WKE

JAN 13

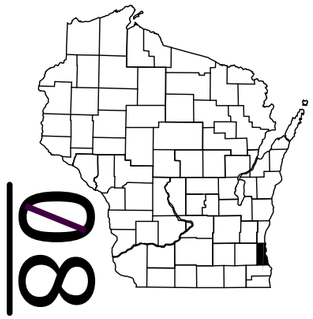
PROJECT ID: 1228-26-70
WITH: N/A

COUNTY: MILWAUKEE

ORDER OF SHEETS

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

TOTAL SHEETS = 754



08

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

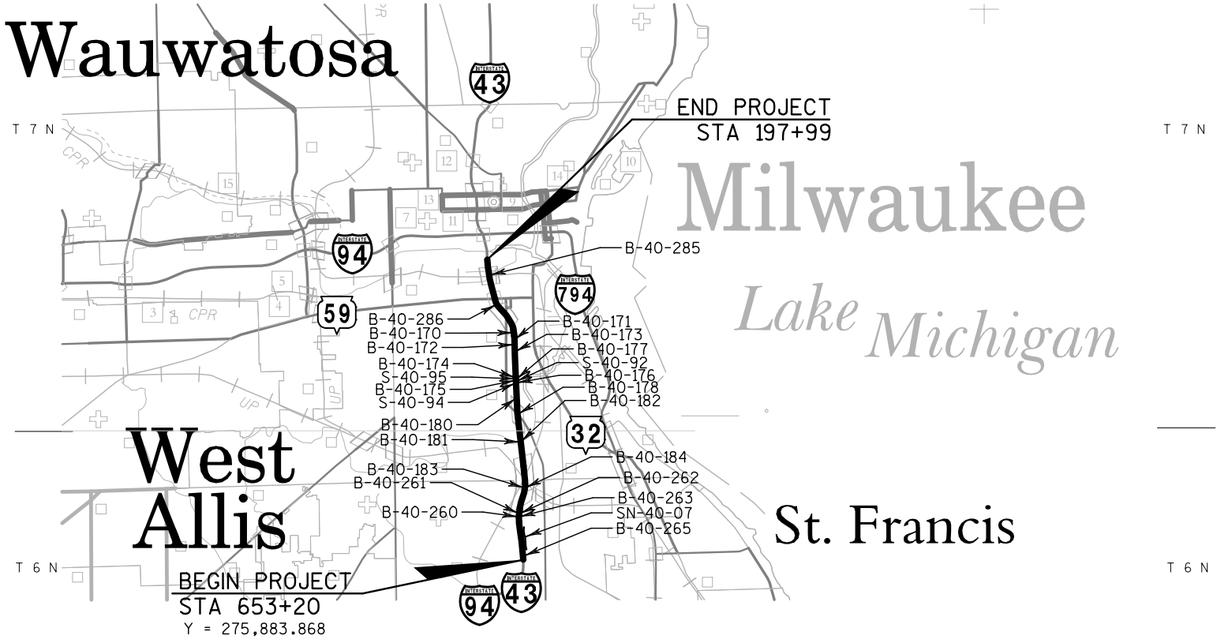
I43 NORTH SOUTH

HOWARD AVENUE TO THE VALLEY BRIDGE
I 43 / I 94
MILWAUKEE COUNTY

STATE PROJECT NUMBER
1228-26-70

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1228-26-70	WISC 2013025	1

R 22 E



LAYOUT
SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 3.860 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MILWAUKEE COUNTY - NAD 1983 (2007). ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007)

DESIGN DESIGNATION

			MITCHELL-HOWARD	HOWARD-BECHER	BECHER-LAPHAM	LAPHAM-MARQUETTE
A.A.D.T.	2009	=	111,000	113,000	100,000	116,000
A.A.D.T.	2030	=	120,000	123,000	108,000	130,000
D.H.V.		=	12,250	12,446	10,976	13,426
D.D.		=	58/42	58/42	58/42	58/42
T.		=	9.1%	9.1%	9.1%	9.1%
DESIGN SPEED		=	60 MPH	60 MPH	60 MPH	55 MPH
ESALS		=	9,274,650	9,475,400	8,351,200	9,876,900

CONVENTIONAL SYMBOLS

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

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

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

ORIGINAL PLANS PREPARED BY

URS
342 North Water Street
7th Floor
Milwaukee, WI 53202
(414) 831-4100

WISCONSIN PROFESSIONAL ENGINEER
WILLIAM R. SCHILLING
E-35841
WAUKESHA
WISCONSIN
11/9/12

(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	KAPUR & ASSOCIATES
Designer	URS CORPORATION
Project Manager	ALLEN GILBERTSON
Regional Examiner	
Regional Supervisor	JAMES FORSETH

APPROVED FOR THE DEPARTMENT

DATE: 11/21/12 (Signature)

E

GENERAL NOTES

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

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND ALL UTILITIES IN THE VICINITY OF THE PROJECT TO LOCATE THEIR FACILITIES AT LEAST THREE WORKING DAYS PRIOR TO BEGINNING WORK.

ALL RADII DIMENSIONS TO CURB AND GUTTER SHOWN ON THE PLAN ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.

SOD LAWN AND FERTILIZE (TYPE B) ALL DISTURBED AREAS WITHIN THE RIGHT OF WAY AND T.L.E., OR AS DIRECTED BY THE ENGINEER.

PIPE ELEVATIONS SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

THE EROSION CONTROL FEATURES ARE SHOWN ON THE PLAN AND PROFILE SHEETS AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS WILL BE DETERMINED BY THE FIELD ENGINEER.

EROSION CONTROL DEVICES ARE TO BE PLACED IN PROPER SEQUENCE WITH CONSTRUCTION OPERATIONS AND MAINTAINED THROUGHOUT THE PROJECT TO COMPLETION OR AS DETERMINED BY THE ENGINEER.

ALL DISTRUBED AREAS WITHIN THE PROJECT FACINITY ARE TO BE LANDSCAPED APPROPRIATELY AT THE END OF THE PROJECT. EROSION MAT, FERTILIZER, TEMPORARY SEEDING AND SEEDING TO BE INCLUDED.

ALL PAVEMENT MARKING STATIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY THE ENGINEER IN THE FIELD.

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

STANDARD ABBREVIATIONS

ACRES	AC
AHEAD	AH
ALUMINUM	ALUM
AND OTHERS	ET AL
ANTENNA	ANT
BACK	BK
BARN	B
BLOCK	BLK
BUILDING	BLDG
CENTERLINE	CL
CERTIFIED SURVEY MAP	CSM
CONCRETE	CONC
CORNER	COR
CORRUGATED STEEL CULVERT PIPE	CSCP
CORRUGATED STEEL PIPE ARCH	CSPA
ELECTRIC PEDESTAL	EP
ELEVATION	EL
FOUNDATION	FDN
GALVANIZED	GALV
GARAGE	G
GAS PUMP	GP
GAS VALVE	GV
HECTARES	HA
HOUSE	H
HIGHWAY EASEMENT	HE
LENGTH	L
LEFT HAND FORWARD	LHF
LONG CHORD	LC
LONG CHORD BEARING	LCB
LOW-WATER DATA	LWD
MONUMENT	MON
ORDINARY HIGH WATER MARK	OHWM
PAGE	P
PARKER-KALON FASTENER	PK
POWER POLE	PP
PROPERTY LINE	PL
RADIUS	R
REFERENCE LINE	RL
REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CULVERT PIPE	RCHECP
RIGHT HAND FORWARD	RHF
RIGHT OF WAY	R/W
SECTION	SEC
SHED	S
SLOPE INTERCEPT	SI
STATE TRAFFIC OPERATIONS CENTER	STOC
STATION	STA
TANGENT	TAN
TANK	T
TELEPHONE PEDESTAL	TP
TEMPORARY LIMITED EASEMENT	TLE
VOLUME	VOL
WALL	W

ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PAVEMENT MARKING
TRAFFIC CONTROL
DETOUR PLANS

UTILITIES

ATC MANAGEMENT INC
MR. MIKE OLSEN
801 O'KEEFE ROAD
PO BOX 6113
DEPERE, WI 54115
920-338-6582
MOLSEN@ATCLLC.COM

AT&T CORPORATION
MR. CARL DONAHUE
866 ROCK CREEK RAOD
PLANO, IL 60545
847-420-9115
847-244-9597 FAX
CD8729@ATT.COM

AT&T MOBILITY
NETWORK OPERATIONS MANAGER
MR. MIKE JANSEN
15345 W COFFEE ROAD
NEW BERLIN, WI 53151
262-785-7102
262-785-7108 FAX
MJ2179@ATT.COM

CITY OF MILWAUKEE
CITY ENGINEER
MR. JEFFREY POLENSKE
841 N BROADWAY, ROOM 701
MILWAUKEE, WI 53202
414-286-3701
414-286-5994 FAX
JEFFREY.POLENSKE@MILWAUKEE.GOV

LEVEL 3 COMMUNICATIONS LLC
NETWORK INFRASTRUCTURE SERVICES
MR. TREVOR PEEVEY
1122 CAPITAL OF TEXAS HIGHWAY SOUTH
AUSTIN, TX 78746
512-742-3805
LEVEL3.NETWORKRELOCATIONS@LEVEL3.COM

MIDWEST FIBER NETWORKS
OSP ENGINEER
MR. RICHARD TRGOVEC
3701 W BURNHAM STREET, SUITE C
MILWAUKEE, WI 53215
414-672-5612
414-226-2269 FAX
RTRGOVEC@MIDWESTFIBERNETWORKS.COM

MILWAUKEE METRO SEWERAGE DISTRICT
PLANNING SERVICES SUPERVISOR
MS. DEBRA JENSEN
260 W SEEBOTH STREET
MILWAUKEE, WI 53204
414-225-2143
DJENSEN@MMSD.COM

PAETEC BUSINESS SERVICES
OSP NETWORK SUPERVISOR
MR. JIM KOSTUCH
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
262-792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

QWEST COMMUNICATIONS
MR. KEVIN HUFF
13057 S MONITOR AVENUE
PALOS HEIGHTS, IL 60463
708-837-7927
708-371-8674 FAX
KEVIN.HUFF@QWEST.COM

SPRINT COMMUNICATIONS LP
FACILITIES ENGINEER II/OSP-EAST
MR. JIM BURTON
400 W GRAND AVENUE
ELMHURST, IL 60126
708-955-6659
630-379-5958 FAX
JAMES.BURTON@ERICSSON.COM

TCG OF MILWAUKEE d/b/a AT&T LOCAL
PROJECT MANAGER
MR. DON DIETSCH
383 WILLIAMSTOWNE, SUITE B
DELAFIELD, WI 53018
262-646-5602
262-646-5603 FAX
D.DIETSCH@NORTHWINDTECH.COM

TDS TELECOM
OSP ENGINEERING
MR. MICHAEL JOHNSON
20875 CROSSROADS CIRCLE, SUITE 800
WAUKESHA, WI 53186
262-754-3052
262-717-6002 FAX
MICHAEL.JOHNSON@TDSTELECOM.COM

TIME WARNER CABLE
UTILITY COORDINATOR
MR. STEVE CRAMER
1320 N MARTIN LUTHER KING JR DRIVE
MILWAUKEE, WI 53212
414-277-4045
414-277-0638 FAX
STEVE. CRAMER@TWCABLE.COM

WE ENERGIES - ELECTRIC
PROJECT MANAGER
MR. DAN SANDE
333 W EVERETT STREET - A299
MILWAUKEE, WI 53203
414-221-4578
414-221-2336 FAX
DAN.SANDE@WE-ENERGIES.COM

WE ENERGIES - STEAM
PROJECT MANAGER
MR. DAN SANDE
333 W EVERETT STREET - A299
MILWAUKEE, WI 53203
414-221-4578
414-221-2336 FAX
DAN.SANDE@WE-ENERGIES.COM

WINDSTREAM KDL INC/
WINDSTREAM NTI INC
f/k/a NORLIGHT
MR. JIM KOSTUCH
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
262-792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

WISDOT SIGNALS
TRAFFIC ENGINEERING SUPERVISOR
MR. JOHN HAUG
141 NW BARSTOW
PO BOX 798
WAUKESHA, WI 53187
262-521-5356
JOHN.HAUG@DOT.STATE.WI.US

WISDOT TRAFFIC LIGHTING
SE REGION LIGHTING ENGINEER
MR. MATT PFEIFER
935 S 60TH STREET
WEST ALLIS, WI 53214
414-266-1154
MATTHEW.PFEIFER@DOT.WI.GOV

WISDOT STOC
MR. JEFF MADSON
433 W ST PAUL AVENUE, SUITE 300
MILWAUKEE, WI 53203
414-225-3723
JEFFREY.MADSON@DOT.WI.GOV

WISDOT ATR PULL BOXES
MR. CLIFF SEROWSKI
935 S 60TH STREET
WEST ALLIS, WI 53214
414-266-1157
CLIFFORD.SEROWSKI@DOT.WI.GOV

WISCONSIN GAS CO. d/b/a WE ENERGIES
PROJECT MANAGER
MR. DAN SANDE
333 W EVERETT STREET - A299
MILWAUKEE, WI 53203
414-221-4578
414-221-2336 FAX
DAN.SANDE@WE-ENERGIES.COM

CONTACTS

WIS. DEPT. OF TRANSPORTATION
SE REGION
MR. ALLEN GILBERTSON
141 NW BARSTOW STREET
P.O. BOX 798
WAUKESHA, WI 53187
262-548-8817
ALLEN.GILBERTSON@DOT.WI.GOV

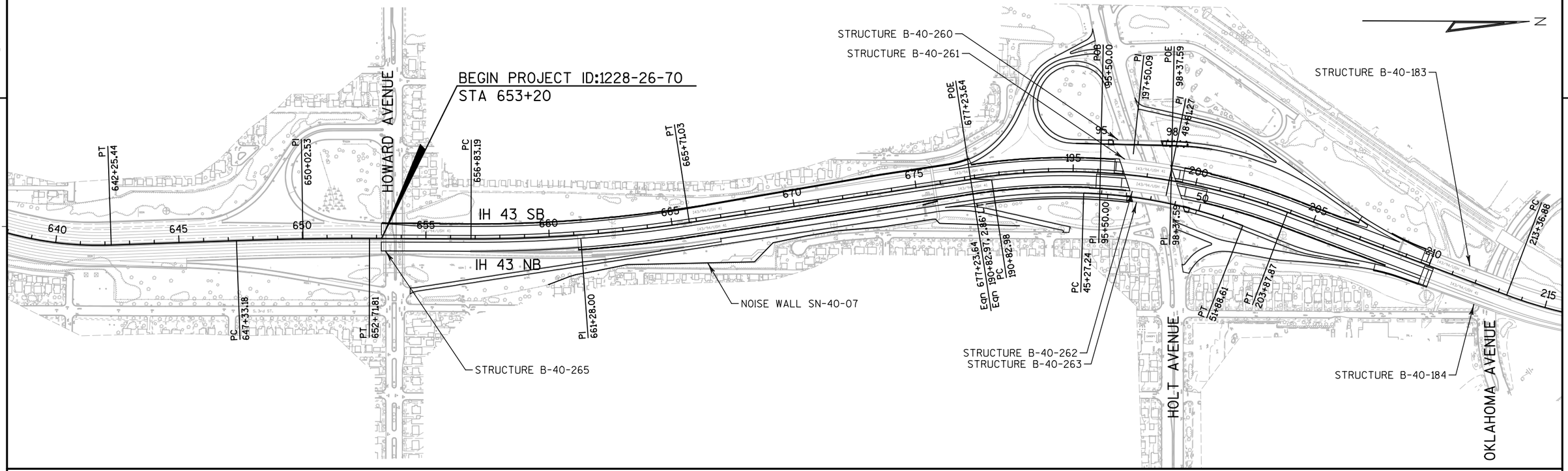
URS CORPORATION
MR. WILLIAM SCHILLING
342 N WATER STREET
FLOOR 7
MILWAUKEE, WI 53202
414-831-4176
414-831-4101 FAX
BILL.SCHILLING@URS.COM

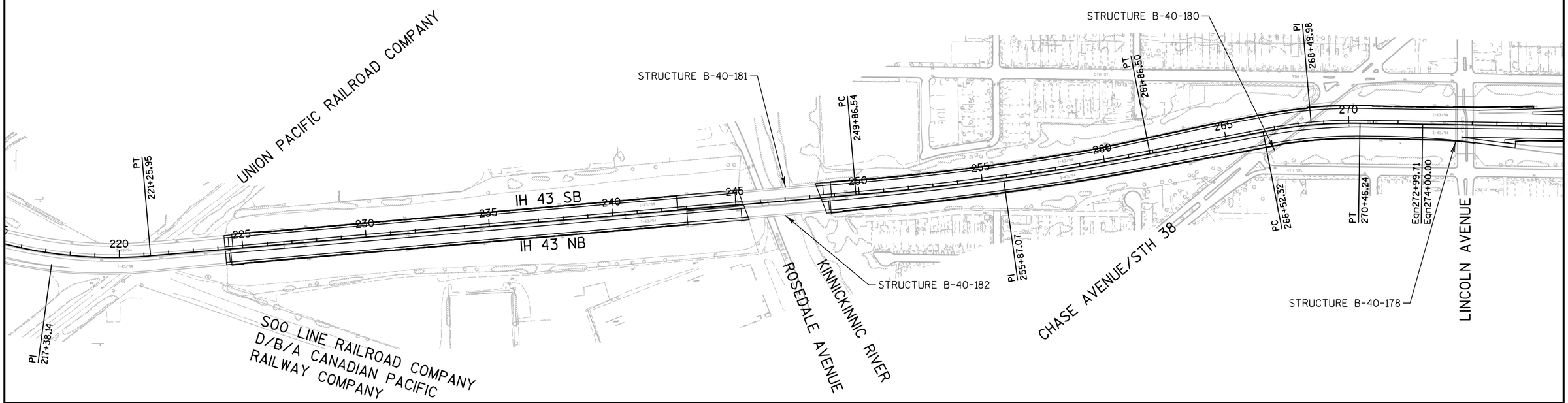
WISCONSIN DEPT. OF NATURAL RESOURCES
SE REGION
MS. KRISTINA BETZOLD
2300 N MARTIN LUTHER KING DRIVE
MILWAUKEE, WI 53212
414-263-8517
414-263-8483 FAX
KRISTINA.BETZOLD@WISCONSIN.GOV

UNION PACIFIC RAILROAD COMPANY
MANAGER OF SPECIAL PROJECTS
MR. JOHN VENICE
101 NORTH WACKER DRIVE STE 1920
CHICAGO, IL 60606
312-777-2043
402-233-2769 FAX
JNVENICE@UP.COM

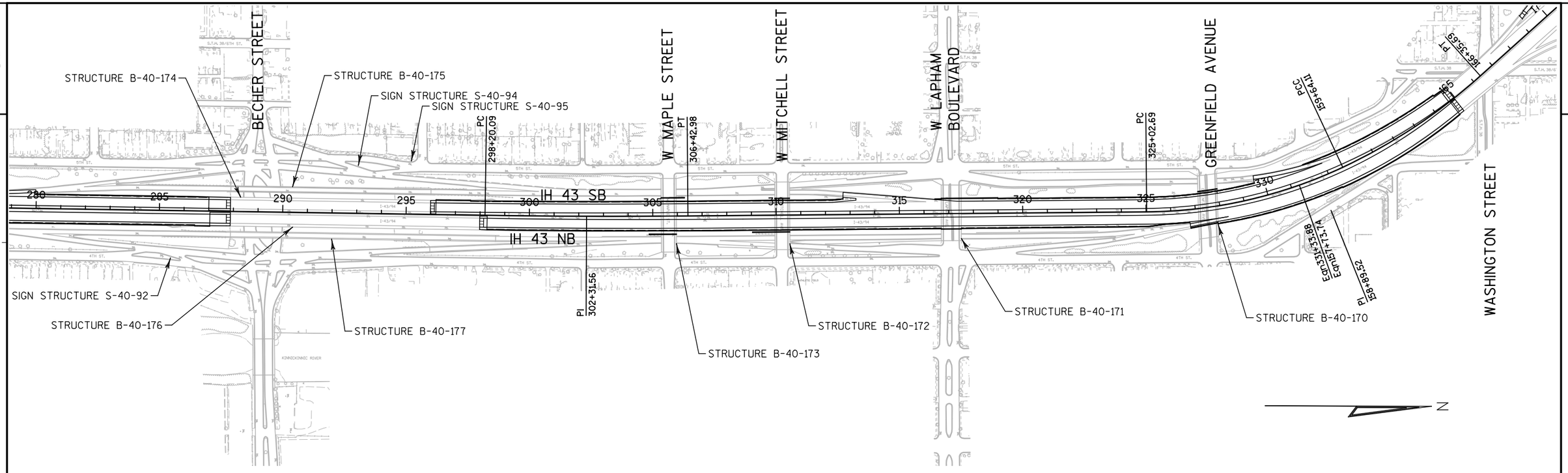
VERIZON BUSINESS DIVISION
OSP NATIONAL SUPPORT/INVESTIGATIONS
2400 N GLENVILLE
RICHARDSON, TX 75082
972-729-6322
INVESTIGATIONS@VERIZON.COM

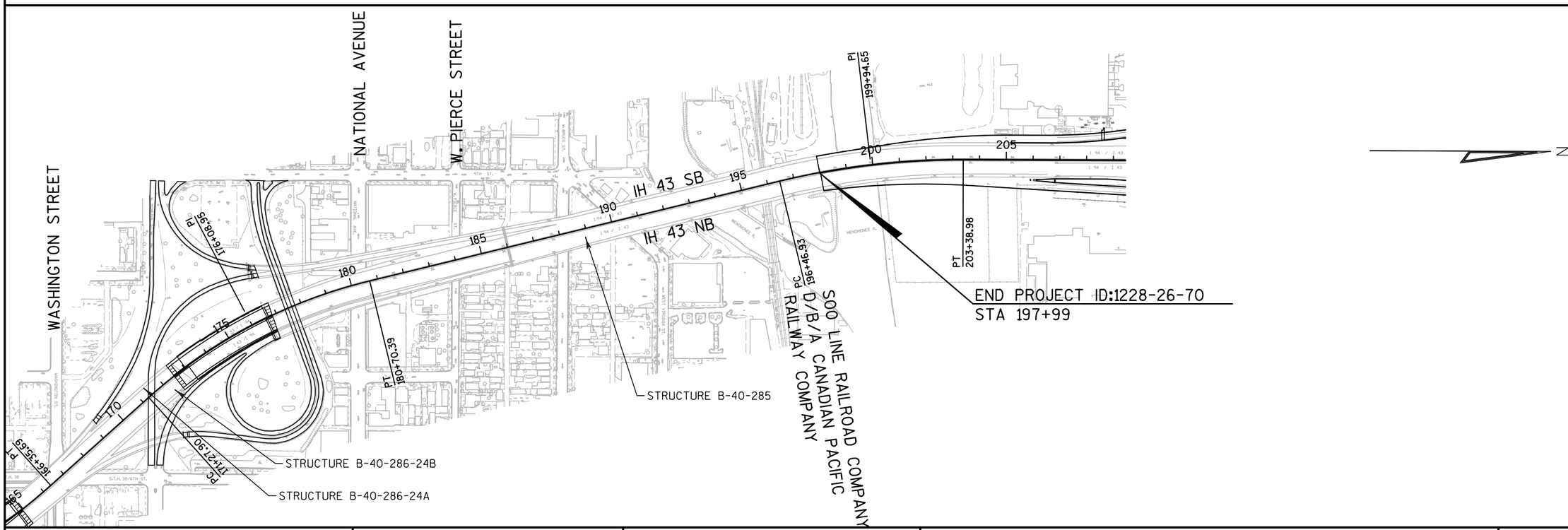
PAVEMENT TYPE	TOTAL LAYER PAVEMENT THICKNESS	NOMINAL MAXIMUM SIZE GRADATION	ASPHALTIC MATERIAL
MAINLINE E-10	1.75" UPPER 2.5-3.75" LOWER	12.5 mm UPPER 19 mm LOWER	PG64-28P UPPER PG64-22 LOWER
RAMPS E-10	1.75" UPPER 1.75" LOWER	12.5 mm UPPER 12.5 mm LOWER	PG64-28P UPPER PG64-22 LOWER





PROJECT NO:1228-26-70	HWY:IH 43	COUNTY:MILWAUKEE	PROJECT OVERVIEW	SHEET 3	E





PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\020202_po.dgn
PLOT DATE : 10/31/2012
PLOT BY : jessica_meddaugh
PLOT NAME :
PLOT SCALE : 400.0000 sf / in.
WISDOT/CADDS SHEET 42

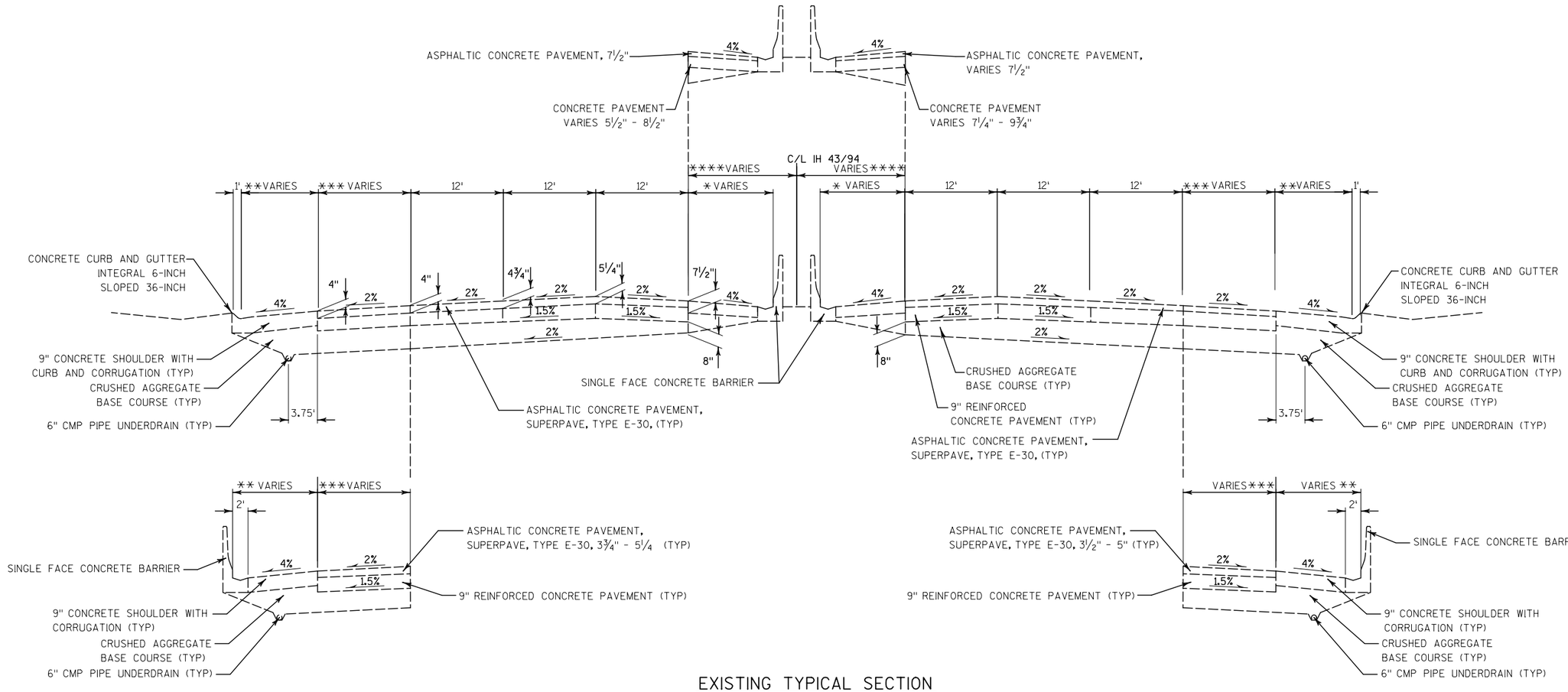
2

SOUTHBOUND

STA 208+40.00 - STA 210+00.00
STA 224+30.00 - STA 225+90.00
STA 234+60.00 - STA 238+00.00
STA 286+20.00 - STA 287+85.00
STA 296+00.00 - STA 298+65.00
STA 158+10.00 - STA 160+00.00

NORTHBOUND

STA 669+70.00 - STA 673+30.00
STA 234+60.00 - STA 236+25.00
STA 286+20.00 - STA 287+90.00
STA 298+00.00 - STA 299+70.00



EXISTING TYPICAL SECTION
IH 43/94 MAINLINE

AT HOWARD AVENUE
AT OKLAHOMA AVENUE
AT ROSEDALE AVENUE
AT BECHER STREET

SOUTHBOUND

STA 653+20.00 - STA 655+43.50
STA 666+51.50 - STA 675+15.67
STA 205+75.20 - STA 261+50.00
STA 274+75.00 - STA 322+75.00
STA 160+00.00 - END

NORTHBOUND

STA 653+20.00 - STA 655+43.50
STA 666+51.50 - STA 675+15.67
STA 205+75.20 - STA 249+00.00
STA 274+75.00 - STA 322+75.00

FOOTNOTES:

* 10'-11' AT OKLAHOMA AVENUE
10.6'-11.3' AT ROSEDALE AVENUE
7.8'-8.7' AT BECHER STREET

** 3.8'-10.7' AT AT OKLAHOMA AVENUE
9.8'-12' AT ROSEDALE AVENUE
9.9'-11.7' AT BECHER STREET

*** 12'-18.6' AT AT OKLAHOMA AVENUE
0' AT ROSEDALE AVENUE
0' AT BECHER STREET

**** 10.5'-11' LT/15-16.5' RT AT AT OKLAHOMA AVENUE
12.5' LT/15.5' RT AT ROSEDALE AVENUE
10.75' LT/12.25' RT AT BECHER STREET

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 5	E

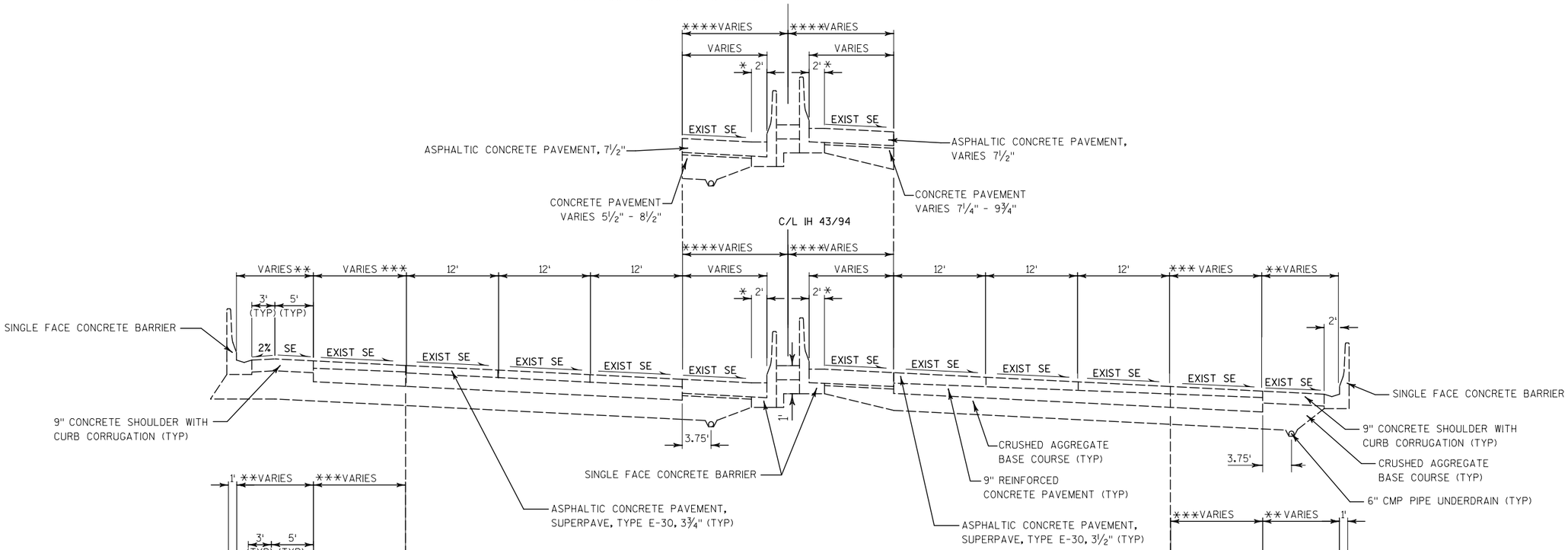
2

SOUTHBOUND

STA 668+50.00 - STA 673+35.00
STA 160+10.00- STA 164+95.00

NORTHBOUND

STA 330+40.00 - STA 158+80.00



EXISTING TYPICAL SECTION
IH 43/94 MAINLINE SUPERELEVATED

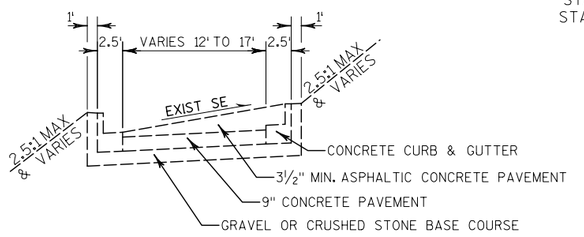
AT HOLT AVENUE
AT WASHINGTON STREET
AT VALLEY BRIDGE

NORTHBOUND

STA 655+43.50 - STA 666+51.50
STA 675+15.67 - STA 205+75.20
STA 249+00.00 - STA 274+75.00
STA 372+75.00 - END

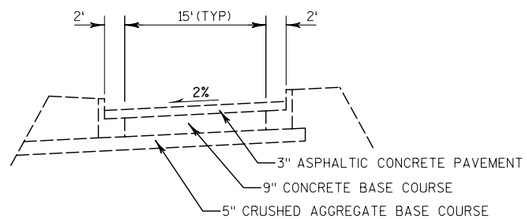
SOUTHBOUND

STA 655+43.50 - STA 666+51.50
STA 675+15.67 - STA 205+75.20
STA 261+50.00 - STA 274+75.00
STA 322+75.00 - STA 160+00.00



EXISTING TYPICAL SECTION - RAMPS

HOWARD AVENUE SB ON RAMP
HOWARD AVENUE SB OFF RAMP
HOLT AVENUE SB ON RAMP
HOLT AVENUE SB OFF RAMP
HOLT AVENUE NB ON RAMP
HOLT AVENUE NB OFF RAMP
NATIONAL AVENUE NB ON RAMP
NATIONAL AVENUE NB OFF RAMP



EXISTING TYPICAL SECTION - RAMPS

HOLT AVENUE SB OFF RAMP
HOLT AVENUE NB CD ROAD
NATIONAL AVENUE SB ON RAMP
NATIONAL AVENUE NB OFF RAMP
NATIONAL SB OFF RAMP

FOOTNOTES:

* 10.3'-11.7' AT HOLT AVENUE
3.4'-3.9' AT WASHINGTON STREET
3.2'-4.0' AT VALLEY BRIDGE

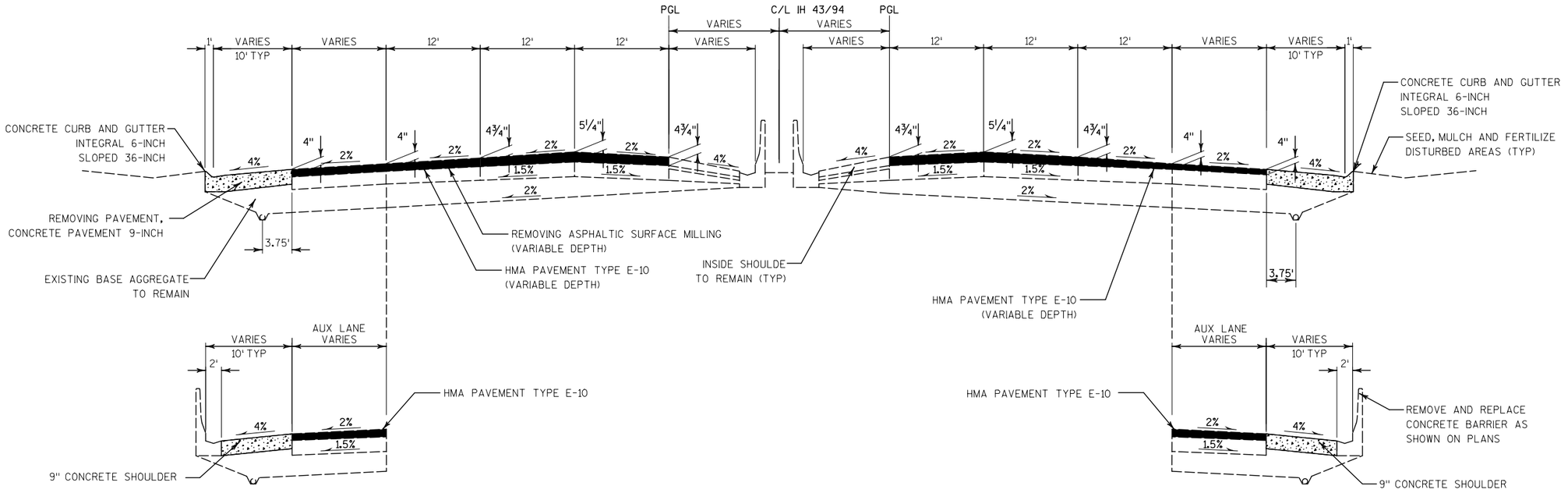
** 9.8'-12.4' AT HOLT AVENUE
4'-10.5' AT WASHINGTON STREET
3'-11.9' AT VALLEY BRIDGE

*** 0' AT AT HOLT AVENUE
12'LT & 12'RT AT WASHINGTON STREET
0'LT & 12'RT AT VALLEY BRIDGE

**** 11.75'LT/16.25'RT AT HOLT AVENUE
3'LT/7'RT AT WASHINGTON STREET
3'LT/7'RT AT VALLEY BRIDGE

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 6	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\020302_ts.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 15.0000 sf / in.



FINISHED TYPICAL SECTION
IH 43/94 MAINLINE

AT HOWARD AVENUE
AT OKLAHOMA AVENUE
AT ROSEDALE AVENUE
AT BECHER STREET

NORTHBOUND

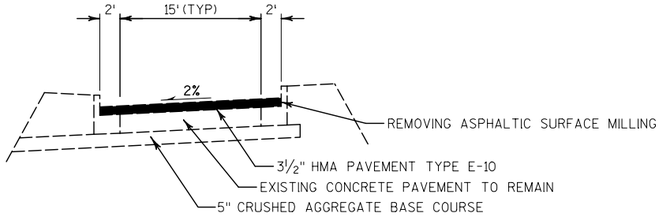
STA 653+20.00 - STA 655+43.50
STA 666+51.50 - STA 675+15.67
STA 205+75.20 - STA 249+00.00
STA 274+75.00 - STA 322+75.00

SOUTHBOUND

STA 653+20.00 - STA 655+43.50
STA 666+51.50 - STA 675+15.67
STA 205+75.20 - STA 261+50.00
STA 274+75.00 - STA 322+75.00
STA 160+00.00 - END

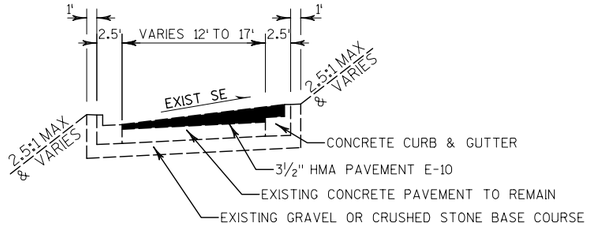
NOTES:

1) REMOVE EXISTING OUTSIDE CONCRETE SHOULDER.
2) SEE EXISTING TYPICAL SECTIONS FOR VARYING WIDTHS.



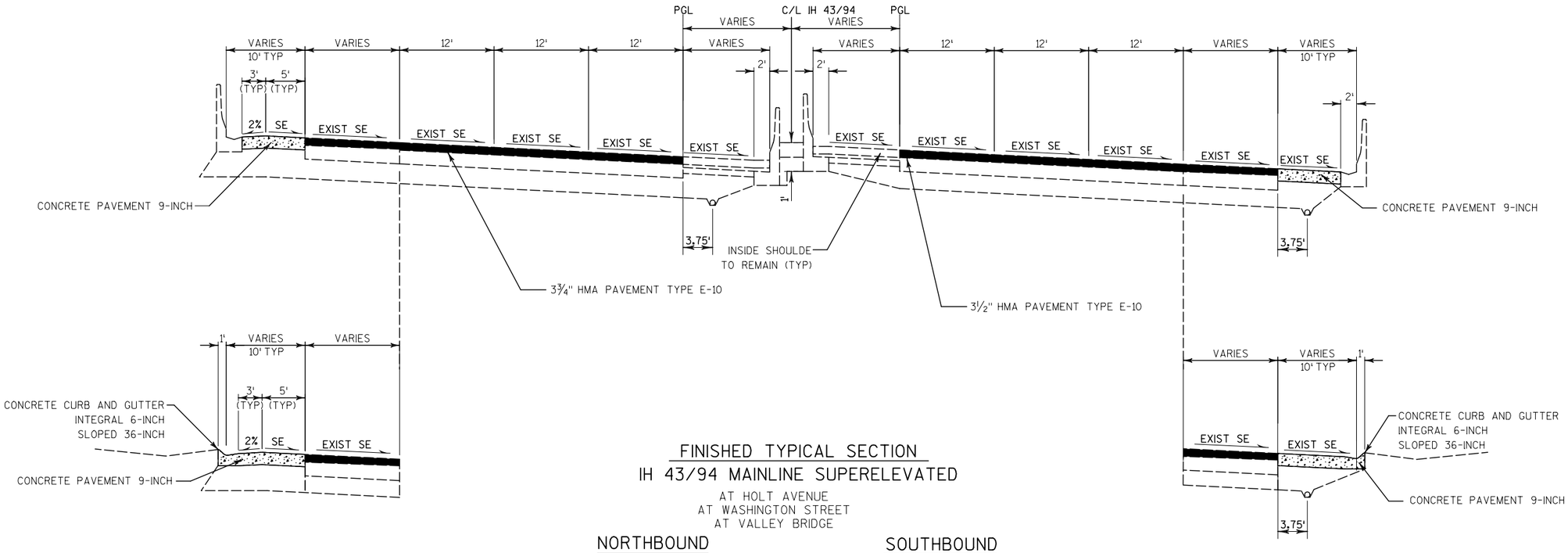
FINISHED TYPICAL SECTION - RAMPS

AT HOLT AVENUE SB OFF RAMP
AT HOLT AVENUE NB CD ROAD
AT NATIONAL AVENUE SB ON RAMP
AT NATIONAL AVENUE NB OFF RAMP
AT NATIONAL SB OFF RAMP



FINISHED TYPICAL SECTION - RAMPS

HOWARD AVENUE SB ON RAMP
HOWARD AVENUE SB OFF RAMP
HOLT AVENUE SB ON RAMP
HOLT AVENUE SB OFF RAMP
HOLT AVENUE NB ON RAMP
HOLT AVENUE NB OFF RAMP
NATIONAL AVENUE NB ON RAMP
NATIONAL AVENUE NB OFF RAMP



FINISHED TYPICAL SECTION
IH 43/94 MAINLINE SUPERELEVATED

AT HOLT AVENUE
AT WASHINGTON STREET
AT VALLEY BRIDGE

NORTHBOUND

STA 655+43.50 - STA 666+51.50
STA 675+15.67 - STA 205+75.20
STA 249+00.00 - STA 274+75.00
STA 372+75.00 - END

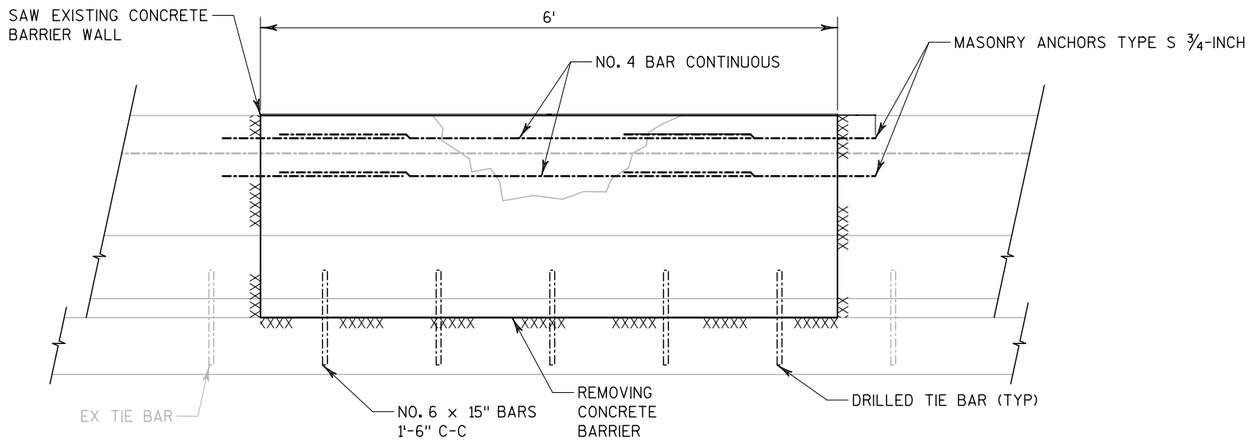
SOUTHBOUND

STA 655+43.50 - STA 666+51.50
STA 675+15.67 - STA 205+75.20
STA 261+50.00 - STA 274+75.00
STA 322+75.00 - STA 160+00.00

NOTES:

1) REMOVE EXISTING OUTSIDE CONCRETE SHOULDER.
2) SEE EXISTING TYPICAL SECTIONS FOR VARYING WIDTHS.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 8	E

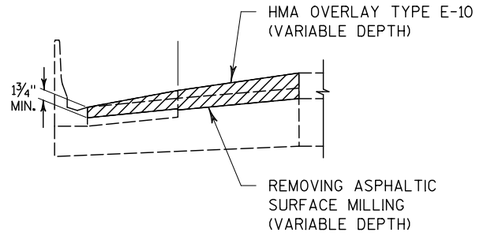


CONCRETE BARRIER WALL REPAIR

SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS

NOTES:

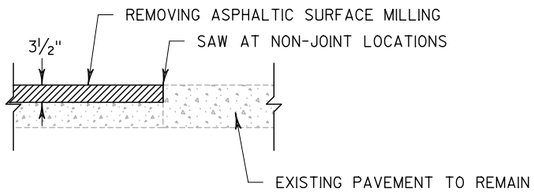
THIS DETAIL IS FOR BOTH DOUBLE FACED AND SINGLE FACED CONCRETE BARRIER



INSIDE SHOULDER PAVEMENT WEDGING AT STRUCTURE APPROACHES

NOTES:

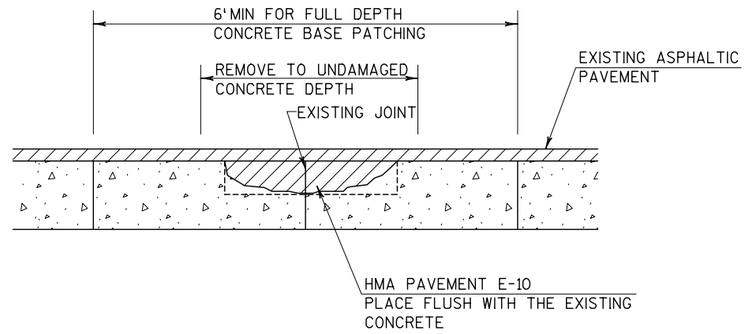
UPPER LAYER PAVEMENT VARIES ON MAINLINE, REFER TO PLAN AND PROFILE SHEETS FOR GRADE LINE CHANGES.



RAMP PAVEMENT JOINT

NOTES:

THE ABOVE WORK WILL BE PERFORMED AT THE ENDS OF ALL RAMPS WHERE MATCHING EXISTING PAVEMENT. THE REMOVAL OF EXISTING HOT-MIX ASPHALT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE PER TON FOR "REMOVING ASPHALTIC SURFACE MILLING".

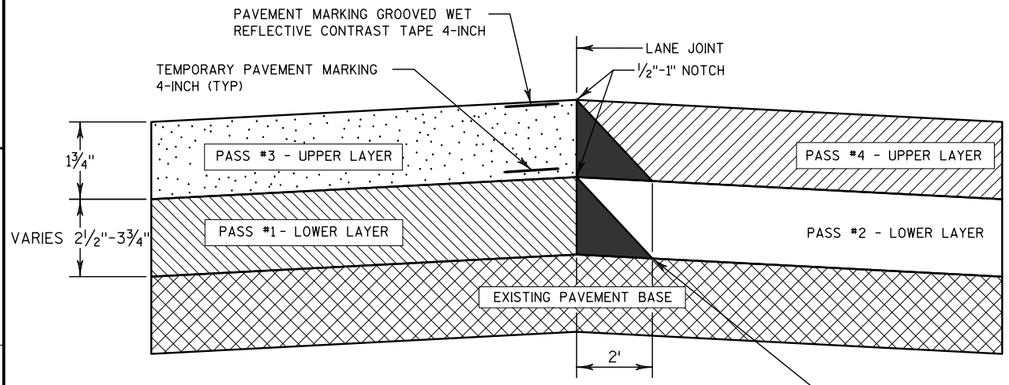


JOINT AND CRACK REPAIR DETAIL

NOTES:

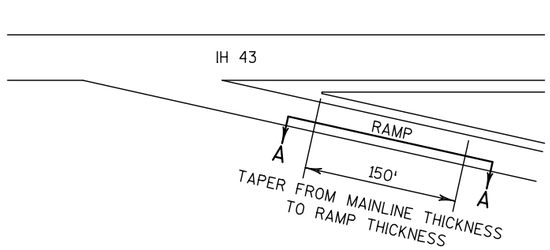
WHEN THE DEPTH OF DETERIORATED CONCRETE IS GREATER THAN 4", REMOVE TO FULL DEPTH AND MEASURE AND PAY FOR UNDER THE APPROPRIATE BASE PATCH ITEM.

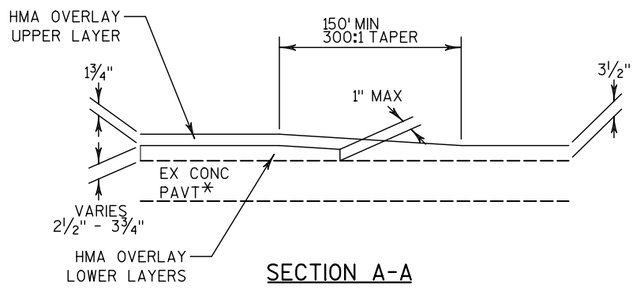
2



(LOWER AND UPPER LAYERS)

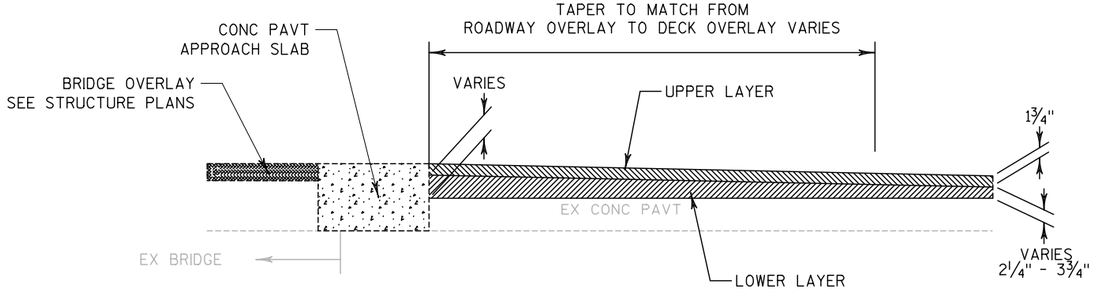
TYPICAL PAVEMENT CROSS SECTIONS OF TAPERED LONGITUDINAL JOINTS





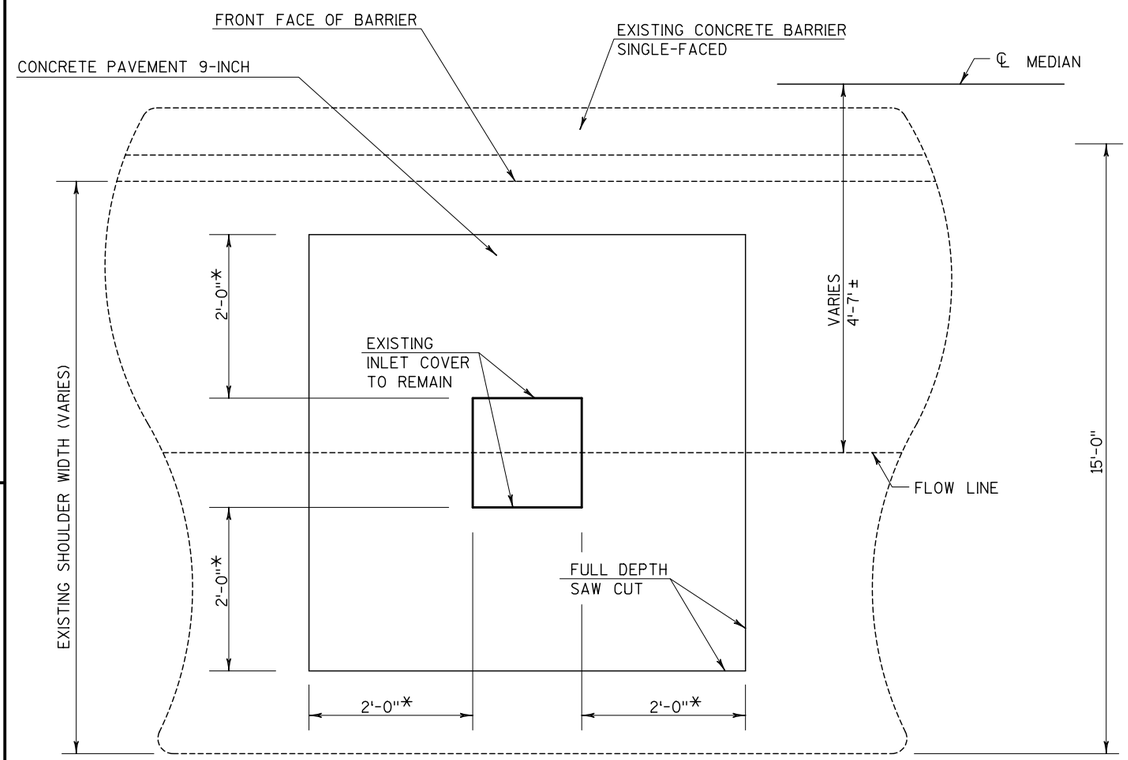
SECTION A-A

CONSTRUCTION DETAIL FOR RAMPS ENTRANCE OR EXIT



HMA AND CONCRETE PAVEMENT AT BRIDGE ENDS

B-40-285 B-40-182
B-40-286 B-40-183
B-40-175 B-40-184
B-40-176 B-40-261
B-40-181 B-40-262

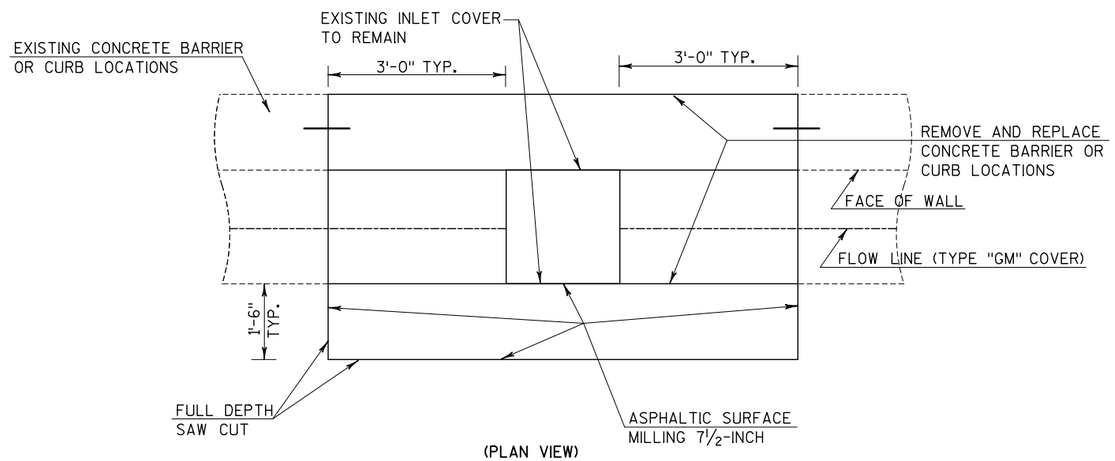


(PLAN VIEW)

(PLAN VIEW)

RECONSTRUCTING AND ADJUSTING INLETS DETAIL SHOULDER LOCATIONS

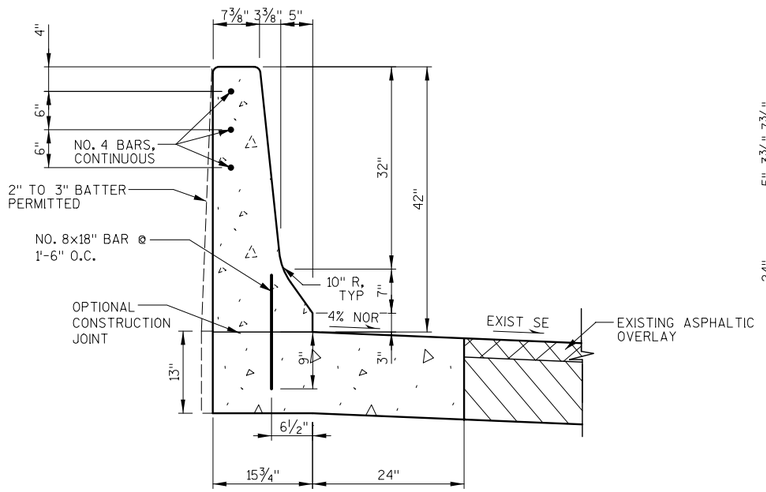
*REMOVE 2'-0" OR TO NEAREST JOINT
6'-0" MAX. UNLESS OTHERWISE DIRECTED



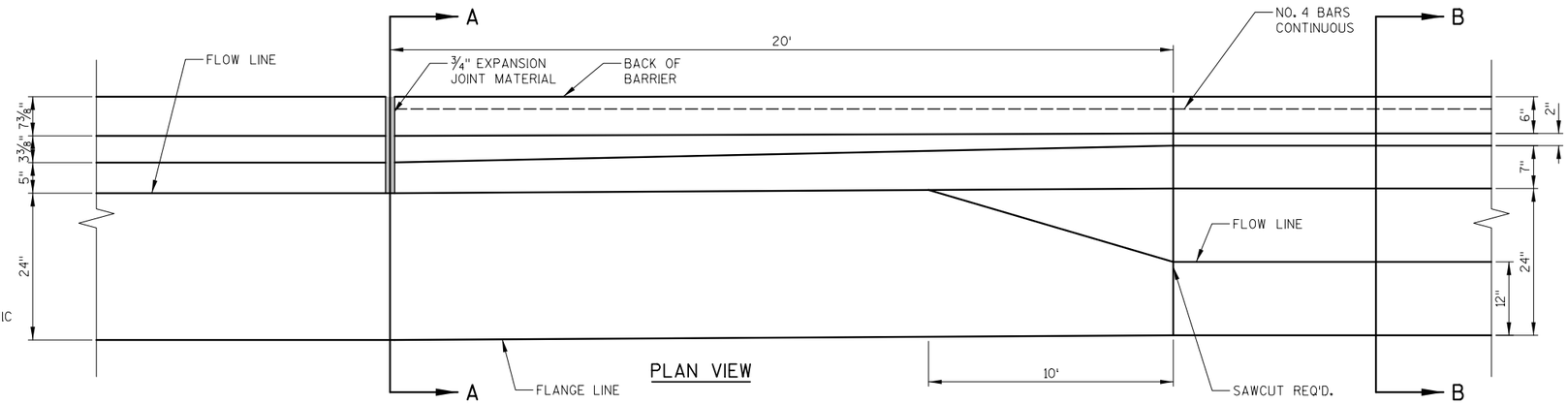
(PLAN VIEW)

RECONSTRUCTING AND ADJUSTING INLET COVERS BARRIER AND CURB & GUTTER LOCATIONS

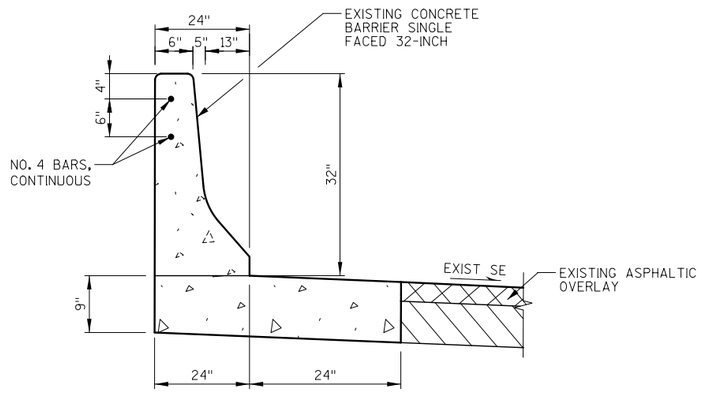
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 10	E



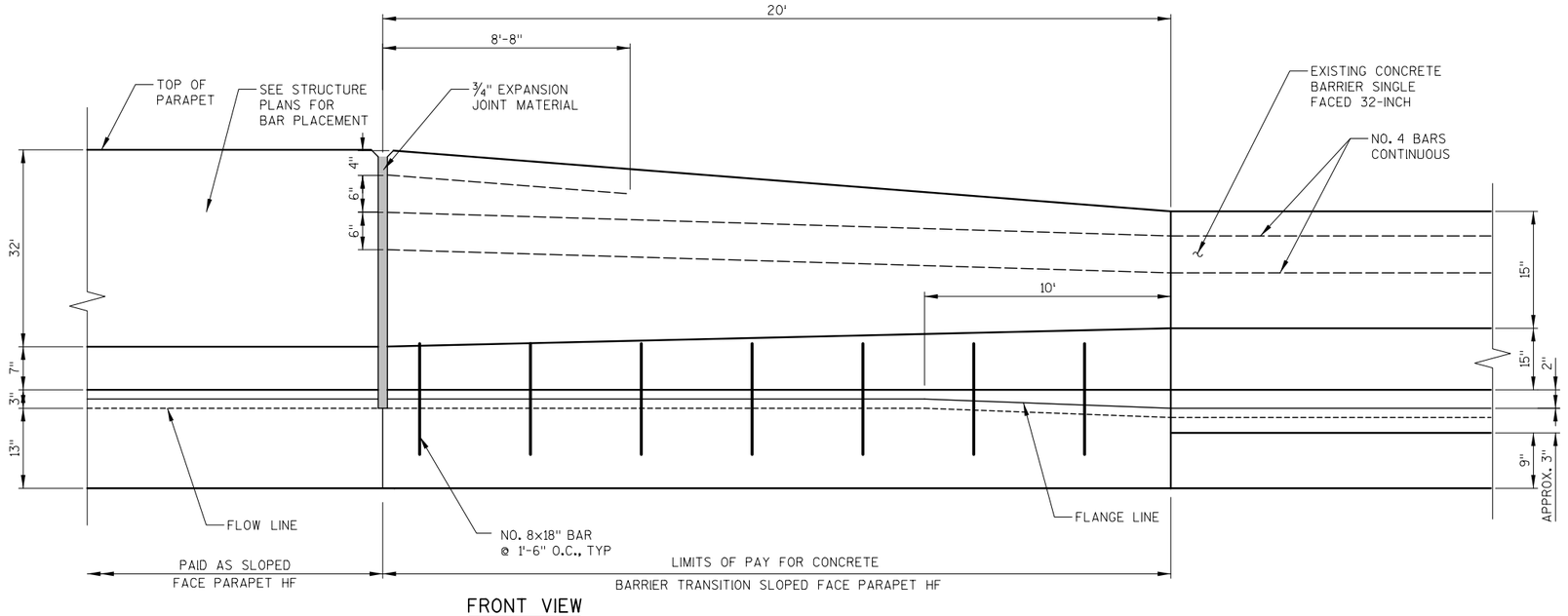
SECTION A-A



PLAN VIEW



SECTION B-B



FRONT VIEW

CONCRETE BARRIER TRANSITION SLOPED FACE PARAPET HF

TRANSITION FROM SLOPED FACE PARAPET HF TO SINGLE FACED 32-INCH

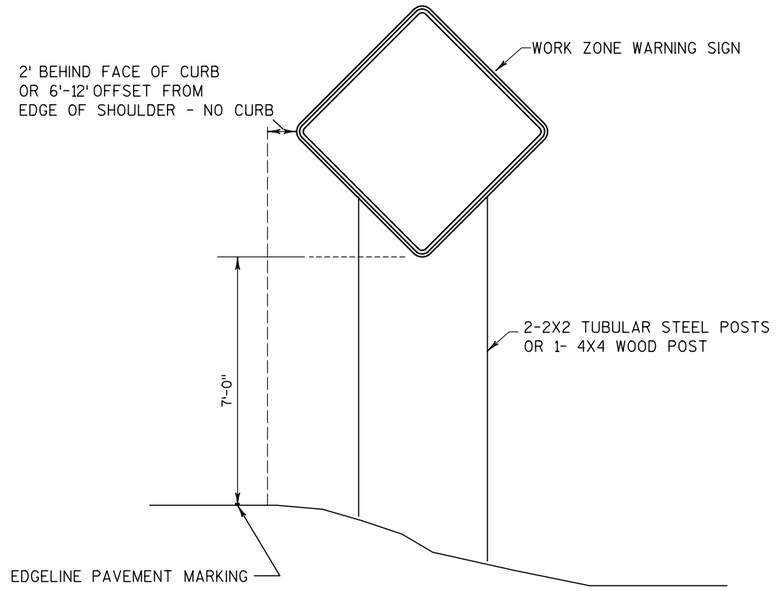
NB CD ROAD AT HOLT AVENUE

NOTES

1) 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. SEE SDD CONCRETE BARRIER, SINGLE-FACED FOR OTHER PERTINENT FEATURES.

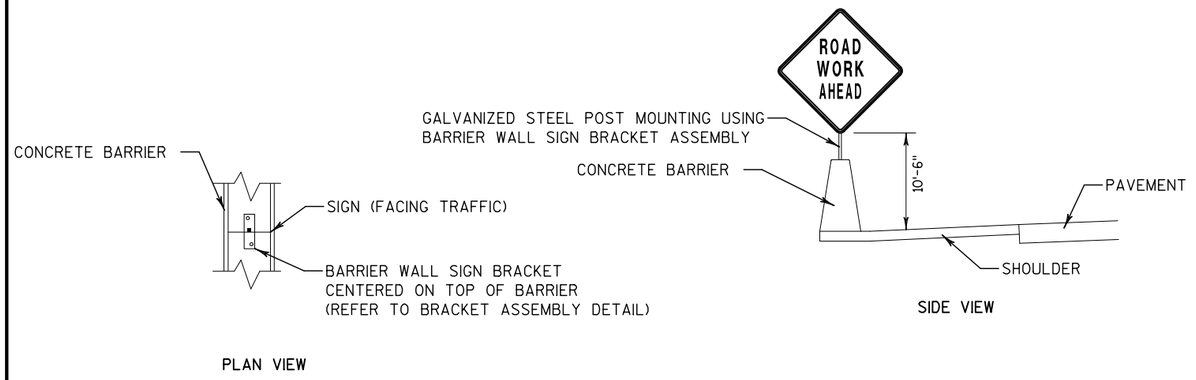
2) BARRIER SHALL CONSIST OF CAST-IN-PLACE CONSTRUCTION.

3) PROVIDE 1/2-INCH CHAMFER AT BARRIER ENDS WITH CONSTRUCTION JOINTS OR WITH EXPANSION JOINTS. PROVIDE 3/4-INCH EXPANSION JOINT MATERIAL AT EXPANSION JOINTS. EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN CONCRETE PAVEMENT, AT LIGHT BASES, AT SIGN BRIDGE FOOTINGS, AND AT CONCRETE MEDIAN BARRIER TRANSITIONS. DO NOT CEMENT CONDUIT COUPLINGS AT EXPANSION JOINTS.



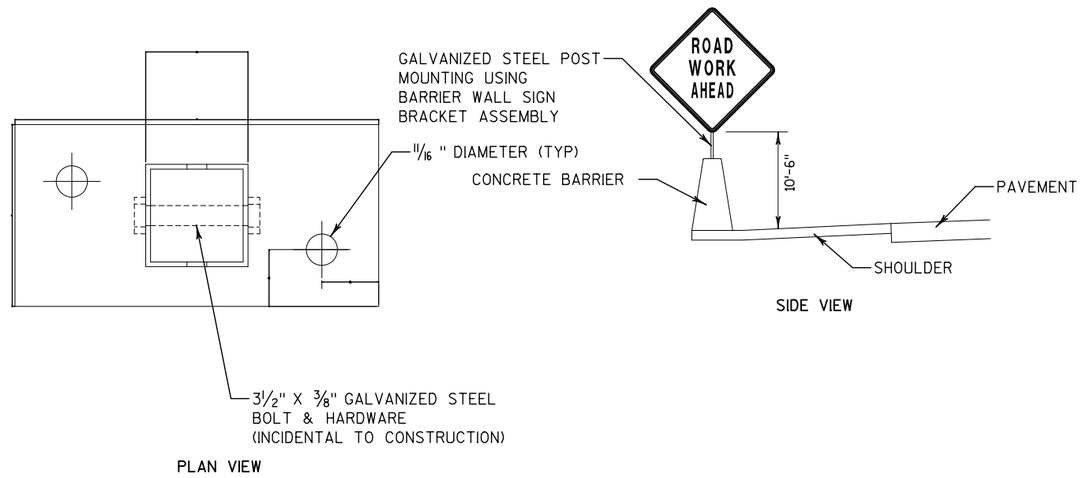
TYPICAL TEMPORARY TRAFFIC CONTROL DETAIL
MOUNTING ON FIXED SUPPORT

LONG TERM
7 DAYS OR MORE



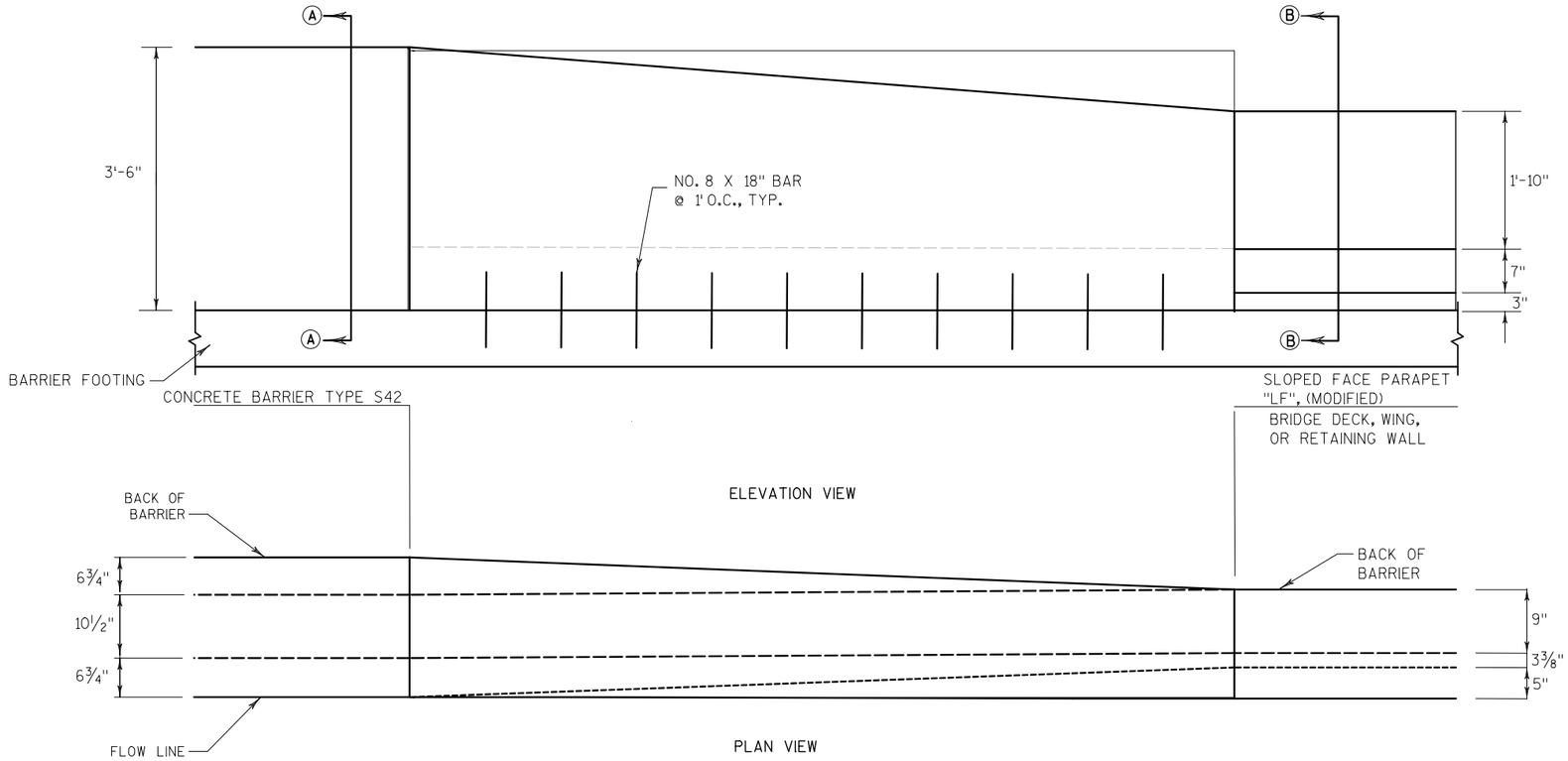
NOTE:
MINIMUM 3-FOOT CLEARANCE ALONG SHOULDER
REQUIRED FOR BARRIER MOUNTED SIGNS.

MEDIAN BARRIER MOUNTING DETAIL FOR SIGNS



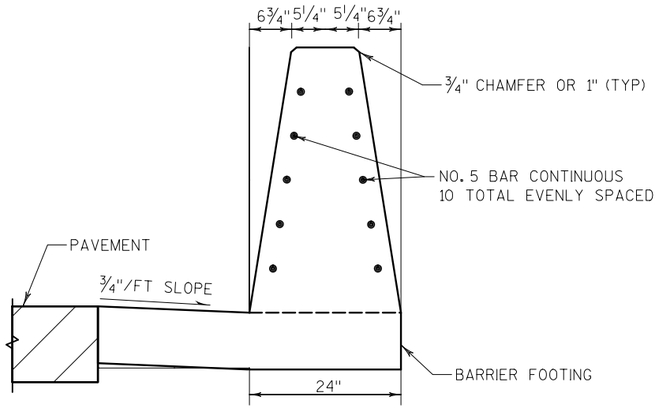
BRACKET ASSEMBLY DETAIL

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 12	E

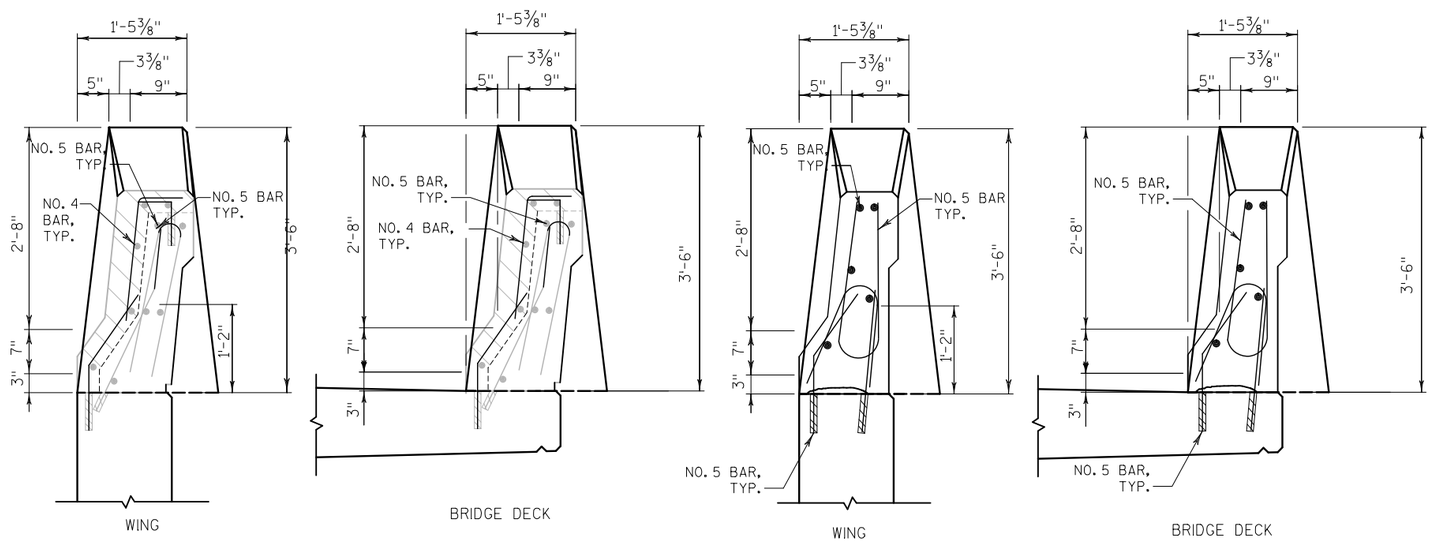


ELEVATION VIEW

PLAN VIEW



SECTION A-A



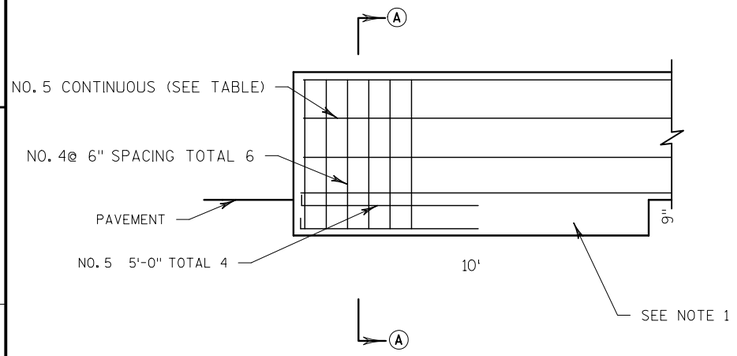
SECTION B-B

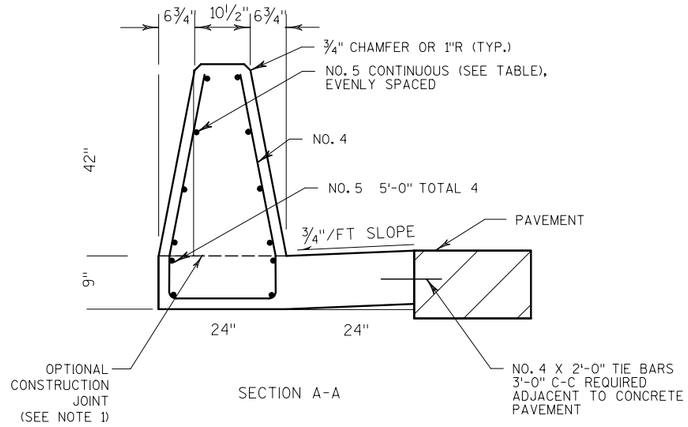
SECTION B-B

CONCRETE BARRIER TYPE S42 TRANSITION TO 32-INCH PARAPET

NOTES:

1) SEE STRUCTURE PLANS FOR REBAR DETAILS ON BRIDGE DECK, WING, OR RETAINING WALL.





