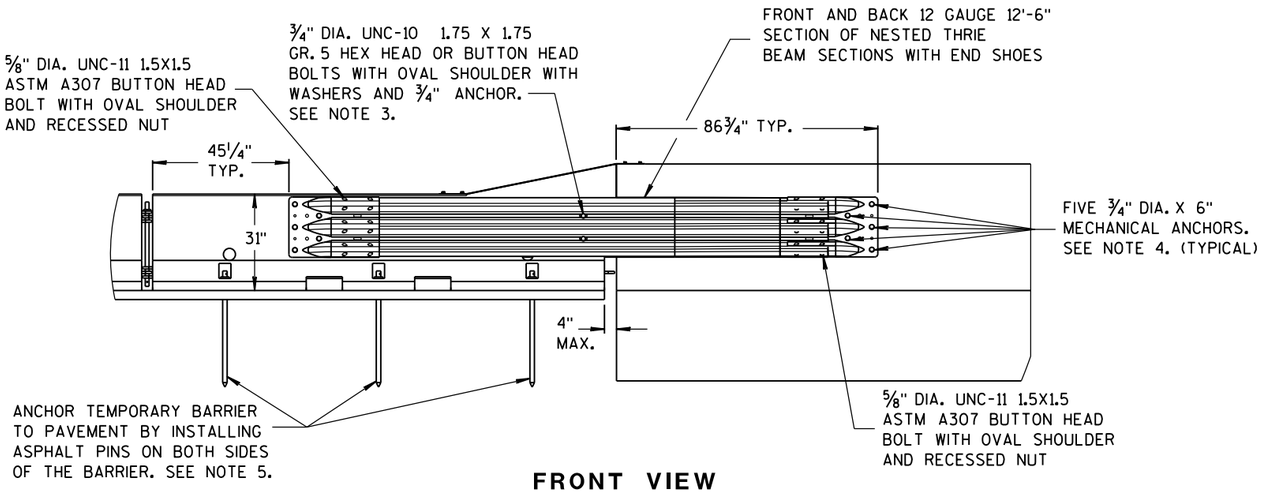
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

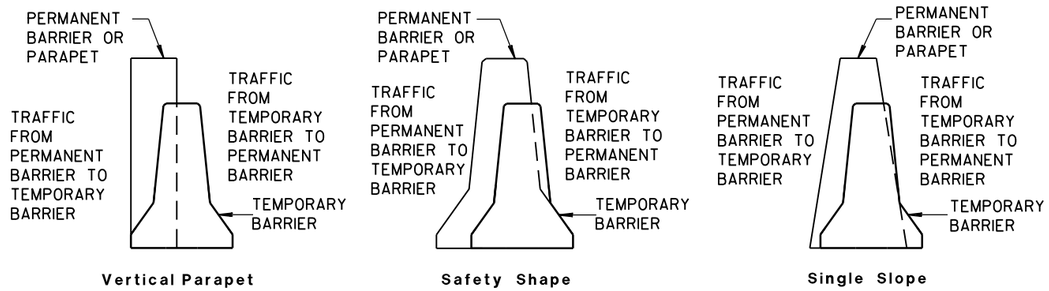
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-14d



FRONT VIEW



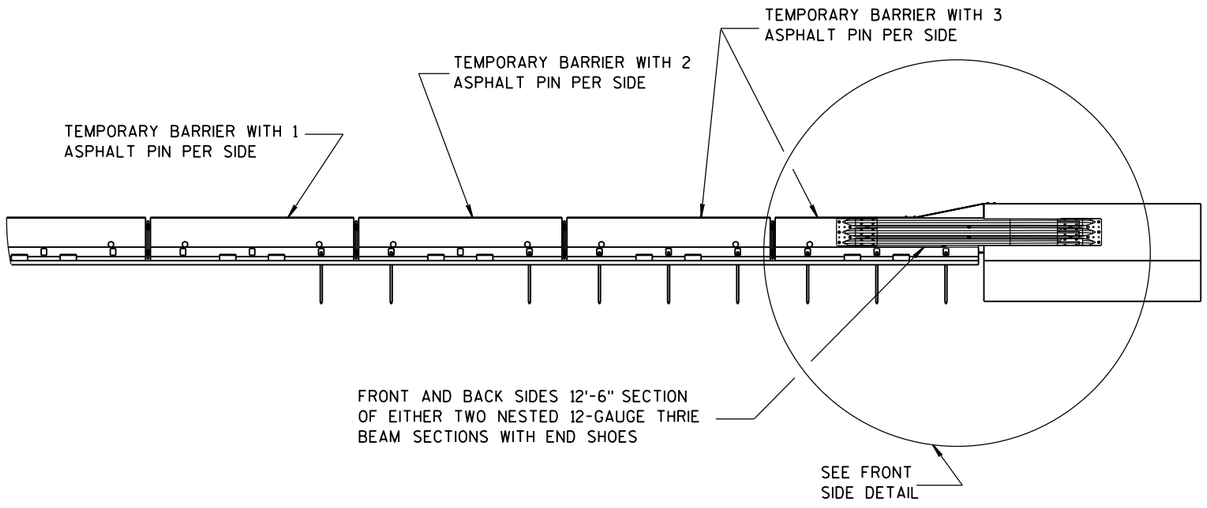
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

NOTES

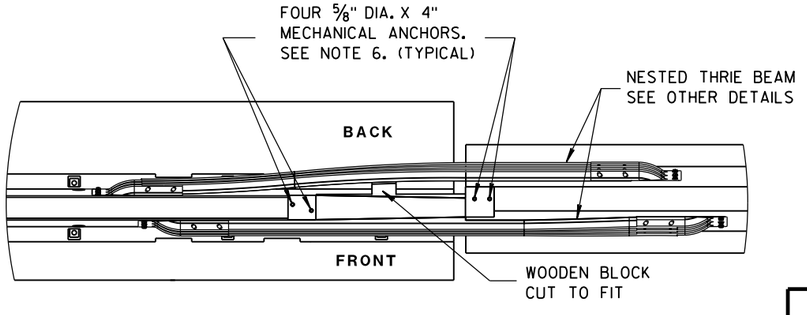
NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

BACK VIEW



FRONT VIEW



PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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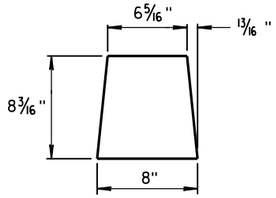
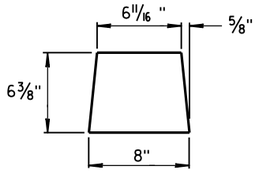
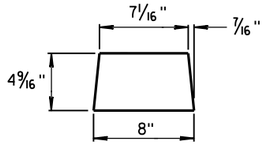
S.D.D. 14 B 7-14e



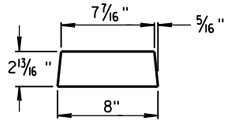
GUSSET 1



GUSSET 2

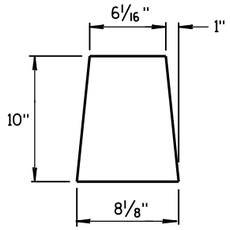


GUSSET 3

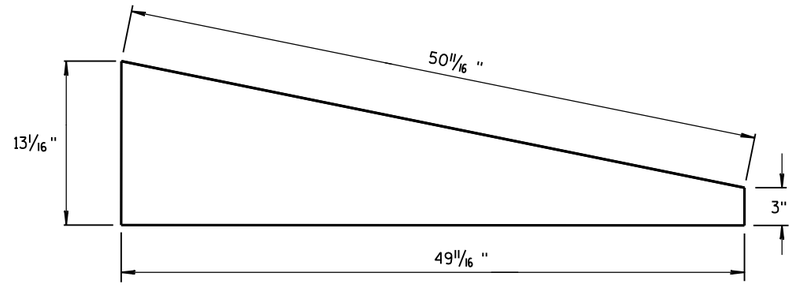


GUSSET 4

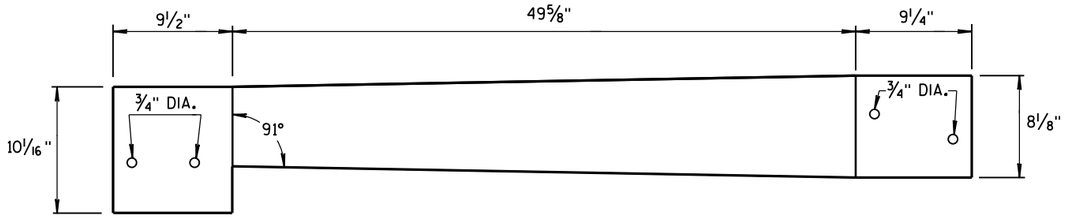
GUSSETS

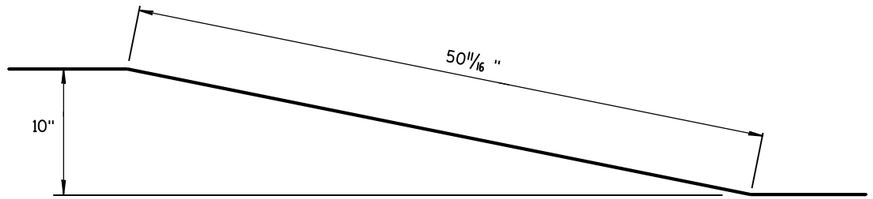


END PLATE



SIDE PLATE

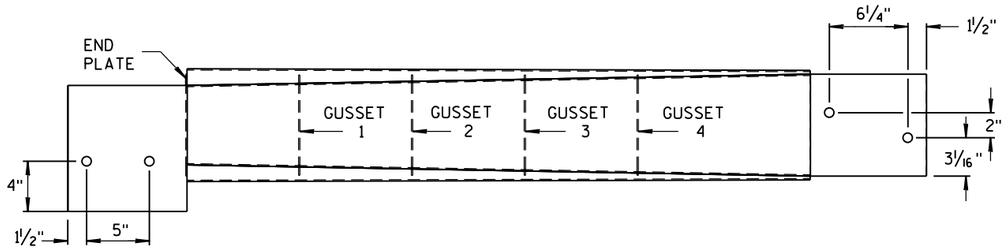


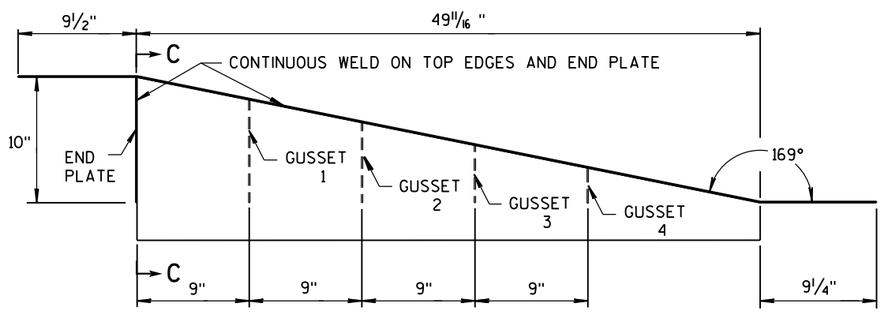


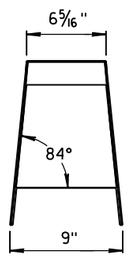
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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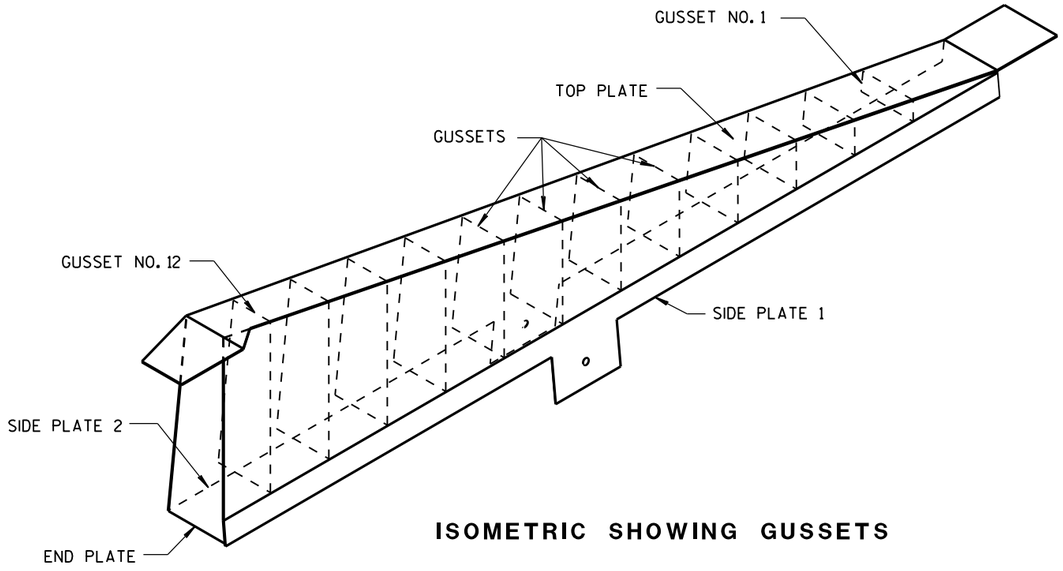
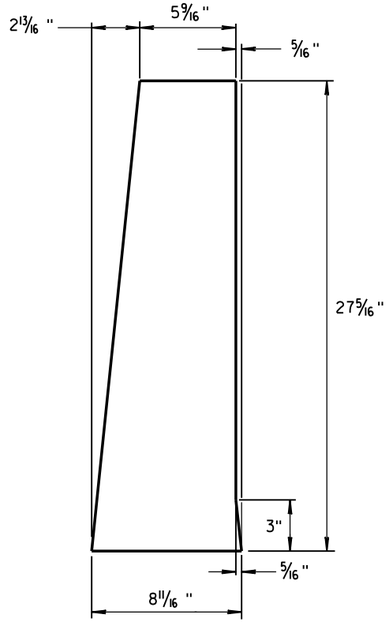
S.D.D. 14 B 7-14f

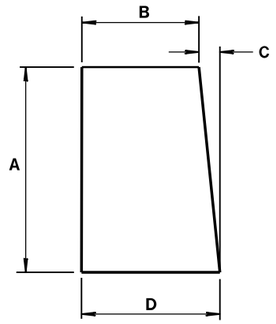


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



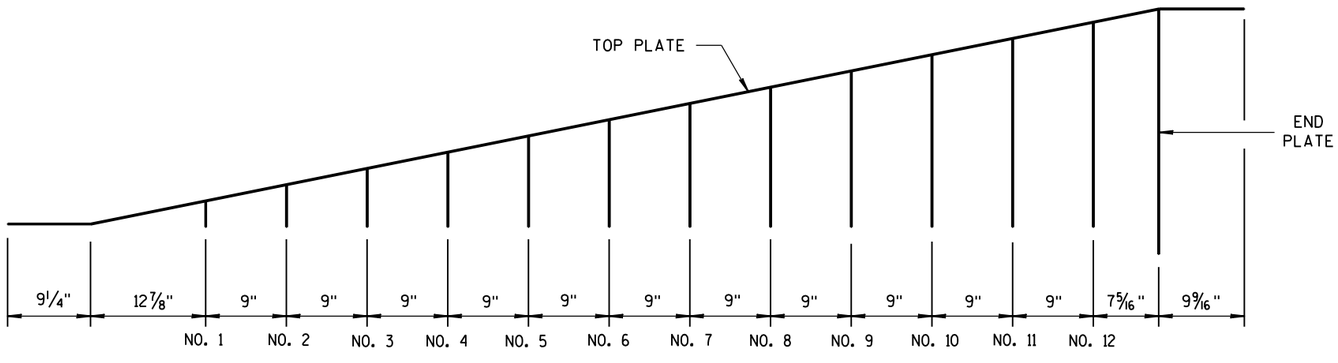
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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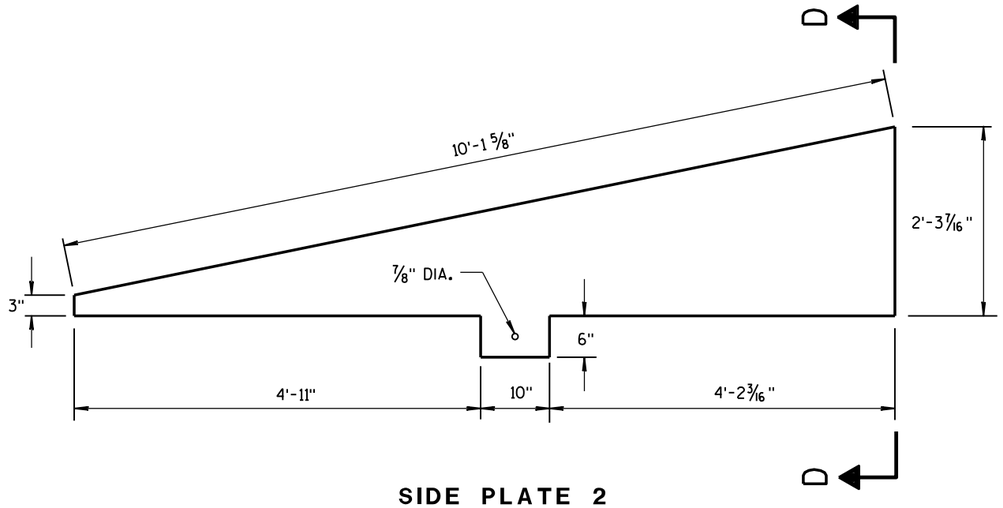
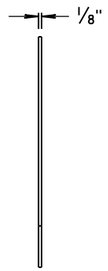
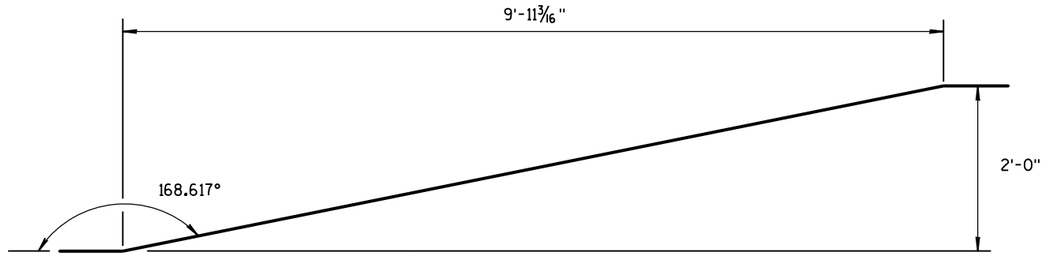
S.D.D. 14 B 7-14g



SIDE PLATE 2

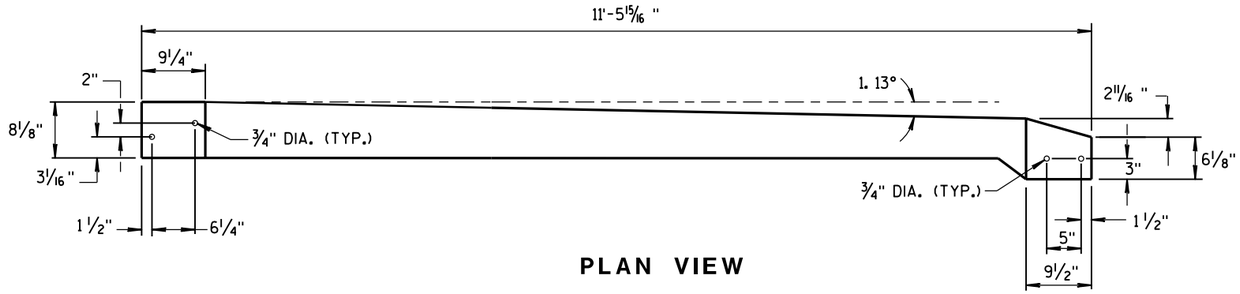


END VIEW



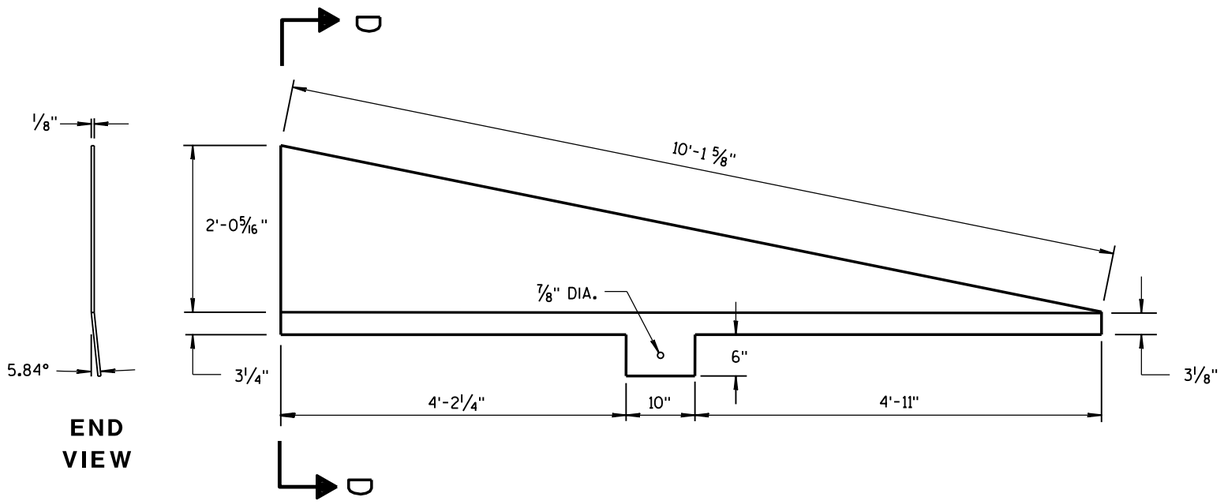
SIDE VIEW

TOP PLATE



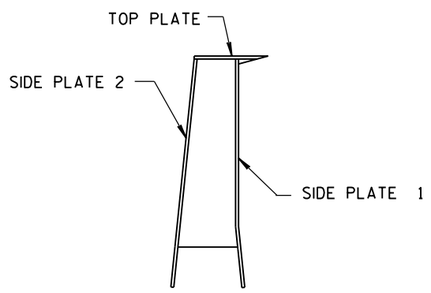
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoaa — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

