WKE

APR 13

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 = 190

PROJECT ID: 1090-07-73

WITH: N/A

COUNTY: MILWAUKEE

14

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ZOO FREEWAY - WEST ALLIS

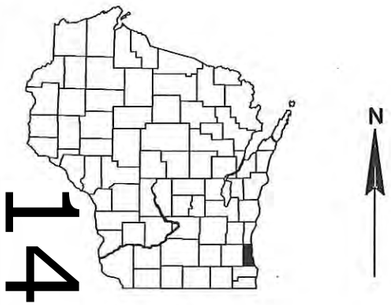
CLEVELAND AVENUE, B-40-0122
BRIDGE REPLACEMENT

I-894/US45

MILWAUKEE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1090-07-73		

STATE PROJECT NUMBER
1090-07-73



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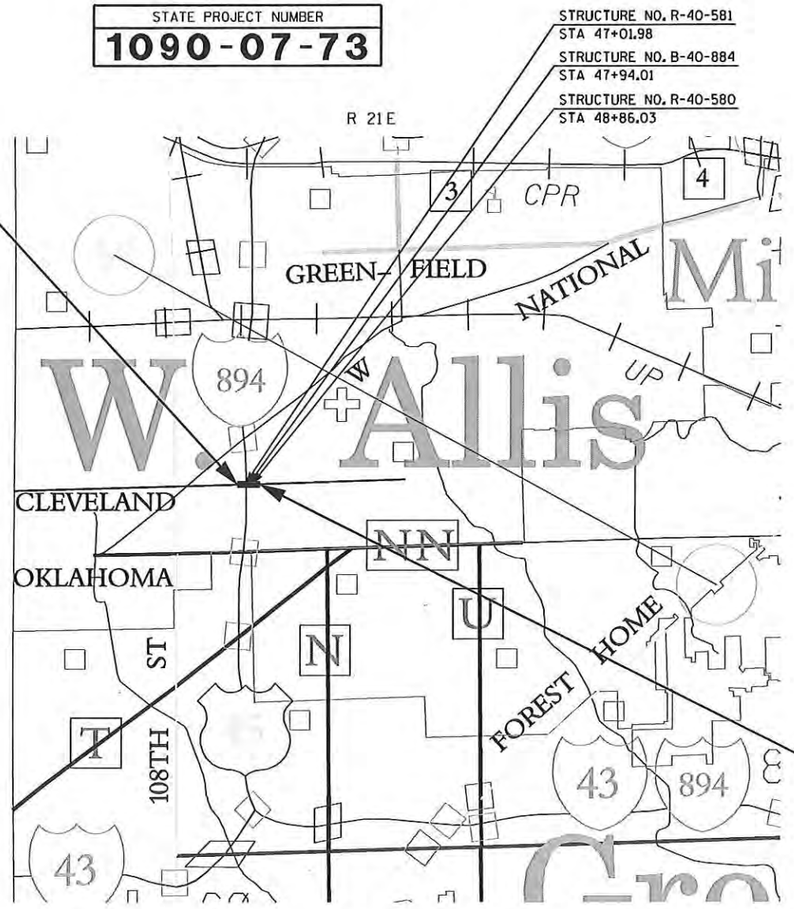
BEGIN PROJECT
STA 45+00.00
Y = 283 837.66
X = 571 315.29



LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.117 MI.

DESIGN DESIGNATION		I-894 / US 45	CLEVELAND AVENUE
A.A.D.T. (2012)	=	150,180	10,396
A.A.D.T. (2032)	=	160,000	11,050
D.H.V.	=	6.3	10.1
D.D.	=	58/42	52/48
T.	=	7.9	0.4
DESIGN SPEED	=	60	35
ESALS	=	-	-

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY, NAD83 (2007).

ELEVATIONS SHOWN ON THIS PLAN AREA REFERRENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007).

ORIGINAL PLANS PREPARED BY

PATRICK ENGINEERING

(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	PATRICK ENGINEERING, INC.
Designer	PATRICK ENGINEERING, INC.
Project Manager	JAMES KEEGAN, P.E.
Regional Examiner	
Regional Supervisor	WAFA ELQAQ, P.E.
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 1-9-13 (Signature)

E

2

GENERAL NOTES

1. NO TREES AND/OR SHRUBS SHALL BE TRIMMED OR REMOVED WITHOUT THE APPROVAL OF THE ENGINEER
2. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. SOME UTILITIES SHOWN MAY BE RELOCATED BEFORE THE CONTRACT BEGINS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES NECESSARY TO AVIOD DAMAGE
3. THE CONTRACTOR SHALL CONTACT DIGGERS HOTLINE AND ANY UTILITES THAT ARE NOT A MEMBER OF DIGGERS HOTLINE PRIOR TO THE START OF WORK.
4. WHEN THE QUANTITY OF THE ITEM OF HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OF THICKNESS OF THE COURSES SHOWN ON THE PLAN IS APPROXIMATE AND ITS ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF MATERIALS AS DIRECTED BY THE ENGINEER.
5. DIMENSIONS GIVEN FOR EXISTING FEATURES SHALL BE CONSIDERED AS APPROXIMATE AND MEASURED IN THE FIELD FOR MATCHING PURPOSES.
6. THE EXISTING MAIL BOXES AND SIGNS SHALL REMAIN IN PLACE, THE CONTRACTOR SHALL PROTECT THEM FROM DAMAGE.
7. THE EXISTING DRIVEWAYS AND FIELD ENTRANCES WILL BE RESTORED IN KIND, EXCEPT AS NOTED OR AS DIRECTED BY THE ENGINEER.
8. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
9. RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE WITHIN THREE CALENDAR DAYS AFTER FINISHED GRADING IS COMPLETED.

2

UTILITIES

DAN SANDE
WE ENERGIES - ELECTRIC
333 W EVERETT ST, A299
MILWAUKEE, WI 53203
(414) 221-2336
DAN.SANDE@WE-ENERGIES.COM

DAN SANDE
WE ENERGIES - GAS
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MILWAUKEE, WI 53203
(414) 221-2336
DAN.SANDE@WE-ENERGIES.COM

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WISDOT STOC
433 W ST. PAUL AVE, SUITE 300
MILWAUKEE, WI 53203
(414) 225-3723
JEFFREY.MADSON@DOT.WI.GOV

JIM BURTON
SPRINT COMMUNICATIONS, L.P.
400 W GRAND AVENUE
ELMHURST, IL 60126
(708) 955-6659
JAMES.BURTON@ERICSSON.COM

MICHAEL LEWIS
CITY OF WEST ALLIS
7525 W GREENFIELD AVE
WEST ALLIS, WI 53214
(414) 302-8372
MLEWIS@CI.WEST-ALLIS.WI.US

KEVIN ANDERSON
AT&T WISCONSIN
7721 W FOND DU LAC AVE, 1ST FL.
MILWAUKEE, WI 53218
(414) 536-2971
KA8421@ATT.COM

MATT PFEIFER
WISDOT TRAFFIC LIGHTING
935 S 60TH ST
WEST ALLIS, WI 53214
(414) 266-1154
MATTHEW.PFEIFER@DOT.WI.GOV

STEVE CRAMER
TIME WARNER CABLE
1320 N MARTIN LUTHER KING DR
MILWAUKEE, WI 53212
(414) 277-4045
STEVE.CRAMER@TWCABLE.COM

JIM KOSTUCH
PAETEC BUSINESS SERVICES
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
(262) 792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

JOHN HAUG
WisDOT SIGNALS
141 NW BARSTOW STREET
WAUKESHA, WI 53187
(262) 521-5356
JOHN.HAUG@DOT.STATE.WI.US

TREVOR PEEVEY
LEVEL 3 COMMUNICATIONS, LLC
1122 CAPITAL OF TEXAS HWY SOUTH
AUSTIN, TX 78746
(512) 742-3805
LEVEL3.NETWORKRELOCATIONS@LEVEL3.COM

MIKE OLSEN
ATC MANAGEMENT, INC.
801 O'KEEFE RD
DE PERE, WI 54115
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MOLSEN@ATCLLC.COM

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MIDWEST FIBER NETWORKS
3701 W BURHAM STREET, STE C
MILWAUKEE, WI 53215
(414) 672-5612
RTRGOVEC@MIDWESTFIBERNETWORKS.COM

KEVIN MAES
TDS METROCOM
525 JUNCTION RD, 5TH FLOOR
MADISON, WI 53717
(608) 664-4437
KEVIN.MAES@TDSTELECOM.COM

MIKE JANSEN
AT&T MOBILITY
15345 COFFEE RD
NEW BERLIN, WI 53151
(262) 785-7102
MJ2179@ATT.COM

DEBRA JENSEN
MILWAUKEE METRO SEWERAGE DISTRICT
260 W SEEBOTH ST
MILWAUKEE, WI 53204
(414) 225-2143
DJENSEN@MMSD.COM

JOHN COTTRELL
TW TELECOM
3235 INTERTECH DRIVE, SUITE 600
BROOKFIELD, WI 53045
(414) 908-1011
JOHN.COTTRELL@TWTELECOM.COM

WEST ALLIS WEST MILWAUKEE SCHOOL DISTRICT
C/O BRUCE ROWELL
ACCESS ENGINEERING, LLC
6772 LOWER ROAD
SOBIESKI, WI 54171
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BROWELL@ACCESS-ENGINEERING.COM

AT&T CORP
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PLANO, IL 60545
(847) 420-9115
(630) 552-4677
CD8729@ATT.COM

CC:
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LAKE MILLS, WI 53551
(608) 628-0575

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DNR SOUTHEAST REGION HQ
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(414) 263-8517
KRISTINA.BETZOLD@WISCONSIN.GOV

SEWRPC
DON SIMON & JOHN WASHBURN
(262) 547-6721
DSIMON@SEWRPC.ORG

DIGGERS HOTLINE

Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	GENERAL NOTES	SHEET 2	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\020101_gn.dgn PLOT DATE : 1/9/2013 3:28:47 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 100.0000 ft / IN.
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
WISDOT/CADDS SHEET 42

2

2

CONCRETE MONUMENT W/
SEWRPC BRASS CAP
Y = 283 820.44
X = 569 177.67
ELEV = 750.92

N

BEGIN PROJECT I.D. 1090-07-73
STATION 45+00.00
Y = 283 837.66
X = 571 315.29

OKLAHOMA AVENUE

DAKOTA STREET

CLEVELAND AVENUE

LINCOLN AVENUE

STATION 46+34.91 CLEVELAND AVENUE =
STATION 5+00 101ST STREET NORTH

CURVE DATA		CURVE DATA	
P.I. =	2+41.17	P.I. =	4+03.74
N =	283 581.75	N =	283 743.51
E =	571 478.29	E =	571 460.94
Δ =	07° 00' 00"	Δ =	07° 00' 00"
D =	07° 32' 20"	D =	07° 32' 20"
T =	46.48'	T =	46.48'
L =	92.85'	L =	92.85'
R =	760.00'	R =	760.00'

101ST ST.

I-894 SB
I-894 NB

STATION 46+45.17 CLEVELAND AVENUE =
STATION 5+00 101ST STREET SOUTH

99TH ST.

CONCRETE MONUMENT
W/ BRASS CAP
Y = 281 193.16
E = 571 777.16

CONCRETE MONUMENT W/
SEWRPC BRASS CAP
Y = 283 842.88
X = 571 817.25
ELEV = 774.08

END PROJECT I.D. 1090-07-03
STATION 51+20.00
Y = 283 840.21
X = 571 934.10

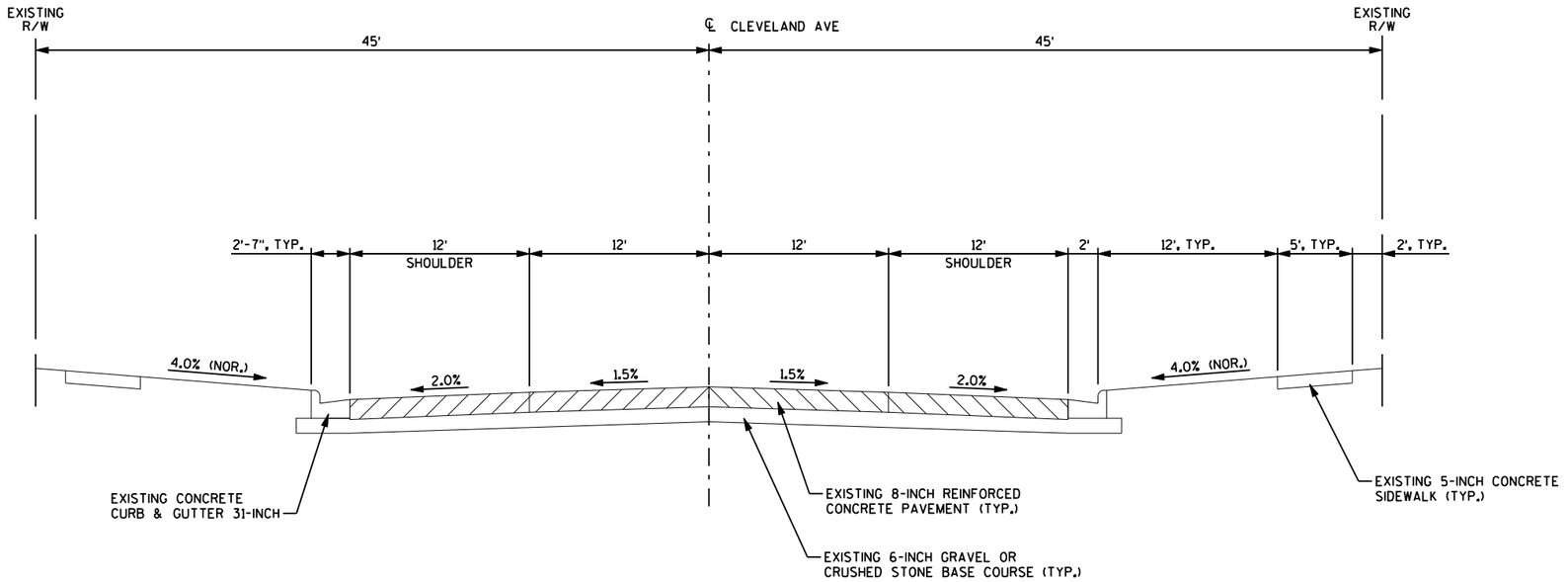
CURVE DATA
P.I. = 50+00.00
Δ = 0° 0' 46"

NATIONAL AVENUE

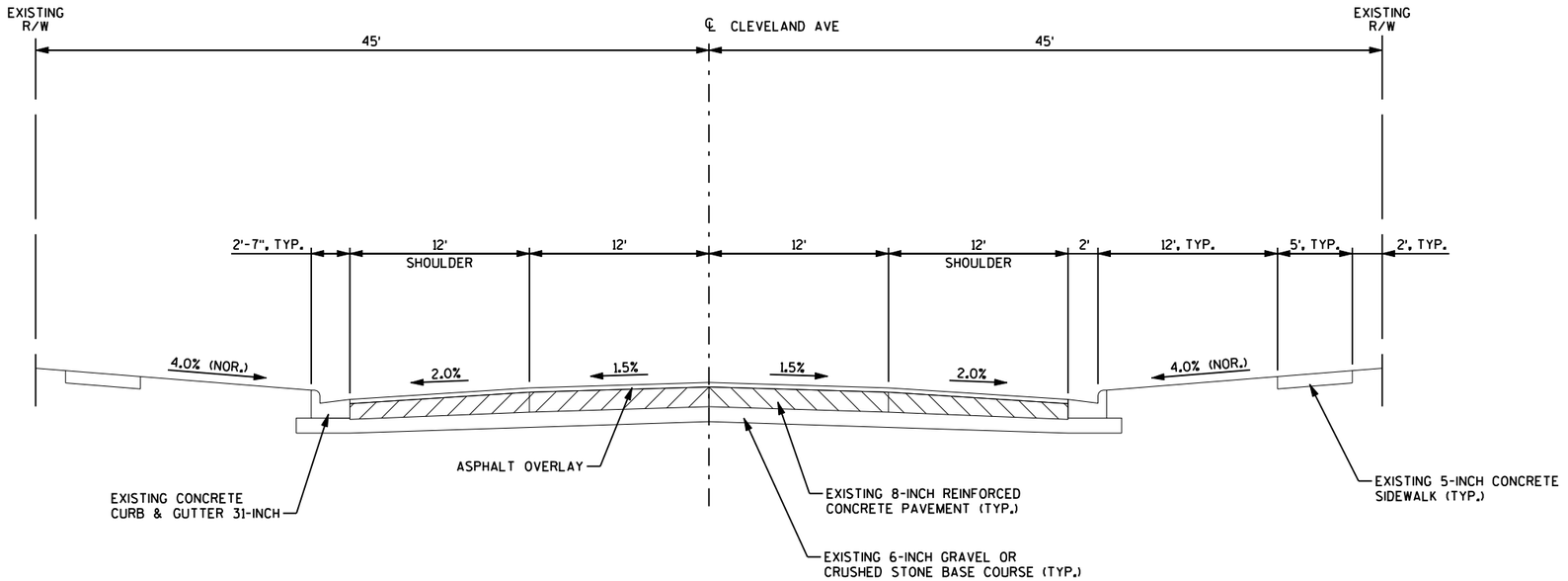
CONCRETE MONUMENT W/
SEWRPC BRASS CAP
Y = 283 865.87
X = 574 450.32

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	PROJECT OVERVIEW AND ALIGNMENT LAYOUT	SHEET 3	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\020201_po.dgn PLOT DATE : 12/2/2012 11:48:21 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 400.0000 ft / IN.



EXISTING TYPICAL SECTION
CLEVELAND AVENUE
STA 45+00 TO STA 46+50



EXISTING TYPICAL SECTION
CLEVELAND AVENUE
STA 46+50 TO STA 46+96
STA 48+95 TO STA 51+20

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 4	E

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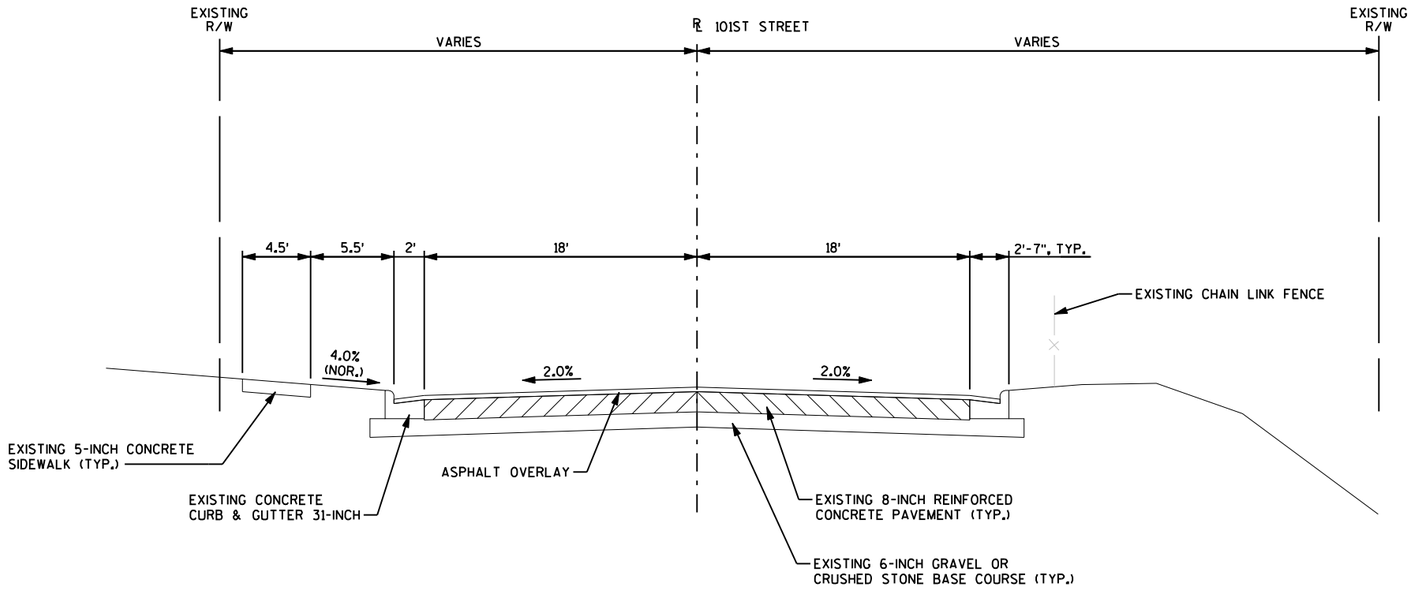
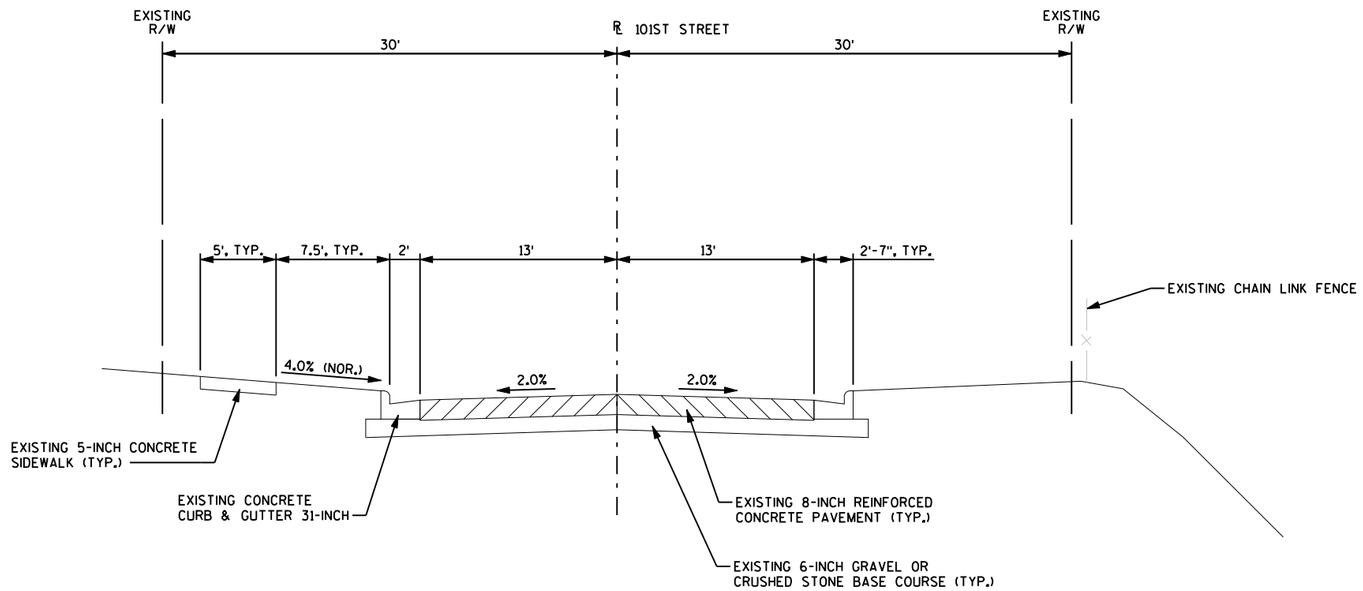


EXISTING TYPICAL SECTION
101ST STREET
STA 3+86 TO STA 4+76



EXISTING TYPICAL SECTION
101ST STREET
STA 5+24 TO STA 6+14

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 5	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\020301_ts.dgn PLOT DATE : 12/2/2012 11:48:30 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 10.0000 sf / IN.
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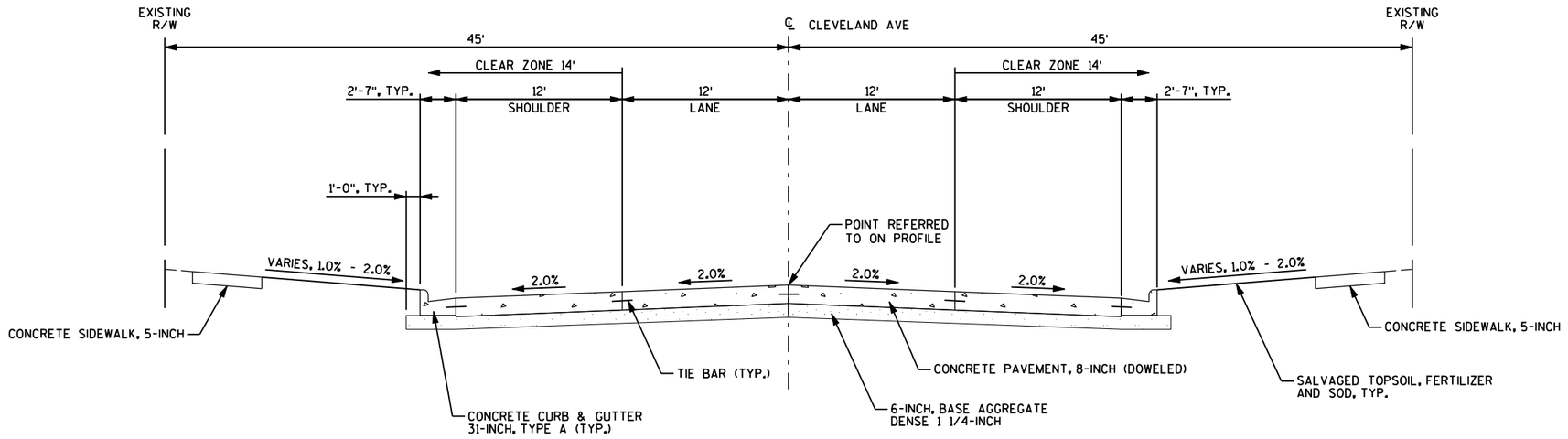
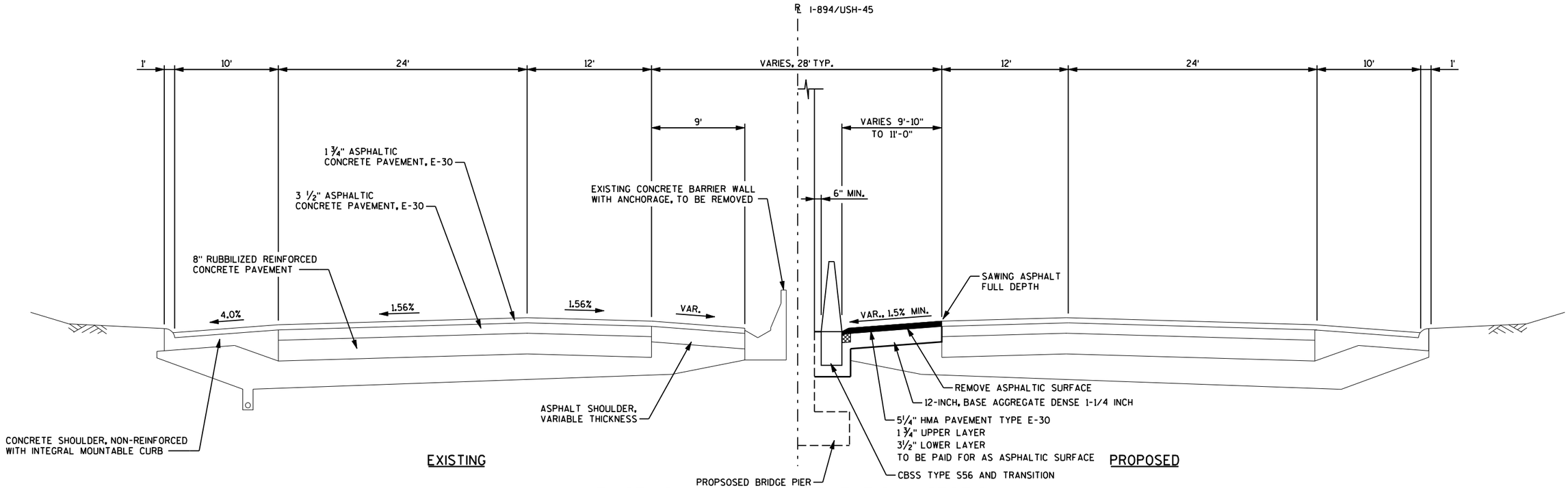


PROPOSED TYPICAL SECTION

STA 45+00 TO STA 51+20



EXISTING AND PROPOSED TYPICAL SECTION

I-894/USH-45
75+35 TO 77+10

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 6	E

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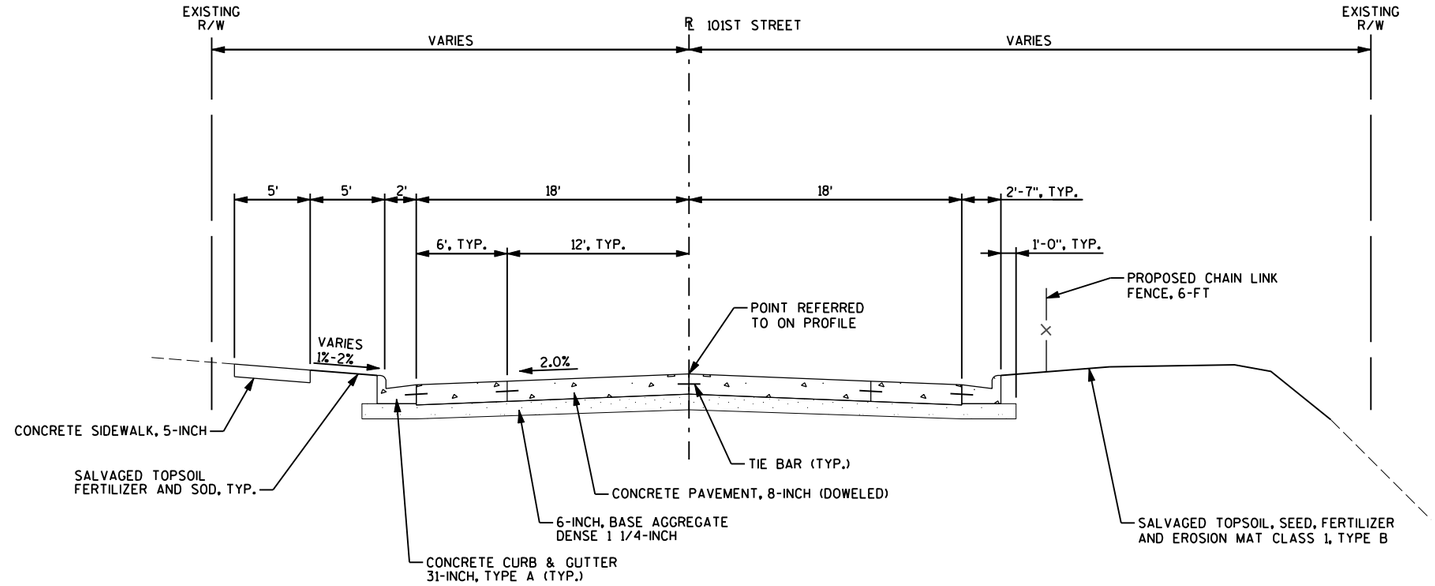
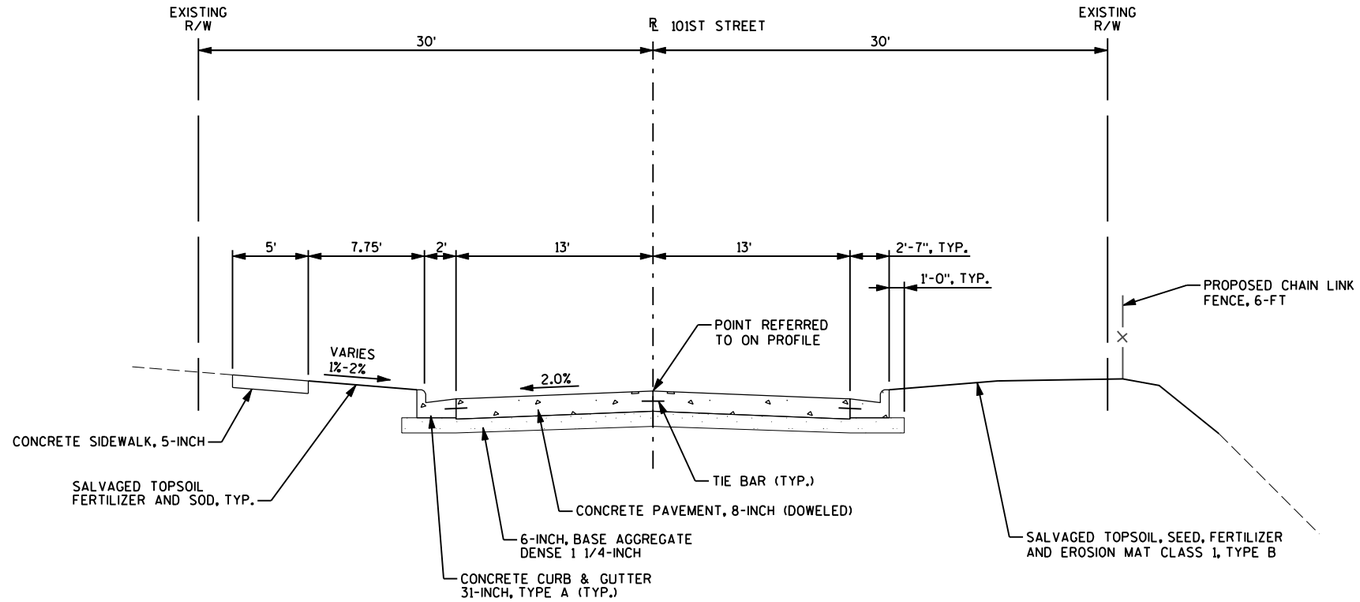
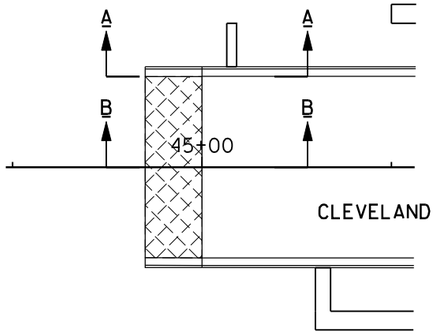


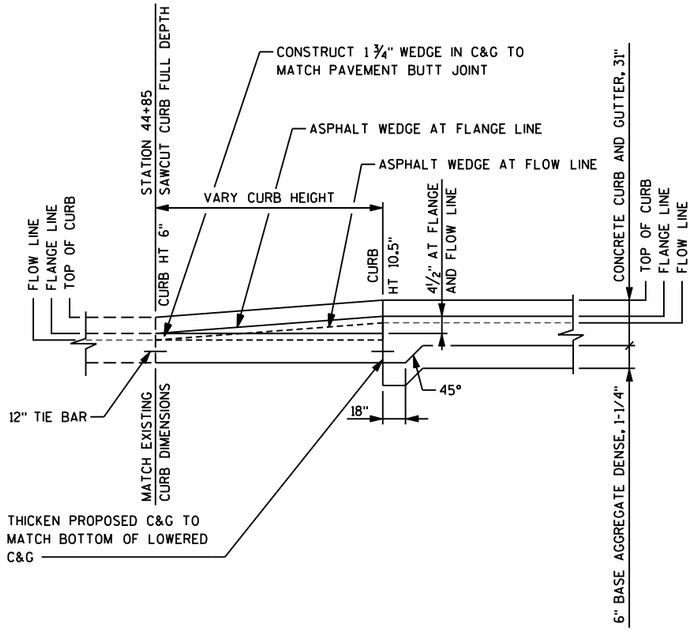
PROPOSED TYPICAL SECTION
101ST STREET
STA 3+86 TO STA 4+76



PROPOSED TYPICAL SECTION
101ST STREET
STA 5+24 TO STA 6+14

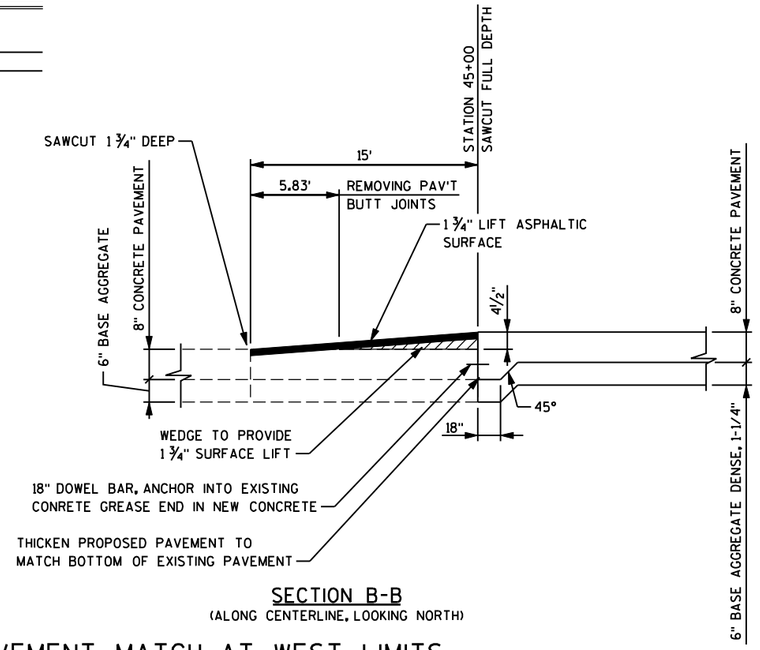


PLAN



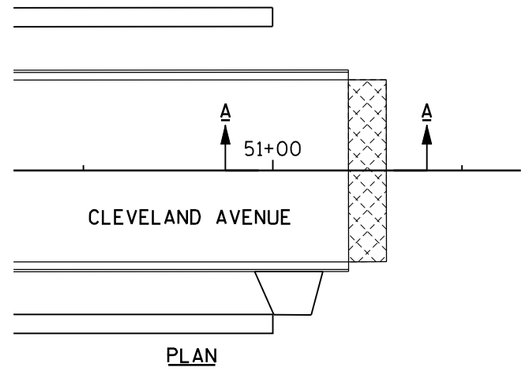
SECTION A-A
(ALONG FLANGE LINE, LOOKING NORTH)

NOTES:
1. DOWEL BARS PAID UNDER ITEM 416.0620, DRILLED DOWELS BARS.
2. THICKEND CONCRETE AND ADDITIONAL CURB HEIGHT TO BE INCIDENTAL TO RESPECTIVE CONCRETE BID ITEM.
3. TIE BARS PAID UNDER ITEM 416.0610 DRILLED TIE BARS, IF SET INTO WET CONCRETE INCIDENTAL TO RESPECTIVE CONCRETE BID ITEMS.

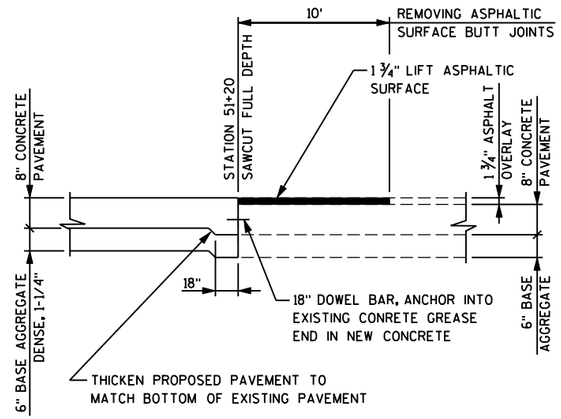


SECTION B-B
(ALONG CENTERLINE, LOOKING NORTH)

PAVEMENT MATCH AT WEST LIMITS



PLAN

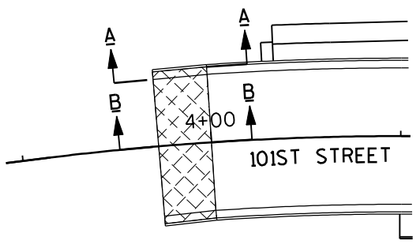


SECTION A-A
(ALONG CENTERLINE, LOOKING NORTH)

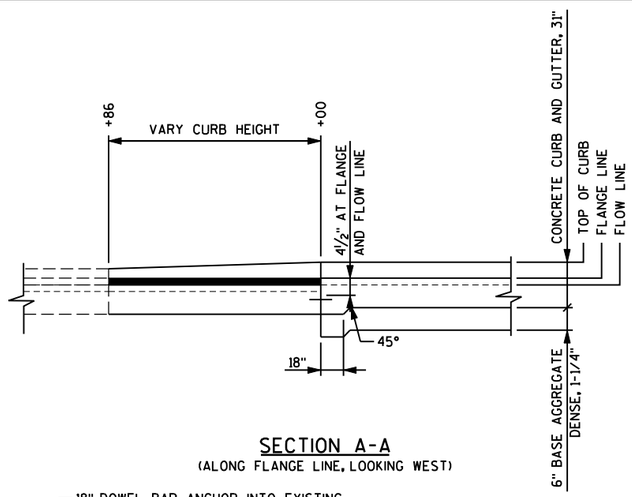
NOTES:
1. DOWEL BARS PAID UNDER ITEM 416.0620, DRILLED DOWELS BARS.
2. THICKEND CONCRETE TO BE INCIDENTAL TO RESPECTIVE CONCRETE BID ITEM.

PAVEMENT MATCH AT EAST LIMITS

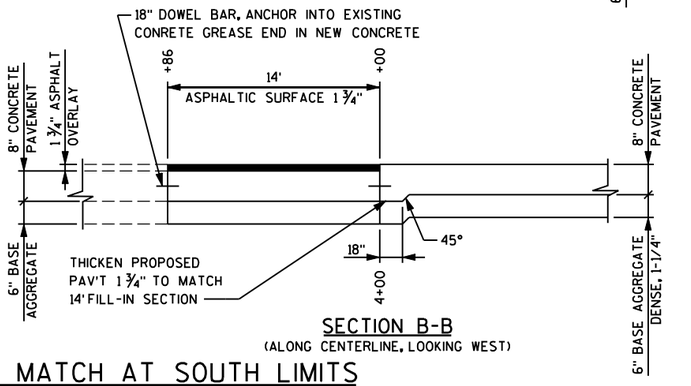
NOTES:
1. DOWEL BARS PAID UNDER ITEM 416.0620, DRILLED DOWELS BARS.
2. THICKEND CONCRETE AND ADDITIONAL CURB HEIGHT TO BE INCIDENTAL TO RESPECTIVE CONCRETE BID ITEM.
3. TIE BARS PAID UNDER ITEM 416.0610 DRILLED TIE BARS, IF SET INTO WET CONCRETE INCIDENTAL TO RESPECTIVE CONCRETE BID ITEMS.



PLAN



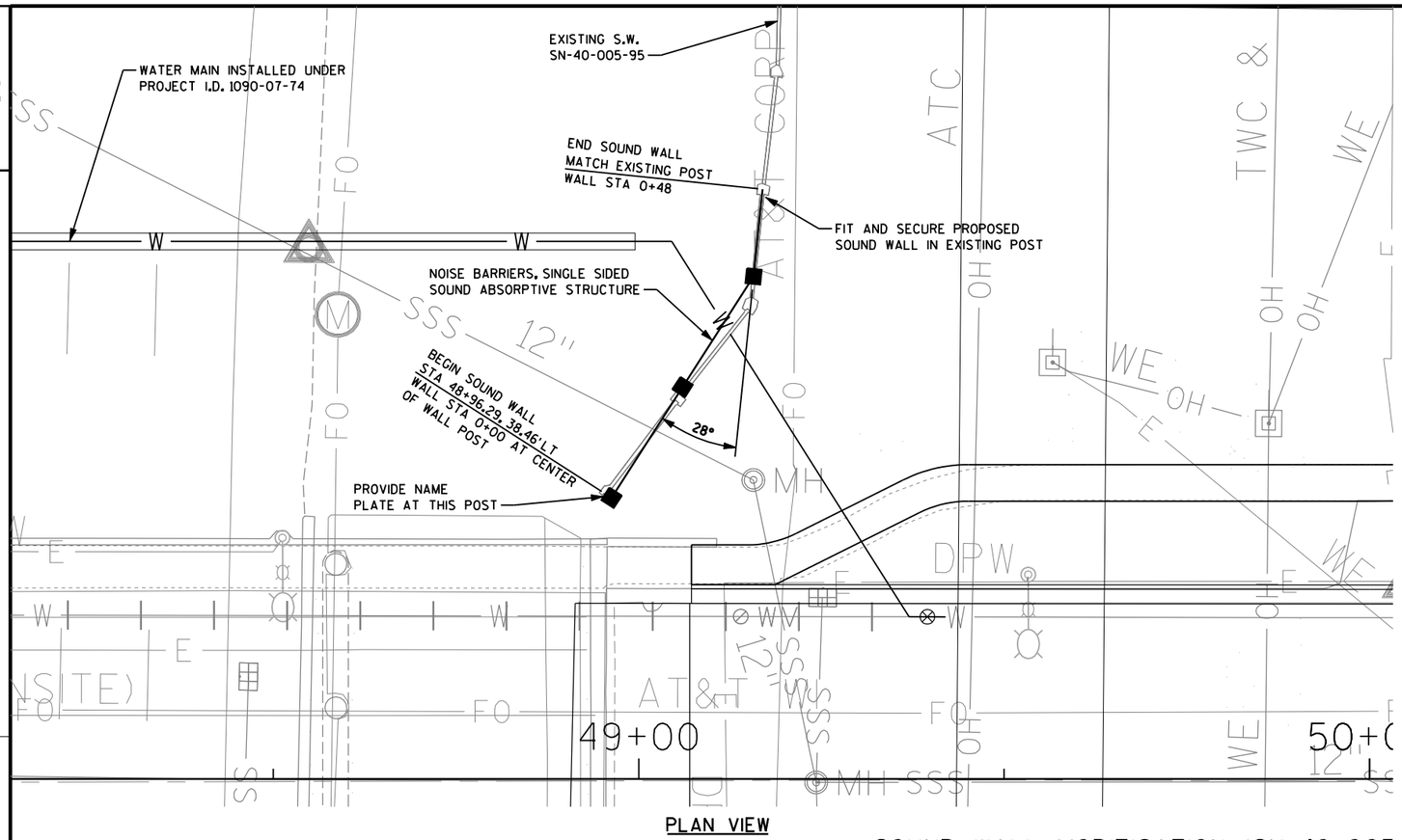
SECTION A-A
(ALONG FLANGE LINE, LOOKING WEST)



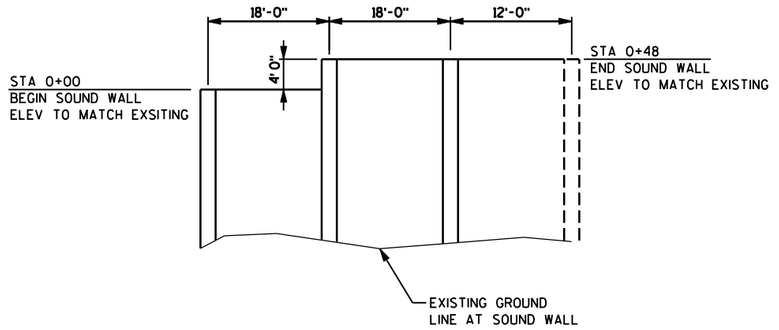
SECTION B-B
(ALONG CENTERLINE, LOOKING WEST)

PAVEMENT MATCH AT SOUTH LIMITS

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SHEET 8	E



PLAN VIEW

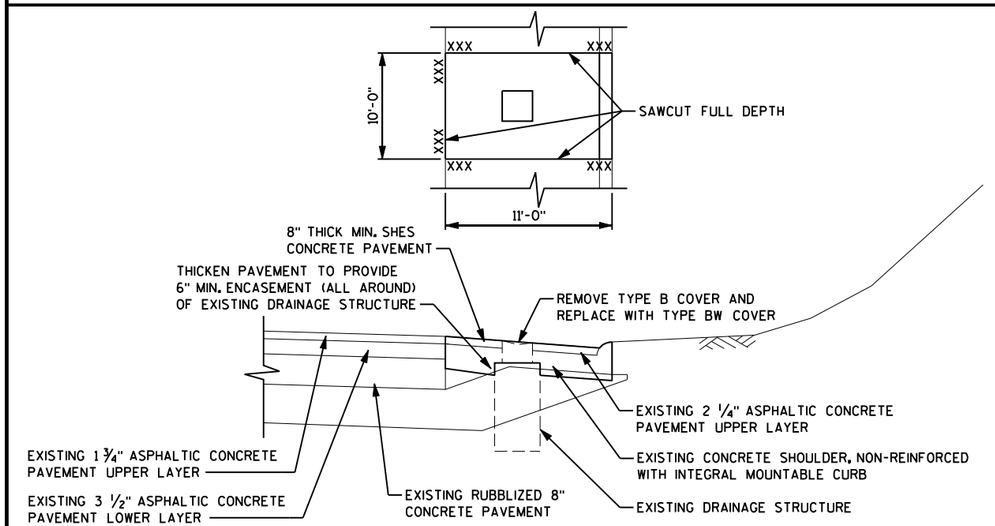


ELEVATION VIEW

NOTES:

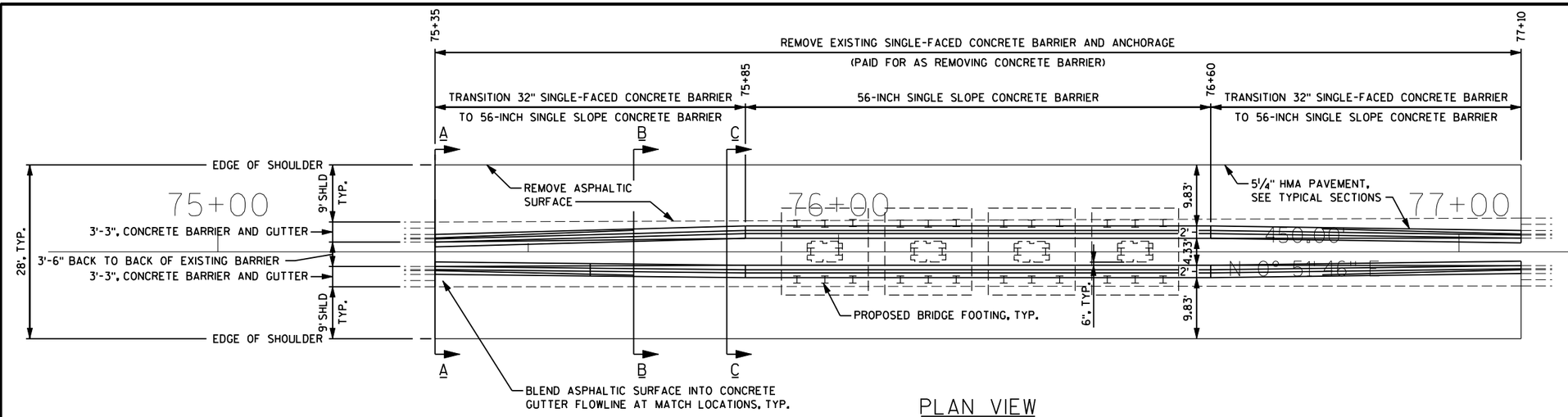
1. SOUND WALL CONTRACTOR TO SURVEY TOP OF EXISTING SOUND WALL AND GROUND LINE AT SUPPORT POSTS AND SHALL MATCH THESE ELEVATIONS WITH THE PROPOSED DESIGN.
2. GEOTECHNICAL INFORMATION IS AVAILABLE FOR BORINGS CONDUCTED FOR THE BRIDGE AND RETAINING WALL DESIGNS. IF ADDITIONAL BORINGS ARE NECESSARY FOR SOUND WALL POST AND FOOTING DESIGN THE CONTRACTOR SHALL INCLUDE THESE IN THE BID.

SOUND WALL MODIFICATION (SN-40-005-95)



INLET COVER REPLACEMENT

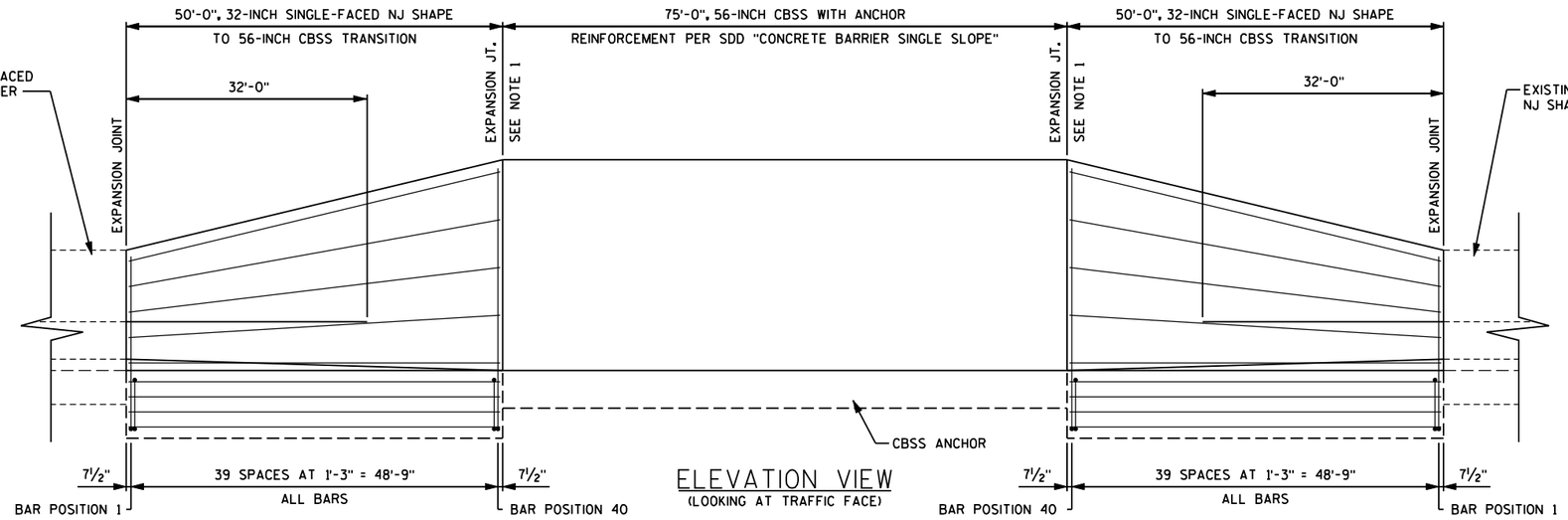
PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL	SHEET 9	E



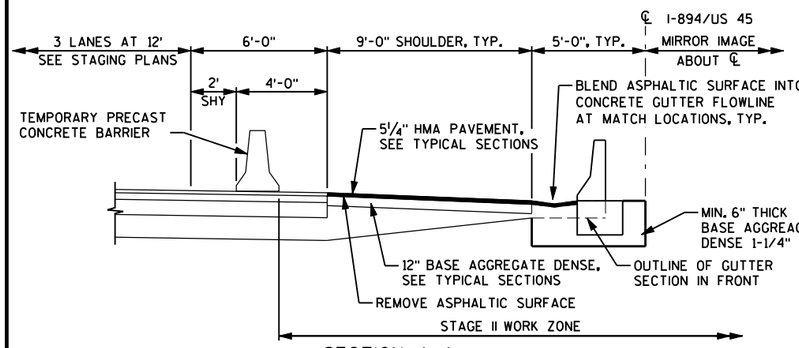
PLAN VIEW
(STAGE II CONSTRUCTION)

GENERAL NOTES:

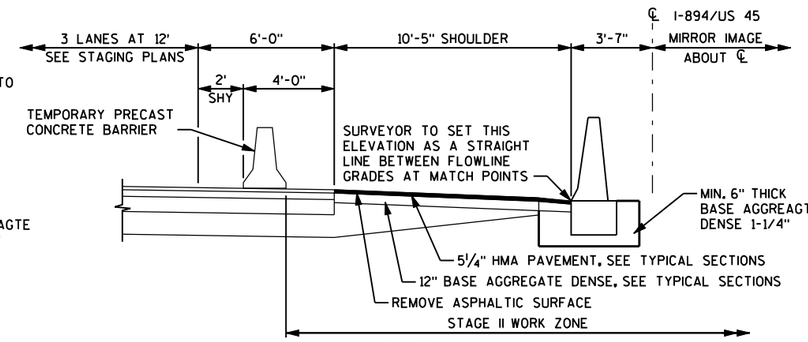
1. THIS JOINT MAY BE REPLACED WITH A COLD JOINT IF A THREE FOOT LAP OF ALL LONGITUDINAL STEEL OR CONTINUOUS BARS ARE PROVIDED.
2. CONSTRUCTION SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 603.
3. 4000 PSI CONCRETE IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 501 SHALL BE PROVIDED FOR ALL CONCRETE BARRIER WALL AND FOOTINGS.
4. ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES.
5. 2" CLEAR COVER AT ALL FACES.
6. ALL BAR STEEL SHALL BE GRADE 60 AND CONSIDERED INCIDENTAL TO THE RESPECTIVE CONCRETE BARRIER BID ITEMS.



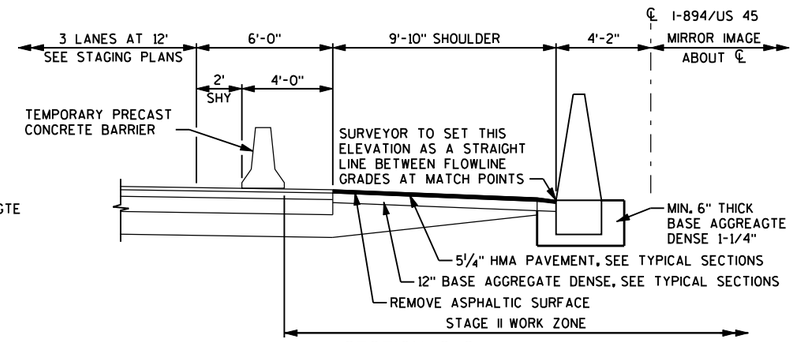
ELEVATION VIEW
(LOOKING AT TRAFFIC FACE)



SECTION A-A



SECTION B-B

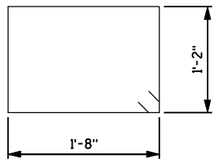


SECTION C-C

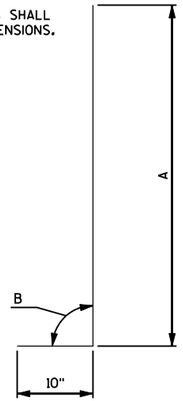
PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL - CONCRETE BARRIER TRANSITION (1 OF 2)	SHEET 10	E

GENERAL NOTES:

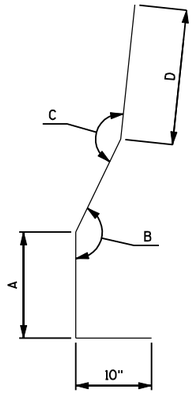
1. 2" CLEAR COVER AT ALL FACES.
2. 2'MINIMUM LAP LENGTH ON LONGITUDINAL BARS
3. ALL BAR STEEL SHALL BE GRADE 60 AND CONSIDERED INCIDENTAL TO THE RESPECTIVE CONCRETE BARRIER BID ITEMS.
4. THE FIRST OF THE FIRST TWO DIGITS OF A BAR MARK SIGNIFY ITS POSITION.
5. BARS THAT FALL BETWEEN LISTED DIMENSIONS SHALL BE PRORATED IN LENGTH BETWEEN THOSE DIMENSIONS.



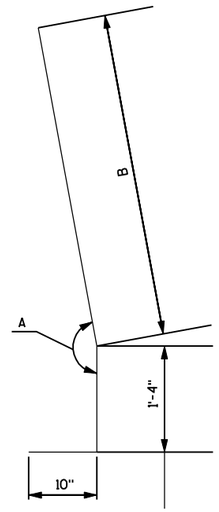
NO. 6 STIRRUP



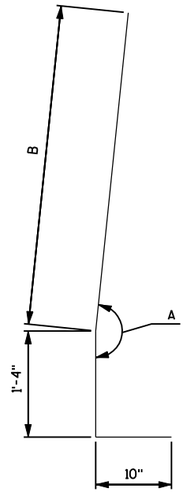
"A" BAR DETAIL



"B" BAR DETAIL



"C" BAR DETAIL



"D" BAR DETAIL

"A" BAR CHART
BAR POSITIONS
NO. A1 TO NO. A19

BAR	A	B
A1	3'-10"	89°-52'
A2	3'-11"	89°-37'
A3	3'-11 1/2"	89°-23'
A4	4'-0"	89°-8'
A5	4'-0 1/2"	88°-54'
A6	4'-1"	88°-40'
A7	4'-2"	88°-27'
A8	4'-2 1/2"	88°-14'
A9	4'-3"	88°-1'
A10	4'-3 1/2"	87°-48'
A11	4'-4 1/2"	87°-36'
A12	4'-5"	87°-24'
A13	4'-5 1/2"	87°-12'
A14	4'-6"	87°-0'
A15	4'-6 1/2"	86°-49'
A16	4'-7 1/2"	86°-38'
A17	4'-8"	86°-27'
A18	4'-8 1/2"	86°-17'
A19	4'-9"	86°-6'

"B" BAR CHART
BAR POSITIONS
NO. B1 TO NO. B25

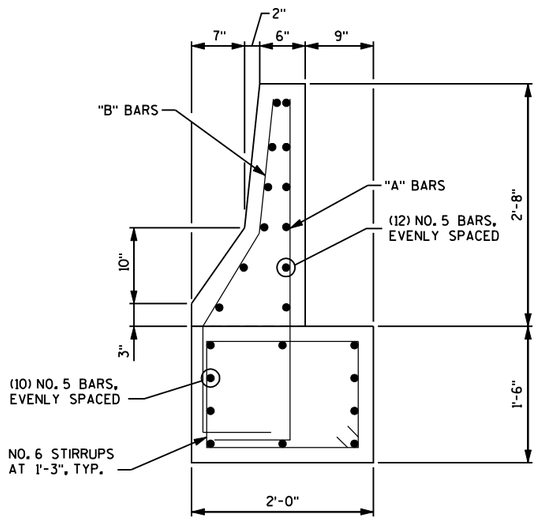
BAR	A	B	C	D
B1	1'-6 1/2"	146°-20'	152°-40'	1'-6"
B2	1'-6 1/2"	147°-18'	153°-43'	1'-6 1/2"
B3	1'-6 1/2"	148°-15'	154°-46'	1'-7"
B4	1'-6 1/2"	149°-13'	155°-49'	1'-8"
B5	1'-6 1/2"	150°-10'	156°-52'	1'-8 1/2"
B6	1'-6 1/2"	151°-8'	157°-54'	1'-9"
B7	1'-6 1/2"	152°-5'	158°-57'	1'-9 1/2"
B8	1'-6"	153°-3'	160°-00'	1'-10"
B9	1'-6"	154°-0'	161°-03'	1'-11"
B10	1'-6"	154°-58'	162°-06'	1'-11 1/2"
B11	1'-6"	155°-55'	163°-09'	2'-0"
B12	1'-6"	156°-53'	164°-12'	2'-0 1/2"
B13	1'-6"	157°-51'	165°-14'	2'-1"
B14	1'-6"	158°-48'	166°-17'	2'-2"
B15	1'-6"	159°-46'	167°-20'	2'-2 1/2"
B16	1'-5 1/2"	160°-43'	168°-23'	2'-3"
B17	1'-5 1/2"	161°-40'	169°-26'	2'-3 1/2"
B18	1'-5 1/2"	162°-38'	170°-29'	2'-4"
B19	1'-5 1/2"	163°-36'	171°-31'	2'-5"
B20	1'-5 1/2"	164°-33'	172°-34'	2'-5 1/2"
B21	1'-5"	165°-31'	173°-37'	2'-6"
B22	1'-5"	166°-28'	174°-40'	2'-6 1/2"
B23	1'-5"	167°-26'	175°-43'	2'-7"
B24	1'-5"	168°-24'	176°-46'	2'-8"
B25	1'-5"	169°-21'	177°-49'	2'-8 1/2"

"C" BAR CHART
BAR POSITIONS
NO. C20 TO NO. C40

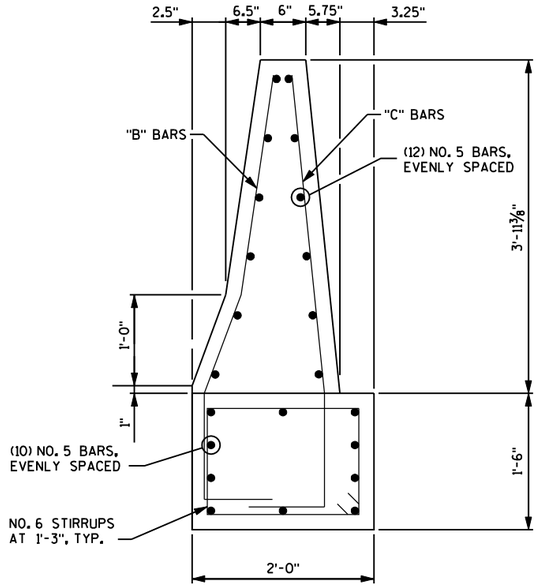
BAR	A	B
C20	174°-16'	3'-6"
C21	174°-4'	3'-6 1/2"
C22	173°-52'	3'-7"
C23	173°-40'	3'-8"
C24	173°-28'	3'-8 1/2"
C25	173°-16'	3'-9"
C26	173°-5'	3'-10"
C27	172°-55'	3'-10 1/2"
C28	172°-44'	3'-11"
C29	172°-34'	3'-11 1/2"
C30	172°-24'	4'-0"
C31	172°-14'	4'-1"
C32	172°-5'	4'-1 1/2"
C33	171°-55'	4'-2"
C34	171°-46'	4'-3"
C35	171°-38'	4'-3 1/2"
C36	171°-29'	4'-4"
C37	171°-20'	4'-4 1/2"
C38	171°-13'	4'-5"
C39	171°-4'	4'-6"
C40	170°-56'	4'-6 1/2"

"D" BAR CHART
BAR POSITIONS
NO. D26 TO NO. D40

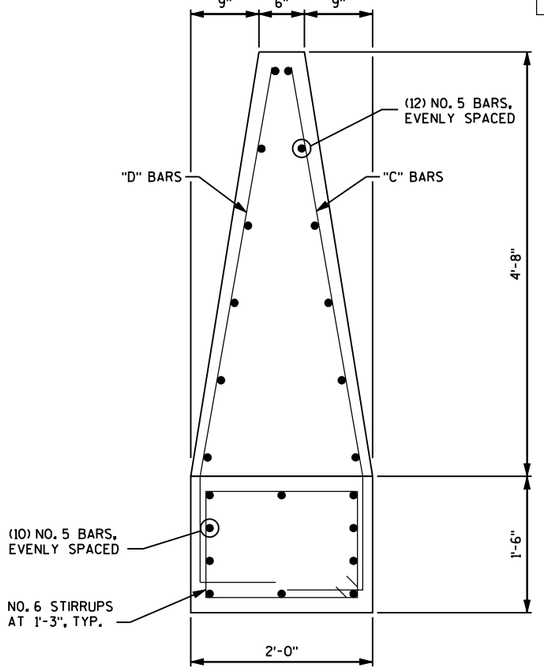
BAR	A	B
D26	169°-12'	3'-10"
D27	169°-19'	3'-11"
D28	169°-26'	3'-11 1/2"
D29	169°-34'	4'-0"
D30	169°-41'	4'-0 1/2"
D31	169°-48'	4'-1"
D32	169°-52'	4'-2"
D33	170°-2'	4'-2 1/2"
D34	170°-10'	4'-3"
D35	170°-17'	4'-3 1/2"
D36	170°-24'	4'-4"
D37	170°-31'	4'-5"
D38	170°-38'	4'-5 1/2"
D39	170°-46'	4'-6"
D40	170°-53'	4'-6 1/2"



SECTION A-A



SECTION B-B



SECTION C-C

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	CONSTRUCTION DETAIL - CONCRETE BARRIER TRANSITION (2 OF 2)	SHEET 11	E

2

N

WATERMAIN RELOCATED UNDER PROJECT I.D. 1090-07-74

FIRST THREE PANELS OF SOUND WALL SUPPORTS AND FOOTINGS REMOVED UNDER PROJECT I.D. 1090-07-74

FENCE REMOVED UNDER PROJECT I.D. 1090-07-74

FENCE REMOVED UNDER PROJECT I.D. 1090-07-74

HIGHWAY EASEMENT

WATERMAIN ABANDONED IN PLACE UNDER PROJECT I.D. 1090-07-74, CONTRACTOR TO REMOVE UNDER THIS PROJECT AND CONSIDERED INCIDENTAL TO REMOVING BRIDGE, STRUCTURE EXCAVATION AND COMMON EXCAVATION BID ITEMS

REMOVE INLETS AND STORM SEWER PIPES TO MH AT STATION 46+40

EXIST R/W

T.L.E.

CLEVELAND AVENUE

44+00 45+00 46+00 47+00 48+00 49+00

5+00 5+50 6+00 4+00 7+00

MATCHLINE STA 49+50

I-894 SB

I-894 NB

101ST STREET

HIGHWAY EASEMENT

EXIST R/W

T.L.E.

MATCHLINE STA 49+50

50+00 51+00 52+00

CLEVELAND AVENUE

EXIST R/W

HIGHWAY EASEMENT

T.L.E.

REMOVAL LEGEND

- REMOVING PAVEMENT
- REMOVING CURB AND GUTTER
- REMOVING CONCRETE SIDEWALK
- CLEARING AND GRUBBING
- AREA CLEARED AND GRUBBED UNDER PROJECT I.D. 1090-07-74

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	PLAN DETAIL - REMOVAL PLAN	SHEET 12	E

2

N

STA 47+94.01
B-40-884
2-SPAN, 36W" PRESTRESSED GIRDER
52' CLEAR ROADWAY WIDTH
SKEW 1° 21' 00"

STA 47+01.98
R-40-581
MSE RETAINING WALL

STA 48+86.03
R-40-580
MSE RETAINING WALL

℄ 101ST STREET NORTH

6+00 101ST ST.

EXISTING CONTOURS, TYP.

℄ CLEVELAND AVENUE

CLEVELAND AVE.

SLOPE INTERCEPT, TYP.

PROPOSED CONTOURS, TYP.

4+00 21"

℄ 101ST STREET SOUTH

STA 47+94.01
REMOVING OLD STRUCTURE
4-SPAN 36" PRESTRESSED GIRDER

I-894

45+00 46+00 47+00 48+00 49+00 50+00

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	CONTOUR PLAN	SHEET 13	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\021601_cm.dgn PLOT DATE : 12/2/2012 11:49:06 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 40.0000 ft / IN.

WISDOT/CADDS SHEET 42

2

N

EXIST R/W

T.L.E.

CLEVELAND AVENUE

44+00

45+00

46+00

47+00

48+00

49+00

5+00

6+00

7+00

4+00

101ST STREET

I-894 SB

I-894 NB

HIGHWAY EASEMENT

MATCHLINE STA 49+50

MATCHLINE STA 49+50

50+00

51+00

52+00

CLEVELAND AVENUE

EXIST R/W

HIGHWAY EASEMENT

T.L.E.

EROSION CONTROL LEGEND

- SALVAGED TOPSOIL, SOD LAWN AND FERTILIZER
- EROISION MAT CLASS 1 TYPE B, SEED AND FETILIZER
- SILT FENCE

EROSION CONTROL NOTES

1. INSTALL INLET PROTECTION TYPE C AT THE FIRST SET OF INLETS PAST THE PROJECT LIMITS ON CLEVELAND AVENUE TO THE WEST AND 101ST STREET TO THE NORTH AND SOUTH.

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	EROSION CONTROL AND RESTORATION	SHEET 14	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\022001_ec.dgn PLOT DATE : 12/2/2012 11:49:14 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 40.0000 ft / IN.

2

2

101ST STREET

SLOPE INTERCEPT, TYP.

STA. 46+24 - 39'LT
UC
2-2" (6')
8*10, A,N,B,GND, C,N,D,GND

STA. 46+27 - 35'LT
PB-UC02
2-2" (6')

4*10, A,N,B,GND

STA. 47+70.48
UC 10020

4*10, A,N,B,GND

SEE BRIDGE PLANS FOR
CONDUIT LOCATION

STA. 48+52.48
UC 10010

4*10, A, N, B, GND

STUB OUT AND
CAP CONDUITS

47+00

48+00

49+00

5+00

5+00

2-2" (74')

CLEVELAND AVENUE

℄ CLEVELAND AVENUE

STA. 47+70.48
UC 10021

4*10, C,N,D,GND

STA. 48+52.48
UC 10011

4*10, C,N,D,GND

2-2" (8')

STA. 46+27 - 38'RT
PB-UC01
1-2" (18')
8*10, C,N,D,GND

STA. 3+98, 23'RT
UC 10031

2" STUB AND CAP

101ST STREET

I-894/US45 SB

I-894/US45 NB

WEST ALLIS LIGHTING	
A,C	BLACK
B,D	RED
240/480 VAC 3W ISOLATED NEUTRAL	

LEGEND

- ELECTRIC SERVICE METER BREAKER PEDESTAL
- DISTRIBUTION CENTER
- PULL BOX (24", UNLESS NOTED OTHERWISE)
- CONDUIT (2", UNLESS NOTED OTHERWISE)
- CONDUIT STUBOUT
- MUNICIPAL POLE

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	LIGHTING PLAN AND SCHEMATIC	SHEET	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\023501_lp.dgn
PLOT DATE : 1/9/2013 4:11:47 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 20.0000 ft / IN.
WISDOT/CADDS SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

SPEED LIMIT 30
REMOVE

SPEED LIMIT 30 (15)
R2-1(2S)
ON LIGHT POLE

REMOVE

STOP
REMOVE

(9) STOP
R1-1(2S)

REMOVE

(4) S1-1(2S)

(5) WF16-7L(2S)

S 101ST STREET

CLEVELAND AVE

IH-894 EB

IH-894 WB

(6) STOP
R1-1(2S)
ON LIGHT POLE

STOP
REMOVE

(1) SCHOOL SPEED LIMIT 15 WHEN CHILDREN ARE PRESENT
S4-5I(2S)
ON LIGHT POLE

SCHOOL SPEED LIMIT 15 WHEN CHILDREN ARE PRESENT
REMOVE

(2) S1-1(2S)

(3) WF16-7L(2S)

REMOVE

(7) (8) NO PARKING ANY TIME
R7-1D(2S)
ON BRIDGE FENCE

NO PARKING ANY TIME
REMOVE

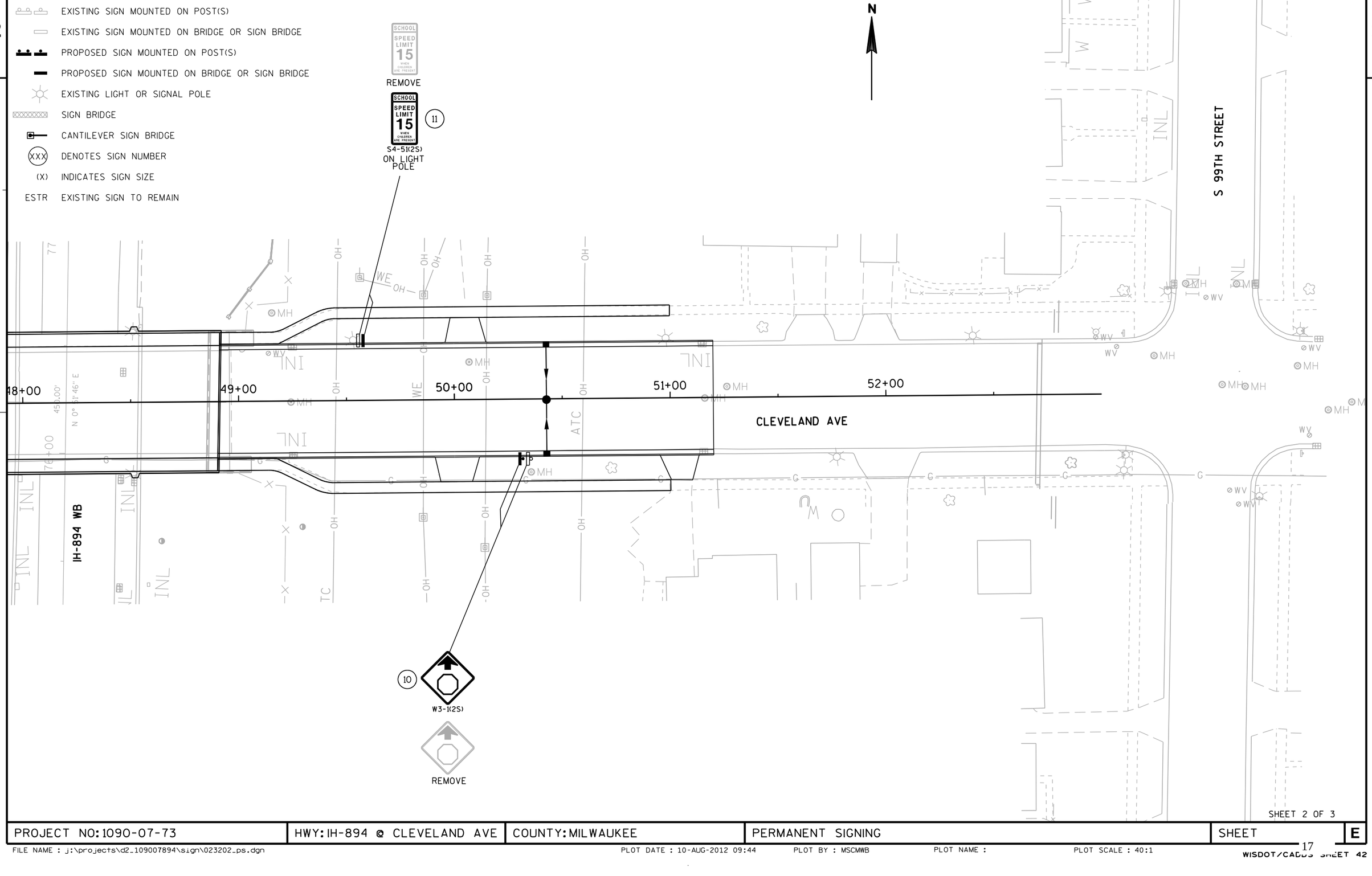
SHEET 1 OF 3

PROJECT NO: 1090-07-73	HWY: IH-894 @ CLEVELAND AVE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET E

FILE NAME : j:\projects\d2_109007894\sign\023201_ps.dgn PLOT DATE : 10-AUG-2012 09:44 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 40:1

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN



SHEET 2 OF 3

PROJECT NO: 1090-07-73	HWY: IH-894 @ CLEVELAND AVE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET E

FILE NAME : j:\projects\d2_109007894\sign\023202_ps.dgn PLOT DATE : 10-AUG-2012 09:44 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 40:1

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

N

46+00
5+00
4+00
5+00
6+00
S 101ST STREET
47+00
48+00
49+00
IH-894 EB
IH-894 WB
CLEVELAND AVENUE
74+00
75+00
76+00
77+00
78+00
450.00'
N 0° 51' 46" E

Cleveland Ave
2700 SOUTH
REMOVE

Cleveland Ave
2700 SOUTH
13 14
M1-94(5)
ON BRIDGE

EXIT 2 B
Oklahoma Ave
1/2 MILE
ESTR
TYPE I

EXIT 2A
12
National Avenue
E4-1A
TYPE I
MOVE SIGN TO
NEW POSTS

SHEET 3 OF 3

PROJECT NO: 1090-07-73	HWY: IH-894 @ CLEVELAND AVE	COUNTY: MILWAUKEE	PERMANENT SIGNING	SHEET	E

FILE NAME : j:\projects\d2_109007894\sign\023203_ps.dgn PLOT DATE : 10-AUG-2012 09:44 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 40:1

FTMS STANDARD ABBREVIATIONS

CCTV	CLOSED CIRCUIT TELEVISION SITE
CB	CONTROLLER CABINET
PB	PULL BOX
V	COMMUNICATIONS VAULT
F.O.C.	FIBER OPTIC CABLE
S-F	STATE-FURNISHED
DMS	DYNAMIC MESSAGE SIGN
MB	METER BREAKER
EX	EXISTING
MH	MANHOLE

LEGEND

PROPOSED

CCTV CAMERA AND POLE

METER BREAKER PEDESTAL

24"X36" STEEL PULL BOX

ITS CONDUIT

TYPE 1 MANHOLE

POLE MOUNTED FTMS CABINET

MICROWAVE DETECTOR

FTMS GENERAL NOTES

THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PROJECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.

BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.

BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULLBOXES, POLES, CABINET FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.

NO TREES (AND/OR SHRUBS) ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR FTMS CONSTRUCTION ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER AND SEED, AND MULCH. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS BUT ALSO CONTAINING FTMS CONSTRUCTION WILL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS. NO PAYMENT WILL BE MADE FOR RESTORING AREAS DISTURBED FOR FTMS CONSTRUCTION OPERATIONS.

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

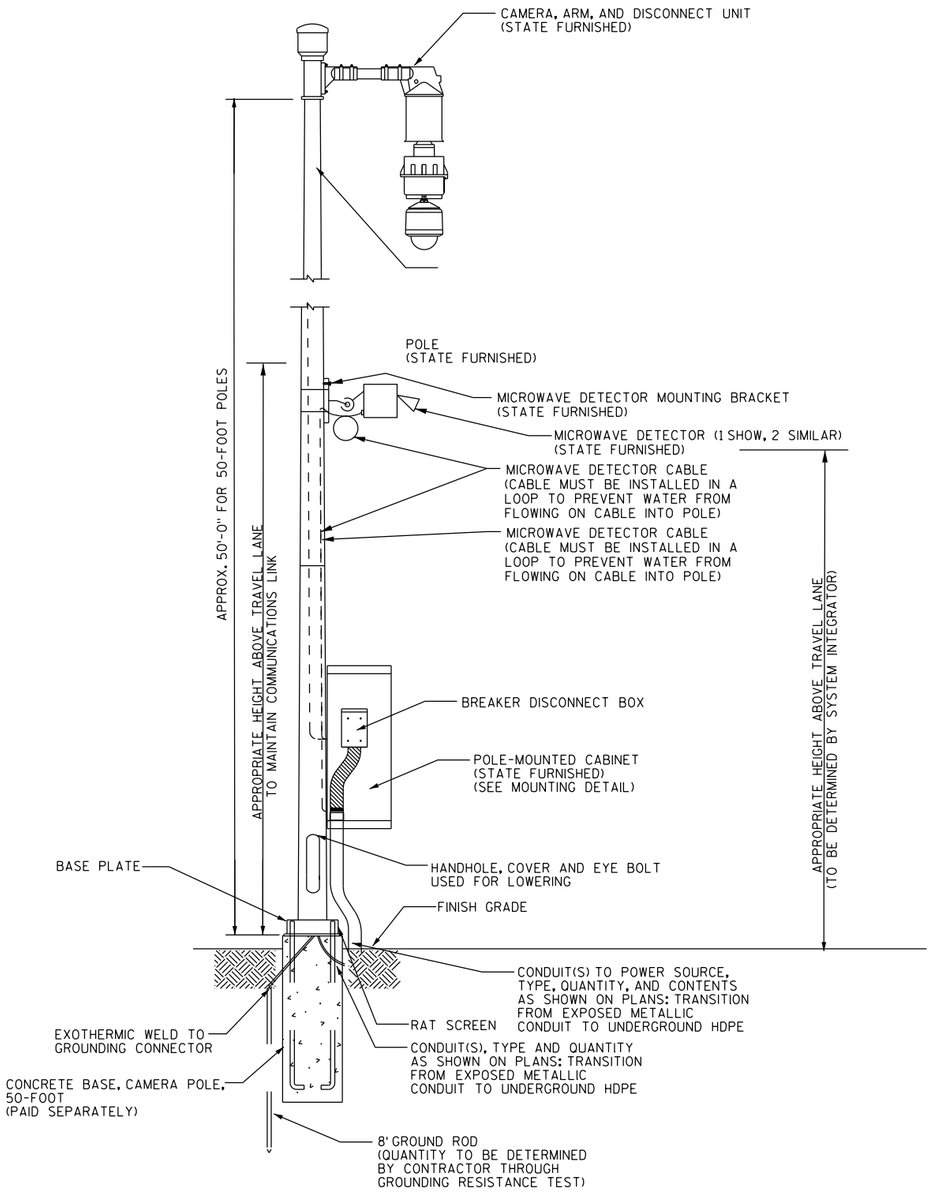
BE ADVISED THAT DUE TO RAMP, LANE, AND SHOULDER CLOSURE RESTRICTIONS, AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTS IN THE AREA.

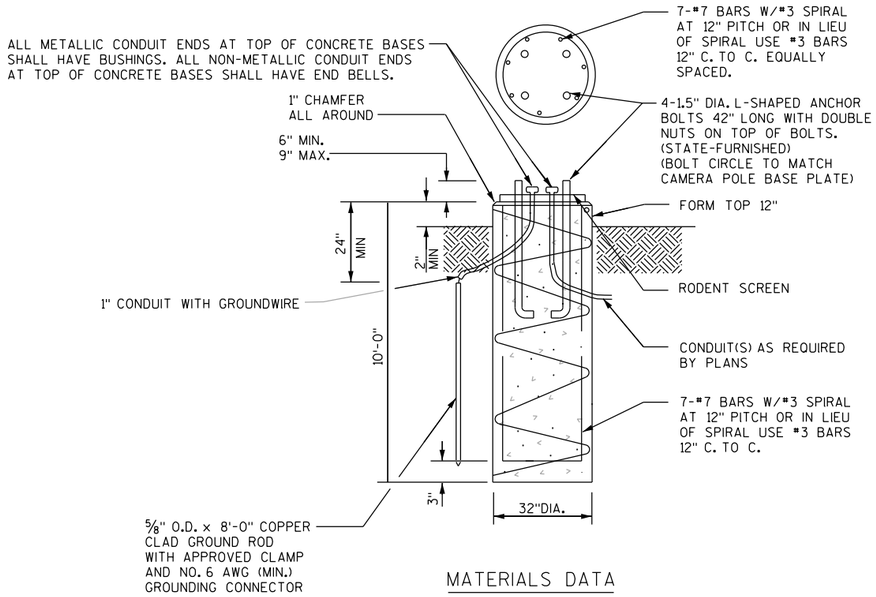
CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.

HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.

VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.



CAMERA POLE WITH CAMERA LOWERING HARDWARE

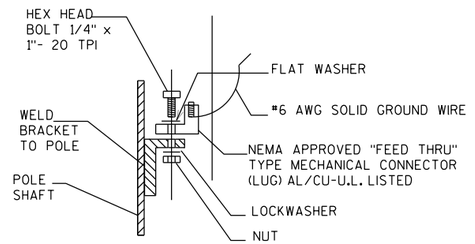


MATERIALS DATA

CONCRETE	f'c=3,500 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 psi

CONCRETE BASE, 50' CAMERA POLE

NOT TO SCALE



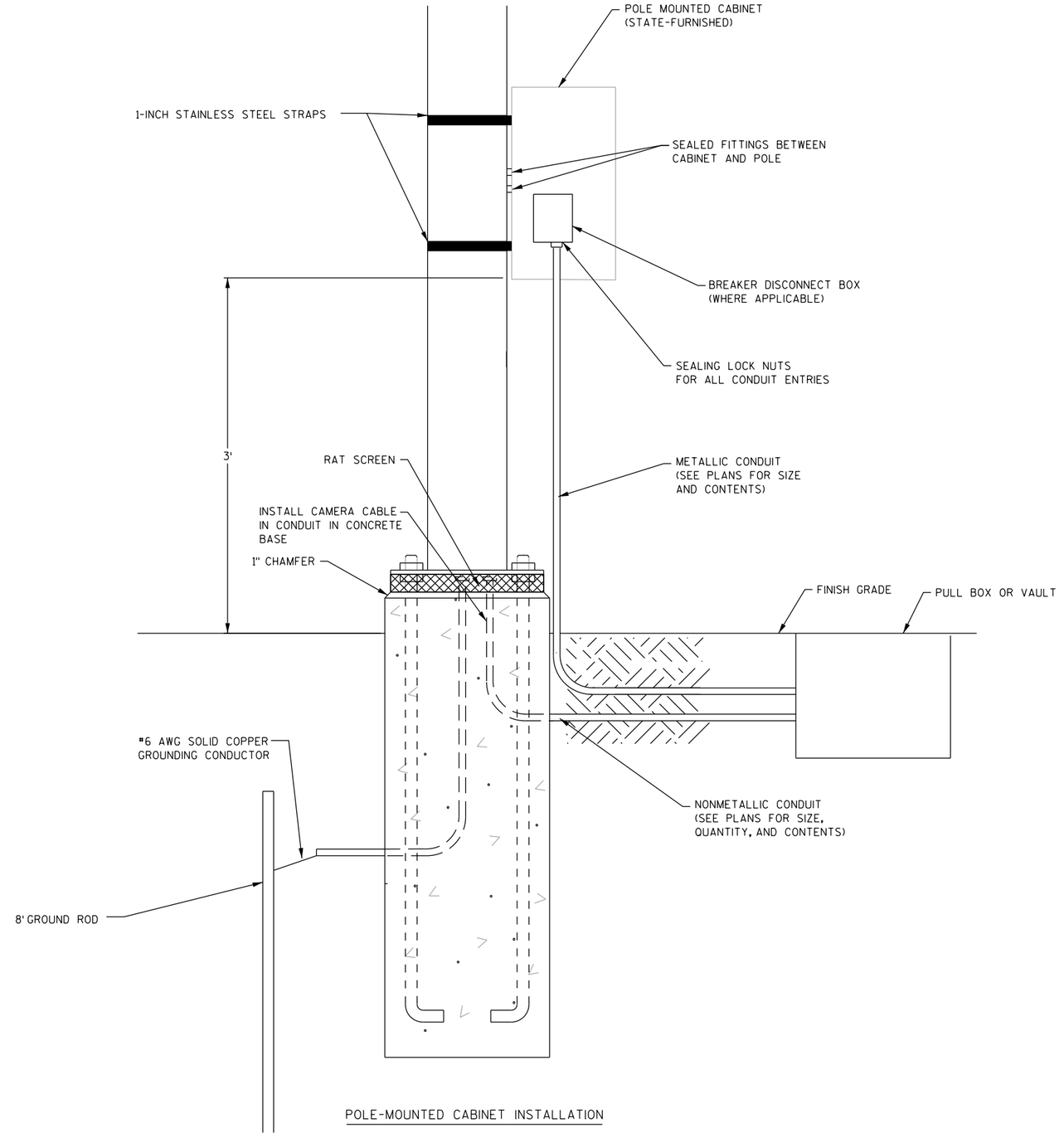
FIELD INSTALLED GROUNDING LUG

NOTES

1) ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL
2) POLE DRAWINGS SHOWN FOR BIDDING INFORMATION PURPOSES ONLY. POLES WILL BE STATE FURNISHED. BASE TO BE CONTRACTOR DESIGNED.
3) CONTRACTOR SHALL CONFIRM BOLT PATTERN OF CAMERA POLE PRIOR TO CONSTRUCTION OF CONCRETE BASE.
4) CONTRACTOR SHALL INSTALL GROUNDING LUG AS SHOWN

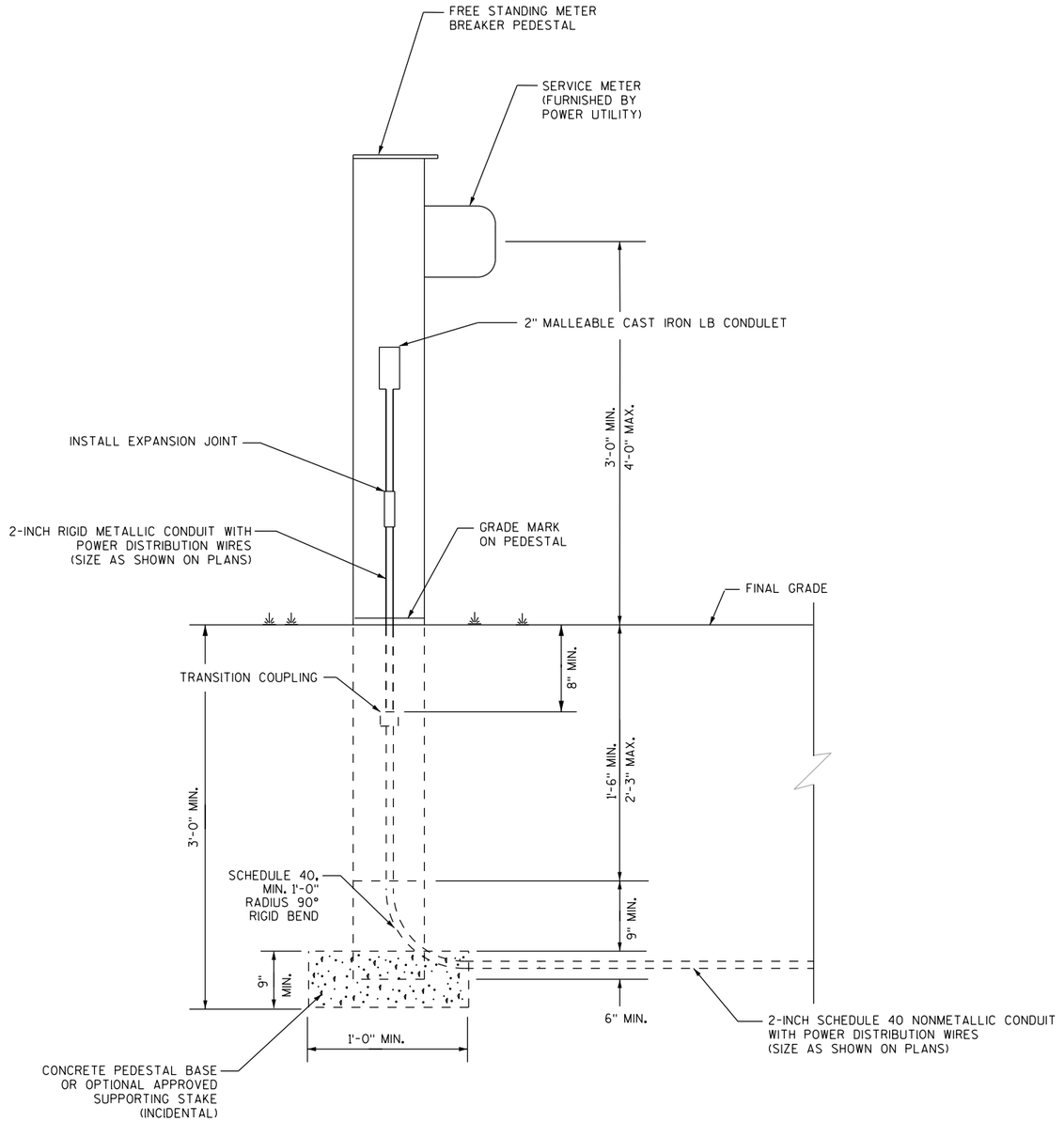
CAMERA POLES & FOUNDATIONS

2



POLE-MOUNTED CABINET INSTALLATION

2

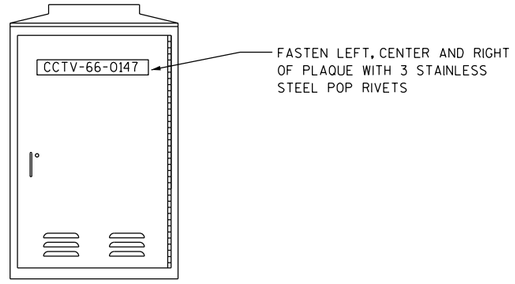


ELECTRICAL SERVICE METER BREAKER PEDESTAL

NOTES

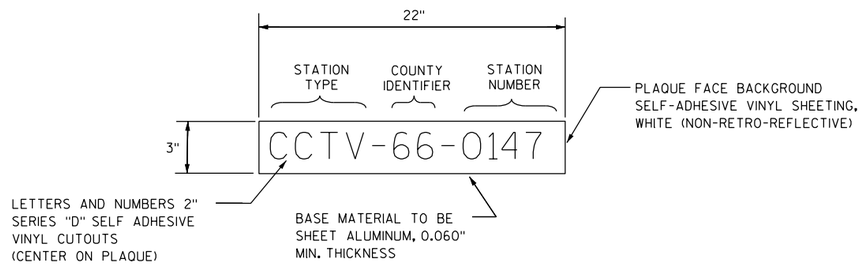
1) MINIMUM REQUIREMENT SHOWN. ADDITIONAL BREAKERS MAY BE REQUIRED.

2



CONTROL CABINET IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

(TYPICAL ALL CONTROL CABINETS)



CONTROL CABINET IDENTIFICATION PLAQUE DETAIL

POLE IDENTIFICATION PLAQUE DETAIL

LEGEND STATION TYPE

RM - RAMP METER
CCTV - CLOSED CIRCUIT TELEVISION
ATR - AUTOMATIC TRAFFIC RECORDER
SDS - SYSTEM DETECTOR STATION
MD - MICROWAVE DETECTOR

NOTES

1) TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
2) FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
3) FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE 2, FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
4) COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.

NOTES:
ALL REMOVALS MUST COORDINATED WITH WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER (STOC). PROPOSED REMOVAL SCHEDULE MUST BE SUBMITTED FOR REVIEW BY THE ENGINEER AND STOC STAFF A MINIMUM OF 2-WEEKS PRIOR TO DISCONNECTION AND REMOVAL OF ANY DEVICE OR DEVICES. THE PROPOSED SCHEDULE WILL BE REMOVED AND APPROVED OR COMMENTS PROVIDED WITHIN 1-WEEK OF SUBMITTAL. SCHEDULE MAY REQUIRE MODIFICATIONS BASED ON ASSOCIATED OPERATIONS.

W HARRISON

W CLEVELAND AVE

W MONTANA AVE

S 90TH ST

I 894/USH 45

72 FOC DOT, 25-PAIR CABLE

36 FOC DOT
288 FOC ATT

REMOVE EXISTING CABLE
EXPB7610
(1) REMOVE PULL BOX
EXPB7605
(1) REMOVE PULL BOX
REMOVE EXISTING CABLE
HW EXPB7600
(1) REMOVE PULL BOX
EX-ATR-40-0007
(2) REMOVE CABINET
(1) REMOVE ELECTRICAL SERVICE METER BREAKER PEDESTAL
(1) REMOVE ITS FIELD CABINET CONCRETE BASE
(1) REMOVE CONCRETE BASE
REMOVE EXISTING CABLE
EXPB7500
(1) REMOVE PULL BOX
REMOVE EXISTING CABLE
EXDP7500
(1) SALVAGE MICROWAVE DETECTOR STATION
(1) REMOVE CONCRETE BASE
REMOVE EXISTING CABLE
EXPB7615
(1) REMOVE PULL BOX
EXPB7620
(1) REMOVE PULL BOX
REMOVE EXISTING CABLE
REMOVE EXISTING CABLE
6-PAIR CABLE
EXMH7500
REMOVE EXISTING CABLE
EXPB7550
(1) REMOVE PULL BOX
2.25-PAIR CABLE
(1) 6-PAIR CABLE
VMS-40-001
72 FOC DOT, 25-PAIR CABLE

PROJECT NO: 1090-07-73	HWY: IH-894 / US-45	COUNTY: MILWAUKEE	FTMS REMOVALS SHEET	SHEET	E

FILE NAME : I:\59271\10900773_cleveland_ave\cds\fm05_rem_cl.dgn PLOT DATE : 8/29/2012 PLOT BY : pkutz PLOT NAME : PLOT SCALE : 100:1

2

2

W HARRISON

W CLEVELAND AVE

W MONTANA AVE

I 894/USH 45

I 894/USH 45

S 90TH ST

(3) 2-INCH NONMETALLIC CONDUITS
(1) WITH (1) 6-COUNT FOC (S-F)

(1) INSTALL PROPOSED CONDUIT
INTO EXISTING MANHOLE
(15) F.O. SPLICES IN NEW F.O.
SPLICE ENCLOSURE (S-F)

(3) 2-INCH NONMETALLIC CONDUITS
(1) WITH (1) 6-COUNT FOC (S-F)

72 FOC DOT, 25-PAIR CABLE

36 FOC DOT
288 FOC ATT

CCTV-40-0150
(1) 50-FOOT CONCRETE CAMERA POLE BASE
(1) 50-FOOT CAMERA POLE (S-F)
(1) DOME CAMERA (S-F)
(1) POLE MOUNT CABINET (S-F)
(1) BREAKER DISCONNECT BOX
(2) MICROWAVE DETECTORS (S-F)
(1) 12-COUNT F.O. TERMINATION PANEL (S-F)
(6) F.O. TERMINATIONS
(1) ETHERNET SWITCH W/SERIAL PORTS (S-F)
(1) ETHERNET VIDEO CODEC (S-F)

(1) 2-INCH METALLIC CONDUIT WITH
(3) NO. 6 AWG LIGHTING WIRES AND
(1) NO. 10 AWG LIGHTING WIRE

(1) 2-INCH NONMETALLIC CONDUIT WITH
(3) NO. 6 AWG LIGHTING WIRES AND
(1) NO. 10 AWG LIGHTING WIRE

PB4900

MB4900

EXMH9119

VMS-40-001

72 FOC DOT, 25-PAIR CABLE

72 FOC DOT, 25-PAIR CABLE
(1) 6-PAIR CABLE

SIGN

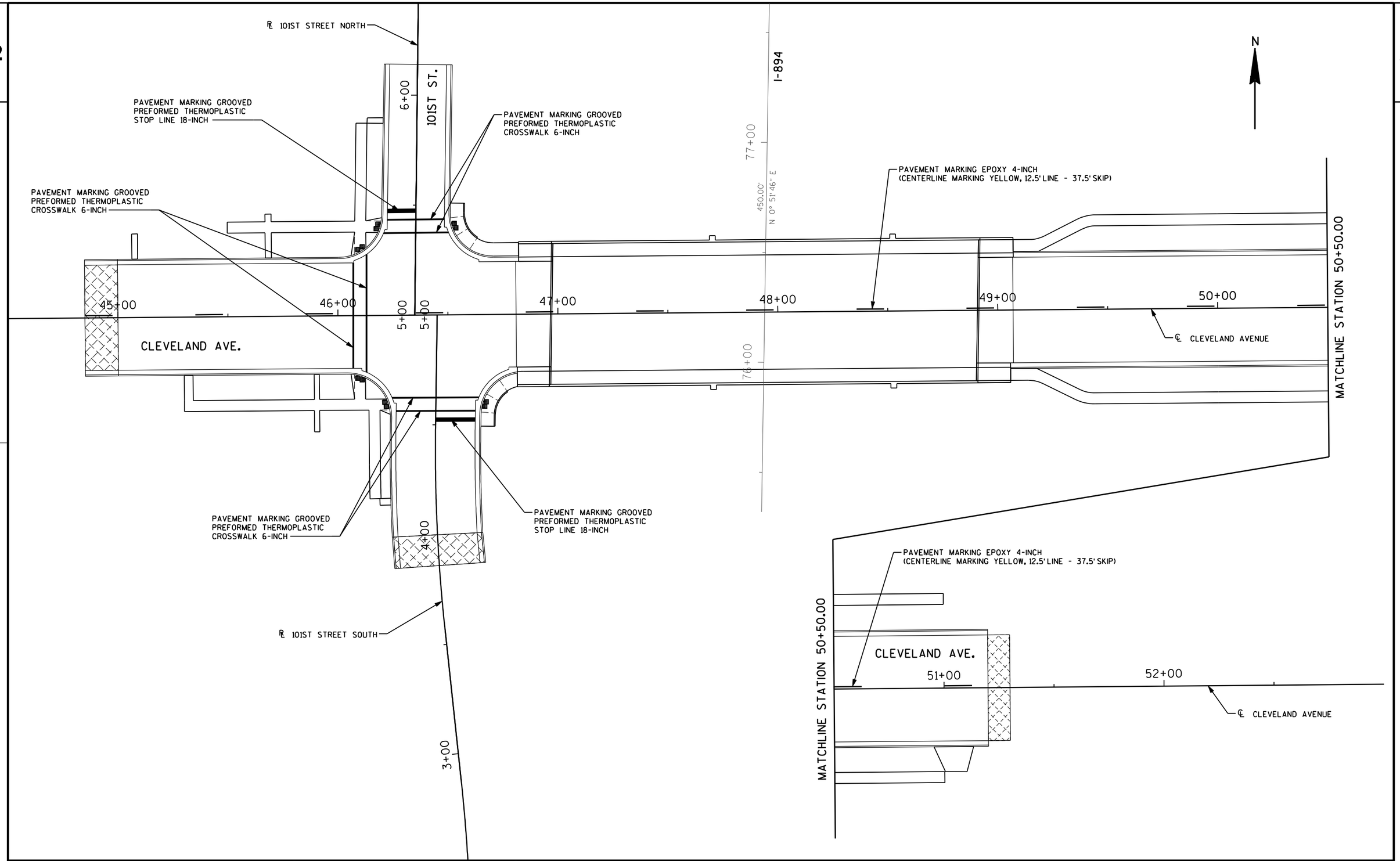
POOL

116

N

PROJECT NO: 1090-07-73	HWY: IH-894 / US-45	COUNTY: MILWAUKEE	FTMS PLAN SHEET	SHEET 25 E

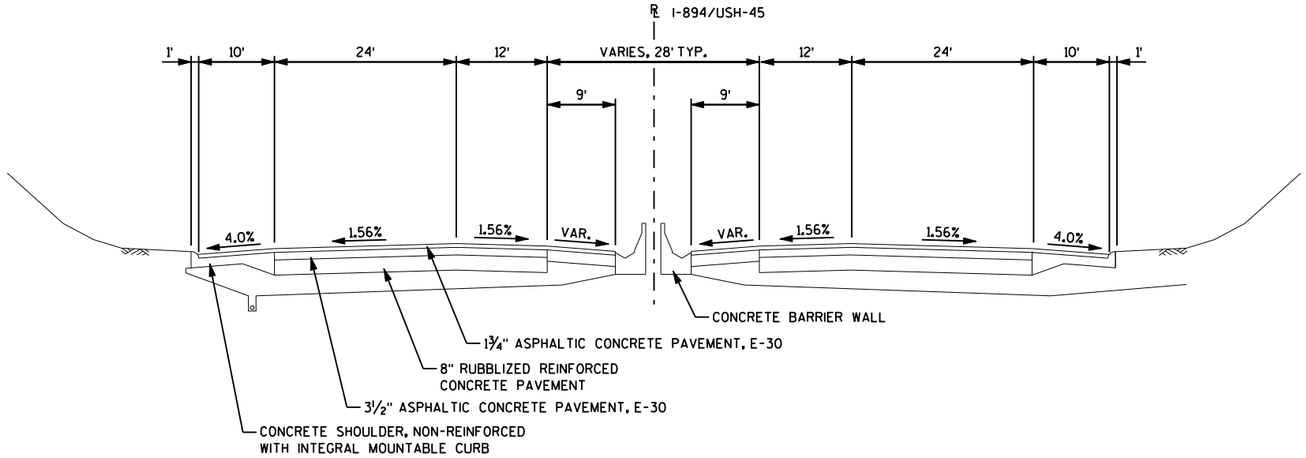
FILE NAME : I:\59271\10900773_cleveland_ave\cds\fm05_c1.dgn PLOT DATE : 8/29/2012 PLOT BY : pkutz PLOT NAME : PLOT SCALE : 100:1



2

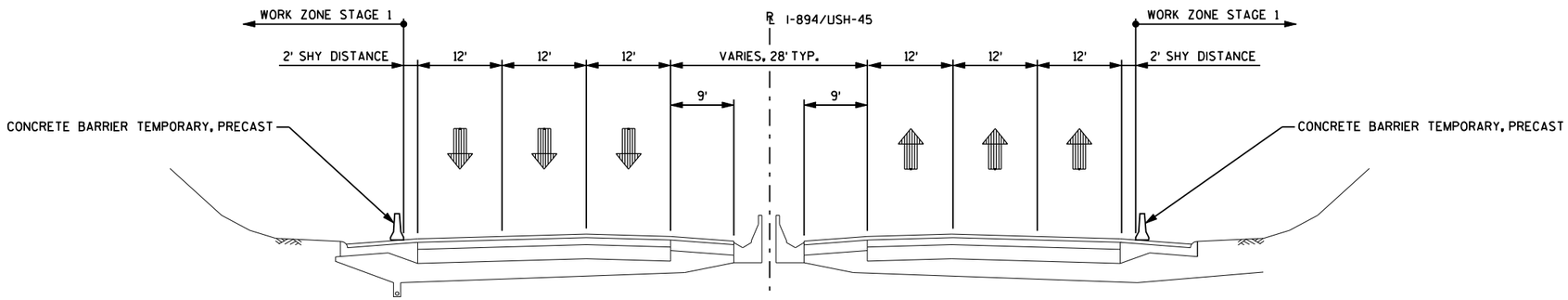
PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 26	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\024501_pm.dgn PLOT DATE : 12/2/2012 11:49:25 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 40.0000 ft / IN.
WISDOT/CADDS SHEET 42



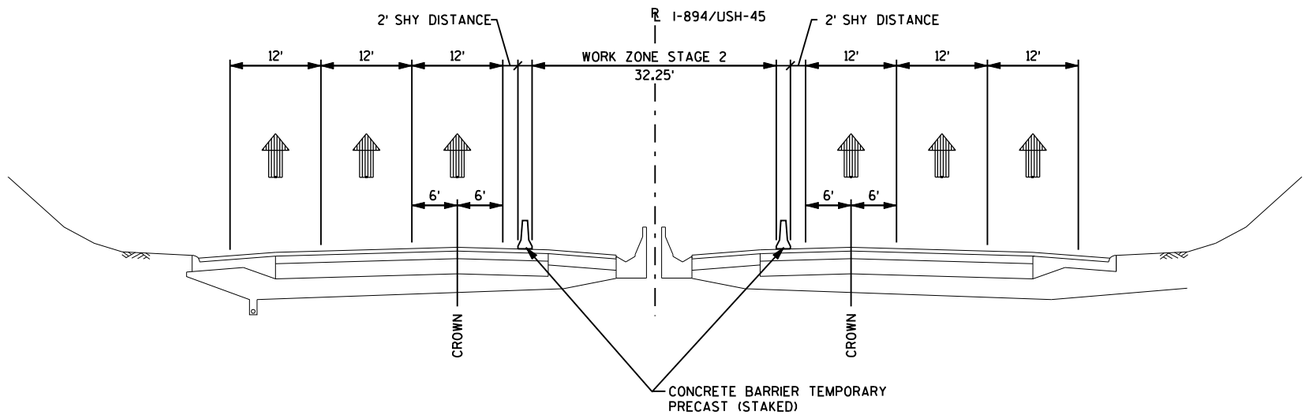
EXISTING TYPICAL SECTION

I-894/USH-45



TYPICAL SECTION - STAGE 1

I-894/USH-45



TYPICAL SECTION - STAGE 2

I-894/USH-45

SUGGESTED SEQUENCE OF OPERATIONS

1. SET-UP TRAFFIC STAGE 1 DEVICES.
2. DEMO EXISTING BRIDGES WITHIN STAGE 1 WORK ZONE.

   DEMO EXISTING BRIDGES USING NIGHTTIME LANE CLOUSRES IN ACCORDANCE WITH SDD TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS) FOR WORK WITHIN THE IH-894/US45 TRAVELED WAY AND SHOULDERS.

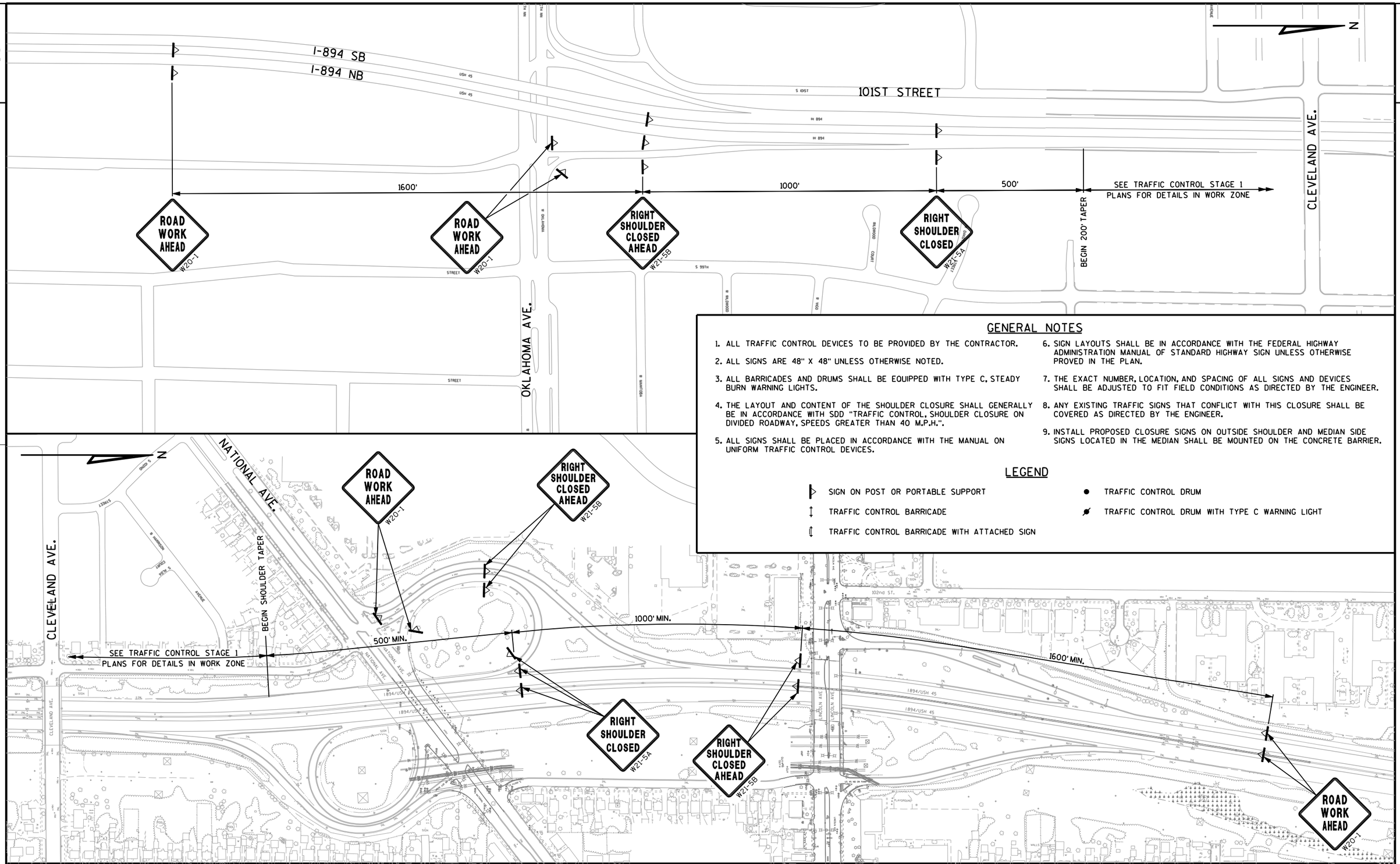
   CLOSE FREEWAY AT NIGHTTIME TO REMOVE EXISTING GIRDERS.

   COORDINATE SHORT-TERM LANE CLOSURES AND FREEWAY CLOSURE WITH OTHER PROJECTS IN AREA.
3. CONSTRUCT PORTIONS OF THE PROPOSED STRUCTURES THAT LIE WITHIN THE STAGE 1 WORK ZONE.
4. REMOVE STAGE 1 TRAFFIC CONTROL DEVICES AND SET-UP STAGE 2 TRAFFIC CONTROL DEVICES.

   DEMO EXISITNG BRIDGE COMPONENTS WITHIN STAGE 2 WORK ZONE.

   CONSTRUCT REMAINAING PORTIONS OF THE PROPOSED STRUCTURES THAT LIE WITHIN THE STAGE 2 WORK ZONE.

   CLOSE FREEWAY AT NIGHTIME TO ERECT PROPOSED GIRDERS.



GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. THE LAYOUT AND CONTENT OF THE SHOULDER CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
7. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- TRAFFIC CONTROL BARRICADE
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT

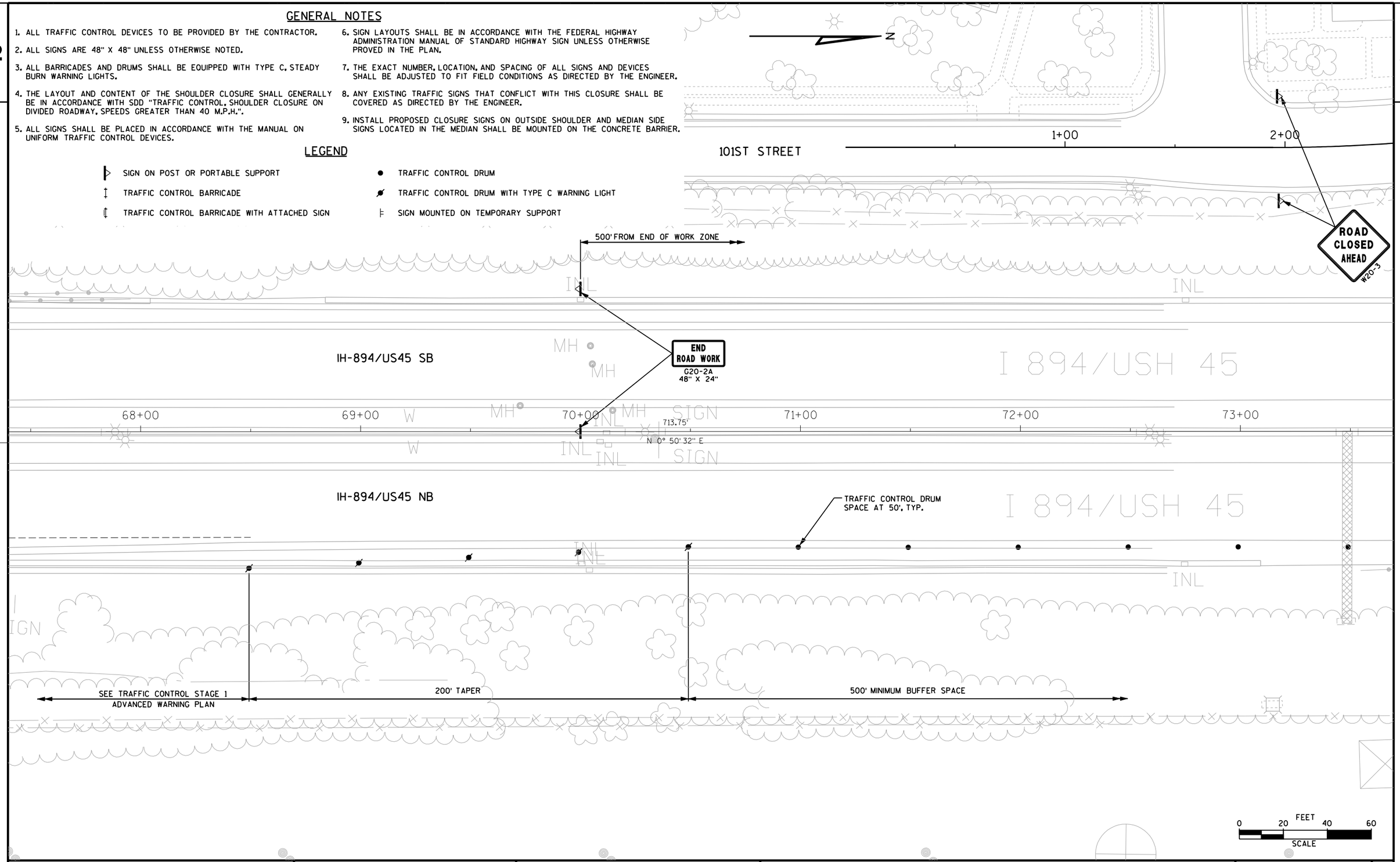
PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1 - ADVANCED WARNING SIGNS	SHEET 28	E

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. THE LAYOUT AND CONTENT OF THE SHOULDER CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
7. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- TRAFFIC CONTROL BARRICADE
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- SIGN MOUNTED ON TEMPORARY SUPPORT



PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 29	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\026102_s1.dgn
PLOT DATE : 1/14/2013 4:22:26 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 40.0000 sf / IN.
WISDOT/CADDS SHEET 42

MONTANA ST

N

SIDEWALK CLOSED
R9-9
24" X 12"

ROAD CLOSED AHEAD
W20-3

101ST STREET

2+00 3+00 4+00 5+00 6+00 7+00

CLOSE 101ST STREET AT ALLEY FOR DURATION OF PROJECT IN ACCORDANCE WITH SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES"

SIDEWALK CLOSED
R9-9
24" X 12"

CLOSE 101ST STREET AT ALLEY FOR DURATION OF PROJECT IN ACCORDANCE WITH SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES"

W5-52R
12" X 36"

CRASH CUSHION TEMPORARY, TYP.

TEMPORARY PRECAST CONCRETE BARRIER, TYP.

8:1 BARRIER TAPER

IH-894/US45 SB

POT 74+00.00

73+00 74+00 75+00 76+00 77+00 78+00

POT 78+50.00

450.00'
N 0° 51' 46" E

47+00 48+00 49+00

INLET COVER REPLACEMENT, (BEFORE STAGE ONE CONSTRUCTION)
IN ACCORDANCE WITH SDD TRAFFIC CONTROL, TWO LANE CLOSURE
ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)
CLOSURE PAID FOR AS TC INTERIM FREEWAY LANE(S) CLOSURE

SEE STAGING TYPICAL SECTIONS

IH-894/US45 NB

8:1 BARRIER TAPER

W5-52R
12" X 36"

LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- WORK ZONE
- TEMPORARY PRECAST CONCRETE BARRIER (STAKED)
- TRAFFIC CONTROL DRUM (50' SPACING, TYP.)
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL BARRICADE
- SIGN ON TEMPORARY SUPORT
- CRASH CUSHION TEMPORARY

0 20 40 60 FEET
SCALE

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. THE LAYOUT AND CONTENT OF THE SHOULDER CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
7. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE, SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 30	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\026103_s1.dgn PLOT DATE : 1/14/2013 4:44:10 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TEXTSUB.TBL PLOT NAME : PLOT SCALE : 40.0000 sf / IN.

SIDEWALK CLOSED
R9-9
24" X 12"

7+00

MH

CLOSE 101ST STREET AT ALLEY FOR DURATION OF PROJECT IN ACCORDANCE WITH SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES"

MH 101ST STREET

INL

ROAD CLOSED AHEAD
W20-3

N

SEE TRAFFIC CONTROL STAGE 2 ADVANCED WARNING PLAN

USE TRAFFIC CONTROL DRUMS TO CLOSE SHOULDER FROM NATIONAL AVE SB ENTRANCE RAMP TO END OF WALL

500' MINIMUM BUFFER SPACE

INL

NATIONAL AVENUE SB ENTRANCE RAMP

8:1 BARRIER TAPER

IH-894/US45 SB

78+00

POT 78+50.00

W

INL

W

500' FROM END OF WORK ZONE

END ROAD WORK
G20-2A
48" X 24"

SEE STAGING TYPICAL SECTIONS

IH-894/US45 NB

INL

MH

INL

NATIONAL AVENUE NB EXIT RAMP

INL

W

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. THE LAYOUT AND CONTENT OF THE SHOULDER CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
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9. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

0 20 40 60 FEET
SCALE

LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- WORK ZONE
- TEMPORARY PRECAST CONCRETE BARRIER (STAKED)
- TRAFFIC CONTROL DRUM (50' SPACING, TYP.)
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL BARRICADE
- SIGN ON TEMPORARY SUPORT
- CRASH CUSHION TEMPORARY

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 31	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\026104_s1.dgn PLOT DATE : 1/14/2013 4:50:37 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 40.0000 sf / IN.
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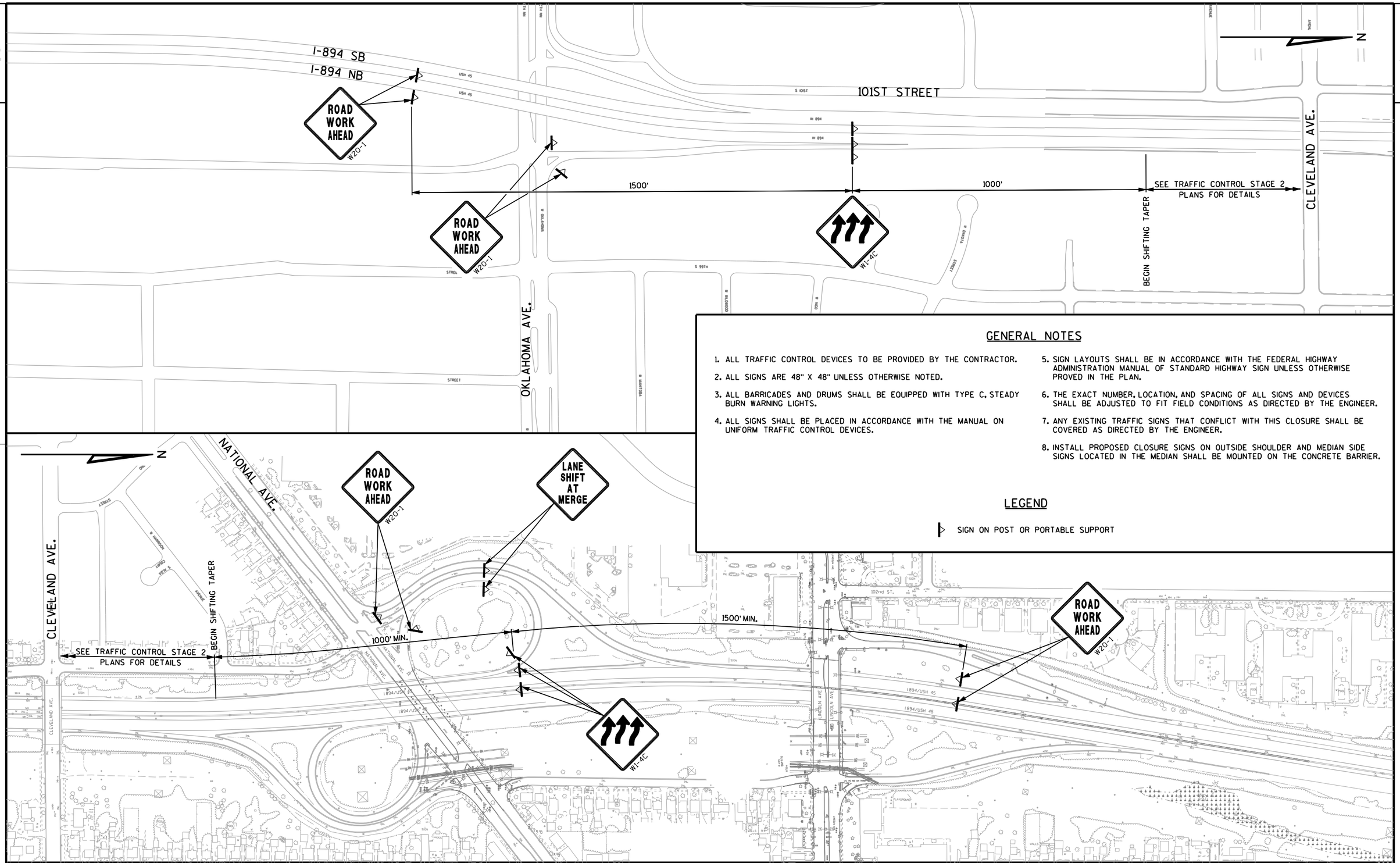
PEI_TEXTSUB.TBL
WISDOT/CADDS SHEET 42



GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

LEGEND

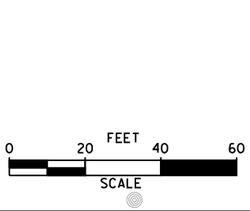
SIGN ON POST OR PORTABLE SUPPORT

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2 - ADVANCED WARNING SIGNS	SHEET E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\026201_s2.dgn
PLOT DATE : 1/14/2013 4:59:05 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 300.0000 FT / IN.
WISDOT/CADDS SHEET 42

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE, SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.



LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- WORK ZONE
- TEMPORARY PRECAST CONCRETE BARRIER (STAKED)
- TRAFFIC CONTROL DRUM (50' SPACING, TYP.)
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL BARRICADE
- SIGN ON TEMPORARY SUPORT
- CRASH CUSHION TEMPORARY

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET 33	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\026202_s2.dgn
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PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 40.0000 sf / IN.
WISDOT/CADDS SHEET 42

LEGEND

- SIGN ON POST OR PORTABLE SUPPORT
- WORK ZONE
- TEMPORARY PRECAST CONCRETE BARRIER (STAKED)
- TRAFFIC CONTROL DRUM (50' SPACING, TYP.)
- TRAFFIC CONTROL DRUM WITH TYPE C WARNING LIGHT
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL BARRICADE
- SIGN ON TEMPORARY SUPORT
- CRASH CUSHION TEMPORARY

0 20 40 60 FEET
SCALE

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE, SIGNS LOCATED IN THE MEDIAN SHALL BE MOUNTED ON THE CONCRETE BARRIER.

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2	SHEET 34	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\026203_s2.dgn
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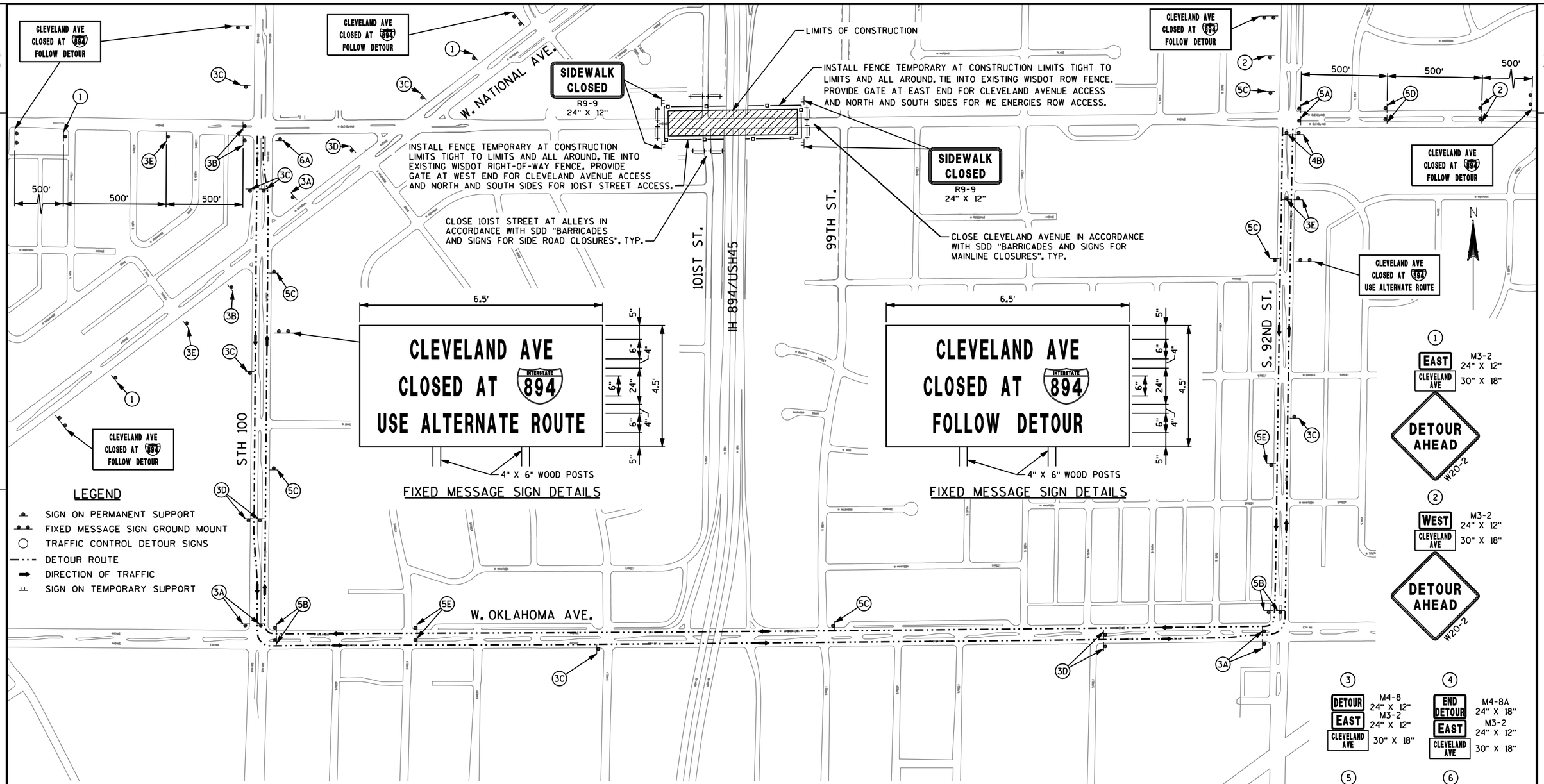
PLOT NAME :
PLOT SCALE : 40.0000 sf / IN.
WISDOT/CADDS SHEET 42



LEGEND

- SIGN ON PERMANENT SUPPORT
- FIXED MESSAGE SIGN GROUND MOUNT
- TRAFFIC CONTROL DETOUR SIGNS
- DETOUR ROUTE
- DIRECTION OF TRAFFIC
- SIGN ON TEMPORARY SUPPORT

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE OF DIVIDED ROADWAYS.

FIXED MESSAGE SIGN NOTES

1. USE POSTS FROM FHWA LIST OF ACCEPTED BREAKAWAY SIGN SUPPORTS AND THEY SHALL MEET THE REQUIREMENTS OF SECTION 643.2.9.1 OF THE STANDARD SPECIFICATIONS AND SIGN PLATE A4-11.
2. FIXED MESSAGE SIGNS SHALL BE PAID FOR UNDER THE ITEM "TRAFFIC CONTROL SIGNS FIXED MESSAGE".
3. SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.
4. ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS: 6" CAPS SHALL BE SERIES "C".
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.
6. SIGN BASE MATERIAL SHALL BE IN ACCORDANCE WITH SECTION 637.2.1.2.

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	DETOUR PLAN - CLEVELAND AVENUE	SHEET 35	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\027001_dt.dgn
PLOT DATE : 1/16/2013 3:17:16 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME :
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT SCALE : 500.0000 FT / IN.
WISDOT/CADDS SHEET 42

2

① M4-8 24" X 12" DETOUR EAST M4-8 24" X 12"; M3-2 24" X 12"; M3-3 24" X 12"; M1-1A 30" X 24" INTERSTATE 894; 45 M1-6 24" X 24"

② M4-8A 24" X 18" END DETOUR EAST END DETOUR SOUTH M4-8A 24" X 18"; M3-2 24" X 12"; M3-3 24" X 12"; M1-1A 30" X 24" INTERSTATE 894; 45 M1-6 24" X 24"

③ M4-8 24" X 12" DETOUR WEST DETOUR NORTH M4-8 24" X 12"; M3-4 24" X 12"; M3-1 24" X 12"; M1-1A 30" X 24" INTERSTATE 894; 45 M1-6 24" X 24"

④ M4-8A 24" X 18" END DETOUR WEST END DETOUR NORTH M4-8A 24" X 18"; M3-4 24" X 12"; M3-1 24" X 12"; M1-1A 30" X 24" INTERSTATE 894; 45 M1-6 24" X 24"

Ⓐ M6-1 21" X 21" Ⓑ M6-1 21" X 21" Ⓒ M6-1 21" X 21" Ⓓ M5-1L 21" X 21" Ⓔ M5-1R 21" X 21" Ⓕ M6-2 21" X 21" Ⓖ M6-2 21" X 21"

LEGEND

- EXISTING SIGN
- SIGN ON POST OR PORTABLE SUPPORT
- XXX CLOSURE
- DETOUR ROUTE
- DIRECTION OF TRAFFIC

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE OF DIVIDED ROADWAYS.
9. DETOUR SIGNS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.

N

W. COLDSPRING RD.
W. HOWARD AVE.
W. NATIONAL AVE.
STH 100
IH 894/USH45
W. BELOIT RD.
W. OKLAHOMA AVE.
W. CLEVELAND AVE.
W. LINCOLN AVE.
S. 92ND ST.
Exit 2A
National Avenue
Exit 3
Beloit Rd

1A MEDIAN
1A AT BEGINING OF TURN LANE
1B 1C 1D 1E 1G 2 3A 3B 3C 3D 3E 4

SEE "DETOUR - IH 894 W / US 45 N (FULL FREEWAY CLOSURE)" FOR CONTINTUATION OF DETOUR SIGNING

SEE FULL FREEWAY CLOSURE DETAIL FOR ADVANCED SIGNING AND LANE CLOSURES

FULLY CLOSE NB ENTRANCE RAMP SEE "ENTRANCE RAMP CLOSURE" DETAIL

LIMITS OF CONSTRUCTION

FULLY CLOSE NB ENTRANCE RAMP SEE "ENTRANCE RAMP CLOSURE" DETAIL

FULLY CLOSE SB ENTRANCE RAMP SEE "ENTRANCE RAMP CLOSURE" DETAIL

SEE FULL FREEWAY CLOSURE DETAIL FOR ADVANCED SIGNING AND LANE CLOSURES

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	DETOUR - IH 894/US45 N&S BOUND (FULL FREEWAY CLOSURE)	SHEET 36 E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\027002_dt.dgn PLOT DATE : 1/16/2013 3:22:55 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TEXTSUB.TBL PLOT NAME : PLOT SCALE : 1000.0000 FT / IN.

① M4-8 24" X 12" DETOUR / DETOUR M4-8 24" X 12"; M3-2 24" X 12" EAST / SOUTH M3-3 24" X 12"; M1-1A 30" X 24" INTERSTATE 894 / 45 M1-6 24" X 24"

② M4-8A 24" X 18" END DETOUR / END DETOUR M4-8A 24" X 18"; M3-2 24" X 12" EAST / SOUTH M3-3 24" X 12"; M1-1A 30" X 24" INTERSTATE 894 / 45 M1-6 24" X 24"

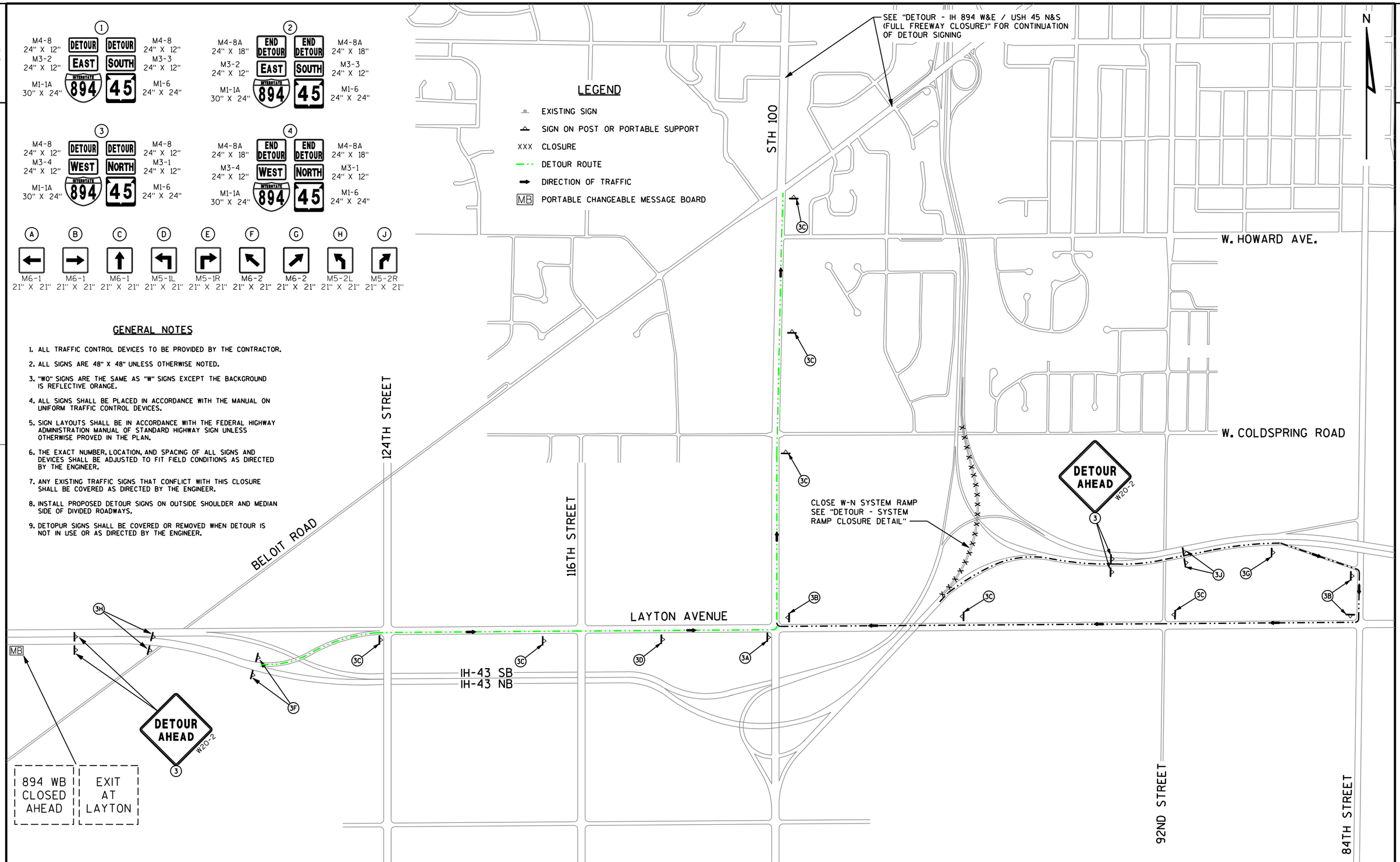
③ M4-8 24" X 12" DETOUR / DETOUR M4-8 24" X 12"; M3-4 24" X 12" WEST / NORTH M3-1 24" X 12"; M1-1A 30" X 24" INTERSTATE 894 / 45 M1-6 24" X 24"

④ M4-8A 24" X 18" END DETOUR / END DETOUR M4-8A 24" X 18"; M3-4 24" X 12" WEST / NORTH M3-1 24" X 12"; M1-1A 30" X 24" INTERSTATE 894 / 45 M1-6 24" X 24"

Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	Ⓙ
M6-1 21" X 21"	M6-1 21" X 21"	M6-1 21" X 21"	M5-1L 21" X 21"	M5-1R 21" X 21"	M6-2 21" X 21"	M6-2 21" X 21"	M5-2L 21" X 21"	M5-2R 21" X 21"

GENERAL NOTES

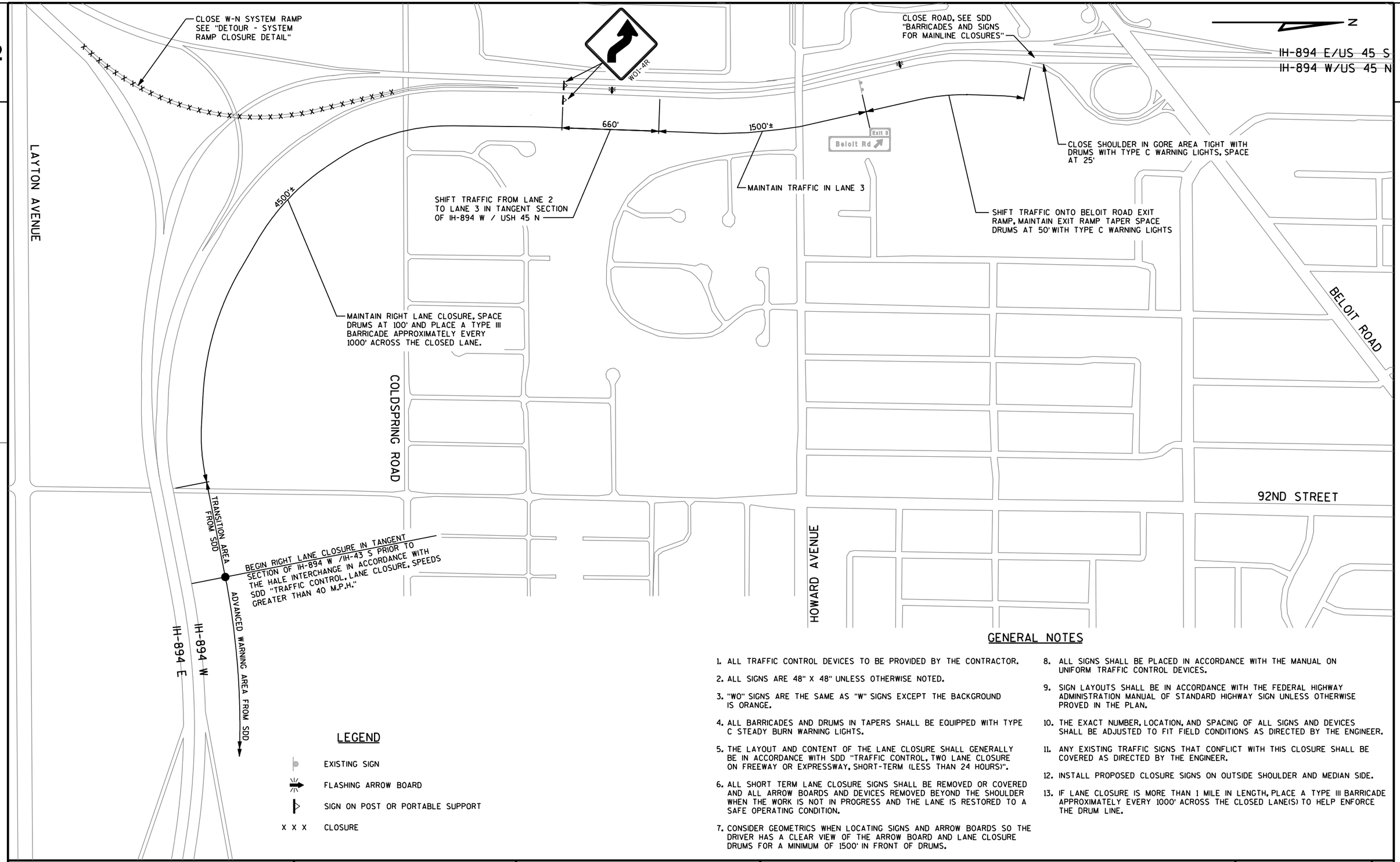
1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS REFLECTIVE ORANGE.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
8. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE OF DIVIDED ROADWAYS.
9. DETOPUR SIGNS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.



PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	DETOUR - IH 894 W/US 45 N (FULL FREEWAY CLOSURE)	SHEET 37	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\027003_dt.dgn PLOT DATE : 1/16/2013 3:22:02 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TEXTSUB.TBL PLOT NAME : PLOT SCALE : 1200.0000 FT / IN.
WISDOT/CADDS SHEET 42

2



LEGEND

- EXISTING SIGN
- FLASHING ARROW BOARD
- SIGN ON POST OR PORTABLE SUPPORT
- X X X CLOSURE

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
4. ALL BARRICADES AND DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C STEADY BURN WARNING LIGHTS.
5. THE LAYOUT AND CONTENT OF THE LANE CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)".
6. ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
7. CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500' IN FRONT OF DRUMS.
8. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
10. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
11. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
12. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE.
13. IF LANE CLOSURE IS MORE THAN 1 MILE IN LENGTH, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE(S) TO HELP ENFORCE THE DRUM LINE.

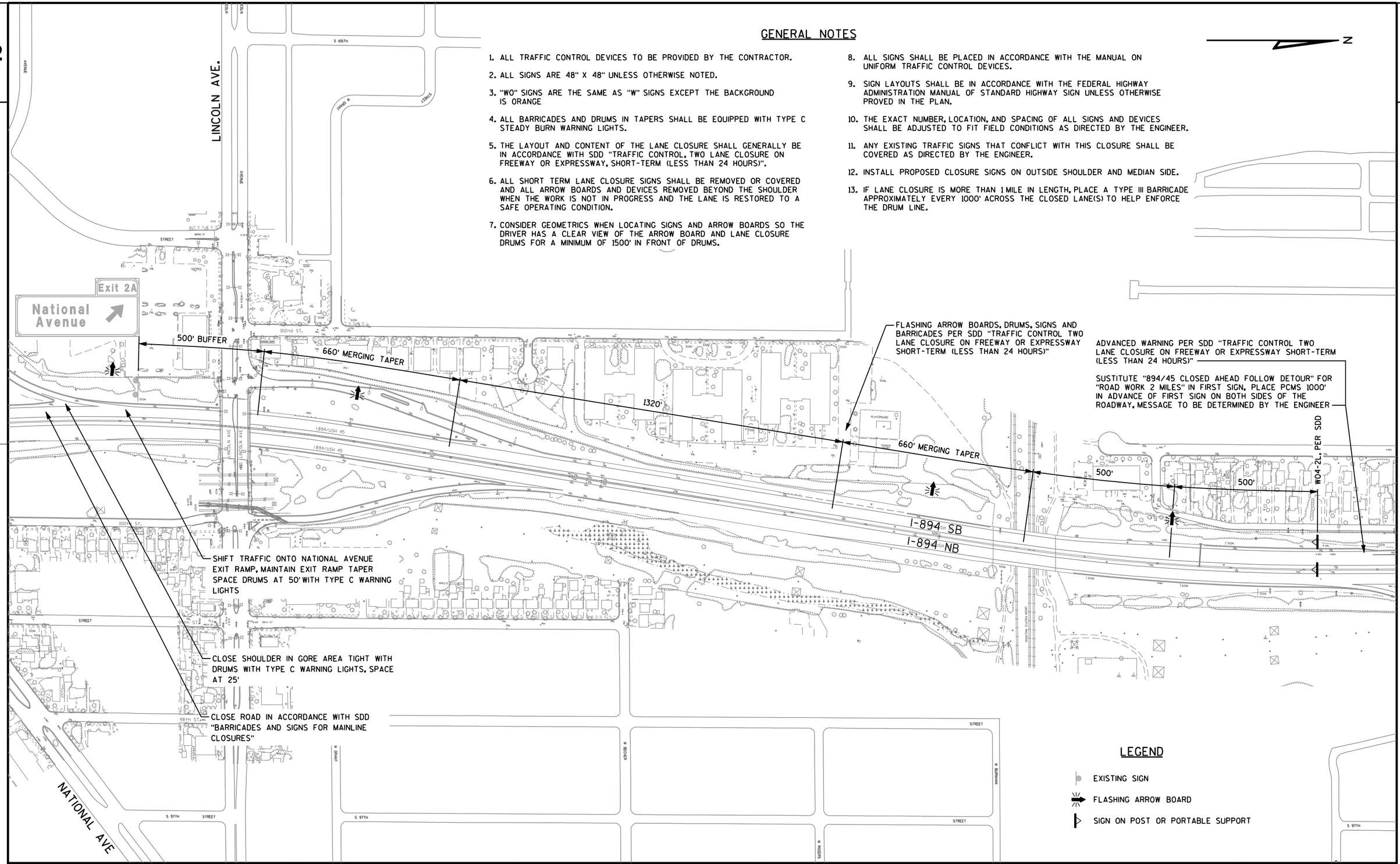
PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	DETOUR - FULL FREEWAY CLOSURE DETAIL	SHEET 38	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\027004_dt.dgn PLOT DATE : 1/16/2013 3:23:50 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 600.0000 FT / IN.
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
WISDOT/CADDS SHEET 42

GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE
4. ALL BARRICADES AND DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C STEADY BURN WARNING LIGHTS.
5. THE LAYOUT AND CONTENT OF THE LANE CLOSURE SHALL GENERALLY BE IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)".
6. ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
7. CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500' IN FRONT OF DRUMS.
8. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
9. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
10. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
11. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
12. INSTALL PROPOSED CLOSURE SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE.
13. IF LANE CLOSURE IS MORE THAN 1 MILE IN LENGTH, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE(S) TO HELP ENFORCE THE DRUM LINE.

N



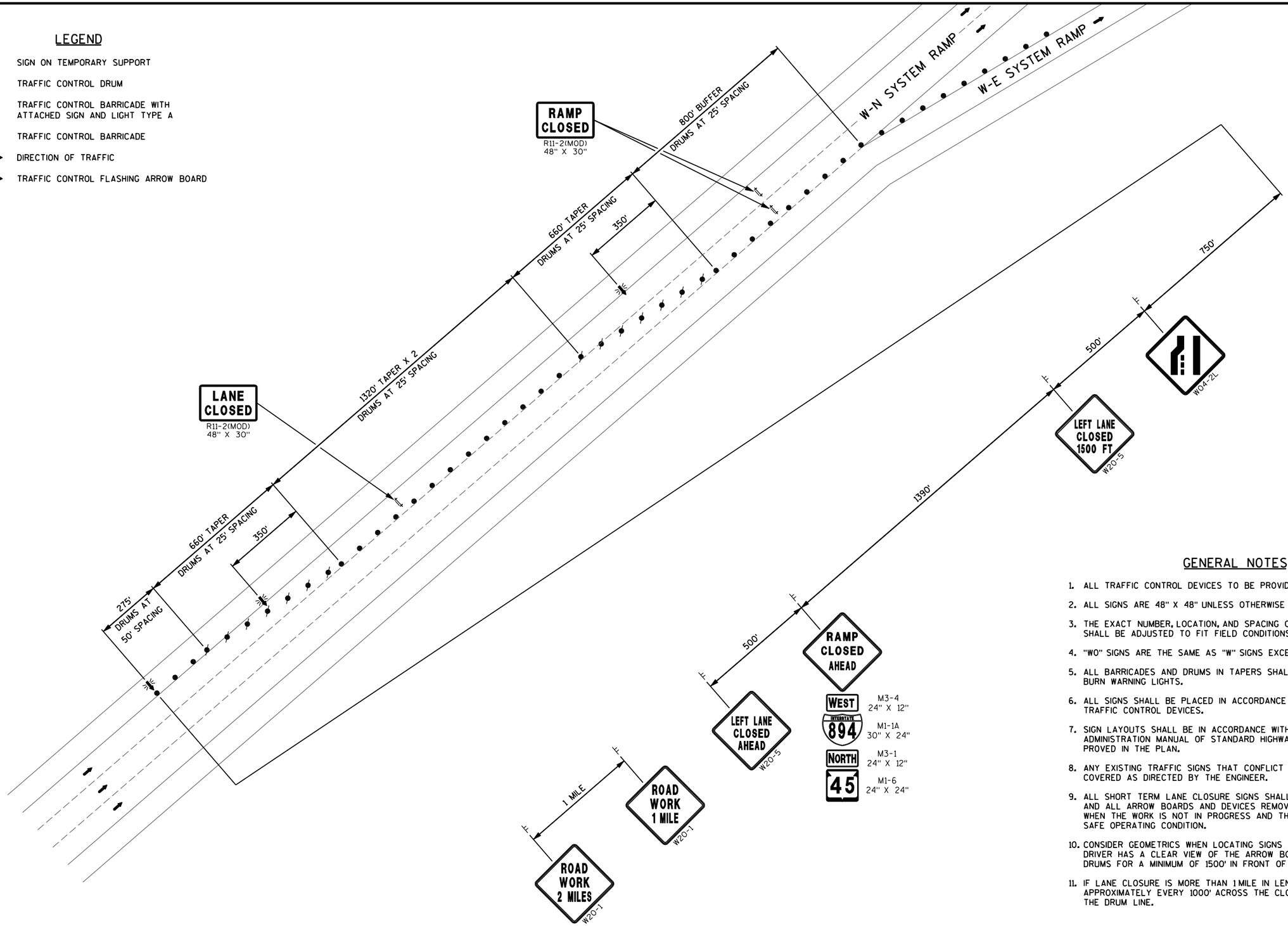
LEGEND

- EXISTING SIGN
- FLASHING ARROW BOARD
- SIGN ON POST OR PORTABLE SUPPORT

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	DETOUR - FULL FREEWAY CLOSURE DETAIL	SHEET 39	E

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN AND LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE
- DIRECTION OF TRAFFIC
- TRAFFIC CONTROL FLASHING ARROW BOARD



GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
4. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
5. ALL BARRICADES AND DRUMS IN TAPERS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
6. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
7. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
8. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
9. ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.
10. CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500' IN FRONT OF DRUMS.
11. IF LANE CLOSURE IS MORE THAN 1 MILE IN LENGTH, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE(S) TO HELP ENFORCE THE DRUM LINE.

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	DETOUR - SYSTEM RAMP CLOSURE DETAIL	SHEET 40	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\027006_dt.dgn
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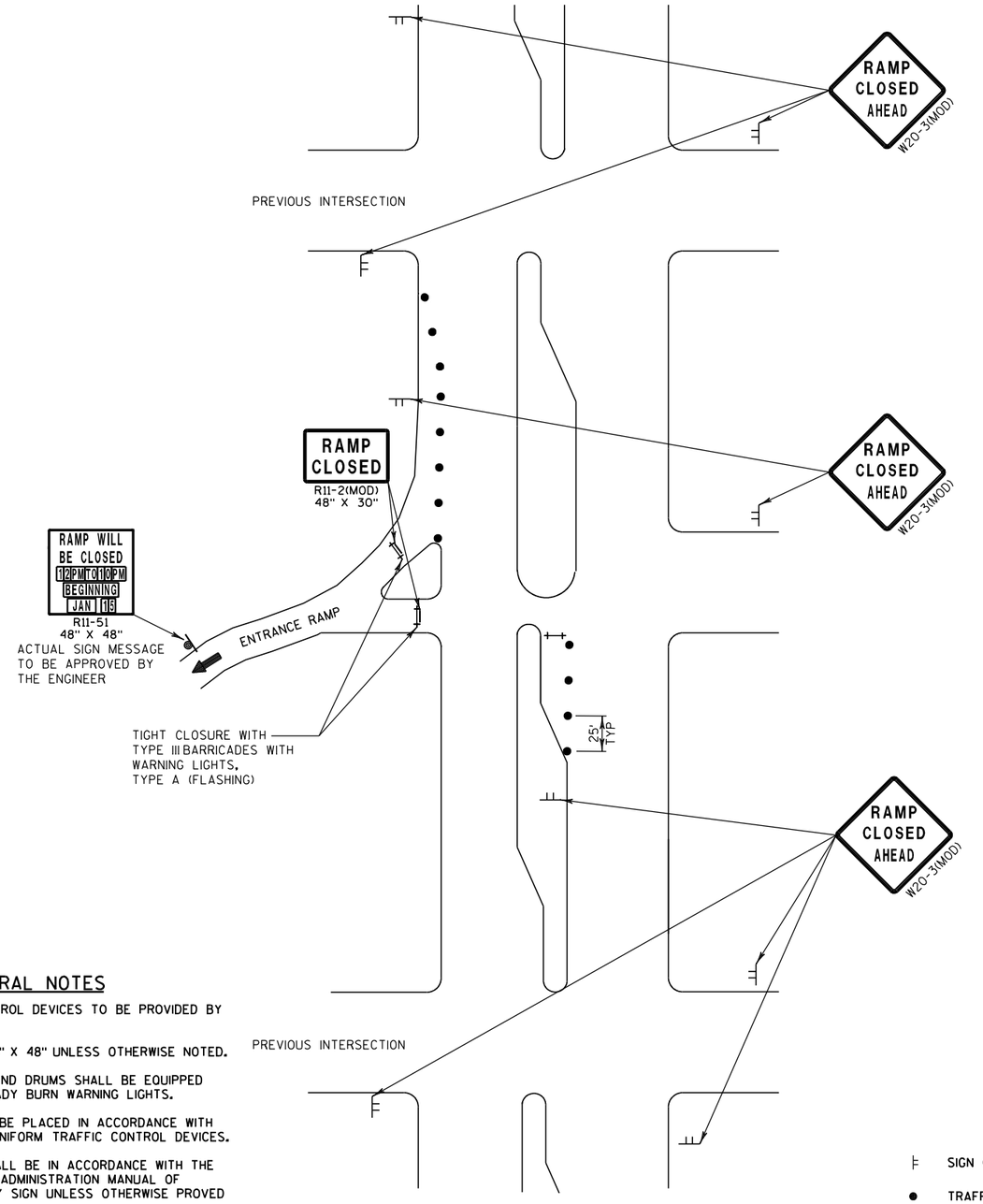
PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 1000.0069 sf / IN.
WISDOT/CADDS SHEET 42



GENERAL NOTES

1. ALL TRAFFIC CONTROL DEVICES TO BE PROVIDED BY THE CONTRACTOR.
2. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
3. ALL BARRICADES AND DRUMS SHALL BE EQUIPPED WITH TYPE C, STEADY BURN WARNING LIGHTS.
4. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
5. SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGN UNLESS OTHERWISE PROVED IN THE PLAN.
6. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
7. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS CLOSURE SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL BARRICADE WITH ATTACHED SIGN AND LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE
- DIRECTION OF TRAFFIC

ENTRANCE RAMP CLOSURE

PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	DETOUR - CONSTRUCTION DETAIL	SHEET 41	E

DATE 28FEB13 E S T I M A T E O F Q U A N T I T I E S

LINE 1090-07-73

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	108.4400	CPM PROGRESS SCHEDULE	EACH	1.000	1.000
0020	201.0120	CLEARING	ID	1.000	1.000
0030	201.0220	GRUBBING	ID	1.000	1.000
0040	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 49+94.01	LS	1.000	1.000
0050	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-40-884	LS	1.000	1.000
0060	204.0100	REMOVING PAVEMENT **P**	SY	3,045.000	3,045.000
0070	204.0105	REMOVING PAVEMENT BUTT JOINTS **P**	SY	32.000	32.000
0080	204.0110	REMOVING ASPHALTIC SURFACE	SY	390.000	390.000
0090	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS **P**	SY	54.000	54.000
0100	204.0150	REMOVING CURB & GUTTER **P**	LF	1,127.000	1,127.000
0110	204.0155	REMOVING CONCRETE SIDEWALK **P**	SY	435.000	435.000
0120	204.0157	REMOVING CONCRETE BARRIER **P**	LF	350.000	350.000
0130	204.0170	REMOVING FENCE **P**	LF	150.000	150.000
0140	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	570.000	570.000
0150	204.0195	REMOVING CONCRETE BASES	EACH	1.000	1.000
0160	204.0220	REMOVING INLETS	EACH	2.000	2.000
0170	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH **P**	LF	90.000	90.000
0180	205.0100	EXCAVATION COMMON **P**	CY	717.600	717.600
0190	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-40-884	LS	1.000	1.000
0200	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 01. R-40-580	LS	1.000	1.000
0210	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (STRUCTURE) 02. R-40-581	LS	1.000	1.000
0220	206.6000.S	TEMPORARY SHORING	SF	2,520.000	2,520.000
0230	209.0100	BACKFILL GRANULAR	CY	175.000	175.000
0240	210.0100	BACKFILL STRUCTURE	CY	100.000	100.000
0250	211.0200	PREPARE FOUNDATION FOR CONCRETE PAVEMENT (PROJECT) 01. 1090-07-73	LS	1.000	1.000
0260	213.0100	FINISHING ROADWAY (PROJECT) 01. 1090-07-73	EACH	1.000	1.000
0270	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	1,815.000	1,815.000
0280	415.0080	CONCRETE PAVEMENT 8-INCH **P**	SY	3,045.000	3,045.000
0290	415.0410	CONCRETE PAVEMENT APPROACH SLAB **P**	SY	174.000	174.000
0300	416.0180	CONCRETE DRIVEWAY 8-INCH **P**	SY	65.000	65.000
0310	416.0610	DRILLED TIE BARS	EACH	158.000	158.000
0320	416.0620	DRILLED DOWEL BARS	EACH	16.000	16.000
0330	465.0105	ASPHALTIC SURFACE	TON	138.800	138.800
0340	502.0100	CONCRETE MASONRY BRIDGES **P**	CY	756.000	756.000
0350	502.3200	PROTECTIVE SURFACE TREATMENT **P**	SY	1,513.000	1,513.000
0360	503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH **P**	LF	2,110.000	2,110.000
0370	504.0500	CONCRETE MASONRY RETAINING WALLS **P**	CY	38.000	38.000
0380	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES **P**	LB	157,300.000	157,300.000
0390	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS **P**	LB	3,490.000	3,490.000
0400	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED **P**	EACH	44.000	44.000
0410	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-40-884 **P**	EACH	40.000	40.000
0420	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	24.000	24.000

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DATE 28FEB13 E S T I M A T E O F Q U A N T I T I E S

LINE 1090-07-73

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0430	531.0200.S	NOISE BARRIERS SINGLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 01. SN-40-005-95 **P**	SF	1,200.000	1,200.000
0440	550.1140	PILING STEEL HP 14-INCH X 73 LB	LF	4,790.000	4,790.000
0450	601.0331	CONCRETE CURB & GUTTER 31-INCH **P**	LF	1,127.000	1,127.000
0460	602.0410	CONCRETE SIDEWALK 5-INCH **P**	SF	3,920.000	3,920.000
0470	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW **P**	SF	48.000	48.000
0480	603.1156	CONCRETE BARRIER TYPE S56 **P**	LF	150.000	150.000
0490	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	662.500	662.500
0500	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	1,162.500	1,162.500
0510	604.0400	SLOPE PAVING CONCRETE **P**	SY	34.000	34.000
0520	604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	550.000	550.000
0530	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	137.300	137.300
0540	611.0420	RECONSTRUCTING MANHOLES	EACH	2.000	2.000
0550	611.0430	RECONSTRUCTING INLETS	EACH	2.000	2.000
0560	611.0555	MANHOLE COVERS TYPE Q	EACH	4.000	4.000
0570	611.0648	INLET COVERS TYPE R	EACH	8.000	8.000
0580	611.1230	CATCH BASINS 2X3-FT	EACH	4.000	4.000
0590	611.2004	MANHOLES 4-FT DIAMETER	EACH	1.000	1.000
0600	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	80.000	80.000
0610	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	210.000	210.000
0620	614.0905	CRASH CUSHIONS TEMPORARY	EACH	4.000	4.000
0630	616.0206	FENCE CHAIN LINK 6-FT	LF	300.000	300.000
0640	616.0329	GATES CHAIN LINK (WIDTH) 01. 4-FT	EACH	1.000	1.000
0650	619.1000	MOBILIZATION	EACH	1.000	1.000
0660	624.0100	WATER	MGAL	50.000	50.000
0670	625.0500	SALVAGED TOPSOIL	SY	2,620.000	2,620.000
0680	628.1504	SILT FENCE	LF	1,190.000	1,190.000
0690	628.1520	SILT FENCE MAINTENANCE	LF	1,190.000	1,190.000
0700	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0710	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	4.000	4.000
0720	628.2002	EROSION MAT CLASS I TYPE A	SY	1,637.000	1,637.000
0730	628.7005	INLET PROTECTION TYPE A	EACH	14.000	14.000
0740	628.7010	INLET PROTECTION TYPE B	EACH	14.000	14.000
0750	628.7015	INLET PROTECTION TYPE C	EACH	16.000	16.000
0760	628.7560	TRACKING PADS	EACH	2.000	2.000
0770	629.0205	FERTILIZER TYPE A	CWT	2.000	2.000
0780	630.0130	SEEDING MIXTURE NO. 30	LB	45.000	45.000
0790	631.0300	SOD WATER	MGAL	200.000	200.000
0800	631.1000	SOD LAWN	SY	983.000	983.000
0810	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	2.000	2.000
0820	635.0200	SIGN SUPPORTS STRUCTURAL STEEL HS	LB	1,000.000	1,000.000
0830	636.0100	SIGN SUPPORTS CONCRETE MASONRY **P**	CY	1.600	1.600
0840	636.0500	SIGN SUPPORTS STEEL REINFORCEMENT **P**	LB	98.000	98.000
0850	637.0202	SIGNS REFLECTIVE TYPE II	SF	117.860	117.860
0860	638.2101	MOVING SIGNS TYPE I	EACH	1.000	1.000
0870	638.2602	REMOVING SIGNS TYPE II	EACH	12.000	12.000
0880	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	1.000	1.000
0890	638.3100	REMOVING STRUCTURAL STEEL SIGN SUPPORTS	EACH	2.000	2.000
0900	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1090-07-73	EACH	1.000	1.000

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DATE 28FEB13 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	1090-07-73 QUANTITY
0910	643.0300	TRAFFIC CONTROL DRUMS	DAY	8,317.000	8,317.000
0920	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	5,436.000	5,436.000
0930	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	20,181.000	20,181.000
0940	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	50.000	50.000
0950	643.0900	TRAFFIC CONTROL SIGNS	DAY	10,118.000	10,118.000
0960	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	234.000	234.000
0970	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	20.000	20.000
0980	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1090-07-73	EACH	1.000	1.000
0990	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	38,965.000	38,965.000
1000	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	6,175.000	6,175.000
1010	646.0600	REMOVING PAVEMENT MARKINGS	LF	11,200.000	11,200.000
1020	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	9,600.000	9,600.000
1030	649.2100	TEMPORARY RAISED PAVEMENT MARKERS	EACH	224.000	224.000
1040	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	144.000	144.000
1050	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	1,236.000	1,236.000
1060	652.0700.S	INSTALL CONDUIT INTO EXISTING ITEM	EACH	1.000	1.000
1070	653.0135	PULL BOXES STEEL 24X36-INCH	EACH	3.000	3.000
1080	653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	4.000	4.000
1090	653.0905	REMOVING PULL BOXES	EACH	6.000	6.000
1100	654.0105	CONCRETE BASES TYPE 5	EACH	1.000	1.000
1110	654.0215	CONCRETE CONTROL CABINET BASES TYPE 9	EACH	1.000	1.000
1120	655.0615	ELECTRICAL WIRE LIGHTING 10 AWG	LF	2,069.000	2,069.000
1130	655.0625	ELECTRICAL WIRE LIGHTING 6 AWG	LF	135.000	135.000
1140	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 01. NE CORNER 101ST ST & CLEVELAND AVENUE	LS	1.000	1.000
1150	656.0200	ELECTRICAL SERVICE METER BREAKER PEDESTAL (LOCATION) 02. US 45 AT CLEVELAND AVENUE	LS	1.000	1.000
1160	656.0500	ELECTRICAL SERVICE BREAKER DISCONNECT BOX (LOCATION) 01. US 45 AT CLEVELAND AVENUE	LS	1.000	1.000
1170	657.0255	TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE	EACH	1.000	1.000
1180	657.0322	POLES TYPE 5-ALUMINUM	EACH	1.000	1.000
1190	657.0615	LUMINAIRE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 8-FT	EACH	1.000	1.000
1200	657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	4.000	4.000
1210	659.0802	PLAQUES SEQUENCE IDENTIFICATION	EACH	1.000	1.000
1220	670.0100	FIELD SYSTEM INTEGRATOR	LS	1.000	1.000
1230	670.0200	ITS DOCUMENTATION	LS	1.000	1.000
1240	671.0300	FIBER OPTIC CABLE MARKER	EACH	3.000	3.000
1250	672.0250	BASE CAMERA POLE 50-FT	EACH	1.000	1.000
1260	673.0225.S	INSTALL POLE MOUNTED CABINET	EACH	1.000	1.000
1270	674.0300	REMOVE CABLE	LF	595.000	595.000
1280	675.0300	INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY	EACH	1.000	1.000
1290	675.0400.S	INSTALL ETHERNET SWITCH	EACH	1.000	1.000
1300	677.0100	INSTALL CAMERA POLE	EACH	1.000	1.000
1310	677.0200	INSTALL CAMERA ASSEMBLY	EACH	1.000	1.000
1320	677.0300.S	INSTALL VIDEO ENCODER	EACH	1.000	1.000
1330	678.0006	INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-CT	LF	135.000	135.000

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DATE 28FEB13 E S T I M A T E O F Q U A N T I T I E S

LINE 1090-07-73

NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
1340	678.0300	FIBER OPTIC SPLICE	EACH	15.000	15.000
1350	678.0400	FIBER OPTIC TERMINATION	EACH	6.000	6.000
1360	690.0150	SAWING ASPHALT	LF	390.000	390.000
1370	690.0250	SAWING CONCRETE	LF	324.000	324.000
1380	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	913.500	913.500
1390	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	5,536.000	5,536.000
1400	SPV.0060	SPECIAL 01. CONCRETE BARRIER TRANSITION TYPE NJ32 TO S56	EACH	4.000	4.000
1410	SPV.0060	SPECIAL 02. INLET COVER REPLACEMENT	EACH	6.000	6.000
1420	SPV.0060	SPECIAL 03. REMOVING CONTROLLER CABINET	EACH	1.000	1.000
1430	SPV.0060	SPECIAL 04. REMOVING CONTROLLER CABINET BASE	EACH	1.000	1.000
1440	SPV.0060	SPECIAL 05. REMOVING ELECTRICAL SERVICE METER BREAKER PEDESTAL	EACH	1.000	1.000
1450	SPV.0060	SPECIAL 06. SALVAGE MICROWAVE DETECTOR STATION	EACH	1.000	1.000
1460	SPV.0060	SPECIAL 07. GROUND ROD	EACH	1.000	1.000
1470	SPV.0060	SPECIAL 08. TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP	EACH	10.000	10.000
1480	SPV.0060	SPECIAL 09. TRAFFIC CONTROL CLOSE-OPEN FREEWAY TO FREEWAY SYSTEM RAMP	EACH	10.000	10.000
1490	SPV.0060	SPECIAL 10. ADJUST WATER VALVE	EACH	5.000	5.000
1500	SPV.0060	SPECIAL 11. ADJUST COVER AND INSTALL INTERNAL SANITARY MANHOLE SEAL	EACH	2.000	2.000
1510	SPV.0060	SPECIAL 12. TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE	EACH	12.000	12.000
1520	SPV.0060	SPECIAL 13. SALVAGING LIGHT POLES ARMS LUMINAIRIES LAMPS	EACH	5.000	5.000
1530	SPV.0060	SPECIAL 14. POLES TYPE 5 ALUMINUM BRONZE	EACH	4.000	4.000
1540	SPV.0060	SPECIAL 15. LUMINAIRIE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 8-FT BRONZE	EACH	4.000	4.000
1550	SPV.0060	SPECIAL 16. LUMINAIRIES UTILITY LED CATAGORY A	EACH	5.000	5.000
1560	SPV.0060	SPECIAL 17. INSTALLING STATE-FURNISHED DISTRIBUTION CENTERS	EACH	1.000	1.000
1570	SPV.0060	SPECIAL 18. SECTION CORNER MONUMENTS	EACH	1.000	1.000
1580	SPV.0090	SPECIAL 01. FENCE DECORATIVE BRIDGE	LF	390.000	390.000
1590	SPV.0090	SPECIAL 02. PAVEMENT MARKING GROOVED THERMOPLASTIC STOP LINE 18-INCH	LF	31.000	31.000
1600	SPV.0090	SPECIAL 03. PAVEMENT MARKING GROOVED THERMOPLASTIC CROSSWALK 6-INCH	LF	260.000	260.000
1610	SPV.0090	SPECIAL 04. FENCE TEMPORARY	LF	1,160.000	1,160.000
1620	SPV.0105	SPECIAL 01. SURVEY PROJECT 1090-07-73	LS	1.000	1.000
1630	SPV.0105	SPECIAL 02. MAINTENANCE OF LIGHTING SYSTEMS	LS	1.000	1.000
1640	SPV.0105	SPECIAL 03. PAVEMENT CLEANUP 1090-07-73	LS	1.000	1.000
1650	SPV.0165	SPECIAL 01. WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD QMP PILOT **P**	SF	4,290.000	4,290.000
1660	SPV.0165	SPECIAL 02. CONCRETE STAINING STRUCTURE R-40-580	SF	970.000	970.000
1670	SPV.0165	SPECIAL 03. CONCRETE STAINING STRUCTURE R-40-581	SF	900.000	900.000
1680	SPV.0165	SPECIAL 04. CONCRETE STAINING STRUCTURE B-40-884	SF	8,300.000	8,300.000

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EARTHWORK SUMMARY

LOCATION	205.0100 COMMON EXCAVATION CY	25% EXPANDED FILL CY	WASTE CY
CLEVELAND AVENUE STA 45+00 TO STA 51+20	486.77	267.32	219.45
101ST STREET SOUTH 3+86 TO 4+76	141.49	11.82	129.67
101ST STREET NORTH 5+24 TO 6+14	89.34	23.75	65.59
PROJECT	717.6	302.9	414.71

STATION	CUT END AREA (SY)	CUT VOLUME (CY)	CUMLATIVE CUT VOLUME (CY)	FILL END AREA (CY)	25% EXPANDED FILL VOLUME (CY)	25% EXPANDED FILL CUMLATIVE VOLUME (CY)
45+00	7.31			0.29		
		97.67	97.67		6.67	6.67
45+50	4.41			0.51		
		52.50	150.17		22.17	28.83
46+00	1.89			2.15		
		32.33	182.50		64.25	93.08
46+50	1.99			5.56		
		15.45	197.95		43.17	136.26
46+97	0			0		
		0.00	197.95		0.00	136.26
48+91	0			0		
		0.00	197.95		0.00	136.26
49+00	0			0		
		4.00	201.95		55.00	191.26
49+50	0.48			6.6		
		51.00	252.95		55.00	246.26
50+00	5.64			0		
		90.83	343.79		8.08	254.34
50+50	5.26			0.97		
		96.58	440.37		11.42	265.76
51+00	6.33			0.4		
		46.40	486.77		1.57	267.32
51+20	7.59			0.07		

STATION	CUT END AREA (SY)	CUT VOLUME (CY)	CUMLATIVE CUT VOLUME (CY)	FILL END AREA (CY)	25% EXPANDED FILL VOLUME (CY)	25% EXPANDED FILL CUMLATIVE VOLUME (CY)
3+86	6.5			0.1		
		29.40	29.40		0.47	0.47
4+00	6.1			0.1		
		47.00	76.40		1.46	1.93
4+25	5.18			0.25		
		35.71	112.11		3.92	5.84
4+50	3.39			0.69		
		29.38	141.49		5.98	11.82
4+76	3.39			0.69		

STATION	CUT END AREA (SY)	CUT VOLUME (CY)	CUMLATIVE CUT VOLUME (CY)	FILL END AREA (CY)	25% EXPANDED FILL VOLUME (CY)	25% EXPANDED FILL CUMLATIVE VOLUME (CY)
5+24	2.15			1.52		
		18.63	18.63		13.17	13.17
5+50	2.15			1.52		
		21.83	40.47		8.08	21.26
5+75	3.09			0.42		
		29.08	69.55		2.25	23.51
6+00	3.89			0.12		
		19.79	89.34		0.28	23.79
6+14	4.59			0		

CATEGORY 0010

209.0100
BACKFILL GRANULAR

LOCATION	CY
STORM SEWER TRENCHES	175
TOTAL	175

CATEGORY 0010

305.0120
BASE AGGREGATE DENSE 1-1/4 INCH

STATION	TO	STATION	TON
44+85		46+94	430
48+96		51+20	460
3+86		4+76	230
5+24		6+14	120
75+35		77+10	400
SIDEWALKS			175
TOTAL			1815

CATEGORY 0010

465.0105
ASPHALTIC SURFACE

LOCATION	TON
44+85 TO 45+00	8
3+86 TO 4+00	5.6
51+20 TO 51+30	5.2
75+35 TO 77+10	120
TOTAL	138.8

CATEGORY 0010

SPV.0060.18
SECTION CORNER MONUMENTS

LOCATION	EACH
50+00	1
TOTAL	1.0

CATEGORY 0010

211.0200
PREPARE FOUNDATION FOR CONCRETE PAVEMENT

LOCATION	LS
1090-07-73	1
TOTAL	1

CATEGORY 0010

213.0100
FINISHING ROADWAY

LOCATION	LS
1090-07-73	1
TOTAL	1

CATEGORY 0010

531.0200.S
NOISE BARRIERS
SINGLE SIDED
SOUND ABSORPTIVE
STRUCTURE SN-40-005-95

STATION	TO	STATION	SF
0+00		0+48	1200
PROJECT TOTAL			1200

CATEGORY 0010

FENCING

STATION	TO	STATION	616.0206 FENCE CHAIN LINK 6-FT LF	616.0329 GATES CHAIN LINK 4-FT EACH	SPV.0090.04 FENCE TEMPORARY LF
3+86		4+58, 44.2' RT	90	1	- -
5+33, 54.3' RT		6+11, 33.5' RT	95	- -	- -
49+00, 33' LT		49+23.7, 69.9' LT	55	- -	- -
49+00, 33' RT		49+20.9, 75' RT	60	- -	- -
WEST OF IH894 (3 GATES)			- -	- -	610
EAST OF IH 894 (3 GATES)			- -	- -	550
PROJECT TOTAL			300	1	1160

CATEGORY 0010

619.1000
MOBILIZATION

LOCATION	EACH
1090-07-73	1
TOTAL	1

CATEGORY 0010

108.4400
CPM PROGRESS SCHEDULE

LOCATION	EACH
1090-07-73	1
TOTAL	1

CATEGORY 0010

REMOVAL ITEMS

LOCATION	OFFSET	201.0120 CLEARING ID	201.0220 GRUBBING ID	204.0100 REMOVING PAVEMENT SY	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0150 REMOVING CURB AND GUTTER LF	204.1550 REMOVING CONCRETE SIDEWALK SY	204.0157 REMOVING CONCRETE BARRIER LF	204.0170 REMOVING FENCE LF	204.0220 REMOVING INLETS EACH	204.0245 REMOVING STORM SEWER 12-INCH LF
PROJECT	LT & RT	1	1	--	--	--	--	--	--	--	--	--	--
44+85 TO 44+90.83	LT & RT	--	--	--	32	--	--	--	--	--	--	--	--
44+85 TO 45+00	LT & RT	--	--	80	--	--	--	30	--	--	--	--	--
45+00 TO 46+94	LT & RT	--	--	1035	--	--	--	311	220	--	--	2	90
3+86 TO 4+76	LT & RT	--	--	385	--	--	--	168	--	--	--	--	--
5+24 TO 6+14	LT & RT	--	--	285	--	--	--	170	--	--	--	--	--
3+86 TO 4+76	RT	--	--	--	--	--	--	--	--	--	90	--	--
48+96 TO 51+20	LT & RT	--	--	1260	--	--	54	448	215	--	--	--	--
49+00 TO 49+25	RT	--	--	--	--	--	--	--	--	--	60	--	--
75+35 TO 77+10	LT & RT	--	--	--	--	390	--	--	--	350	--	--	--
PROJECT TOTAL		1	1	3045	32	390	54	1127	435	350	150	2	90

CATEGORY 0010

SPV.0060.02
INLET COVER REPLACEMENT

LOCATION	EACH
I-894 NB SHOULDER	3
I-894 SB SHOULDER	1
UNDISTRIBUTED	2
TOTAL	6.0

CATEGORY 0010

STORM SEWER ITEMS

FROM	TO	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	611.0420 RECONSTRUCTING MANHOLES EACH	611.0430 RECONSTRUCTING INLETS EACH	611.0555 MANHOLE COVERS TYPE Q EACH	611.0648 INLET COVERS TYPE R EACH	611.1230 CATCH BASINS 2X3-FT EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	NOTES
100	N/A	--	1	--	1	--	--	--	RAISE 1.24'
101	100	40.7	--	--	--	1	1	--	COVER R-1
102	100	46.6	--	--	--	1	1	--	COVER R-1
103	N/A	--	1	--	1				RIM 775.06, RAISE 1.30'
104	N/A	--	--	1	--	1	--	--	RIM 774.39, RAISE 1.67', COVER R-1
105	N/A	--	--	1	--	1	--	--	RIM 774.39, RAISE 1.62', COVER R-1
106	N/A	--	--	--	1	--	--	1	BUILD AROUND EXISTING 12"
107	106	25	--	--	--	1	1	--	COVER R
108	106	25	--	--	--	1	1	--	COVER R
109	N/A	--	--	--	1	--	--	--	
110	N/A	--	--	--	--	1	--	--	COVER R-1
111	N/A	--	--	--	--	1	--	--	COVER R-1
PROJECT TOTAL		137.3	2	2	4	8	4	1	

CATEGORY 0010

SPV.0150.01
SURVEY PROJECT
1090-07-73

LOCATION	DESCRIPTION	LS
PROJECT		1
TOTAL		1

CATEGORY 0050

SPV.0150.02
MAINTENANCE OF LIGHTING SYSTEMS

LOCATION	DESCRIPTION	LS
PROJECT		1
TOTAL		1

CATEGORY 0010

SPV.0150.03
PAVEMENT CLEANUP PROJECT
1090-07-73

LOCATION	DESCRIPTION	LS
PROJECT		1
TOTAL		1

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\030201_mq.dgn PLOT DATE : 1/28/2013 2:10:08 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TEXTSUB.TBL PLOT NAME : PLOT SCALE : 2.0000 sf / IN.
WISDOT/CADDS SHEET 43

CATEGORY 0010

CONCRETE ITEMS

LOCATION	OFFSET	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0180 CONCRETE DRIVEWAY 8-INCH SY	416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	601.0331 CONCRETE CURB AND GUTTER 31-INCH LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD SF	603.1156 CONCRETE BARRIER TYPE S56 LF	SPV.0060.01 CONCRETE BARRIER TRANSITION TYPE NJ32 TO S56 EACH
44+85 TO 44+90.83	LT & RT	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
44+85 TO 45+00	LT & RT	80	- -	- -	48	4	30	- -	- -	- -	- -
45+00 TO 46+94	LT & RT	1035	- -	- -	- -	- -	311	1980	48	- -	- -
46+81.02 TO 46+97.26	LT & RT	- -	87	- -	- -	- -	- -	- -	- -	- -	- -
3+86 TO 4+76	LT & RT	385	- -	- -	36	4	168	- -	- -	- -	- -
5+24 TO 6+14	LT & RT	285	- -	- -	26	4	170	- -	- -	- -	- -
3+86 TO 4+76	RT	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
48+90.75 TO 49+06.99	LT & RT	- -	87	- -	- -	- -	- -	- -	- -	- -	- -
48+96 TO 51+20	LT & RT	1260	- -	65	48	4	448	1940	- -	- -	- -
75+35 TO 77+10	LT & RT	- -	- -	- -	- -	- -	- -	- -	- -	150	4
PROJECT TOTAL		3045	174	65	158	16	1127	3920	48	150	4

CATEGORY 0010

EROSION CONTROL

LOCATION	OFFSET	624.0100 WATER LF	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7005 INLET PROTECTION TYPE A EACH	628.7005 INLET PROTECTION TYPE B EACH	628.7005 INLET PROTECTION TYPE C EACH	628.7560 TRACKING PADS EACH
44+85 TO 46+94	LT & RT	- -	485	485	1	2	3	- -	8	- -
48+96 TO 51+20	LT & RT	- -	605	605	1	2	9	- -	6	- -
74+50 TO 77+50	LT & RT	- -	- -	- -	- -	- -	- -	12	- -	- -
UNDISTRIBUTED		50	100	100	- -	- -	2	2	2	2
PROJECT TOTAL		50	1190	1190	2	4	14	14	16	2

CATEGORY 0010

LOCATION	SPV.0060.10 ADJUST WATER VALVE EACH	SPV.0060.11 ADJUST COVER AND INSTALL INTERNAL SANITARY MANHOLE SEAL EACH
45+55 - 24.4' LT	- -	1
46+31.8 - 37.1' LT	1	- -
46+31.9 - 47.7' LT	1	- -
46+34.7 - 40.2' LT	1	- -
46+35.6 - 41.2' RT	1	- -
49+39.6 - 22' LT	1	- -
51+26.3 - 5' LT	- -	1
TOTAL	5	2

CATEGORY 0010

TRAFFIC CONTROL

LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAYS	643.0420 TRAFFIC CONTROL BARRICADES, TYPE III DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS DAYS	643.0900 TRAFFIC CONTROL SIGNS DAYS	643.1000 TRAFFIC CONTROL FIXED MESSAGE SIGNS SF	643.1050 TRAFFIC CONTROL SIGNS PCMS DAYS	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS
INLET COVER REPLACEMENT	200	8	- -	80	6	30	- -	4	- -
STAGE 1 (47 WK - 85 CAL DAYS)									
I-894 SB	1445	- -	1445	850	- -	1190	- -	- -	- -
I-894 NB	1360	- -	1360	850	- -	1020	- -	- -	- -
CLEVELAND AVENUE	- -	1700	3400	- -	- -	1700	234	- -	16575
101ST STREET	- -	680	1360	- -	- -	510	- -	- -	170
FULL FREEWAY CLOSURE SB	200	8	- -	80	6	30	- -	4	360
FULL FREEWAY CLOSURE NB	1000	60	- -	120	16	100	- -	4	600
STAGE 2 (57 WK - 104 CAL DAYS)									
I-894 SB	1456	- -	1456	850	- -	1456	- -	- -	- -
I-894 NB	1456	- -	1456	850	- -	1248	- -	- -	- -
CLEVELAND AVENUE	- -	2080	4160	- -	- -	2080	- -	- -	20300
101ST STREET	- -	832	1664	- -	- -	624	- -	- -	- -
FULL FREEWAY CLOSURE SB	200	8	- -	80	6	30	- -	4	360
FULL FREEWAY CLOSURE NB	1000	60	- -	120	16	100	- -	4	600
TOTAL	8317	5436	16301	3880	50	10118	234	20	38965

CATEGORY 0010

LOCATION	OFFSET	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH
STAGE I				
75+00 TO 78+00	LT	262.5	262.5	1
74+00 TO 77+00	RT	237.5	237.5	1
STAGE 2				
75+00 TO 79+25	LT	75	337.5	1
73+00 TO 77+00	RT	87.5	325	1
PROJECT TOTAL		662.5	1162.5	4

CATEGORY 0010

PAVEMENT MARKING

LOCATION	646.0600 REMOVING PAVEMENT MARKING LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH LF	649.0100 TEMPORARY PAVEMENT MARKING LF	649.2100 TEMPORARY RAISED PAVEMENT MARKERS EACH	SPV.0090.02 PAVEMENT MARKING GROOVED THERMOPLASTIC STOP LINE 18-INCH LF	SPV.0090.03 PAVEMENT MARKING GROOVED THERMOPLASTIC CROSSWALK 6-INCH LF
STA 44+50 TO STA 51+50	--	175	--	--	--	--
STA 46+07.2 TO STA 46+13.2	--	--	--	--	--	112
STA 4+52.4	--	--	--	--	18	--
STA 4+56 TO STA 4+62	--	--	--	--	--	84
STA 5+37.5 TO STA 5+43.5	--	--	--	--	--	64
STA 5+47.6	--	--	--	--	13	--
IH-894 SB - STAGE 2	5600	3000	4800	112	--	--
IH-894 NB - STAGE 2	5600	3000	4800	112	--	--
TOTAL	11200	6175	9600	224	31	260

CATEGORY 0010

LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF	NOTES
44+85	--	48	1 3/4" DEEP
44+85	--	6	CURB, FULL DEPTH
44+85 TO 45+00	--	30	ALONG FLANGE LINE, FULL DEPTH
45+50	--	48	FULL DEPTH
3+86	--	42	FULL DEPTH
6+14	--	32	FULL DEPTH
51+20	--	54	FULL DEPTH
51+30	--	48	1 3/4" DEEP
75+35	20	--	FULL DEPTH
75+35	--	8	CONCRETE BARRIER
75+35 TO 77+10	350	--	FULL DEPTH
77+10	20	--	FULL DEPTH
77+10	--	8	CONCRETE BARRIER
TOTAL	390	324	

CATEGORY 0010

LOCATION	DESCRIPTION	SPV.0060.08 TRAFFIC CONTROL, CLOSE-OPEN FREEWAY ENTRANCE RAMP EACH	SPV.0060.09 TRAFFIC CONTROL, CLOSE-OPEN FREEWAY TO FREEWAY SYSTEM RAMP EACH	SPV.0060.12 TRAFFIC CONTROL, INTERIM FREEWAY LANE(S) CLOSURE EACH
I-894 NB	INLET COVER REPLACEMENT (1 NIGHT)	--	--	1
	STAGE 1 DEMO (2 NIGHTS)	2	2	2
	STAGE 2 ERECTION (2 NIGHTS)	2	2	2
	UNDISTRIBUTED	1	1	1
I-894 SB	INLET COVER REPLACEMENT (1 NIGHT)	--	--	1
	STAGE 1 DEMO (2 NIGHTS)	2	2	2
	STAGE 2 ERECTION (2 NIGHTS)	2	2	2
	UNDISTRIBUTED	1	1	1
TOTAL		10	10	12

CATEGORY 0050

3

LIGHTING

LOCATION	654.0215 CONCRETE CONTROL CABINET BASES TYPE 9 EACH	656.0200.01 ELECTRIC SERVICE METER BREAKER PEDESTAL (NE CORNER 101ST ST & CLEVELAND AVE) LS	654.0105 CONCRETE BASES TYPE 5 EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0322 POLES TYPE 5 ALUMINUM EACH	657.0615 LUMINAIRIE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 8-FT EACH	SPV.0060.13 SLAVAGING LIGHT POLES ARMS LUMINAIRIES LAMPS EACH	SPV.0060.14 POLES TYPE 5 ALUMINUM BRONZE EACH	SPV.0060.15 LUMINAIRIE ARMS SINGLE MEMBER 4 1/2-INCH CLAMP 8-FT BRONZE EACH	SPV.0060.16 LUMINAIRIES UTILITY LED CATEGORY A EACH	SPV.0060.17 INSTALLING STATE FURNISHED DISTRIBUTION CENTERS EACH
STA 46+24 - 39' LT (UC)	1	1	- -	- -	- -	- -	- -	- -	- -	- -	1
STA 47+70.48 - LT (UC 10020)	- -	- -	- -	- -	- -	- -	1	1	1	1	- -
STA 47+70.48 - RT (UC 10021)	- -	- -	- -	- -	- -	- -	1	1	1	1	- -
STA 48+52.48 - LT (UC 10010)	- -	- -	- -	- -	- -	- -	1	1	1	1	- -
STA 48+52.48 - RT (UC 10011)	- -	- -	- -	- -	- -	- -	1	1	1	1	- -
STA 4+02 - RT	- -	- -	- -	- -	- -	- -	1	- -	- -	- -	- -
STA 3+98 - RT (UC 10031)	- -	- -	1	1	1	1	- -	- -	- -	1	- -
TOTAL	1	1	1	1	1	1	5	4	4	5	1

3

CATEGORY 0050

LIGHTING - WIRE AND CONDUIT

FROM	TO	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	653.0135 PULL BOXES STEEL 24x36-INCH EACH	655.0615 ELECTRIC WIRE LIGHTING 10 AWG LF
UC 10010	UC 10020	SM	- -	350
UC10020	PB-UC02	12	- -	400
PB-UC02	UC	12	1	25
UC10011	UC10021	SM	- -	350
UC10021	PB-UC01	16	- -	410
PB-UC01	UC 10031	18	- -	144
PB-UC01	PB-UC02	148	1	320
PB-UC02	UC	- -	- -	25
TOTAL		206	2	2024

CATEGORY 0010

RESTORATION ITEMS

LOCATION	OFFSET	625.0500 SALVAGED TOPSOIL SY	628.2004 EROSION MAT CLASS I TYPE B SY	629.0205 FERTILIZER TYPE A CWT	630.0130 SEEDING MIXTURE NO. 30 LB	631.1000 SOD LAWN SY	631.0300 SOD WATER MGAL
44+85 TO 46+94	LT & RT	1210	762	0.76	21	448	100
48+96 TO 51+20	LT & RT	1410	875	0.89	24	535	100
PROJECT TOTAL		2620	1637	2	45	983	200

TYPE I&II PERMANENT SIGNING -

1090-07-73 CLEVELAND AVE / IH 894

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0618 WOOD POSTS 4"X 6"x18' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W [FT.] x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.3100 REM STR STEEL SIGN SUP [EA]	638.2101 MOVING SIGNS TYPE I I [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 DISTANC [FT]	DIST BTWN POSTS "S" [FT]
1	S4-51(2S)	SCHOOL SPEED LIMIT 15	24 x 48	8.000	1	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--
2	S1-1(2S)	SCHOOL X-ING	36 x 36	6.750	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--
3	WF16-7L(2S)	LEFT DIAGONAL ARROW	24 x 12	2.000	--	--	--	#2	--	x	0.00	--	--	--	--	--	--	--	--	--	--
4	S1-1(2S)	SCHOOL X-ING	36 x 36	6.750	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--
5	WF16-7L(2S)	LEFT DIAGONAL ARROW	24 x 12	2.000	--	--	--	#4	--	x	0.00	--	--	--	--	--	--	--	--	--	--
6	R1-1(2S)	STOP	30 x 30	5.180	1	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--
7	R7-1D(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	MOUNT ON BRIDGE FENCE	x	0.00	--	--	--	--	--	--	--	--	--	--
8	R7-1D(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	MOUNT ON BRIDGE FENCE	x	0.00	--	--	--	--	--	--	--	--	--	--
9	R1-1(2S)	STOP	30 x 30	5.180	1	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--
10	W3-1(2S)	STOP AHEAD	36 x 36	9.000	1	1	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--
11	S4-51(2S)	SCHOOL SPEED LIMIT 15	24 x 48	8.000	1	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--
12	E4-1A	NATIONAL AVENUE [A]	-- x --	--	--	--	--	--	MOVE SIGN TO NEW POSTS	x	0.00	2	1	B	1.6	98	1000	--	--	--	--
13	M1-94(MOD)	CLEVELAND AVE 2700 SOUTH	108 x 36	27.000	1	--	--	--	MOUNT ON BRIDGE INCIDENTAL TO SIGN	x	0.00	--	--	--	--	--	--	--	--	--	--
14	M1-94(MOD)	CLEVELAND AVE 2700 SOUTH	108 x 36	27.000	1	--	--	--	MOUNT ON BRIDGE INCIDENTAL TO SIGN	x	0.00	--	--	--	--	--	--	--	--	--	--
15	R2-1(2S)	SPEED LIMIT 30	24 x 30	5.000	1	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--
	TOTALS			117.860	12	1	2	--	--		0.000	2	1	--	1.6	98	1000				

SHEET 1 OF 1

PROJECT NO: 1090-07-73	HWY: IH-894 @ CLEVELAND AVE	COUNTY: MILWAUKEE	PERMANENT SIGNING QUANTITIES	SHEET	E

3

ITS CABINET AND EQUIPMENT

CATEGORY	ITEM I.D.	LOCATION	659.0802 PLAQUES SEQUENCE IDENTIFICATION EA	672.0250 BASE CAMERA POLE 50-FT EA	673.0225.S INSTALL POLE MOUNTED CABINET EA	675.0300 INSTALL MOUNTED CONTROLLER MICROWAVE DETECTOR ASSEMBLY EACH	675.0400.S INSTALL EHTERNET SWITCH EA	677.0100 INSTALL CAMERA POLE EA	677.0200 INSTALL CAMERA ASSEMBLY EA	677.0300.S INSTALL VIDEO ENCODER EA	678.0400 FIBER OPTIC TERMINATION EA	SPV.0060.07 GROUND ROD EA
0060	CCTV-40-0150	49+00, 60' LT	1	1	1	1	1	1	1	1	6	1
		TOTAL	1	1	1	1	1	1	1	1	6	1

ITS CABLING ITEMS

CATEGORY	FROM	TO	LINEAR DISTANCE	FIBER SLACK	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0625 ELECTRICAL WIRE LIGHTING 6 AWG LF	671.0300 FIBER OPTIC CABLE MARKER EA	678.0006 INSTALL FIBER OPTIC CABLE OUTDOOR PLANT 6-COUNT LF
0060	EXMH9119	PB4900	60	50	-	-	2	110
0060	PB4900	CCTV-40-0150	15	10	15	45	1	25
0060	MB4900	PB4900	30	-	30	90	-	-
		TOTAL		60	45	135	3	135

ITS CONDUIT

CATEGORY	FROM	TO	LINEAR DISTANCE	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF
0060	EXMH9119	PB4900	60	180
0060	MB4900	PB4900	30	30
0060	PB4900	CCTV-40-0150	10	40
		TOTAL		250

ITS POWER

CATEGORY	ITEM I.D.	LOCATION	656.0200.02 ELECTRICAL SERVICE METER BREAKER PEDESTAL (US 45 AT CLEVELAND AVE) LS	656.0500.01 ELECTRICAL SERVICE BREAKER DISCONNECT BOX (US 45 AT CLEVELAND AVE) LS
0060	CCTV-40-0150	49+00, 60' LT	1	1
		TOTAL	1	1

ITS PULLBOXES

CATEGORY	LOCATION	ITEM ID	652.0700.S INSTALL CONDUIT INTO EXISTING ITEM EA	653.0135 PULL BOXES STEEL 24 x 36 EA	678.0300 FIBER OPTIC SPLICE EA
0060	49+11, 70' LT	PB4900	--	1	--
0060	48+65, 50' LT	EXMH9119	1	--	15
		TOTAL	1	1	15

ITS LUMP SUM ITEMS

CATEGORY	670.0100 FIELD SYSTEM INTEGRATOR LS	670.0200 ITS DOCUMENTATION EA
0060	1	1
	1	1

FTMS REMOVAL ITEMS EACH

CATEGORY	ITEM ID	204.0195 REMOVING CONCRETE BASES EACH	653.0905 REMOVING PULL BOXES EACH	674.0300 REMOVE CABLE L.F.	SPV.0060.03 REMOVING CONTROLLER CABINET EACH	SPV.0060.04 REMOVING CONTROLLER CABINET BASE EACH	SPV.0060.05 REMOVING ELECTRICAL SERVICE METER BREAKER PEDESTAL EACH	SPV.0060.06 SALVAGE MICROWAVE DETECTOR STATION EACH
0060	EXPB7500	--	1	--	--	--	--	--
0060	EXPB7600	--	1	--	--	--	--	--
0060	EXPB7605	--	1	--	--	--	--	--
0060	EXPB7550	--	1	--	--	--	--	--
0060	EXPB7610	--	1	--	--	--	--	--
0060	EXPB7615	--	1	--	--	--	--	--
0060	EXDP7500	1	--	--	--	--	--	1
0060	EX-ATR-40-0077	--	--	--	2	2	1	--
0060	EXMH7500 - EXPB7500	--	--	135	--	--	--	--
0060	EXPB7500 EXDP7500	--	--	15	--	--	--	--
0060	EXPB7500 - EXPB7600	--	--	85	--	--	--	--
0060	EXPB7600 - EX-ATR-40-0007	--	--	10	--	--	--	--
0060	EX-ATR-40-0007 - EXPB7605	--	--	15	--	--	--	--
0060	EXPB7605 - EXJB7605	--	--	20	--	--	--	--
0060	EXJB7605 - EXJB7615	--	--	205	--	--	--	--
0060	EXJB7615 - EXPB7620	--	--	40	--	--	--	--
0060	EXPB7620 - EXPB7615	--	--	70	--	--	--	--
	TOTALS	1	6	595	2	2	1	1

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
1090-07-23		
FEDERAL PROJECT NUMBER	4.1	2

PLAT OF RIGHT-OF-WAY REQUIRED FOR

I-894/US 45 (ZOO FREEWAY)

CONSTRUCTION PROJECT NUMBER

1090-07-73, 1100-03-79

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP
ACCESS RIGHTS	AR
ACRES	AC.
AND OTHERS	ET.AL.
CENTERLINE	C/L
CERTIFIED SURVEY MAP	CSM
CORNER	COR.
DOCUMENT	DOC.
EASEMENT	EASE.
HIGHWAY EASEMENT	H.E.
LAND CONTRACT	LC
MONUMENT	MON.
PAGE	P.
PERMANENT LIMITED EASEMENT	PLE
PROPERTY LINE	PL
RECORDED AS	(100')
REFERENCE LINE	R/L
RELEASE OF RIGHTS	ROR
REMAINING	REM.
RIGHT-OF-WAY	R/W
SECTION	SEC.
STATION	STA.
TEMPORARY LIMITED EASEMENT	TLE
VOLUME	V.

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

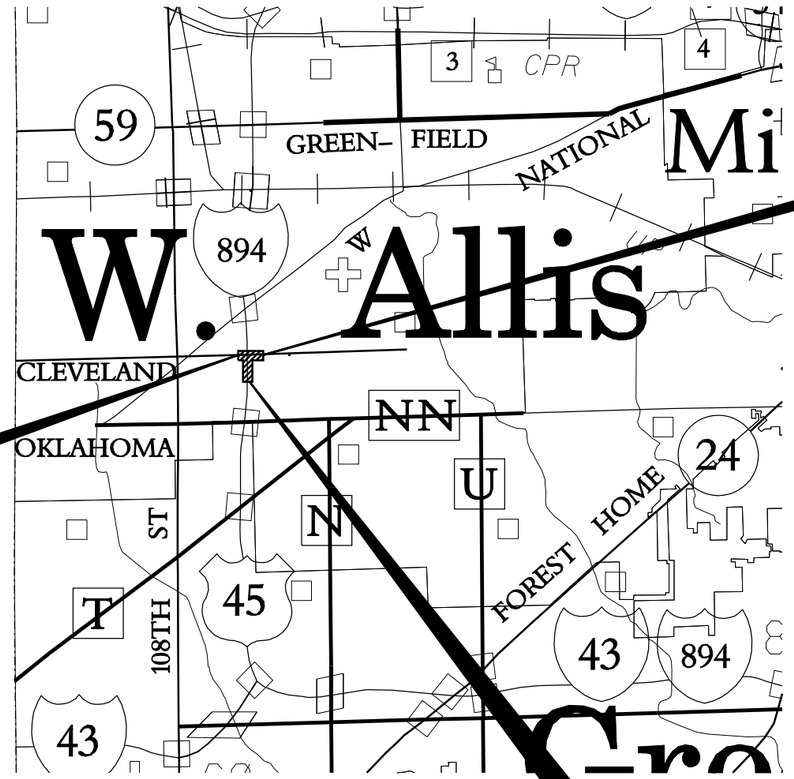
CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (1" UNLESS NOTED)	PROPOSED R/W LINE
	EXISTING H.E. LINE
R/W MONUMENT ○ (SET)	PROPERTY LINE
R/W STANDARD △ (SET)	LOT & TIE LINES
SIGN ISIGN	SLOPE INTERCEPTS
SECTION CORNER MONUMENT	CORPORATE LIMITS
SECTION CORNER SYMBOL	ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)
FEE (HATCH VARIES)	ACCESS RESTRICTED (BY ACQUISITION)
TEMPORARY LIMITED EASEMENT	NO ACCESS (BY STATUTORY AUTHORITY)
PERMANENT LIMITED EASEMENT	SECTION LINE
R/W BOUNDARY POINT RWB20	QUARTER LINE
PARCEL NUMBER 103	SIXTEENTH LINE
UTILITY PARCEL NUMBER 92	EXISTING CENTERLINE
SIGN NUMBER (OFF PREMISE) 21-1	PROPOSED REFERENCE LINE
BUILDING	PARALLEL OFFSET

CONVENTIONAL UTILITY SYMBOLS

WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD TRANSMISSION LINES ELECTRIC	OH	
	E	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
	NON COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

R-21-E



T-6-N

GN

BEGIN RELOCATION ORDER

STATION 45+00 CLEVELAND AVENUE
4.25' SOUTH OF AND 500.01' WEST OF THE CENTER
OF SEC 8, T6N, R21E

END RELOCATION ORDER

STATION 51+20 CLEVELAND AVENUE
1.04' NORTH OF AND 119.96' EAST OF THE CENTER
OF SEC 8, T6N, R21E

SOUTH LIMITS

STATION 21+10.81 DAKOTA STREET PEDESTRIAN BRIDGE
1147.70' SOUTH OF AND 3.68' EAST OF THE CENTER
OF SEC 8, T6N, R21E

NOTES

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, MILWAUKEE COUNTY ZONE, NAD 83 (2007) ADJUSTMENT. THE COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICAL ¾" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT BY SE REGION DOT SURVEY.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER SURVEYS OF PUBLIC RECORD.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN WAUKESHA.

LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.117 MI.

ORIGINAL PLANS PREPARED BY

PATRICK ENGINEERING

WISCONSIN ERNST W. KOHN S-1588 ST. CHARLES, IL LAND SURVEYOR

10-12-12 (Date)

Ernst W. Kohn (Signature)

REVISION DATE
11/02/2012

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR THE DEPARTMENT

DATE:_____ _____ (Signature)

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\040101_rt.dgn PLOT DATE : 11/2/2012 PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : PLOT SCALE : 200.0000 sf / IN.

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	H.E. ACRES REQUIRED			T.L.E. ACRES
			NEW	EXISTING	TOTAL	
1	KEBF DUPLEX, LLC	T.L.E.	- - -	- - -	- - -	0.014
2	JAMES A. AND KIM E. NEIBUHR	T.L.E.	- - -	- - -	- - -	0.011
3	WE ENERGIES	H.E, T.L.E.	0.406	0.229	0.635	0.201

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT.

UTILITY SCHEDULE AND INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS
101	CITY OF WEST ALLIS	RELEASE OF RIGHTS
UA100	CITY OF WEST ALLIS MUNICIPAL WATER UTILITY	MUNICIPAL AGREEMENT

GN

COURSE TABLE

COURSE	BEARING	DISTANCE
HE700 TO HE701	S 44° 07' 59" E	28.28'
HE701 TO HE702	S 00° 52' 01" W	310.18'
HE702 TO HE703	N 89° 16' 39" W	20.00'
HE703 TO HE704	S 00° 52' 01" W	30.00'
HE704 TO HE705	N 89° 08' 45" W	104.00'
HE705 TO HE706	N 02° 10' 19" E	30.08'
HE706 TO HE707	S 89° 06' 16" E	93.32'
HE707 TO HE708	N 00° 52' 01" E	268.41'
HE708 TO HE709	N 89° 07' 59" W	94.18'
HE709 TO HE710	N 00° 40' 59" E	61.83'
HE710 TO HE700	S 89° 07' 59" E	104.38'

COURSE TABLE

COURSE	BEARING	DISTANCE
HE500 TO HE501	N 03° 31' 47" E	24.81'
HE501 TO HE502	N 00° 29' 14" W	50.00'
HE502 TO HE503	S 89° 30' 46" W	60.32'
HE503 TO HE504	S 00° 28' 55" W	74.76'
HE504 TO HE505	S 89° 30' 46" W	1.00'
HE505 TO HE506	S 00° 40' 59" W	75.02'
HE506 TO HE507	N 89° 30' 46" E	60.64'
HE507 TO HE508	N 00° 29' 14" W	50.25'
HE508 TO HE500	N 03° 31' 47" E	24.81'

HWY	BASIS OF EXISTING R/W		WIDTH
CLEVELAND AVENUE	I-894-7(3)303 CSM 2135 CSM 2258	1960 1973 1974	90'
I-894 ZOO FREEWAY	I-894-7(3)303	1960	VARIES
DAKOTA STREET	WILDWOOD PARK MILWAUKEE BUILDERS ASSOC. WILDWOOD ESTATES	1954 1954	60'
101 ST STREET	MILWAUKEE BUILDERS ASSOC. WILDWOOD ESTATES	1954	60'
W. MONTANA AVENUE	WILDWOOD PARK MILWAUKEE BUILDERS ASSOC. WILDWOOD ESTATES	1954 1954	60'

CURVE DATA

P. I. = 12+16.48
N = 282 703.49
E = 571 491.10
Δ = 90° 00' 00"
D = 190° 59' 09"
T = 30.00'
L = 47.12'
R = 30.00'

CURVE DATA

P. I. = 14+27.67
N = 282 700.08
E = 571 715.14
Δ = 91° 32' 06"
D = 190° 59' 09"
T = 30.81'
L = 47.92'
R = 30.00'

NE-SW

MILWAUKEE BUILDERS ASSOCIATION
WILDWOOD ESTATES

W. MONTANA AVENUE

NO ACCESS ALLOWED
PER PLAT OF RIGHT-OF-WAY REQUIRED
I 894-7(3)303

℄ CLEVELAND AVENUE

CONCRETE MONUMENT W/
SEWRPC BRASS CAP
Y = 283 820.44
X = 569 177.67

WILDWOOD

SE-NW

T.L.E., SLOPES
S 76° 34' 42" W
67.00'

T.L.E., SLOPES
N 72° 02' 55" W
63.25'

BLOCK 3

BLOCK 2

LOT 38 KEBF DUPLEX LLC

LOT 14 JAMES A. & KIM E. NEIBUHR

N 0° 51' 16" E

101ST STREET

℄ DAKOTA STREET PEDESTRIAN BRIDGE

℄ 101ST STREET

CLEVELAND AVENUE

N 0°39'30" E

47+94.01 ℄ CLEVELAND AVENUE =
76+22.81 ℄ EXPRESSWAY

P. I. = 10+13.70
N = 282 906.25
E = 571 494.19
Δ = 0° 01' 46"

(101) CITY OF WEST ALLIS
(FORMERLY TOWN OF GREENFIELD)
DITCH EASEMENT
DOC. 3321596

℄ I-894/US45 (ZOO FREEWAY)

SLOPE INTERCEPT, TYP.

CAUTION

S 0° 40' 59" W

MILWAUKEE COUNTY
(HIGHWAY EASEMENT)
DOC NO. 3955026

S 0° 52' 46" W

S 0° 53' 04" W

S 2° 10' 19" W

N 01° 08' 50" W
3.00'

N 00° 49' 31" E 268.37'

S 00° 49' 31" W 242.65'

T.L.E. SLOPES
HIGHWAY EASEMENT
DOC NO. 3995598

S 89° 07' 59" E
46.40'

N 28° 37' 40" E
19.20'

T.L.E., SLOPES

N 89° 07' 59" W
15.00'

N 00° 52' 01" E 143.72'

S 00° 52' 01" W 143.72'

S 89° 07' 59" E
10.00'

S 89° 07' 59" E
15.00'

808.85'

2650.03'

S 00° 52' 01" W

S 00° 52' 01" W
42.75'

CONCRETE MONUMENT
W/ BRASS CAP
Y = 281 193.16
E = 571 777.16

DAKOTA STREET

W. MONTANA AVE.

HIGHWAY EASEMENT
DOC NO. 3995598

HIGHWAY EASEMENT

(100) WE ENERGIES
NO RECORDED EASEMENT

(3) WE ENERGIES

NO ACCESS ALLOWED
PER PLAT OF RIGHT-OF-WAY REQUIRED
I 894-7(3)303

NW-SE

CURVE DATA

P. I. = 17+33.49
N = 283 019.59
E = 571 711.44
Δ = 90° 46' 03"
D = 123° 13' 00"
T = 47.13'
L = 73.66'
R = 46.5'

CURVE DATA

P. I. = 18+07.16
N = 283 019.41
E = 571 805.69
Δ = 90° 46' 03"
D = 123° 13' 00"
T = 47.13'
L = 73.67'
R = 46.5'

CURVE DATA

P. I. = 20+93.47
N = 282 712.55
E = 571 801.02
Δ = 49° 46' 30"
D = 127° 19' 26"
T = 20.88'
L = 39.09'
R = 45.00'

CONCRETE MONUMENT W/
SEWRPC BRASS CAP
Y = 283 842.89
X = 571 817.26

OUTLOT 1
C.S.M. 2258

PARCEL 1
C.S.M. 2258

LOT 1
C.S.M. 2135

SW-NE

REVISION DATE 11/02/2012	DATE OCT. 12, 2012	SCALE, FEET 0 50 100	HWY: I-894/US 45	STATE R/W PROJECT NUMBER 1090-07-23
	GRID FACTOR		COUNTY: MILWAUKEE	CONSTRUCTION PROJECT NUMBER 1090-07-73, 1100-03-79

PLAT SHEET 4.2
PS&E SHEET 54
E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\040101_rp.dgn
PLOT DATE : 11/2/2012
PLOT BY : Kurt Feuerstein (Rdwy_Wis)
PLOT NAME :
PLOT SCALE : 100.00 sf / IN.

WISDOT/CADDS SHEET 75

N

NOTES:
1. OFFSETS LISTED FOR CATCH BASINS ARE TO FLOW LINE AND OFFSETS LISTED FOR MANHOLES ARE TO CENTER OF STRUCTURE.
2. CATCH BASINS SHALL BE CONSTRUCTED TO FIT INLET COVERS TYPE R, AND WILL BE PAID FOR AS CATCH BASINS 2x3-FT.

BEGIN PROJECT
I.D. 1090-07-73
STA 45+00.00
Y=283 837.66
X=571 315.29

EXISTING RIGHT-OF-WAY

LEGEND
- (X) CURB RAMP TYPE
- ■ 2' X 2' DETECTABLE WARNIG FIELD
- [A] ADJUST WATER VALVE BOX
- (S) ADJUST COVER AND INSTALL INTERNAL SANITARY MANHOLE SEAL

FENCE TEMPORARY, TYP.
SEE CONSTRUCTION DETAILS FOR MATCHES, TYP.
CENTER 20' RADIUS STA 46+00.83, 46'LT
CENTER 20' RADIUS STA 46+04.05, 46'RT
℄ CLEVELAND AVENUE
℄ 101ST STREET
RECONST MANHOLE-O STA 46+41.16, 1.01'LT (100)
CENTER 20' RADIUS STA 46+70.84, 46'LT
SLOPE INTERCEPT, TYP.
CB 2x3-FT, R1 STA 46+73, 26'LT (101)
CB 2x3-FT, R1 STA 46+78.11, 26.91'RT (102)
CENTER 20' RADIUS STA 46+84.07, 46'RT
STA 47+01.98 R-40-581 MSE RETAINING WALL
STA 47+94.01 B-40-884 2-SPAN, 36W PRESTRESSED GIRDER 52' CLEAR ROADWAY WIDTH SKEW 1° 21' 00"
STA 47+94.01 REMOVING OLD STRUCTURE 4-SPAN 36" PRESTRESSED GIRDER
WATER MAIN ABANDONED UNDER PROJECT I.D. 1090-03-74, TYP.
WATER MAIN INSTALLED UNDER PROJECT I.D. 1090-07-74
PROPSOED SOUND WALL SEE CONSTRUCTION DETAILS
STA 48+86.03 R-40-580 MSE RETAINING WALL
ADJUST INLET-R1 STA 49+25.11, 26'LT (104)
ADJUST MANHOLE-O STA 49+24.28, 0.47'RT (103)
ADJUST INLET-R1 STA 49+25.12, 26'RT (105)
MATCHLINE STA 49+50

771.76 (100) 772.09 (101) 768.09 765.59± EXISTING OPNG 40.7' - 12" SSPRC @ 6.14%
771.76 (100) 772.21 (102) 768.21 765.49± EXISTING OPNG 46.6' - 12" SSPRC @ 5.83%

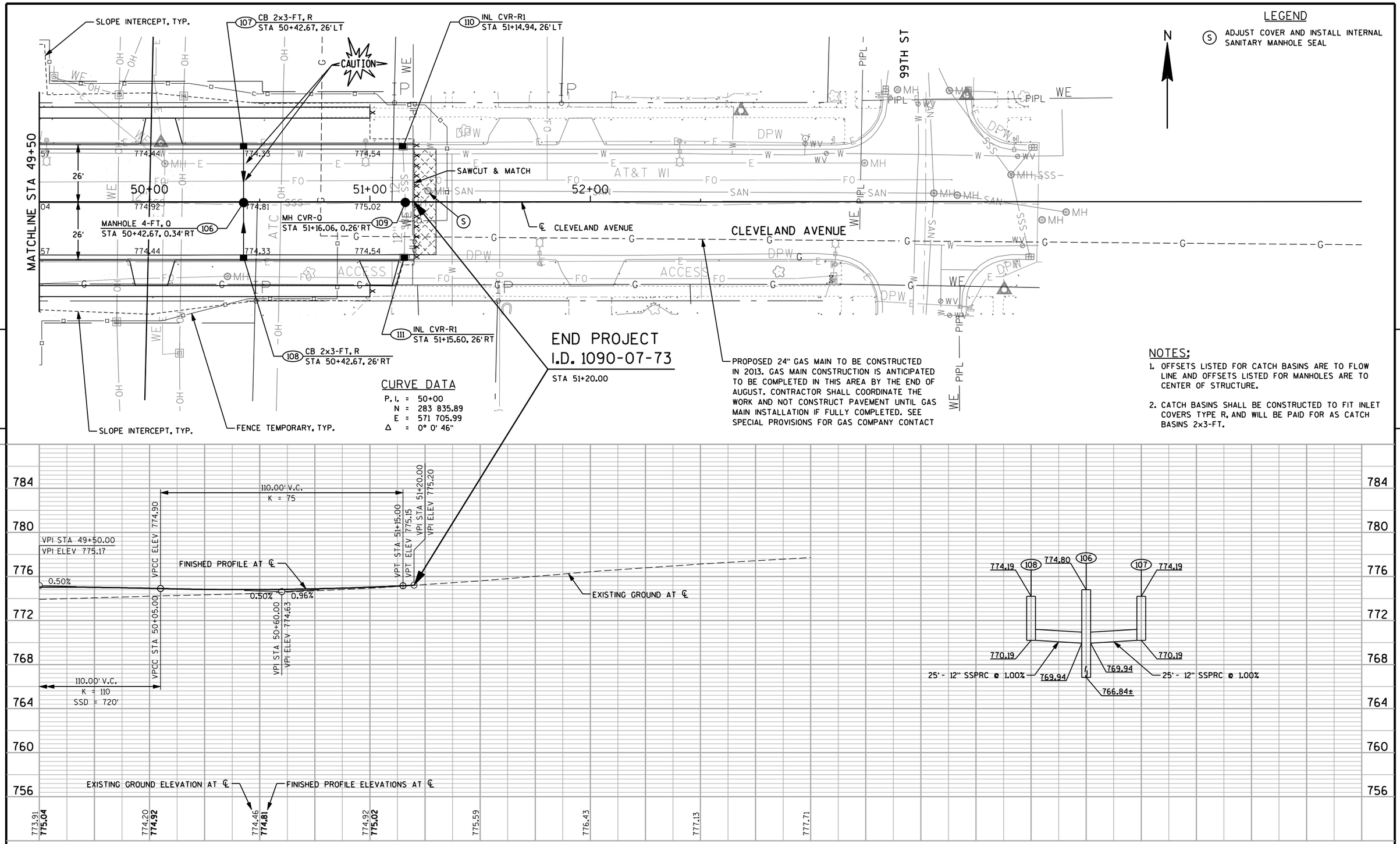
110.00' V.C. K = 53
VPC STA 45+00.00 VPC ELEV 767.77
VPI STA 45+55.00 VPI ELEV 768.67
VPCC STA 46+10.00 VPCC ELEV 770.72
VPI STA 46+95.00 VPI ELEV 773.90
VPT STA 47+80.00 VPT ELEV 774.32
VPC STA 48+95.00 VPC ELEV 774.90
VPI STA 49+50.00 VPI ELEV 775.17
3.74% 1.64% 0.50%
FINISHED PROFILE AT ℄
EXISTING GROUND AT ℄
170.00' V.C. K = 53 SSD = 290'
110.00' V.C. K = 110 SSD = 720'
17'-1" PT OF MIN VERT. CLEARANCE
17'-4½" PT OF MIN VERT. CLEARANCE

EXISTING GROUND ELEVATION AT ℄ — FINISHED PROFILE ELEVATIONS AT ℄

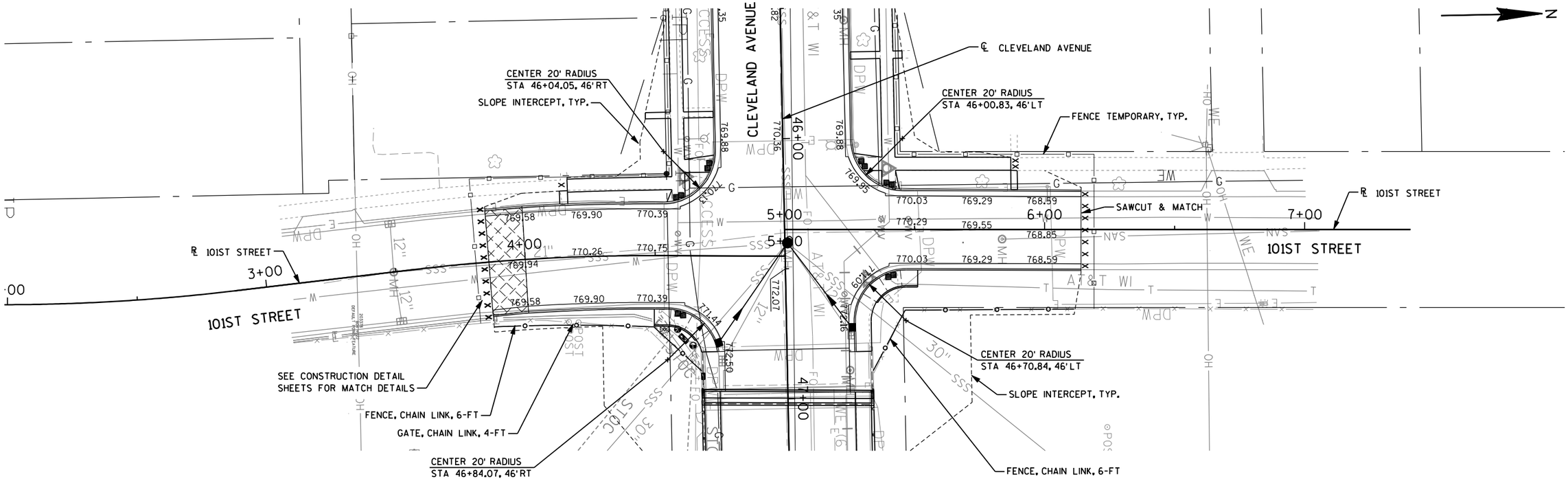
765.19	765.81	766.55	767.39	**767.77**	768.37	**768.83**	769.46	**770.36**	770.79	**772.07**	764.58	**773.32**	752.26	**774.09**	751.92	**774.42**	752.17	**774.67**	773.60	**774.92**	773.91	**775.04**
43+50	44+00	44+50	45+00		45+50		46+00		46+50		47+00		47+50		48+00		48+50		49+00		49+50	

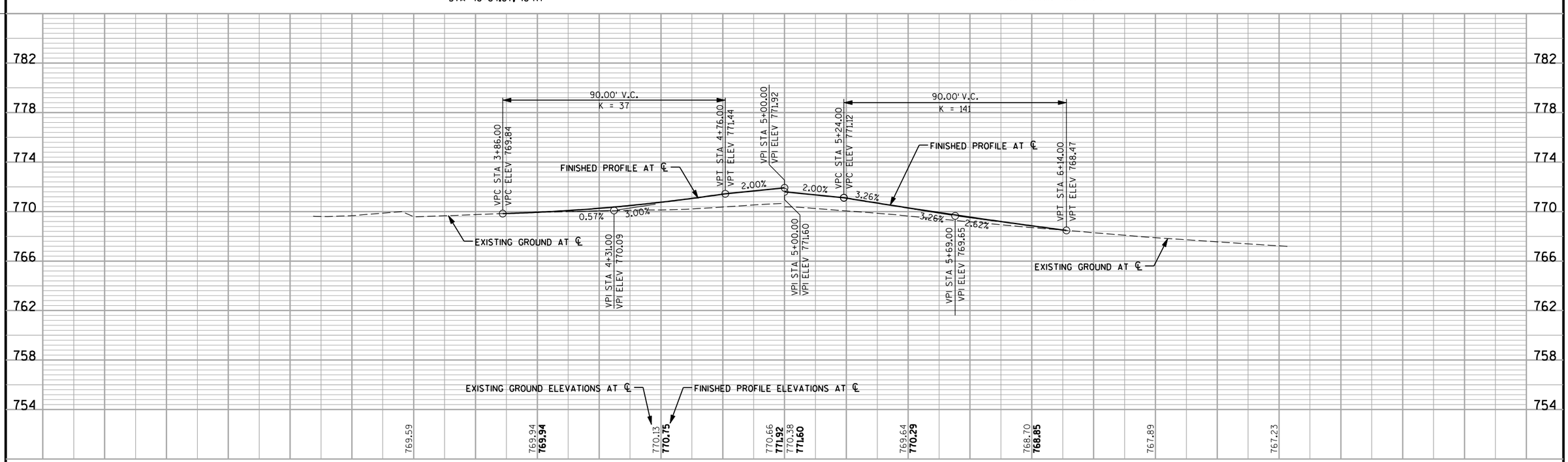
PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	PLAN & PROFILE	SHEET 55	E

FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\050101_pp.dgn
PLOT DATE : 1/15/2013 12:08:00 AM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 40.0000 sf / IN.
WISDOT/CADDS SHEET 30



PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	PLAN & PROFILE	SHEET 56 E





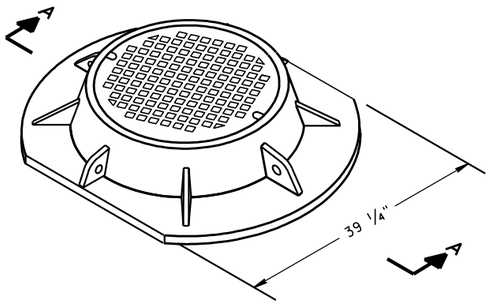
PROJECT NO: 1090-07-73	HWY: WEST CLEVELAND AVENUE	COUNTY: MILWAUKEE	PLAN & PROFILE	SHEET 57	E

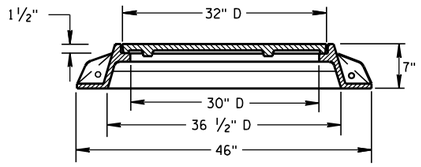
FILE NAME : P:\Milwaukee\Projects\WisDOT\21152.022\Cleveland\CADD\Sheets\050103_pp.dgn
PLOT DATE : 1/15/2013 12:15:18 AM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TEXTSUB.TBL
PLOT NAME :
PLOT SCALE : 40.0000 sf / IN.
WISDOT/CADDS SHEET 30

Standard Detail Drawing List

08A05-18D	INLET COVER, TYPE BW, Z MANHOLE COVERS, TYPE K, J, J-S, L & M
08A09-01	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-01	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08D05-14A	CURB RAMPS TYPES 1 AND 1-A
08D05-14B	CURB RAMPS TYPES 2 AND 3
08D05-14C	CURB RAMPS TYPE 4A
08D05-14D	CURB RAMPS TYPE 4B
08D05-14E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08D17-06	MANHOLES, MANHOLE & INLET COVERS
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
09B02-07	CONDUIT
09B04-09	PULL BOX
09C02-06	CONCRETE BASES, TYPES 1, 2 & 5
09C05-07	CONCRETE CONTROL CABINET BASES
09D01-04	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-02	SIGNAL OR LIGHTING CONTROL CABINET
09E01-11D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-11G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-04	NON-FREEWAY LIGHTING UNIT POLE WIRING
10A01-02	ELECTRICAL HANDHOLE WIRING
10A02-02	IDENTIFICATION PLAQUES LIGHT POLES
10A08-02	ELECTRICAL DETAILS STRUCTURE MOUNT LIGHT POLES ISOLATED NEUTRAL SYSTEMS
12A03-10	NAME PLATE (STRUCTURES)
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-07	URBAN DOWELED CONCRETE PAVEMENT
13C18-01A	CONCRETE PAVEMENT JOINTING
13C18-01B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-01C	CONCRETE PAVEMENT JOINT TIES
13C18-01D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B07-12A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-12B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-12C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-12D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B32-01A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-01B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-01C	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-01D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
15B03-12A	CHAIN LINK FENCE
15B03-12B	CHAIN LINK FENCE
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-01	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C08-14A	PAVEMENT MARKING (MAINLINE)
15C08-14B	PAVEMENT MARKING (INTERSECTIONS)
15C08-14F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15D12-02	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.
15D14-01	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

6



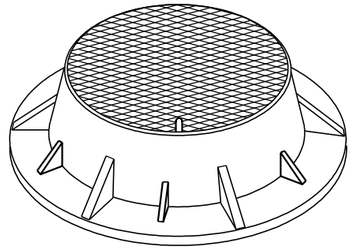


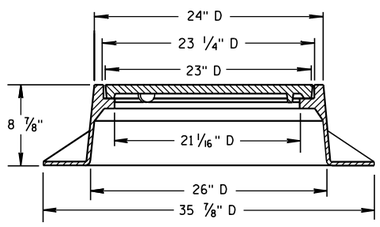
SECTION A-A

TYPE "K"

(APPROXIMATE WEIGHT 439 LBS.)

FRAME.....216 LBS.
LID.....223 LBS.

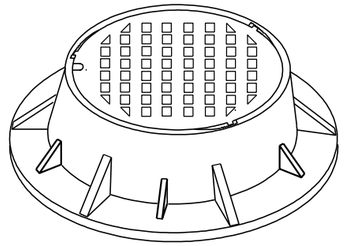


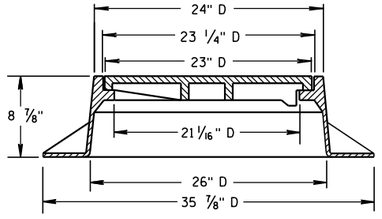


TYPE "J"

(APPROXIMATE WEIGHT 267 LBS.)