SECTION A-A

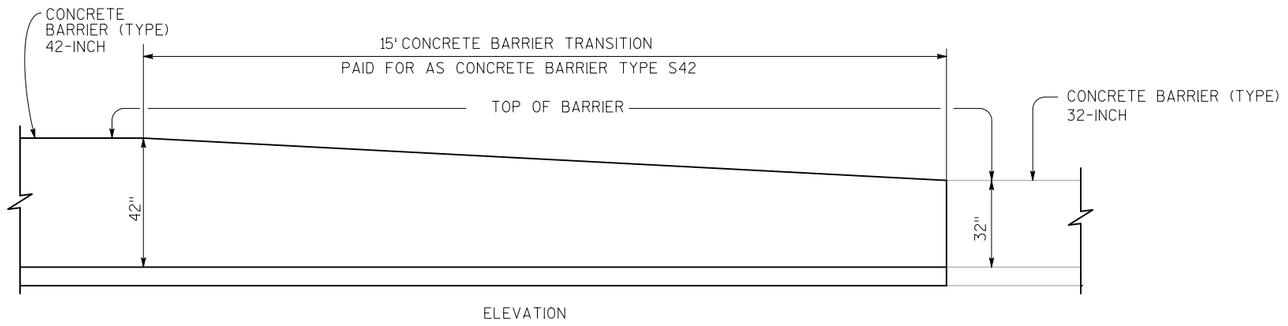
CONCRETE BARRIER END ANCHORAGE

INSTALL AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER
PAID FOR AS CONCRETE BARRIER TYPE S42

NOTES

1) FOOTING MONOLITHIC OR DOWELED WITH 2-NO. 8 x 8" @ 2'-0".

2) WHEN SWITCHING BETWEEN SLIP FORM OPERATIONS AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3-FEET BEYOND SLIP-FORMING CUT OFF POINT INTO END ANCHORAGE.



ELEVATION

CONCRETE BARRIER TRANSITION TYPE NJ32DF TO S42

NOTES:

1) 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.

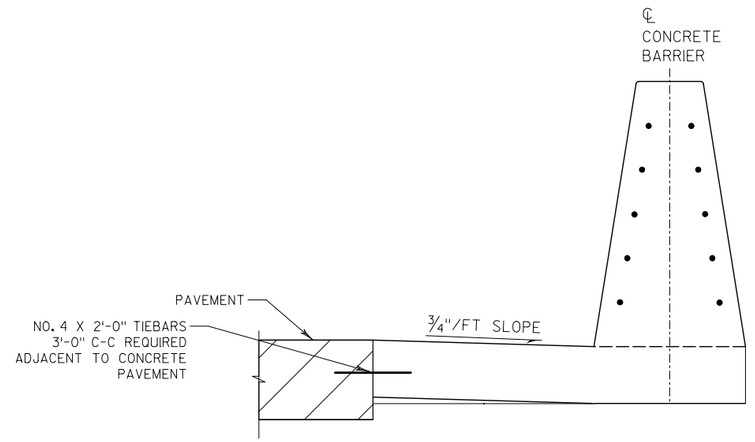
2) BARRIER SHALL CONSIST OF CAST-IN-PLACE CONSTRUCTION.

3) PROVIDE 1/2-INCH CHAMFER AT BARRIER ENDS WITH CONSTRUCTION JOINTS OR WITH EXPANSION JOINTS. PROVIDE 3/4-INCH EXPANSION JOINT MATERIAL AT EXPANSION JOINTS. EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN CONCRETE PAVEMENT, AT LIGHT BASES, AT SIGN BRIDGE FOOTINGS, AND AT CONCRETE MEDIAN BARRIER TRANSITIONS. DO NOT CEMENT CONDUIT COUPLINGS AT EXPANSION JOINTS.

4) SEE PLANS FOR CONDUIT LOCATION, PROVIDE CONDUIT ONLY WHEN CALLED FOR IN THE PLANS.

5) REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".

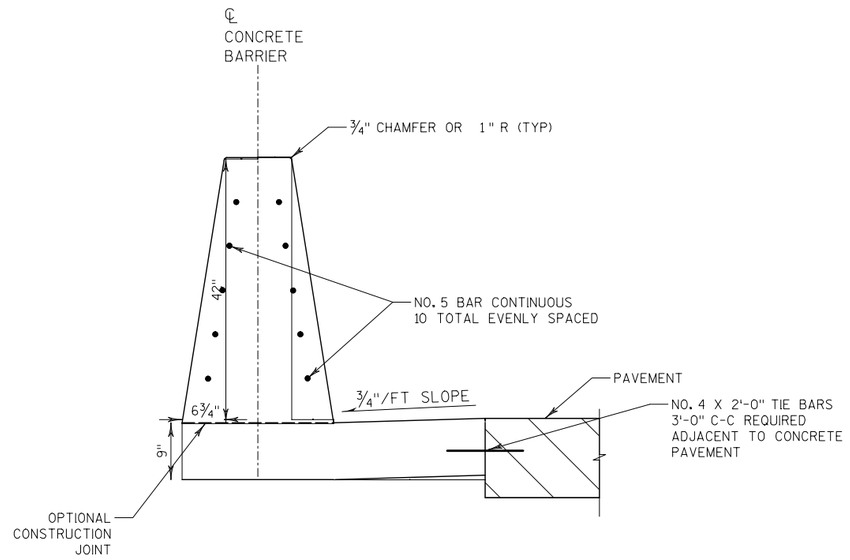
090804



CONCRETE BARRIER TYPE S42 WIDE FLANGE

NOTE:

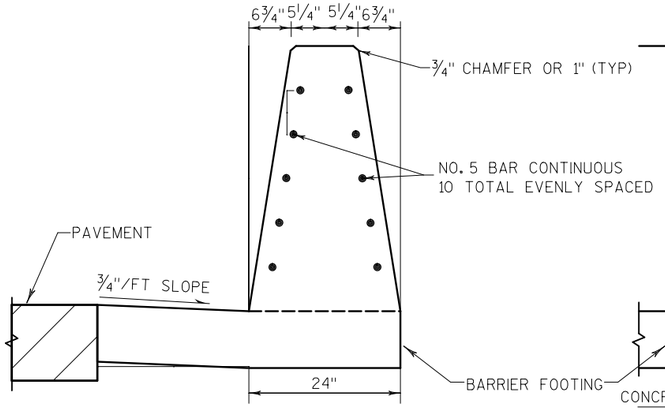
ALL DIMENSIONS NOT SHOWN ARE IN ACCORDANCE WITH SDD CONCRETE BARRIER SINGLE-SLOPE.



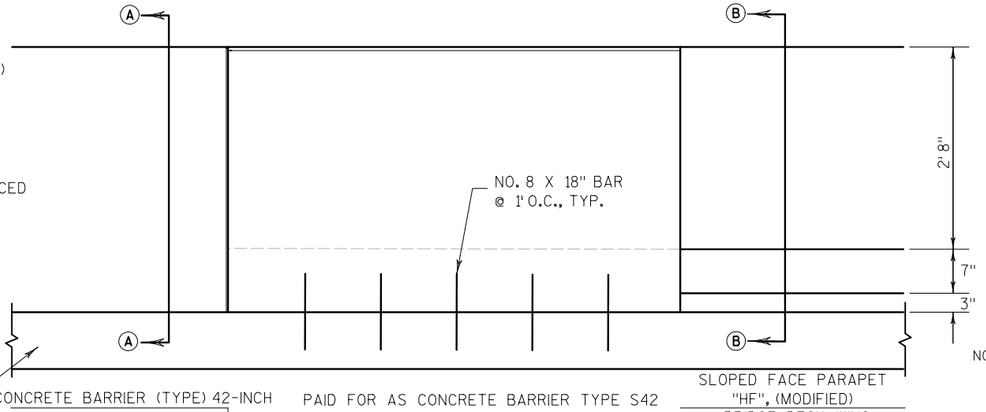
CONCRETE BARRIER TYPE S42

NOTE:

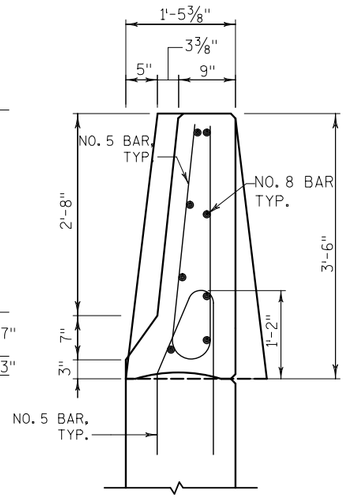
ALL DIMENSIONS NOT SHOWN ARE THE SAME AS A CONCRETE BARRIER TYPE S42



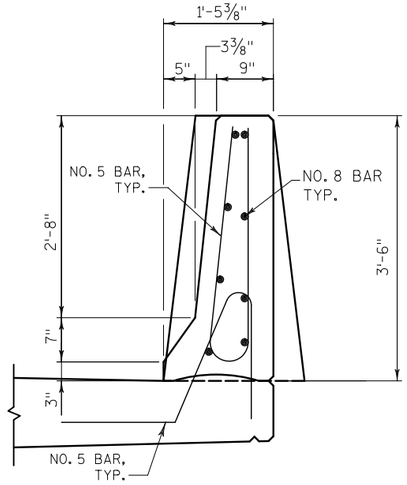
SECTION A-A



ELEVATION VIEW

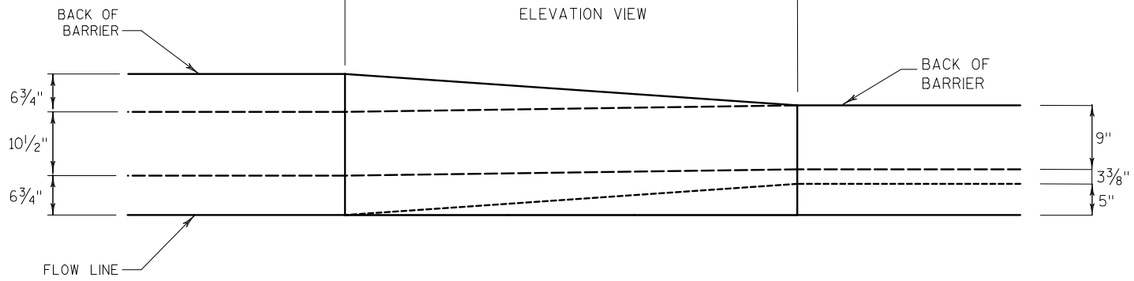


WING



BRIDGE DECK

SECTION B-B



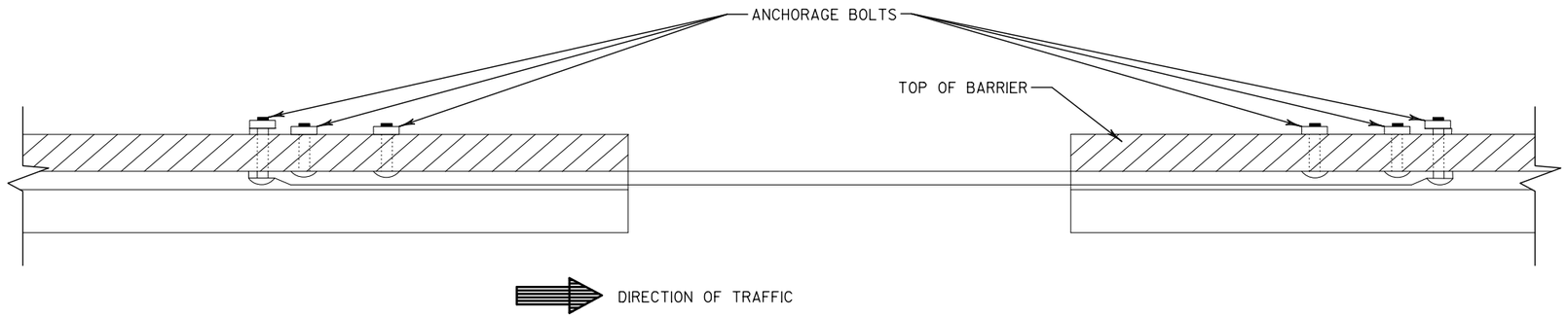
PLAN VIEW

CONCRETE BARRIER TYPE S42 TRANSITION TO 42-INCH PARAPET

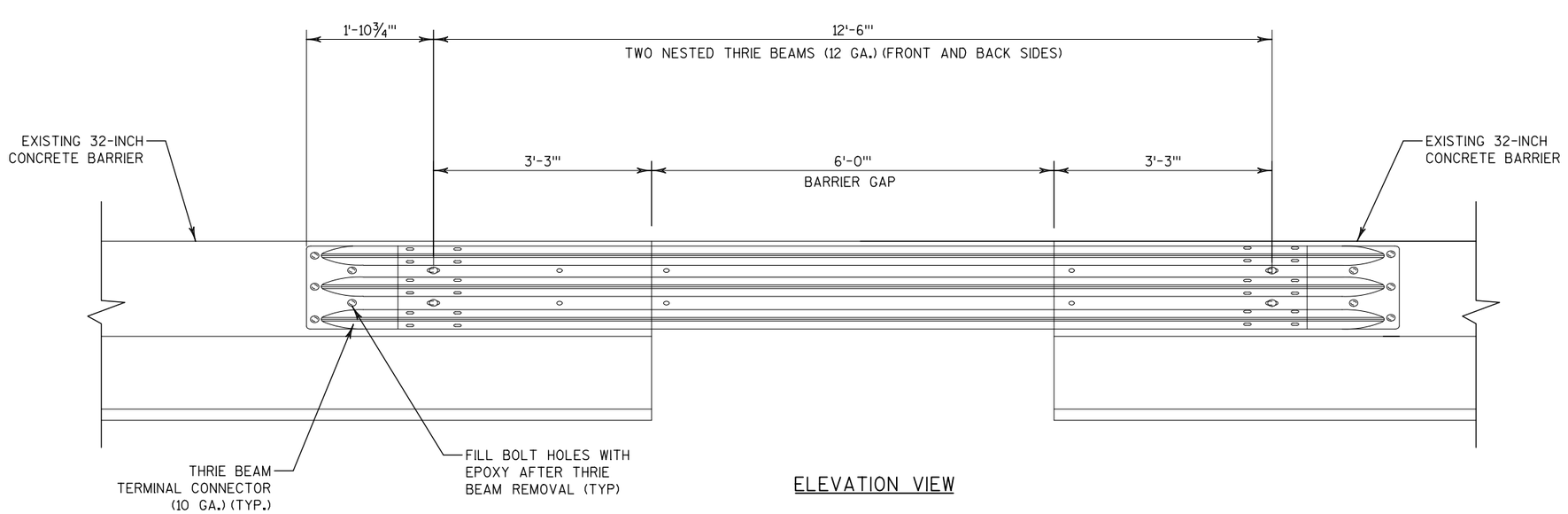
PAID FOR AS CONCRETE BARRIER TYPE S42

NOTES:

1) SEE STRUCTURE PLANS FOR REBAR DETAILS ON BRIDGE DECK, WING, OR RETAINING WALL.



PLAN VIEW



ELEVATION VIEW

TEMPORARY THRIE BEAM CONNECTOR AT BARRIER REHABILITATION LOCATIONS

NOTES:

1) PAYMENT FOR DRILLING BOLT HOLES THRU THE CONCRETE BARRIER AND ALL BOLTS, NUTS AND WASHERS REQUIRED SHALL BE INCLUDED IN THE ITEM STEEL THRIE BEAM STRUCTURE APPROACH.

2) ALL CONSTRUCTION INFORMATION NOT INDICATED ON THIS DETAIL SHALL BE IN ACCORDANCE WITH SDD "STEEL THRIE BEAM STRUCTURE APPROACH".

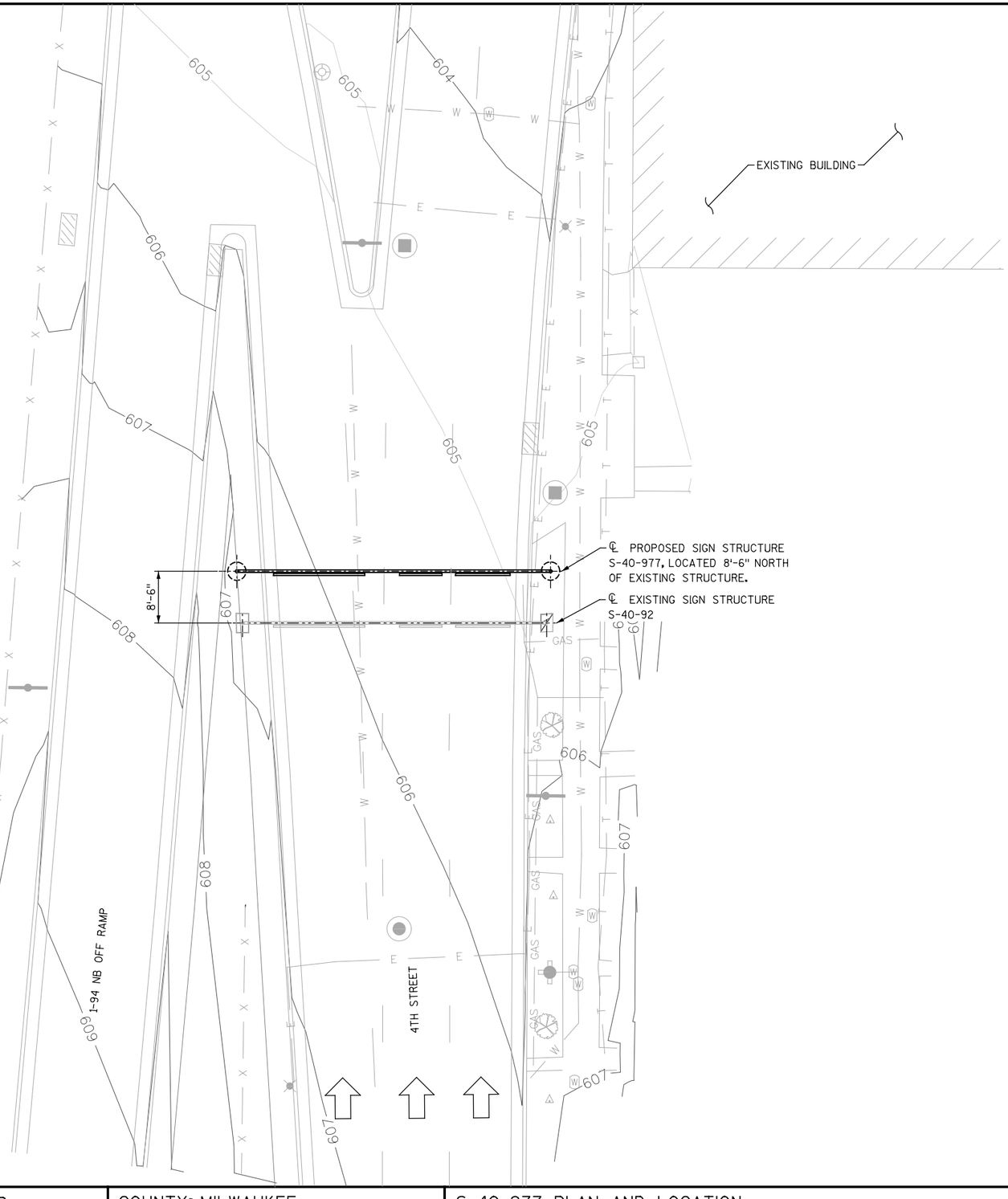
3) ⅞" H.S. HEX HEAD BOLT LENGTH VARIES. CONTRACTOR SHALL PROVIDE APPROPRIATE LENGTH BOLT FOR EACH CONNECTOR LOCATION.

4) A MINIMUM OF TWO SECTIONS OF CONCRETE BARRIER TEMPORARY PRECAST ADJACENT TO THE TEMPORARY THRIE BEAM CONNECTION SHALL BE ANCHORED.

5) PLACE THRIE BEAM ON BOTH FACES OF CONCRETE BARRIER WHEN TRAFFIC IS ON EACH SIDE OF BARRIER WALL. BOLTS SHALL NOT PROTRUDE PAST END OF NUT. THRIE BEAM PLACED ON BOTH FACES OF BARRIER WALL WILL BE PAID AS 2 EACH.

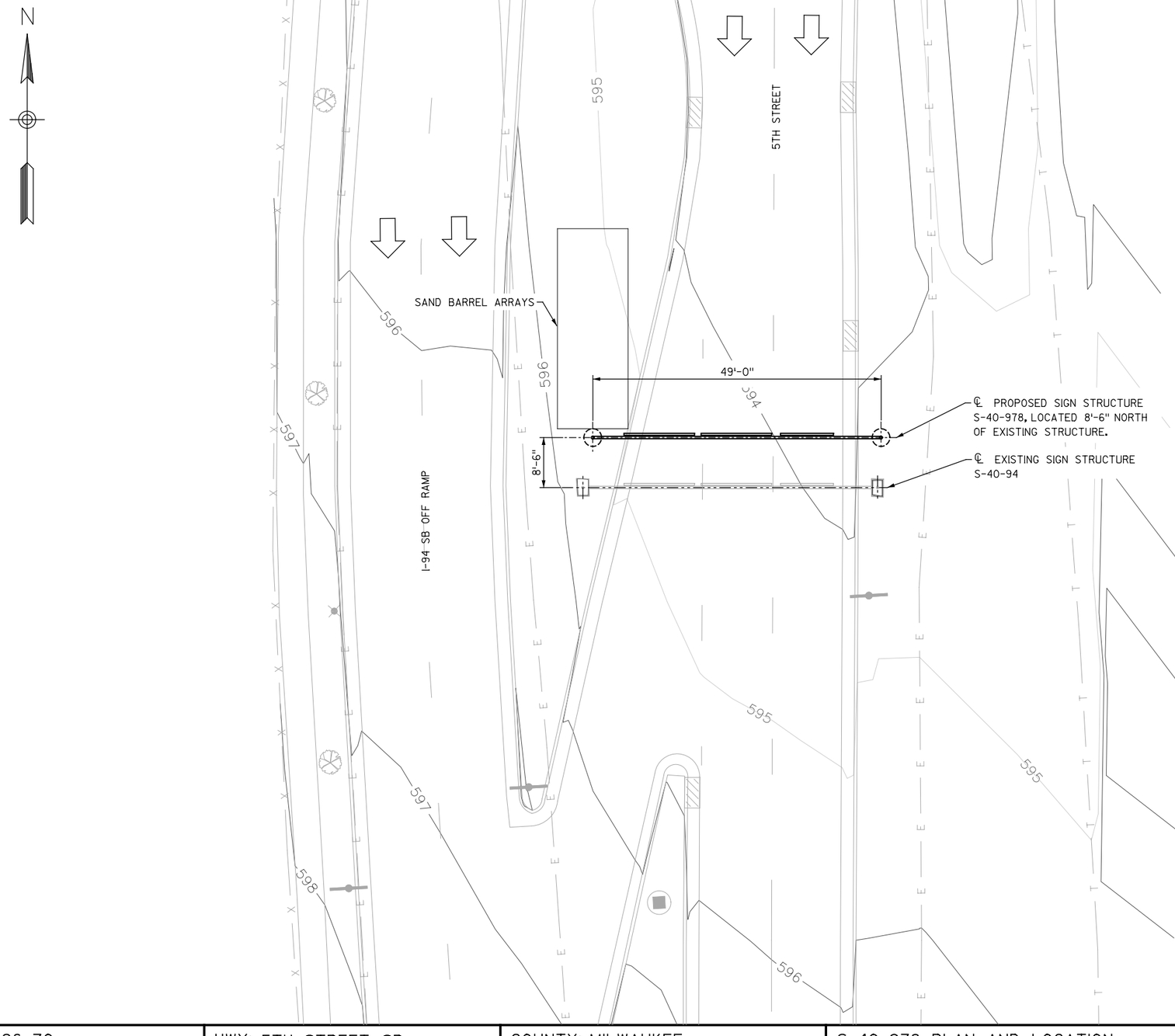
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PROJECT NO: 1228-26-70	HWY: 4TH STREET NB	COUNTY: MILWAUKEE	S-40-977 PLAN AND LOCATION	SHEET 17 E

2

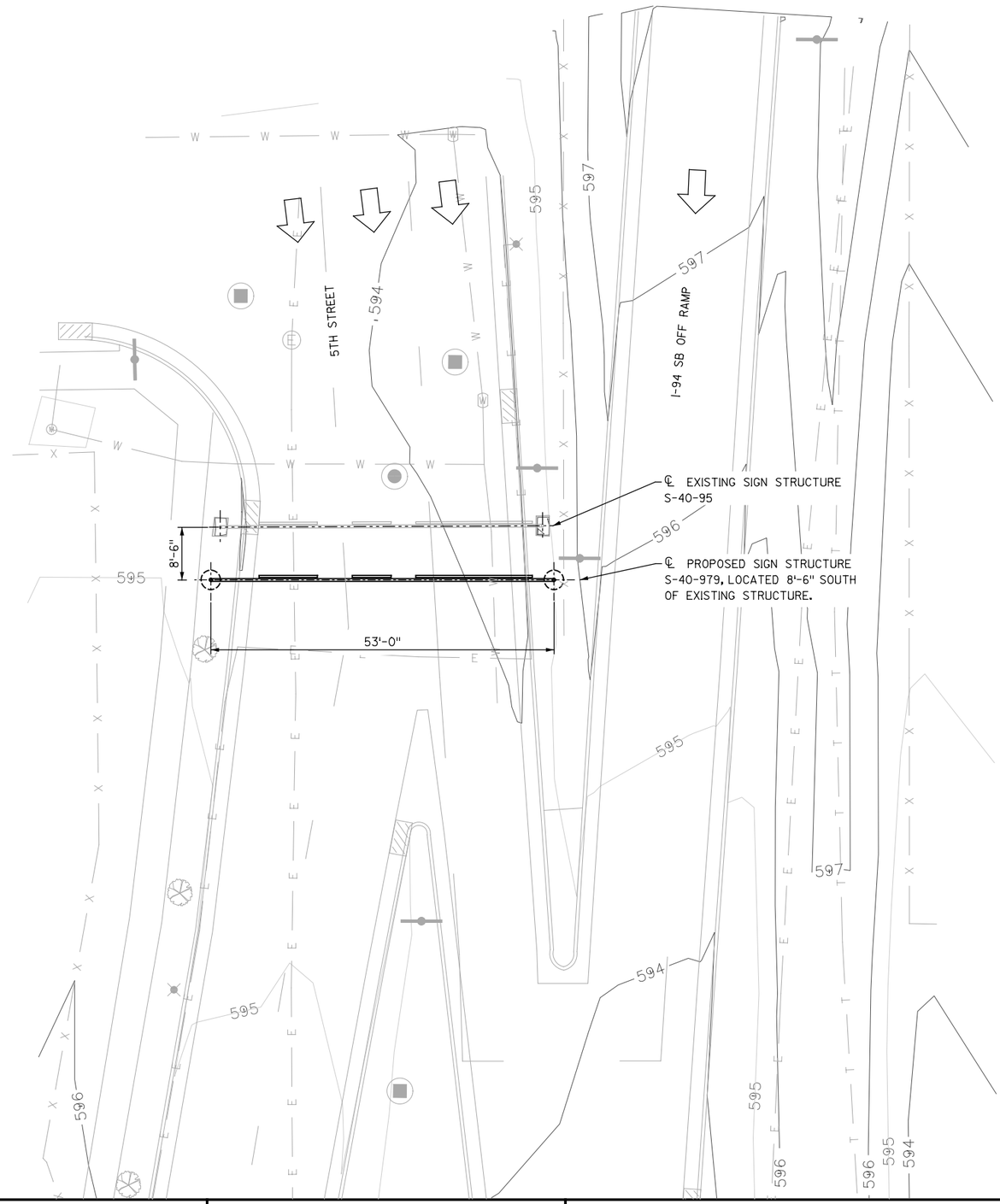


PROJECT NO: 1228-26-70	HWY: 5TH STREET SB	COUNTY: MILWAUKEE	S-40-978 PLAN AND LOCATION	SHEET E

FILE NAME : S-40-94.dgn PLOT DATE : 8/29/2012 PLOT BY : Veronica Chavezv8I PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

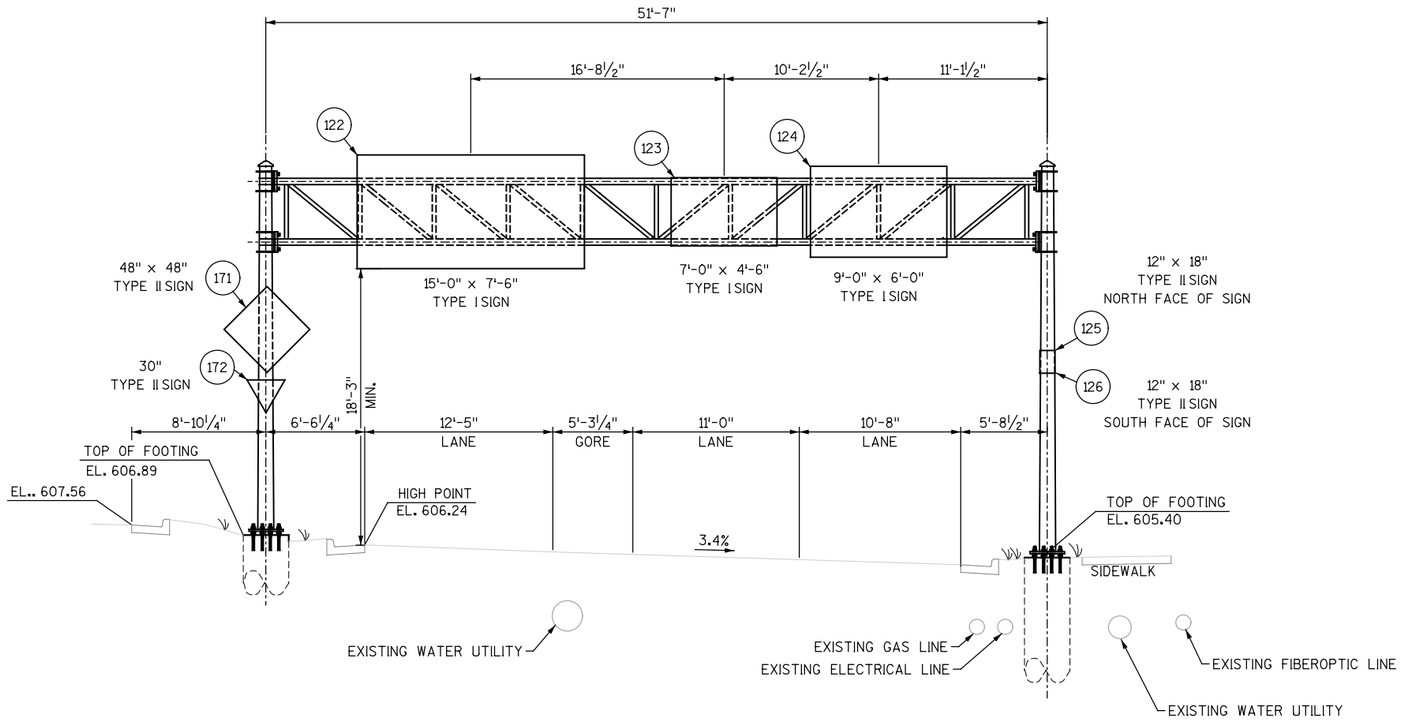
2





PROJECT NO: 1228-26-70	HWY: 5TH STREET SB	COUNTY: MILWAUKEE	S-40-979 PLAN AND LOCATION	SHEET E

FILE NAME : S-40-95.dgn PLOT DATE : 8/29/2012 PLOT BY : Veronica Chavezv8I PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



ELEVATION

(LOOKING NORTH AT FRONT FACE OF SIGNS)
4TH STREET NB, APPROX. ⅛ MILE NORTH OF BECHER STREET
ALONG IH-43/94-COLLECTOR-DISTRIBUTER RD.
S-40-977 REPLACES S-40-92
PROPOSED STRUCTURE 8.5' NORTH OF EXISTING STRUCTURE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD SIGN SUPPORTS SHALL BE DESIGNED AND FABRICATED USING STEEL.

CENTER SIGNS VERTICALLY ON TRUSS

VERIFY UTILITY INTERFERENCES PRIOR TO CONSTRUCTION.

THE SIGN STRUCTURES SHALL BE DESIGNED TO SUPPORT THE SIGN SHOWN.

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

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT, TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT S-40-977"

DESIGN NEW OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

SIZE THE ANCHOR BOLT / TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE FOOTING BASE SHOWN IN THE CONTRACT PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION.

PROVIDE ROUND CHORDS WITH WEB MEMBERS ATTACHED BY GUSSET PLATES.

THE 2 CHORD PLANAR TRUSS CONFIGURATION SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE 2 CHORD PLANAR TRUSS CONFIGURATION DURING THE DESIGN OF THE OVERHEAD SIGN.

SIGN PANELS ARE INCIDENTAL TO "SIGNS TYPE I"

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

NOTE, CONTRACTOR SHALL:

SUBMIT SHOP DRAWINGS OF OVERHEAD SIGN SUPPORT TO:
TOM HEYDEL, TRAFFIC OPERATIONS WISDOT SE REGION.

FOOTING IS INCIDENTAL TO OVERHEAD SIGN SUPPORT.

PROVIDE ALL DESIGN CALCULATIONS FOR SIGN STRUCTURE.

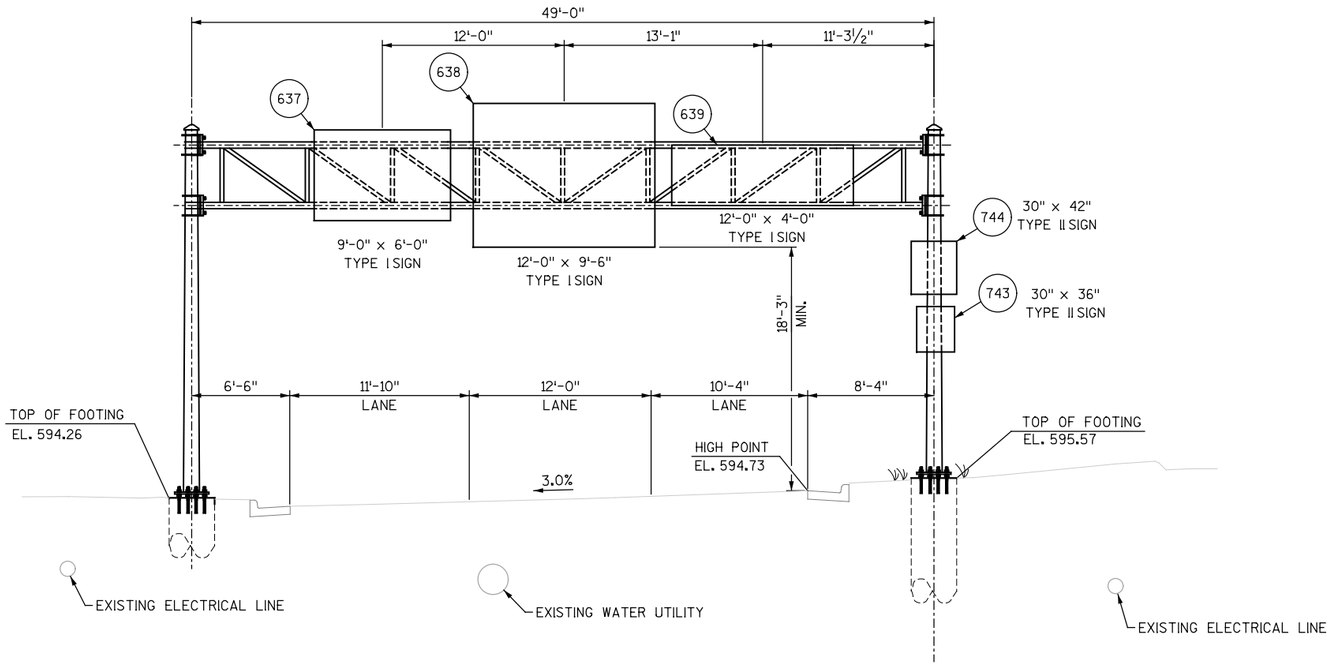
SHOW SIGN PANELS ON SHOP DRAWINGS.

PROVIDE A MINIMUM OF 6 ANCHOR RODS PER FOUNDATION, PER SDD 36" DIAMETER FULL SPAN OVERHEAD SIGN SUPPORT BASE.

DESIGN THE OVERHEAD SIGN SUPPORT FOR FATIGUE CATEGORY I.

CONTRACTOR TO USE STANDARD DETAIL DRAWING
36-INCH DIAMETER FULL SPAN OVERHEAD SIGN SUPPORT BASE.

IBEAMS - W5X3.7 IBEAMS FOR MOUNTING SIGNS ARE INCIDENTAL TO SIGNS TYPE I



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGNS)
5TH STREET SB, APPROX. 500' NORTH OF BECHER STREET
ALONG IH-43/94 - COLLECTOR-DISTRIBUTER RD.
S-40-978 REPLACES S-40-94
PROPOSED STRUCTURE 8.5' NORTH OF EXISTING STRUCTURE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD SIGN SUPPORTS SHALL BE DESIGNED AND FABRICATED USING STEEL.

CENTER SIGNS VERTICALLY ON TRUSS

VERIFY UTILITY INTERFERENCES PRIOR TO CONSTRUCTION.

THE SIGN STRUCTURES SHALL BE DESIGNED TO SUPPORT THE SIGN SHOWN.

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

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT, TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT S-40-978"

DESIGN NEW OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

SIZE THE ANCHOR BOLT / TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE FOOTING BASE SHOWN IN THE CONTRACT PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION.

PROVIDE ROUND CHORDS WITH WEB MEMBERS ATTACHED BY GUSSET PLATES.

THE 2 CHORD PLANAR TRUSS CONFIGURATION SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE 2 CHORD PLANAR TRUSS CONFIGURATION DURING THE DESIGN OF THE OVERHEAD SIGN.

SIGN PANELS ARE INCIDENTAL TO "SIGNS TYPE I"

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

NOTE, CONTRACTOR SHALL:

SUBMIT SHOP DRAWINGS OF OVERHEAD SIGN SUPPORT TO:
TOM HEYDEL, TRAFFIC OPERATIONS WISDOT SE REGION.

FOOTING IS INCIDENTAL TO OVERHEAD SIGN SUPPORT.

PROVIDE ALL DESIGN CALCULATIONS FOR SIGN STRUCTURE.

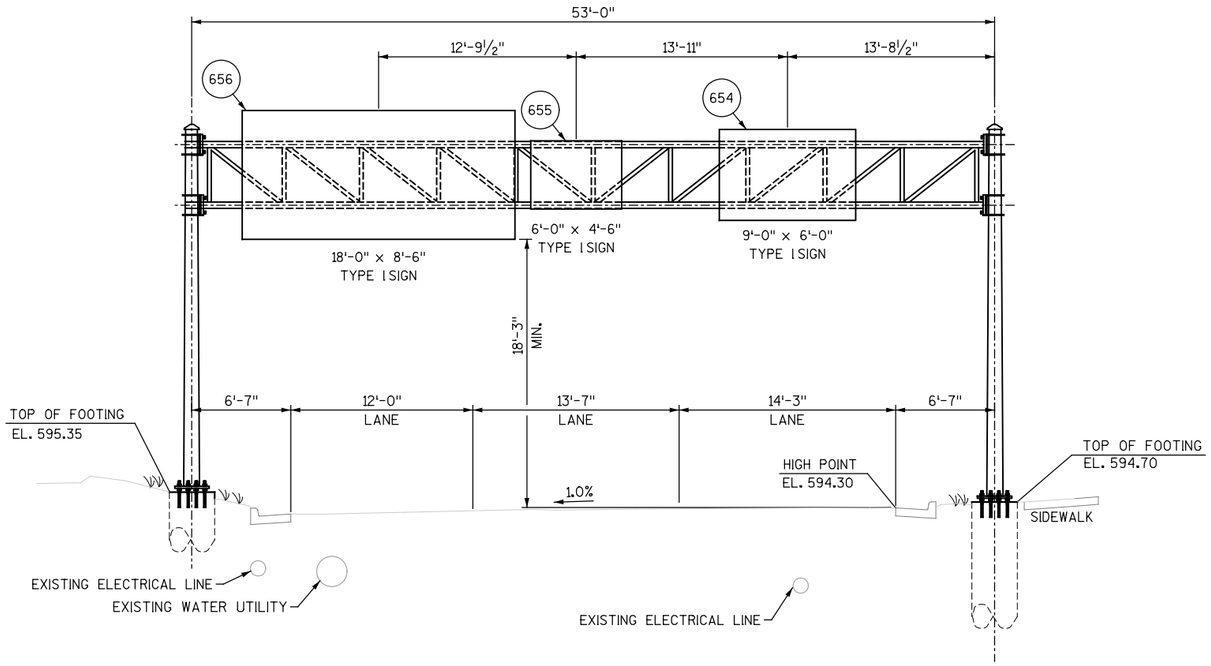
SHOW SIGN PANELS ON SHOP DRAWINGS.

PROVIDE A MINIMUM OF 6 ANCHOR RODS PER FOUNDATION, PER SDD 36" DIAMETER FULL SPAN OVERHEAD SIGN SUPPORT BASE.

DESIGN THE OVERHEAD SIGN SUPPORT FOR FATIGUE CATEGORY I.

CONTRACTOR TO USE STANDARD DETAIL DRAWING
36-INCH DIAMETER FULL SPAN OVERHEAD SIGN SUPPORT BASE.

IBEAMS - W5X3.7 IBEAMS FOR MOUNTING SIGNS ARE INCIDENTAL TO SIGNS TYPE I



ELEVATION

(LOOKING SOUTH AT FRONT FACE OF SIGNS)
5TH STREET SB, APPROX. ⅛ MILE NORTH OF BECHER STREET
ALONG IH-43/94-COLLECTOR-DISTRIBUTER RD.
S-40-979 REPLACES S-40-95
PROPOSED STRUCTURE 8.5' SOUTH OF EXISTING STRUCTURE.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

OVERHEAD SIGN SUPPORTS SHALL BE DESIGNED AND FABRICATED USING STEEL.

CENTER SIGNS VERTICALLY ON TRUSS

VERIFY UTILITY INTERFERENCES PRIOR TO CONSTRUCTION.

THE SIGN STRUCTURES SHALL BE DESIGNED TO SUPPORT THE SIGN SHOWN.

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

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT, TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT S-40-979"

DESIGN NEW OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" AND AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

SIZE THE ANCHOR BOLT / TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE FOOTING BASE SHOWN IN THE CONTRACT PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION.

PROVIDE ROUND CHORDS WITH WEB MEMBERS ATTACHED BY GUSSET PLATES.

THE 2 CHORD PLANAR TRUSS CONFIGURATION SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE 2 CHORD PLANAR TRUSS CONFIGURATION DURING THE DESIGN OF THE OVERHEAD SIGN.

SIGN PANELS ARE INCIDENTAL TO "SIGNS TYPE I"

(##) - REPRESENTS THE SIGN NO. REFER TO THE PERMANENT SIGNING SHEETS.

NOTE, CONTRACTOR SHALL:

SUBMIT SHOP DRAWINGS OF OVERHEAD SIGN SUPPORT TO:
TOM HEYDEL, TRAFFIC OPERATIONS WISDOT SE REGION.

FOOTING IS INCIDENTAL TO OVERHEAD SIGN SUPPORT.

PROVIDE ALL DESIGN CALCULATIONS FOR SIGN STRUCTURE.

SHOW SIGN PANELS ON SHOP DRAWINGS.

PROVIDE A MINIMUM OF 6 ANCHOR RODS PER FOUNDATION, PER SDD 36" DIAMETER FULL SPAN OVERHEAD SIGN SUPPORT BASE.

DESIGN THE OVERHEAD SIGN SUPPORT FOR FATIGUE CATEGORY I.

CONTRACTOR TO USE STANDARD DETAIL DRAWING
36-INCH DIAMETER FULL SPAN OVERHEAD SIGN SUPPORT BASE.

IBEAMS - W5X3.7 IBEAMS FOR MOUNTING SIGNS ARE INCIDENTAL TO SIGNS TYPE I

FTMS STANDARD ABBREVIATIONS

CCTV	CLOSED CIRCUIT TELEVISION SITE
SDS	SYSTEM DETECTOR STATION
CB	CONTROLLER CABINET
PB	PULL BOX
MH	MANHOLE
CV	COMMUNICATIONS VAULT
MD	MICROWAVE DETECTOR
TMD	TEMPORARY MICROWAVE DETECTOR
PCCTV	PORTABLE CCTV VIDEO SURVEILLANCE SYSTEM
F.O.C.	FIBER OPTIC CABLE
S-F	STATE-FURNISHED
RG	RAMP GATE
RGSC	RAMP GATE SOLAR CABINET

LEGEND

	EXISTING	PROPOSED
JUNCTION BOX		
CCTV CAMERA AND POLE		
FTMS CONTROL CABINET AND BASE		
METER BREAKER PEDESTAL		
24"X36" STEEL PULL BOX		
MANHOLE		
MICROWAVE DETECTOR		
DETECTION ZONE		
LOOP DETECTOR		
ITS CONDUIT	ITS	
VAULT	V	V
MICROWAVE DETECTOR AND POLE		
RAMP METER ADVANCE FLASHER ASSEMBLY		
RAMP GATE		
RAMP GATE SOLAR CABINET		
WIRELESS TRAFFIC SENSOR		
WIRELESS TRAFFIC SENSOR REPEATER		
WIRELESS TRAFFIC SENSOR ACCESS POINT		
RAMP METER SIGNAL CONTROL ASSEMBLY		
OVERHEAD SIGN		

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.

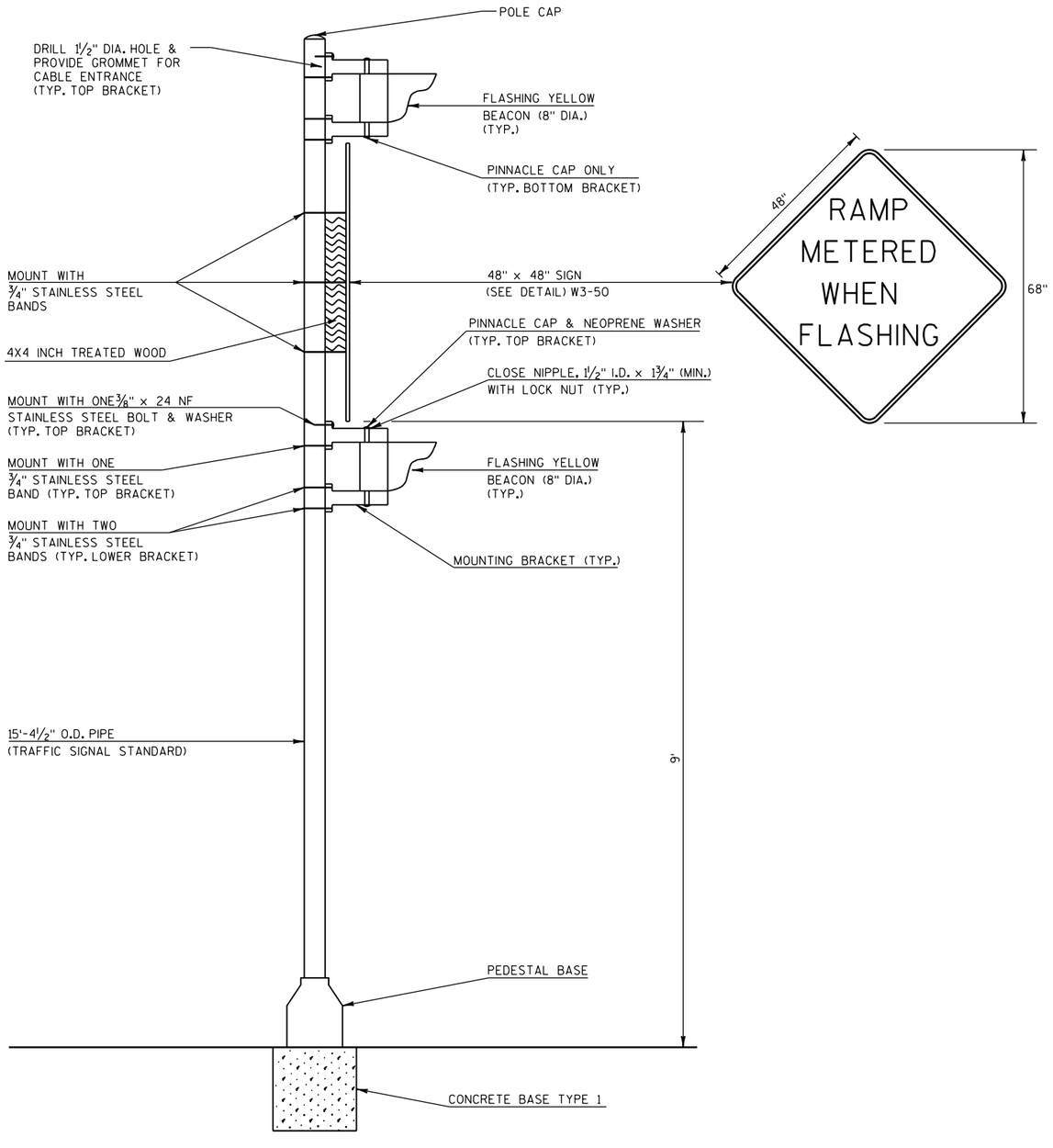
CONTACT THE WISDOT STATEWIDE TRAFFIC OPERATIONS CENTER AT (414) 227-2166 FIVE (5) WORKING DAYS PRIOR TO ENTERING ANY EXISTING WISDOT FTMS OR ITS CABINET.

ALL LOOP DETECTORS STATIONED TO CENTER OF LEADING EDGE AS APPROACHED BY NORMAL VEHICLE PATH.

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.

2



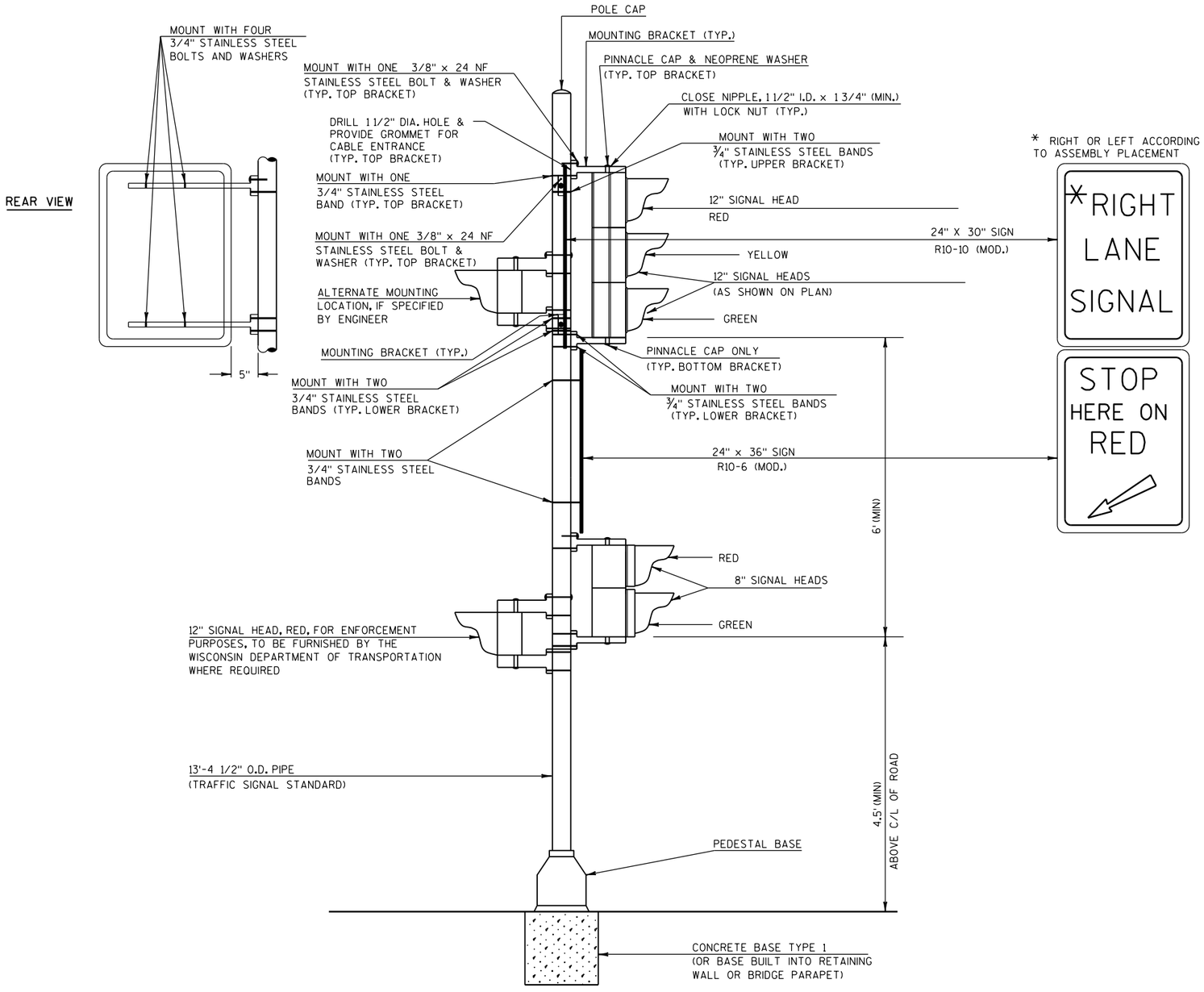
SIGNAL ASSEMBLY ADVANCE FLASHER TYPE 1

PROJECT NO: 1228-26-70	HWY: IH 43 / 94	COUNTY: MILWAUKEE	FTMS CONSTRUCTION DETAILS	SHEET 24	E

2

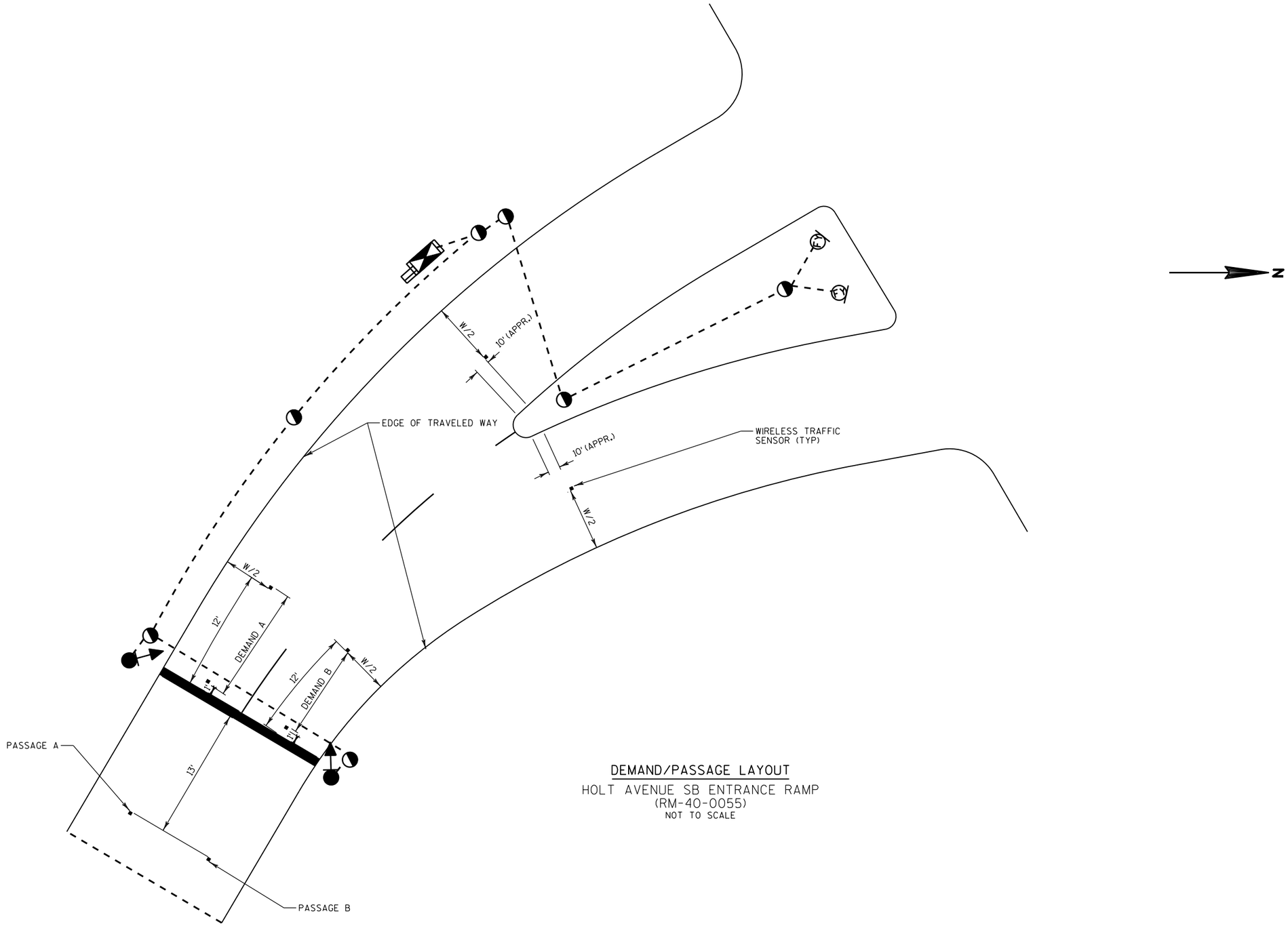
NOTE

1) R10-6 SIGN; AN ARROW POINTING LEFT SHALL BE USED ON A RIGHT SIDE SIGNAL & AN ARROW POINTING RIGHT SHALL BE USED ON A LEFT SIDE SIGNAL.



SIGNAL ASSEMBLY RAMP CONTROL SIDEMOUNT

2

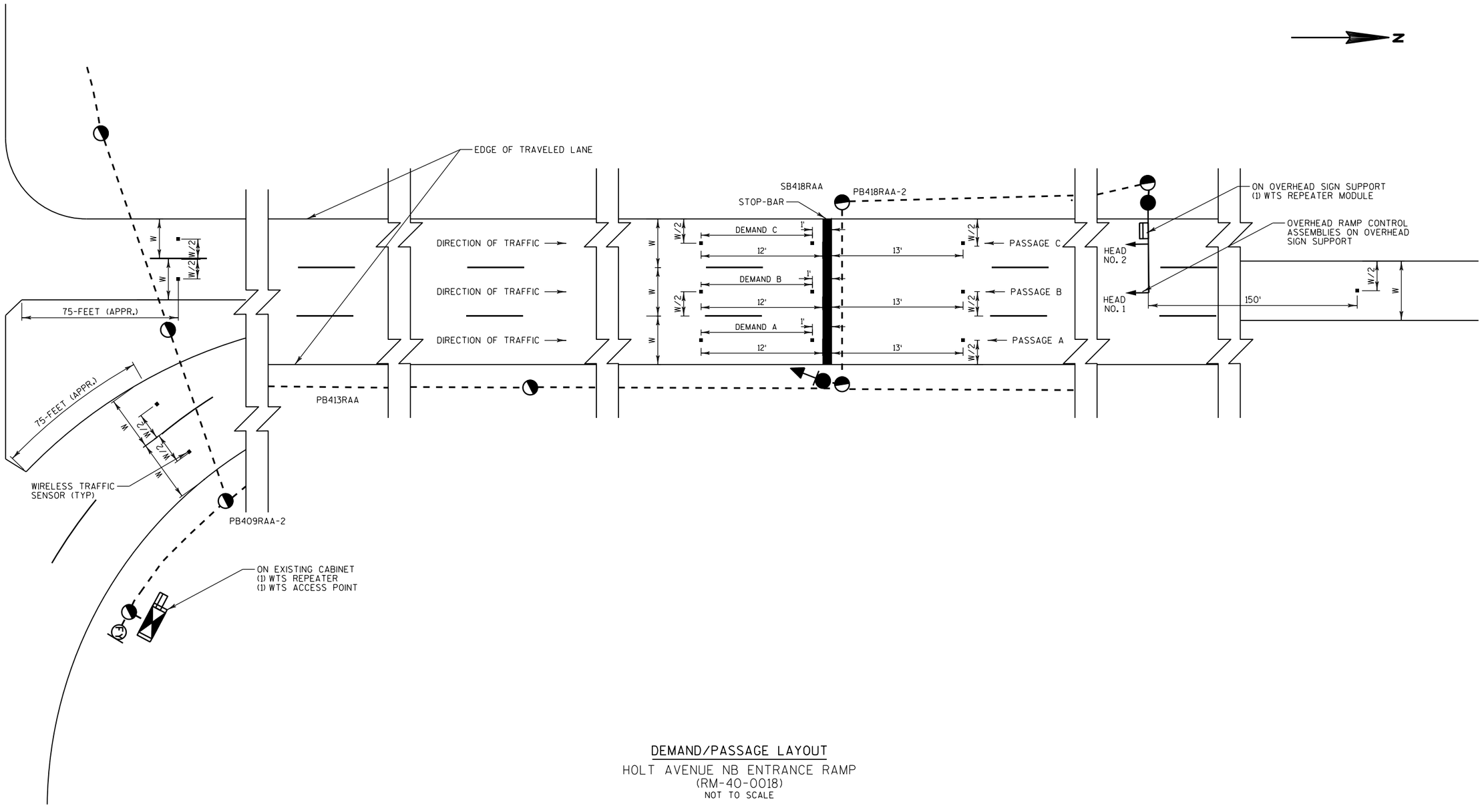


DEMAND/PASSAGE LAYOUT

HOLT AVENUE SB ENTRANCE RAMP
(RM-40-0055)
NOT TO SCALE

PROJECT NO: 1228-26-70	HWY: IH 43 / 94	COUNTY: MILWAUKEE	FTMS CONSTRUCTION DETAILS	SHEET 26	E

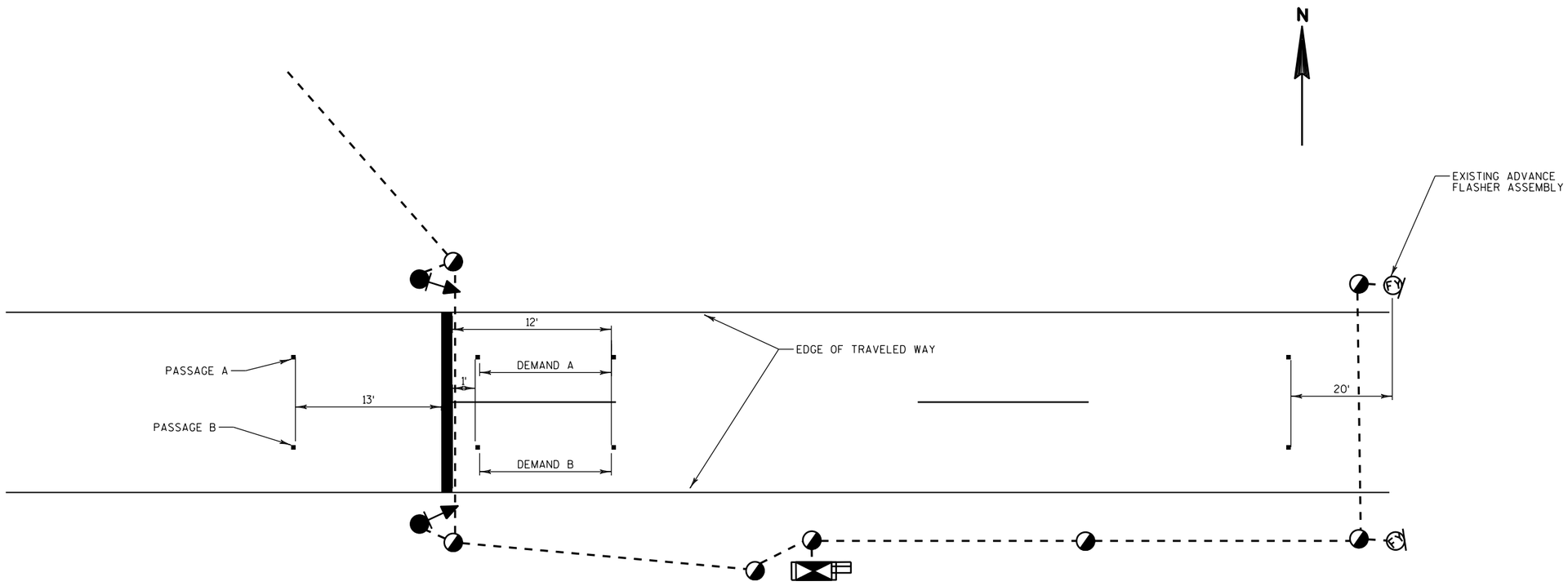
2



DEMAND/PASSAGE LAYOUT

HOLT AVENUE NB ENTRANCE RAMP
(RM-40-0018)
NOT TO SCALE

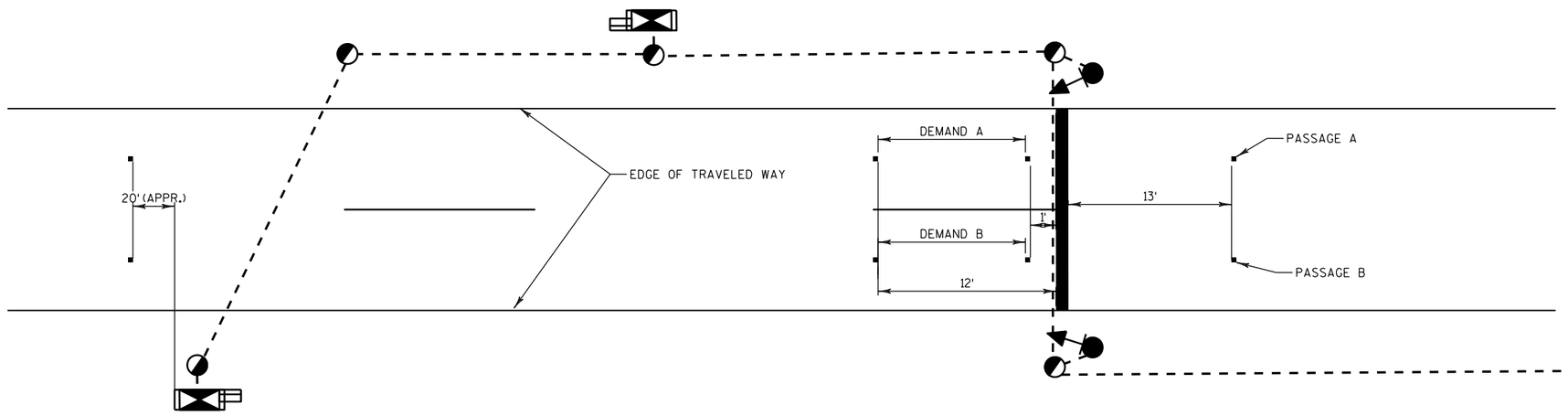
2



DEMAND/PASSAGE LAYOUT

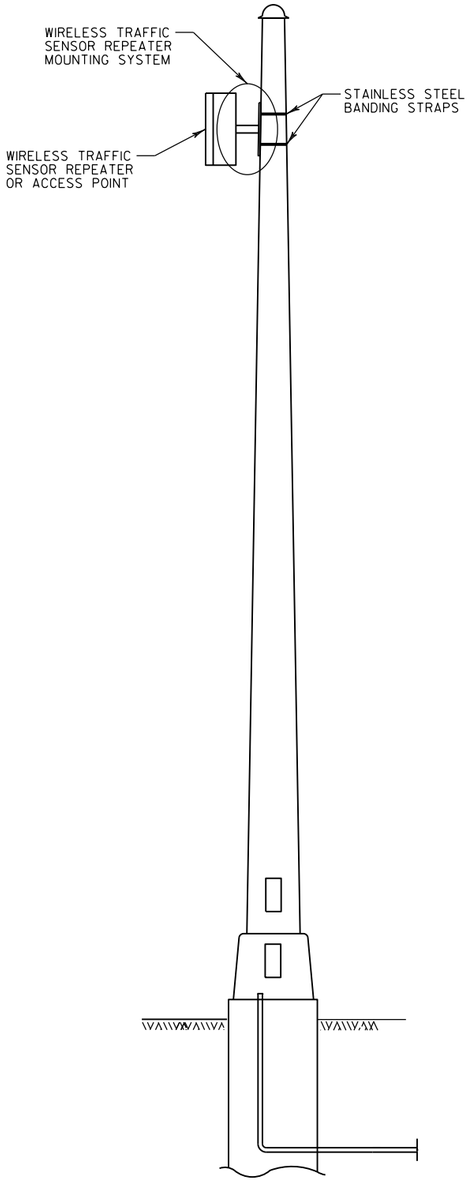
S. 9TH STREET
(RM-40-0027)
NOT TO SCALE

2

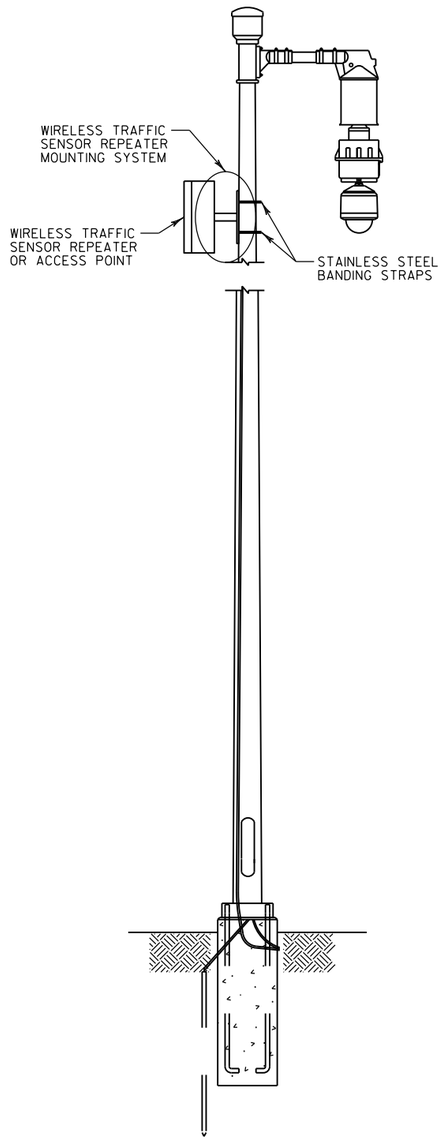


DEMAND/PASSAGE LAYOUT

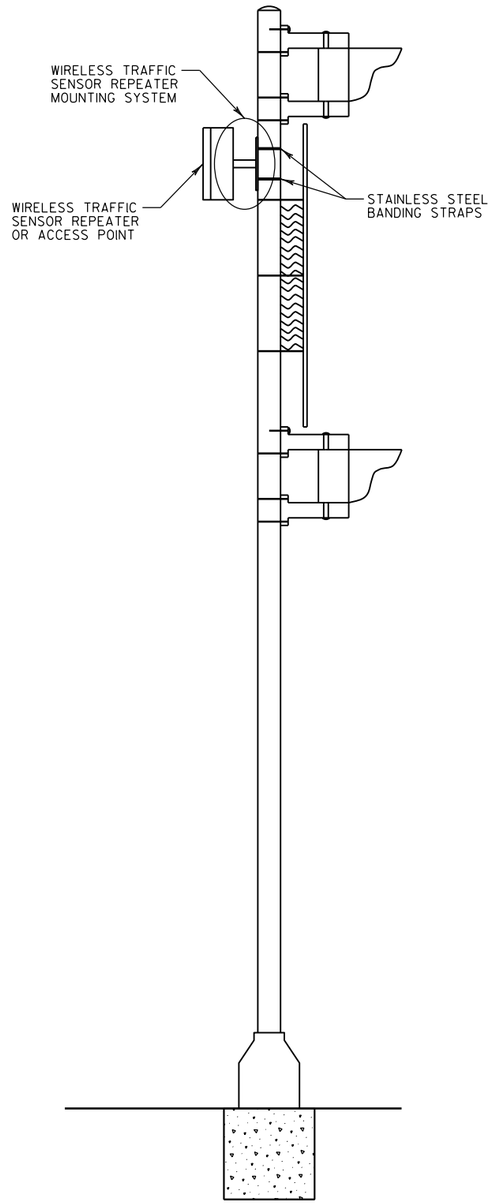
S. 9TH STREET
(RM-40-0027)
NOT TO SCALE



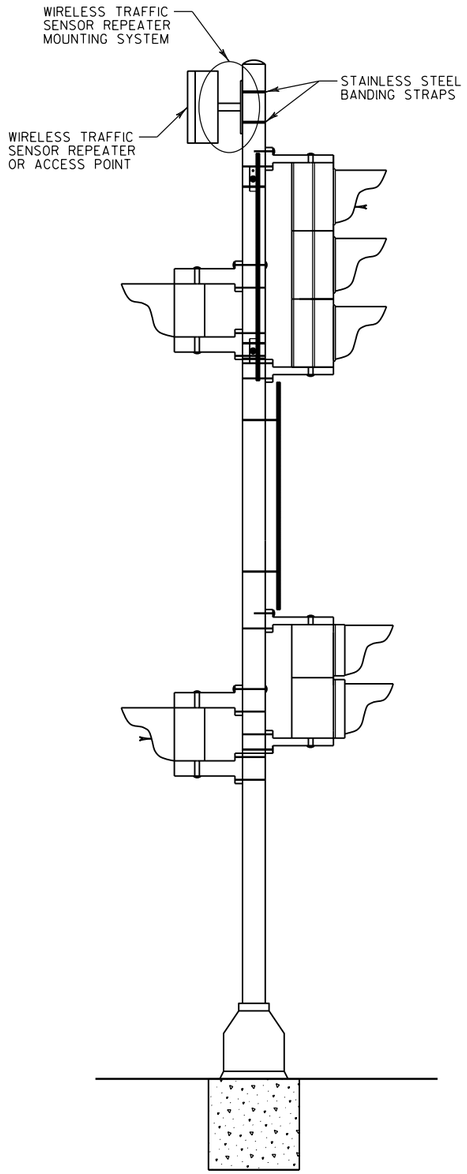
TYPE 5 POLE WITH
WIRELESS TRAFFIC SENSOR
REPEATER OR ACCESS POINT
(NOT TO SCALE)



CCTV CAMERA POLE WITH
WIRELESS TRAFFIC SENSOR REPEATER
OR ACCESS POINT
(NOT TO SCALE)

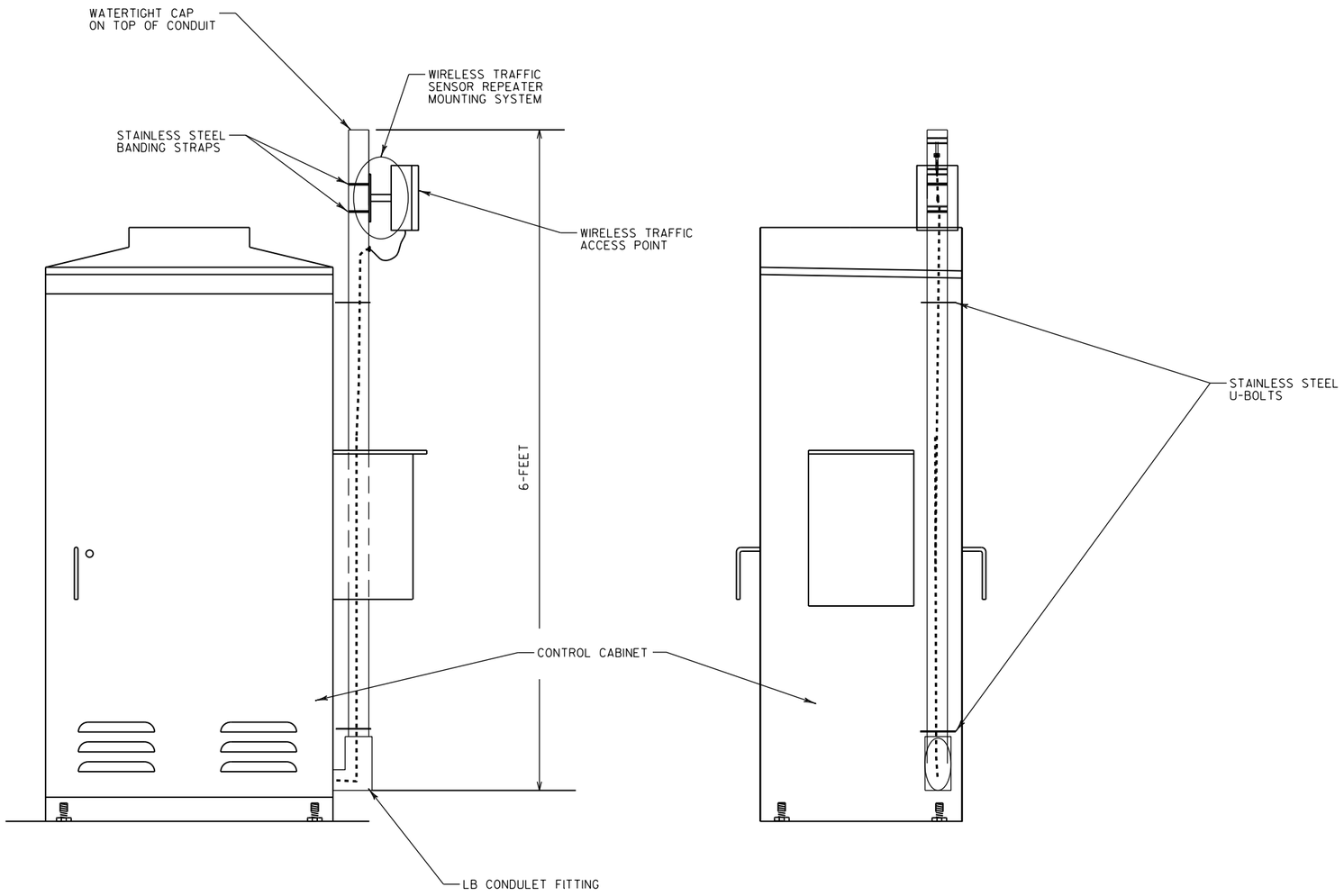


EXISTING ADVANCE FLASHER ASSEMBLE WITH
WIRELESS TRAFFIC SENSOR REPEATER
OR ACCESS POINT
(NOT TO SCALE)



SIGNAL ASSEMBLE RAMP CONTROL SIDEMOUNT WITH
WIRELESS TRAFFIC SENSOR REPEATOR
OR ACCESS POINT
(NOT TO SCALE)

2



CABINET WITH WIRELESS TRAFFIC
SENSOR ACCESS POINT
(NOT TO SCALE)

PROJECT NO: 1228-26-70	HWY: IH 43 / 94	COUNTY: MILWAUKEE	FTMS CONSTRUCTION DETAILS	SHEET 31	E

EXCB-RM-40-0055
ON EXISTING CABINET
(1) WIRELESS TRAFFIC SENSOR RECEIVER
(1) WIRELESS TRAFFIC SENSOR ACCESS POINT
(1) WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE

WTS ARRAY
WTS ARRAY
WTS ARRAY

(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT

SB0055A
SB0055B

WTS ARRAY

(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) TRAFFIC SENSOR REPEATER

S. 5th ST.
HOLT AVE.
HOLT AVE.
PACIFIC
SIGN
MH
N
195
200
205
I43/94/USH 41
50MPH

ON EXISTING ADVANCE FLASHER ASSEMBLY
(1) WIRELESS TRAFFIC SENSOR REPEATER
WTS ARRAY
FY0017A
WTS ARRAY
WTS ARRAY
SP0017B
SP0017A
WTS ARRAY

(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT

OHSS0018A
(2) REMOVE OVERHEAD RAMP CONTROL SIGNAL ASSEMBLIES
(2) OVERHEAD RAMP CONTROL SIGNAL ASSEMBLIES
(1) WIRELESS TRAFFIC SENSOR REPEATER

EXCB-RM-40-0017
ON EXISTING CABINET
(1) WIRELESS TRAFFIC SENSOR REPEATER
(1) WIRELESS TRAFFIC SENSOR ACCESS POINT
(1) WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE

WTS ARRAY
WTS ARRAY
WTS ARRAY
SB0018A

EXCB-RM-40-0018
ON EXISTING CABINET
(2) WIRELESS TRAFFIC SENSOR ACCESS POINTS
(1) WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE

(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT

PROJECT NO: 1228-26-70	HWY: IH 43 / 94	COUNTY: MILWAUKEE	FTMS PLAN SHEETS	SHEET 32 E

2

ON EXISTING ADVANCE FLASHER ASSEMBLY
(1) TRAFFIC SENSOR REPEATER
FY0027A
WTS ARRAY
WTS ARRAY
EXCB-RM-40-0027
ON EXISTING CABINET
(1) WIRELESS TRAFFIC SENSOR ACCESS POINT
(1) WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE
(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) TRAFFIC SENSOR REPEATER
SB0027B
SB0027A
(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) TRAFFIC SENSOR REPEATER
WTS ARRAY
WTS ARRAY
ON EXISTING ADVANCE FLASHER ASSEMBLY
(1) TRAFFIC SENSOR REPEATER
WTS ARRAY
(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) TRAFFIC SENSOR REPEATER
SB0059B
SB0059A
(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) WIRELESS TRAFFIC SENSOR REPEATER
SB0058B
WTS ARRAY
SB0058A
(1) REMOVE RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT
(1) TRAFFIC SENSOR REPEATER
IN EXISTING CONDUIT
(1) WIRELESS TRAFFIC SENSOR
ACCESS POINT CABLE
IN EXISTING CONDUIT
(1) WIRELESS TRAFFIC SENSOR
ACCESS POINT CABLE
WTS ARRAY
EXDPNA05
(1) WIRELESS TRAFFIC SENSOR ACCESS POINT
EXCB-RM-40-0058/0059
ON EXISTING CABINET
(1) WIRELESS TRAFFIC SENSOR ACCESS POINT
(1) WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE
IN EXISTING CONDUIT
(1) WIRELESS TRAFFIC SENSOR
ACCESS POINT CABLE
W. MINERAL
NATIONAL AVE.
WASHINGTON ST.
180
175
170
165
160
168
16
17
120
612.236
232
609.232
240
609.240

PROJECT NO: 1228-26-70	HWY: IH 43 / 94	COUNTY: MILWAUKEE	FTMS PLAN SHEETS	SHEET 33	E

NORTHBOUND

N

PLAINFIELD AVE.