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S.D.D. 14 B 7-14h

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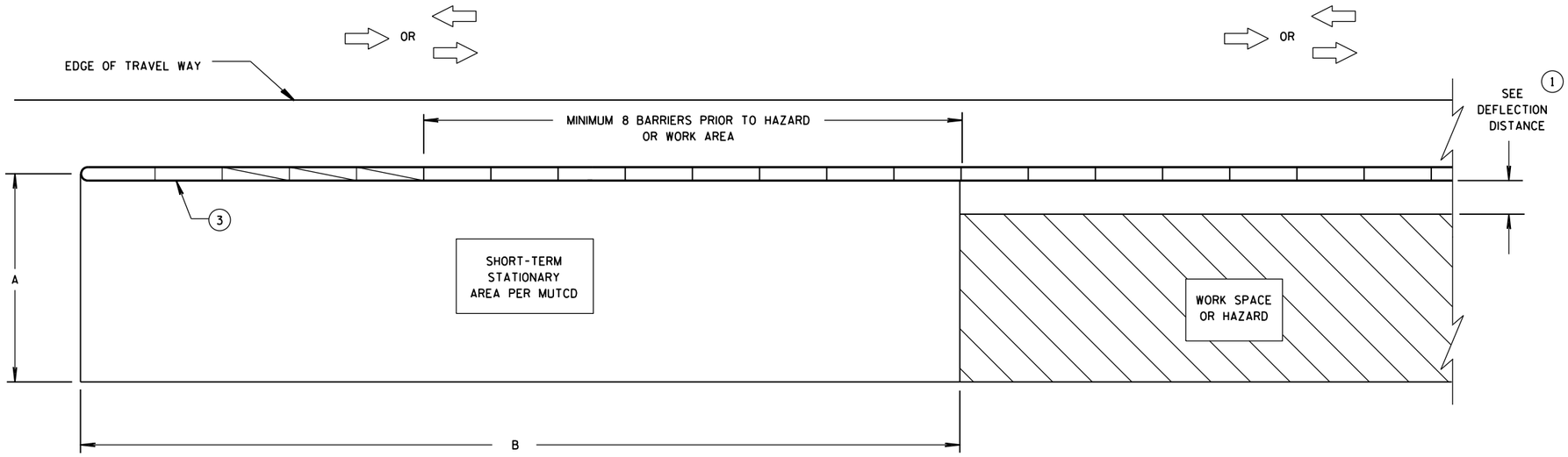
S.D.D. 14 B 7-14h



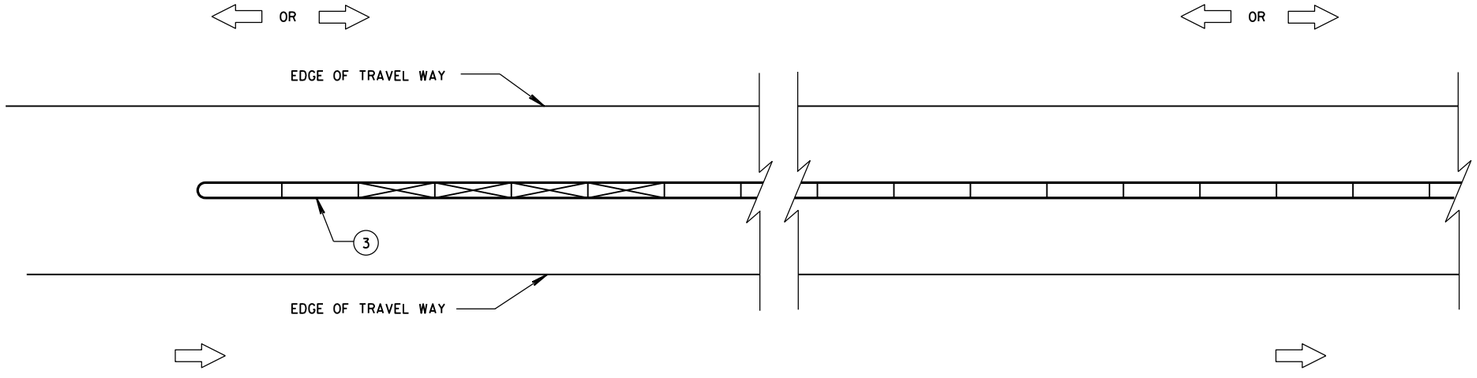
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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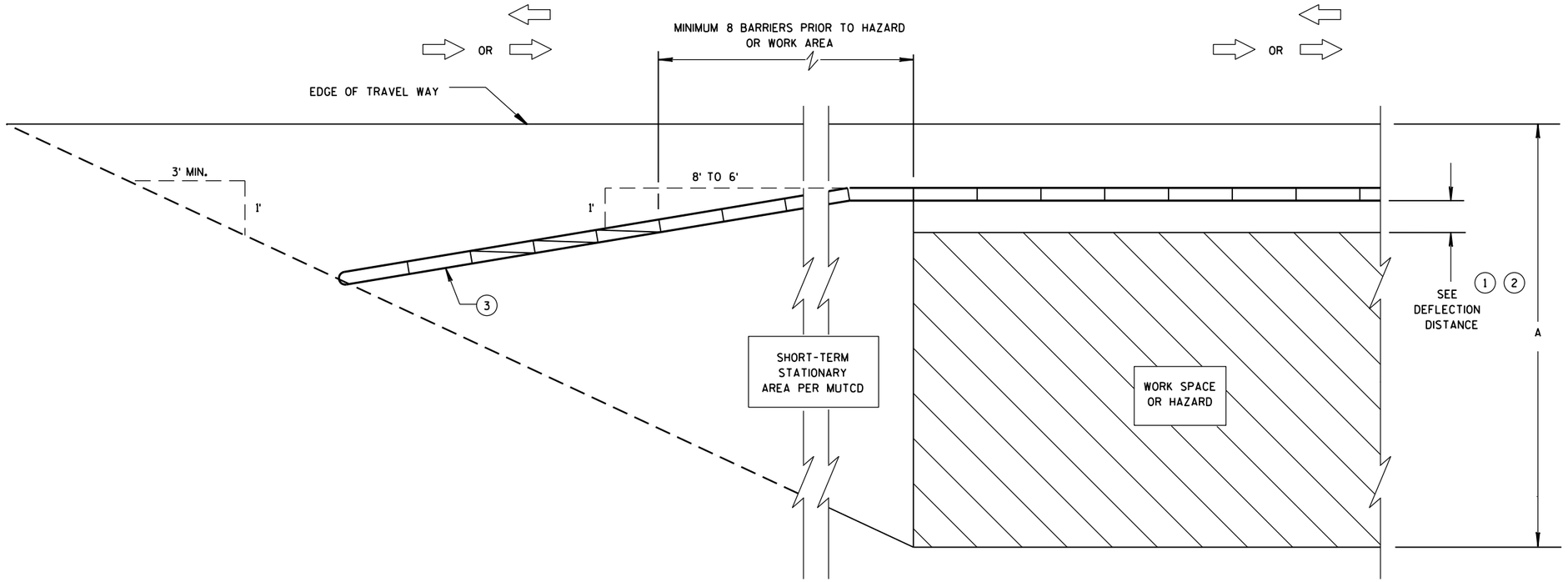
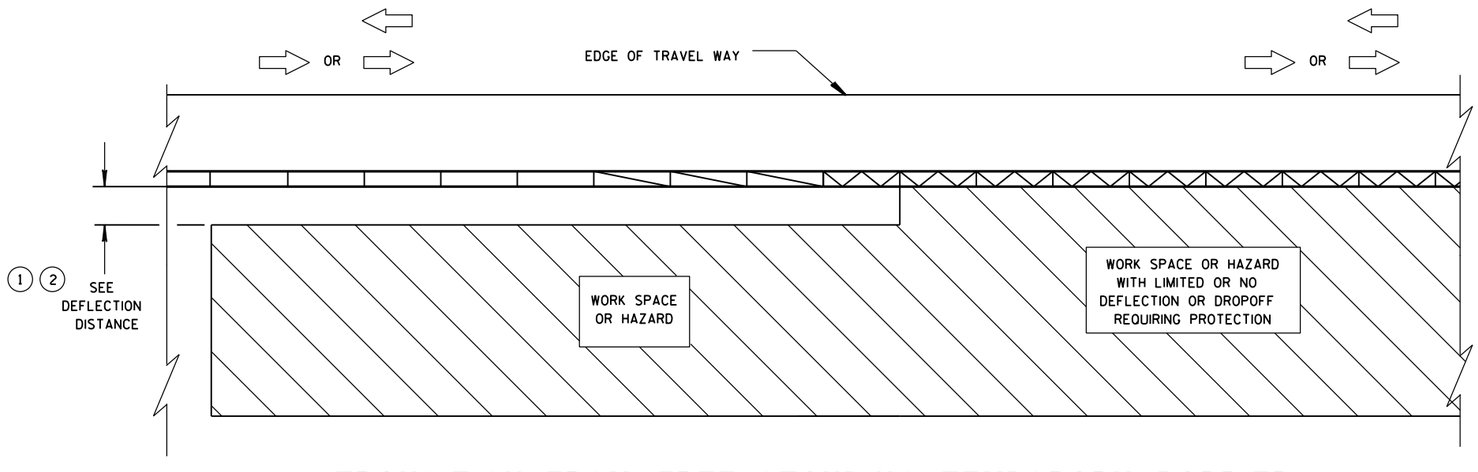
S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 8-2b

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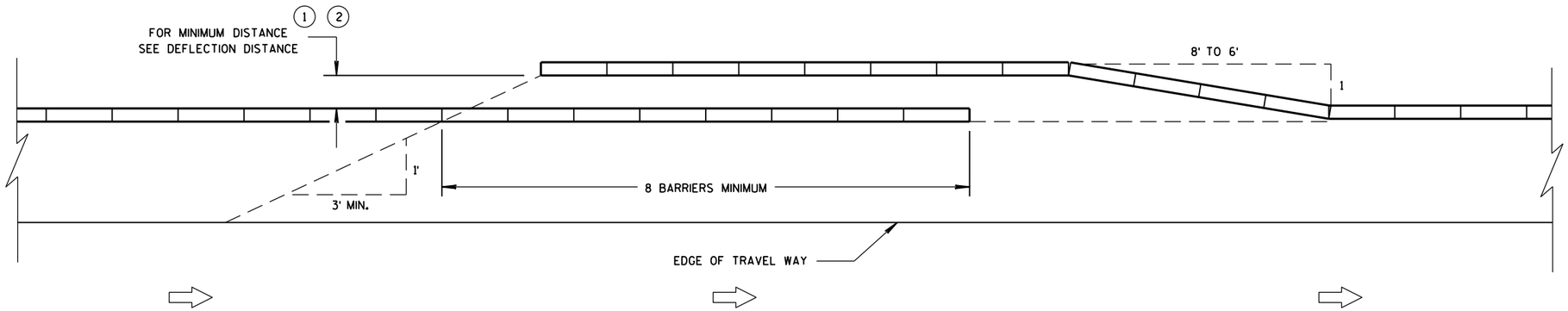
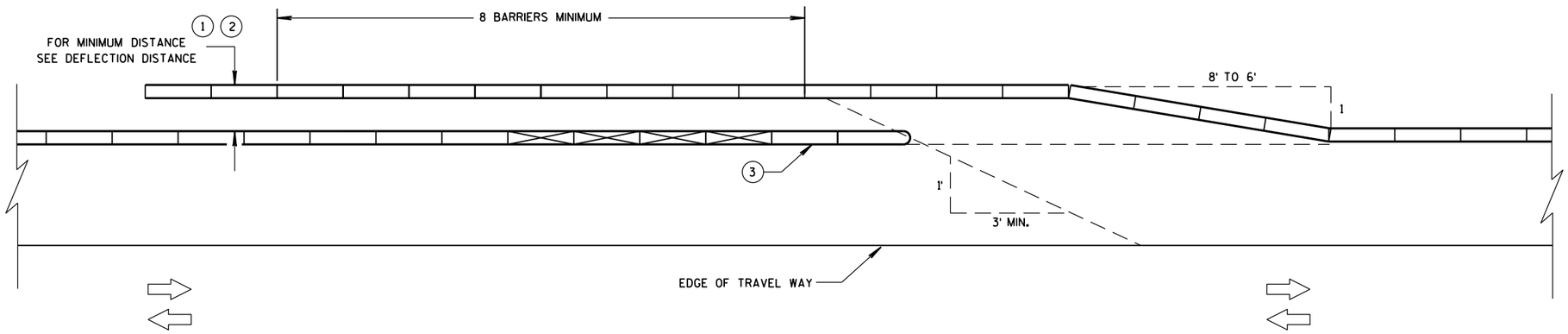
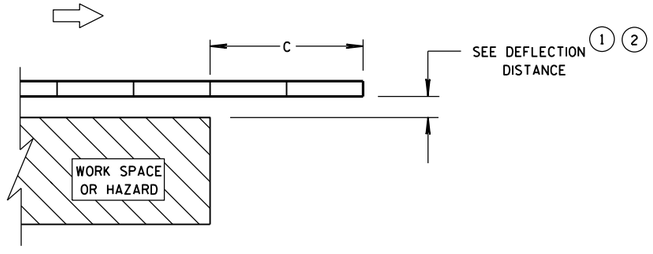
S.D.D. 14 B 8-2b



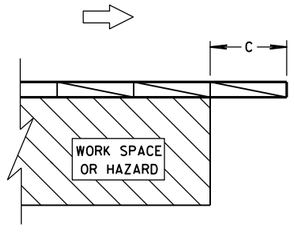
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

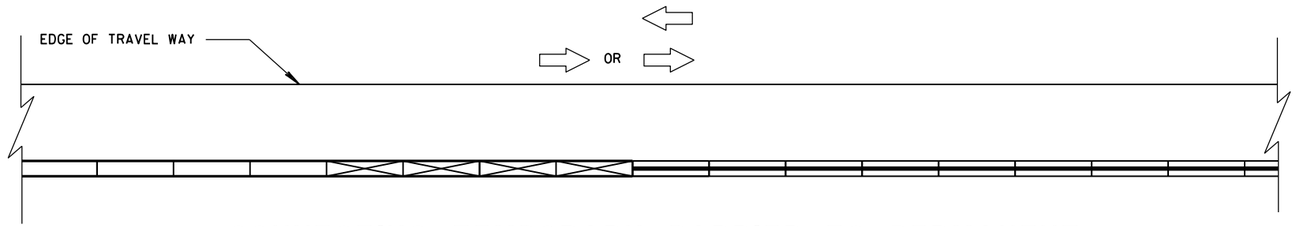
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

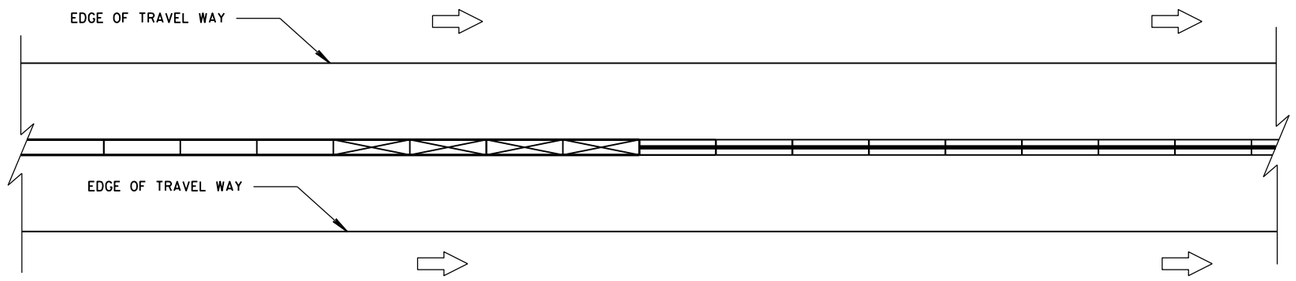
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2c



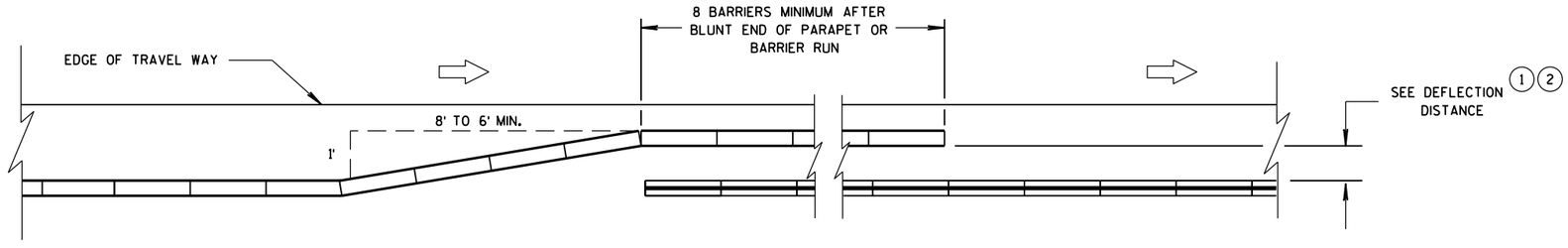
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



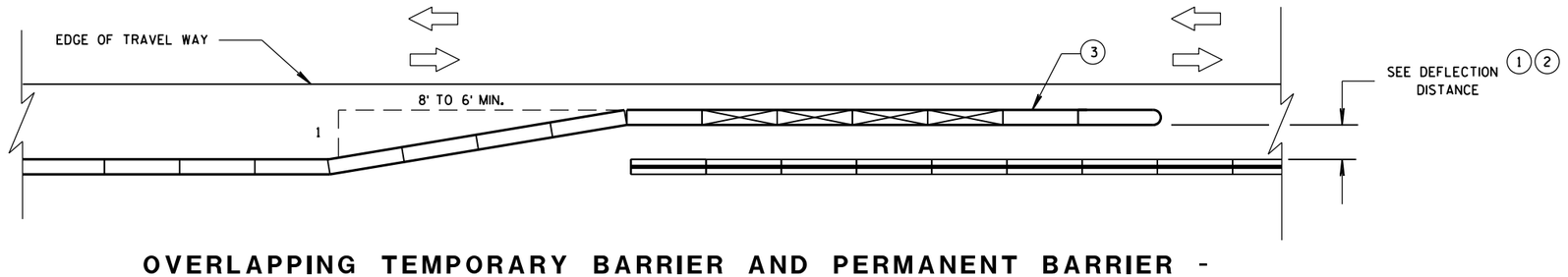
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

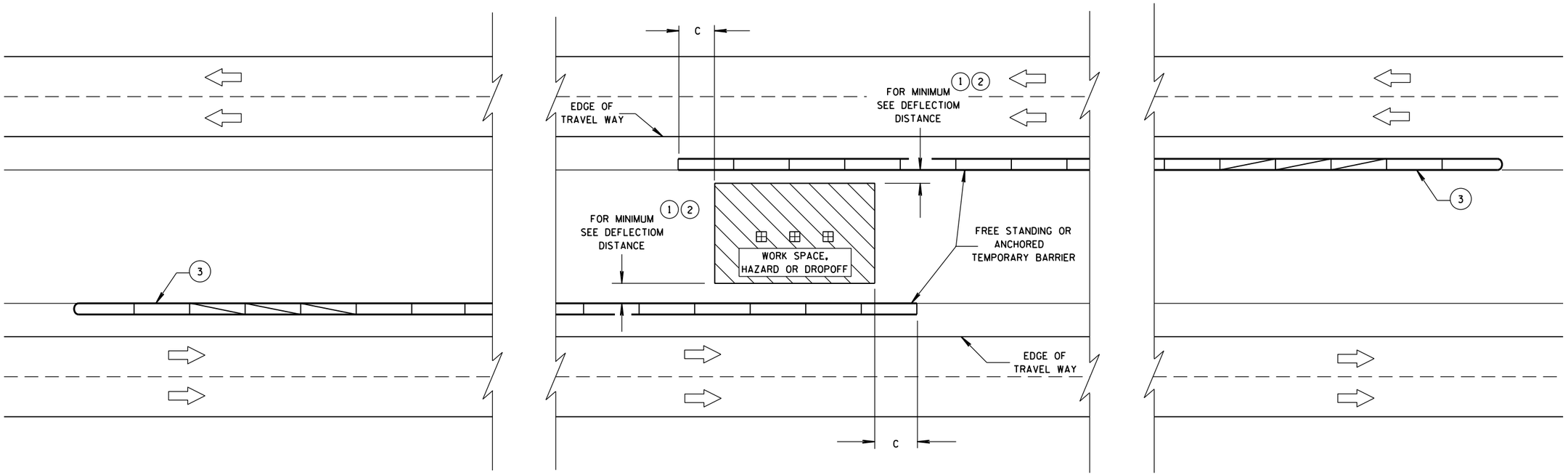
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINNER
FHWA

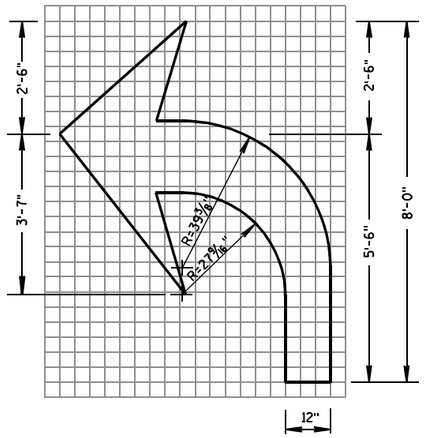
6

S.D.D. 14 B 8-2e

GENERAL NOTES

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

ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



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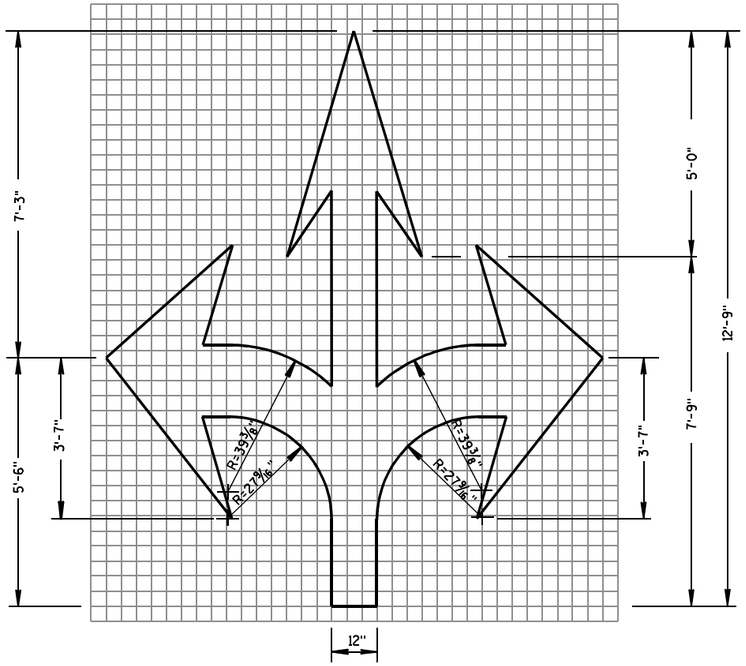
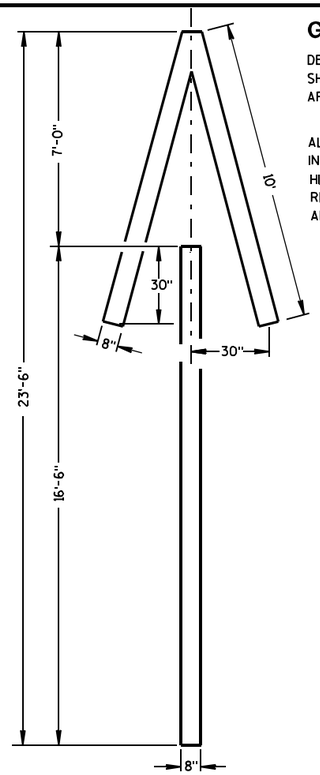
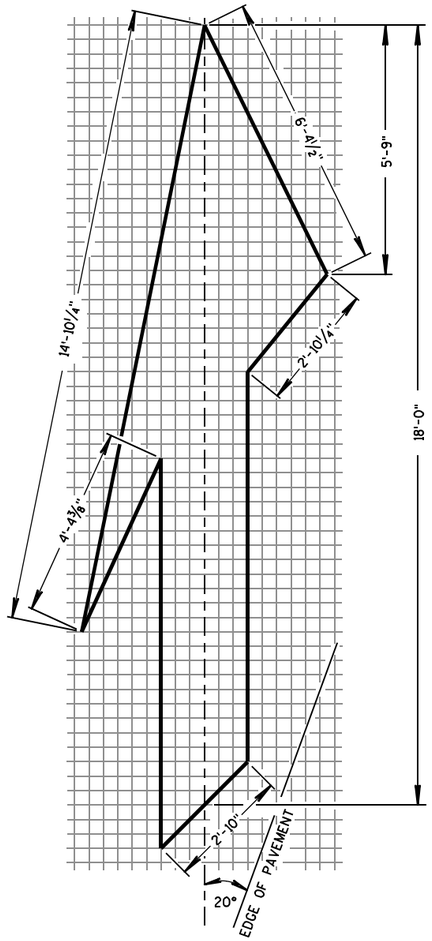