FRAME.....152 LBS.
LID.....115 LBS.





TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID

(APPROXIMATE WEIGHT 267 LBS.)

FRAME.....158 LBS.
LID.....109 LBS.

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

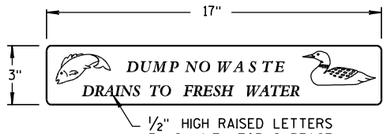
GENERAL NOTES

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.

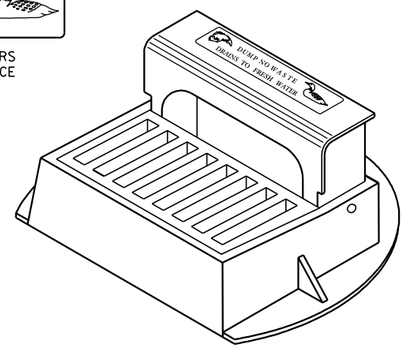
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

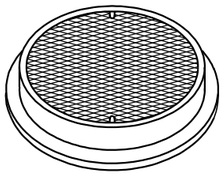
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

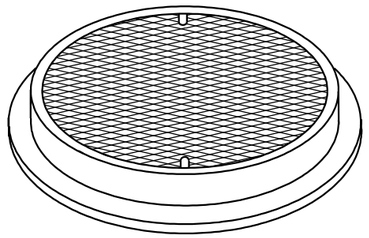
THE ACTUAL WEIGHT OF COVERS MAY VARY WITH 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

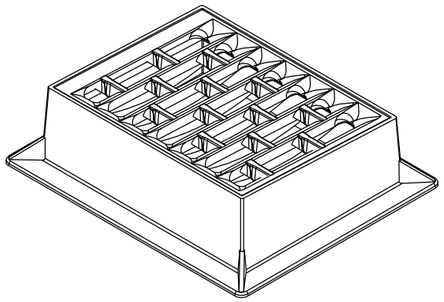


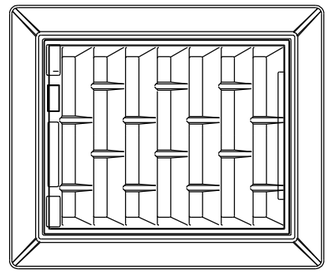
LOGO DETAIL

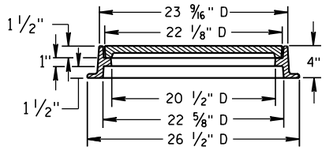








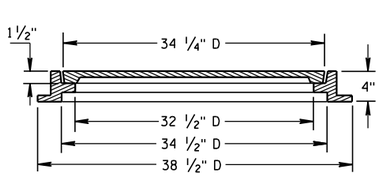




TYPE "L"

(APPROXIMATE WEIGHT 158 LBS.)

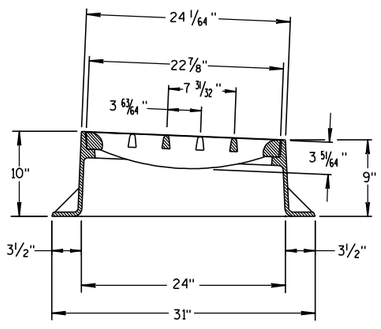
FRAME.....81 LBS.
LID.....77 LBS.

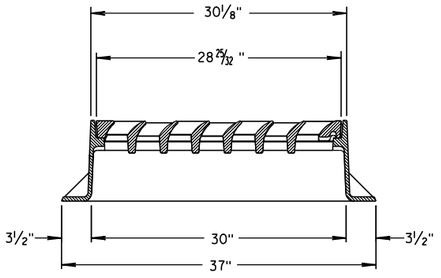


TYPE "M"

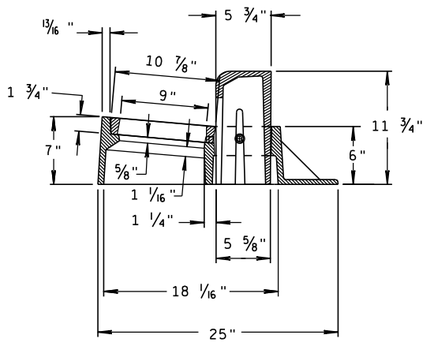
(APPROXIMATE WEIGHT 377 LBS.)

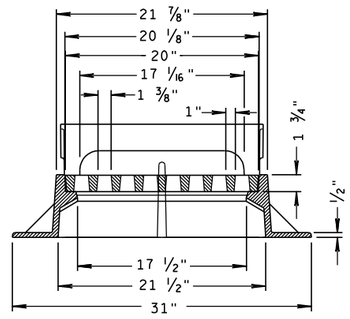
FRAME..... 125 LBS.
LID..... 252 LBS.





INLET COVER TYPE "BW"





INLET COVER TYPE "Z"

(APPROXIMATE WEIGHT 344 LBS.)

FRAME.....206 LBS.
GRATE..... 46 LBS.
CURB BOX..... 92 LBS.

INLET COVERS, TYPE BW, Z
MANHOLE COVERS, TYPE K, J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

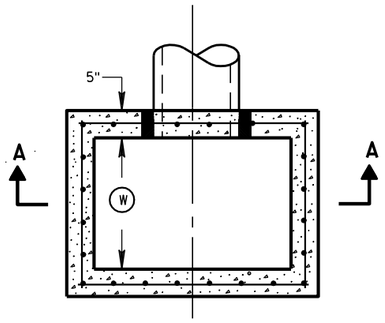
FHWA

6

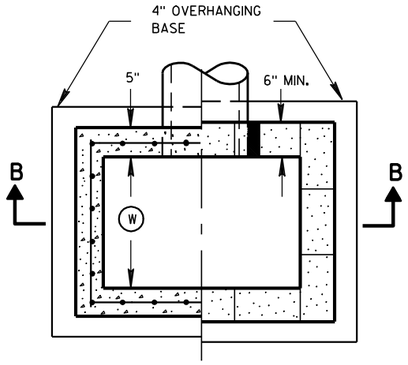
S.D.D. 8 A 5-18d

6

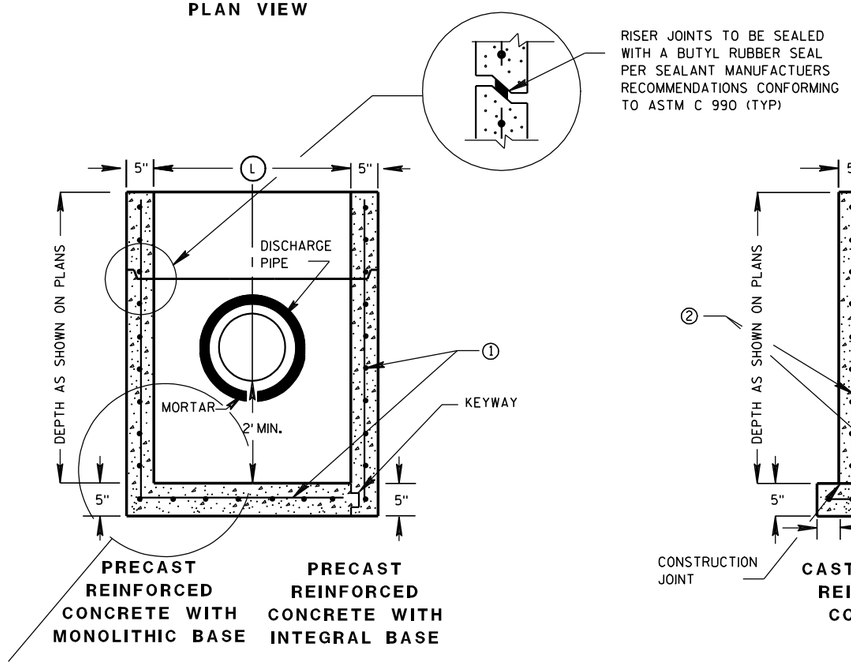
S.D.D. 8 A 5-18d



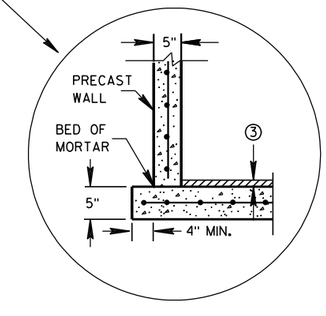
PLAN VIEW



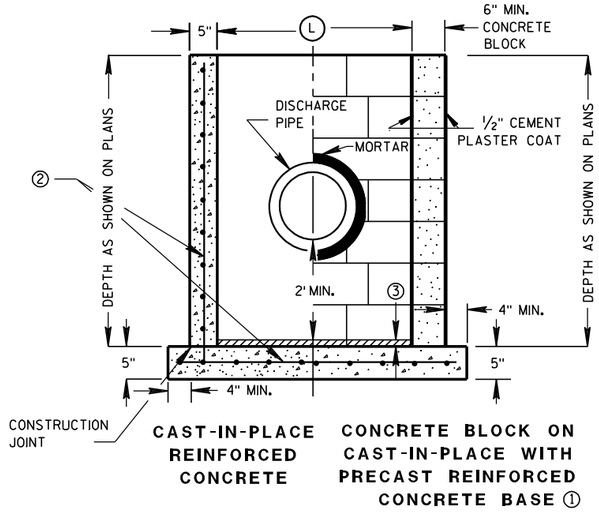
PLAN VIEW



SECTION A-A



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION



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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST CATCH BASIN UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

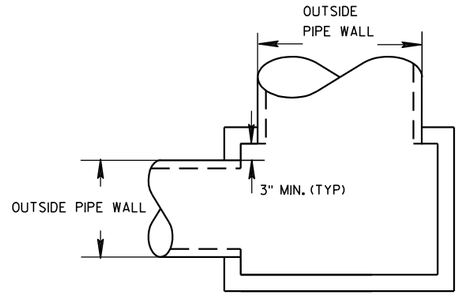
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE		INLET COVER TYPE	F	ALL H'S
	WIDTH (W) (FT)	LENGTH (L) (FT)		
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

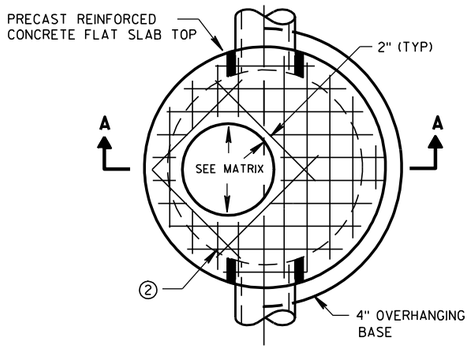
CATCH BASINS 2X3-FT AND 2.5X3-FT

CATCH BASINS 2X3-FT AND 2.5X3-FT

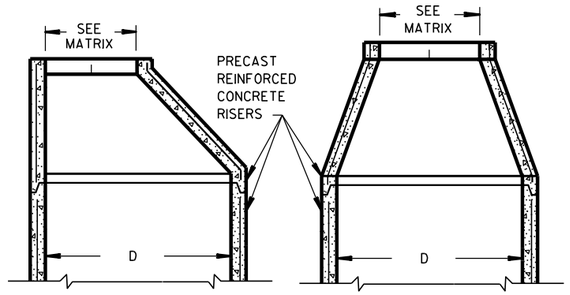
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 A 9-1

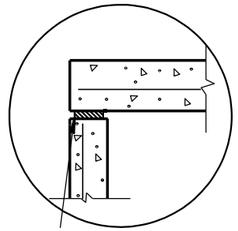


PLAN VIEW CIRCULAR OPENING

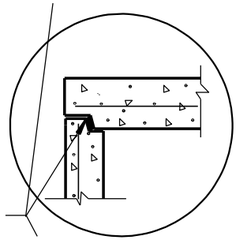


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

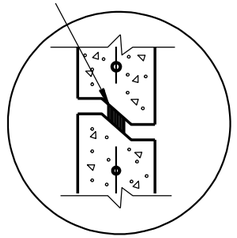


TOP WITH PLAIN END JOINT



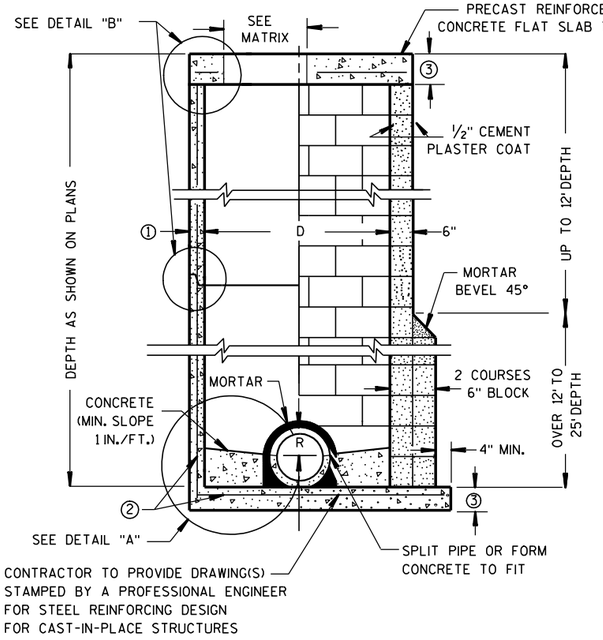
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



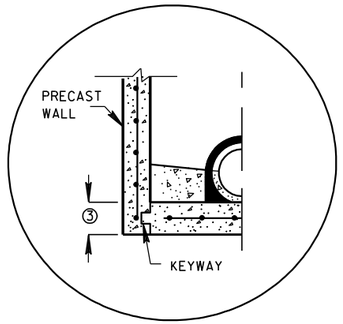
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

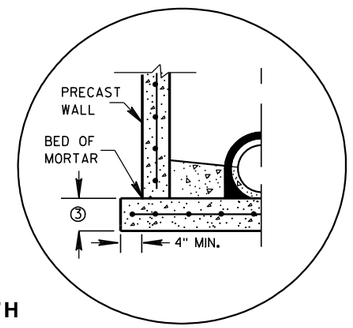


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

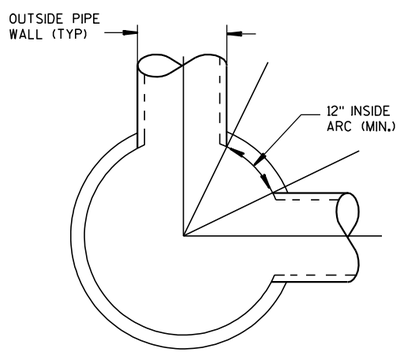


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPERATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES. THE CONE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

CONCRETE BLOCK WILL NOT BE PERMITED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPERATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE	C	ALL J'S	K	L	M
OPENING SIZE (FT)					
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/5/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

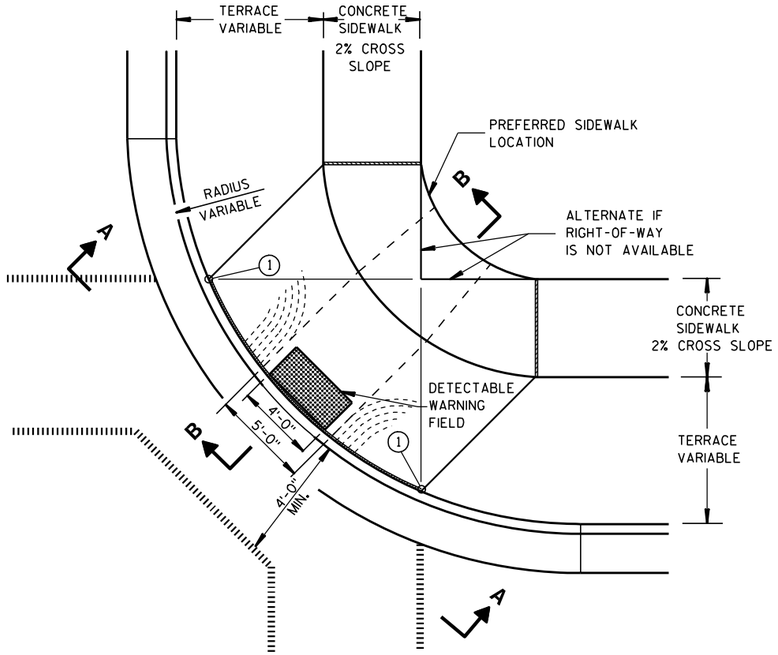
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

6

S.D.D. 8 B 9-1

6

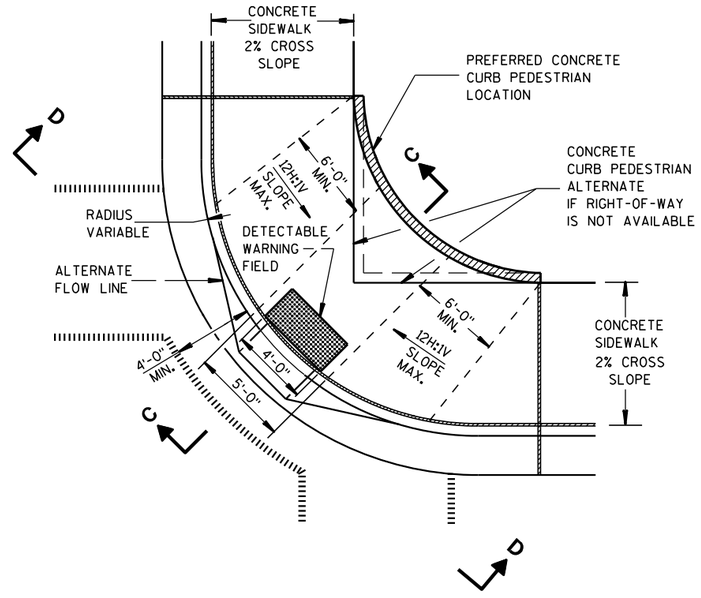
S.D.D. 8 B 9-1



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

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

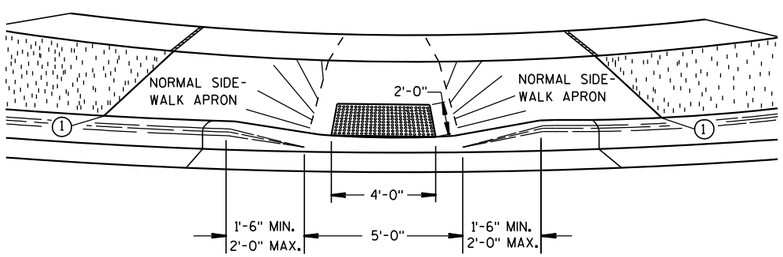
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

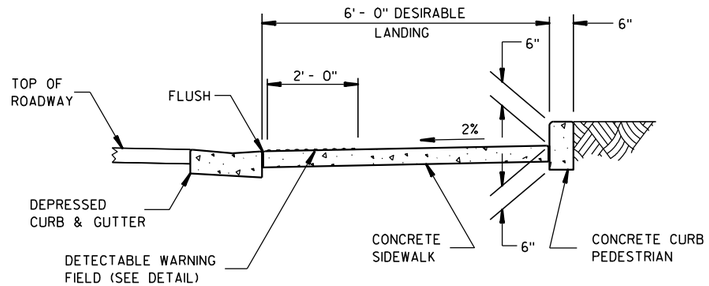
(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

LEGEND

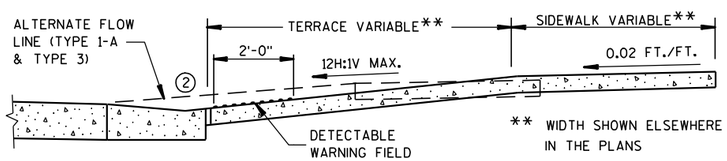
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



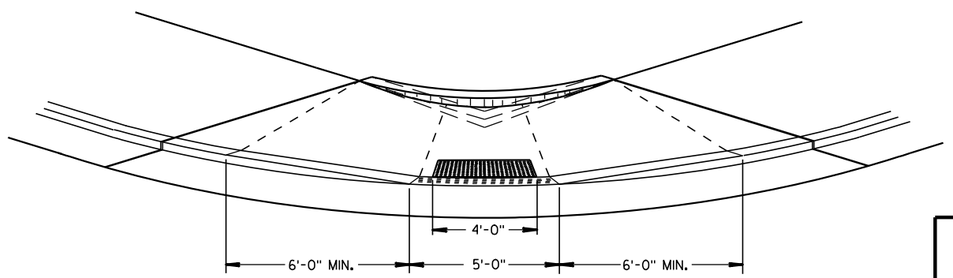
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

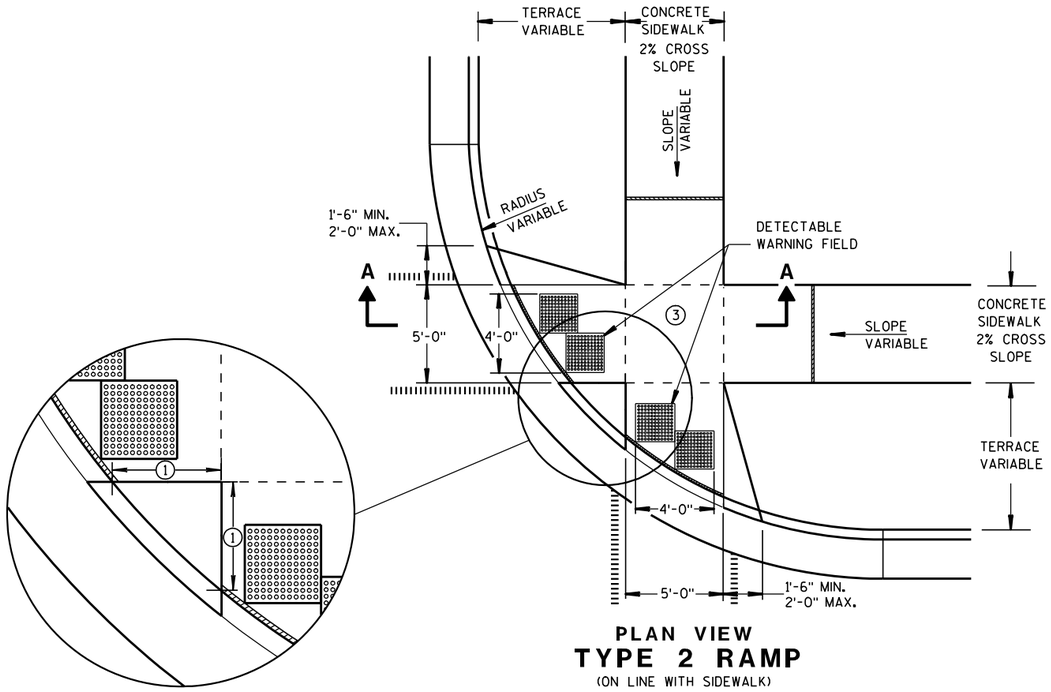
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

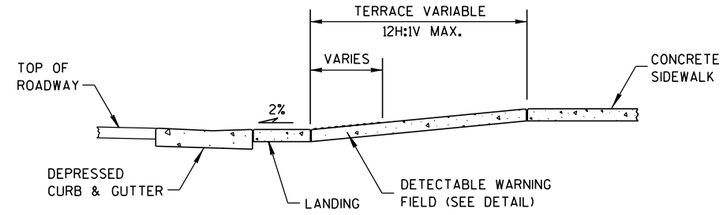
S.D.D. 8 D 5-14a

6

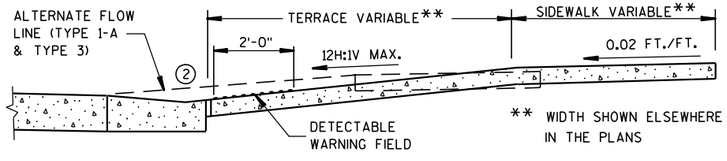
S.D.D. 8 D 5-14a



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

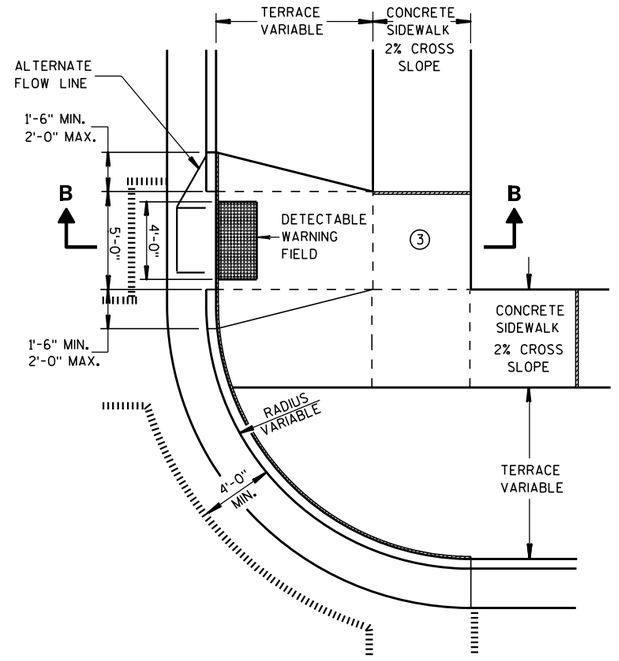
(1) WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

(3) PROVIDE LANDING AT TOP OF RAMP WITH NO MORE THAN 2% SLOPE IN ANY DIRECTION.

LEGEND

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

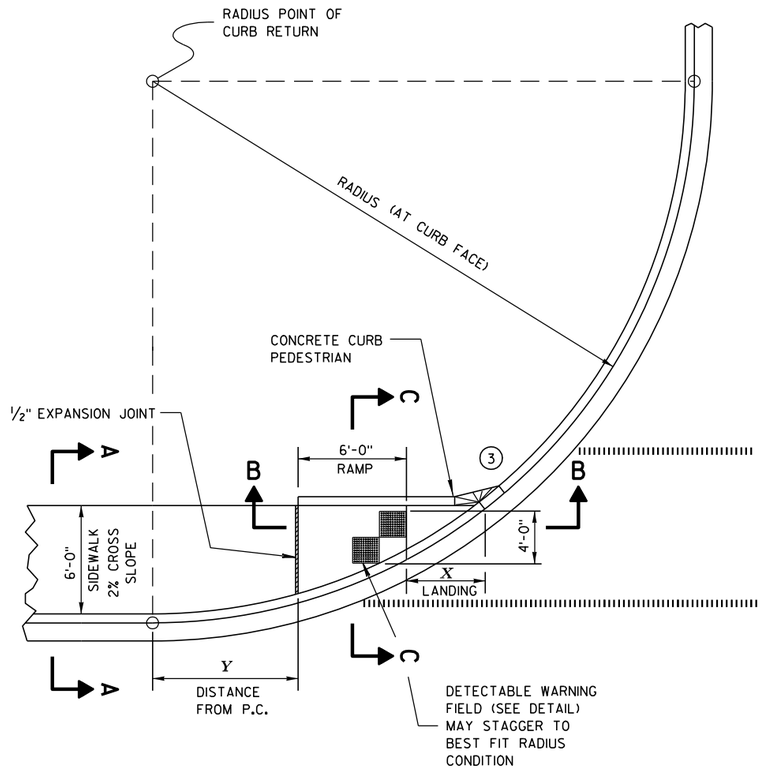


PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

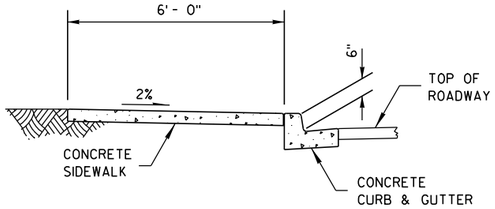
6
S.D.D. 8 D 5-14b



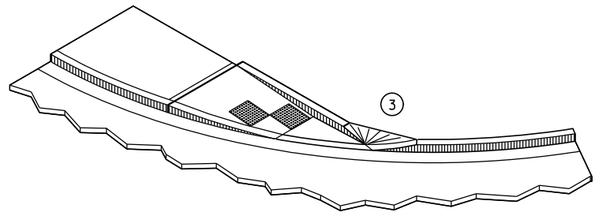
CURB RAMP TYPE 4A
PLAN VIEW

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

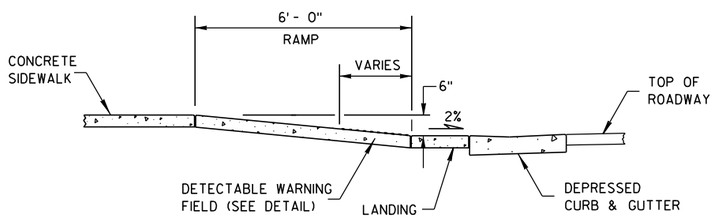
INTERMEDIATE RADII CAN BE INTERPOLATED



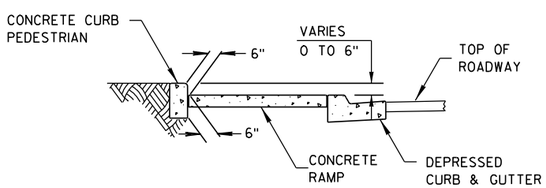
SECTION A-A



ISOMETRIC VIEW



SECTION B-B



SECTION C-C

GENERAL NOTES

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

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

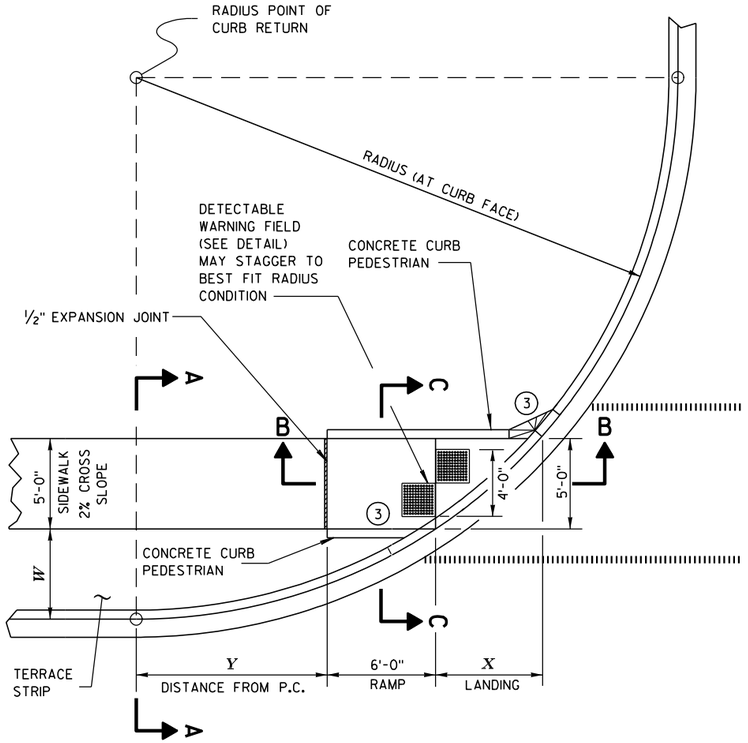
LEGEND

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

CURB RAMPS TYPE 4A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 8 D 5-14c



CURB RAMP TYPE 4B
PLAN VIEW

GENERAL NOTES

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

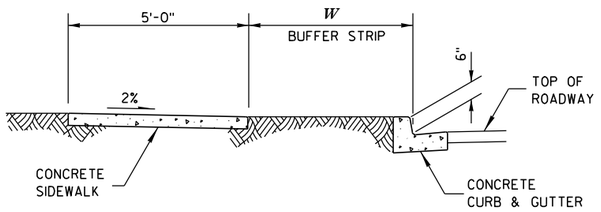
RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

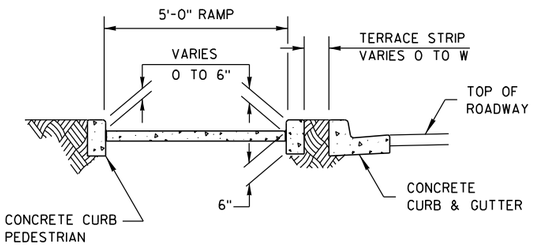
(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

RADIUS (AT CURB FACE)	W = 3'- 0"		W = 4'- 0"		W = 5'- 0"		W = 6'- 0"		W = 7'- 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"
70 FEET	12'-2¾"	14'-3¼"	11'-¼"	17'-4"	10'-1"	19'-11¾"	9'-3¾"	22'-4¼"	8'-8¼"	24'-6¼"
80 FEET	13'-2"	15'-8½"	11'-10½"	18'-11¾"	10'-10¾"	21'-10"	10'-1"	24'-4¾"	9'-5"	26'-8¾"
90 FEET	14'- ½"	17'-½"	12'-8¼"	20'-6½"	11'-7¾"	23'-7"	10'-9¾"	26'-3¾"	10'-1¼"	28'-9½"
100 FEET	14'-10½"	18'-3¾"	13'-5½"	22'-0"	12'-4¼"	25'-2¾"	11'-5¾"	28'-1½"	10'-9"	30'-9"

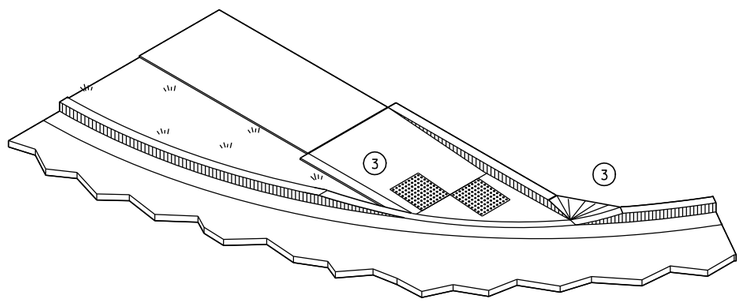
INTERMEDIATE RADII CAN BE INTERPOLATED



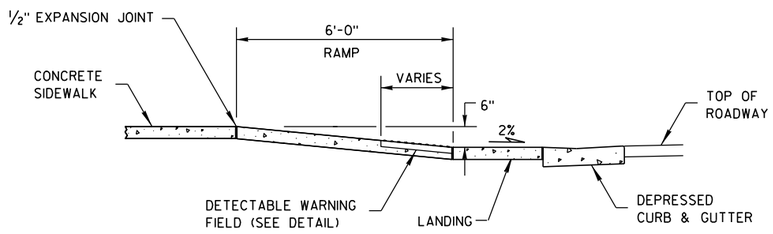
SECTION A-A



SECTION C-C



ISOMETRIC VIEW



SECTION B-B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

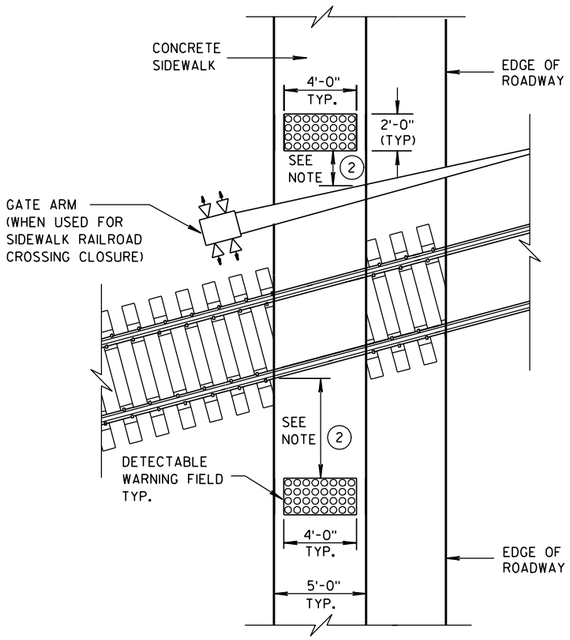
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B

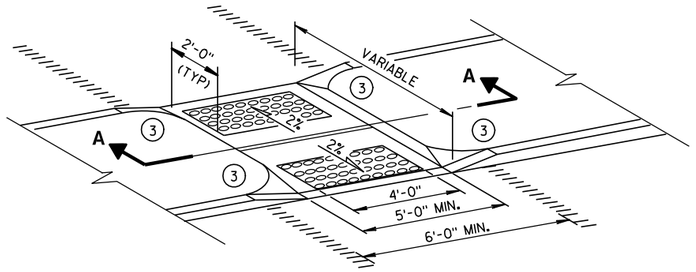
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

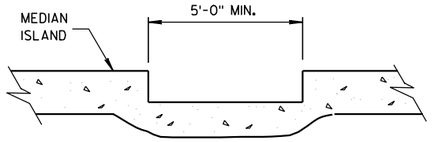
S.D.D. 8 D 5-14d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5



SECTION A-A

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

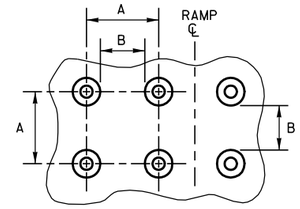
(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

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

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

LEGEND

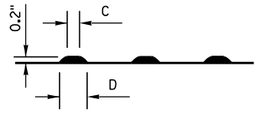
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



PLAN VIEW

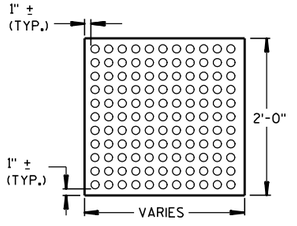
	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

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



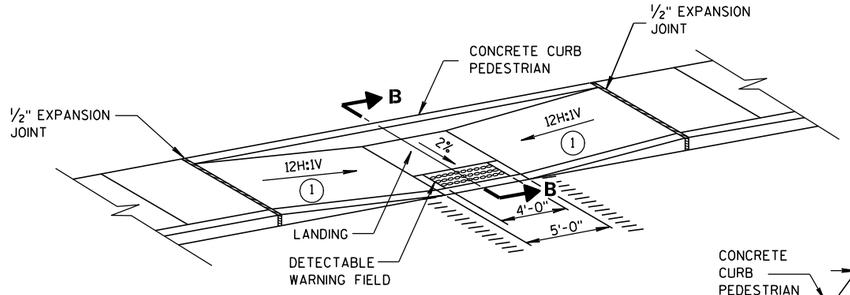
ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

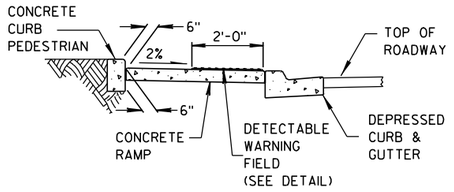


PLAN VIEW

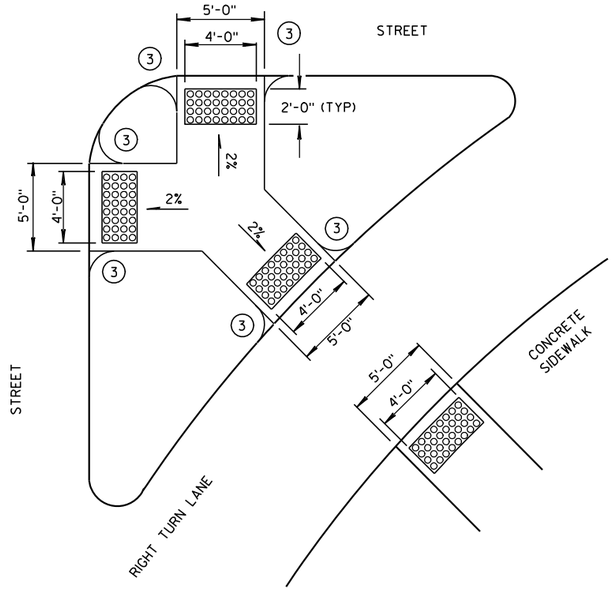
DETECTABLE WARNING FIELD (TYPICAL)



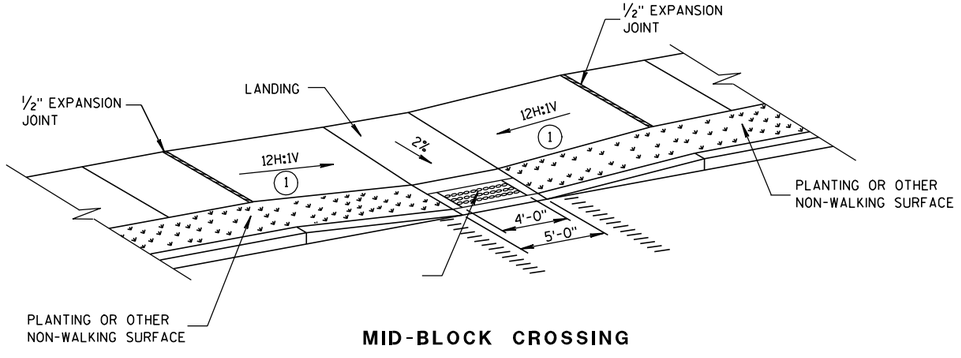
MID-BLOCK CROSSING
TYPE 7A



SECTION B-B



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

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

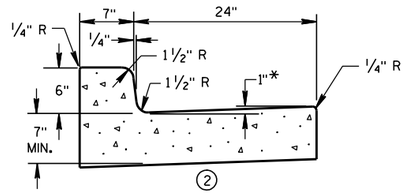
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

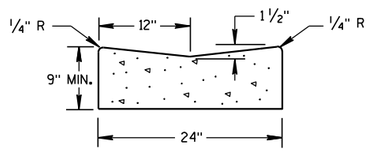
APPROVED
2-9-10 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

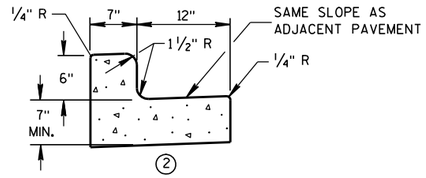
S.D.D. 8 D 5-14e



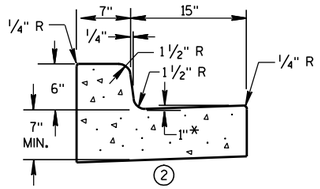
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

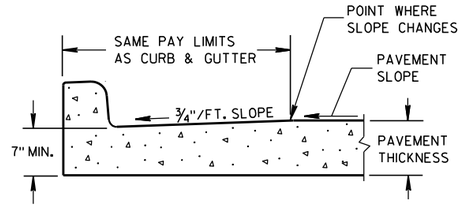


① CONCRETE CURB & GUTTER 19"



① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

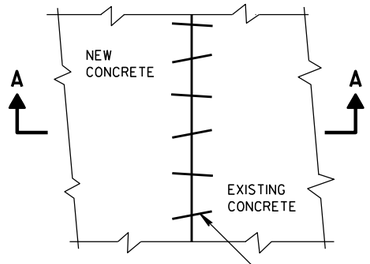
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.

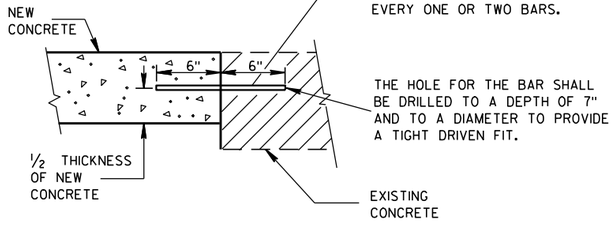
6



PLAN VIEW

EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

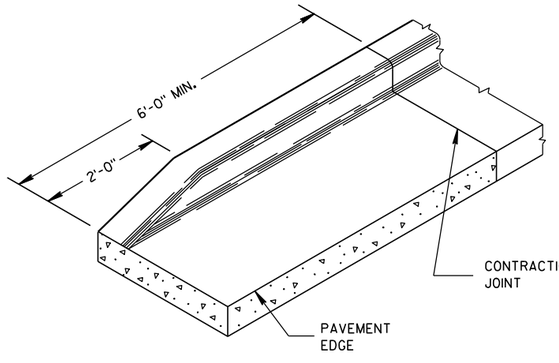
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



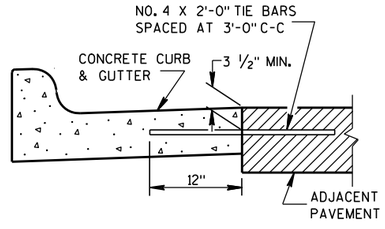
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

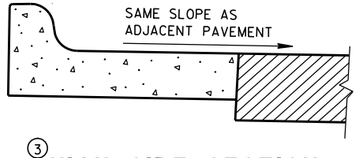
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

/S/ Jerry Zogg — ROADWAY STANDARDS ENGINEER

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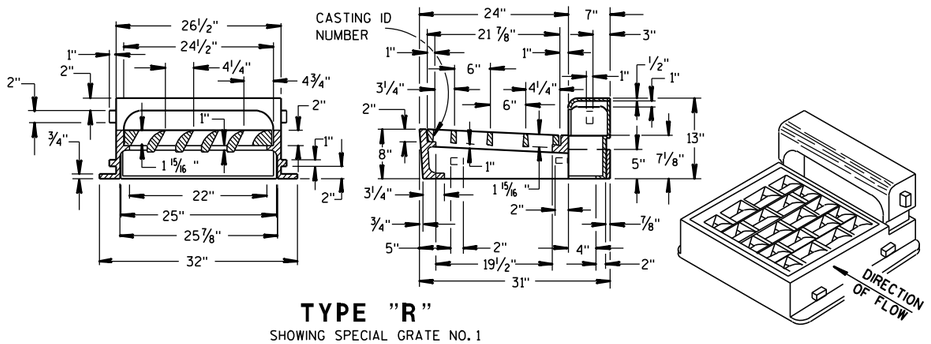
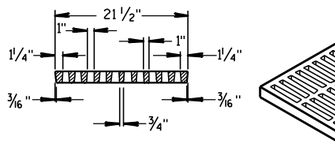
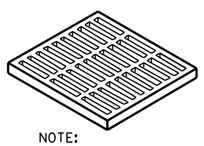
INLET COVERS



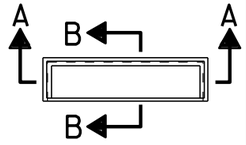
TYPE "R"

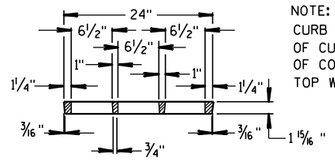
SHOWING SPECIAL GRATE NO. 1
(TO BE NOTED AS R-1 IN DRAINAGE TABLE)



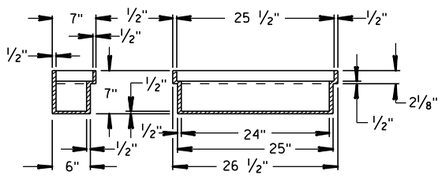


(APPROX. WEIGHT - 510 LBS.)
FRAME..... 245 LBS.
CURB..... 120 LBS.
GRATE..... 145 LBS.





NOTE:
CURB PLUG USED IN PLACE OF CURB BOX IN ABSENCE OF CONC. CURB. FILL TO TOP WITH CONCRETE.



GRATE FOR TYPE "R" INLET COVER

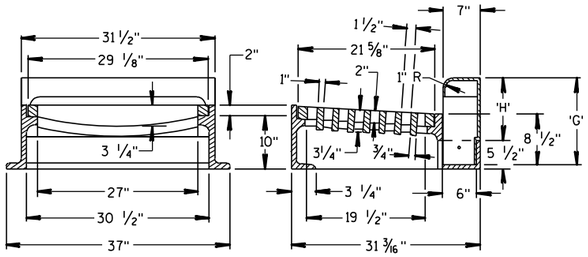
(GRATE..... 150 LBS.)
(TO BE USED UNLESS OTHERWISE NOTED IN DRAINAGE TABLE)

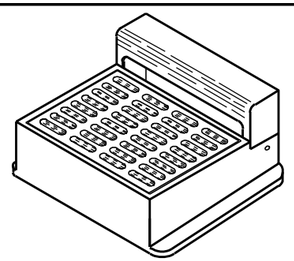
SECTION B-B SECTION A-A

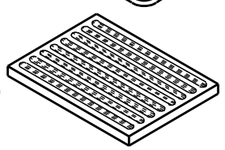
SPECIAL CURB PLUG "P"

(CURB PLUG..... 85 LBS.)
(TO BE NOTED AS R-P IN DRAINAGE TABLE)

'H' = 9" FOR 6" CURB
'H' = 11" FOR 8" CURB
'G' = 13 3/4" FOR 6" CURB
'G' = 15 3/4" FOR 8" CURB



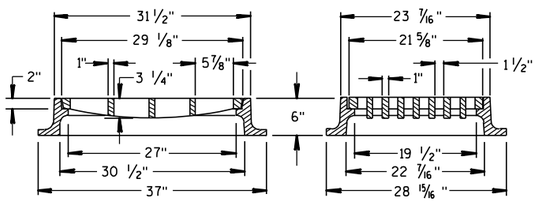


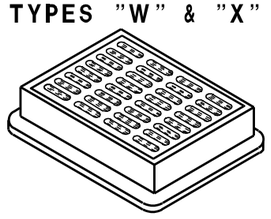


(APPROX. WEIGHT - 670 LBS.)
FRAME..... 350 LBS.
CURB BOX..... 135 LBS.
GRATE..... 185 LBS.

TYPE "W"

ALTERNATE GRATE
(FOR EXPRESSWAY RAMPS)
TYPES "W" & "X"

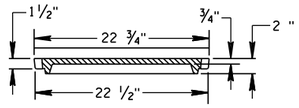




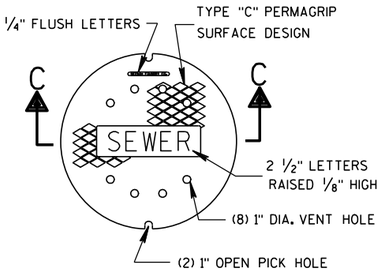
TYPE "X"

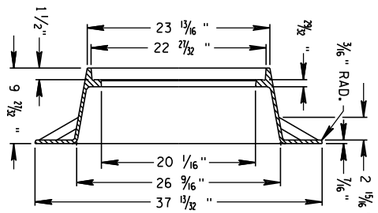
(APPROX. WEIGHT - 470 LBS.)

MANHOLE COVER



SECTION C-C





TYPE "Q"

(APPROX. WEIGHT - 290 LBS.)

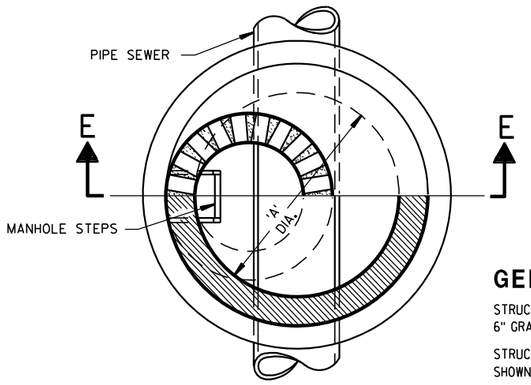
TABLE OF DIMENSIONS

TYPE	'A'	'B'	'C'
11	3'-6"	2'-8"	12" - 36"*
12	4'-0"	3'-8"	12" - 42"**
13	5'-0"	5'-8"	42" - 48"
14	6'-0"	7'-8"	54" - 60"

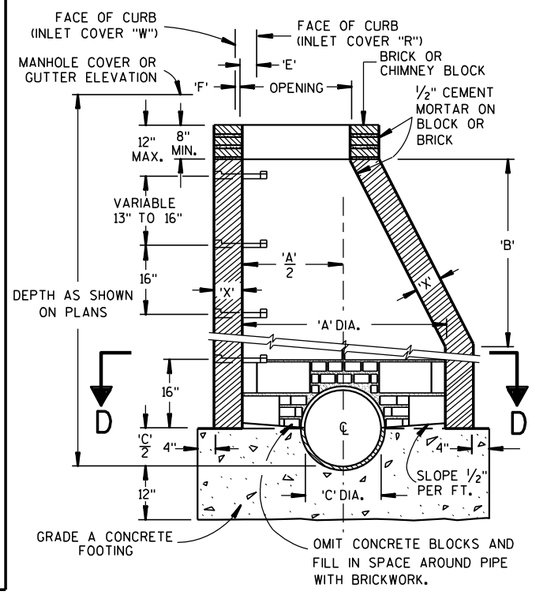
* 12" - 21" FOR PRECAST MANHOLES
** 12" - 24" FOR PRECAST MANHOLES

THE FIRST STEP SHALL BE PLACED 16" ABOVE THE BENCH.

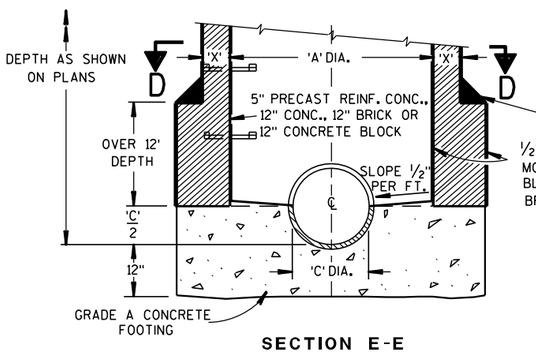
MANHOLE



HALF SECTION D-D



SECTION E-E



SECTION E-E

TYPES 11, 12, 13 & 14

TABLE OF OPENING DIMENSIONS

COVER TYPE	COVER DESCRIPTION	OPENING	'E'	'F'
"O"	ROUND	2'-2" DIA.	—	—
"W"	CURB BOX	1'-8" X 2'-6"	—	1"
"X"	INLET	1'-10" X 2'-6"	—	—
"R"	CURB BOX	2'-0" X 2'-1"	4"	—

GENERAL NOTES

STRUCTURE WALL THICKNESS 'X' TO BE 8" BRICK, 6" CONCRETE BLOCK, 6" GRADE A CONCRETE OR 5" PRECAST REINFORCED CONCRETE.

STRUCTURE FOOTINGS ARE TO BE GRADE A CONCRETE OF THE THICKNESS SHOWN IN THE DETAIL OR 5" PRECAST REINFORCED CONCRETE.

REINFORCEMENT FOR 5" PRECAST REINFORCED CONCRETE SHALL BE 6" X 6" W16 X W16 WELDED SREEL WIRE FABRIC AND SHALL BE EMBEDDED 2" CLEAR.

PRECAST INLET UNITS AND BASES SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

PRECAST CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.

PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6" IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACK-FILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

SET FRAME ELEVATION 0.03 FT. LOWER THAN ELEVATION INDICATED ON THE PLANS.

THE CONTRACTOR MAY FORM AND POUR MONOLITHIC CONCRETE INVERT PROVIDED THE PIPE ENDS ARE EXTENDED INTO THE M.H. AND NOT TERMINATED WITHIN THE M.H. WALLS.

MANHOLE STEPS

STEPS MEETING THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH; 16 INCH C-C MAX. SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM WALL EMBEDMENT OF 3 INCHES IN PRECAST MANHOLE AND 6 INCHES IN 8 INCH BRICK OR 6 INCH BLOCK MANHOLE; TREAD OF STEP SHALL HAVE A NON-SKID SURFACE AND BE FLANKED BY CLEATS, WITH A MINIMUM OF 10 INCHES CLEAR BETWEEN CLEATS, TO PREVENT FOOT SLIPPING OFF THE EDGE CLEATS SHALL BE A MINIMUM OF 3/4 INCH HIGH BY 3/4 INCH WIDE HAVING A MINIMUM THICKNESS OF 5/8 INCH. STEPS SHALL BE CAPABLE OF SUPPORTING A CONCENTRATED LOAD OF 300 LBS. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

SOLID ALUMINUM STEPS SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 0.75 INCH. ALUMINUM SURFACES TO BE EMBEDDED IN CONCRETE SHALL BE GIVEN ONE COAT OF SUITABLE QUALITY PAINT, SUCH AS ZINC CHROMATE PRIMER CONFORMING TO FEDERAL SPECIFICATION TT-P-645 OR EQUIVALENT. STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCING BAR WILL BE ACCEPTABLE.

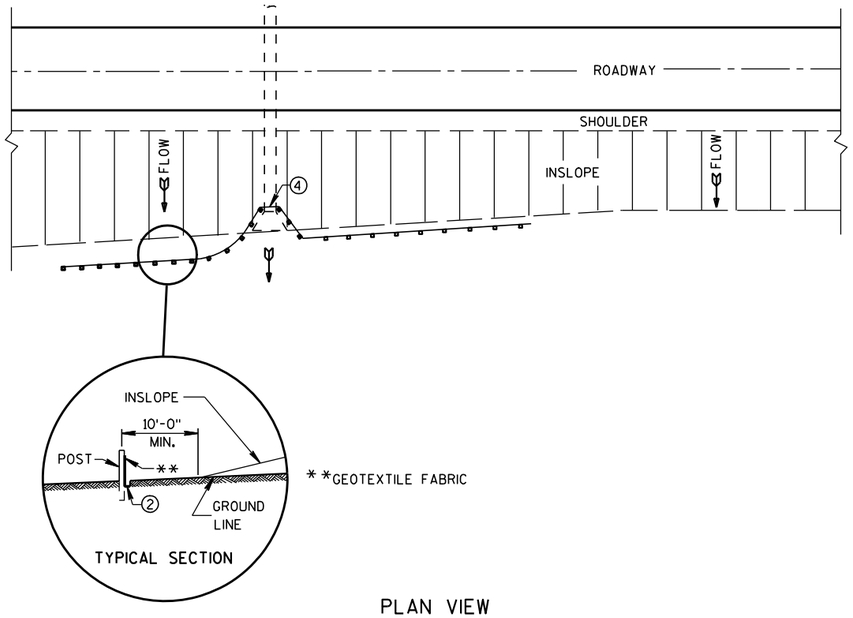
MANHOLES, MANHOLE & INLET COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/12/2011 — DATE
/S/ Jerry H. Zogg — ROADSIDE STANDARDS ENGINEER
68
FHWA

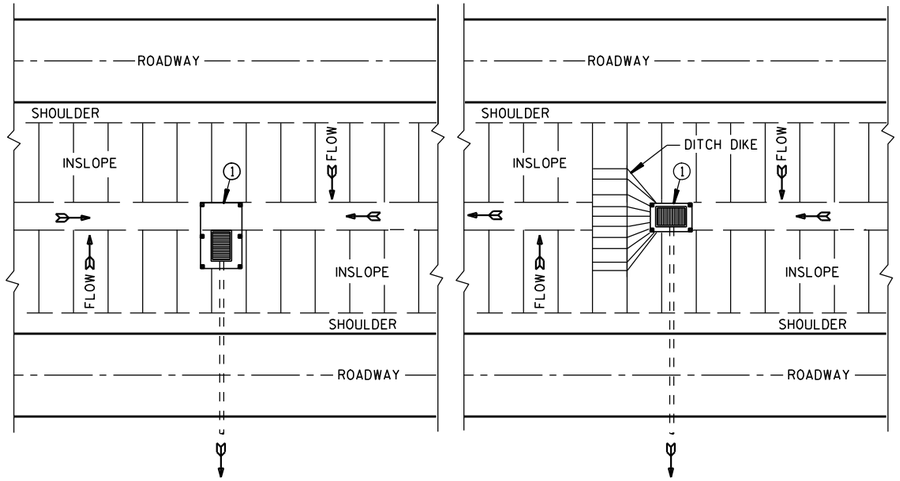
S.D.D. 8 D 17-6

S.D.D. 8 D 17-6



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



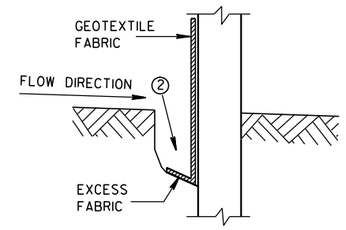
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

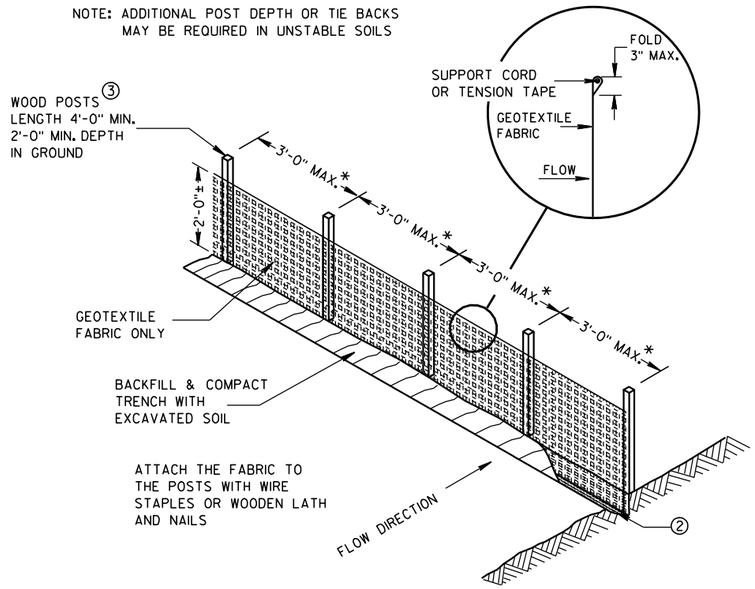
GENERAL NOTES

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

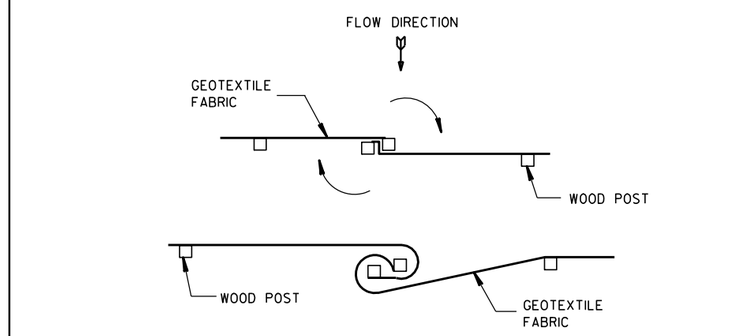
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



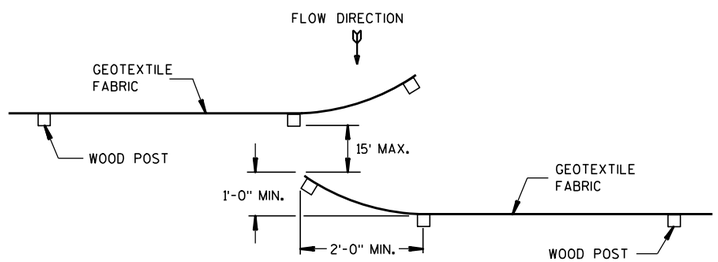
TRENCH DETAIL



SILT FENCE

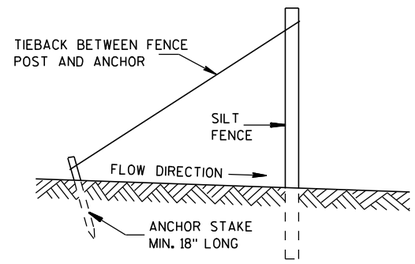


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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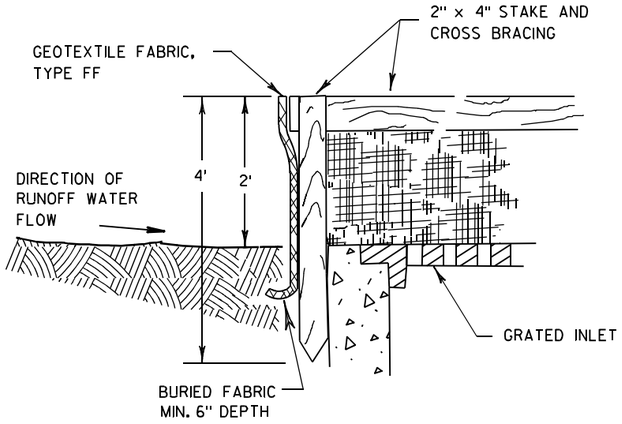
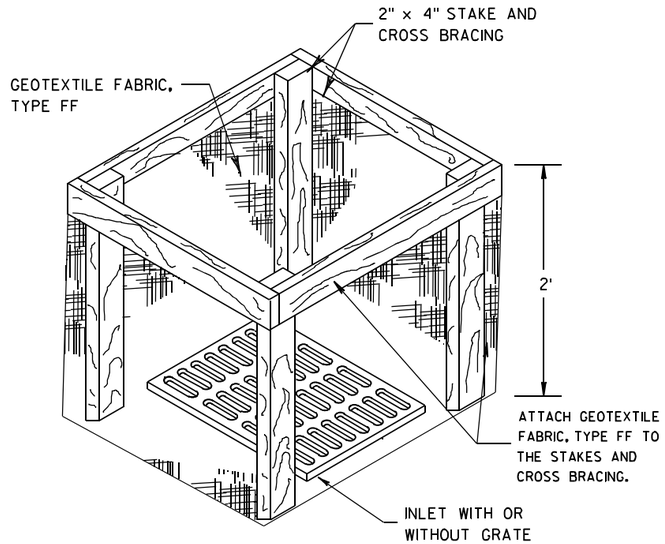
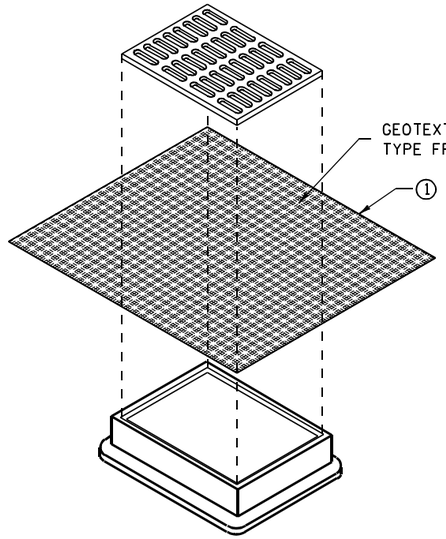
S.D.D. 8 E 9-6



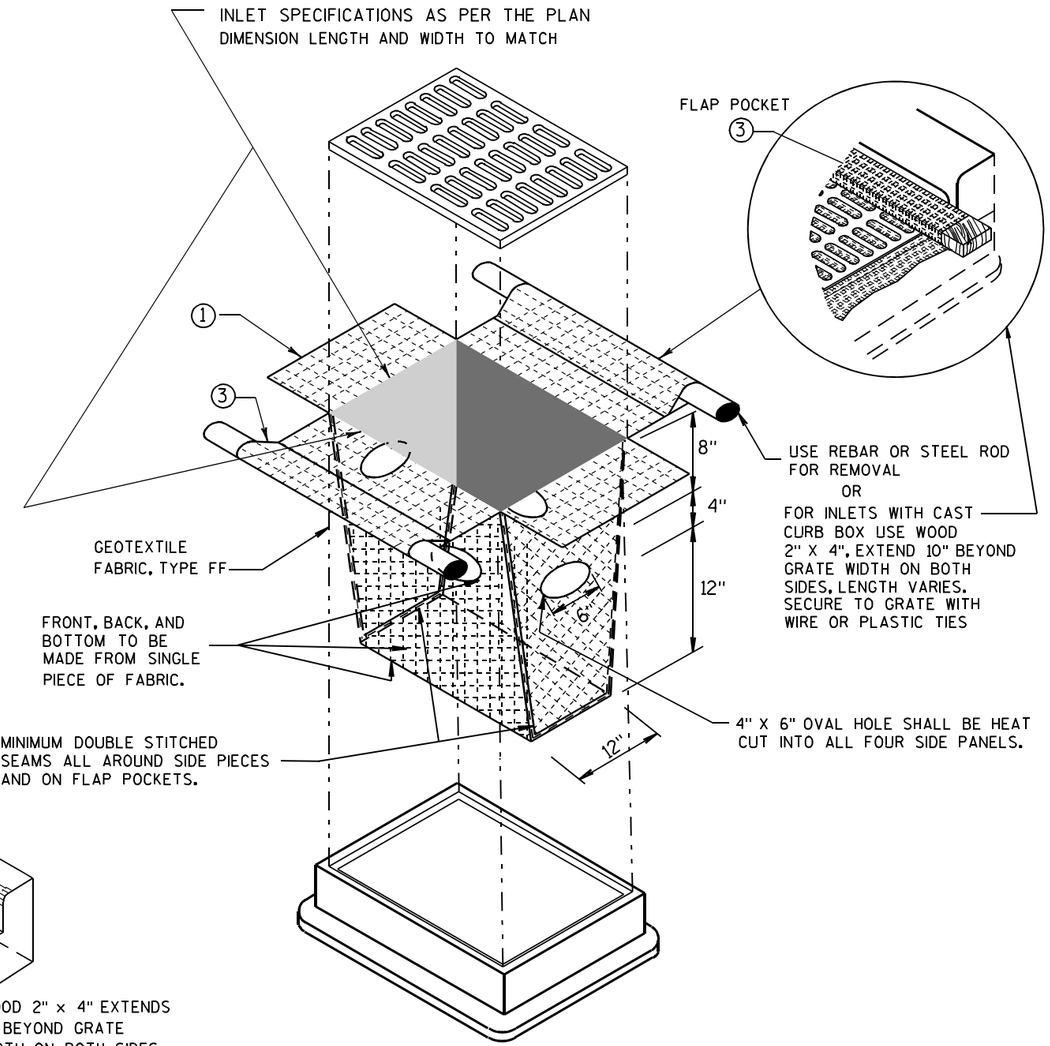


INLET PROTECTION, TYPE A



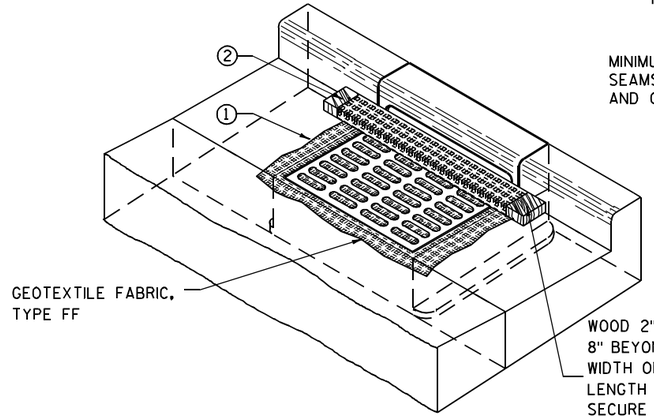
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

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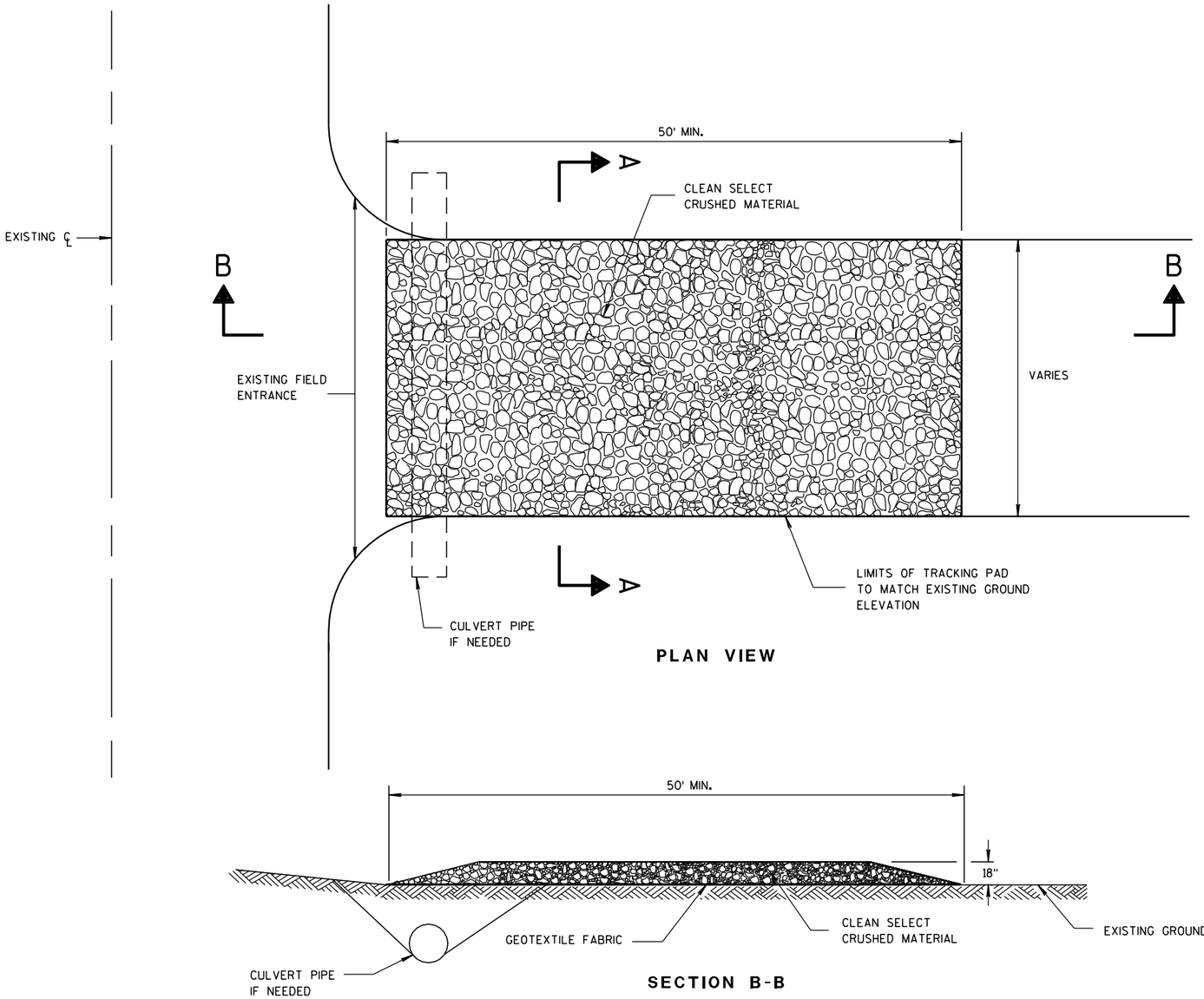
S.D.D. 8 E 10-2



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.

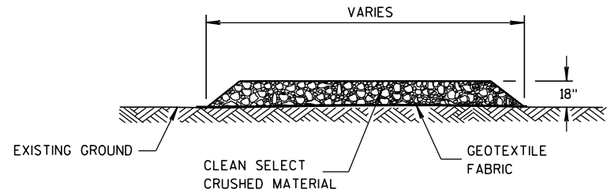
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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 DATE FHWA	/S/ Jerry H. Zoda ROADWAY STANDARDS ENGINEER

6

S.D.D. 8 E 14-1

6

S.D.D. 8 E 14-1

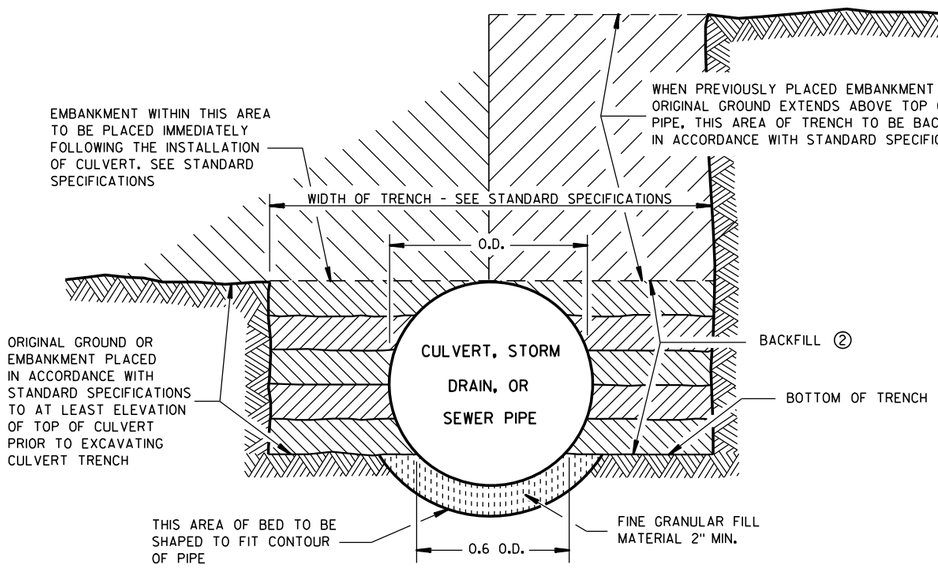
GENERAL NOTES

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

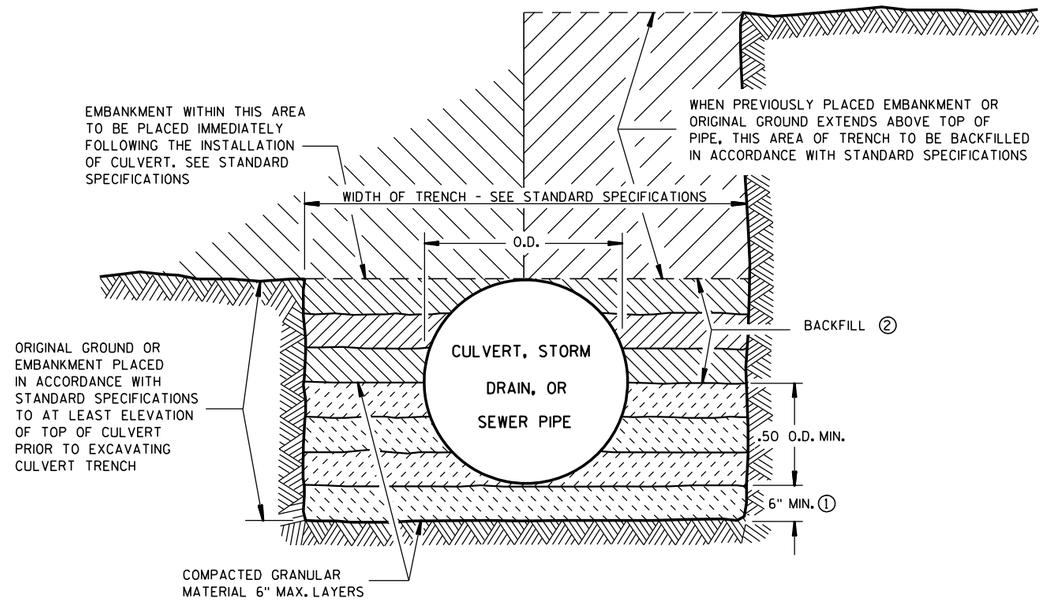
THE SHAPED SUBGRADE WITH GRANULAR FOUNDATION IS AN EQUAL ALTERNATE TO THE GRANULAR FOUNDATION EXCEPT WHERE ROCK IS ENCOUNTERED.

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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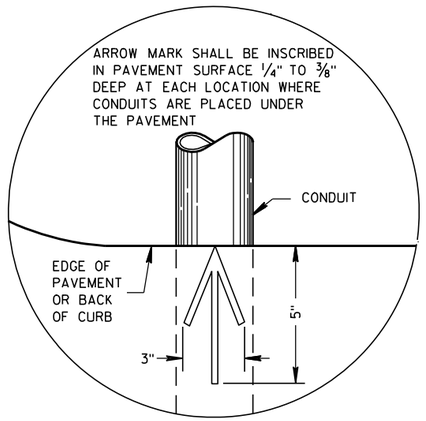
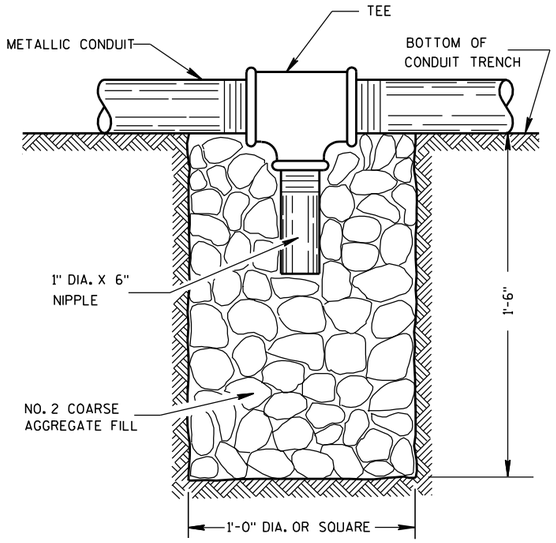
S.D.D. 8 F 5-1



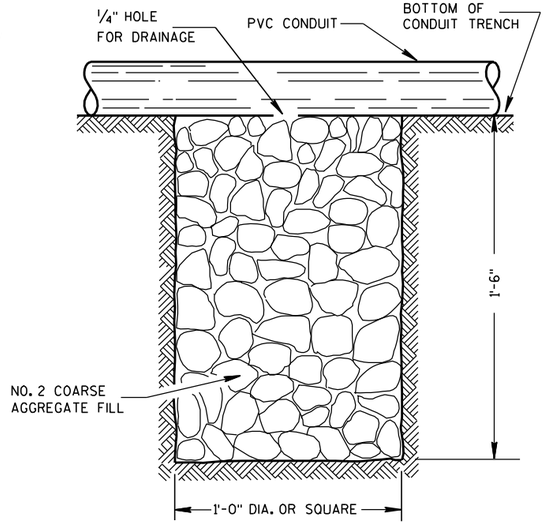
PLAN VIEW

ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

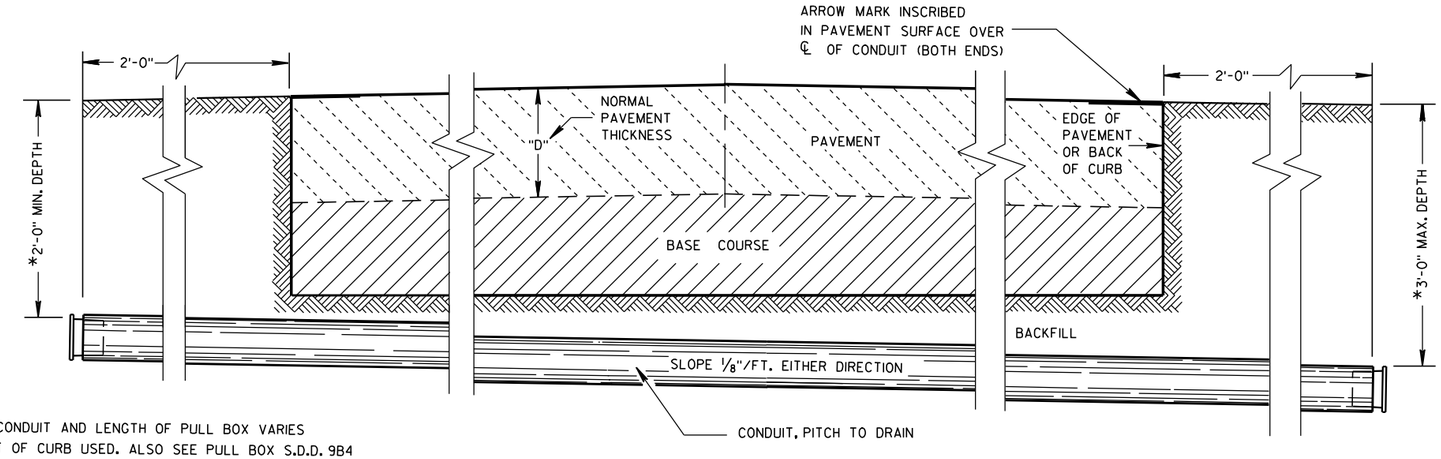
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

POLY ROPE OR A PULL WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI

FHWA

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6

S.D.D. 9 B 2-7

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE. THE MECHANICAL CONNECTION (INSIDE AND OUTSIDE) TO THE PULL BOX, SHALL BE TOTALLY AND PERMANENTLY SEALED WITH A SILICONE OR RUBBERIZED CAULKING COMPOUND AS APPROVED BY THE ENGINEER.

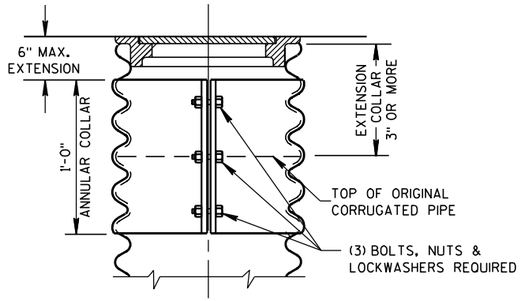
GROUNDING LUGS ARE NOT REQUIRED IN PULL BOXES WHEN VOLTAGES OF LESS THAN 50 VOLTS AC ARE THE ONLY VOLTAGES ENCOUNTERED IN THE BOXES.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

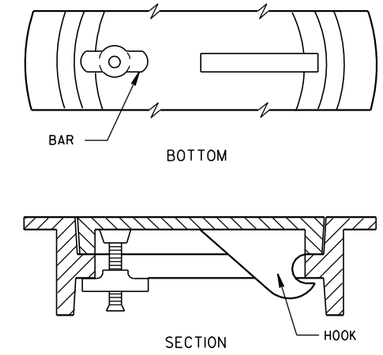
S.D.D. 9B2, "CONDUIT", APPLIES TO THIS DRAWING.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

IF PULL BOX EQUIPMENT GROUNDING IS REQUIRED USING AN EQUIPMENT GROUNDING ELECTRODE IN EACH PULL BOX, THE EQUIPMENT GROUNDING ELECTRODE SHALL BE 5/8" X 8'-0", COPPERCLAD AND BE EXOTHERMICALLY WELDED TO A #4 AWG, COPPER, STRANDED WIRE (BARE OR GREEN INSULATED). THE #4 AWG WIRE SHALL BE 4 FEET IN LENGTH, NEATLY COILED, TAPED AND AVAILABLE FOR USE WHEN REQUIRED.

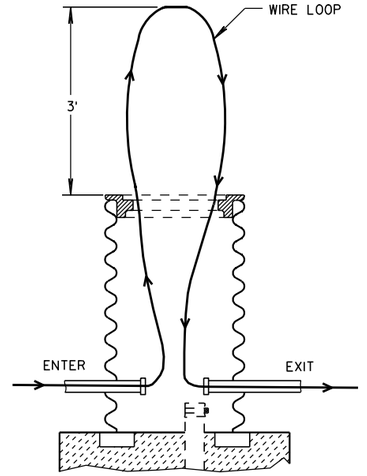


CORRUGATED PIPE EXTENDER

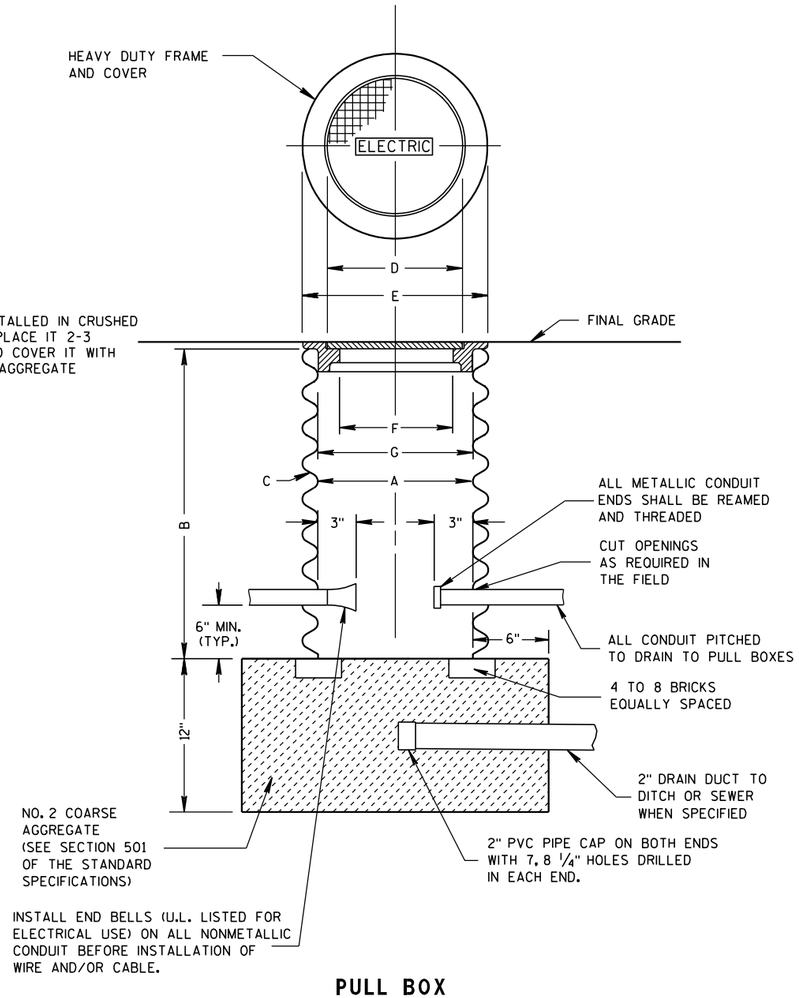


ALTERNATE COVER (LOCKING)

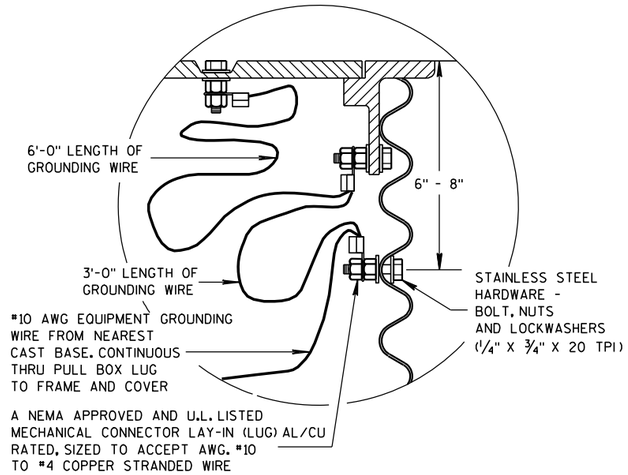
TIGHTENING BAR TYPE



MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/27/06 DATE

/S/ Balu Ananthanarayanan
STATE ELECTRICAL ENGI

HWYS

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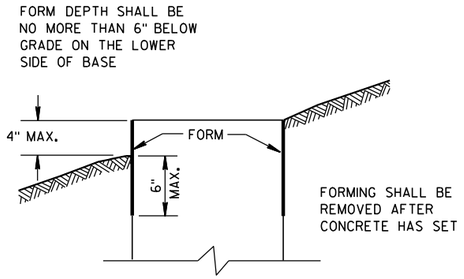


FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2 AND TYPE 5 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS, ASTM A-449, OR ASTM A-687 (GRADE 105).

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

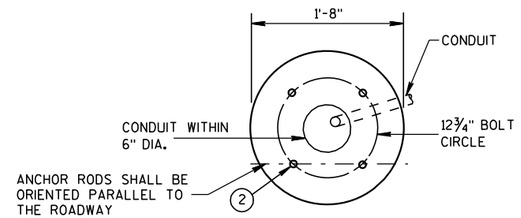
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

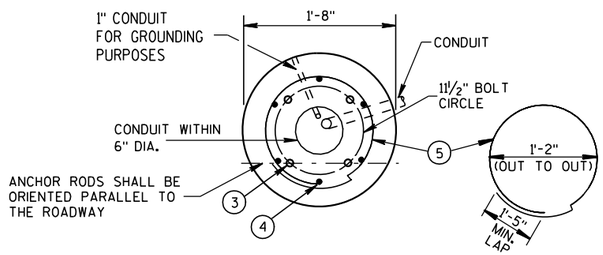
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

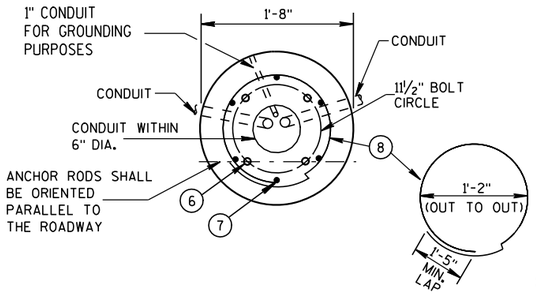
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

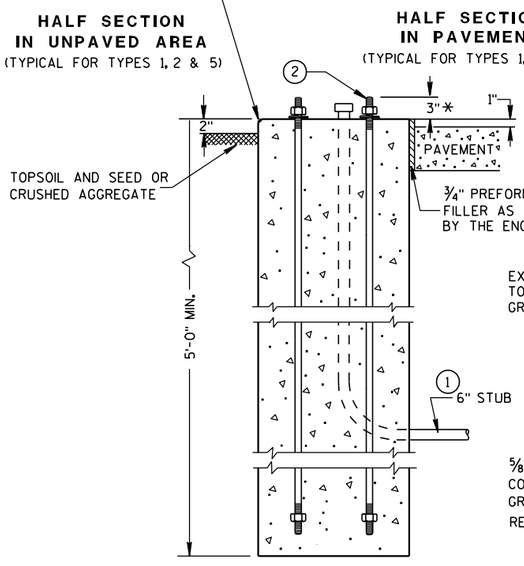






FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

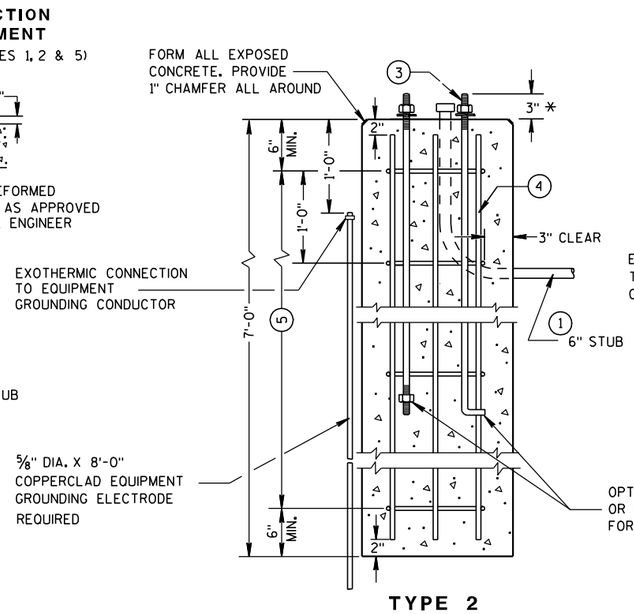
HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2 & 5)



HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2 & 5)

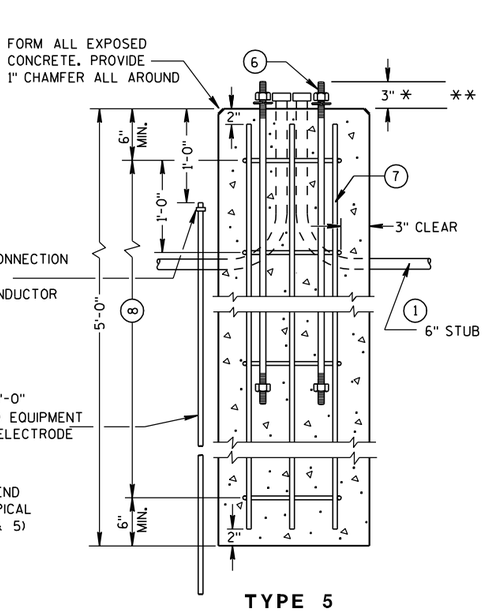
TYPE 1

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

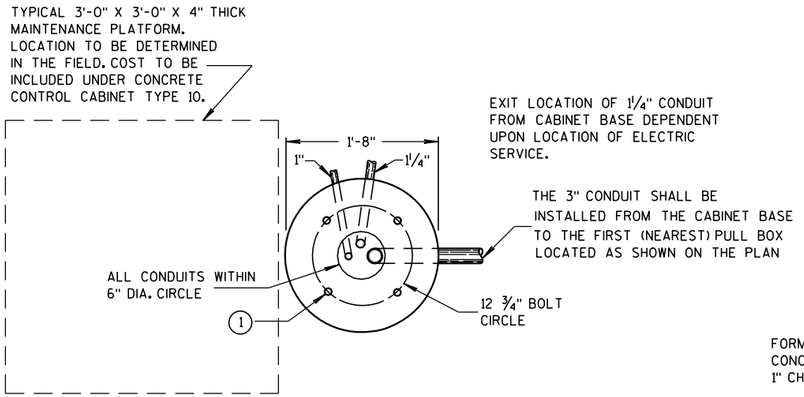
CONCRETE BASES, TYPES 1, 2 & 5

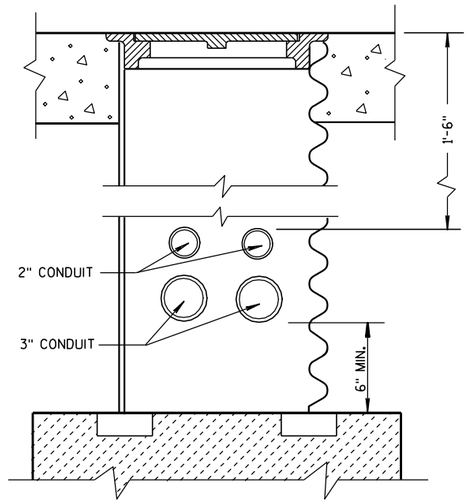
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 — DATE
/S/ Joanna L. Rush — STATE ELECTRICAL ENGI
75
HWYS
FHWA

CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

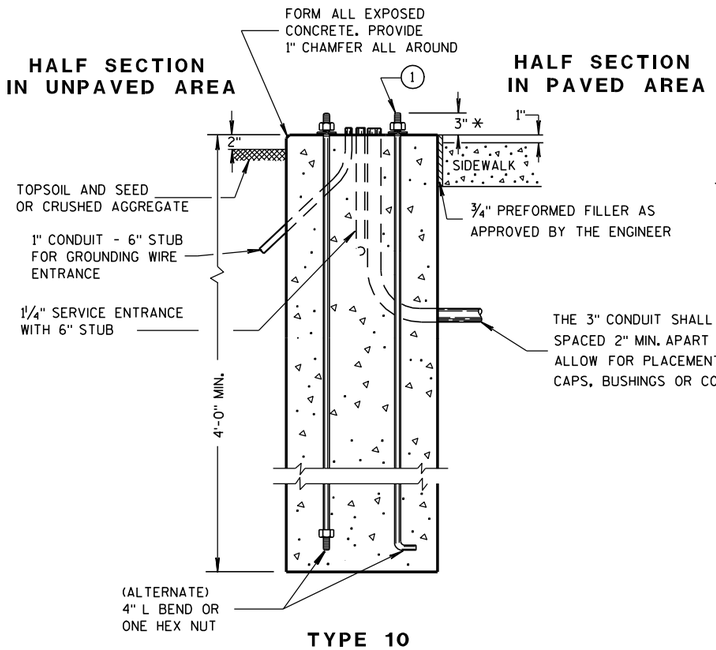
* INCLUDES MAINTENANCE PLATFORM.



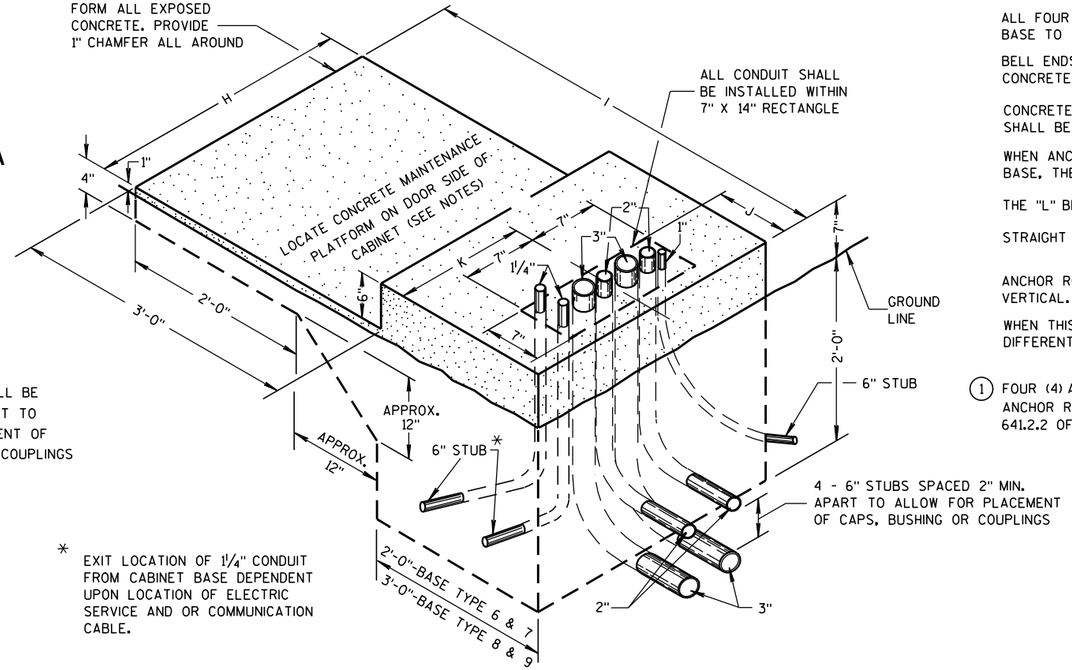


CONDUIT LOCATIONS IN 24" X 36" PULL BOX

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



TYPE 10



TYPE 6,7,8 AND 9 (ISOMETRIC VIEW)

* EXIT LOCATION OF 1¼" CONDUIT FROM CABINET BASE DEPENDENT UPON LOCATION OF ELECTRIC SERVICE AND OR COMMUNICATION CABLE.

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WHEN THIS DRAWING IS USED FOR STREET LIGHTING CABINET BASES, CONDUIT MAY BE DIFFERENT AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6"
ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS.

CONCRETE CONTROL CABINET BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/3/10 DATE
/S/ Joanna L. [illegible] STATE ELECTRICAL ENGI
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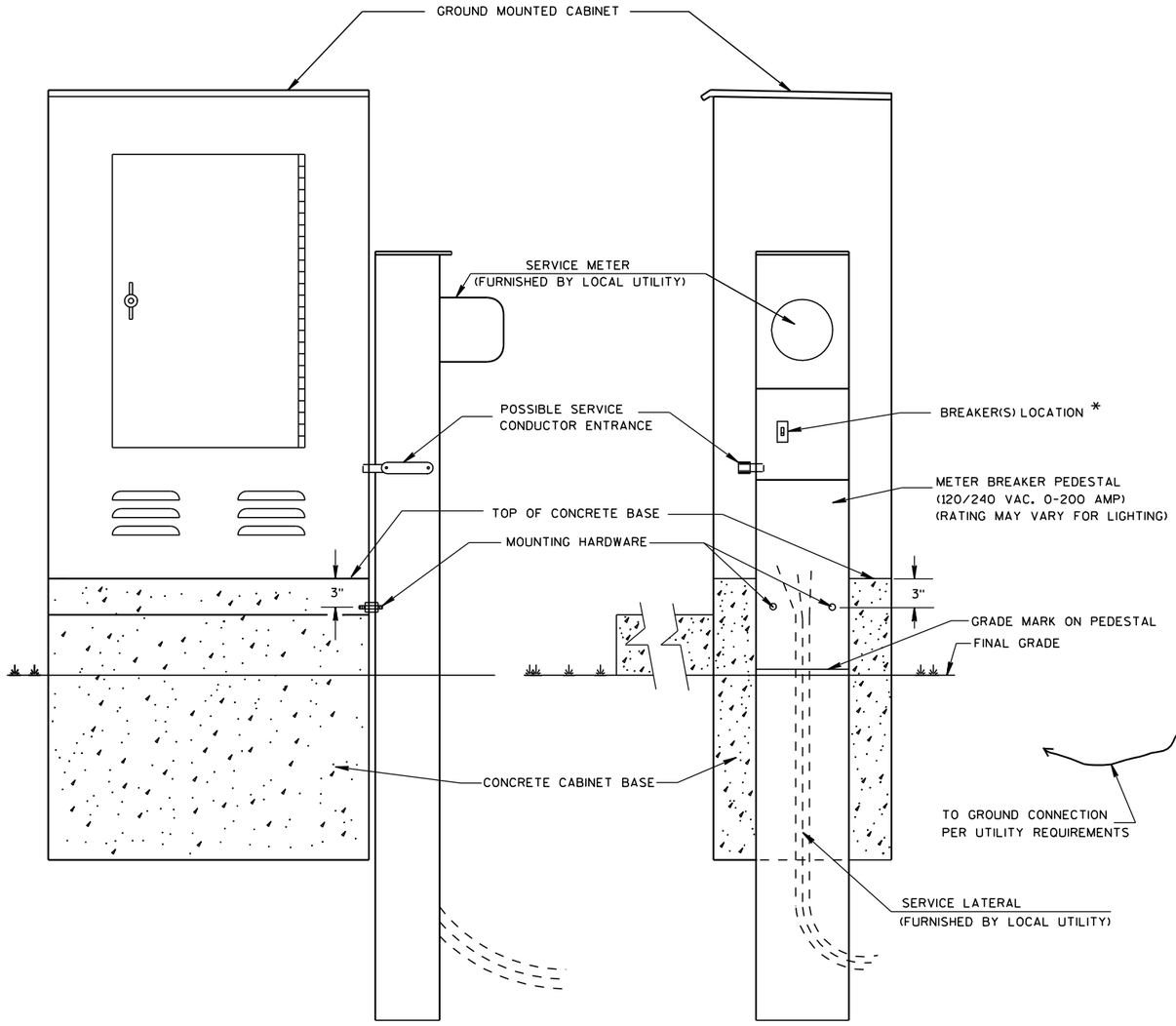

TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/27/09 DATE

/S/ Joanna L. Bush
STATE ELECTRICAL ENGI

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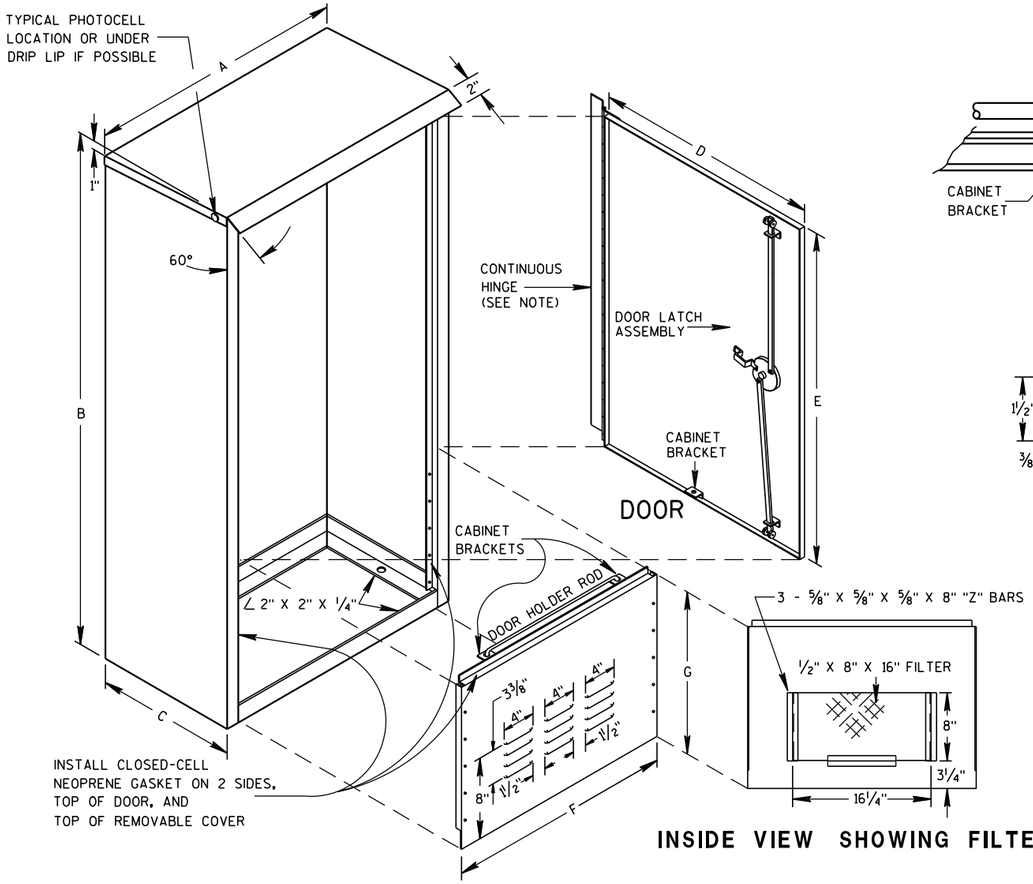
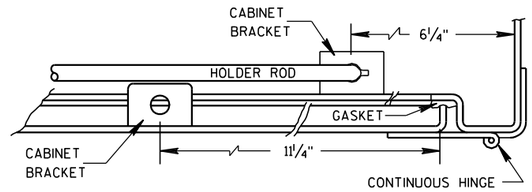
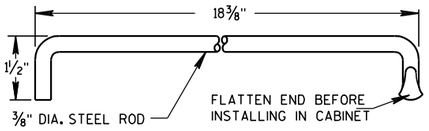


REMOVABLE COVER

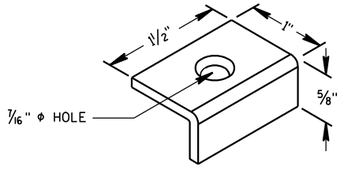
INSIDE VIEW SHOWING FILTER



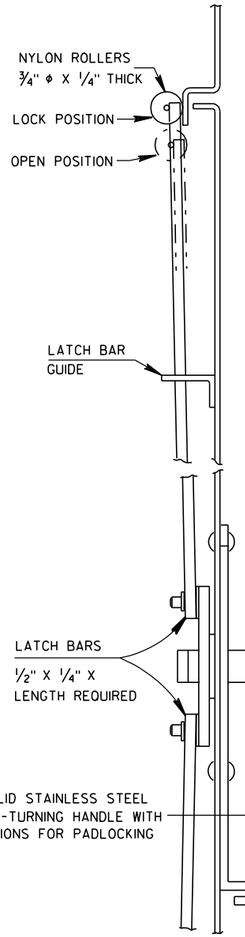
HINGE & DOOR HOLDER



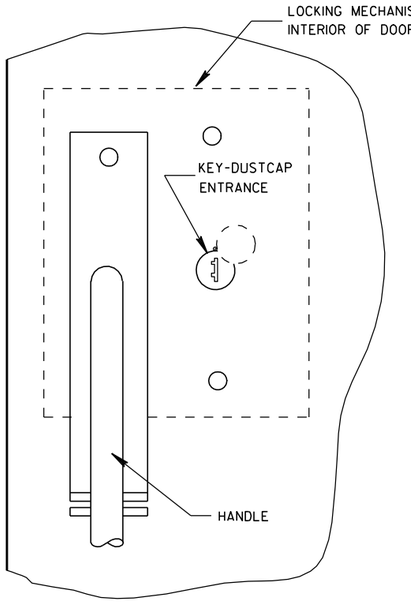
HOLDER ROD



CABINET BRACKET

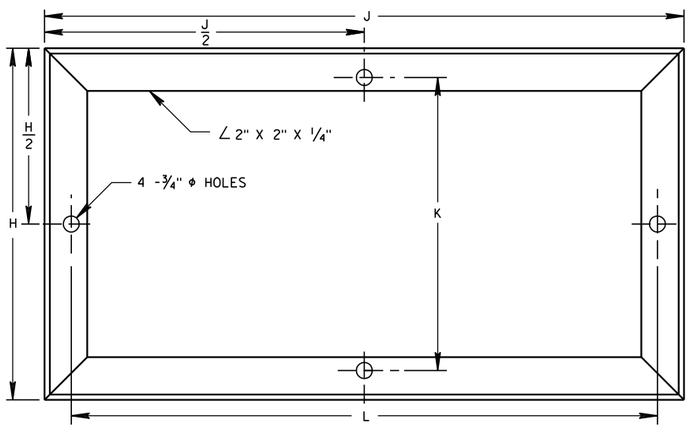


SIDE VIEW



FRONT VIEW

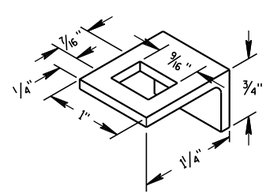
LATCH ASSEMBLY



MOUNTING BASE

TABLE OF DIMENSIONS (INCHES)

MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



LATCH BAR GUIDE

GENERAL NOTES

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE AN APPROVED TYPE.

DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

SIGNAL OR LIGHTING CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/21/96 — DATE
/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI
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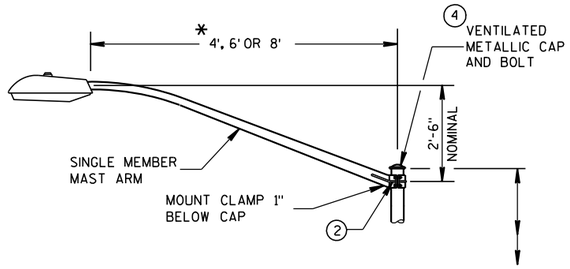
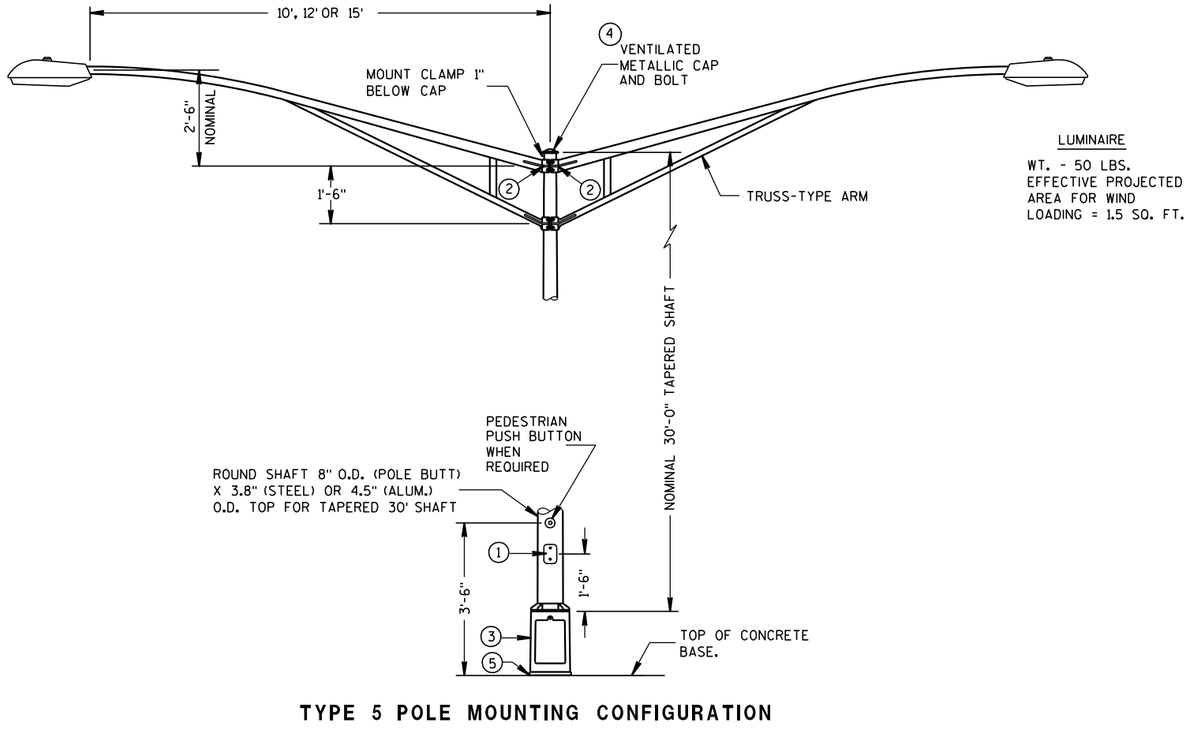
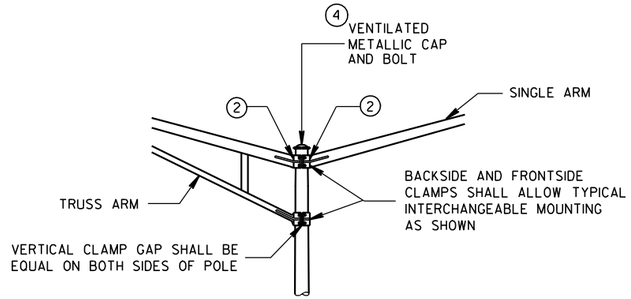
*RISE FOR 4' ARM SHALL BE 2'-0".





TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY



INTERCHANGEABLE MOUNTING DETAIL

GENERAL NOTES

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

ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONEECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

1. 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
2. GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.
3. CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
4. FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
5. SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.