S. 5th ST.

626

628

630

632

634

636

638

640

IH-43/94/USH 41 SB

IH-43/94/USH 41 NB

14'-7"
W12-2(5)
LINCOLN AVE
SEE DETAIL

248 249
250 251

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

SHEET 1 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\023201_ps.dgn PLOT DATE : 24-SEP-2012 09:53 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

2

EXIT 314 A
Holt Avenue
¼ MILE
ESTR TYPE I SIGN
S-40-563

EXIT 314 B
Howard Avenue
ESTR TYPE I SIGN

EXIT 314 A
Holt Avenue
EXIT ONLY
ESTR TYPE I
S-40-564

DO NOT ENTER
REMOVE

11 DO NOT ENTER
R5-1(3)
ON SIGNAL POLE

13 Howard Ave 3900 SOUTH
M1-94(5) MODIFIED

12 R3-1(2S)

NORTH WEST
43 94
41
REMOVE

10 NORTH WEST
MB3-1 MB3-4
43 94
M1-1 M1-1
41
M1-4 MB6-1
MB6-1
J3-2(2S)
ON WOOD POLE

642 644 646 648 650 652 654 656

SIGN
INL
W

WRONG WAY 4
R5-1A(3)

S. 3rd ST.

EXIT
314B
E5-1A
ESTR

1 W5-54(2M)
2 W5-54(2M)

3 W3-3(2S)
REMOVE

WRONG WAY 7
R5-1A(3)
ON SIGNAL POLE

5 BEGIN LEFT TURN LANE
R3-20L(2S)

BEGIN LEFT TURN LANE
REMOVE

CITY OF MILWAUKEE PARKING...
ESTR

6 ONE WAY
R6-2R(2S)
ON SIGNAL POLE

15 ONE WAY
R6-2L(2S)
ON SIGNAL POLE

14 DO NOT ENTER
R5-1(3)
ON SIGNAL POLE

NORTH 8
MB3-1
43
M1-1
94
M1-1
41
M1-4
MB6-1
J3-1(2S)
ON LIGHT POLE

WEST
43
94
41
REMOVE

9 PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
R5-57(S)
ON LIGHT POLE

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
R5-57
REMOVE

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
- VMS VARIABLE MESSAGE SIGN
- 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 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023202_ps.dgn PLOT DATE : 24-SEP-2012 09:53 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

EMERGENCY STOPPING ONLY
REMOVE

EMERGENCY STOPPING ONLY (21)
R8-7(5)
ON LIGHT POLE

SPEED LIMIT 55
ESTR

Becher-Mitchell 1 3/4
National Ave 3
794 3 3/4
ESTR
TYPE I SIGN
S-40-773

IH-43/94/USH 41 SB

IH-43/94/USH 41 NB

56 658 660 662 664 666 668 670

EXIT 314B
E5-1A
ESTR

16 W5-54(2M)

17 W5-54(2M)

18 W4-3R(3)

19 W4-3R(5)
REMOVE

264 W5-53S(2)
4" X 12"
(NB)
ON BARRIER WALL FOR STORM SEWER INLET MARKING. FIELD LOCATE LOW POINT

20 94 M1-1(2S)
LEFT LANE
M4-20Lmod(2S)
94
LEFT LANE
REMOVE

25 Holt Ave
RIGHT LANE
TYPE I
REUSE STEEL POSTS
Holt Ave
RIGHT LANE
REMOVE

STATE LAW
MOVE OVER OR SLOW DOWN FOR STOPPED EMERGENCY VEHICLES
ESTR

H 24
REMOVE

22 REMOVE

23 H D9-2(2S)
MB6-1(2S)
ON LIGHT POLE

SHEET 3 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023203_ps.dgn PLOT DATE : 24-SEP-2012 09:53 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

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
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

N

IH-43/94/USH 41 SB

IH-43/94/USH 41 NB

672 674 676 192 194 196 198 200

S. 5th St.

HOLT AVE.

PED OVERHEAD

S-40-50

26 REMOVE TYPE II

29 RAMP METERED WHEN FLASHING REMOVE

73 RAMP METERED WHEN FLASHING W3-8(5) ON SIGNAL POLE

34 35 W1-2R(5) ON WOOD POLE NEXT TO BRIDGE PIER

261 W5-53S(2) 4" X 12" (NB) ON BARRIER WALL FOR STORM SEWER INLET MARKING. FIELD LOCATE LOW POINT

33 36 WATCH FOR BACKUPS W8-74(5)

37 REMOVE TYPE II

75 STOP HERE ON RED REMOVE

STOP HERE ON RED R10-6mod(2S) ON POLE

SOUTH EAST 43 94 41 REMOVE

44 SOUTH MB3-3 43 M1-1 EAST MB3-2 94 M1-1 41 M1-4 MB5-1L MB5-1L J2-2(2S) ON BRIDGE COLUMN

NORTH WEST 43 94 41 REMOVE

45 NORTH MB3-1 43 M1-1 WEST MB3-4 94 M1-1 41 M1-4 MB6-1 MB6-1 J3-2(2S) ON BRIDGE COLUMN

68 REMOVE R3-1(2S)

27 PARK & RIDE D4-2R(mod)(3) PARK & RIDE REMOVE

28 43 94 41 E6-1(mod) TYPE I S-40-50 43 94 41 REMOVE

30 Holt Ave E1-5 TYPE I Holt Ave REMOVE

31 H D9-2(2S) MB6-2(2S) ON UPRIGHT H REMOVE

32 EXIT E5-1(5) 240 W5-54(2M) 241 W5-54(2M) EXIT REMOVE

71 W3-3(2S) ON LIGHT POLE REMOVE

72 PARK & RIDE D4-2L(2S) PARK & RIDE REMOVE

242 R3-1(2S) ON LIGHT POLE REMOVE

67 YIELD R1-2(2S) YIELD REMOVE

69 70 WRONG WAY R5-1A(3) WRONG WAY REMOVE

38 Holt Ave Morgan Ave M1-94(5) TYPE II Holt Ave Morgan Ave REMOVE

74 STOP HERE ON RED R10-6(2S) ON POLE STOP HERE ON RED REMOVE

46 R3-2(2S)

50 R4-7(2S) ON SIGNAL POLE REMOVE

SEE SHEET 4A FOR ADDITIONAL SIGNS AT THIS INTERSECTION

SHEET 4 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023204_ps.dgn PLOT DATE : 24-SEP-2012 09:53 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

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

REMOVE TO 38 M4-5 M1-6 M5-1R J2-1(2S) 66

65 SPEED LIMIT 30 — REMOVE; R2-1(2S) ON LIGHT POLE

64 LEFT LANE MUST TURN LEFT — REMOVE; R3-7L(3) ON LIGHT POLE

238 Holt Ave WEST EAST — REMOVE; D1-60

NO PARKING ANY TIME — REMOVE; 51 R3-1(2S); 52 R7-1D(2S) ON SIGNAL POLE

47 DO NOT ENTER — REMOVE; R5-1(3)

53 ONE WAY — R6-2L(2S)

DO NOT ENTER — REMOVE; 48 R5-1(3)

REMOVE — 59 R3-2(2S) ON SIGNAL POLE

ONLY — REMOVE; 243 R3-8B(2S) ON SIGNAL POLE

54 LEFT LANE
55 BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY
56 R3-51mod(2)

LEFT LANE BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY — REMOVE

INL SIGN

TO 38 M4-5 M1-6 39

M6-1 J3-1

TO 38

Holt Ave WEST EAST 40 D1-60

H D9-2(2S) 41 MB6-1(2S)

Holt Ave WEST EAST — REMOVE

63 NO PARKING ANY TIME — R7-1R(2S); NO PARKING ANY TIME — REMOVE

62 ONLY R3-8B ON SIGNAL POLE; ONLY — REMOVE

60 61 STOP — R1-1(3); STOP — REMOVE

49 ONE WAY — R6-2R(2S) ON SIGNAL POLE

ONLY ONLY — 58 R3-8MM; ONLY ONLY — REMOVE

57 W4-1L(2S); REMOVE

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

SHEET 4A OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023204a_ps.dgn PLOT DATE : 24-SEP-2012 09:53 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 40:1

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

77 NORTH MB3-1 / WEST MB3-4 / INTERSTATE 43 M1-1 / INTERSTATE 94 M1-1 / 41 M1-4 / MB6-2 / MB6-2
REMOVE

REMOVE

RIDESHARE INFORMATION www.rideshare.wi.gov
REMOVE

95 W4-1(5)
REUSE POLE

94 RIDESHARE INFORMATION www.rideshare.wi.gov
D12-2B(2M)
ON WOOD POSTS

LEFT LANE BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY
REMOVE

80 LEFT LANE BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY
R3-5IL(2)

LEFT LANE SIGNAL
REMOVE

86 LEFT LANE SIGNAL
R10-10L(mod)(2S)

88 W1-2L(5)
ON UPRIGHT

90 WATCH FOR BACKUPS
W8-74(5)

91 WATCH FOR BACKUPS
W8-74(5)
ON LIGHT POLE

J3-2(2S)

IH-43/94/USH 41 SB

IH-43/94/USH 41 NB

200 202 204 206 208 210 212 214

HOLT AVE.

OKLAHOMA AVE.

NO ENGINE BRAKING EXCEPT IN EMERGENCY
ESTR

76 W12-1D(2M)
2' HEIGHT
REMOVE

78 R1-2(2S)
REMOVE

79 PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
R5-57(5)
REMOVE

83 RIGHT LANE SIGNAL
R10-10R(mod)(2S)
ON POLE
REMOVE

82 STOP HERE ON RED
R10-6(2S)
ON POLE
REMOVE

84 STOP HERE ON RED
R10-6mod(2S)
ON POLE
REMOVE

85 CENTER LANE SIGNAL
R10-10C(mod)(2S)
REMOVE

81 W4-2(2S)
REMOVE

87 W4-1(5)
REMOVE

89 W1-2L(5)
ON LIGHT POLE

92 W1-2L(5)
ON LIGHT POLE

SHEET 5 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023205_ps.dgn PLOT DATE : 24-SEP-2012 09:53 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

2

N

NORTH
43
WEST
94
REMOVE

NORTH
MB3-1
43
M1-1
99

WEST
MB3-4
94
M1-1
ON LIGHT POLE

216 218 220 222 224 226 228 230

IH-43/94 SB

IH-43/94 NB

INL W D

EXIT 312 A-B
Becher St
Mitchell St
1 MILE
96 96a
E1-1A
TYPE I
REUSE STEEL POSTS

EXIT 312 A-B
Becher St
Mitchell St
1 MILE
REMOVE

STADIUM AND TRAFFIC INFO TUNE RADIO TO 1180 AM
98
D12-3(MOD)
TYPE II

STADIUM AND TRAFFIC INFO TUNE RADIO TO 1180 AM
REMOVE

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

SHEET 6 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023206_ps.dgn PLOT DATE : 24-SEP-2012 09:53 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

EMERGENCY PARKING ONLY
REMOVE

(103) EMERGENCY PARKING ONLY
R8-4(5)
ON LIGHT POLE

SPEED LIMIT 55
REMOVE

(102) SPEED LIMIT 55
R2-1(5)
ON LIGHT POLE

Becher - Mitchell 3/4
National Ave 2
794 3
ESTR
REPLACED UNDER 1030-20-72

S-40-211

ROSEDALE AVE.

IH-43/94 SB

IH-43/94 NB

230 232 234 236 238 240 242 244

(100) Lakefront Port of Milw USE 794 EAST
E1-1A(MOD)
TYPE I
REUSE STEEL POSTS

Lakefront Port of Milw USE 794 EAST
REMOVE

(101) CRASH INVESTIGATION SITE EXIT 312 A-B
TYPE I
REUSE STEEL POSTS

CRASH INVESTIGATION SITE EXIT 312 A-B
REMOVE

(104) Henry W Maier Festival Park EXIT 312 A-B
TYPE I
REUSE STEEL POSTS
(NO LOGO ON NEW SIGN)

Henry W Maier Festival Park EXIT 312 A-B
REMOVE

RAMP

SHEET 7 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023207_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

DMS
EXISTING

14'-7"
W12-2(5)
252 253

LINCOLN AVE
254 255
SEE DETAIL

IH-43/94 SB

IH-43/94 NB

246 248 250 252 254 256 258 260

ROSEDALE AVE.

KINNICKINNIC RIVER

105
W1-2R(5)
ON LIGHT POLE

106
W1-2R(5)

Hwy 43
PERFORMING ARTS CTR
PUBLIC MUSEUM
EXIT 72A
MILW SCHOOL OF ENGR
EXIT 73A

ESTR
TYPE I SIGN

SHEET 8 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\023208_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

107 WATCH FOR BACKUPS
108
W8-74(5)
ON LIGHT POLE

110 W1-2R(5)
ON LIGHT POLE

Chase Ave
REMOVE

112 Chase Ave
M1-94(5)
TYPE II
ON BRIDGE

5TH ST.

STH 38 - CHASE AVE

IH-43/94 SB

IH-43/94 NB

262 264 266 268 270 272 276

Egn272+99.71
Egn274+00.00

LINCOLN AVE.

4TH ST.

109 Lapham Blvd
Greenfield Ave
EXIT 312 A-B
E1-1A(MOD)
TYPE I
REUSE STEEL POSTS

Lapham Blvd
Greenfield Ave
EXIT 312 A-B
REMOVE

EXIT 312 A-B
113
113a Becher St
Mitchell St
E4-1A(MOD)
TYPE I
REUSE STEEL POSTS

EXIT 312 A-B
Becher St
Mitchell St
REMOVE

115 Lincoln Ave
2300 SOUTH
M1-94(5)(MOD)
TYPE II
ON BRIDGE

Lincoln Ave
2300 SOUTH
REMOVE

SHEET 9 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023209_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

278 280 282 284 286 288 290 292

IH-43/94 SB

IH-43/94 NB

4TH ST.

S-40-85

S-40-92 (OLD)
S-40-977 (NEW)

S-40-93

SEE SHEET 10A FOR ADDITIONAL SIGNS AT THIS INTERSECTION

165 EXIT 312 A-B ↗ E5-1A(5)

166 W5-54(2M)

167 W5-54(2M)

EXIT 312 A-B ↗ REMOVE

SPEED LIMIT 55 REMOVE

164 SPEED LIMIT 55 R2-1(5) WOOD POST

Mitchell St / Becher St WEST EAST REMOVE

121 Mitchell St / Becher St WEST EAST D2-2(mod)

162 RIDESHARE INFORMATION www.rideshare.wi.gov D12-2B(2S)

RIDESHARE INFORMATION www.rideshare.wi.gov REMOVE

129 170 WRONG WAY REMOVE

WRONG WAY R5-1A(3)

171 W3-3(2S)

172 R1-2(2S)

REMOVE

Becher St WEST REMOVE

161 Becher St WEST E6-1(mod)

43 94 41 Downtown 4th St Mitchell St REMOVE

43 94 41 Downtown 4th St Mitchell St 160 E6-1(mod) TYPE I SIGNS

Becher St EAST REMOVE

159 Becher St EAST E6-1

SOUTH EAST 43 94 41 REMOVE

153 SOUTH EAST MB3-3 MB3-2 43 94 M1-1 M1-1 41 M1-4 MB5-2L MB5-2L J2-2(2S) ON BRIDGE COLUMN

NO PARKING ANY TIME ESTR

169 SITE 312N SEE DETAIL

SITE 312N REMOVE

168 SEE DETAIL "B" SEE DETAIL

SEE DETAIL "B" REMOVE

FESTIVAL PARKING ESTR

NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES 116 118

2 HOUR LIMIT 117 119

SEE DETAIL

NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES

2 HOUR LIMIT REMOVE

163 Lapham Blvd Greenfield Ave TYPE I E6-1(mod)

Lapham Blvd Greenfield Ave REMOVE

120 Becher St Mitchell St TYPE I E6-1

Becher St Mitchell St REMOVE

122 43 94 41 Downtown Becher St-WEST E4-1A

123 4th St E6-1(mod) TYPE I SIGNS

124 Becher St EAST E6-1(mod)

43 94 41 Downtown Becher St-WEST REMOVE

4th St REMOVE

Becher St EAST REMOVE

125 NO PARKING ANY TIME R7-1L(2S) ON POLE

126 NO PARKING ANY TIME R7-1R(2S) ON POLE

NO PARKING ANY TIME REMOVE

NO PARKING ANY TIME REMOVE

173 R1-2(2S)

174 W12-1D(2M) 2' HEIGHT

REMOVE

REMOVE

127 NO PARKING ANY TIME R7-1D(2S)

NO PARKING ANY TIME REMOVE

YIELD TRAFFIC FROM LEFT DOES NOT STOP REMOVE

City of Milwaukee NO PARKING XAM to XAM ESTR

NO ENGINE BRAKING EXCEPT IN EMERGENCY ESTR

YIELD 130 R1-2(2S)

131 TRAFFIC FROM LEFT DOES NOT STOP W4-4AL(2S)

158 SOUTH EAST MB3-3 MB3-2 43 94 M1-1 M1-1 41 M1-4 MB5-1L MB5-1L M1-85 ESTR J2-2(2S)

SOUTH EAST 43 94 41 REMOVE

245 R3-2(2S)

150 4 th Street D1-1(2)

4 th Street REMOVE

148 NORTH WEST MB3-1 MB3-4 43 94 M1-1 M1-1 41 M1-4 MB6-1 MB6-1 J3-2(2S)

NORTH WEST 43 94 41 REMOVE

149 W4-1L(2S)

SHEET 10 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43 (NB)	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023210_ps.dgn PLOT DATE : 24-SEP-2012 10:13 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

N

W. BECHER ST.

INL

155 ONE WAY — REMOVE

ONE WAY (155) — R6-2L(2S) ON SIGNAL POLE

157 DO NOT ENTER — R5-1(3) ON WOOD POST

REMOVE

152 R3-1(2S)

REMOVE

156 W12-1D(2M) 2' HEIGHT

175 DO NOT ENTER — R5-1(3) ON SIGNAL POLE

DO NOT ENTER — REMOVE

154 ONE WAY — R6-2L(2S) ON SIGNAL POLE

ONE WAY — REMOVE

SOUTH MB3-3 / EAST MB3-2 — INTERSTATE 43 / 94 — M1-1

41 M1-4 — MB5-2L (246)

MB5-2L — J2-2(2S)

REMOVE

144 W12-1D(2M) 2' HEIGHT

128 YIELD — R1-2(2S)

135 TRAFFIC FROM LEFT DOES NOT STOP — W4-4A(2S)

134 NO PARKING ANY TIME — R7-1D(2S)

YIELD / TRAFFIC FROM LEFT DOES NOT STOP / NO PARKING ANY TIME — REMOVE

244 W12-1D(2M) 2' HEIGHT

NORTH MB3-1 / WEST MB3-4 — INTERSTATE 43 / 94 — MB1-1 — 133

41 M1-4 — MB6-1

MB6-1 — J2-2(2S)

132 NO TURNS — R3-3 ON SIGNAL POLE

NORTH / WEST — INTERSTATE 43 / 94 — 41 — NO TURNS — REMOVE

138 NO PARKING ANY TIME — R7-1D(2S)

NO PARKING ANY TIME — REMOVE

136 DO NOT ENTER — R5-1(3) ON SIGNAL POLE

DO NOT ENTER — REMOVE

139 STOP — R1-1(3) ON LIGHT POLE

STOP — REMOVE

HENRY W. MAIER FESTIVAL PARK — ESTR

140 142 / 141 143 ONE WAY — R6-2R(2S) ON SIGNAL POLE

ONE WAY — REMOVE

146 NO TURNS — R3-3(2S) ON SIGNAL POLE

NO TURNS — REMOVE

151 Becher St WEST — D1-60(mod)

Becher St WEST — REMOVE

NO TURN ON RED (137) — R10-11B(2S) ON SIGNAL POLE

NO TURN ON RED — REMOVE

SOUTH / EAST — INTERSTATE 43 / 94 — 41 — REMOVE

NORTH / WEST — INTERSTATE 43 / 94 — 41 — MB6-2 — J3-2(2S)

NORTH / WEST — INTERSTATE 43 / 94 — 41 — REMOVE

145 R3-2(2S)

REMOVE

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

SHEET 10A OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

2

N

NORTH
MB3-1
INTERSTATE 43
M1-1
WEST
MB3-4
INTERSTATE 94
M1-1
MB6-2
JV3-1(2S)
176

PEDESTRIANS
BICYCLES
NON MOTORIZED TRAFFIC
MOTOR BICYCLES
PROHIBITED
REMOVE

PEDESTRIANS
BICYCLES
NON MOTORIZED TRAFFIC
MOTOR BICYCLES
PROHIBITED
R5-57(5)
ON LIGHT POLE
177

ESTR

5TH ST.

W. MAPLE ST.

294 296 298 300 302 304 306 308

IH-43/94 SB

IH-43/94 NB

4TH ST.

EXIT 310 C
794 EAST
2 MILES
ESTR
TYPE I
INSTALLED WITH PROJECT
1060-05-75

262
W5-53S(2)
4" X 12"
(NB)
ON BARRIER WALL
FOR STORM SEWER
INLET MARKING.
FIELD LOCATE
LOW POINT

EXIT 311
59
National Ave
3/4 MILE
ESTR
TYPE I
INSTALLED WITH PROJECT
1060-05-75

Lapham Blvd
Greenfield Ave
RIGHT LANE
178
TYPE I
REUSE STEEL POSTS

Lapham Blvd
Greenfield Ave
RIGHT LANE
REMOVE

Maple St
1800 SOUTH
179
M1-94mod(5)
ON BRIDGE

Maple St
1800 SOUTH
REMOVE

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

SHEET 11 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

W. MITCHELL ST.

W. LAPHAM BLVD.

5TH ST.

4TH ST.

IH-43/94 SB

IH-43/94 NB

308 310 312 314 316 318 320 322

S-40-90

208 Mitchell St 1700 SOUTH / Mitchell St 1700 SOUTH — M1-94(mod) ON BRIDGE

RAMP METERED WHEN FLASHING — REMOVE

206 207 RAMP METERED WHEN FLASHING — W3-8(5) ON SIGNAL POLE

Harley-Davidson Museum EXIT 311 — TYPE I ESTR

256 257 — W1-4C(5)

Lapham Blvd 1600 SOUTH — REMOVE

205 Lapham Blvd 1600 SOUTH — M1-94(mod) ON BRIDGE

ONE WAY — REMOVE

198 ONE WAY — R6-2L(2S)

199 — R3-1(2S) ON SIGNAL POLE

DO NOT ENTER — REMOVE

DO NOT ENTER 190 — R5-1(2S) ON SIGNAL POLE

RAMP METERED WHEN FLASHING — REMOVE

202 203 204 RAMP METERED WHEN FLASHING — W3-8(5) ON SIGNAL POLE

STOP HERE ON RED — REMOVE

197 STOP HERE ON RED — R10-6(2S)mod ON POLE

STOP HERE ON RED — REMOVE

196 STOP HERE ON RED — R10-6(2S) ON POLE

195 — REMOVE

W12-1D(2M) 2' HEIGHT

180 Lapham Blvd / Greenfield Ave — TYPE I E6-1

209 43 94 41 — TYPE I E6-1(mod)

Lapham Blvd / Greenfield Ave — REMOVE

43 94 41 — REMOVE

181 EXIT — E5-1(5)

184 W5-54(2M) 185 W5-54(2M)

EXIT — REMOVE

182 — W3-3(2S)

— REMOVE

188 189 WRONG WAY — R5-1A(3)

WRONG WAY — REMOVE

NO ENGINE BRAKING EXCEPT IN EMERGENCY — ESTR

Greenfield Ave / Lapham Blvd WEST EAST — D1-60(mod) 183

Greenfield Ave / Lapham Blvd WEST EAST — REMOVE

187 ONE WAY — R6-2(2S)

ONE WAY — REMOVE

WRONG WAY 191 — R5-1A(3)

194 ONE WAY — R6-2L(2S)

NORTH MB3-1 / WEST MB3-4 — M1-1 / M1-1

43 94 186

ONE WAY — REMOVE

NORTH MB3-1 / WEST MB3-4 — M1-1 / M1-1

41 — M1-4

MB6-1 — MB6-1

J3-2(2S) ON SIGNAL POLE

NORTH WEST 43 94 41 — REMOVE

SOUTH MB3-3 EAST MB3-2 — M1-1 / M1-1

43 94 192

41 — M1-4

MB5-1L — MB5-1L

J2-2(2S) ON SIGNAL POLE

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED — R5-57(3) 193

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED — REMOVE

SOUTH EAST 43 94 41 — REMOVE

NORTH MB3-1 — M1-1

43

WEST MB3-4 — M1-1

201 94

MB6-2 — JV3-1

200

Greenfield Ave — D1-1(mod)

43-41 NORTH 94 WEST / Greenfield Ave — REMOVE

SHEET 12 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023212_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

N

S.T.H. 38

5TH ST.

4TH ST.

GREENFIELD AVE.

IH-43/94 SB

IH-43/94 NB

324 326 328 330 332 334 336 338

REMOVE
SPEED LIMIT 50

REMOVE

217
247
W3-5(5)
SPEED LIMIT 50

216
W4-3(5)

W4-3(5)
ESTR

National Ave 1/4
794 1
ESTR
TYPE I SIGN
REPLACED UNDER
1060-05-75

REMOVE
SPEED LIMIT 50

215
SPEED LIMIT 50
R2-1(5)
ON UPRIGHT
OF SIGN BRIDGE

210
W4-1(2S)

REMOVE

211
STOP HERE ON RED
R10-6(2S)
ON POLE

REMOVE

212
STOP HERE ON RED
R10-6(2S)mod
ON POLE

REMOVE

263
W5-53S(2)
4" X 12"
(NB)
ON BARRIER WALL
FOR STORM SEWER
INLET MARKING.
FIELD LOCATE
LOW POINT

213
Greenfield Ave
1400 SOUTH
M1-94(mod)(5)
ON BRIDGE

Greenfield Ave
1400 SOUTH
REMOVE

214
NORTH MB3-1 INTERSTATE 43 M1-1
WEST MB3-4 INTERSTATE 94 M1-1
NORTH M3-1 INTERSTATE 41 M1-4
J4-3(3)

NORTH WEST NORTH
INTERSTATE 43 94 41
REMOVE

Downtown Exits
794 EAST Plankington Ave 3/4
Michigan St 1
McKinley Ave 1 3/4
ESTR
TYPE I SIGN
REPLACED UNDER
1060-05-75

258
SPEED LIMIT 50
R2-1(5)
ON LIGHT
POLE

SPEED LIMIT 50
REMOVE

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

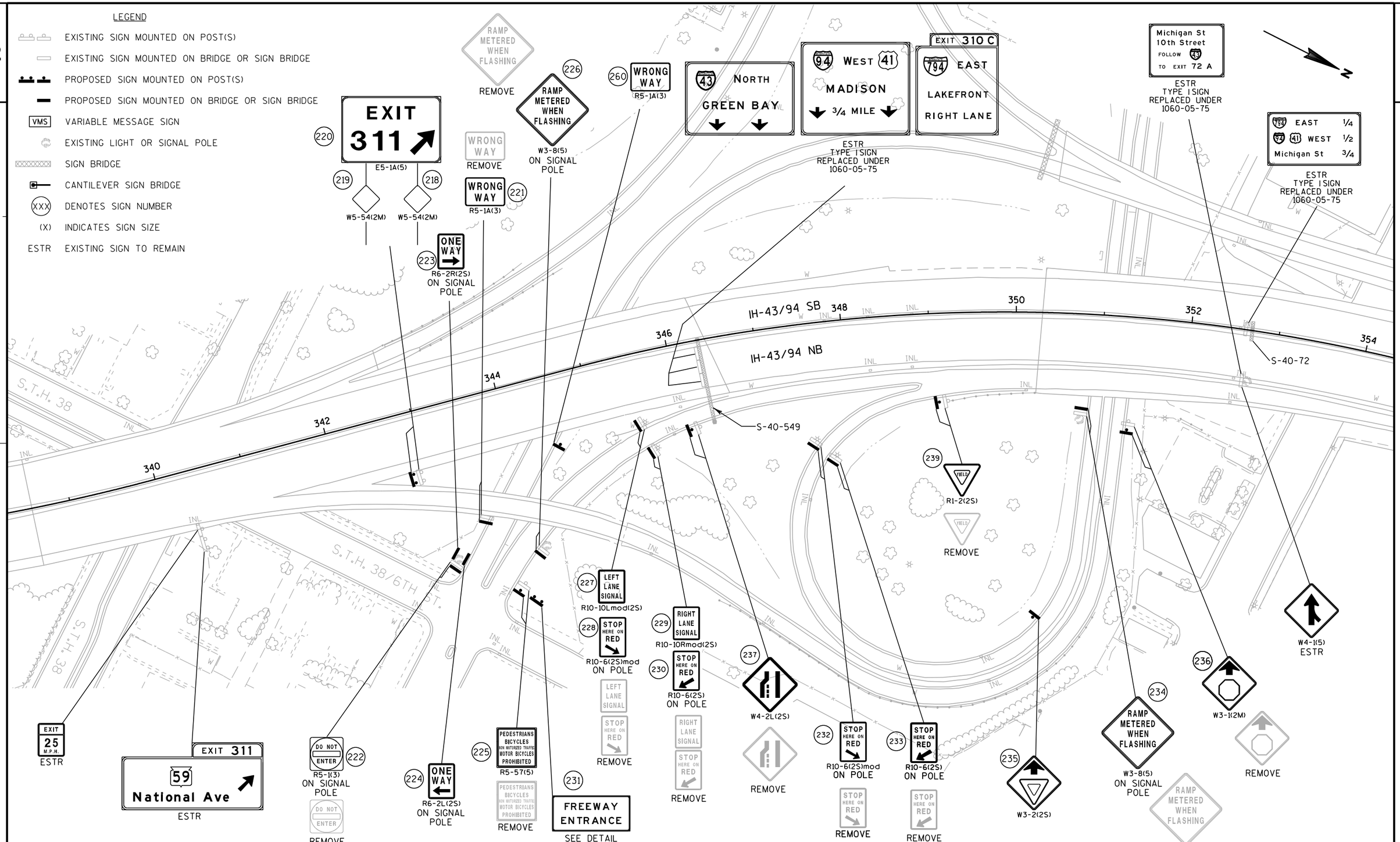
SHEET 13 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023213_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN



SHEET 14 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023214_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

2

N

NATIONAL AVE.

W. PIERCE ST.

SIGN

SIGN

IH-43/94 SB

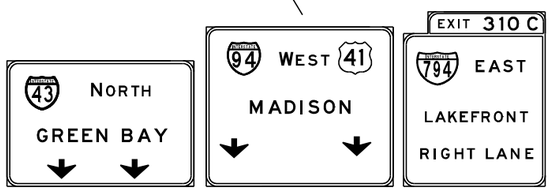
354 356 358 360 362 364 366 368

IH-43/94 NB

MENOMONEE R.

PIER

S-40-1



ESTR
TYPE I SIGN
REPLACED UNDER
1060-05-75

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

SHEET 15 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (NB)	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\023215_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

SOUTHBOUND

N

626

628

630

632

634

636

638

640

PLAINFIELD AVE.

S. 5th ST.

IH-43/94/USH 41 SB

IH-43/94/USH 41 NB

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

SHEET 16 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\023221_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

501 W4-3R — REMOVE

502 WRONG WAY R5-1A(3) — WRONG WAY REMOVE

503 W3-8(5) ON SIGNAL POLE — RAMP METERED WHEN FLASHING — REMOVE

504 W12-1D(2M) 2' HEIGHT ON SIGNAL POLE — REMOVE

505 R5-57(5) ON LIGHT POLE — PEDESTRIANS BICYCLES (NON MOTORIZED TRAFFIC) MOTOR BICYCLES PROHIBITED — REMOVE

506 D1-60(2S) — Howard Ave WEST EAST — REMOVE

507 R10-6(2S)(MOD) ON SIGNAL POLE — STOP HERE ON RED — REMOVE

508 R10-6(2S) ON SIGNAL POLE — STOP HERE ON RED — REMOVE

509 MB3-1 MB3-4 M1-1 M1-1 M1-4 MB5-1L MB5-1L J2-2(2S) — NORTH WEST INTERSTATE 43 94 41 — REMOVE

510 R3-8MM — ONLY ONLY — REMOVE

511 R10-11B(2S) ON SIGNAL POLE — NO TURN ON RED — REMOVE

512 R6-2L(2S) — ONE WAY — REMOVE

513 W13-2(5) ON COLUMN — EXIT 30 M.P.H. — REMOVE

514 R8-7(5) ON LIGHT POLE — EMERGENCY STOPPING ONLY — REMOVE

515 M1-94(5)MOD ON BRIDGE — Howard Ave 3900 SOUTH — REMOVE

516 W5-54(2M) — 517 W5-54(2M)

518 R3-7L(2S) ON SIGNAL POLE — LEFT LANE MUST TURN LEFT — REMOVE

519 R3-5OR(2S) — ONLY — REMOVE

520 R5-1(3) ON SIGNAL POLE 3' HEIGHT — DO NOT ENTER — REMOVE

521 R3-4(2S) ON SIGNAL POLE — REMOVE

522 FREEWAY ENTRANCE

NO TURN ON RED ARROW — ESTR

EXIT 314 B
Howard Avenue
ESTR TYPE I SIGN REPLACED UNDER 1030-20-72

HOWARD AVE

IH-43/94/USH 41 SB

IH-43/94/USH 41 NB

642 644 646 648 650 652 654 656

TO EXITS 316-319
94 EAST 41 Chicago
Layton Ave
College Ave
ESTR TYPE I SIGN

43 94 Beloit
894 WEST
1 MILE
ESTR TYPE I SIGN

Gen Mitchell Int'l Airport EXIT 318
ESTR TYPE I SIGN

EXIT 314B
E5-1A ESTR

SHEET 17 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023222_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

Howard Ave 1/4
894 1
119 Airport - College 1 1/4

ESTR
TYPE I SIGN
INSTALLED UNDER
1030-20-72

W1-2R(5)
ESTR

SPEED LIMIT 50
REMOVE

523 524
SPEED LIMIT 50
R2-1(5)

S-40-773

525
SPEED LIMIT 50
W3-5(5)

SPEED LIMIT 50
REMOVE

526
SPEED LIMIT 50
W3-5(5)
ON UPRIGHT

IH-43/94/USH 41 SB

IH-43/94/USH 41 NB

56
658
660
662
664
666
668
670

742
W5-53S(2)
4" X 12"
(SB)
ON BARRIER WALL
FOR STORM SEWER
INLET MARKING.
FIELD LOCATE
LOW POINT

SHEET 18 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023223_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

FREEWAY ENTRANCE 552

RAMP METERED WHEN FLASHING — REMOVE

RAMP METERED WHEN FLASHING 556 557
W3-8(5) ON SIGNAL POLE

558 SOUTH MB3-3 / EAST MB3-2 — INTERSTATE 43 / 94 — M1-1 M1-1 — 41 M1-4 — MB6-2
J3-2(2S)

SOUTH / EAST — INTERSTATE 43 / 94 — 41 — REMOVE

REMOVE 553 W5-52L(2S) 551 550 R4-7(2S) REMOVE

YIELD — REMOVE
YIELD 555 R1-2(2S)

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED — REMOVE
PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED 547
R5-57(5) ON LIGHT POLE

WRONG WAY — REMOVE
WRONG WAY 548
R5-1A(3) ON LIGHT POLE

546 SOUTH MB3-3 / EAST MB3-2 — INTERSTATE 43 / 94 — M1-1 M1-1 — 41 M1-4 — MB6-1
J3-2(2S)

SOUTH / EAST — INTERSTATE 43 / 94 — 41 — REMOVE

STOP HERE ON RED — REMOVE
STOP HERE ON RED 559
R10-6(2S)(MOD) ON SIGNAL POLE

DO NOT ENTER — REMOVE
DO NOT ENTER 549
R5-1(3) ON LIGHT POLE

REMOVE 543 SEE DETAIL

HOLT AVE.

ONE WAY 544
R6-2R(2S)

ONE WAY — REMOVE

REMOVE 554
W4-1(2S)

PARK & RIDE — REMOVE

539 STOP R1-1(3) STOP REMOVE

PARK & RIDE 540
D4-2R(3)

STOP HERE ON RED — REMOVE
STOP HERE ON RED 560
R10-6(2S) ON SIGNAL POLE

533 534 W1-8(3)

Holt Avenue PARK & REMOVE

Holt Avenue PARK & RIDE 541 542
TYPE I SIGN
REUSE STEEL POSTS

W1-6(3) 4' HEIGHT 528

REMOVE

530 531 532
W1-8(3) 4' HEIGHT

537 SEE DETAIL — REMOVE

RESTRICTED LANE / RAMP LEFT LANE — REMOVE
538

DO NOT ENTER 545
R5-1(3) TRIM TO STOP SIGN

DO NOT ENTER — REMOVE

IH-43/94/USH 41 SB
IH-43/94/USH 41 NB

672 674 676 192 194 196 198 200

PED OVERHEAD

EAST 94 / 41 Chicago — AHEAD
Beloit 43 / WEST 894 — RIGHT
1 1/2 MILES
ESTR
TYPE I SIGN
INSTALLED UNDER 1030-20-72

W4-1(5) 527
REMOVE

NORTH MB3-1 / WEST MB3-4 — INTERSTATE 43 / 94 — M1-1 M1-1 — 41 M1-4 — MB5-1L — MB5-1L
J2-2(2S) ON COLUMN
529

NORTH / WEST — INTERSTATE 43 / 94 — 41 — REMOVE

ONE WAY — REMOVE

535 R3-1(2S)
ONE WAY 536
R6-2L(2S)

SHEET 19 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023224_ps.dgn PLOT DATE : 24-SEP-2012 09:54 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

Holt Ave
Morgan Ave
REMOVE

561 Holt Ave Morgan Ave
M1-94(5)

562 W1-1R(2S)

563 25 M.P.H.
W13-1(3)

25 M.P.H.
REMOVE

REMOVE

564 W3-1(2S)

565 H
D9-2(2S)

MB6-1(2S)

566 Holt Ave
EAST WEST
D1-60

567 Alverno College
D1-1

H
Holt Ave
EAST WEST
Alverno College
REMOVE

BUSES ONLY
REMOVE

570 571 573 BUSES ONLY
R3-11D(2S)

EXIT 314 A
REMOVE

576 EXIT 314 A
E5-1A(5)

577 W5-54(2M)

578 W5-54(2M)

572A EXIT 314 A
572 Holt Ave
TYPE I SIGN
ON SIGN BRIDGE

EXIT 314 A
Holt Ave
REMOVE

584 W1-2L(5)

WRONG WAY
REMOVE

568 569 WRONG WAY
R5-1A(3)

200 202 204 206 208 210 212 214

IH-43/94/USH 41 SB

IH-43/94/USH 41 NB

HOLT AVE.

S-40-390

574A EXIT 314 B
574 Howard Ave
3/4 MILE
TYPE I SIGN
ON SIGN BRIDGE

EXIT 314 B
Howard Ave
3/4 MILE
REMOVE

580 EMERGENCY STOPPING ONLY
R8-7
ON LIGHT POLE

EMERGENCY STOPPING ONLY
REMOVE

579 SPEED LIMIT 55
R2-1(5)
ON LIGHT POLE

SPEED LIMIT 55
REMOVE

583 W1-2L(5)
ON LIGHT POLE

OKLAHOMA AVE.

SHEET 20 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023225_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

N

PARK & RIDE

CRASH
INVESTIGATION SITE
EXIT 314 A–B

585

TYPE I SIGN
REUSE STEEL POSTS

PARK & RIDE

CRASH
INVESTIGATION SITE
EXIT 314 A–B

REMOVE

216 218 220 222 224 226 228 230

IH-43/94 SB

IH-43/94 NB

INL W

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

SHEET 21 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023226_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

WISDOT/CADDS SHEET 42

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

VMS

S-40-211

Holt Ave 1/2
Howard Ave 1 1/2
894 2 3/4
ESTR
TYPE I SIGN
REPLACED UNDER 1030-20-72

HOSPITAL
EXIT 314 A
REMOVE

HOSPITAL
EXIT 314 A
586
TYPE I SIGN
REUSE STEEL POSTS

ROSEDALE AVE.

IH-43/94 SB

IH-43/94 NB

230 232 234 236 238 240 242 244

RAMP

SHEET 22 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023227_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

Alverno College
EXIT 314 A
REMOVE

Alverno College
EXIT 314 A
587
TYPE I SIGN
REUSE STEEL POSTS

TRAFFIC INFO
TUNE RADIO TO
1610 AM
IMPORTANT
WHEN FLASHING
REMOVE

TRAFFIC INFO
TUNE RADIO TO
1610 AM
IMPORTANT
WHEN FLASHING
588
TYPE I SIGN
REUSE STEEL POSTS

N

246 248 250 252 254 256 258 260

IH-43/94 SB

IH-43/94 NB

ROSEDALE AVE.

KINNICKINNIC RIVER

SHEET 23 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\023228_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

589A
589
EXIT 314 A
Holt Ave
1 MILE
TYPE I SIGN
REUSE STEEL POSTS

EXIT 314 A
Holt Ave
1 MILE
REMOVE

591
SOUTH 43 | EAST 94 | SOUTH 41
REMOVE
SOUTH MB3-3 43 M1-1 | EAST MB3-2 94 M1-1 | SOUTH M3-3 41 M1-4
J4-3(5)

SOUTH 43 | EAST 94
REMOVE
SOUTH MB3-3 43 M1-1 | EAST MB3-2 94 M1-1 593
JV4-1(5)

Chase Ave
REMOVE
Chase Ave 592
M1-94(5)
ON BRIDGE

REMOVE
598
W4-2R(5)

W1-2L(5)
ON LIGHT
POLE
594 733

Lincoln Ave
2300 SOUTH
REMOVE
Lincoln Ave
2300 SOUTH 596
M1-94(5)(MOD)
ON BRIDGE

LANE ENDS 1/4 MILE
REMOVE
LANE ENDS 1/4 MILE 597
W9-63(5)(MOD)
ON BRIDGE
(BRACKETS INCIDENTAL)

5TH ST.
STH 38
IH-43/94 SB
IH-43/94 NB
4TH ST.
LINCOLN AVE.
Eqn272+99.71
Eqn274+00.00
262 264 266 268 270 272 276

SPEED LIMIT 55 590
R2-1(5)
ON LIGHT
POLE
SPEED LIMIT 55
REMOVE

SHEET 24 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43/94	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023229_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

N

REMOVE
W4-2R(2S) 599

LEFT LANE SIGNAL
STOP HERE ON RED
REMOVE

LEFT LANE SIGNAL 635
R10-65L(2S)

STOP HERE ON RED 636
R10-6(2S) ON SIGNAL POLE

RIGHT LANE SIGNAL
STOP HERE ON RED
REMOVE

RIGHT LANE SIGNAL 633
R10-65R(2S)

STOP HERE ON RED 634
R10-6(2S)(MOD) ON SIGNAL POLE

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
REMOVE

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED 628
R5-57(5)

SOUTH MB3-3 / EAST MB3-2
43 / 94
M1-1 / M1-1
629 41
M1-4 / MB6-2
MB6-2
J3-2(2S)

SOUTH / EAST
43 / 94
41
REMOVE

SEE SHEET 25A FOR ADDITIONAL SIGNS AT THIS INTERSECTION

5TH ST.

W. BECHER ST.

4TH ST.

IH-43/94 SB

IH-43/94 NB

278 280 282 284 286 288 290 292

W4-1(5) 600
REMOVE

RAMP METERED WHEN FLASHING
REMOVE

RAMP METERED WHEN FLASHING 601
W3-8(5) ON SIGNAL POLE

STOP HERE ON RED 603
R10-6(2S) ON SIGNAL POLE
STOP HERE ON RED
REMOVE

STOP HERE ON RED 602
R10-6(2S)(MOD) ON SIGNAL POLE
STOP HERE ON RED
REMOVE

WATCH FOR BACKUPS 610 611
W8-74(5)

NO TRESPASSING STATE OF WIS-OWNER VIOLATORS WILL BE PROSECUTED SEC 943.13 WIS STATUTES
R5-98 ESTR ON BRIDGE COLUMN

Downtown 609
D1-1
Downtown
REMOVE

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
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

SHEET 25 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023230_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

N

REMOVE
W4-3L(2S) 627

REMOVE
5 th St 604
D1-1(MOD)

REMOVE
W4-2R(2S) ON LIGHT POLE 626

REMOVE
R3-2(2S) ON SIGNAL POLE 630

SOUTH MB3-3 / EAST MB3-2
M1-1 / M1-1
M1-4 / MB5-2L 631
MB5-2L
J2-2(2S)

SOUTH / EAST
43 / 94
41
REMOVE

632 R3-2(2S)

W. BECHER ST.

623 ONE WAY R6-2R(2S) ON SIGNAL POLE

ONE WAY REMOVE

REMOVE
R1-2(2S) ON LIGHT POLE 622

NO TURNS REMOVE

NO TURNS 619 620
R3-3(2S) ON SIGNAL POLE

618 NO PARKING ANY TIME R7-1D(2S)

REMOVE

5TH ST.

Ferry
ESTR

616 621 DO NOT ENTER
R5-1(3) ON SIGNAL POLE

DO NOT ENTER REMOVE

615 R3-1(2S) ON SIGNAL POLE

REMOVE

ONE WAY 617 624 625
R6-2L(2S) ON SIGNAL POLE

ONE WAY REMOVE

612 R3-1(2S)

613 DO NOT ENTER R5-1(3)

614 ONLY R3-8H

REMOVE

SOUTH / EAST
43 / 94
41
REMOVE

SOUTH MB3-3 / EAST MB3-2 605
M1-1 / M1-1
M1-4 / MB6-2
MB6-2
J3-2(2S)

NORTH MB3-1 / WEST MB3-4 606
M1-1 / M1-1
M1-4 / MB5-2L
MB5-2L
J2-2(2S)
ON COLUMN

NORTH / WEST
43 / 94
41
REMOVE

607 ONE WAY R6-2R(2S) ON SIGNAL POLE

ONE WAY REMOVE

608 W12-1D(2M) 2' HEIGHT

REMOVE

IH-43/94 SB

288

290

INL

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
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

SHEET 25A OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023230a_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 40:1

2

N

S-40-94
TO BE REPLACED
BY S-40-978

REMOVE
YIELD
670
671
R1-2(2S)

City of Milwaukee
NO PARKING XAM to XAM
744

NO ENGINE BRAKING EXCEPT IN EMERGENCY
743
MOVE

REMOVE
NO PARKING FIRE LANE
659
R7-1D(2S)

REMOVE
YIELD
657
738
R1-2(2S)

Beloit
Chicago
Becher St – EAST
REMOVE

5th St
REMOVE

Becher St
WEST
REMOVE

Beloit
Chicago
Becher St – EAST
TYPE I SIGN
656

5th St
TYPE I
655

Becher St
WEST
TYPE I SIGN
654

M1-85
ESTR

I55-56
ESTR

S-40-95
TO BE REPLACED
BY S-40-979

Lincoln Ave
Becher St
EAST WEST
REMOVE

Lincoln Ave
Becher St
EAST WEST
D2-2(2)(MOD)
652

S-40-89

NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES
2 HOUR LIMIT
REMOVE

NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES
649
R8-55

2 HOUR LIMIT
648
R8-56

REMOVE

647

WATCH FOR BACKUPS
643
W8-74(5)
ON LIGHT POLE

SITE 312S
REMOVE

SITE 312S
646
SEE DETAIL

WATCH FOR BACKUPS
644
W8-74(5)

Maple St
1800 SOUTH
REMOVE

Maple St
1800 SOUTH
645
M1-94(5)(MOD)
ON BRIDGE

5TH ST.

W. MAPLE ST.

IH-43/94 SB

IH-43/94 NB

294 296 298 300 302 304 306 308

637
Becher St
EAST
TYPE I SIGN

638
Becher St
5 th St
Lincoln Ave
TYPE I SIGN

639
Becher St
WEST
TYPE I SIGN

Becher St
EAST
REMOVE

5 th St
Lincoln Ave
REMOVE

Becher St
WEST
REMOVE

WRONG WAY
658
660
R5-1A(3)

745
W3-3(2S)
REMOVE

RAMP METERED WHEN FLASHING
653
W3-8(5)
ON SIGNAL POLE

RAMP METERED WHEN FLASHING
REMOVE

EXIT
640
E5-1(5)

641
W5-54(2M)

642
W5-54(2M)

EXIT
REMOVE

740
W5-53S(2)
4" X 12"
(SB)
ON BARRIER WALL
FOR STORM SEWER
INLET MARKING.
FIELD LOCATE
LOW POINT

651
TYPE I SIGN

REMOVE

Becher St
Lincoln Ave
650
TYPE I SIGN

Becher St
Lincoln Ave
REMOVE

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
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

SHEET 26 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023231_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

EXIT 312B ↗
REMOVE

EXIT 312B ↗ (694)
E5-1A(5)

Becher St
Lincoln Ave
RIGHT LANE (672)
TYPE I SIGN
REUSE STEEL POSTS

(695) W5-54(2M)

(696) W5-54(2M)

SOUTH MB3-3 INTERSTATE 43 M1-1
(673) EAST MB3-2 INTERSTATE 94 M1-1
MB6-2
(675) Mitchell St ↗ D1-1

43-41 SOUTH
94 EAST
Mitchell St ↗ (674)
REMOVE

PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED
REMOVE
(676) PEDESTRIANS BICYCLES NON MOTORIZED TRAFFIC MOTOR BICYCLES PROHIBITED R5-57(5)

ADOPT-A-HIGHWAY SPONSOR
I55-56
ESTR

NO TURN ON RED
REMOVE
(678) NO TURN ON RED R10-11B(2M) OVERHEAD

REMOVE
(690) R3-2(2S) ON SIGNAL POLE

DO NOT ENTER
REMOVE
(698) DO NOT ENTER R5-1(3) ON LIGHT POLE 3' HEIGHT

SOUTH MB3-3 INTERSTATE 43 M1-1
EAST MB3-2 INTERSTATE 94 M1-1
41 M1-4
(680) MB6-2 J3-2(2S) ON SIGNAL POLE

SOUTH INTERSTATE 43
EAST INTERSTATE 94
41
REMOVE

ONE WAY
REMOVE
ONE WAY (679) R6-2R(2S) ON LIGHT POLE

NO ENGINE BRAKING EXCEPT IN EMERGENCY WITHIN MILWAUKEE CITY LIMITS
ESTR

City of Milwaukee
NO PARKING XAM to XAM
ESTR

WRONG WAY
REMOVE
WRONG WAY (681) (682) (687) R5-1A(3)

Mitchell St
Lapham Blvd
EAST WEST
REMOVE
Mitchell St
Lapham Blvd
EAST WEST (683) D2-2(MOD)

N

IH-43/94 SB
IH-43/94 NB
W. MITCHELL AVE.
W. LAPHAM AVE.
5TH ST.
308 310 312 314 316 318 320 322

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
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

Mitchell St 1700 SOUTH (697) M1-94(MOD) ON BRIDGE
Mitchell St 1700 SOUTH
REMOVE

FORM SINGLE LINE (692) (693) R3-58(2S)
FORM SINGLE LINE
REMOVE

NORTH MB3-1 INTERSTATE 43 M1-1
WEST MB3-4 INTERSTATE 94 M1-1
(677) 41 M1-4
MB5-1L
MB5-1L J2-2(2S) ON SIGNAL POLE

NORTH INTERSTATE 43
WEST INTERSTATE 94
41
REMOVE

(689) R3-1(2S) ON SIGNAL POLE
REMOVE

Lapham Blvd 1600 SOUTH (688) M1-94(5)(MOD) ON BRIDGE
Lapham Blvd 1600 SOUTH
REMOVE

ONE WAY (691) R6-2L(2S) ON LIGHT POLE
ONE WAY
REMOVE

EXIT 312 B (686A)
Becher St
Lincoln Ave (686)
TYPE I SIGN
REUSE STEEL POSTS

EXIT 312 B
Becher St
Lincoln Ave
REMOVE

RIDESHARE INFORMATION
www.rideshare.wi.gov (685) D12-2B(2M)
RIDESHARE INFORMATION
www.rideshare.wi.gov
REMOVE

SPEED LIMIT 55 (684) R2-1(5) ON LIGHT POLE
SPEED LIMIT 55
REMOVE

SHEET 27 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023232_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

REMOVE

700

W3-3(2S)

SOUTH MB3-3 43 M1-1 MB5-2L
EAST MB3-2 94 M1-1 MB5-2L
REMOVE

SOUTH MB3-3 43 M1-1 MB5-2L
EAST MB3-2 94 M1-1 MB5-2L
701
J2-2(2S)

741
W5-53S(2)
4" X 12"
(SB)
ON BARRIER WALL
FOR STORM SEWER
INLET MARKING.
FIELD LOCATE
LOW POINT

Greenfield Ave 1400 SOUTH
REMOVE

Greenfield Ave 1400 SOUTH
702
M1-94(5)
ON BRIDGE

SOUTH 43 M1-1
EAST 94 M1-1
SOUTH 41 M1-4
REMOVE

709
SOUTH MB3-3 43 M1-1
EAST MB3-2 94 M1-1
SOUTH M3-3 41 M1-4
J4-3(5)

EXIT 312 A
Lapham Blvd
Mitchell St
EXIT ONLY
REMOVE

EXIT 312 A
Lapham Blvd
Mitchell St
EXIT ONLY
708A
708
TYPE I SIGN

S-40-154

S-40-393

5TH ST.

4TH ST.

GREENFIELD AVE.

IH-43/94 SB

IH-43/94 NB

324 326 328 330 332 334 336 338

CRASH INVESTIGATION SITE
EXIT 312 B
REMOVE

CRASH INVESTIGATION SITE
EXIT 312 B
699
TYPE I SIGN
REUSE STEEL POSTS

EXIT 312A
REMOVE

EXIT 312A
703
E5-1A(5)

704 W5-54(2M)

705 W5-54(2M)

710A
EXIT 312 B
710
Becher St
Lincoln Ave
1/4 MILE
TYPE I SIGN

EXIT 312 A
706A
Lapham Blvd
Mitchell St
706
EXIT ONLY
TYPE I SIGN

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

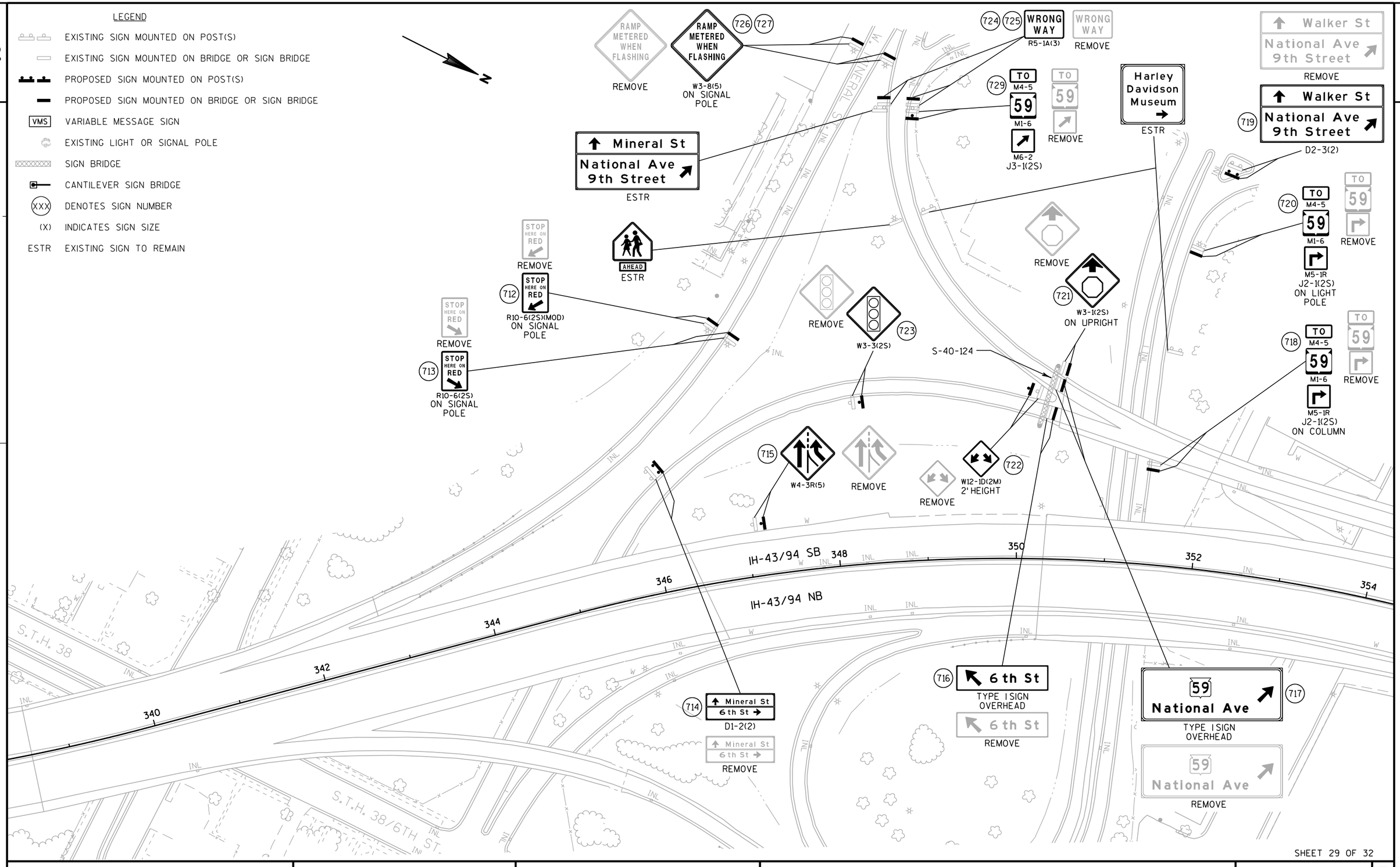
SHEET 28 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023233_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN



SHEET 29 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023234_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2

EXIT 311

REMOVE

EXIT 311

730

E5-1A(5)

731 W5-54(2M)

732 W5-54(2M)

Harley Davidson Museum

ESTR

EXIT 311

59

National Ave 6th Street

EXIT ONLY

ESTR
TYPE I SIGN
REPLACED UNDER 1060-05-75

NATIONAL AVE.

W. PIERCE ST.

SIGN

SIGN

IH-43/94 SB

IH-43/94 NB

354 356 358 360 362 364 366 368

S-40-1

W1-4C(5)

735 736

EXIT 312 A

Lapham Blvd
Mitchell St

½ MILE

ESTR
TYPE I SIGN

MENOMONEE R.

PIER

LEGEND

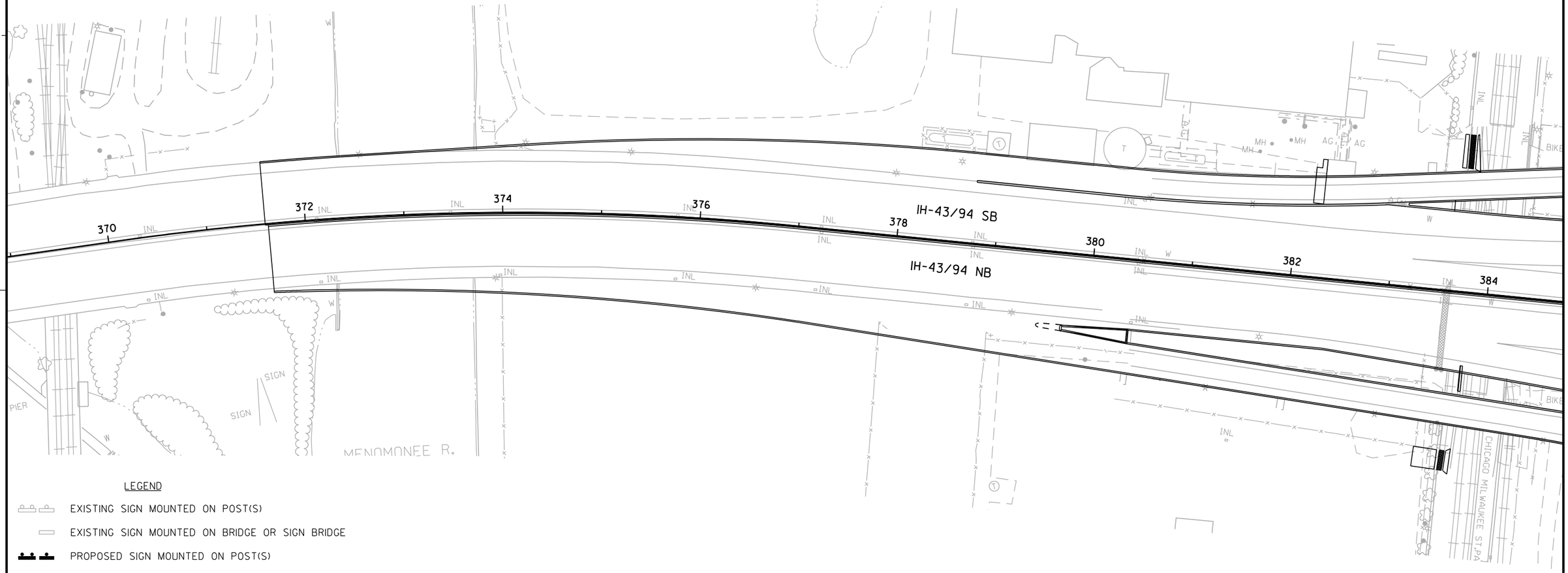
- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X)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

SHEET 30 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023235_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

2



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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

SHEET 31 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\023236_ps.dgn PLOT DATE : 24-SEP-2012 09:55 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1
WISDOT/CADDS SHEET 42

2

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
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

NEE R

WALLS

BIKE PATH

A.G.

IH-94/STH 41

SIGN

384

386

IH-43 SB

IH-43 NB

BIKE PATH

IH-94/STH 41

CHICAGO MILW

RIPRAP

MH

AG

INL

W

ST PAUL AVE

737

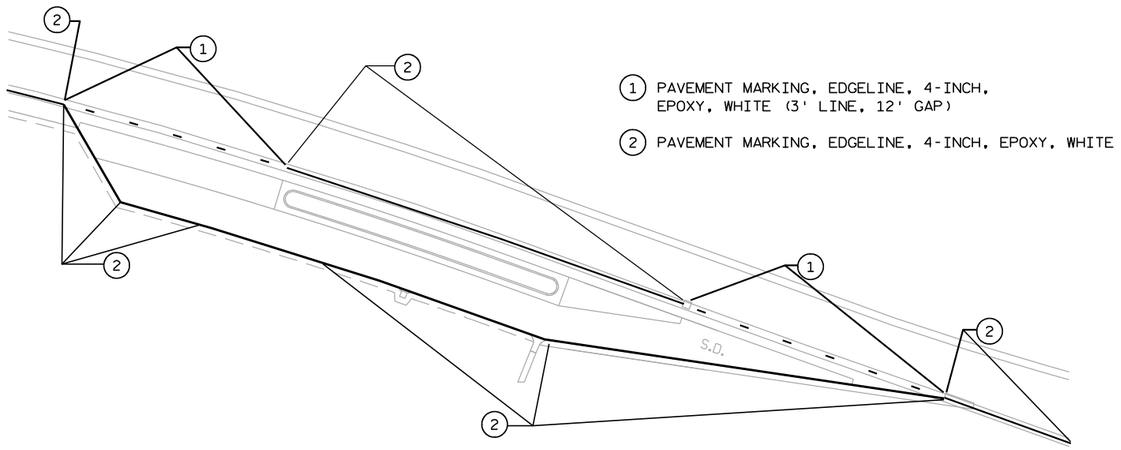
LEFT LANE
BUSES MOTORCYCLES AND 2 OR MORE OCCUPANT CAR POOLS ONLY
R3-5IL(MOD)
REMOVE
WISC AVE ON RAMP

SHEET 32 OF 32

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING (SB)	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\023237_ps.dgn PLOT DATE : 24-SEP-2012 09:56 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 100:1

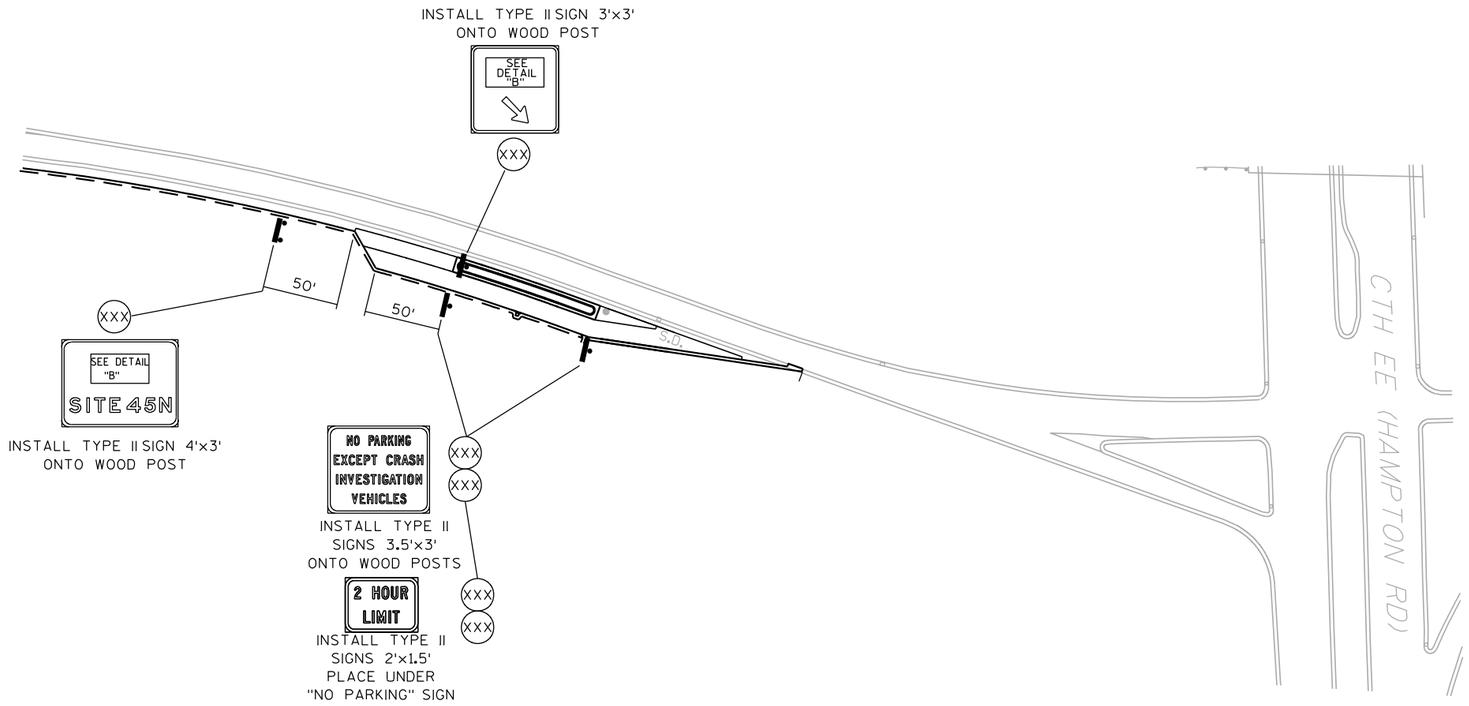
2



(1) PAVEMENT MARKING, EDGELINE, 4-INCH, EPOXY, WHITE (3' LINE, 12' GAP)

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

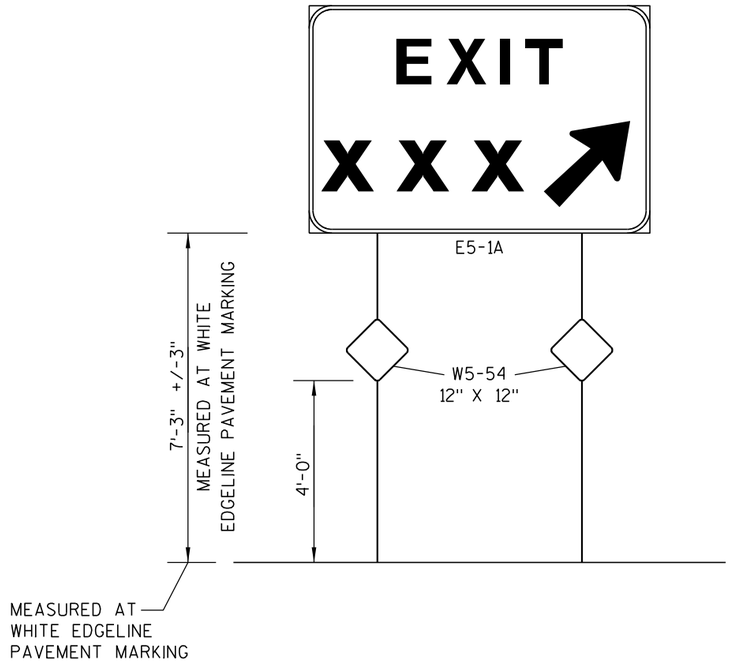
PAVEMENT MARKING AT CRASH INVESTIGATION SITE



SIGNING AT CRASH INVESTIGATION SITE

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PAVEMENT MARKING TYPICAL	SHEET	E

2



SEE STATE PLATE A4-2
FOR LOCATION LATERALLY
OF E5-1A SIGN.

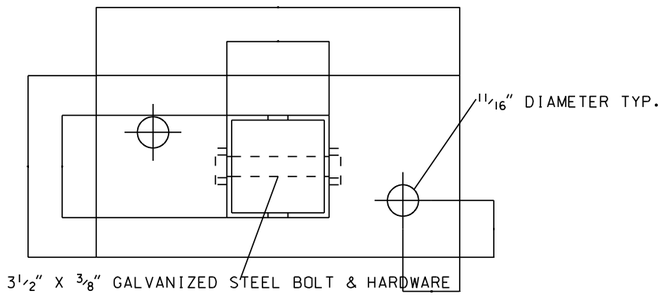
EXIT GORE SIGN DETAIL

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	EXIT GORE SIGN DETAIL	SHEET	E

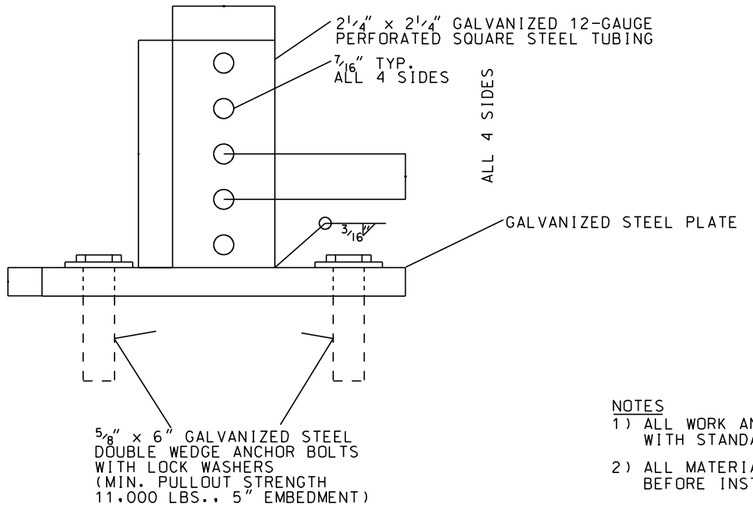
2

TYPICAL REFERENCE MARKER MOUNTING DETAILS

BARRIER WALL SIGN BRACKET ASSEMBLY
NOT TO SCALE

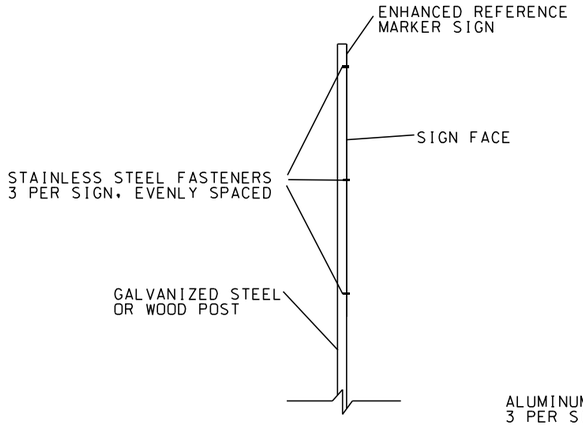


PLAN VIEW

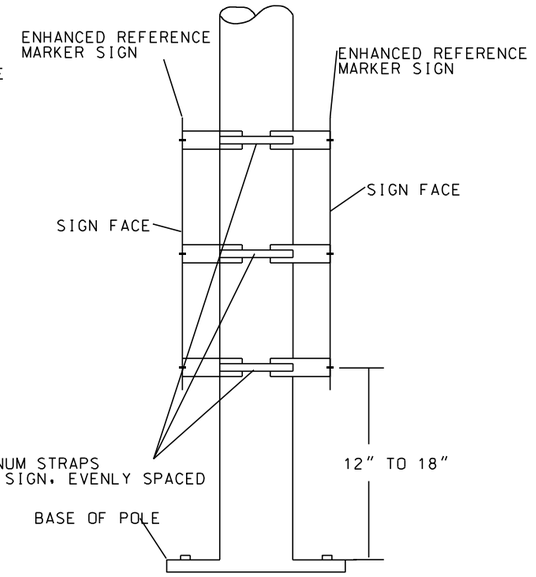


SIDE VIEW

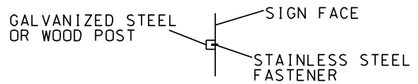
REFERENCE MARKER MOUNTING DETAILS



SIDE VIEW

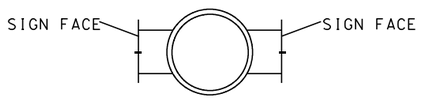


SIDE VIEW



PLAN VIEW

GALVANIZED STEEL OR WOOD POST
NOT TO SCALE



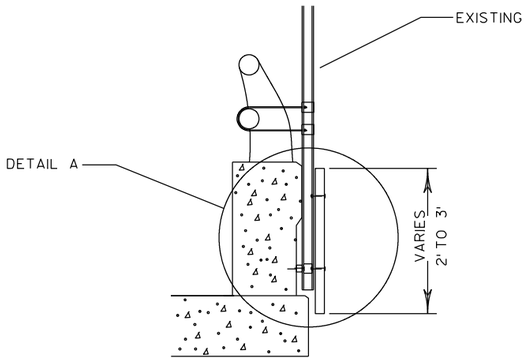
PLAN VIEW

LIGHT POLE
NOT TO SCALE

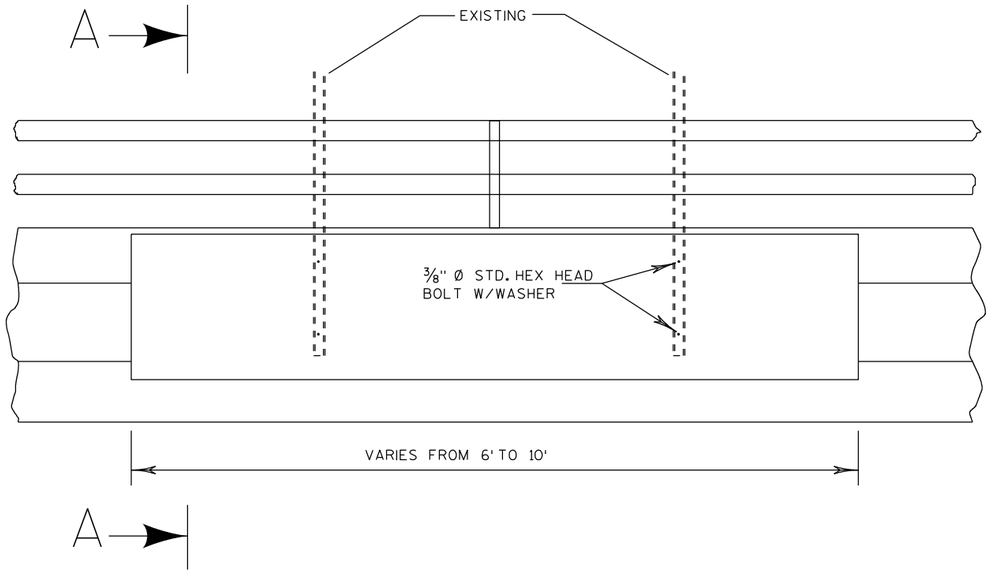
NOTES
1) ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION
2) ALL MATERIAL TO BE APPROVED BY ENGINEER BEFORE INSTALLATION

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	REFERENCE MARKER MOUNTING DETAILS	SHEET	E

2



SECTION A-A
SIDE VIEW

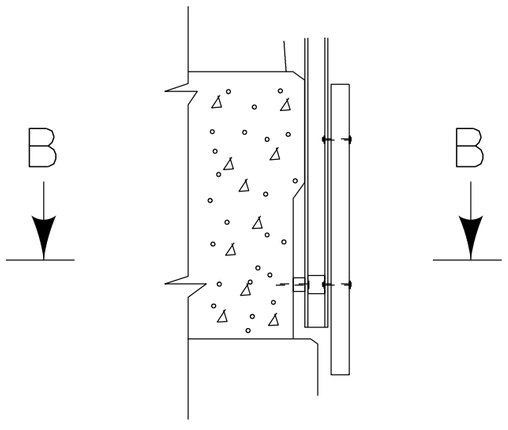


FRONT VIEW

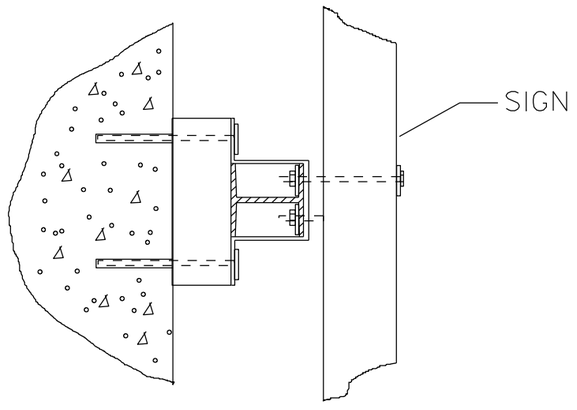
NOTES:

PROVIDE NEW BOLTS.