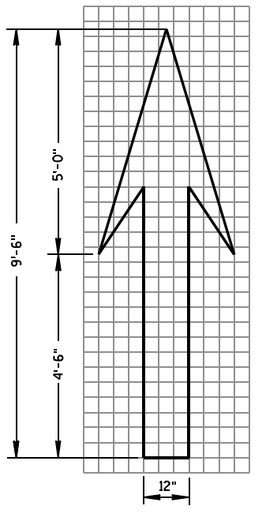
TYPE 6



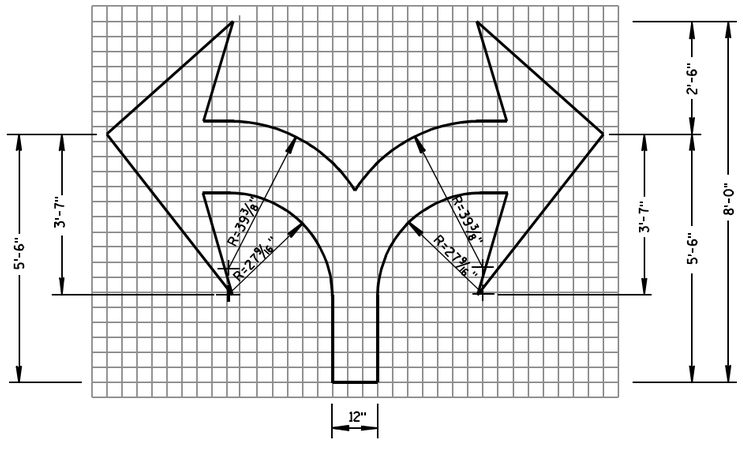
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 1



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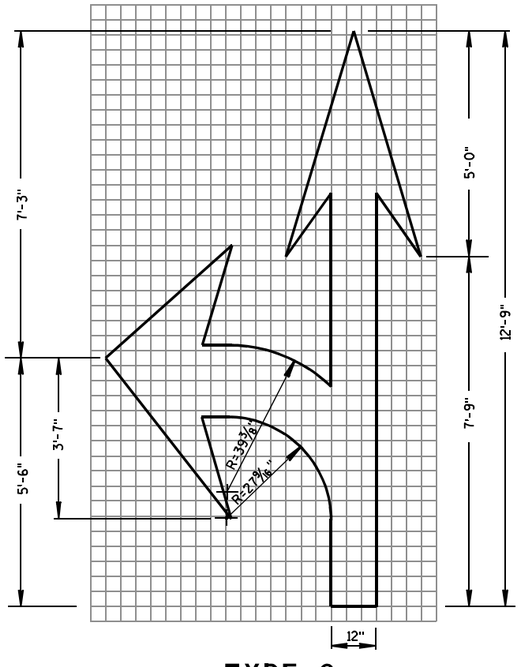


TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

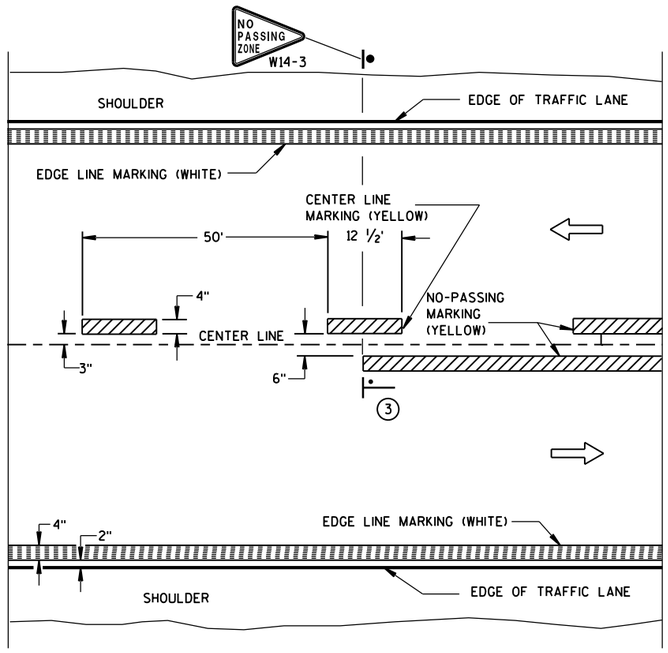
FHWA

6

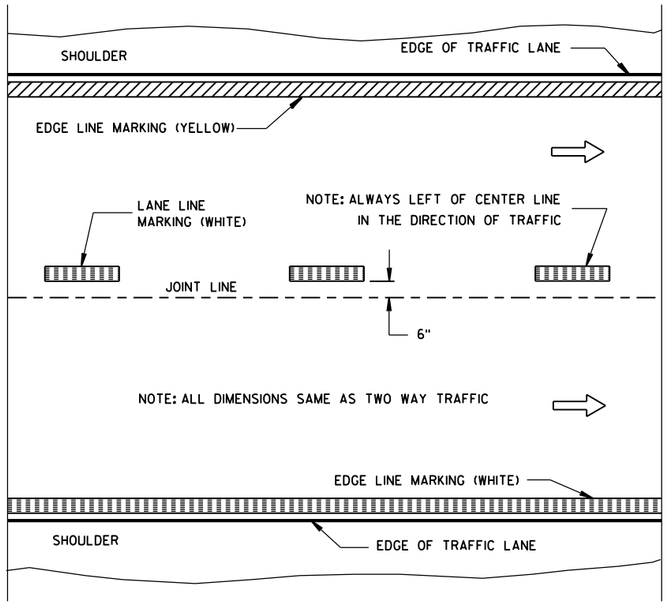
S.D.D. 15 C 7-12c

6

S.D.D. 15 C 7-12c

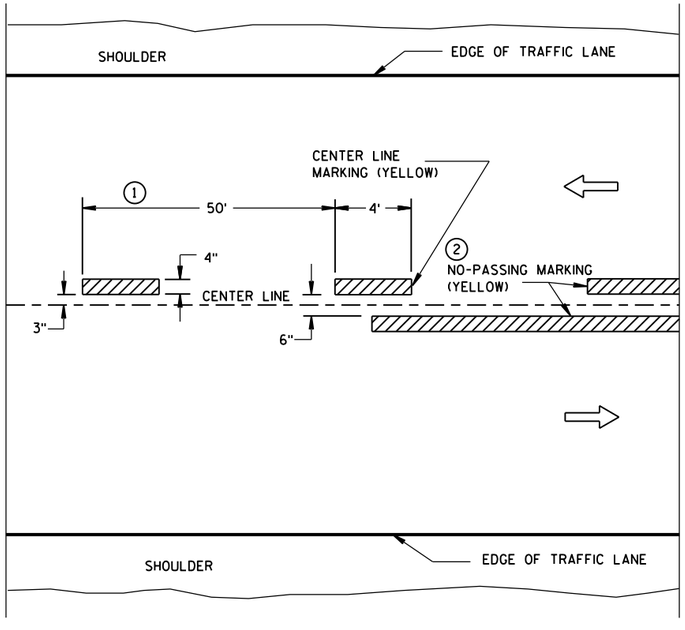


TWO WAY TRAFFIC

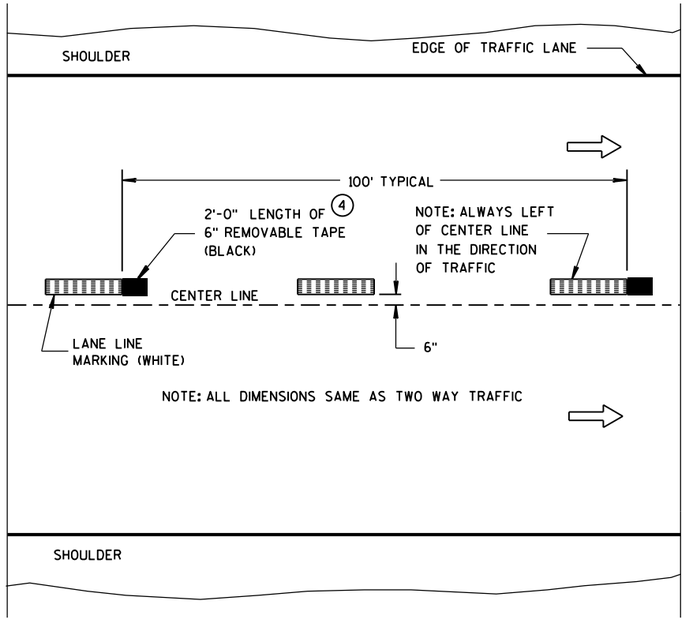


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

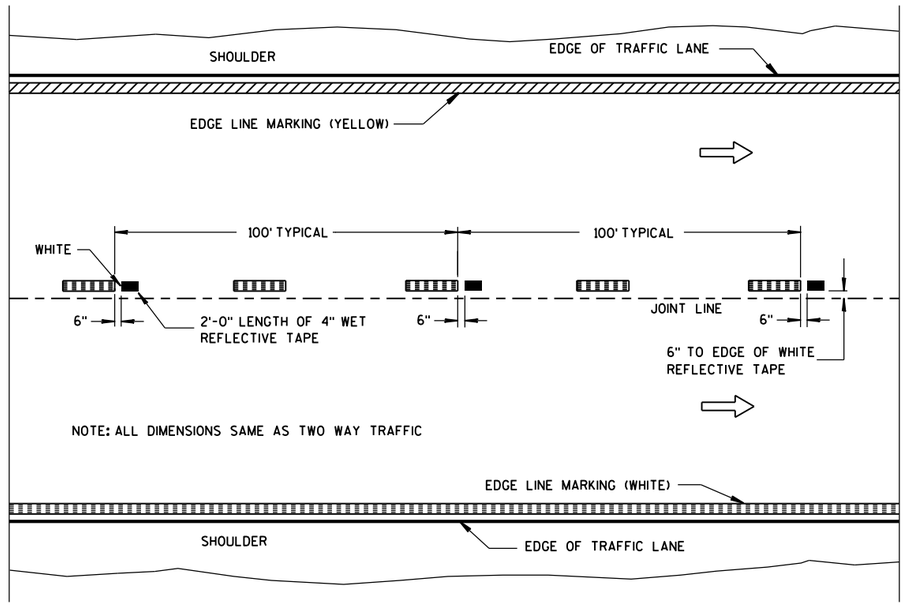
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

S.D.D. 15 C 8-16a

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

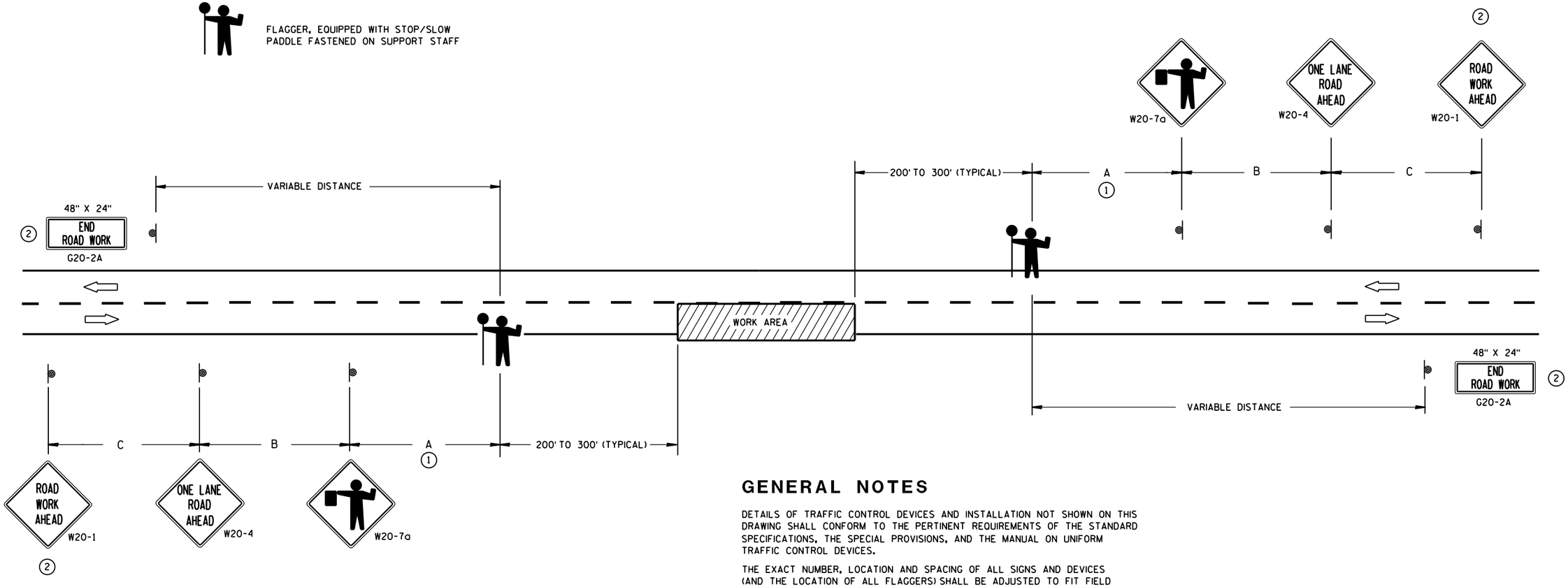
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

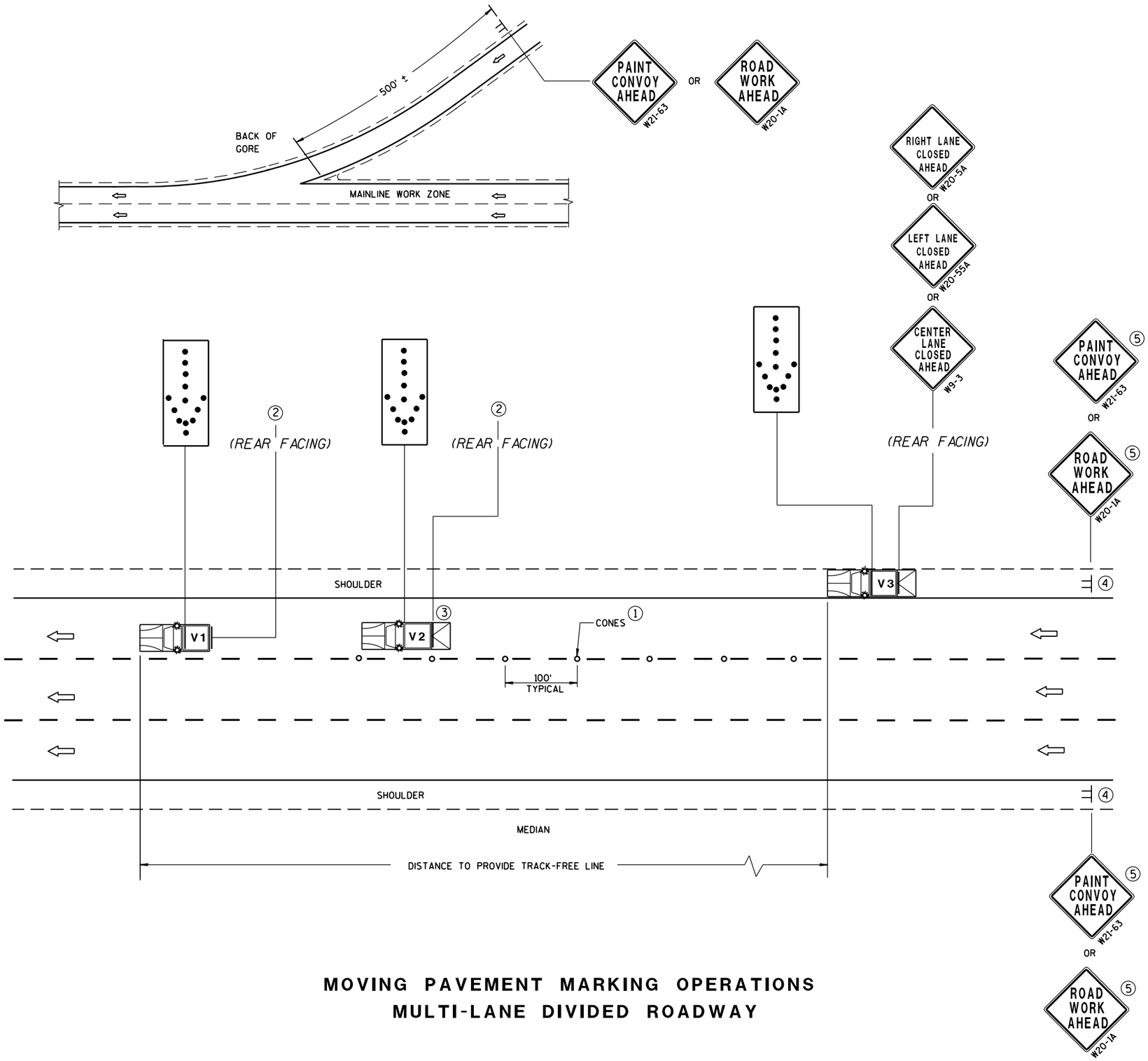
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.

⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

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

MOVING PAVEMENT MARKING OPERATION
MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

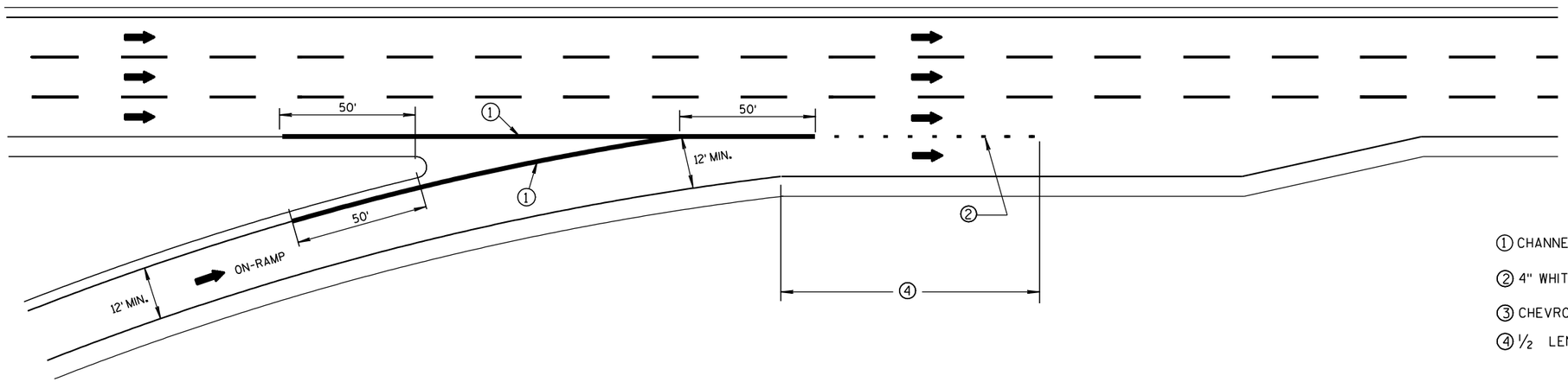
APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGINI
FHWA

6 S.D.D. 15 C 19-3c

6 S.D.D. 15 C 19-3c

NOTES:

1. AHEAD ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
3. RETRACE EXISTING DIAGONAL MARKINGS.



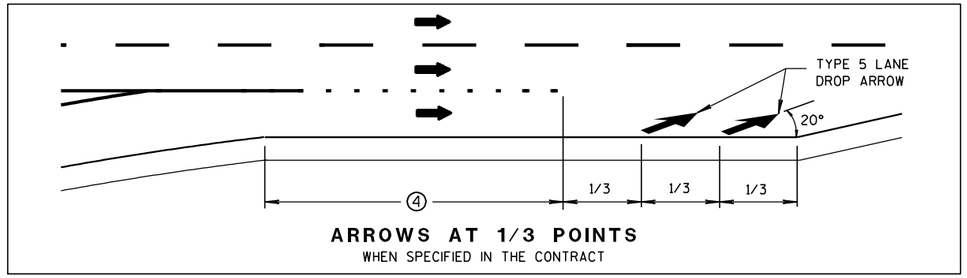
① CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE IN GORE AREA.

② 4" WHITE (3' LINE, 9' GAP).

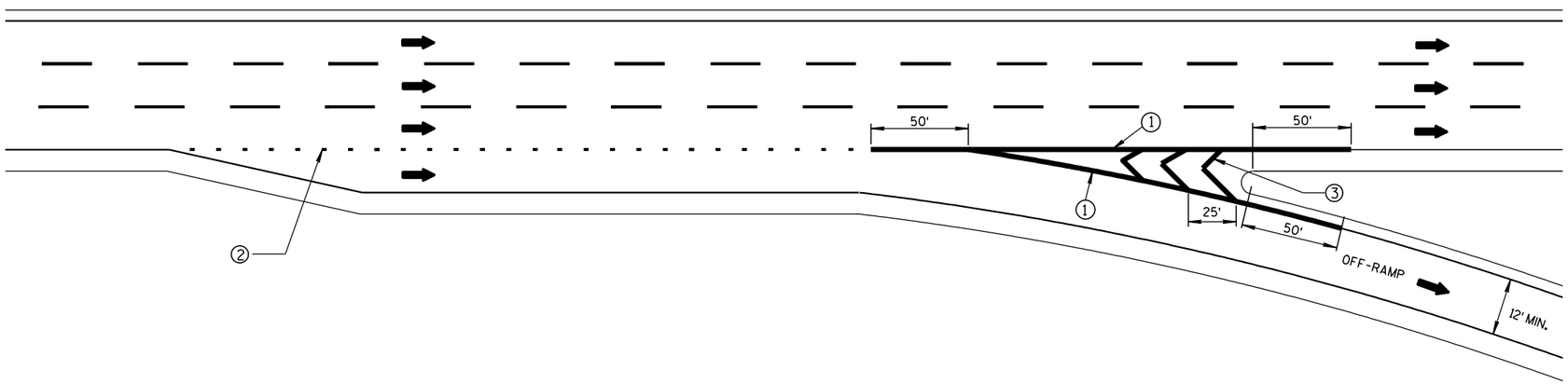
③ CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT.

④ ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP



ARROWS AT 1/3 POINTS
WHEN SPECIFIED IN THE CONTRACT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/23/2011
DATE

/S/ Thomas N. Nothnagel
STATE TRAFFIC ENGINEER

SIGN

FHWA

6

S.D.D. 15 C 31-1d

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

W057-52
36"x24"

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

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

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.

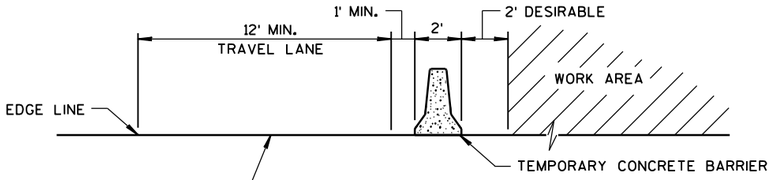
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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

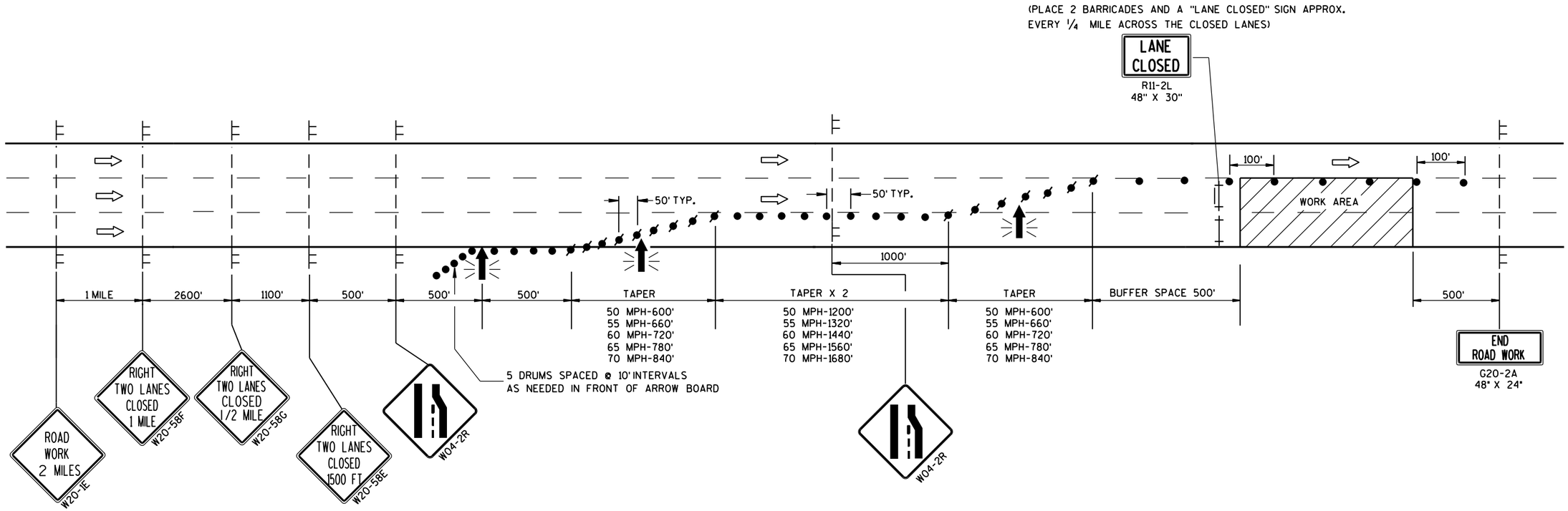
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER — SIGN
FHWA

6

S.D.D. 15 D 3-2

6

S.D.D. 15 D 3-2



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.

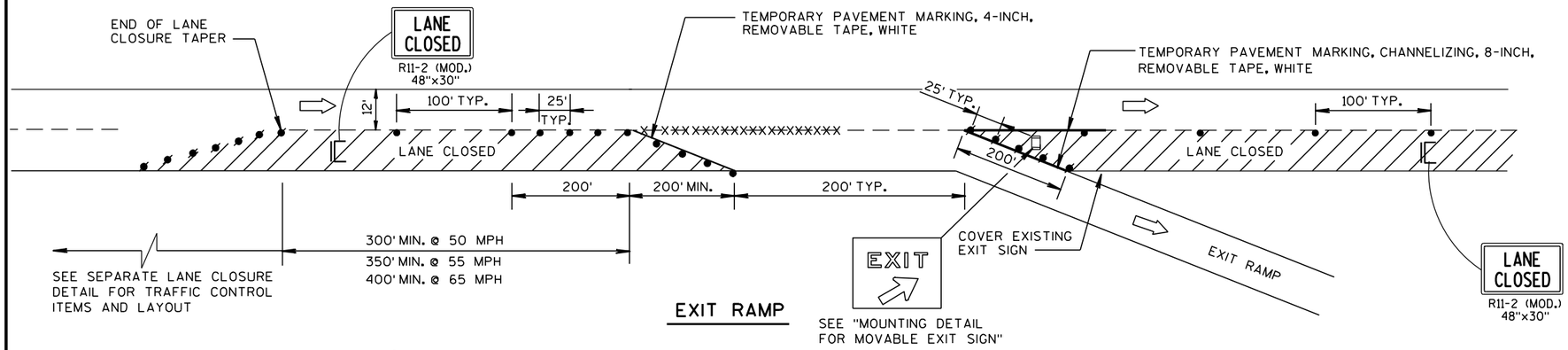
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

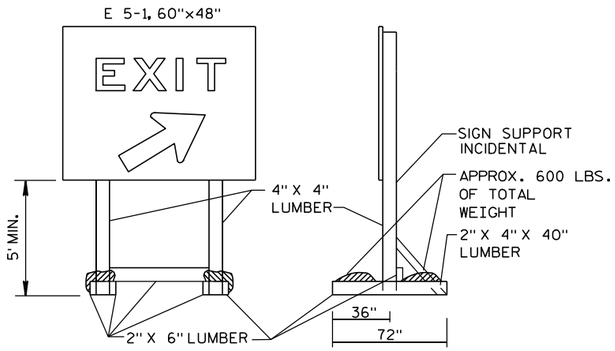
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 14, 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO[illegible] SAFETY ENGR[illegible]FIC
FHWA

6
S.D.D. 15 D 14-3

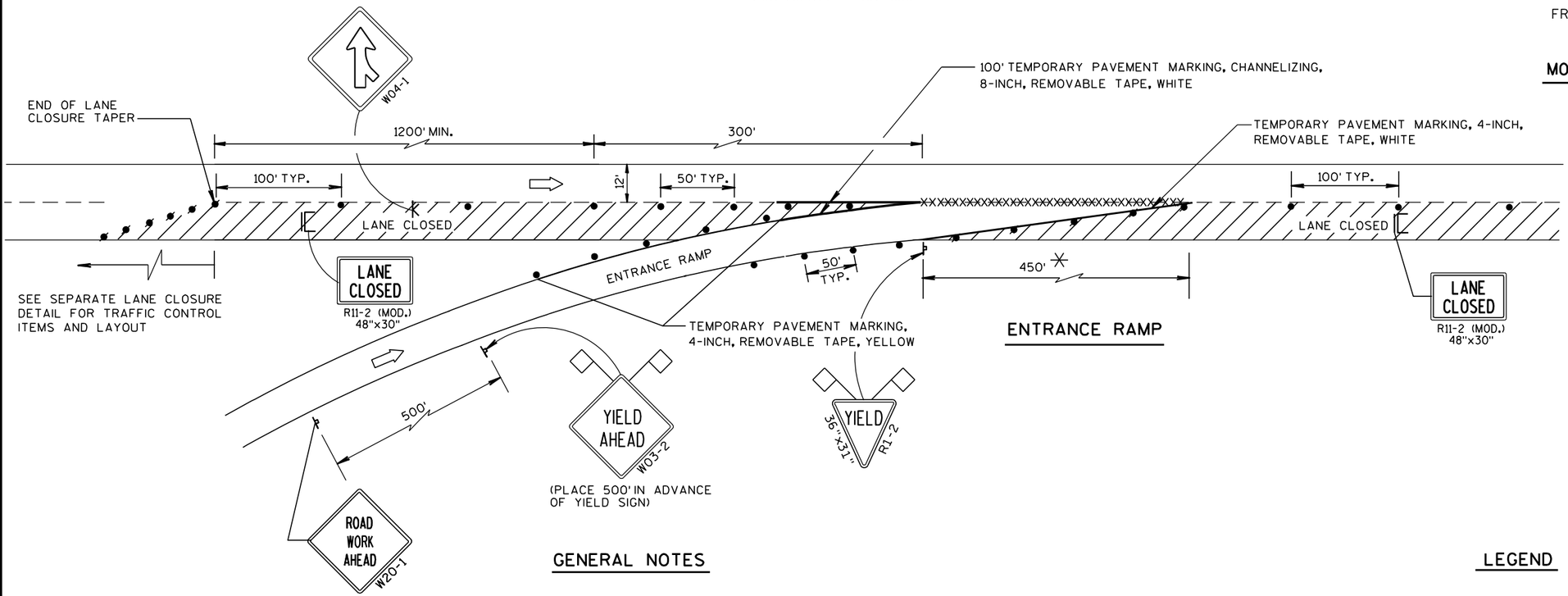


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



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 R11-2 (MOD.) "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

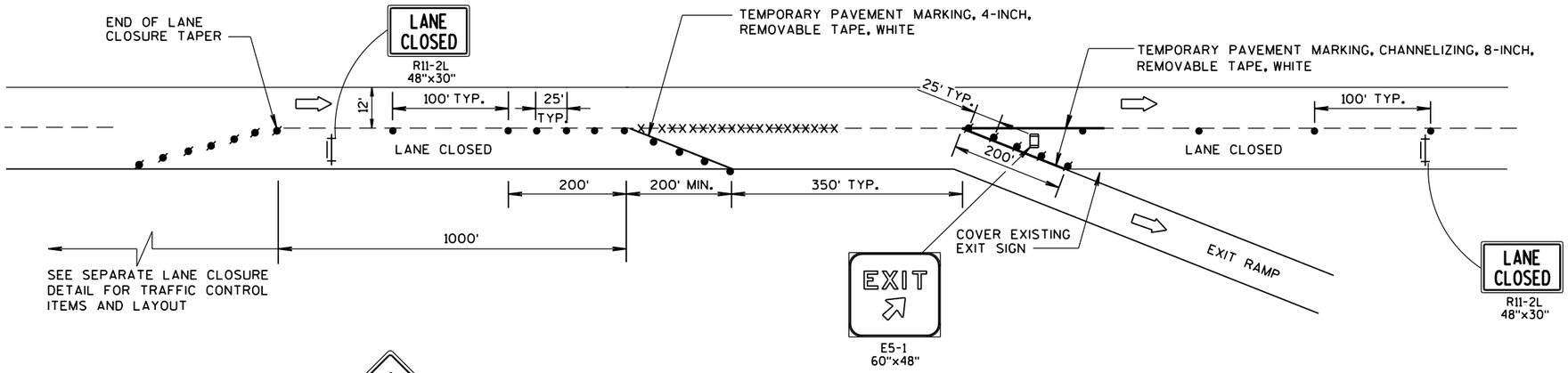
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT
- TRAFFIC CONTROL, DRUM
- TRAFFIC CONTROL, DRUM WITH WARNING LIGHT, TYPE C (STEADY-BURN)
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE (8' EQUIVALENT) WITH SIGN
- FLAGS, 16"x16" MIN., ORANGE
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

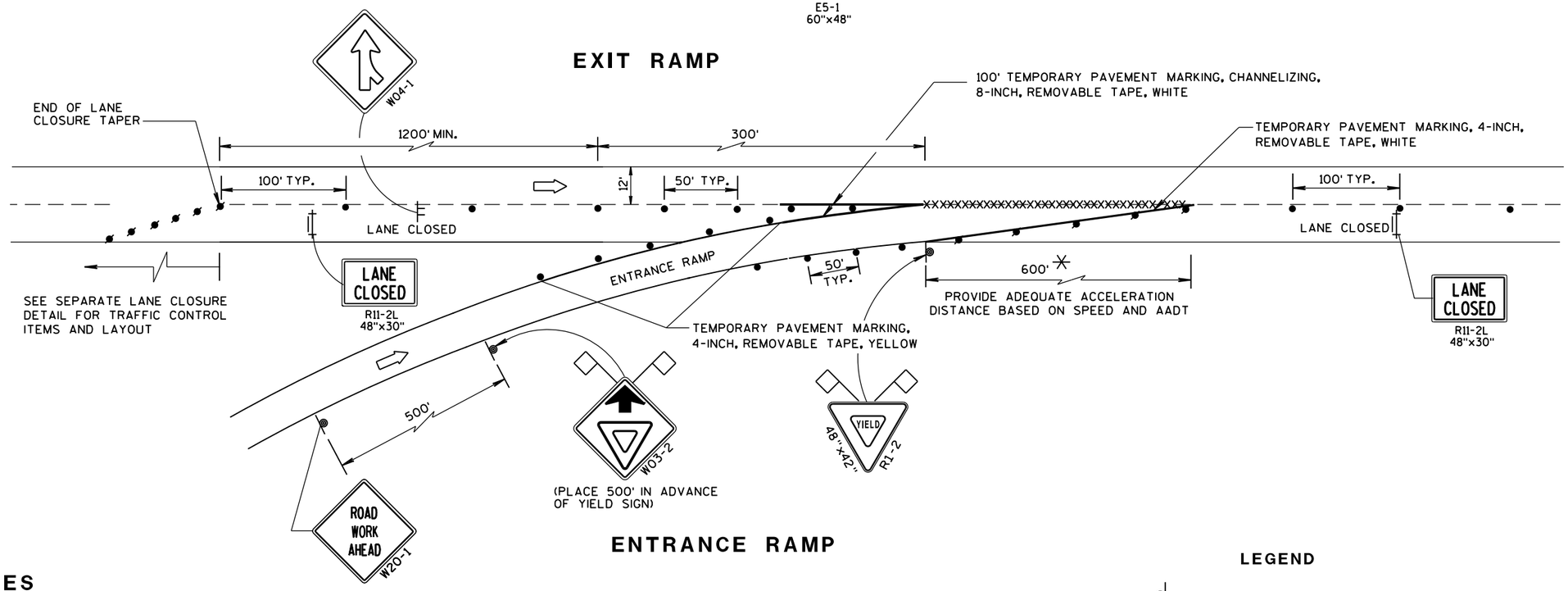
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/24/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

S.D.D. 15 D 15-1



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

6
S.D.D. 15 D 15-2

LEGEND

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

SIGN ON PERMANENT SUPPORT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

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.

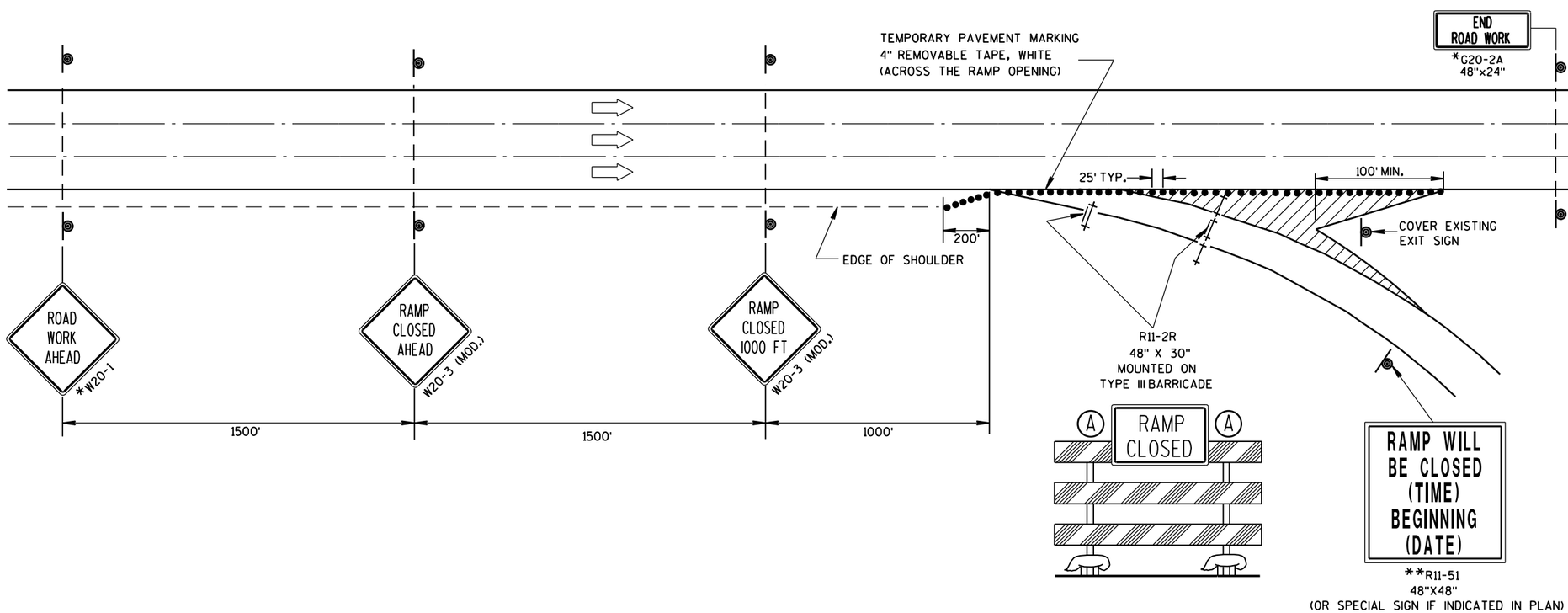
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

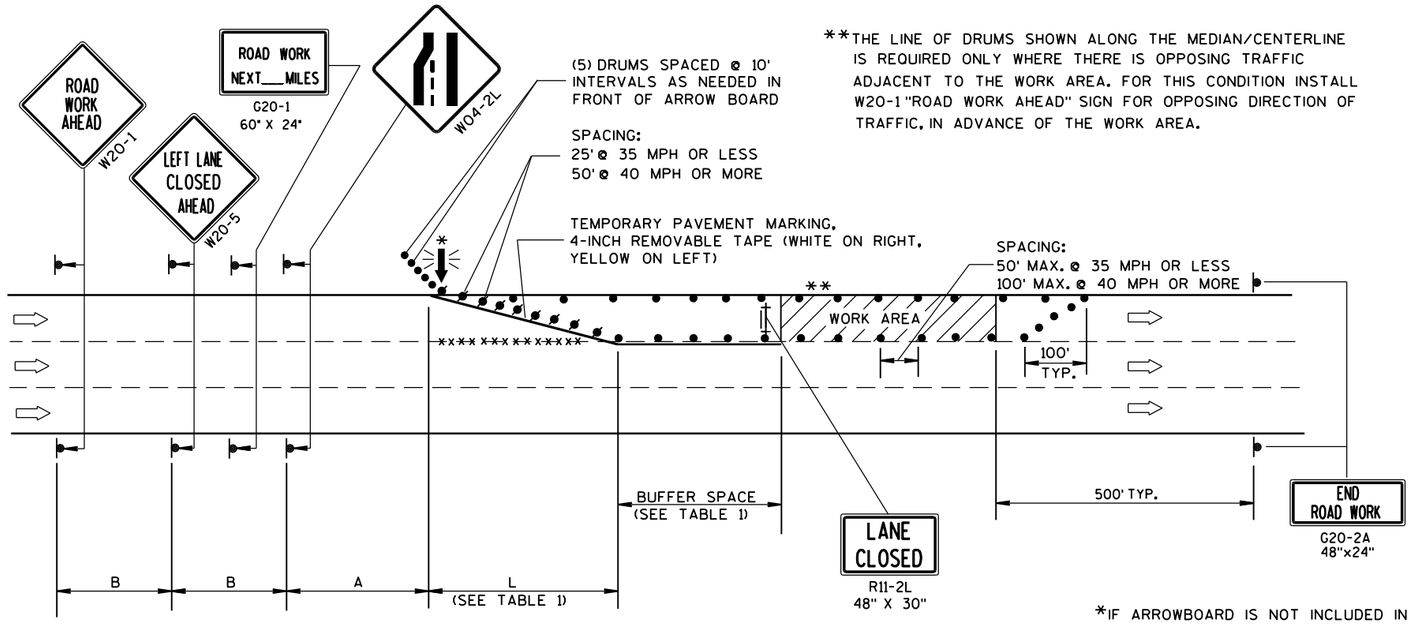
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER
DESIGN

FHWA

6

S.D.D. 15 D 16-2



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

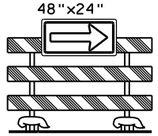


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

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

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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.

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 15 D 20-3

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.