POLE MONTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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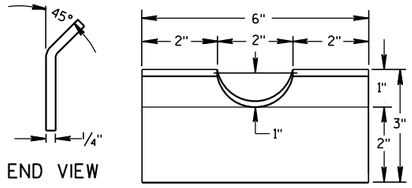
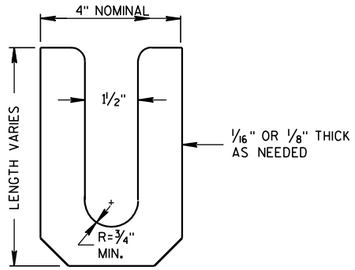


END VIEW

FRONT VIEW

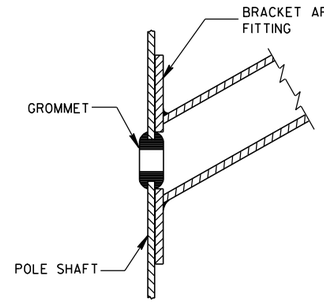
RECTANGULAR CLAMP SHIM

(4 TO A SET)

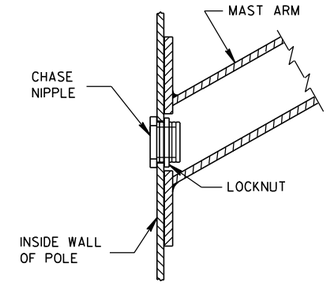


LEVELING SHIM (15)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

(10.) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11.) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

(12.) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13.) OUTSIDE SHIM DIAMETER - (4.5" O.D. FOR LUMINAIRE MAST ARM)
(6.625" O.D. FOR TROMBONE MAST ARM)

(14.) VARIABLE SHIM THICKNESS - (0.10", 0.25", 0.35", 0.53" OR 0.70")

SHIM THICKNESS FOR TROMBONE MAST ARMS MAY BE TYPICALLY 0.25", 0.35", 0.53" OR 0.70".

SHIM THICKNESS FOR LUMINAIRE MAST ARMS MAY BE TYPICALLY 0.10", 0.25" OR 0.35".

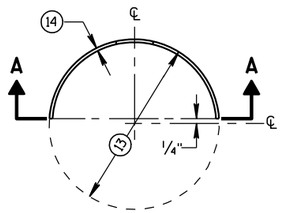
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

SHIM THICKNESS SHALL BE IMPRESSED INTO EACH SHIM. NUMERALS SHALL BE 1/4" HIGH AND LEGIBLE.

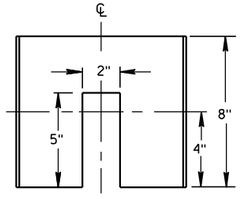
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(15.) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



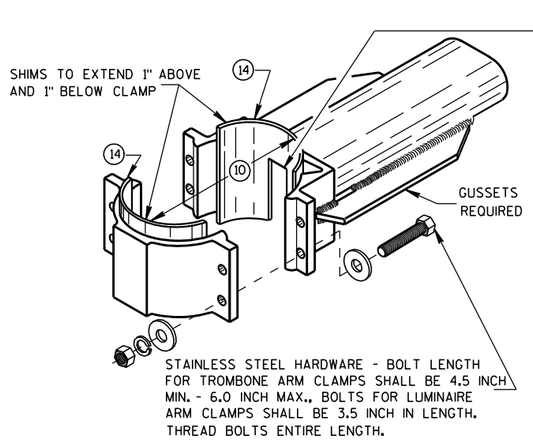
PLAN VIEW



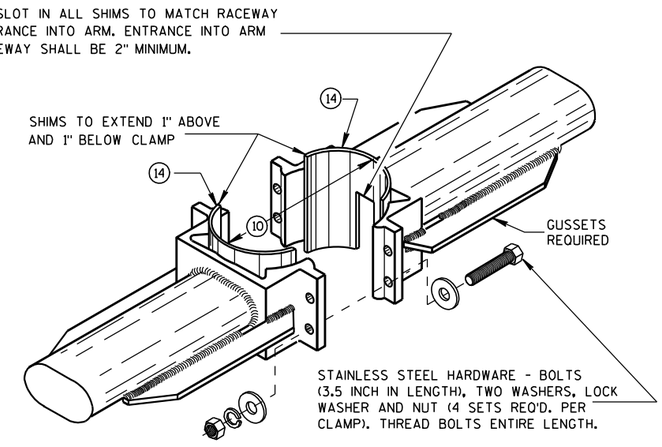
SECTION A-A

CIRCULAR CLAMP SHIM

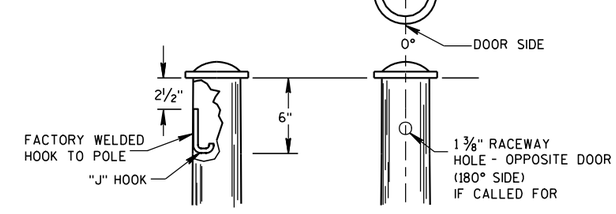
(2 TO A SET)



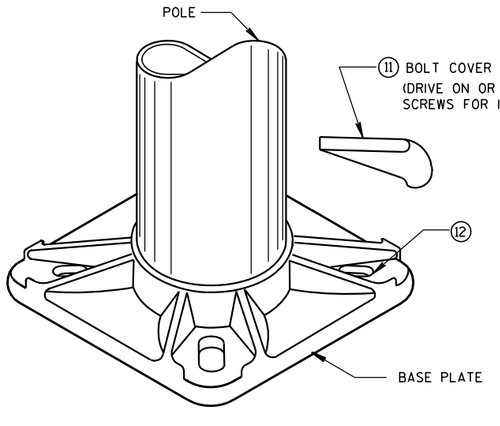
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



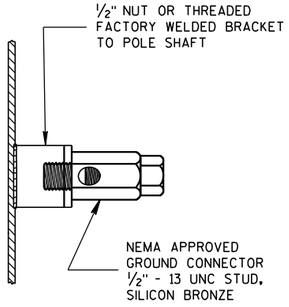
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

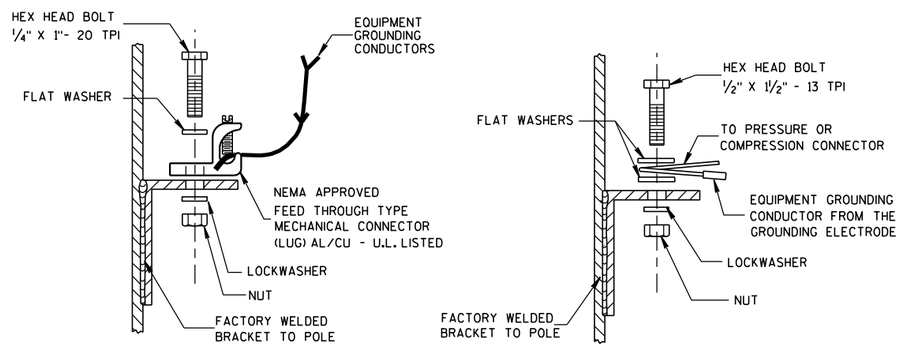


TYPICAL "J" HOOK LOCATION



BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/11 — DATE

/S/ Thomas J. Goerlinger — STATE ELECTRICAL ENGINEER

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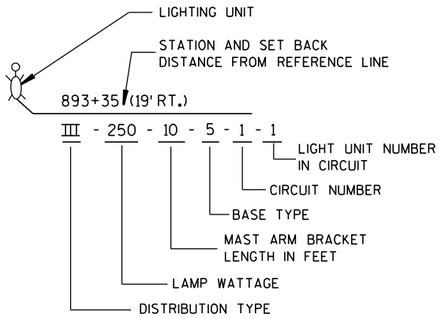
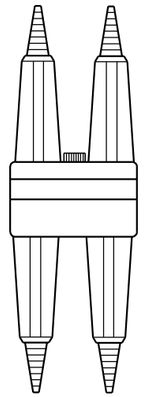
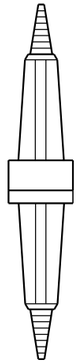


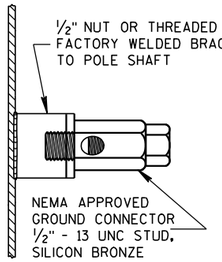
LIGHTING UNIT CODE
(TYPICAL)

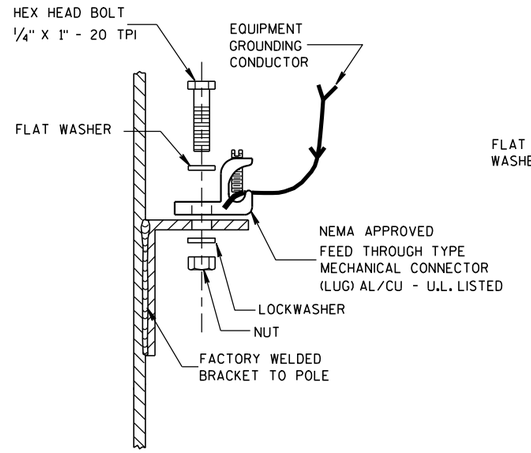


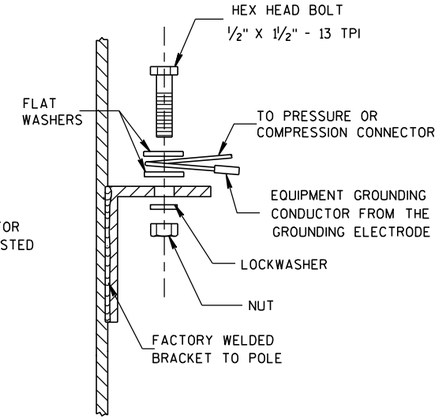
DETAIL "A"
BREAKAWAY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



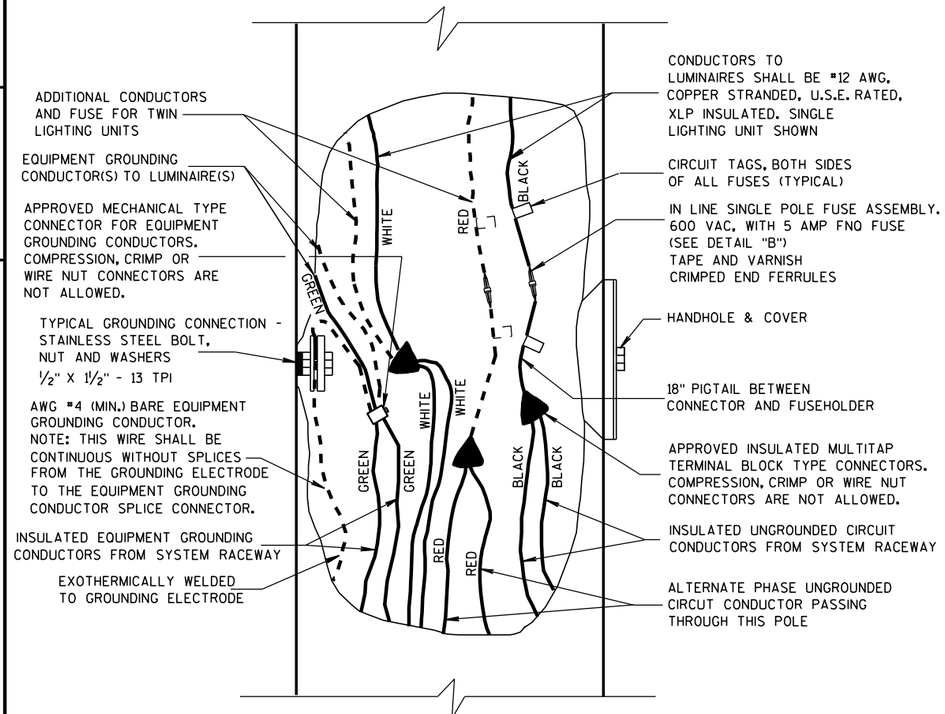
DETAIL "B"
BREAKAWAY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



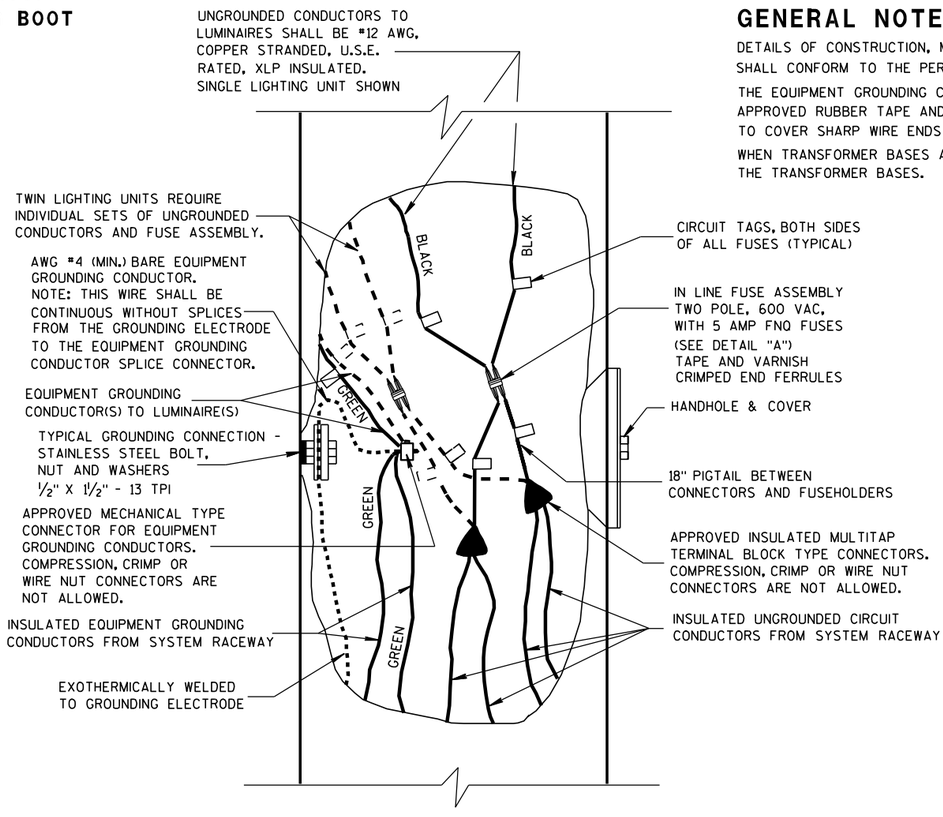




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTOR) WITH GROUNDED CONDUCTOR AND WITH EQUIPMENT GROUNDING CONDUCTOR



2 WIRE - 240 OR 480 VAC (UNGROUNDED CONDUCTORS) WITH EQUIPMENT GROUNDING CONDUCTOR

GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

/S/ Thomas J. Gosnine — STATE ELECTRICAL ENGI

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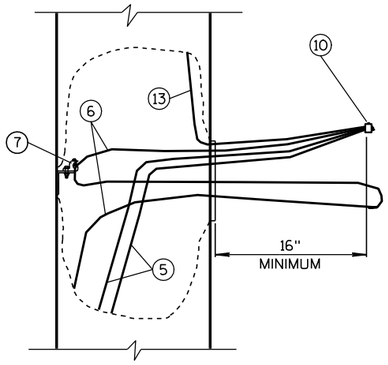
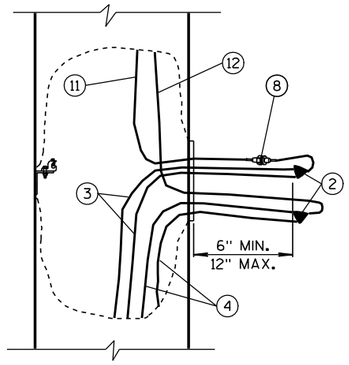
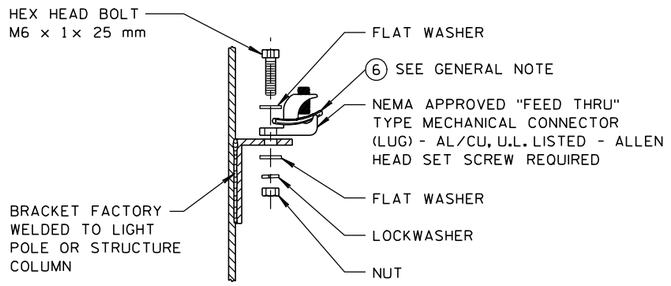


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUNDED CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



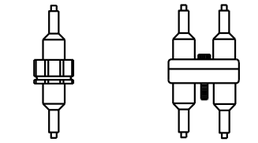
HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUNDED LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUNDED POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



FUSE ASSEMBLIES

GENERAL NOTES

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

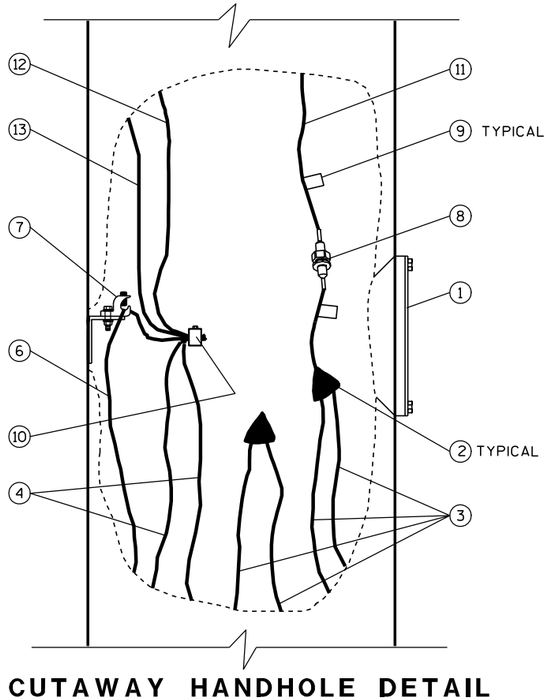
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

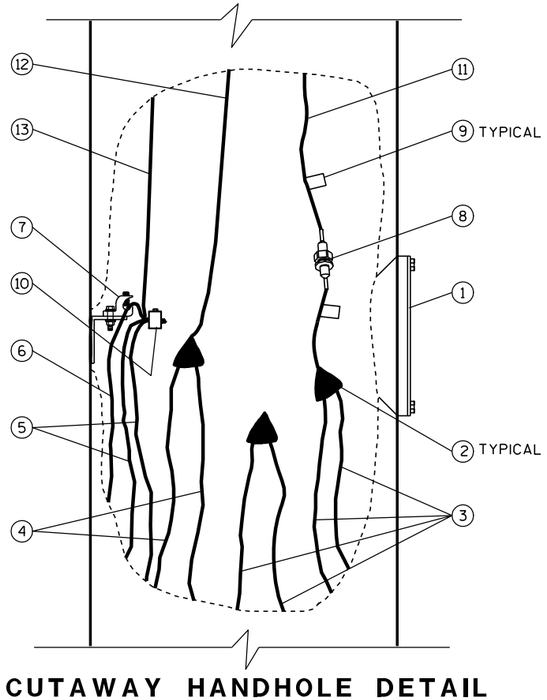
THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

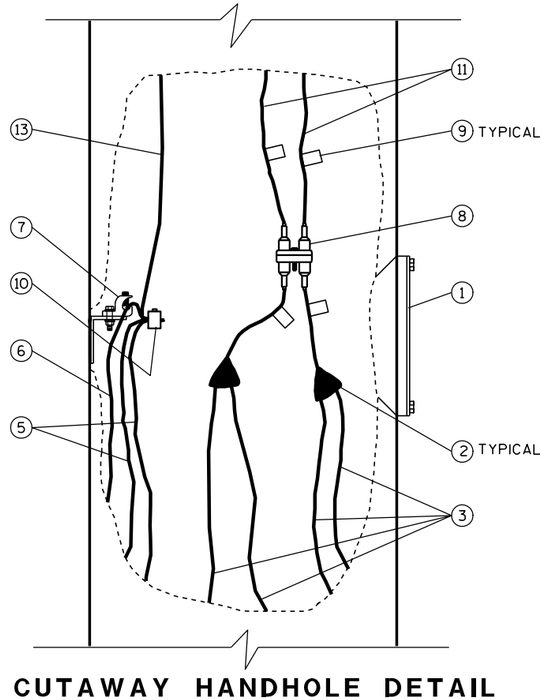
CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL
ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL
PHASE-TO-PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

1. HANDHOLE AND COVER
2. INSULATED SPLICE
3. UNGROUNDED LINE WIRE
4. GROUNDED LINE WIRE
5. SYSTEM GROUNDING LINE WIRE
6. GROUNDING ELECTRODE CONDUCTOR
7. HANDHOLE GROUNDING LUG
8. FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
9. CIRCUIT TAG (SEE GENERAL NOTE)
10. REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
11. UNGROUNDED POLE WIRE
12. GROUNDED POLE WIRE
13. EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 DATE
/S/ John Corbin STATE ELECTRICAL ENGI
FHWA

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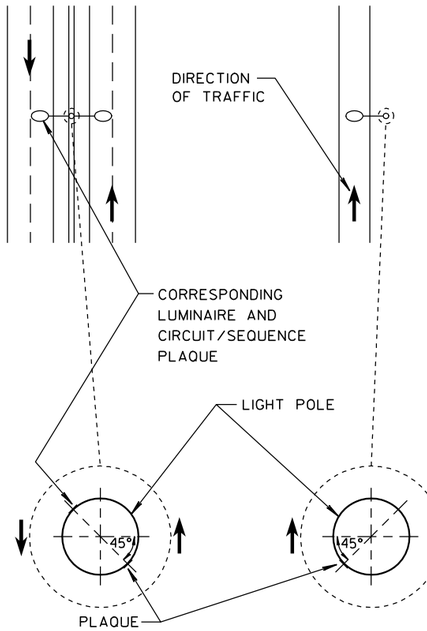
S.D.D. 10 A 1-2



MEDIAN POLE **SINGLE ARM POLE**

LOCATION OF LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

WHERE SHOWN IN THE PLANS, REPLACEMENT PLAQUES WILL BE MEASURED AND PAID SEPARATELY.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETRORFLECTIVE

LINES - BLACK, 1/2" WIDE, SELF-ADHESIVE

CHARACTERS - BLACK, SELF-ADHESIVE, SERIES "D", SIZE AS SHOWN

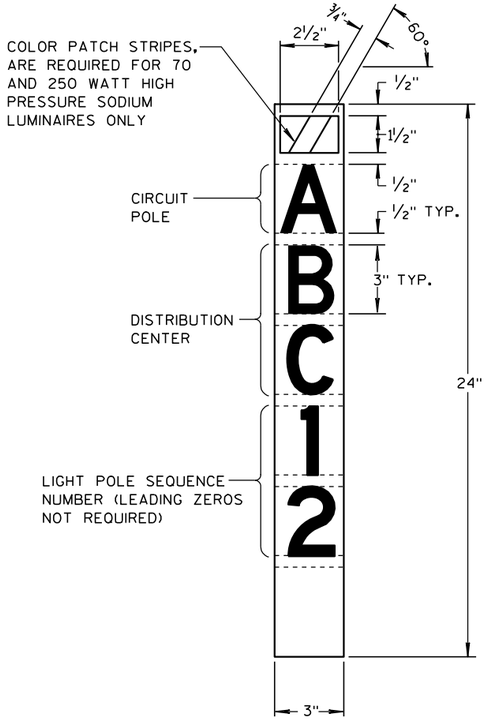
COLOR PATCHES - VARIOUS COLORS, SELF-ADHESIVE VINYL SHEETING

WITH THE APPROVAL OF THE ENGINEER, THE BASE MATERIAL MAY BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE SURFACE, IN CASES SUCH AS SMOOTH, CLEAN ALUMINUM POLES.

ALTERNATIVE COMPUTER-GENERATED SIGN LETTERING MAY BE ACCEPTED IF THE ENGINEER FINDS IT TO BE EQUIVALENT.

COLOR PATCH CODE FOR HPS LUMINAIRES

1000 WATT - NO PATCH
400 WATT - ORANGE
310 WATT - BLUE
250 WATT - ORANGE WITH WHITE STRIPE
200 WATT - RED
150 WATT - GREEN
100 WATT - BROWN
70 WATT - BROWN WITH WHITE STRIPE



LIGHT POLE CIRCUIT/SEQUENCE PLAQUE

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S.D.D. 10 A 2-2

IDENTIFICATION PLAQUES LIGHT POLES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/25/2010 DATE	/S/ John Corbin STATE ELECTRICAL ENGI 83 HWYS
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S.D.D. 10 A 2-2

HANDHOLE FUSE SCHEDULES

LINE VOLTAGE ϕ-GROUND	BALLAST WATTAGE 70-200 W	250-400 W
120 VAC	5 A	10 A
240 VAC	5 A	5 A
277 VAC	5 A	5 A
480 VAC	3 A	5 A

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE DETAIL FOR ELECTRICAL HANDHOLE WIRING.

WIRING FOR SINGLE LUMINAIRE POLES IS SHOWN WITH SOLID LINES. WIRING FOR THE SECOND LUMINAIRE OF TWIN LUMINAIRE POLES IS SHOWN WITH DOTTED LINES.

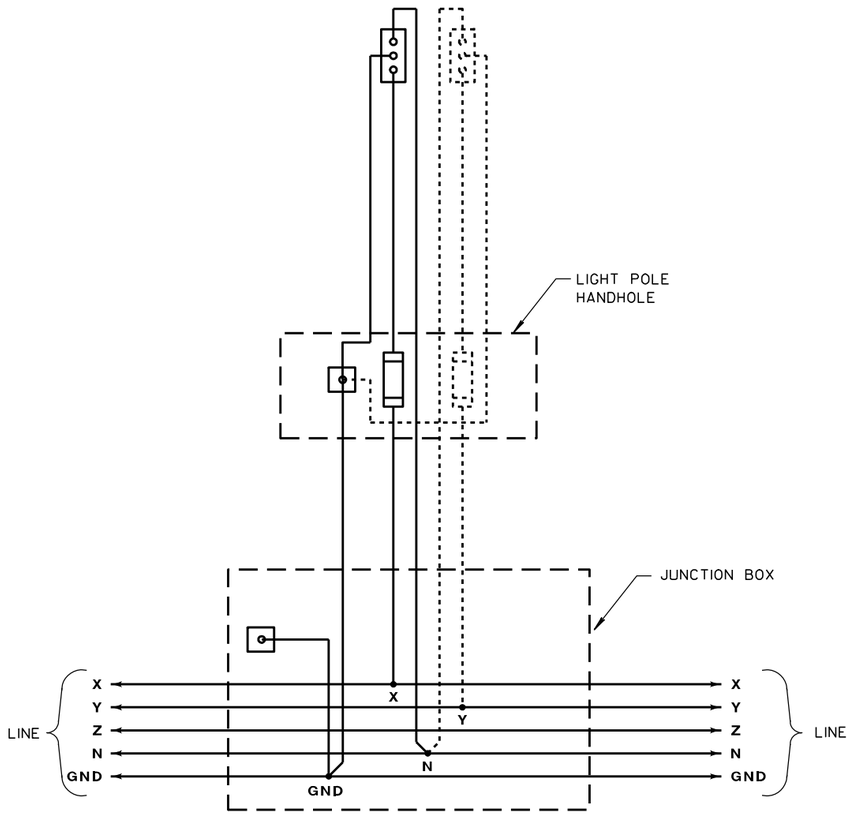
THE PLANS WILL SHOW WHICH CIRCUIT LEG(S) ARE CONNECTED TO EACH INSTALLATION.

WIRE SIZE FROM THE JUNCTION BOX TO THE POLE HANDHOLE SHALL EQUAL THE SIZE OF THE POLE WIRE.

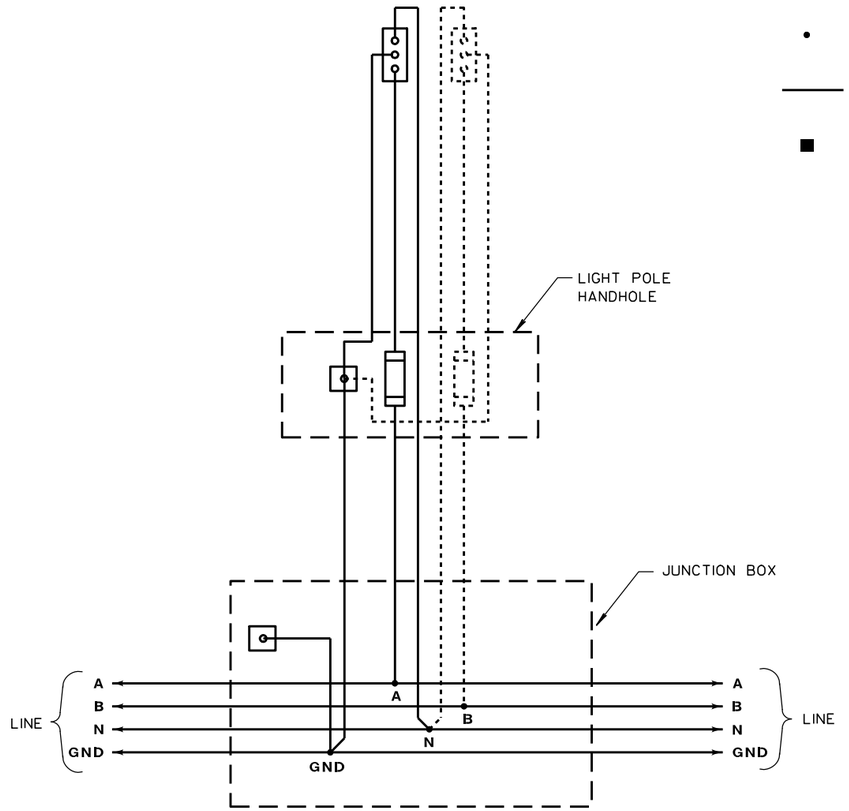
THE INTENT OF JUNCTION BOX SPLICES AS SHOWN IN THIS DETAIL IS FOR LIGHTING SYSTEMS WITH HEAVY LINE WIRE TOO LARGE TO PULL THROUGH THE CONDUIT INTO THE POLE HANDHOLE, DUE TO CONDUIT FILL REQUIREMENTS OF N.E.C., AND/OR THE STIFFNESS OF THE WIRE COMPARED TO THE NUMBER OF BENDS IN THE CONDUIT. IN CASES WHERE LINE WIRE IS LIGHTER, SUCH AS SMALLER SYSTEMS OR TOWARD THE FURTHEST END OF A LARGER SYSTEM, PULL THE LINE WIRE INTO THE POLE HANDHOLE FOR SPLICING.

LEGEND

A,B,X,Y,Z	UNGROUNDED CIRCUIT CONDUCTORS
N	GROUNDED CIRCUIT CONDUCTORS
GND	EQUIPMENT GROUNDING CONDUCTOR
P	POLE (ELECTRICAL CIRCUIT)
ϕ	PHASE (ELECTRICAL CURRENT)
	HANDHOLE GROUND LUG
	SINGLE-POLE (1P) FUSE ASSEMBLY
	TWO-POLE (2P) FUSE ASSEMBLY
	UNFUSED LUMINAIRE
	EQUIPMENT GROUNDING ELECTRODE
	TERMINAL
	SPLICE
	CONDUCTOR
	EXOTHERMIC WELD



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
3-ϕ 208Y/120VAC OR 480Y/277VAC 4 WIRE



TYPICAL WIRING DIAGRAM
ISOLATED NEUTRAL SYSTEM
1-ϕ 120/240VAC OR 240/480VAC 3 WIRE

ELECTRICAL DETAILS
STRUCTURE MOUNT LIGHT POLES
ISOLATED NEUTRAL SYSTEMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/25/2010 — DATE
/S/ John Corbin — STATE ELECTRICAL ENGI
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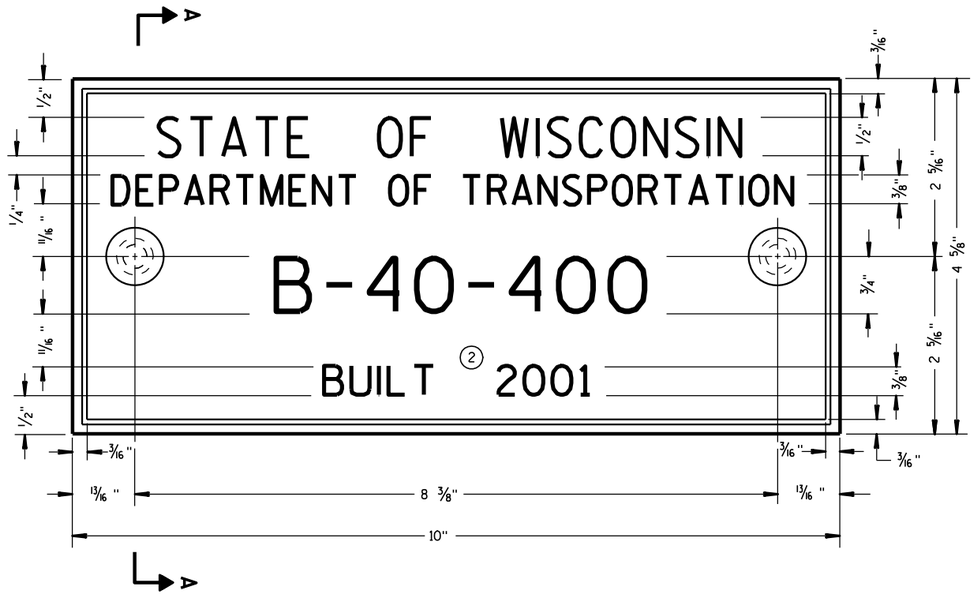
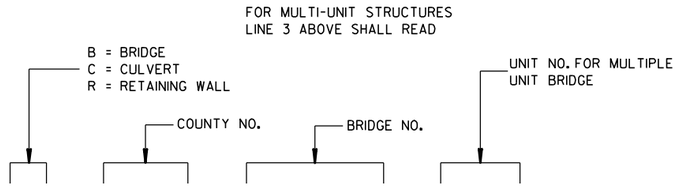


TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

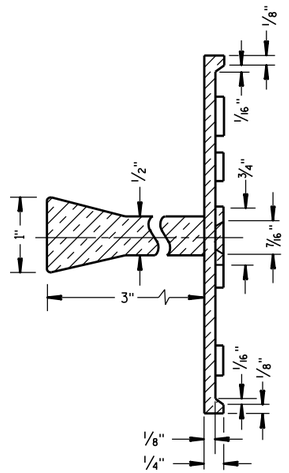
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

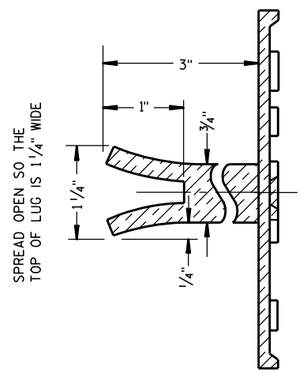
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

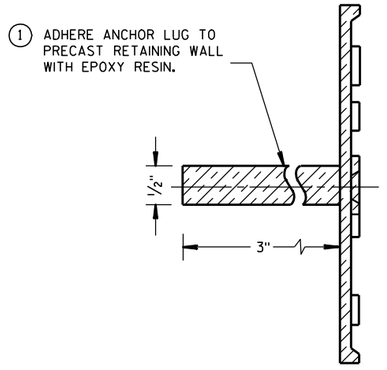
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
3/26/10 DATE	/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOP ENGINEER
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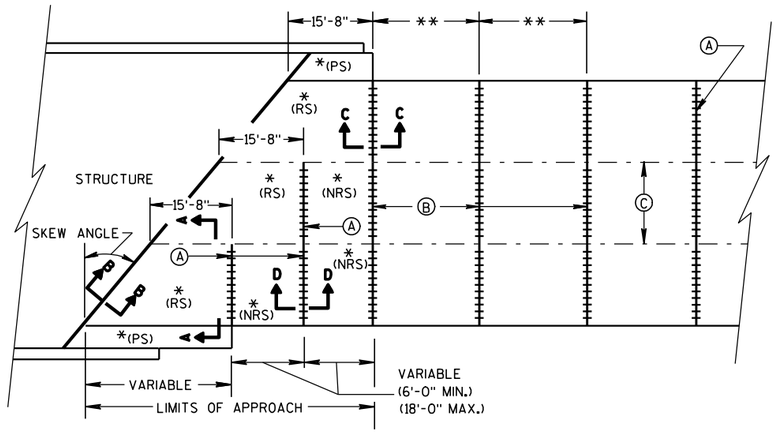
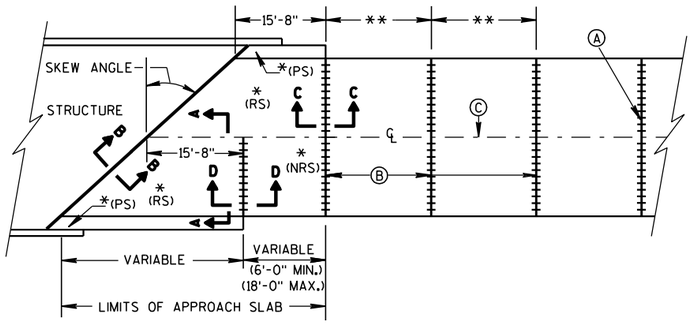
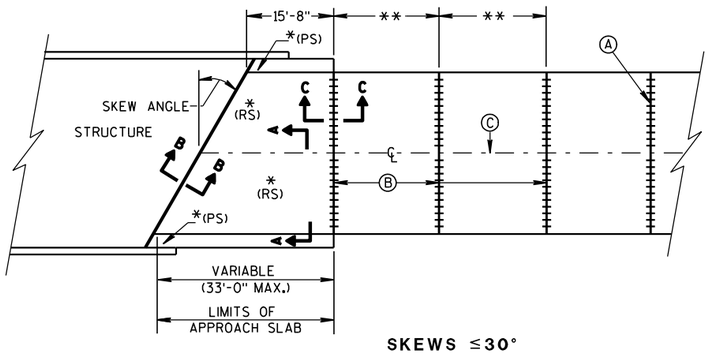


SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



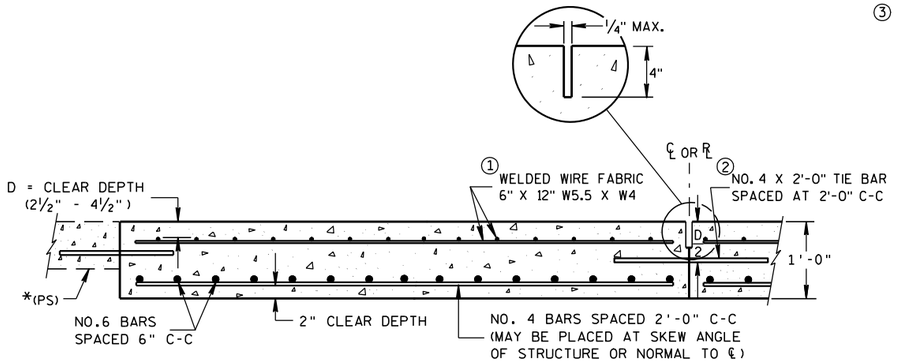
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

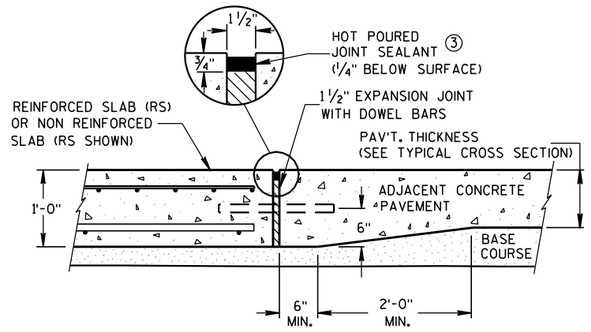
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING
(SEE SDD 13C4, SDD 13C11, & SDD 13C13)

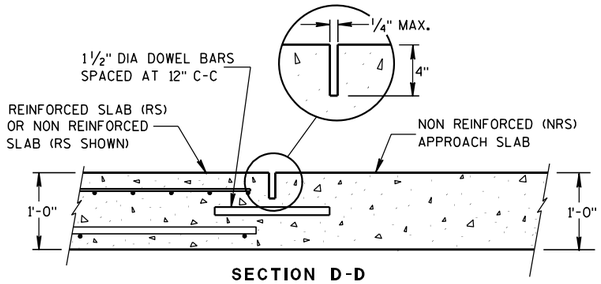
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

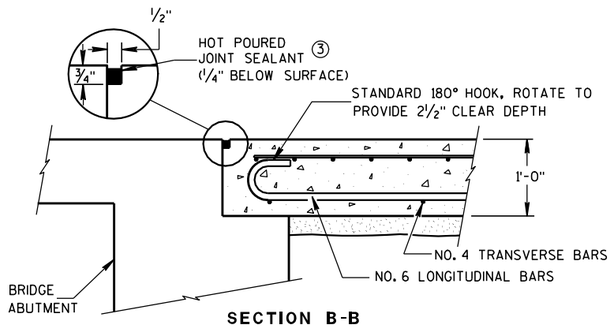
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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

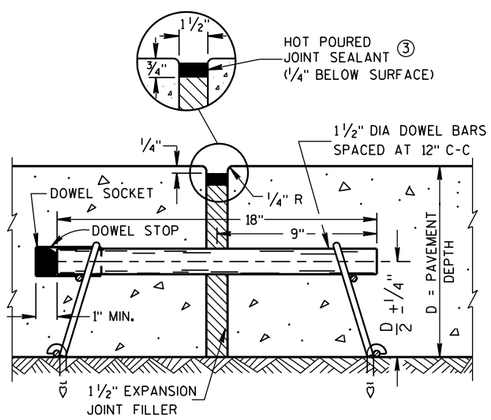
(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

(3) USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DESIGN ENGINEER
FHWA

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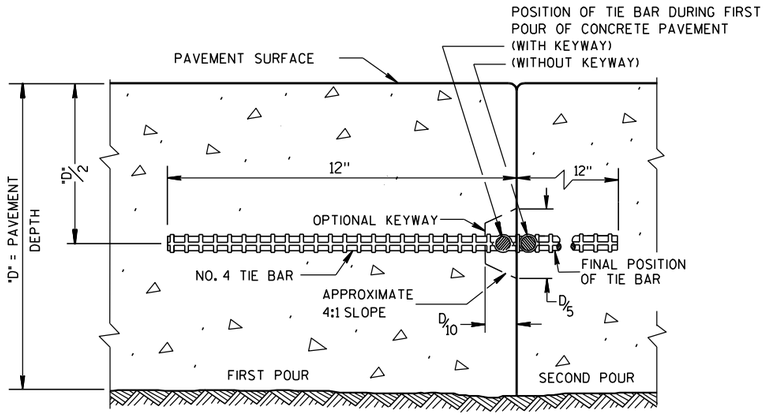
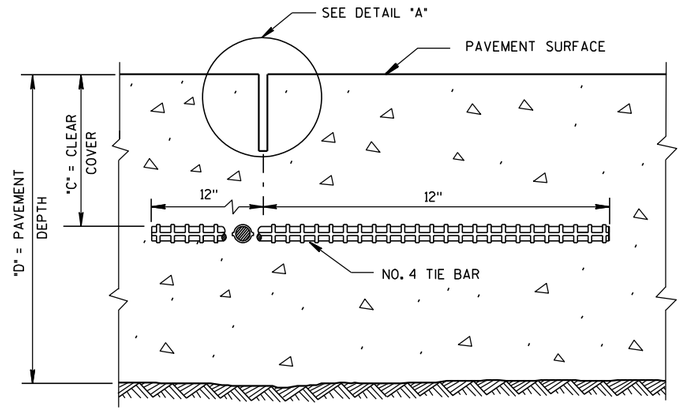
S.D.D. 13 B 2-6



CONSTRUCTION JOINT



SAWED JOINT

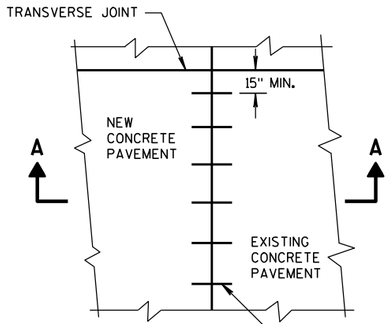
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

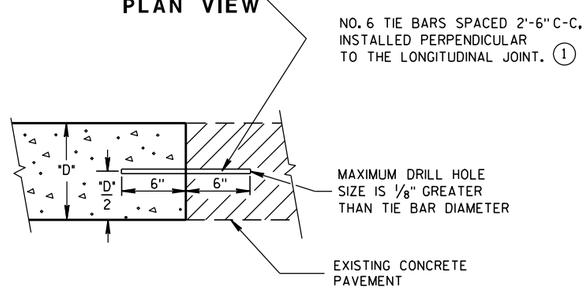
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

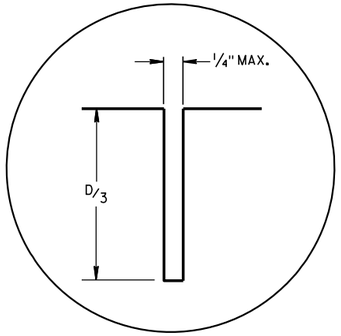
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

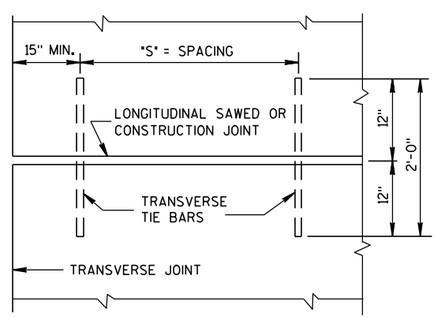


SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH	
		24' OR 26'	≥ 30'
6, 6 1/2"	3"±1/2"	48"	42"
7, 7 1/2"	3 1/4"±1"	45"	36"
8, 8 1/2"	3 3/4"±1"	39"	30"
9, 9 1/2"	4 1/4"±1"	33"	27"
10, 10 1/2"	4 3/4"±1"	30"	24"
11, 11 1/2"	5 1/4"±1"	27"	21"
12"	5 3/4"±1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10-5-2010
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DI 87 INEER

FHWA

6

S.D.D. 13 C 1-15

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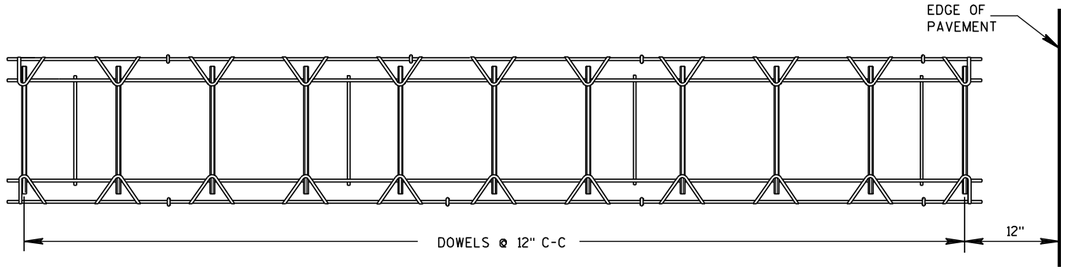
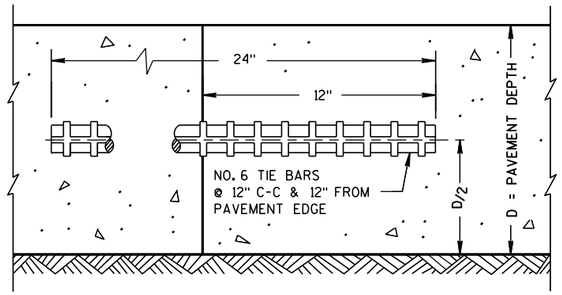
S.D.D. 13 C 1-15



PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



TRANSVERSE CONSTRUCTION JOINT

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, CENTER THE DOWEL ASSEMBLY ACROSS THE LANES. LOCATE THE INNER AND OUTER MOST DOWEL BARS SO THAT THE CENTER OF THE BARS ARE A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES FROM THE LONGITUDINAL JOINT AND THE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

THE CONTRACTOR MAY INSERT TIE BARS THROUGH THE HEADER BOARD AFTER THE CONCRETE HAS BEEN PLACED.

① THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. THE CONTRACTOR MAY USE MECHANICAL DOWEL BAR INSERTERS INSTEAD OF DOWEL ASSEMBLIES.

② ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY.

③ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

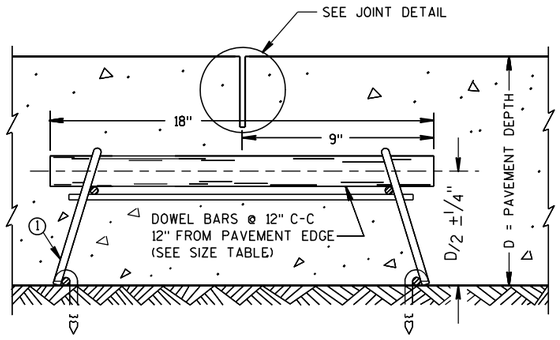
④ SPACE DOWEL BARS INSTALLED BY DRILLING 1'-3" ON CENTER. CENTER THE GROUPING OF DOWEL BARS INSIDE THE SLAB BASED ON ALL THE FOLLOWING SITUATIONS:

BETWEEN THE EDGES OF PAVEMENTS WITHOUT LONGITUDINAL JOINTS OR BETWEEN THE EDGE OF PAVEMENT AND NEAREST LONGITUDINAL JOINT OR BETWEEN TWO ADJACENT LONGITUDINAL JOINTS.

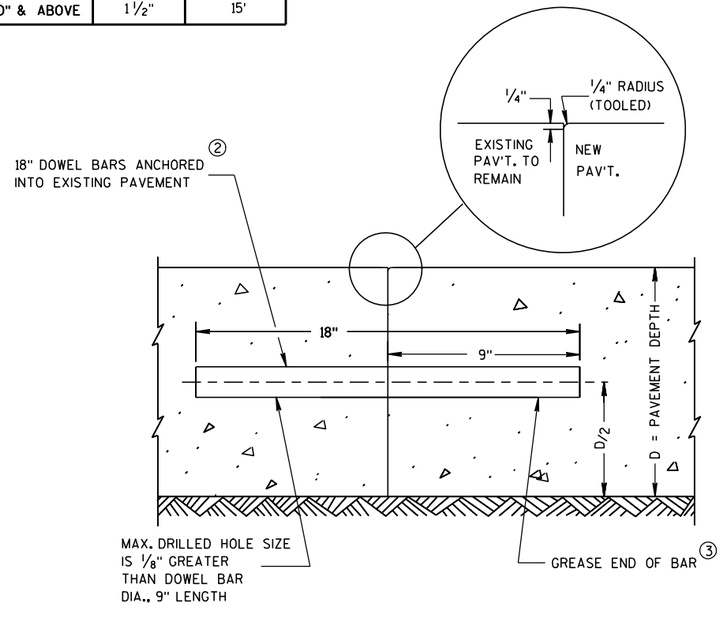
⑤ SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6",6 1/2"	NONE	12'
7",7 1/2"	1"	14'
8",8 1/2"	1 1/4"	15'
9",9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

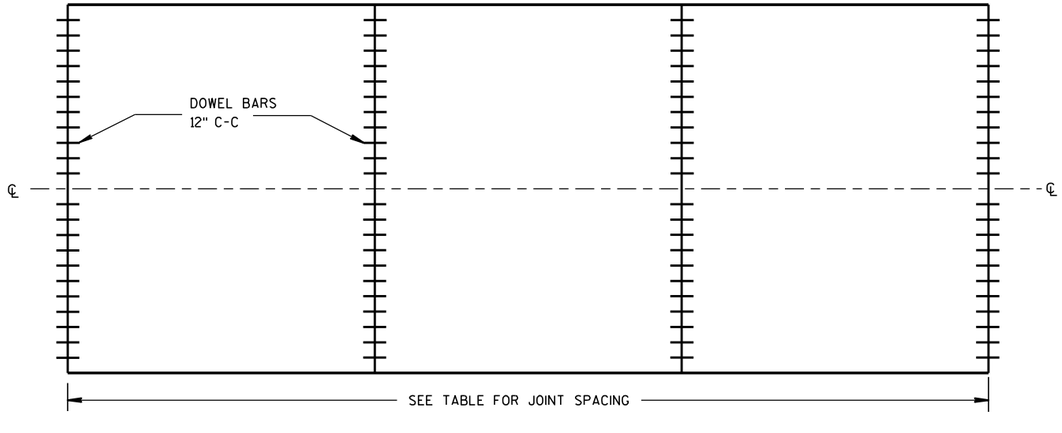


DOWELED CONTRACTION JOINT

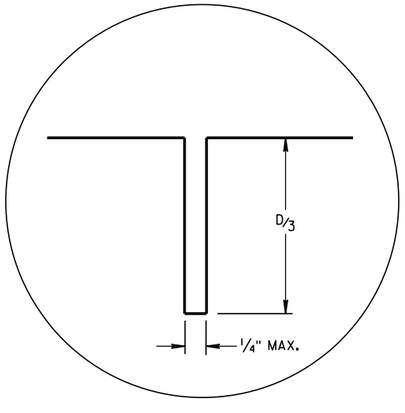


TRANSVERSE CONTRACTION JOINTS ABUTTING EXISTING PAVEMENT

④ DOWEL BAR DETAIL



CONTRACTION JOINT LOCATIONS



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DESIGNER
FHWA

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S.D.D. 13 C 13-7

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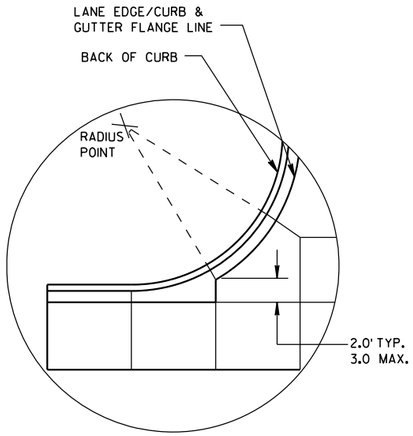
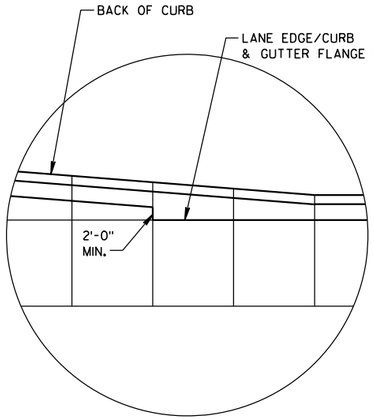
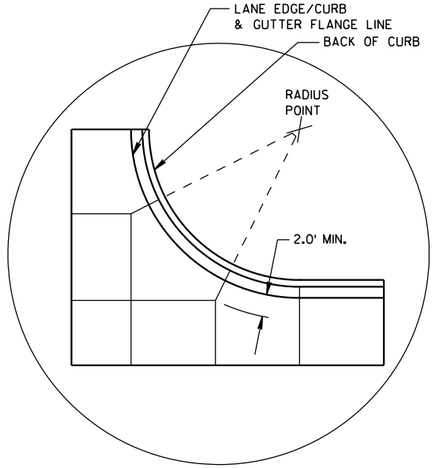
S.D.D. 13 C 13-7



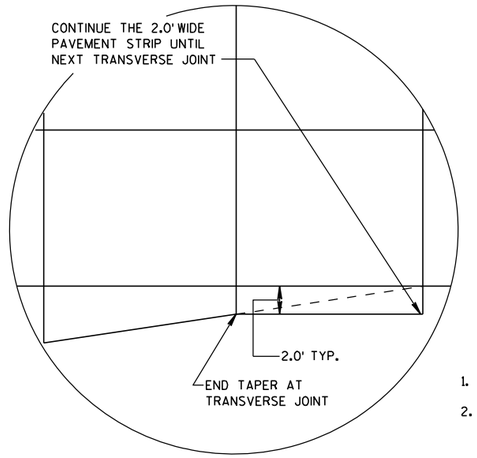
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

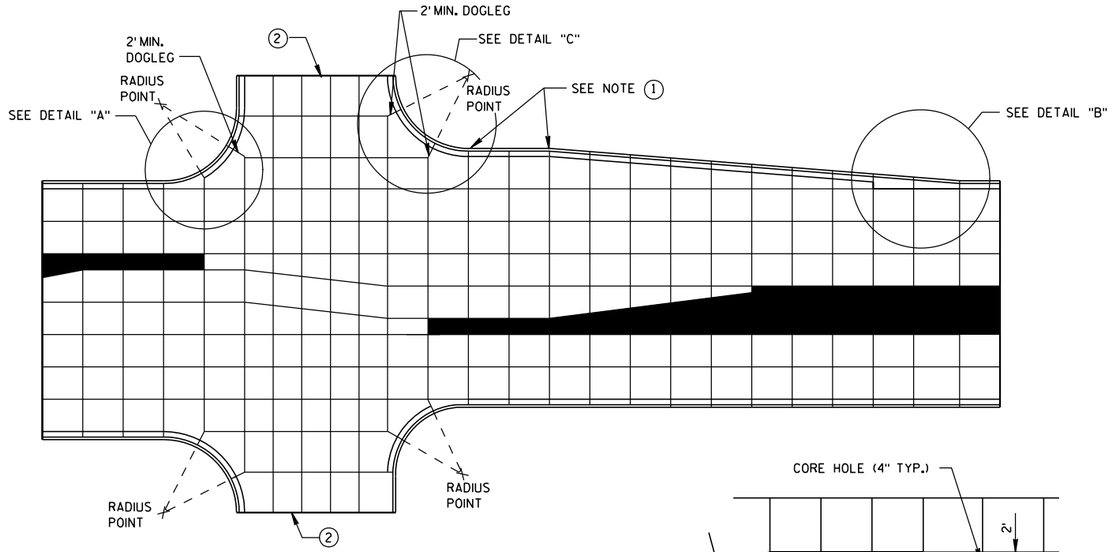
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

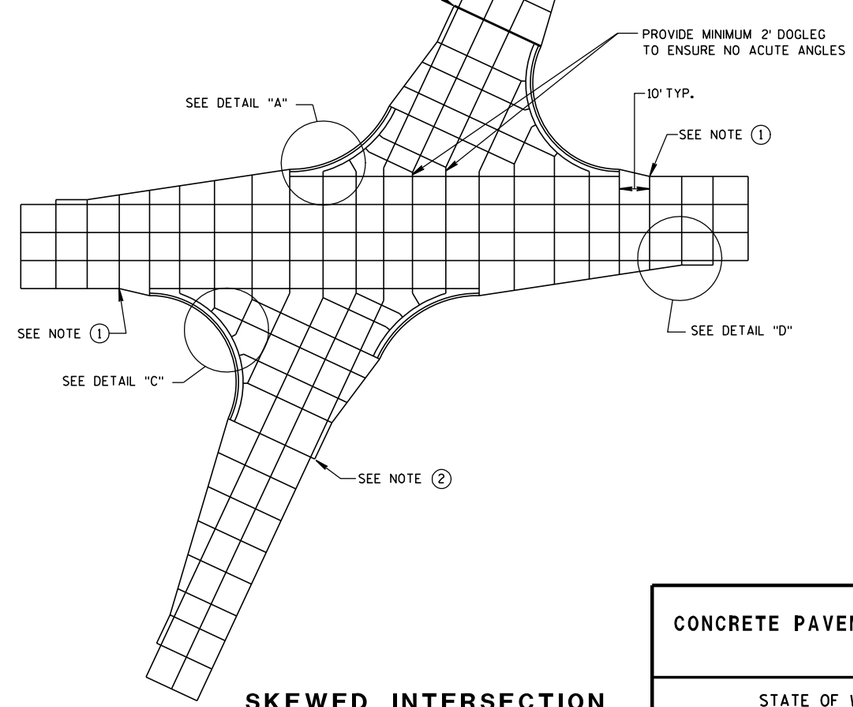
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



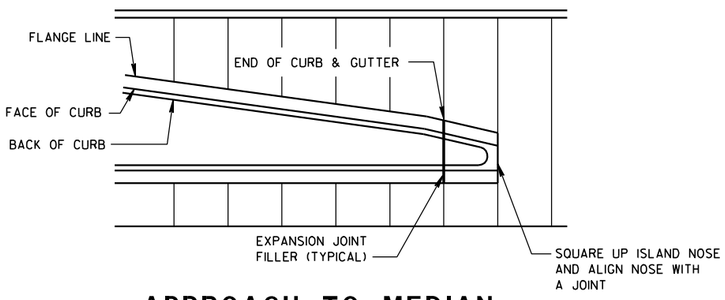
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

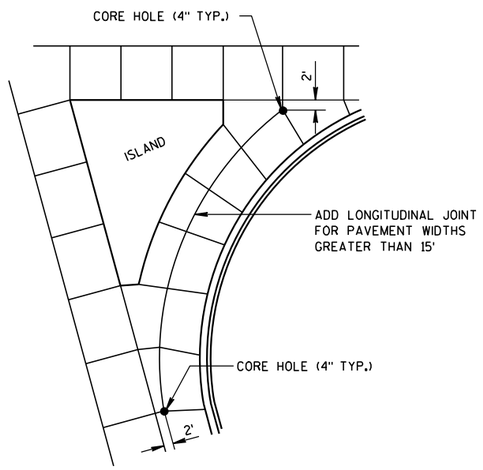
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

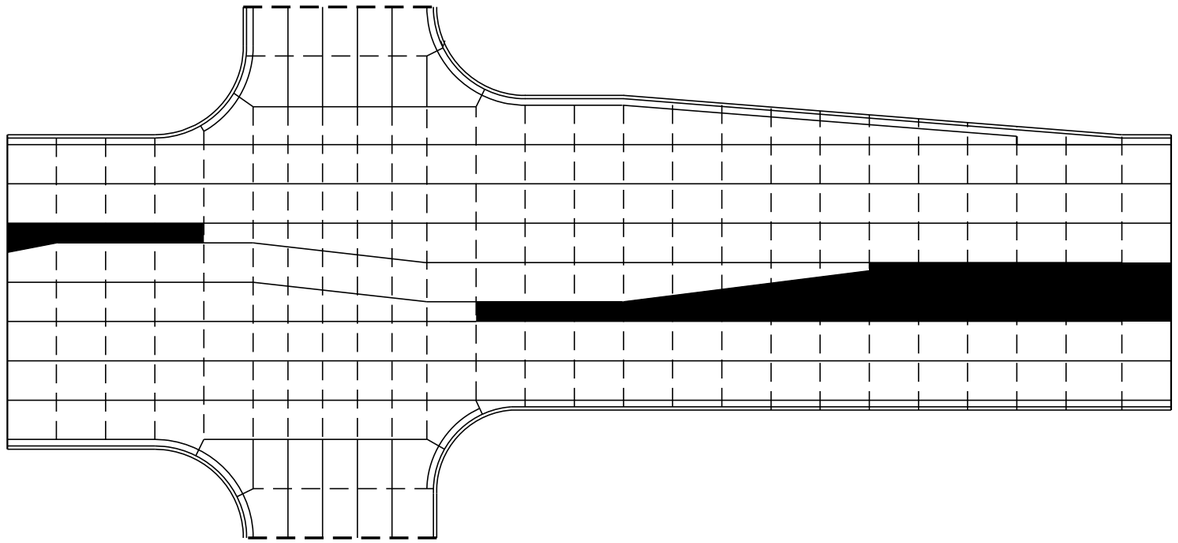
6
S.D.D. 13 C 18-1a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

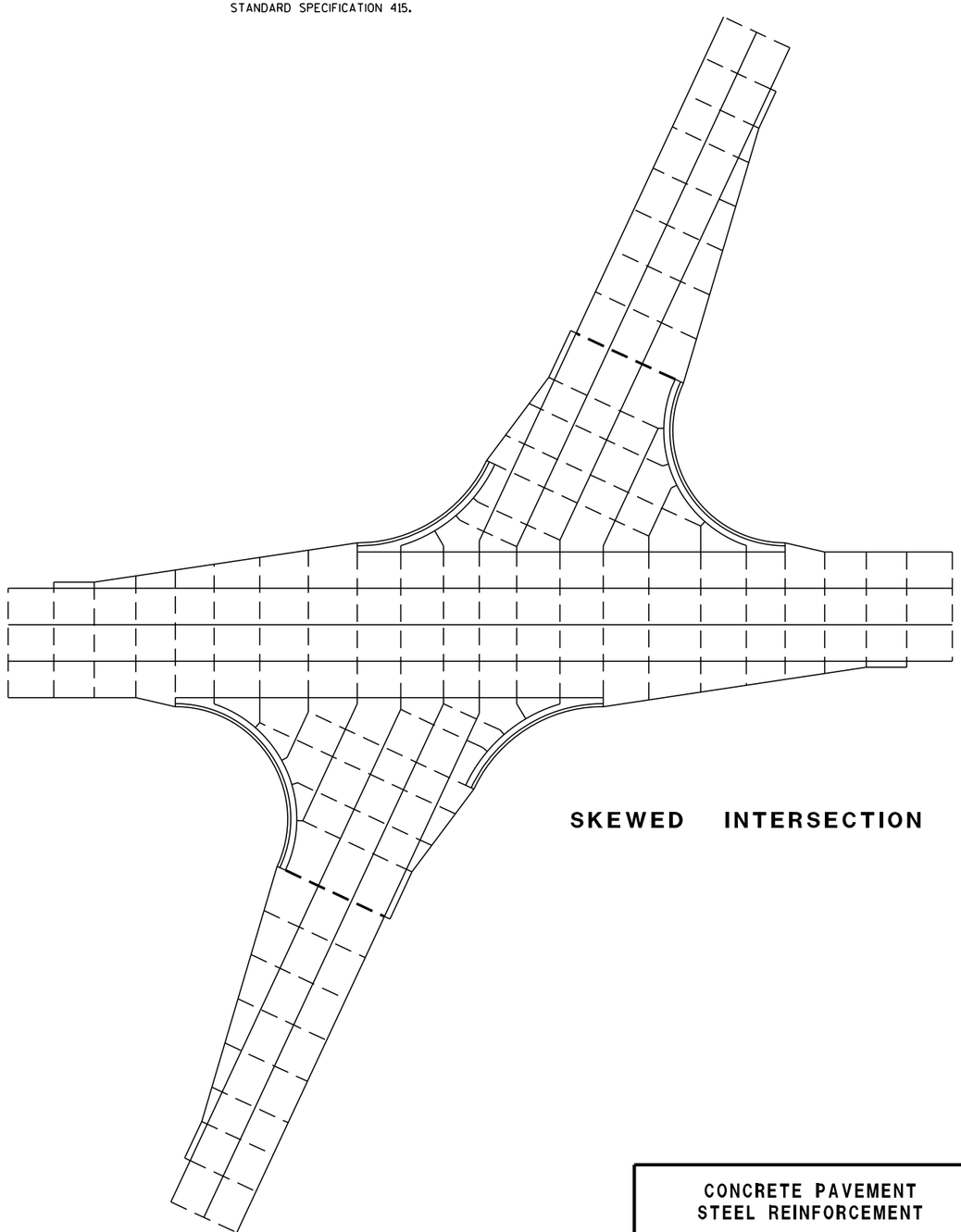
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 18-1b

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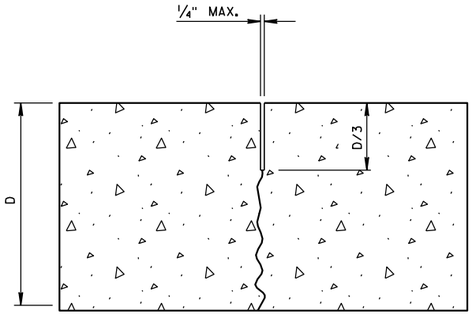
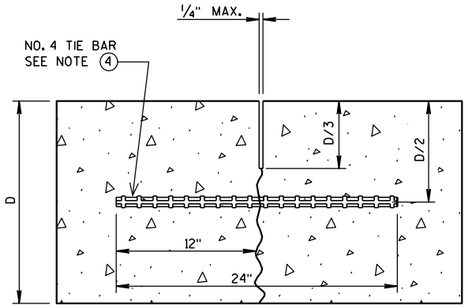
S.D.D. 13 C 18-1b



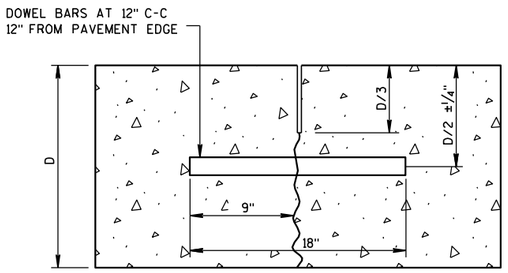
UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

GENERAL NOTES

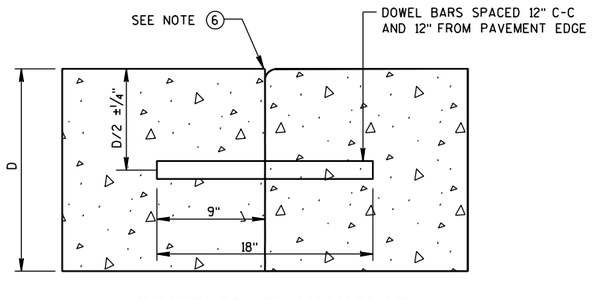
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 4 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.



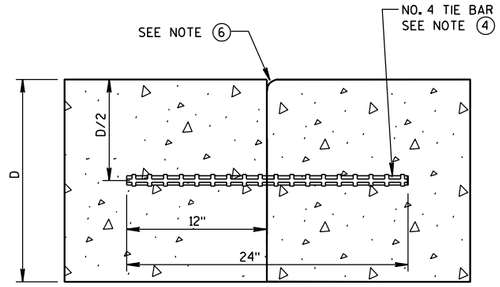
DOWELED-TRANSVERSE

CONTRACTION JOINTS

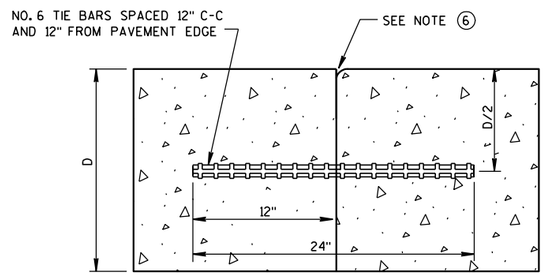
SEE NOTE (2)



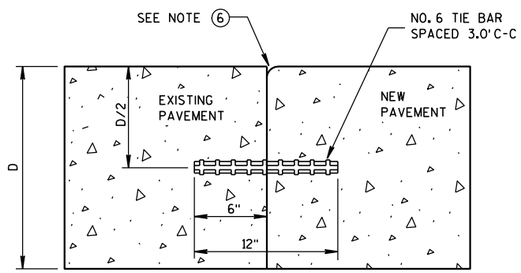
DOWELED TRANSVERSE



TIED LONGITUDINAL



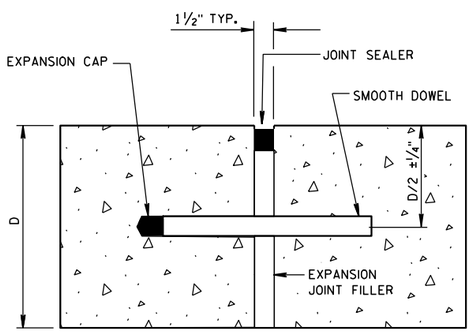
TIED TRANSVERSE
SEE NOTE (3)



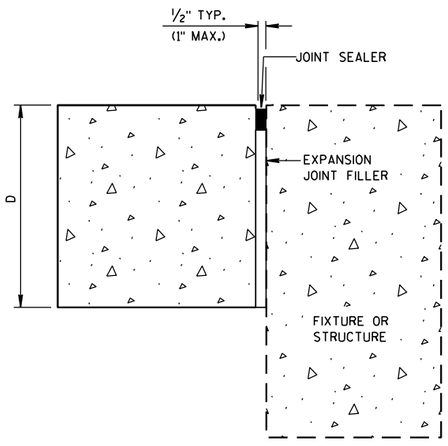
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE
SEE NOTE (1)



UNTIED-LONGITUDINAL

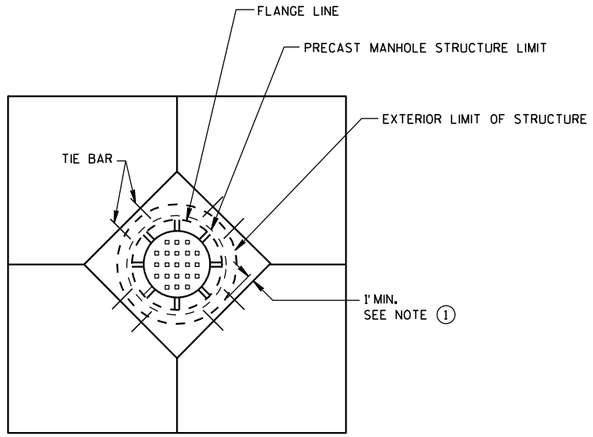
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

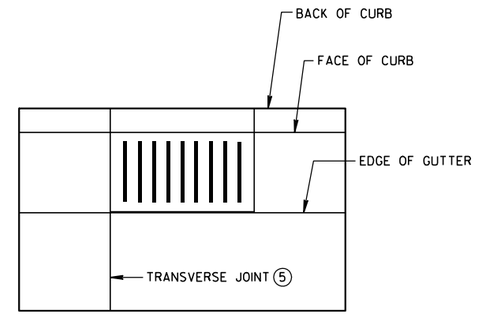
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

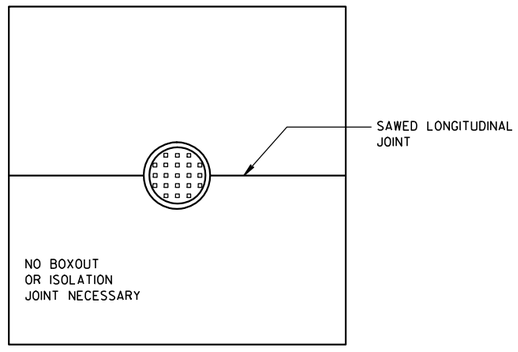
S.D.D. 13 C 18-1c



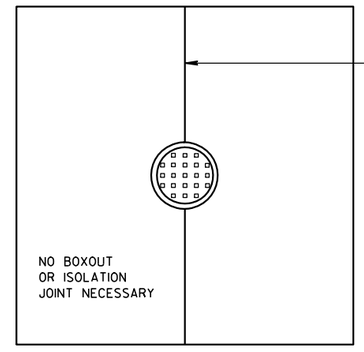
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



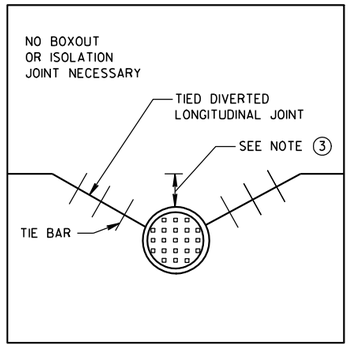
INLET WITH TRANSVERSE JOINT



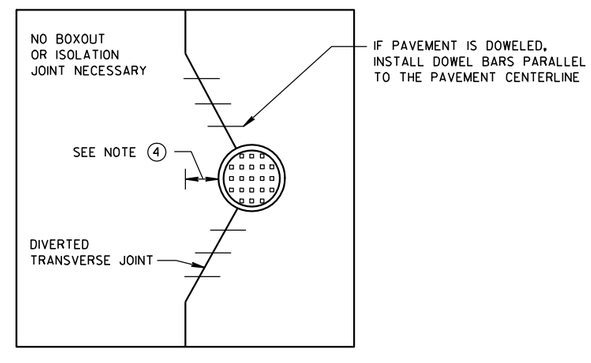
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

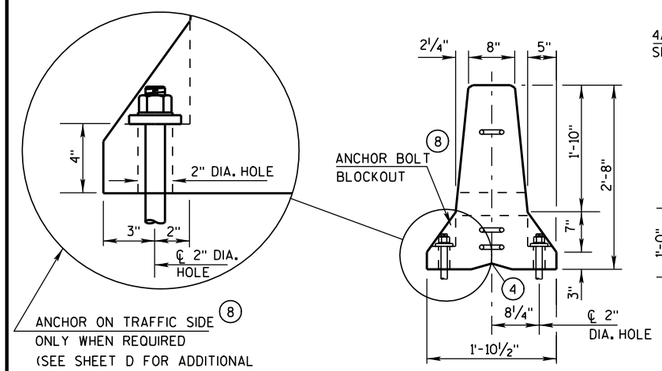
GENERAL NOTES

1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS GREATER THAN 2 FEET, DO NOT DIVERT JOINT AND SAW LONGITUDINAL JOINT AS NORMAL. IF DISTANCE IS 2 FEET OR LESS, DIVERT LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE.
4. IF DISTANCE FROM THE EDGE OF MANHOLE TO THE NEAREST TRANSVERSE JOINT IS GREATER THAN 4 FEET, REDIRECT JOINT TO INTERSECT MANHOLE. IF DISTANCE IS 4 FEET OR LESS, PLACE REBAR REINFORCEMENT AROUND MANHOLE.
5. ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

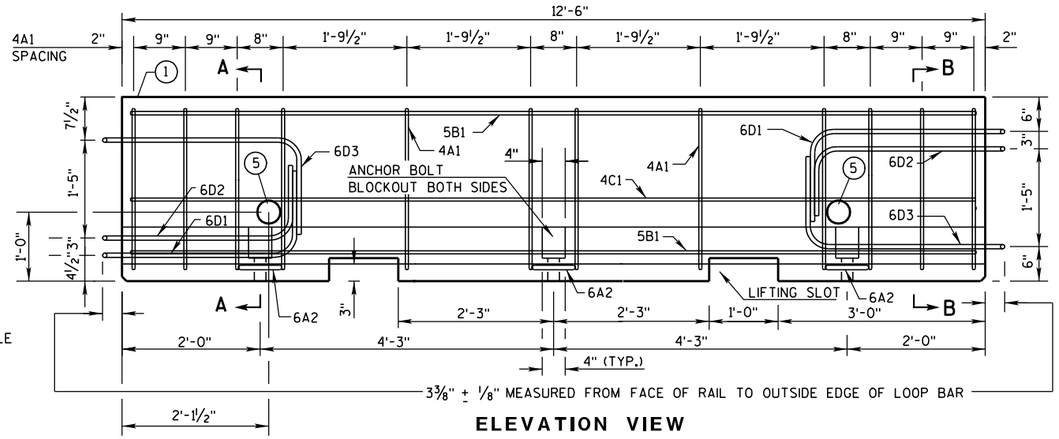
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

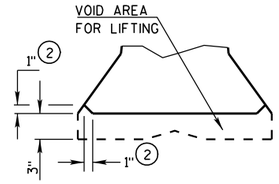
APPROVED
10-5-2010
DATE
/S/ Deb Bischoff
PAVEMENT POLICY & D 92 ENGINEER
FHWA



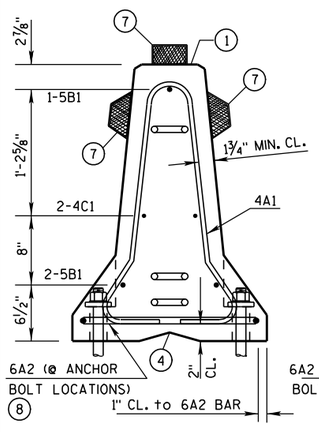
END VIEW



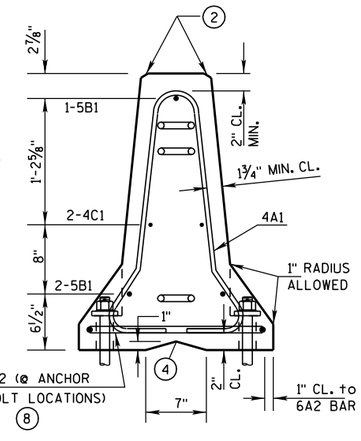
ELEVATION VIEW



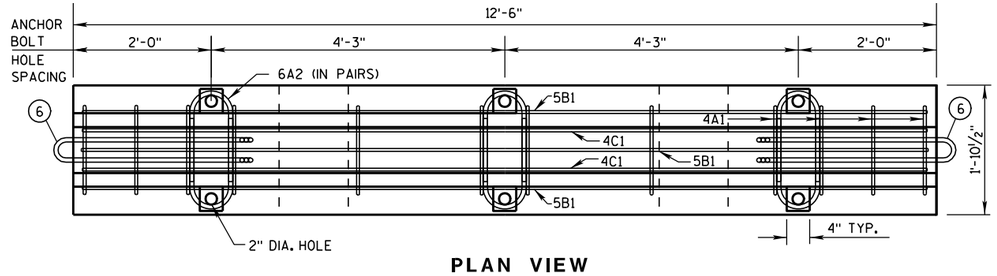
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

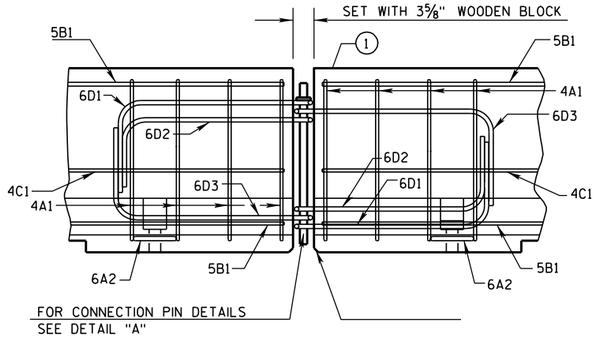


SECTION B-B
(STIRRUP PLACEMENT)

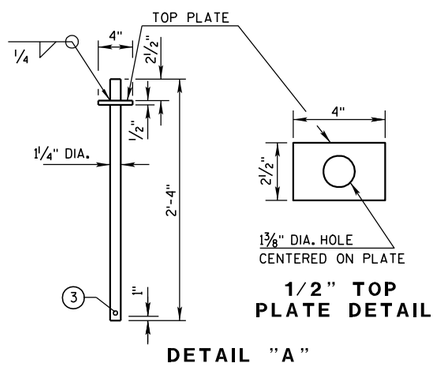


PLAN VIEW

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 14B7-12(a) THRU 14B7-12(d).

DETAILS AND REQUIREMENTS FOR THE FABRICATION AND INSTALLATION OF CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" (CBTP12.5) ARE SHOWN ON 4 SHEETS, 14B7-12(a) THRU 14B7-12(d)

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.

(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).

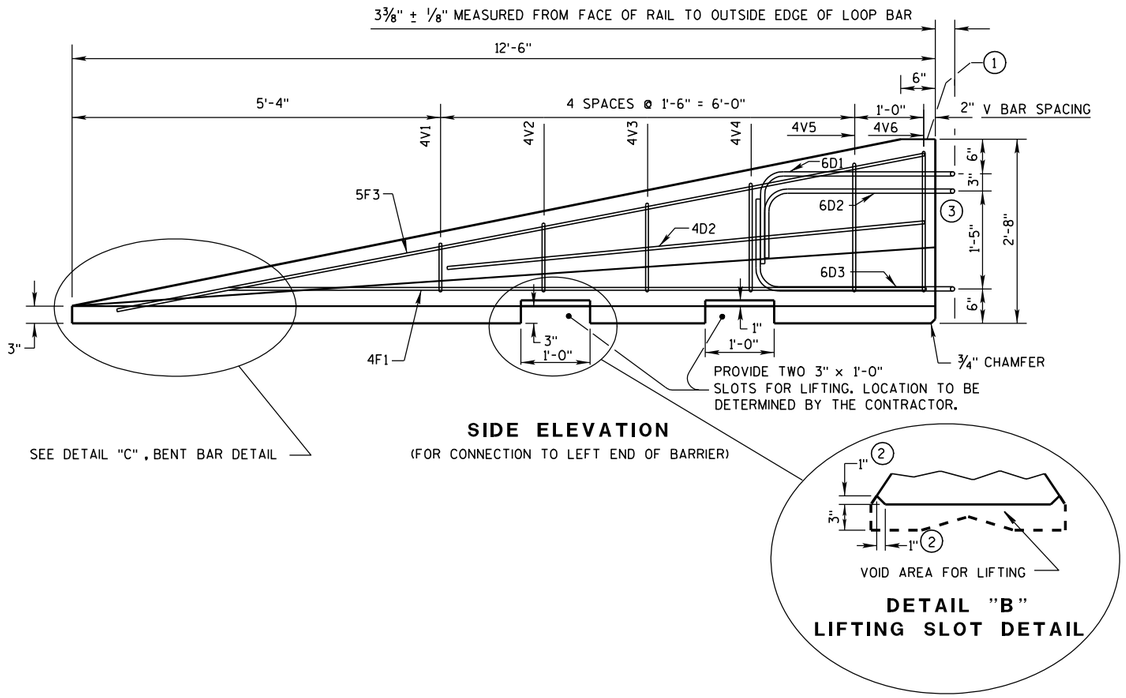
(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

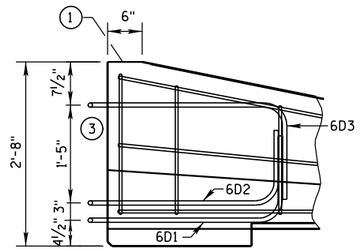
(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED 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.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



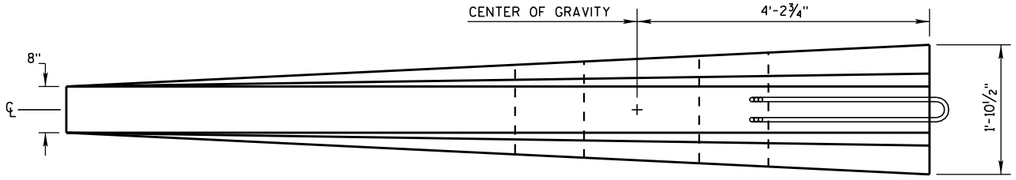


SIDE ELEVATION

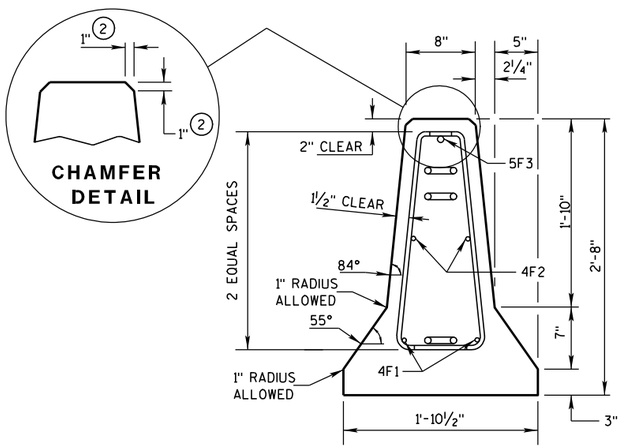
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

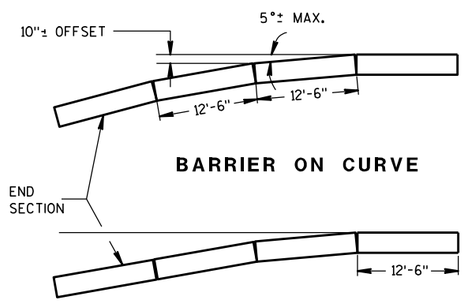
GENERAL NOTES

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





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 TRANSPORTATION

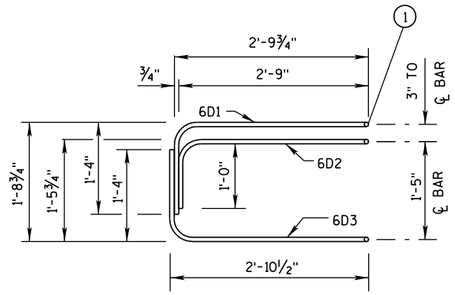
6

S.D.D. 14 B 7-12b

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

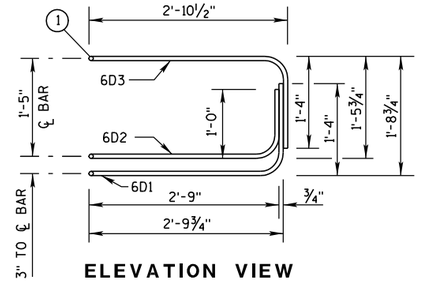
GENERAL NOTES

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

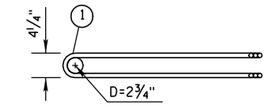
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

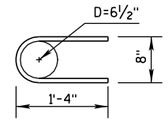
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



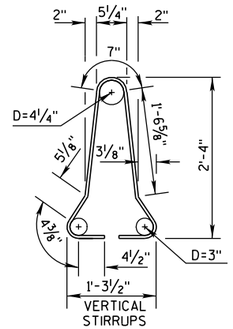
ELEVATION VIEW



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



6A2



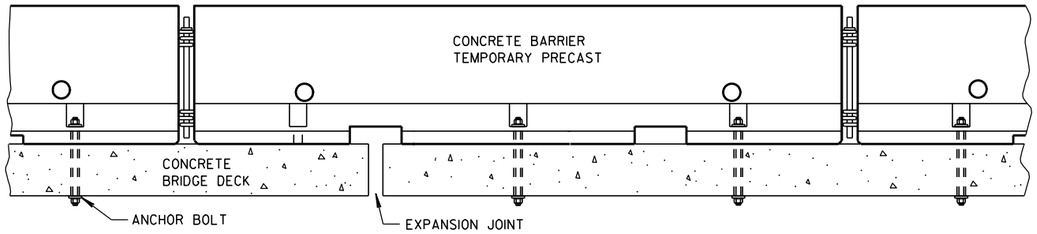
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

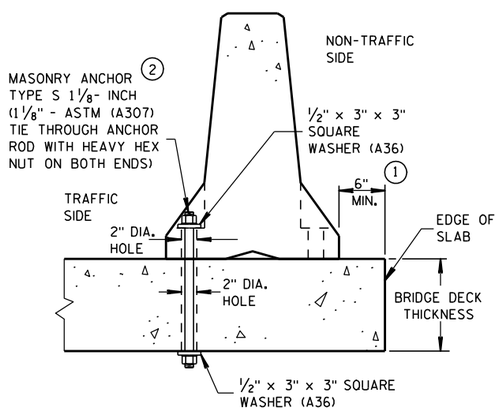
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-12c



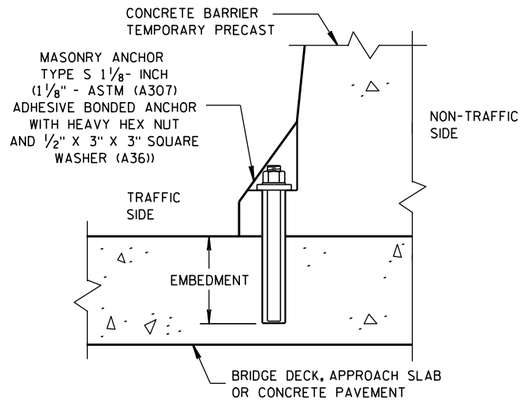
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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

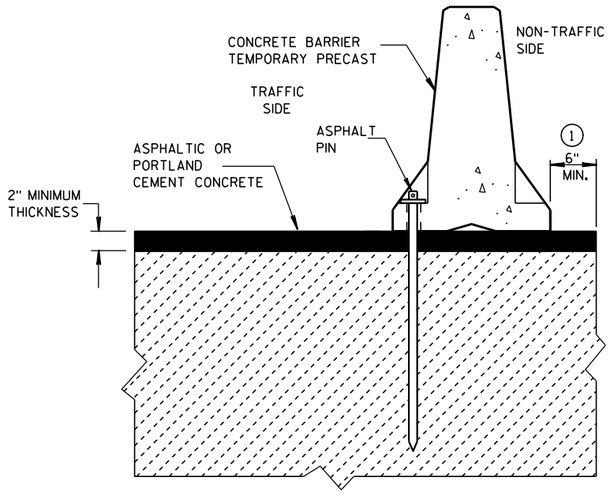
(1) CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED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

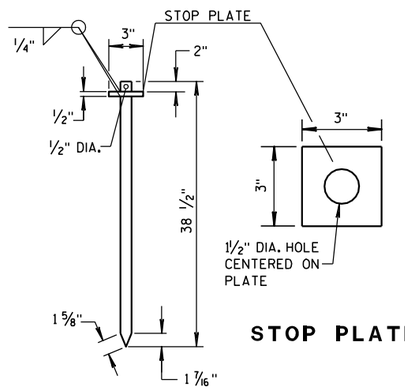
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

(2) ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) 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 ALLANCHOR 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 EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.





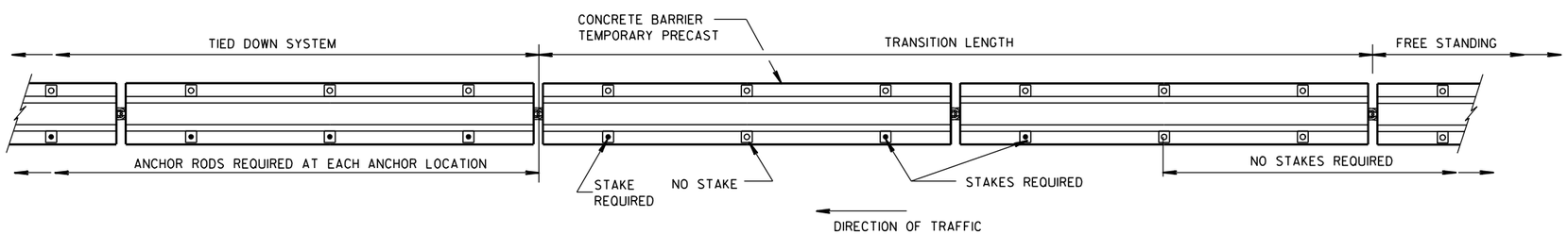
STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



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 TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARD D 96 NT
ENGINEER

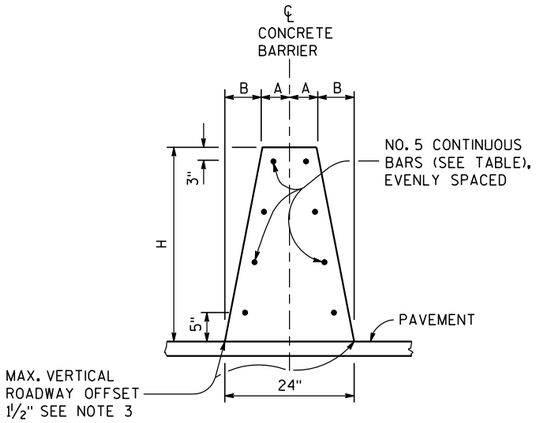
FHWA

6

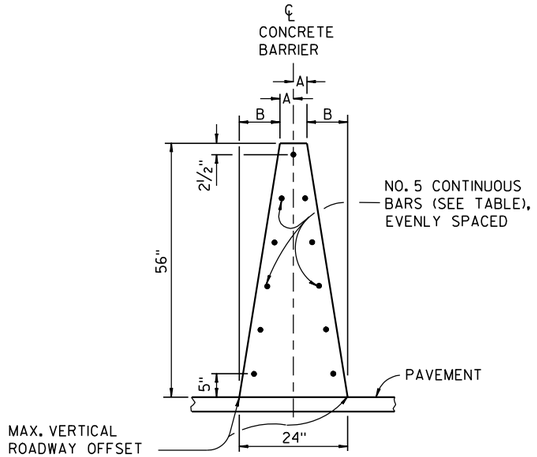
S.D.D. 14 B 7-12d

6

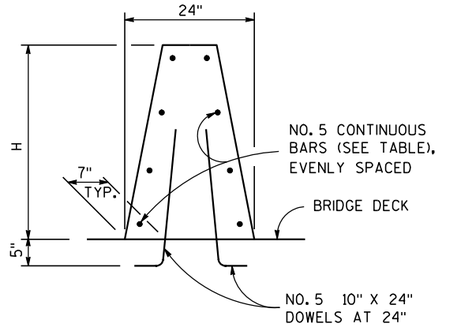
S.D.D. 14 B 7-12d



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



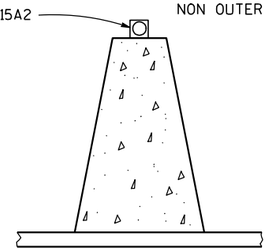
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

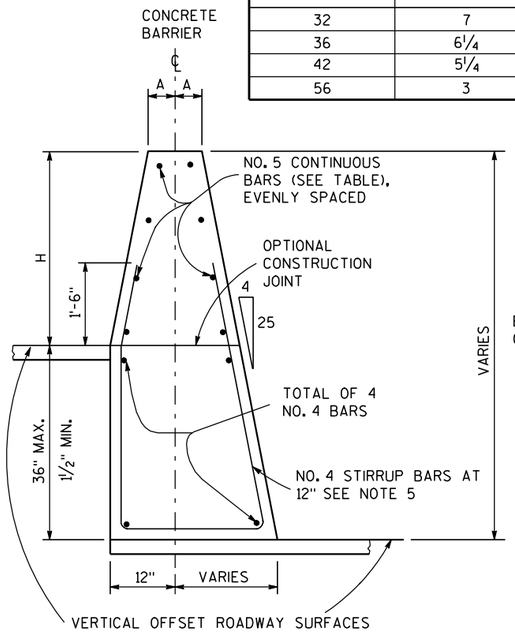
1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, PAVEMENT AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.

SEE STANDARD DETAIL DRAWING 15A2 FOR DELINEATOR DETAILS



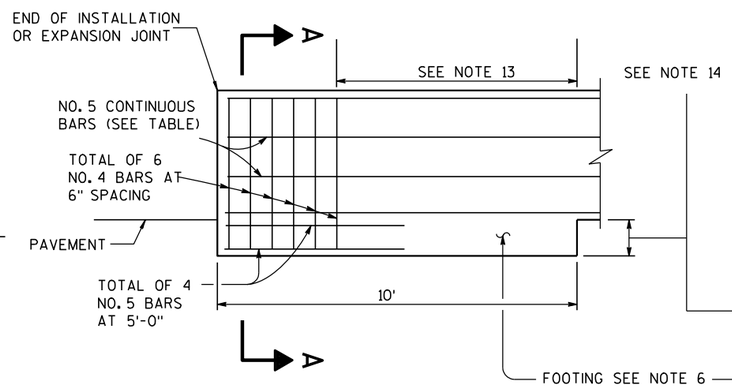
DELINEATION

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



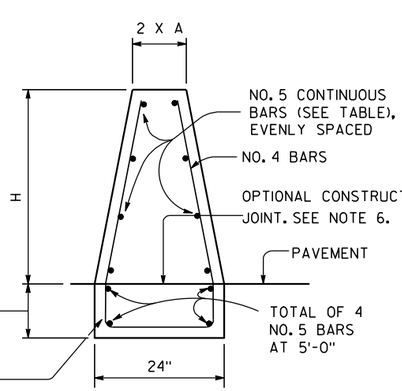
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



SECTION A-A

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

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

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

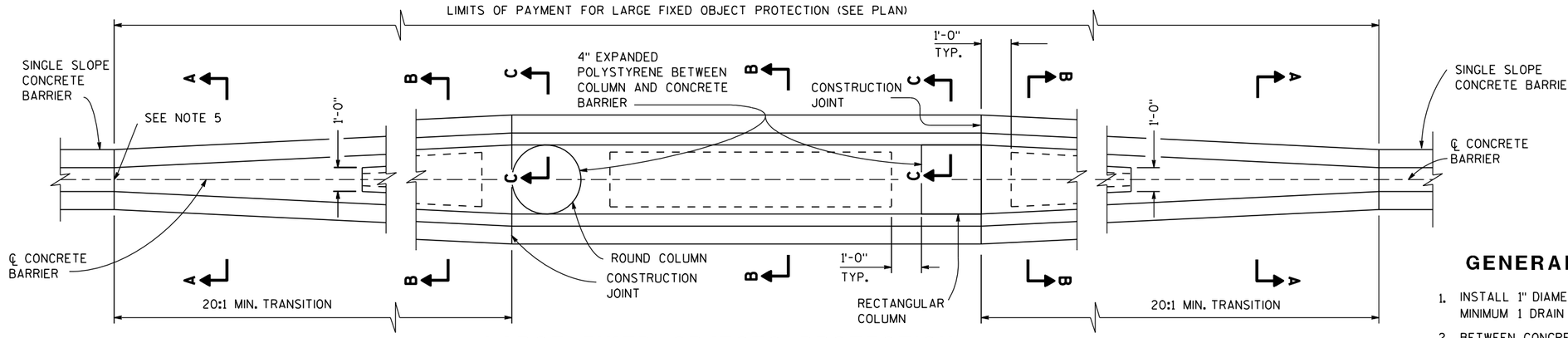
97

6

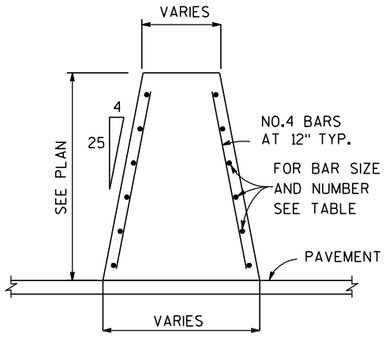
S.D.D. 14 B 32-1a

6

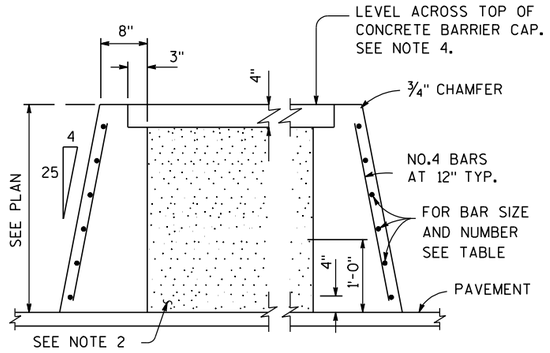
S.D.D. 14 B 32-1a



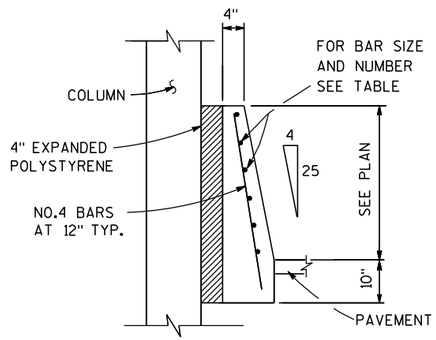
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



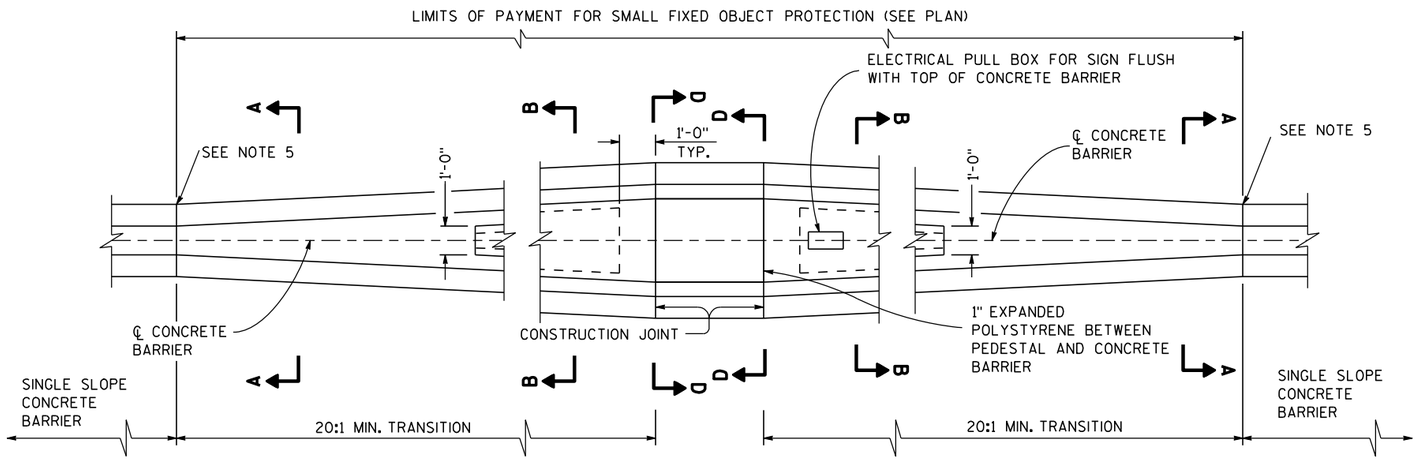
SECTION A-A



SECTION B-B



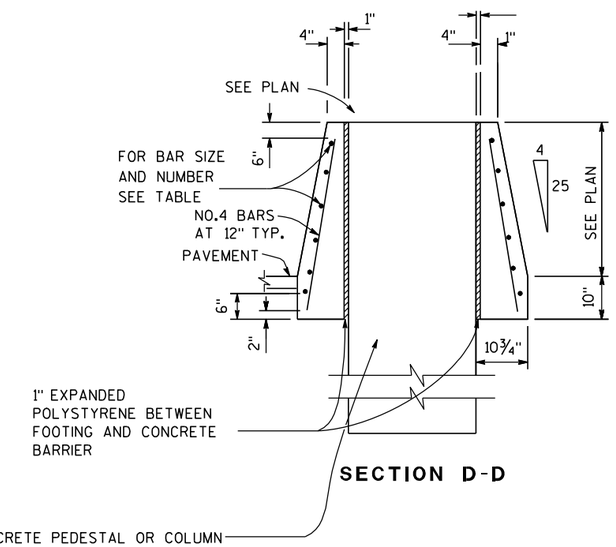
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1" DIAMETER DRAIN PIPE EVERY 20' OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.



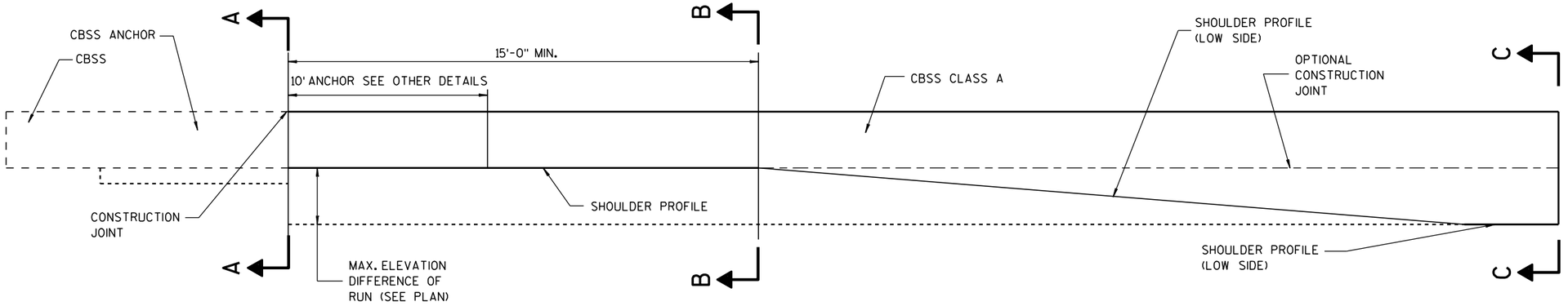
SECTION D-D

BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

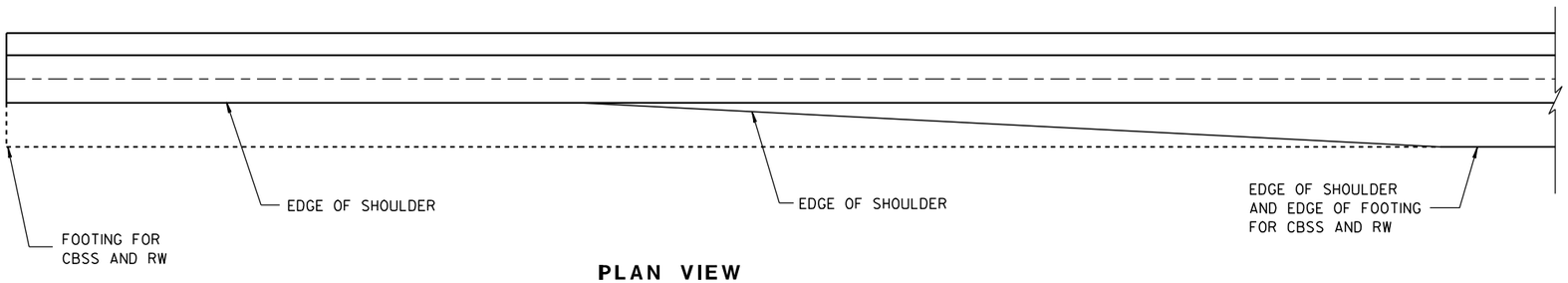
CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

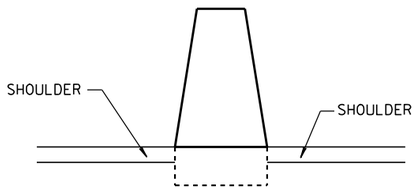
6
S.D.D. 14 B 32-1b



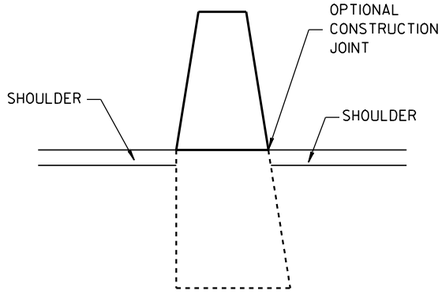
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



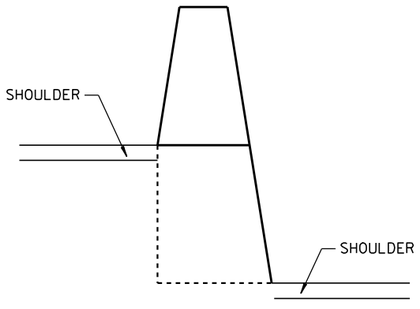
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



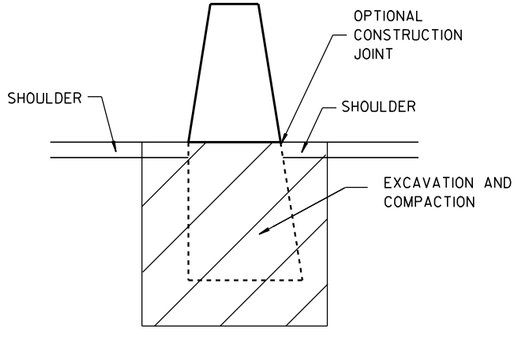
SECTION A-A



SECTION B-B



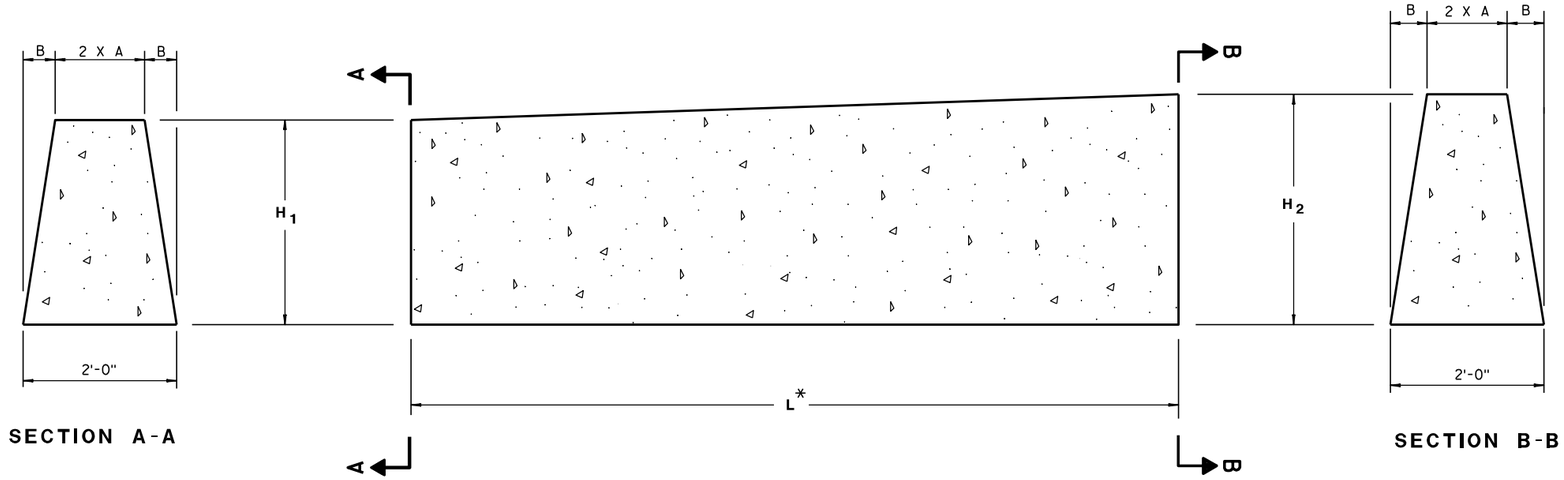
SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 32-1c



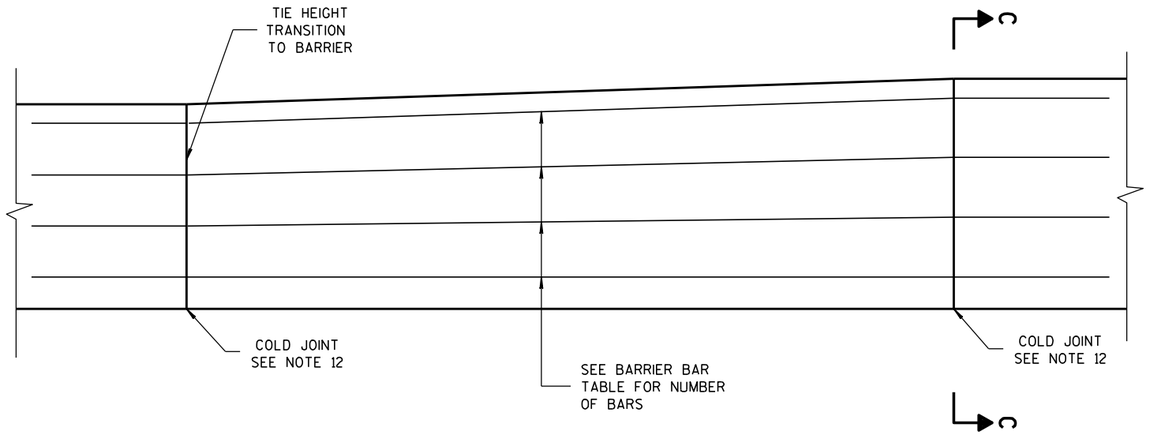
DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

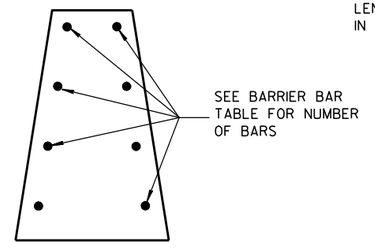
BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

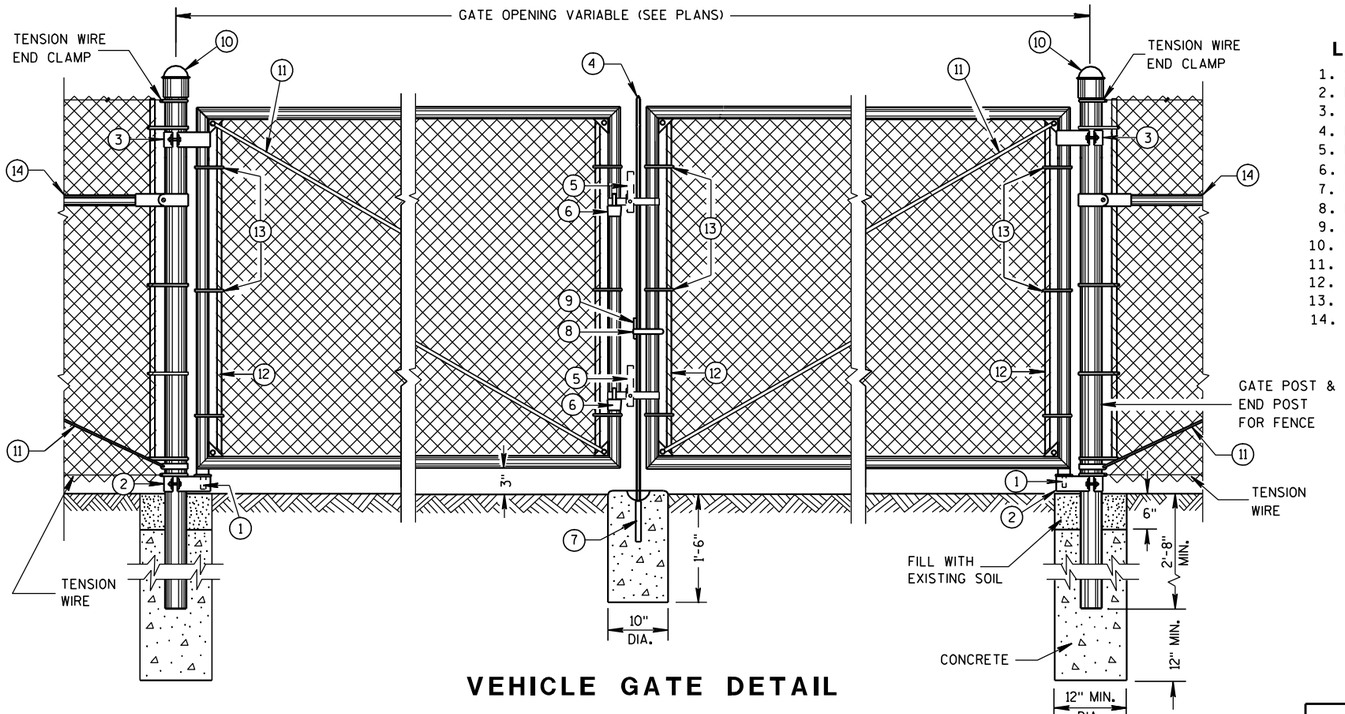
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

ENT

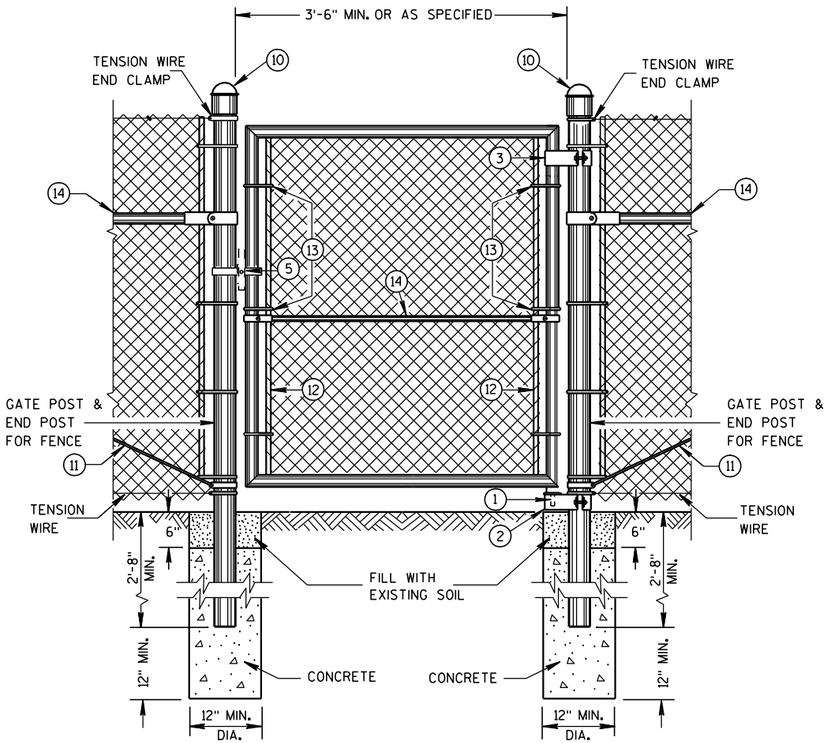
FHWA

6

S.D.D. 14 B 32-1d



VEHICLE GATE DETAIL



PEDESTRIAN GATE DETAIL

LEGEND

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

*NOT REQUIRED ON SINGLE SWING PEDESTRIAN GATE

GENERAL NOTES

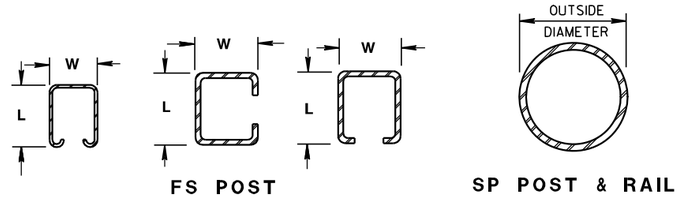
FENCE POSTS INSTALLED ON CONCRETE WALLS SHALL BE ANCHORED INTO EMBEDDED METAL SLEEVES OR CORED HOLE BY FILLING THE ANNULAR SPACE WITH PEA GRAVEL FOLLOWED BY AN EPOXY RESIN ADHESIVE. THE EPOXY RESIN ADHESIVE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 235, CLASS A, B OR C.