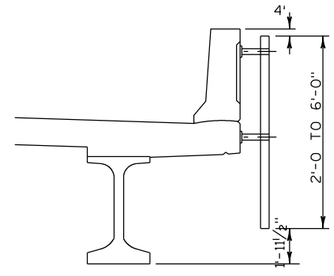
MOUNTING DETAIL COSTS ARE INCIDENTAL TO PAY ITEM "TYPE II SIGNS, REFLECTIVE".



DETAIL A

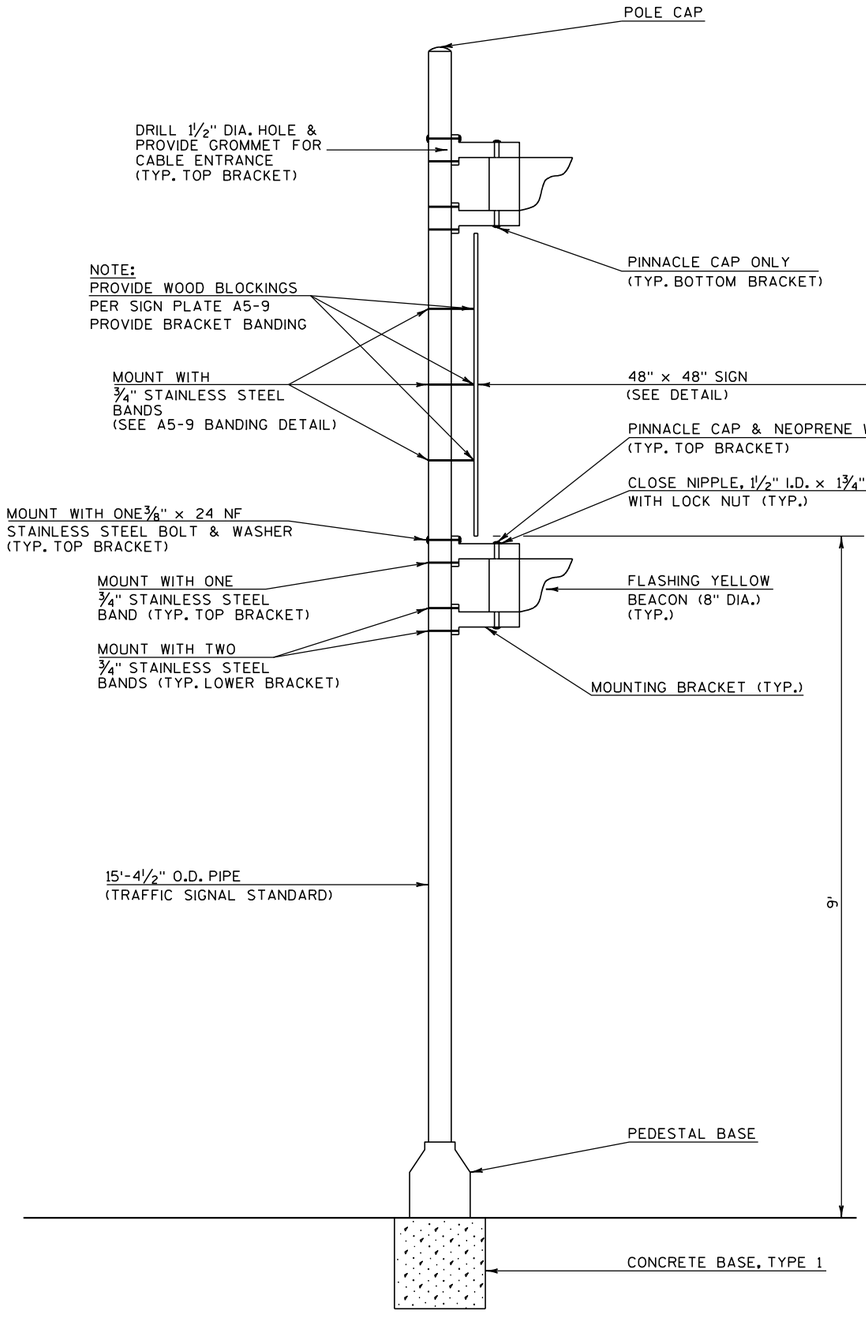


SECTION B-B
TOP VIEW

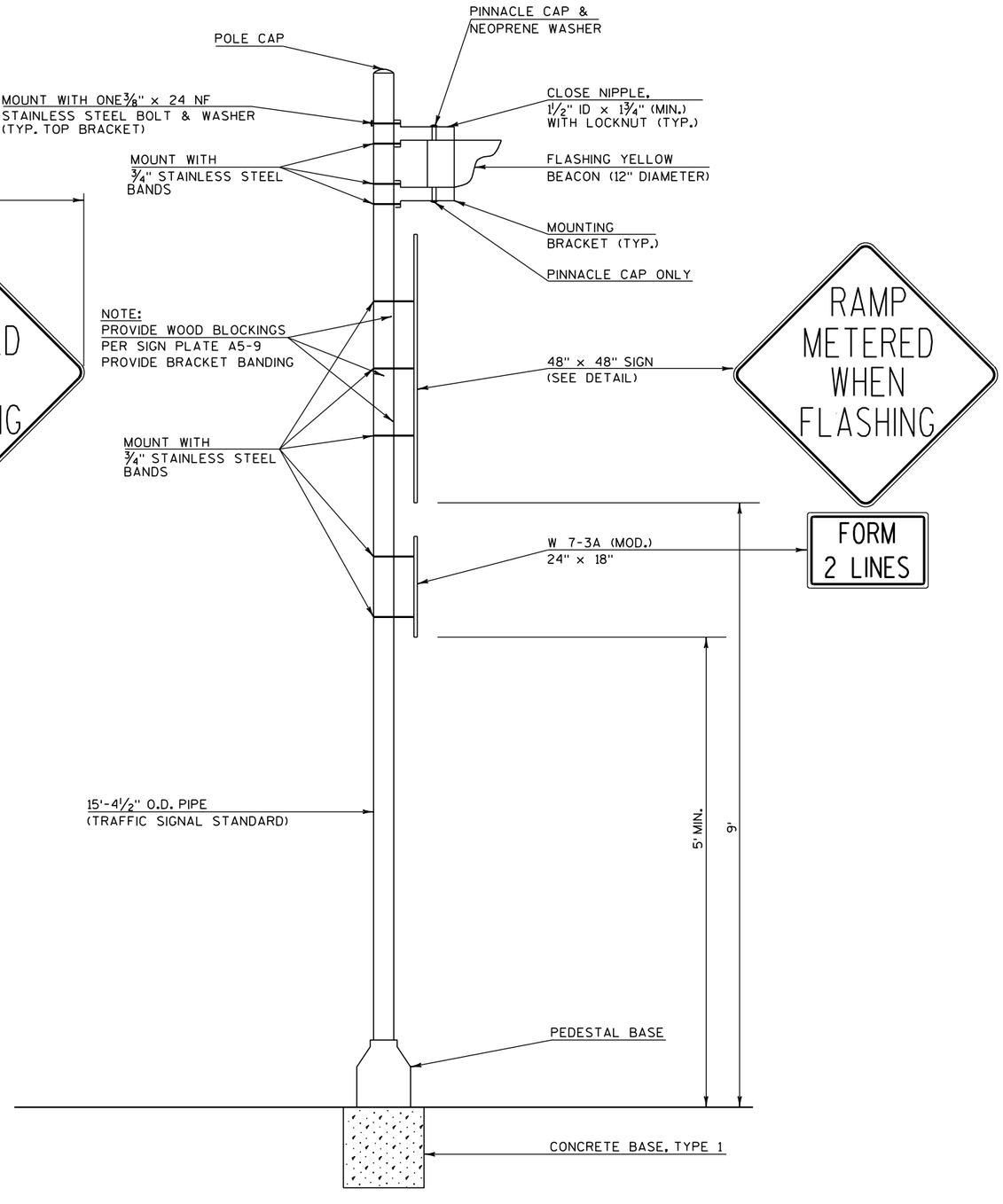


PARAPET OPTION
WITHOUT RAIL

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGN MOUNTING DETAIL ON BRIDGE	SHEET	E



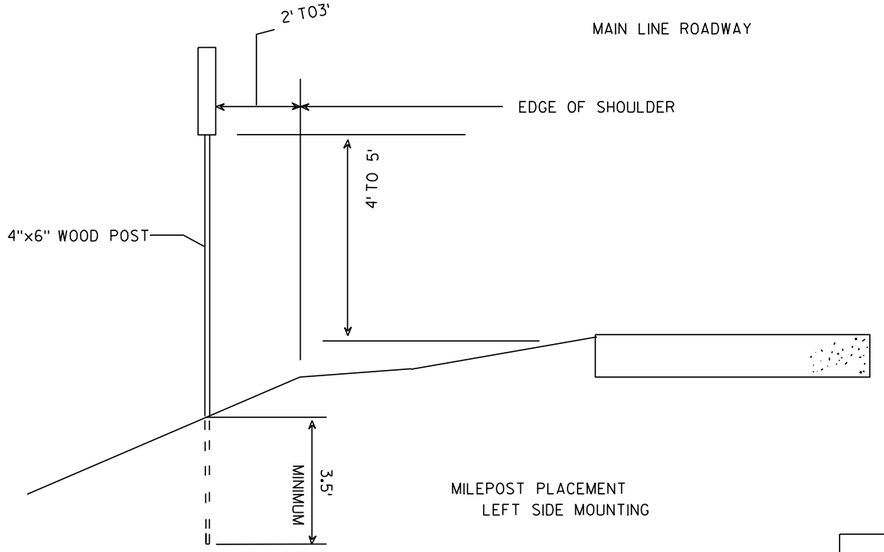
TYPICAL DETAIL
ADVANCE FLASHER, TYPE 1 (1 LANE RAMP)



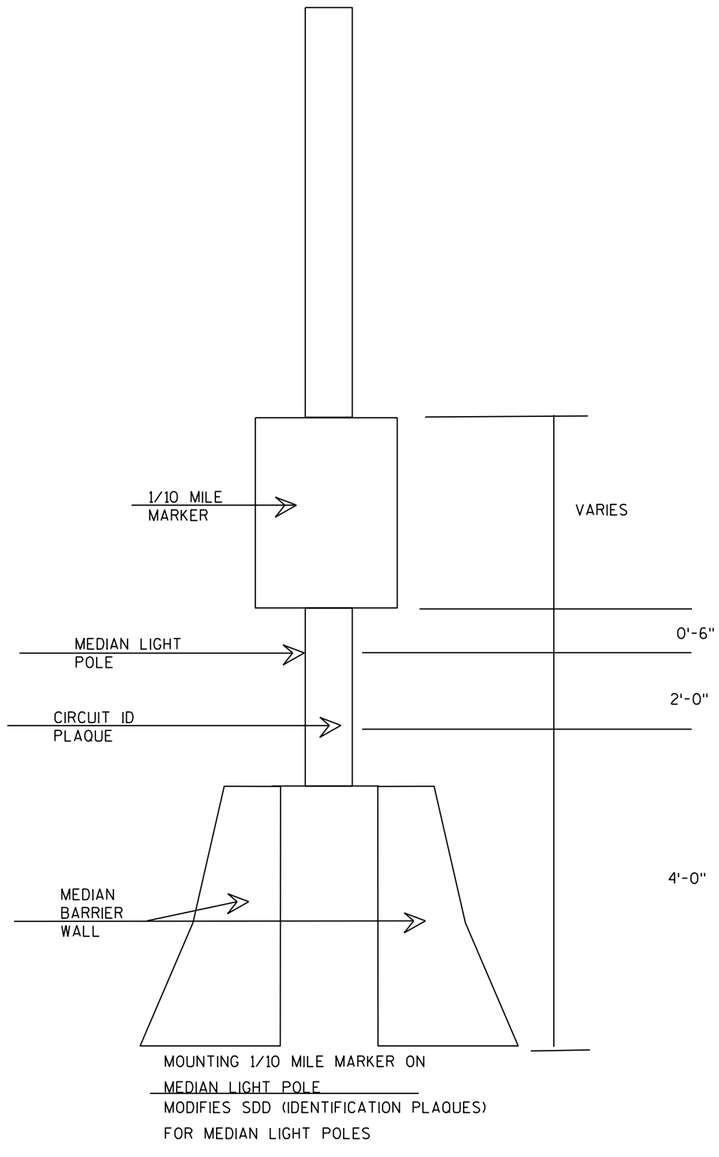
TYPICAL DETAIL
ADVANCE FLASHER, TYPE 1 (2 LANE RAMP)

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	RAMP CONTROL SIGNAL DETAIL	SHEET	E

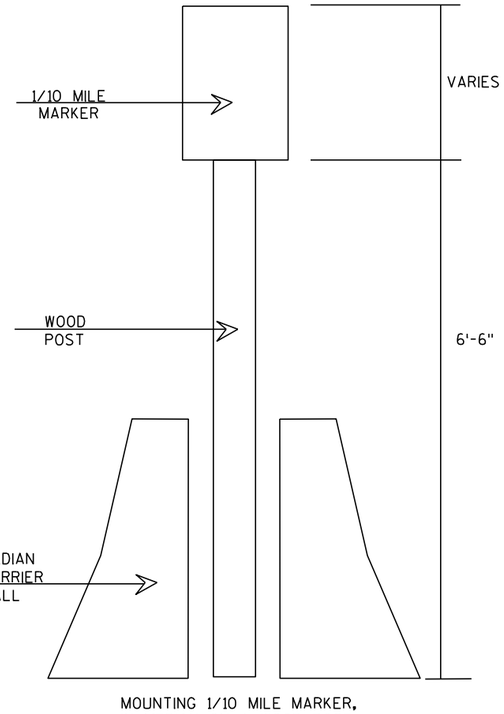
2



MILEPOST PLACEMENT
LEFT SIDE MOUNTING



MOUNTING 1/10 MILE MARKER ON
MEDIAN LIGHT POLE
MODIFIES SDD (IDENTIFICATION PLAQUES)
FOR MEDIAN LIGHT POLES



MOUNTING 1/10 MILE MARKER,
IN MEDIAN, ON A WOOD POST

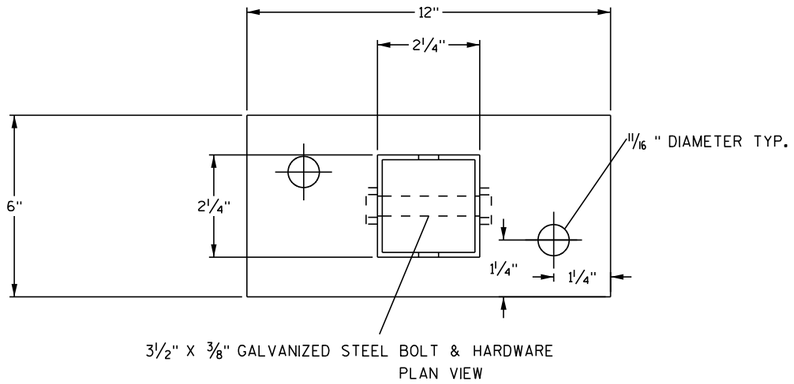
PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGNING DETAILS - TYPE II SIGN	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\023401_ps.dgn PLOT DATE : 24-SEP-2012 10:02 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 200:1
WISDOT/CADDS SHEET 42

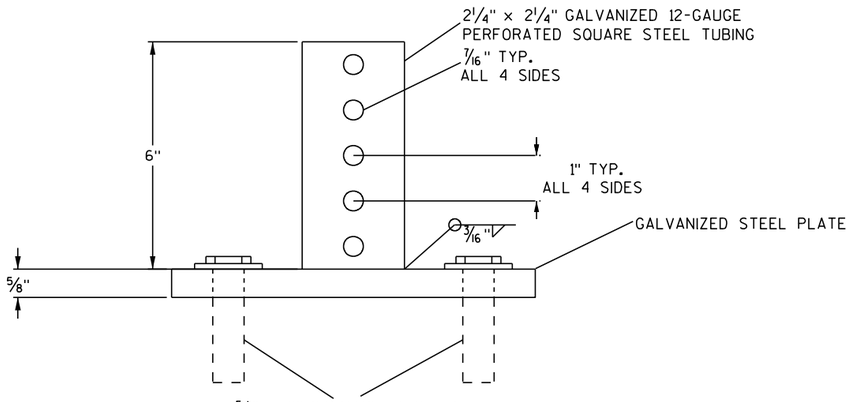
2

TYPICAL REFERENCE MARKER MOUNTING DETAILS

BARRIER WALL SIGN BRACKET ASSEMBLY
NOT TO SCALE

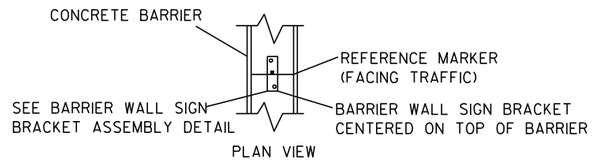


PLAN VIEW



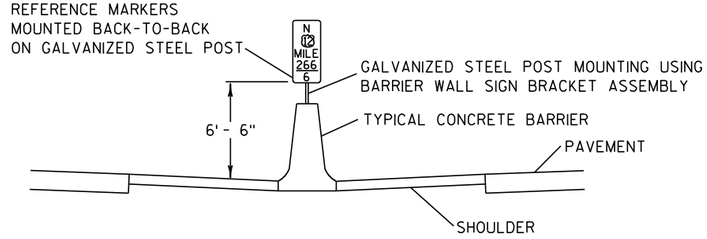
SIDE VIEW

TYPICAL REFERENCE MARKER PLACEMENT DETAILS



PLAN VIEW

MEDIAN BARRIER MOUNTING DETAIL



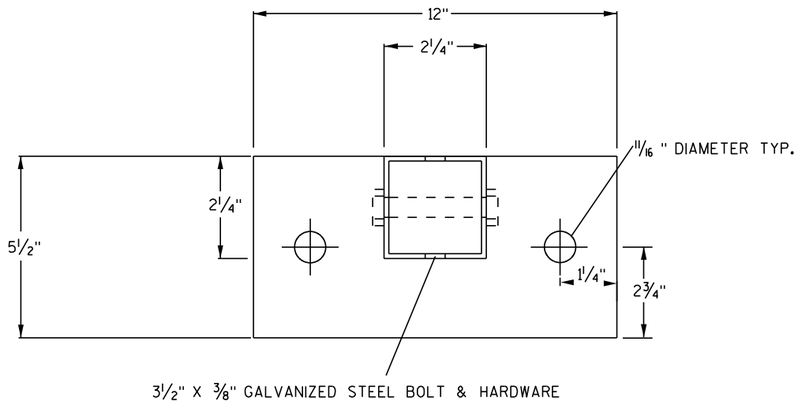
SINGLE MEDIAN BARRIER

NOTES

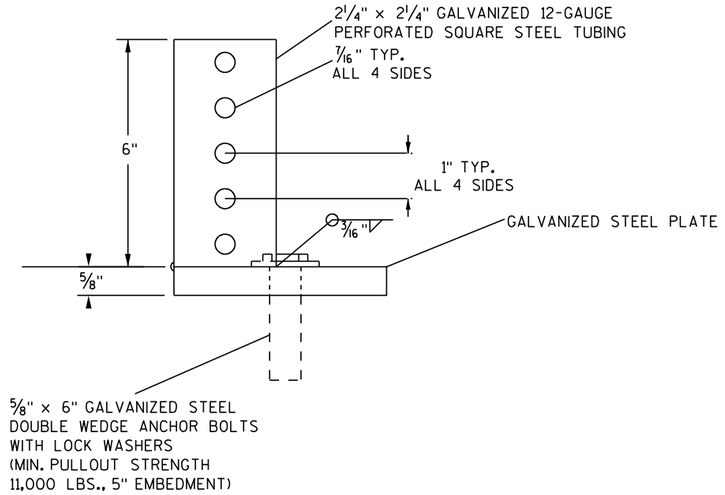
1) ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION
2) ALL MATERIAL TO BE APPROVED BY ENGINEER BEFORE INSTALLATION
3) SEE SIGN PLATE A4-8 FOR BOLT REQUIREMENTS. INCIDENTAL TO SIGN.

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	MILE MARKER MOUNTING	SHEET	E

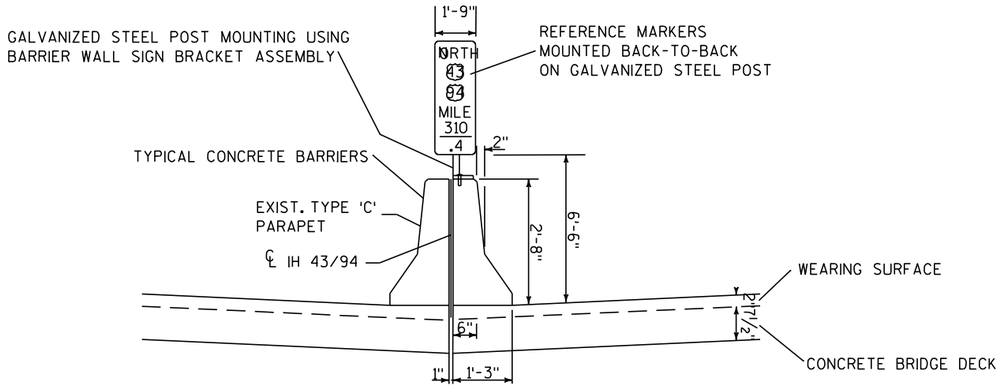
BARRIER WALL SIGN BRACKET ASSEMBLY
NOT TO SCALE



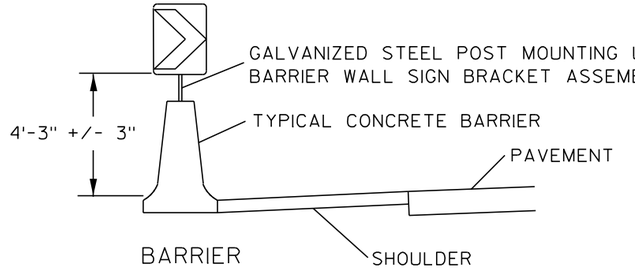
PLAN VIEW



ELEVATION VIEW

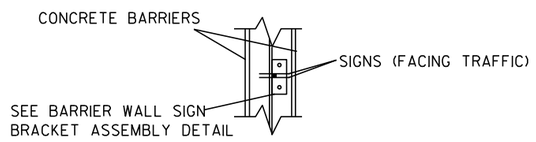


DOUBLE MEDIAN BRIDGE PARAPET



DOUBLE MEDIAN BARRIER

TYPICAL SIGN PLACEMENT DETAILS



PLAN VIEW

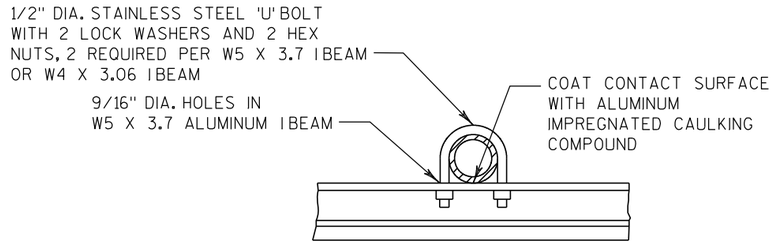
MEDIAN BRIDGE PARAPET MOUNTING DETAIL

NOTES

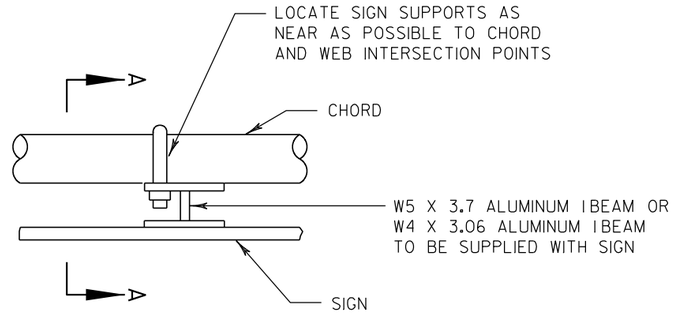
1) ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION
2) ALL MATERIAL TO BE APPROVED BY ENGINEER BEFORE INSTALLATION
3) SEE SIGN PLATE A4-8 FOR BOLT REQUIREMENTS.

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	OFFSET MILE MARKER MOUNTING DETAIL	SHEET	E

2



SECTION A-A

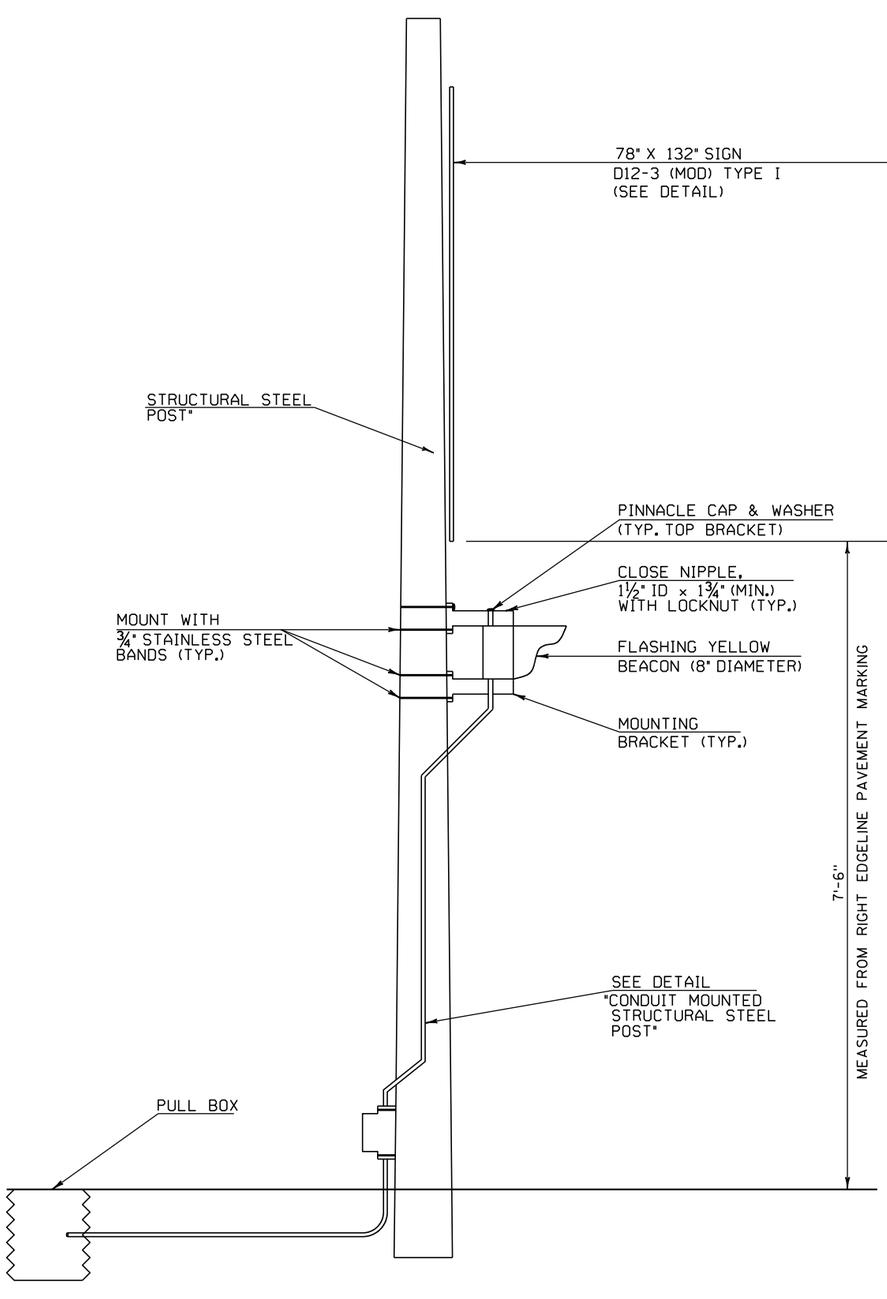


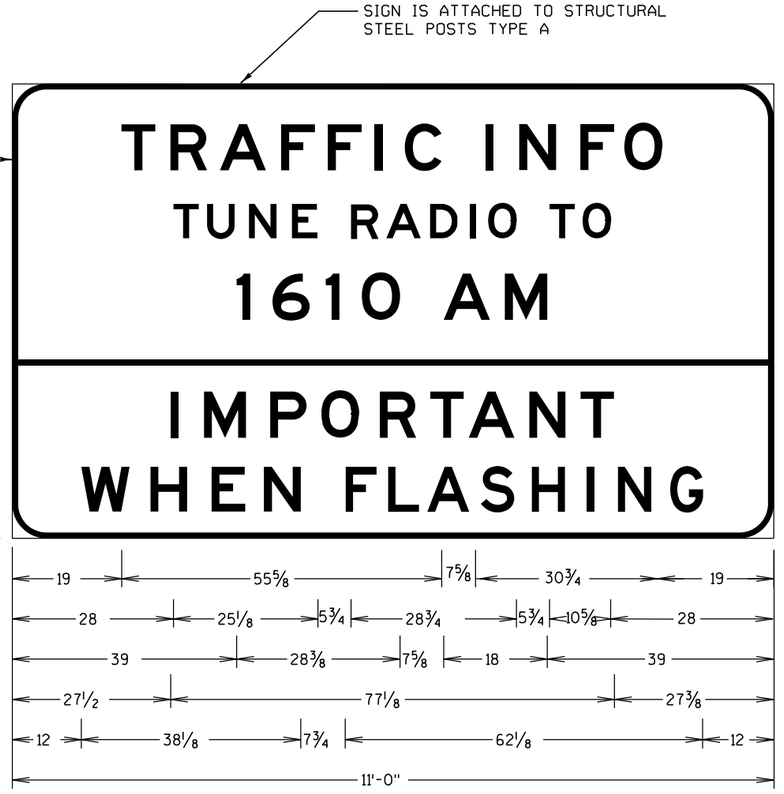
TYPICAL SIGN CONNECTION

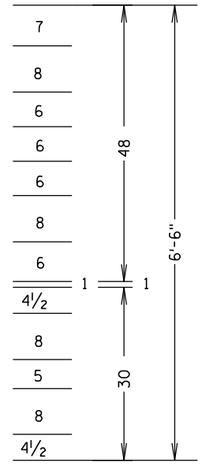
FOR USE WHEN MOUNTING SIGNS TO EXISTING SIGN BRIDGE TRUSS
INCIDENTAL TO OTHER SIGN ITEMS

NOTE: CONTRACTOR SHALL MEASURE THE WIDTH OF THE
L-BRACKET ON EXISTING STRUCTURES TO DETERMINE
THE WIDTH NEEDED FOR SIGN SUPPORT BEAMS.
IF L-BRACKETS ARE 4-INCHES THEN USE
4-INCH X 3.06 POUND PER FOOT WIDE FLANGE
IN LIEU OF 5 INCH.

2







588

1" BORDER
6" RADIUS
D12-3 (MOD)

TYPE 1

COLOR:

BLUE BACKGROUND - TOP
WHITE MESSAGE - TOP
YELLOW BACKGROUND - BOTTOM
BLACK MESSAGE - BOTTOM

NOTES:

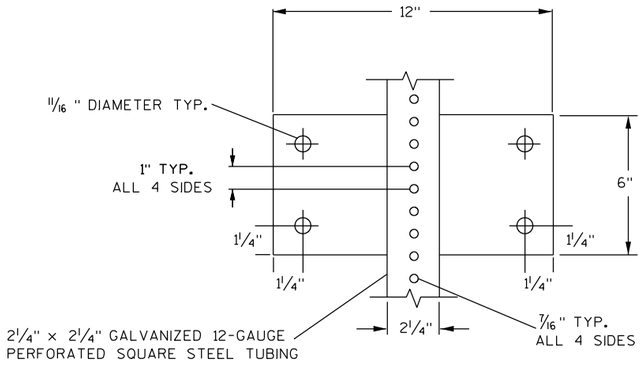
1. ALL SIGNS ARE TYPE 1 (EXCEPT AS NOTED) - TYPE H REFLECTIVE-REFERENCE "WIS DOT STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION" LATEST EDITION.
2. CORNERS MAY BE SQUARE OR ROUNDED WHEN BASE MATERIAL IS PLYWOOD BUT BORDERS SHALL BE ROUNDED AS SHOWN. WHEN BASE MATERIAL IS METAL THE CORNERS AND BORDERS SHALL BE ROUNDED.
3. ALL CAP LETTERS ARE SERIES E MODIFIED. ALL UPPER AND LOWER CASE LETTERS ARE SERIES E MODIFIED.
4. SIGN NUMBERS SHOWN BY: ◯
5. DO NOT SCALE.

TYPICAL DETAIL

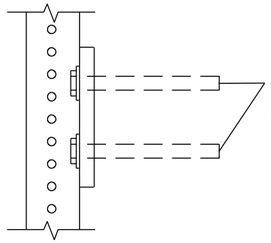
HARS FLASHER ASSEMBLY
(NOT TO SCALE)

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	HARS DETAIL - FOR INFORMATION ONLY	SHEET	E

MOUNTING DETAILS FOR SIGNS MOUNTED TO BARRIER WITH TYPE "G" RAIL

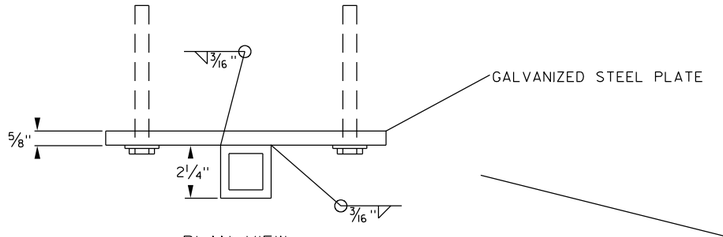


SIDE VIEW

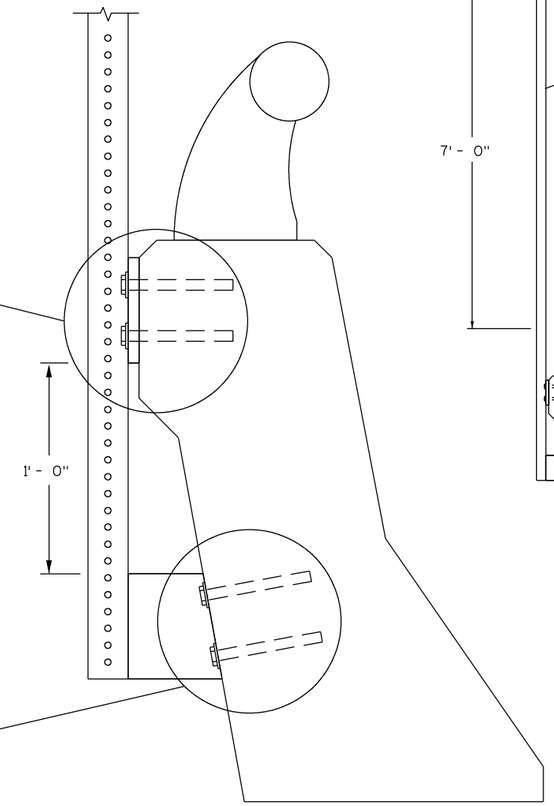


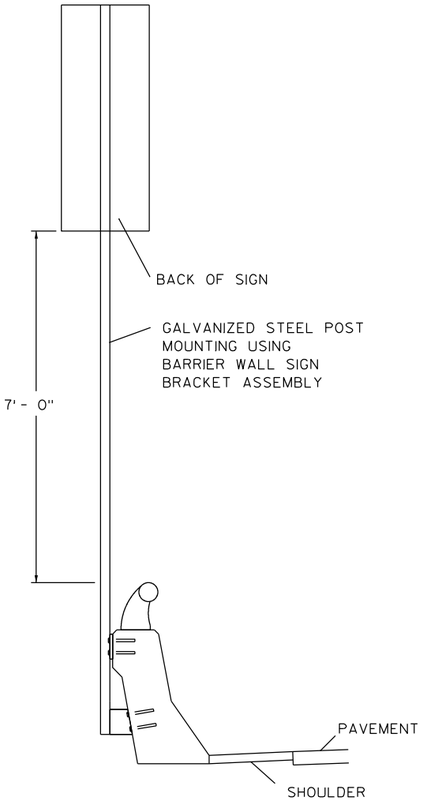
5/8" x 6" GALVANIZED STEEL
DOUBLE WEDGE ANCHOR BOLTS
WITH LOCK WASHERS
(MIN. PULLOUT STRENGTH
11,000 LBS., 5" EMBEDMENT)

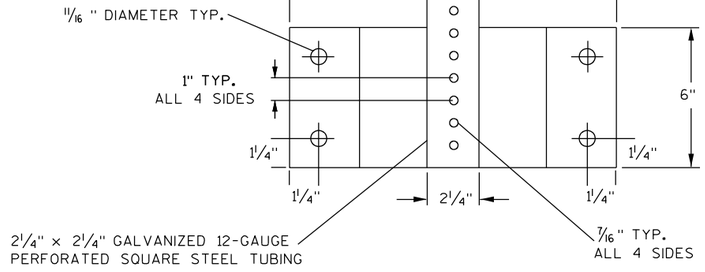
ELEVATION VIEW



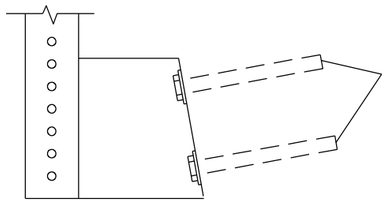
PLAN VIEW





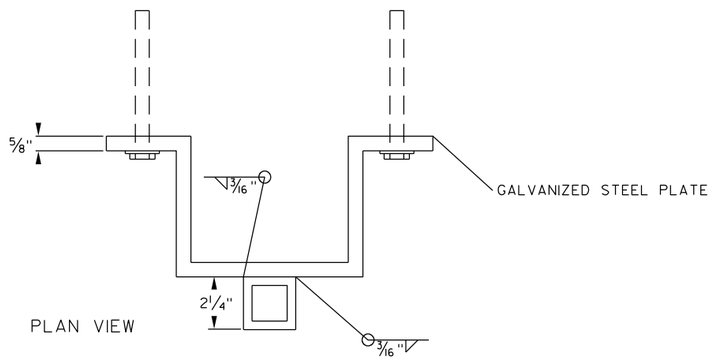


SIDE VIEW

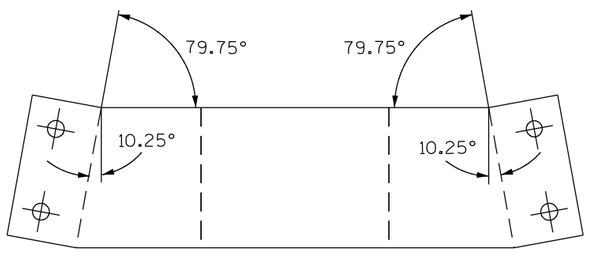


5/8" x 6" GALVANIZED STEEL
DOUBLE WEDGE ANCHOR BOLTS
WITH LOCK WASHERS
(MIN. PULLOUT STRENGTH
11,000 LBS., 5" EMBEDMENT)

ELEVATION VIEW



PLAN VIEW



STEEL PLATE BEFORE BENDING TO BRACKET SHAPE

NOTES

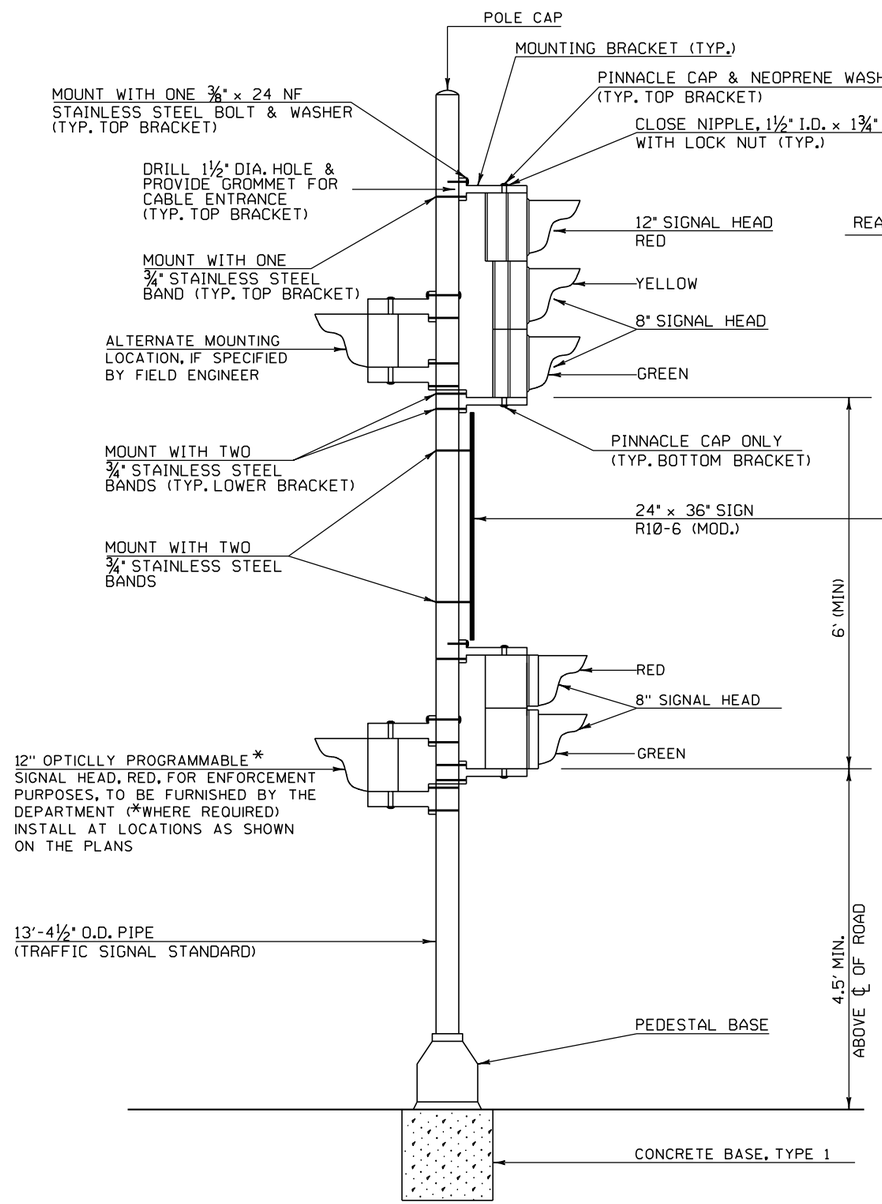
1) ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION
2) ALL MATERIAL TO BE APPROVED BY ENGINEER BEFORE INSTALLATION
3) SEE SIGN PLATE A4-8 FOR BOLT REQUIREMENTS.

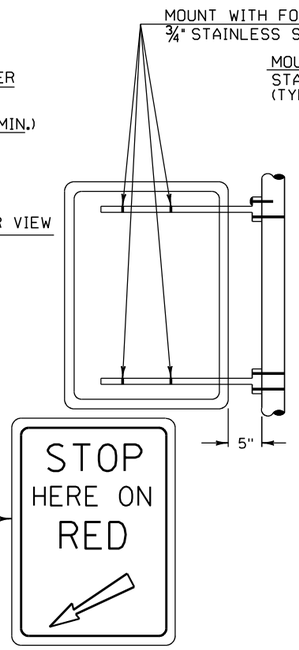
PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGN MOUNTING DETAIL	SHEET	E

2

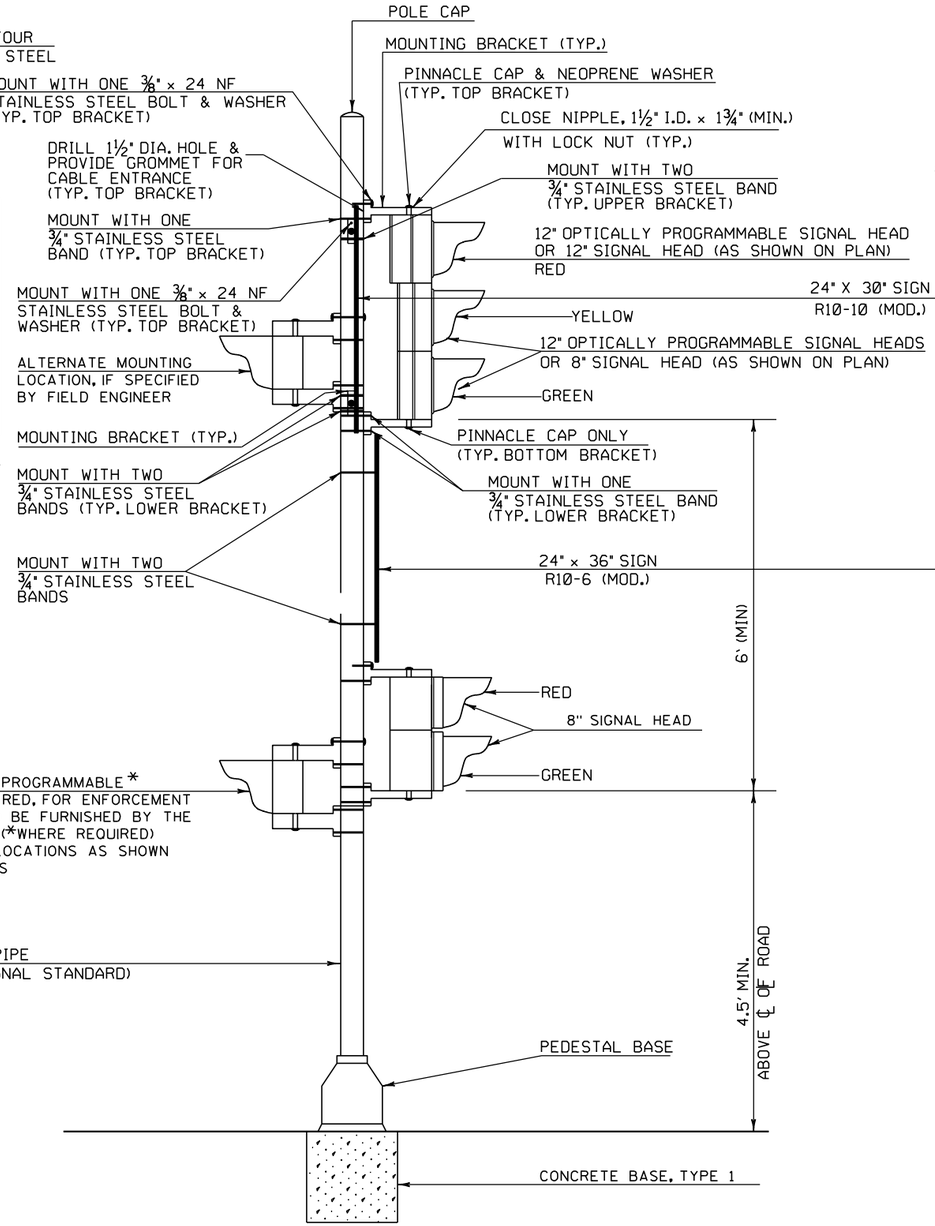
CONSTRUCTION DETAILS
RAMP CONTROL SIGNAL ASSEMBLY
TYPES 1 & 2

• NOTE: R10-6 SIGN; AN ARROW POINTING LEFT SHALL BE USED ON A RIGHT SIDE SIGNAL & AN ARROW POINTING RIGHT SHALL BE USED ON A LEFT SIDE SIGNAL.

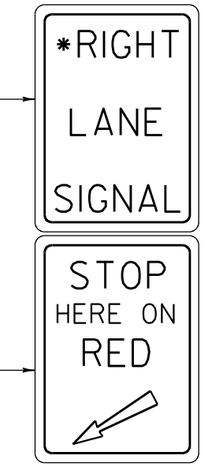




• FOR SINGLE LANE METERING ONLY



* RIGHT OR LEFT ACCORDING TO ASSEMBLY PLACEMENT

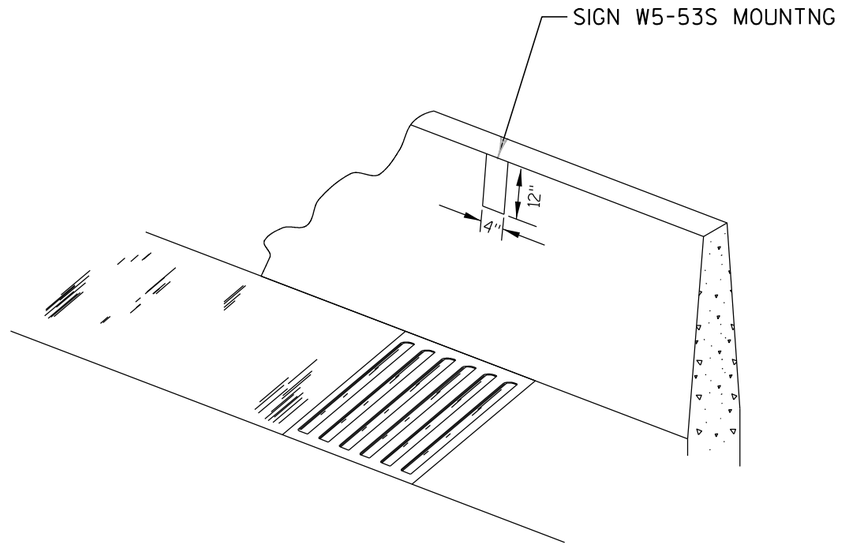


RAMP CONTROL SIGNAL ASSEMBLY, TYPE 1
STANDARD DETAIL

RAMP CONTROL SIGNAL ASSEMBLY, TYPE 2
STANDARD DETAIL

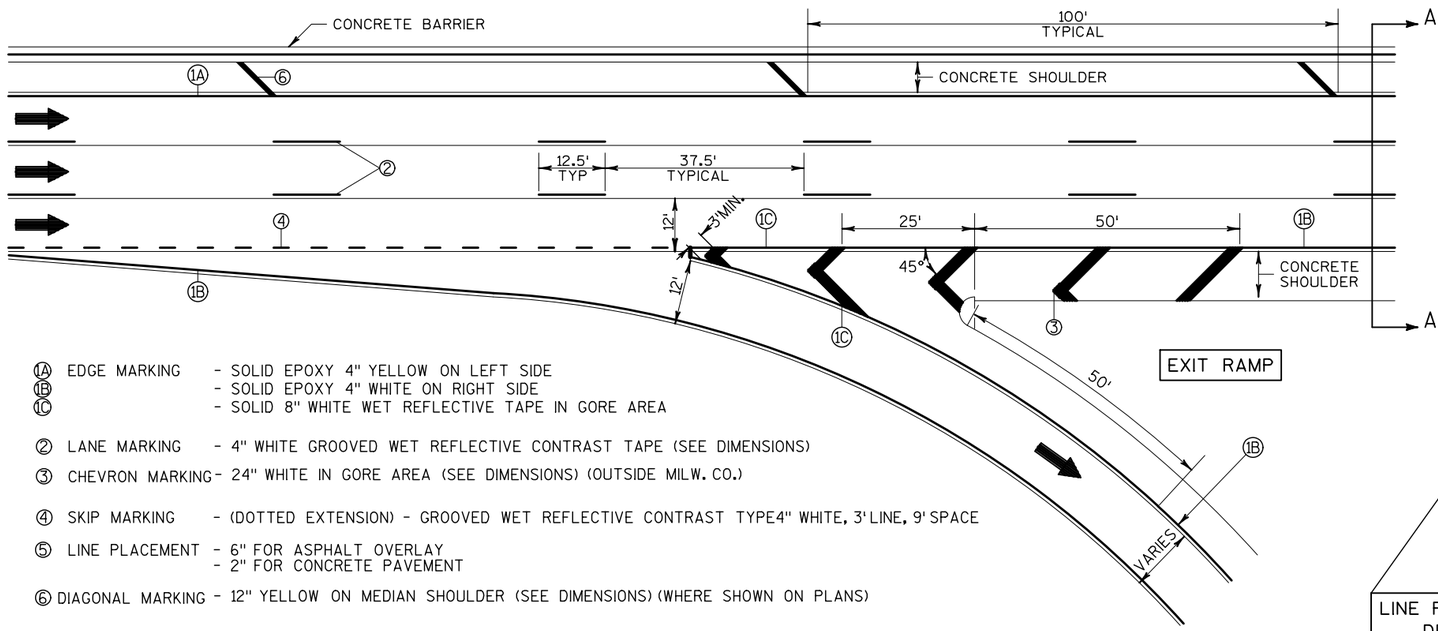
PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGNAL DISPLAY DETAIL	SHEET	E

2



STORM DRAIN INLET MARKING

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGN MOUNTING DETAIL ON WALL	SHEET	E



1A EDGE MARKING - SOLID EPOXY 4" YELLOW ON LEFT SIDE
1B - SOLID EPOXY 4" WHITE ON RIGHT SIDE
1C - SOLID 8" WHITE WET REFLECTIVE TAPE IN GORE AREA

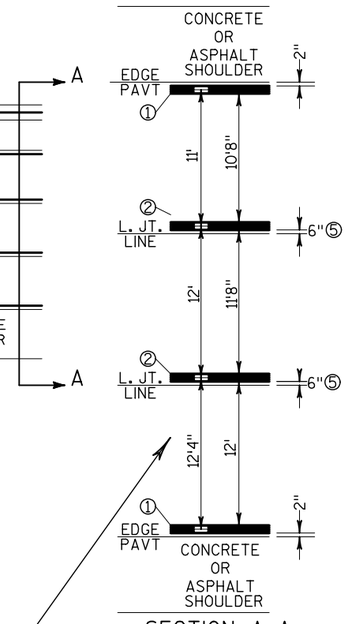
② LANE MARKING - 4" WHITE GROOVED WET REFLECTIVE CONTRAST TAPE (SEE DIMENSIONS)

③ CHEVRON MARKING - 24" WHITE IN GORE AREA (SEE DIMENSIONS) (OUTSIDE MILW. CO.)

④ SKIP MARKING - (DOTTED EXTENSION) - GROOVED WET REFLECTIVE CONTRAST TYPE4" WHITE, 3'LINE, 9' SPACE

⑤ LINE PLACEMENT - 6" FOR ASPHALT OVERLAY
- 2" FOR CONCRETE PAVEMENT

⑥ DIAGONAL MARKING - 12" YELLOW ON MEDIAN SHOULDER (SEE DIMENSIONS) (WHERE SHOWN ON PLANS)

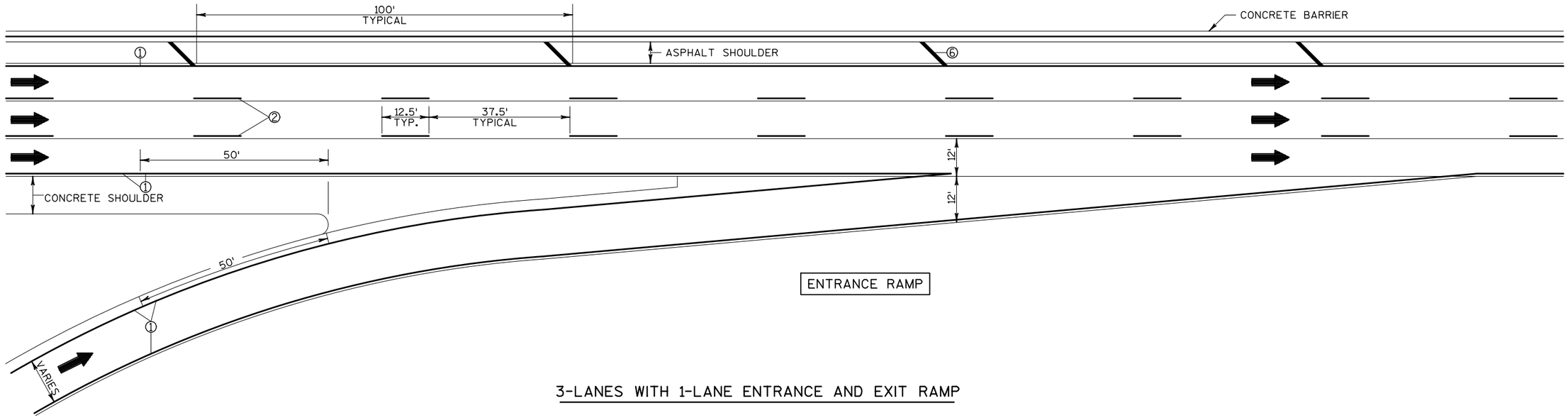


SECTION A-A

LINE PLACEMENT DETAILS

NOTES:

1. WHERE THE DOTTED EXTENSION OF THE RIGHT EDGE LINE IS SHOWN ON THE PLAN, IT SHALL BE 4" WIDE, WITH A LINE SKIP PATTERN CONSISTING OF A 3'LONG LINE AND A 12'SKIP.
2. PAVEMENT LANE MARKINGS SHALL BE LOCATED 6" OFF THE LONGITUDINAL JOINT OF THE UNDERLYING CONCRETE PAVEMENT.
3. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
4. SPOTTING FOR PAVEMENT LANE MARKINGS AND EDGE LINES SHALL BE 4"x4" PIECES OF REFLECTORIZED PAV'T MARKING TAPE SPACED AT 50'INTERVALS, INCIDENTAL TO PAV'T MARKING.
5. SEE STANDARD DETAIL DRAWING FOR RAISED PAVEMENT MARKERS IN GORE AND LINE WIDTH TOLERANCES.



ENTRANCE RAMP

3-LANES WITH 1-LANE ENTRANCE AND EXIT RAMP

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING DETAIL - RAMPS	SHEET 82	E

PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (SOLID WHITE)
2. PAVEMENT MARKING EPOXY 4-INCH (SOLID YELLOW)
3. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED) (12.5' LINE 37.5' SKIP)
4. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
5. PAVEMENT MARKING EPOXY DIAGONAL 24-INCH (WHITE)
6. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4" (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
8. PAVEMENT MARKING PREFORMED THERMOPLASTIC STOP BAR 18-INCH (SOLID WHITE)
9. PAVEMENT MARKING SYMBOLS PREFORMED THERMOPLASTIC
10. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)
11. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 5
12. PAVEMENT MARKING ARROWS PREFORMED THERMOPLASTIC TYPE 3
13. PAVEMENT MARKING PREFORMED THERMOPLASTIC CROSS WALK 6-INCH (WHITE)
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16. PAVEMENT MARKING ARROWS PREFORMED THERMOPLASTIC TYPE 1
17. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8" (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)

BEGIN PROJECT
STA 653+20.00
X = 604,346.036
Y = 275,883.868

HOWARD AVENUE

STA 653+20
STA 653+86
STA 654+83
STA 661+72
STA 661+64

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

IH 43

STRUCTURE B-40-265

S. 3rd ST.

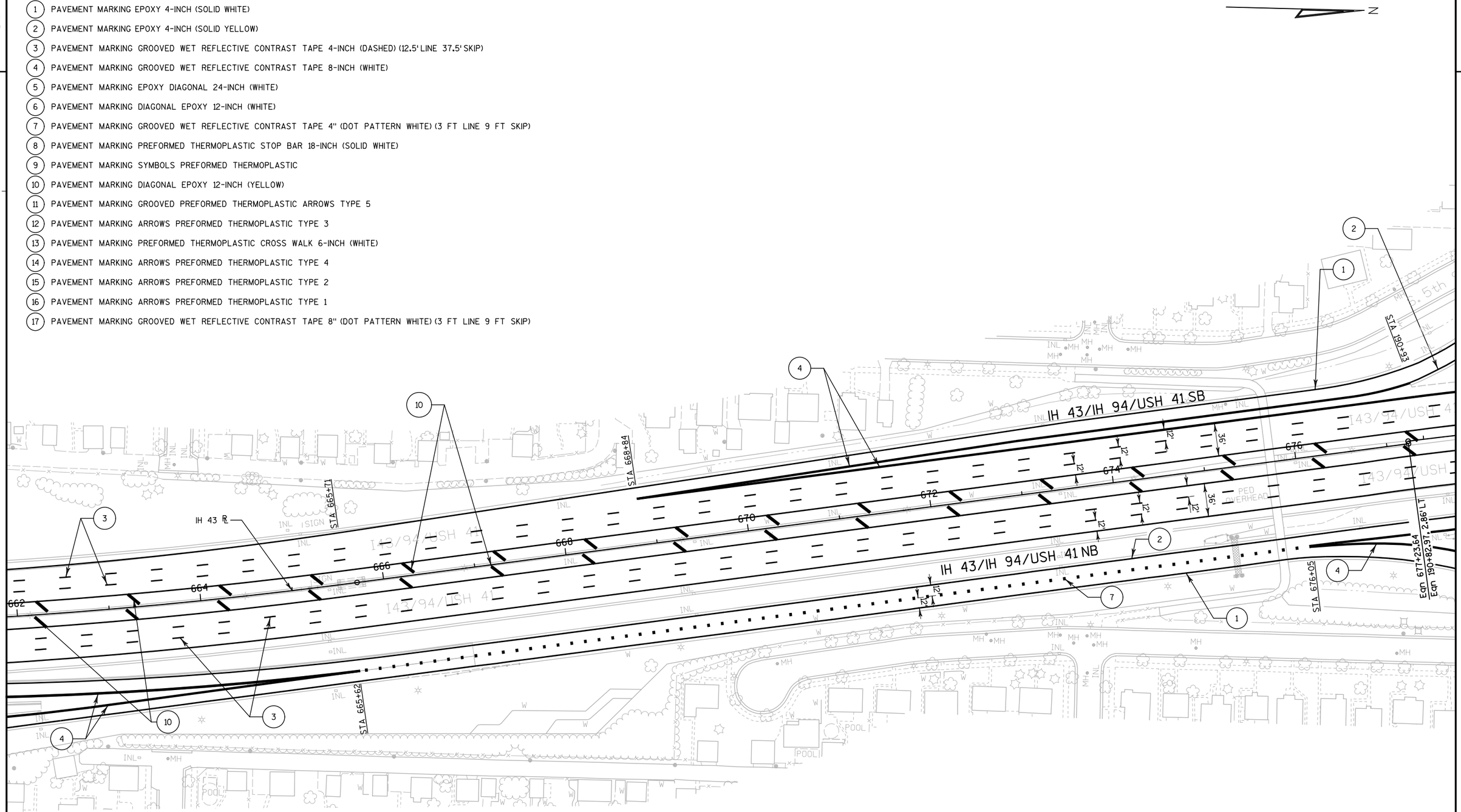
NOTE:

1) PERMANENT EDGE LINES TO BE INSTALLED AT THE END OF STAGE 2 AND STAGE 3.
2) PERMANENT GROOVED CHANNELIZING AND LANE LINES TO BE INSTALLED IN STAGE 4.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 83	E

PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (SOLID WHITE)
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 84	E

PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (SOLID WHITE)
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IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

HOLT AVENUE

HOLT AVE.

S. 5th ST.

STRUCTURE B-40-260

STRUCTURE B-40-261

STRUCTURE B-40-262

STRUCTURE B-40-263

STA 190+89

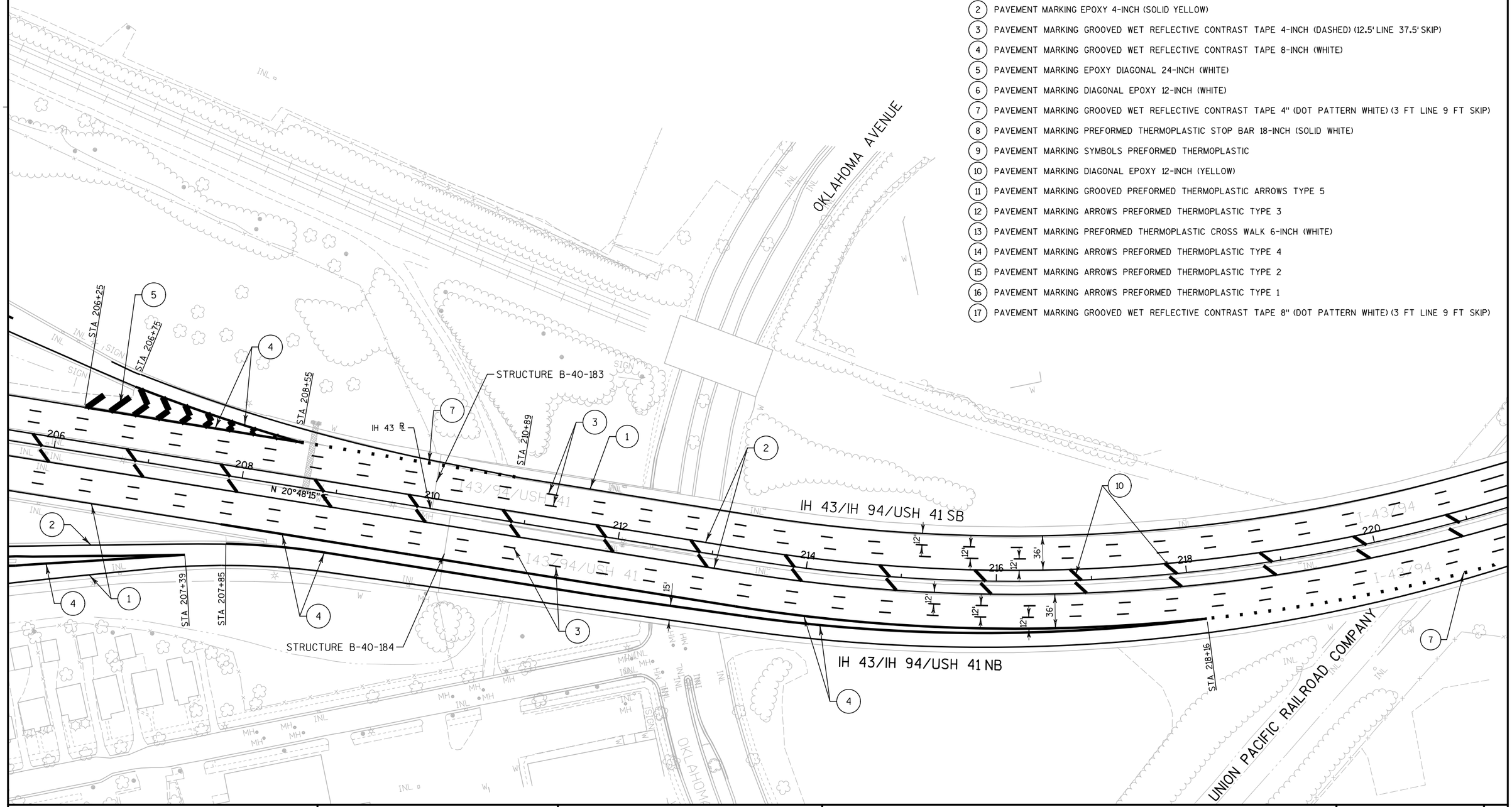
STA 191+82

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 85	E

2

PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (SOLID WHITE)
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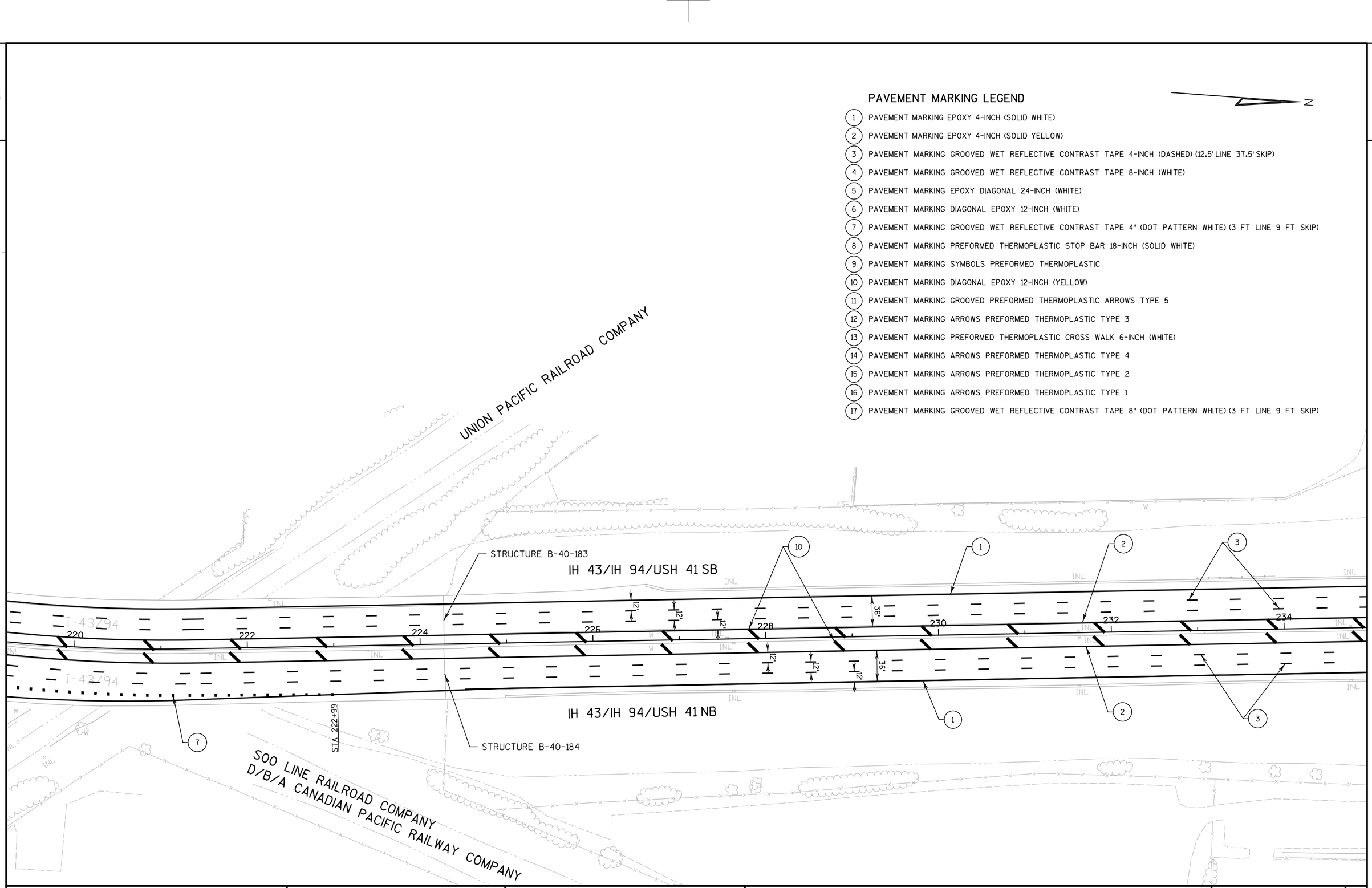
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 86	E

2

PAVEMENT MARKING LEGEND

N

1. PAVEMENT MARKING EPOXY 4-INCH (SOLID WHITE)
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 87	E

PAVEMENT MARKING LEGEND

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N

STRUCTURE B-40-181

IH 43 ℄

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

STRUCTURE B-40-182

236 238 240 242 244 246 248 250

12' 12' 12' 36'

12' 12' 12' 36'

49°50'27" W

ROSEDALE AVENUE

KINNICKINNIC RIVER

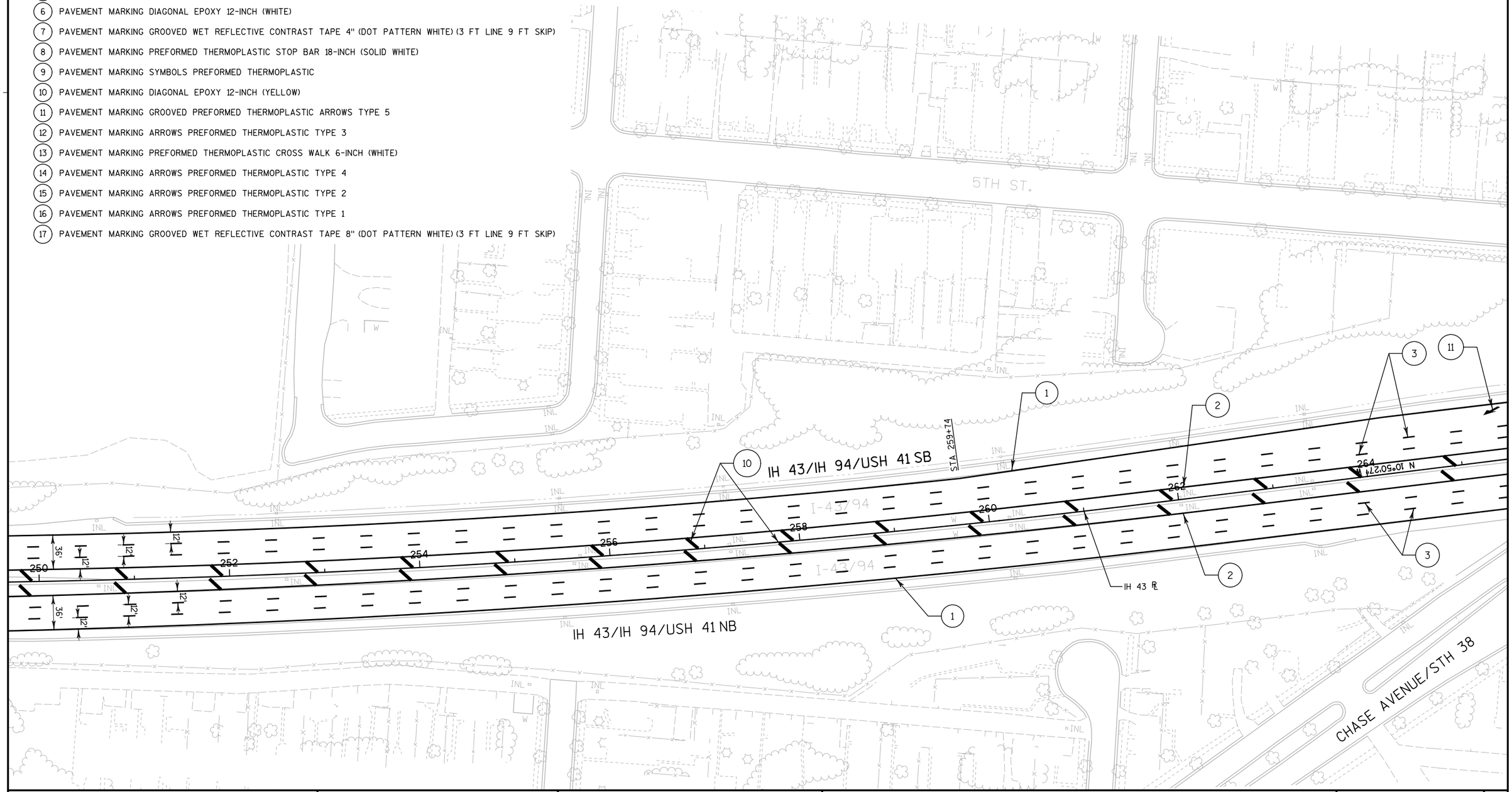
RAMP

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 88	E

2

PAVEMENT MARKING LEGEND

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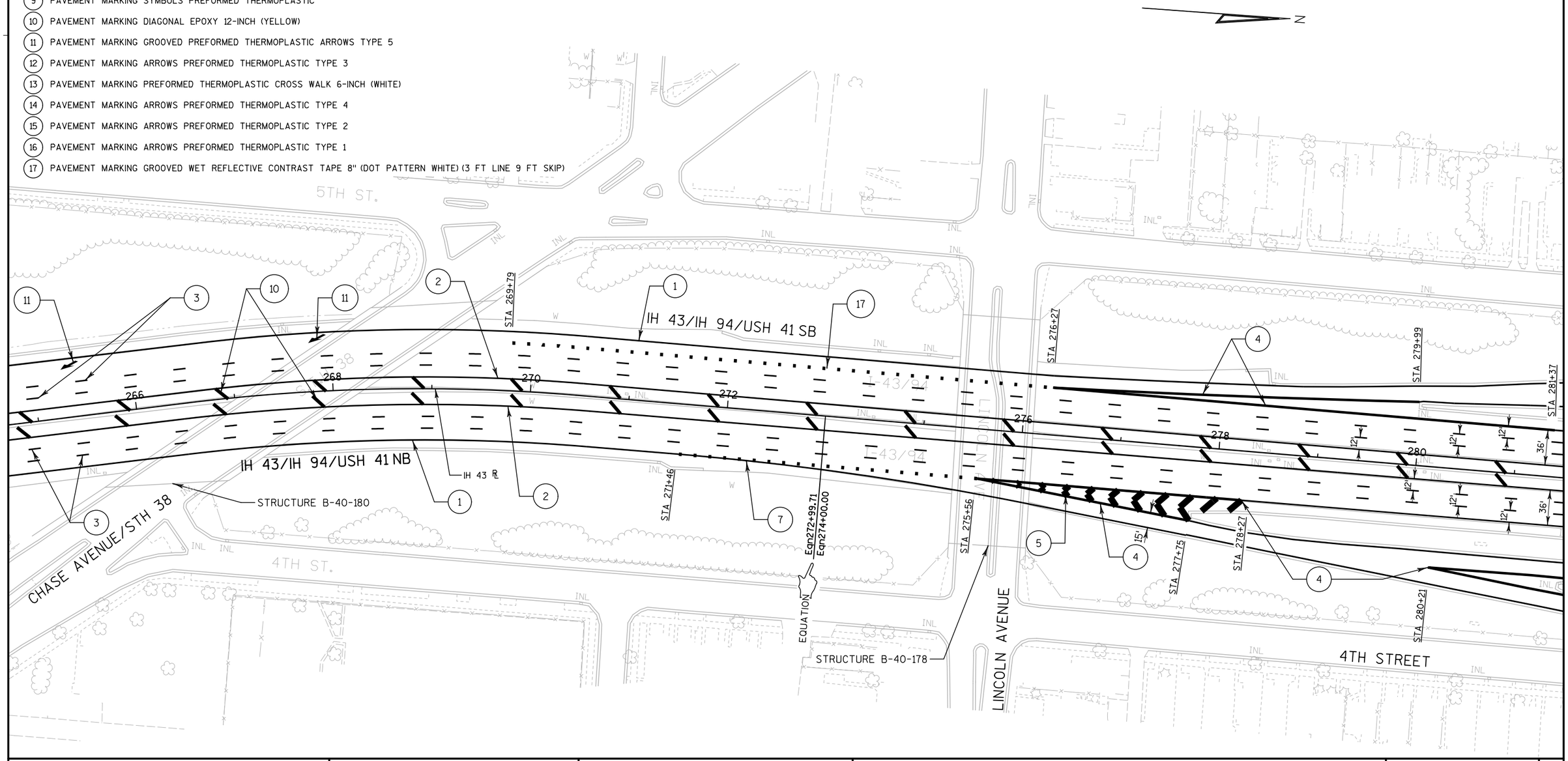


PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 89	E

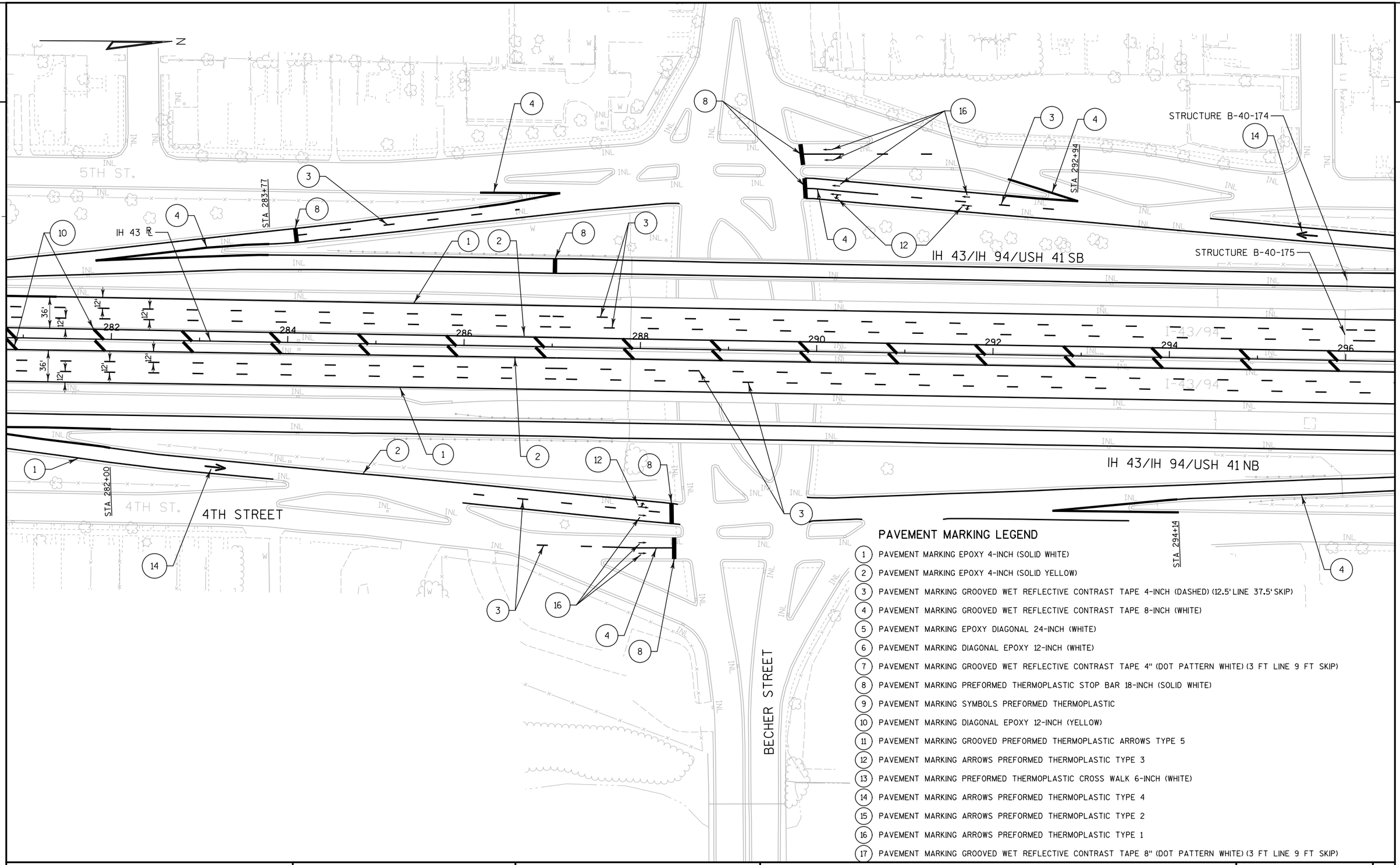
2

PAVEMENT MARKING LEGEND

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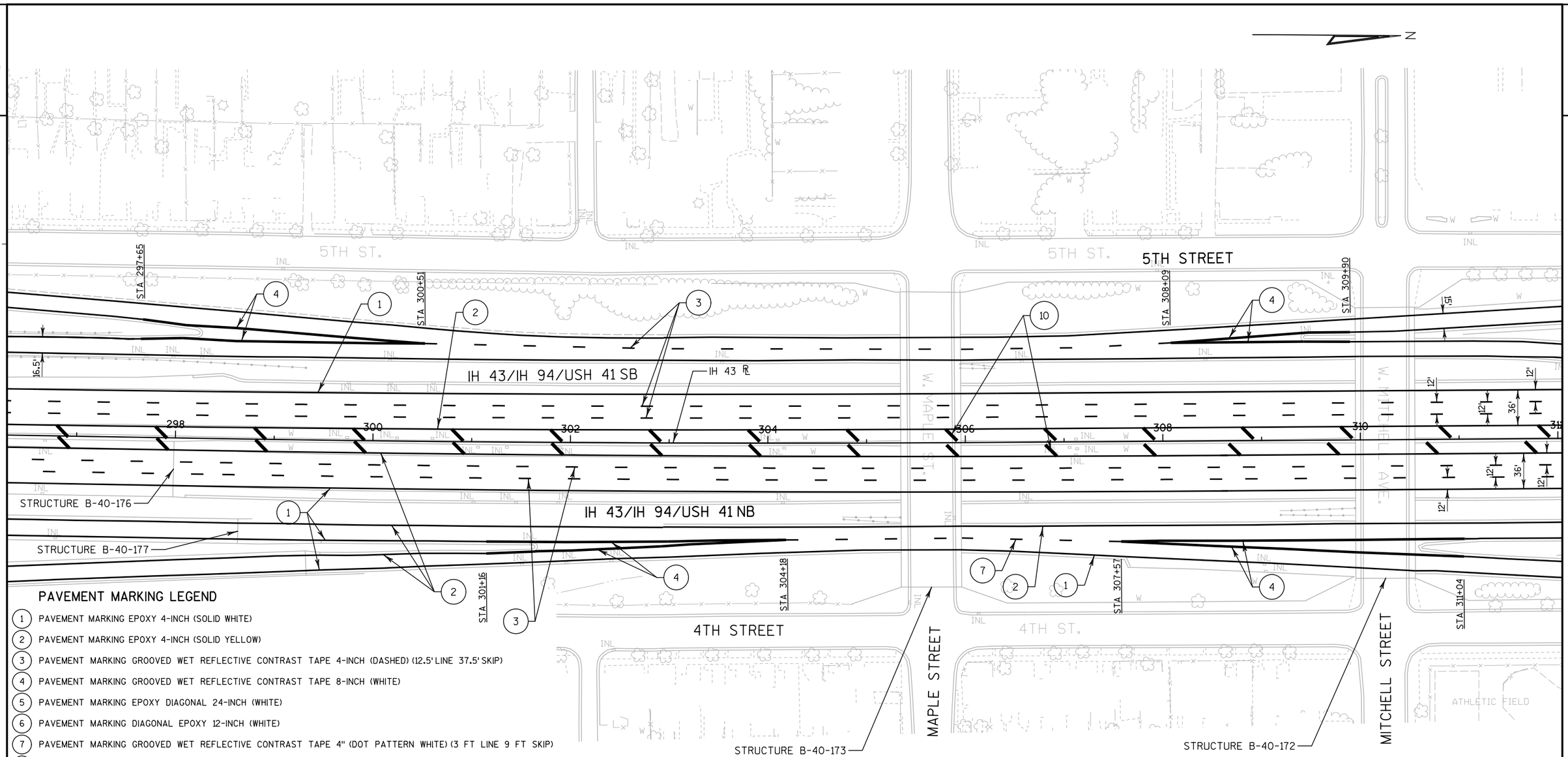
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 90	E



PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (SOLID WHITE)
2. PAVEMENT MARKING EPOXY 4-INCH (SOLID YELLOW)
3. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (DASHED) (12.5' LINE 37.5' SKIP)
4. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE)
5. PAVEMENT MARKING EPOXY DIAGONAL 24-INCH (WHITE)
6. PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (WHITE)
7. PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4" (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
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16. PAVEMENT MARKING ARROWS PREFORMED THERMOPLASTIC TYPE 1
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 91	E

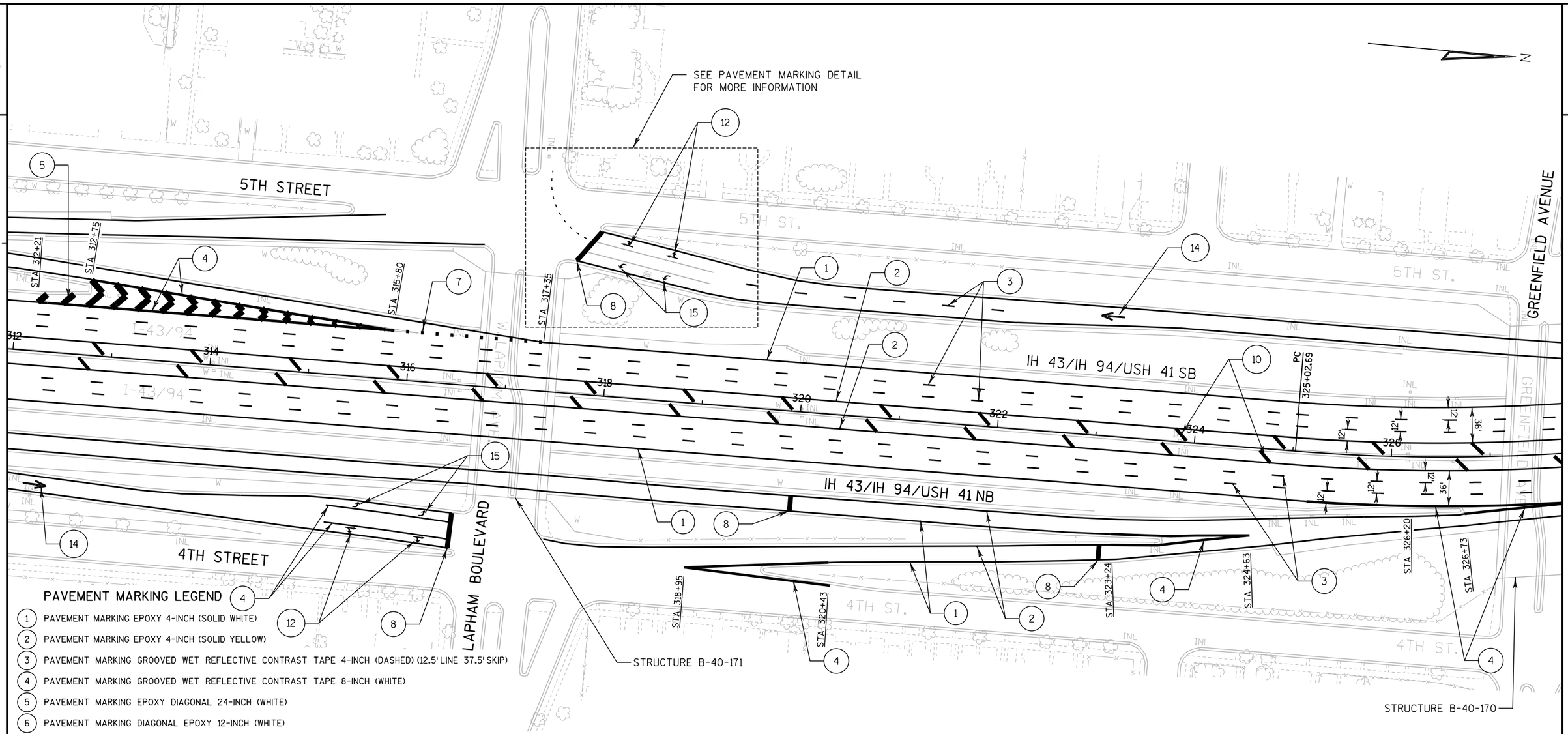


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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 92	E

2



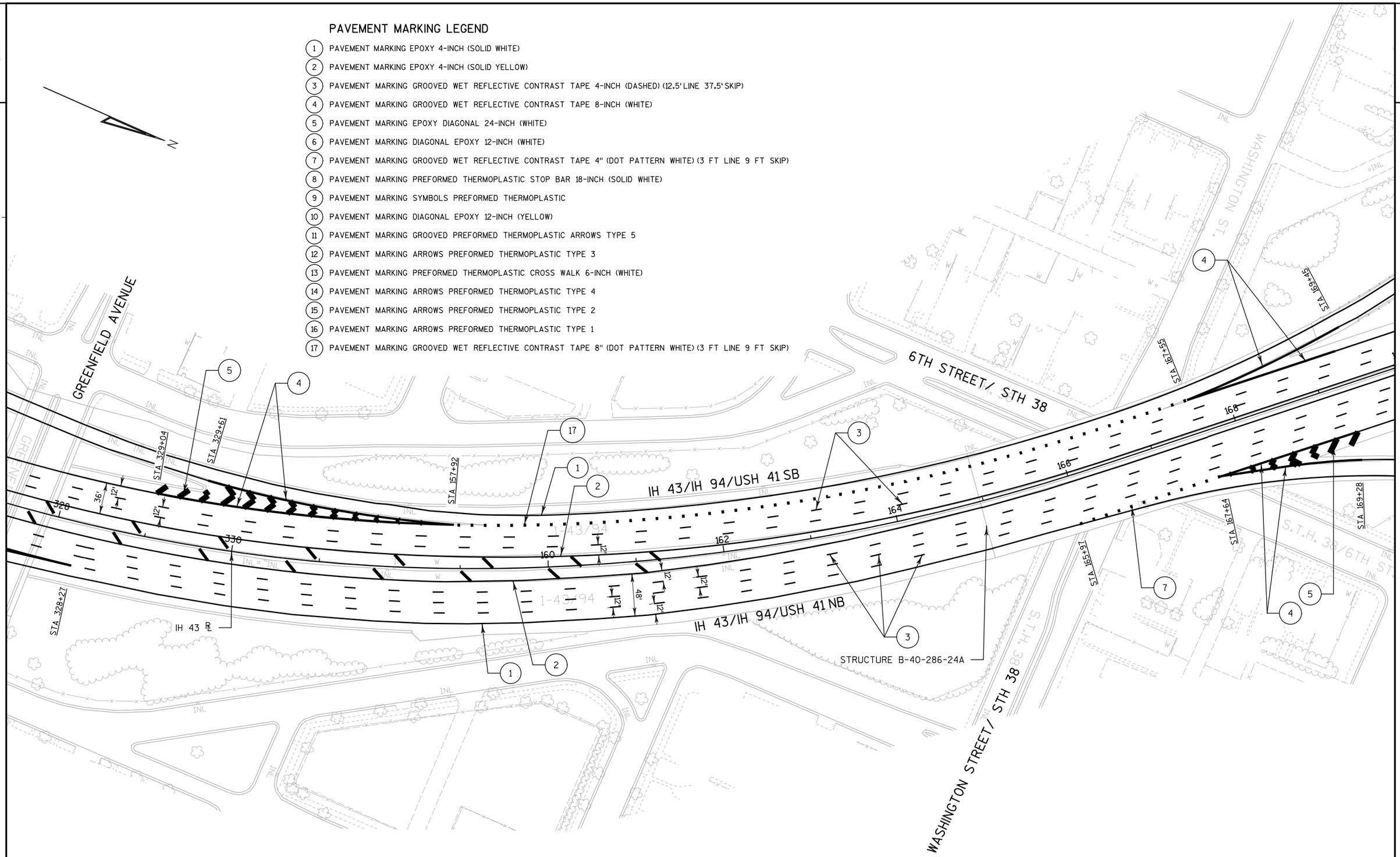
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 93	E

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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 94	E

2

SEE INSET FOR LIMITS

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

NATIONAL AVENUE

PIERCE STREET

6TH STREET

STA 176+35

STA 177+57

STA 182+12

STA 180+47

STA 175+89

STA 174+42

STA 171+83

STA 169+28

STRUCTURE
B-40-285

13.5'

16.5'

15'

36'

48'

12'

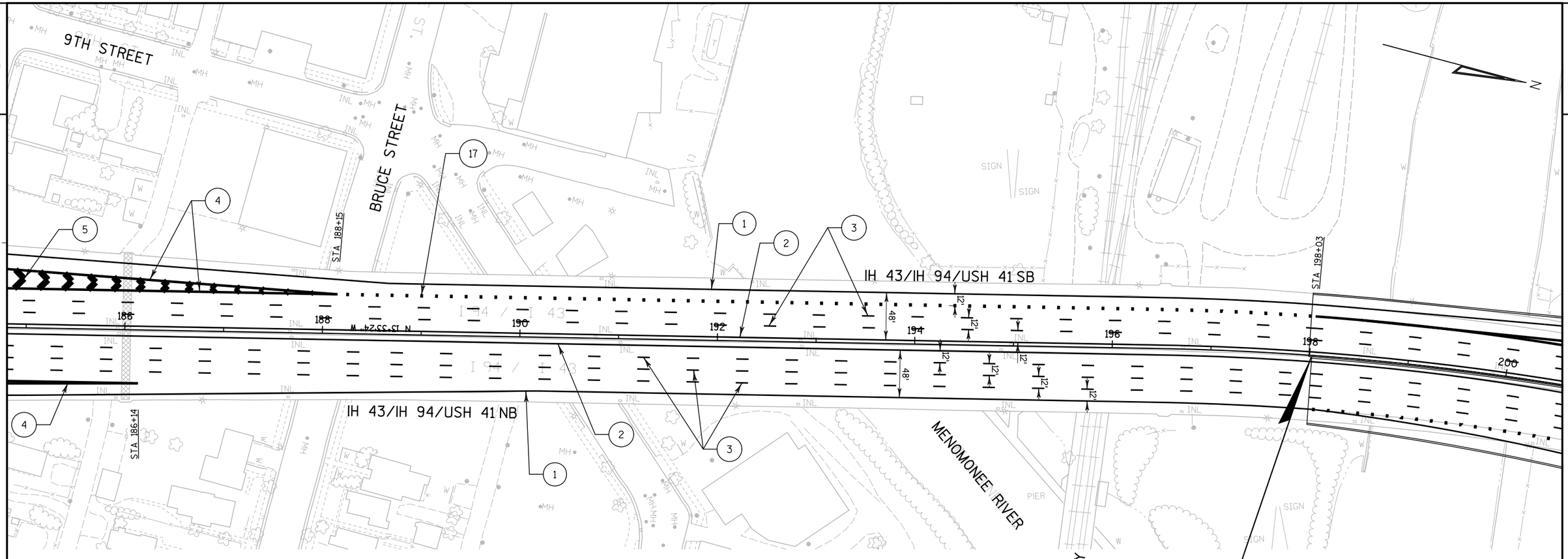
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INSET

9TH STREET

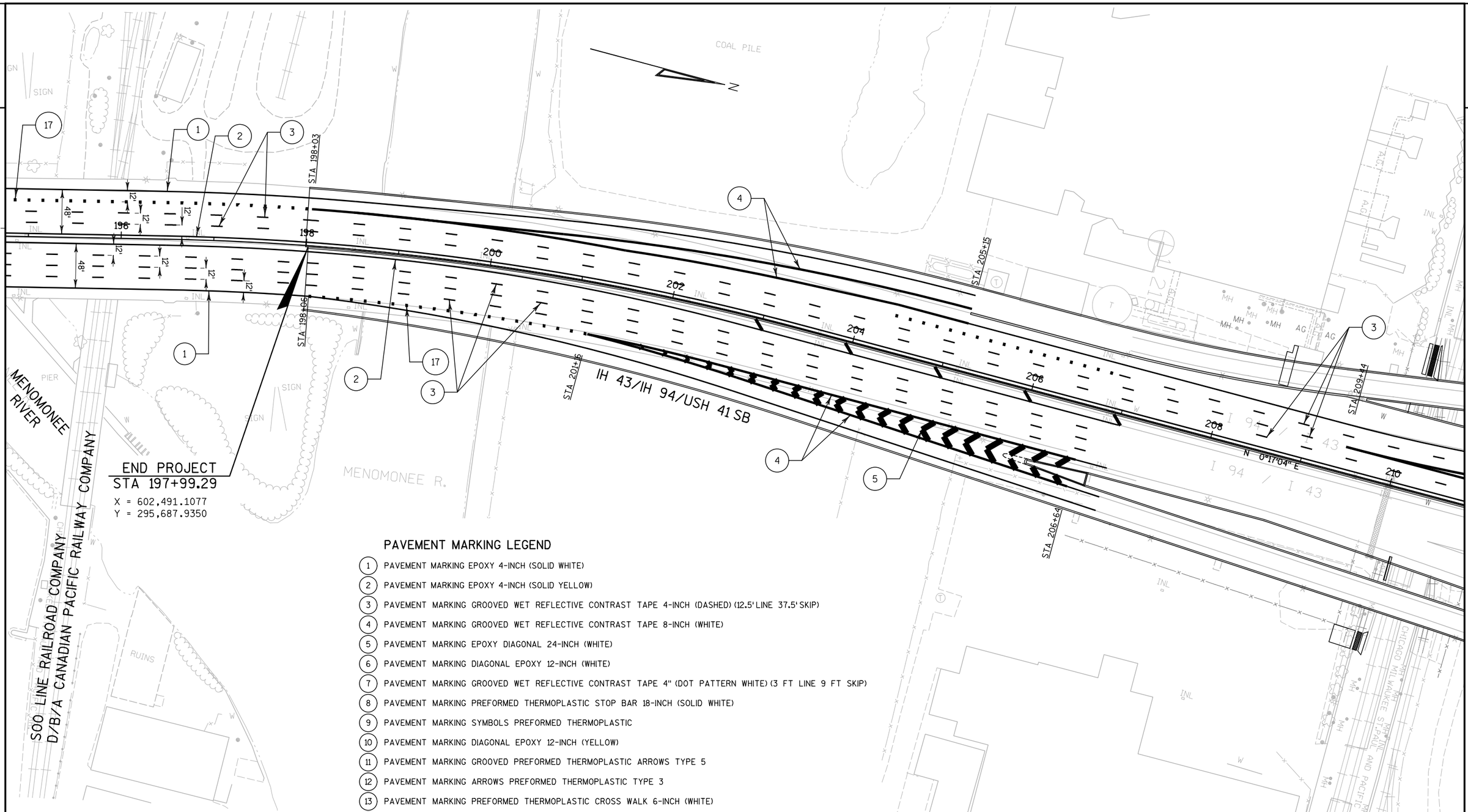
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 95	E



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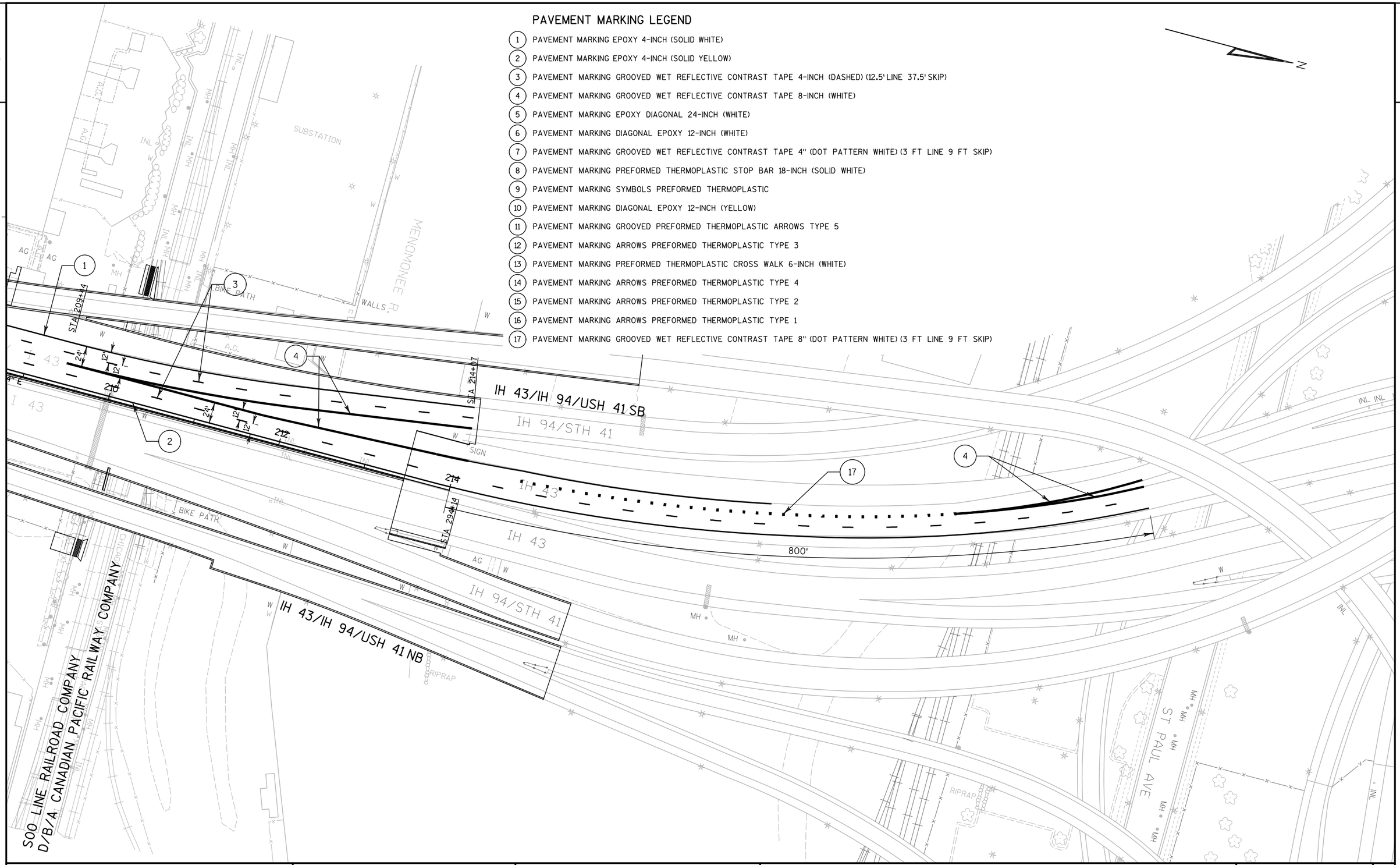


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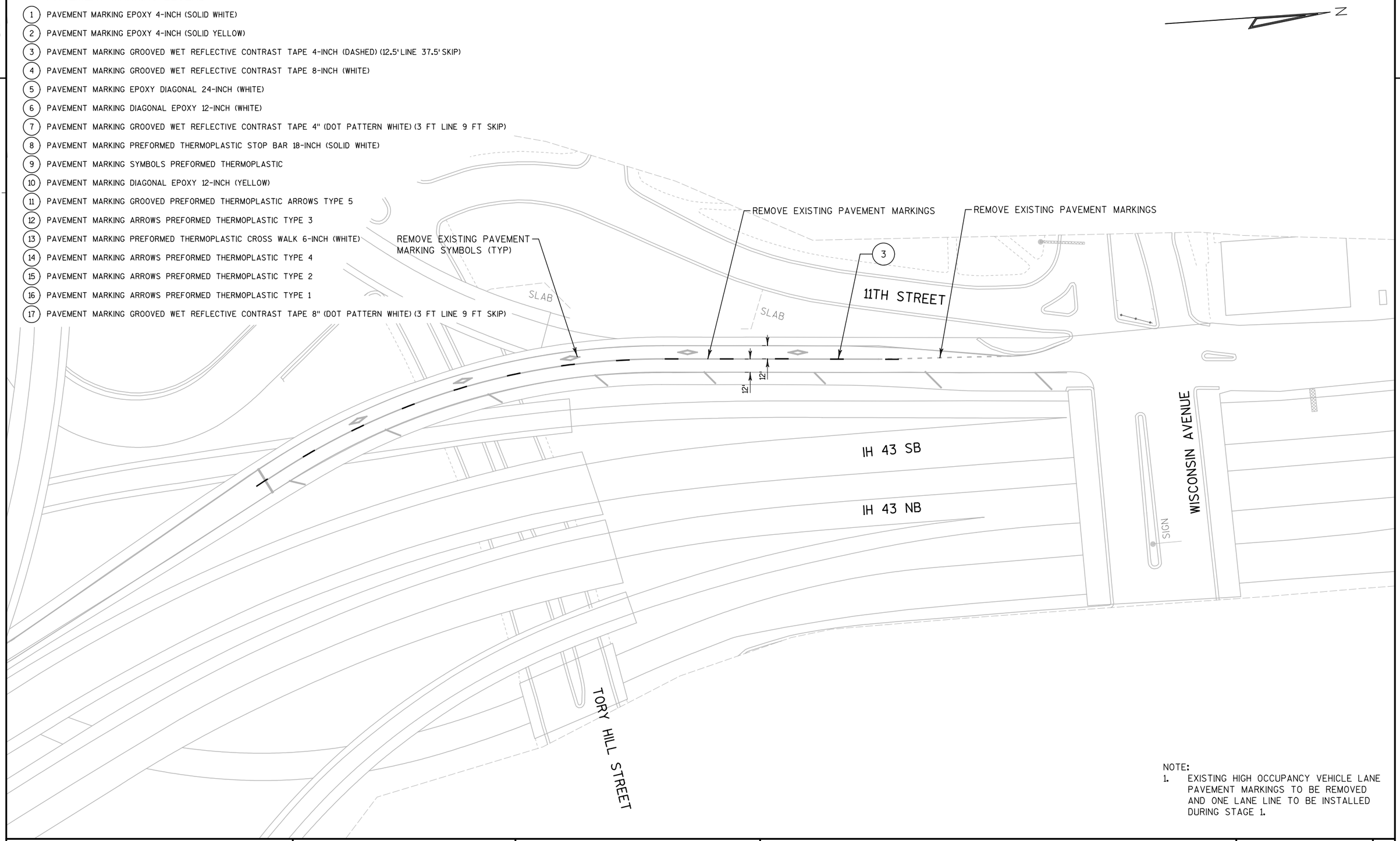
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING	SHEET 98	E

PAVEMENT MARKING LEGEND

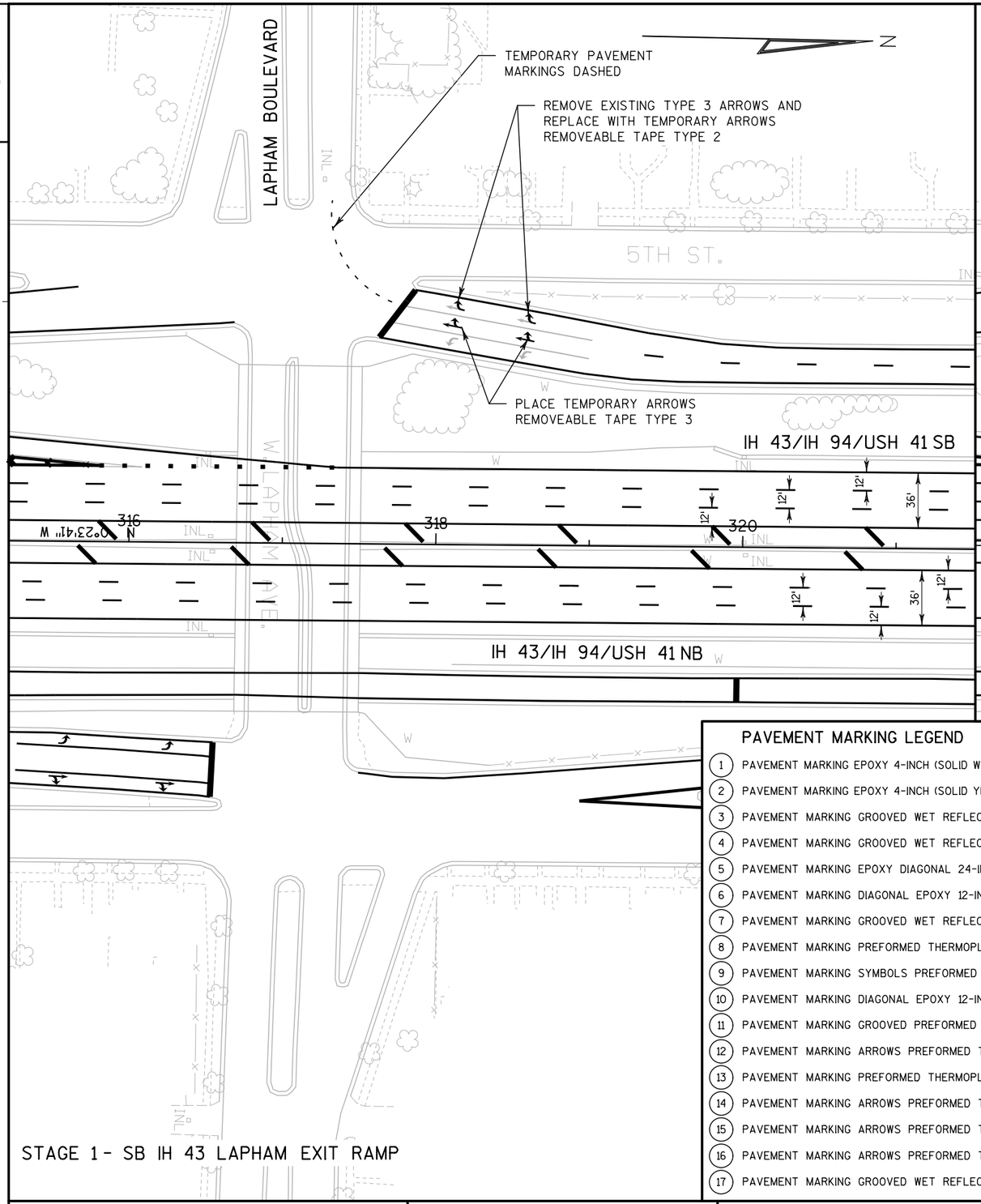
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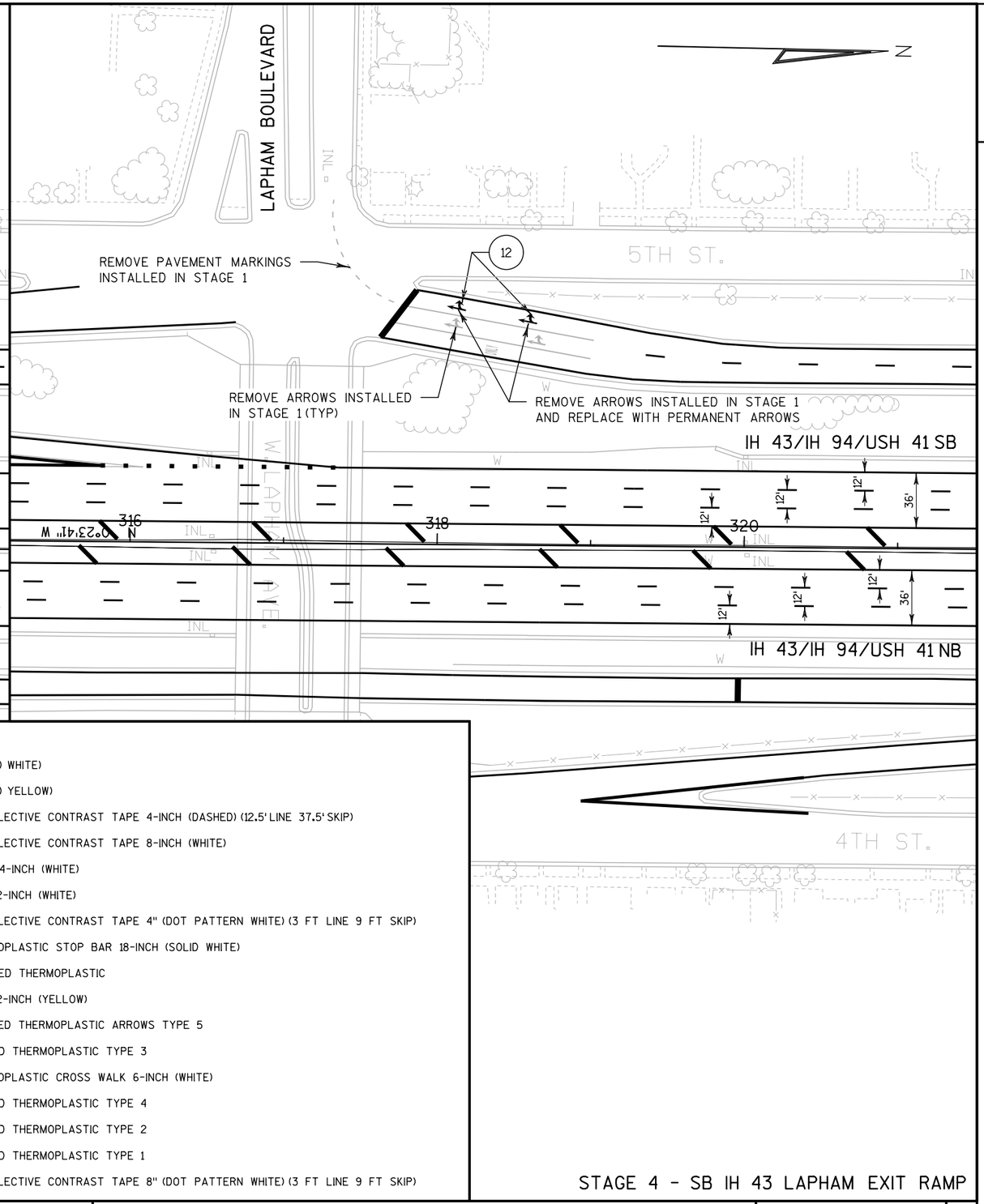
NOTE:
1. EXISTING HIGH OCCUPANCY VEHICLE LANE PAVEMENT MARKINGS TO BE REMOVED AND ONE LANE LINE TO BE INSTALLED DURING STAGE 1.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING DETAIL	SHEET 99	E

2



STAGE 1 - SB IH 43 LAPHAM EXIT RAMP



STAGE 4 - SB IH 43 LAPHAM EXIT RAMP

PAVEMENT MARKING LEGEND

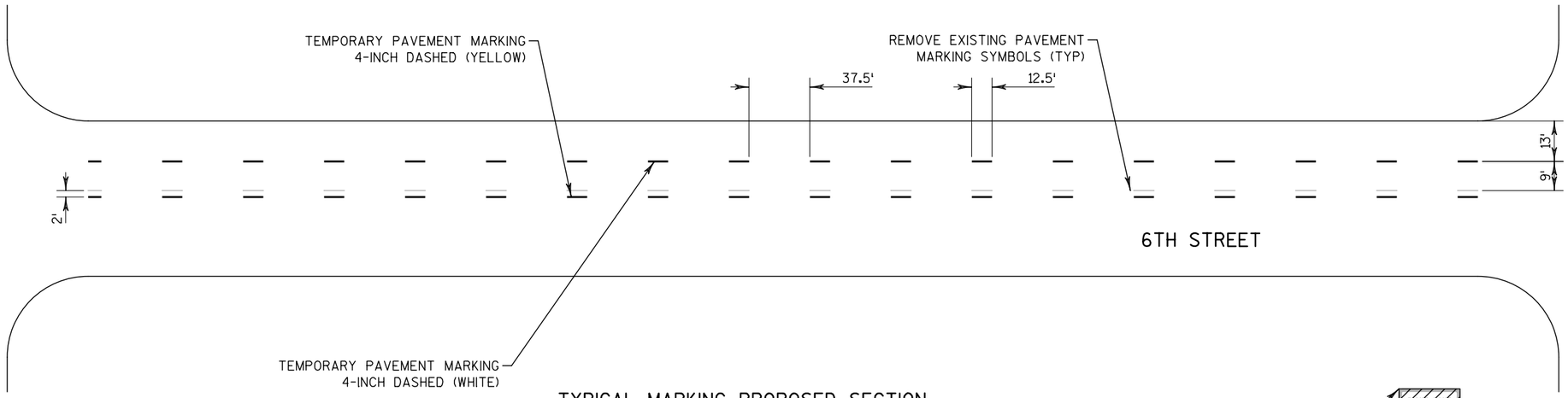
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING DETAIL	SHEET 100	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\024519_pm.dgn PLOT DATE : 11/9/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 80.0000 sf / in.

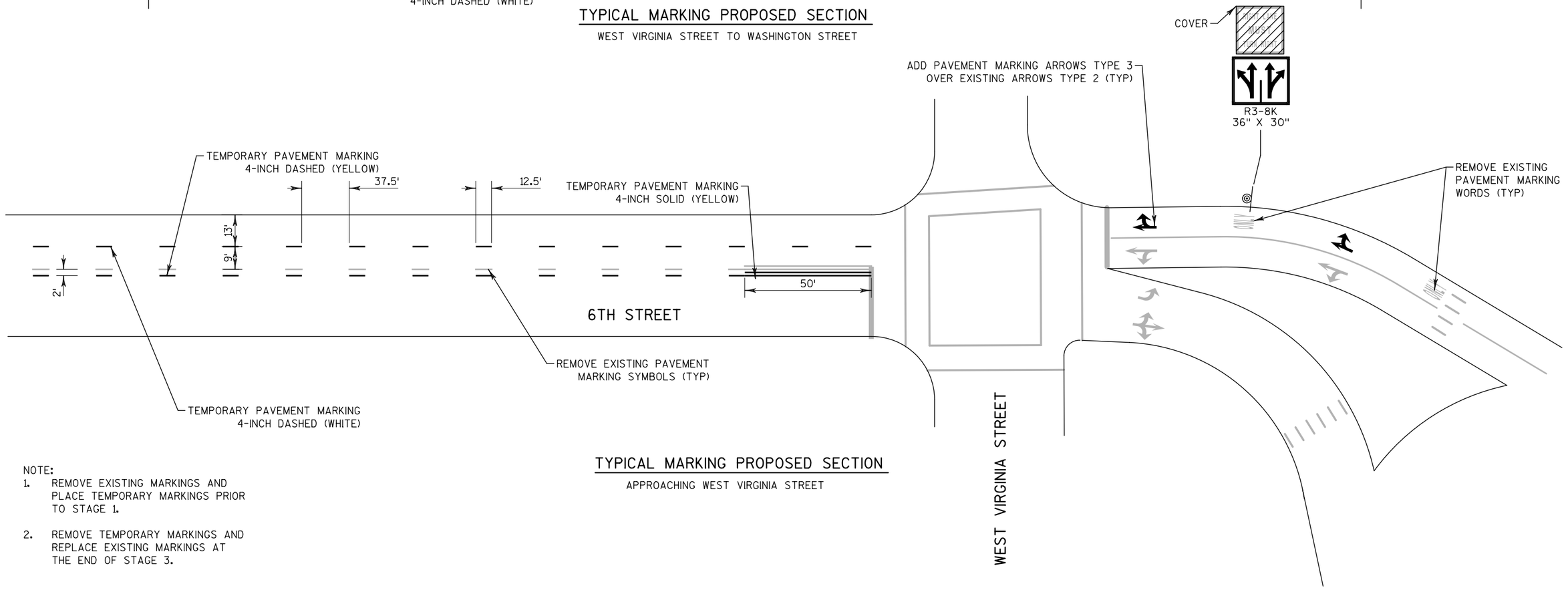
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N



TYPICAL MARKING PROPOSED SECTION

WEST VIRGINIA STREET TO WASHINGTON STREET



TYPICAL MARKING PROPOSED SECTION

APPROACHING WEST VIRGINIA STREET

NOTE:

1. REMOVE EXISTING MARKINGS AND PLACE TEMPORARY MARKINGS PRIOR TO STAGE 1.

2. REMOVE TEMPORARY MARKINGS AND REPLACE EXISTING MARKINGS AT THE END OF STAGE 3.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PAVEMENT MARKING DETAIL - 6TH STREET	SHEET 101	E

2

GENERAL TRAFFIC CONTROL NOTES

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

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

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.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

CONSIDER ROADWAY 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 1,500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE FEWER THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS. SIGNS MUST BE PLACED AT THE HEIGHT SHOWN IN THE MUTCD.

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

NO EQUIPMENT OR MATERIAL SHALL BE STORED WITHIN THE WORK ZONE OTHER THAN BEHIND THE PRECAST CONCRETE BARRIER.

WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO LOCATE THE ARROWBOARD SHOWN, PLACE THE ARROWBOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER.

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 THE WORK DAY.

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS TYPE "C" ONE-WAY LIGHTS IN TAPERS ONLY UNLESS OTHERWISE SHOWN.

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

DO NOT CLOSE CONSECUTIVE RAMPS DURING CONSTRUCTION.

REMOVAL OF PAVEMENT MARKINGS AND PLACEMENT OF TEMPORARY PAVEMENT MARKINGS IS NOT REQUIRED FOR OVERNIGHT LANE CLOSURES.

USE TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (BLACK) TO COVER EXISTING MARKINGS.

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

ALL MEDIAN SIGN REMOVAL LOCATIONS CALLED OUT IN THE PLANS ARE APPROXIMATE.

ALL RAMP CURB AND GUTTER REPLACEMENT LOCATIONS NEED TO BE VERIFIED IN THE FIELD AND APPROVED BY THE ENGINEER PRIOR TO REMOVING.

STAGING NOTES

TRAFFIC STAGING IS SHOWN FOR NORMAL CROWN SECTION, SUPERELEVATED SECTIONS SIMILAR.

TRAFFIC CONTROL ITEMS SHOWN IN EACH STAGE SHALL BE IN PLACE AT THE START OF THAT STAGE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

ALL TRAFFIC CONTROL DEVICES SHALL REMAIN IN PLACE, AS SHOWN, THROUGH THE DURATION OF EACH STAGE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

TRAFFIC CONTROL NOTES FOR EACH SPECIFIC STAGE WILL BE PROVIDED AT THE BEGINNING OF THEIR STAGE.

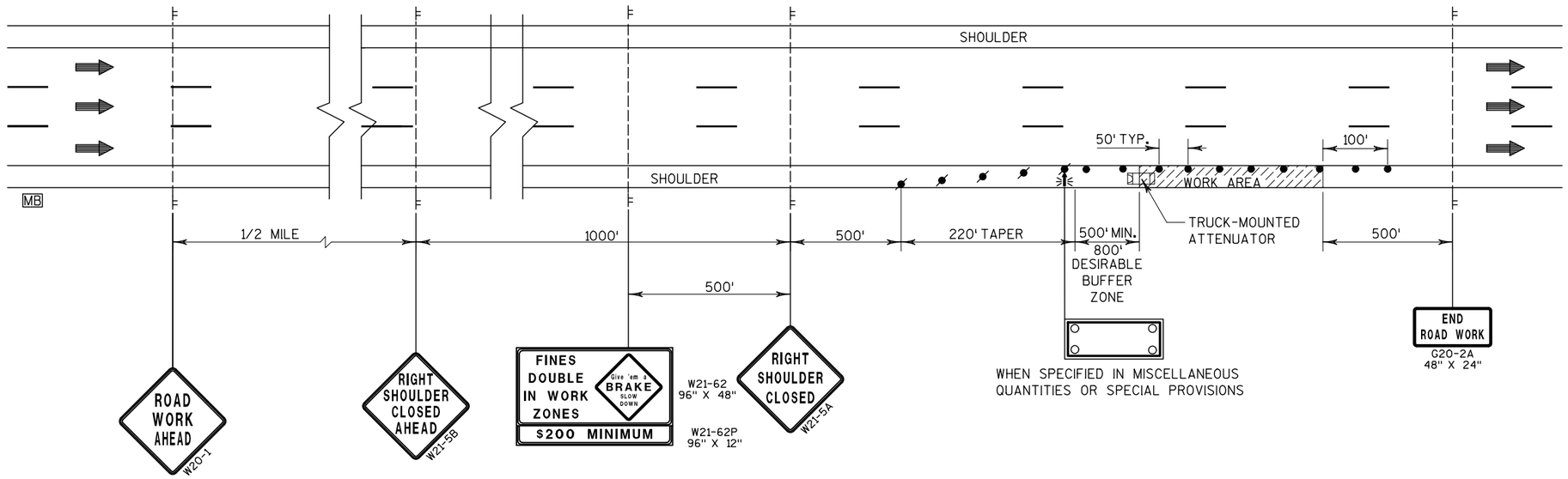
SEE SPECIAL PROVISIONS FOR TRAFFIC STAGING REQUIREMENTS.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

2

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL GENERAL NOTES	SHEET 102	E



TYPICAL SHOULDER CLOSURE

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

TRAFFIC CONTROL NOTES

RIGHT SHOULDER CLOSURE SHOWN, REVERSE FOR CLOSING THE LEFT SHOULDER.

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

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

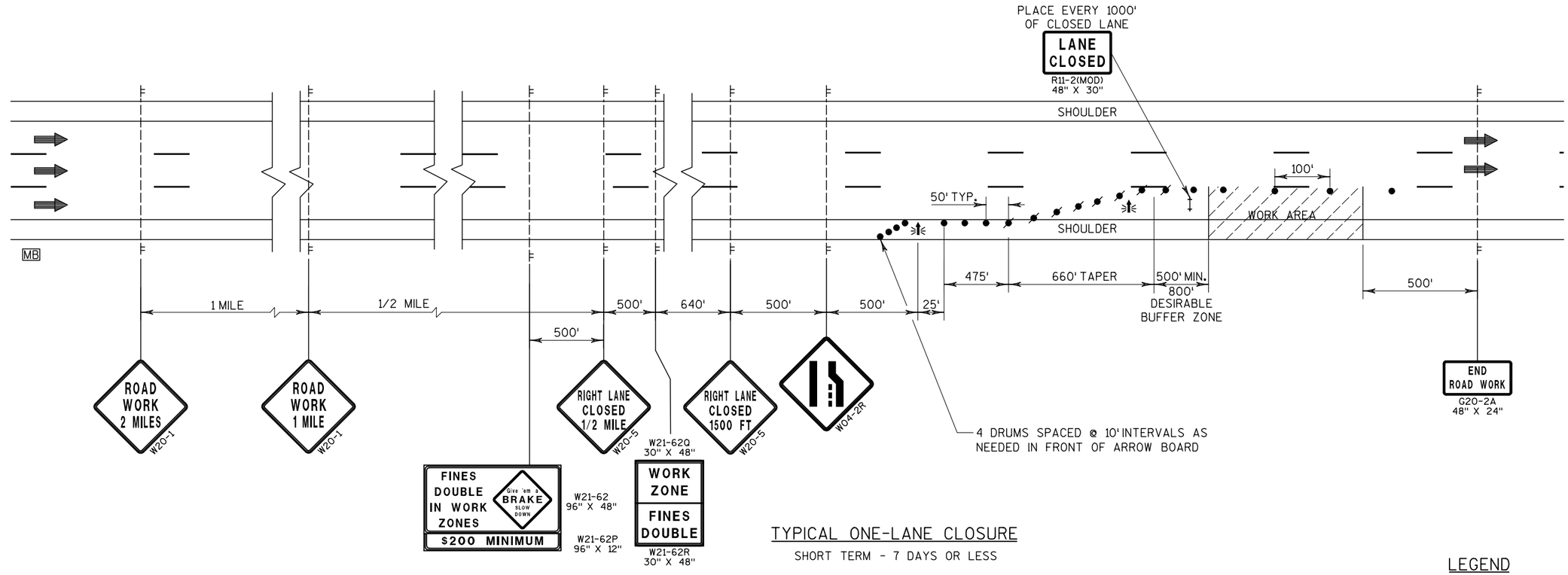
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.

REMOVE OR COVER ALL SHORT TERM LANE CLOSURE SIGNS AND REMOVE ALL ARROW BOARDS AND DEVICES BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

SHOULDER CLOSURE-SPEEDS 45 MPH OR GREATER



TYPICAL ONE-LANE CLOSURE

SHORT TERM - 7 DAYS OR LESS

RIGHT LANE CLOSURE SHOWN - REVERSE FOR CLOSING LEFT LANE.

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

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

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

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

REMOVE AND COVER ALL SHORT TERM LANE CLOSURE SIGNS 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.

IF LANE CLOSURE IS MORE THAN 1 MILE, PLACE A TYPE III BARRICADE APPROXIMATELY EVERY 1000' ACROSS THE CLOSED LANE TO HELP ENFORCE THE DRUM LINE.

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 1500' IN FRONT OF DRUMS.

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.

THIS DETAIL IS TYPICAL FOR OFF PEAK AND NIGHT TIME HOURS ONLY

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- POST WITH ATTACHED SIGN IN DRUM
- SIGN ON TEMPORARY SUPPORT
- TYPE III BARRICADE
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA
- MB PORTABLE CHANGEABLE MESSAGE BOARD

GENERAL NOTES

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

REMOVE OR COVER ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

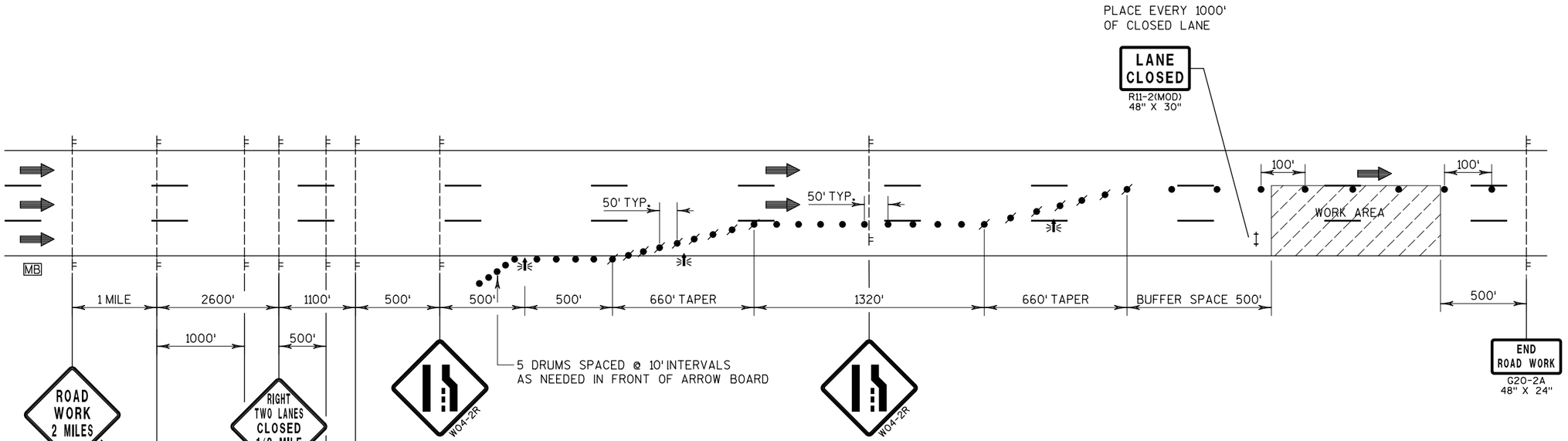
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST 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 HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

SPEEDS 45 MPH OR GREATER



TYPICAL TWO LANE CLOSURE

SHORT TERM - 7 DAYS OR LESS

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- SIGN ON TEMPORARY SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH SIGN
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA
- MB — PORTABLE CHANGEABLE MESSAGE BOARD

GENERAL NOTES

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

ADJUST THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES 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.

REMOVE OR COVER ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" 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 ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS 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, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

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

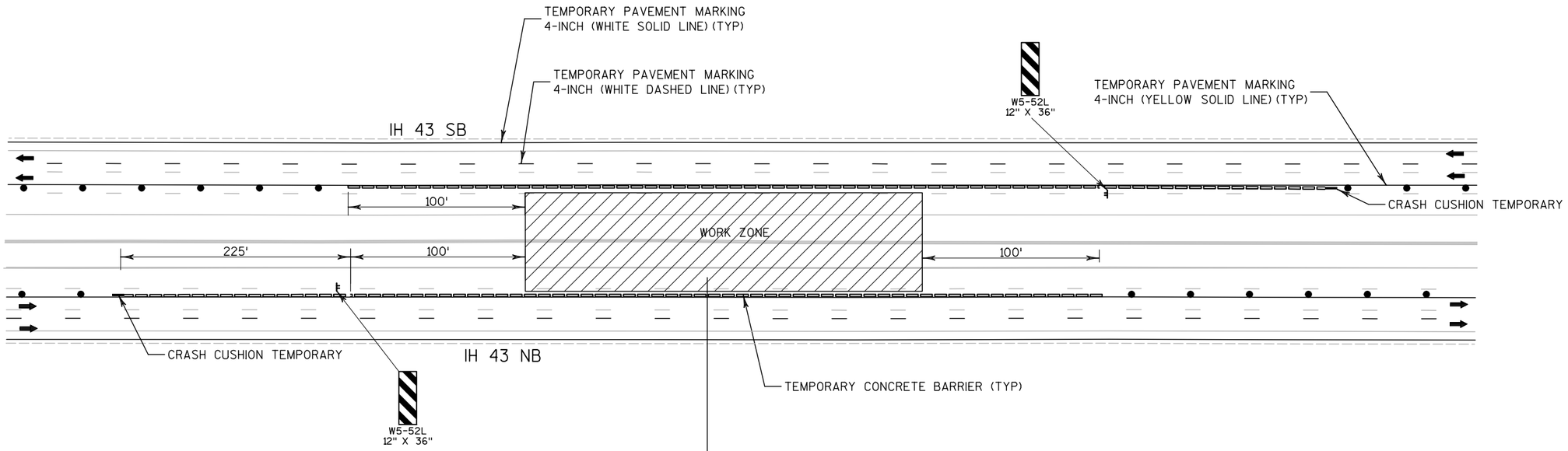
PULL BACK CHANNELIZING DEVICES, PLACED ADJACENT TO WORK AREA, FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

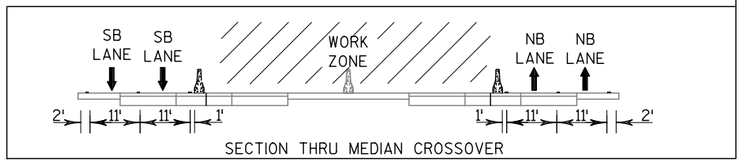
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

THIS DETAIL IS TYPICAL FOR OFF PEAK AND NIGHT TIME HOURS ONLY

SPEEDS 45 MPH OR GREATER

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 105	E





SECTION THRU MEDIAN CROSSOVER

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- DIRECTION OF TRAFFIC
- CRASH CUSHION BARRIER TEMPORARY
- SIGN ON TEMPORARY SUPPORT

GENERAL NOTES

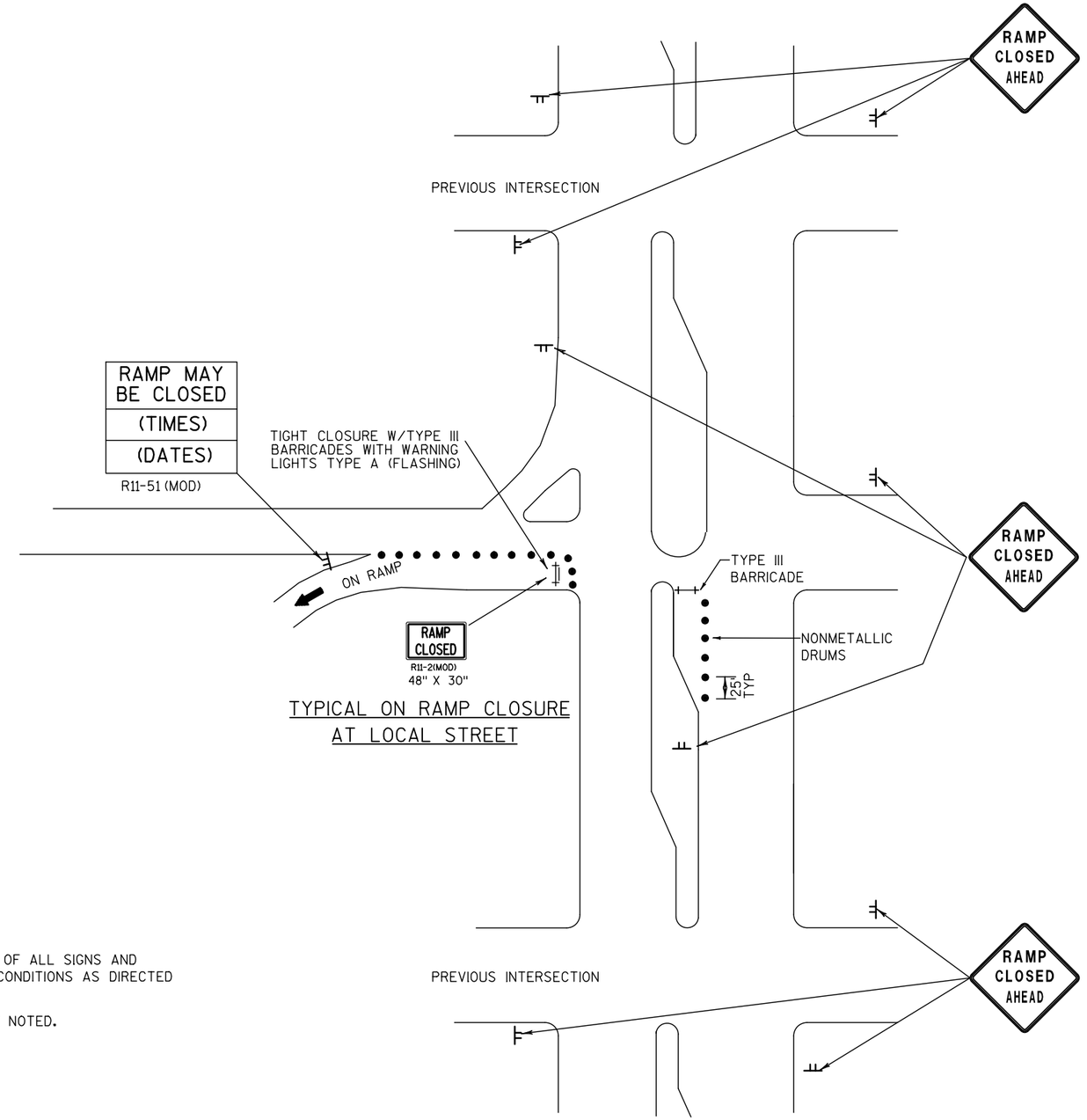
ADJUST THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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.

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

TYPICAL MEDIAN WORK AT STRUCTURES

2



TYPICAL ON RAMP CLOSURE AT LOCAL STREET

TRAFFIC CONTROL NOTES

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

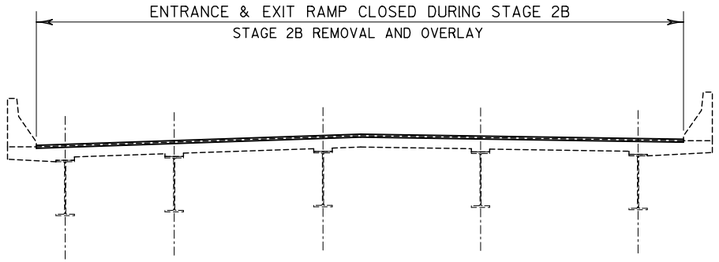
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

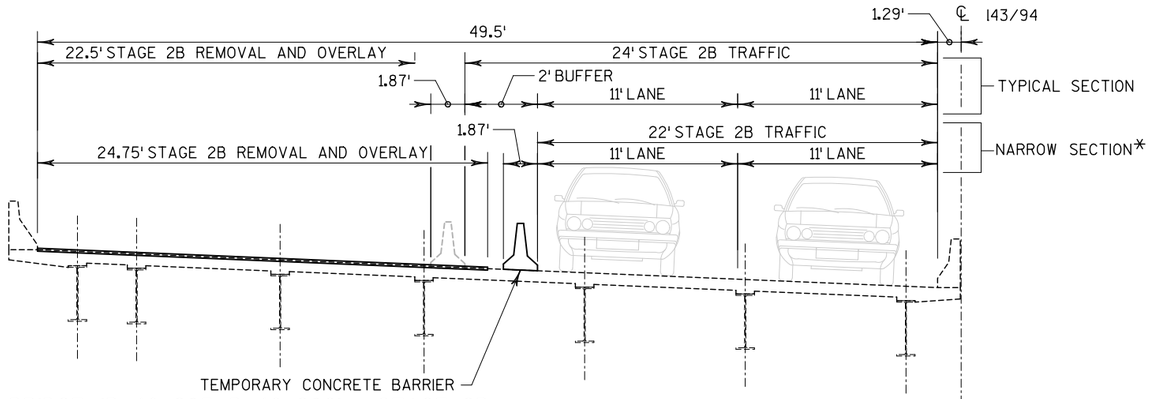
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

TRAFFIC CONTROL FOR ON-RAMP CLOSURE (SHORT TERM ONLY)



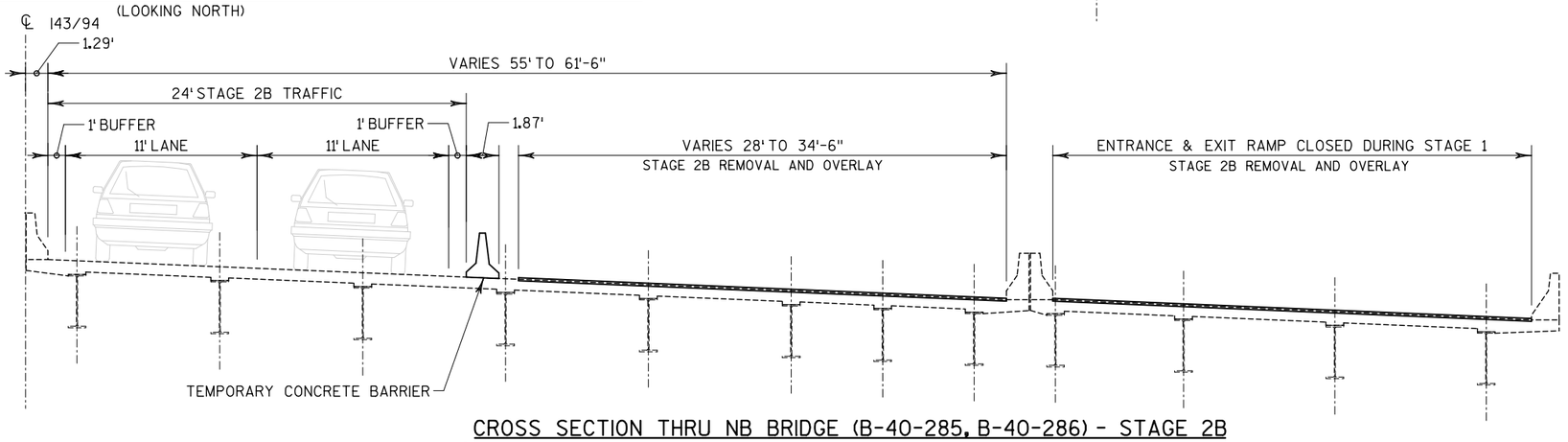


NOTE:

*TWO WEEK DURATION FOR NARROW SECTION AT END OF STAGE 2B NEAR WASHINGTON STREET. STA 168+00 TO STA 182+65

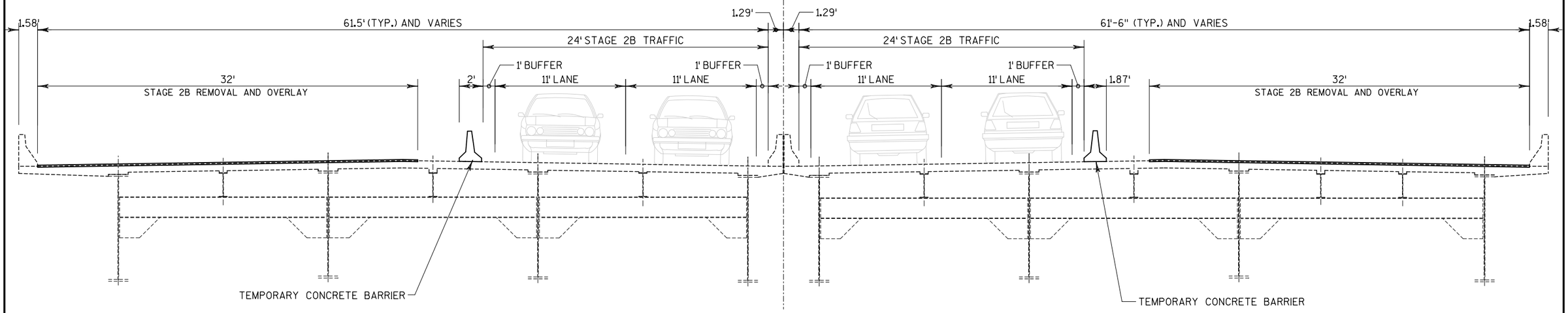
CROSS SECTION THRU SB BRIDGE (B-40-285, B-40-286) - STAGE 2B

(LOOKING NORTH)



CROSS SECTION THRU NB BRIDGE (B-40-285, B-40-286) - STAGE 2B

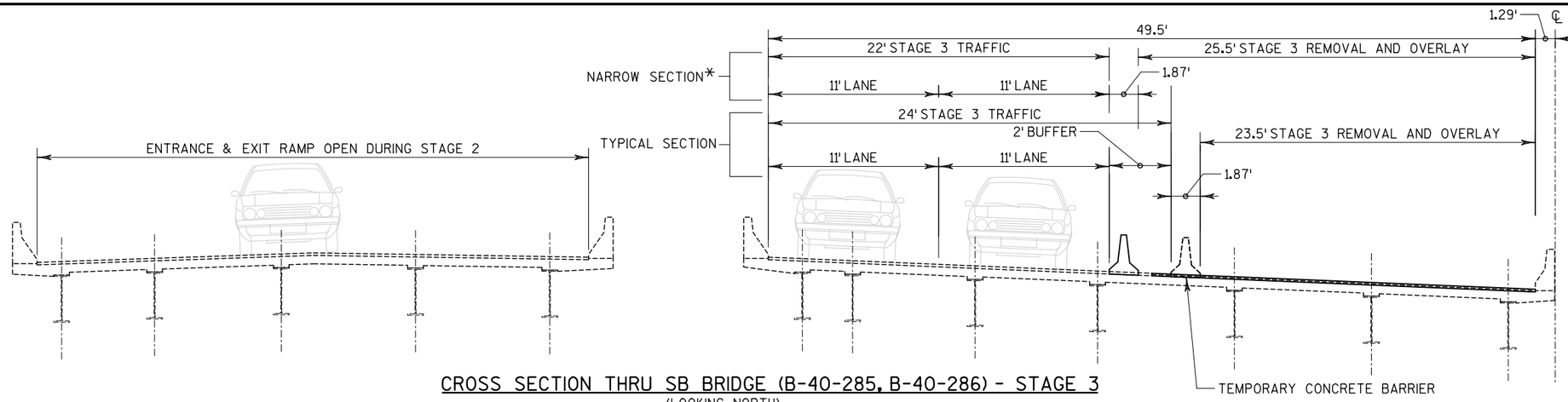
℄ 143/94 (LOOKING NORTH)



CROSS SECTION THRU FULL BRIDGE (B-40-285) - STAGE 2B

(LOOKING NORTH)

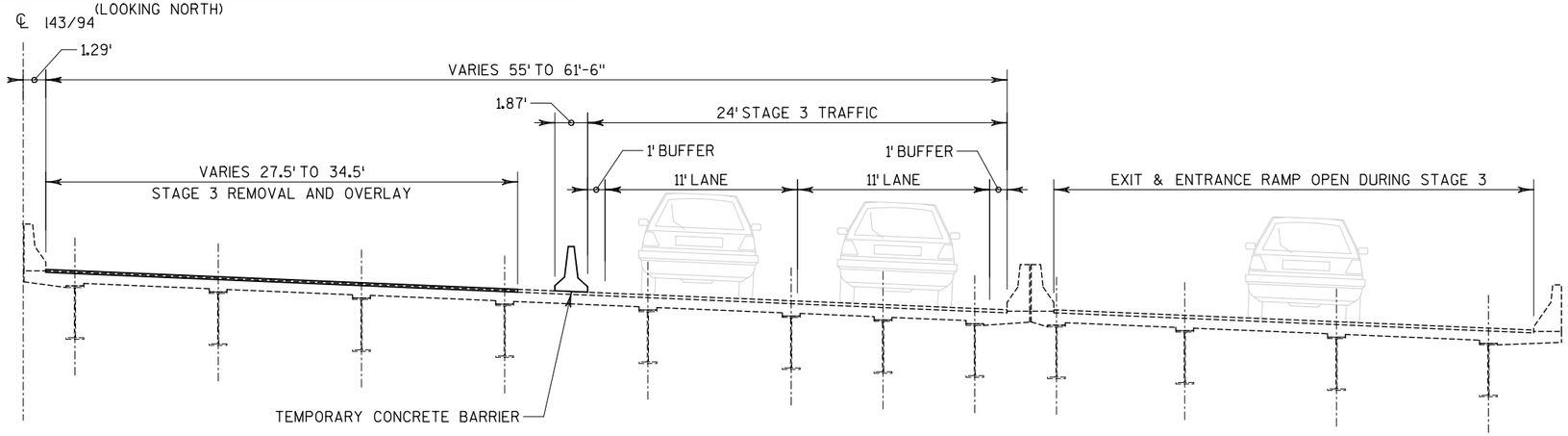
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 108	E



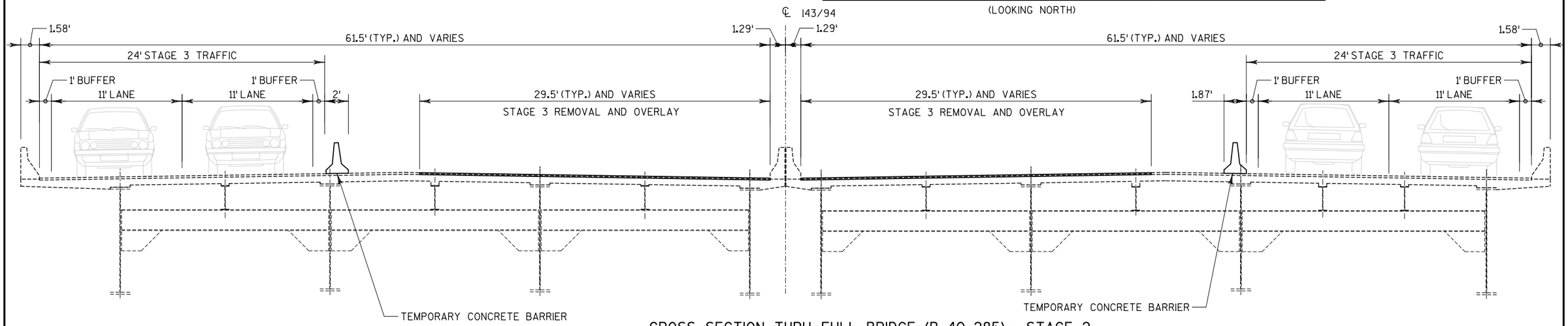
CROSS SECTION THRU SB BRIDGE (B-40-285, B-40-286) - STAGE 3
(LOOKING NORTH)

NOTE:

*TWO WEEK DURATION FOR NARROW SECTION AT END OF STAGE 3 NEAR WASHINGTON STREET. STA 168+80 TO STA 182+65

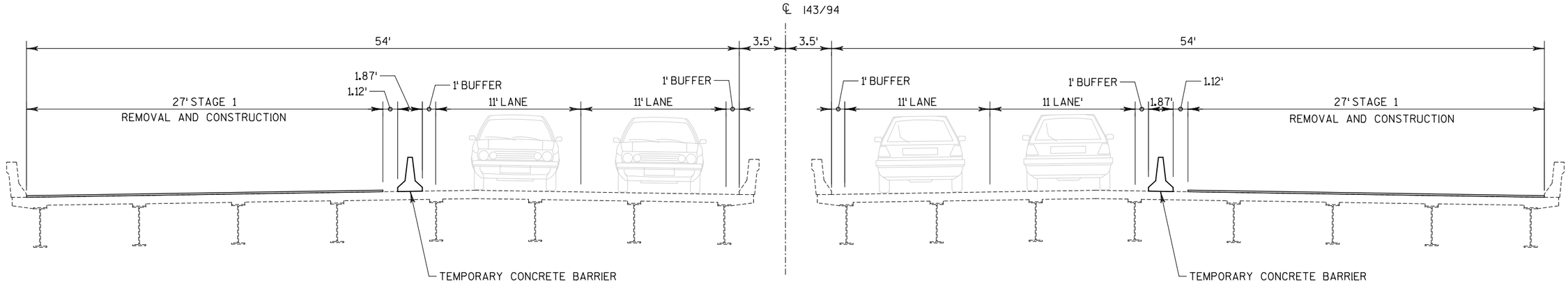


CROSS SECTION THRU NB BRIDGE (B-40-285, B-40-286) - STAGE 3
(LOOKING NORTH)



CROSS SECTION THRU FULL BRIDGE (B-40-285) - STAGE 2
(LOOKING NORTH)

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGING DETAILS	SHEET 109	E

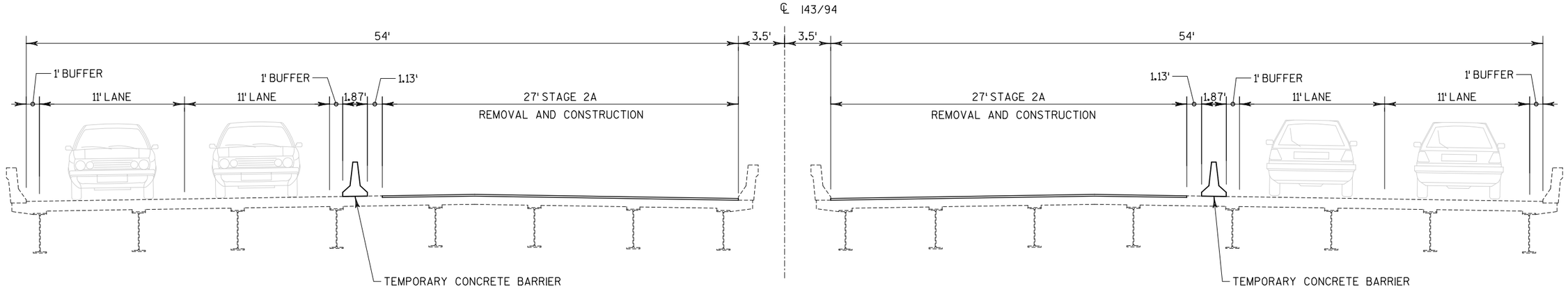


SOUTHBOUND

NORTHBOUND

CROSS SECTION THRU BRIDGE - STAGE 1

(LOOKING NORTH)
BECHER STREET BRIDGES
B-40-175 & B-40-176



SOUTHBOUND

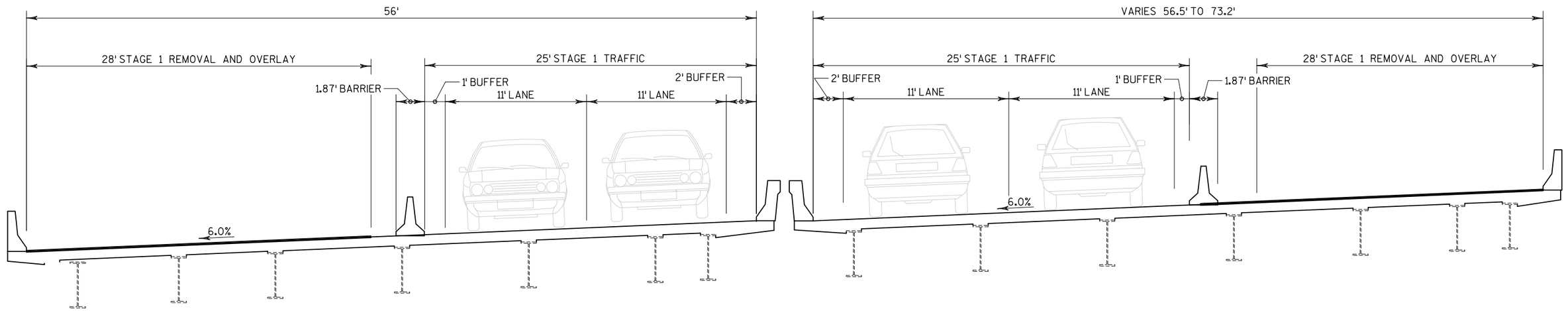
NORTHBOUND

CROSS SECTION THRU BRIDGE - STAGE 2A

(LOOKING NORTH)
BECHER STREET BRIDGES
B-40-175 & B-40-176

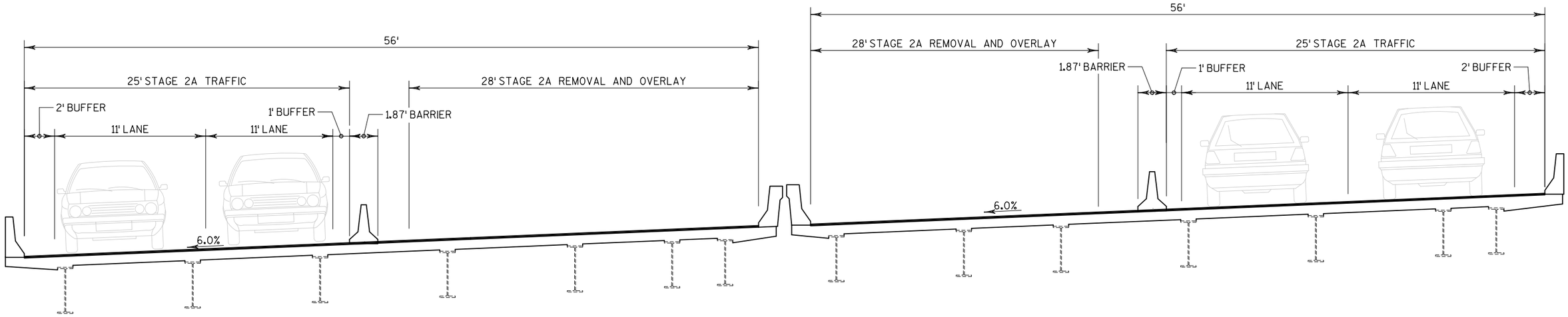
NOTE:

STRUCTURE B-40-175 & B-40-176 SHOWN ABOVE FOR TYPICAL CORRIDOR STAGING. OTHER BRIDGES VARY.