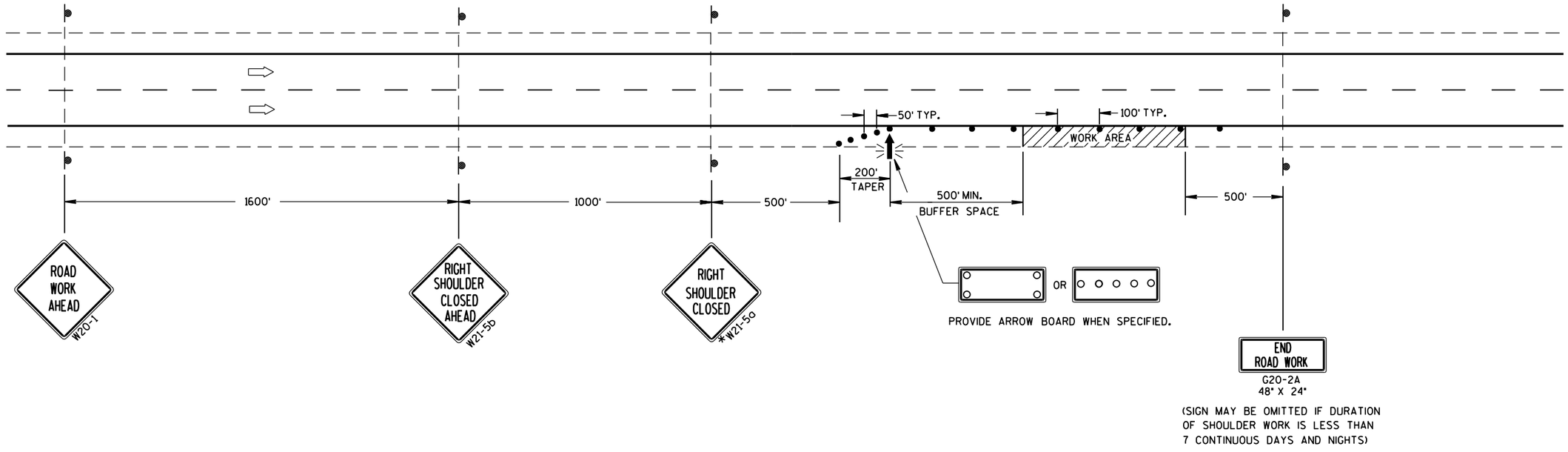
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

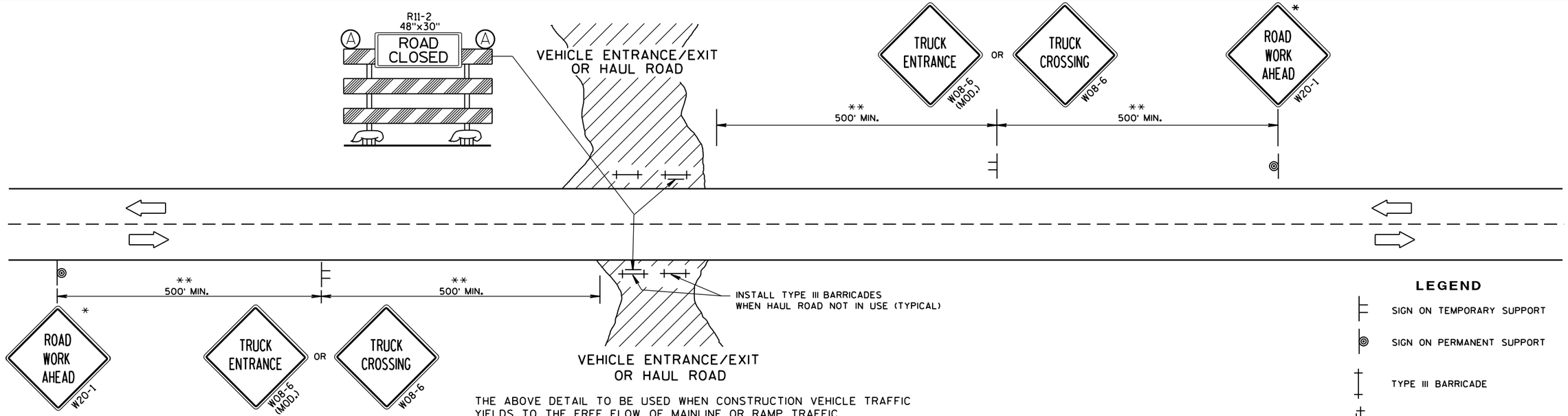
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 D 27-2



THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET. FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

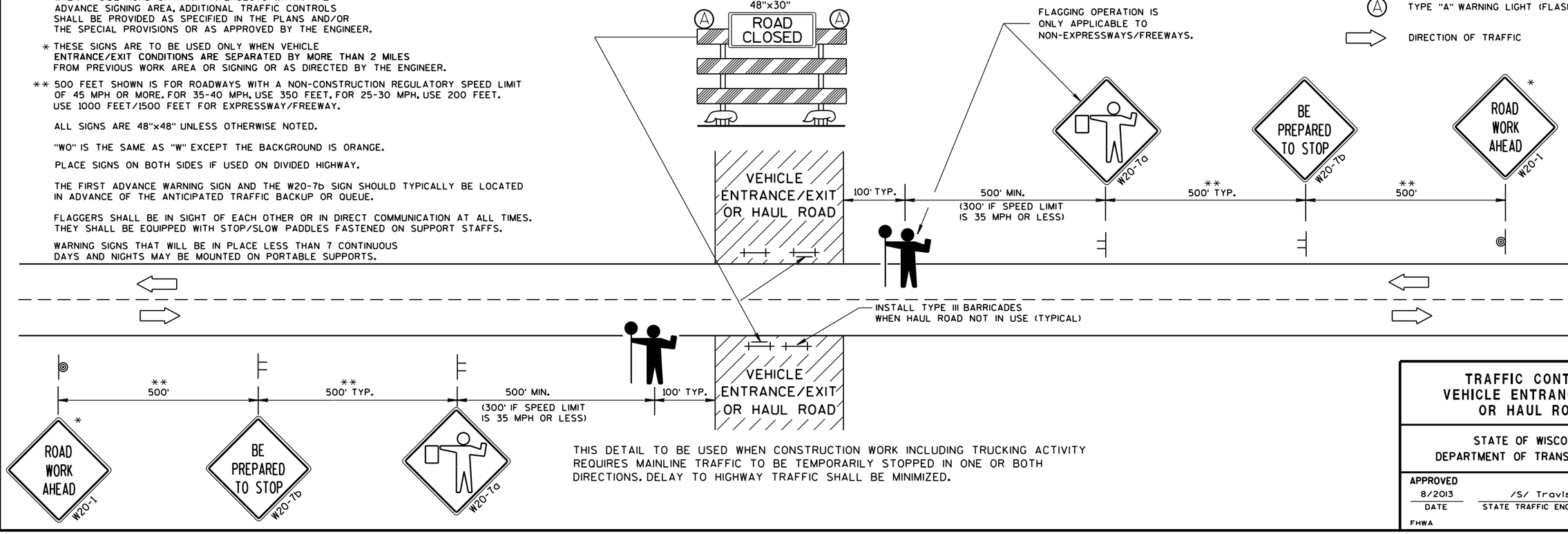
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W20-7b SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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



THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

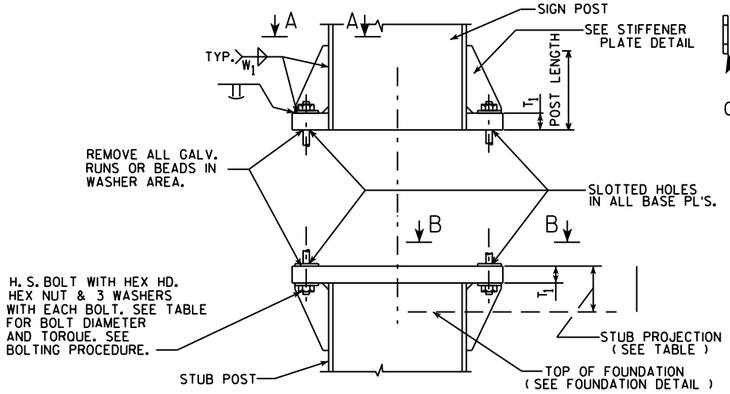
TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

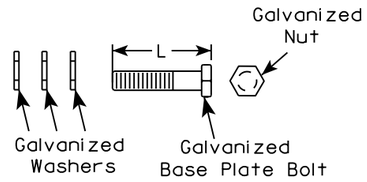
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

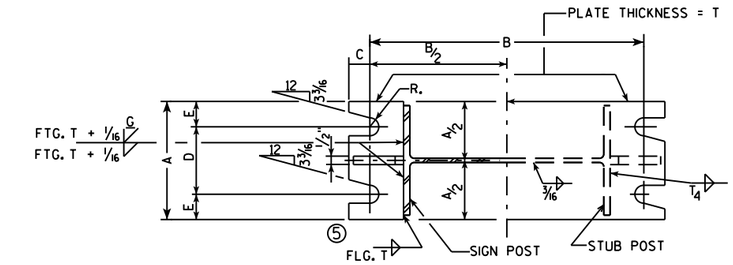
6

S.D.D. 15 D 29-3

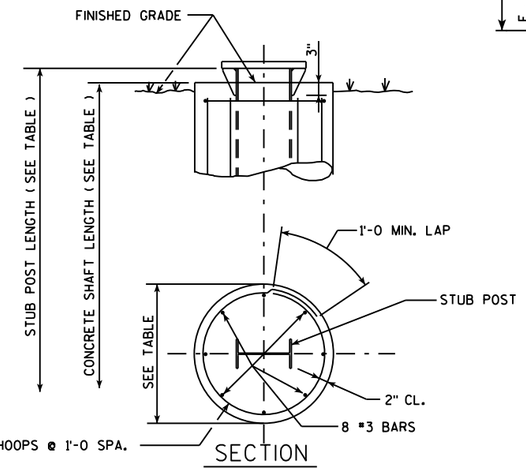


SIGN POST AND STUB POST ELEVATION





SECTION A-A SECTION B-B



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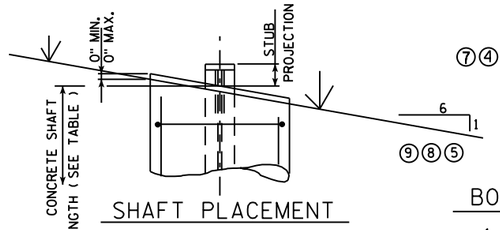


SHAFT PLACEMENT

DESIGN DATA

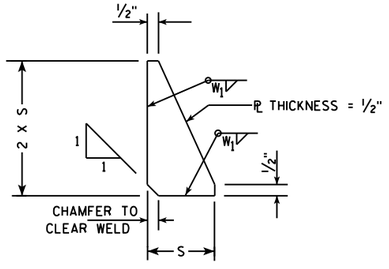
WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & 1/2 WIND[4]	140 [4]25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1 1/2 T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

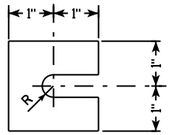
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123. (9)
THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
FURNISH STEEL BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SECTION 635 OF THE STANDARD SPECIFICATIONS.



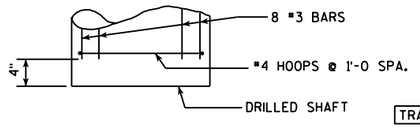
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)



FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

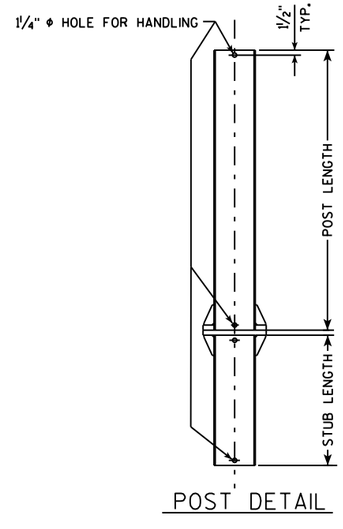
SHIM DETAIL



FOUNDATION DETAIL

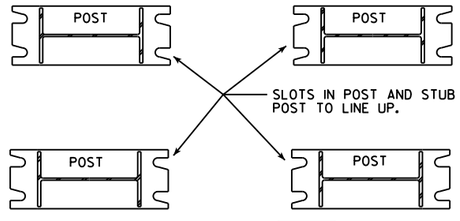
QUANTITIES FOR 1 FOOTING		
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
(7) E	1.0	62

(7) REINF.	TYPE	#3	#4
	A	8 @ 4'-5	5 @ 6'-3
	B	8 @ 6'-5	7 @ 6'-3
	C	8 @ 6'-11	7 @ 6'-3
	D	8 @ 7'-5	8 @ 6'-3
	E	8 @ 7'-11	9 @ 6'-3



POST DETAIL

TRAFFIC →



POST ON THE RIGHT POST ON THE LEFT

POST SLOT ORIENTATION (7)

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

BASE CONNECTION DATA TABLE														FOUNDATION DATA				(2)
L	X	TYPE	DIMENSION / POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	K
3 3/4	(4)	A	W10"X12.0 #/FT.	3/4" Φ @ 75#-FT.	5 1/4"	1'-0 3/8"	7/8"	3 1/2"	7/8"	1"	3/16"	5/16"	13/32"	2 1/8"	3'-6	3"	2'-0 Φ	5'-0	76.0# (4)
4 3/4	(4)	B	W12"X16.0 #/FT.	7/8" Φ @ 85#-FT.	5 1/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/4"	1/4"	5/16"	13/32"	3"	5'-6	3"	2'-0 Φ	7'-0	146.5# (4)
5		C	W12"X19.0 #/FT.	7/8" Φ @ 85#-FT.	5 1/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/2"	5/16"	5/16"	13/32"	3"	6'-0	3"	2'-0 Φ	7'-6	182.1#
5		D	W12"X22.0 #/FT.	7/8" Φ @ 85#-FT.	5 1/2"	1'-4 1/4"	1"	3 1/2"	1"	1 1/2"	3/8"	5/16"	13/32"	3"	6'-6	3"	2'-0 Φ	8'-0	210.5#
5	(3)	E	W12"X26.0 #/FT.	1" Φ @ 90#-FT.	7"	1'-4 1/4"	1 1/4"	4"	1 1/2"	1 1/2"	3/8"	5/16"	17/32"	3"	7'-0	3"	2'-0 Φ	8'-6	293.0# (3)

(1) (6) (1)

STRUCTURAL CARBON STEEL PAY WTS. (1 POST) = K+ (POST LENGTH X POST WT.)
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/15 PLATE NO. A3-1.16

(10)	1-21-14	LUBRICATION OF BASE BOLTS
(9)	4-26-11	REMOVE NON-GALVANIZED
(8)	10-30-96	NOT GALVANIZED/GALVANIZED
(7)	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
(6)	8-24-87	BASE CONN. WELD
(5)	10-13-81	BASE CONN. WELD & FUSE PL WASHERS
(4)	10-19-79	POST A & B, A572 GR. 50, & K
(2)	11-28-78	"K" (3) 4-23-79 TYPE "E"
(1)	5-4-78	T_1 , T_2 & W_1
NO.	DATE	REVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

CONST. SPEC. 2011	DRAWN BY JPH	PLANS CK'D.

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

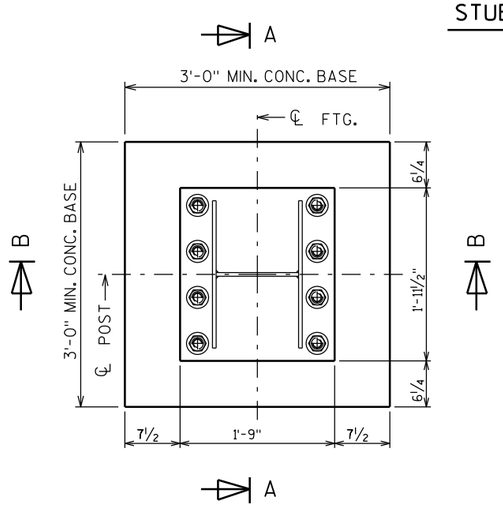
SHEET

78

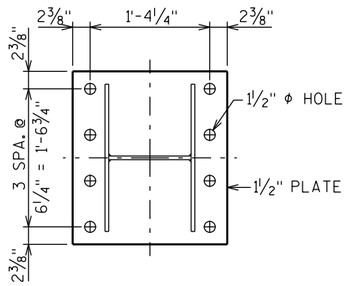
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31.DGN PLOT DATE : 01-DEC-2015 18:20 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000

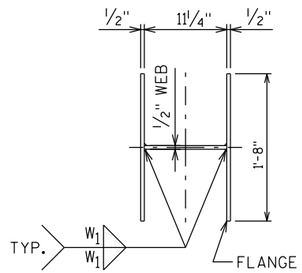
STUB AND MASONRY ANCHOR DETAILS



STUB SECTION



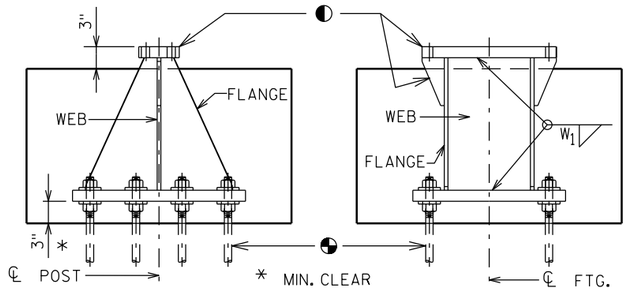
BASE PLATE



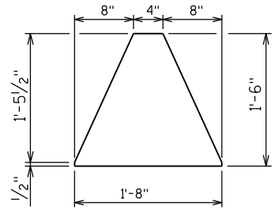
STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.



SECTION A SECTION B



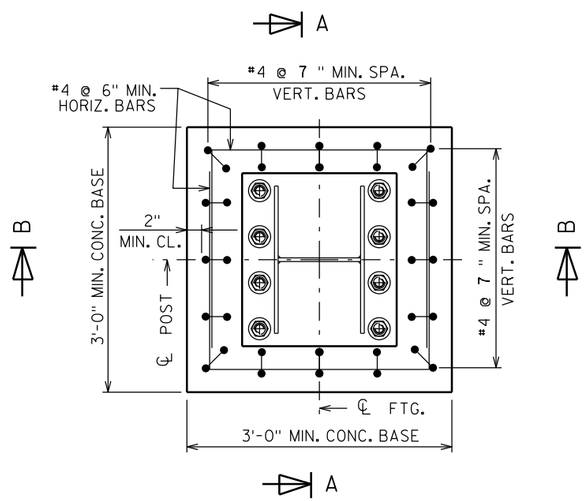
FLANGE

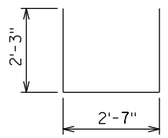
GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

CONCRETE BASE AND REINFORCING STEEL DETAILS

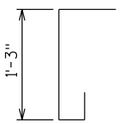
CONCRETE BASE SECTION





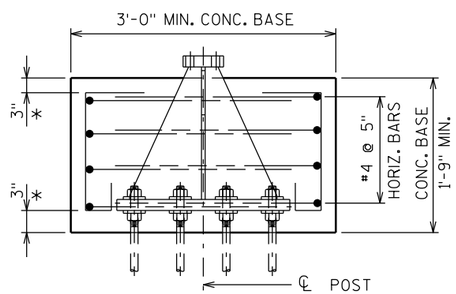
HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH

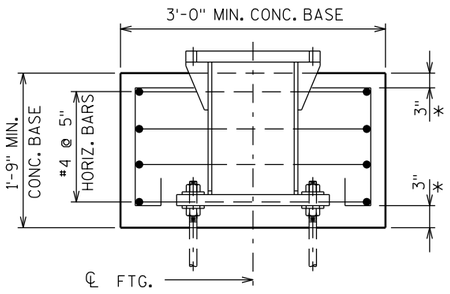


VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A



SECTION B

* MIN. CLEAR

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

WISCONSIN DEPT OF TRANSPORTATION

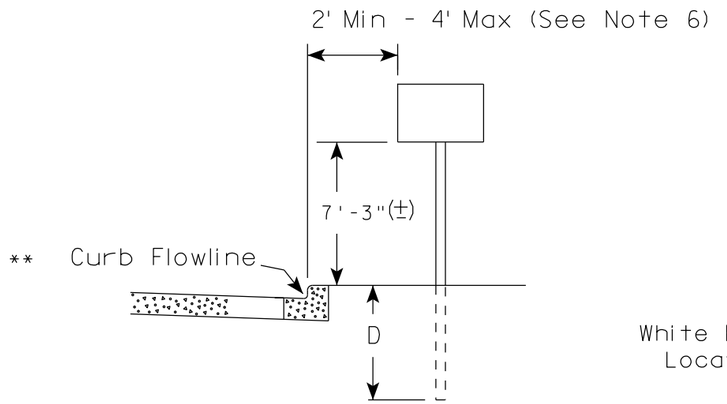
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/2014 PLATE A3-1M.1

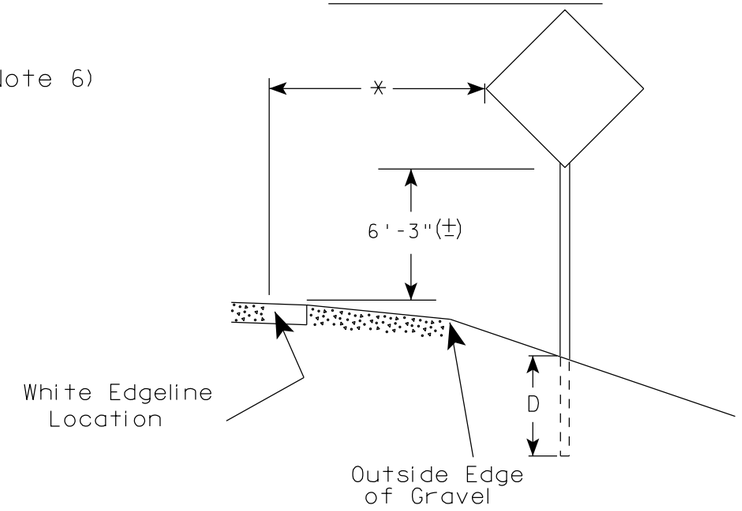
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

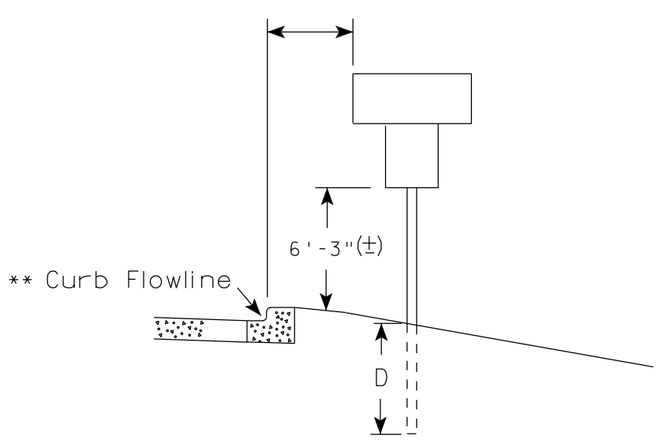
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31M.DGN PLOT DATE : 10-MAR-2014 15:16 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.556674:1.000000 WISDOT/CADDS SHEET 42

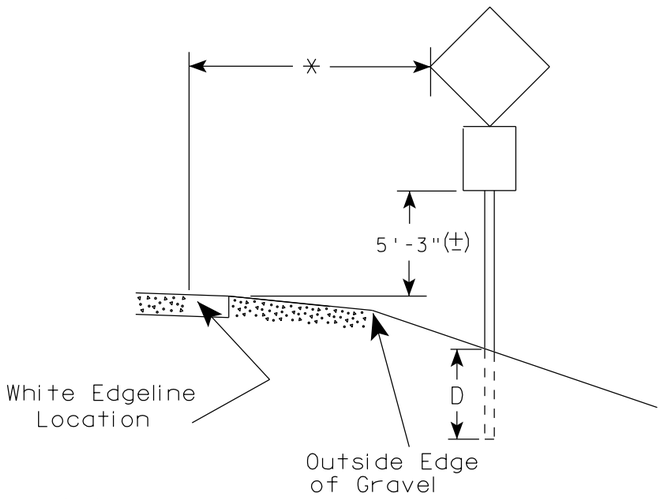
URBAN AREA



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" (±).