USE FENCE FABRIC KNUCKLED AT BOTH SELVAGES.

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

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

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



FS POST

SP POST & RAIL

CROSS SECTIONS OF POSTS AND RAILS

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR FORMED STEEL FENCE POST

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

SHAPE, SIZE AND WEIGHT REQUIREMENTS FOR ROUND STEEL FENCE POST

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

REQUIRED FENCE POST SIZES

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

REQUIRED POST SIZE FOR GATES

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

BRACE RAIL TYPES

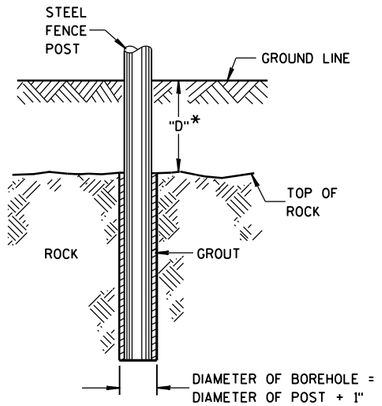
USE		TYPE
BRACE RAIL		SP1 OR FS1

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

FENCE CHAIN LINK

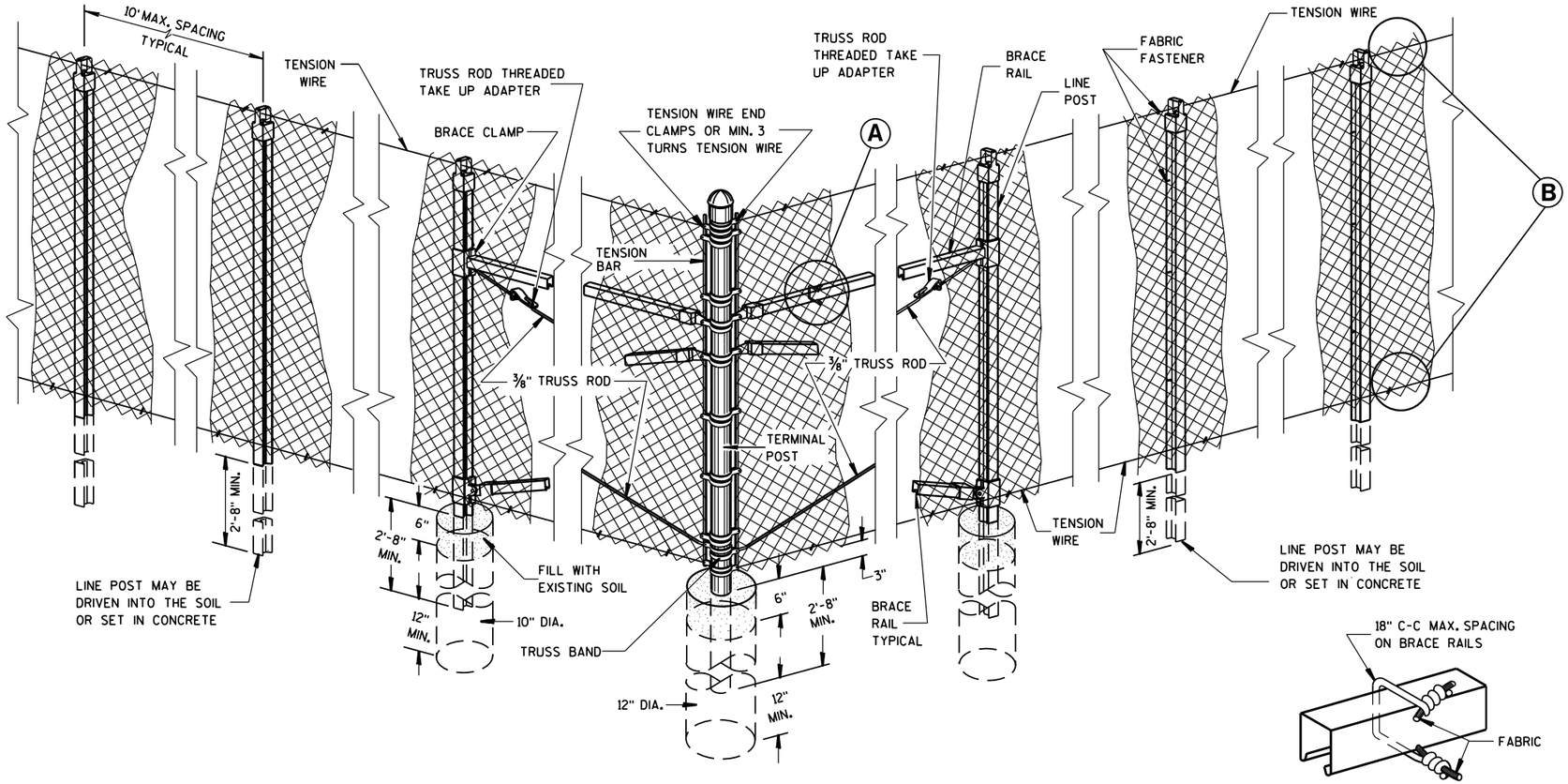
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 15 B 3-12a

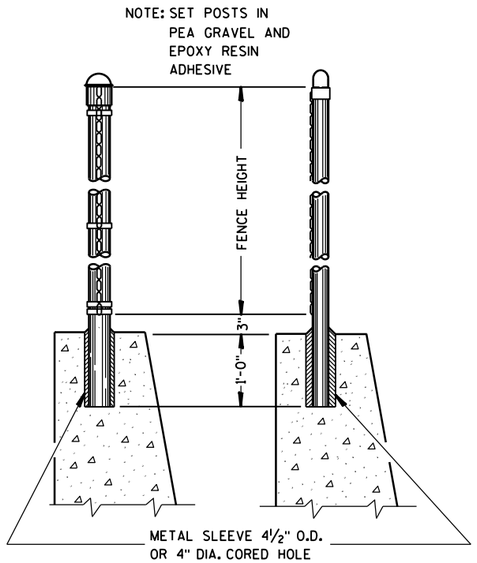


*IF "D" IS LESS THAN 2'-6", DRILL ROCK AND INSTALL GROUT

ROCK INSTALLATION OF LINE POST

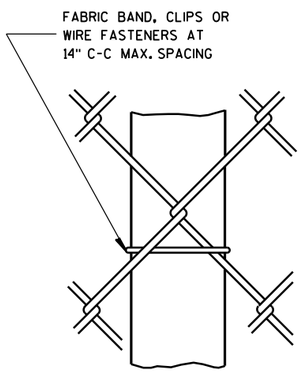


END, CORNER, ANGLE INTERSECTION & INTERMEDIATE BRACED POSTS



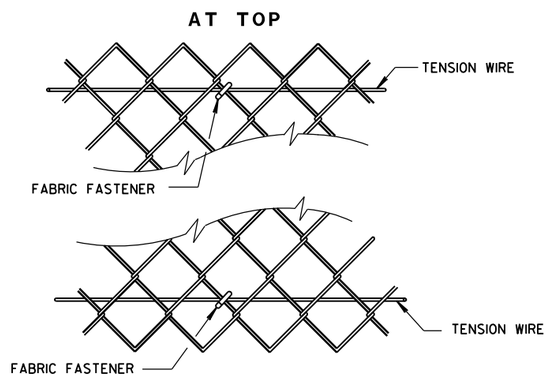
END POST & CORNER POST LINE POST

DETAILS OF FENCE ON WALL



LINE POST

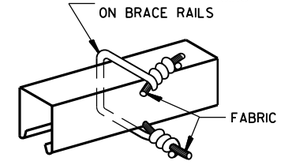
FABRIC FASTENER



AT BOTTOM

SELVAGES

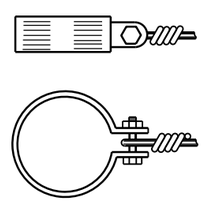
(B)



BRACE RAIL

FABRIC FASTENER

(A)



TENSION WIRE END CLAMP

FENCE CHAIN LINK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

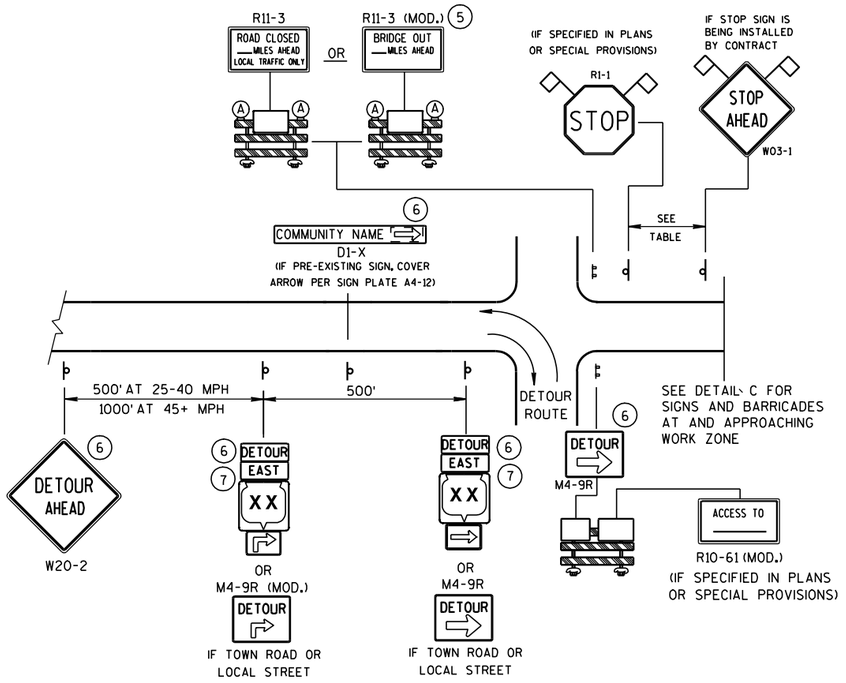
APPROVED
3/19/2010
DATE
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 15 B 3-12b

6

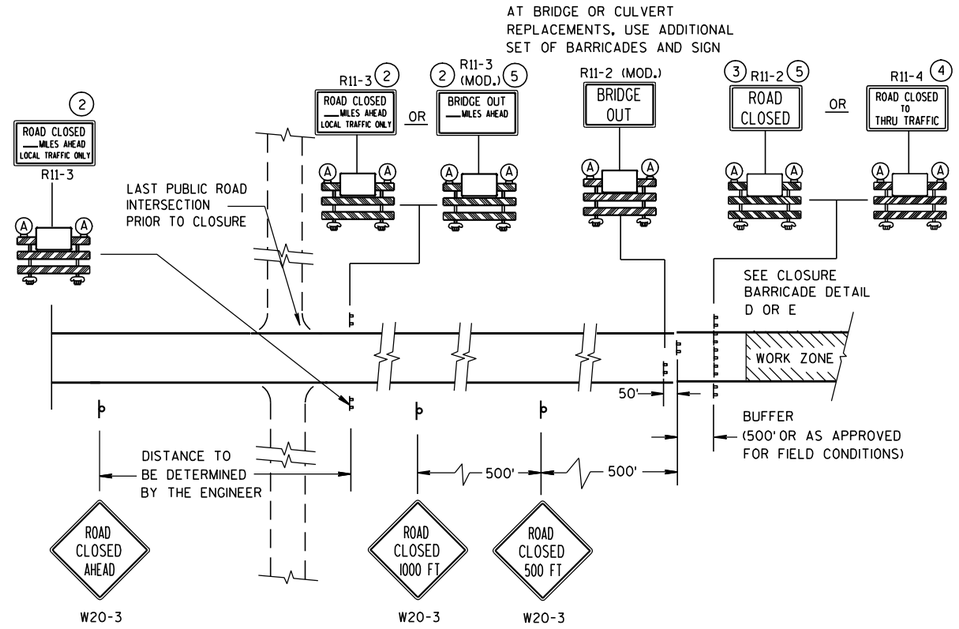
S.D.D. 15 B 3-12b



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

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

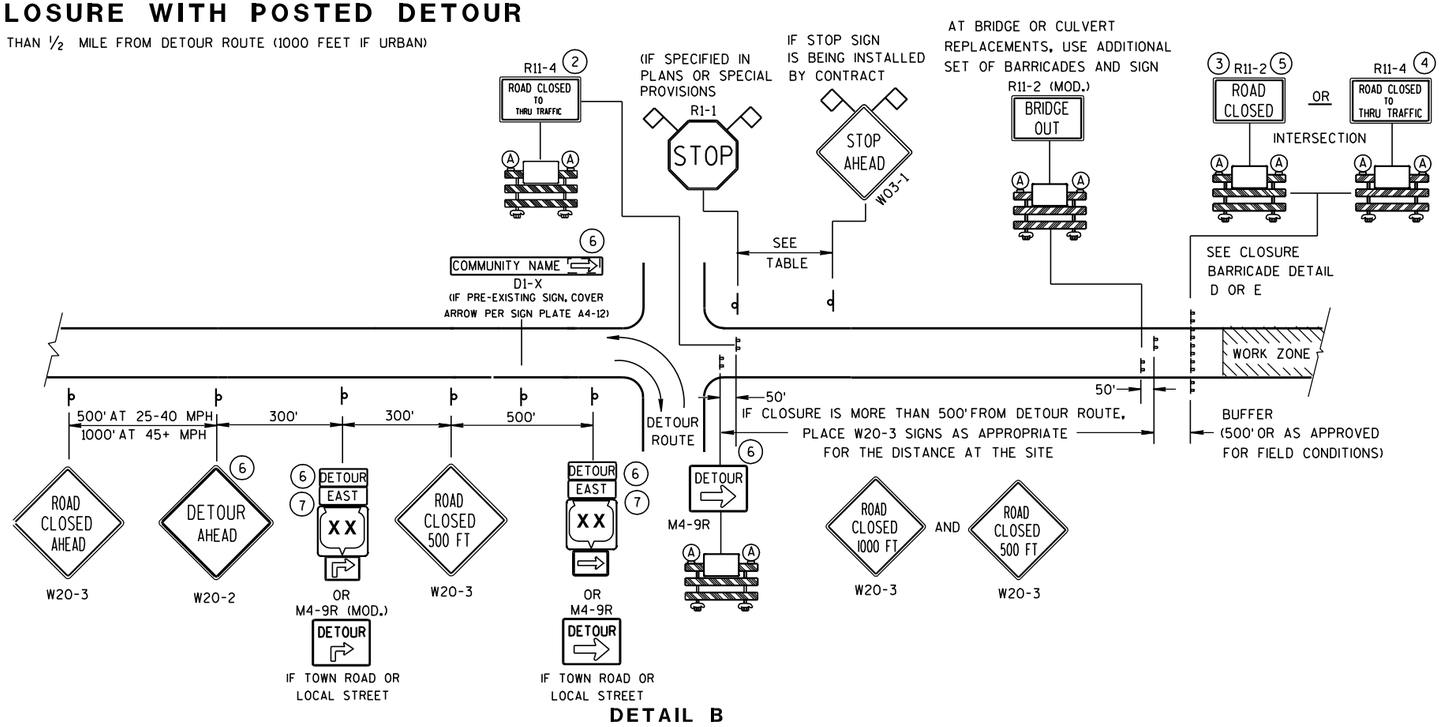


DETAIL C

MAINLINE CLOSURE, NO POSTED DETOUR

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

SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦



DETAIL B

MAINLINE CLOSURE WITH POSTED DETOUR

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

LEGEND

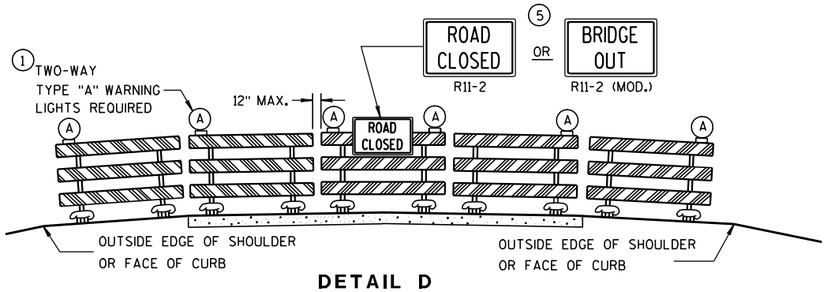
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1; M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

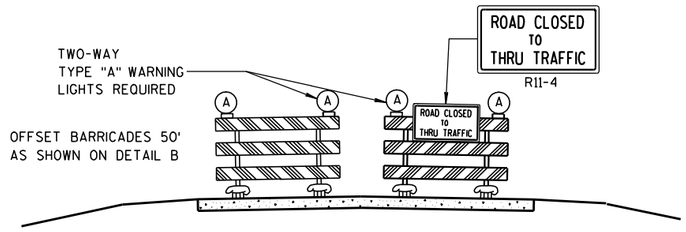
S.D.D. 15 C 2-4a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/16/03 — DATE

/S/ Thomas N. N[illegible] — CHIEF SIGNS AND MARKING ENGINEER

FHWA

6

S.D.D. 15 C 2-4b

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

GENERAL NOTES

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

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

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

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

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

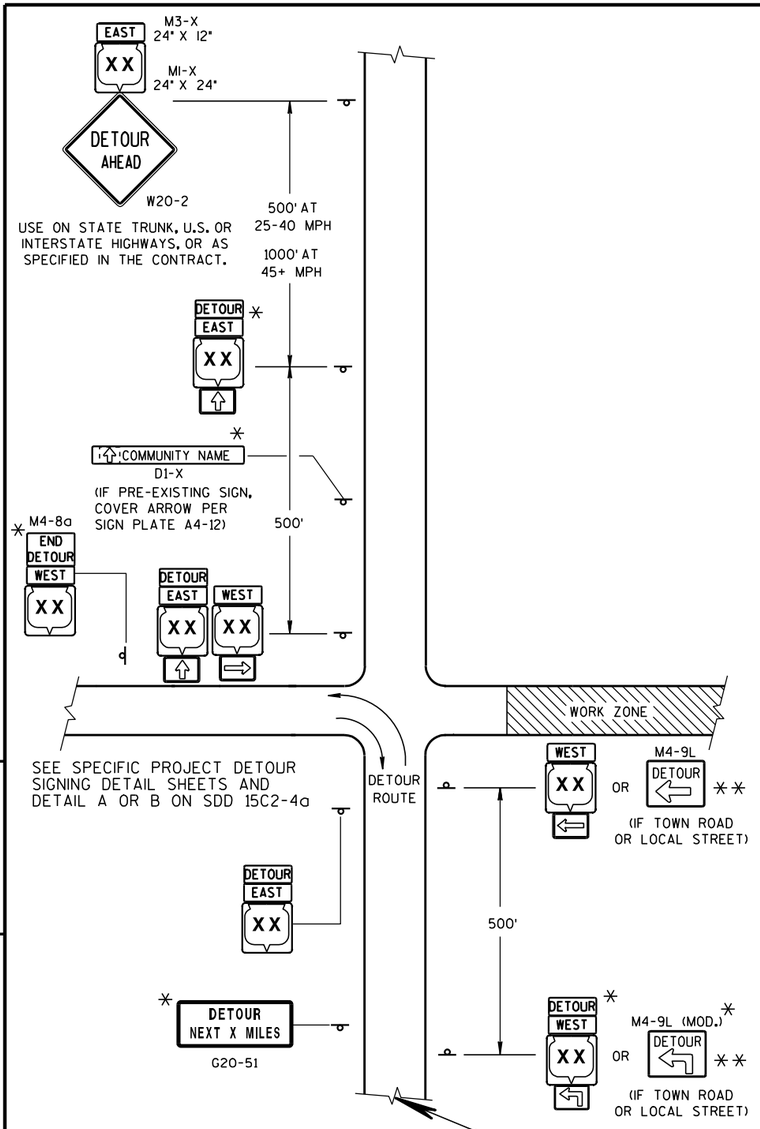
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

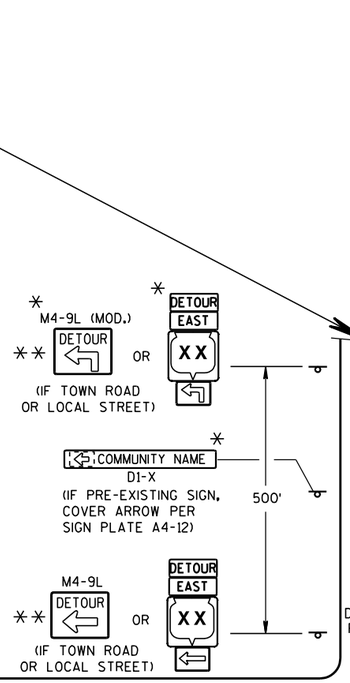
M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
M4-9 SHALL BE 30" X 24".
M4-8a SHALL BE 24" X 18".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

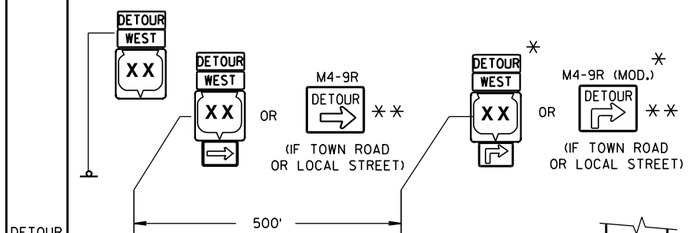
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

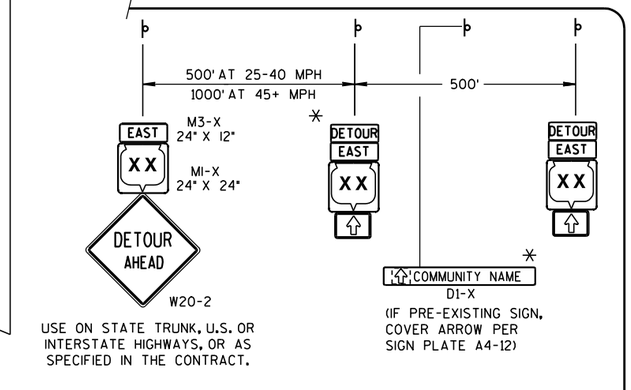
** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

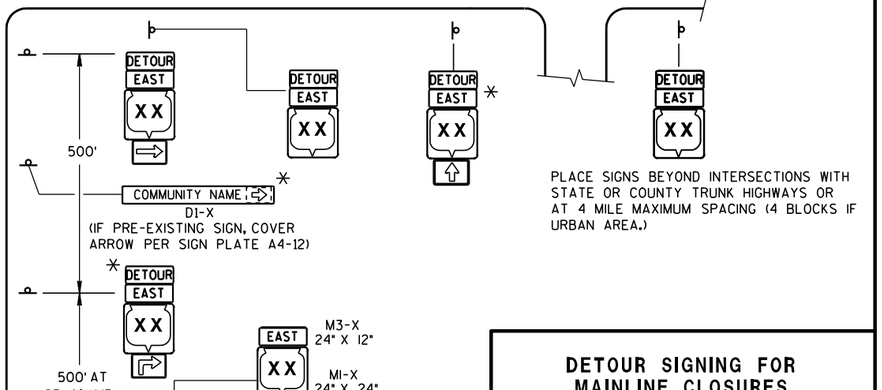


MATCH POINT









LEGEND

- POST MOUNTED SIGN
- WORK ZONE
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- MO5-1 OR MO6-1 OR MO6-1

DETAIL F

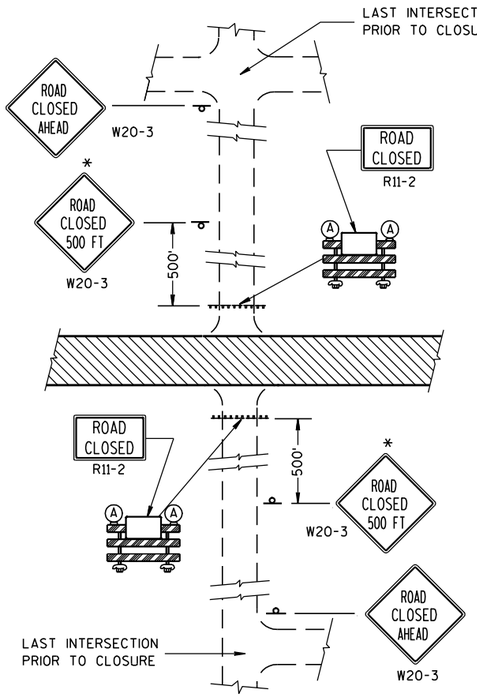
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

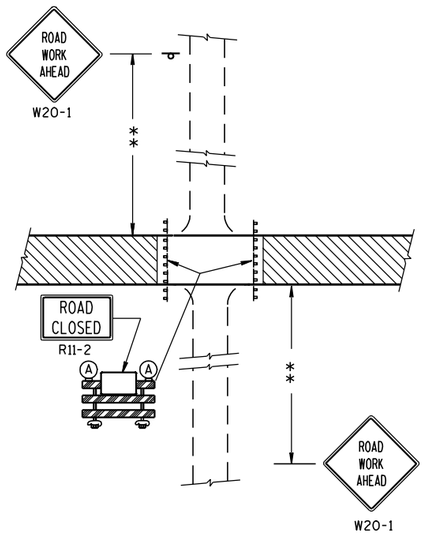
APPROVED
9-16-03 DATE
/S/ Thomas N. Nabholz
CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

6
S.D.D. 15 C 2-4c



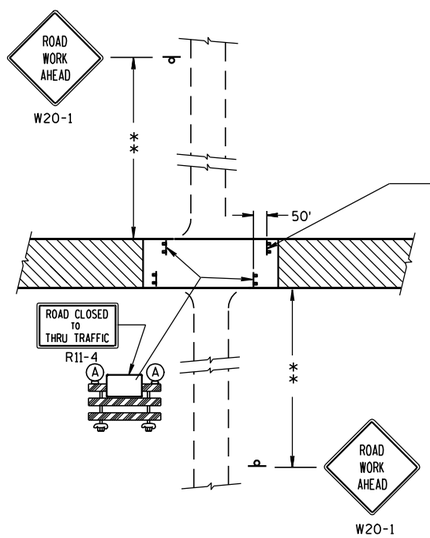
DETAIL 1

(NO ACCESS TO PROJECT)



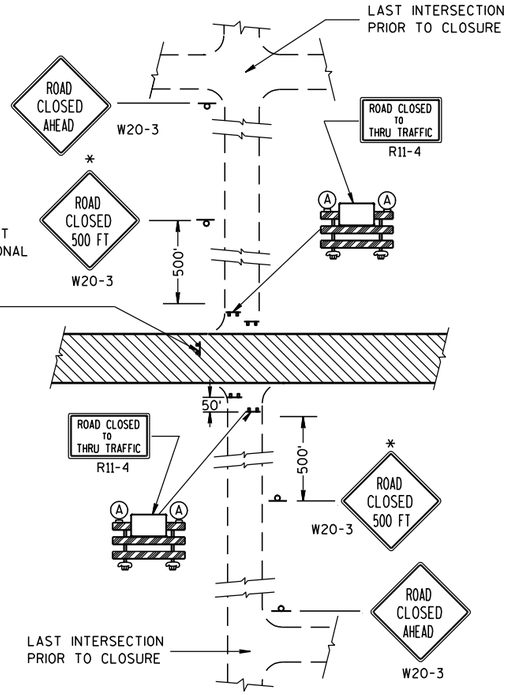
DETAIL 2

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



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.

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

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

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

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

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

THE REFLECTIVE SHEETING USED ON R11-2, R11-3 AND R11-4 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- p — POST MOUNTED WARNING SIGN
- p — TYPE III BARRICADES
- (A) — TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-16-03 DATE

/S/ Thomas N. N[illegible] CHIEF SIGNS AND MAR[illegible] INEER

FHWA

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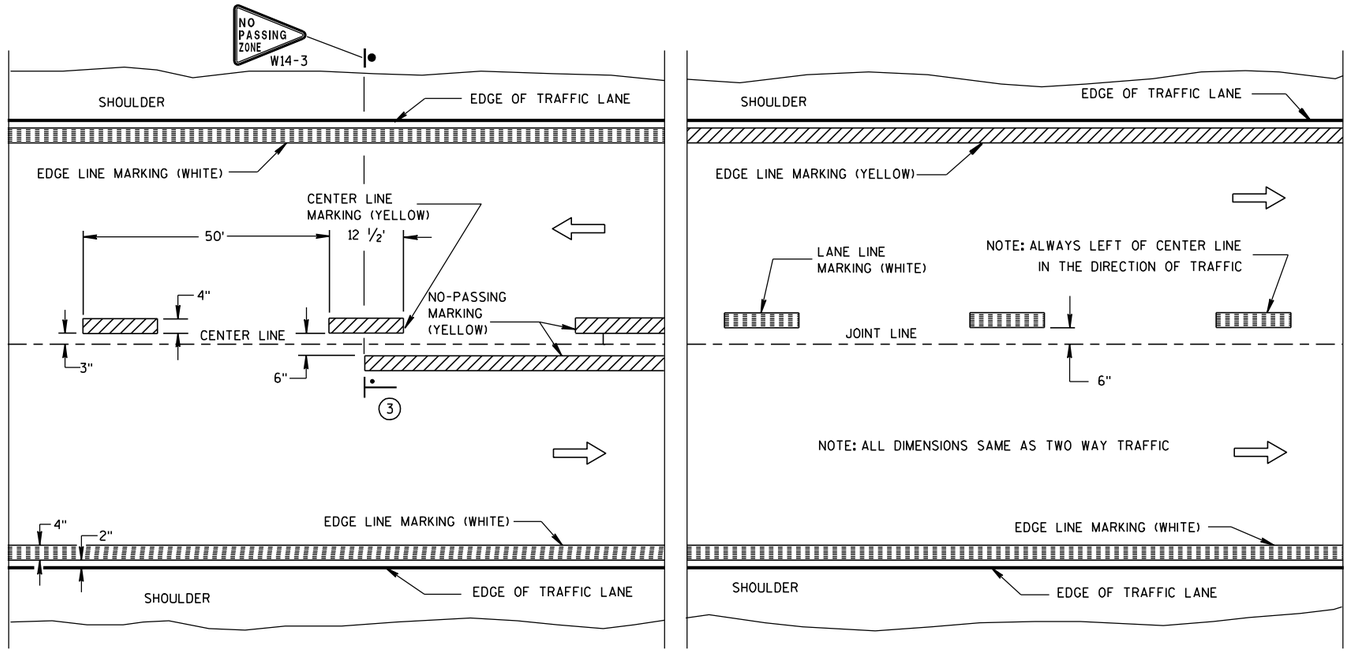
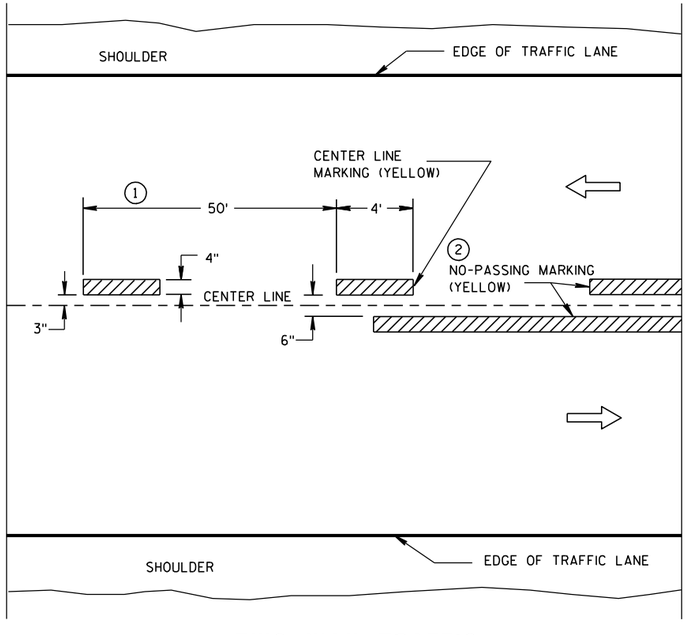
S.D.D. 15 C 3-1



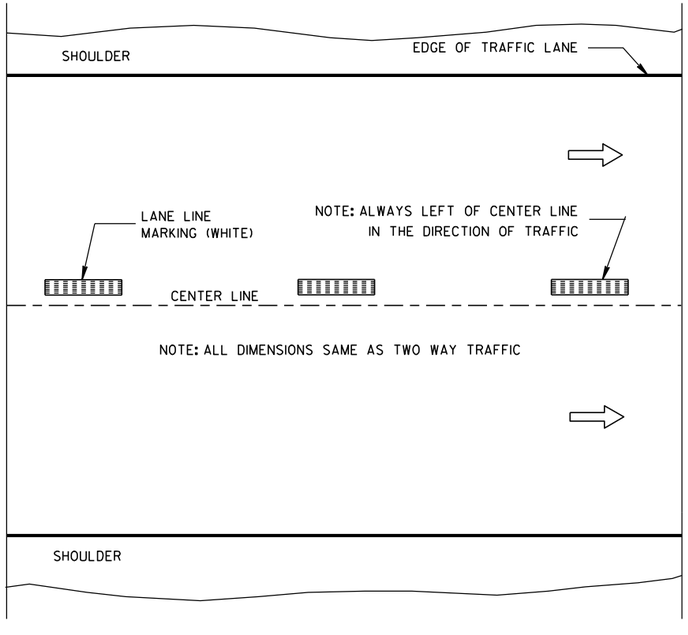
TWO WAY TRAFFIC

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)

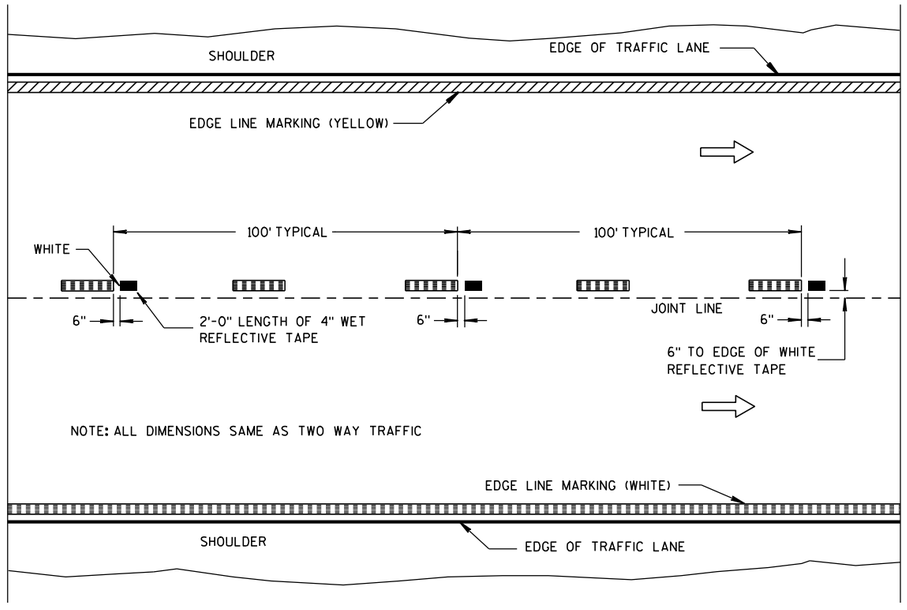
GENERAL NOTES

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.

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
6-23-11 (DATE) /S/ Thomas N. Notbohm (STATE TRAFFIC ENGINEER)

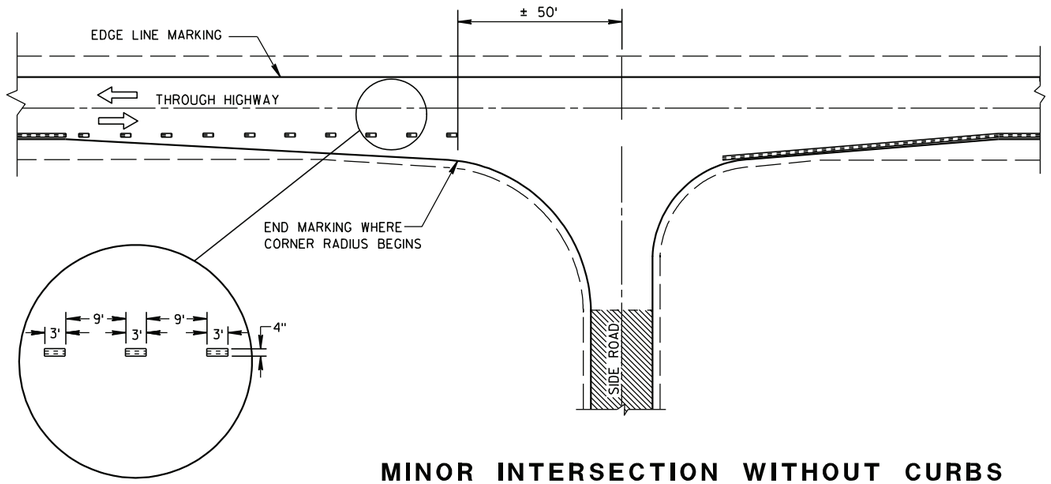
FHWA

6

S.D.D. 15 C 8-14a

6

S.D.D. 15 C 8-14a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.

(1) WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

(2) WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

(3) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

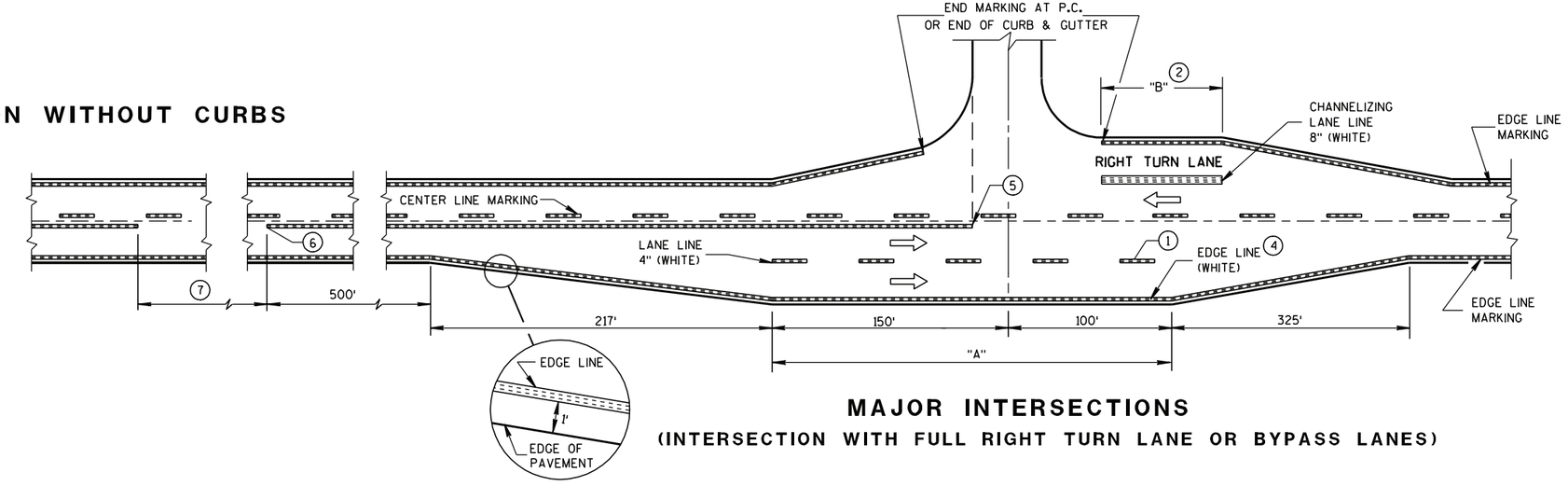
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

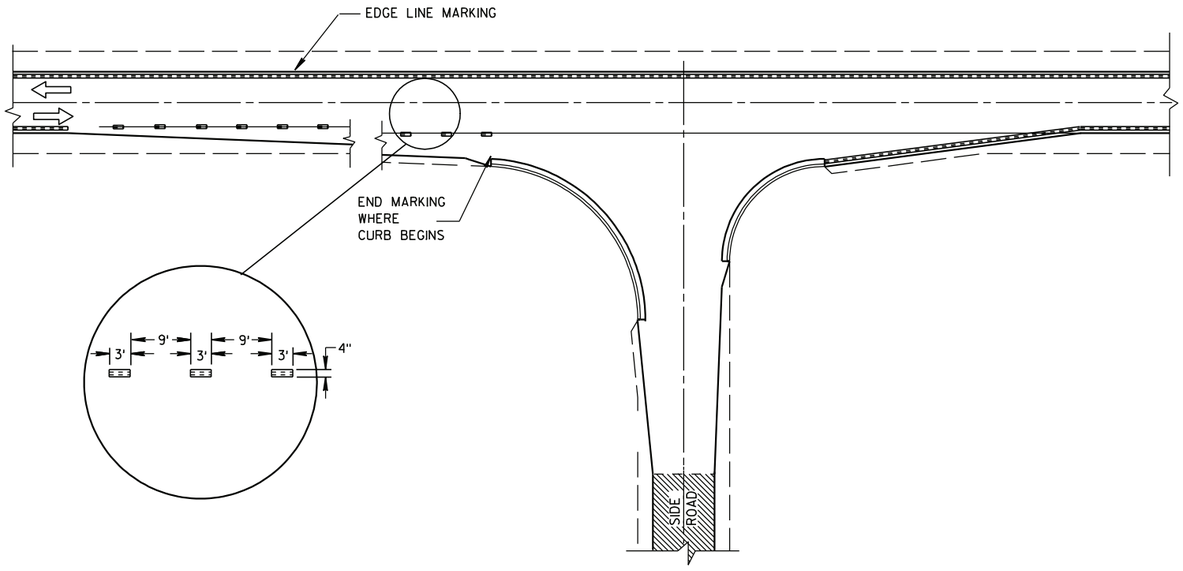
ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

(7)

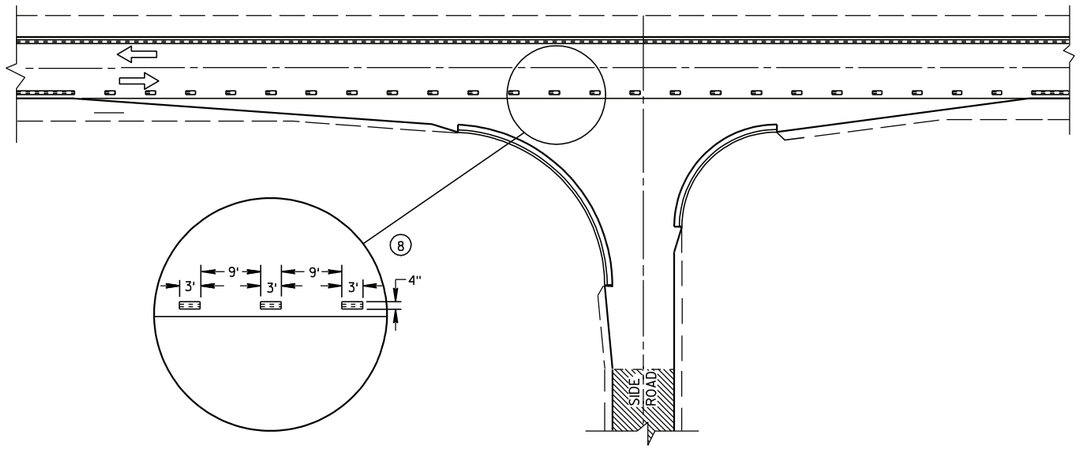
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING (INTERSECTIONS)

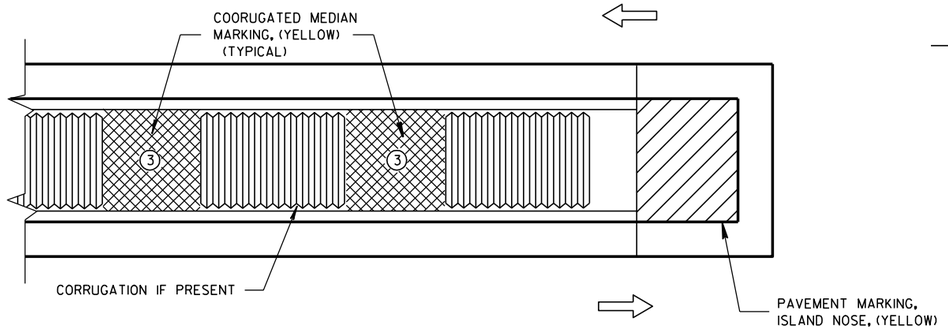
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

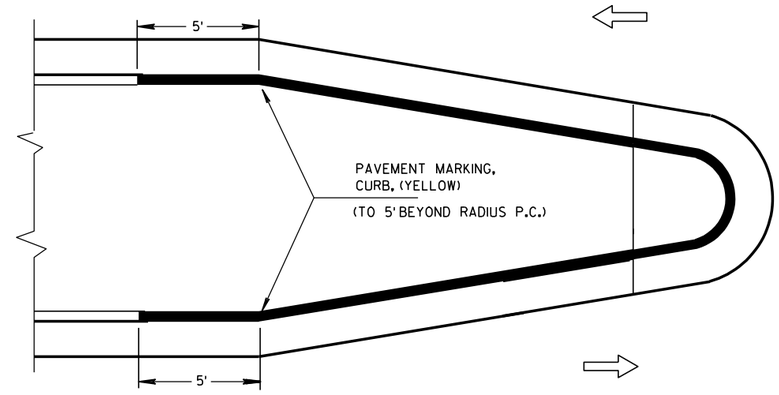
S.D.D. 15 C 8-14b

6

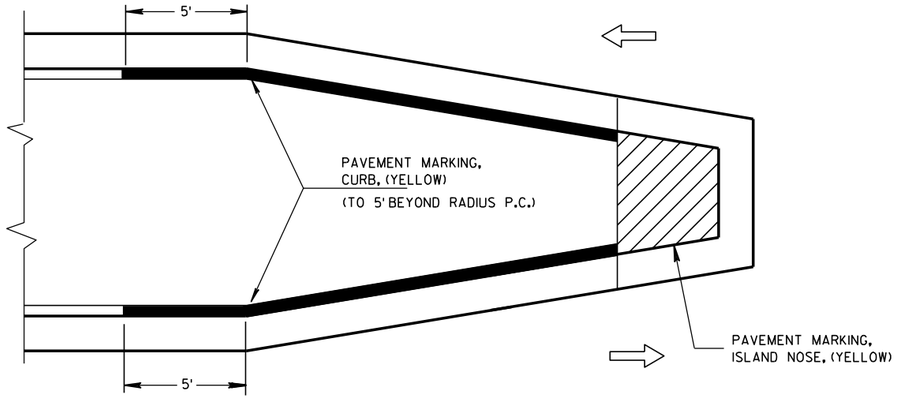
S.D.D. 15 C 8-14b



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

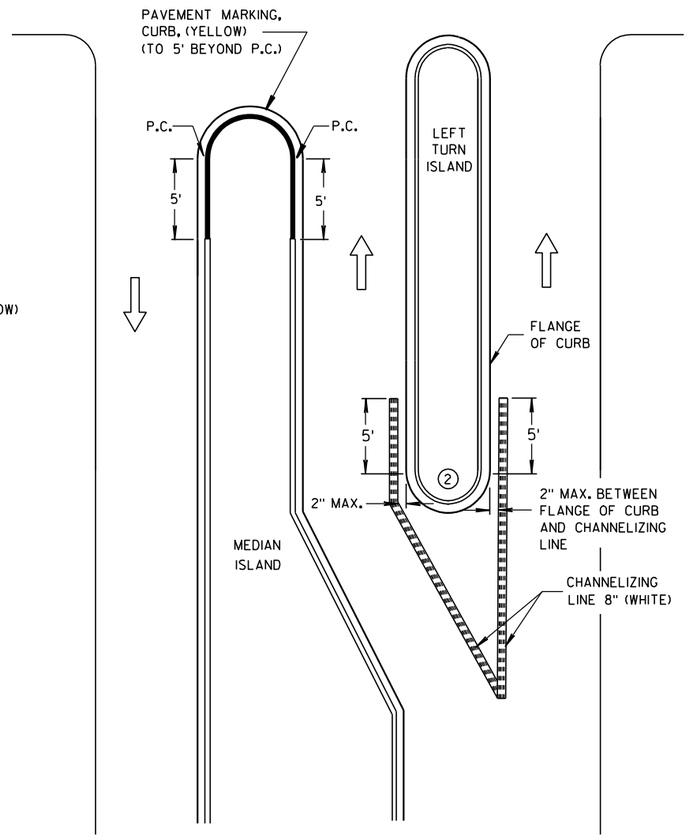


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

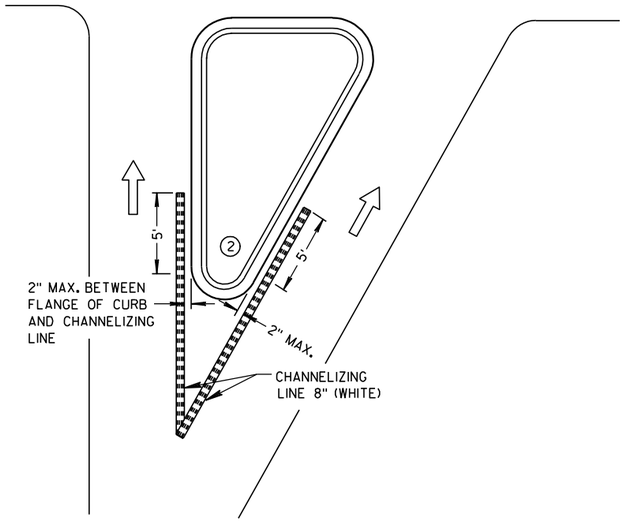
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



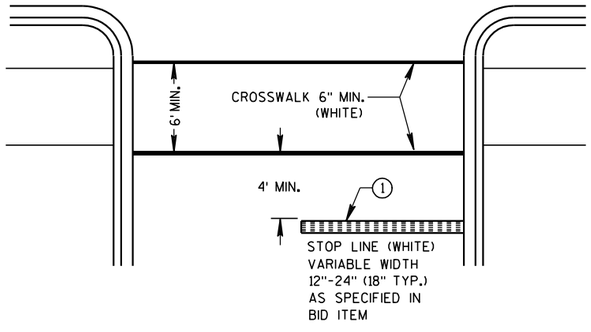
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. STOP LINE IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
3. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND



STOP LINE AND CROSSWALK

LEGEND

- ISLAND NOSE MARKING
- CURB MAKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 15 C 8-14f

6

S.D.D. 15 C 8-14f

LEGEND

- POST WITH ATTACHED SIGN
- POST WITH ATTACHED SIGN IN DRUM
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- 8' TYPE III BARRICADE
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC

GENERAL NOTES :

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

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

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

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

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

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

GENERAL NOTES CONTINUED:

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

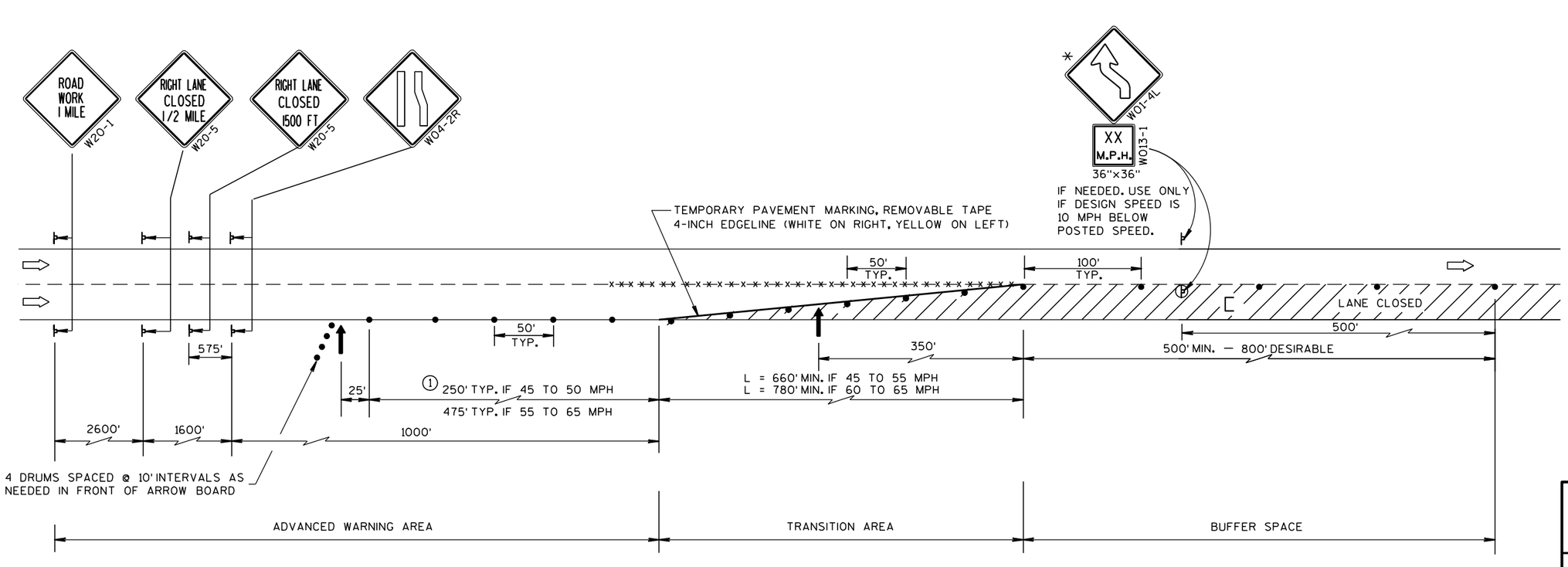
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1/4 MILE ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

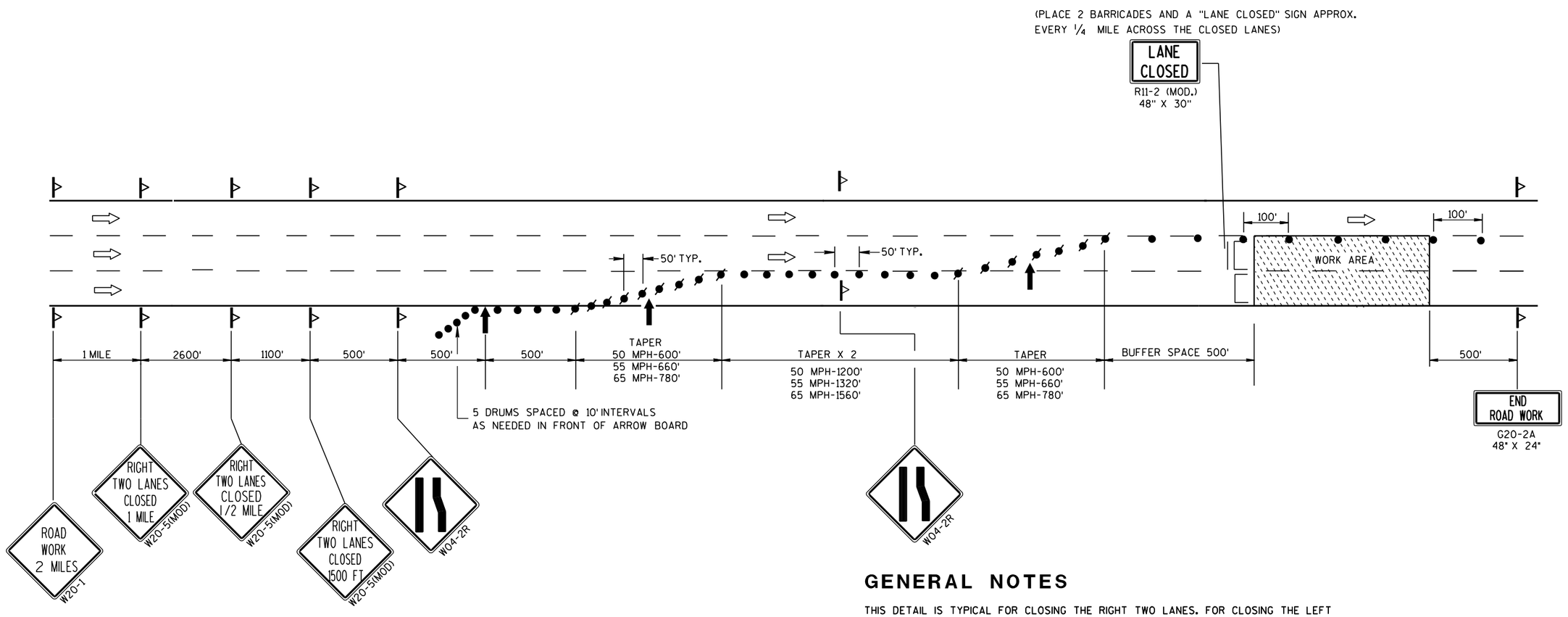


TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-7-95 DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF [illegible]
FHWA

6
S.D.D. 15 D 12-2



LEGEND

- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY BURN)
- SIGN ON POST OR PORTABLE SUPPORT
- FLASHING ARROW BOARD
- TYPE III BARRICADE (8' EQUIVALENT) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW

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.

W20-1 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

5/23/2000
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MAR 111 INEER

FHWA

6

S.D.D. 15 D 14-1

6

S.D.D. 15 D 14-1

SYMBOLS

- TRAFFIC CONTROL DRUM
- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW
- ARROW BOARD IN CAUTION MODE

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.

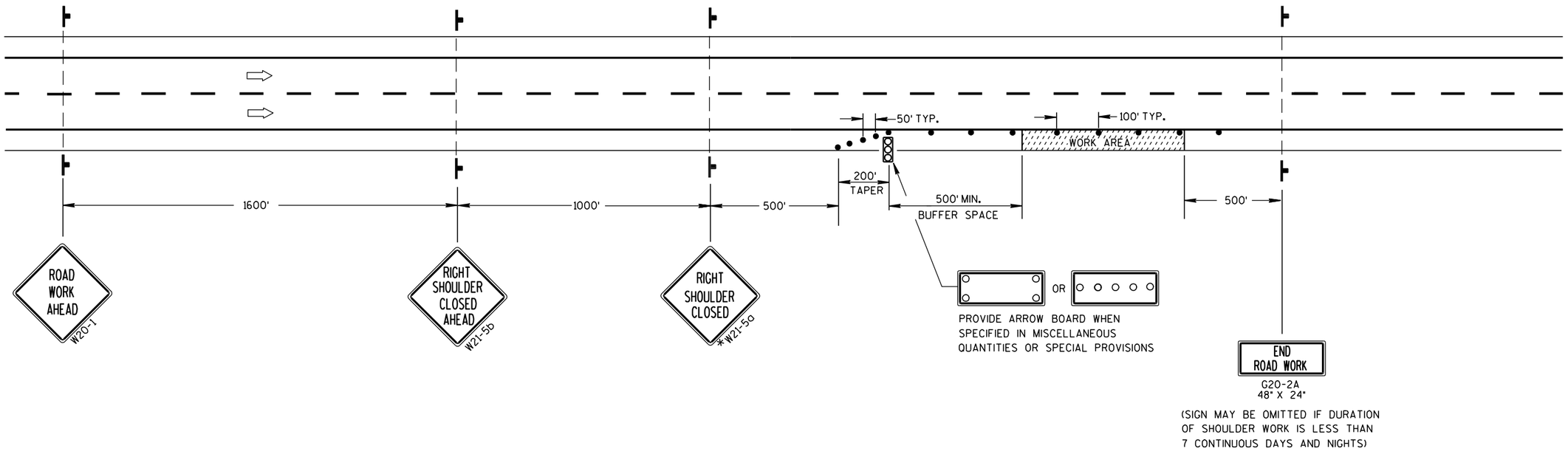
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

5/23/00
DATE

/S/ Chester J Spagna
CHIEF SIGNS AND MARKING ENGINEER

FHWA

6

S.D.D. 15 D 27-1

GENERAL NOTES:

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

2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE II".

3. UNLESS OTHERWISE NOTED, TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL". TYPE I SIGNS SHALL HAVE TYPE SH REFLECTIVE SHEETING.

4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

5. TYPE II SIGNS ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE "SERIES E.

6. TYPE I SIGNS - ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE SERIES "E" MODIFIED. ALL LOWER CASE MESSAGE WITH AN INITIAL UPPER CASE LETTER SHALL BE SERIES "E" MODIFIED. ALL CAP WORDS ARE "SERIES E"

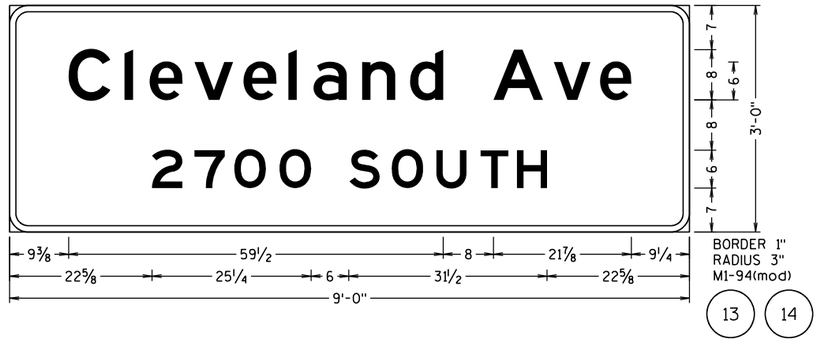
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.



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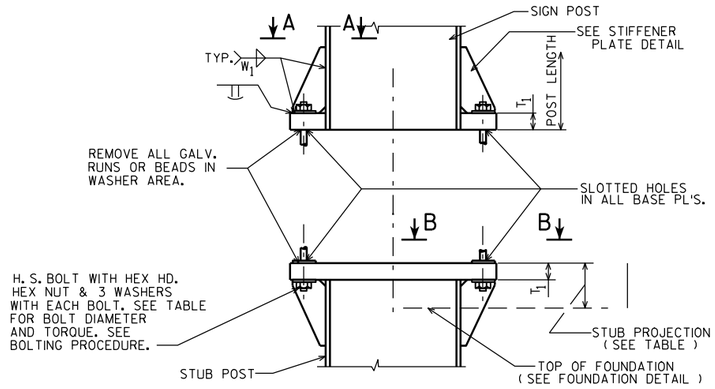
SHEET 1 OF 1

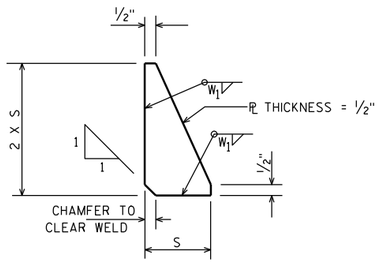
PROJECT NO: 1090-07-73	HWY: IH-894 @ CLEVELAND	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE II SIGNS	SCALE: 0 ½" 1"	SHEET E

FILE NAME : j:\projects\d2_109007894\sign\070101_ms.dgn PLOT DATE : 10-AUG-2012 09:46 PLOT BY : MSCMWB PLOT NAME : PLOT SCALE : 48.125:1

WISDOT/CADDS SHEET 47

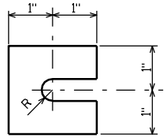


SIGN POST AND STUB POST ELEVATION



STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)



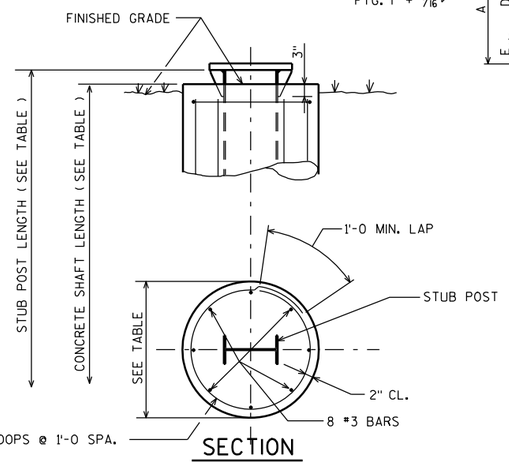
FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

SHIM DETAIL

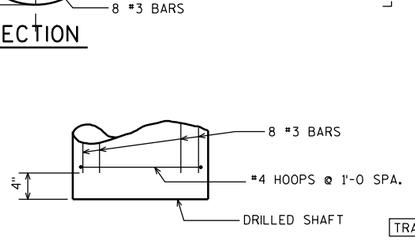
	QUANTITIES FOR 1 FOOTING	
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
⑦ E	1.0	62

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
⑦	E	8 @ 7'-11	9 @ 6'-3

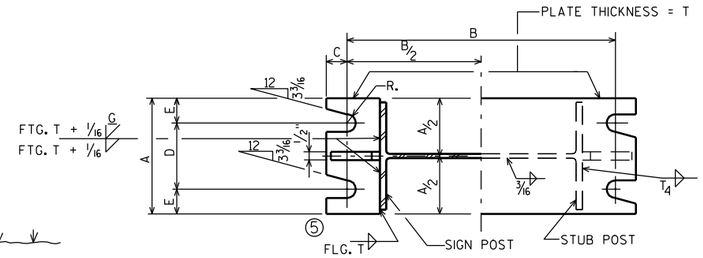
POST DETAIL



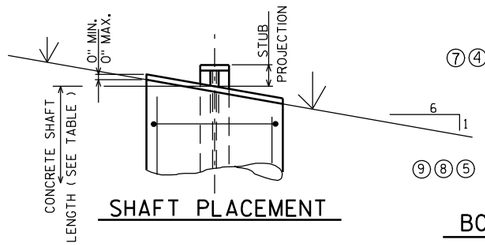
SECTION



FOUNDATION DETAIL



SECTION A-A SECTION B-B



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△	140 △25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / 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.

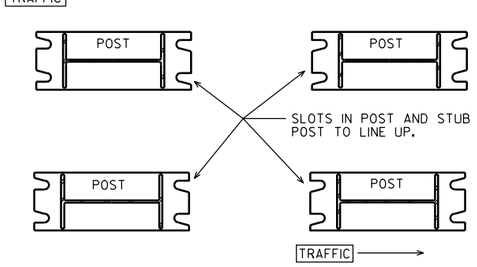
GENERAL NOTES

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.
⑨ THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.

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. 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)
4. 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.



POST SLOT ORIENTATION ⑦

	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	② K
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	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"	15/32 "	3"	5'-6	3"	2'-0 ϕ	7'-0	146.5# ④
	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"	15/32 "	3"	6'-0	3"	2'-0 ϕ	7'-6	182.1#
	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"	15/32 "	3"	6'-6	3"	2'-0 ϕ	8'-0	210.5#
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

BASE CONNECTION DATA TABLE — FOUNDATION DATA

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 4/26/11 PLATE NO. A3-1.13

NO.	DATE	REVISION
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 ℄ 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

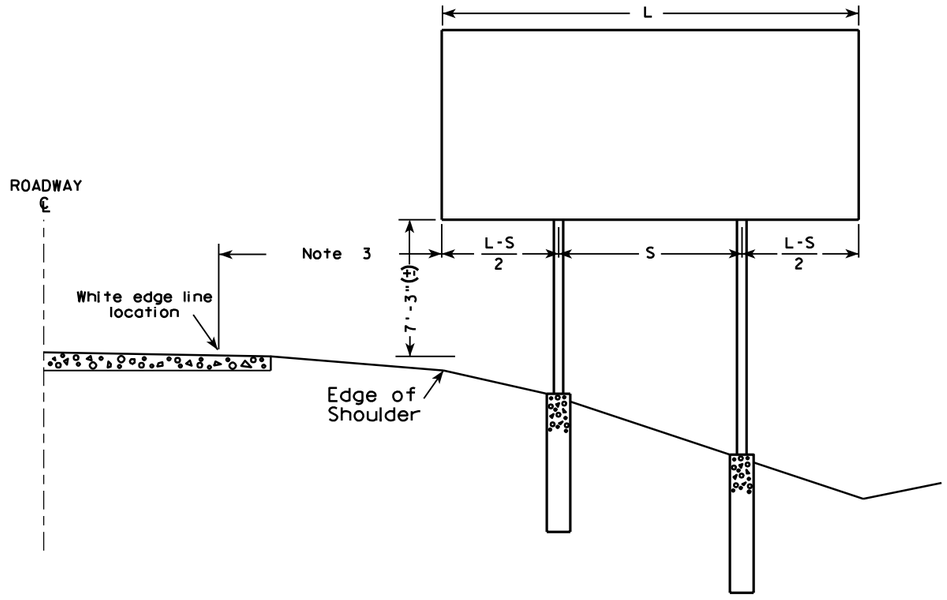
TYPE A, B, C, D, & E

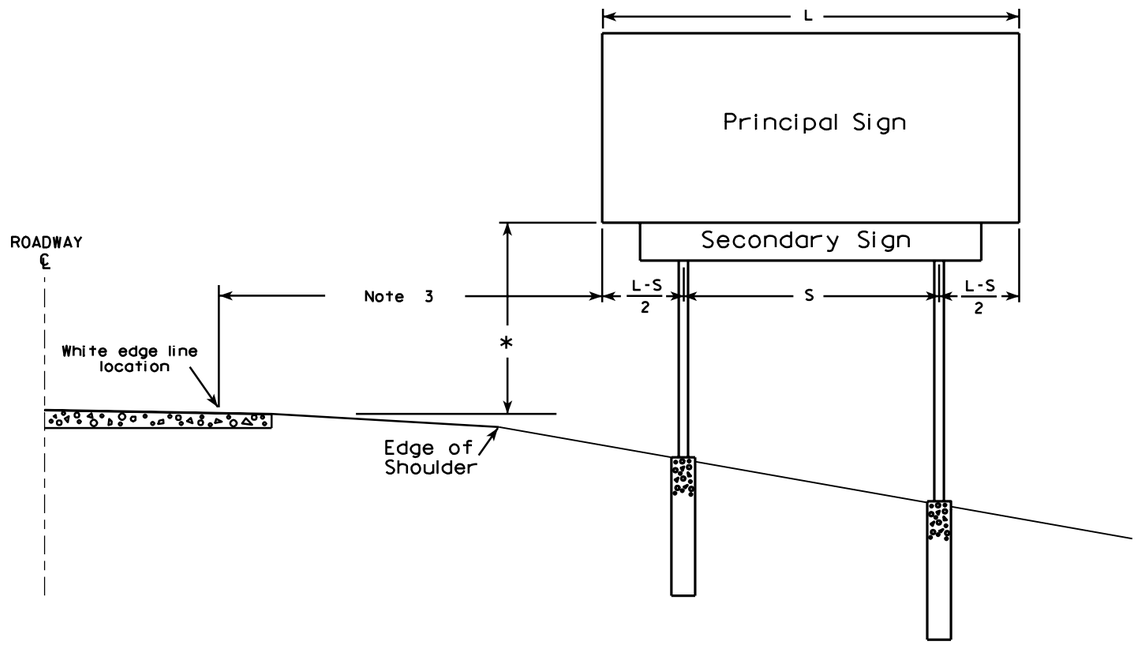
CONST. SPEC. 2011 | DRAWN BY JPH | PLANS CK'D.

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

SHEET

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 114 | E





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

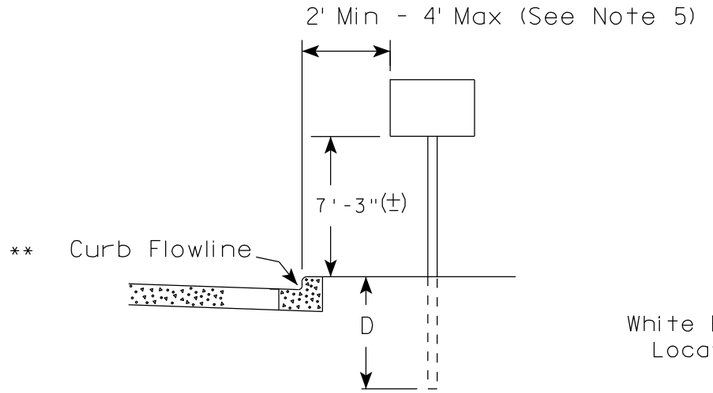
TYPICAL INSTALLATION
OF TYPE I SIGNS

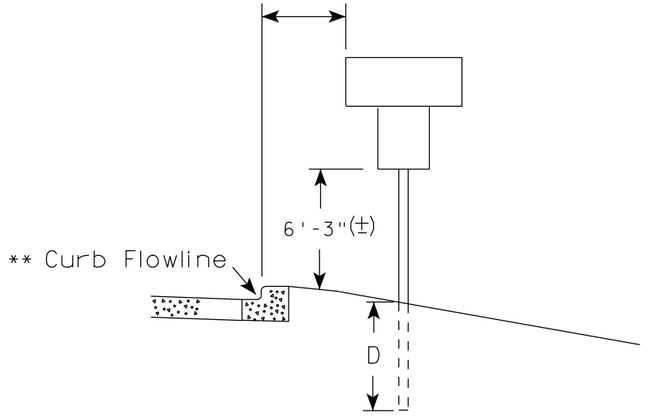
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

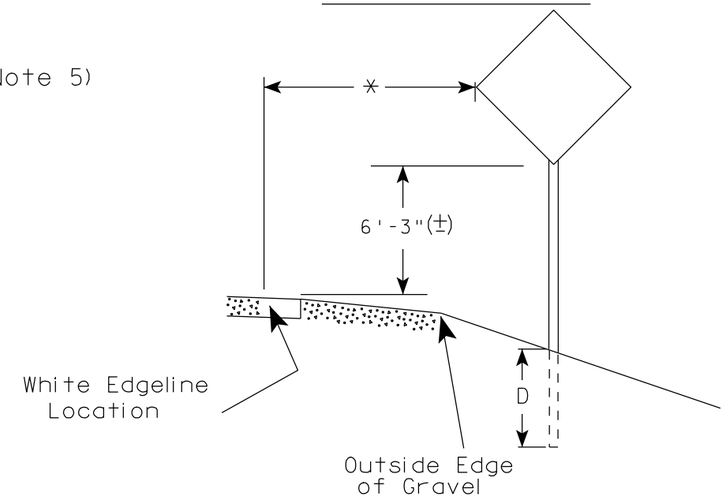
DATE 4/02/08 PLATE NO. A4-1.9

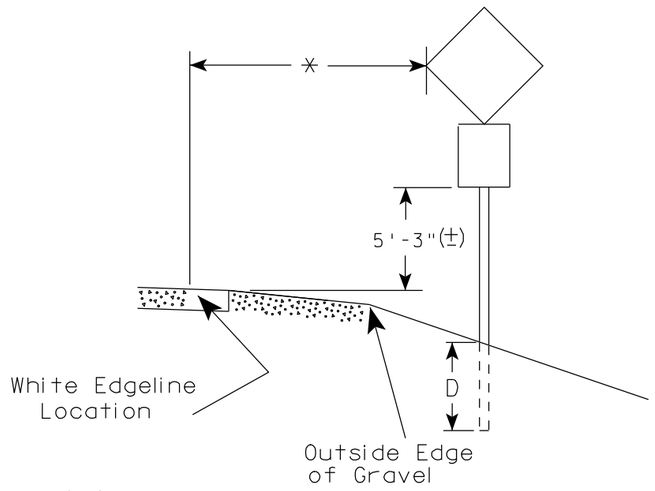
URBAN AREA





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.

GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. 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 (A4-5) 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 stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

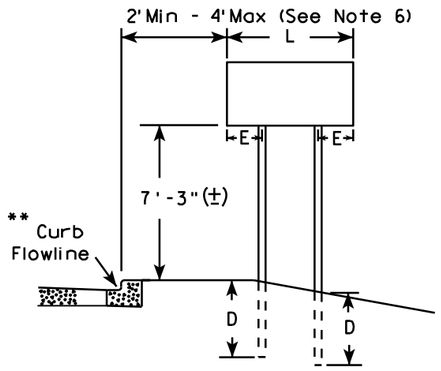
DATE 9/21/2011 PLATE NO. A4-3.16

7

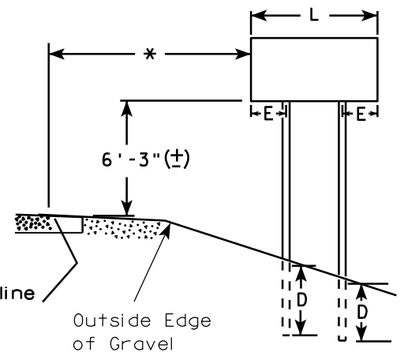
7

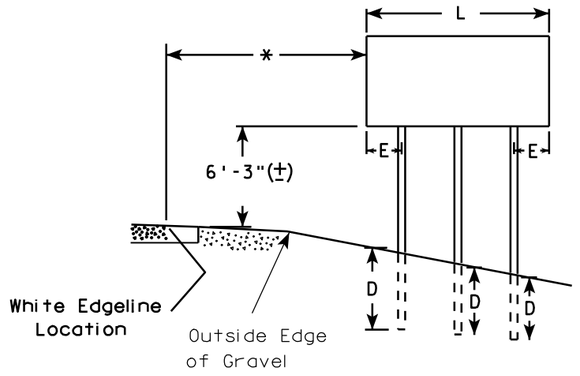
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 116	E

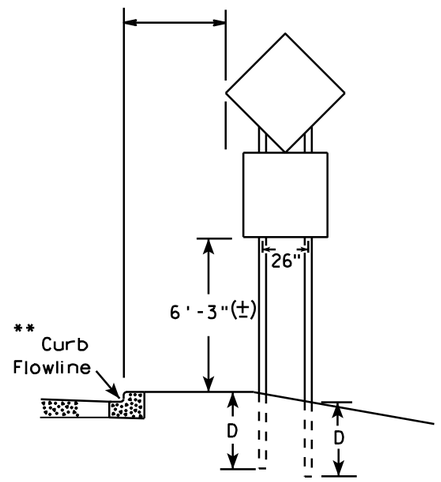
URBAN AREA



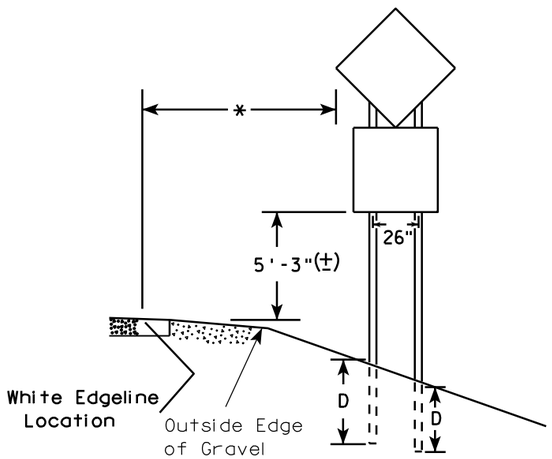
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

GENERAL NOTES

1. For multiple 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 (A4-5) 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 stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) 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 or 20 S.F. or less in area.

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

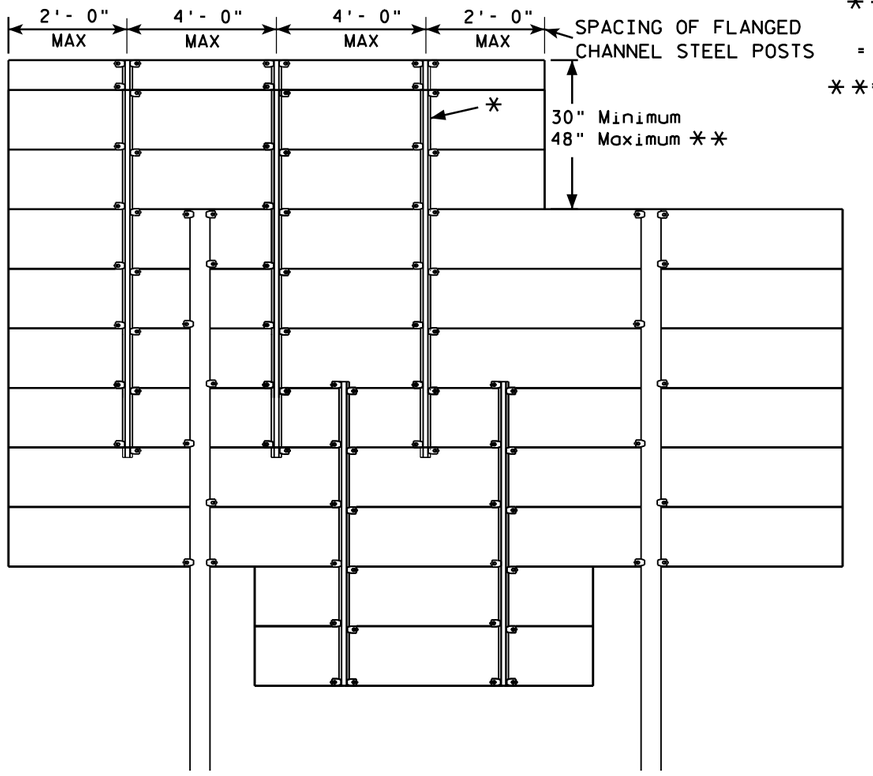
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 117	E

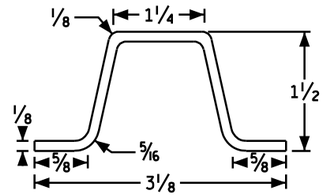
GROUND MOUNTED SIGN



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

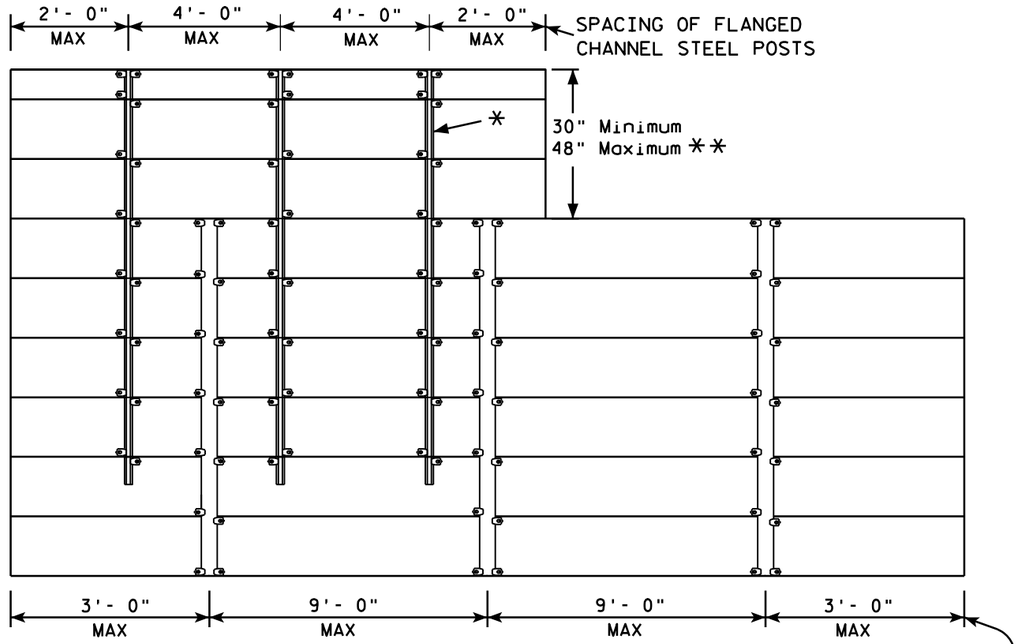
**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

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)

7

7

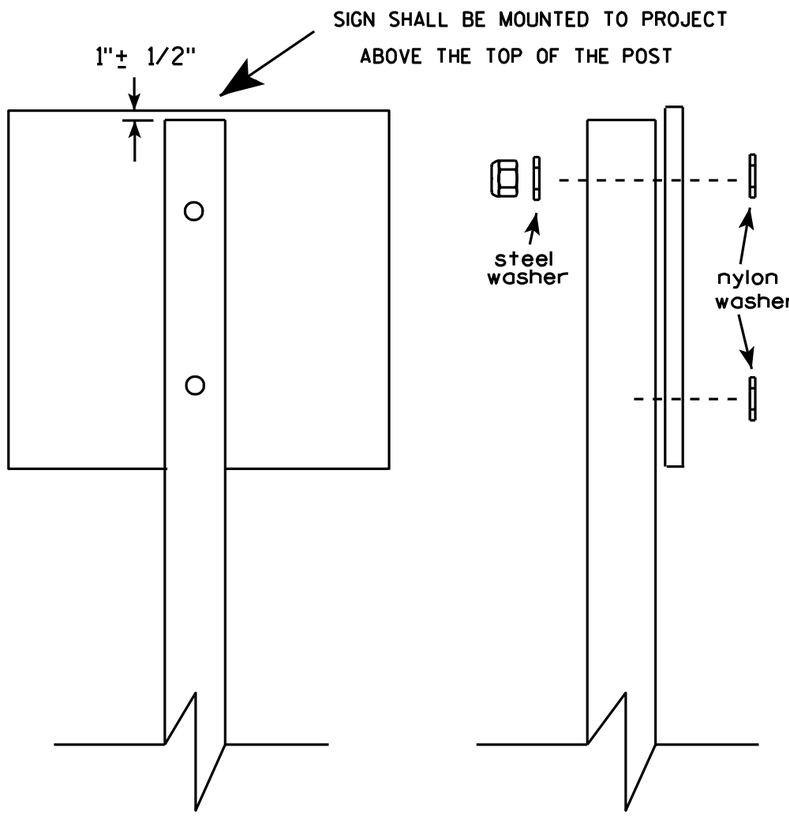
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

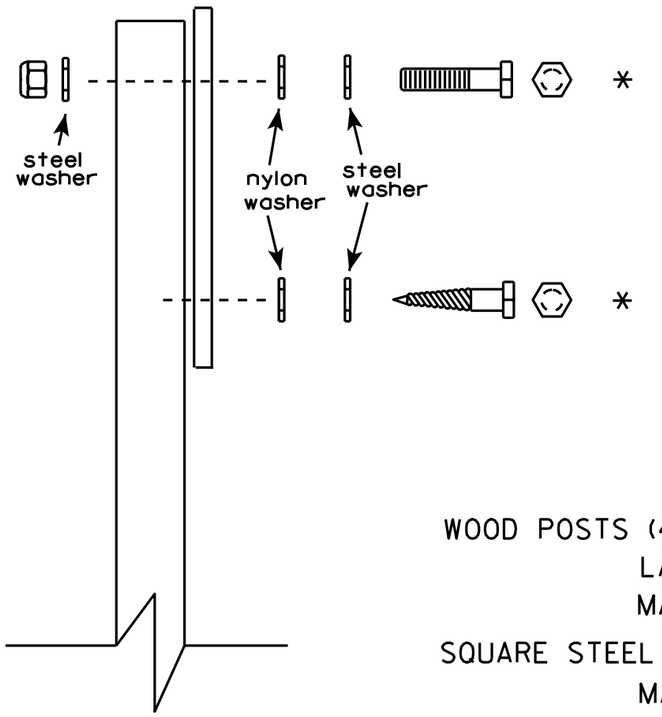
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/7/10 PLATE NO. A4-6.11

PROJECT NO:				SHEET NO: 118	E





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

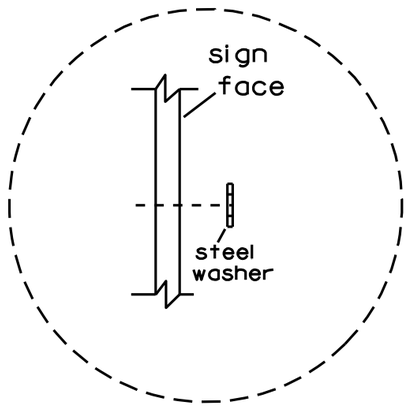
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

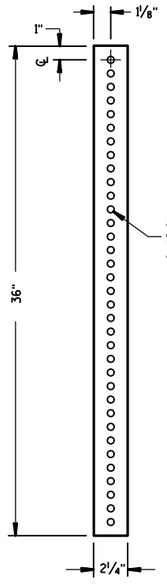
7

PROJECT NO:

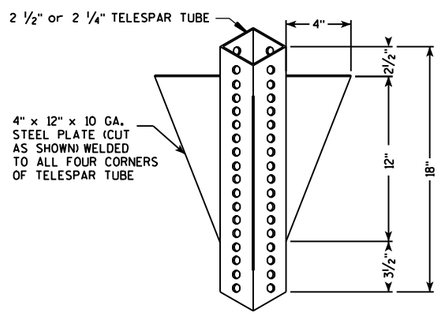
SHEET NO: 119 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

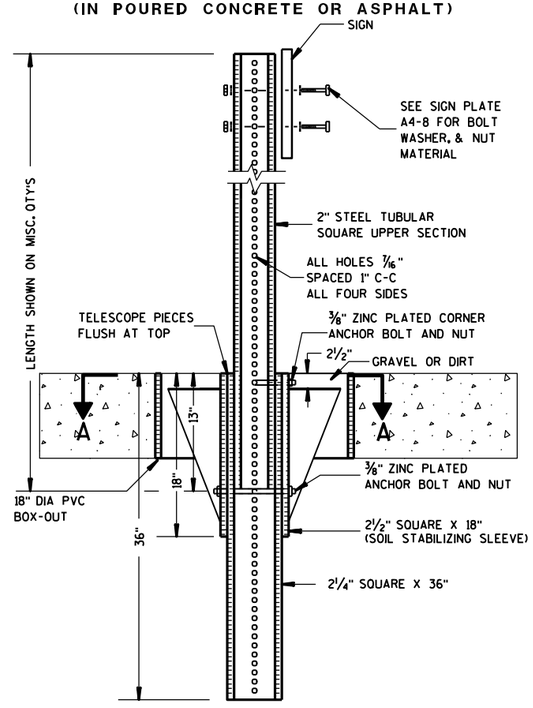
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



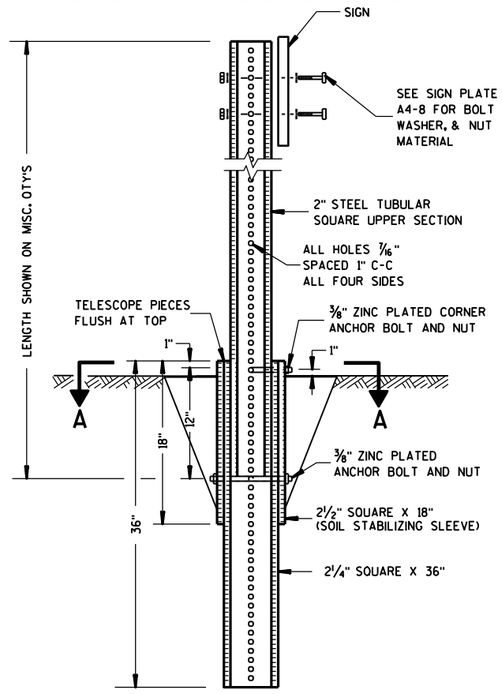
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

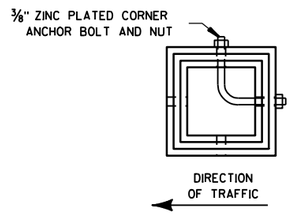


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





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).

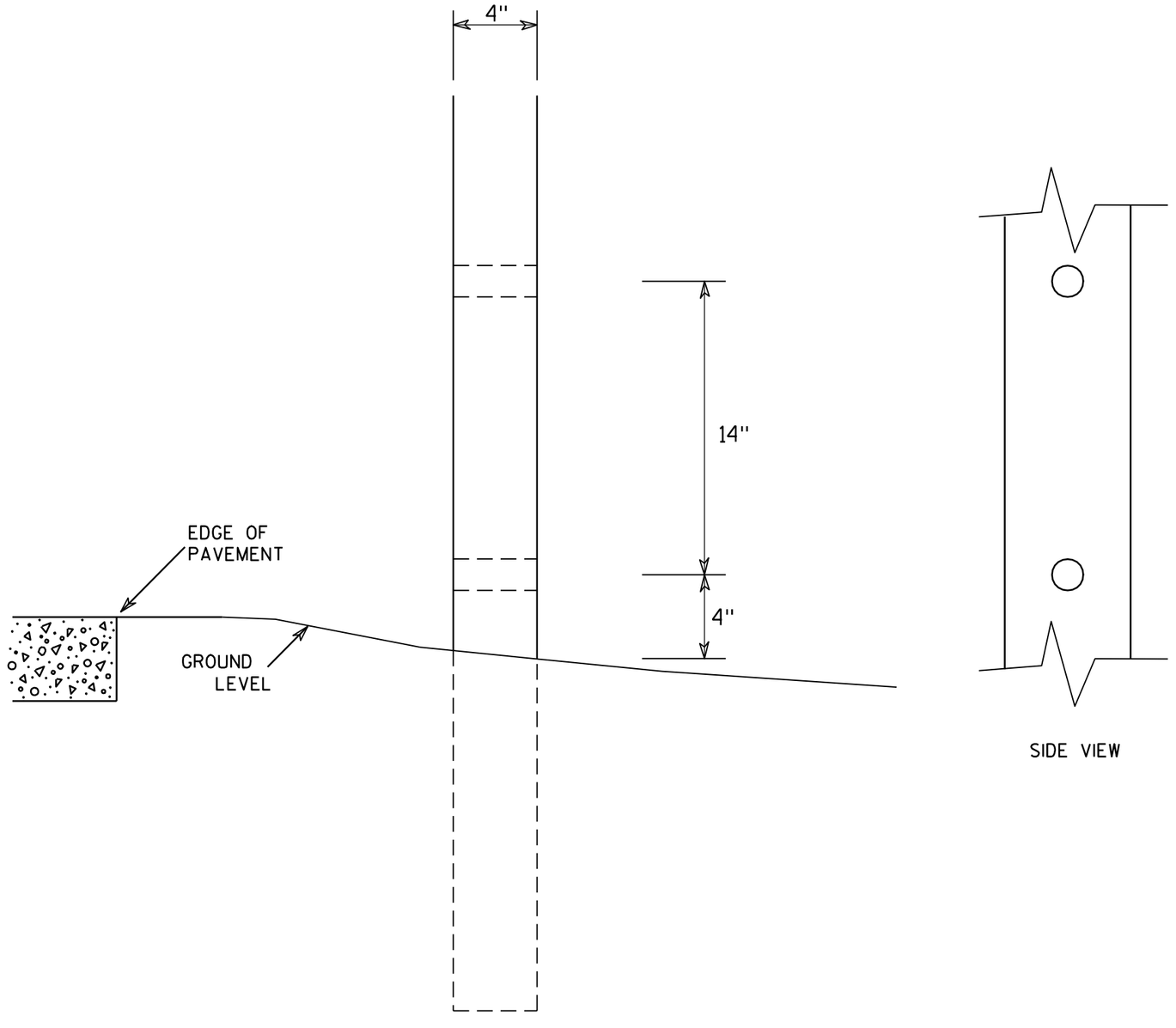
TUBULAR STEEL SIGN POST A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 120	E



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

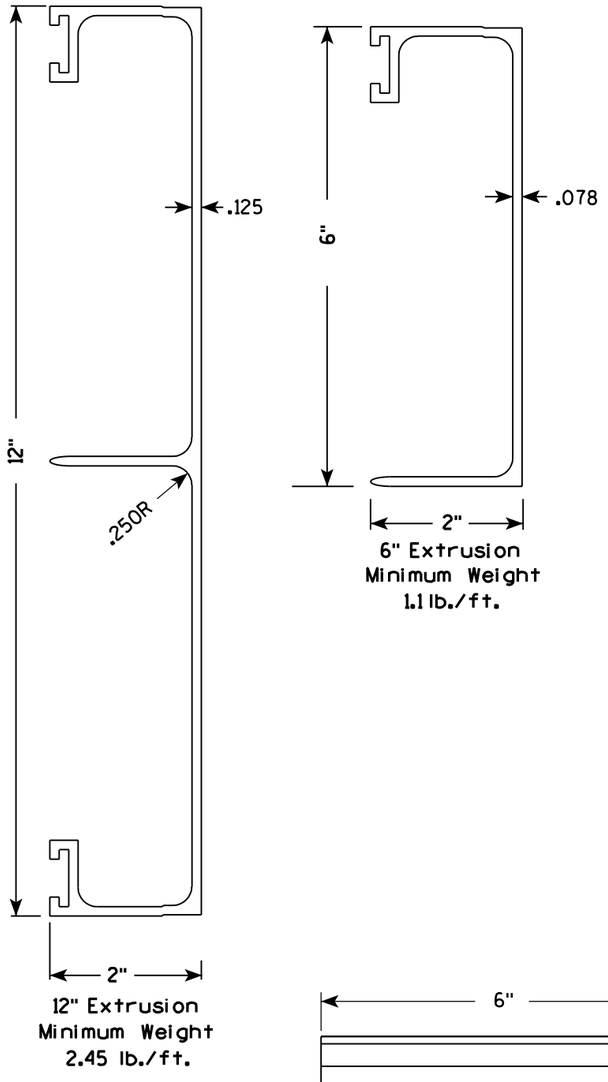
WISCONSIN DEPT OF TRANSPORTATION

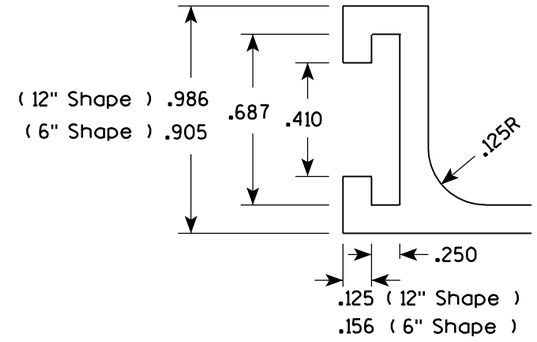
APPROVED Chester J Spang
for State Traffic Engineer

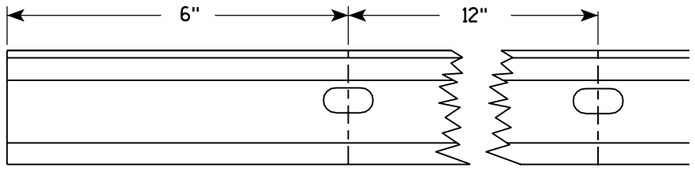
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 121	E

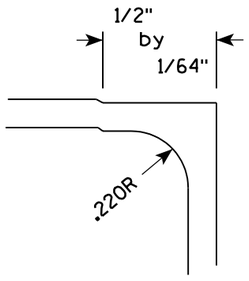
Extruded Shape







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.

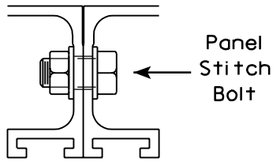


Hardware

STITCH BOLT, WASHER & NUT

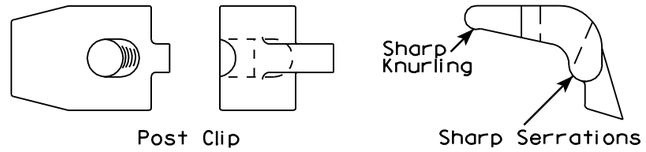
The hardware includes:

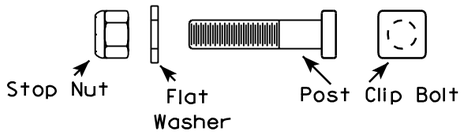
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



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:

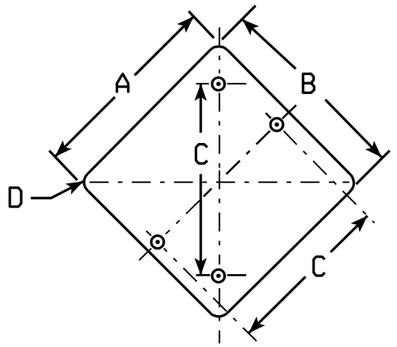
SHEET NO: 122 E

FILE NAME : C:\Users\Projects\tr_stdplate\A52.DGN PLOT DATE : 28-SEP-2005 07:20 PLOT BY : DOTDZK

WISDOT/CADDS SHEET 42

7

7



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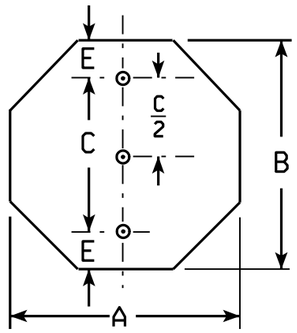

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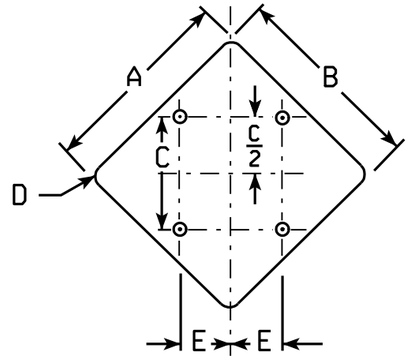

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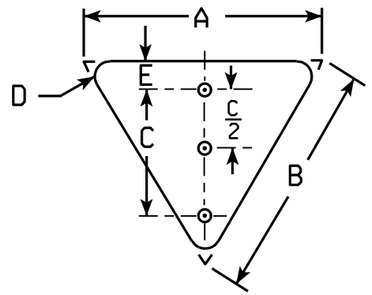

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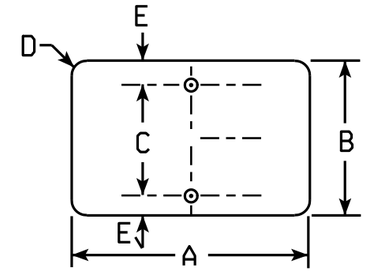


5

TYPE 1						
A	B	C	D	Area Sq. Ft.	THICK NESS	Mounting Holes
24	24	24	1 1/2	4.0	.080	2
30	30	30	1 7/8	6.25	.080	2
36	36	36	2 1/4	9.0	.100	2

TYPE 2						
A	B	C	E	Area Sq. Ft.	THICK NESS	Mounting Holes
24	24	20	2	3.31	.080	2
30	30	24	3	5.18	.100	2
36	36	28	4	7.46	.125	2
48	48	36	6	13.25	.125	3

TYPE 3							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	48	26	3	13	16.0	.125	4

TYPE 4							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
36	36	24	2	2	3.9	.100	2
48	48	32	3	3	7.0	.125	2

TYPE 5							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
8	8	6	1 1/2	1	0.44	.080	2
12	12	9	1 1/2	1 1/2	1.00	.080	2
18	18	14	1 1/2	2	2.25	.080	2
21	15	11	1 1/2	2	2.19	.080	2
21	21	17	1 1/2	2	3.06	.080	2
24	12	8	1 1/2	2	2.0	.080	2
24	18	14	1 1/2	2	3.0	.080	2
24	24	20	1 1/2	2	4.0	.080	2
30	12	8	1 1/2	2	2.5	.080	2
30	15	11	1 1/2	2	3.13	.080	2
30	18	14	1 1/2	2	3.75	.080	2
30	21	17	1 1/2	2	4.37	.080	2
30	24	20	1 1/2	2	5.0	.080	2

TYPE 5 CONT'D.							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
30	30	22	1 7/8	4	6.25	.080	2
36	12	8	1 1/2	2	3.0	.100	2
36	18	14	1 1/2	2	4.5	.100	2
36	24	20	1 1/2	2	6.0	.100	2
36	36	26	2 1/4	5	9.0	.100	2
40	18	14	1 1/2	2	5.00	.100	2
42	30	22	1 7/8	4	8.75	.125	2

NOTES

1. All sign blanks shall have 7/16" Diameter mounting hole.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 1 OF 3

WISCONSIN DEPT OF TRANSPORTATION

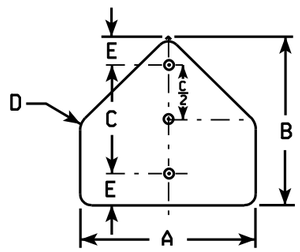
APPROVED Matthew L Rauch

for State Traffic Engineer

DATE 3/5/2012

PLATE NO. A5-3A.19

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 123 | E



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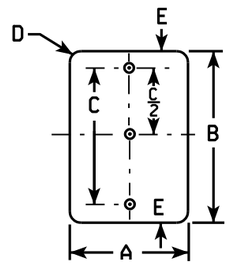

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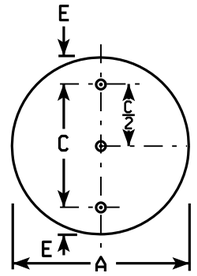

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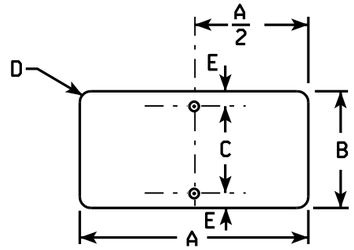


9

TYPE 6							
A	B	C	D	E	Area Sq. Ft	THICK NESS	Mounting Holes
30	30	24	1 3/8	3	4.68	.080	2
36	36	26	1 5/8	5	6.75	.100	2
48	48	32	1 7/8	8	12.0	.125	3

TYPE 7							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
12	18	15	1 1/2	1 1/2	1.5	.080	2
12	24	20	1 1/2	2	2.0	.080	2
12	36	24	1 1/2	6	3.0	.100	2
12	48	32	1 1/2	8	4.0	.125	3
15	21	18	1 1/2	1 1/2	2.19	.080	2
18	24	20	1 1/2	2	3.0	.080	2
18	36	24	1 1/2	6	4.5	.100	2
18	54	36	2 1/2	9	6.75	.080	3
21	60	40	1 1/2	10	8.75	.080	3
21	72	52	1 1/2	10	10.5	.080	3
24	30	22	1 1/2	4	5.0	.080	2
24	36	24	1 1/2	6	6.0	.100	2
24	39	27	1 1/2	6	6.5	.080	3
24	45	32	1 7/8	6	7.5	.080	3
24	48	32	1 7/8	8	8.0	.125	3
24	57	37	1 7/8	10	9.5	.080	3
36	48	32	1 7/8	8	12.0	.125	3
36	54	36	1 7/8	9	12.75	.100	3
36	57	37	1 7/8	10	14.25	.100	3
48	39	27	1 7/8	10	13.0	.125	3
48	45	32	1 7/8	10	14.0	.125	3
48	57	37	3	6	19.0	.125	3
48	60	40	3	7	20.0	.125	3

TYPE 8						
A	B	C	E	Area Sq. Ft.	THICK NESS	Mounting Holes
30	—	24	3	4.91	.080	2
36	—	26	5	7.07	.100	2
48	—	32	8	12.5	.125	3

TYPE 9							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	24	20	1 7/8	2	8.0	.125	2

NOTES

1. All sign blanks shall have 7/16" Diameter mounting holes.

7

7

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 2 OF 3

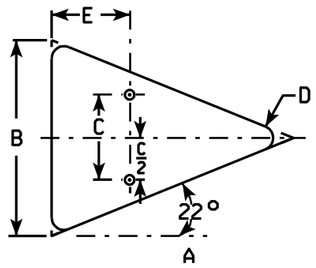
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

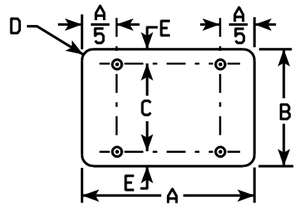
for State Traffic Engineer

DATE 3/5/2012 PLATE NO. A5-3A.19

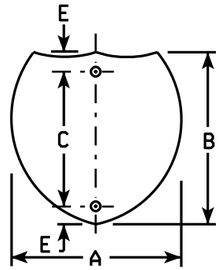
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 124	E



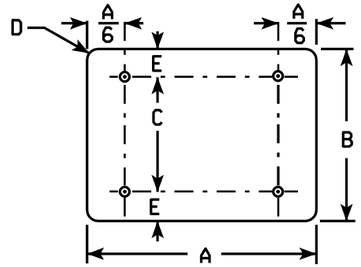
10



11



12



13

TYPE 10 (NOTE 1)							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	36	14	2¼	16	6.0	.125	2

TYPE 11							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	48	32	3	8	16.0	.125	4

TYPE 12 (NOTE 2)						
A	B	C	E	Area Sq. Ft.	THICK NESS	Mounting Holes
24	24	18	3	3.13	.080	2
30	24	18	3	3.91	.080	2
36	36	28	4	7.03	.100	2
45	36	28	4	8.79	.125	2

TYPE 13							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	48	32	3	8	16.0	.125	4
48	60	40	3	10	20.0	.125	4
48	24	20	1⅞	2	8.0	.125	4
48	30	22	1⅞	4	10.0	.125	4
60	24	20	1⅞	2	10.0	.125	4
60	30	22	1⅞	4	12.5	.125	4

NOTES

1. Dimension A on type #10 is measured to the theoretical intersections of the edges.
2. Shape of type #12 shall conform to FHWA standard for Interstate route markers.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

SHEET 3 OF 3

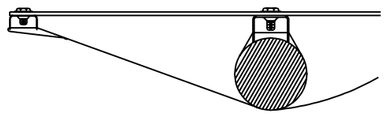
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

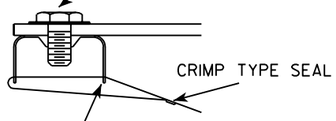
DATE 3/5/2012 PLATE NO. A5-3A.19

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 125	E

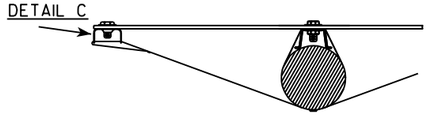
BRACE BANDING

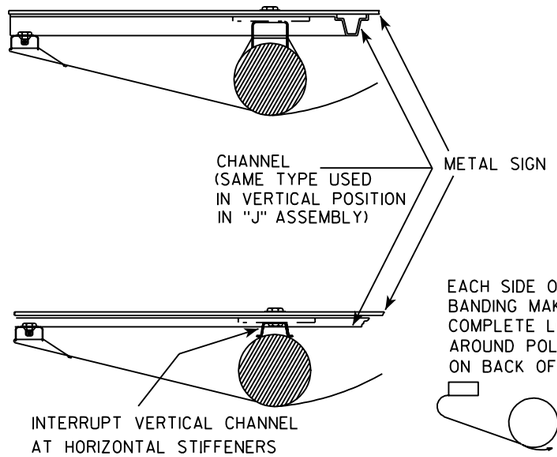


DETAIL C
CADMIUM PLATED STEEL BOLT
THROUGH BLACK BORDER



DETAIL C

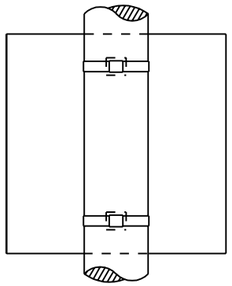


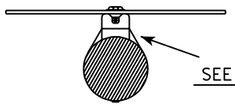


EACH SIDE OF BRACE
BANDING MAKES ONE
COMPLETE LOOP
AROUND POLE-SEAL
ON BACK OF POLE

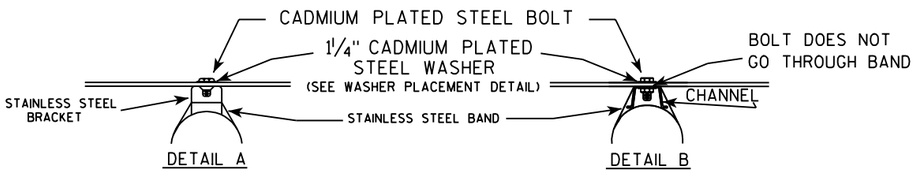
BRACKET BANDING

SINGLE SIGN





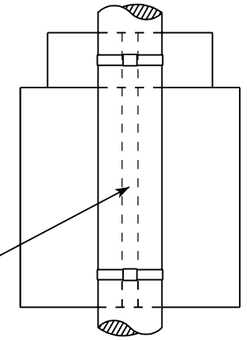
SEE DETAIL A



DETAIL A

DETAIL B

"J" ASSEMBLY

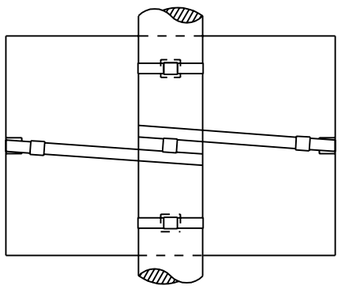


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

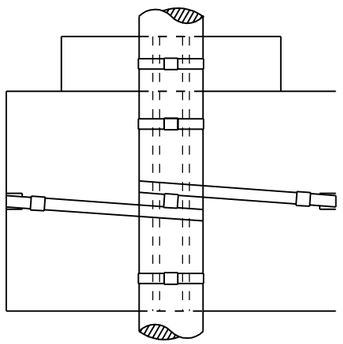
GENERAL NOTES

1. Signs 4' or greater in width shall have one brace band installed at the center of the sign.
2. Signs 3' or greater in height shall have three bracket bands installed. Signs less than 3' in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

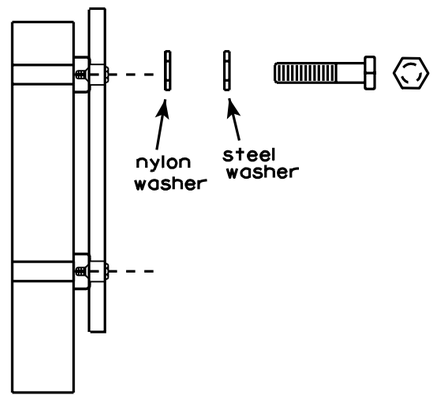


BRACE BANDING

BRACE BANDING SHALL BE TIGHTENED FIRMLY BUT NOT SO TIGHT AS TO APPRECIABLY CURVE FACE OF SIGN.