CROSS SECTION THRU SB BRIDGE - STAGE 1

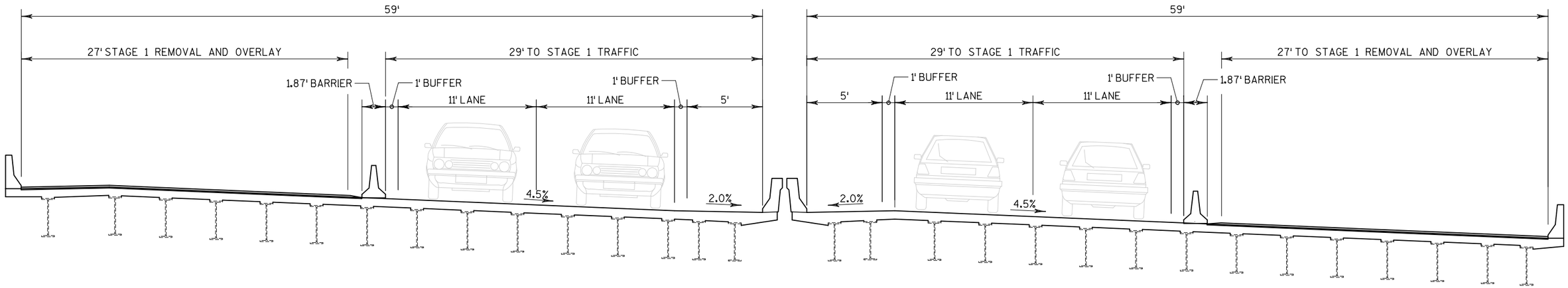
(LOOKING NORTH)
SUPERELEVEATED SECTION AT STRUCTURE B-40-183 & B-40-184 (OKLAHOMA AVENUE)



CROSS SECTION THRU SB BRIDGE - STAGE 2A

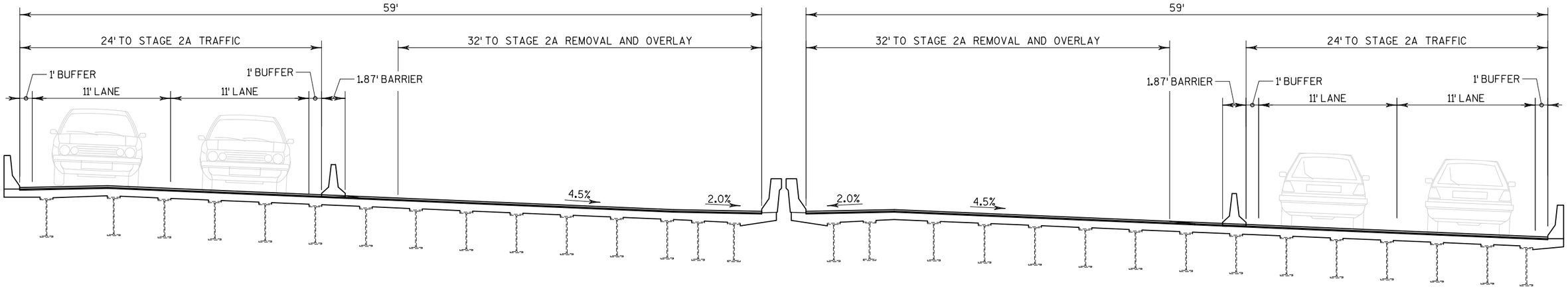
(LOOKING NORTH)
SUPERELEVEATED SECTION AT STRUCTURE B-40-183 & B-40-184 (OKLAHOMA AVENUE)

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 111	E



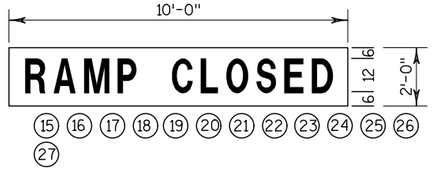
CROSS SECTION THRU SB BRIDGE - TO STAGE 1

(LOOKING NORTH)
AT STRUCTURE B-40-261 & B-40-262 (HOLT AVENUE)



CROSS SECTION THRU SB BRIDGE - TO STAGE 2A

(LOOKING NORTH)
AT STRUCTURE B-40-261 & B-40-262 (HOLT AVENUE)



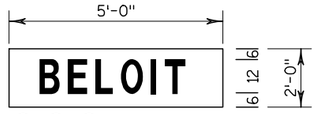
(15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27)

SIGN USED ON DETOUR PLAN



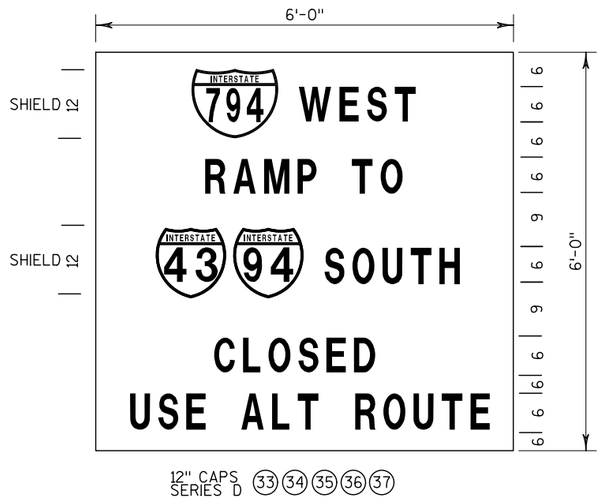
(28) (29) (30) (31)

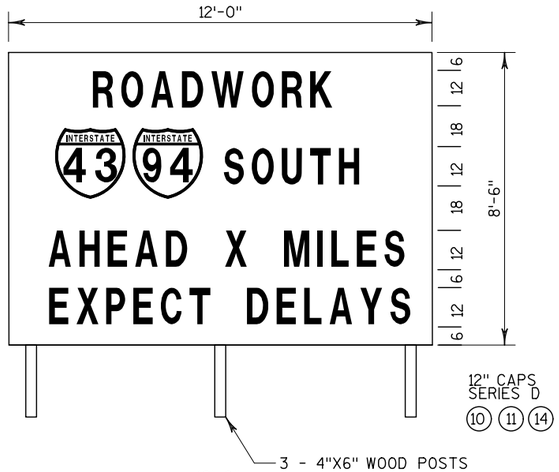
SIGN USED ON DETOUR PLAN



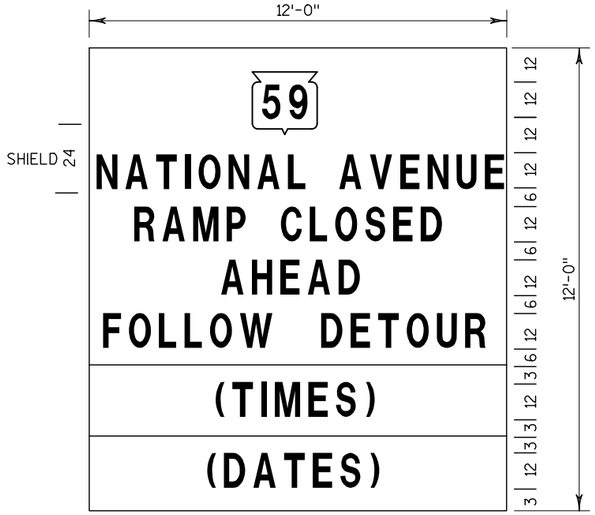
(38) (39) (40)

SIGN USED ON DETOUR PLAN









GENERAL NOTES

1) ALL SIGNS TO HAVE STANDARD REFLECTIVE SHEETING - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION.

2) AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE SIGNING AND MARKING SUPERVISOR SHALL VERIFY EACH SIGN LOCATION.

3) ALL FIXED MESSAGE SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4" X 6"). THE NUMBER OF POSTS REQUIRED FOR EACH SIGN IS SHOWN. STEEL POSTS (2" X 2") MAY BE USED FOR SIGNS ON SURFACE STREETS.

4) SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS".

5) SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.

6) ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   6-IN CAPS SHALL BE SERIES C
   12-IN CAPS SHALL BE SERIES D

7) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

8) SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 637.2.1.2.

9) SIGN NUMBERS SHOWN BY ...(XX)

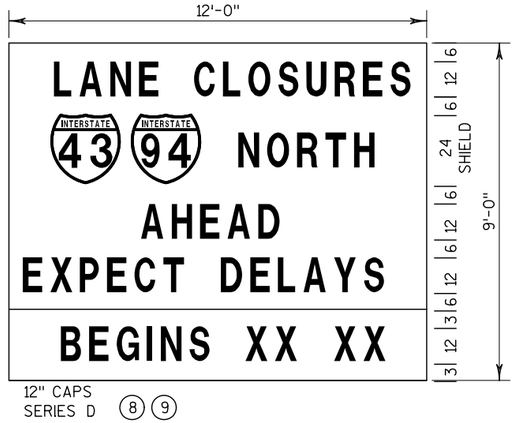
10) BEGIN XXX XX SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

11) BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE DIRECTED BY THE ENGINEER IN THE FIELD.

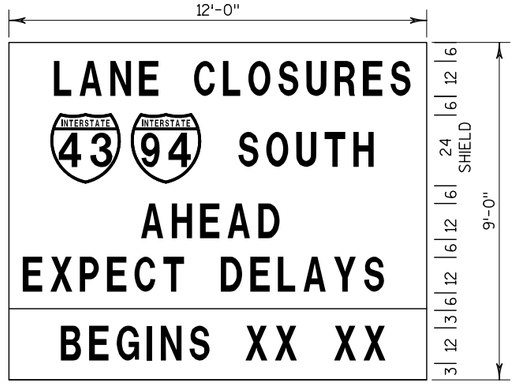
12) CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400 FT FROM ANY EXISTING TYPE 1 SIGN.

13) SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.

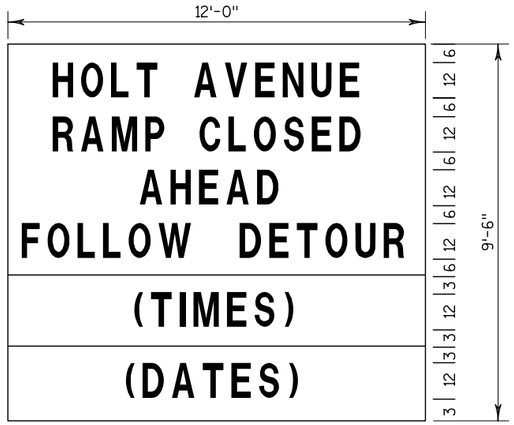
FIXED MESSAGE SIGNS



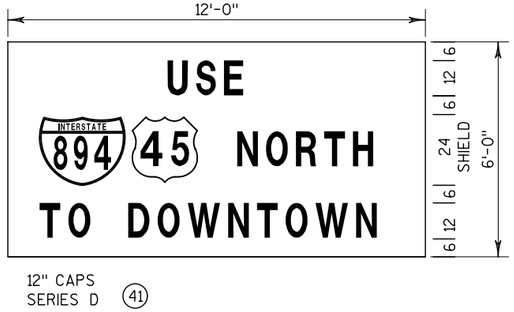
12" CAPS
SERIES D (8) (9)



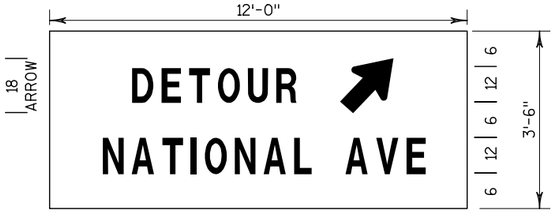
12" CAPS
SERIES D (12) (13)



12" CAPS
SERIES D (3)



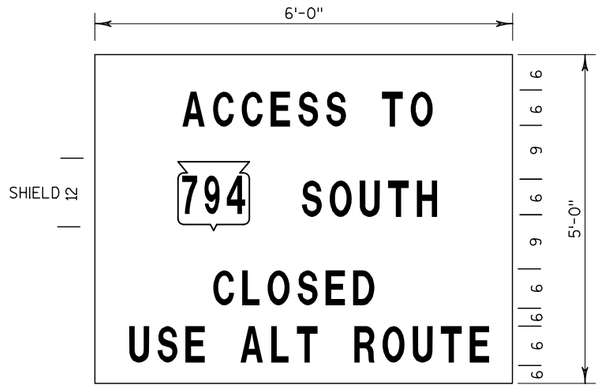
12" CAPS
SERIES D (41)



12" CAPS
SERIES D (46)

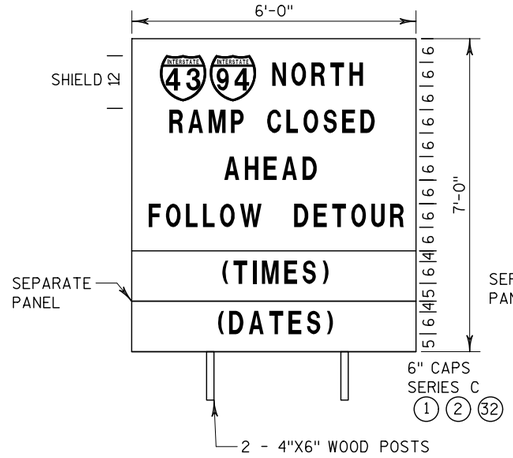


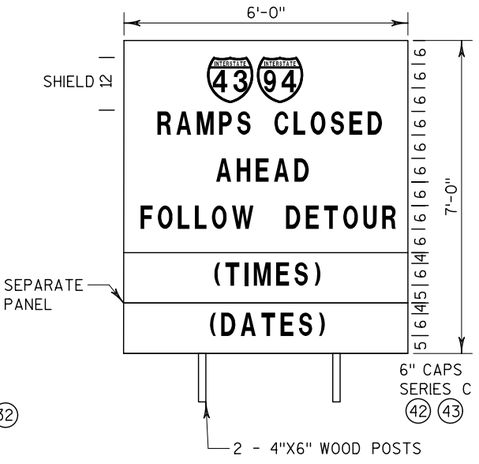
12" CAPS
SERIES D (47)



12" CAPS
SERIES D (44) (45)

FIXED MESSAGE SIGNS





GENERAL NOTES

1) ALL SIGNS TO HAVE STANDARD REFLECTIVE SHEETING - REFERENCE: "WISDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" LATEST EDITION.

2) AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE SIGNING AND MARKING SUPERVISOR SHALL VERIFY EACH SIGN LOCATION.

3) ALL FIXED MESSAGE SIGNS TO BE MOUNTED ON WOODEN POST SUPPORTS (4" X 6"). THE NUMBER OF POSTS REQUIRED FOR EACH SIGN IS SHOWN. STEEL POSTS (2" X 2") MAY BE USED FOR SIGNS ON SURFACE STREETS.

4) SIGNS ON THIS SHEET TO BE PAID UNDER THE ITEM "FIXED MESSAGE SIGNS".

5) SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.

6) ALL SIGNS SHALL HAVE CAPITAL LETTERS AND NUMERALS:
   6-IN CAPS SHALL BE SERIES C
   12-IN CAPS SHALL BE SERIES D

7) CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO MANUFACTURING.

8) SIGN BASE MATERIAL SHALL BE ACCORDING TO SECTION 637.2.1.2.

9) SIGN NUMBERS SHOWN BY ... (XX)

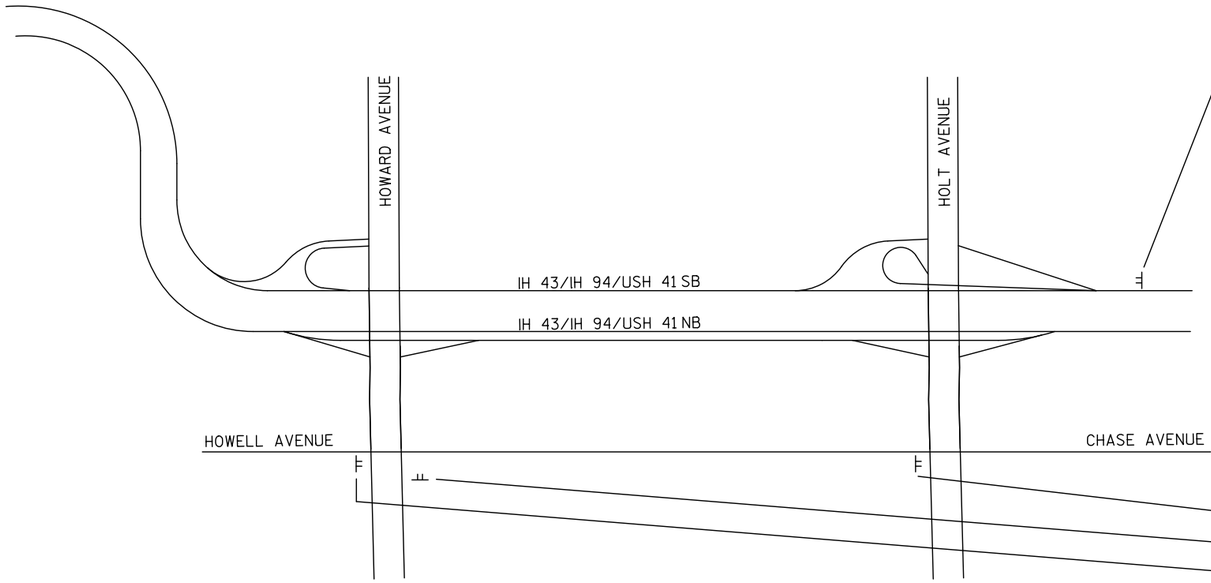
10) BEGIN XXX XX SIGNS TO BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.

11) BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE DIRECTED BY THE ENGINEER IN THE FIELD.

12) CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400 FT FROM ANY EXISTING TYPE 1 SIGN.

13) SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.

2



HOLT AVENUE
RAMP CLOSED
AHEAD
FOLLOW DETOUR
(TIMES)
(DATES)

3 STAGE 1-2A

43 94 NORTH
RAMP CLOSED
AHEAD
FOLLOW DETOUR
(TIMES)
(DATES)

1 STAGE 1
2 STAGE 1-2A
32 STAGE 1-2A

N

LEGEND

PROPOSED FIXED MESSAGE SIGN MOUNTED ON POST(S)

1 DENOTES SIGN NUMBER

GENERAL NOTES:

1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400 FT FROM ANY EXISTING TYPE "1" SIGN.
2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.
3. SEE FIXED MESSAGE SIGN LAYOUT FOR MORE DETAIL.
4. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.
5. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE DIRECTED BY THE ENGINEER IN THE FIELD. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

FIXED MESSAGE SIGNS

LEGEND

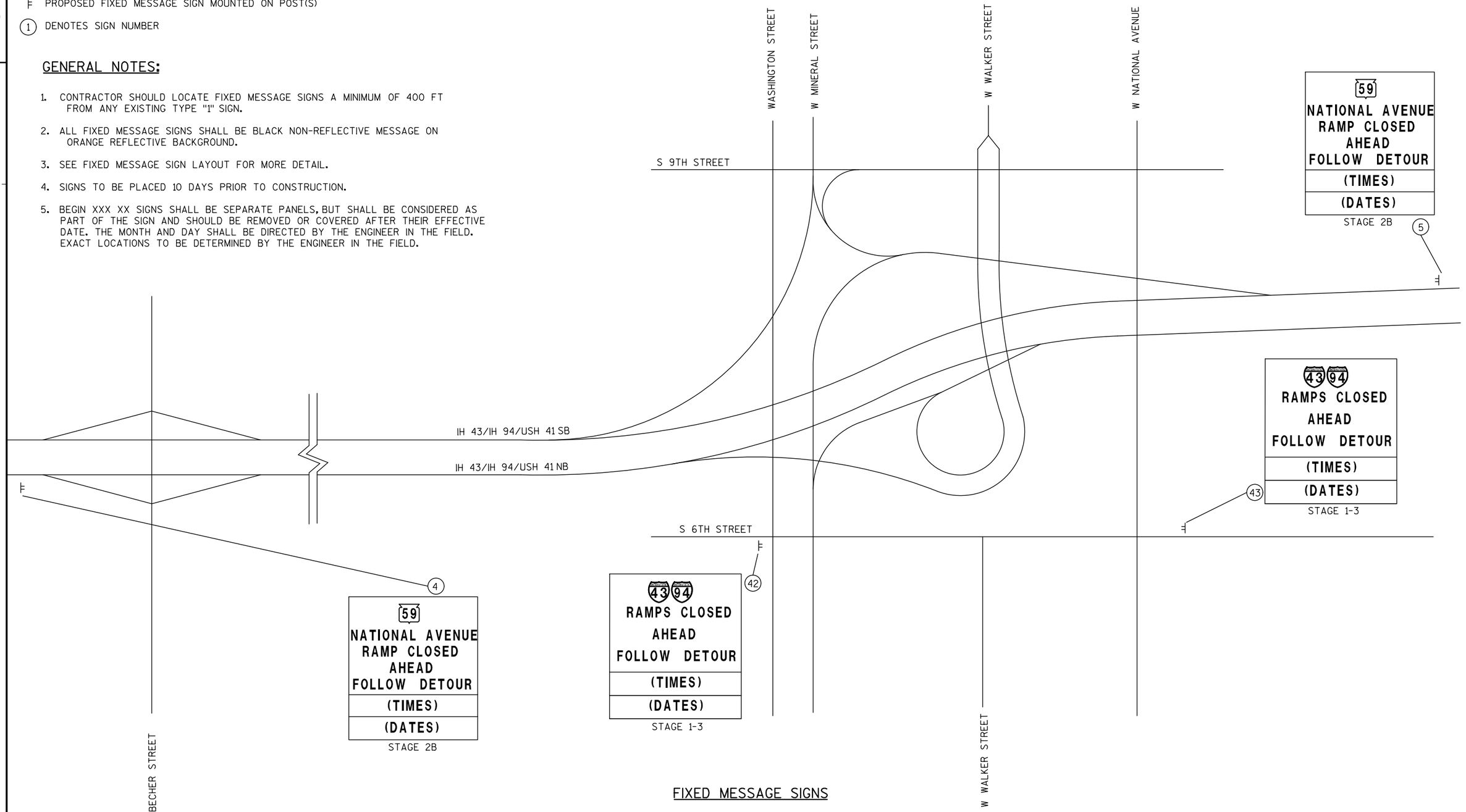
N

⊨ PROPOSED FIXED MESSAGE SIGN MOUNTED ON POST(S)

(1) DENOTES SIGN NUMBER

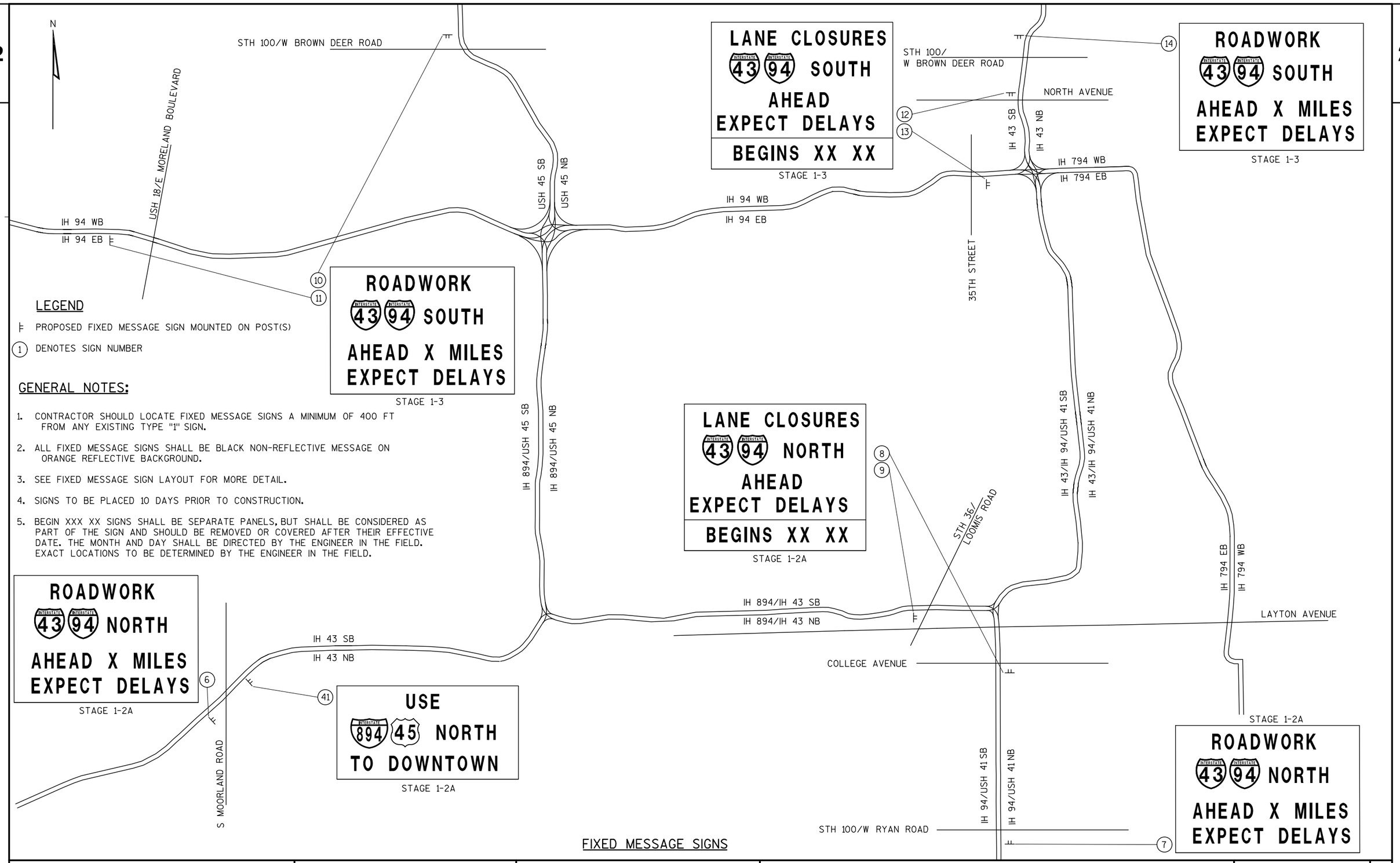
GENERAL NOTES:

1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400 FT FROM ANY EXISTING TYPE "1" SIGN.
2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.
3. SEE FIXED MESSAGE SIGN LAYOUT FOR MORE DETAIL.
4. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.
5. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE DIRECTED BY THE ENGINEER IN THE FIELD. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.



FIXED MESSAGE SIGNS

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 116	E



LEGEND

⊨ PROPOSED FIXED MESSAGE SIGN MOUNTED ON POST(S)

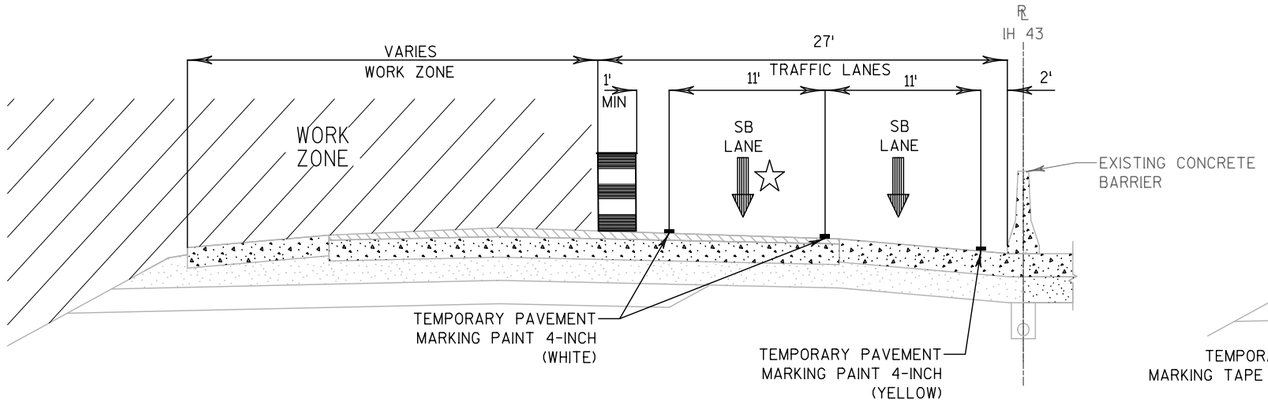
(1) DENOTES SIGN NUMBER

GENERAL NOTES:

1. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400 FT FROM ANY EXISTING TYPE "1" SIGN.
2. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE REFLECTIVE BACKGROUND.
3. SEE FIXED MESSAGE SIGN LAYOUT FOR MORE DETAIL.
4. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.
5. BEGIN XXX XX SIGNS SHALL BE SEPARATE PANELS, BUT SHALL BE CONSIDERED AS PART OF THE SIGN AND SHOULD BE REMOVED OR COVERED AFTER THEIR EFFECTIVE DATE. THE MONTH AND DAY SHALL BE DIRECTED BY THE ENGINEER IN THE FIELD. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

FIXED MESSAGE SIGNS

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 117	E

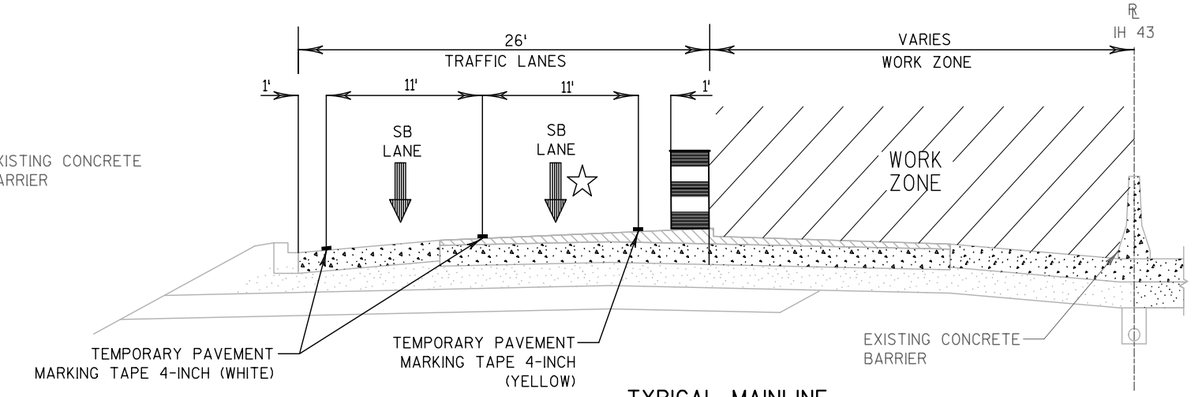


TYPICAL MAINLINE
STAGE 1 TRAFFIC CONTROL
PERMANENT LANE CLOSURES

*TYPICAL SB SECTION SHOWN

IH 43 NB (HOWARD AVENUE TO THE VALLEY BRIDGE)
IH 43 SB (BECHER STREET TO HOWARD AVENUE)

☆ TRUCKS REQUIRED TO USE THIS LANE BY REGULATORY SIGN

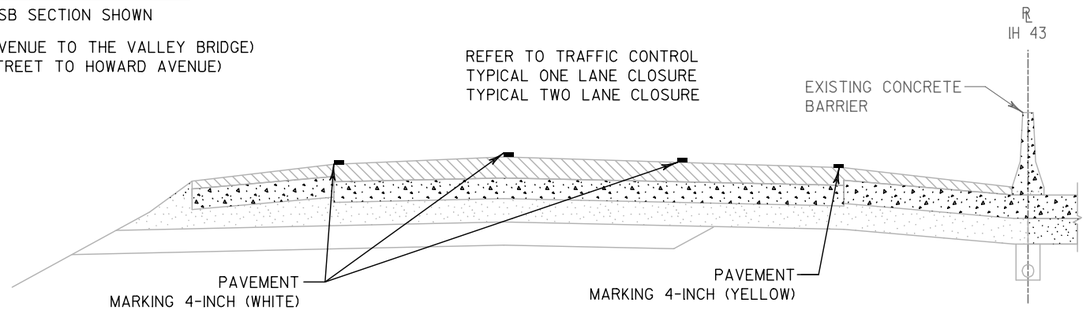


TYPICAL MAINLINE
STAGE 2A TRAFFIC CONTROL
PERMANENT LANE CLOSURES

*TYPICAL SB SECTION SHOWN

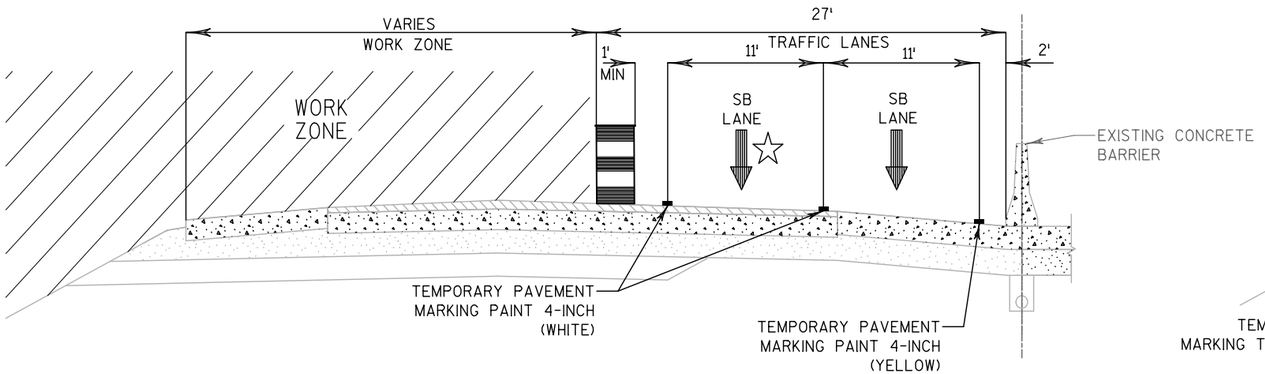
IH 43 NB (HOWARD AVENUE TO THE VALLEY BRIDGE)
IH 43 SB (BECHER STREET TO HOWARD AVENUE)

REFER TO TRAFFIC CONTROL
TYPICAL ONE LANE CLOSURE
TYPICAL TWO LANE CLOSURE



TYPICAL MAINLINE
STAGE 4 TRAFFIC CONTROL
SHORT TERM OFF PEAK LANE CLOSURES

*TYPICAL SB SECTION SHOWN



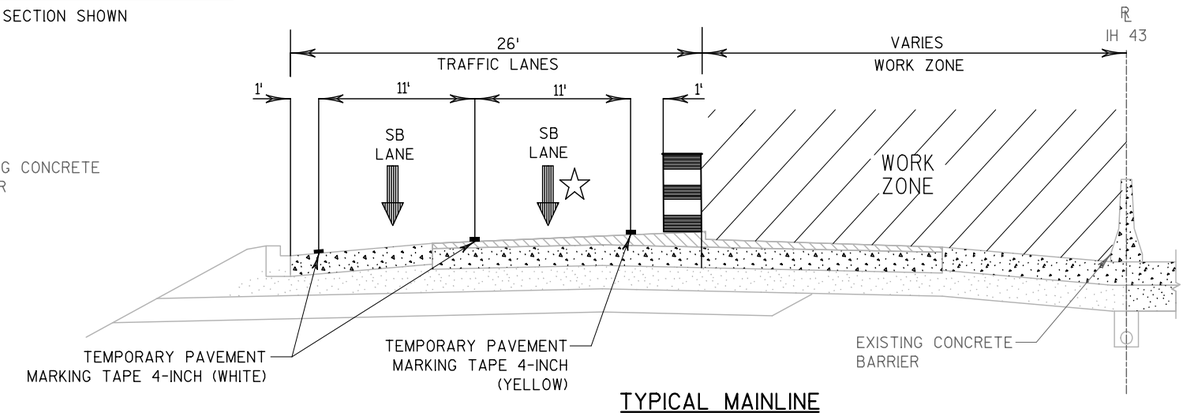
TYPICAL MAINLINE
STAGE 2B TRAFFIC CONTROL
PERMANENT LANE CLOSURES

*TYPICAL SB SECTION SHOWN

IH 43 SB (VALLEY BRIDGE TO GREENFIELD AVENUE)

NOTE:

NORTHBOUND TRAFFIC CONTROL
IS MIRROR IMAGE OF SOUTHBOUND



TYPICAL MAINLINE
STAGE 3 TRAFFIC CONTROL
PERMANENT LANE CLOSURES

*TYPICAL SB SECTION SHOWN

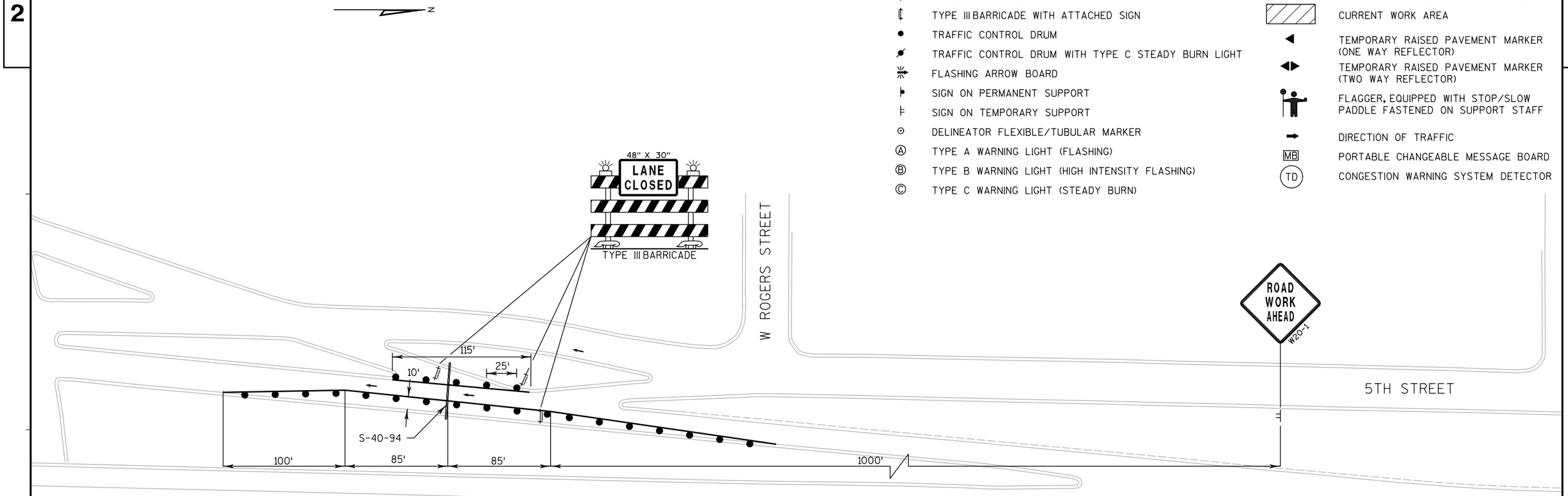
IH 43 SB (VALLEY BRIDGE TO GREENFIELD AVENUE)

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 118	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



NOTES:

1. REFER TO SDD "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL GUIDANCE.
2. THE EXACT LOCATION & SPACING OF ALL SIGNS & DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
3. SINGLE LANE CLOSURE REQUIRED FOR SIDE SUPPORT WORK. FULL ROADWAY, NIGHTTIME OFF PEAK HOUR CLOSURE REQUIRED FOR FINAL OVERHEAD SIGN INSTALLATION.
4. TO BE CONSTRUCTED DURING STAGE 4.

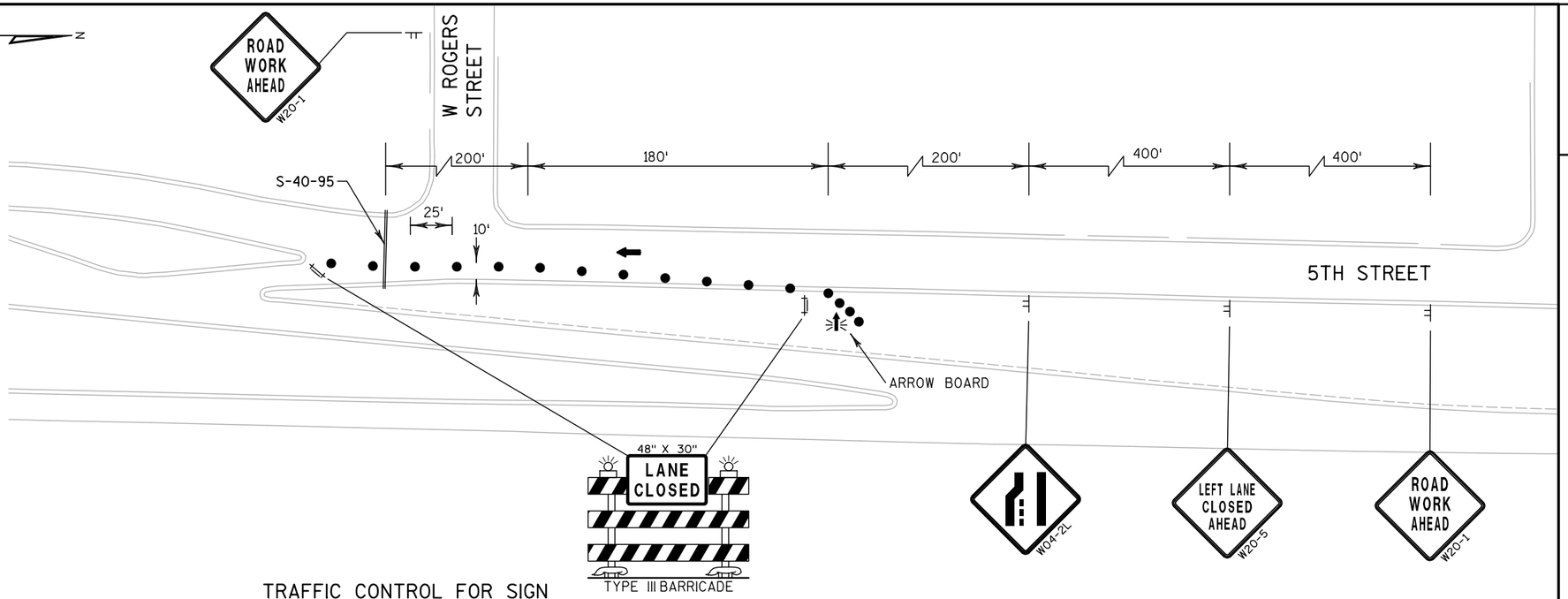
TRAFFIC CONTROL FOR SIGN STRUCTURE, S-40-94

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 119	E

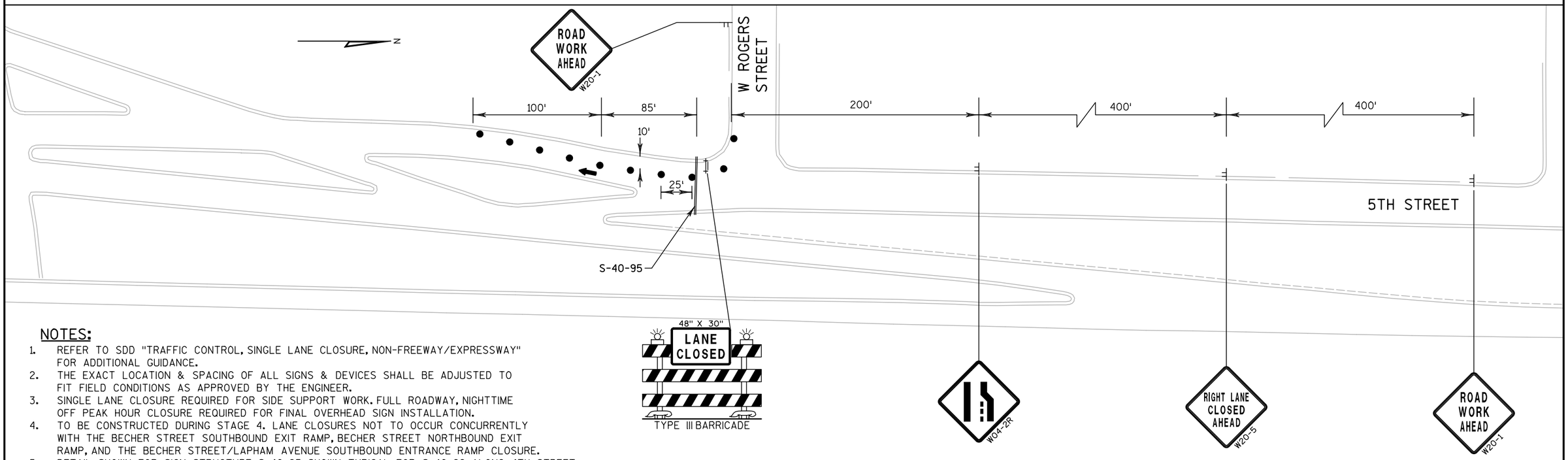
2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



TRAFFIC CONTROL FOR SIGN STRUCTURE, S-40-95



NOTES:

1. REFER TO SDD "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL GUIDANCE.
2. THE EXACT LOCATION & SPACING OF ALL SIGNS & DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
3. SINGLE LANE CLOSURE REQUIRED FOR SIDE SUPPORT WORK. FULL ROADWAY, NIGHTTIME OFF PEAK HOUR CLOSURE REQUIRED FOR FINAL OVERHEAD SIGN INSTALLATION.
4. TO BE CONSTRUCTED DURING STAGE 4. LANE CLOSURES NOT TO OCCUR CONCURRENTLY WITH THE BECHER STREET SOUTHBOUND EXIT RAMP, BECHER STREET NORTHBOUND EXIT RAMP, AND THE BECHER STREET/LAPHAM AVENUE SOUTHBOUND ENTRANCE RAMP CLOSURE.
5. DETAIL SHOWN FOR SIGN STRUCTURE S-40-95 SHOWN, TYPICAL FOR S-40-92 ALONG 4TH STREET.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 120	E

NOTES:

1. COMPLETE NOISE WALL WORK DURING STAGE 1.
2. TEMPORARILY CLOSE PEDESTRIAN BRIDGE ACCESS DURING NOISE WALL WORK DIRECTLY ADJACENT TO STRUCTURE.

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

R11-2B
48" X 30"
BRIDGE OUT
TYPE III BARRICADE

SAFETY FENCE

5TH STREET

I43/94/USH 41

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 SB

670 672 674 676 192 194 196

N 8°35'32" W

N 8°33'22" W

Eqn 677+23.64
Eqn 190+82.97, 2.86' LT

PED OVERHEAD

46NC

DO NOT ENTER
R5-1
36" X 36"

180' (TYP) TAPER

40'

25'

4TH STREET

POOL

ROAD CLOSED TO LOCAL TRAFFIC ONLY
R11-4
60" X 30"

WARNIMONT AVENUE

R11-2B
48" X 30"
BRIDGE OUT
TYPE III BARRICADE

SAFETY FENCE

ROAD WORK AHEAD
W20-1

3RD STREET

ONE WAY
R6-2R
24" X 30"

ONLY

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

MORGAN AVENUE

ROAD WORK AHEAD
W20-1

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS - NOISE WALL REMOVAL	SHEET 121	E

2

OKLAHOMA AVENUE

STH 794 SB

STH 794 NB

ELLEN STREET

ROAD WORK AHEAD W20-1

ROAD WORK AHEAD W20-1

ACCESS TO 794 SOUTH CLOSED USE ALT ROUTE

(44)

ACCESS TO 794 SOUTH CLOSED USE ALT ROUTE

(45)

LANE CLOSED

TYPE III BARRICADE

25'

EXISTING SOUTH 794 NORTH 794

COVER

COVER

EXISTING ONLY ONLY

EXISTING SOUTH 794

COVER

N

NOTE:

TRAFFIC CONTROL TO BE IN PLACE FOR THE DURATION OF STAGE 1, AND 2A.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL - ELLEN STREET	SHEET 122	E

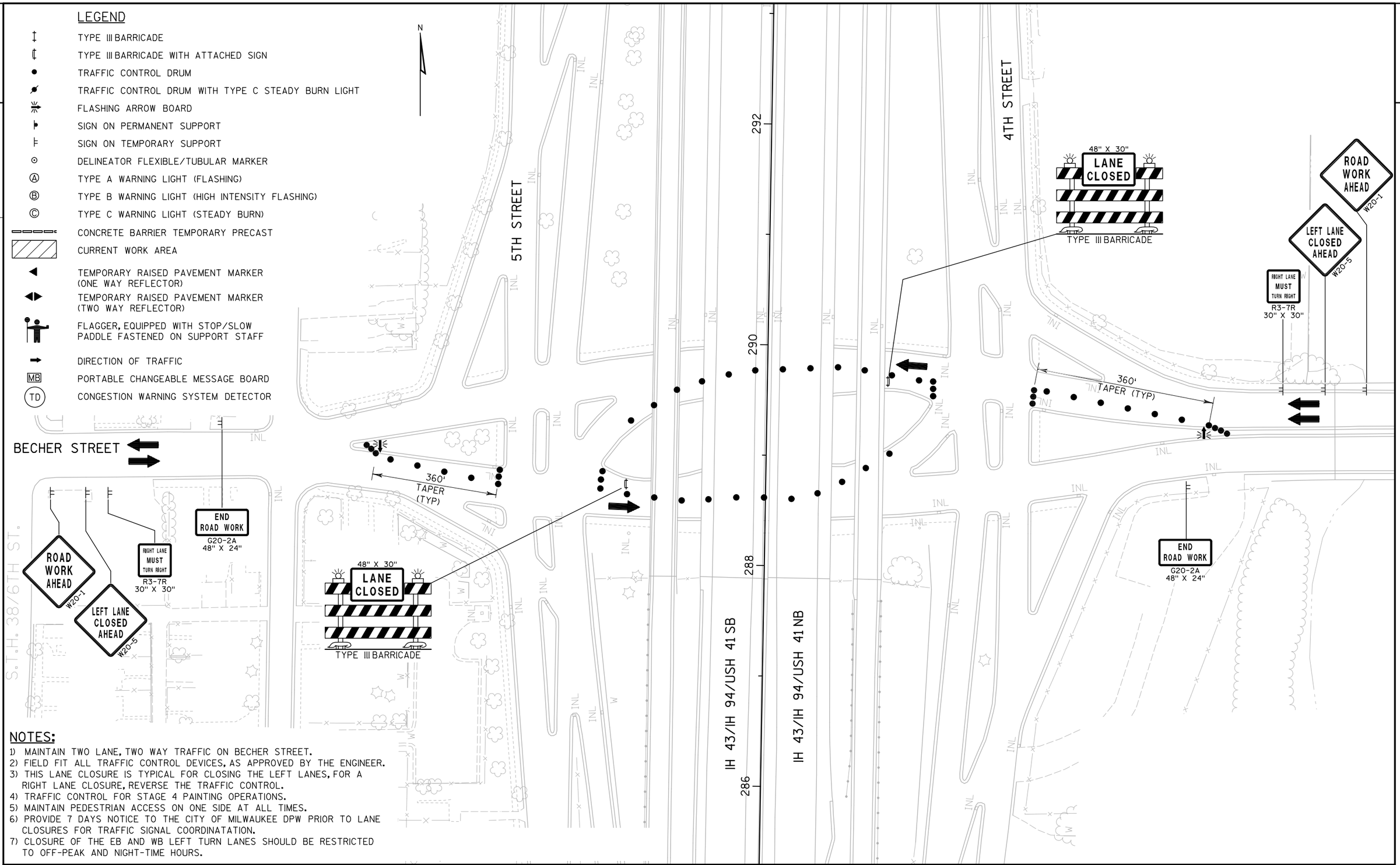
FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\025220_tc.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 40.0000 sf / in.

WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



NOTES:

1) MAINTAIN TWO LANE, TWO WAY TRAFFIC ON BECHER STREET.
2) FIELD FIT ALL TRAFFIC CONTROL DEVICES, AS APPROVED BY THE ENGINEER.
3) THIS LANE CLOSURE IS TYPICAL FOR CLOSING THE LEFT LANES, FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.
4) TRAFFIC CONTROL FOR STAGE 4 PAINTING OPERATIONS.
5) MAINTAIN PEDESTRIAN ACCESS ON ONE SIDE AT ALL TIMES.
6) PROVIDE 7 DAYS NOTICE TO THE CITY OF MILWAUKEE DPW PRIOR TO LANE CLOSURES FOR TRAFFIC SIGNAL COORDINATATION.
7) CLOSURE OF THE EB AND WB LEFT TURN LANES SHOULD BE RESTRICTED TO OFF-PEAK AND NIGHT-TIME HOURS.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL - BECHER STREET	SHEET 123	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

5TH STREET

4TH STREET

292

290

288

286

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

BECHER STREET

S.T.H. 38/6TH ST.

48" X 30"
LANE CLOSED
TYPE III BARRICADE

ROAD WORK AHEAD
W20-1

LEFT LANE CLOSED AHEAD
W20-5

RIGHT LANE MUST TURN RIGHT
R3-7R
30" X 30"

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

48" X 30"
LANE CLOSED
TYPE III BARRICADE

ROAD WORK AHEAD
W20-1

RIGHT LANE MUST TURN RIGHT
R3-7R
30" X 30"

LEFT LANE CLOSED AHEAD
W20-5

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

NOTES:

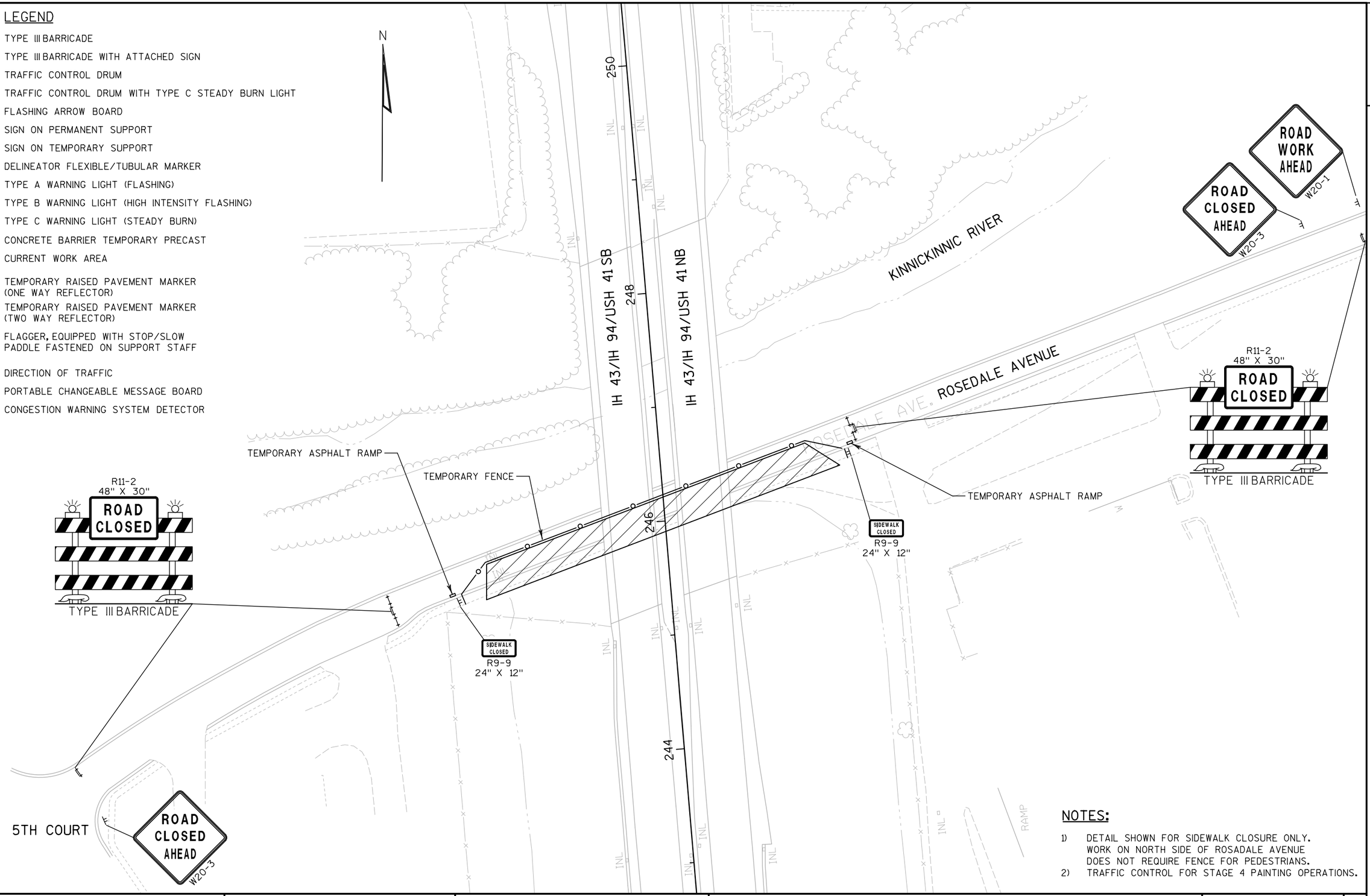
1) MAINTAIN TWO LANE, TWO WAY TRAFFIC ON BECHER STREET.
2) FIELD FIT ALL TRAFFIC CONTROL DEVICES, AS APPROVED BY THE ENGINEER.
3) THIS LANE CLOSURE IS TYPICAL FOR CLOSING THE LEFT LANES, FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.
4) TRAFFIC CONTROL FOR STAGE 4 PAINTING OPERATIONS.
5) MAINTAIN PEDESTRIAN ACCESS ON ONE SIDE AT ALL TIMES.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL - BECHER STREET	SHEET 124	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



NOTES:

1) DETAIL SHOWN FOR SIDEWALK CLOSURE ONLY. WORK ON NORTH SIDE OF ROSADALE AVENUE DOES NOT REQUIRE FENCE FOR PEDESTRIANS.
2) TRAFFIC CONTROL FOR STAGE 4 PAINTING OPERATIONS.

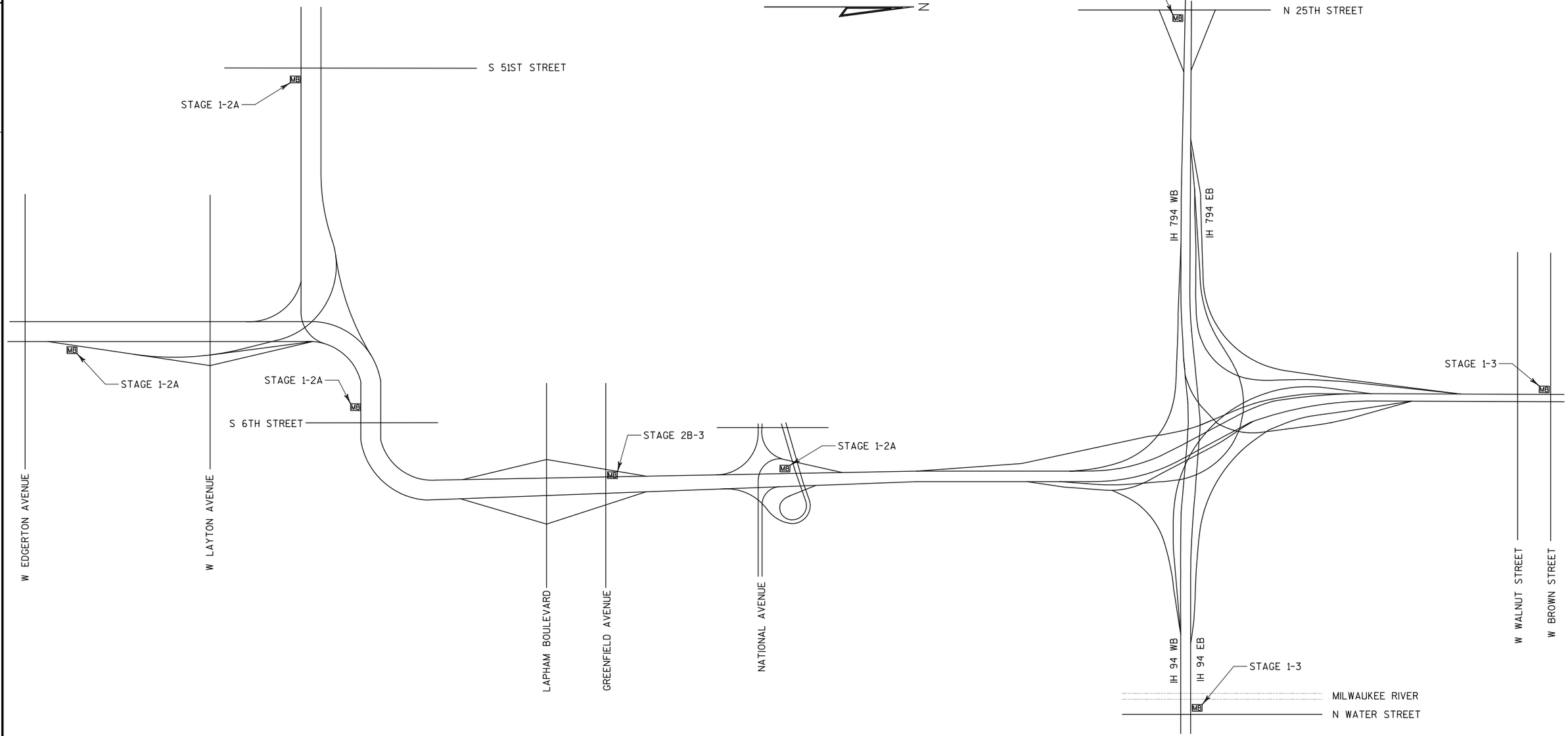
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL - ROSEDALE AVENUE	SHEET 125	E

2

LEGEND

MB PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

N



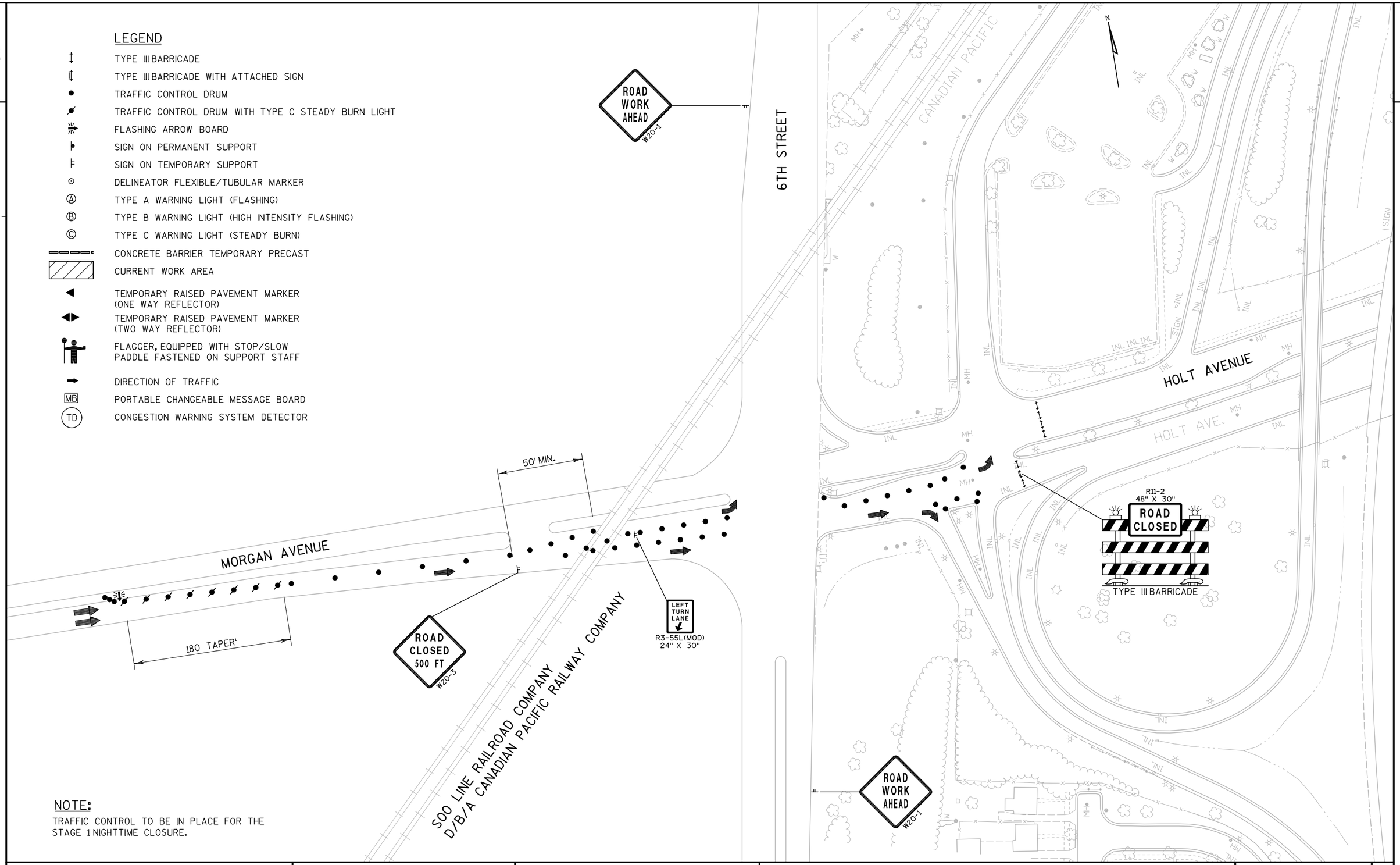
2

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS - PCMS FOR INCIDENT MANAGEMENT	SHEET 126	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

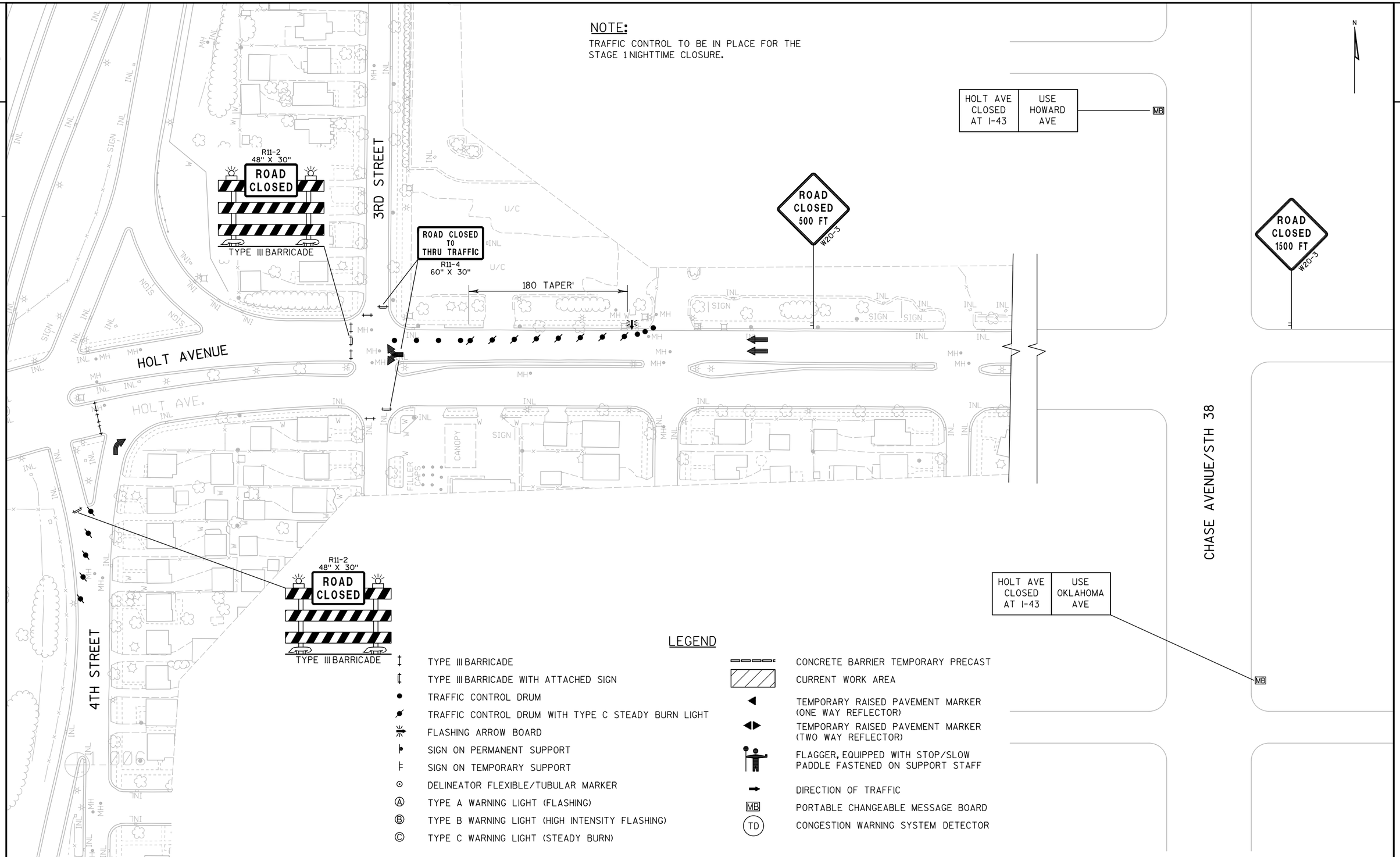


NOTE:
TRAFFIC CONTROL TO BE IN PLACE FOR THE STAGE 1 NIGHTTIME CLOSURE.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL - HOLT AVENUE	SHEET 127	E

NOTE:

TRAFFIC CONTROL TO BE IN PLACE FOR THE STAGE 1 NIGHTTIME CLOSURE.

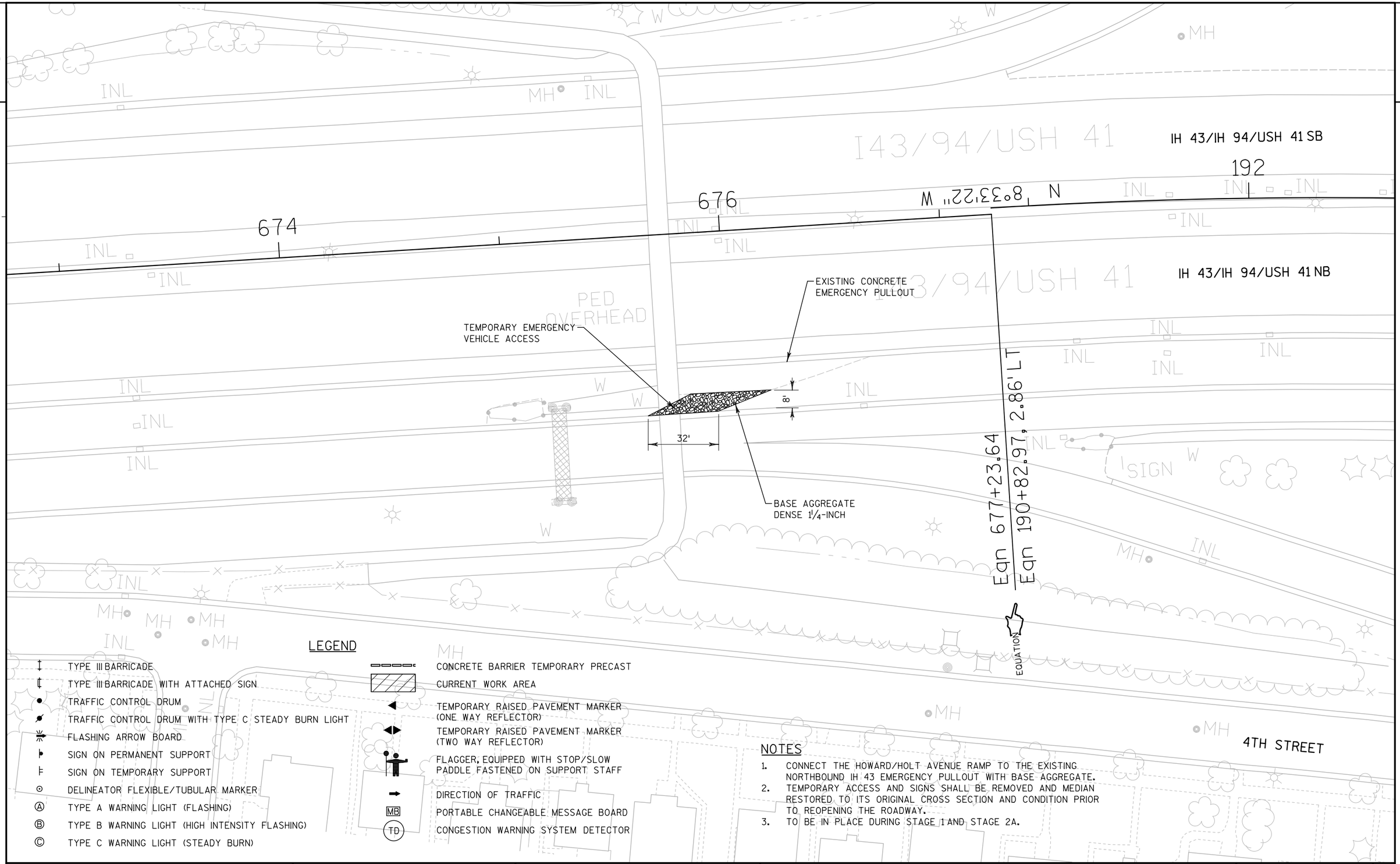


LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- (TD) CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL - HOLT AVENUE	SHEET 128	E

2



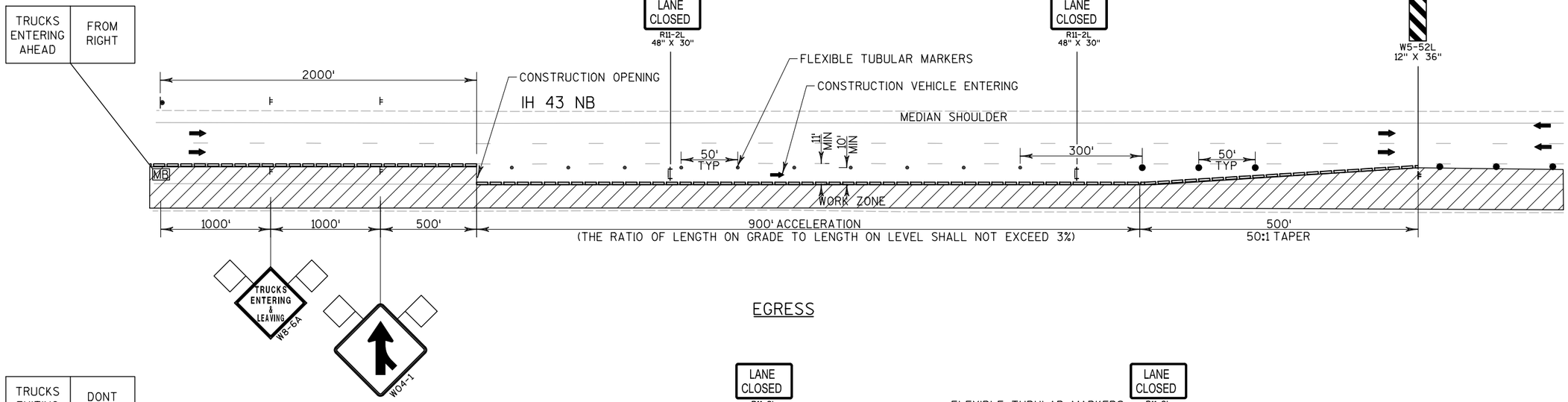
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
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- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

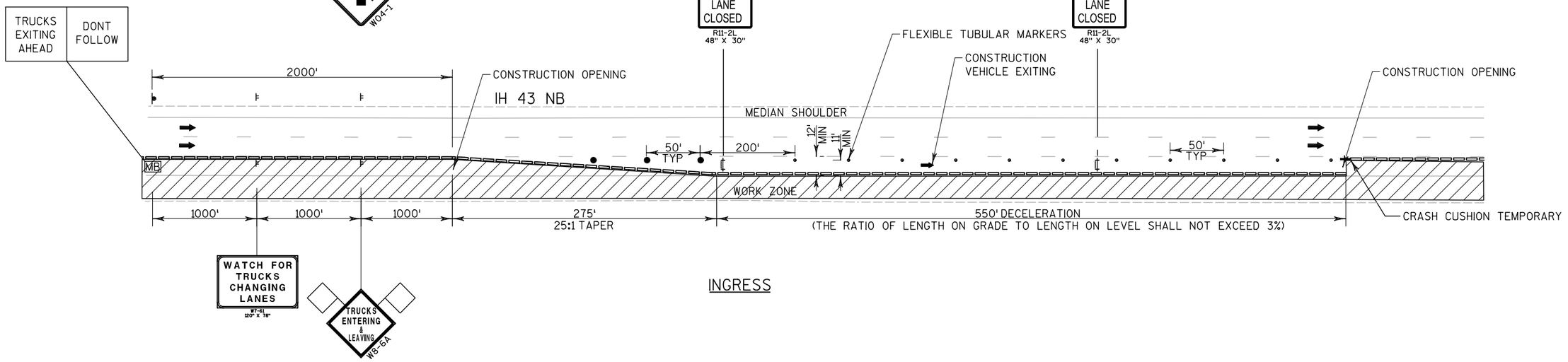
NOTES

1. CONNECT THE HOWARD/HOLT AVENUE RAMP TO THE EXISTING NORTHBOUND IH 43 EMERGENCY PULLOUT WITH BASE AGGREGATE.
2. TEMPORARY ACCESS AND SIGNS SHALL BE REMOVED AND MEDIAN RESTORED TO ITS ORIGINAL CROSS SECTION AND CONDITION PRIOR TO REOPENING THE ROADWAY.
3. TO BE IN PLACE DURING STAGE 1 AND STAGE 2A.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAIL - EMERGENCY ACCESS	SHEET 129	E



EGRESS



INGRESS

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
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- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

EGRESS/INGRESS CONSTRUCTION TRAFFIC

POSTED SPEEDS 55 MPH OR LESS

GENERAL NOTES

RIGHT LANE ACCESS SHOWN (MEDIAN ACCESS SIMILAR).

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

FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS MAY HAVE A WARNING LIGH, TYPE C (STEADY BURN).

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

ALL WARNING SIGNS FOR LONG TERM OPERATIONS SHALL BE NON-FLUORESCENT DIAMOND GRADE SHEETING, TYPE A LIGHTS AND FLAGS ARE NOT REQUIRED.

TRUCKS SHALL USE FLASHING YELLOW BEACON WHEN ENTERING LIVE TRAFFIC.