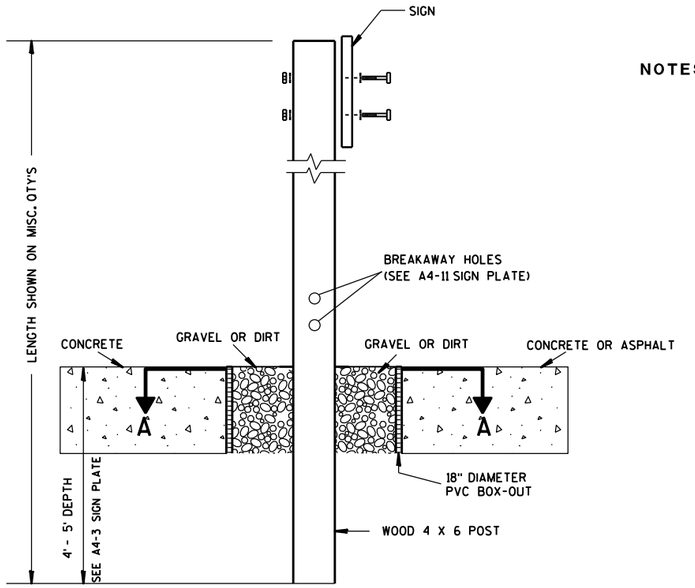
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

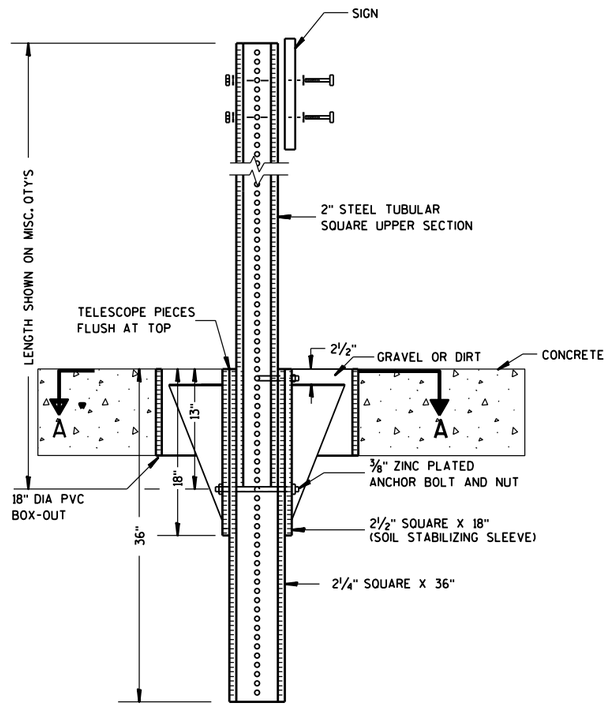
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

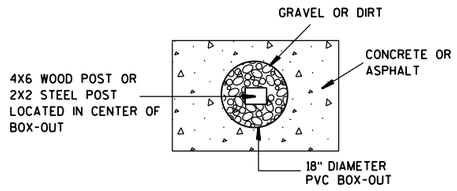
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

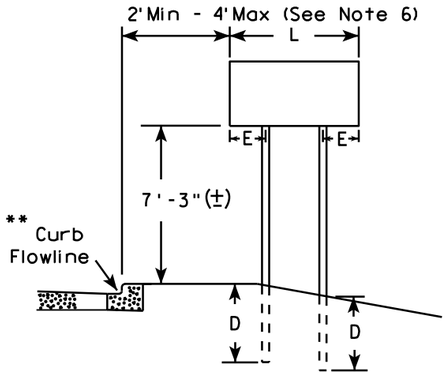
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

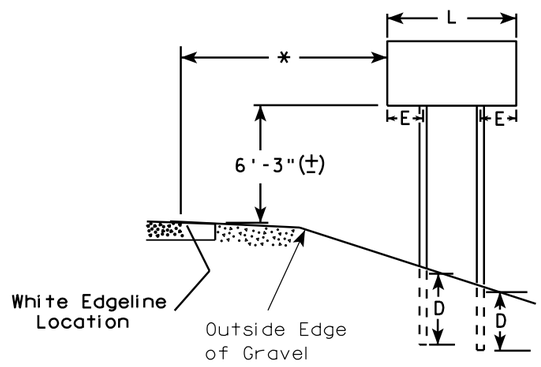
DATE 1/27/14 PLATE NO. A4-3B.1

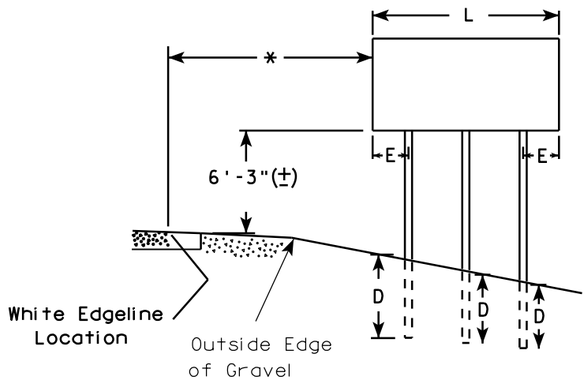
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

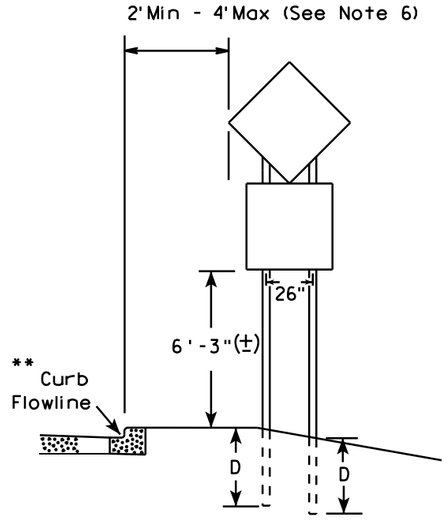
URBAN AREA



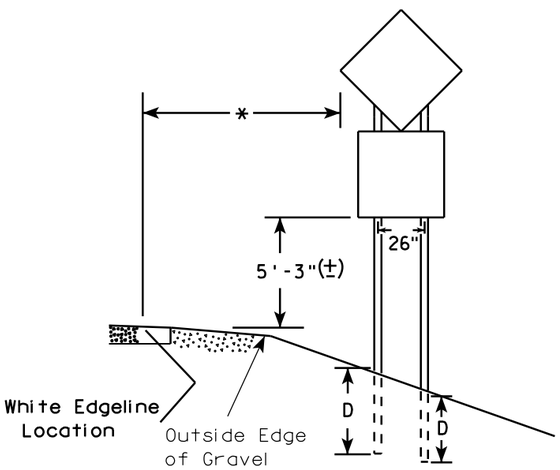
RURAL AREA (See Note 3)







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

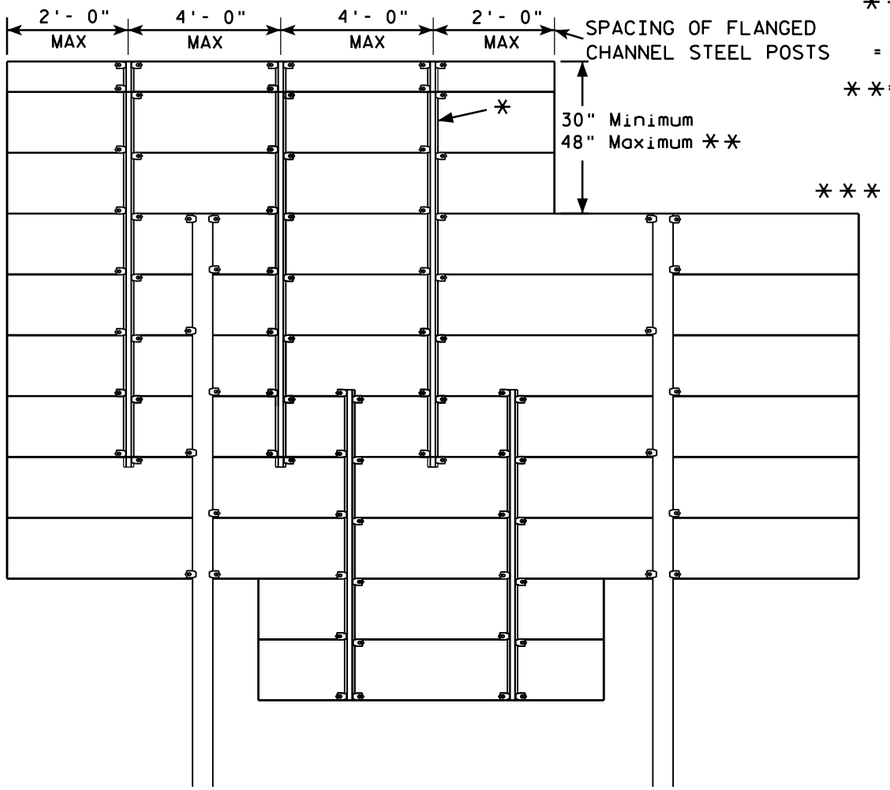
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 82 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

GROUND MOUNTED SIGN

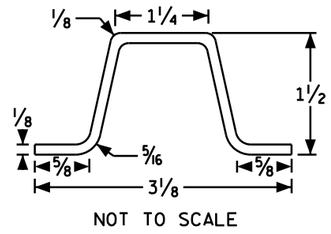


* =2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

** =FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

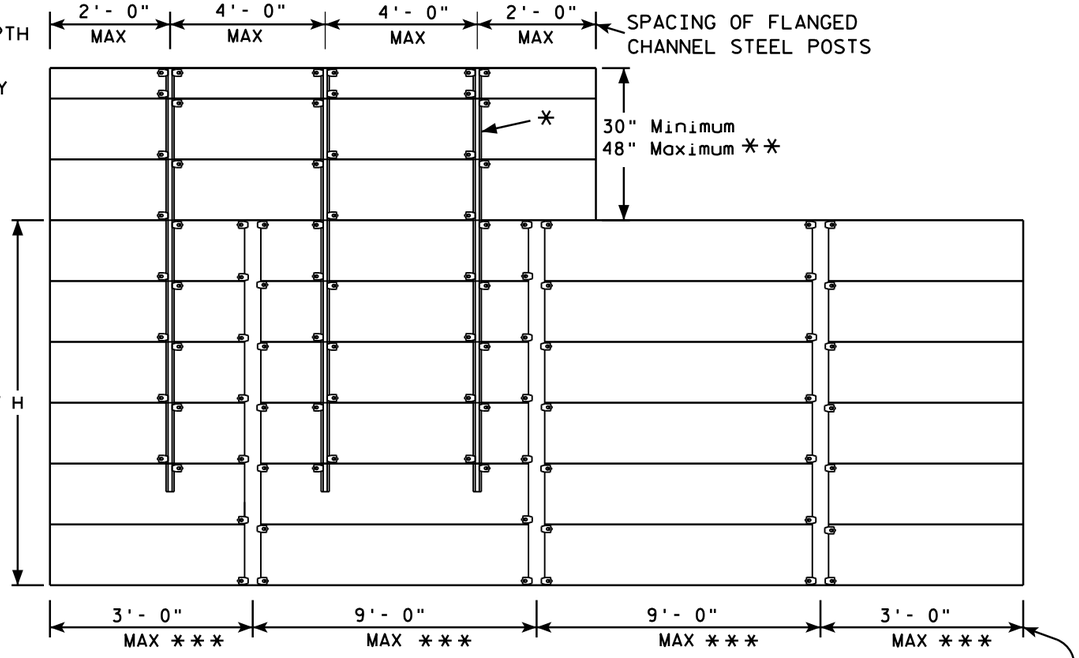
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

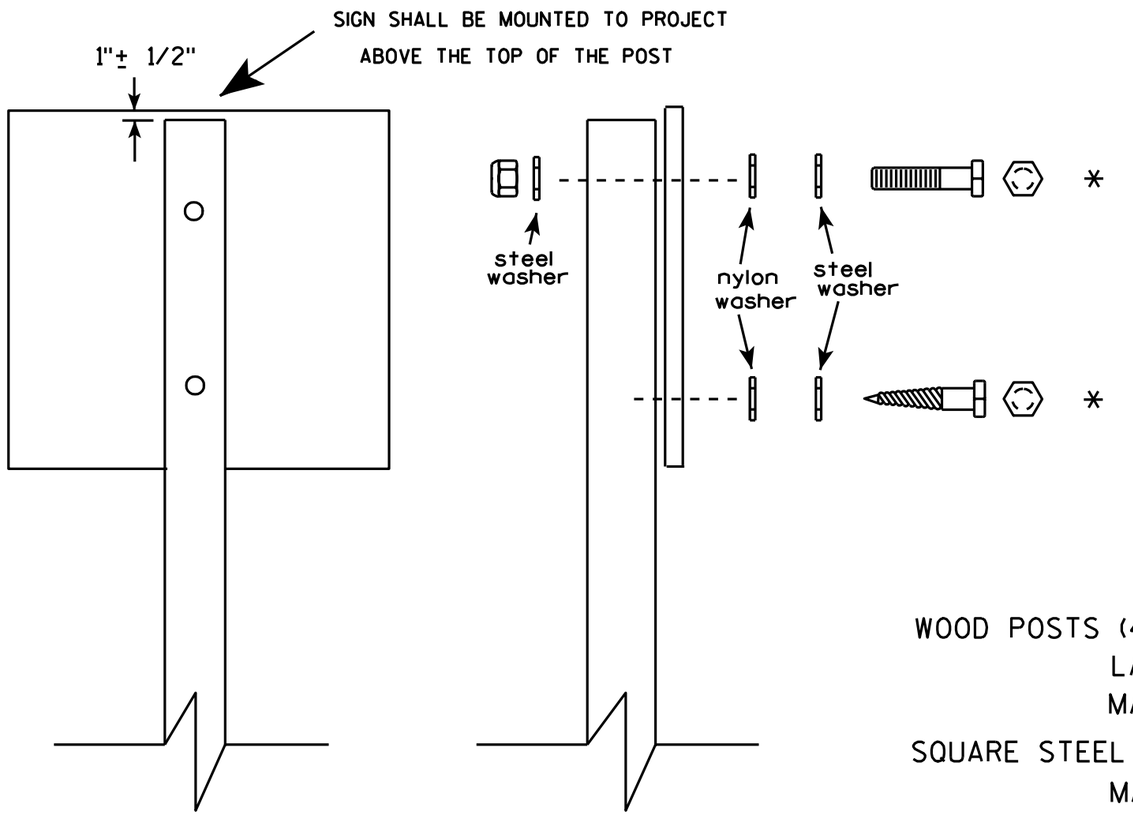
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 83 A4-6.12

PROJECT NO: | 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

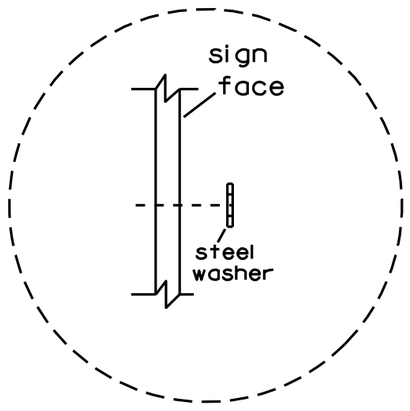
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

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.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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 3/23/10 PLATE NO. A4-8.7

7

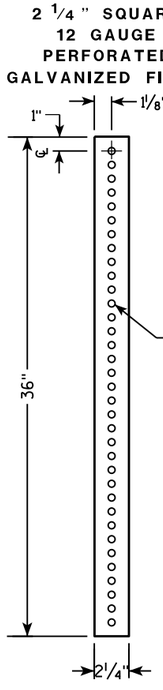
7

PROJECT NO:

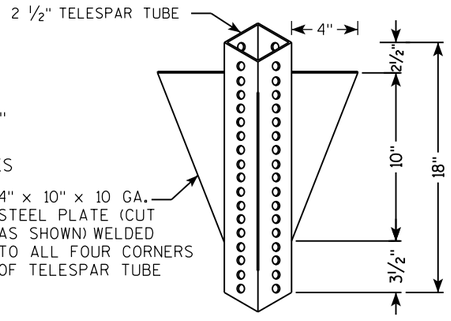
SHEET NO: 84 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

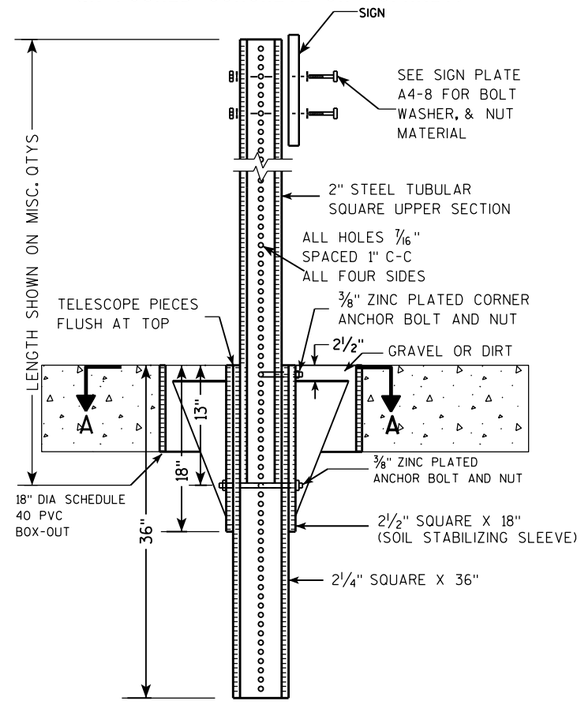
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



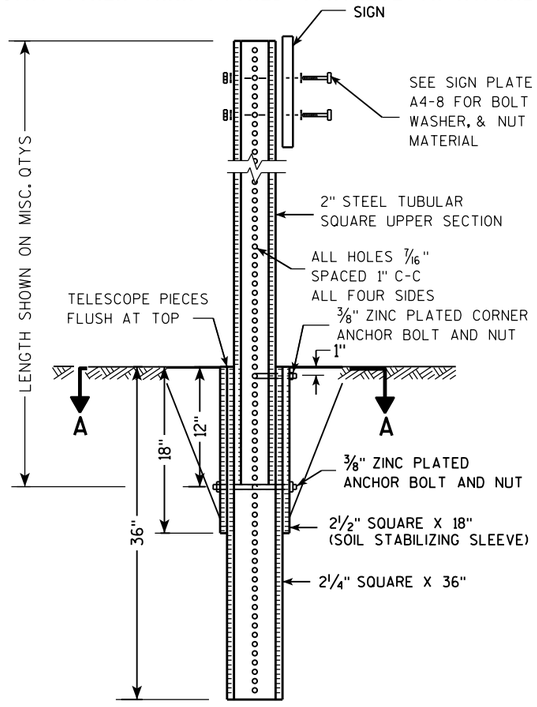
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

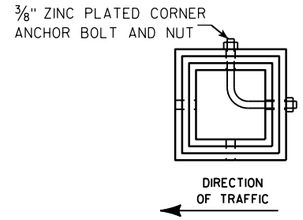


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

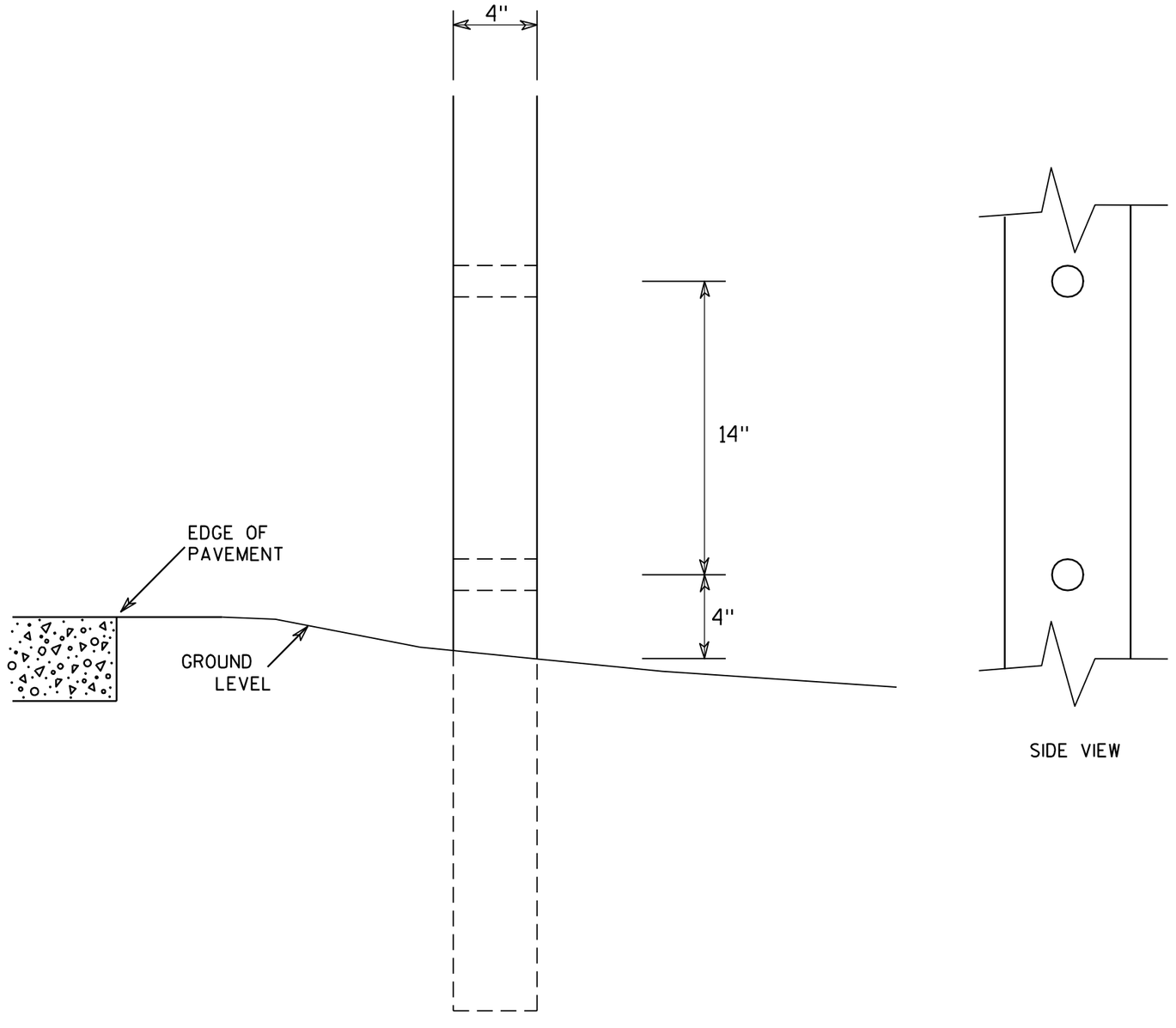
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 85 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