WASHER PLACEMENT



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

STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 126	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 - Green
   Message - White - Type H Reflective
3. Message Series - E
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.

M1-94

* Minimum dimension is normally height of upper case letter.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	Varies	15	2 1/4		3/4	4 1/2	6	5	4 1/8	8 5/8	5 1/4	14 5/8	7 3/4	6	8 1/2			30									Varies
3																											
4	Varies	21	3		1	6	8	7 1/8	4 3/4	9 1/2	5 3/4	17 1/2	9 1/4	7	12			36									Varies
5	Varies	21	3		1	6	8	7 1/8	4 3/4	9 1/2	5 3/4	17 1/2	9 1/4	7	12			36									Varies

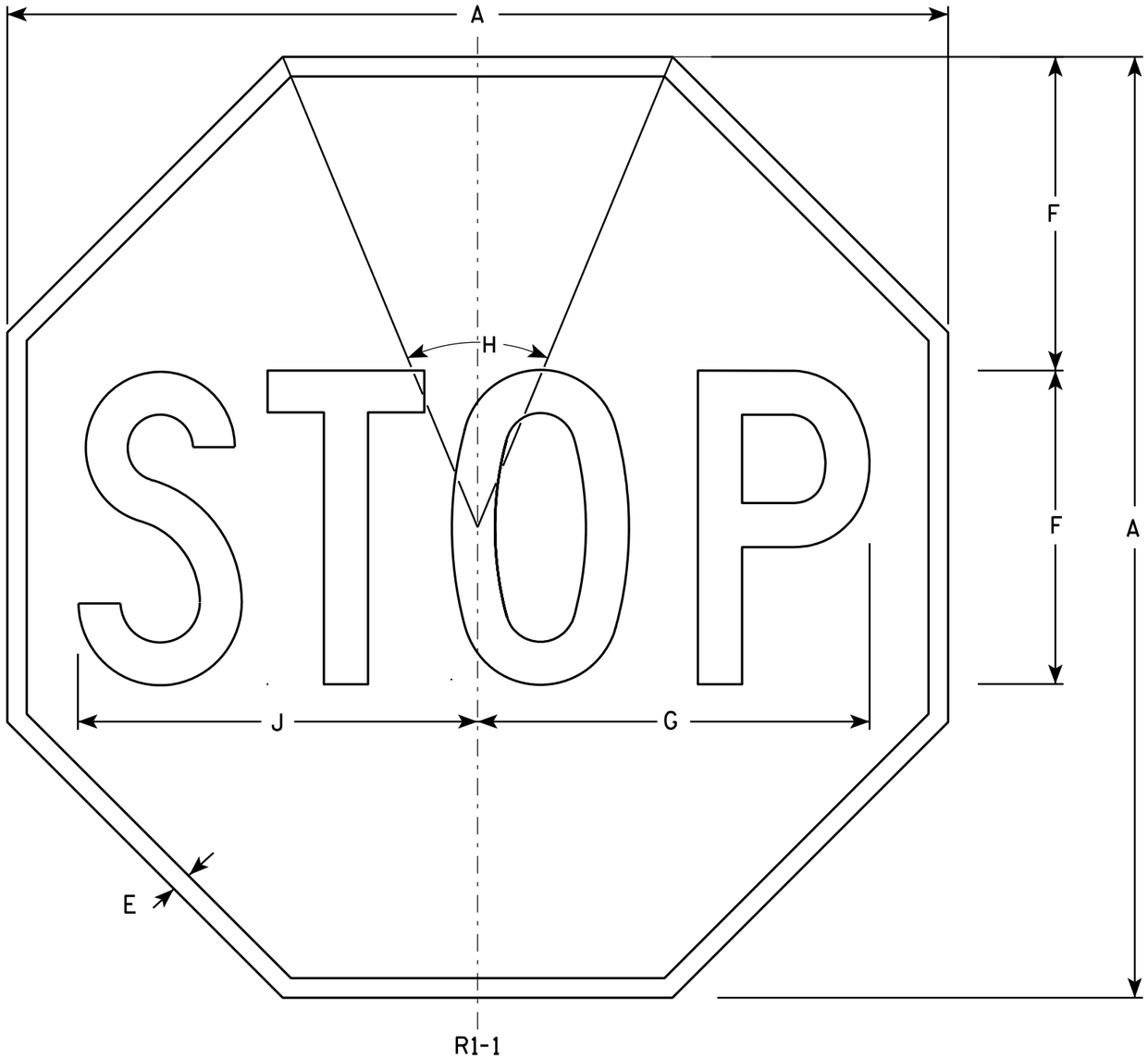
STANDARD SIGN
M1-94

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/16/10 PLATE NO. M1-94.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 127	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 - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

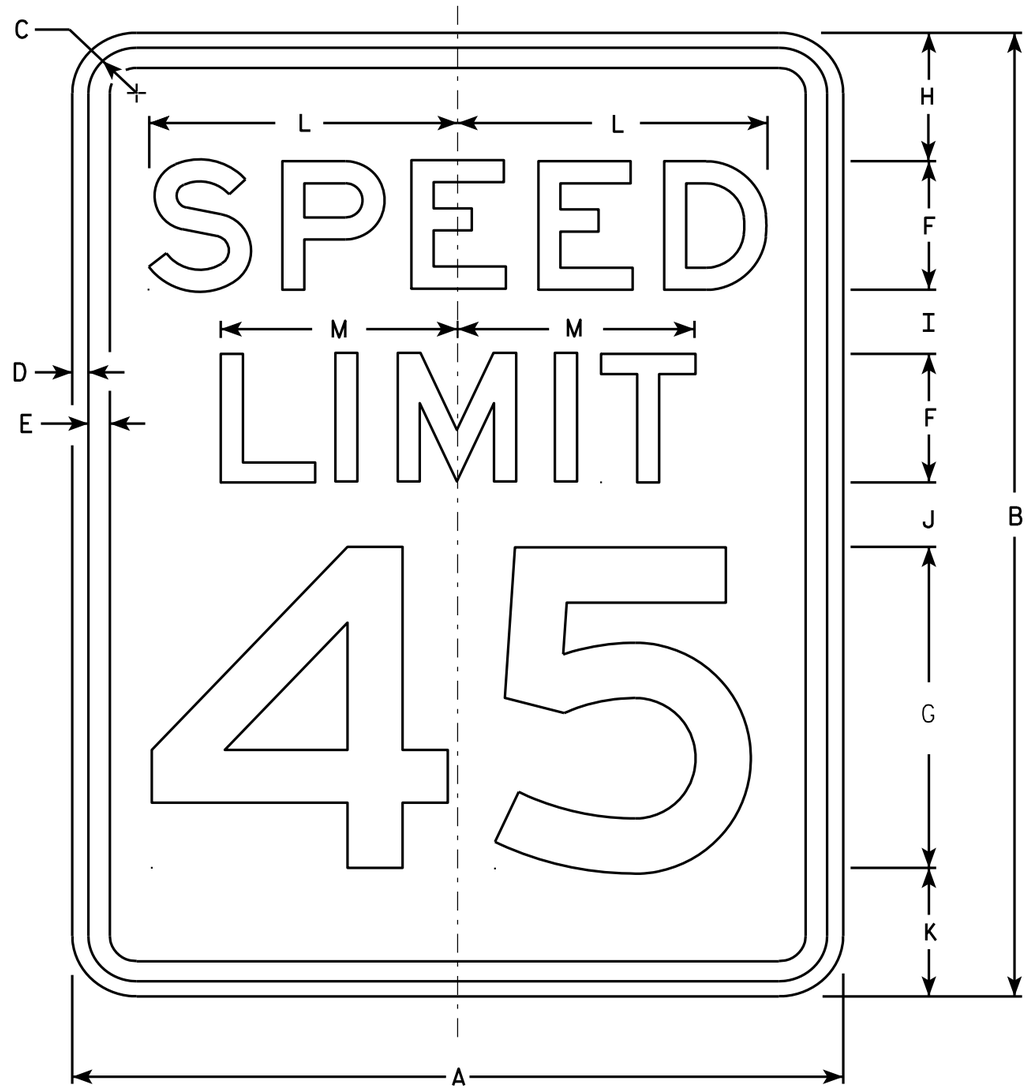
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 128	E



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

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

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

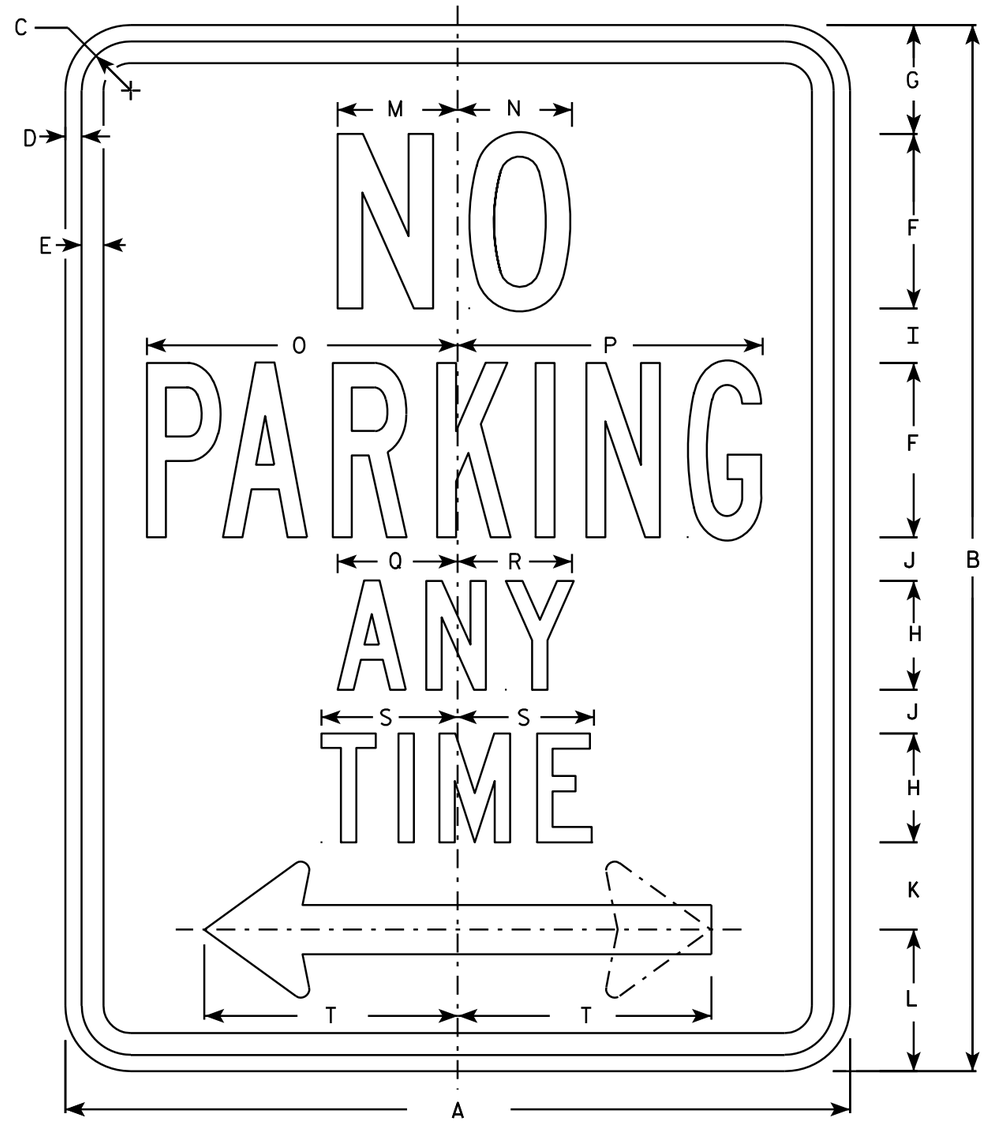
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 129 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

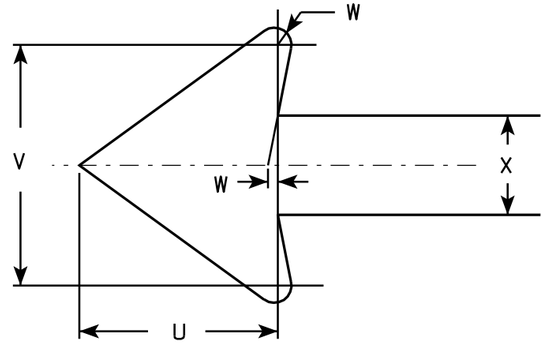
WISDOT/CADDS SHEET 42



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
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, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

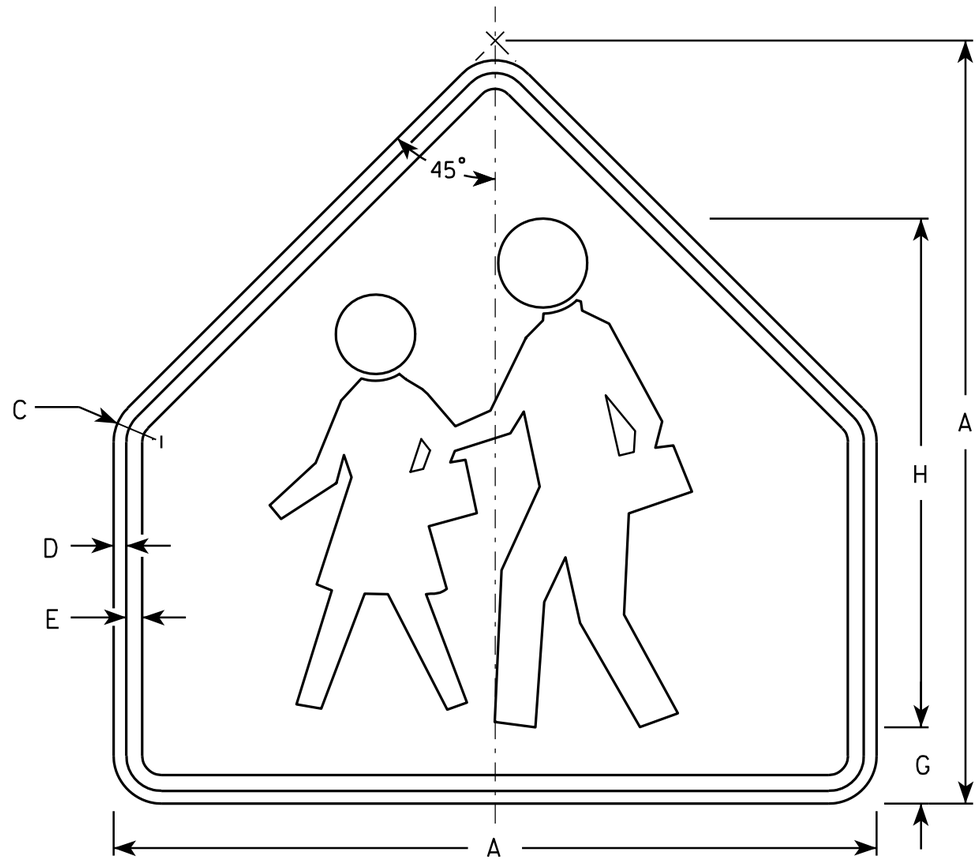
STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 130 | E



S1-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

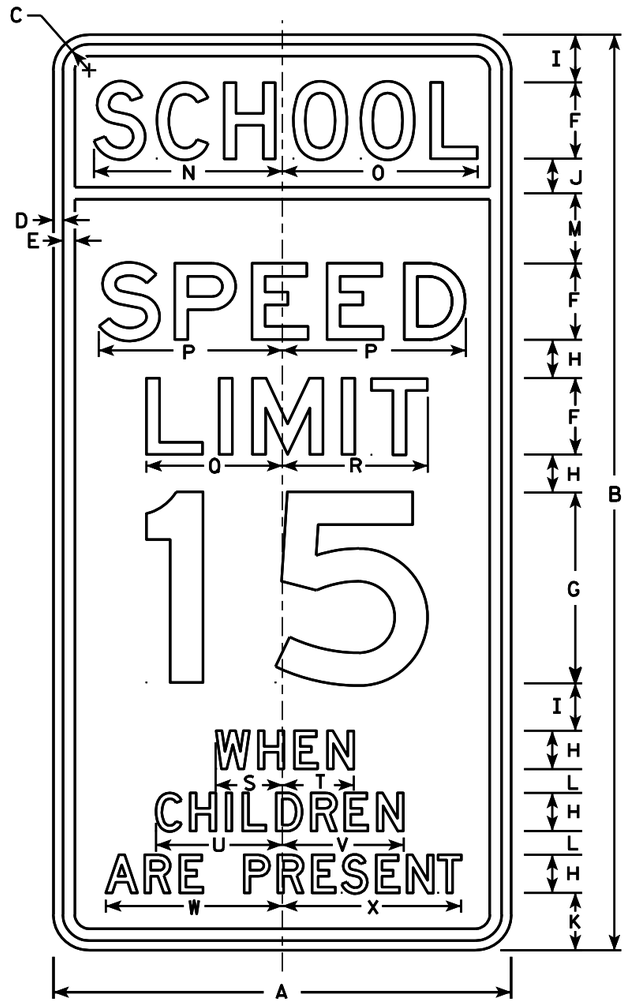
STANDARD SIGN
S1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 131	E



S4-51

NOTES

1. Sign is Type II - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. (See note 5).
2. Color:
   Background - See note 5
   Message - Black
3. Message Series - See note 6
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. Top panel (SCHOOL) background - Yellow Green -Type F Reflective.
   Lower panel background - White -Type H Reflective.
6. From top to bottom:
   Lines 1, 5, 6 & 7 are series D
   Lines 2, 3 & 4 are series E
7. Line 4 substitute appropriate numerals and adjust spacing to achieve proper balance.

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 1200 mm
3	900 mm X 1800 mm
4	
5	

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																												
2	24	48	1 3/8	1/2	5/8	4	10	2	2 1/2	1 3/4	3	1 1/4	3 3/4	9 7/8	10 1/4	9 5/8	7 1/8	7 5/8	3 1/2	3 3/8	6 5/8	6 3/8	9 1/4	9 3/8			8.00	0.72
3	36	72	2 1/4	3/4	1	6	15	3	3 3/4	2 3/4	4 1/2	1 7/8	5 1/2	15	15 1/4	14 1/2	11 1/4	11 1/2	5 1/2	5 3/4	10	9 3/4	14	14 1/8			18.00	1.62
4																												
5																												

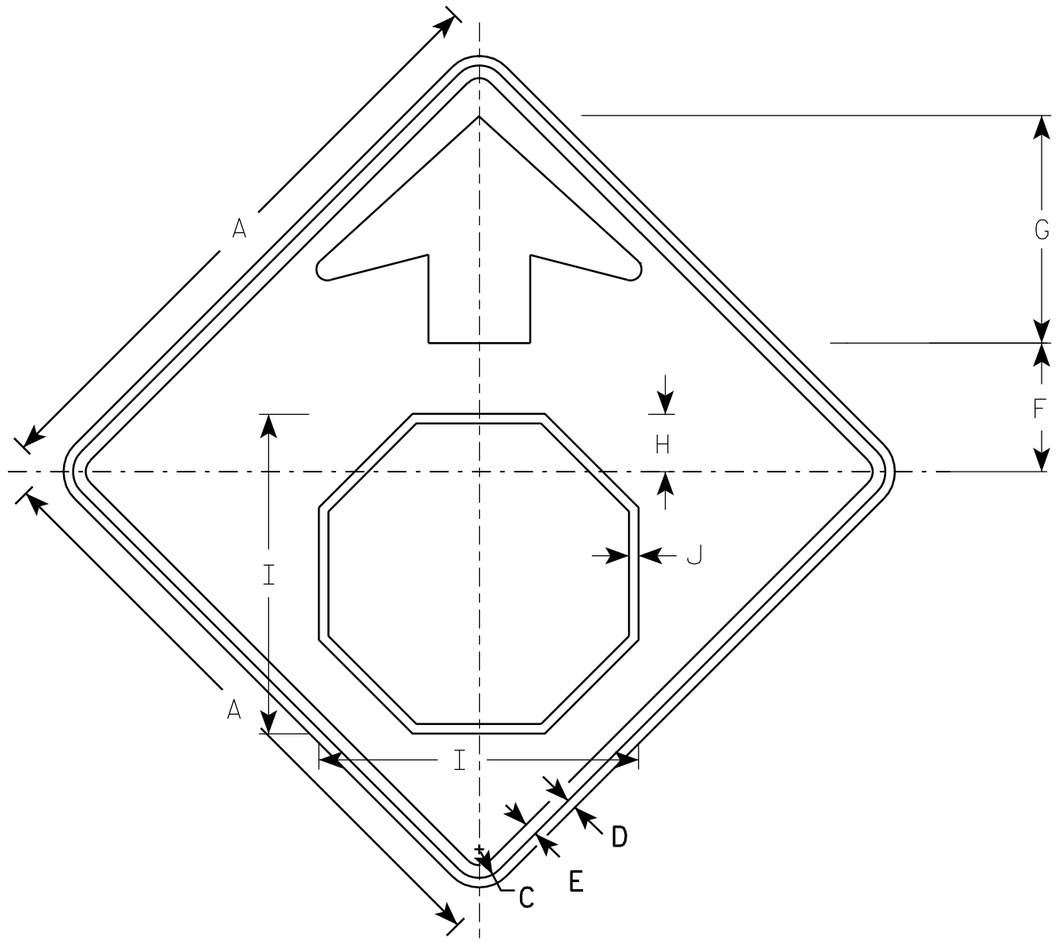
STANDARD SIGN
S4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/26/10 PLATE NO. S4-51.9

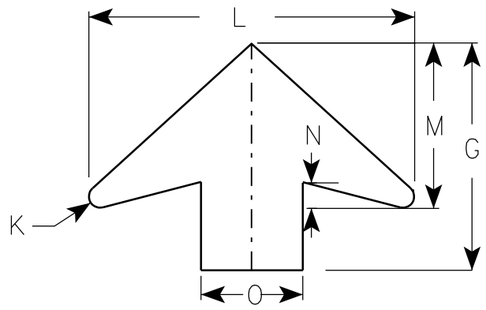
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 132 | E



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

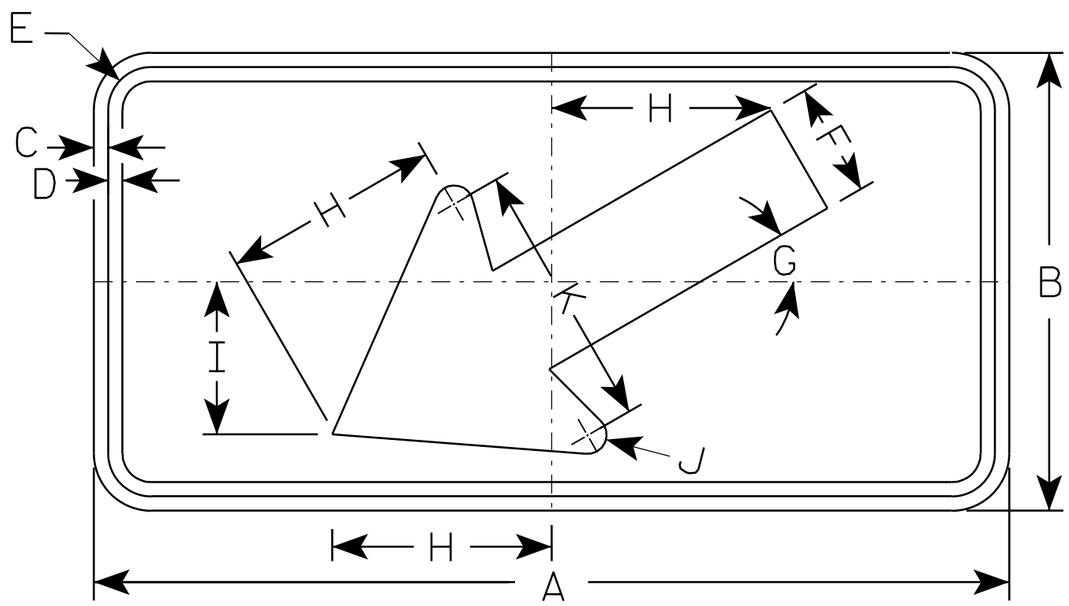
SHEET NO: 133 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W31.DGN PLOT DATE : 07-JUN-2010 12:59 PLOT BY : ditjph

WISDOT/CADDS SHEET 42

7

7



W16-7L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W16-7R is the same as W16-L except the arrow is reversed along the vertical centerline.

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

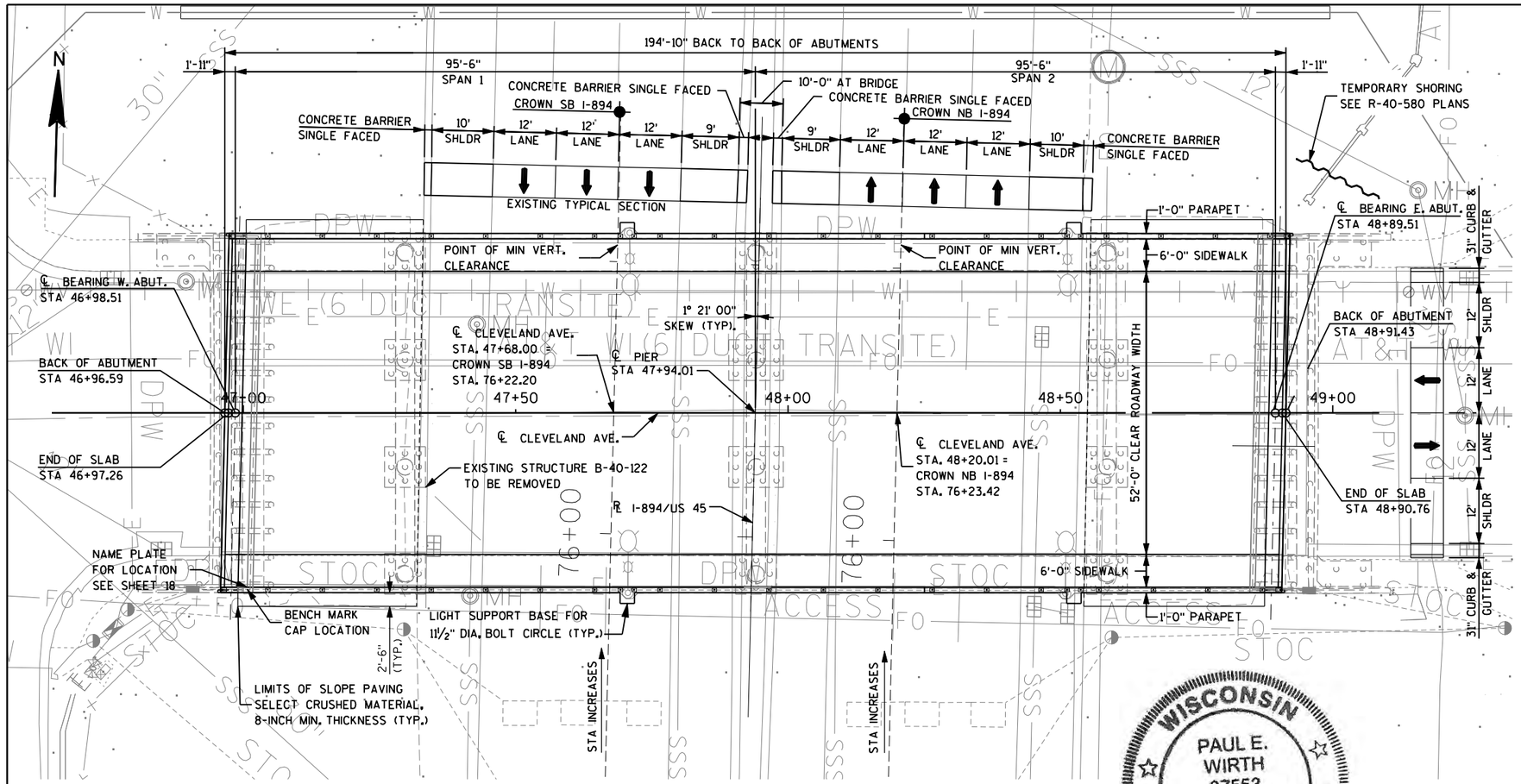
STANDARD SIGN
W16-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

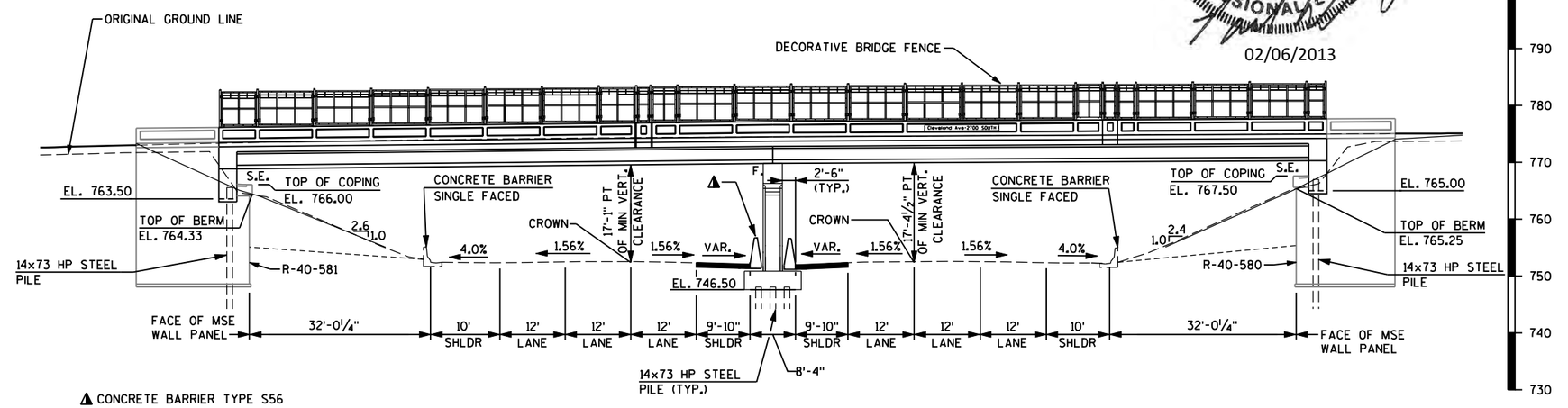
DATE 11/02/10 PLATE NO. W16-7.5

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 134	E



PLAN

2 SPAN - 36W" PRESTRESSED GIRDRERS



⚠ CONCRETE BARRIER TYPE S56

ELEVATION

NORMAL TO I-894
(LOOKING NORTH)

WISCONSIN
PAUL E. WIRTH
37553
MILWAUKEE, WI
PROFESSIONAL ENGINEER

02/06/2013

DESIGN DATA

LIVE LOAD
DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF=1.12
OPERATING RATING FACTOR: RF=1.59
WISCONSIN STANDARD PERMIT VEHICLE(WIS-SPV) = 250 KIPS

THE STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SLAB: f'c = 4,000 psi ALL OTHER: f'c = 4,000 psi
BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 psi
36W" PRESTRESSED GIRDERS, CONCRETE MASONRY ——— f'c = 9,250 psi
STRANDS - 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 psi
STRUCTURAL CARBON STEEL ASTM A709 GRADE 36 ——— fy = 36,000 psi
HIGH STRENGTH STRUCTURAL STEEL ASTM A709 GRADE 50 ——— fy = 50,000 psi

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 14x73 HP STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 230 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED AT 95'-0" LONG.

PIER TO BE SUPPORTED ON 14x73 HP STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 200 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED AT 75'-0" LONG.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION
3. GENERAL NOTES AND QUANTITIES
4. SUBSURFACE EXPLORATION
5. WEST ABUTMENT
6. WEST ABUTMENT DETAILS
7. EAST ABUTMENT
8. EAST ABUTMENT DETAILS
9. ALTERNATE CONSTRUCTION JOINT
10. PIER
11. PIER DETAILS 1
12. PIER DETAILS 2
13. 36W" PRESTRESSED GIRDER DETAILS 1
14. 36W" PRESTRESSED GIRDER DETAILS 2
15. FRAMING PLAN
16. STEEL DIAPHRAGMS
17. SUPERSTRUCTURE
18. SUPERSTRUCTURE DETAILS 1
19. SUPERSTRUCTURE DETAILS 2
20. SUPERSTRUCTURE DETAILS 3
21. SUPERSTRUCTURE DETAILS 4
22. LIGHT SUPPORT DETAILS
23. DECORATIVE BRIDGE FENCE
24. DECORATIVE BRIDGE FENCE DETAILS 1
25. DECORATIVE BRIDGE FENCE DETAILS 2
26. DECORATIVE BRIDGE FENCE DETAILS 3
27. AESTHETIC DETAILS

TRAFFIC VOLUME

IH 894
ADT = 150,180 (2012)
ADT = 160,000 (2032)
DESIGN SPEED = 60 MPH

CLEVELAND AVE
ADT = 10,396 (2012)
DESIGN SPEED = 40 MPH

BUREAU OF STRUCTURES CONTACT;
WILLIAM DREHER (608-266-8489)

CONSULTANT CONTACT;
PAUL WIRTH (262-901-2500)

NO.	DATE	REVISION	BY

PATRICK ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/06/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STATE PROJECT NUMBER
1090-07-73

STRUCTURE B-40-884

CLEVELAND AVENUE OVER IH 894

COUNTY MILWAUKEE
~~TOWN~~/CITY/~~VILLAGE~~ WEST ALLIS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	PEW	DESIGN CK'D.	RDW	DRAWN BY	JRM	PLANS CK'D.	RDW

GENERAL PLAN

SHEET 1 OF 27
135

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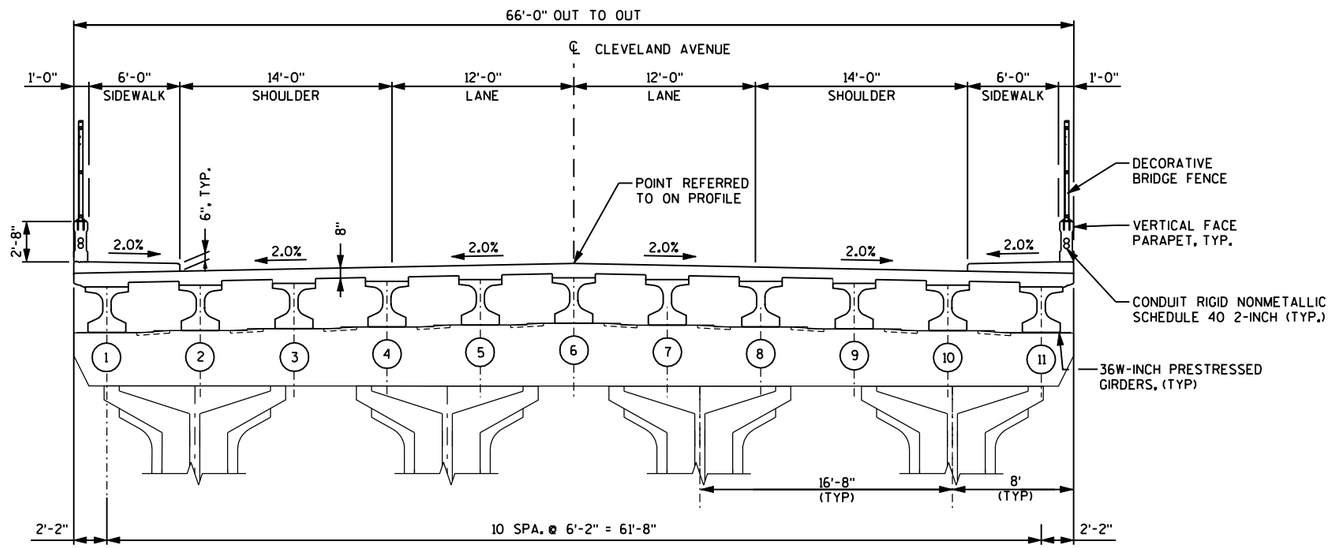
Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

STATE PROJECT NUMBER
1090-07-73

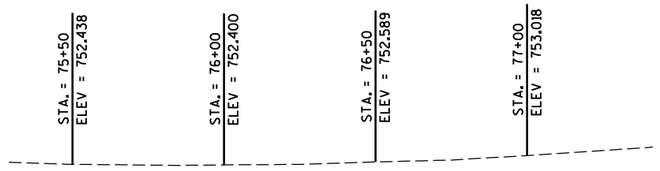


PROPOSED BRIDGE CROSS SECTION

(LOOKING EAST)

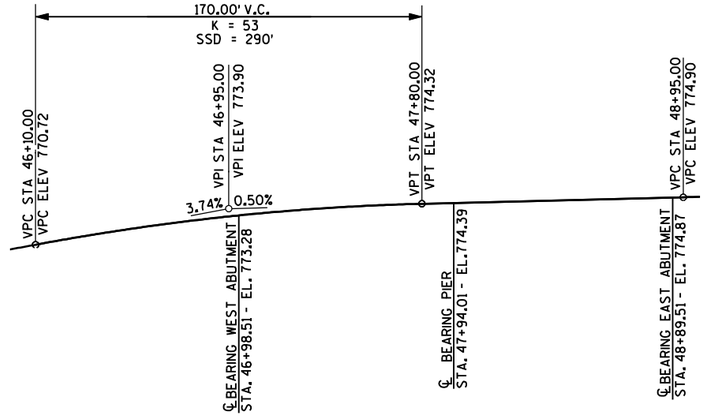
EXISTING PROFILE GRADE LINE - IH 894 SB

(ALONG CROWN STATION INCREASE TO NORTH)



EXISTING PROFILE GRADE LINE - IH 894 NB

(ALONG CROWN STATION INCREASE TO NORTH)



PROPOSED PROFILE GRADE LINE - CLEVELAND AVE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

CROSS SECTION

SHEET 2 OF 27
136

Pdf_bw_HS.plt
PEI_TextSub.tbl

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FILE=
SCALE =

STATE PROJECT NUMBER
1090-07-73

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEM	UNIT	WEST ABUTMENT	PIER	EAST ABUTMENT	SUPER	TOTAL
203.0200	REMOVE OLD STRUCTURE (STA. 47+94.01)	LS	————	————	————	————	1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-40-884	LS		————	————	————	1
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	285	————	285	————	570
206.1000	EXCAVATION FOR STRUCTURES BRIDGES (B-40-884)	LS	————	————	————	————	1
502.0100	CONCRETE MASONRY BRIDGES	CY	43	188	43	482	756
502.3200	PROTECTIVE SURFACE TREATMENT	SY	————	————	————	1450	1450
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	————	————	————	2110	2110
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	3590	40260	3590	109860	157300
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	11	22	11	————	44
506.4000	STEEL DIAPHRAGMS (B-40-884)	EACH	————	————	————	40	40
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	————	12	————	24
550.1140	PILING STEEL HP 14-INCH X 73 LB	LF	1045	2700	1045	————	4790
604.0400	SLOPE PAVING CONCRETE	SY	17	————	17	————	34
604.0600	SLOPE PAVING SELECT CRUSHED MATERIAL	SY	275	————	275	————	550
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	————	————	————	780	780
653.0222	JUNCTION BOXES 18X12X6-INCH	EACH	————	————	————	4	4
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	————	————	————	4	4
SPV.0090.01	FENCE DECORATIVE BRIDGE	LF	————	————	————	390	390
SPV.0165.04	CONCRETE STAINING B-40-884	SF	370	2000	370	5560	8300
	NON-BID ITEMS						
	PREFORMED JOINT FILLER	SIZE					3/4"
	NON-BITUMINOUS JOINT FILLER	SIZE					3/4"
	CORK FILLER	SIZE					3/4"
	NAME PLATE	EACH					1

ALL ITEMS ARE CATERGORY 0020

GENERAL NOTES

BENDING DIMENSIONS FOR REINFORCING BARS SHOWN ARE OUT-TO-OUT.

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

THE REINFORCING BARS SHALL BE EPOXY COATED.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING THE TYPE AND LOCATION OF EXISTING UTILITY INSTALLATIONS IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR SHALL MAKE THE DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES NECESSARY TO AVOID DAMAGE.

INFORMATION ON THESE DRAWINGS RELATING TO THE EXISTING BRIDGE IS BASED UPON DRAWINGS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION. NO GUARANTY OR WARRANTY IS MADE THAT THE INFORMATION IS ALL INCLUSIVE OR COMPLETELY ACCURATE. THE CONTRACTOR SHALL MAKE THE DETERMINATION OF THE ACTUAL CONDITIONS TO BE ENCOUNTERED.

THIS STRUCTURE WILL REPLACE B-40-122 WHICH IS A FOUR-SPAN PRESTRESED CONCRETE GIRDER BRIDGE APPROXIMATELY 202' LONG AND 66' WIDE, SUPPORTED ON CONCRETE ABUTMENTS AND CONCRETE PIERS. THE CONTRACTOR SHALL REMOVE ALL ELEMENTS OF THE EXISTING BRIDGE THAT INTERFERE WITH THE CONSTRUCTION OF THE PROPOSED BRIDGE.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

AT ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED AND PAID FOR UNDER STRUCTURE R-40-580 AND R-40-581.

ALL ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD88 (2007).

DRAWINGS SHALL NOT BE SCALED.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPES I, II OR III; OR AASHTO DESIGNATION M213.

ALL CONTRACTORS EQUIPMENT MUST MAINTAIN THE MINIMUM OSHA CLEARANCE FROM ATC AND WE ENERGIES OVERHEAD FACILITIES AS DESCRIBED IN OSHA'S GUIDELINES FOR CLEARANCES. ALL CONTRACTORS SHOULD INCOPORATE ANY ADDITIONAL COSTS ASSOCIATED WITH WORKING AROUND EXISTING ATC AND WE ENERGIES FACILITIES INTO THEIR BID, AS ATC AND WE ENERGIES BELIEVES THEY DO NOT IMPOSE ANY DIRECT CONFLICTS WITH THE SCOPE OF THIS PROJECT.

FILL/EXCAVATE TO BOTTOM OF THE MSE WALLS AND PIER ELEVATION BEFORE DRIVING PILING.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIER.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

PROVIDE A ¾" CHAMFER OR RADIUS ON ALL EXPOSED CONCRETE EDGES.

THE ELASTOMERIC BEARING PADS NON-LAMINATED NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE TOP OF THE DECK, TOP OF PARAPETS, TOP OF SIDEWALK, AND FACE OF CURBS.

PILE SPLICES SHALL BE MADE BY A CERTIFIED WELDER.

THE CONTRACTOR MUST COORDINATE THE REMOVAL OF EXISTING STRUCTURE B-40-122 AND CONSTRUCTION OF B-40-884 ABUTMENTS WITH RETAINING WALLS R-40-580 AND R-40-581.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

GENERAL NOTES & QUANTITIES

SHEET 3 OF 27
137

Pdf_bw_HS.plt
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SCALE =

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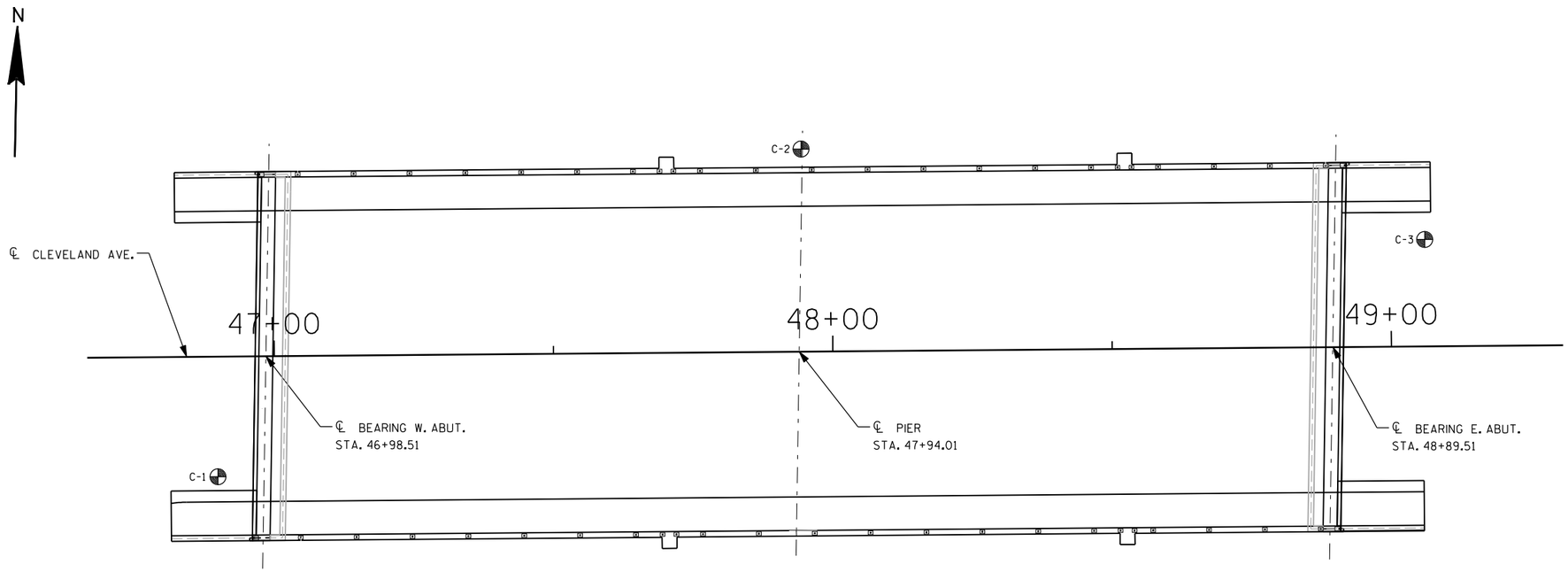


STATE PROJECT NUMBER

1090-07-73

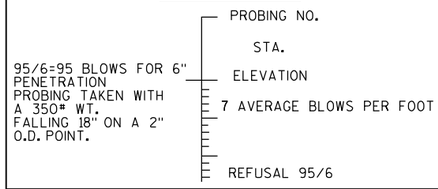
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

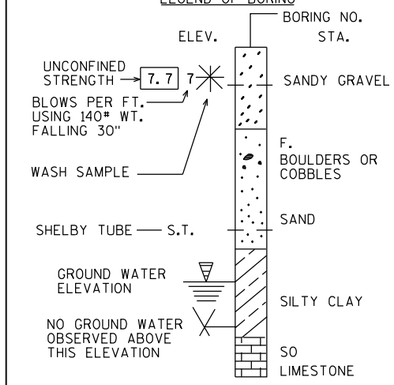
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE, SAND, PEAT, LIMESTONE, GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 4 OF 27
138

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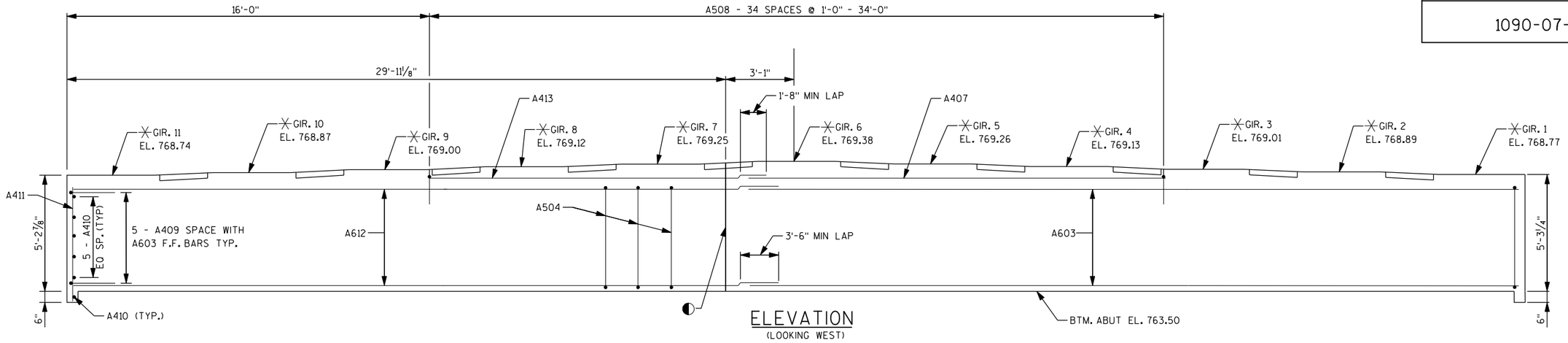
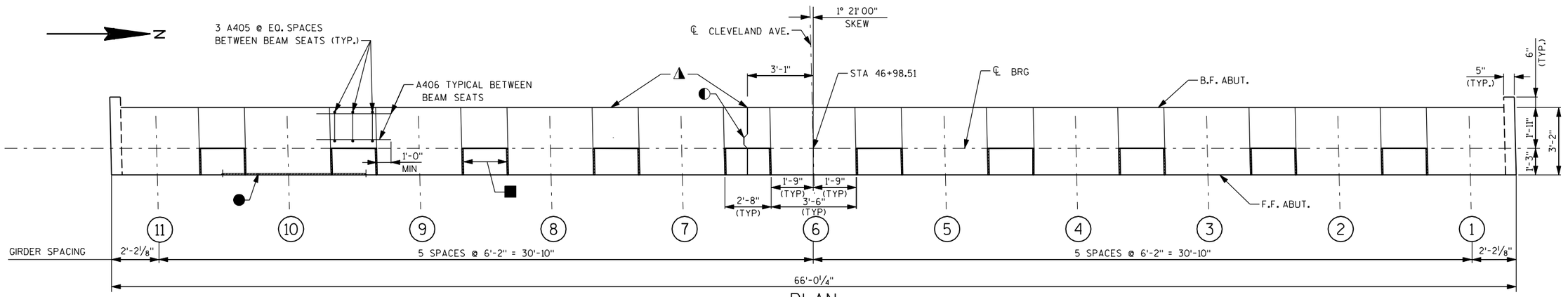
FILE =
SCALE =

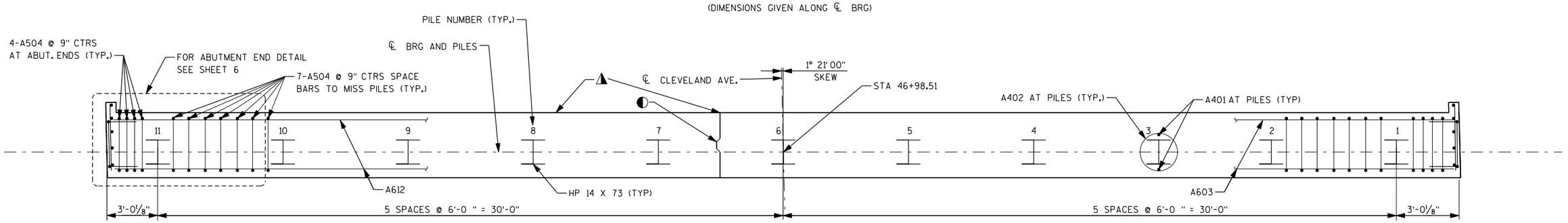
STATE PROJECT NUMBER
1090-07-73



ELEVATION
(LOOKING WEST)



PLAN
(DIMENSIONS GIVEN ALONG ℄ BRG)



PILE PLAN
(DIMENSIONS GIVEN ALONG ℄ BRG)

LEGEND

- ⚹ ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.
- ◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ● ¾" PREFORMED FILLER OUT TO OUT OF ABUTMENT
- ◐ KEYED CONST. JOINT FORMED BY A BEVELED 2" X 8".
- ■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

NOTE:
ABUTMENTS TO BE SUPPORTED ON HP 14 X 73 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 230 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED AT 95'-0" LONG.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RLD

WEST ABUTMENT

SHEET 5 OF 27
139

8

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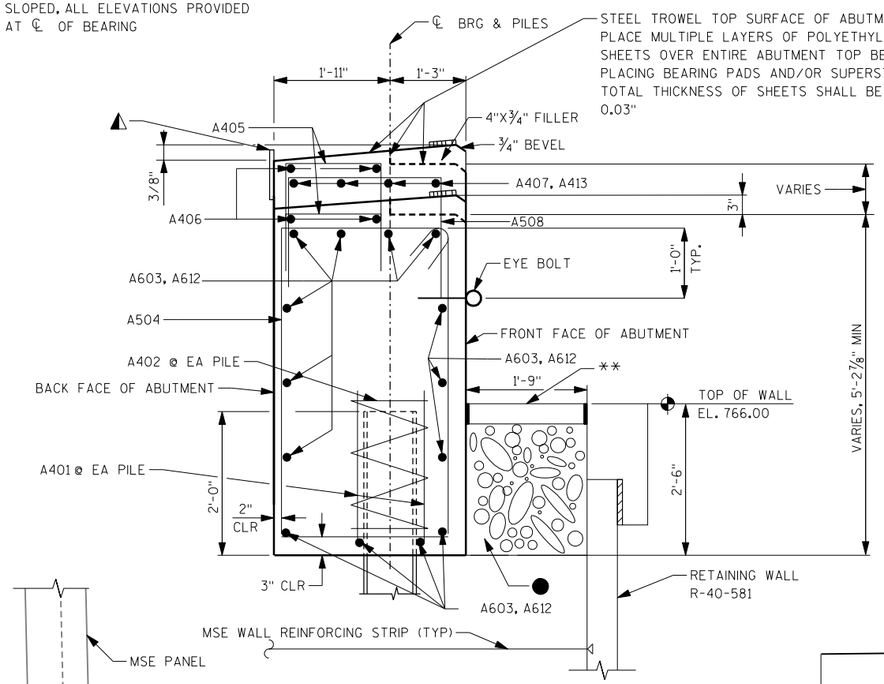
FILE=
SCALE =

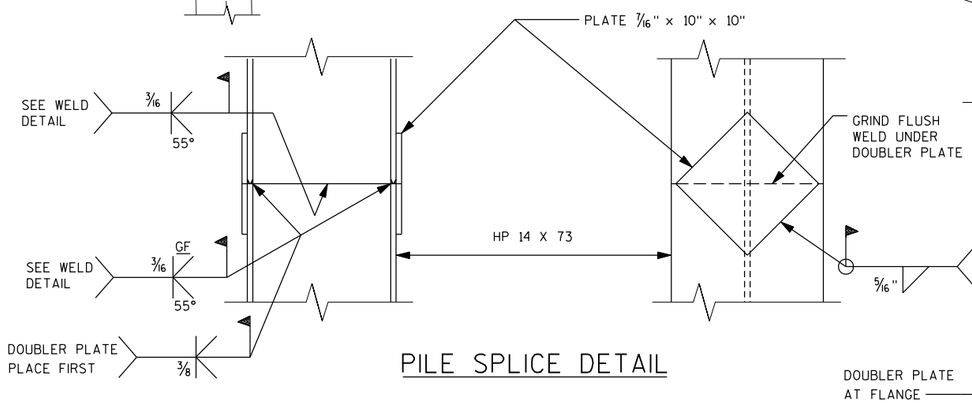
STATE PROJECT NUMBER
1090-07-73

BEAM SEATS ARE SLOPED. ALL ELEVATIONS PROVIDED REFER TO HEIGHT AT ℄ OF BEARING

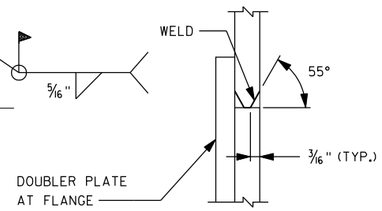


SECTION THROUGH BODY

PARTIAL PLAN ABUTMENT END DETAILS

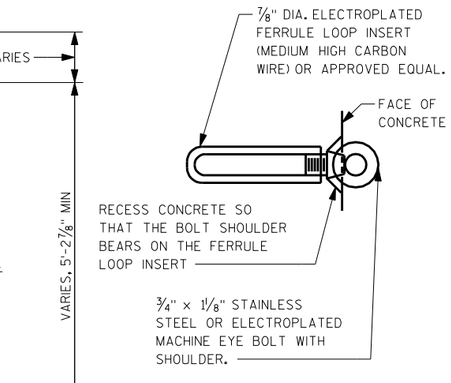


PILE SPLICE DETAIL



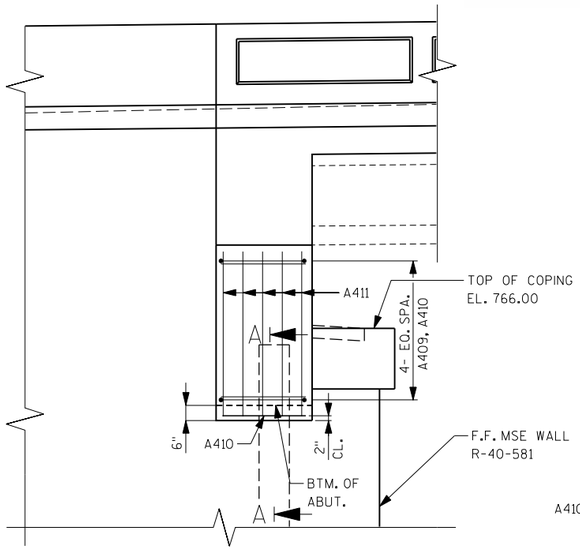
WELD DETAIL

FLANGE SHOWN, WEB SIMILAR



EYE BOLT DETAIL

INSTALL AN EYE BOLT AND FERRULE LOOP AT THE CENTER LINE OF EVERY GIRDER. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".

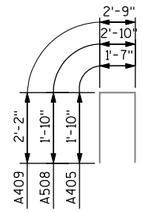


PARTIAL ELEVATION ABUTMENT END

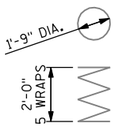
BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A401	X	22	2'-3"			BODY AT PILES - 2 PER PILE
A402	X	11	28'-0"	▲		BODY AT PILES - 1 PER PILE
A603	X	14	35'-9"			BODY TOP, BOTTOM, F.F., B.F.
A504	X	78	15'-10"	▲		BODY STIRRUP
A405	X	30	5'-1"	▲		BODY TOP BETWEEN GIRDERS
A406	X	20	4'-8"			BODY TOP BETWEEN GIRDERS
A407	X	4	20'-0"			BODY TOP
A508	X	35	6'-3"	▲		BODY TOP AT GIRDERS
A409	X	10	6'-11"	▲		ABUTMENT END U BAR
A410	X	12	3'-4"			ABUTMENT END HORIZONTAL
A411	X	10	4'-10"			ABUTMENT END VERTICAL
A612	X	14	34'-0"			BODY TOP, BOTTOM, F.F., B.F.
A413	X	4	16'-0"			BODY TOP



A405, A508, A409



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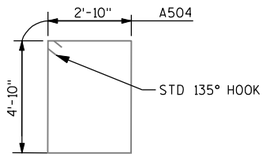

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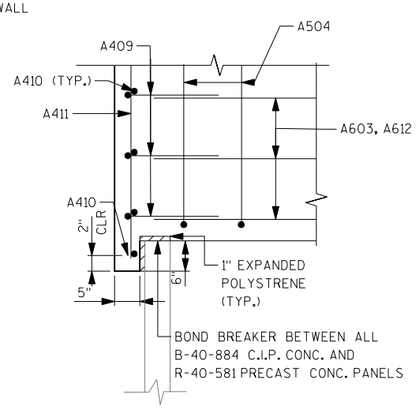

SECTION A-A

** CONCRETE SLOPE PAVING, 4" MIN THICKNESS. PROVIDE UNIFORM TRANSVERSE JOINTS SPACED 5'-0" MIN. TO 10'-0" MAX.

● SIZE 2 COARSE AGGREGATE. COST INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RLD

WEST ABUTMENT DETAILS

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Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

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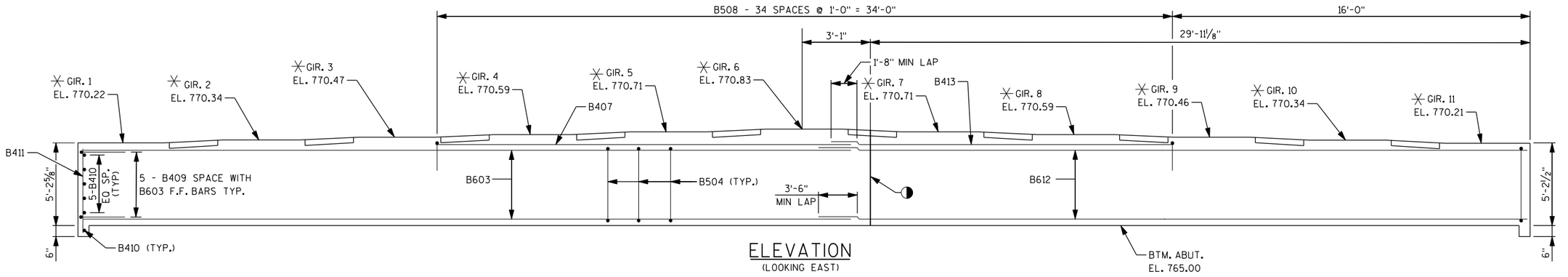
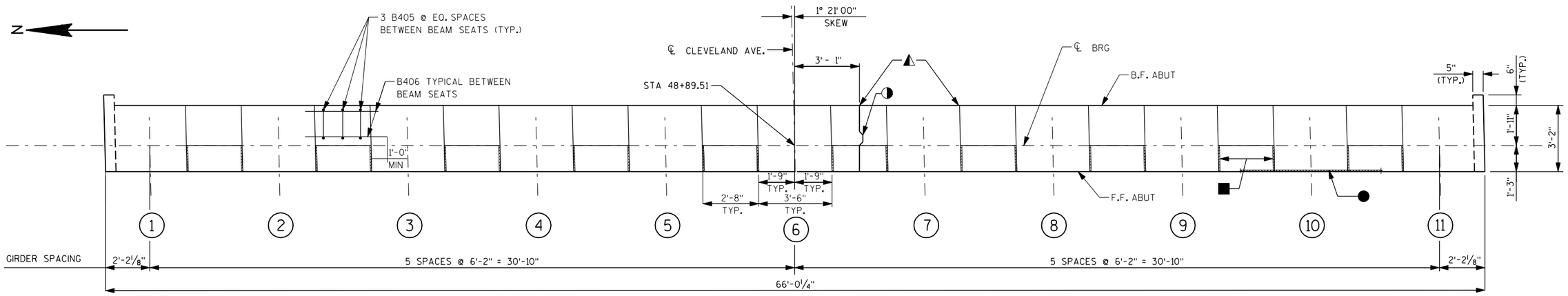
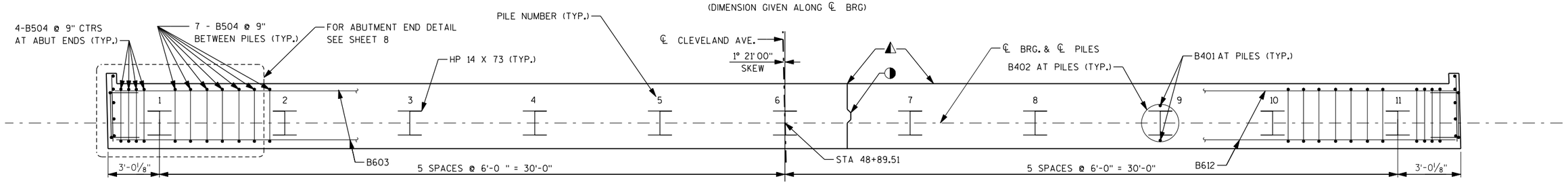
STATE PROJECT NUMBER
1090-07-73



ELEVATION
(LOOKING EAST)



PLAN
(DIMENSION GIVEN ALONG ℄ BRG)



PILE PLAN
(DIMENSIONS GIVEN ALONG ℄ BRG)

NOTE:
ABUTMENTS TO BE SUPPORTED ON HP 14 X 73 STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 230 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED AT 95'-0" LONG.

LEGEND

- ⚹ ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.
- ◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- ● ¾" PREFORMED FILLER OUT TO OUT OF ABUTMENT
- ◑ KEYED CONST. JOINT FORMED BY A BEVELED 2" X 8".
- ■ ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY	JRM	PLANS CK'D.	RLD

EAST ABUTMENT

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Pdf_bw_HS.plt
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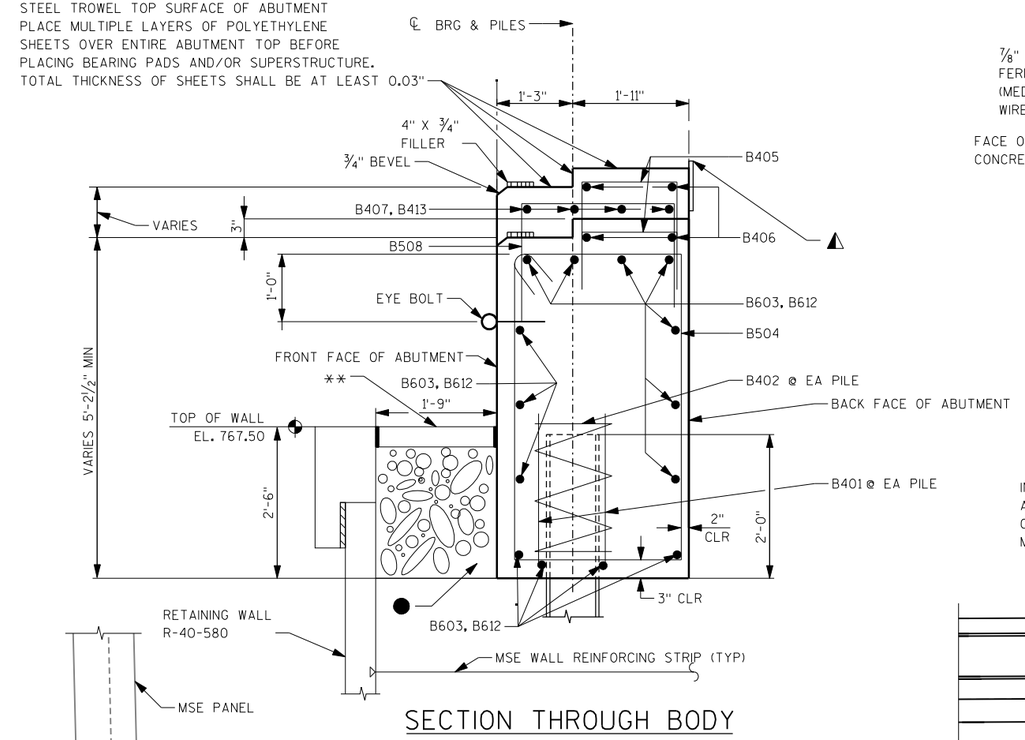
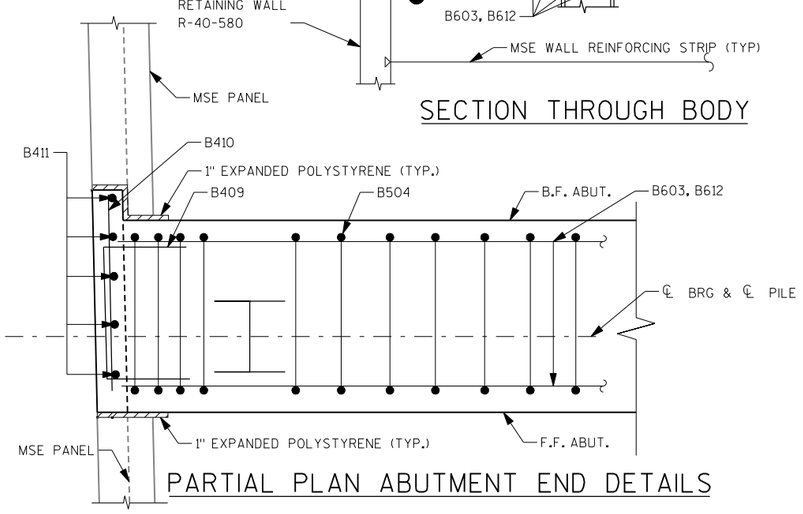
STATE PROJECT NUMBER

1090-07-73

STEEL TROWEL TOP SURFACE OF ABUTMENT PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND/OR SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03"

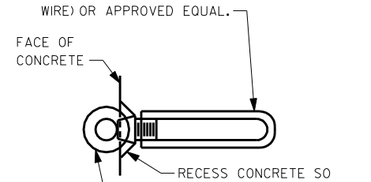


SECTION THROUGH BODY



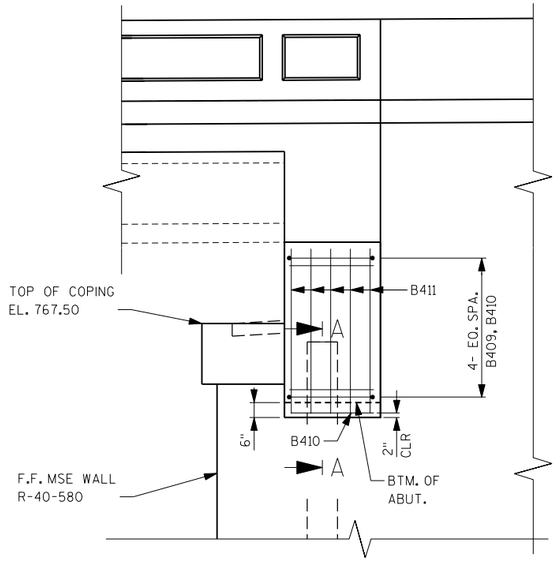
PARTIAL PLAN ABUTMENT END DETAILS

⅞" DIA. ELECTROPLATED FERRULE LOOP INSERT (MEDIUM HIGH CARBON WIRE) OR APPROVED EQUAL.

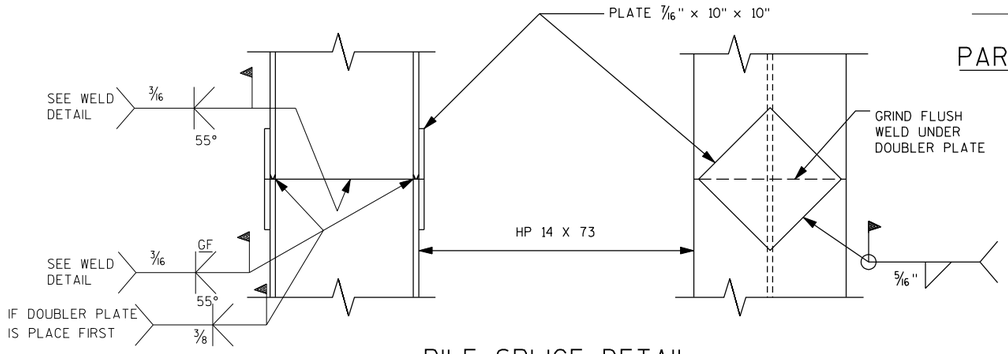


EYE BOLT DETAIL

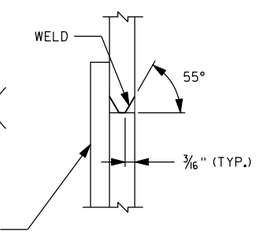
INSTALL AN EYE BOLT AND FERRULE LOOP AT THE CENTER LINE OF EVERY GIRDER. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".



PARTIAL ELEVATION ABUTMENT END



PILE SPLICE DETAIL



WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

BILL OF BARS

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

BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
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B402	X	11	28'-0"	▲		BODY AT PILES - 1 PER PILE
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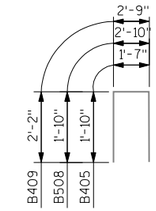
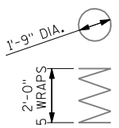
B504	X	78	15'-10"	▲		BODY STIRRUP
B405	X	30	5'-1"	▲		BODY TOP BETWEEN GIRDERS
B406	X	20	4'-8"			BODY TOP BETWEEN GIRDERS
B407	X	4	20'-0"			BODY TOP
B508	X	35	6'-3"	▲		BODY TOP AT GIRDERS
B409	X	10	6'-11"	▲		ABUTMENT END U BAR
B410	X	12	3'-4"			ABUTMENT END HORIZONTAL
B411	X	10	4'-10"			ABUTMENT END VERTICAL
B612	X	14	34'-0"			BODY TOP, BOTTOM, F.F., B.F.
B413	X	4	16'-0"			BODY TOP



B405, B508, B409



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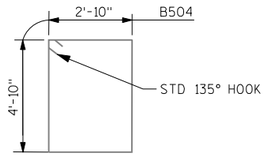

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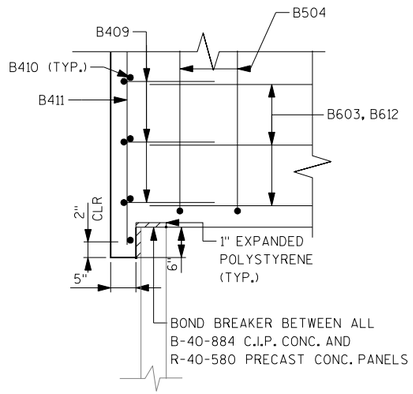

SECTION A-A

** CONCRETE SLOPE PAVING, 4" MIN THICKNESS. PROVIDE UNIFORM TRANSVERSE JOINTS SPACED 5'-0" MIN. TO 10'-0" MAX.

● SIZE 2 COARSE AGGREGATE. COST INCIDENTAL TO BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD".

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RLD

EAST ABUTMENT DETAILS

SHEET 8 OF 27
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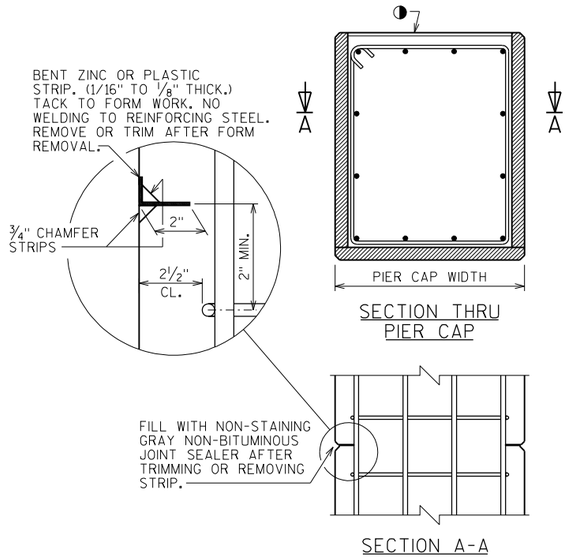
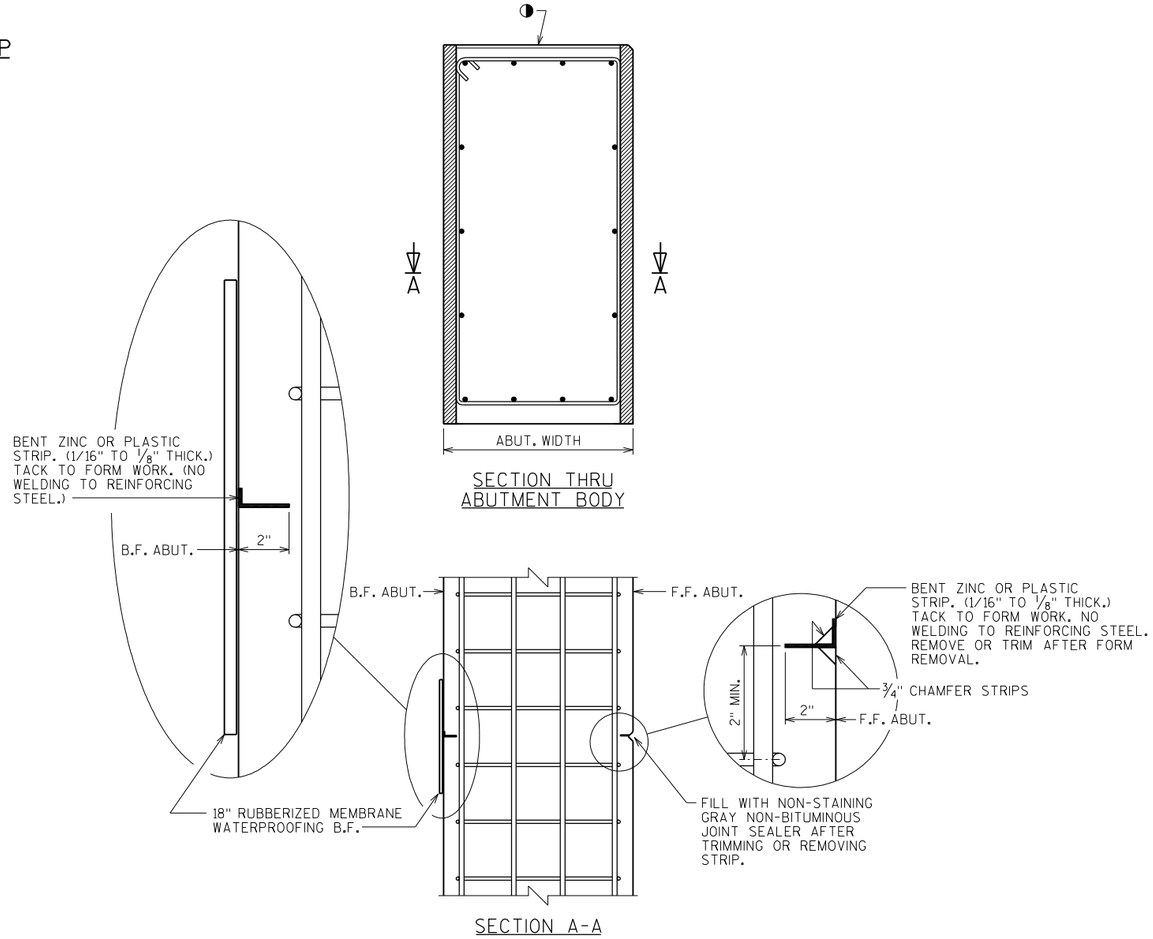
1090-07-73



SECTION THRU PIER CAP

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT PIER CAP



SECTION THRU ABUTMENT BODY

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

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ALTERNATE CONSTRUCTION JOINT

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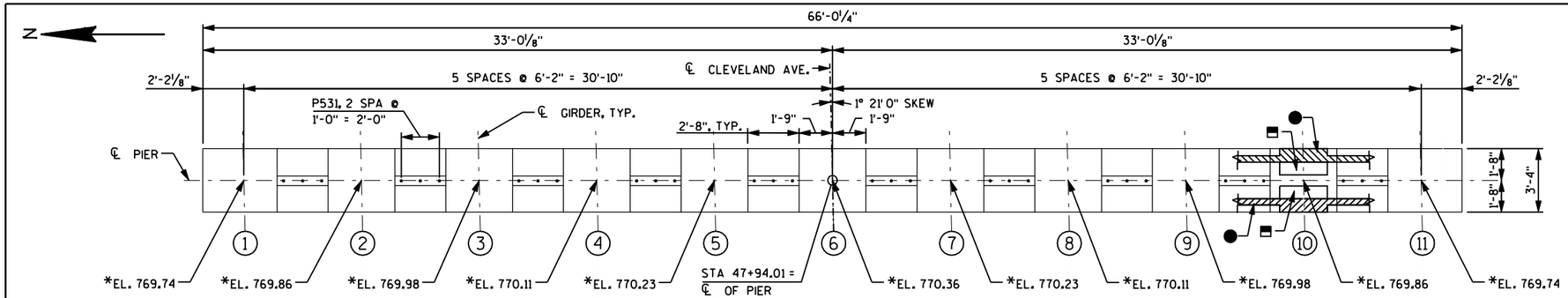
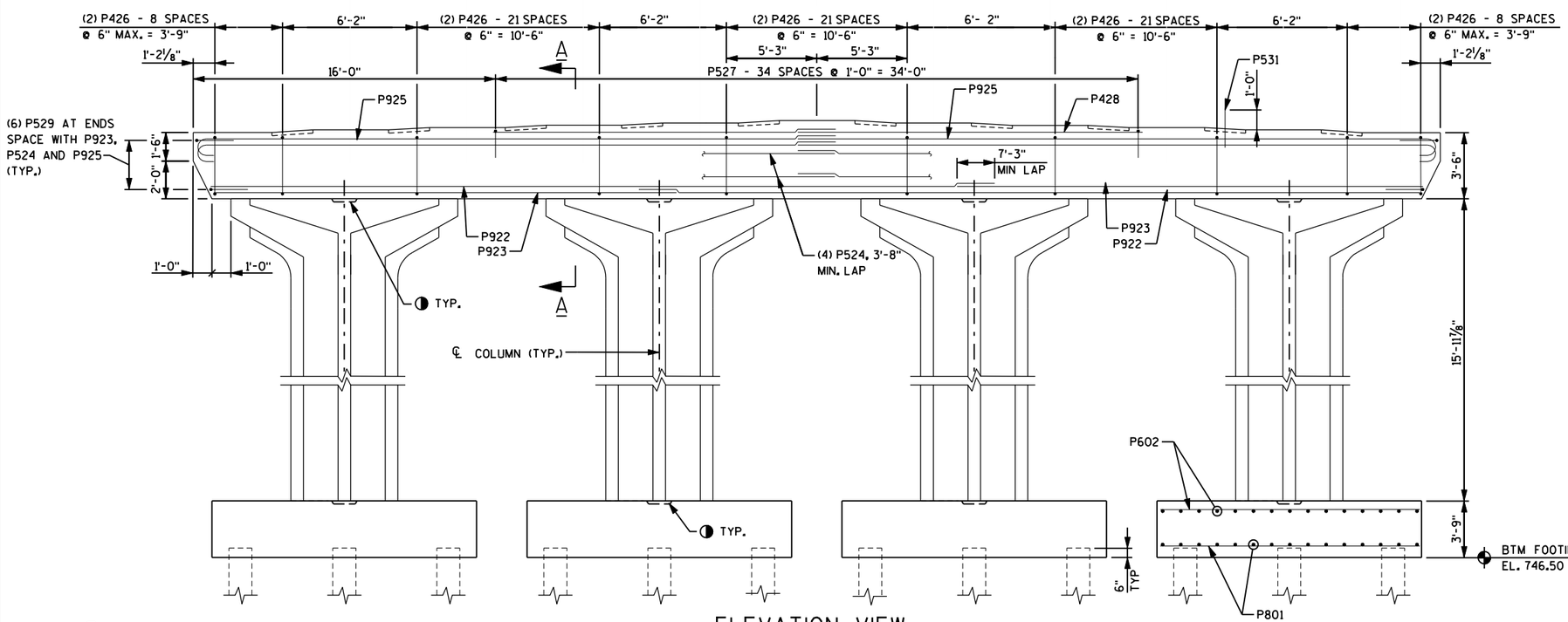
STATE PROJECT NUMBER

1090-07-73

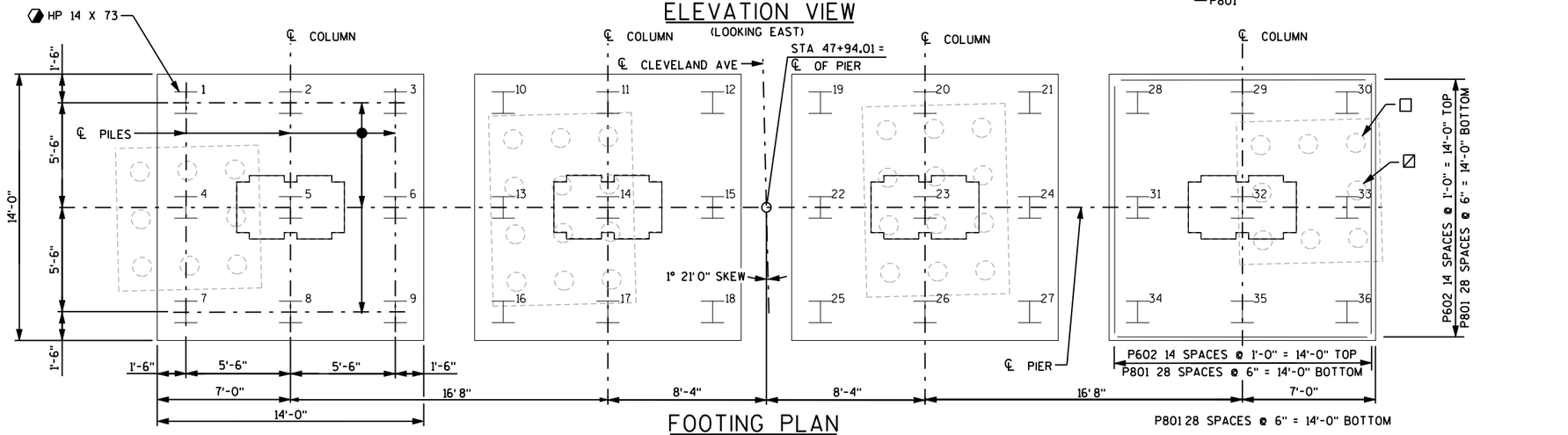


PIER CAP PLAN

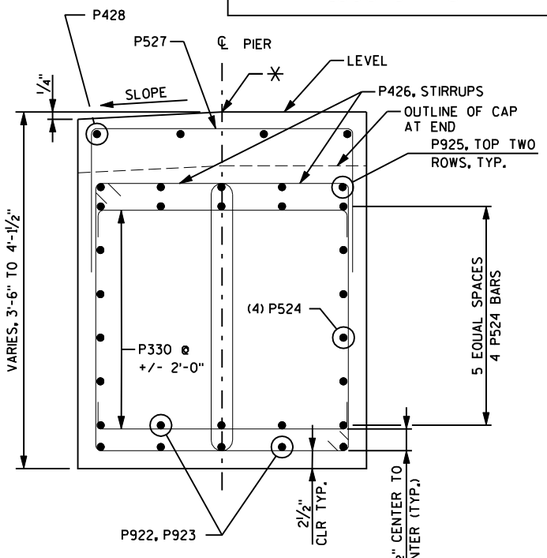


ELEVATION VIEW

(LOOKING EAST)



FOOTING PLAN



SECTION A-A

LEGEND

- ☒ REMOVE THE EXISTING TIMBER PILES TO 6" BELOW THE BOTTOM OF NEW PILE CAP.
- ● 3/4" PREFORMED FILLER OUT TO OUT OF PIER
- ✳ ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF PIER
- ◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACE BEVELED 2" X 16" X 1'-3" TYPICAL AT TOP AND BOTTOM OF COLUMNS
- ☐ EXISTING PILES SUPPORTING EXISTING PIERS ARE SHOWN PER AS-BUILT PLANS. THE INTENT IS TO DRIVE NEW PILES FOR THE NEW PIER WITHOUT REMOVING OR EXTRACTING EXISTING PILES. IF NEEDED, RELOCATE CONFLICTING NEW PLAN PILES NOT MORE THAN 1'-0" FROM THEIR PLAN LOCATION. MAINTAIN 10" MINIMUM CLEAR DISTANCE FROM EDGE OF PILE TO THE EDGE OF THE CONCRETE PILE CAP. THE ENGINEER SHALL BE NOTIFIED IF THE SPACING ADJUSTMENT IS MORE THAN 1'-0". ANY COST ASSOCIATED WITH PILE RELOCATION SHALL BE INCLUDED IN ITEM PILING STEEL HP 14-INCH X 73 LB.
- ◪ PIER TO BE SUPPORTED ON 14 X 73 HP STEEL PILING WITH A REQUIRED DRIVING RESISTANCE OF 200 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION EQUATION. ESTIMATED AT 75'-0" LONG.
- ⬒ 1/2" X 8" X 2'-6" NON-LAMINATED ELASTOMERIC BEARING PAD

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

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PIER

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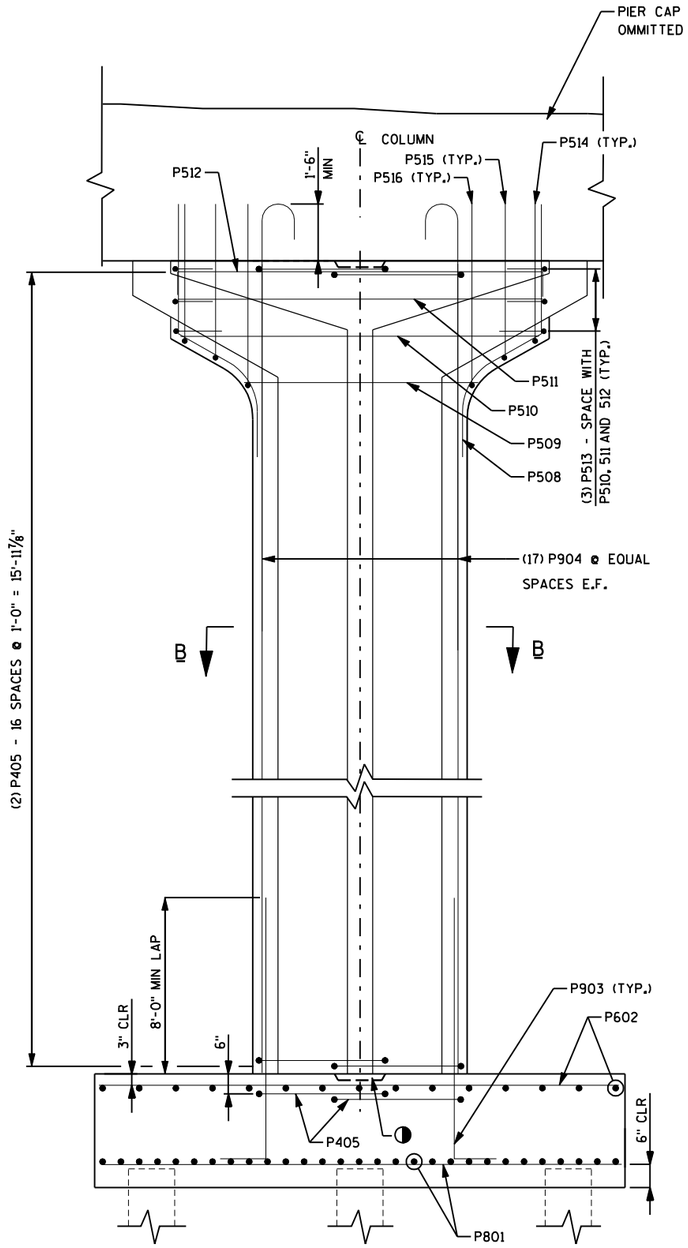
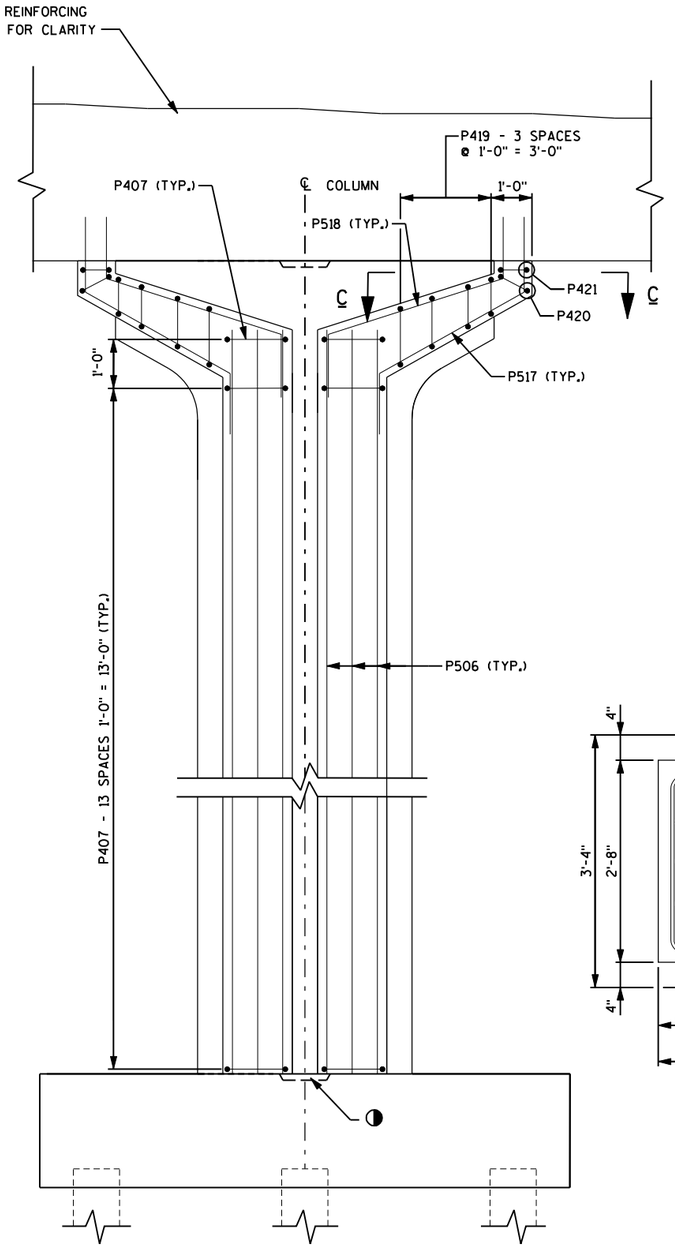
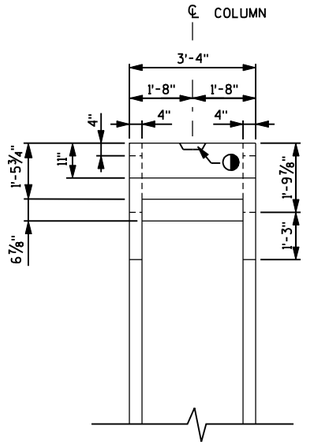


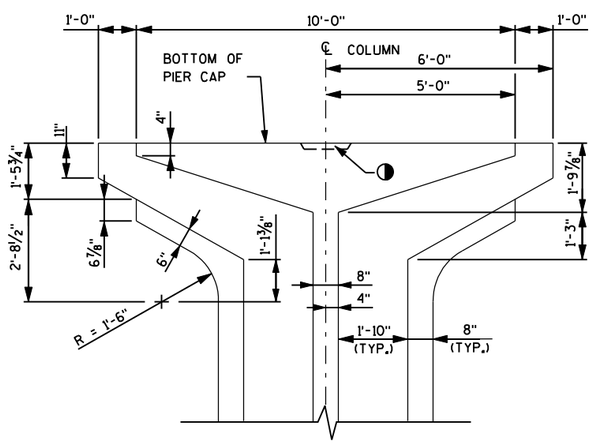
ELEVATION DETAILING
COLUMN REIFORCEMENT



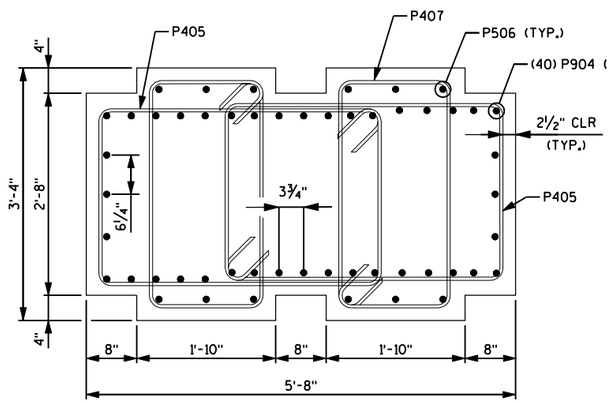
ELEVATION DETAILING
4" ARCHITECTURAL COLUMN REINFORCEMENT



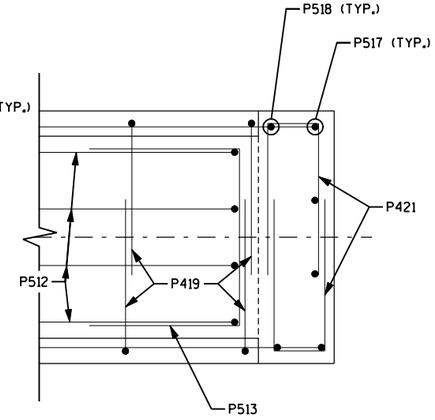
END VIEW
(CAP OMITTED FOR CLARITY)



ELEVATION VIEW
(CAP OMITTED FOR CLARITY)



SECTION B-B



SECTION C-C

LEGEND

◑ KEYED CONSTRUCTION JOINT FORMED BY SURFACE BEVELED 2" X 16" X 1'-3" TYPICAL AT TOP AND BOTTOM OF COLUMNS

NO.	DATE	REVISION	BY

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STRUCTURE B-40-884

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PIER DETAILS 1

SHEET 11 OF 27
145

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Pdf_bw_HS.plt
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1090-07-73

BILL OF BARS

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

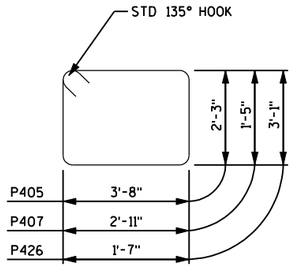
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
P801	X	232	13'-8"			PILE CAP BOTTOM
P602	X	120	13'-8"			PILE CAP TOP
P903	X	160	12'-7"	▲		PILE CAP DOWEL
P904	X	160	18'-10"	▲		COLUMN VERTICAL
P405	X	144	12'-4"	▲		COLUMN STIRRUP
P506	X	48	14'-0"			COLUMN ARCHITECTURAL BUMP OUT VERTICAL
P407	X	120	9'-2"	▲		COLUMN ARCHITECTURAL BUMP OUT STIRRUP
P508	X	40	10'-6"	▲		COLUMN CAP END
P509	X	8	5'-9"			COLUMN CAP SIDE
P510	X	8	8'-7"			COLUMN CAP SIDE
P511	X	8	9'-7"			COLUMN CAP SIDE
P512	X	16	11'-0"	▲		COLUMN CAP TOP
P513	X	24	7'-2"	▲		COLUMN CAP END
P514	X	8	11'-0"	▲		COLUMN CAP VERTICAL
P515	X	8	12'-2"	▲		COLUMN CAP VERTICAL
P516	X	8	14'-0"	▲		COLUMN CAP VERTICAL
P517	X	32	10'-3"	▲		COLUMN ARCHITECTURAL BUMP OUT VERTICAL
P518	X	16	10'-6"	▲		COLUMN ARCHITECTURAL BUMP OUT VERTICAL
P419	X	64	5'-7"	▲	Δ	COLUMN ARCHITECTURAL BUMP OUT U BAR
P420	X	16	5'-2"	▲		COLUMN ARCHITECTURAL BUMP OUT U BAR
P421	X	16	5'-1"	▲		COLUMN ARCHITECTURAL BUMP OUT U BAR
P922	X	10	50'-0"			PIER CAP BOTTOM HORIZONTAL
P923	X	10	28'-4"			PIER CAP BOTTOM HORIZONTAL
P524	X	16	34'-10"			PIER CAP SIDE HORIZONTAL
P925	X	20	37'-11"	▲		PIER CAP TOP HORIZONTAL
P426	X	168	9'-10"	▲		PIER CAP STIRRUPS
P527	X	35	5'-6"	▲		PIER CAP TOP U BAR
P428	X	4	34'-6"			PIER CAP TOP HORIZONTAL
P529	X	12	10'-0"	▲		PIER CAP END U BAR
P330	X	68	3'-9"	▲		PIER CAP SUPPORT BAR FOR P922, P923 & P925
P531	X	30	2'-0"			PIER CAP DOWEL BARS

Δ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

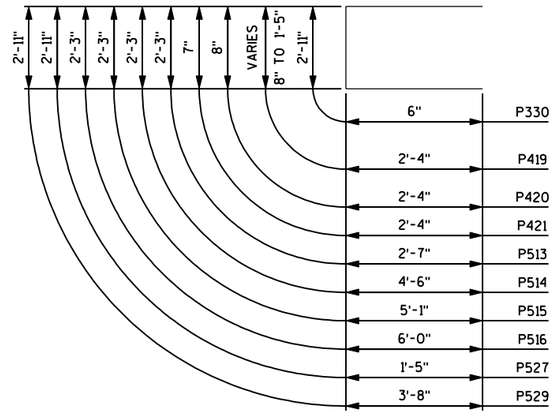
BAR SERIES TABLE

MARK	NO. REQ'D	LENGTH
P419	16 SERIES OF 4	5'-2" TO 5'-11"

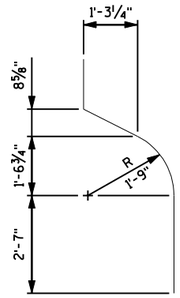
BUNDLE AND TAG EACH SERIES SEPARATELY.



P405, P407, P426
P418, P424



P330, P419, P420, P421, P513
P514, P515, P516, P527, P529



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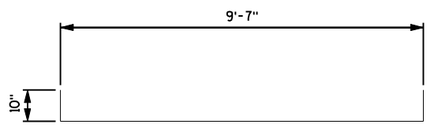

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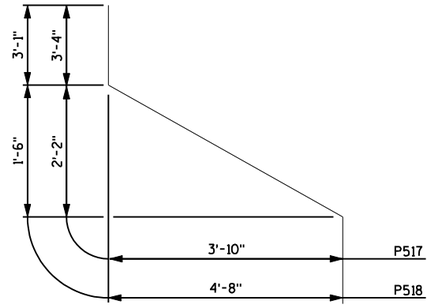
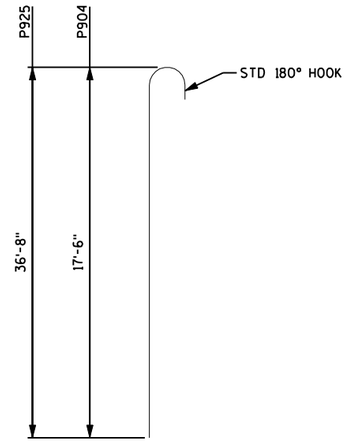


P517, P518

P903



P904, P925

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-40-884

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PIER DETAILS 2

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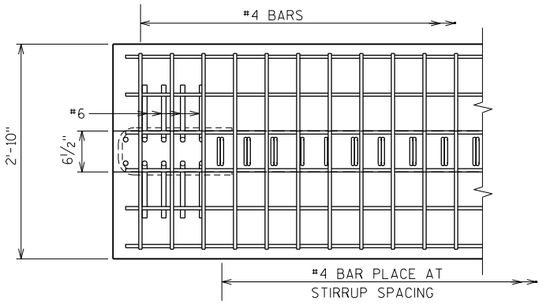
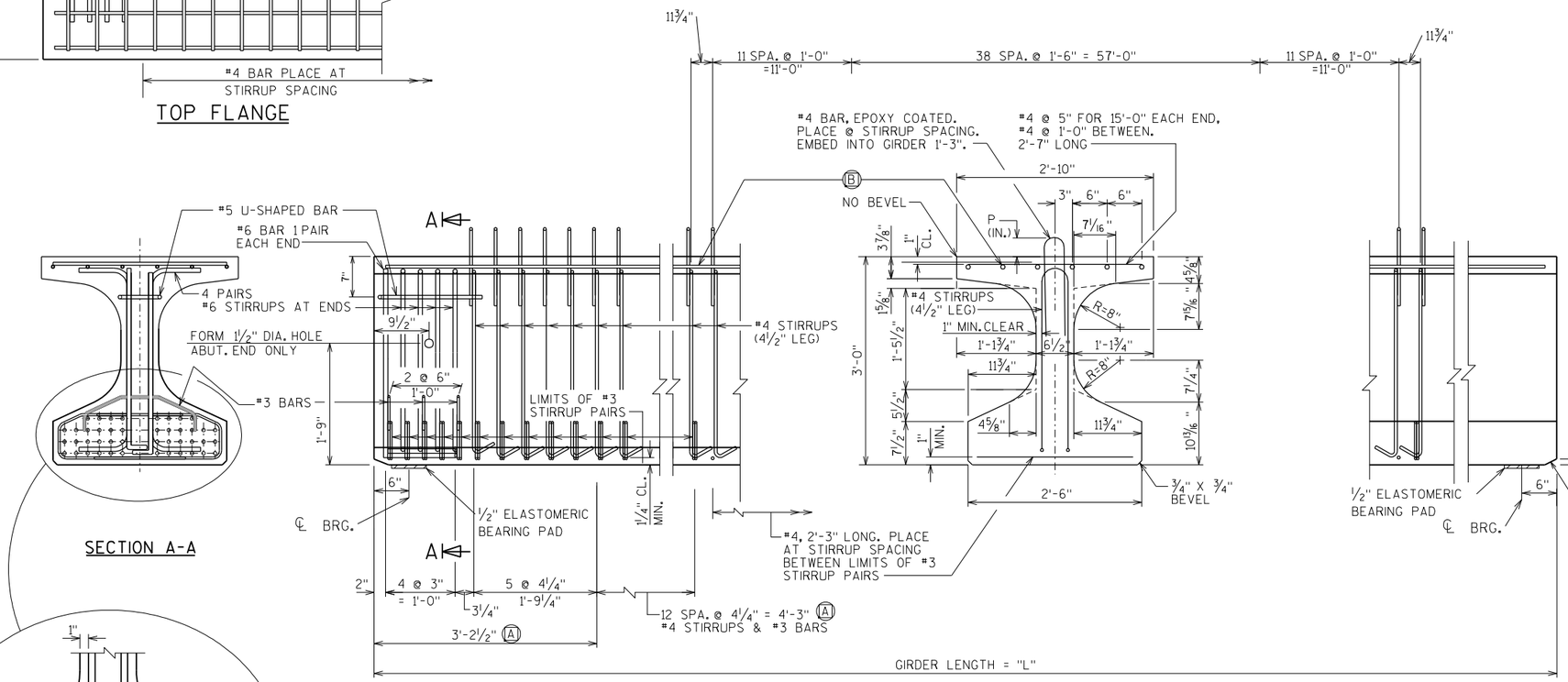
1090-07-73



TOP FLANGE

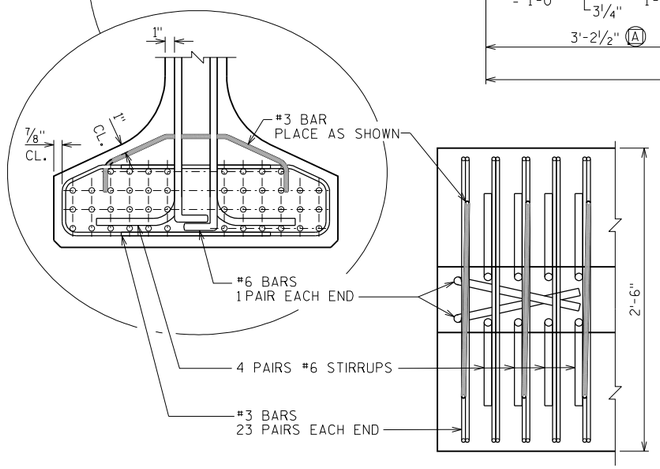


SECTION A-A

SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 # 4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



BOTTOM FLANGE

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2 CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

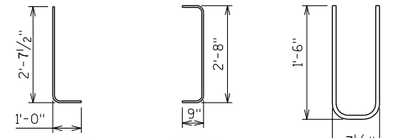
SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

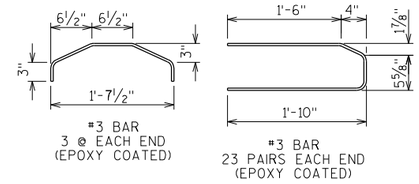
USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF, (608)266-5161.

PRESTRESSING STRANDS SHALL BE (0.6" DIA)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.





✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST ¼ OF GIRDER	"P" 2ND ¼ OF GIRDER	"P" 3RD ¼ OF GIRDER	"P" 4TH ¼ OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	"A"	"B" MIN.	"B" MAX.	"C"
1	1-11	95.88	0.6	1.2	1.6	1.9	2.0	1.9	1.6	1.2	0.6	9250	7.0	8.0	8.0	8.0	0.60	30	6800	32.0	11.0	14.0	4.0
2	1-11	95.88	0.6	1.2	1.6	1.9	2.0	1.9	1.6	1.2	0.6	9250	7.50	7.0	7.0	7.50	0.60	30	6800	32.0	11.0	14.0	4.0

DRAPED PATTERN (IN.)

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

36W" PRESTRESSED GIRDER DETAILS

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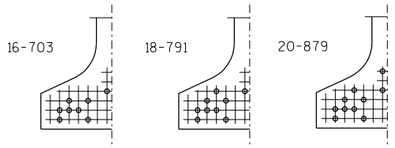
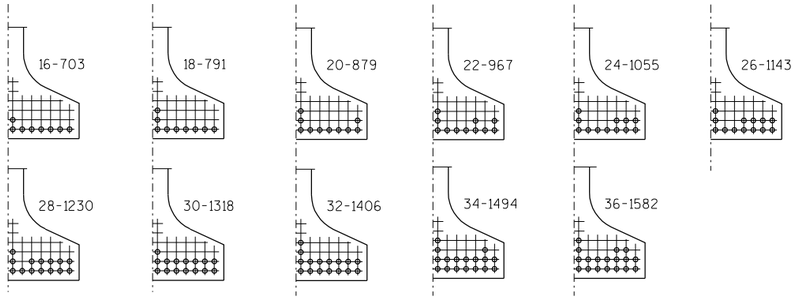
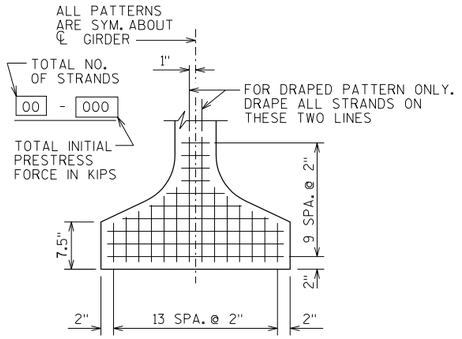
1090-07-73



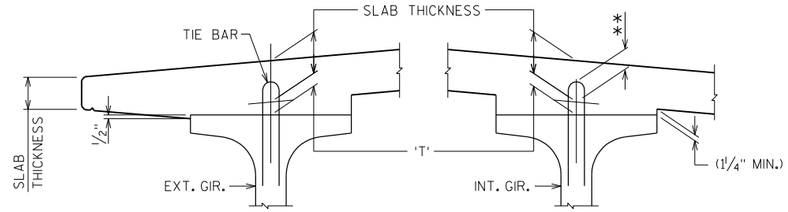
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"ϕ STRANDS





TYP. STRAND PATTERN



SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,
** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

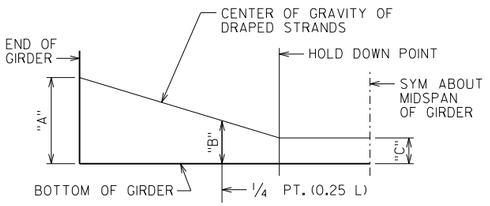
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

NOTE: AN AVERAGE HAUNCH ('T') OF 3¼" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"ϕ STRANDS



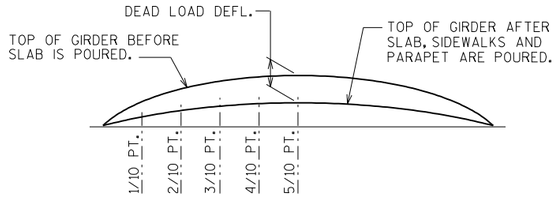
DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.6
2	3.6

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



DEAD LOAD DEFLECTION DIAGRAM

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

36W" PRESTRESSED GIRDER DETAILS

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STATE PROJECT NUMBER
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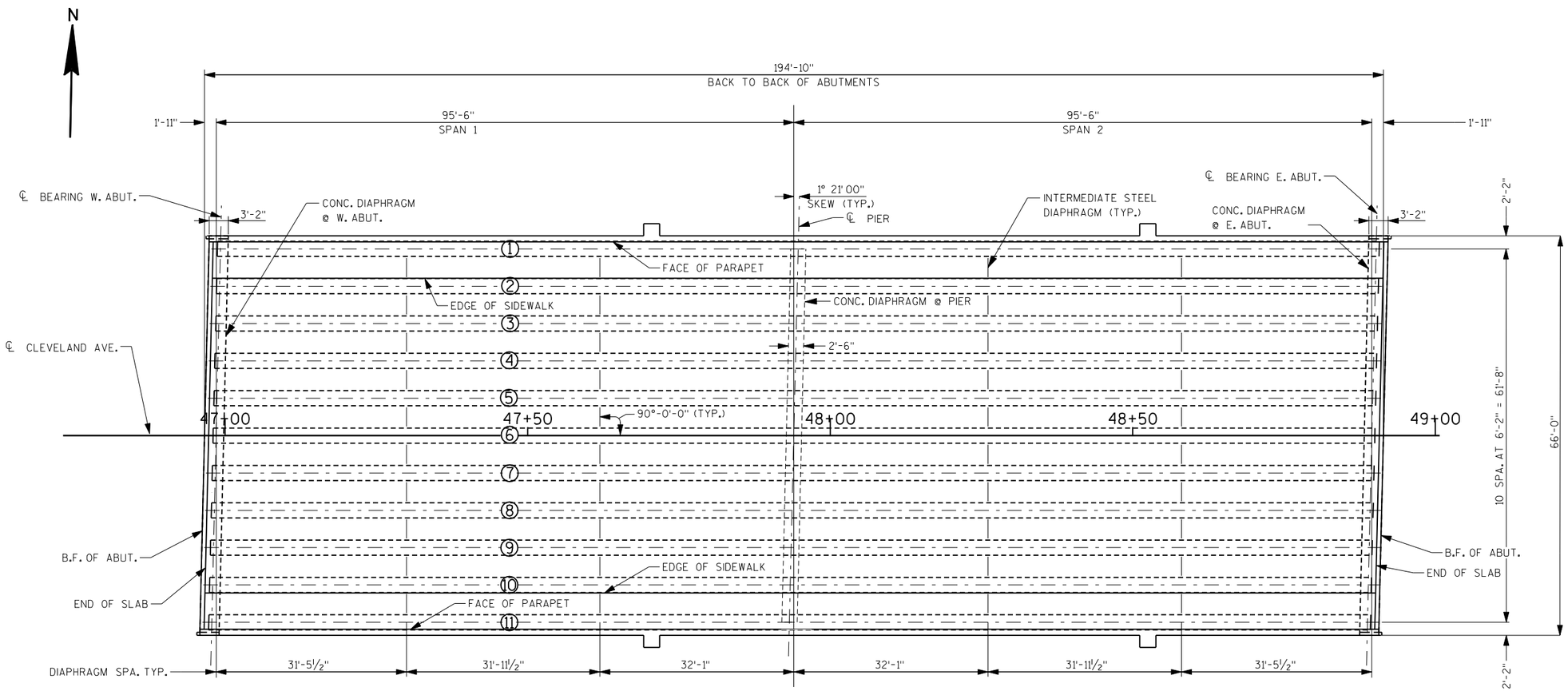

GIRDER FRAMING PLAN

TOP OF DECK ELEVATIONS

	CL BRG. W. ABUT.	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	CL PIER	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	CL BRG. E. ABUT
LT. E.O.D.	772.64	772.83	772.99	773.15	773.28	773.40	773.49	773.58	773.64	773.69	773.73	773.78	773.83	773.88	773.92	773.97	774.02	774.07	774.12	774.16	774.21
GIRDER 1	772.68	772.87	773.04	773.19	773.32	773.44	773.54	773.62	773.68	773.73	773.78	773.82	773.87	773.92	773.97	774.02	774.06	774.11	774.16	774.21	774.25
GIRDER 2	772.80	772.99	773.16	773.31	773.44	773.56	773.66	773.74	773.81	773.85	773.90	773.95	774.00	774.04	774.09	774.14	774.19	774.23	774.28	774.33	774.38
GIRDER 3	772.92	773.11	773.28	773.43	773.56	773.68	773.78	773.86	773.93	773.97	774.02	774.07	774.12	774.17	774.21	774.26	774.31	774.36	774.40	774.45	774.50
GIRDER 4	773.04	773.23	773.40	773.55	773.69	773.80	773.90	773.99	774.05	774.10	774.14	774.19	774.24	774.29	774.34	774.38	774.43	774.48	774.53	774.57	774.62
GIRDER 5	773.16	773.35	773.52	773.67	773.81	773.93	774.03	774.11	774.17	774.22	774.27	774.32	774.36	774.41	774.46	774.51	774.55	774.60	774.65	774.70	774.74
GIRDER 6	773.28	773.47	773.64	773.79	773.93	774.05	774.15	774.23	774.30	774.34	774.39	774.44	774.49	774.53	774.58	774.63	774.68	774.72	774.77	774.82	774.87
GIRDER 7	773.16	773.35	773.52	773.67	773.80	773.92	774.02	774.11	774.17	774.22	774.27	774.31	774.36	774.41	774.46	774.50	774.55	774.60	774.65	774.70	774.74
GIRDER 8	773.03	773.22	773.39	773.54	773.68	773.80	773.90	773.98	774.05	774.09	774.14	774.19	774.24	774.29	774.33	774.38	774.43	774.48	774.52	774.57	774.62
GIRDER 9	772.90	773.09	773.26	773.42	773.55	773.67	773.77	773.86	773.92	773.97	774.02	774.07	774.11	774.16	774.21	774.26	774.30	774.35	774.40	774.45	774.50
GIRDER 10	772.78	772.97	773.14	773.29	773.43	773.55	773.65	773.73	773.80	773.85	773.89	773.94	773.99	774.04	774.08	774.13	774.18	774.23	774.28	774.32	774.37
GIRDER 11	772.65	772.84	773.01	773.17	773.30	773.42	773.52	773.61	773.68	773.72	773.77	773.82	773.87	773.91	773.96	774.01	774.06	774.10	774.15	774.20	774.25
RT. E.O.D.	772.61	772.80	772.97	773.12	773.26	773.38	773.48	773.56	773.63	773.68	773.73	773.77	773.82	773.87	773.92	773.96	774.01	774.06	774.11	774.16	774.20

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY	JRM	PLANS CK'D.	RDW

FRAMING PLAN

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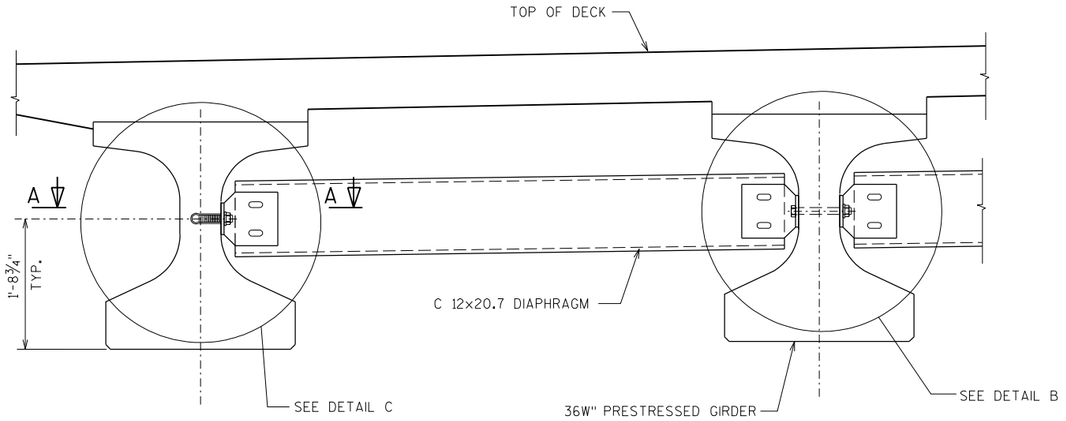
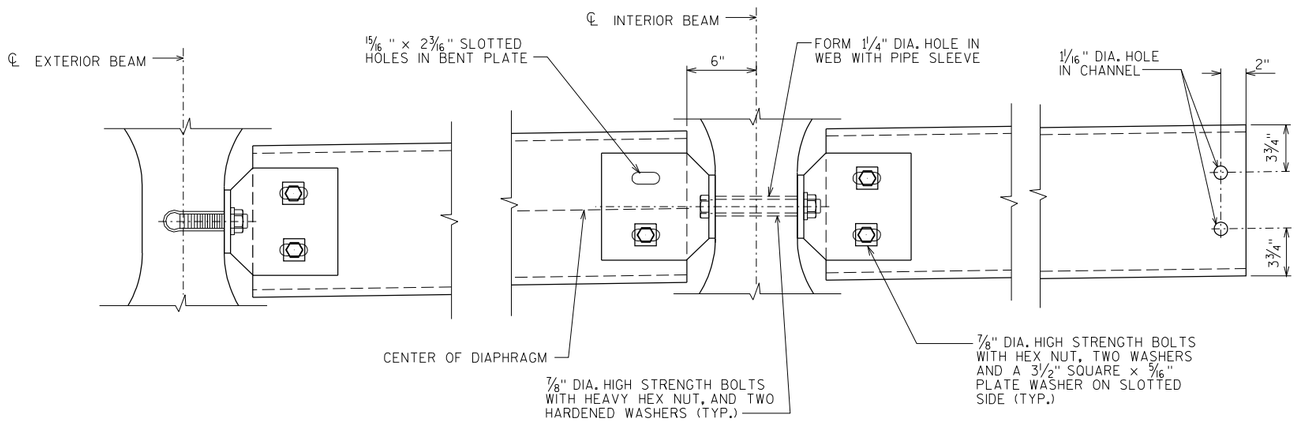


EXTERIOR GIRDER

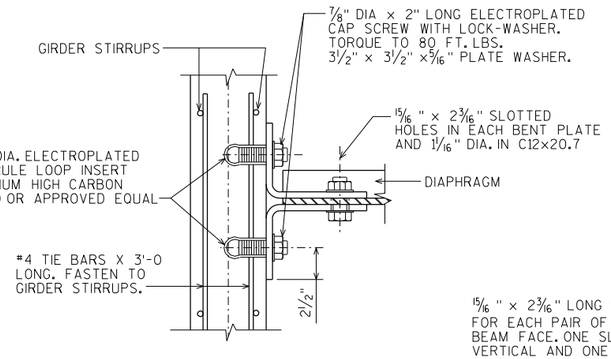
INTERIOR GIRDER

PART TRANSVERSE SECTION AT DIAPHRAGM



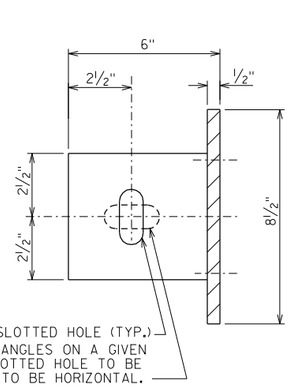
DETAIL C

DETAIL B

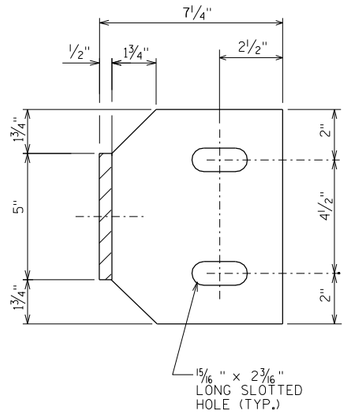


SECTION A-A

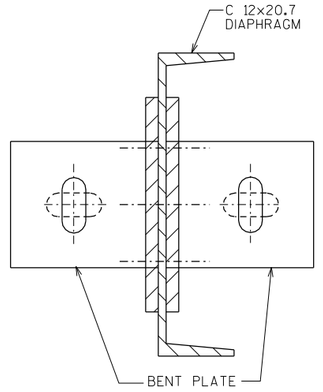
(FOR EXTERIOR ATTACHMENT)



BEAM FACE



DIAPHRAGM FACE



ATTACHMENT TO CHANNEL

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-40-884", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

STEEL DIAPHRAGMS

SHEET 16 OF 27
150

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Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\08_884_0501dia.dgn PLOT DATE : 2/6/2013 3:25:18 PM PLOT BY : Paul Wirth (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2:0 ' :" / IN.