FREE FLOW TRAFFIC LANES SHALL BE A MINIMUM OF ELEVEN FOOT AND ACCOMODATE A ONE FOOT DSHY DISTANCE FROM TRAFFIC CONTROL DEVICES.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL DETAILS	SHEET 130	E

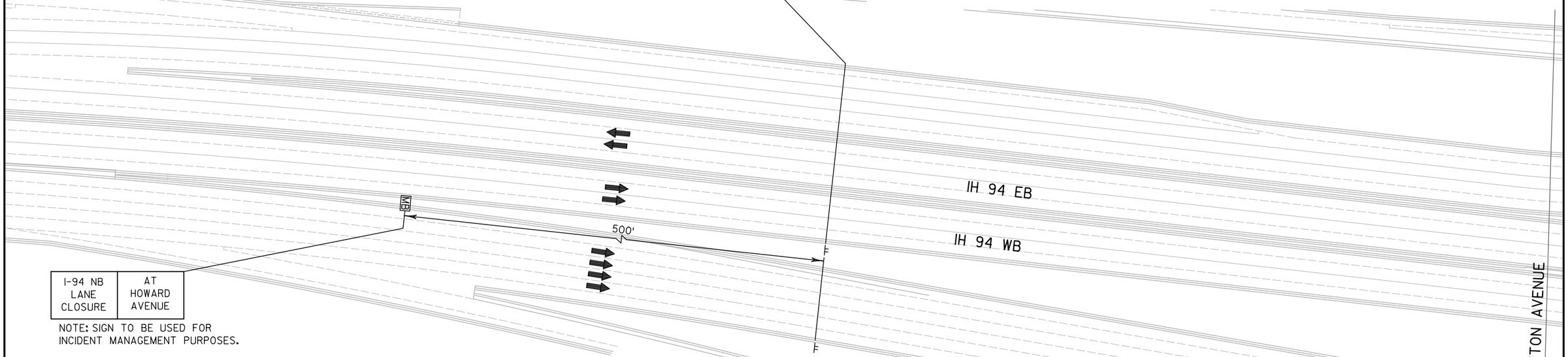
2

N



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
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- SIGN ON TEMPORARY SUPPORT
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



I-94 NB LANE CLOSURE	AT HOWARD AVENUE

NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

CONSTRUCTION STAGE 1 NOTES
STAGE 1 TRAFFIC CONTROL NOTES

1) ALL CROSSROADS WITHIN THE PROJECT VICINITY ARE TO REMAIN OPEN AT ALL TIMES.

2) MAINTAIN TWO LANES OF TRAFFIC FOR IH 43 NORTHBOUND AND SOUTHBOUND TRAFFIC DURING PEAK HOURS USING THE INNER LANES.

3) INTERMITTENT IH 43 EXIT AND ENTRANCE RAMP CLOSURES ARE PERMITTED WITH THE APPROVAL OF THE ENGINEER.

4) CLOSE HOLT/HOWARD AVENUE TO IH 43 NORTHBOUND ON RAMP FOR THE DURATION OF STAGE 1.

5) CLOSE IH 43 SOUTHBOUND EXIT RAMP TO EASTBOUND AND WESTBOUND HOLT AVENUE FOR THE DURATION OF STAGE 1.

6) CLOSE THE NATIONAL AVENUE EXIT RAMP AND MINERAL ST/WALKER ST ENTRANCE RAMP TO IH 43 NORTHBOUND FOR THE DURATION OF STAGE 1.

7) CLOSE SOUTHBOUND IH 794 ACCESS FROM ELLEN STREET.

STAGE 1 CONSTRUCTION STAGING NOTES

1) INSTALL TEMPORARY PAVEMENT MARKINGS ON IH 43 MAINLINE, THE LAPHAM BOULEVARD SOUTHBOUND EXIT RAMP AND HOLT AVENUE NORTHBOUND ENTRANCE RAMP.

2) INSTALL TEMPORARY DELINEATORS ON MEDIAN BARRIER.

3) MOVE ALL MEDIAN BARRIER SIGNS OVERHANGING SHOULDER LANE EXCEPT FOR MILE MARKERS.

4) REMOVE EXISTING MAINLINE OVERLAY, STRUCTURE OVERLAY AND 1-INCH OF THE DECK ON OUTSIDE SHOULDERS AND OUTER LANES.

5) PERFORM CONCRETE OVERLAY WORK ON NORTHBOUND STRUCTURES B-40-285, B-40-262, B-40-184, B-40-176, AND B-40-286 AND ON SOUTHBOUND STRUCTURES B-40-261, B-40-183, B-40-175. PERFORM POLYMER OVERLAY WORK ON B-40-181 AND B-40-182.

6) PERFORM ASPHALTIC OVERLAY WORK ON MAINLINE IH 43 ROADWAY.

7) PAINT STRUCTURE GIRDERS DURING LANE CLOSURES FOR STRUCTURES B-40-180 AND B-40-286 NORTH OF WASHINGTON STREET. PAINT STRUCTURE GIRDERS OF B-40-286 OVER THE NB ENTRANCE RAMP.

8) REPLACE SAND BARRELS WITH ATTENUATORS ON NB IH 43 AT NATIONAL AVENUE AND NORTHBOUND IH 43 AT LAPHAM BOULEVARD OVERPASS.

9) REPLACE VERTICAL FACE CURB WITH MOUNTABLE CURB & GUTTER ON NORTHBOUND IH 43 NEAR GREENFIELD AVENUE.

10) REMOVE WISCONSIN AVENUE SB ON-RAMP HOV LANE SIGNS & MARKINGS.

11) PAVE THE HOWARD AVENUE NORTHBOUND CD RAMP/HOLT AVENUE NORTHBOUND ENTRANCE RAMP, THE SOUTHBOUND HOLT AVENUE EXIT RAMP, THE NORTHBOUND NATIONAL AVENUE EXIT RAMP, AND THE NORTHBOUND MINERAL STREET/WALKER STREET ENTRANCE RAMP WHILE CLOSED.

2

2

W LAYTON AVENUE

N

IH 94 EB

IH 94 WB

LEGEND

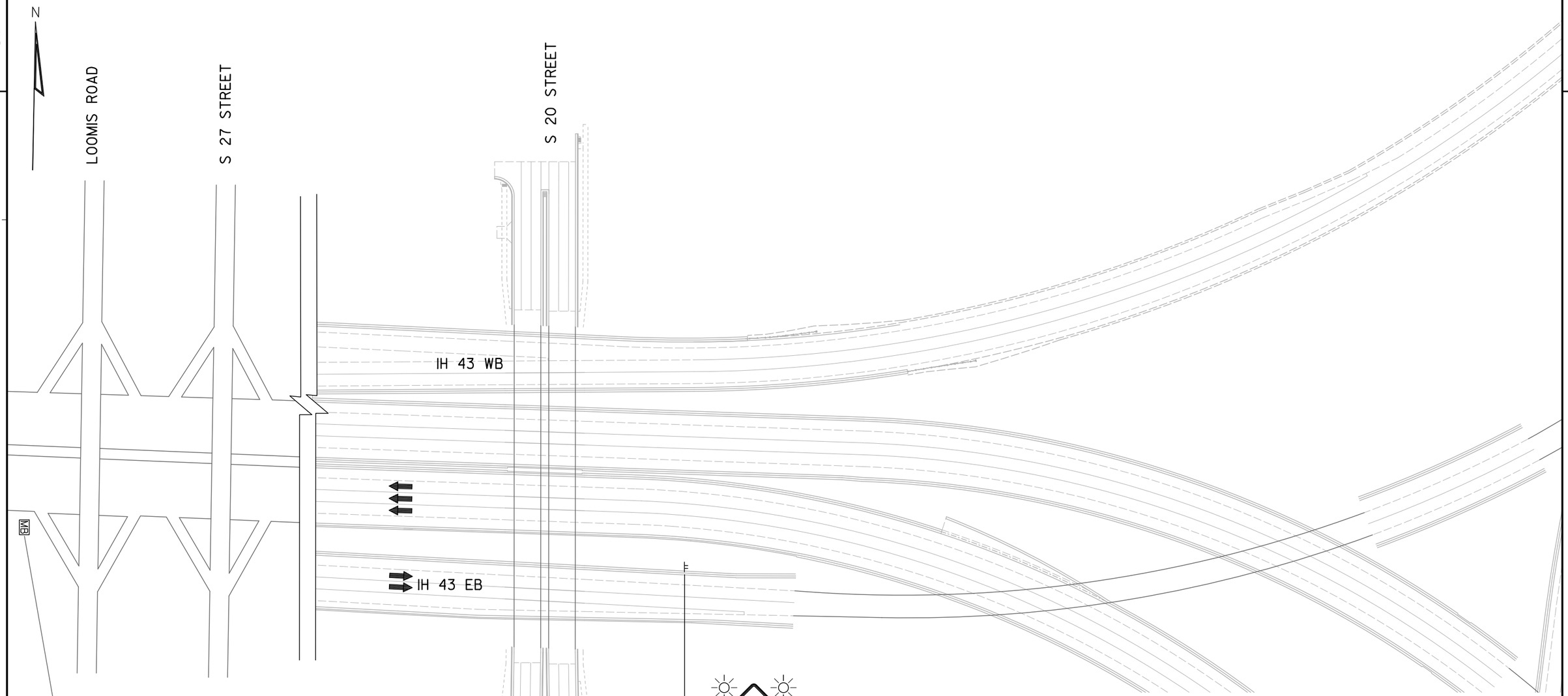
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
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- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

NO TRAFFIC CONTROL ITEMS INCLUDED ON THIS SHEET.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 132	E

2



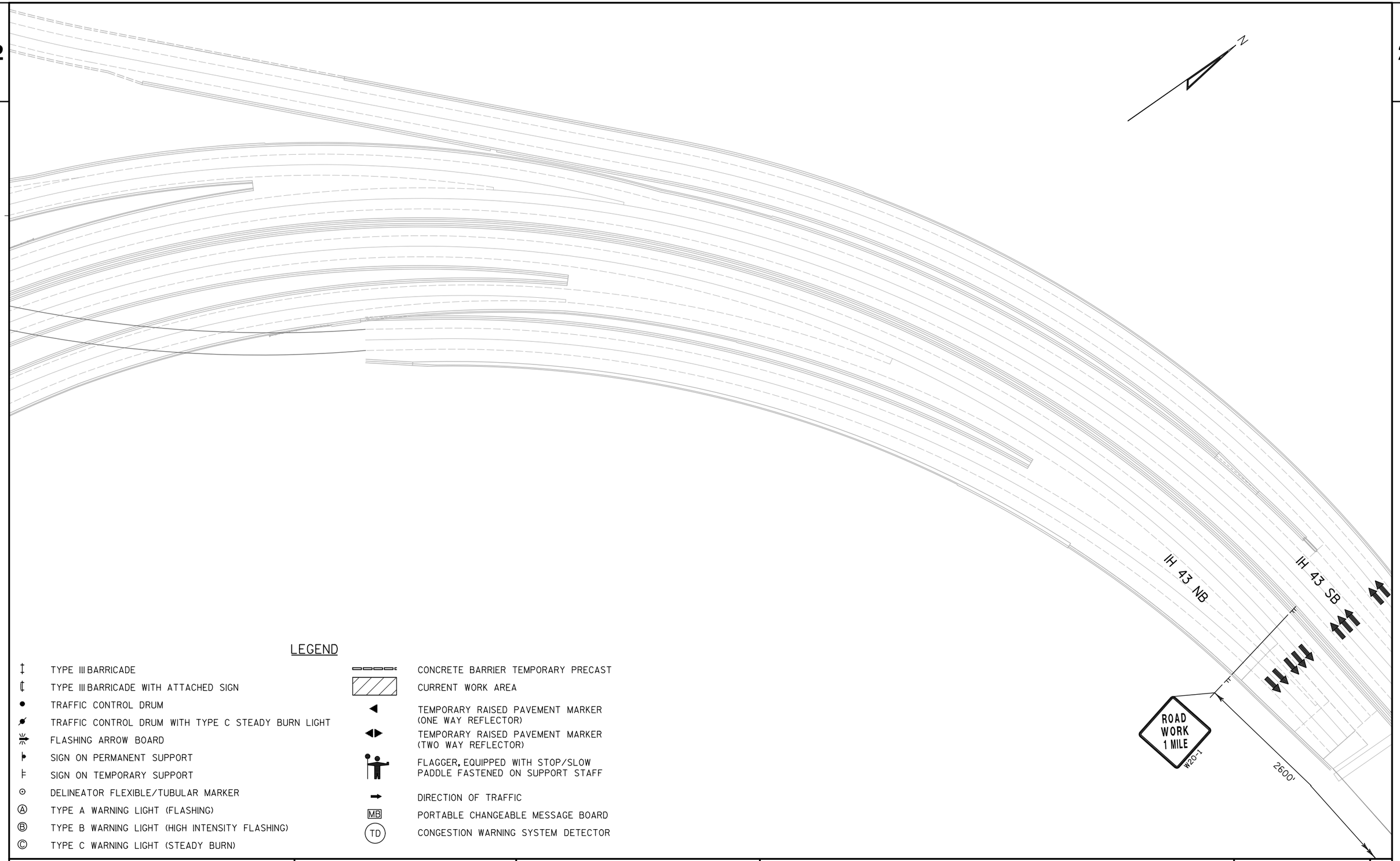
LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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- SIGN ON TEMPORARY SUPPORT
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 133	E

2

2

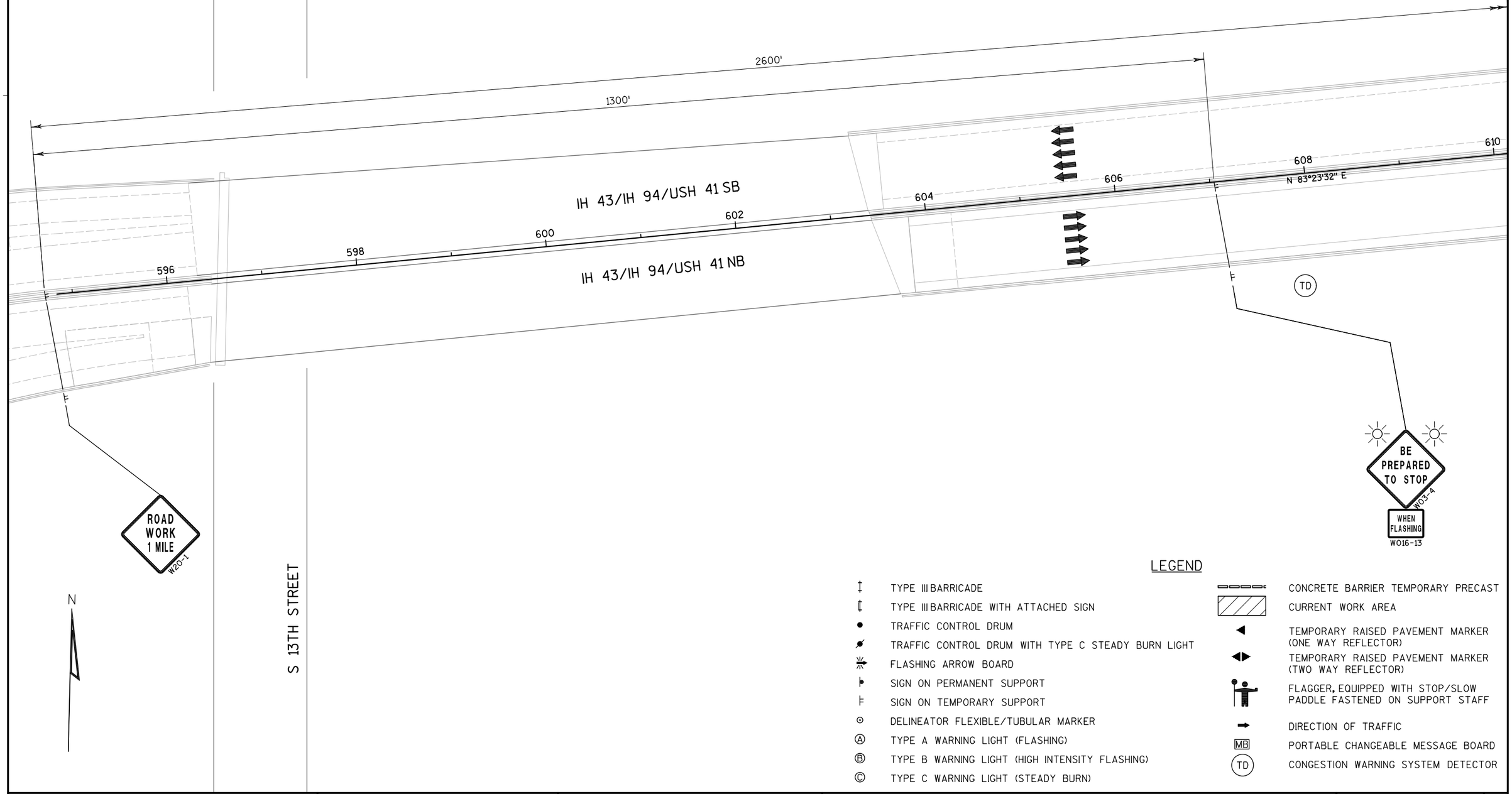


LEGEND

TYPE III BARRICADE	CONCRETE BARRIER TEMPORARY PRECAST
TYPE III BARRICADE WITH ATTACHED SIGN	CURRENT WORK AREA
TRAFFIC CONTROL DRUM	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
FLASHING ARROW BOARD	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
SIGN ON PERMANENT SUPPORT	DIRECTION OF TRAFFIC
SIGN ON TEMPORARY SUPPORT	PORTABLE CHANGEABLE MESSAGE BOARD
DELINEATOR FLEXIBLE/TUBULAR MARKER	CONGESTION WARNING SYSTEM DETECTOR
TYPE A WARNING LIGHT (FLASHING)	
TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)	
TYPE C WARNING LIGHT (STEADY BURN)	

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 134	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 135	E

2

2600'

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

610 612 614 616 618 620 622 624

6TH STREET

MB

200'

500'

NO NORTHBOUND
RE-ENTRY
TO FREEWAY

W6-54D
168" X 60"

NEXT
EXIT

M4-8A (MOD)
48" X 36"

ROAD
WORK
1/2 MILE

W20-1

LEFT LANE CLOSED	AT HOWARD AVENUE

NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

N

LEGEND

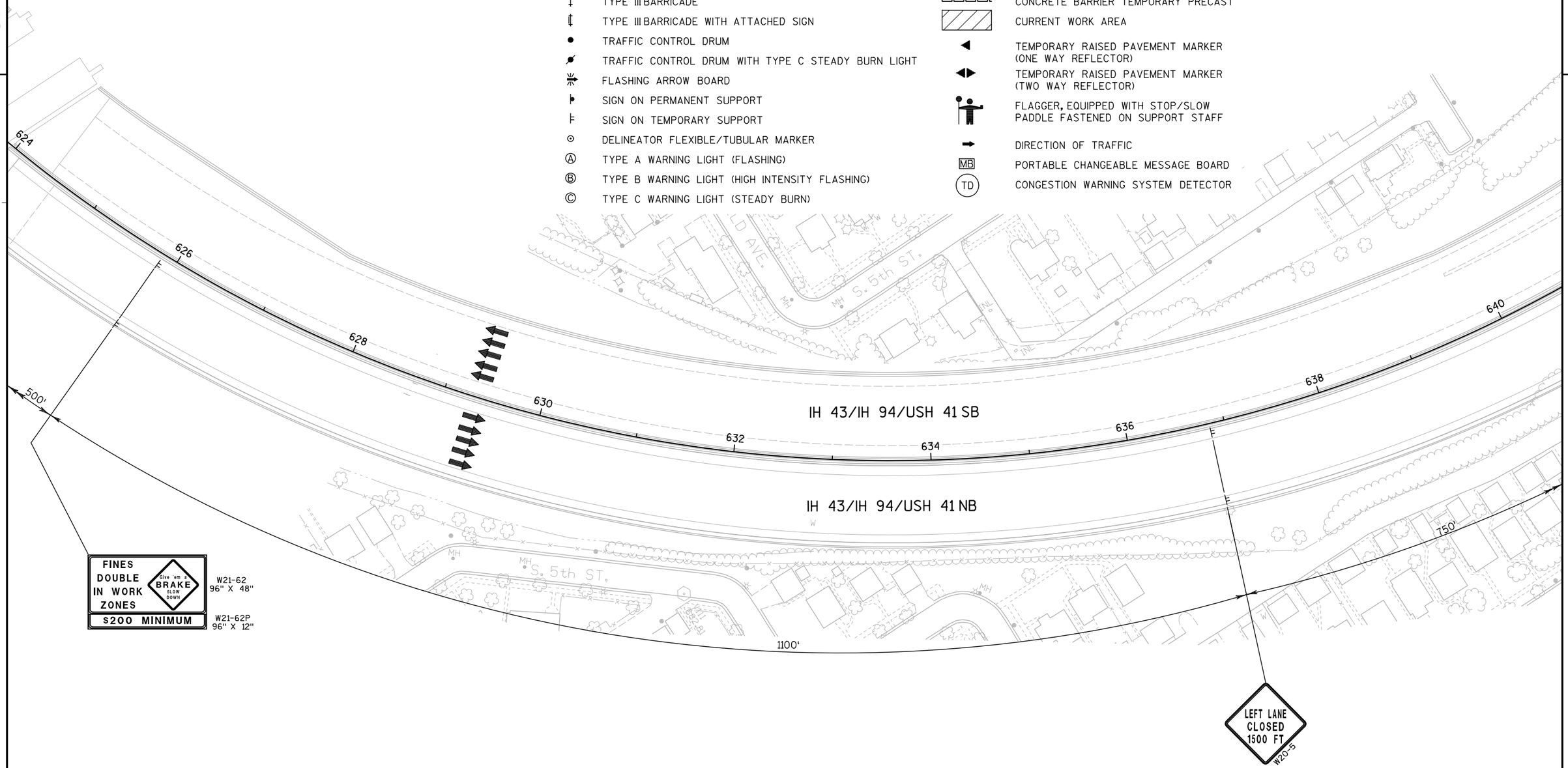
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- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 136	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 137	E

2

N

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

642 644 646 648 650 652 654

750' 300' 300'

TD

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING

HOWARD AVENUE

W04-2L

NO NORTHBOUND
RE-ENTRY
TO FREEWAY
W6-54D
168" X 60"

NEXT
EXIT
M4-8A (MOD)
48" X 36"

TRUCKS
USE
RIGHT
LANE
R4-5R
48" X 60"

SPEED
LIMIT
50
R2-1
48" X 60"

(LANE DROP)
660' TAPER

S. 3rd ST.

3/94/USH

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)

- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 138	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

HOWARD AVENUE

N

WATCH FOR BACKUPS
W8-74
36" X 36"

RAMP
M4-8(MOD)
30" X 15"

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

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

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING

TEMPORARY RAISED
PAVEMENT MARKERS (TYP)

500'

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

I43/94/USH 41

654 656 658 660 662 664 666 668

N 0°17'08" E

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

(LANE DROP)
660' TAPER

500' BUFFER

(LANE SHIFT)
660' TAPER

EXIT
E5-1
60" X 48"

COVER
EXIT
314A

W01-4B

ROAD CLOSED AHEAD
W20-3

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 139 E

2

2

N

TEMPORARY RAISED
PAVEMENT MARKERS (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

S. 5TH STREET

IH 43/IH 94/USH 41 SB

670

672

674

676

N 8°13'32" W

N 8°23'22" W

192

194

196

198

TEMPORARY CRASH CUSHION

ROAD
WORK
AHEAD
W20-1

HOLT AVENUE

HOLT AVE.

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

CONCRETE BARRIER
TEMPORARY PRECAST

96

N 1°25'34" E

IH 43/IH 94/USH 41 NB

46NC

48NC

TEMPORARY EMERGENCY
VEHICLE ACCESS

APPROXIMATE CD ROAD
REPAVING LIMITS

Eqn 677+23.64 = 2.86' LT
Eqn 190+82.07

800' BUFFER

(LANE SHIFT)
660' TAPER

TRUCKS
USE
RIGHT
LANE
R4-5R
48" X 60"

RAMP
CLOSED
R11-2(MOD)
48" X 30"

EQUATION

LANE
CLOSED
R11-2(MOD)
48" X 30"

4TH STREET

ROAD
CLOSED
AHEAD
W20-3

W04-2L

LEGEND

TYPE III BARRICADE	CONCRETE BARRIER TEMPORARY PRECAST
TYPE III BARRICADE WITH ATTACHED SIGN	CURRENT WORK AREA
TRAFFIC CONTROL DRUM	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
FLASHING ARROW BOARD	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
SIGN ON PERMANENT SUPPORT	DIRECTION OF TRAFFIC
SIGN ON TEMPORARY SUPPORT	PORTABLE CHANGEABLE MESSAGE BOARD
DELINEATOR FLEXIBLE/TUBULAR MARKER	CONGESTION WARNING SYSTEM DETECTOR
TYPE A WARNING LIGHT (FLASHING)	
TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)	
TYPE C WARNING LIGHT (STEADY BURN)	

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 140	E

2

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

TEMPORARY CRASH CUSHION

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

REMOVE EXISTING SIGN "EMERGENCY STOPPING ONLY" (SOUTHBOUND)

(LANE SHIFT) 275' TAPER

TRAFFIC CONTROL DRUMS @ 50' SPACING

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

RAMP CLOSED
R11-2(MOD)
48" X 30"

98

200

202

204

206

208

210

212

48NC

50NC

87'

REMOVE EXISTING PAVEMENT MARKINGS (TYP)

IH 43/IH 94/USH 41 NB

IH 43/IH 94/USH 41 SB

N 20°48'45" E

PAVEMENT MARKING PREFORMED THERMOPLASTIC STOP LINE 18-INCH SOLID (WHITE)

PAVEMENT MARKING EPOXY 4-INCH SOLID (WHITE) (TYP)

TRUCKS USE RIGHT LANE
R4-5R
48" X 60"

REMOVE EXISTING SIGN "SPEED LIMIT 55 MPH" (SOUTHBOUND)

TEMPORARY CRASH CUSHION

RAMP CLOSED
R11-2(MOD)
48" X 30"

PAVEMENT MARKING DIAGONAL EPOXY 12-INCH SOLID (WHITE)

CONCRETE BARRIER TEMPORARY PRECAST (TYP)

HOLT AVENUE

3RD STREET

OKLAHOMA AVENUE

ROAD WORK AHEAD
W20-1

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 141	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026111_s1.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

2

OKLAHOMA AVENUE

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

TRAFFIC CONTROL DRUMS
@ 50' SPACING

214 216 218 220 222 224 226 228

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

TEMPORARY
CRASH CUSHION

CONCRETE BARRIER
TEMPORARY PRECAST (TYP)

TRUCKS
USE
RIGHT
LANE

R4-5R
48" X 60"

SOO LINE RAILROAD COMPANY
D/B/A CANADIAN PACIFIC RAILWAY COMPANY

UNION PACIFIC RAILROAD COMPANY

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 142	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

IH 43/IH 94/USH 41 SB

230 232 234 236 238 240 242 244

N 48°50'27" W

IH 43/IH 94/USH 41 NB

REMOVE EXISTING SIGN
"SPEED LIMIT 55 MPH"
(NORTHBOUND)

REMOVE EXISTING SIGN
"EMERGENCY STOPPING ONLY"
(NORTHBOUND)

SPEED LIMIT 50
R2-1
48" X 60"

TRUCKS USE RIGHT LANE
R4-5R
48" X 60"

RAMP

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 143	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026113_s1.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

2

2

N

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

ROSEDALE AVENUE

IH 43/IH 94/USH 41 SB

246 248 250 252 254 256 258 260

IH 43/IH 94/USH 41 NB

ROSEDALE AVE.

KINNICKINNIC RIVER

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 144	E

2

N

5TH ST.

5TH ST.

CHASE AVENUE/STH 38

R1-2
36" X 31"

TRUCKS USE RIGHT LANE

R4-5R
48" X 60"

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

4' SHY DISTANCE FROM BARRIER REQUIRED UNDER CHASE AVENUE DUE TO VERTICAL CLEARANCE

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TRAFFIC CONTROL DRUMS @ 50' SPACING

REMOVE EXISTING SIGN "SPEED LIMIT 50 MPH" (SOUTHBOUND)

SPEED LIMIT 50

R2-1
48" X 60"

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I-43/94

260

262

264

266

268

270

272

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKINGS 4-INCH DASHED (WHITE) (3' LINE, 9' SKIP)

TEMPORARY PAVEMENT MARKINGS 4-INCH SOLID (WHITE)

Eqn272+99.71 = Eqn274+00.00

EQUATION

4TH STREET

EXIT

E5-1
60" X 48"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 145	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

LINCOLN AVENUE

BECHER STREET

W03-2

ROAD WORK AHEAD
W20-1

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

5TH STREET

REMOVE EXISTING SIGN
"SPEED LIMIT 55 MPH"
(SOUTHBOUND & NORTHBOUND)

IH 43/IH 94/USH 41 SB

276 278 280 282 284 286 288 290

N 0°58'36" E

IH 43/IH 94/USH 41 NB

TRAFFIC CONTROL DRUMS
@ 50' SPACING

TEMPORARY CRASH CUSHION

CONCRETE BARRIER
TEMPORARY PRECAST

4TH STREET

4TH ST.

EXIT
E5-1
60" X 48"

EXIT
312A-B

COVER

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 146	E

2

N

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

ROAD WORK AHEAD
W20-1

5TH ST.

5TH STREET

IH 43/IH 94/USH 41 SB

TEMPORARY CRASH CUSHION

500' BUFFER

225' TAPER
(LANE SHIFT)

275' BUFFER

290 292 294 296 298 300 302 304

IH 43/IH 94/USH 41 NB

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

CONCRETE BARRIER
TEMPORARY PRECAST (TYP)

TRUCKS USE RIGHT LANE
R4-5R
48" X 60"

TEMPORARY RAISED
PAVEMENT MARKERS (TYP)

4TH ST.

4TH STREET

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

TRAFFIC CONTROL DRUMS
@ 50' SPACING (TYP)

MAPLE STREET

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)

- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 147	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026117_s1.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.
WISDOT/CADDS SHEET 42

2

N

TEMPORARY PAVEMENT MARKINGS
REMOVABLE TAPE 4-INCH DASHED (WHITE)

ONLY ONLY
R3-8Q
54" X 30"

TEMPORARY PAVEMENT MARKINGS
REMOVABLE TAPE ARROWS TYPE 3

SPEED LIMIT 50
R2-1
48" X 60"

W01-4B

5TH STREET

5TH ST.

275' BUFFER

(LANE DROP)
600' TAPER

1500'

IH 43/IH 94/USH 41 SB

I-43/94

306 308 310 312 314 316 318 320

N 0°23'41" W

IH 43/IH 94/USH 41 NB

CC

TRAFFIC CONTROL DRUMS
@ 50' SPACING (TYP)

MAPLE STREET

MITCHELL STREET

4TH ST.

4TH STREET

ROAD WORK AHEAD
W20-1

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

LAPHAM BOULEVARD

ROAD WORK AHEAD
W20-1

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 148	E

2

N

5TH STREET

REMOVE EXISTING SIGN "REDUCED SPEED AHEAD 50 MPH" (NORTHBOUND)

1500'

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

322

324

326

328

330

160

162

500'

1140'

5TH ST.

GREENFIELD AVENUE

RIGHT LANE CLOSED 1500 FT
W20-5

TD

I-43/94

TEMPORARY CRASH CUISION

SPEED LIMIT 50
R2-1
48" X 60"

TRUCKS USE RIGHT LANE
R4-5R
48" X 60"

TRAFFIC CONTROL DRUMS @ 50' SPACING (TYP)

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (3' LINE, 9' GAP) (WHITE)

EQUATION
EQUIS+13.14 = EQUIS+33.88

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

YIELD
R1-2
36" X 31"

REMOVE EXISTING SIGN "SPEED LIMIT 55" (NORTHBOUND)

W03-2

4TH ST.

4TH STREET

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 149	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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RIGHT LANE CLOSED	AT MITCHELL STREET

NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

ZONES IN WORK DOUBLE FINES — $200 MINIMUM — DOWN SLOW BRAKE Give 'em a — 96" X 48" W21-62 — 96" X 12" W21-62P

ROAD WORK 1/2 MILE W20-1

500'

NB IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

CONCRETE BARRIER TEMPORARY PRECAST

NARROW SECTION - 0-1' SHY FROM BARRIER SEE TRAFFIC CONTROL TYPICAL SECTIONS

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

REMOVE AND REPLACE SAND BARRELS WITH CRASH CUSHION PERMANENT

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TRAFFIC CONTROL DRUMS @ 50' SPACING (TYP)

1140'

WASHINGTON STREET

STH 38/6TH STREET

S.T.H. 38/6TH ST.

S.T.H. 38

W MINERAL STREET

100'

RAMP CLOSED R11-2(MOD) 48" X 30"

RAMP CLOSED R11-2(MOD) 48" X 30"

RAMP CLOSED AHEAD

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TEMPORARY CRASH CUSHION

164 166 168 170 172 174 176 178

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 150 E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

RAMP CLOSED
R11-2(MOD)
48" X 30"

100'

RAMP CLOSED AHEAD

BE PREPARED TO STOP
W03-4

WHEN FLASHING
W016-13

RAMP CLOSED
R11-2(MOD)
48" X 30"

9TH STREET

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

NARROW SECTION - 0-1' SHY FROM BARRIER
SEE TRAFFIC CONTROL TYPICAL SECTIONS

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I 94 / I 43

N 13°33'24" W

CONCRETE BARRIER
TEMPORARY PRECAST (TYP)

TRUCKS USE RIGHT LANE
R4-5R
48" X 60"

NATIONAL AVENUE

PIERCE STREET

BRUCE STREET

WEST VIRGINIA STREET

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 151	E

2

MENOMONEE RIVER

SOO LINE RAILROAD COMPANY
D/B/A CANADIAN PACIFIC RAILWAY
COMPANY

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

ROAD
WORK
1 MILE
W20-1

IH 43/IH 94/USH 41 SB

TRAFFIC CONTROL DRUMS
@ 50' SPACING

REMOVE CONFLICTING PAVEMENT MARKINGS
NORTH OF REPAIRING LIMITS (TYP)

TEMPORARY RAISED
PAVEMENT MARKERS (TYP)

194 196 198 200 202 204 206 208

CONCRETE BARRIER
TEMPORARY PRECAST (TYP)

IH 43/IH 94/USH 41 NB

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

100' BUFFER

100'
SHIFTING TAPER

TEMPORARY PAVEMENT MARKING TAPE
4-INCH DASHED (3' LINE, 9' GAP) (WHITE)

REMOVE CONFLICTING GORE PAVEMENT
MARKINGS AT LOCATION OF NEW
EXIT RAMP CONFIGURATION

TEMPORARY PAVEMENT MARKING TAPE
4-INCH SOLID (WHITE) (TYP)

MENOMONEE R.

MENOMONEE RIVER

COAL PILE

PIER

SIGN

INL

W

I 94

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 152	E

2

2

N

BE PREPARED TO STOP
W03-4

WHEN FLASHING
W016-13

CANADIAN PACIFIC RAILWAY COMPANY

SUBSTATION

MENOMONEE RIVER

WALLS

BIKE PATH

IH 43/IH 94/USH 41 SB

SIGN

I 94 / I 43

208 210 212 214

N 0°17'04" E

IH 43 NB

IH 94/USH 41 WB

BIKE PATH

500'

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

CHICAGO MILWAUKEE ST.PAUL AND PACIFIC RR.

RIPRAP

RIPRAP

CANADIAN PACIFIC RAILWAY COMPANY

ST. PAUL AVENUE

SIGN

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
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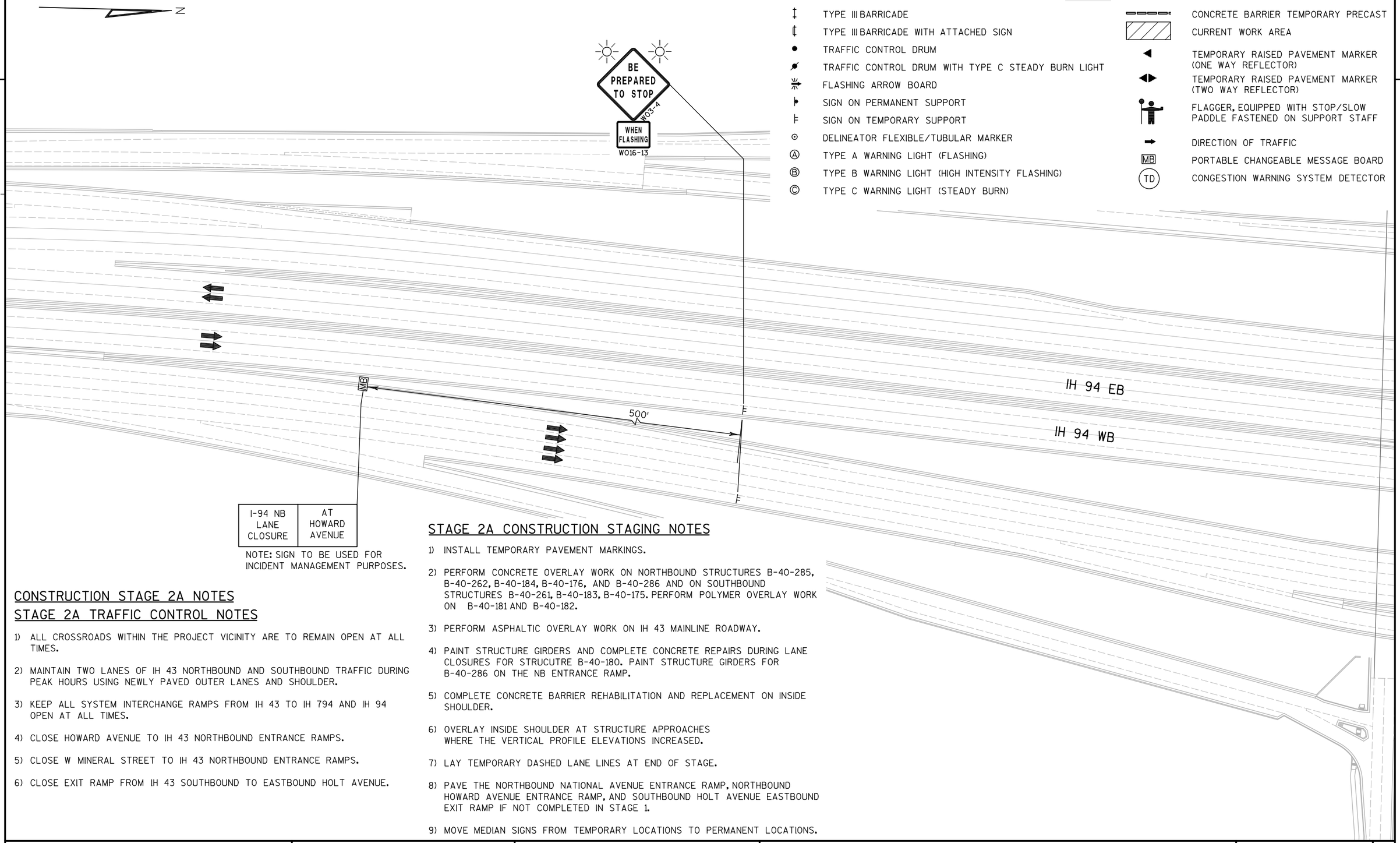
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 1	SHEET 153	E

2

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
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I-94 NB LANE CLOSURE	AT HOWARD AVENUE

NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

CONSTRUCTION STAGE 2A NOTES

STAGE 2A TRAFFIC CONTROL NOTES

1) ALL CROSSROADS WITHIN THE PROJECT VICINITY ARE TO REMAIN OPEN AT ALL TIMES.

2) MAINTAIN TWO LANES OF IH 43 NORTHBOUND AND SOUTHBOUND TRAFFIC DURING PEAK HOURS USING NEWLY PAVED OUTER LANES AND SHOULDER.

3) KEEP ALL SYSTEM INTERCHANGE RAMPS FROM IH 43 TO IH 794 AND IH 94 OPEN AT ALL TIMES.

4) CLOSE HOWARD AVENUE TO IH 43 NORTHBOUND ENTRANCE RAMPS.

5) CLOSE W MINERAL STREET TO IH 43 NORTHBOUND ENTRANCE RAMPS.

6) CLOSE EXIT RAMP FROM IH 43 SOUTHBOUND TO EASTBOUND HOLT AVENUE.

STAGE 2A CONSTRUCTION STAGING NOTES

1) INSTALL TEMPORARY PAVEMENT MARKINGS.

2) PERFORM CONCRETE OVERLAY WORK ON NORTHBOUND STRUCTURES B-40-285, B-40-262, B-40-184, B-40-176, AND B-40-286 AND ON SOUTHBOUND STRUCTURES B-40-261, B-40-183, B-40-175. PERFORM POLYMER OVERLAY WORK ON B-40-181 AND B-40-182.

3) PERFORM ASPHALTIC OVERLAY WORK ON IH 43 MAINLINE ROADWAY.

4) PAINT STRUCTURE GIRDERS AND COMPLETE CONCRETE REPAIRS DURING LANE CLOSURES FOR STRUCUTRE B-40-180. PAINT STRUCTURE GIRDERS FOR B-40-286 ON THE NB ENTRANCE RAMP.

5) COMPLETE CONCRETE BARRIER REHABILITATION AND REPLACEMENT ON INSIDE SHOULDER.

6) OVERLAY INSIDE SHOULDER AT STRUCTURE APPROACHES WHERE THE VERTICAL PROFILE ELEVATIONS INCREASED.

7) LAY TEMPORARY DASHED LANE LINES AT END OF STAGE.

8) PAVE THE NORTHBOUND NATIONAL AVENUE ENTRANCE RAMP, NORTHBOUND HOWARD AVENUE ENTRANCE RAMP, AND SOUTHBOUND HOLT AVENUE EASTBOUND EXIT RAMP IF NOT COMPLETED IN STAGE 1.

9) MOVE MEDIAN SIGNS FROM TEMPORARY LOCATIONS TO PERMANENT LOCATIONS.

2

2

W LAYTON AVENUE

IH 94 EB

IH 94 WB

NOTE:

1) NO TRAFFIC CONTROL ITEMS INCLUDED ON THIS SHEET.

LEGEND

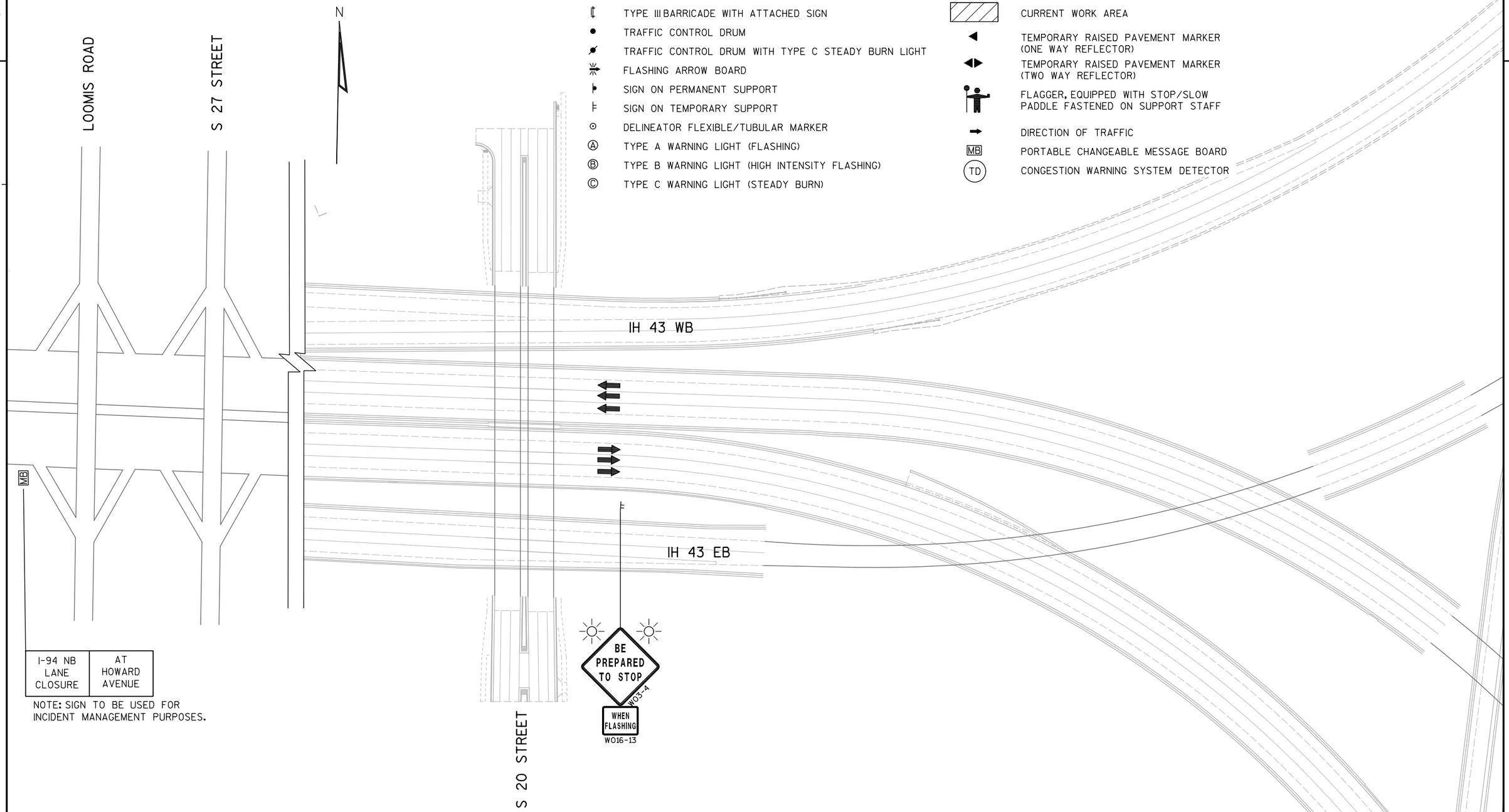
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 155	E

2

LEGEND

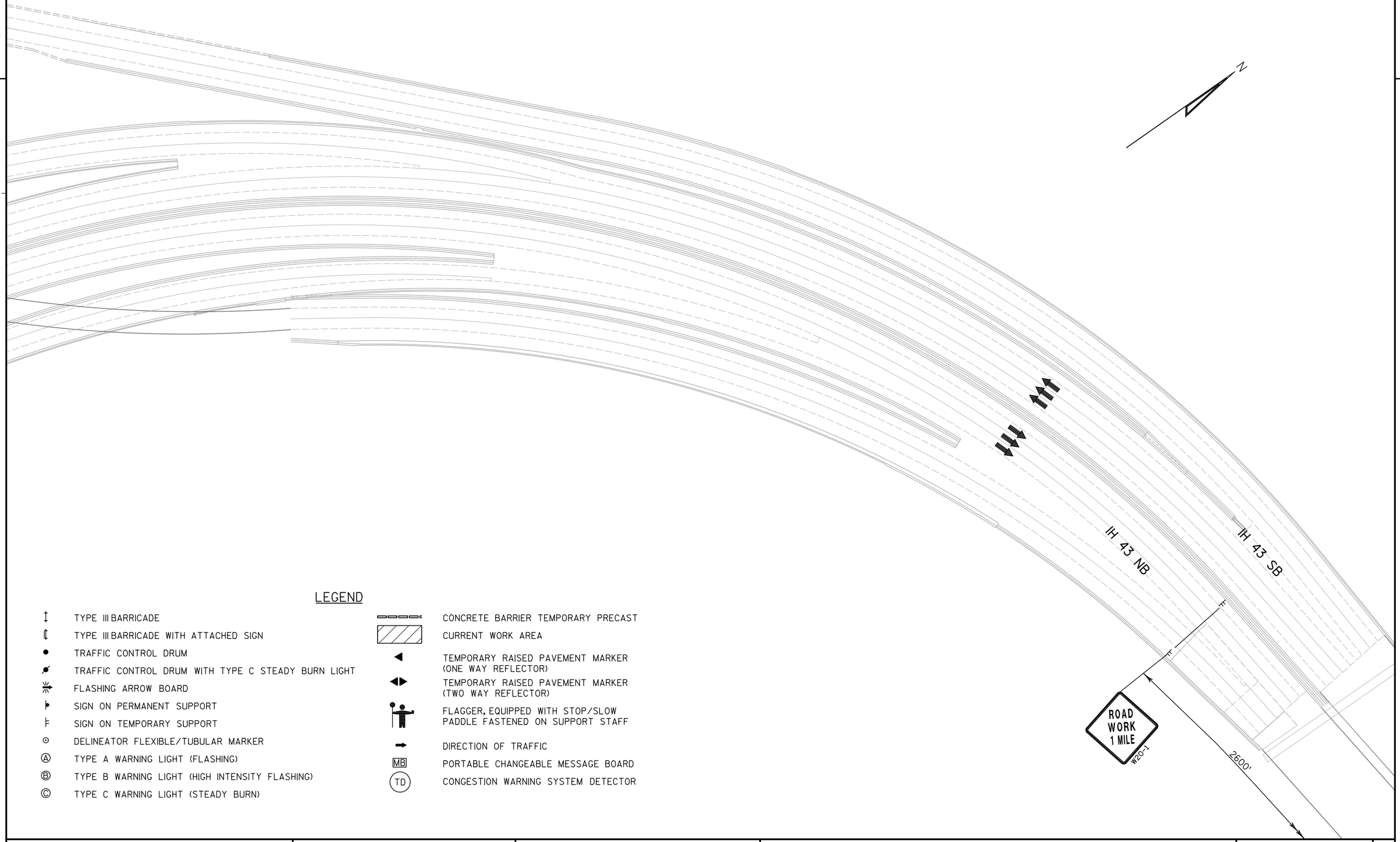
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- DIRECTION OF TRAFFIC
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2

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 156	E

2

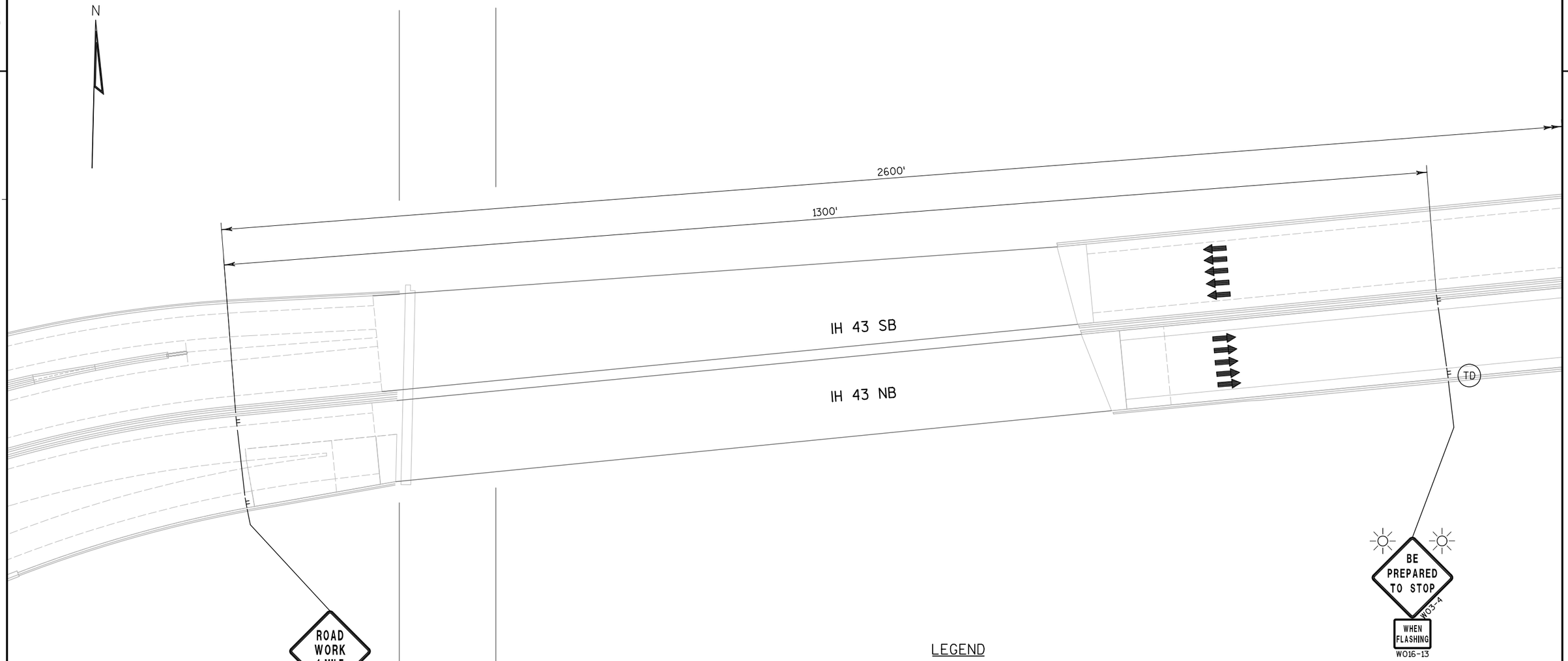


LEGEND

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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 157	E

2

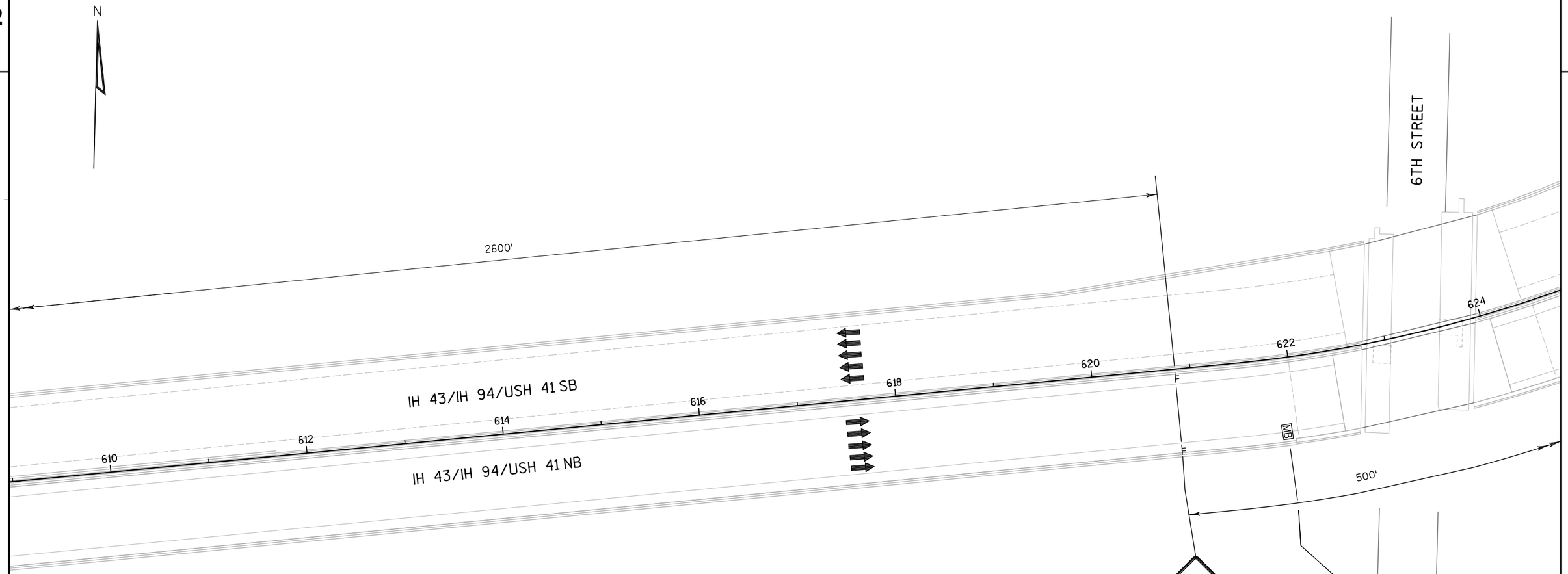


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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 158	E

2



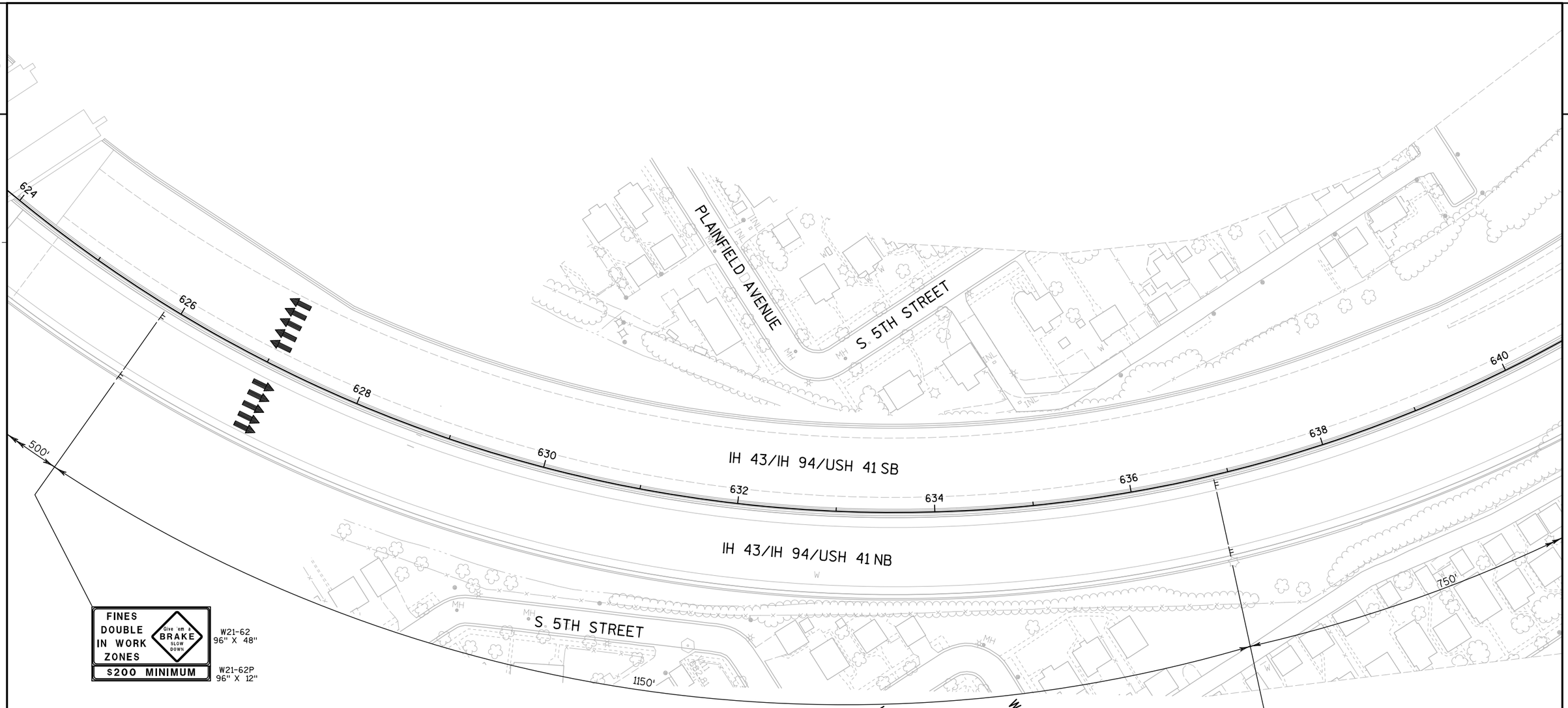
NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

LEGEND

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- TRAFFIC CONTROL DRUM
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 159	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 160	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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TEMPORARY PAVEMENT MARKING TAPE 4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING TAPE 4-INCH SOLID (WHITE) (TYP)

TRAFFIC CONTROL DRUM @ 50' SPACING

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

642 644 646 648 650 652 654

N 0°17'08" E

I43/94/USH

HOWARD AVENUE

W WATERFORD AVENUE

S. 3RD STREET

W NORWICH STREET

750' 600'

TD

W04-2L

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

SPEED LIMIT 50
R2-1
48" X 60"

(LANE DROP) 660' TAPER

ROAD WORK AHEAD
W20-1

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026208_s2a.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

WISDOT/CADDS SHEET 42

2

2

N

HOWARD AVENUE

TEMPORARY PAVEMENT MARKING TAPE
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING TAPE
4-INCH SOLID (WHITE) (TYP)

TRAFFIC CONTROL DRUM
@ 50' SPACING

TEMPORARY PAVEMENT MARKING TAPE
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING TAPE
4-INCH DASHED (WHITE) (TYP)

TEMPORARY RAISED
PAVEMENT MARKERS (TYP)

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

500'

654 656 658 660 662 664 666 668

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

(LANE DROP)
660' TAPER

1150' BUFFER

3RD STREET

ROAD
WORK
AHEAD
W20-1

W01-4B

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
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- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 162	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

TRAFFIC CONTROL DRUMS @ 50' SPACING (TYP)

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

S. 5TH STREET

HOLT AVENUE

HOLT AVE.

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

N 1°25'34" E

N 8°33'22" W

N 8°35'32" W

670 672 674 676 192 194 196

TEMPORARY CRASH CUSHION

500' BUFFER

(LANE SHIFT) 300' TAPER

1150' BUFFER

Eqn 677+23.64 = Eqn 190+82.78, 2.86' LT
EQUATION

4TH STREET

RAMP CLOSED AHEAD

W04-2L

TRAFFIC CONTROL DRUMS @ 25' SPACING (TYP)

LANE CLOSED
R11-2(MOD)
48" X 30"

RAMP CLOSED
R11-2(MOD)
48" X 30"

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 163	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

RAMP CLOSED
R11-2(MOD)
48" X 30"

TRAFFIC CONTROL DRUMS
@ 50' SPACING (TYP)

TEMPORARY
CRASH CUSHION

COVER

EXIT
314A

EXIT
E5-1
60" X 48"

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

48NC

50NC

98

198

200

202

204

206

208

210

212

15:1

N 20°48'15" E
15:1

OKLAHOMA AVENUE

HOLT AVENUE

HOLT AVE.

TEMPORARY PAVEMENT MARKING
STOP LINE 18-INCH SOLID (WHITE)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
12-INCH SOLID (WHITE)

ROAD
WORK
AHEAD
W20-1

TRUCKS
USE
LEFT
LANE
R4-5L
48" X 60"

CONCRETE BARRIER
TEMPORARY PRECAST

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

3RD STREET

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 164	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

OKLAHOMA AVENUE

TEMPORARY CRASH CUSHION

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

IH 43/IH 94/USH 41 SB

214 216 218 220 222 224 226 228

TRAFFIC CONTROL DRUMS @ 50' SPACING

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

IH 43/IH 94/USH 41 NB

W03-2

R1-2
36" X 31"

UNION PACIFIC RAILROAD COMPANY

SOO LINE RAILROAD COMPANY
D/B/A CANADIAN PACIFIC RAILWAY COMPANY

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 165	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

IH 43/IH 94/USH 41 SB

230 232 234 236 238 240 242

N 40°50'27" W

IH 43/IH 94/USH 41 NB

TRAFFIC CONTROL DRUMS
@ 50' SPACING

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

SPEED LIMIT 50
R2-1
48" X 60"

RAMP

RAMP

2

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 166	E

2

ROSEDALE AVENUE

N

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

5TH STREET

IH 43/IH 94/USH 41 SB

244 246 248 250 252 254 256 258

IH 43/IH 94/USH 41 NB

TRAFFIC CONTROL DRUMS
@ 50' SPACING

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

ROSEDALE AVE.

KINNICKINNIC RIVER

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 167	E

2

N

5TH ST.

5TH STREET

5TH ST.

CHASE AVENUE/STH 38

LINCOLN AVENUE

SPEED LIMIT 50

R2-1
48" X 60"

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING

IH 43/IH 94/USH 41 SB

I-43/94

260

262

264

266

268

270

272

N 10°50'27"W

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

Eqn272+99.71
Eqn274+00.00

EQUATION

IH 43/IH 94/USH 41 NB

4TH STREET

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 168	E

2

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

R1-2
36" X 31"

W03-2

ROAD WORK AHEAD
W20-1

N

LINCOLN AVENUE

BECHER STREET

5TH STREET 5TH ST.

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

IH 43/IH 94/USH 41 SB

276 278 280 282 284 286 288 290

N 0°58'36" E

IH 43/IH 94/USH 41 NB

TEMPORARY CRASH CUSHION

CONCRETE BARRIER
TEMPORARY PRECAST

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

4TH STREET 4TH ST.

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

EXIT

E5-1
60" X 48"

EXIT
312A-B

COVER

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 169	E

2

N

BURNHAM STREET

ROAD WORK AHEAD
W20-1

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

5TH STREET

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY CRASH CUSHION

IH 43/IH 94/USH 41 SB

500' BUFFER

225' TAPER
(LANE SHIFT)

275' BUFFER

292 294 296 298 300 302 304 306

IH 43/IH 94/USH 41 NB

CONCRETE BARRIER
TEMPORARY PRECAST
(TYP)

TEMPORARY RAISED
PAVEMENT MARKERS (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING (TYP)

MAPLE STREET

4TH STREET

4TH ST.

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 170	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026217_s2a.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

R3-8Q
54" X 30"

SPEED LIMIT 50
R2-1
48" X 60"

W01-4B

5TH STREET

5TH ST.

(LANE DROP)
600' TAPER

1000'

TEMPORARY RAISED
PAVEMENT MARKERS (TYP)

IH 43/IH 94/USH 41 SB

I-43/94

308 310 312 314 316 318 320 322

N 0°23'41" W

IH 43/IH 94/USH 41 NB

(LANE SHIFT)
330' TAPER

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

4TH STREET

4TH ST.

ATHLETIC FIELD

MITCHELL STREET

W. LAPHAM ST.

LAPHAM BOULEVARD

TRAFFIC CONTROL DRUMS
@ 50' SPACING (TYP)

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

ROAD WORK AHEAD
W20-1

W01-4B

ROAD WORK AHEAD
W20-1

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026218_s2a.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

LEFT LANE CLOSED 1500 FT
W20-5

1000'

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

320

322

324

326

328

330

5TH STREET

ST.

GREENFIELD AVENUE

4TH STREET

TD

1140'

ROAD WORK 1/2 MILE
W20-1

500'

TEMPORARY CRASH CUSHION

I-43/94

160

162

TRAFFIC CONTROL DRUMS @ 50' SPACING

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

W03-2

NARROW SHOULDER SECTION SHIFT TRAFFIC BACK TO EXISTING LANES

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING TAPE 4-INCH DASHED (WHITE) (3' LINE, 9' SKIP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

YIELD
R1-2
36" X 31"

Egn 331+33.88
Egn 157+73.74
EQUATION

S POLCYN STREET

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

(LANE SHIFT) 330' TAPER

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

NO NORTHBOUND RE-ENTRY TO FREEWAY
W6-54D
168" X 60"

NEXT EXIT
M4-8A (MOD)
48" X 36"

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 172	E

2

N

W21-62
96" X 48"

FINES DOUBLE IN WORK ZONES
Give 'em a BRAKE SLOW DOWN
$200 MINIMUM

W21-62P
96" X 12"

WASHINGTON ST.

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY CRASH CUSHION

STH 38/6TH STREET

S.T.H. 38

500'

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I 43 / I 94

166

168

170

172

174

176

178

N 41°49'52" W

CC

LEFT LANE CLOSED	AT MITCHELL STREET

NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

MB

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

NARROW SECTION - 0-1' SHY FROM BARRIER
SEE TRAFFIC CONTROL TYPICAL SECTIONS

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

CONCRETE BARRIER
TEMPORARY PRECAST

RAMP CLOSED
R11-2(MOD)
48" X 30"

EXIT
E5-1
60" X 48"

EXIT 311
COVER

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

(LANE SHIFT)
330' TAPER

5TH STREET

SPEED LIMIT 50
R2-1
48" X 60"

W MINERAL STREET

100'

RAMP CLOSED AHEAD

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 173	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

100'

RAMP CLOSED AHEAD

RAMP CLOSED
R11-2(MOD)
48" X 30"

BE PREPARED TO STOP
W03-4
WHEN FLASHING
W016-13

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

9TH STREET

W PIERCE STREET

NATIONAL AVE

BRUCE ST

MENOMONEE RIVER

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

178 180 182 184 186 188 190 192

N 13°33'24" W

NARROW SECTION - 0-1' SHY FROM BARRIER
SEE TRAFFIC CONTROL TYPICAL SECTIONS

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

CONCRETE BARRIER TEMPORARY PRECAST

NATIONAL AVENUE

7TH STREET

BRUCE STREET

WEST VIRGINIA STREET

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 174	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

MENOMONEE RIVER

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

ROAD WORK 1 MILE W20-1

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (3' LINE, 9' SKIP)

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

194 196 198 200 202 204 206 208

TRAFFIC CONTROL DRUMS @ 50' SPACING

CONCRETE BARRIER TEMPORARY PRECAST

100' BUFFER

430' SHIFTING TAPER

REMOVE CONFLICTING PAVEMENT MARKINGS NORTH OF REPAIRING LIMITS (TYP)

EXIT E5-1 60" X 48"

TRAFFIC CONTROL DRUMS @ 50' SPACING

EXIT G10-C

COVER

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

MENOMONEE R.

PIER

RUINS

SOO LINE RAILROAD COMPANY D/B/A CANADIAN PACIFIC RAILWAY COMPANY

MENOMONEE RIVER

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 175	E

2

N

CANADIAN PACIFIC RAILWAY COMPANY

SUBSTATION

MENOMONEE RIVER

WALLS

BIKE PATH

IH 43/IH 94/USH 41 SB

SIGN

I 94 / I 43

208

210

212

214

E N 0°17'04" E

IH 43 NB

IH 94/USH 41 WB

BIKE PATH

CHICAGO MILWAUKEE ST.PAUL AND PACIFIC RR.

RIPRAP

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

BE PREPARED TO STOP
W03-4

WHEN FLASHING
W016-13

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

CANADIAN PACIFIC RAILWAY COMPANY

ST. PAUL AVENUE

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2A	SHEET 176	E

CONSTRUCTION STAGE 2B NOTES

STAGE 2B TRAFFIC CONTROL NOTES

1) ALL CROSSROADS WITHIN THE PROJECT VICINITY ARE TO REMAIN OPEN AT ALL TIMES.

2) MAINTAIN TWO LANES OF IH 43 SOUTHBOUND TRAFFIC DURING PEAK HOURS USING INNER LANES AND SHOULDER.

3) CLOSE ALL SOUTHBOUND RAMPS TO IH 43 FROM THE STH 59 (NATIONAL AVENUE)/6TH STREET INTERCHANGE.

4) CLOSE SOUTHBOUND ENTRANCE RAMP FROM IH 794 WESTBOUND.

STAGE 2B CONSTRUCTION STAGING NOTES

1) REMOVE TEMPORARY PAVEMENT MARKINGS FROM STAGE 2A BETWEEN STATION 307+00 TO STA 314+00 AND INSTALL TEMPORARY PAVEMENT MARKINGS ON SOUTHBOUND LANES FROM STATION 307+00 TO THE NORTHERN PROJECT LIMIT.

2) OVERLAY SOUTHBOUND OUTER LANES.

3) PERFORM CONCRETE OVERLAY WORK ON STRUCTURES B-40-285 AND B-40-286.

4) PERFORM ASPHALTIC OVERLAY WORK ON IH 43 MAINLINE ROADWAY.

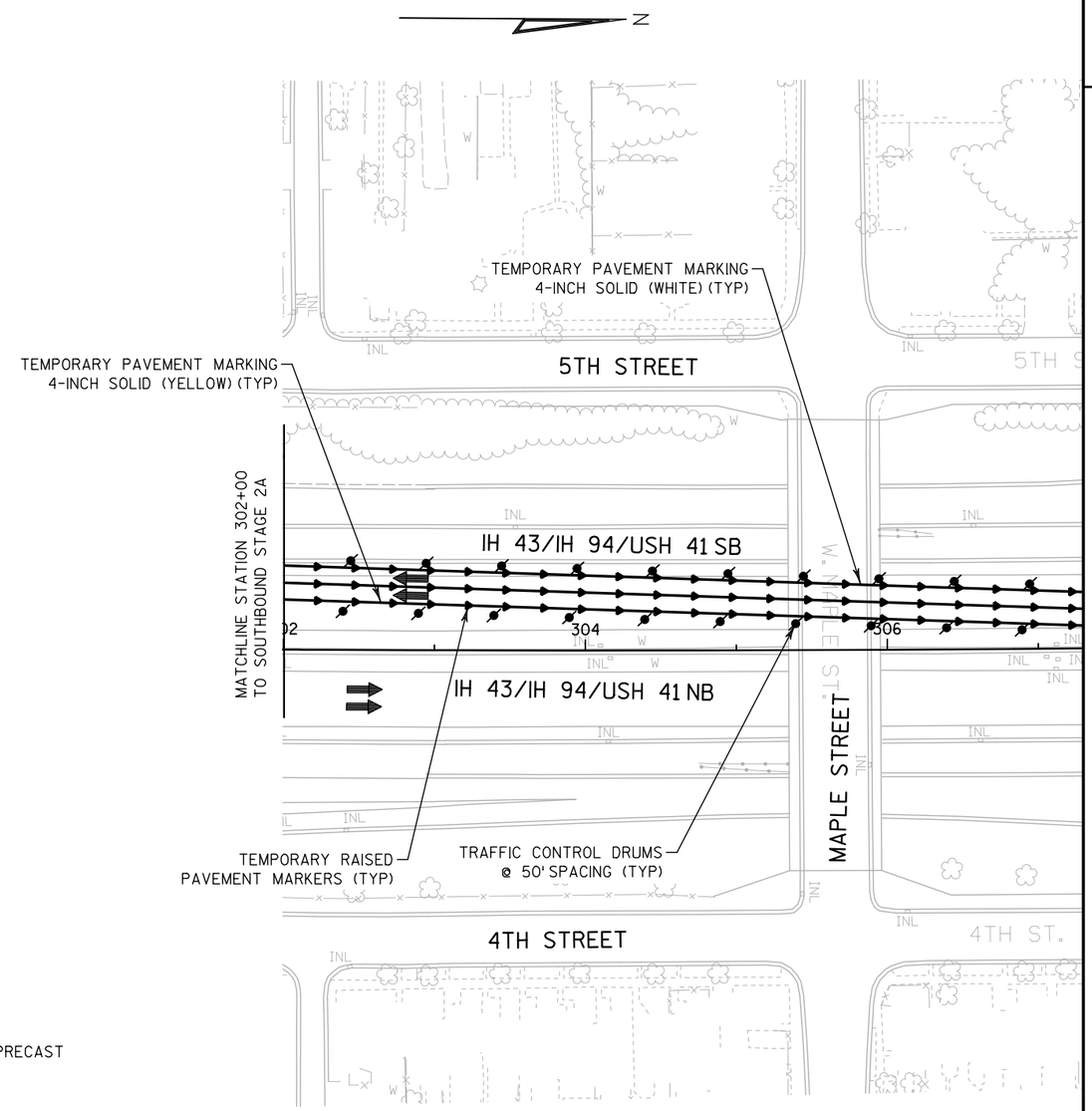
5) PAINT STRUCTURE GIRDERS AND COMPLETE CONCRETE REPAIRS DURING LANE CLOSURES FOR STRUCUTRE B-40-286.

6) LAY TEMPORARY DASHED LANE LINES AT END OF STAGE.

7) PAVE THE SOUTHBOUND NATIONAL AVENUE INTERHCANGE RAMPS WHILE CLOSED.

8) CONSTRUCT CONCRETE SHOULDERS ON OUTSIDE IH 43 MAINLINE.

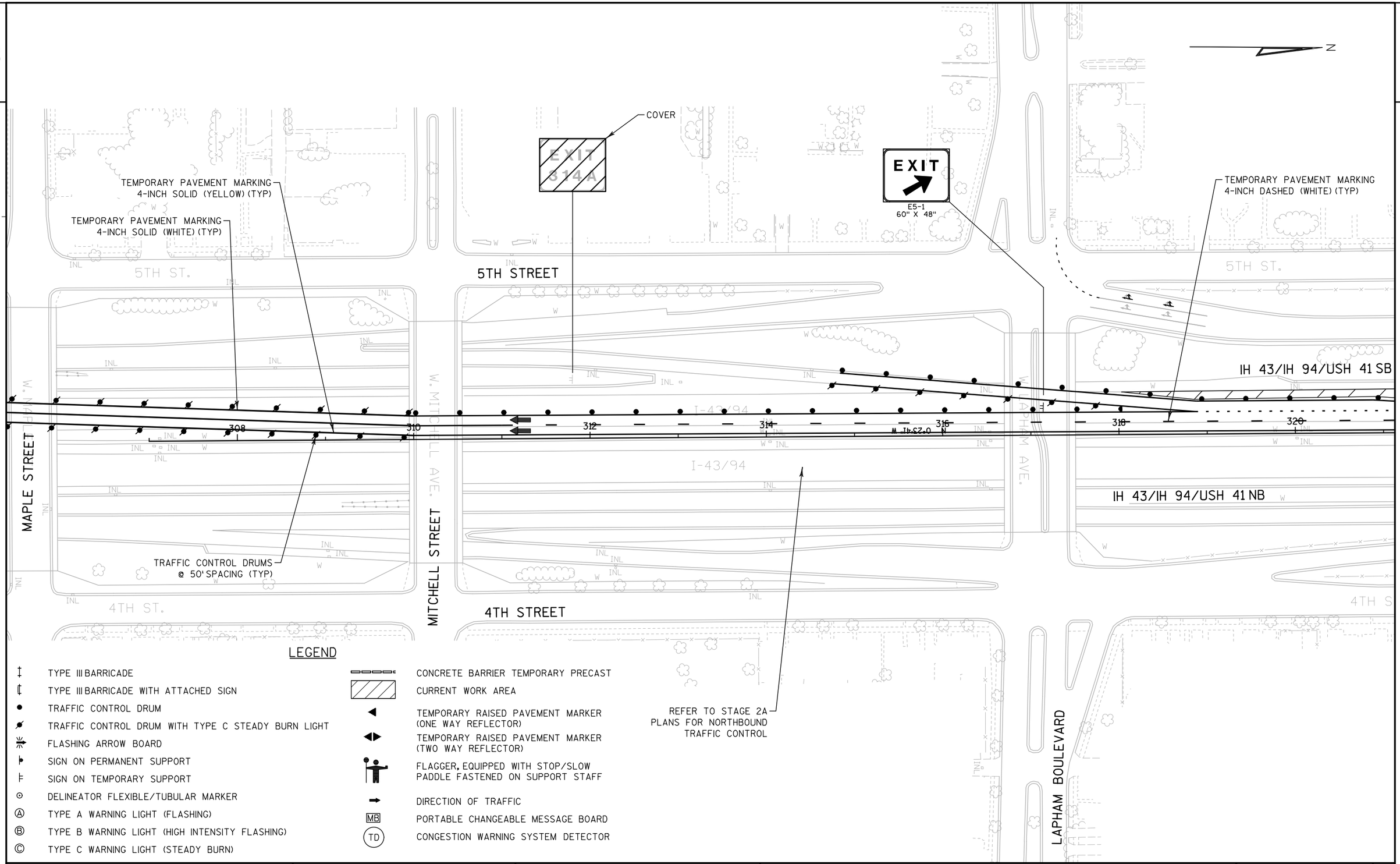
2



LEGEND

TYPE III BARRICADE	CONCRETE BARRIER TEMPORARY PRECAST
TYPE III BARRICADE WITH ATTACHED SIGN	CURRENT WORK AREA
TRAFFIC CONTROL DRUM	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
FLASHING ARROW BOARD	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
SIGN ON PERMANENT SUPPORT	DIRECTION OF TRAFFIC
SIGN ON TEMPORARY SUPPORT	PORTABLE CHANGEABLE MESSAGE BOARD
DELINEATOR FLEXIBLE/TUBULAR MARKER	CONGESTION WARNING SYSTEM DETECTOR
TYPE A WARNING LIGHT (FLASHING)	
TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)	
TYPE C WARNING LIGHT (STEADY BURN)	

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 179	E

2

N

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TRUCKS USE RT LANE

USE FOR INCIDENT MANAGEMENT PURPOSES IF NECESSARY

COVER

EXIT 312A

EXIT

E5-1
60" X 48"

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (3' LINE, 9' GAP) (WHITE)

TRAFFIC CONTROL DRUMS
@ 50' SPACING (TYP)

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

EQUATION
Eqn Ent+LT3.74
Eqn Ext+33.88

5TH STREET

5TH ST.