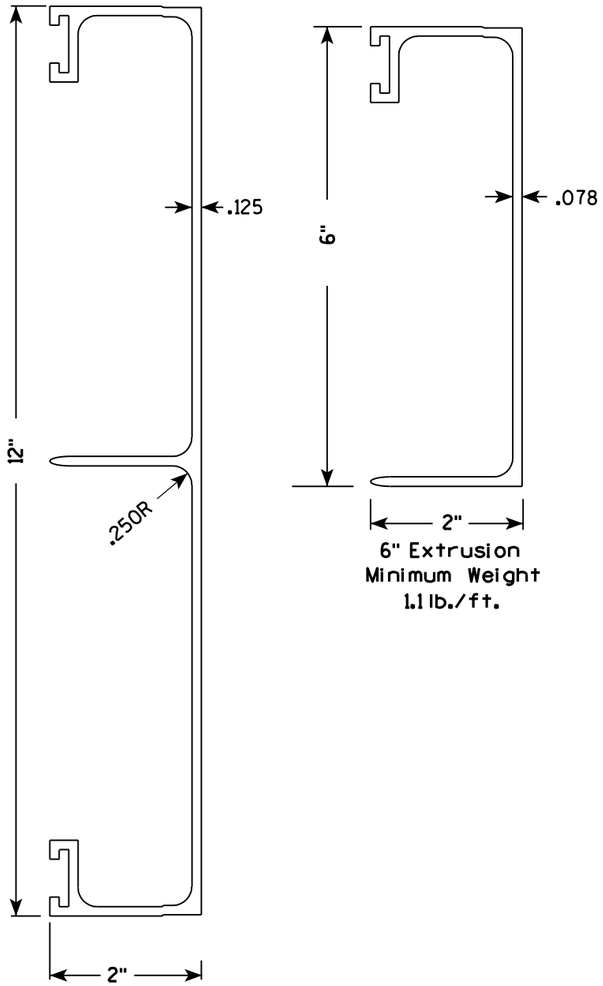
WISCONSIN DEPT OF TRANSPORTATION

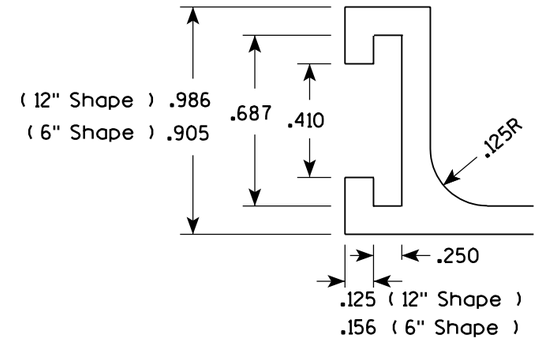
APPROVED Chester J Spang for State Traffic Engineer

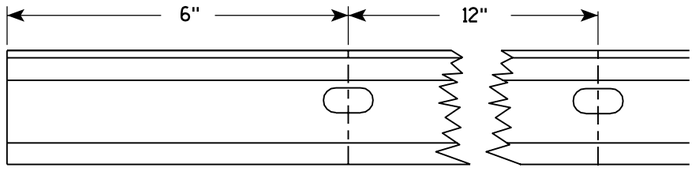
DATE 3/27/97 PLATE NO. A4-11.2

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

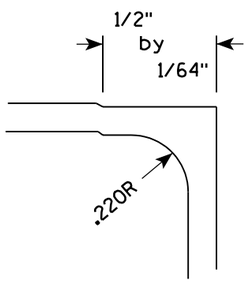
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

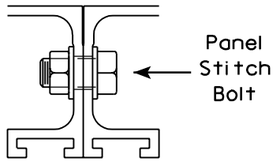


Hardware

STITCH BOLT, WASHER & NUT

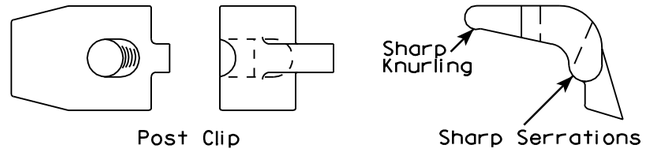
The hardware includes:

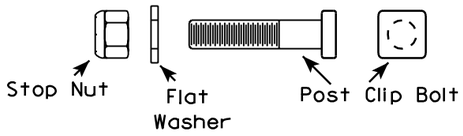
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

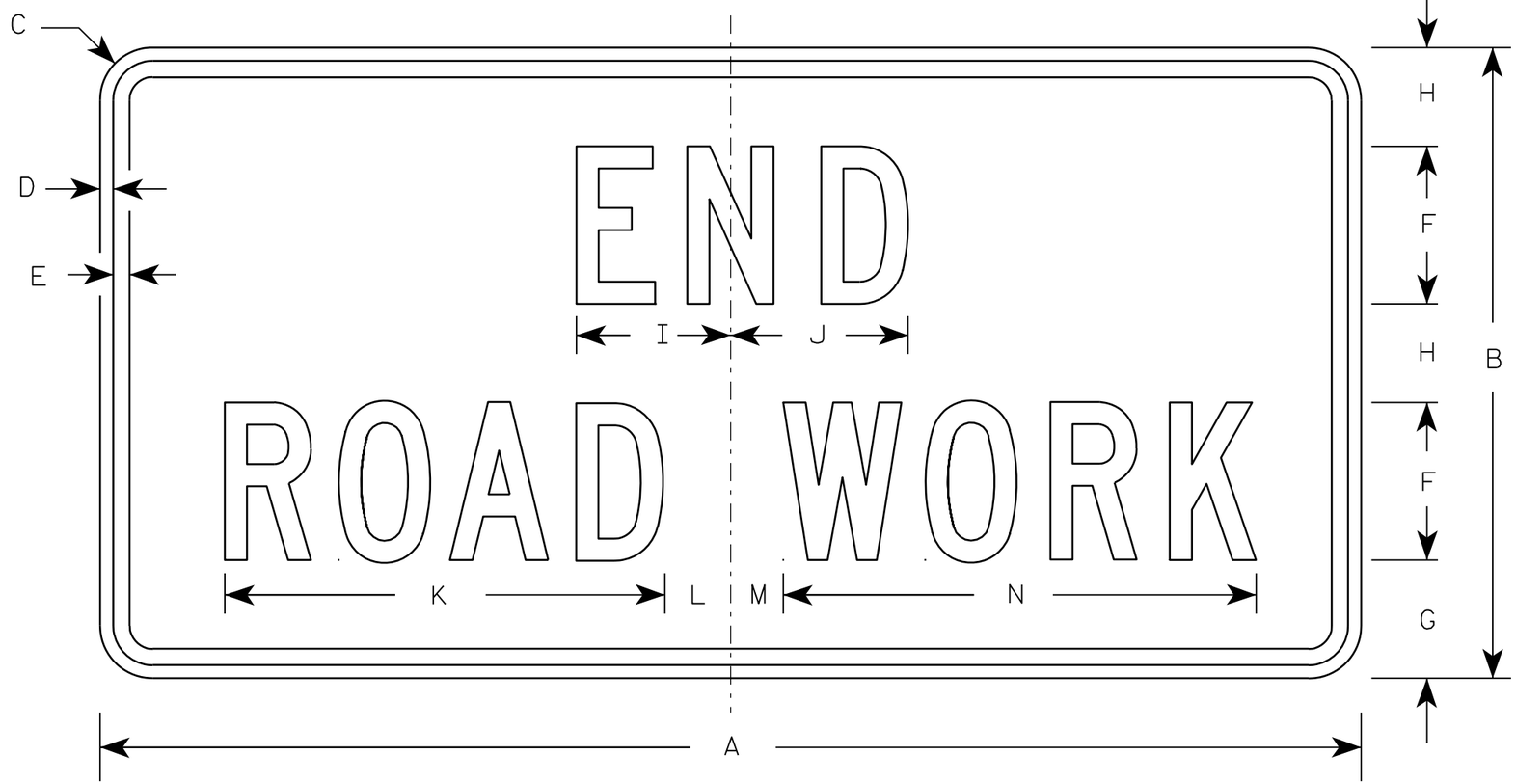
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 11/18/99 PLATE NO. A5-2.9

PROJECT NO:

SHEET NO: 87 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

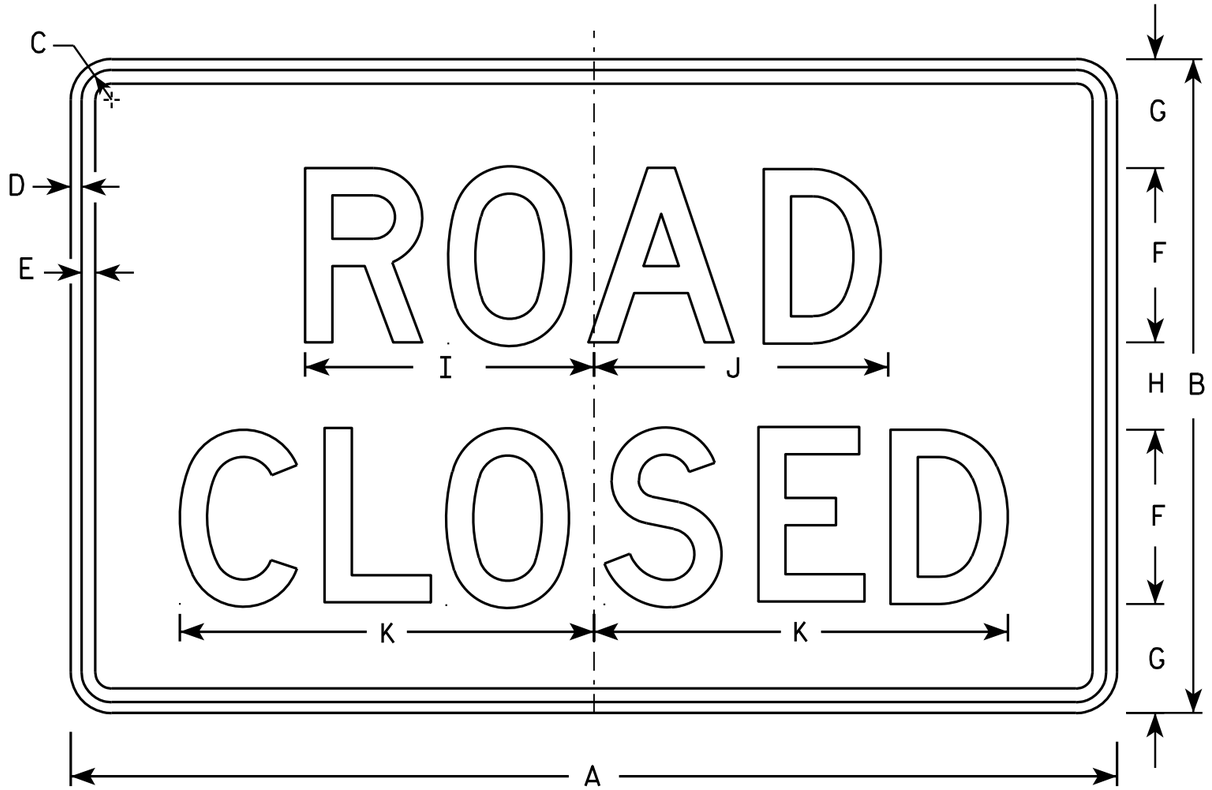
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

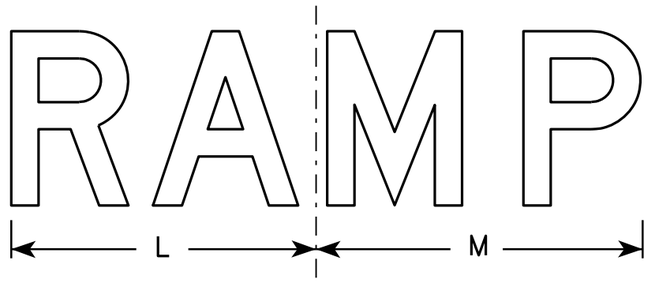
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 88	E



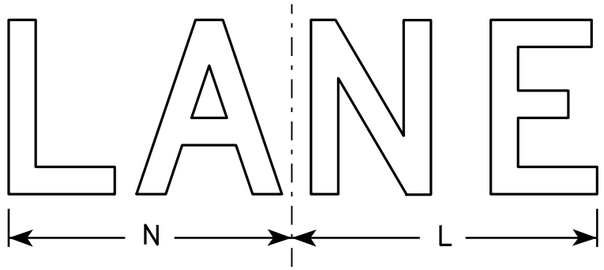
R11-2

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

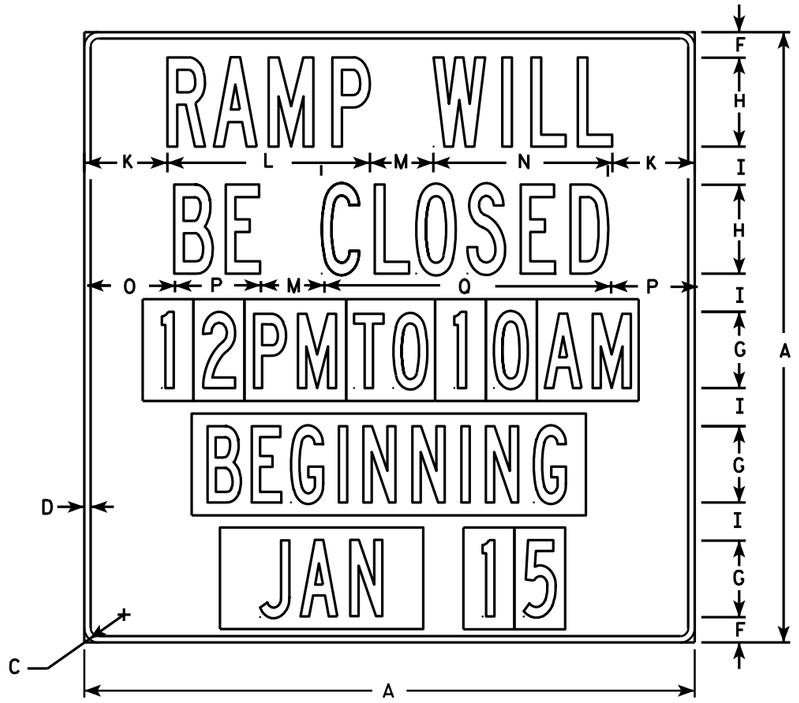
STANDARD SIGN
R11-2

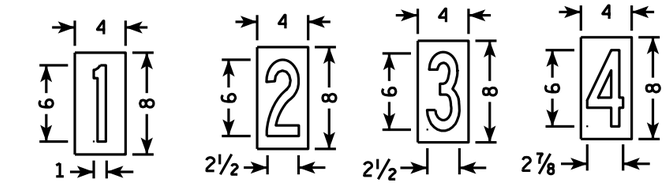
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

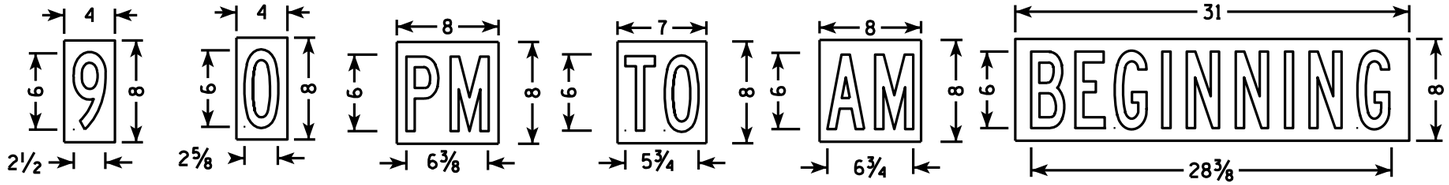
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 89 | E

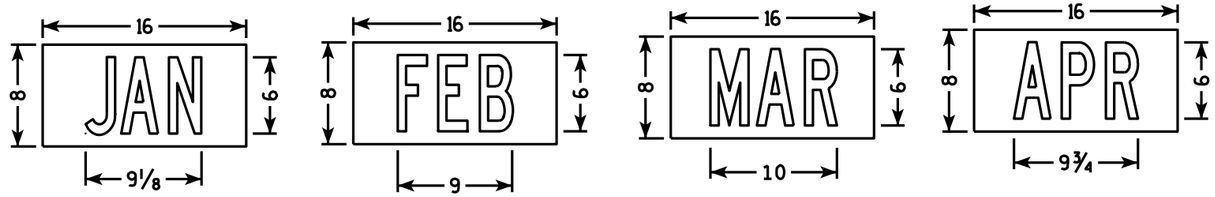


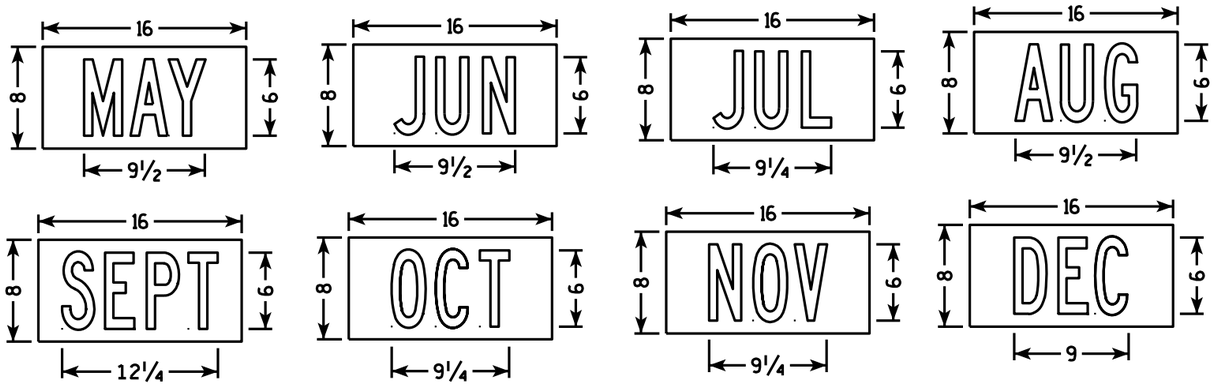


NOTES

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																											

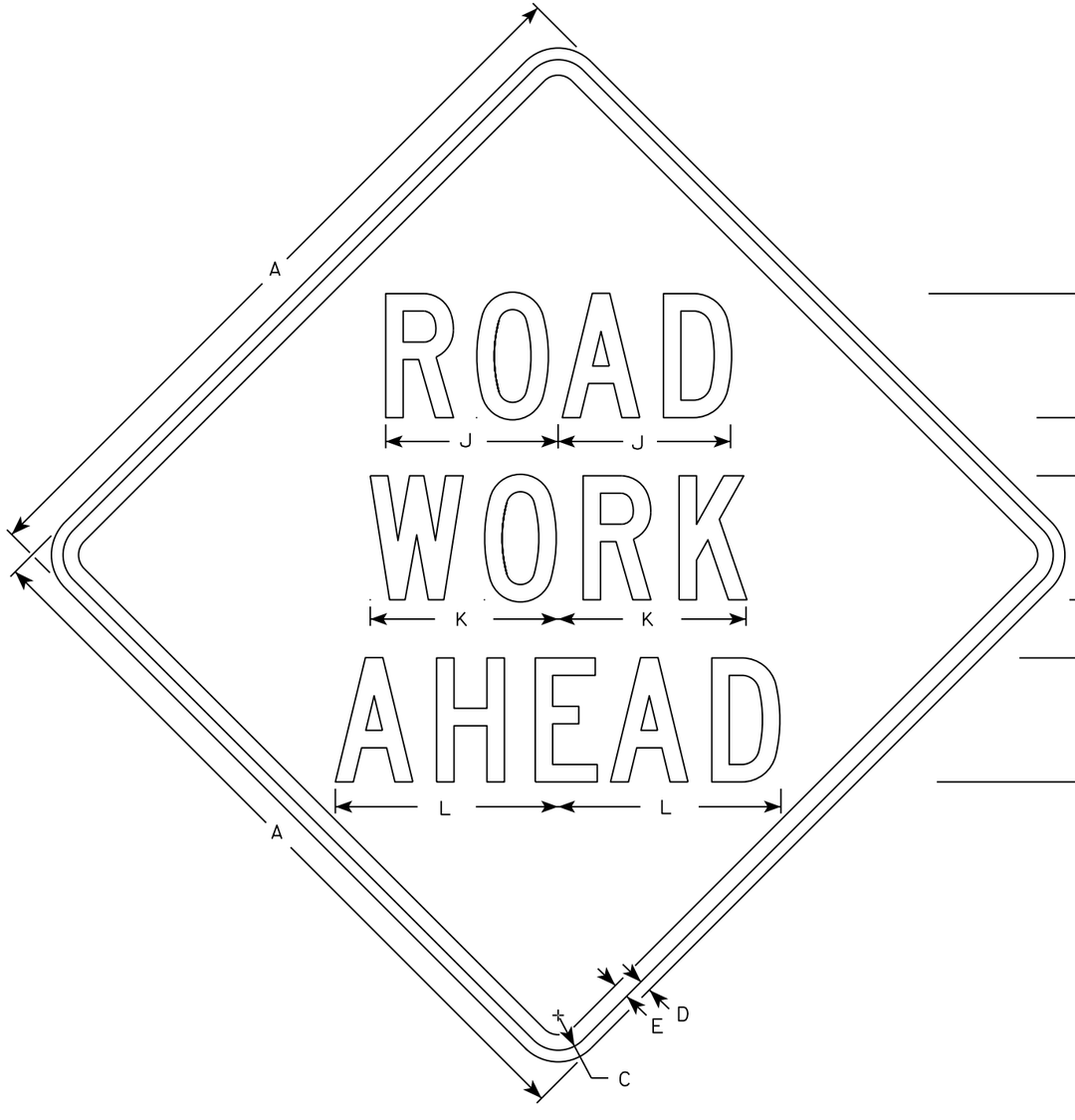
STANDARD SIGN
R11-51

WISCONSIN DEPT OF TRANSPORTATION

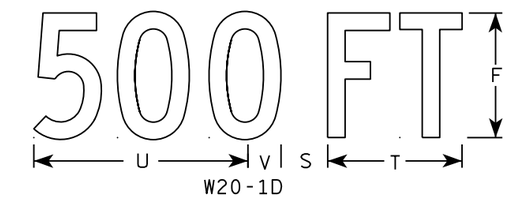
APPROVED Matthew R Rauch
for State Traffic Engineer