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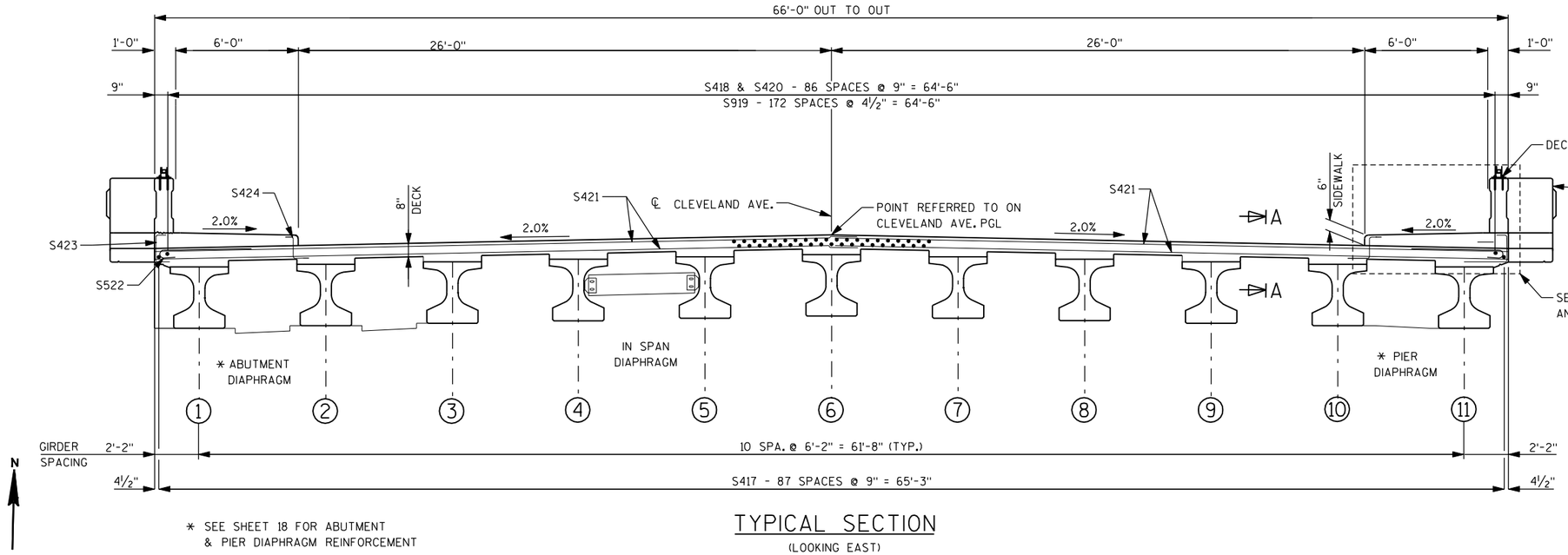
SCALE =

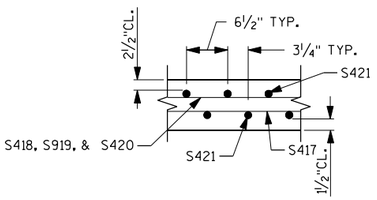
STATE PROJECT NUMBER
1090-07-73



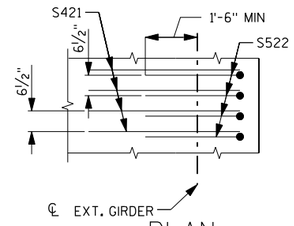
* SEE SHEET 18 FOR ABUTMENT & PIER DIAPHRAGM REINFORCEMENT

TYPICAL SECTION

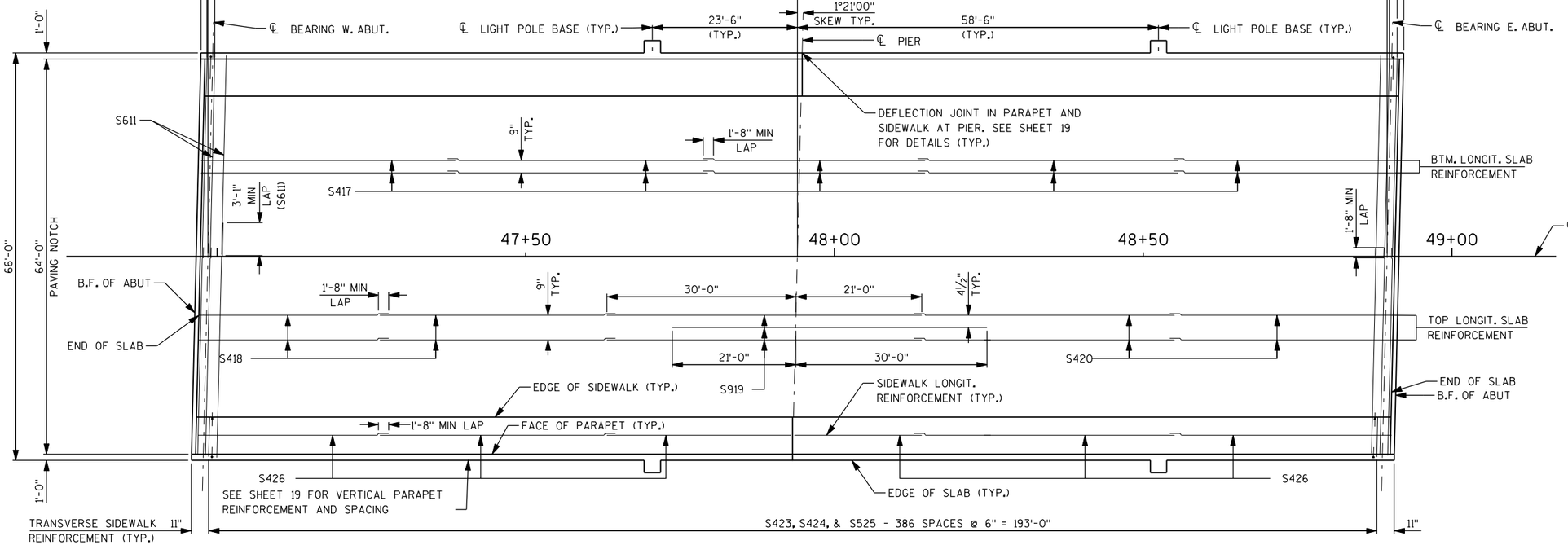
(LOOKING EAST)



SECTION A-A



PLAN
ADDITIONAL DECK OVERHANG REINF. DETAILS



SLAB PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY: JRM | PLANS CK'D.: RDW

SUPERSTRUCTURE

SHEET 17 OF 27
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Pdf_bw_HS.plt
PEI_Text+Sub.tbl

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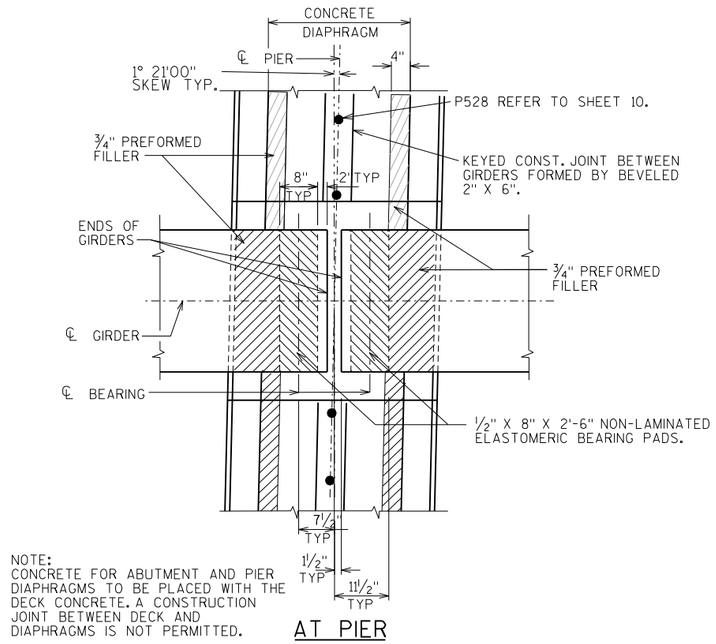
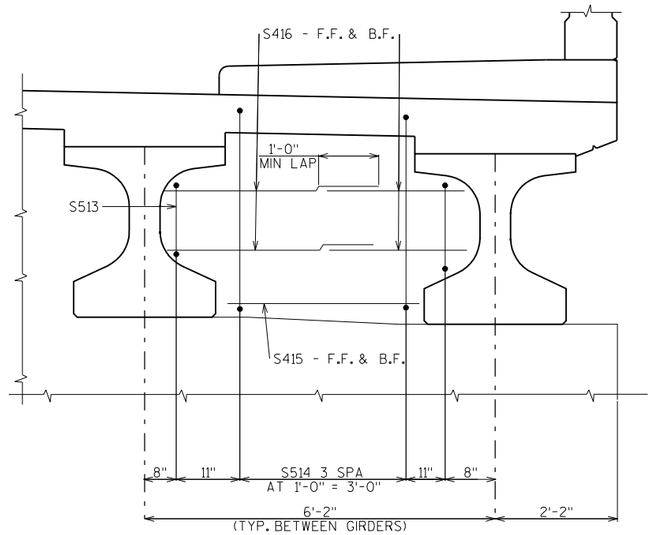
STATE PROJECT NUMBER

1090-07-73

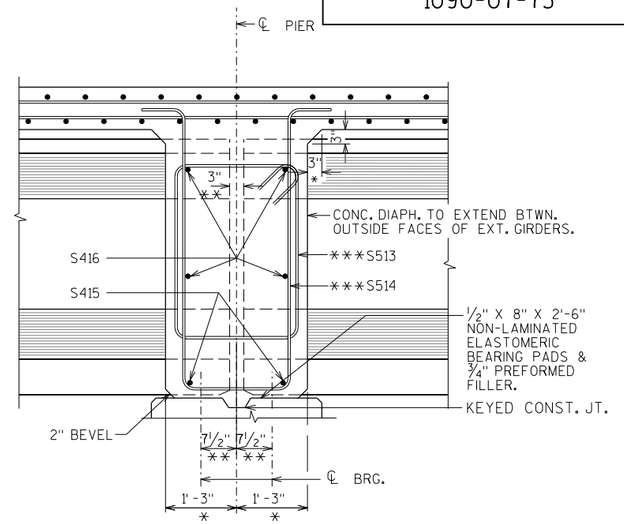


NOTE:
CONCRETE FOR ABUTMENT AND PIER DIAPHRAGMS TO BE PLACED WITH THE DECK CONCRETE. A CONSTRUCTION JOINT BETWEEN DECK AND DIAPHRAGMS IS NOT PERMITTED.

AT PIER

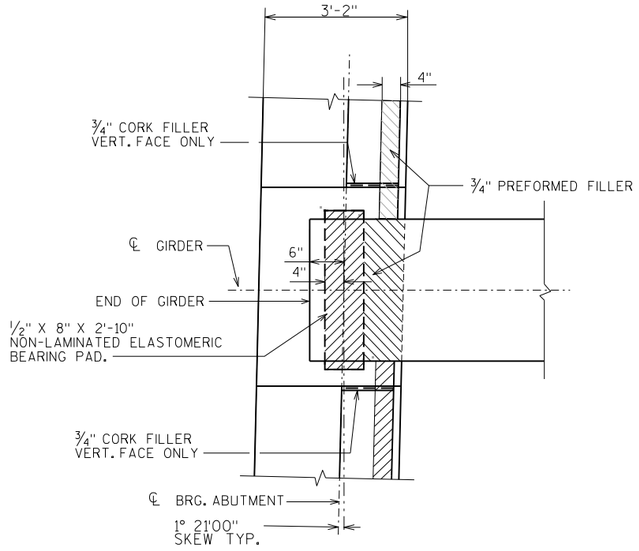


PIER DIAPHRAGM PARTIAL TRANSVERSE SECTION



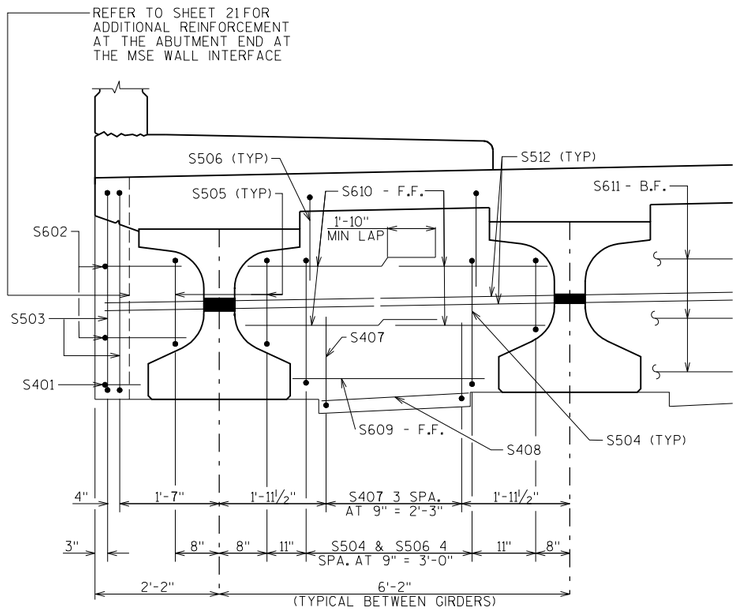
AT PIER DIAPHRAGM

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.
** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.
*** BARS PLACED PARALLEL TO GIRDER.

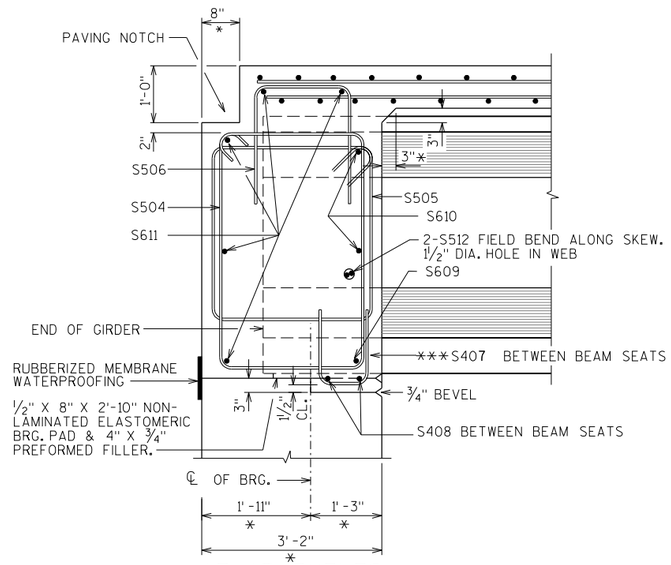


AT ABUTMENTS

BEARING PAD LAYOUT



ABUTMENT DIAPHRAGM PARTIAL TRANSVERSE SECTION



AT ABUTMENTS

DIAPHRAGM PARTIAL LONGITUDINAL SECTION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

SUPERSTRUCTURE DETAILS 1

SHEET 18 OF 27
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8

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Pdf_bw_HS.plt
PEI_TextSub.tbl

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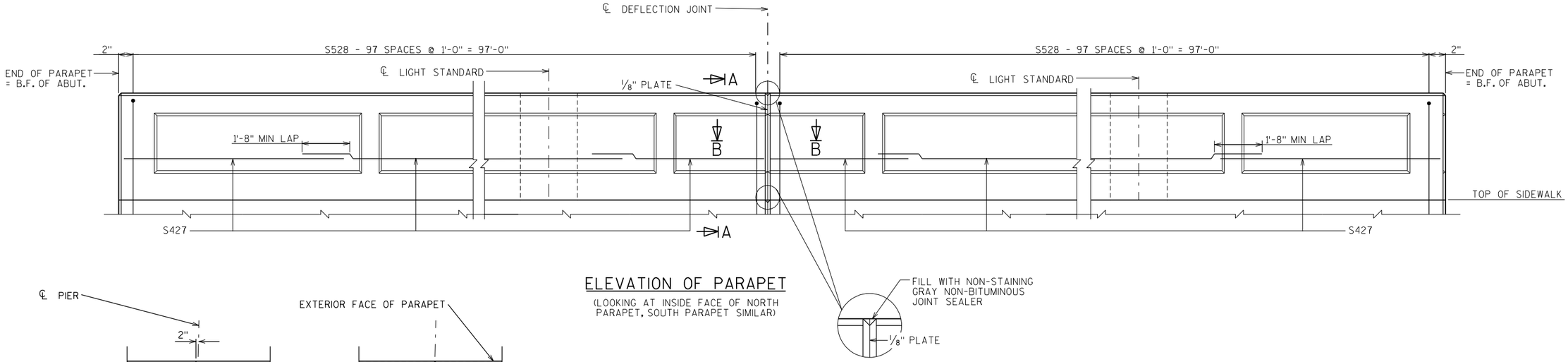
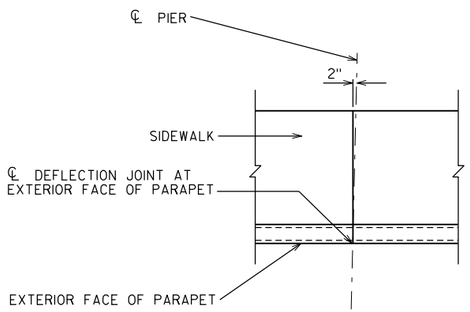
FILE=
SCALE =

STATE PROJECT NUMBER
1090-07-73

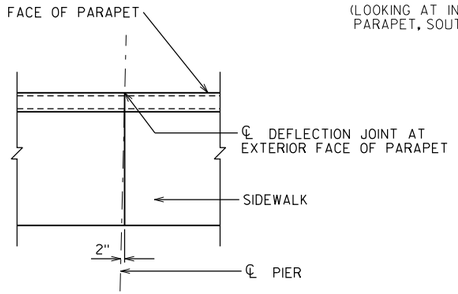


ELEVATION OF PARAPET

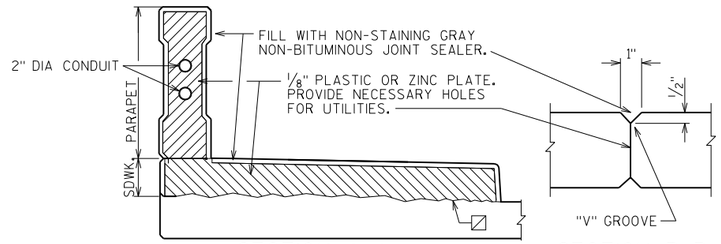
(LOOKING AT INSIDE FACE OF NORTH PARAPET, SOUTH PARAPET SIMILAR)



SOUTH PARAPET DEFLECTION JOINT PLAN



NORTH PARAPET DEFLECTION JOINT PLAN

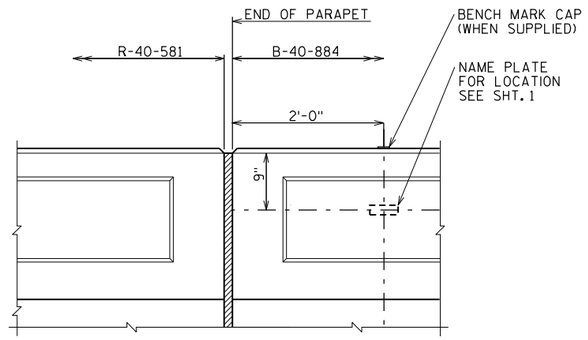


SECTION A-A

(SHOWING DEFLECTION JOINT IN PARAPET AND SIDEWALK.)

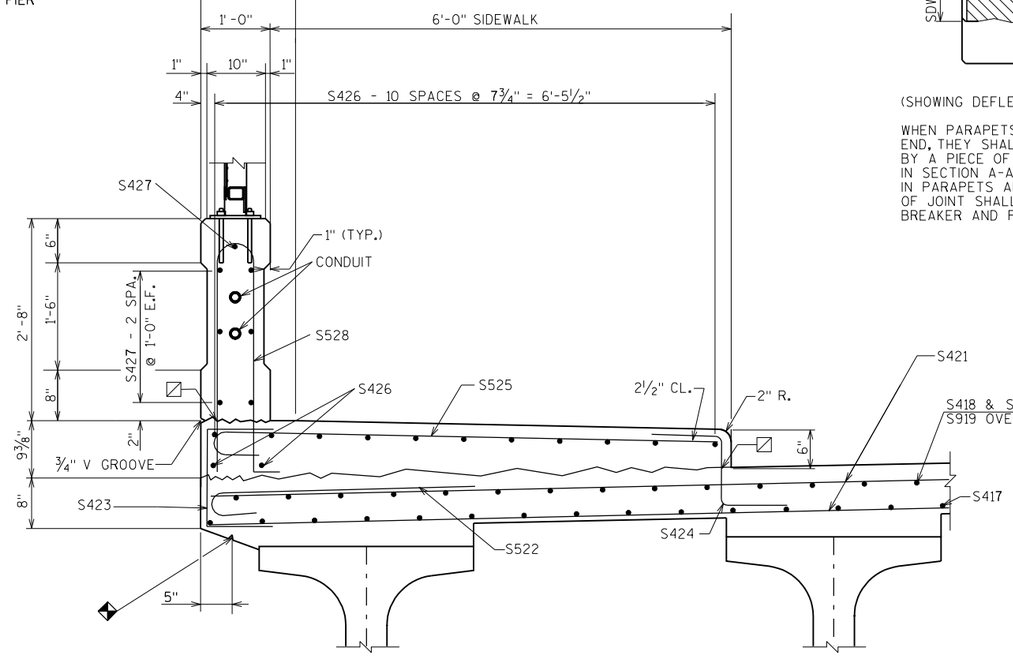
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF 1/8" ZINC OR PLASTIC PLATE CUT AS SHOWN IN SECTION A-A BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH AN APPROVED LIQUID BOND BREAKER AND PLATE SEPARATORS MAY BE OMITTED.

SECTION B-B



NAME PLATE LOCATION

S.E. CORNER B-40-884
(LOOKING AT OUTSIDE FACE OF PARAPET



SIDEWALK AND PARAPET DETAIL

LEGEND

- CONST. JOINT - STRIKE OFF AS SHOWN AND LEAVE ROUGH. FOR DECK POUR, MATCH BRIDGE X-SLOPE.
- 3/4" CONTINUOUS DRIP GROOVE TERMINATE 1'-0" FROM FACE OF ABUTS. AND PIER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

SUPERSTRUCTURE DETAILS 2

SHEET 19 OF 27
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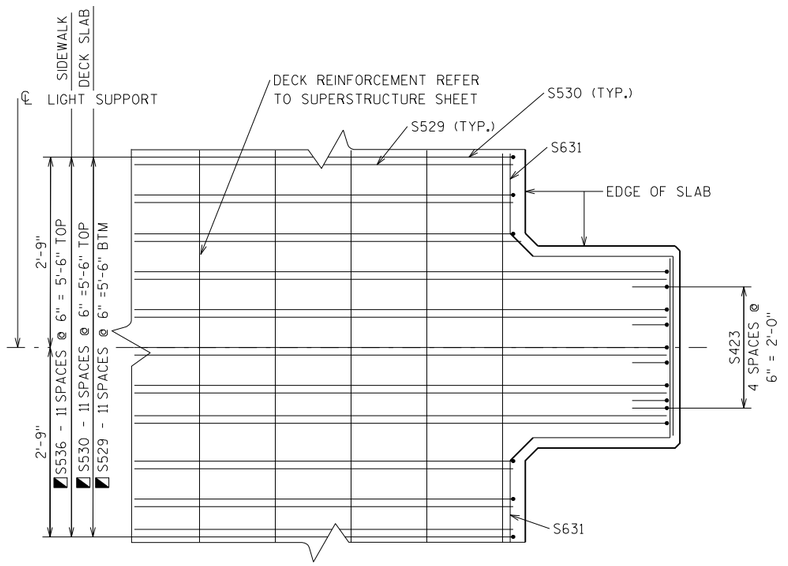
Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\08_884_0701ppta.dgn PLOT DATE : 2/6/2013 3:25:22 PM PLOT BY : Paul Wirth (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2.0000 ' / IN.

FILE= SCALE =

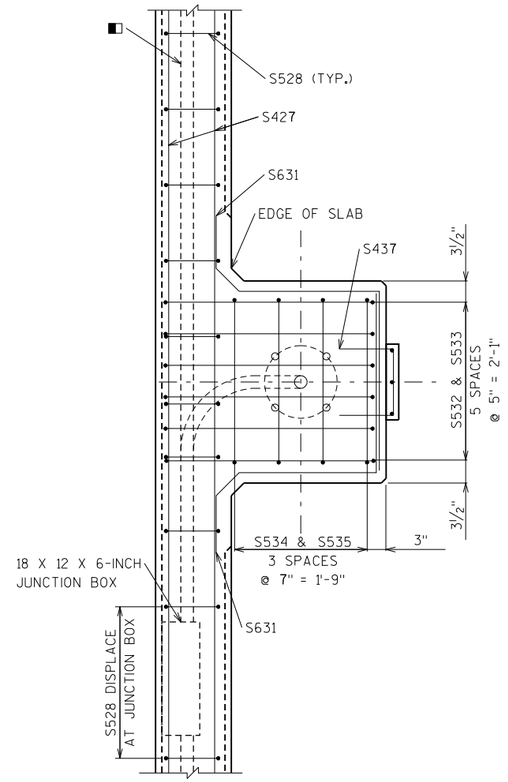
STATE PROJECT NUMBER

1090-07-73

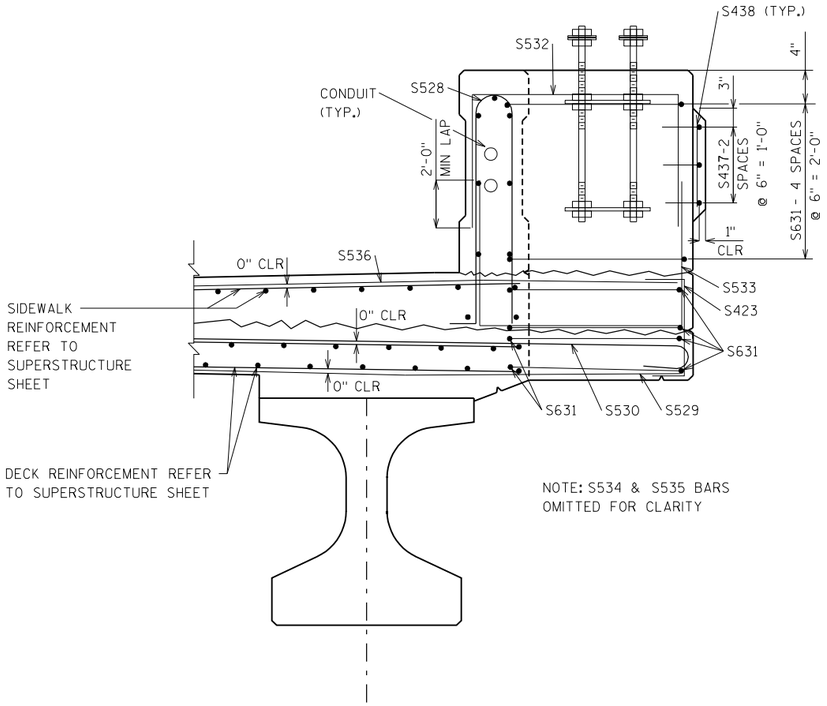


PLAN - REINFORCEMENT IN SLAB AT LIGHT SUPPORT

NOTE: SEE SHEET 22 FOR PEDESTAL DIMENSIONS



PLAN REINFORCEMENT IN LIGHT SUPPORT



SECTION THROUGH LIGHT SUPPORT

LEGEND

◐ CONSTR. JT. STRIKE OFF AS SHOWN

◪ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN SIDEWALK.

◧ 2"φ RIGID NONMETALLIC CONDUIT

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

SUPERSTRUCTURE DETAILS 3

SHEET 20 OF 27
154

Pdf_bw_HS.plt
PEI_Text_Sub.tbl

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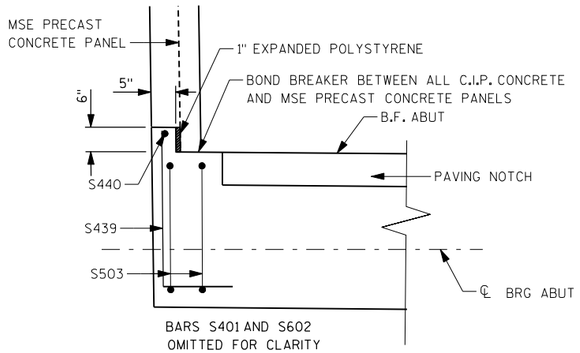
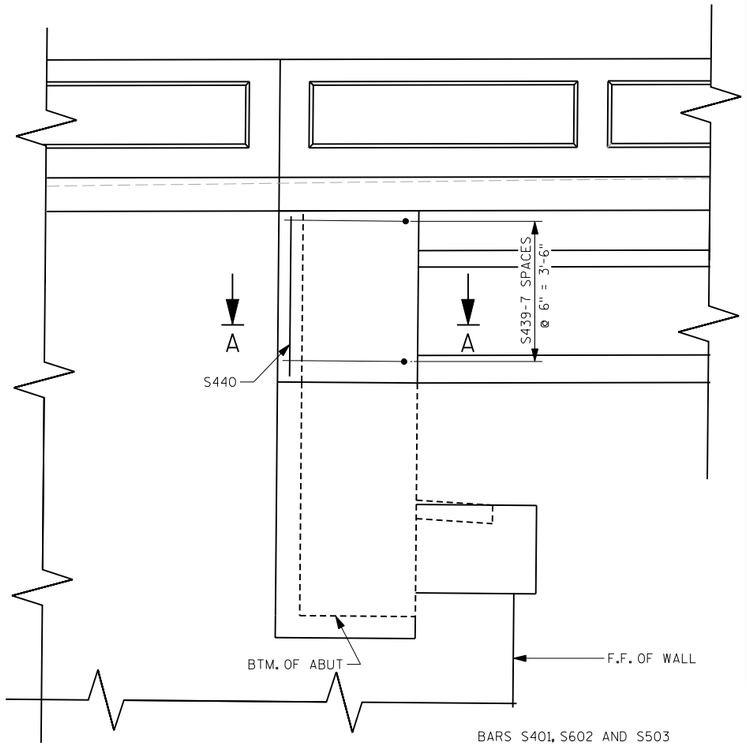
STATE PROJECT NUMBER

1090-07-73



SECTION A-A

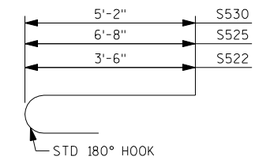


DIAPHRAGM ELEVATION ABUTMENT END

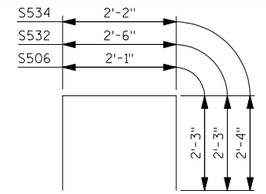
BILL OF BARS

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

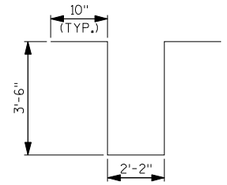
BAR MARK	COATED	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	4	3'-10"	▲		EXTERIOR ABUTMENT DIAPHRAGM BOTTOM
S602	X	8	5'-2"	▲		EXTERIOR ABUTMENT DIAPHRAGM SIDE
S503	X	8	13'-3"	▲		EXTERIOR ABUTMENT DIAPHRAGM STIRRUP
S504	X	100	11'-3"	▲		INTERIOR ABUTMENT DIAPHRAGM STIRRUP
S505	X	44	8'-9"	▲		ABUTMENT DIAPHRAGM STIRRUP AT WEB
S506	X	100	6'-4"	▲		INTERIOR ABUTMENT DIAPHRAGM TOP
S407	X	80	3'-6"	▲		INTERIOR ABUTMENT DIAPHRAGM BOTTOM
S408	X	40	2'-4"			INTERIOR ABUTMENT DIAPHRAGM BOTTOM
S609	X	20	3'-4"			INTERIOR ABUTMENT DIAPHRAGM F.F BOTTOM
S610	X	80	3'-8"			INTERIOR ABUTMENT DIAPHRAGM F.F.
S611	X	20	33'-11"			ABUTMENT DIAPHRAGM B.F. AND DECK
S512	X	44	6'-0"			ABUTMENT DIAPHRAGM THROUGH WEB
S513	X	20	7'-5"	▲		PIER DIAPHRAGM STIRRUP AT WEB
S514	X	40	10'-4"	▲		PIER DIAPHRAGM STIRRUP
S415	X	20	3'-4"			PIER DIAPHRAGM BOTTOM
S416	X	80	3'-2"			PIER DIAPHRAGM E.F.
S417	X	440	40'-0"			SLAB BOTTOM LONGITUDINAL
S418	X	174	35'-0"			SLAB TOP LONGITUDINAL
S919	X	173	51'-0"			SLAB TOP LONGITUDINAL OVER PIER
S420	X	174	39'-6"			SLAB TOP LONGITUDINAL
S421	X	1426	33'-8"			SLAB TRANSVERSE TOP AND BOTTOM
S522	X	714	4'-1"	▲		SLAB EDGE OF DECK
S423	X	774	2'-10"	▲		SLAB AND SIDEWALK EDGE OF DECK
S424	X	774	2'-7"	▲		SLAB AND SIDEWALK EDGE OF CURB
S525	X	774	7'-3"	▲		SIDEWALK TRANSVERSE
S426	X	156	33'-3"			SIDWALK LONGITUDINAL
S427	X	84	33'-3"			PARAPET LONGITUDINAL
S528	X	392	6'-10"	▲		PARAPET VERTICAL
S529	X	48	7'-2"			LIGHT STANDARD SLAB BOTTOM
S530	X	48	7'-9"	▲		LIGHT STANDARD SLAB TOP
S631	X	72	6'-4"	▲		LIGHT STANDARD HORIZ. SLAB, SIDEWALK, LIGHT SUPPORT
S532	X	24	6'-9"	▲		LIGHT SUPPORT VERTICAL TOP
S533	X	24	7'-9"	▲		LIGHT SUPPORT VERTICAL BOTTOM
S534	X	16	6'-7"	▲		LIGHT SUPPORT VERTICAL TOP
S535	X	16	7'-7"	▲		LIGHT SUPPORT VERTICAL BOTTOM
S536	X	48	5'-7"			LIGHT SUPPORT SIDEWALK
S437	X	12	3'-0"	▲		LIGHT SUPPORT BUMP OUT HORIZONTAL
S438	X	12	1'-2"			LIGHT SUPPORT BUMP OUT VERTICAL
S439	X	32	3'-10"	▲		ABUTMENT EXTERIOR DIAPHRAGM HORIZONTAL
S440	X	4	3'-7"			ABUTMENT EXTERIOR DIAPHRAGM VERTICAL



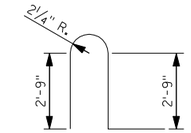
S530, S525, S522



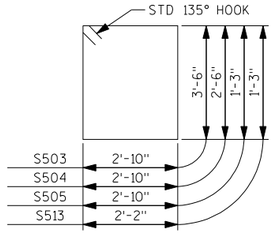
S534, S532, S506



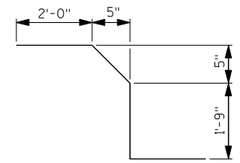
S514



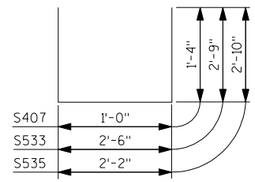
S528



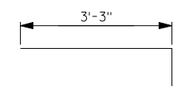
S503, S504, S505, S513



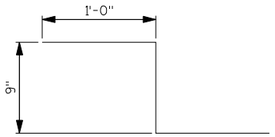
S631



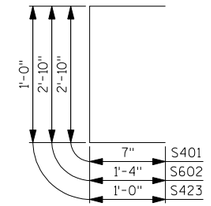
S407, S533, S535



S439



S424



S401, S602, S423

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

SUPERSTRUCTURE DETAILS 4

SHEET 21 OF 27
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Pdf_bw_HS.plt
PEI_Text+Sub.tbl

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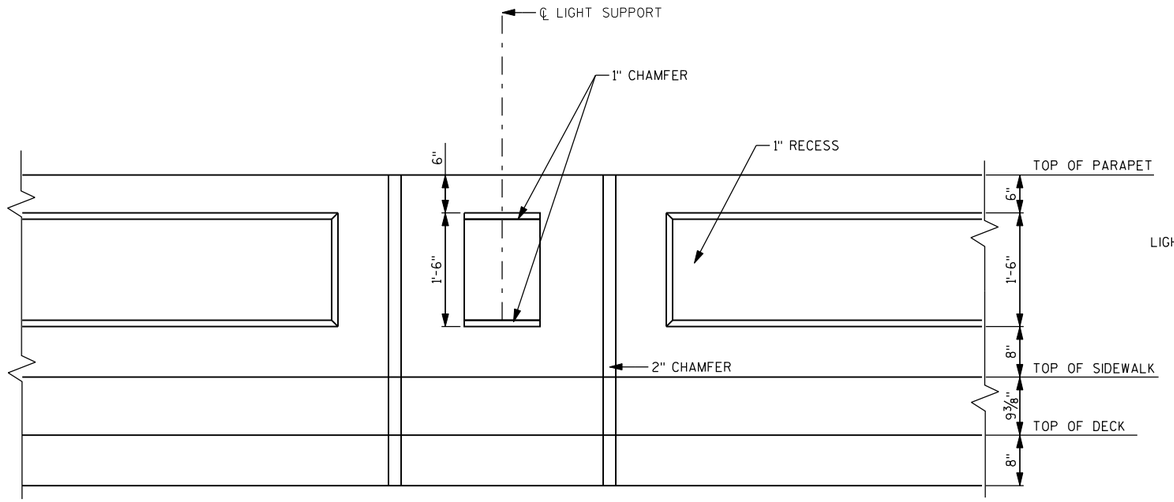
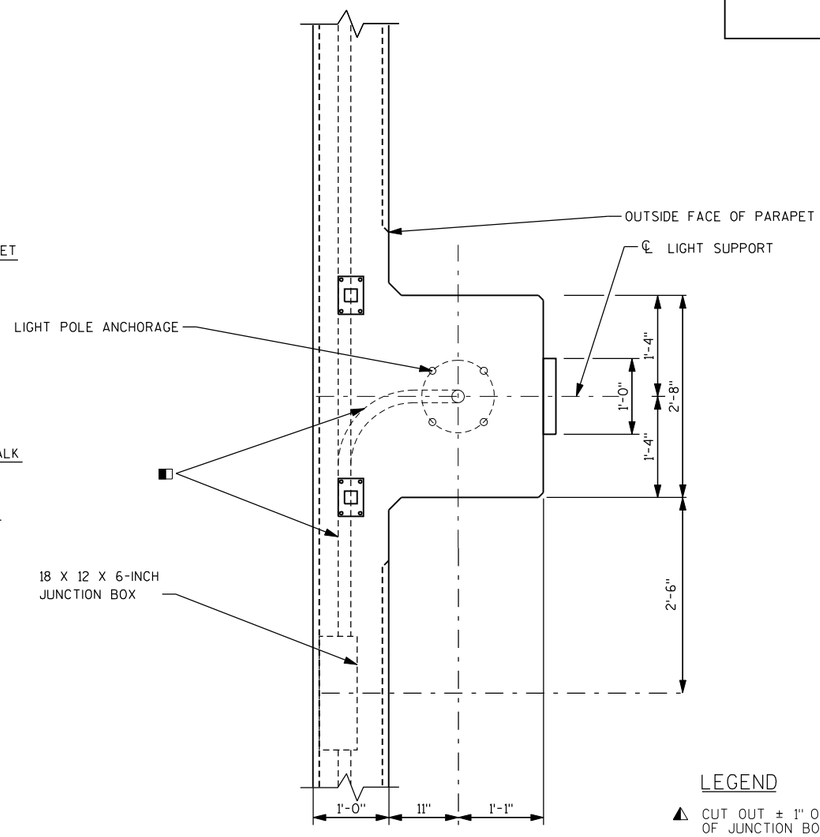
FILE=
SCALE =

STATE PROJECT NUMBER
1090-07-73



OUTSIDE ELEVATION AT LIGHT SUPPORT

(SOUTH ELEVATION SHOWN, NORTH IS SIMILAR)

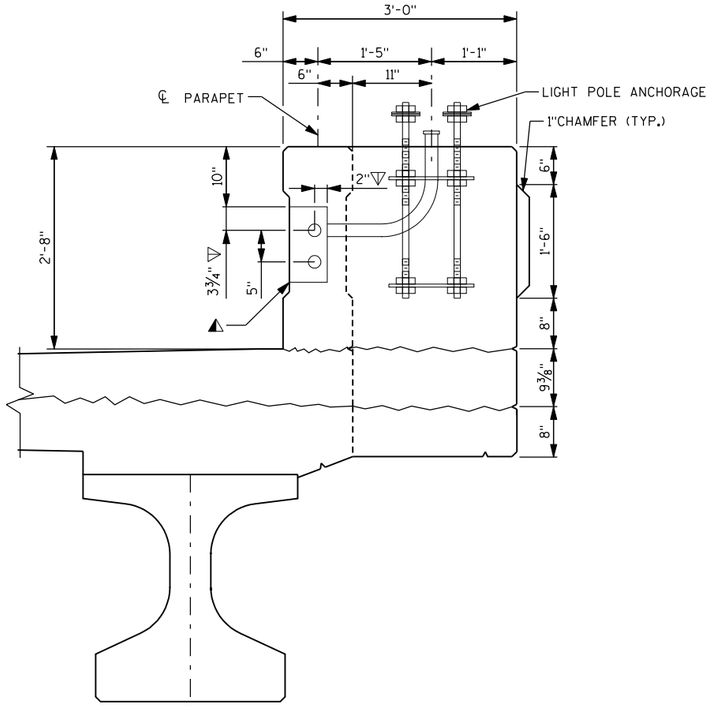


PLAN AT LIGHT SUPPORT

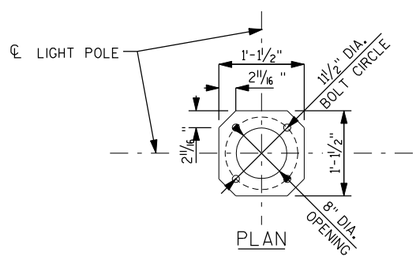
NOTE: SEE SHEET 19 FOR REINFORCEMENT AT LIGHT SUPPORT LOCATIONS.

LEGEND

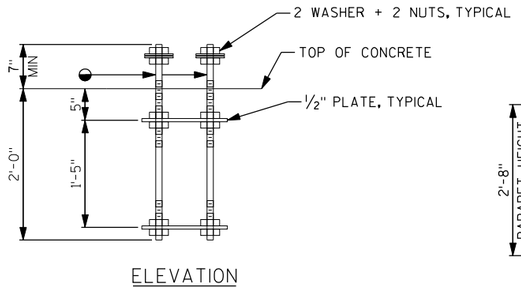
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◒ 1"Φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" (MIN.) OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.
- ◧ 2"Φ RIGID NONMETALLIC CONDUIT
- ▼ EXPANSION FITTING SHALL BE KRALOY TYPE OPEJ20 OR EQUIVALENT. COST INCIDENTAL TO THE BID ITEM "CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH".



SECTION THROUGH PARAPET AND LIGHT SUPPORT

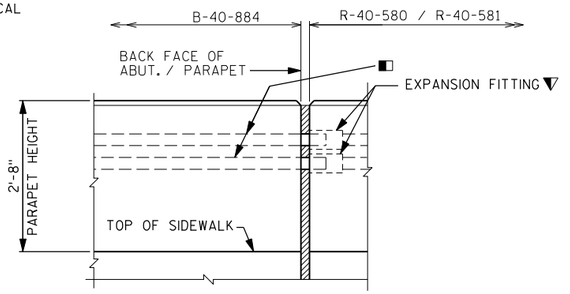


PLAN



ELEVATION

ANCHOR ASSEMBLY LIGHT POLES



OUTSIDE ELEVATION OF PARAPET AT MSE WALL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY	JRM	PLANS CK'D.	RDW

LIGHT SUPPORT DETAILS

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156

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Pdf_bw_HS.plt
PEI_Text+Sub.+tbl

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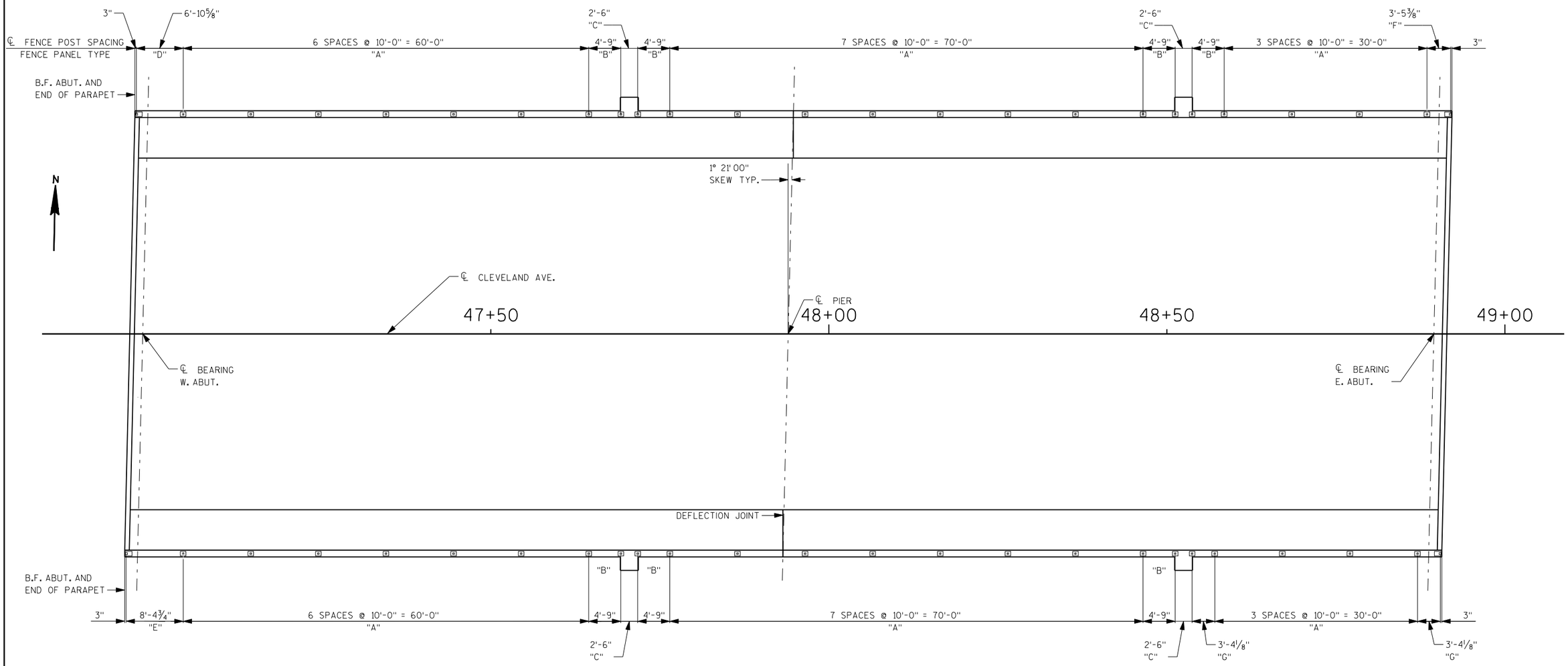
STATE PROJECT NUMBER
1090-07-73



FENCE POST SPACING PLAN

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

DECORATIVE BRIDGE FENCE

SHEET 23 OF 27
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Pdf_bw_HS.plt
PEI_Text+Sub.tbl

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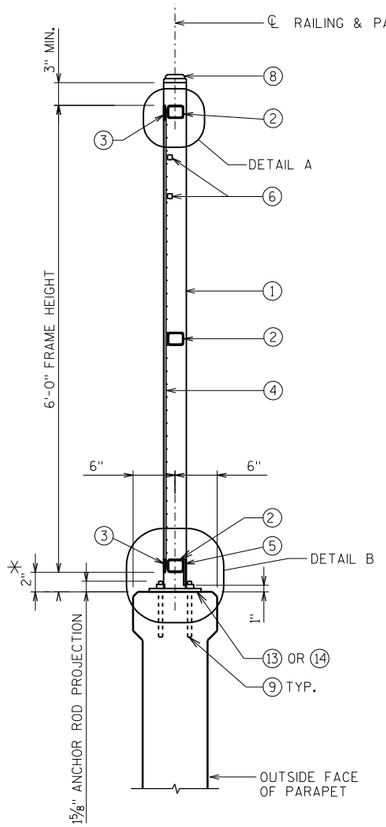
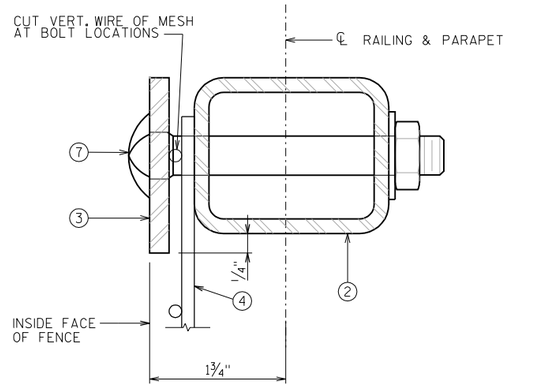
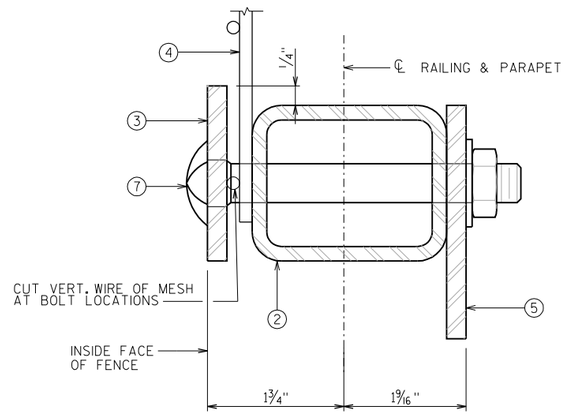


SECTION THRU PARAPET



DETAIL A



DETAIL B

LEGEND

① HSS 3½ X 3½ X 3/16 POST WITH ⅛" DIA. VENT HOLES TOP & BOTTOM ON OUTSIDE FACE. RESIZE AS NECESSARY FOR GALVANIZING PROCESS. WELD TO NO. 8 & BASE PLATE, TYP.

② HSS 2½ X 2½ X 3/16. WELD TO NO. 6.

③ PL 2¾" X ¼" WELDED FRAME. WELD TO NO. 4. BOLT TO NO. 2 WITH NO. 7 AFTER PAINTING.

④ STEEL MESH 2" X 2" X 0.162 (8 GA.). PLACE VERTICAL WIRES ON INSIDE FACE OF PARAPET. WELD TO NO. 3.

⑤ PL ¼" X WIDTH VARIES. PROVIDE SHORT SLOTTED VERT. HOLES FOR NO. 7.

⑥ ¾" × ¾" BAR. WELD TO NO. 2 & 6.

⑦ ½" DIA. CARRIAGE BOLT, WASHER & NUT. PROVIDE ⅝" X ⅝" SQUARE HOLE IN NO. 3 & NO. 2 WHERE CONNECTED TO DECORATIVE INSET PLATE FOR SQUARE PORTION OF THE BOLT HEAD.

⑧ 3½" X 3½" SQUARE END CAP. WELD TO NO. 1.

⑨ ⅝" DIA. CONCRETE MASONRY ANCHOR TYPE S EPOXY, 7" MINIMUM EMBEDMENT WITH A MINIMUM PULLOUT OF 20 KIPS.

⑩ PL 5/16" X 4½" X 6" CONNECTION WITH 2" DIA. HOLE FOR NO. 7. USE NO. 11 TO COVER 2" DIA. ADJUSTMENT HOLES.

⑪ PL ⅜" X 2½" X 4½".

⑫ PL WASHER ¼" X 3½" X 3½".

⑬ PL ½" X 8" X 10" BASE PLATE. WELD TO NO. 1.

⑭ PL ½" X 8" X 1'-0" BASE PLATE. WELD TO NO. 1.

⑮ ½" DIA. BOLT, WASHER & NUT. TACK WELD NUT TO NO. 2.

⑯ ¼" DECORATIVE SILHOUETTE INSET PLATE AT SPECIAL 10'-0" PANEL. BOLT TO NO. 2 WITH NO. 7. ELECTRONIC COPIES OF THE CUTTING PATTERN ARE AVAILABLE BY CONTACTING: MR. BILL MOHR, WIS. D.O.T., 141 NW BARSTOW ST., WAUKESHA, WI 53187 PHONE: (262) 548-5666 EMAIL: BILL.MOHR@DOT.STATE.WI.US

✳ THE DIMENSION BETWEEN THE BOTTOM OF THE WELDED FRAME AND THE TOP OF THE PARAPET VARIES DUE TO THE VERTICAL PROFILE OF THE STRUCTURE. SET THIS DIMENSION TO 2" ADJACENT TO THE POST WHERE NO. 5 HAS THE SMALLEST VERTICAL DIMENSION.

NOTES

THE BID ITEM SHALL BE "FENCE DECORATIVE BRIDGE" WHICH SHALL INCLUDE ALL ITEMS SHOWN.

FOR ELEVATIONS OF FENCE PANELS, SEE SHEET 25.

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

STRUCTURAL TUBING SHALL BE A.S.T.M. A500, GRADE B. ROLLED SHAPES, PLATES, BARS AND SHIMS SHALL BE A.S.T.M. A709, GRADE 36.

CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF HOLES AROUND ANCHOR BOLTS WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

CUT BOTTOM OF POST TO MAKE POST VERTICAL.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE A.S.T.M. A307 AND SHALL BE GALVANIZED.

STANDARD WASHERS SHALL BE USED TO SHIM BASE PLATES IF REQUIRED. ALL WASHERS SHALL BE GALVANIZED.

THE STEEL MESH SHALL BE TACK WELDED TO THE 2¾" X ¼" WELDED FRAME. THE MESH SHALL BE STRETCHED TO REMOVE SLACK.

VENT HOLES SHALL BE DRILLED IN MEMBERS AS REQUIRED TO FACILITATE GALVANIZING AND DRAINAGE.

AFTER FABRICATION AND PRIOR TO BOLTING AND ASSEMBLING THE FENCE COMPONENTS, STEEL SHALL BE BLAST CLEANED PER SSPC-SP 6 AND GALVANIZED ACCORDING TO ASTM A 123. REPAIR ZINC COATING DAMAGED DURING FENCE ASSEMBLAGE AS SPECIFIED IN 635.3.4.

ALL WELDS SHALL BE PREQUALIFIED ACCORDING TO THE STRUCTURAL WELDING CODE STEEL (AWS D1.1). THE MINIMUM SIZE OF FILLET WELDS IS 3/16".

COAT THE RAILING WITH AN EPOXY PAINT SYSTEM. TOUCH UP DAMAGED PORTIONS OF PAINT AFTER PANEL ERECTION. SEE SPECIAL PROVISIONS FOR REQUIREMENTS.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

DECORATIVE BRIDGE FENCE DETAILS 1

SHEET 24 OF 27
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Pdf_bw_HS.plt
PEI_TextSub.tbl

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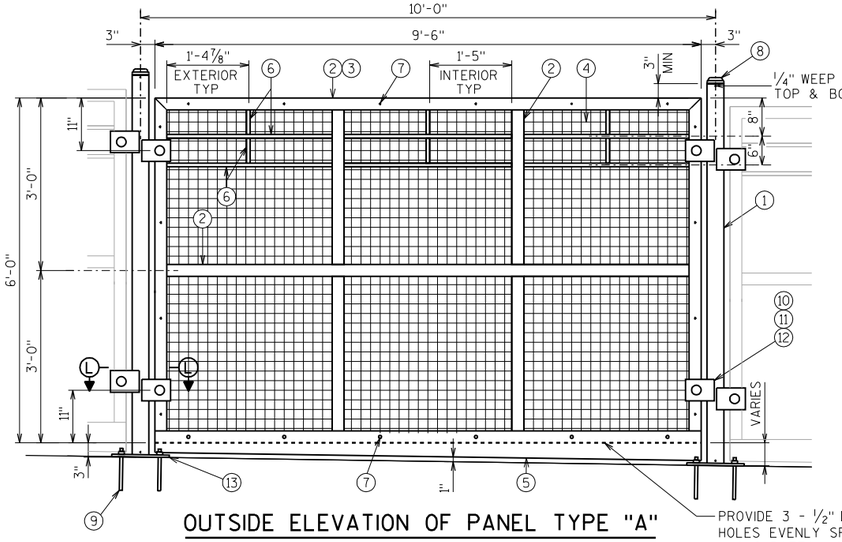
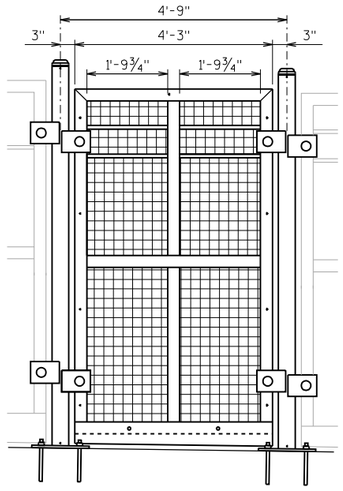
STATE PROJECT NUMBER

1090-07-73



OUTSIDE ELEVATION OF PANEL TYPE "A"



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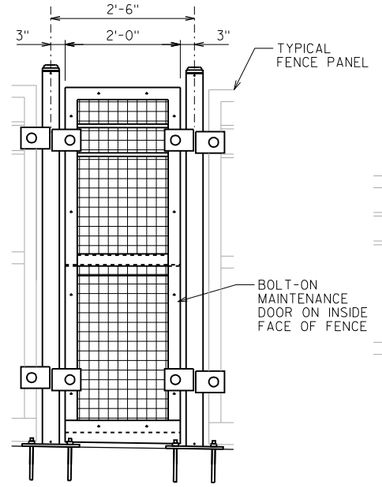

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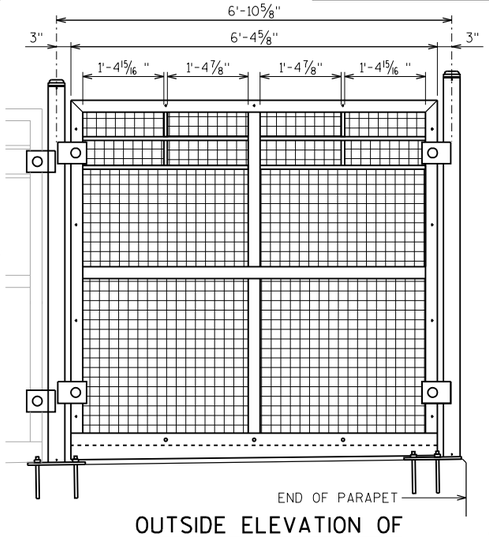

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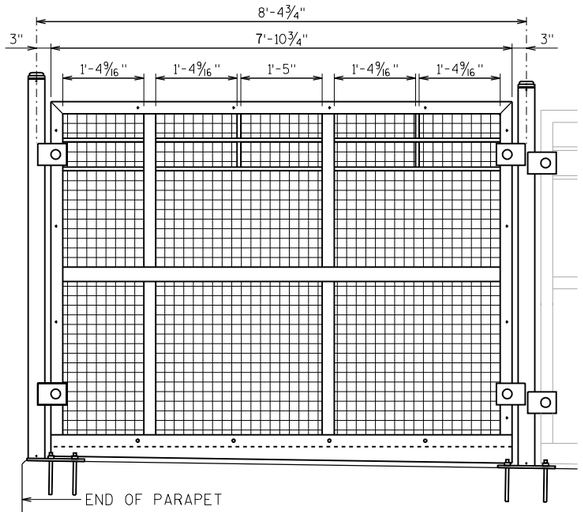

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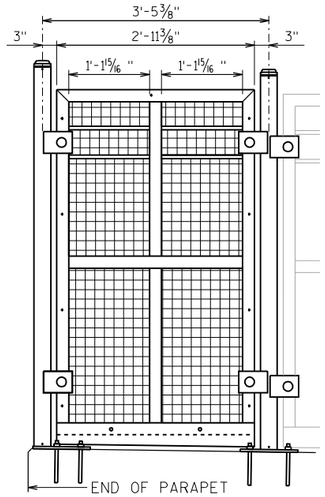

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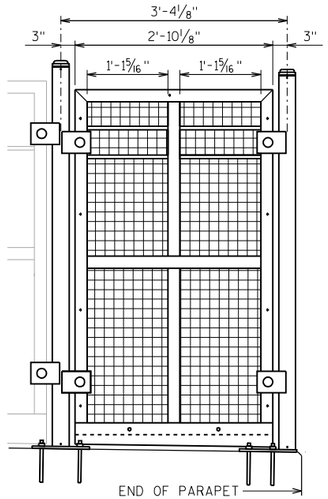

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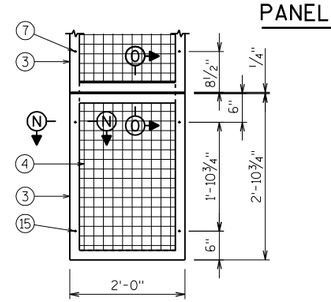
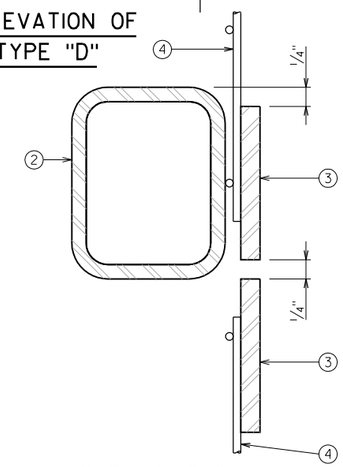
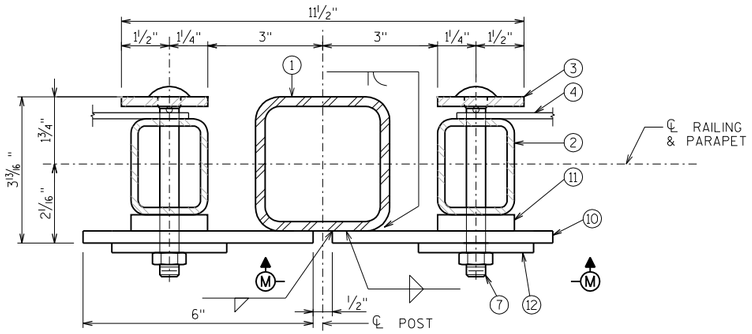


MAINTENANCE DOOR DETAIL

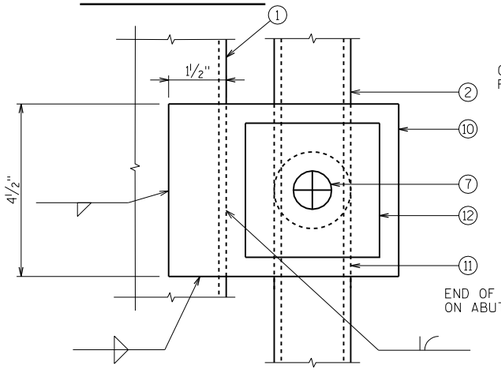
INSIDE ELEVATION



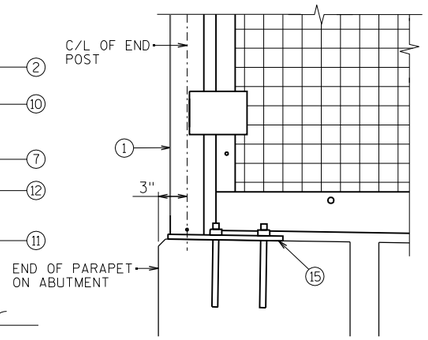
SECTION O-O



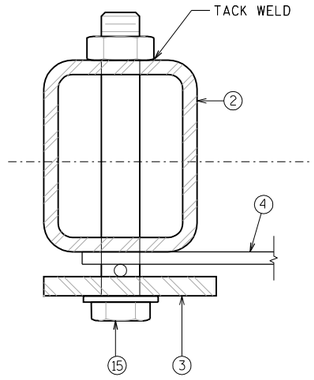
SECTION L-L



ELEVATION M-M



END POST DETAIL



SECTION N-N

NOTES

FOR NOTES AND LEGEND, SEE SHEET 24.

TYPICAL MEMBER SIZES, WELDING AND BOLTING DETAILS, AND MATERIALS ARE SHOWN IN 'DECORATIVE FENCE BRIDGE PANEL' ON SHEET 26.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

DECORATIVE BRIDGE FENCE DETAILS 2

SHEET 25 OF 27
159

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Pdf_bw_HS.plt
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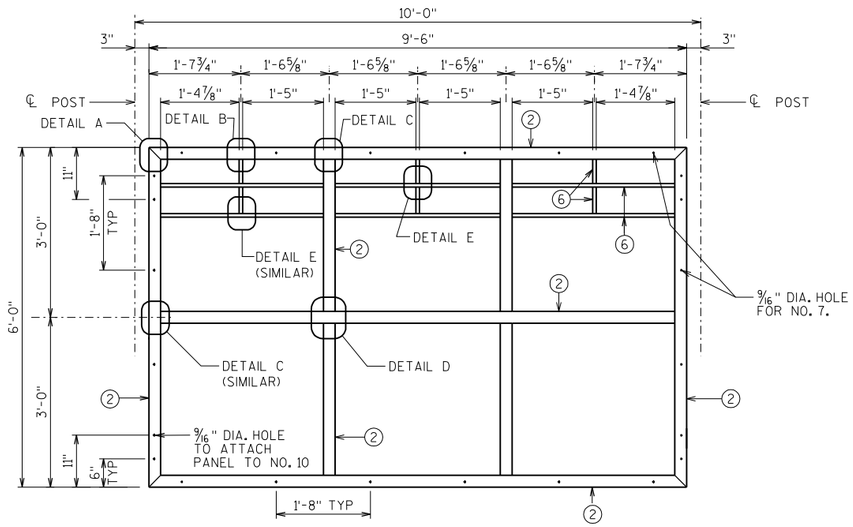
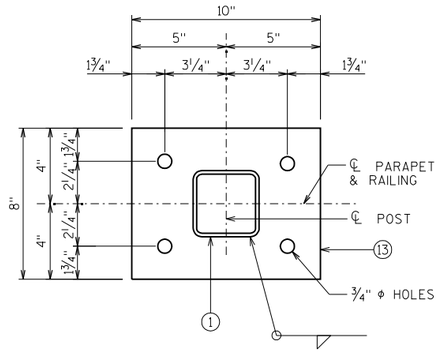
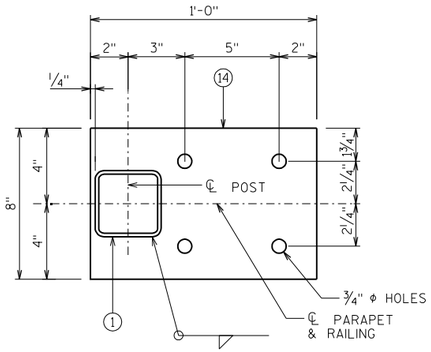


DECORATIVE FENCE BRIDGE PANEL

TYPICAL 10' PANEL SHOWN



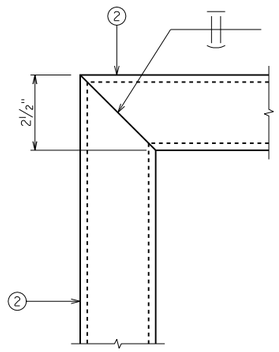
BASE PLATE



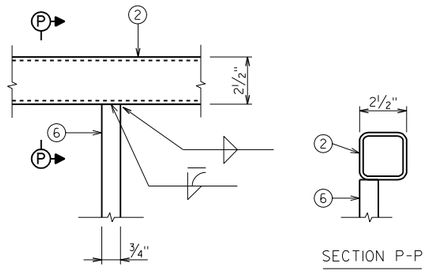
END BASE PLATE

(INSTALL AT END SECTIONS AND DEFLECTION JOINT LOCATION)

BASE PLATE DETAILS

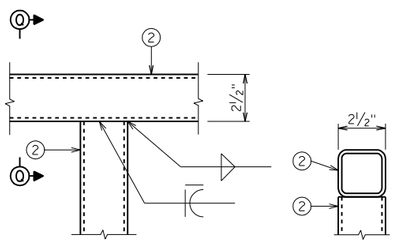


DETAIL A



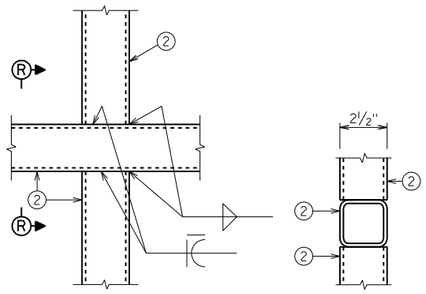
DETAIL B

SECTION P-P



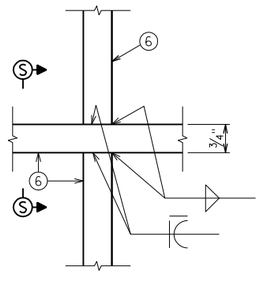
DETAIL C

SECTION Q-Q

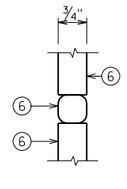


DETAIL D

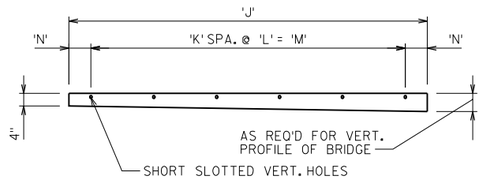
SECTION R-R



DETAIL E



SECTION S-S



¼" PLATE (NO. 5)

PANEL TYPE	DIM 'J'	NO. 'K'	SPA 'L'	DIM 'M'	DIM 'N'
A	9'-6"	5	1'-8"	8'-4"	7"
B	8'-0"	4	1'-8"	6'-8"	8⅛"
C	6'-5"	3	1'-8"	5'-0"	8⅜"
D	4'-11"	2	1'-8"	3'-4"	9½"
E	3'-5¼"	2	1'-1½"	2'-3"	7⅛"
H	2'-0"	1	10"	10"	7"

NOTES

FOR NOTES AND LEGEND, SEE SHEET 24.

DETAILS SHOWN ARE TYPICAL FOR ALL FENCE PANELS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

DECORATIVE BRIDGE FENCE DETAILS 3

SHEET 26 OF 27

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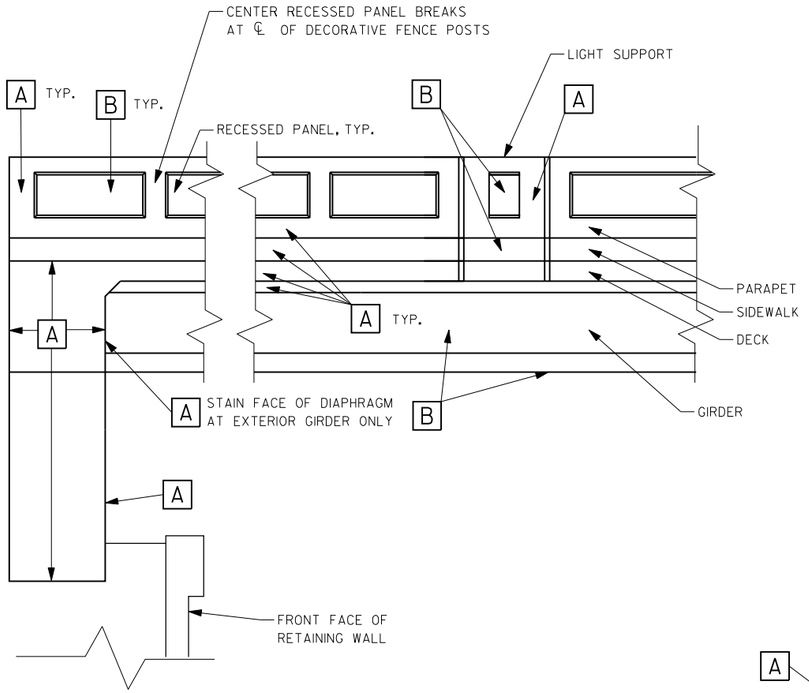
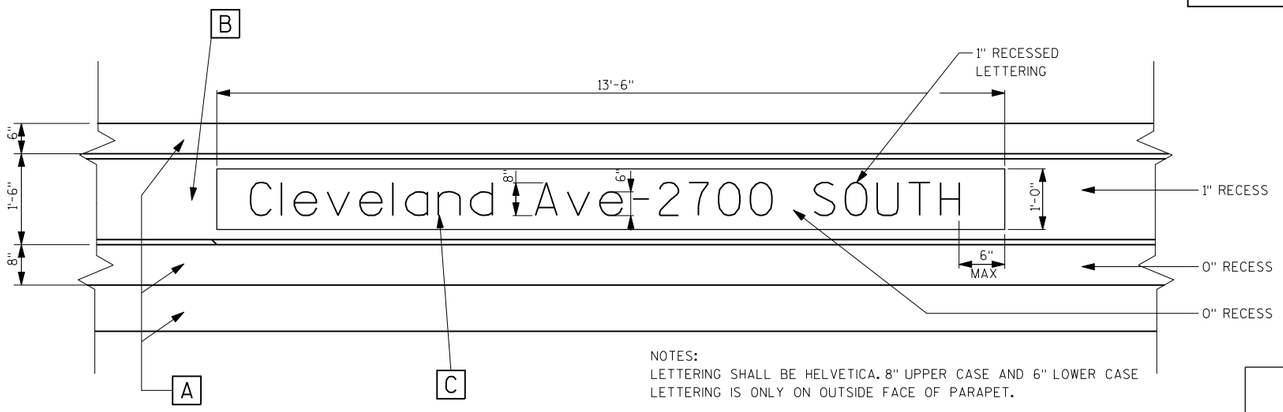
SCALE =

STATE PROJECT NUMBER
1090-07-73



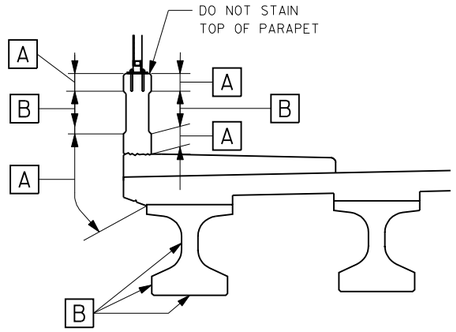
OUTSIDE ELEVATION OF PARAPET



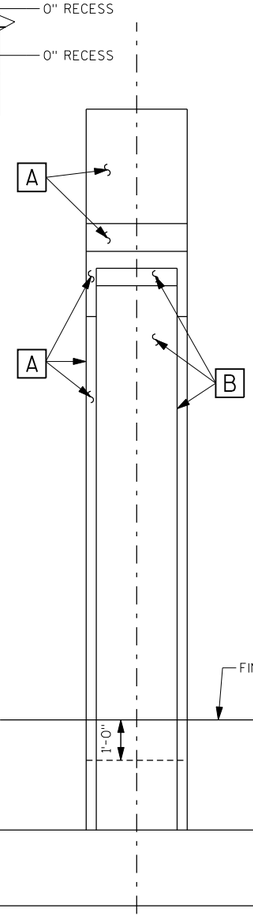
NOTES:
LETTERING SHALL BE HELVETICA. 8" UPPER CASE AND 6" LOWER CASE
LETTERING IS ONLY ON OUTSIDE FACE OF PARAPET.

INDENTED TEXT

EXTERIOR FACE OF PARAPET ONLY

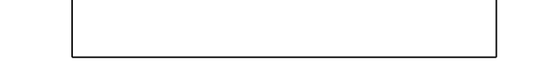


ELEVATION OF DECK



ELEVATION OF PIER

LOOKING NORTH (FROM SOUTH END)



ELEVATION OF PIER

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	PARAPETS	BOTH SIDES, EXCEPT AS NOTED FOR ACCENT COLORS
		SIDEWALKS	FASCIA & EXPOSED UNDERSIDE
		DECK	FASCIA & EXPOSED UNDERSIDE TO EXTERIOR GIRDER FLANGE
		ABUTMENT	FRONT FACE FROM TOP OF ABUTMENT TO 6" BELOW TOP OF RETAINING WALL COPING
		PIERS	SIDES AND BOTTOM OF CAP BEAM, AND COLUMNS TO 1'-0" BELOW FINISHED GRADE EXCEPT AS NOTED FOR ACCENT COLORS
B	ACCENT COLOR #1	PIERS, GIRDERS, PARAPETS	REVEALS ON COLUMNS, EXTERIOR FACE AND UNDERSIDE OF EXTERIOR GIRDERS, REVEALS ON PARAPETS
C	ACCENT COLOR #2	PARAPETS	LETTERING AT ROADWAY NAME

THE FINAL COLOR OF THE CONCRETE FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE SHERWIN-WILLIAMS STANDARD COLOR SYSTEM LISTED.

BASE COLOR: WHOLE WHEAT - SW 6121, FN 122
ACCENT COLOR #1 BAGUETTE - SW 6123, FN 124
ACCENT COLOR #2 DENIM - SW 6523
ACCENT COLOR #3 BLACK - FEDERAL COLOR 37038

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-884

DRAWN BY JRM | PLANS CK'D. RDW

AESTHETIC DETAILS

SHEET 27 OF 27
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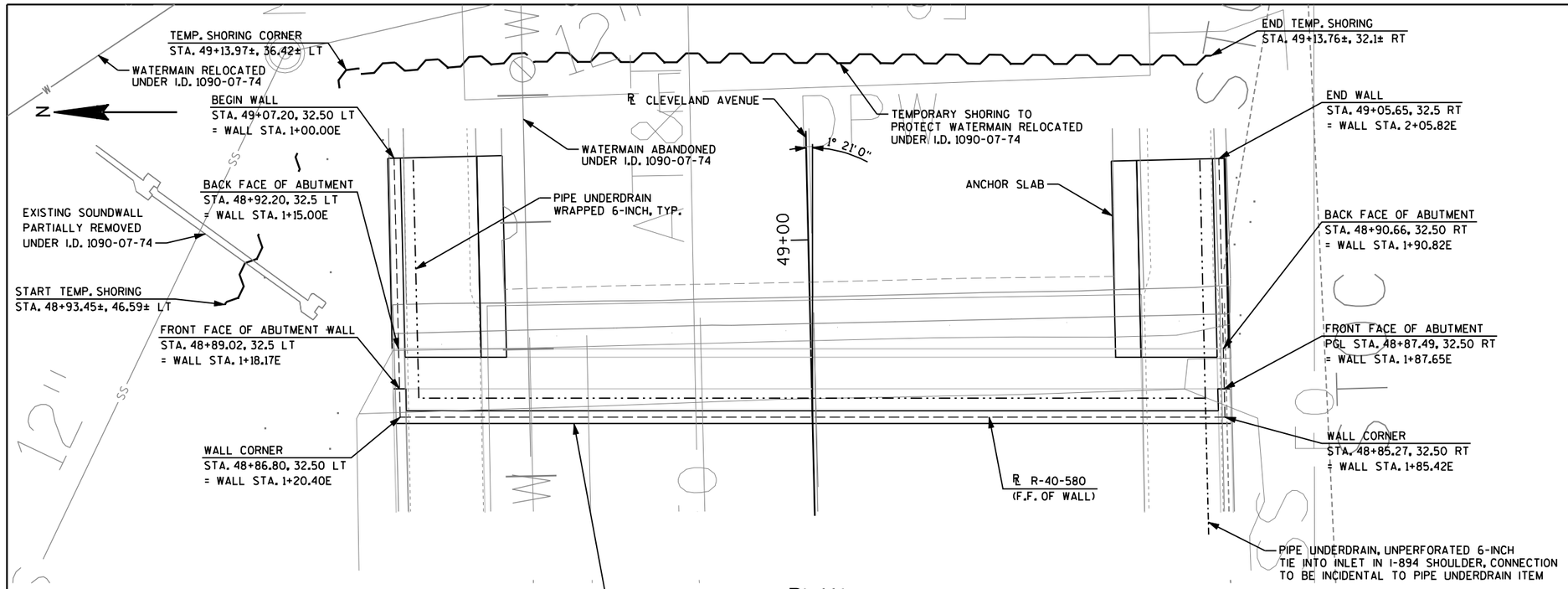
STATE PROJECT NUMBER

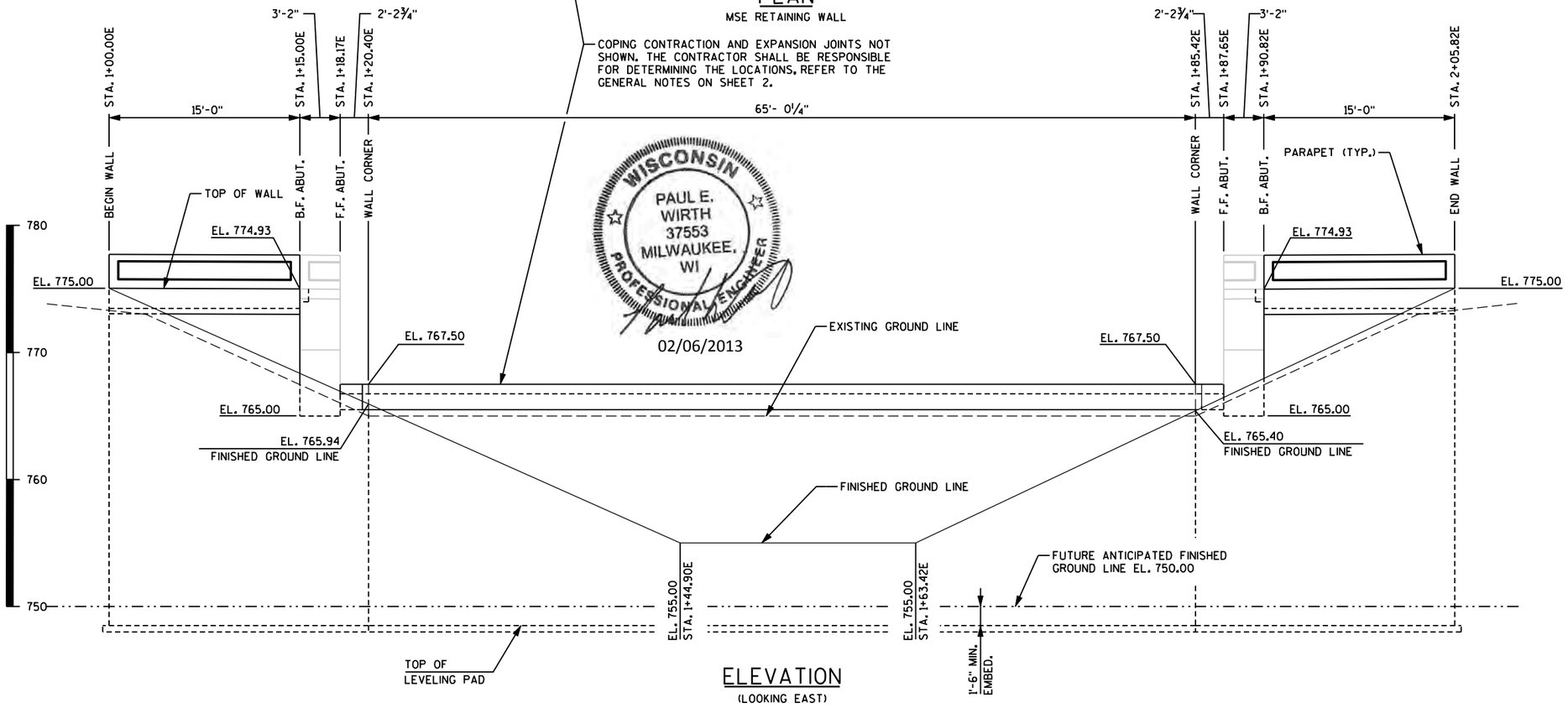
1090-07-73



PLAN

MSE RETAINING WALL

COPING CONTRACTION AND EXPANSION JOINTS NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS, REFER TO THE GENERAL NOTES ON SHEET 2.



ELEVATION

(LOOKING EAST)

WISCONSIN
PAUL E. WIRTH
37553
MILWAUKEE, WI
PROFESSIONAL ENGINEER

02/06/2013

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP PILOT".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

THE RETAINING WALL DESIGN SHALL USE THE FUTURE ANTICIPATED FINISHED GROUND LINE ELEVATION TO DETERMINE THE MAXIMUM WALL HEIGHTS.

PROVIDE WALL CORNER DETAILS THAT WILL ALLOW FOR FUTURE EXTENSION OF THE RETAINING WALL PARALLEL TO THE ROADWAY.

DESIGN THE RETAINING WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

DESIGN THE RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

ALLOWABLE WALL SYSTEMS:

WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY
(PARAPET, SIDEWALK, ANCHOR SLAB AND COPING) f'c = 3,500 PSI
BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 PSI

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. WALL DETAILS
5. ANCHOR SLAB DETAILS
6. AESTHETIC WALL TREATMENT DETAILS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
PAUL WIRTH (262) 901-2500

NO.	DATE	REVISION	BY

PATRICK ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/06/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-40-580

CLEVELAND AVENUE OVER IH 894

COUNTY	TOWN/CITY/~~VILLAGE~~
MILWAUKEE	WEST ALLIS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PEW	RLD	JRM	RLD

GENERAL PLAN

SHEET 1 OF 6
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STATE PROJECT NUMBER

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TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-580)	LS	1
	206.6000.S	TEMPORARY SHORING	SF	2520
	210.0100	BACKFILL STRUCTURE	CY	100
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	32
**	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	19
**	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	1,750
	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	40
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	105
	652.0225	CONDUIT RIGID NONMETALLIC SHCEDULE 40 2-INCH	LF	72
	SPV.0165.01	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT	SF	2,240
	SPV.0165.02	CONCRETE STAINING R-40-580	SF	970
		NON-BID ITEM		
		PRE-FORMED JOINT FILLER	SIZE	¾"
		NON-BITUMINOUS JOINT SEALER	SIZE	¾", 1"
		CORK FILLER	SIZE	1"

ALL ITEMS ARE CATEGORY 0030

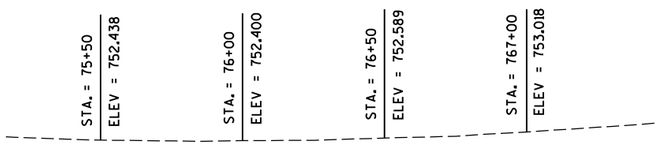
** QUANTITY INCLUDES ANCHOR SLAB AND PARAPET

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

DIMENSIONS					
WALL HEIGHT (FEET)[1]	26.6	19.0			
EXPOSED WALL HEIGHT (FEET)[2]	25.1	17.5			
MINIMUM LENGTH OF REINFORCEMENT (FEET)	26.0	27.0			
WALL STATION	1+00.00	1+53.00			
BORING USED	C-06	C-03			
CAPACITY TO DEMAND RATIO (CDR)					
SLIDING (CDR > 1.0)	1.01	1.03			
ECCENTRICTY (CDR > 1.0)	1.92	2.64			
FACTORED BEARING RESISTANCE (PSF)	9,300	9,300			
BEARING RESISTANCE (CDR > 1.0)	1.58	1.78			
OVERALL STABILITY (CDR > 1.0)	1.06	1.10			

NOTES;

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET BELOW THE FUTURE ANTICIPATED GRADE LINE.
2. THE EXPOSED WALL HEIGHT IS BASED ON THE FUTURE ANTICIPATED GRADE LINE.
3. THE WALL STABILITY EVALUATION INCLUDED A SURCHRAGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.

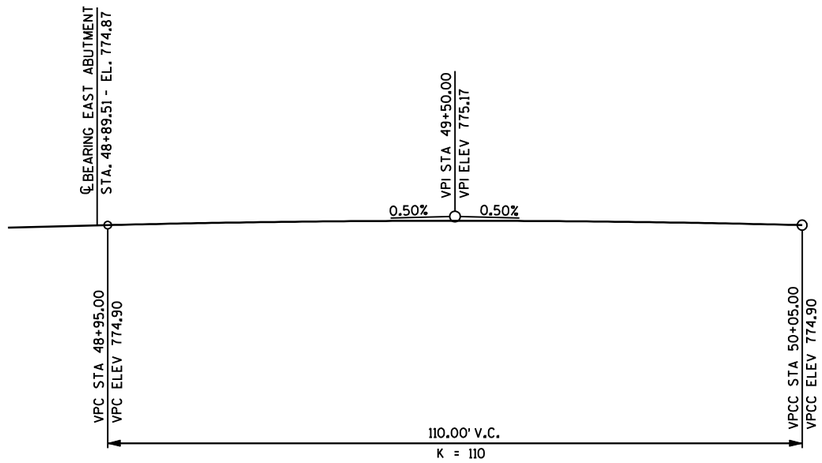


EXISTING PROFILE GRADE LINE - IH 894 NB

(ALONG CROWN STATION INCREASE TO NORTH)

SOIL PARAMETERS

SOIL DESCRIPTIONS & STRATUM LOCATIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE WALL REINFORCING ZONE	30	0	120
FILL BEHIND THE REINFORCING ZONE	29	0	130
BORING C-3, STA. 49+06.09- LT 19.10, C-6, STA. 49+32.28- LT 50.54, C-7, 49+18.43- RT 43.61			
FILL, SAND, GRAVEL AND CLAY, BROWN, MOIST. ELEVATION 773.9 FEET TO 767.9 FEET	31	0	125
CLAY AND TRACE SAND, HARD TO STIFF ELEVATION 767.9 FEET TO 756.9 FEET	0	1500	125
GRAY LEAN CLAY, TRACE GRAVEL AND SAND, HARD TO STIFF ELEVATION 756.9 FEET TO 740.9 FEET	0	1500	130
GRAY LEAN CLAY, TRACE SAND AND GRAVEL, VERY STIFF ELEVATION 740.9 FEET TO 725.9 FEET	0	2750	130
FILGRAY LEAN CLAY, SAND AND GRAVEL, DENSE ELEVATION 725.9 FEET TO 673.9 FEET	0	5000	135



PROPOSED PROFILE GRADE LINE - CLEVELAND AVE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE CONCRETE PARAPETS, TOP OF SIDEWALKS, FACE OF CURBS AND TOP OF CURB FLANGES.

THE 'E'STATION LINE SIGNIFIES THE WALL ℄ LINE STATIONING ALONG THE FRONT FACE OF R-40-580.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL.

COORDINATE CONSTRUCTION OF THE WALL WITH THE EAST ABUTMENT CONSTRUCTION FOR BRIDGE B-40-884.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS OF ALL EXPANSION AND CONTRACTION JOINTS. LOCATE THE JOINTS TO COINCIDE WITH THE VERTICAL MSE WALL PANEL JOINTS.

THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE LEVELING PAD.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, SIDEWALK AND PARAPET IS PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED WALL PANEL THICKNESS OF 5½" AND A 5" PANEL EMBEDMENT. FOR PANEL THICKNESS AND PANEL EMBEDMENT DIFFERENT THAN THESE VALUES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPES I, II OR III OR M213.

ALL CONTRACTORS EQUIPEMENT MUST MAINTAIN THE MINIMUM OSHA CLEARANCE FROM ATC AND WE ENERGIES OVERHEAD FACILITIES AS DESCRIBED IN OSHA'S GUIDELINES FOR CLEARANCES. ALL CONTRACTORS SHOULD INCORPORATE ANY ADDITIONAL COSTS ASSOCIATED WITH WORKING AROUND EXISTING ATC AND WE ENERGIES FACILITIES INTO THEIR BID, AS ATC AND WE ENERGIES BELIEVE THEY DO NOT IMPOSE ANY DIRECT CONFLICTS WITH THE SCOPE OF THIS PROJECT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-580

DRAWN BY JRM | PLANS CK'D. RLD

GENERAL NOTES & QUANTITIES

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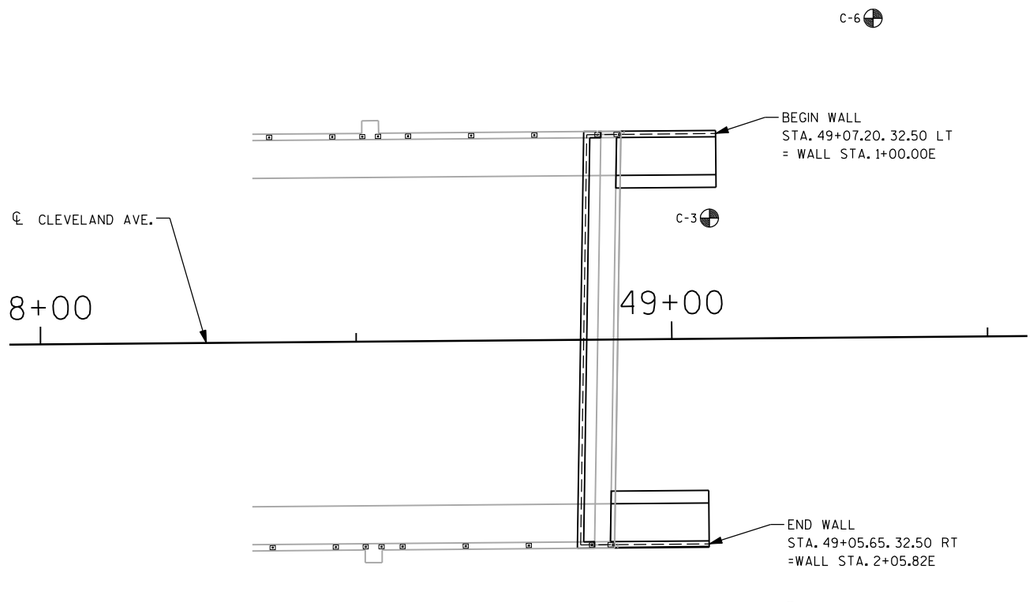

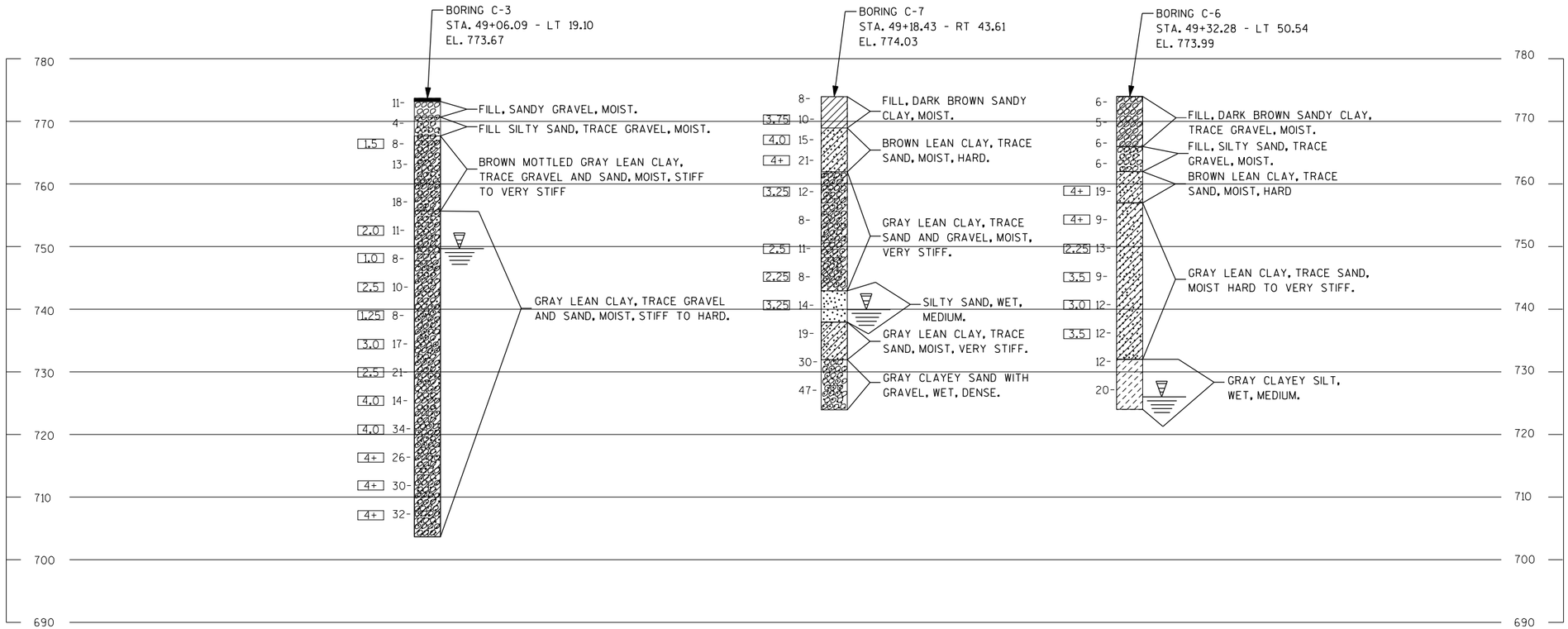

STATE PROJECT NUMBER

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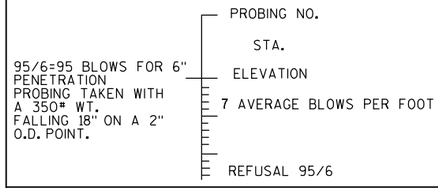
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

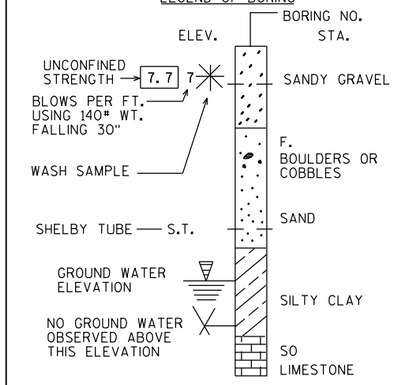
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-580

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

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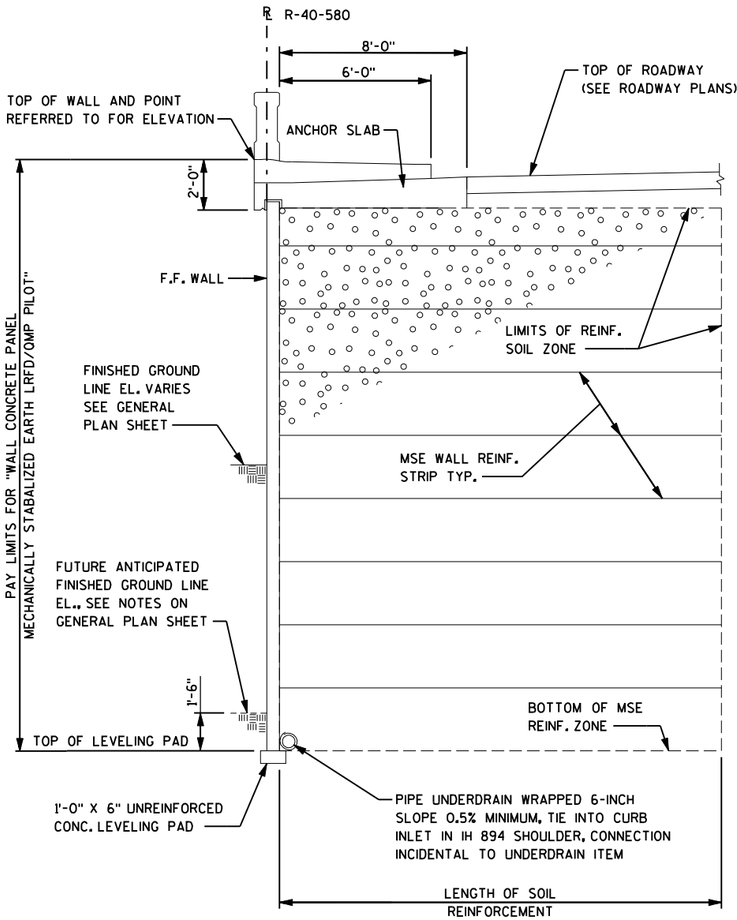
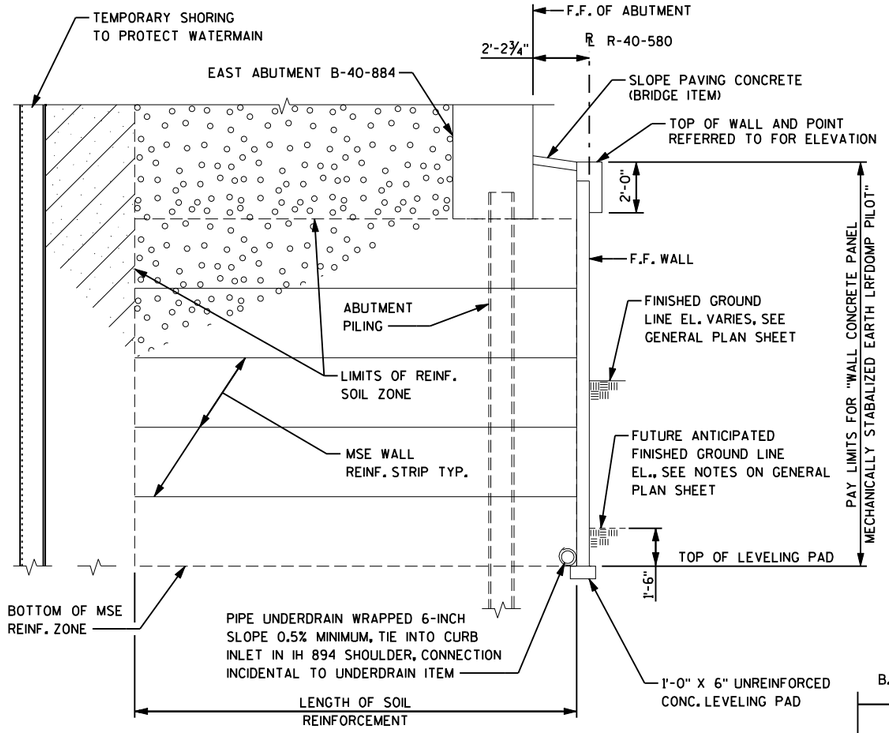
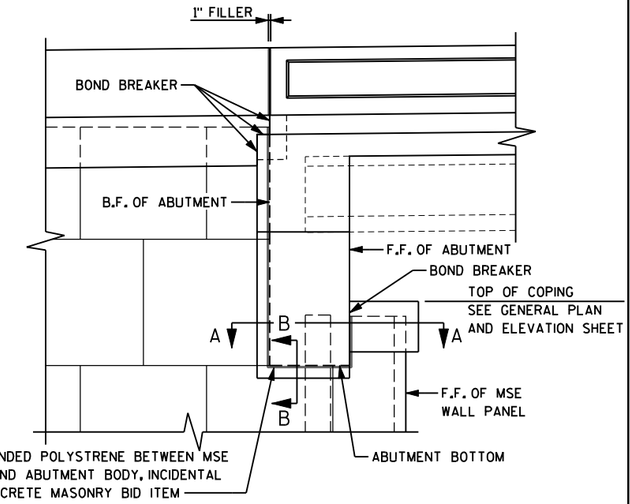


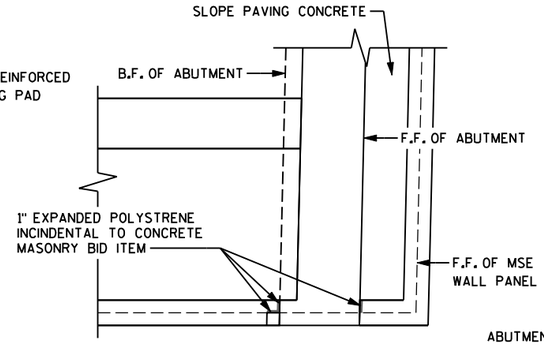
SECTION THRU RETAINING WALL



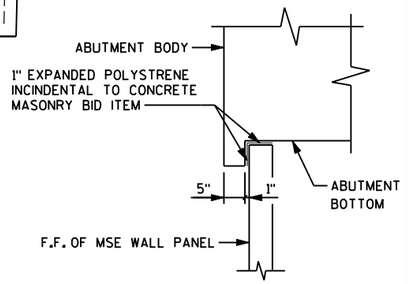
SECTION THRU RETAINING WALL AT ABUTMENT



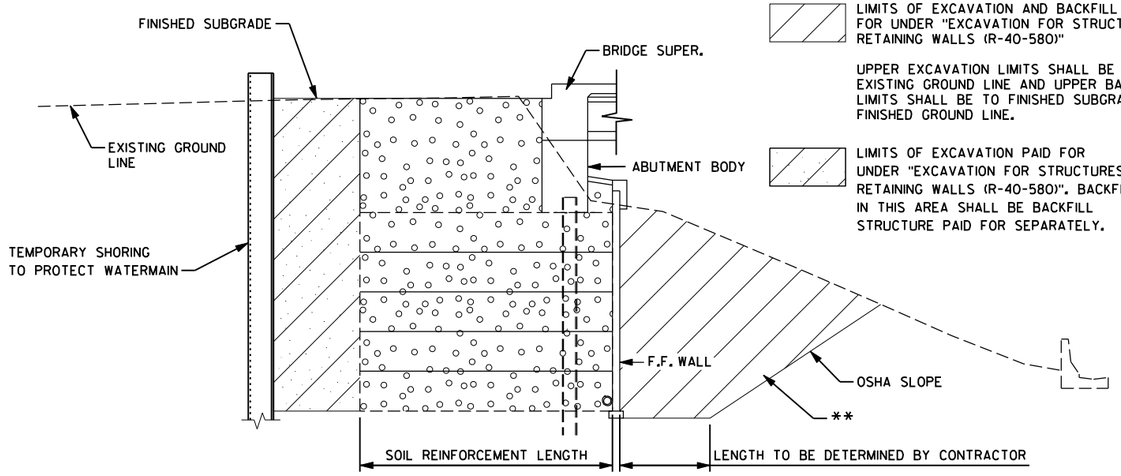
ABUTMENT/MSE WALL INTERFACE



SECTION A-A



SECTION B-B



SECTION PARALLEL WITH CLEVELAND AVE

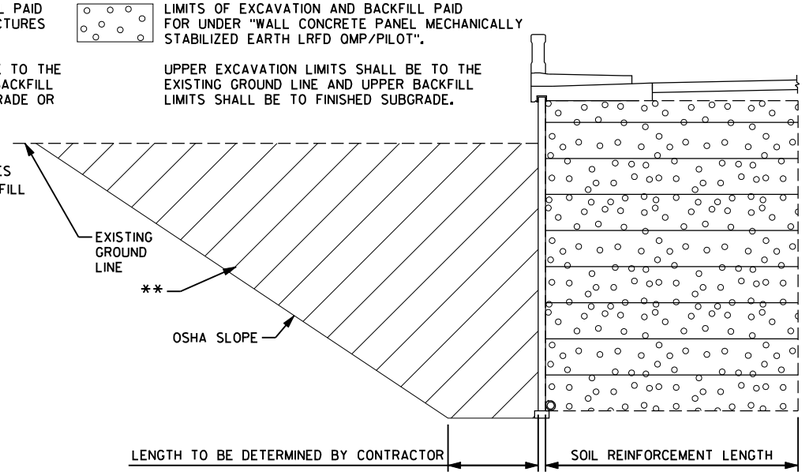
LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-580)"

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO FINISHED SUBGRADE OR FINISHED GROUND LINE.

LIMITS OF EXCAVATION PAID FOR UNDER "EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-580)". BACKFILL IN THIS AREA SHALL BE BACKFILL STRUCTURE PAID FOR SEPARATELY.

LIMITS OF EXCAVATION AND BACKFILL PAID FOR UNDER "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD QMP/PILOT".

UPPER EXCAVATION LIMITS SHALL BE TO THE EXISTING GROUND LINE AND UPPER BACKFILL LIMITS SHALL BE TO FINISHED SUBGRADE.



SECTION PERPENDICULAR TO CLEVELAND AVE

** BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 207 OF THE STANDARD SPECIFICATIONS CONTRACTOR MAY USE EXCAVATED MATERIAL WITH APPROVAL OF THE ENGINEER

EXCAVATION/BACKFILL DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-580

DRAWN BY JRM | PLANS CK'D. RLD

WALL DETAILS

SHEET 4 OF 6
165

8

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FILE= SCALE =

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STATE PROJECT NUMBER

1090-07-73

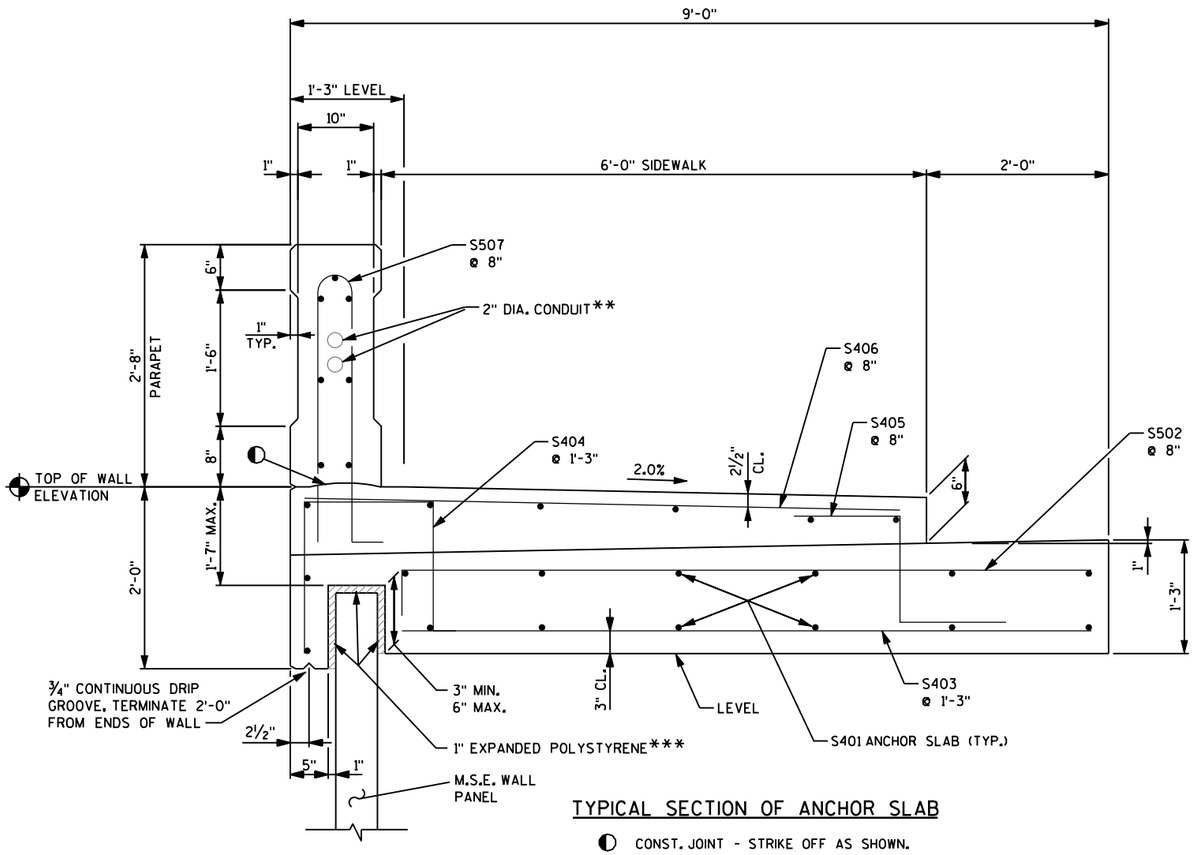
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	54	14'-8"			ANCHOR SLAB, SIDEWALK, PARAPET LONGITUDINAL
S502	X	46	7'-11"	▲		ANCHOR SLAB TOP
S403	X	26	7'-7"			ANCHOR SLAB BOTTOM
S404	X	26	4'-8"	▲		ANCHOR SLAB/SIDEWALK OVER WALL
S405	X	46	3'-0"	▲		ANCHOR SLAB/SIDEWALK CURB
S406	X	46	6'-8"			SIDEWALK TOP
S507	X	46	6'-10"	▲		PARAPET VERTICAL

NOTE:

ASSUMED PANEL THICKNESS OF 5½" USED WHEN DETERMINING BAR DIMENSIONS

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



TYPICAL SECTION OF ANCHOR SLAB

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

ALL BAR STEEL SHALL BE EPOXY COATED.

CONCRETE QUANTITY BASED ON 5" PANEL EMBEDMENT & 5½" PANEL THICKNESS.

** REFER TO B-40-884 SHEET 22 FOR EXPANSION FITTING REQUIREMENTS. BEND CONDUIT WITH A 45° BEND DOWN AND RADIUS (USE MINIMUM BENDING RADIUS PER WISCONSIN ELECTRIC CODE) INTO SIDEWALK CONCRETE. EXTEND CONDUIT TO 6" BEYOND END OF SIDEWALK AND CAP. ENSURE CONDUIT IS COMPLETELY BURIED BY FILL WHEN EXITING SIDEWALK.

*** INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.

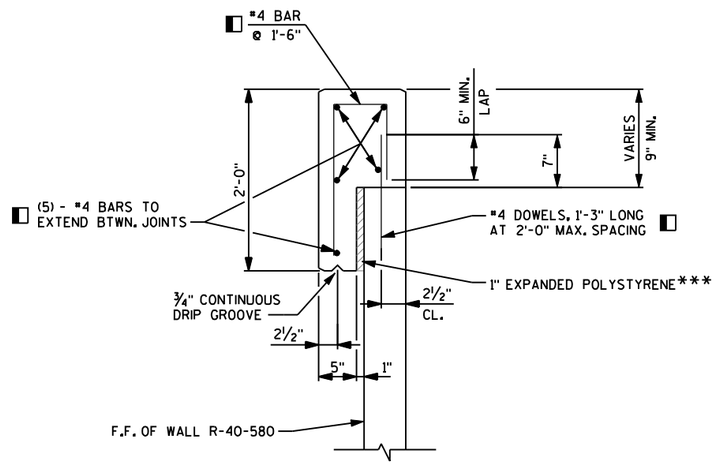
MAX. SPACING OF JOINT = 12'

COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.

MAX. SPACING OF JOINT = 50'.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE)

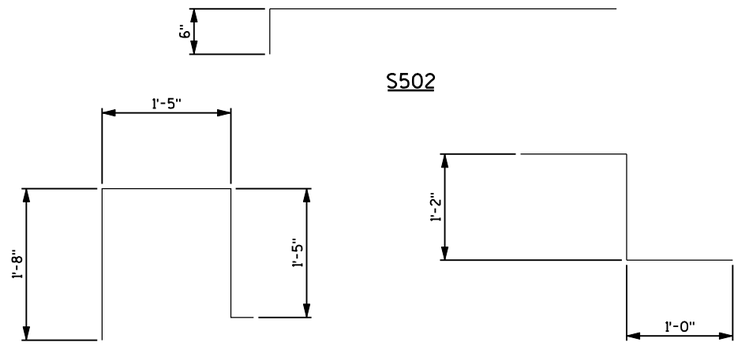


SECTION THRU COPING AT ABUTMENT

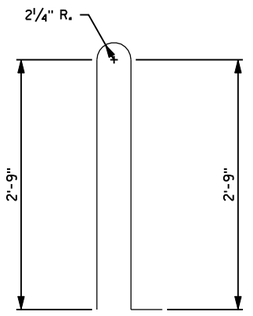
◧ BAR STEEL REINFORCEMENT IN C.I.P. COPING TO BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT".

*** INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

S502



S404



S405

S507

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-580

DRAWN BY JRM | PLANS CK'D. RLD

ANCHOR SLAB DETAILS

SHEET 5 OF 6
166

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FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\08_580_0402det-as.dgn PLOT DATE : 2/6/2013 10:10:15 AM PLOT BY : Paul Wirth (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2.0000 sf / IN.

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STATE PROJECT NUMBER

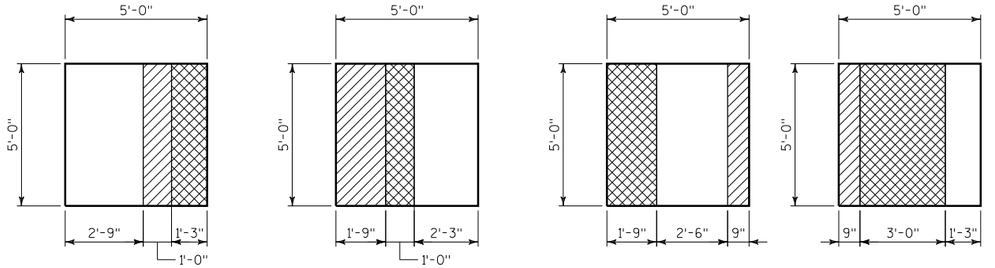
1090-07-73

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	SINGLE SLOPED PARAPETS	EXTERIOR, EXCEPT AS NOTED FOR ACCENT COLORS
		VERTICAL FACE PARAPETS	BOTH SIDES, EXCEPT AS NOTED FOR ACCENT COLORS
		WALLS	EXPOSED FACES TO 1'-0" BELOW FINISHED GRADE

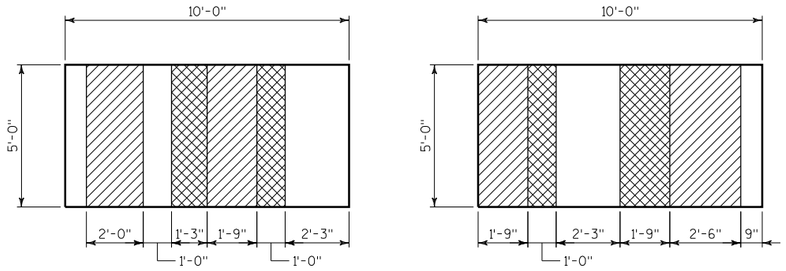
STAIN COLORS

THE FINAL COLORING OF THE CONCRETE FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE SHERWIN WILLIAMS STANDARD COLOR SYSTEM LISTED.
BASE COLOR - WHOLE WHEAT - SW 6121
ACCENT COLOR #1 - BAGUETTE - SW 6123

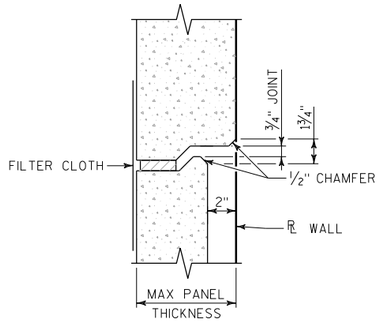


WALL PANEL "A" WALL PANEL "B" WALL PANEL "C" WALL PANEL "D"

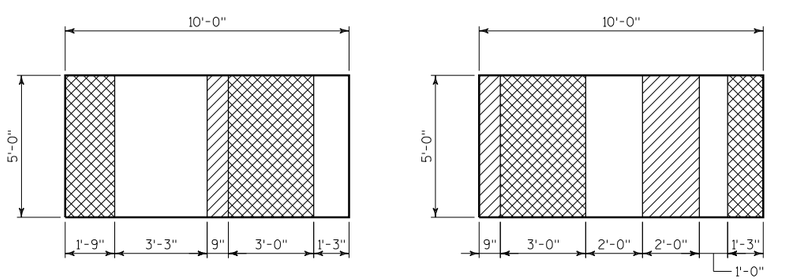
5'-0" X 5'-0" MSE CONCRETE PANEL RAISED SURFACE DETAILS



WALL PANEL "A" WALL PANEL "B"

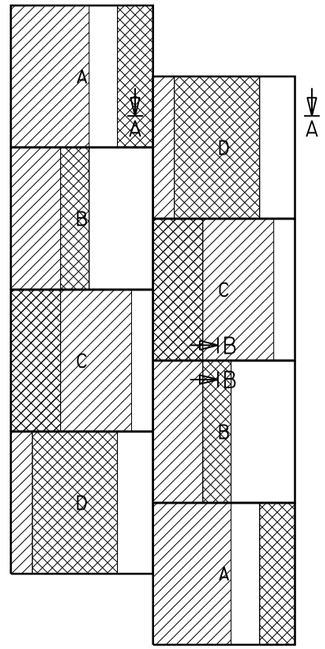


SECTION B-B

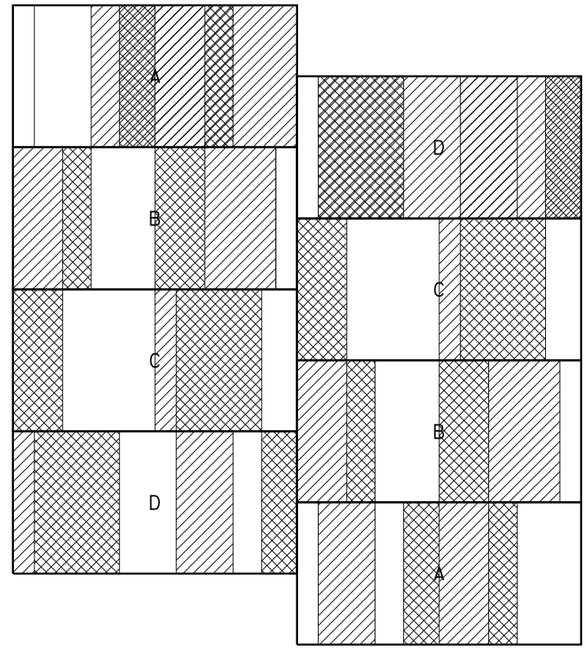


WALL PANEL "C" WALL PANEL "D"

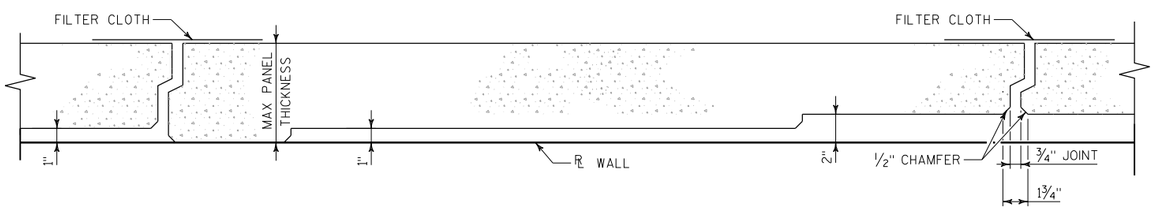
5'-0" X 10'-0" MSE CONCRETE PANEL RAISED SURFACE DETAILS



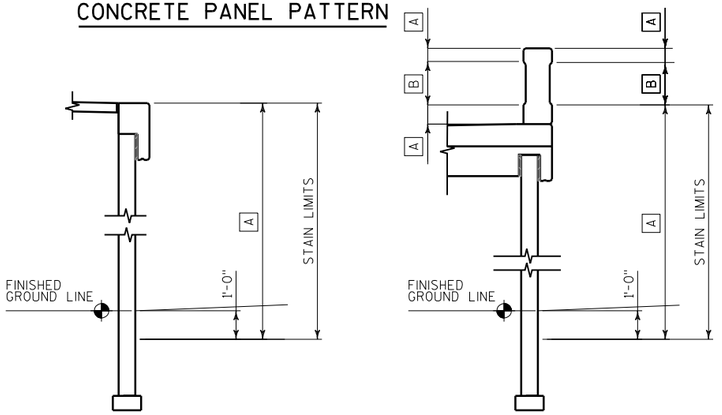
TYPICAL 5'-0" X 5'-0" MSE CONCRETE PANEL PATTERN



TYPICAL 5'-0" X 10'-0" MSE CONCRETE PANEL PATTERN



SECTION A-A



MSE WALL STAINING DIAGRAMS

LEGEND

- MIN PANEL THICKNESS + 0"
- MIN PANEL THICKNESS + 1"
- MIN PANEL THICKNESS + 2"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-580

DRAWN BY JRM | PLANS CK'D. PEW

AESTHETIC WALL TREATMENT DETAILS

SHEET 6 OF 6
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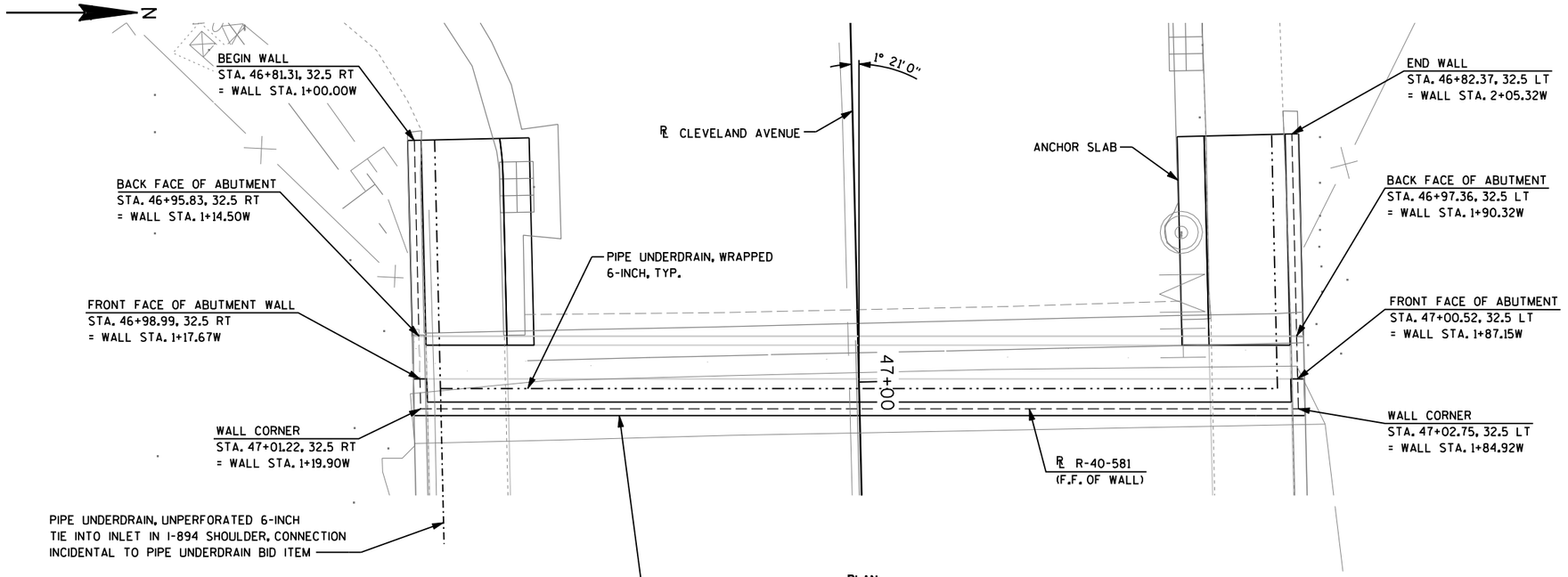
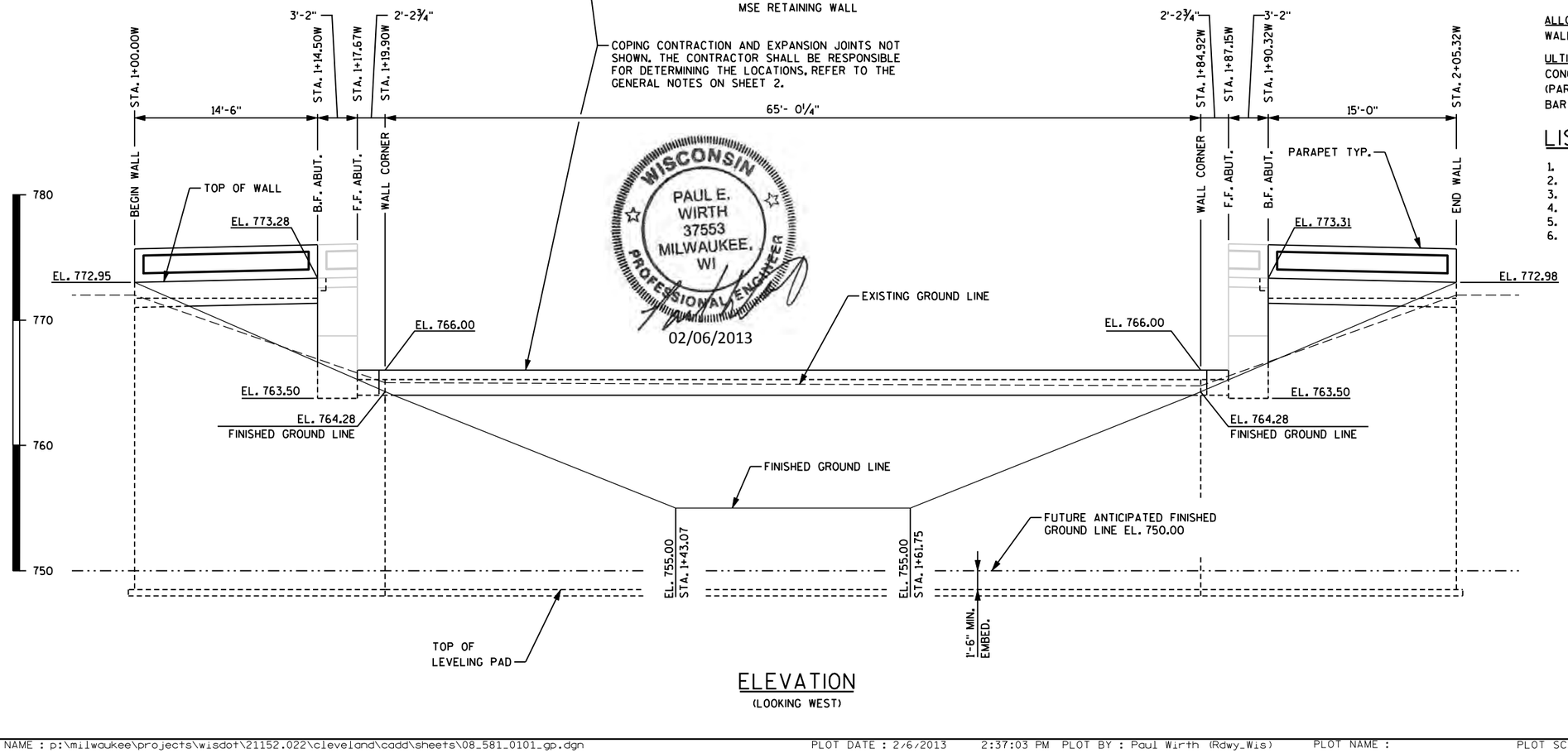


PLAN

MSE RETAINING WALL

COPING CONTRACTION AND EXPANSION JOINTS NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS. REFER TO THE GENERAL NOTES ON SHEET 2.



WISCONSIN
PAUL E. WIRTH
37553
MILWAUKEE, WI
PROFESSIONAL ENGINEER

02/06/2013

ELEVATION

(LOOKING WEST)

STATE PROJECT NUMBER

1090-07-73

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT".

PLANS, ELEVATIONS AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL IS TO BE DESIGNED USING THE ELEVATIONS GIVEN ON THIS SHEET.

THE RETAINING WALL DESIGN SHALL USE THE FUTURE ANTICIPATED FINISHED GROUND LINE ELEVATION TO DETERMINE THE MAXIMUM WALL HEIGHTS.

PROVIDE WALL CORNER DETAILS THAT WILL ALLOW FOR FUTURE EXTENSION OF THE RETAINING WALL PARALLEL TO THE ROADWAY.

DESIGN THE RETAINING WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS.

DESIGN THE RETAINING WALL FOR A LIVE LOAD SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

ALLOWABLE WALL SYSTEMS;
WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD

ULTIMATE DESIGN STRESSES;
CONCRETE MASONRY
(PARAPET, SIDEWALK, ANCHOR SLAB AND COPING) f'c = 3,500 PSI
BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 PSI

LIST OF DRAWINGS

1. GENERAL PLAN
2. GENERAL NOTES AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. WALL DETAILS
5. ANCHOR SLAB DETAILS
6. AESTHETIC WALL TREATMENT DETAILS

BUREAU OF STRUCTURES CONTACT;
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT;
PAUL WIRTH (262) 901-2500

NO.	DATE	REVISION	BY

PATRICK ENGINEERING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/06/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE R-40-581

CLEVELAND AVENUE OVER IH 894

COUNTY	TOWN/CITY/VILLAGE
MILWAUKEE	WEST ALLIS

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PEW	RLD	JRM	RLD

GENERAL PLAN

SHEET 1 OF 6
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STATE PROJECT NUMBER

1090-07-73

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
	206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS (R-40-581)	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	31
**	504.0500	CONCRETE MASONRY RETAINING WALLS	CY	19
**	505.0615	BAR STEEL REINFORCEMENT HS COATED RETAINING WALLS	LB	1,740
	612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	40
	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	105
	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	72
	SPV.0165.01	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT	SF	2,050
	SPV.0165.03	CONCRETE STAINING R-40-581	SF	900
		NON-BID ITEM		
		PRE-FORMED JOINT FILLER	SIZE	¾"
		NON-BITUMINOUS JOINT SEALER	SIZE	¾", 1"
		CORK FILLER	SIZE	1"

ALL ITEMS ARE CATEGORY 0040

** QUANTITY INCLUDES ANCHOR SLAB AND PARAPET

WALL EXTERNAL AND OVERALL STABILITY EVALUATION

DIMENSIONS					
WALL HEIGHT (FEET)[1]	24.9	17.5			
EXPOSED WALL HEIGHT (FEET)[2]	23.4	16.0			
MINIMUM LENGTH OF REINFORCEMENT (FEET)	25.0	26.0			
WALL STATION	1+90.32	1+52.40			
BORING USED	C-05	C-01			
CAPACITY TO DEMAND RATIO (CDR)					
SLIDING (CDR > 1.0)	1.03	1.04			
ECCENTRICTY (CDR > 1.0)	1.98	2.75			
FACTORED BEARING RESISTANCE (PSF)	9,300	9,300			
BEARING (CDR > 1.0)	1.68	1.88			
OVERALL STABILITY (CDR > 1.0)	1.06	1.10			

NOTES;

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET BELOW THE FUTURE ANTICIPATED GRADE LINE.
2. THE EXPOSED WALL HEIGHT IS BASED ON THE FUTURE ANTICIPATED GRADE LINE.
3. THE WALL STABILITY EVALUATION INCLUDED A SURCHARGE LOAD THAT WAS EQUAL TO THE WEIGHT OF THE SOIL BEHIND THE ABUTMENT.

SOIL PARAMETERS

SOIL DESCRIPTIONS & STRATUM LOCATIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE WALL REINFORCING ZONE	30	0	120
FILL BEHIND THE REINFORCING ZONE	29	0	130
BORING C-1, STA. 47+94.4 - RT 21.52, C-4, STA. 46+77.44 - LT 51.46, C-5, STA. 46+75.21 - RT 38.21			
FILL, SANDY SILT, SANDY CLAY AND TRACE GRAVEL ELEVATION 772.7 FEET TO 764.7 FEET	30	0	125
SILTY SAND, BROWN LEAN CLAY AND TRACE GRAVEL ELEVATION 764.7 FEET TO 759.7 FEET	0	2000	125
GRAY LEAN CLAY, TRACE SAND AND GRAVEL, STIFF TO HARD ELEVATION 759.7 FEET TO 744.7 FEET	0	2400	130
GRAY LEAN CLAY, TRACE SAND AND GRAVEL, STIFF TO HARD ELEVATION 744.7 FEET TO 724.7 FEET	0	2900	130
GRAY LEAN CLAY, TRACE SAND AND GRAVEL, STIFF TO HARD ELEVATION 724.7 FEET TO 672.7 FEET	0	5000	135

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE CONCRETE PARAPETS, TOP OF SIDEWALKS, FACE OF CURBS AND TOP OF CURB FLANGES.

THE 'W' STATION LINE SIGNIFIES THE WALL ℄ LINE STATIONING ALONG THE FRONT FACE OF R-40-581.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF WALL.

COORDINATE CONSTRUCTION OF THE WALL WITH THE WEST ABUTMENT CONSTRUCTION FOR BRIDGE B-40-884.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATIONS OF ALL EXPANSION AND CONTRACTION JOINTS. LOCATE THE JOINTS TO COINCIDE WITH THE VERTICAL MSE WALL PANEL JOINTS.

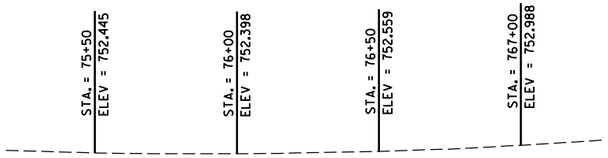
THE PLAN QUANTITY FOR THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE LEVELING PAD.

THE QUANTITY OF CONCRETE MASONRY FOR THE CAST-IN-PLACE ANCHOR SLAB, SIDEWALK AND PARAPET IS PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".

THE QUANTITIES AND REINFORCEMENT DETAILS ARE BASED ON AN ASSUMED WALL PANEL THICKNESS OF 5½" AND A 5" PANEL EMBEDMENT. FOR PANEL THICKNESS AND PANEL EMBEDMENT DIFFERENT THAN THESE VALUES, THE CONTRACTOR SHALL VERIFY REINFORCEMENT BAR DETAILS AND QUANTITIES AND WILL BE RESPONSIBLE FOR ANY QUANTITY VARIATIONS.

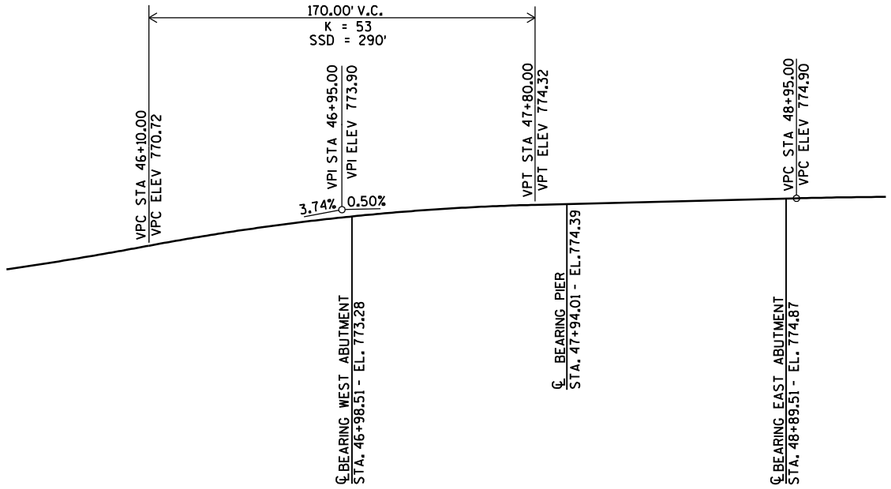
FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPES I, II OR III OR M213.

ALL CONTRACTORS EQUIPMENT MUST MAINTAIN THE MINIMUM OSHA CLEARANCE FROM ATC AND WE ENERGIES OVERHEAD FACILITIES AS DESCRIBED IN OSHA'S GUIDELINES FOR CLEARANCES. ALL CONTRACTORS SHOULD INCORPORATE ANY ADDITIONAL COSTS ASSOCIATED WITH WORKING AROUND EXISTING ATC AND WE ENERGIES FACILITIES INTO THEIR BID, AS ATC AND WE ENERGIES BELIEVE THEY DO NOT IMPOSE ANY DIRECT CONFLICTS WITH THE SCOPE OF THIS PROJECT.



EXISTING PROFILE GRADE LINE - IH 894 SB

(ALONG CROWN-STATION INCREASE TO NORTH)



PROPOSED PROFILE GRADE LINE - CLEVELAND AVE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-581

DRAWN BY JRM | PLANS CK'D. RLD

GENERAL NOTES & QUANTITIES

SHEET 2 OF 6

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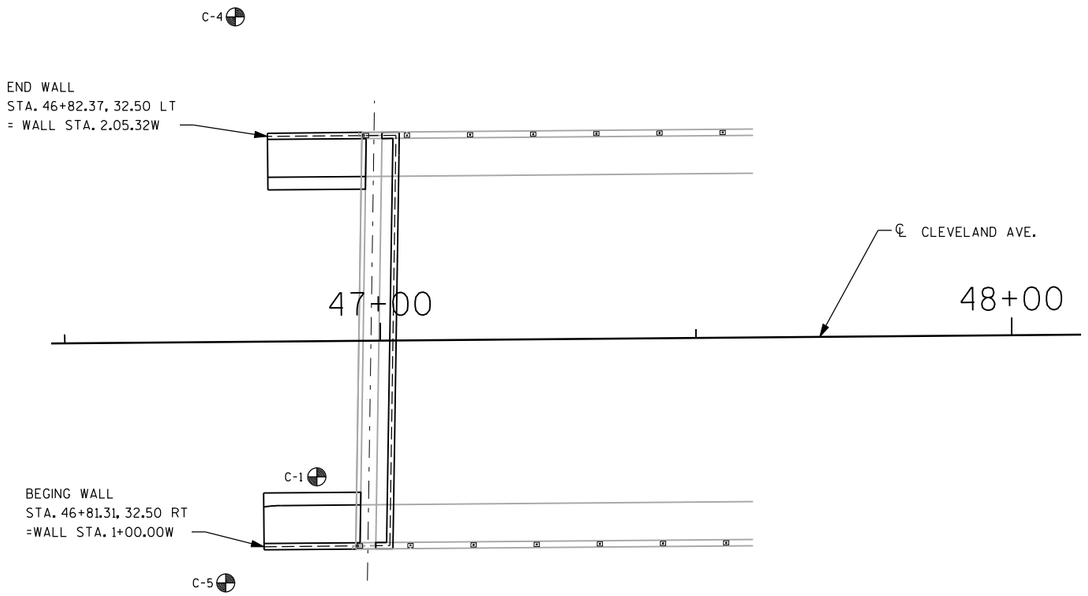
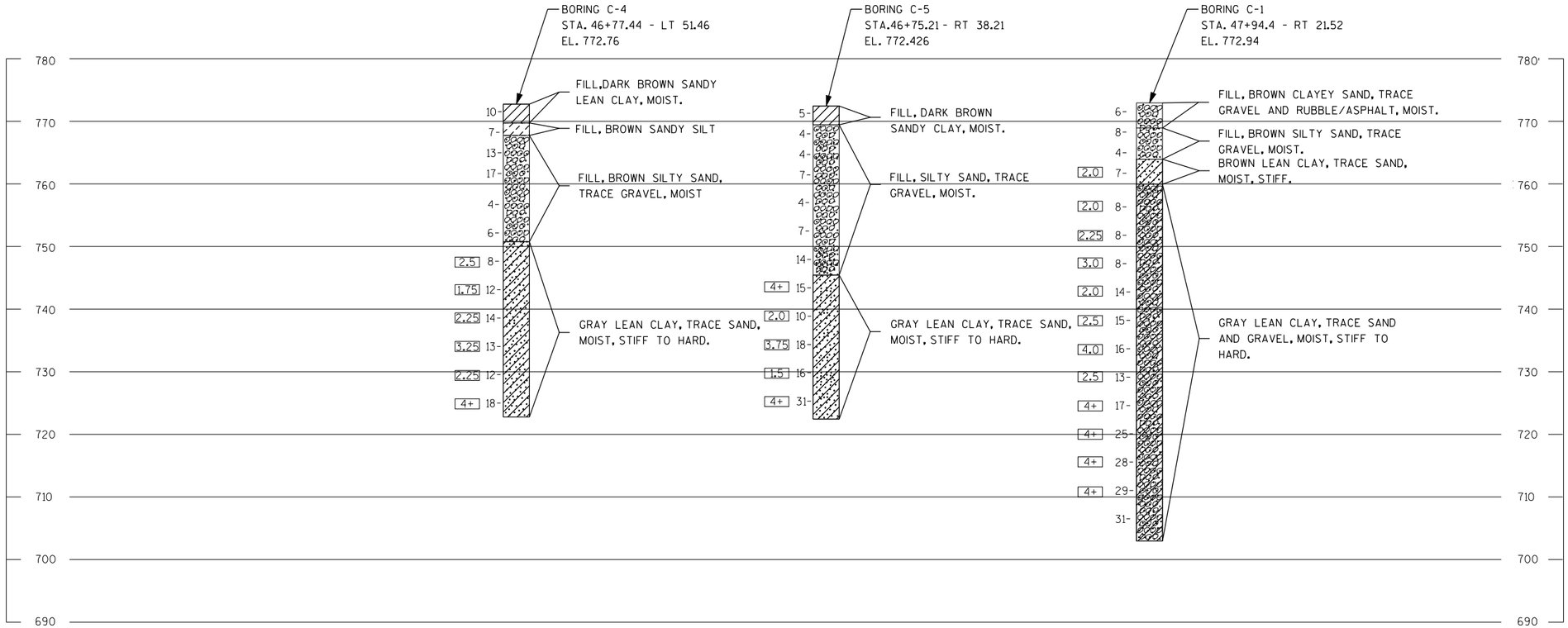




STATE PROJECT NUMBER

1090-07-73

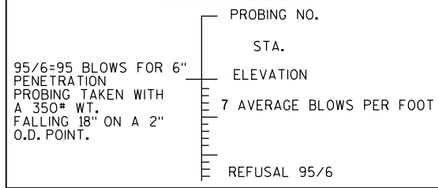
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

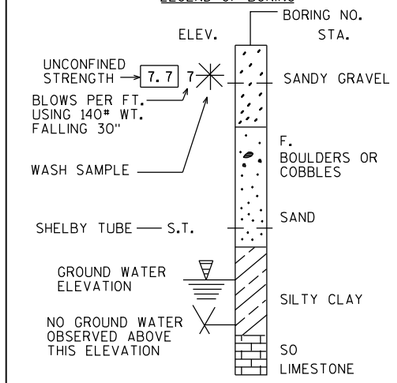
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUDNINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-581

DRAWN BY JRM | PLANS CK'D. PEW

SUBSURFACE EXPLORATION

SHEET 3 OF 6
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8

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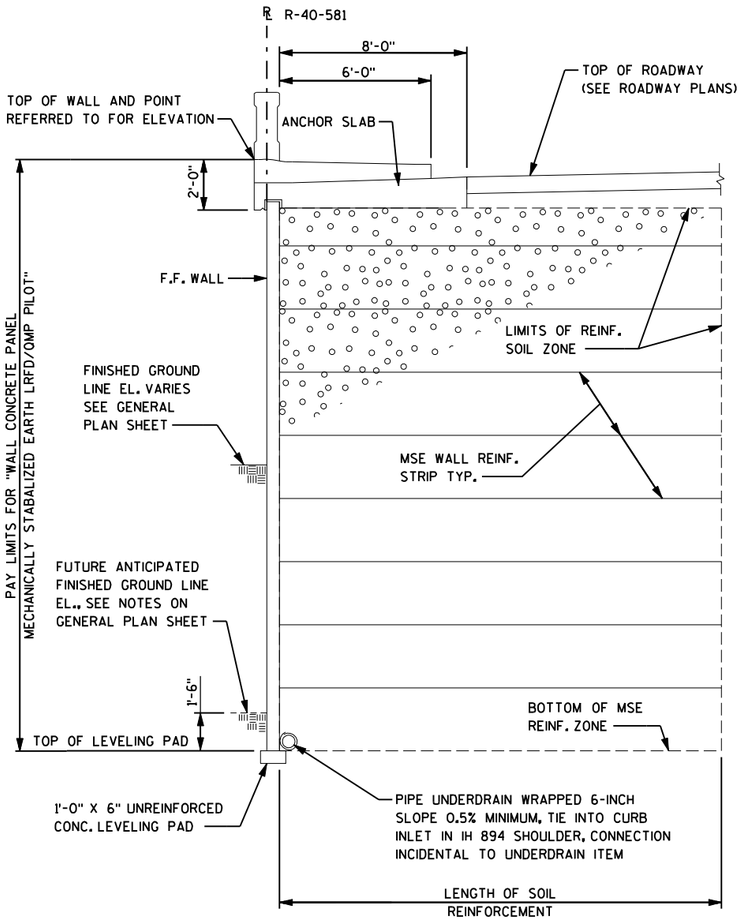
Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\08_581_0301bor.dgn PLOT DATE : 2/6/2013 2:37:06 PM PLOT BY : Paul Wirth (Rdwy_Wis) PLOT NAME : PLOT SCALE : 24.0000 sf / IN.

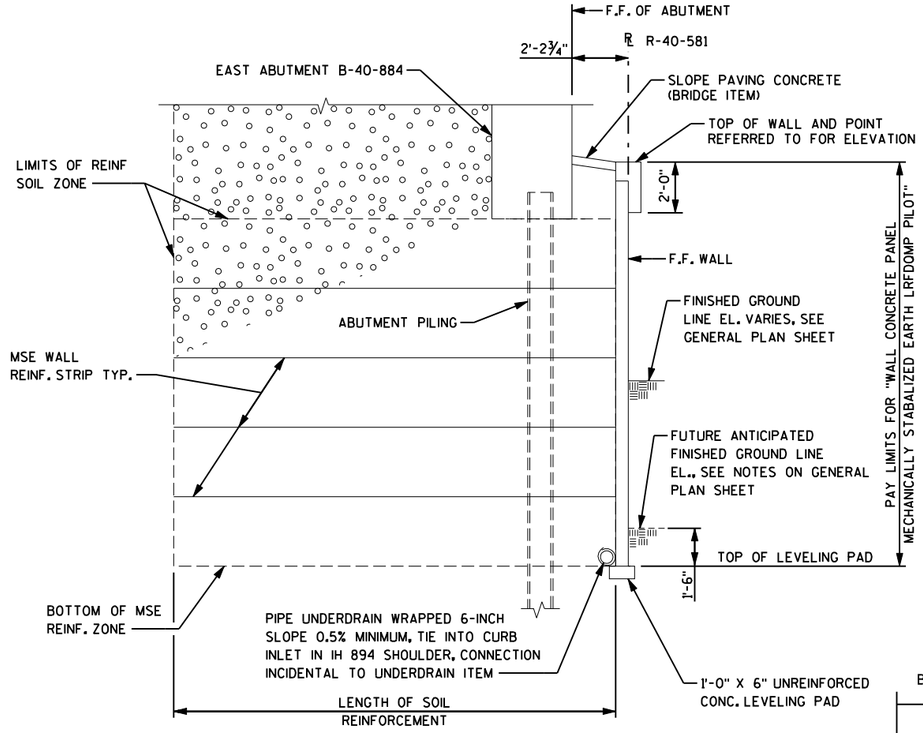
FILE =
SCALE =

STATE PROJECT NUMBER

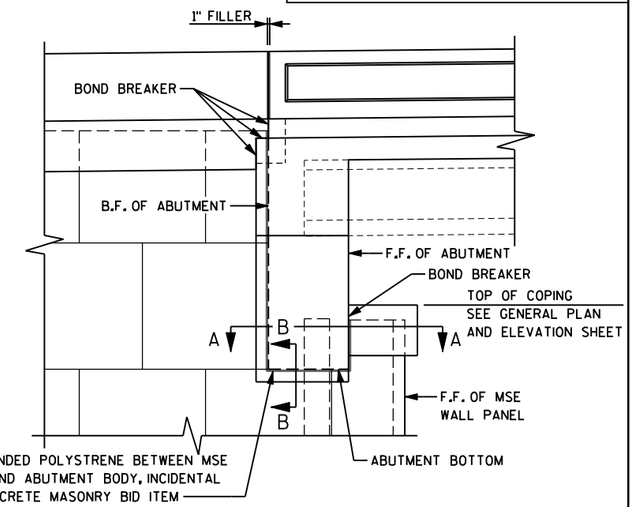
1090-07-73



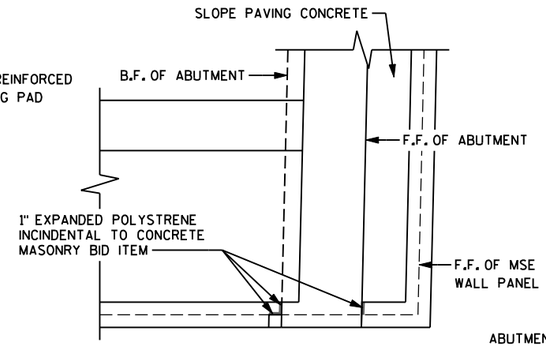
SECTION THRU RETAINING WALL



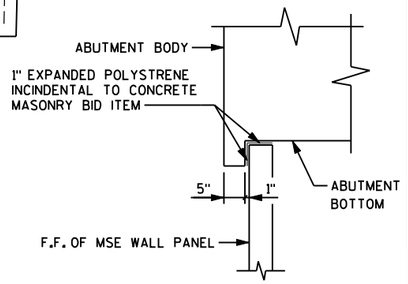
SECTION THRU RETAINING WALL AT ABUTMENT



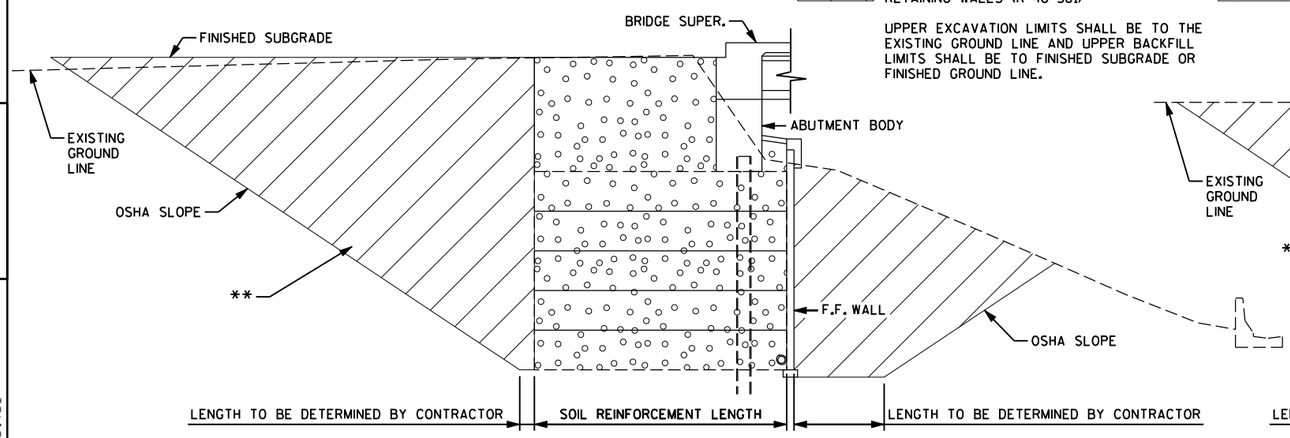
ABUTMENT/MSE WALL INTERFACE



SECTION A-A



SECTION B-B



** BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 207 OF THE STANDARD SPECIFICATIONS CONTRACTOR MAY USE EXCAVATED MATERIAL WITH APPROVAL OF THE ENGINEER

SECTION PARALLEL WITH CLEVELAND AVE

SECTION PERPENDICULAR TO CLEVELAND AVE

EXCAVATION/BACKFILL DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-581

DRAWN BY JRM | PLANS CK'D. RLD

WALL DETAILS

SHEET 4 OF 6
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Pdf_bw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\08_581_0401det-wall.dgn PLOT DATE : 2/6/2013 2:37:08 PM PLOT BY : Paul Wirth (Rdwy_Wis) PLOT NAME : PLOT SCALE : 6.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

1090-07-73

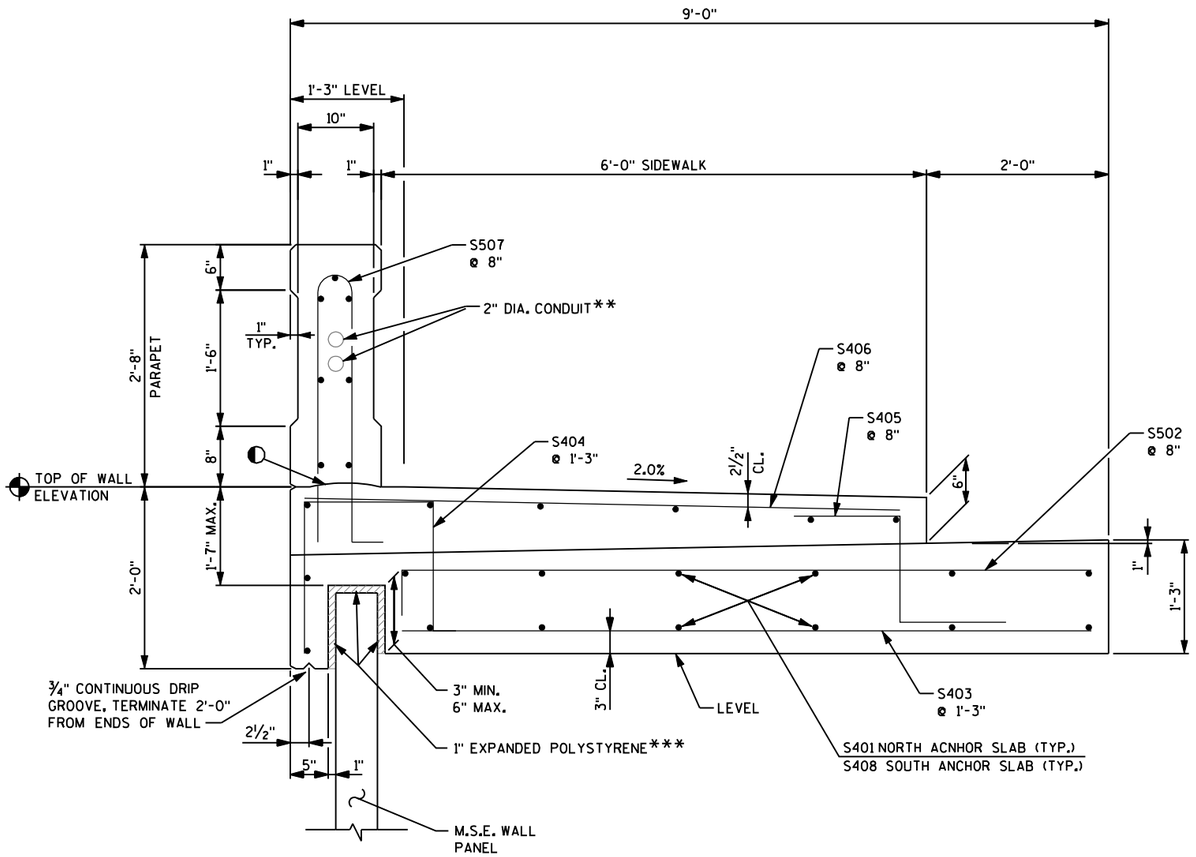
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	27	14'-8"			NORTH ANCHOR SLAB, SIDEWALK, PARAPET LONGITUDINAL
S502	X	46	7'-11"	▲		ANCHOR SLAB TOP
S403	X	26	7'-7"			ANCHOR SLAB BOTTOM
S404	X	26	4'-8"	▲		ANCHOR SLAB/SIDEWALK OVER WALL
S405	X	46	3'-0"	▲		ANCHOR SLAB/SIDEWALK CURB
S406	X	46	6'-8"			SIDEWALK TOP
S507	X	46	6'-10"	▲		PARAPET VERTICAL
S408	X	27	14'-2"			SOUTH ANCHOR SLAB, SIDEWALK, PARAPET LONGITUDINAL

NOTE:

ASSUMED PANEL THICKNESS OF 5½" USED WHEN DETERMINING BAR DIMENSIONS

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



TYPICAL SECTION OF ANCHOR SLAB

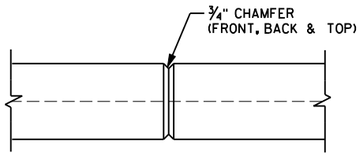
◐ CONST. JOINT - STRIKE OFF AS SHOWN.

ALL BAR STEEL SHALL BE EPOXY COATED.

CONCRETE QUANTITY BASED ON 5" PANEL EMBEDMENT & 5½" PANEL THICKNESS.

** REFER TO B-40-884 SHEET 22 FOR EXPANSION FITTING REQUIREMENTS. BEND CONDUIT WITH A 45° BEND DOWN AND RADIUS (USE MINIMUM BENDING RADIUS PER WISCONSIN ELECTRIC CODE) INTO SIDEWALK CONCRETE. EXTEND CONDUIT TO 6" BEYOND END OF SIDEWALK AND CAP. ENSURE CONDUIT IS COMPLETELY BURIED BY FILL WHEN EXITING SIDEWALK.

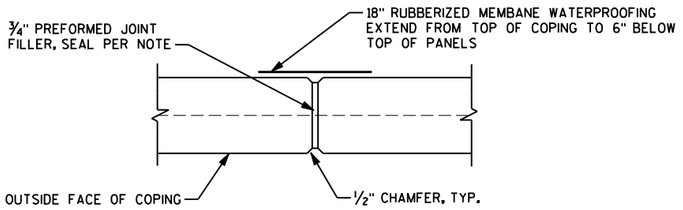
*** INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY RETAINING WALLS".



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.

MAX. SPACING OF JOINT = 12'

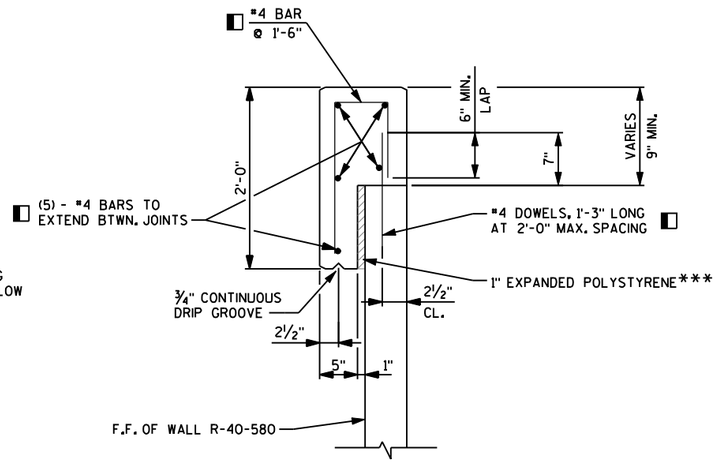


COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.

MAX. SPACING OF JOINT = 50'.

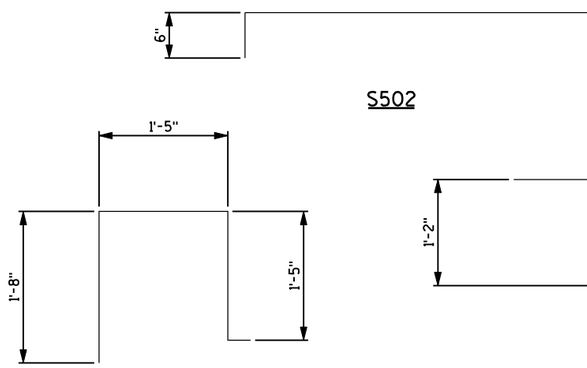
SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE)



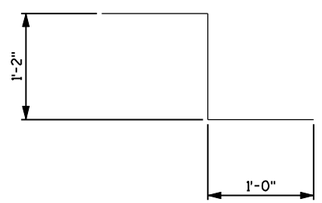
SECTION THRU COPING AT ABUTMENT

◧ BAR STEEL REINFORCEMENT IN C.I.P. COPING TO BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/OMP PILOT".

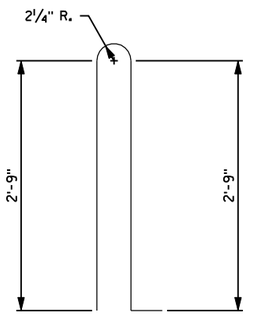
*** INCIDENTAL TO THE BID ITEM CONCRETE MASONRY RETAINING WALLS.



S404



S405



S507

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-581

DRAWN BY JRM | PLANS CK'D. RLD

ANCHOR SLAB DETAILS

SHEET 5 OF 6
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Pdf_bw_HS.plt
PEI_TextSub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\08_581_0402def-as.dgn PLOT DATE : 2/6/2013 2:37:10 PM PLOT BY : Paul Wirth (Rdwy_Wis) PLOT NAME : PLOT SCALE : 2.0000 sf / IN.

FILE=
SCALE =

STATE PROJECT NUMBER

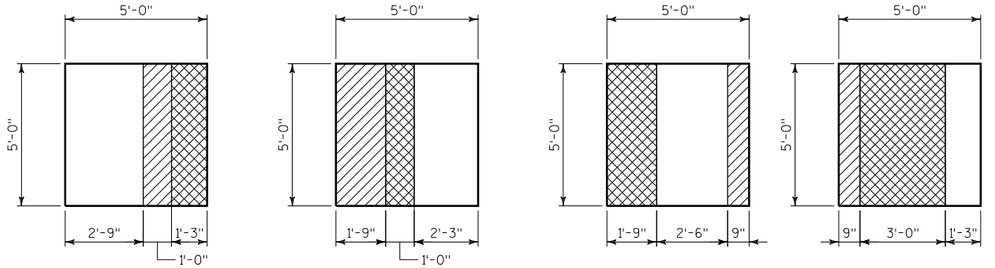
1090-07-73

CONCRETE STAINING SCHEDULE

MARK	COLOR	LOCATION	NOTES
A	BASE COLOR	SINGLE SLOPED PARAPETS	EXTERIOR, EXCEPT AS NOTED FOR ACCENT COLORS
		VERTICAL FACE PARAPETS	BOTH SIDES, EXCEPT AS NOTED FOR ACCENT COLORS
		WALLS	EXPOSED FACES TO 1'-0" BELOW FINISHED GRADE

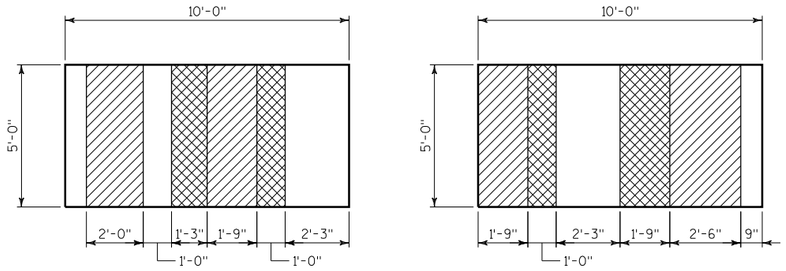
STAIN COLORS

THE FINAL COLORING OF THE CONCRETE FOLLOWING APPLICATION OF THE STAIN SYSTEM SHALL MATCH THE SHERWIN WILLIAMS STANDARD COLOR SYSTEM LISTED.
BASE COLOR - WHOLE WHEAT - SW 6121
ACCENT COLOR #1 - BAGUETTE - SW 6123

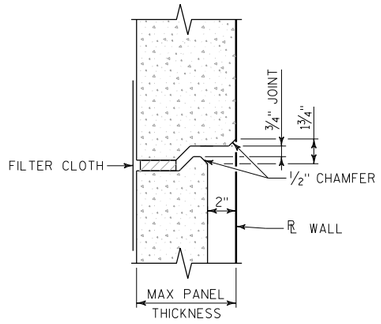


WALL PANEL "A" WALL PANEL "B" WALL PANEL "C" WALL PANEL "D"

5'-0" X 5'-0" MSE CONCRETE PANEL RAISED SURFACE DETAILS



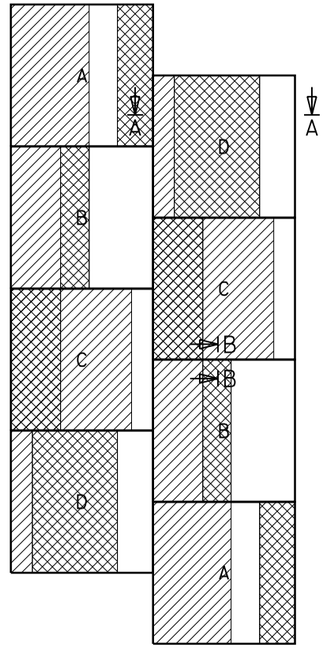
WALL PANEL "A" WALL PANEL "B"



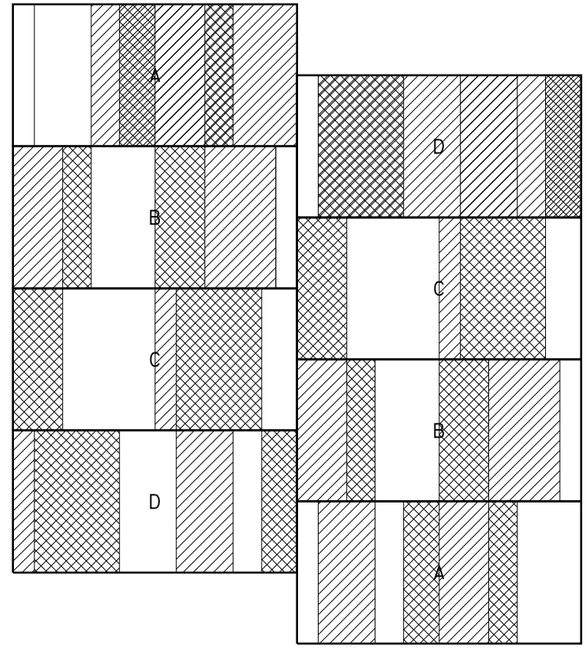
SECTION B-B

WALL PANEL "C" WALL PANEL "D"

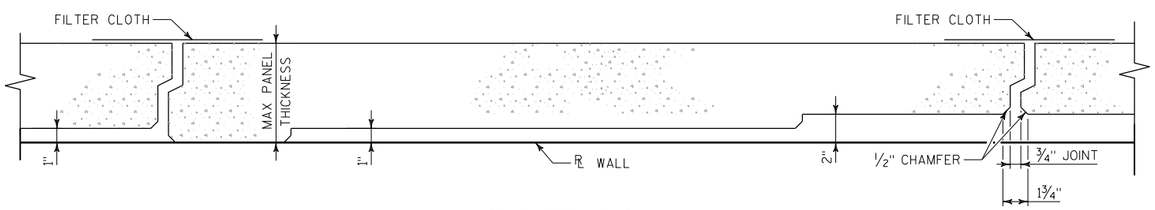
5'-0" X 10'-0" MSE CONCRETE PANEL RAISED SURFACE DETAILS



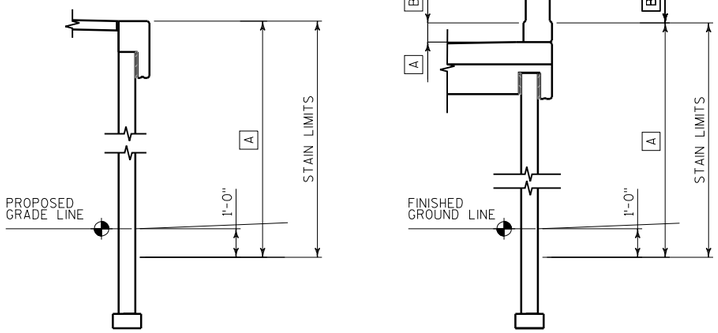
TYPICAL 5'-0" X 5'-0" MSE CONCRETE PANEL PATTERN



TYPICAL 5'-0" X 10'-0" MSE CONCRETE PANEL PATTERN



SECTION A-A



MSE WALL STAINING DIAGRAMS

LEGEND

- MIN PANEL THICKNESS + 0"
- MIN PANEL THICKNESS + 1"
- MIN PANEL THICKNESS + 2"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-40-581

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AESTHETIC WALL TREATMENT DETAILS

SHEET 6 OF 6
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Pdf_Dw_HS.plt
PEI_Text+Sub.tbl

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\08_581_0501aesth.dgn PLOT DATE : 2/6/2013 2:37:11 PM PLOT BY : Paul Wirth (Rdwy_Wis) PLOT NAME : PLOT SCALE : 5:4 ':in / IN.

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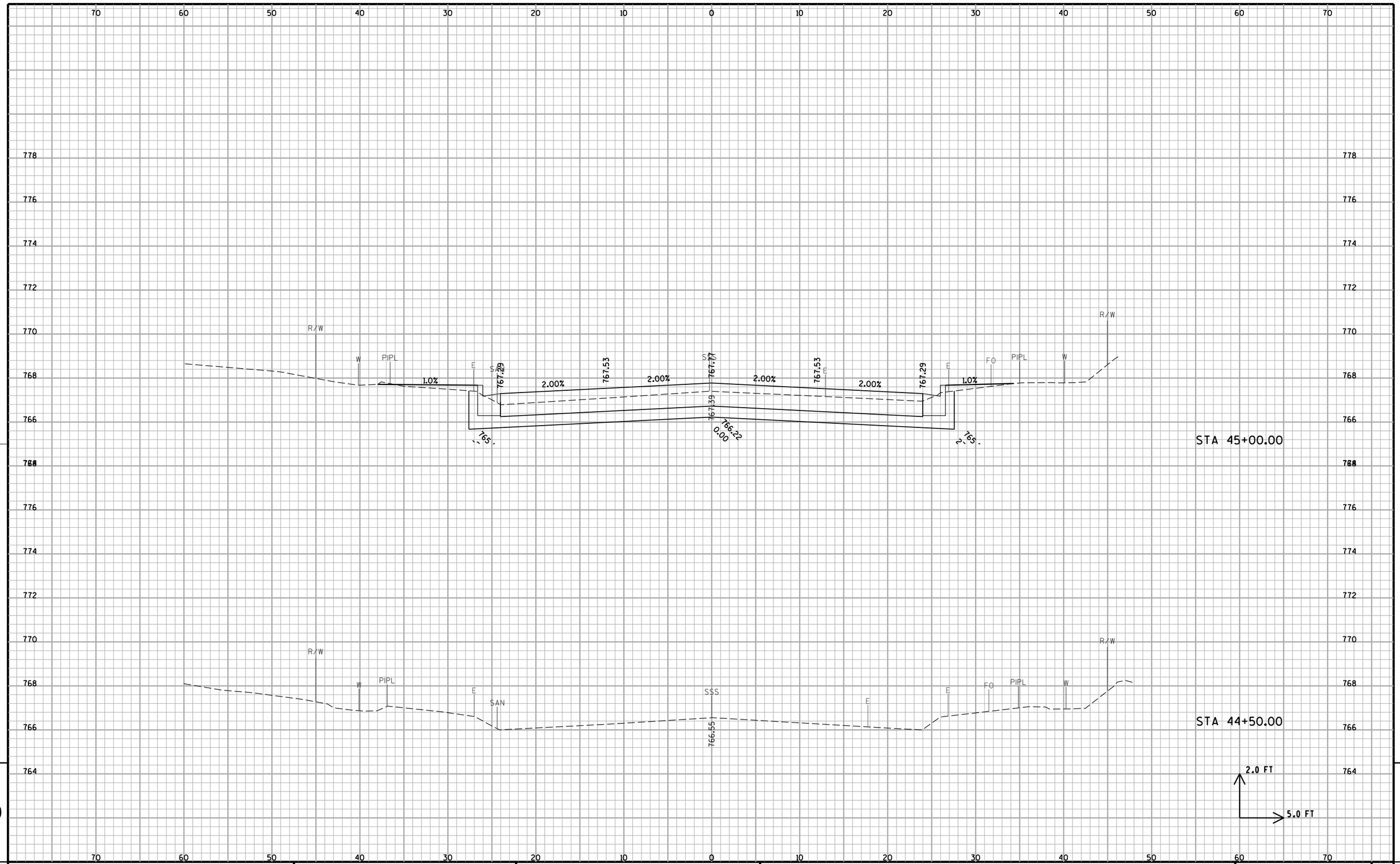
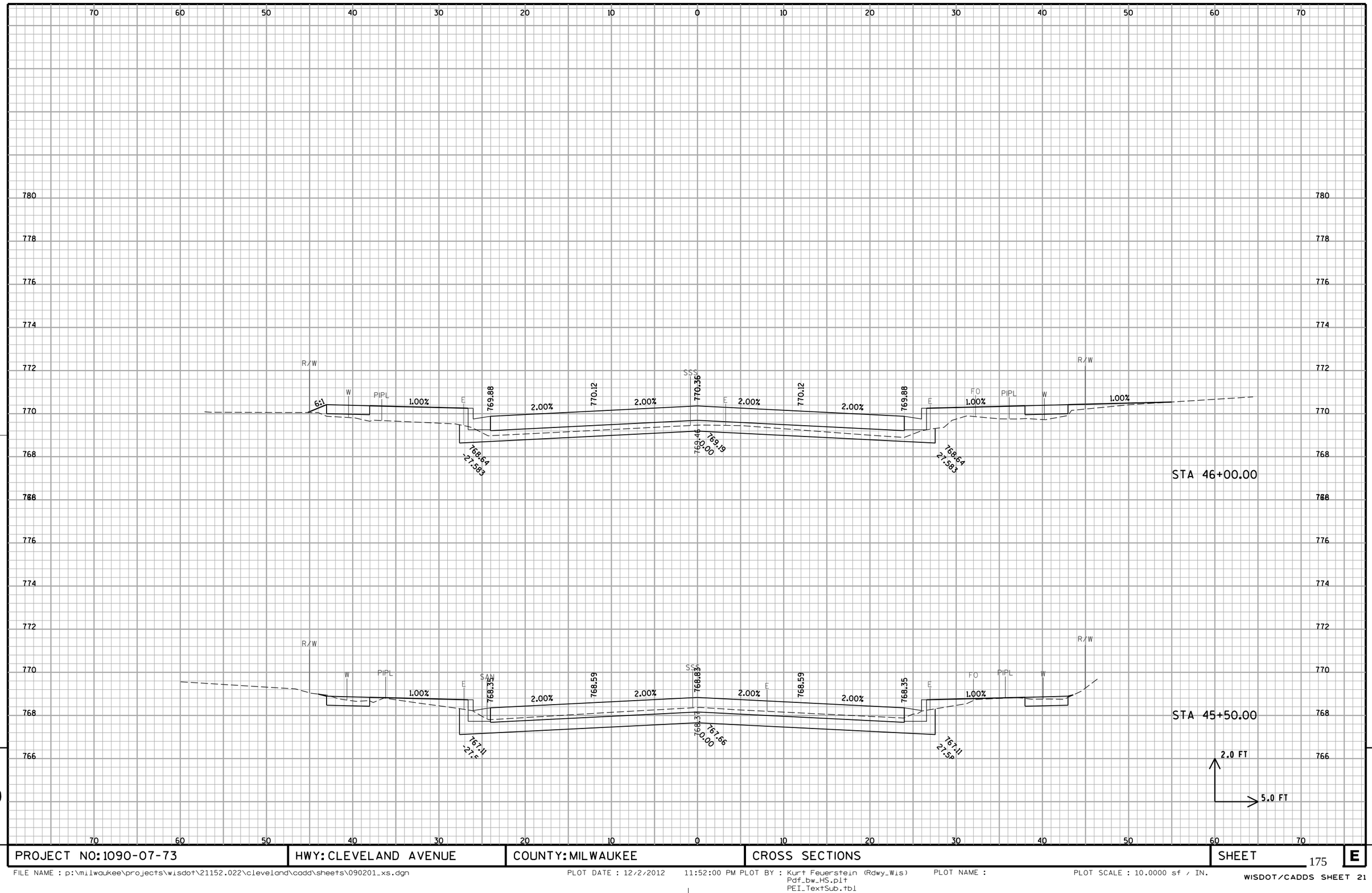


PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 174	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\090201_xs.dgn PLOT DATE : 12/2/2012 11:52:00 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : Pdf_bw_HS.plt PEI_TextSub.tbl PLOT SCALE : 10.0000 sf / IN.

WISDOT/CADDS SHEET 21



PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET E

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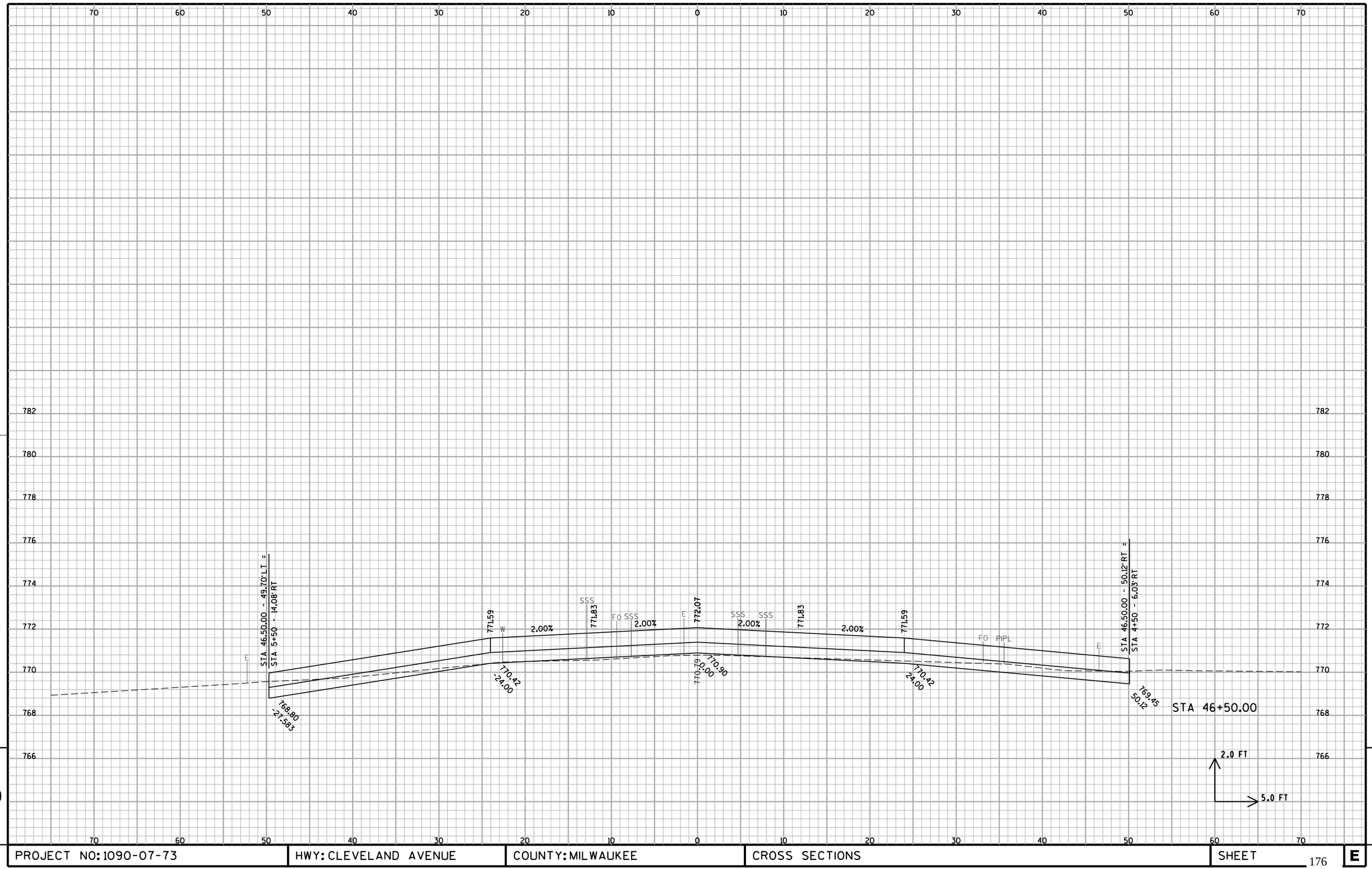
WISDOT/CADDS SHEET 21



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PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET	E

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Pdf_bw_HS.plt
PEI_TextSub.tbl
WISDOT/CADDS SHEET 21

9

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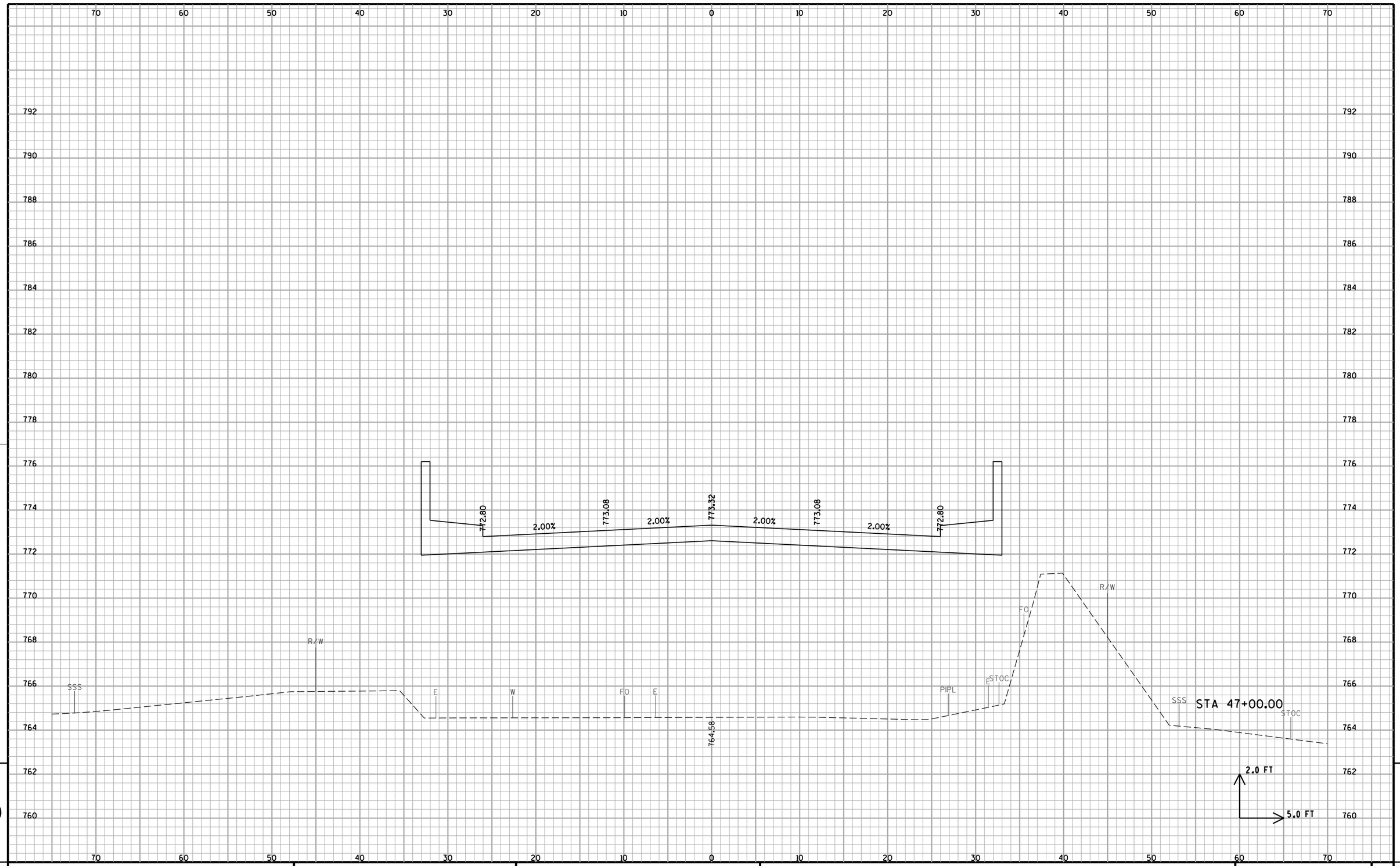
PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\090201_xs.dgn PLOT DATE : 12/2/2012 11:52:01 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.

WISDOT/CADDS SHEET 21



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PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET E

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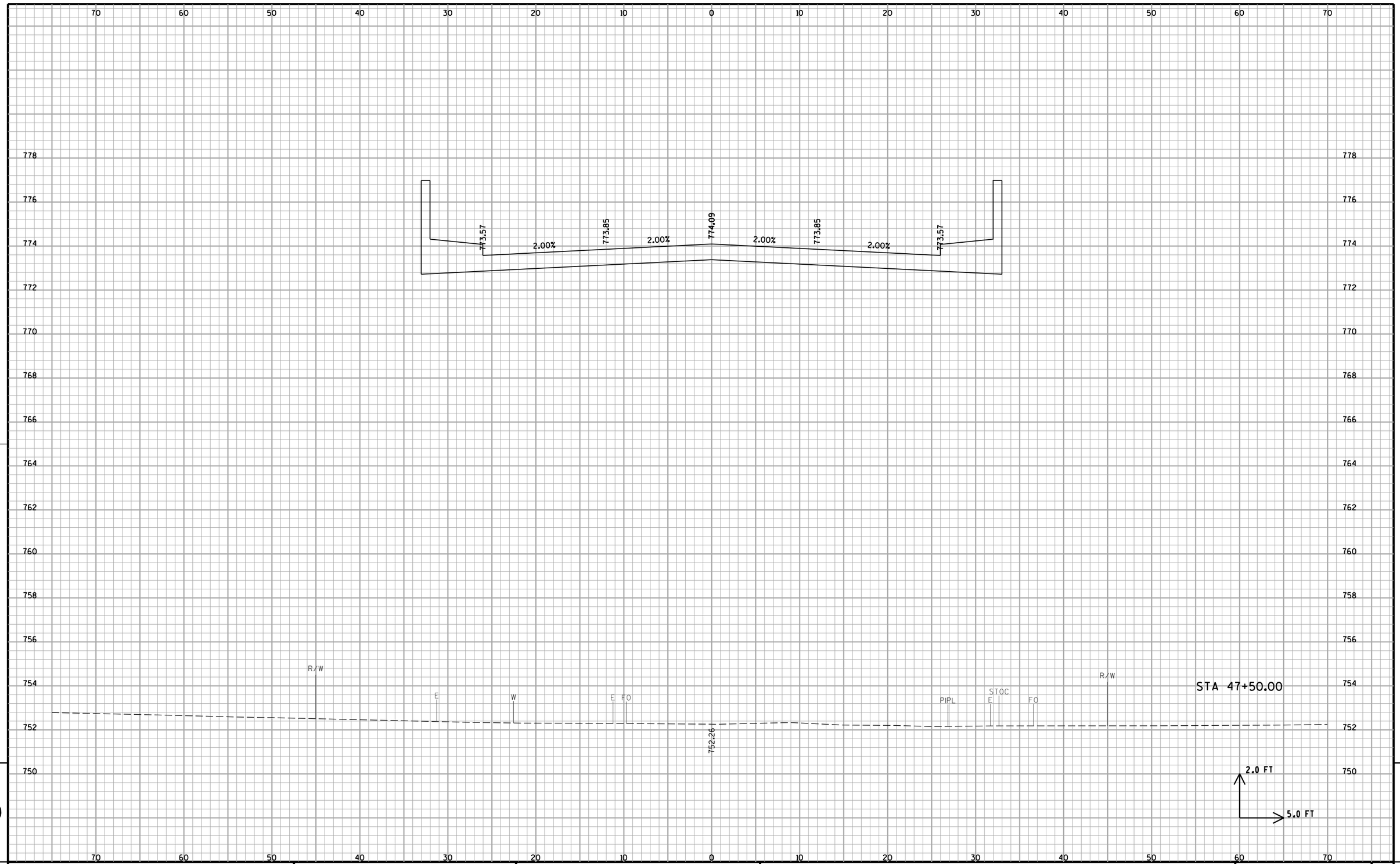
WISDOT/CADDS SHEET 21



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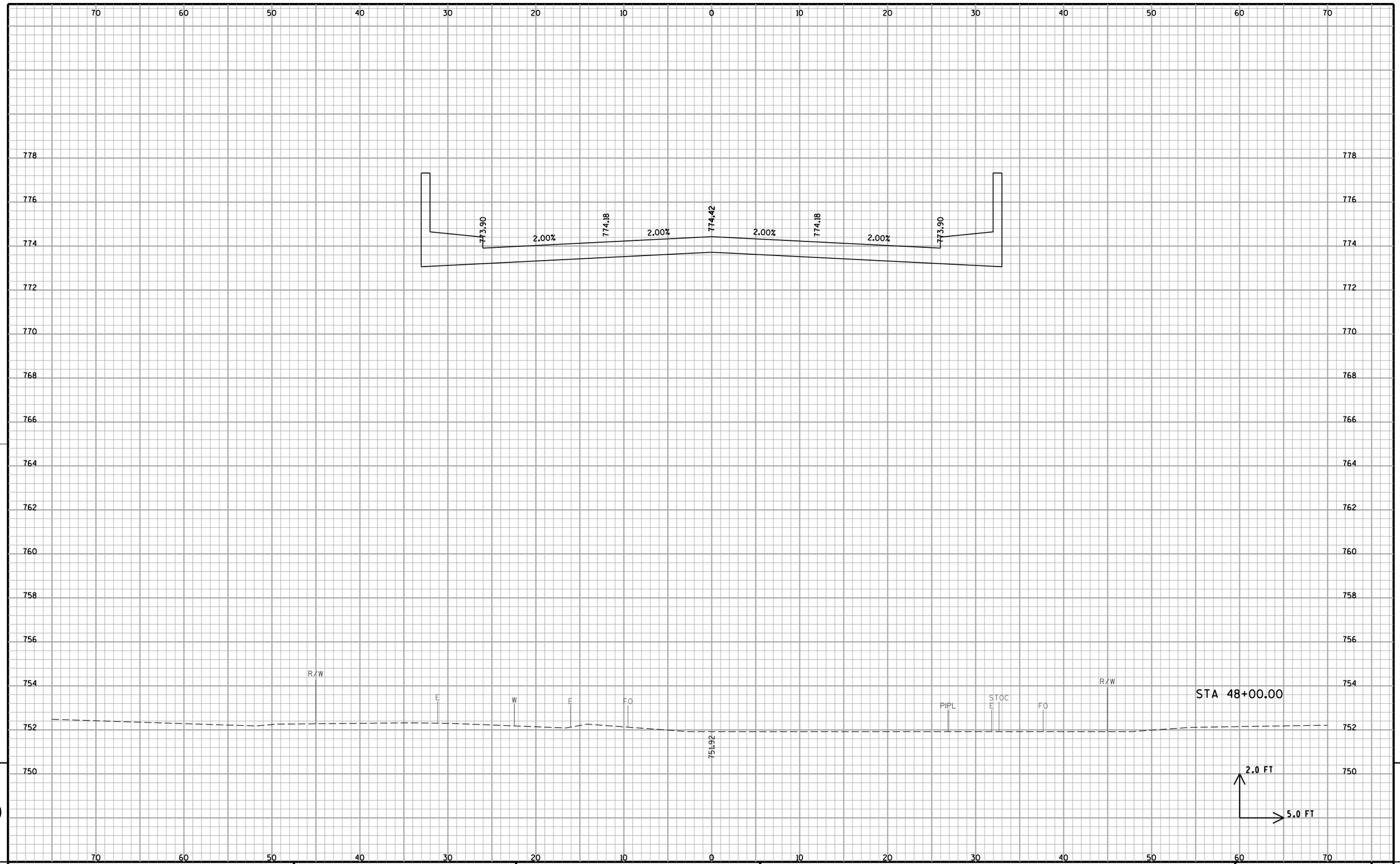
PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 179	E



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PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 180	E

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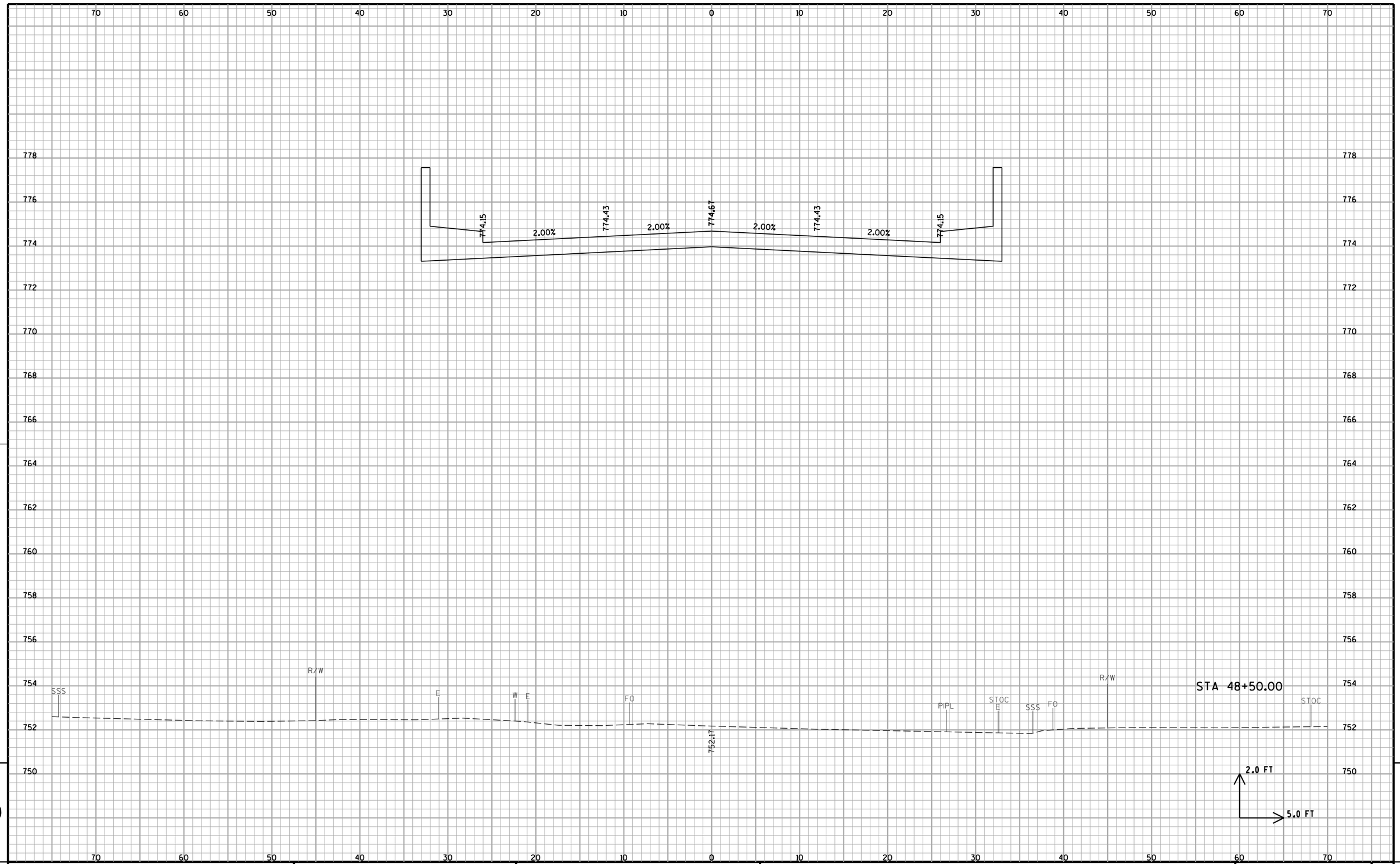
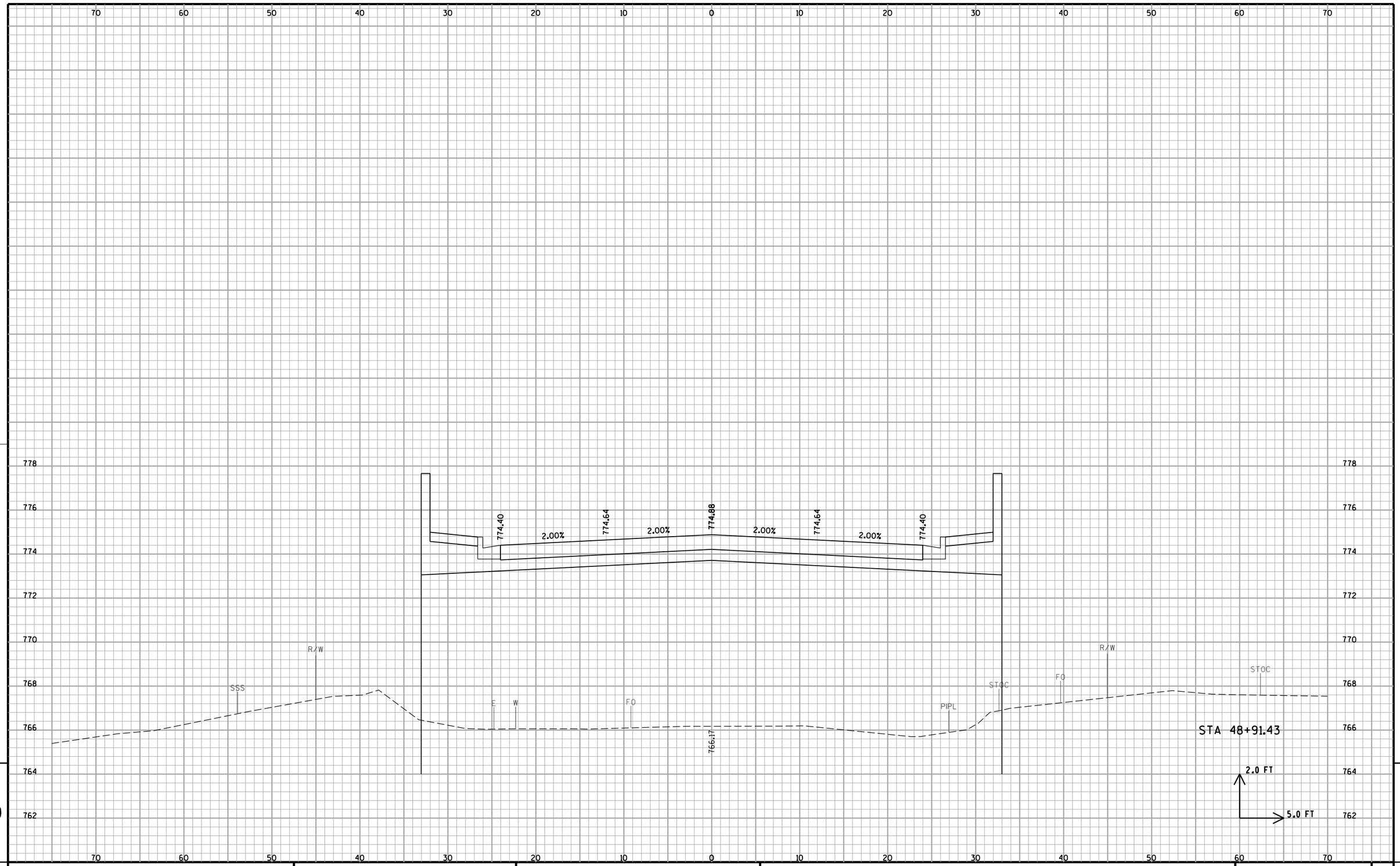
WISDOT/CADDS SHEET 21



PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 181 E



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9

PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET	E

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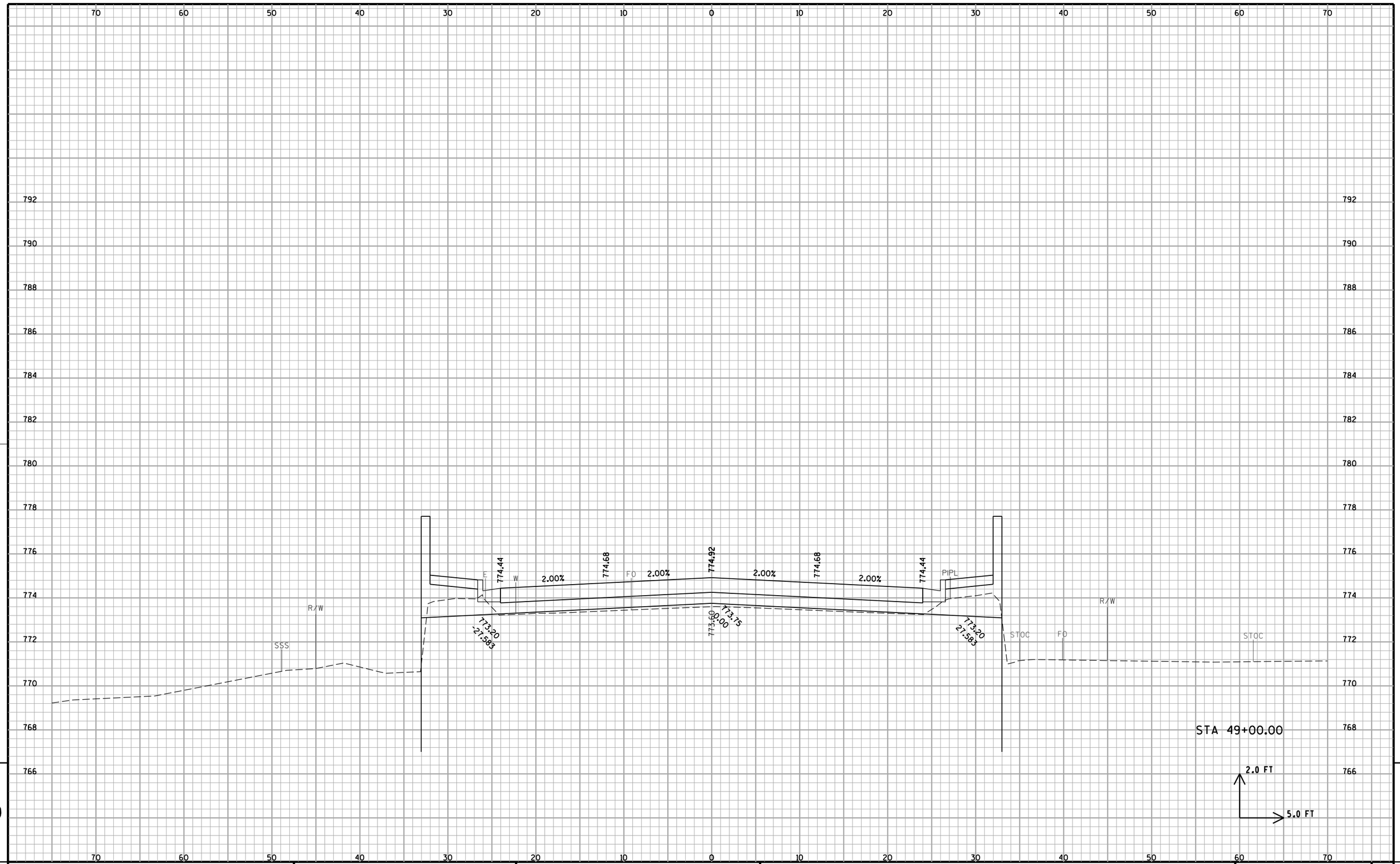
WISDOT/CADDS SHEET 21



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PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 183	E

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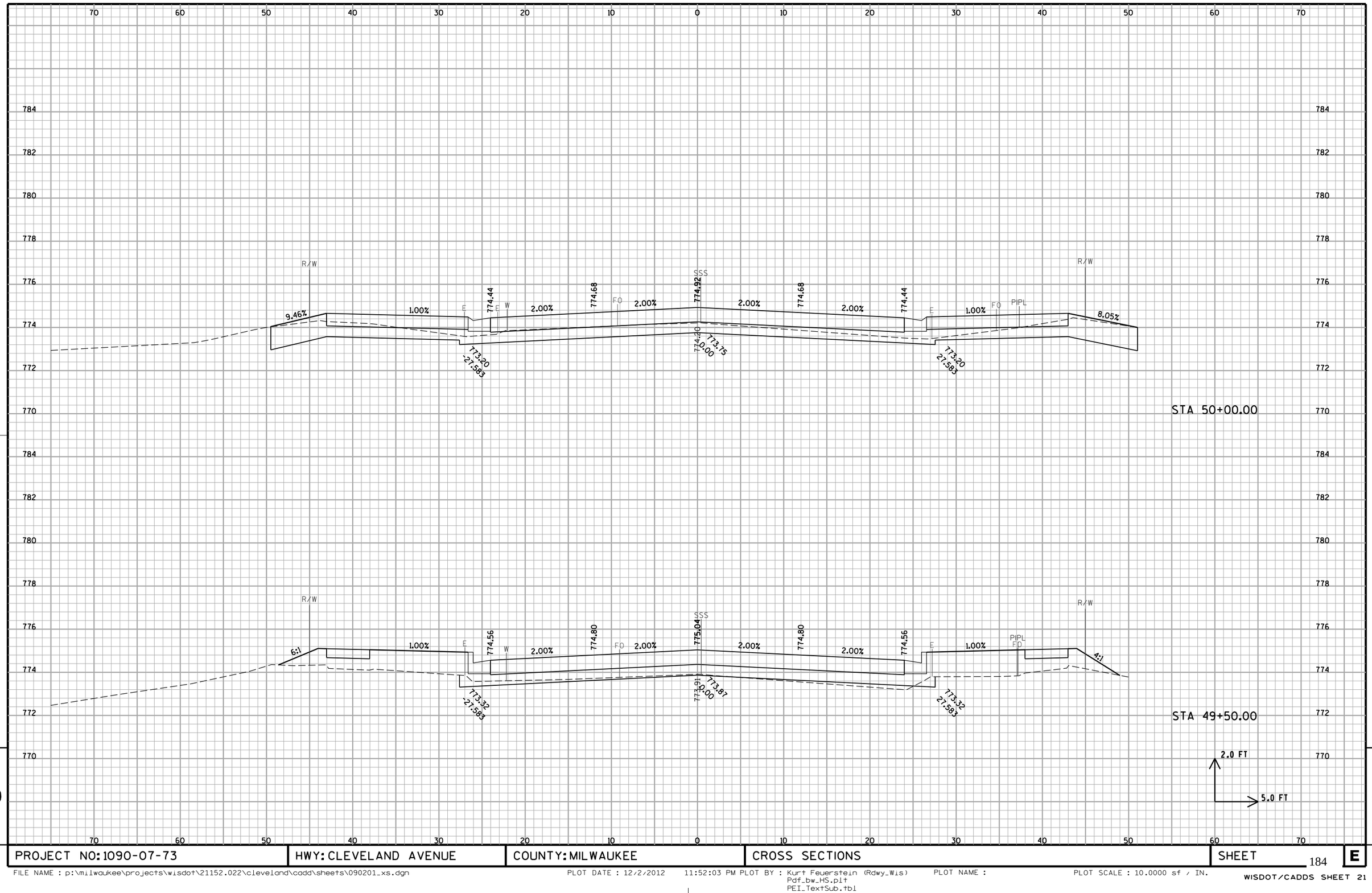
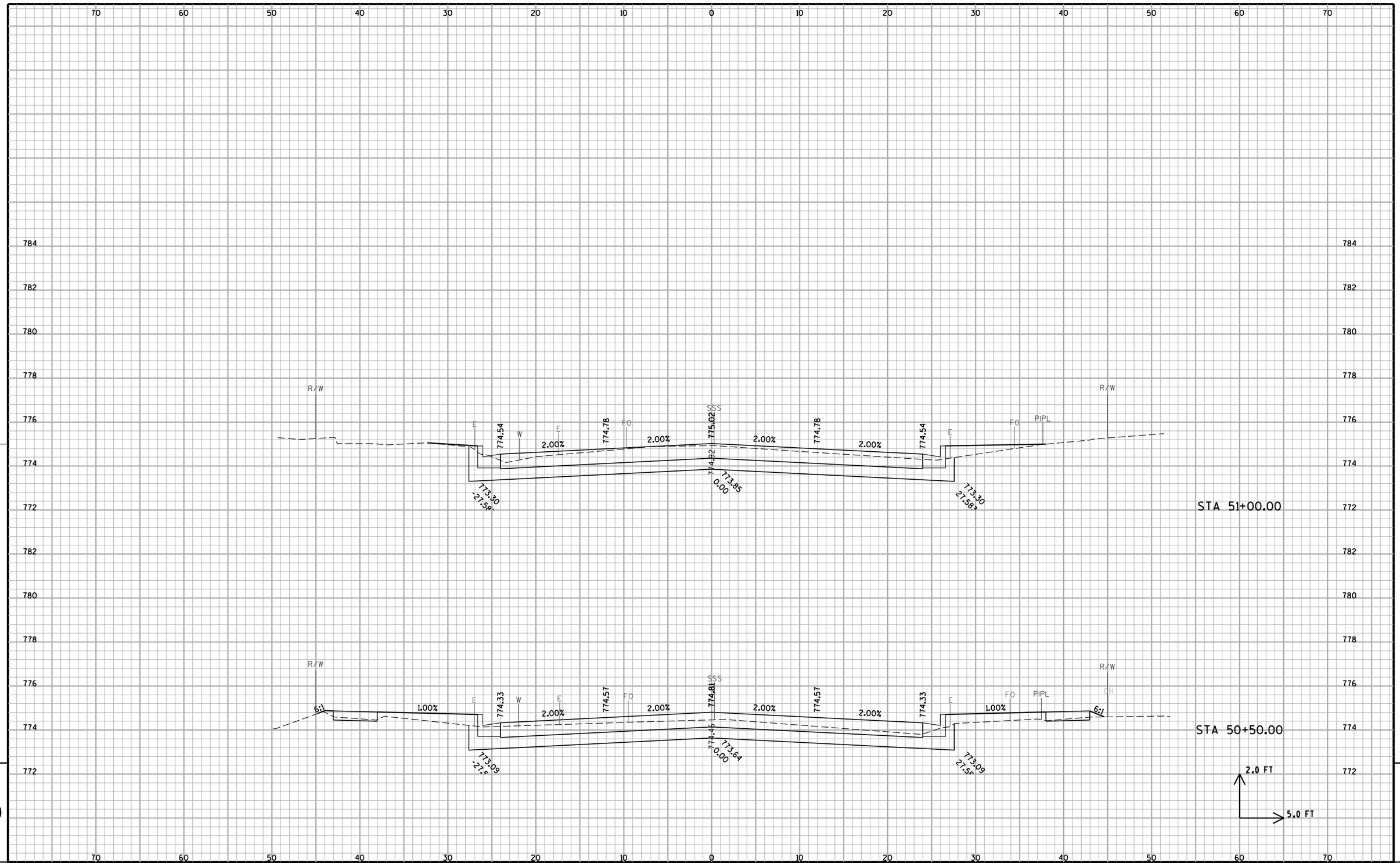


PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 184	E



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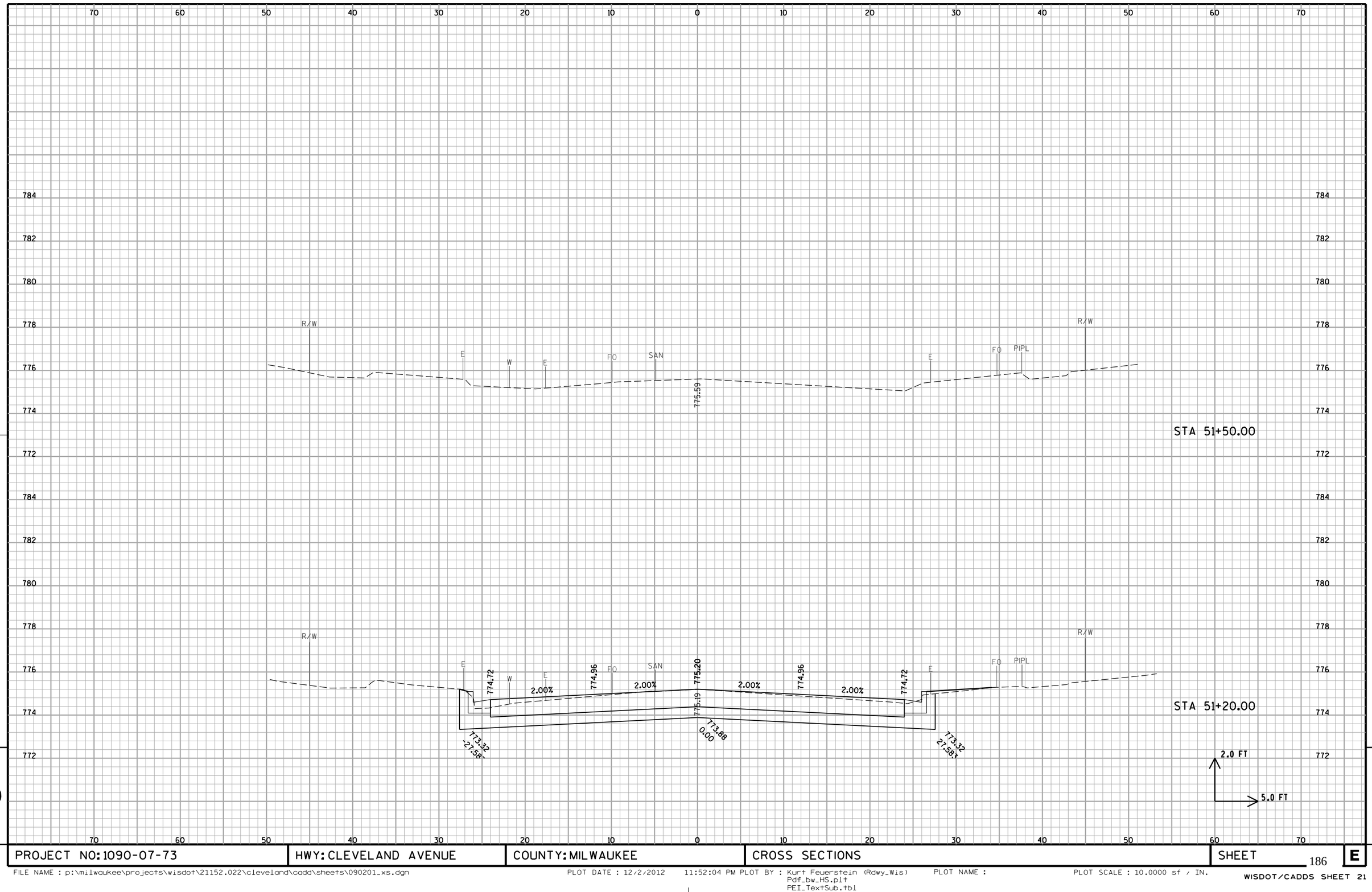
PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\090201_xs.dgn PLOT DATE : 12/2/2012 11:52:04 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21



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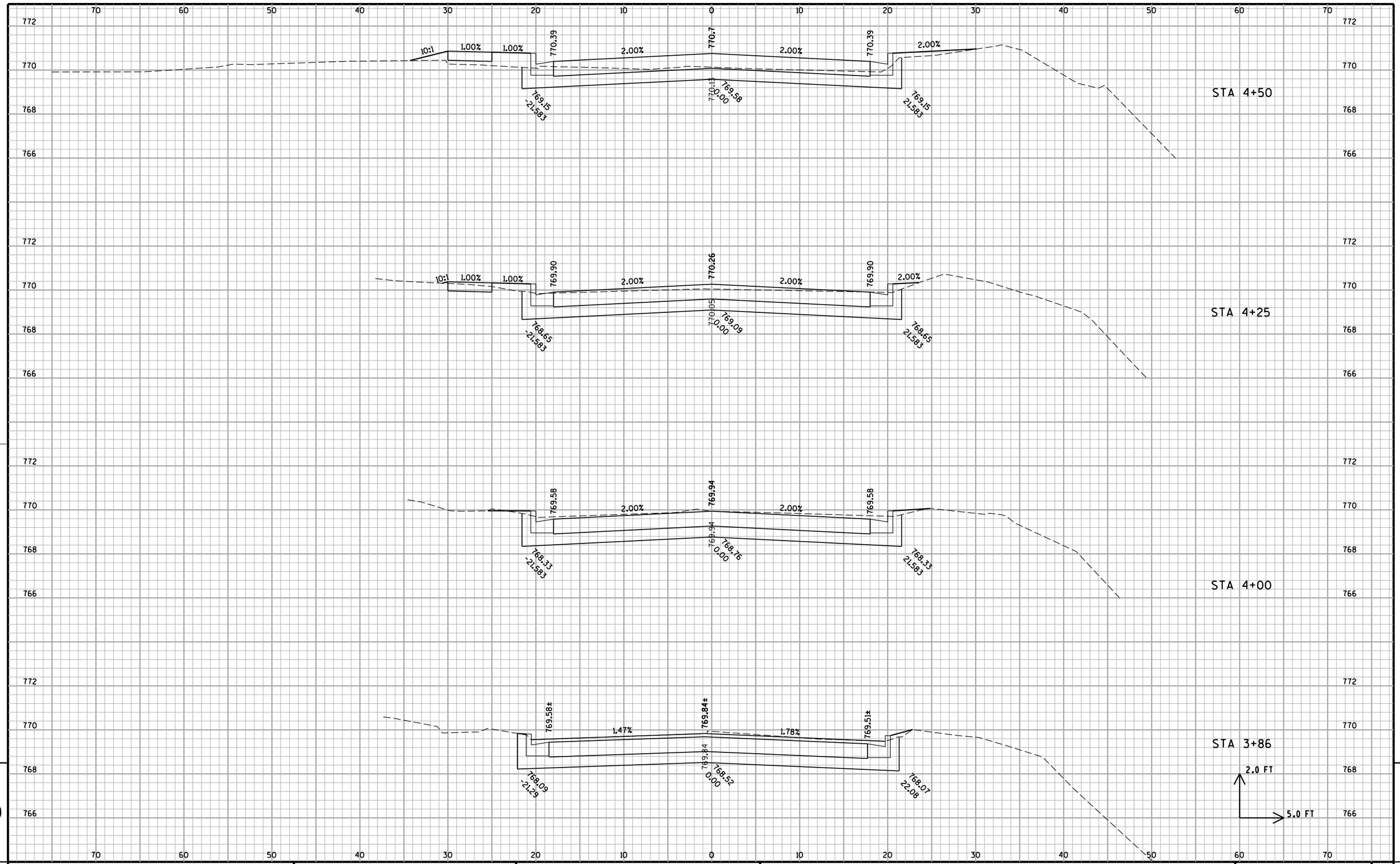
PROJECT NO: 1090-07-73	HWY: CLEVELAND AVENUE	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\090201_xs.dgn PLOT DATE : 12/2/2012 11:52:04 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) PLOT NAME : Pdf_bw_HS.plt PEI_TextSub.tbl PLOT SCALE : 10.0000 sf / IN.

WISDOT/CADDS SHEET 21



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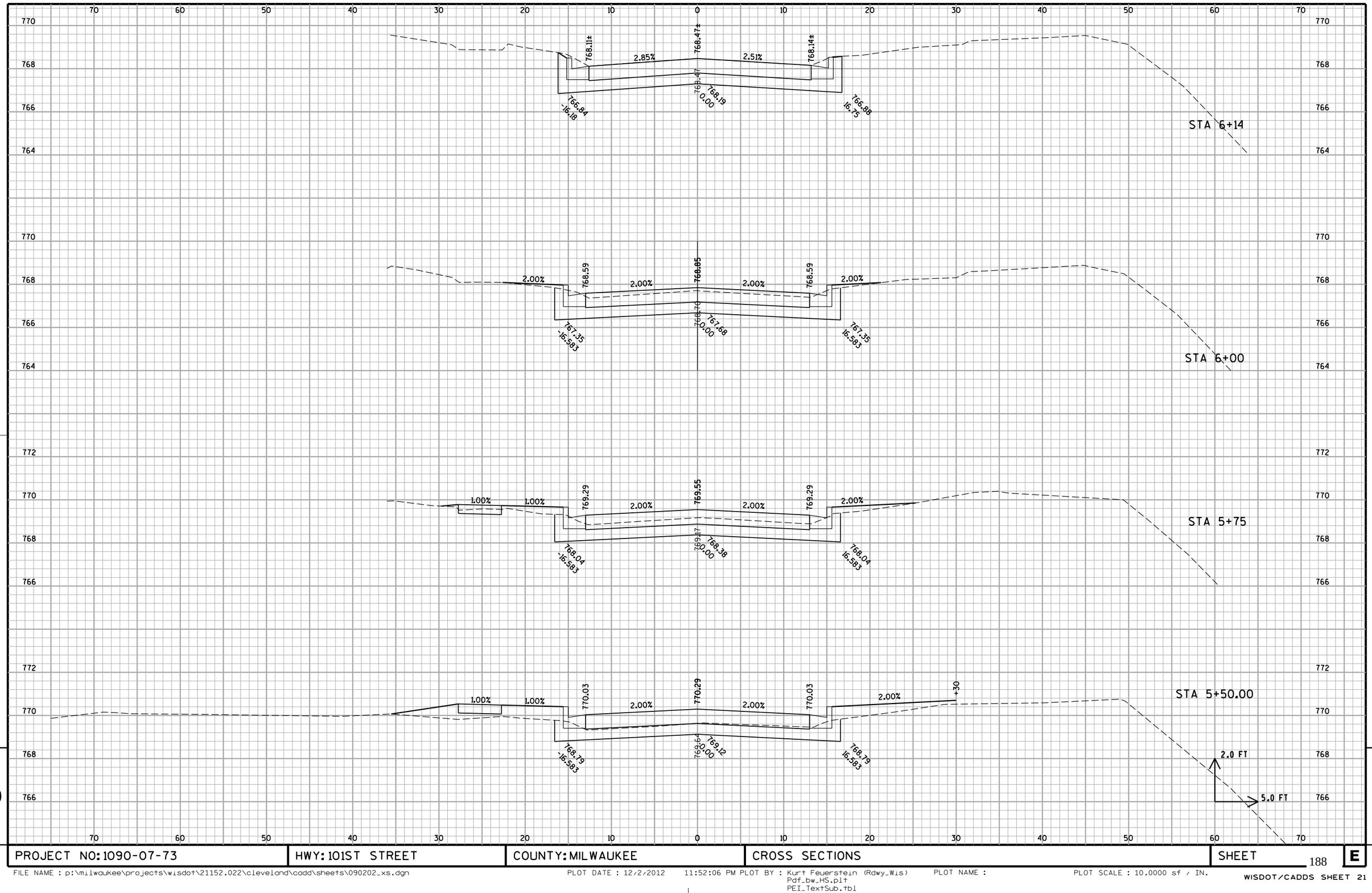
PROJECT NO: 1090-07-73	HWY: 101ST STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\090202_xs.dgn PLOT DATE : 12/2/2012 11:52:05 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis) Pdf_bw_HS.plt PEI_TextSub.tbl PLOT NAME : PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21



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PROJECT NO: 1090-07-73	HWY: 101ST STREET	COUNTY: MILWAUKEE	CROSS SECTIONS	SHEET 188	E

FILE NAME : p:\milwaukee\projects\wisdot\21152.022\cleveland\cadd\sheets\090202_xs.dgn
PLOT DATE : 12/2/2012 11:52:06 PM PLOT BY : Kurt Feuerstein (Rdwy_Wis)
Pdf_bw_HS.plt
PEI_TextSub.tbl
PLOT NAME :
PLOT SCALE : 10.0000 sf / IN.
WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

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