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

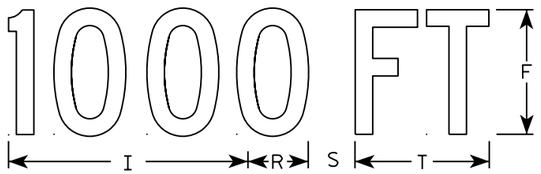
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 90	E



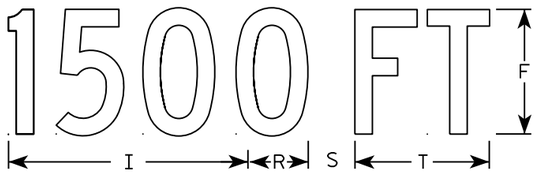
W20-1A



W20-1D

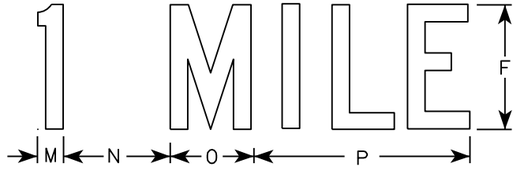


W20-1C

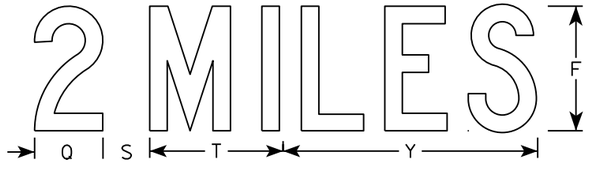


W20-1B

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

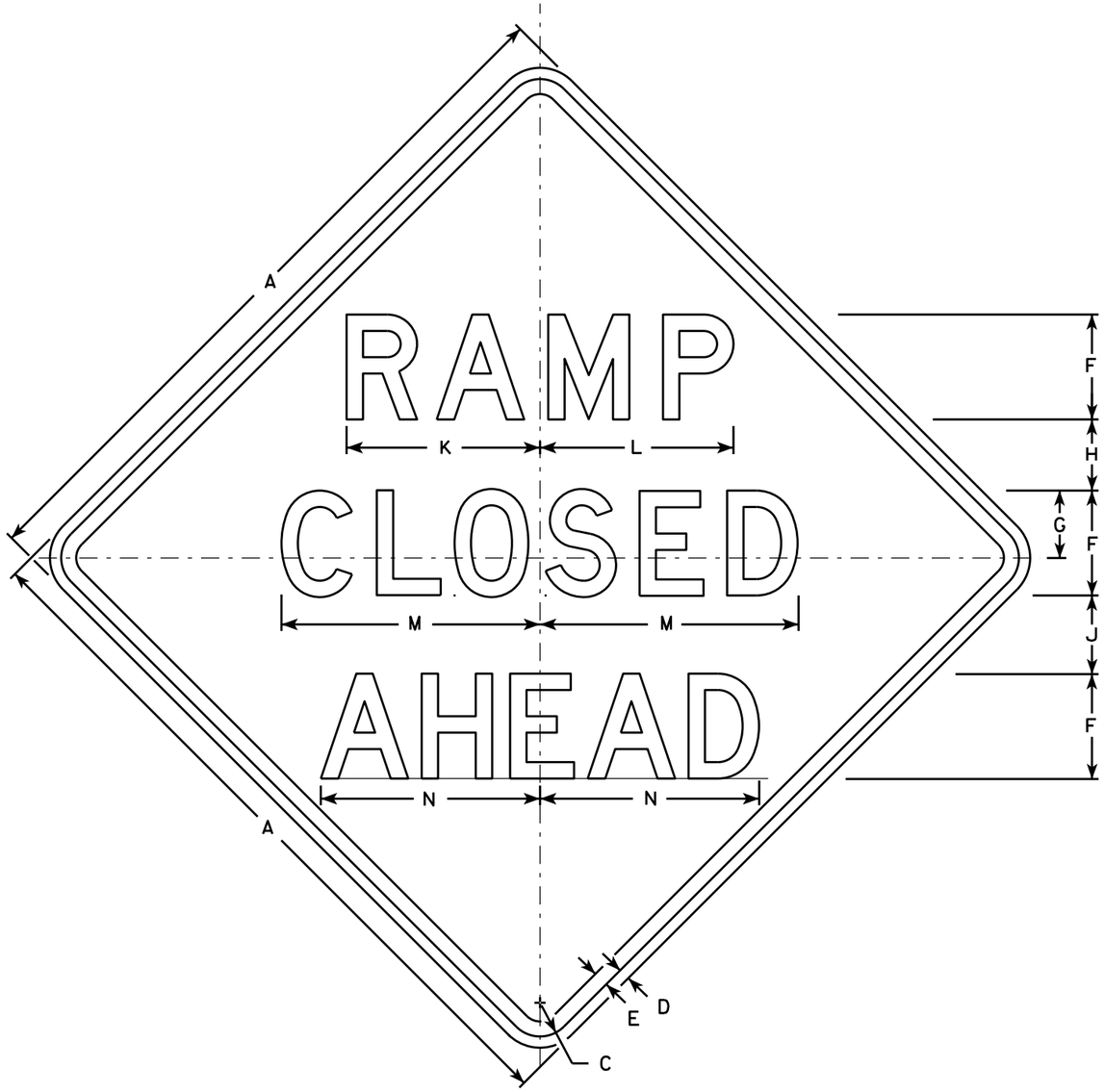
APPROVED Matthew R Rauch
for State Traffic Engineer

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

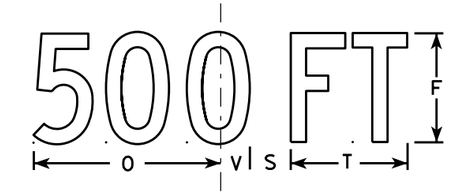
PROJECT NO:

SHEET NO: E

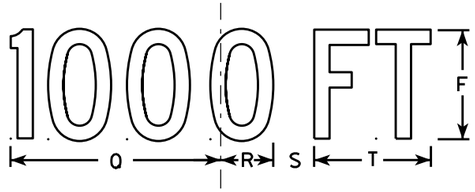
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



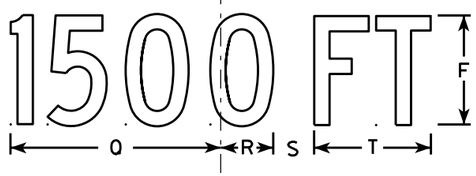
W20-53A



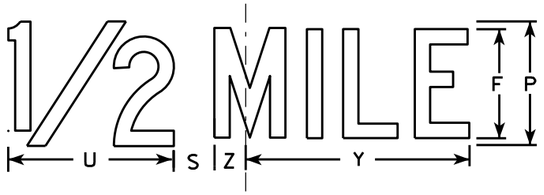
W20-53D



W20-53C



W20-53B



W20-53G

W20-53F

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	9 1/4	9 1/4	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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
W20-53A,B,C,D,F,G

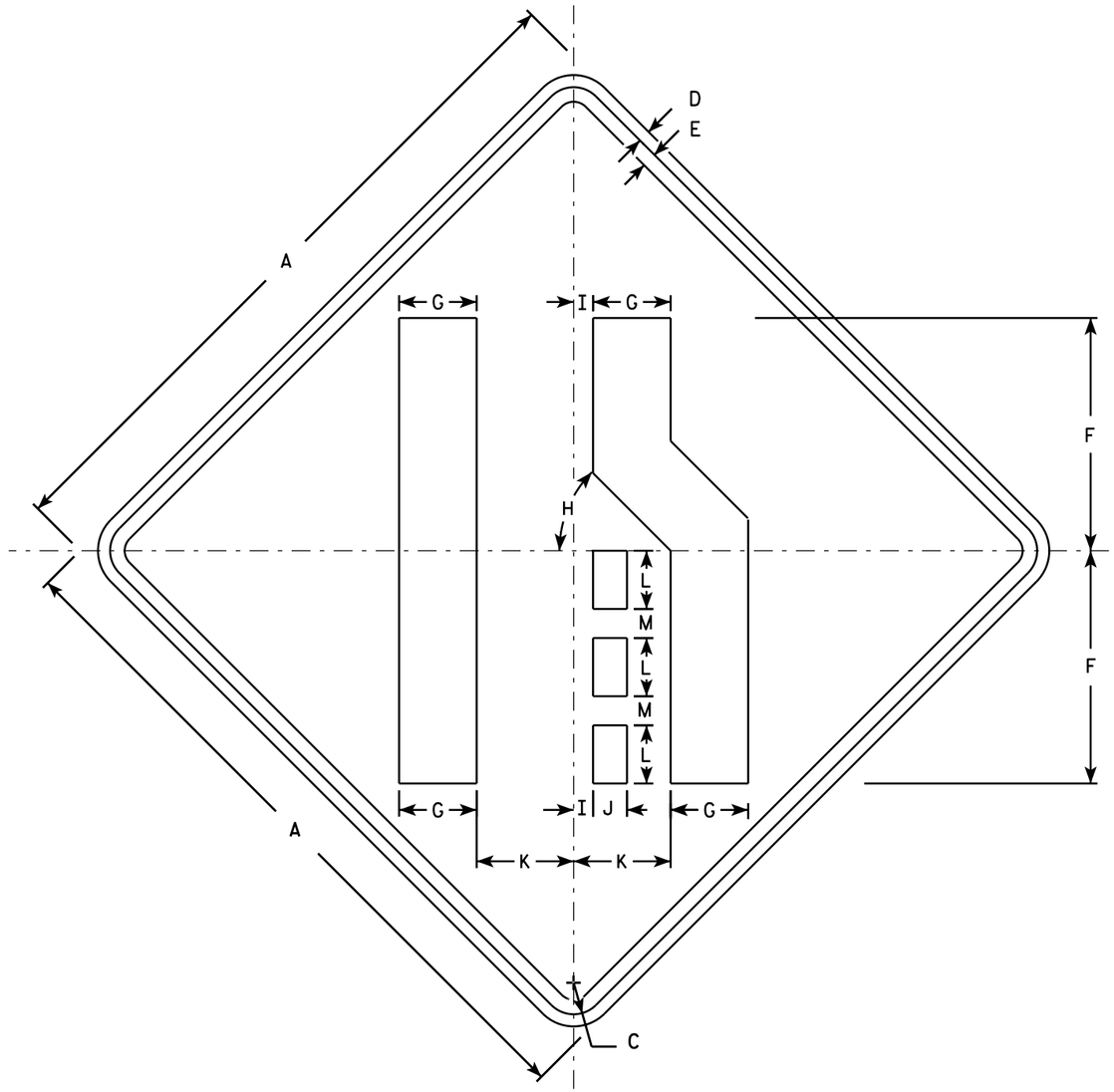
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/27/15 PLATE NO. W20-53.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W2053.DGN PLOT DATE : 27-MAY-2015 19:40 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.729210:1.000000
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

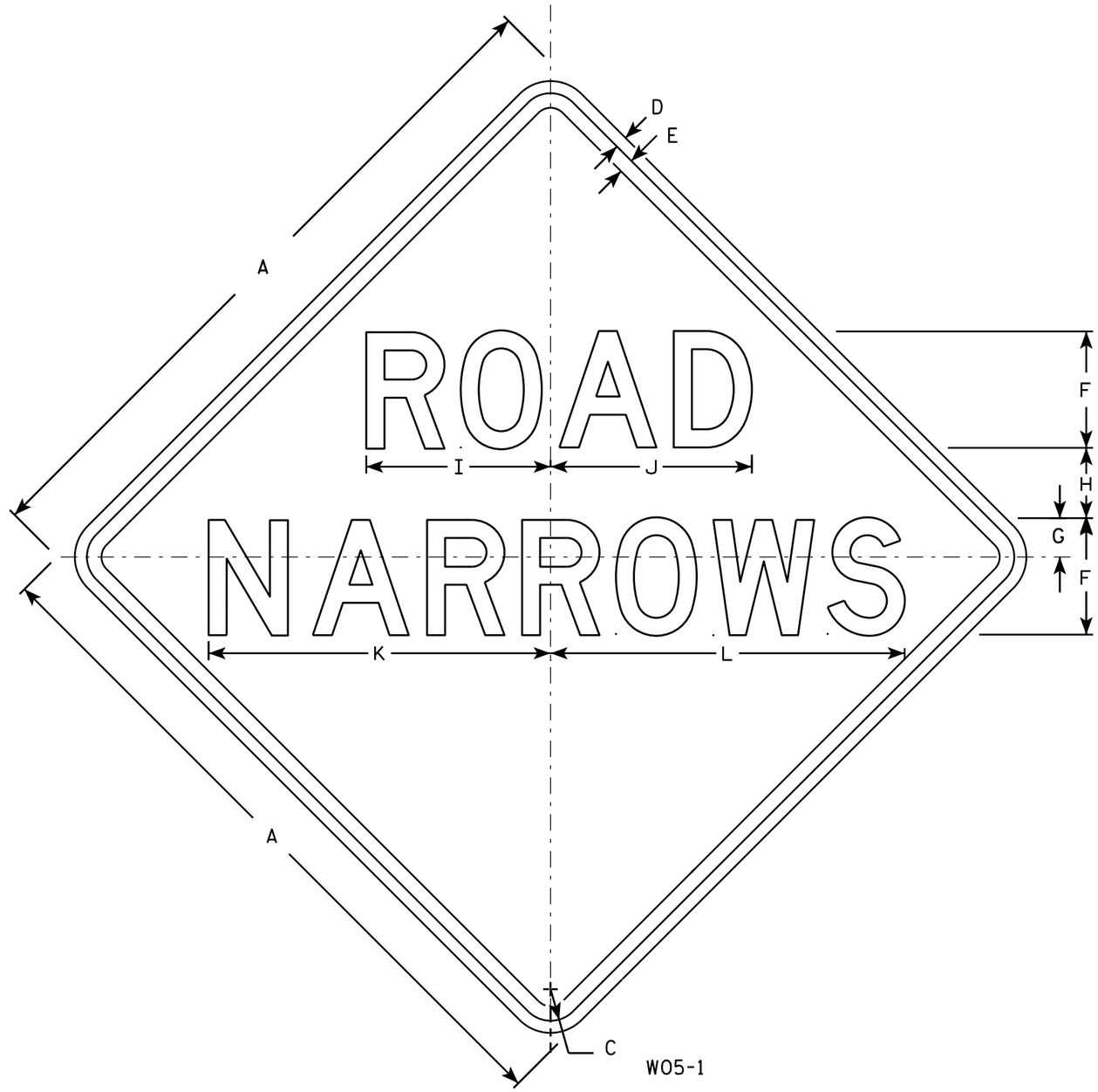
STANDARD SIGN
W04-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 93 W04-2.1

PROJECT NO: | SHEET NO: E



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	2	3 1/2	9 1/2	10 3/8	17 5/8	18 1/4															9.0
2S	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
2M	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
3	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
4	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0
5	48		2 1/4	3/4	1	8	3	4	12 3/4	13 3/4	23 1/2	24 3/8															16.0

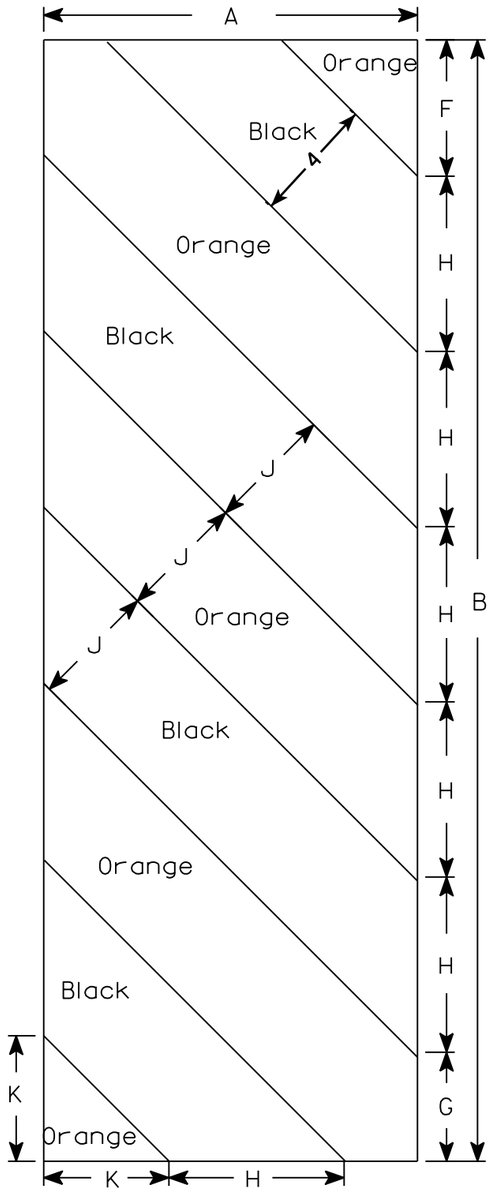
STANDARD SIGN
W05-1

WISCONSIN DEPT OF TRANSPORTATION

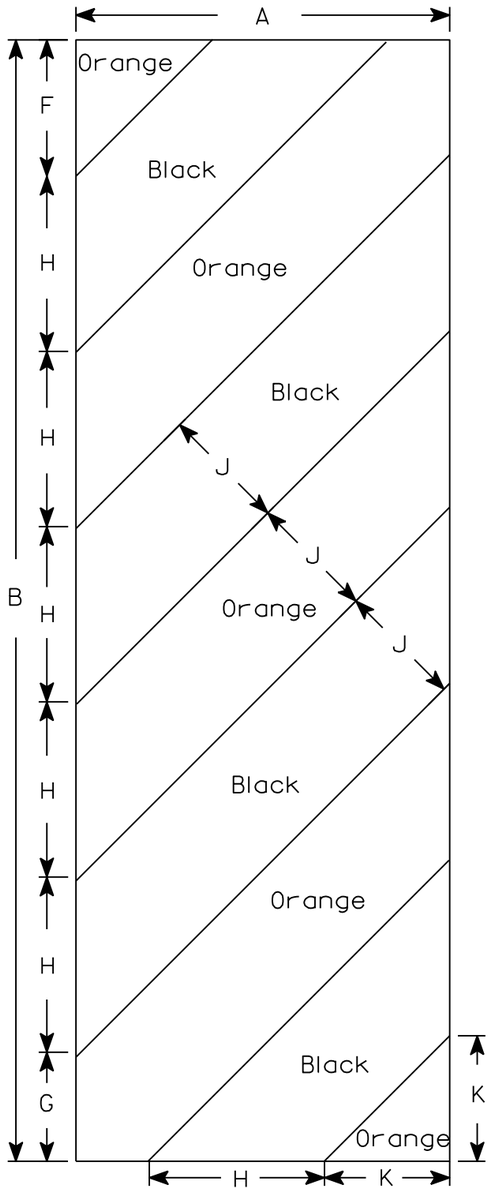
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE No. W05-1.1

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



W05-52L



W05-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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. 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

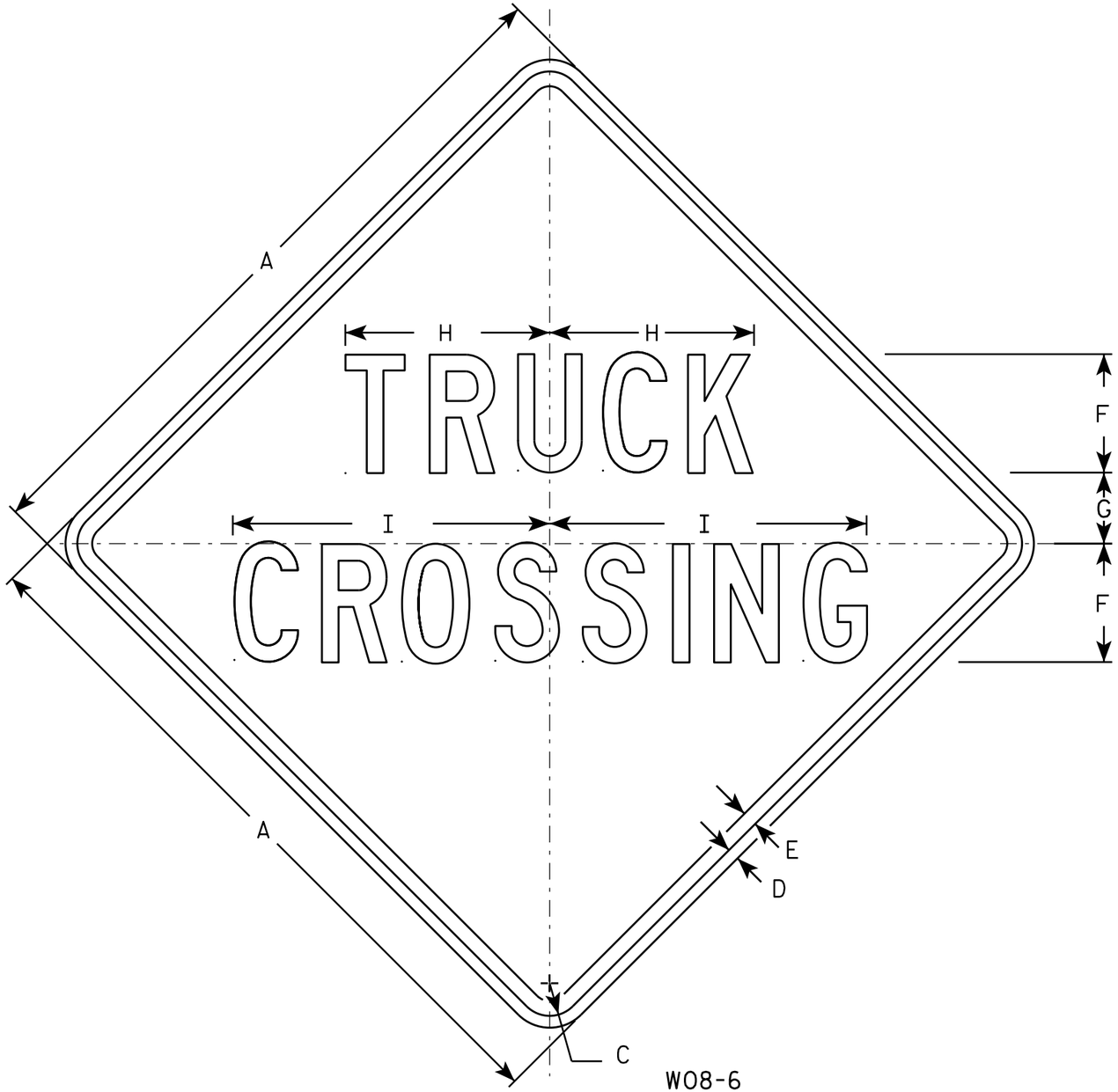
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W08-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	3 1/2	10 3/8	16																		9.0
2S	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
2M	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
3	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
4	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	13 3/4	21 1/4																		16.0

STANDARD SIGN
W08-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 96 W08-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
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