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I-43/94

GREENFIELD AVE.

GREENFIELD AVENUE

4TH STREET

4TH ST.

H ST.

322 324 326 328 330 160 162

MB

W1-4B

REFER TO STAGE 2A
PLANS FOR NORTHBOUND
TRAFFIC CONTROL

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 180	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)

- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

NARROW SECTION - 0-1'SHY FROM BARRIER
SEE TRAFFIC CONTROL TYPICAL SECTIONS

IH 43/IH 94/USH 41 SB

WASHINGTON STREET

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TRAFFIC CONTROL DRUMS
@ 50'SPACING (TYP)

BEGIN NARROW SECTION
STA 168+80

STH 38/6TH STREET

164 166 168 170 172 174 176 178

IH 43/IH 94/USH 41 NB

CONCRETE BARRIER
TEMPORARY PRECAST

CC

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25'SPACING

S.T.H. 38/6TH ST.

S.T.H. 38

W MINERAL STREET

REFER TO STAGE 2A
PLANS FOR NORTHBOUND
TRAFFIC CONTROL

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 181	E

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

9TH STREET

BRUCE ST.

NATIONAL AVE.

W. PIERCE ST.

RAMP CLOSED
R11-2(MOD)
48" X 30"

END NARROW SECTION

STA 182+65

CC

IH 43/IH 94/USH 41 SB

NARROW SECTION - 0-1' SHY FROM BARRIER
SEE TRAFFIC CONTROL TYPICAL SECTIONS

178 180 182 184 186 188 190

N 13°33'29" W

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

I 94 / I 43

IH 43/IH 94/USH 41 NB

CONCRETE BARRIER
TEMPORARY PRECAST (TYP)

TRUCKS USE RIGHT LANE
R4-5R
48" X 60"

REFER TO STAGE 2A
PLANS FOR NORTHBOUND
TRAFFIC CONTROL

NATIONAL AVENUE

PIERCE STREET

BRUCE STREET

WEST VIRGINIA STREET

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 182	E

2

MENOMONEE RIVER

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

SPEED LIMIT 50

R2-1 48" X 60"

250' BUFFER

TEMPORARY CRASH CUSHION

IH 43/IH 94/USH 41 SB

450' MERGING TAPER

TRAFFIC CONTROL DRUMS @ 50' SPACING

TRUCKS USE RIGHT LANE

R4-5R 48" X 60"

350' SHIFTING TAPER

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

194 196 198 200 202 204 206 208

CONCRETE BARRIER TEMPORARY PRECAST (TYP)

IH 43/IH 94/USH 41 NB

REFER TO STAGE 2A PLANS FOR NORTHBOUND TRAFFIC CONTROL

SOO LINE RAILROAD COMPANY D/B/A CANADIAN PACIFIC RAILWAY COMPANY

MENOMONEE R.

MENOMONEE RIVER

COAL PILE

REMOVE CONFLICTING PAVEMENT MARKINGS NORTH OF REPAIRING LIMITS (TYP)

TEMPORARY PAVEMENT MARKING TAPE 4-INCH DASHED (3' LINE, 9' GAP) (WHITE)

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 183 E

2

N

CANADIAN PACIFIC RAILWAY COMPANY

SUBSTATION

MENOMONEE RIVER

REMOVE CONFLICTING PAVEMENT MARKINGS NORTH OF REPAIRING LIMITS (TYP)

TEMPORARY PAVEMENT MARKING TAPE 4-INCH DASHED (3' LINE, 9' GAP) (WHITE)

TEMPORARY PAVEMENT MARKING TAPE 4-INCH SOLID (WHITE)

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

TRAFFIC CONTROL DRUMS @ 50' SPACING

IH 43/IH 94/USH 41 SB

BIKE PATH

WALLS

208

210

212

214

1500'

N 0°17'04" E

IH 43 NB

I 94 / I 43

IH 94/USH 41 WB

BIKE PATH

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

CHICAGO MILWAUKEE ST.PAUL AND PACIFIC RR.

RIPRAP

CANADIAN PACIFIC RAILWAY COMPANY

ST. PAUL AVENUE

SIGN

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 184	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

TRAFFIC CONTROL DRUMS @ 50' SPACING

(LANE DROP) 660' TAPER

IH 94/USH 41 EB

IH 94/USH 41 WB

TORY HILL STREET

BE PREPARED TO STOP W03-4

WHEN FLASHING W016-13

ROAD WORK 1/2 MILE W20-1

FINES DOUBLE IN WORK ZONES — Give 'em a BRAKE SLOW DOWN — $200 MINIMUM

W21-62 96" X 48"

W21-62P 96" X 12"

11TH STREET

1140'

500'

IH 43 SB

IH 43 NB

WISCONSIN AVENUE

TRAFFIC CONTROL DRUMS @ 50' SPACING

TEMPORARY PAVEMENT MARKING TAPE 4-INCH SOLID (WHITE)

ROAD WORK 1500 FT W20-1

1500'

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 185	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

RAMP CLOSED
R11-2(MOD)
48" X 30"

RAMP WILL BE CLOSED
BEGINNING
JAN XX
R11-51
48" X 48"

RAMP CLOSED
R11-2(MOD)
48" X 30"

SEE DETOUR PLANS FOR OVERHEAD SIGNBOARD MODIFICATIONS

TRAFFIC CONTROL DRUMS @ 50' SPACING

TEMPORARY PAVEMENT MARKING TAPE 4-INCH SOLID (YELLOW)

6TH STREET

CLYBOURN STREET

350'

600' MERGING TAPER

IH 794 WB

IH 794 EB

COVER CONFLICTING EXISTING PAVEMENT MARKINGS WITH BLACK TAPE

ST. PAUL AVENUE

RIPRAP

SLAB

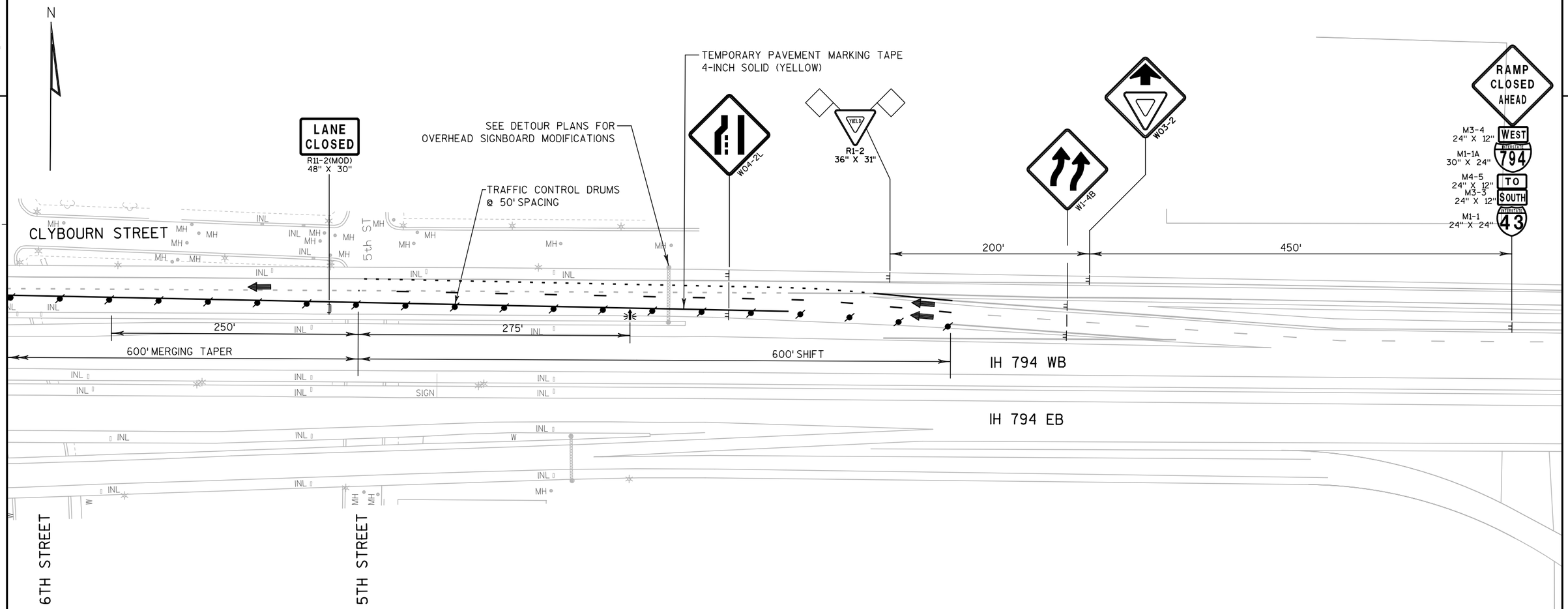
SIGN

INL

MH

W

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 186	E



LEGEND

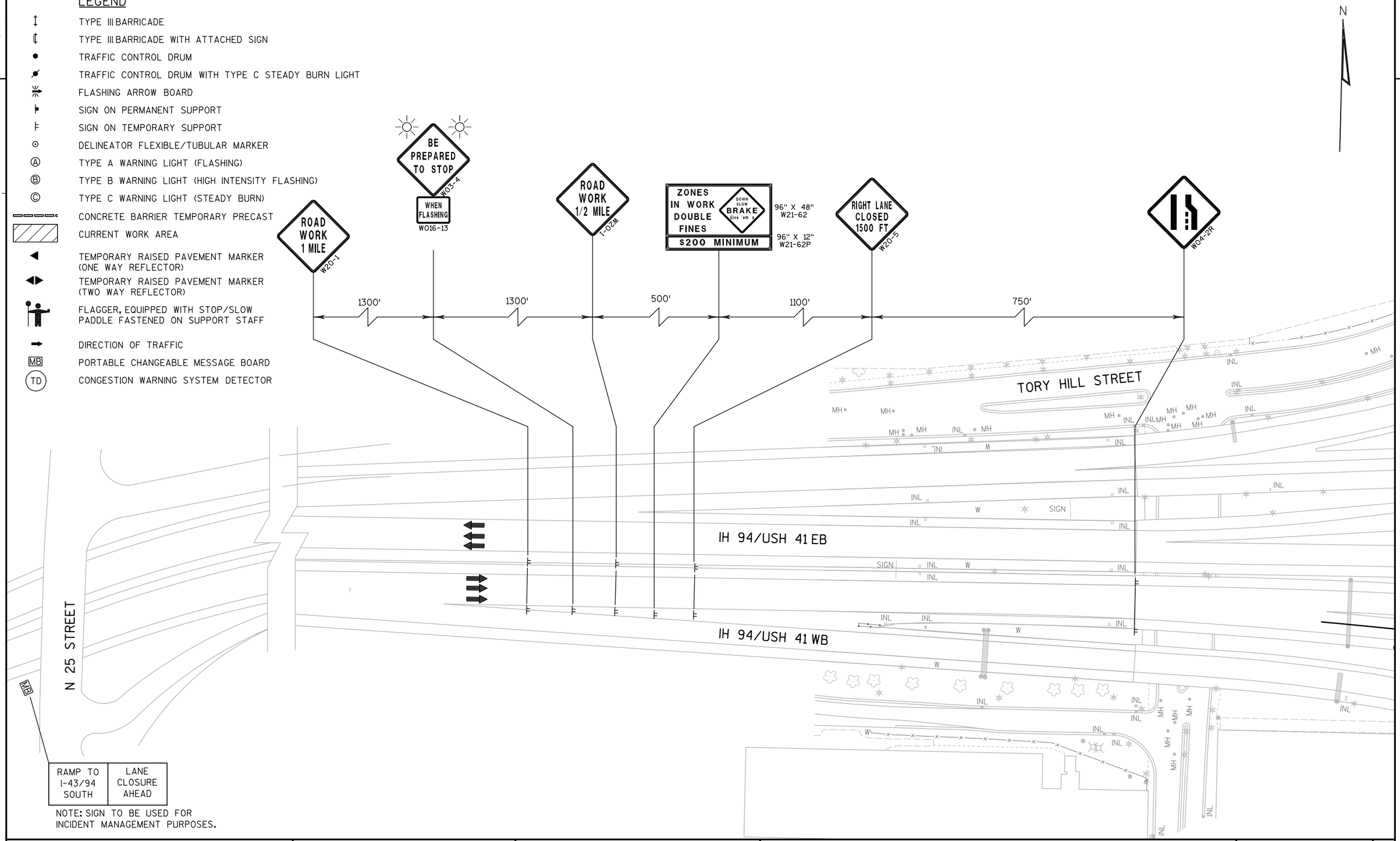
TYPE III BARRICADE	CONCRETE BARRIER TEMPORARY PRECAST
TYPE III BARRICADE WITH ATTACHED SIGN	CURRENT WORK AREA
TRAFFIC CONTROL DRUM	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
FLASHING ARROW BOARD	FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
SIGN ON PERMANENT SUPPORT	DIRECTION OF TRAFFIC
SIGN ON TEMPORARY SUPPORT	PORTABLE CHANGEABLE MESSAGE BOARD
DELINEATOR FLEXIBLE/TUBULAR MARKER	CONGESTION WARNING SYSTEM DETECTOR
(A) TYPE A WARNING LIGHT (FLASHING)	
(B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)	
(C) TYPE C WARNING LIGHT (STEADY BURN)	

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 187	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 188	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

TORY HILL STREET

ROAD WORK 1/2 MILE
I-02M

ZONES IN WORK DOUBLE FINES
DOWN SLOW BRAKE Give 'em 1
$200 MINIMUM
96" X 48" W21-62
96" X 12" W21-62P

EXISTING
EXIT 72 B
INTERSTATE 794 EAST
Lakefront
EXIT ONLY (28)
ADD

500'
2600'

ROAD WORK 1 MILE
W20-1

SLAB 1140'
11TH STREET

IH 43 SB
IH 43 NB

WISCONSIN AVENUE

WELLS STREET

TRAFFIC CONTROL DRUMS @ 50' SPACING

TEMPORARY PAVEMENT MARKING TAPE 4-INCH SOLID (WHITE)

COVER
LANE ENDS AHEAD

TEMPORARY PAVEMENT MARKING TAPE 4-INCH DASHED (WHITE) (3' LINE, 9' SKIP)

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 189	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

TD

IH 43 SB

IH 43 NB

WELLS STREET

TEMPORARY PAVEMENT MARKING
TAPE 4-INCH DASHED (WHITE)

EXIT 72 B

INTERSTATE 794 EAST

Lakefront

EXIT ONLY

29

EXISTING

ADD

TRAFFIC PATTERN CHANGE	RAMP TO 794 EB

NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

MB

BE PREPARED TO STOP
W03-4

WHEN FLASHING
W016-13

W NORTH AVENUE

W FOND DU LAC AVENUE

2

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B	SHEET 190	E

CONSTRUCTION STAGE 2B (SUMMERFEST) NOTES

STAGE 2B (SUMMMERFEST) TRAFFIC CONTROL NOTES

1) ALL CROSSROADS WITHIN THE PROJECT VICINITY ARE TO REMAIN OPEN AT ALL TIMES.

2) MAINTAIN TWO LANES OF IH 43 SOUTHBOUND TRAFFIC DURING PEAK HOURS USING INNER LANES AND SHOULDER.

3) OPEN SOUTHBOUND ENTRANCE RAMP FROM IH 794 WESTBOUND.

4) MAINTAIN IH 794 SOUTHBOUND ENTRANCE RAMP TRAFFIC IN NEWLY CONSTRUCTED OUTSIDE LANE BEHIND TEMPORARY CONCRETE BARRIER.

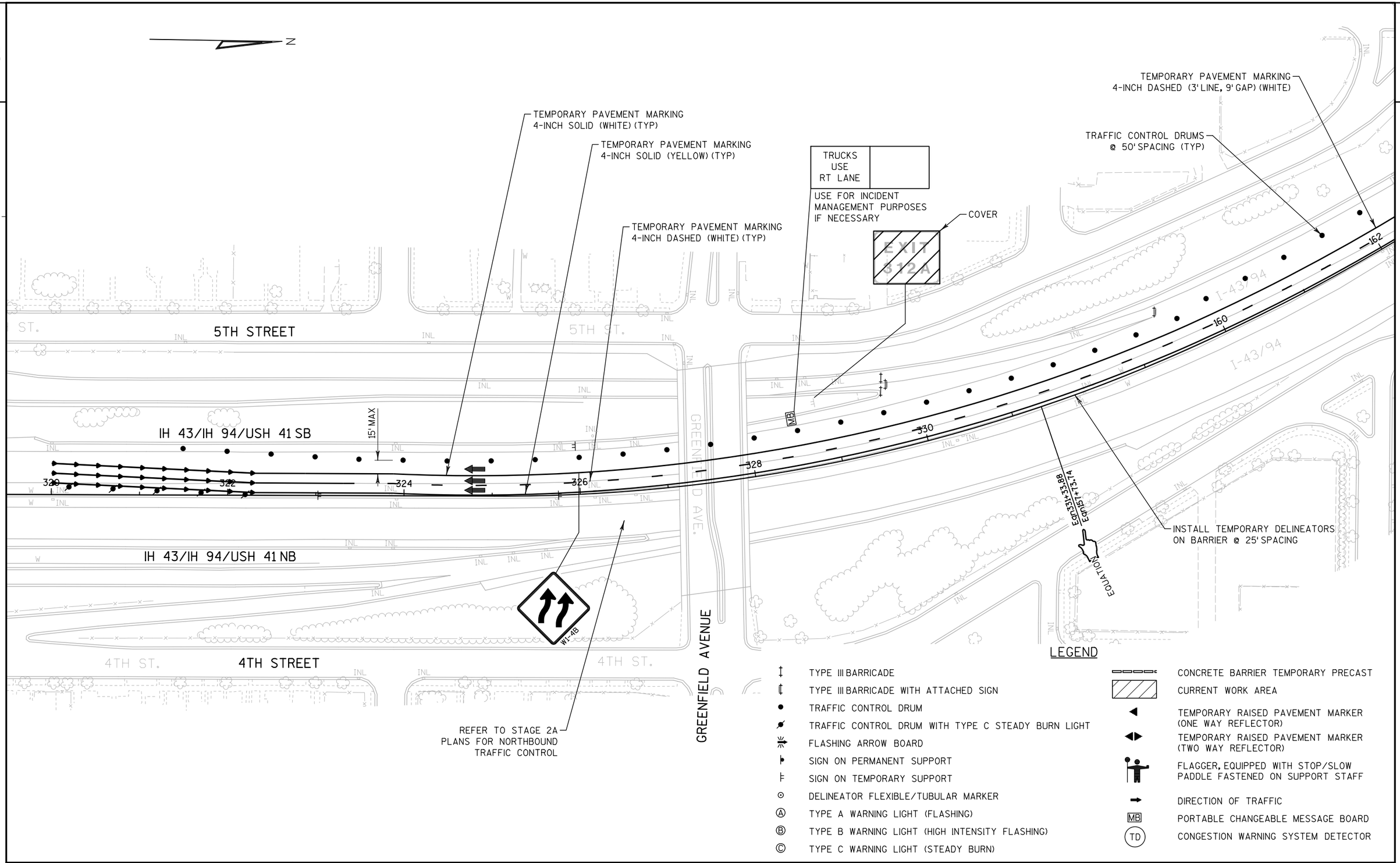
5) CLOSED SOUTHBOUND IH 43 EXIT RAMP TO LAPHAM BOULEVARD WHILE ES RAMP IS OPEN.

STAGE 2B (SUMMERFEST) CONSTRUCTION STAGING NOTES

1) REMOVE TRAFFIC CONTROL SIGNS AND DEVICES FOR IH 794 CLOSURE DURING SUMMERFEST.

NOTES:

STAGE 2B (SUMMERFEST) PLANS FOR USE ONLY IF THE JUNE 26TH INTERIM COMPLETION DATE IS MET.



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B (SUMMERFEST)	SHEET 192	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TRAFFIC CONTROL DRUMS
@ 50' SPACING (TYP)

INSTALL TEMPORARY DELINEATORS
ON BARRIER @ 25' SPACING

REFER TO STAGE 2A
PLANS FOR NORTHBOUND
TRAFFIC CONTROL

CONCRETE BARRIER
TEMPORARY PRECAST

MATCHLINE STATION 176+00
TO SOUTHBOUND STAGE 2B

WASHINGTON STREET

STH 38/6TH STREET

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

S.T.H. 38/6TH ST.

W MINERAL STREET

CC

162 164 166 168 170 172 174

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 2B (SUMMERFEST)	SHEET 193	E

2

2

CONSTRUCTION STAGE 3 NOTES

STAGE 3 TRAFFIC CONTROL NOTES

1) ALL CROSSROADS WITHIN THE PROJECT VICINITY ARE TO REMAIN OPEN AT ALL TIMES.

2) MAINTAIN TWO LANES OF IH 43 SOUTHBOUND TRAFFIC BETWEEN THE VALLEY BRIDGE AND GREENFIELD AVENUE DURING PEAK HOURS USING NEWLY PAVED OUTER LANES AND SHOULDER. ALL OTHER LANES TO REMAIN OPEN DURING PEAK HOURS.

3) MAINTAIN IH 43 EXIT AND ENTRANCE RAMP TRAFFIC DURING PEAK HOURS EXCEPT FOR THE SOUTHBOUND IH 43 SYSTEM RAMP FROM WESTBOUND IH 794.

4) RAMP CLOSURE FROM IH 43 SOUTHBOUND AT HOWARD AVENUE EXIT RAMP DURING NIGHTTIME WORK ONLY.

5) RAMP CLOSURE TO IH 43 SOUTHBOUND AT NATIONAL AVENUE ENTRANCE RAMP.

STAGE 3 CONSTRUCTION STAGING NOTES

1) COMPLETE CONCRETE REPAIRS ON STRUCTURE B-40-265 FROM SOUTHBOUND IH 43.

2) COMPLETE MAINLINE ASPHALT OVERLAY IN UNFINISHED SECTIONS BETWEEN HOLT AVENUE & HOWARD AVENUE AND SOUTHBOUND BETWEEN LAPHAM AVENUE & MAPLE STREET USING SHORT TERM NIGHTTIME LANE CLOSURES.

3) PAVE THE REMAINING HOWARD AVENUE AND SOUTHBOUND HOLT AVENUE ENTRANCE RAMP DURING NIGHTTIME RAMP CLOSURES.

4) COMPLETE CONCRETE BARRIER REHABILITATION AND REPLACEMENT ON INSIDE SHOULDER.

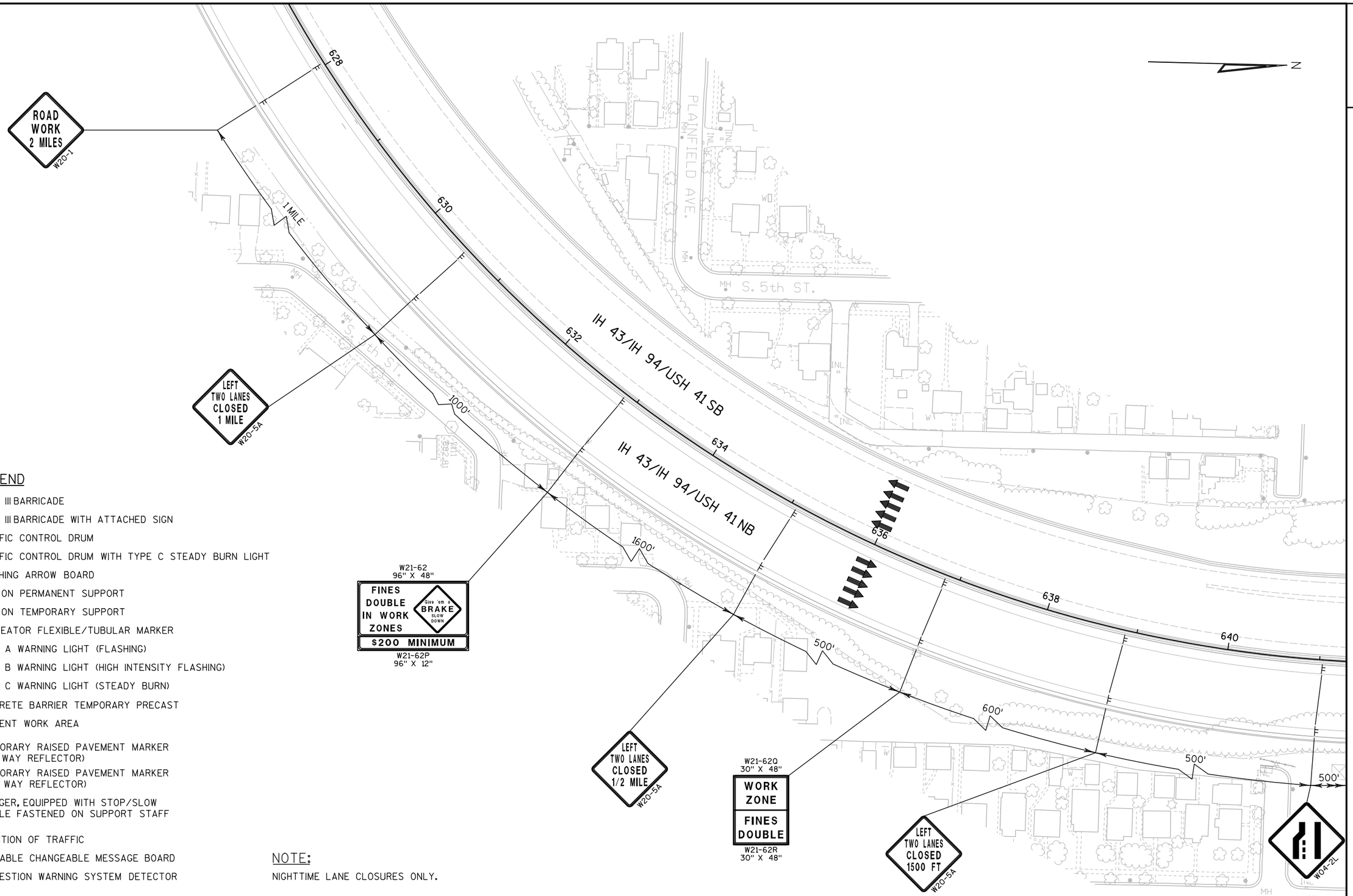
5) OVERLAY INSIDE SHOULDER AT STRUCTURE APPROACHES WHERE THE VERTICAL PROFILE ELEVATIONS INCREASED.

6) MOVE ALL MEDIAN SIGNS FROM TEMPORARY LOCATIONS TO PERMANENT LOCATIONS.

NOTE:
SEE STANDARD DETAIL DRAWING 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" AND "CONSTRUCTION DETAIL - ENTRANCE RAMP" FOR RAMP CLOSURES.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 194	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - INSIDE LANE CLOSURE	SHEET 195	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

HOWARD AVENUE

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

IH 43/IH 94/USH 41 SB

642 644 646 648 650 652 654 656

IH 43/IH 94/USH 41 NB

TRAFFIC CONTROL DRUMS @ 100' SPACING (TYP)

500' 500' 660' TAPER 1320' 660' TAPER

W04-2L

R11-2(MOD)
48" X 30"
LANE CLOSED

TYPE III BARRICADE

S. 3RD STREET

W04-2L

NOTE:
NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - INSIDE LANE CLOSURE	SHEET 196	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

HOWARD AVENUE

TRAFFIC CONTROL DRUMS
@ 100' SPACING (TYP)

IH 43/IH 94/USH 41 SB

654 656 658 660 662 664 666 668

12'

12'

IH 43/IH 94/USH 41 NB

4TH STREET

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - INSIDE LANE CLOSURE	SHEET 197	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

R11-2(MOD)
48" X 30"
LANE CLOSED
TYPE III BARRICADE

TRAFFIC CONTROL DRUMS
@ 100' SPACING (TYP)

HOLT AVENUE

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

660' TAPER

12'

24'

670 672 674 676 192 194 196 198 96 46NC 48NC

PED OVERHEAD

APPROXIMATE STAGE 1
CD ROAD REPAVING LIMITS

Eqn 677+23.64
Eqn 190+82.97, 2.86' LT
EQUATION

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

4TH STREET

S. 5th ST.

HOLT AVE.

SIGN

POOL

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - INSIDE LANE CLOSURE	SHEET 198	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026405_s3.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

CANADIAN PACIFIC

98
660' TAPER
198
200
202
204
206
208
210
212
1320'
48NC
50NC
W04-2L
TRAFFIC CONTROL DRUMS @ 100' SPACING (TYP)
IH 43/IH 94/USH 41 SB
IH 43/IH 94/USH 41 NB
I43/94/USH 41
HOLT AVENUE
HOLT AVE.
SIGN
MH
INL
POOL

NOTE:
NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - INSIDE LANE CLOSURE	SHEET 199	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

OKLAHOMA AVENUE

1320'

650 TAPER'

500' BUFFER

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I-43/94

214 216 218 220 222 224 226 228

TRAFFIC CONTROL DRUMS @ 50' SPACING

SOO LINE RAILROAD COMPANY D/B/A CANADIAN PACIFIC RAILWAY COMPANY

UNION PACIFIC RAILROAD COMPANY

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

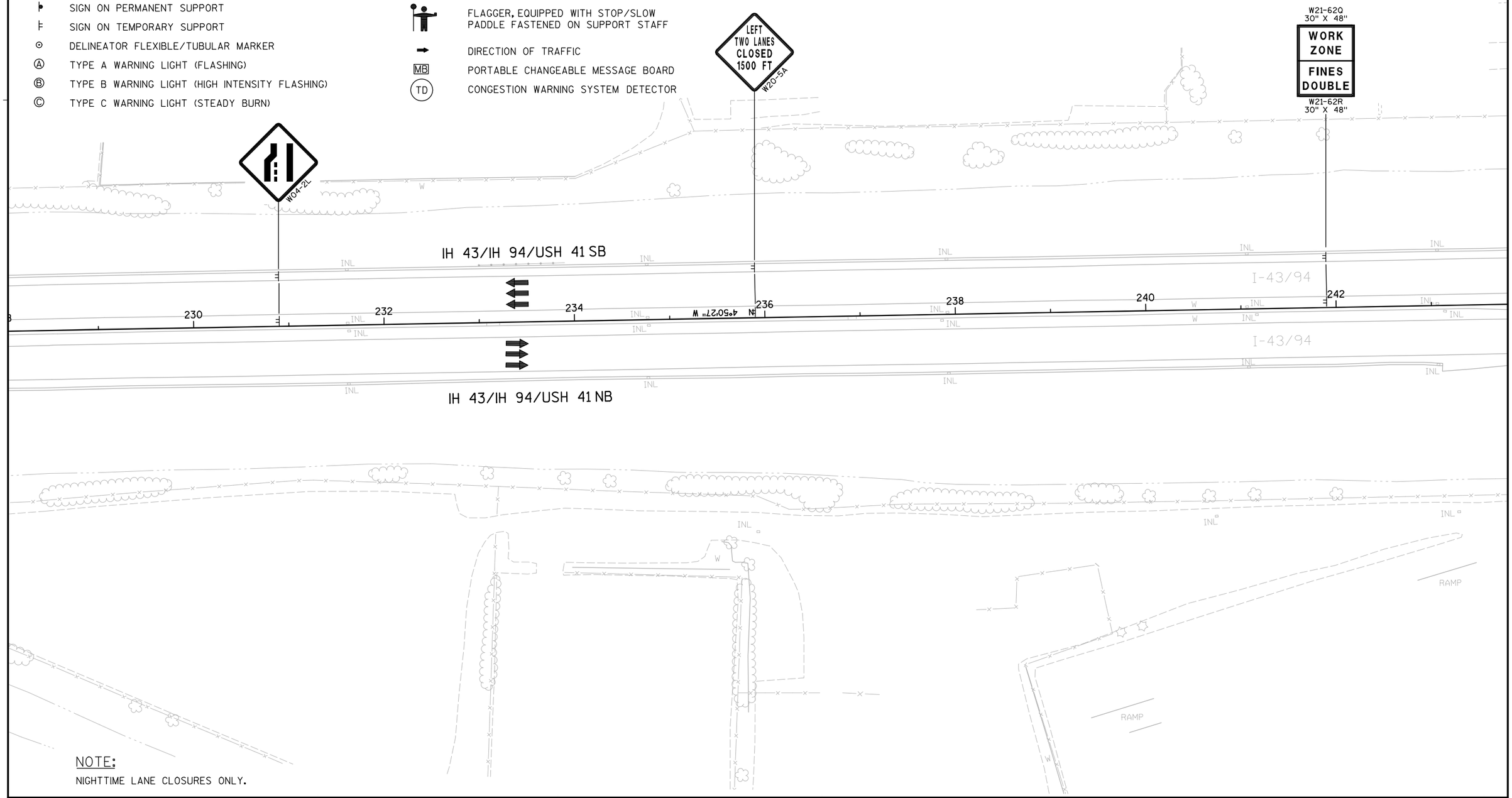
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 200	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

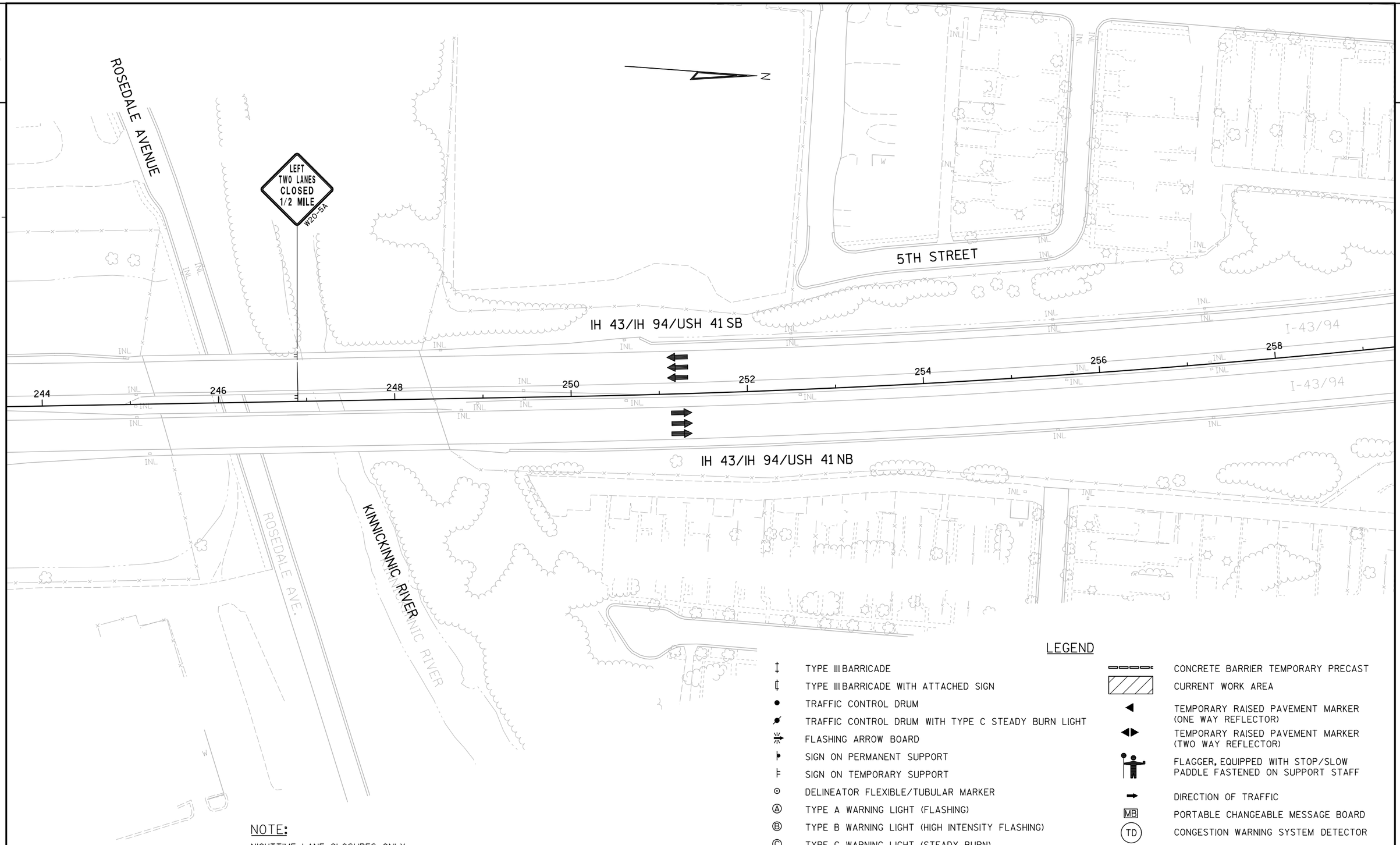
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NOTE:
NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 201	E

2



NOTE:

NIGHTTIME LANE CLOSURES ONLY.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 202	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026409_s3.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

2

N

5TH ST.

5TH STREET

5TH ST.

CHASE AVENUE/STH 38

LINCOLN AVENUE

LINCOLN AVE.

SPEED LIMIT 50

R2-1
48" X 60"

W21-62
96" X 48"

FINES DOUBLE IN WORK ZONES

Give 'em a BRAKE SLOW DOWN

$200 MINIMUM

W21-62P
96" X 12"

LEFT TWO LANES CLOSED 1 MILE

W20-5A

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I-43/94

I-43/94

260

262

264

266

268

270

272

N 10°50'27" W

Eqn272+99.71 = Eqn274+00.00

EQUATION

4TH STREET

NOTE:

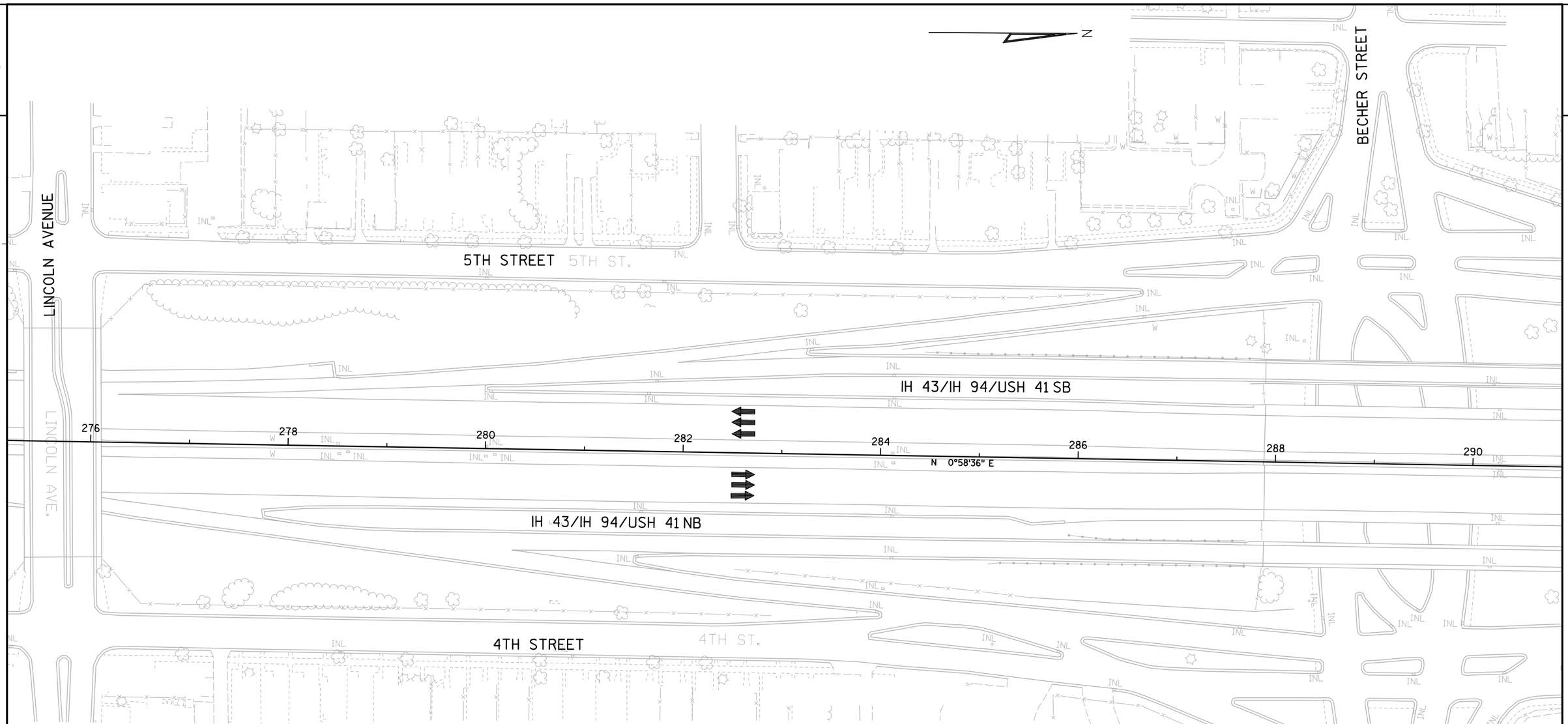
NIGHTTIME LANE CLOSURES ONLY.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 203	E

2



LEGEND

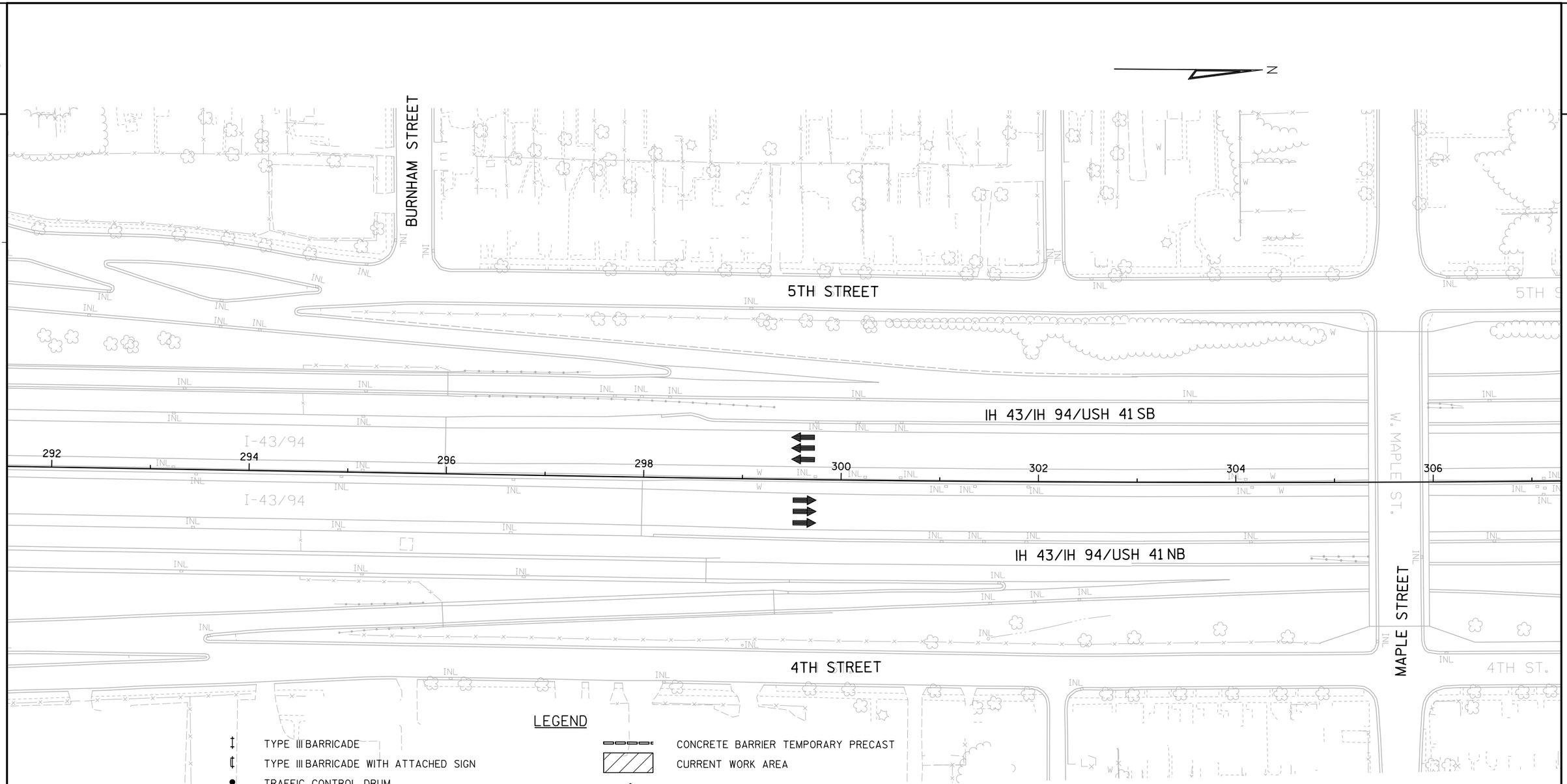
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
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- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 204 E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
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- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 205	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
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2

N

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TRAFFIC CONTROL DRUMS @ 50' SPACING

5TH STREET

5TH ST.

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I-43/94

I-43/94

W. MITCHELL AVE.

W. LAPHAM AVE.

308 310 312 314 316 318 320 322

N 0°23'41" W

4TH STREET

4TH ST.

ATHLETIC FIELD

MITCHELL STREET

LAPHAM BOULEVARD

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 206	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
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- Ⓐ TYPE A WARNING LIGHT (FLASHING)
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- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

TRAFFIC CONTROL DRUMS @ 50' SPACING

ROAD WORK 2 MILES W20-1

USE FOR INCIDENT MANAGEMENT PURPOSES IF NECESSARY

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP) (3' LINE, 9' SKIP)

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

5TH STREET

5TH ST.

4TH STREET

4TH ST.

GREENFIELD AVENUE

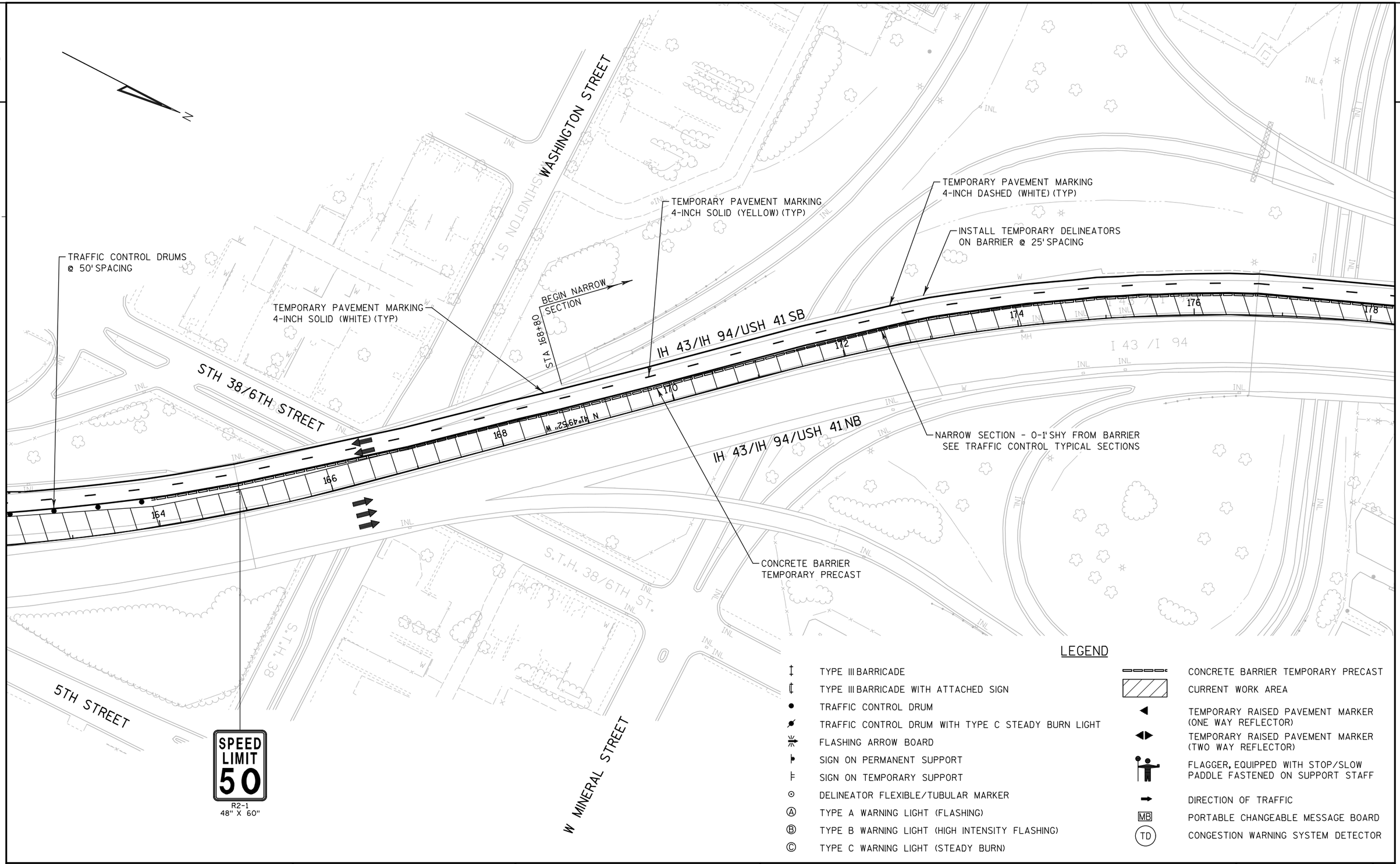
S POLCYN STREET

I-43/94

320 322 324 326 328 330 160 162

Egn331+33.88
Egn157+73.74
EQUATION

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
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- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 208	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
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N

2

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

EXIT
E5-1
60" X 48"

END NARROW SECTION

STA 182+65

EXIT 311

COVER

9TH STREET

W PIERCE STREET

NATIONAL AVE.

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING
4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING
4-INCH SOLID (YELLOW) (TYP)

BRUCE ST.

MENOMONEE RIVER

IH 43/IH 94/USH 41 SB

178 180 182 184 186 188 190 192

N 13°33'24" W

I 94 / I 43

IH 43/IH 94/USH 41 NB

NARROW SECTION - 0-1' SHY FROM BARRIER
SEE TRAFFIC CONTROL TYPICAL SECTIONS

CONCRETE BARRIER
TEMPORARY PRECAST

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

NATIONAL AVENUE

7TH STREET

BRUCE STREET

WEST VIRGINIA STREET

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 209	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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N

MENOMONEE RIVER

NO SOUTHBOUND RE-ENTRY TO FREEWAY
W6-54C
168" X 60"

NEXT EXIT
M4-8A (MOD)
48" X 36"

INSTALL TEMPORARY DELINEATORS ON BARRIER @ 25' SPACING

TEMPORARY PAVEMENT MARKING 4-INCH DASHED (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (WHITE) (TYP)

TEMPORARY PAVEMENT MARKING 4-INCH SOLID (YELLOW) (TYP)

TRUCKS USE LEFT LANE
R4-5L
48" X 60"

COVER CONFLICTING EDGE LINE AND DASHED PAVEMENT MARKINGS NORTH OF REPAVING LIMITS WITH BLACK TAPE (TYP)

SPEED LIMIT 50
R2-1
48" X 60"

250' BUFFER

275' SHIFTING TAPER

155' BUFFER

450' MERGING TAPER

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

194 196 198 200 202 204 206 208

CONCRETE BARRIER TEMPORARY PRECAST

CONCRETE BARRIER TEMPORARY PRECAST

REMOVE EXISTING ES RAMP GORE PAVEMENT MARKING

TRAFFIC CONTROL DRUMS @ 50' SPACING

TEMPORARY RAISED PAVEMENT MARKERS (TYP)

TRAFFIC CONTROL DRUMS @ 50' SPACING

MENOMONEE R.

PIER

SIGN

SOO LINE RAILROAD COMPNAY D/B/A CANADIAN PACIFIC RAILWAY COMPANY

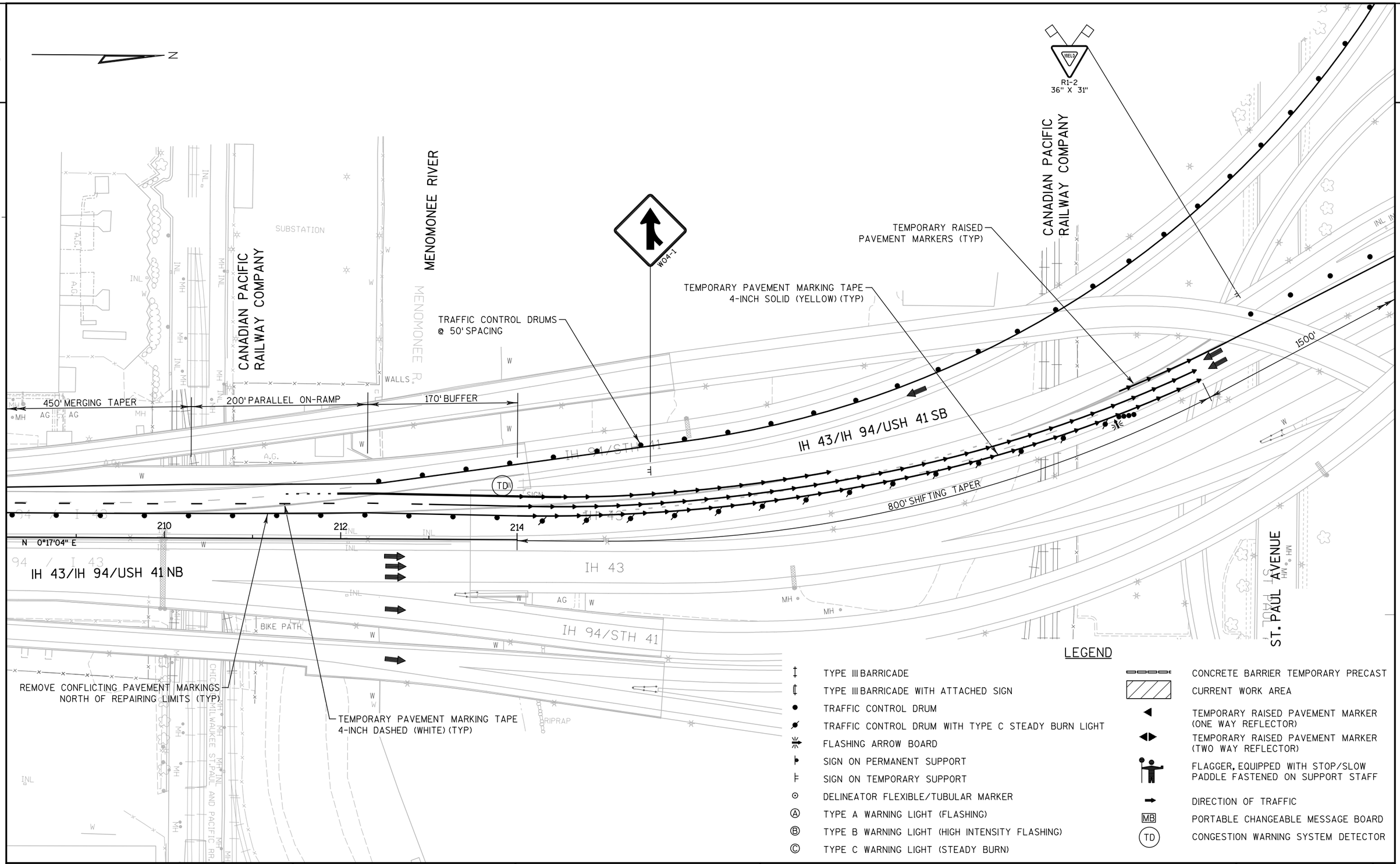
MENOMONEE RIVER

RUINS

I 94

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 210	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026417_s3.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 211 E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

IH 94/USH 41 EB

IH 94/USH 41 WB

TORY HILL STREET

11TH STREET

WISCONSIN AVENUE

(LANE DROP) 660' TAPER

TRAFFIC CONTROL DRUMS @ 50' SPACING

TEMPORARY PAVEMENT MARKING TAPE 4-INCH SOLID (WHITE)

1500'

500'

W03-2

ROAD WORK 1500 FT W20-1

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

N

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 212	E

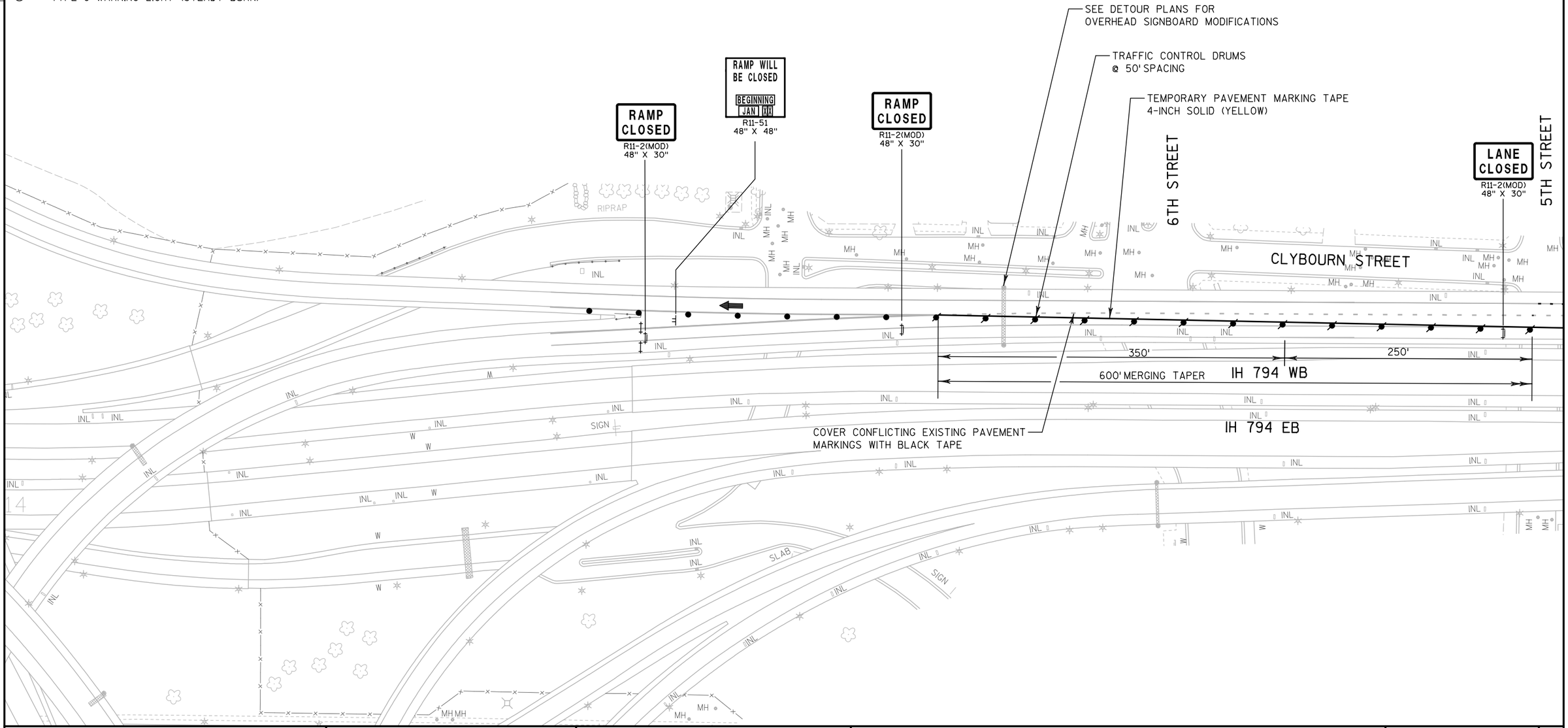
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LEGEND

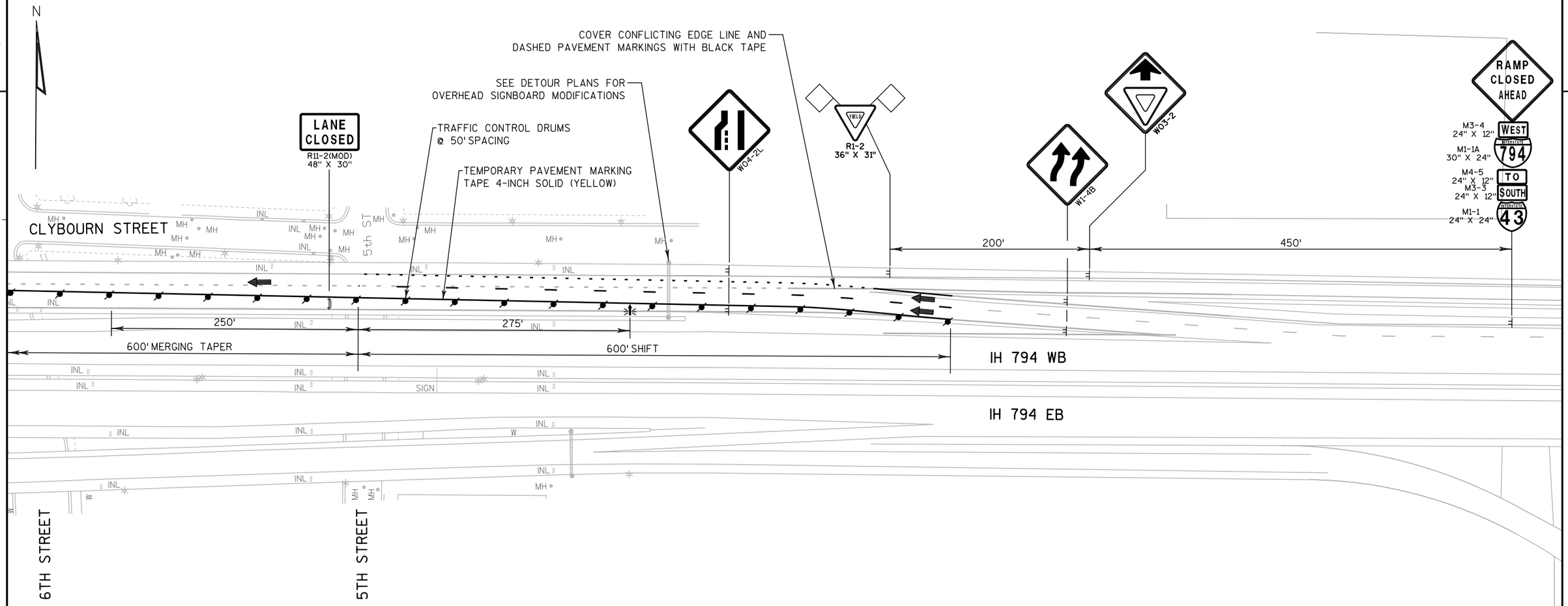
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- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
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- (A) TYPE A WARNING LIGHT (FLASHING)
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- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
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- TD CONGESTION WARNING SYSTEM DETECTOR

N



PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 213	E



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 214	E

2

N

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
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- DIRECTION OF TRAFFIC
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- TD CONGESTION WARNING SYSTEM DETECTOR

ROAD WORK 1 MILE W20-1

BE PREPARED TO STOP W03-4

WHEN FLASHING W016-13

ROAD WORK 1/2 MILE W20-1M

ZONES IN WORK DOUBLE FINES — DOWN SLOW BRAKE Give 'em a — $200 MINIMUM

96" X 48" W21-62

96" X 12" W21-62P

RIGHT LANE CLOSED 1500 FT W20-5

W04-2R

1300' 1300' 500' 1100' 750'

IH 94/USH 41 EB

IH 94/USH 41 WB

N 25 STREET

TORY HILL STREET

TRAFFIC CONTROL DRUMS @ 50' SPACING

(LANE DROP) 660' TAPER

MB

RAMP TO I-43/94 SOUTH	LANE CLOSURE AHEAD

NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 215	E

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
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- TD CONGESTION WARNING SYSTEM DETECTOR

TRAFFIC CONTROL DRUMS @ 50' SPACING

TEMPORARY PAVEMENT MARKING TAPE 4-INCH SOLID (WHITE)

TEMPORARY PAVEMENT MARKING TAPE 4-INCH DASHED (WHITE)

11TH STREET

WISCONSIN AVENUE

IH 43 SB

IH 43 NB

WELLS STREET

200'

1140'

500'

BE PREPARED TO STOP W03-4

WHEN FLASHING W016-13

ROAD WORK 1500 FT W20-1

ROAD WORK 1/2 MILE W20-1

ZONES IN WORK DOUBLE FINES — DOWN SLOW BRAKE Give 'em a — $200 MINIMUM

96" X 48" W21-62

96" X 12" W21-62P

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 216	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
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TEMPORARY PAVEMENT MARKING
TAPE 4-INCH DASHED (WHITE)

TD

WELLS STREET

IH 43 SB

IH 43 NB

500'

2100'

ZONES IN WORK DOUBLE FINES $200 MINIMUM
DOWN SLOW BRAKE Give 'em a
96" X 48" W21-62
96" X 12" W21-62P

EXIT 72 B
INTERSTATE 794 EAST
Lakefront
EXIT ONLY
(31)
EXISTING
ADD

ROAD WORK 1 MILE W20-1

TRAFFIC PATTERN CHANGE	RAMP TO 794 EB

NOTE: SIGN TO BE USED FOR INCIDENT MANAGEMENT PURPOSES.

MB

BE PREPARED TO STOP W03-4
WHEN FLASHING W016-13

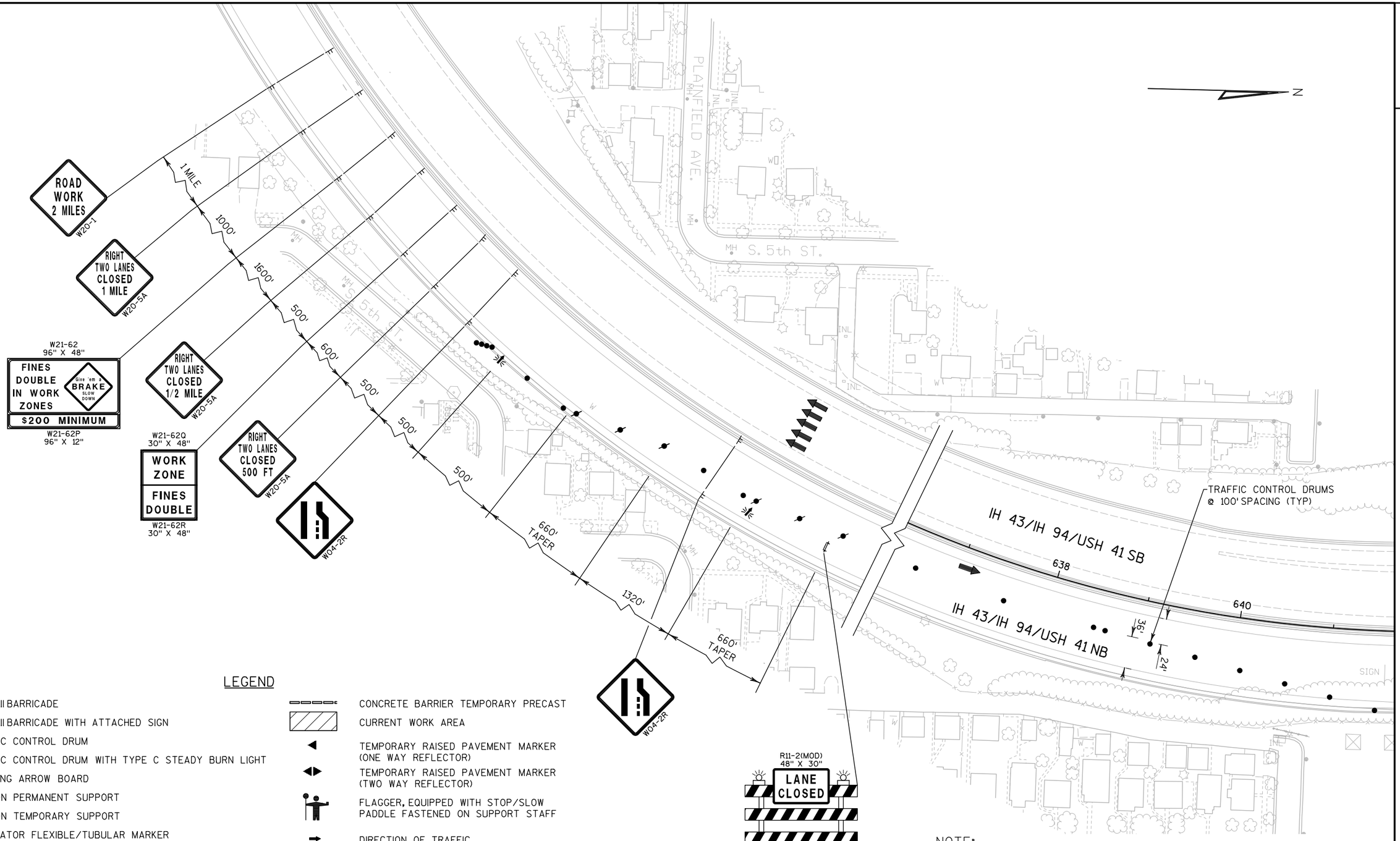
W NORTH AVENUE

W FOND DU LAC AVENUE

N

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 217	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

TEMPORARY NIGHTTIME CLOSURE OF MITCHELL WN SYSTEM RAMP ALLOWED OUTSIDE LANE CLOSURES, SEE DETOUR PLAN.

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - OUTSIDE LANE CLOSURE	SHEET 218	E

2

N

EXIT
E5-1
60" X 48"

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

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

HOWARD AVENUE

3RD STREET

642 644 646 648 650 652 654 656

TRAFFIC CONTROL DRUMS
@ 100' SPACING (TYP)

12'
24'

R11-2(MOD)
48" X 30"
LANE
CLOSED
TYPE III BARRICADE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

TEMPORARY NIGHTTIME CLOSURE OF HOLT AVENUE EXIT RAMP ALLOWED DURING ADJACENT WORK. ONCE PAVING IS COMPLETE PRIOR TO STATION 660+00 THE RAMP WILL BE OPEN TO TRAFFIC.

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - OUTSIDE LANE CLOSURE	SHEET 219	E

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

HOWARD AVENUE

TRAFFIC CONTROL DRUMS @ 100' SPACING (TYP)

IH 43/IH 94/USH 41 SB

654 656 658 660 662 664 666 668

12' 24'

IH 43/IH 94/USH 41 NB

TRAFFIC CONTROL DRUMS @ 100' SPACING (TYP)

3RD STREET

SIGN

POOL

INL MH W

NOTE:

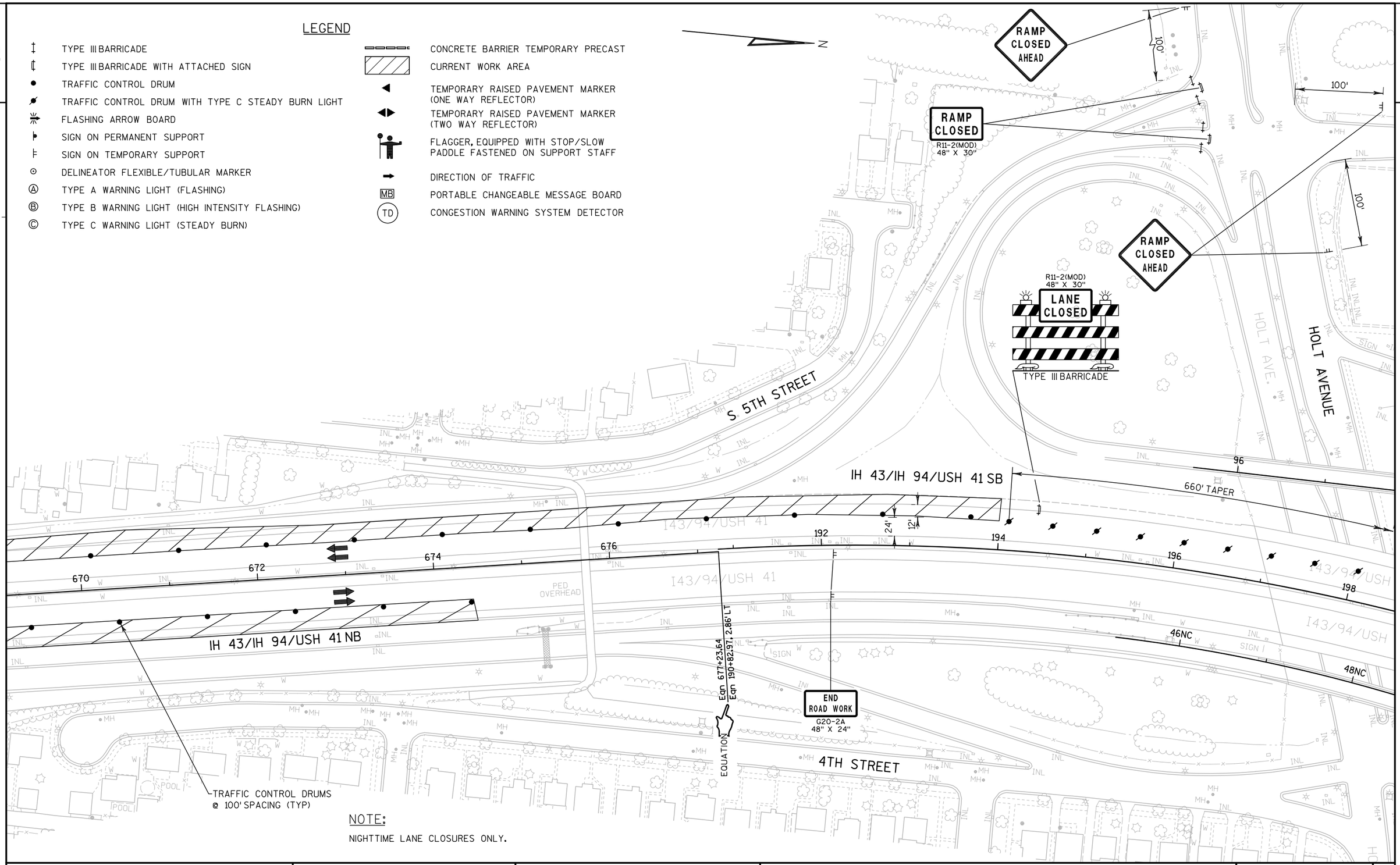
TEMPORARY NIGHTTIME CLOSURE OF HOLT AVENUE EXIT RAMP ALLOWED DURING ADJACENT WORK. ONCE PAVING IS COMPLETE PRIOR TO STATION 660+00 THE RAMP WILL BE OPEN TO TRAFFIC.

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - OUTSIDE LANE CLOSURE	SHEET 220	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - OUTSIDE LANE CLOSURE	SHEET 221	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

98
660' TAPER
500'
198
200
202
204
206
208
210
212
48NC
50NC

W04-2R

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I43/94/USH 41

HOLT AVENUE

HOLT AVE.

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - OUTSIDE LANE CLOSURE	SHEET 222	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

OKLAHOMA AVENUE

RIGHT LANE CLOSED 1500 FT
W20-5

W21-62Q
30" X 48"
WORK ZONE
FINES DOUBLE
W21-62R
30" X 48"

RIGHT LANE CLOSED 1/2 MILE
W20-5

IH 43/IH 94/USH 41 SB

I-43/94

IH 43/IH 94/USH 41 NB

214 216 218 220 222 224 226 228

UNION PACIFIC RAILROAD COMPANY

SOO LINE RAILROAD COMPANY
D/B/A CANADIAN PACIFIC RAILWAY COMPANY

NOTE:
NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 223	E

2

N

W21-62
96" X 48"

FINES DOUBLE IN WORK ZONES

Give 'em a BRAKE SLOW DOWN

$200 MINIMUM

W21-62P
96" X 12"

IH 43/IH 94/USH 41 SB

230 232 234 236 238 240 242

N 49°50'27" W

I-43/94

I-43/94

IH 43/IH 94/USH 41 NB

RAMP

RAMP

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)

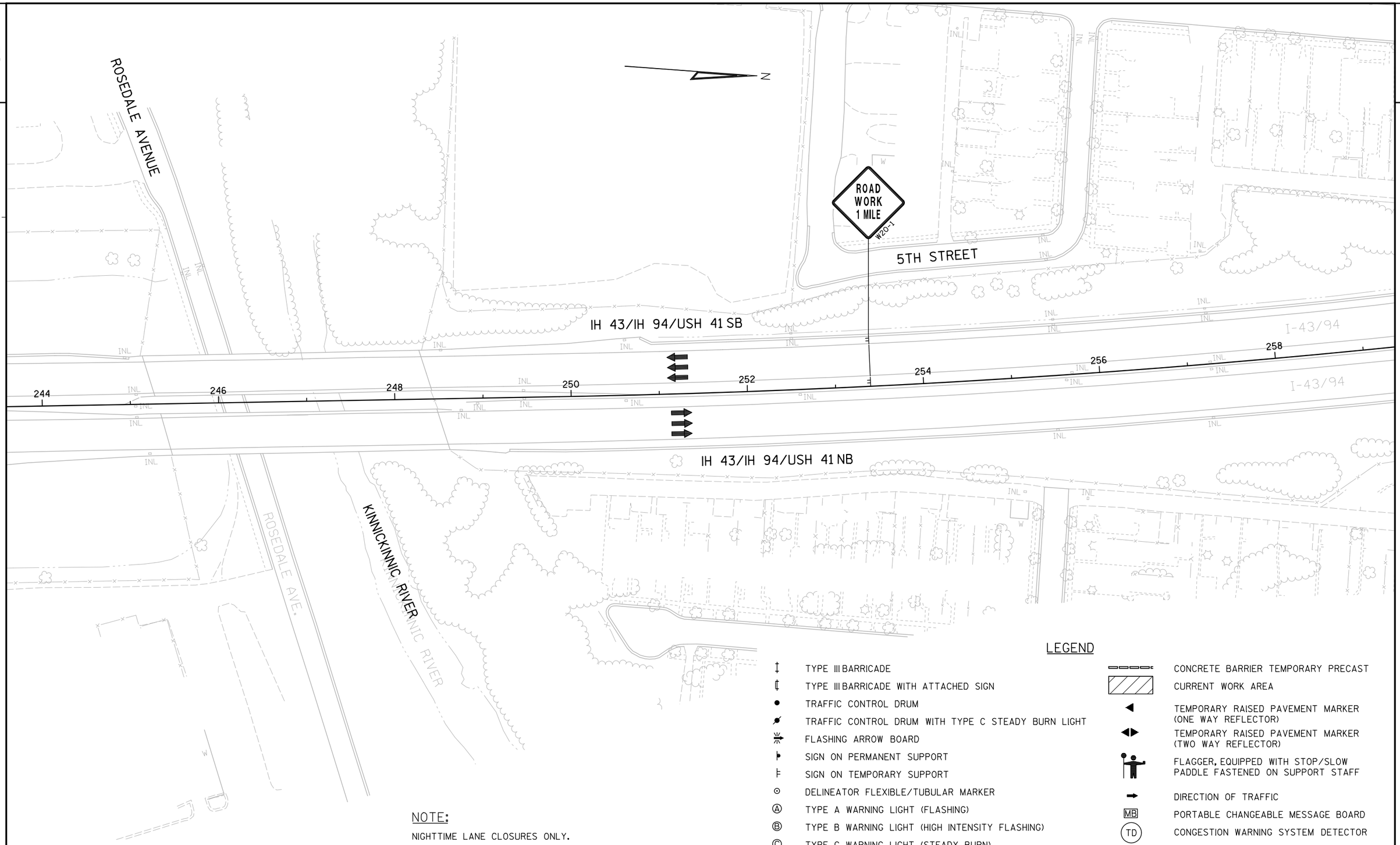
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 224	E

2



NOTE:

NIGHTTIME LANE CLOSURES ONLY.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 225	E

2

2

N

5TH ST.

5TH STREET

5TH ST.

CHASE AVENUE/STH 38

LINCOLN AVENUE

LINCOLN AVE.

I-43/94

I-43/94

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

4TH STREET

260

262

264

266

268

270

272

N 10°50'27" W

Eqn272+99.71
Eqn274+00.00

EQUATION

LEGEND

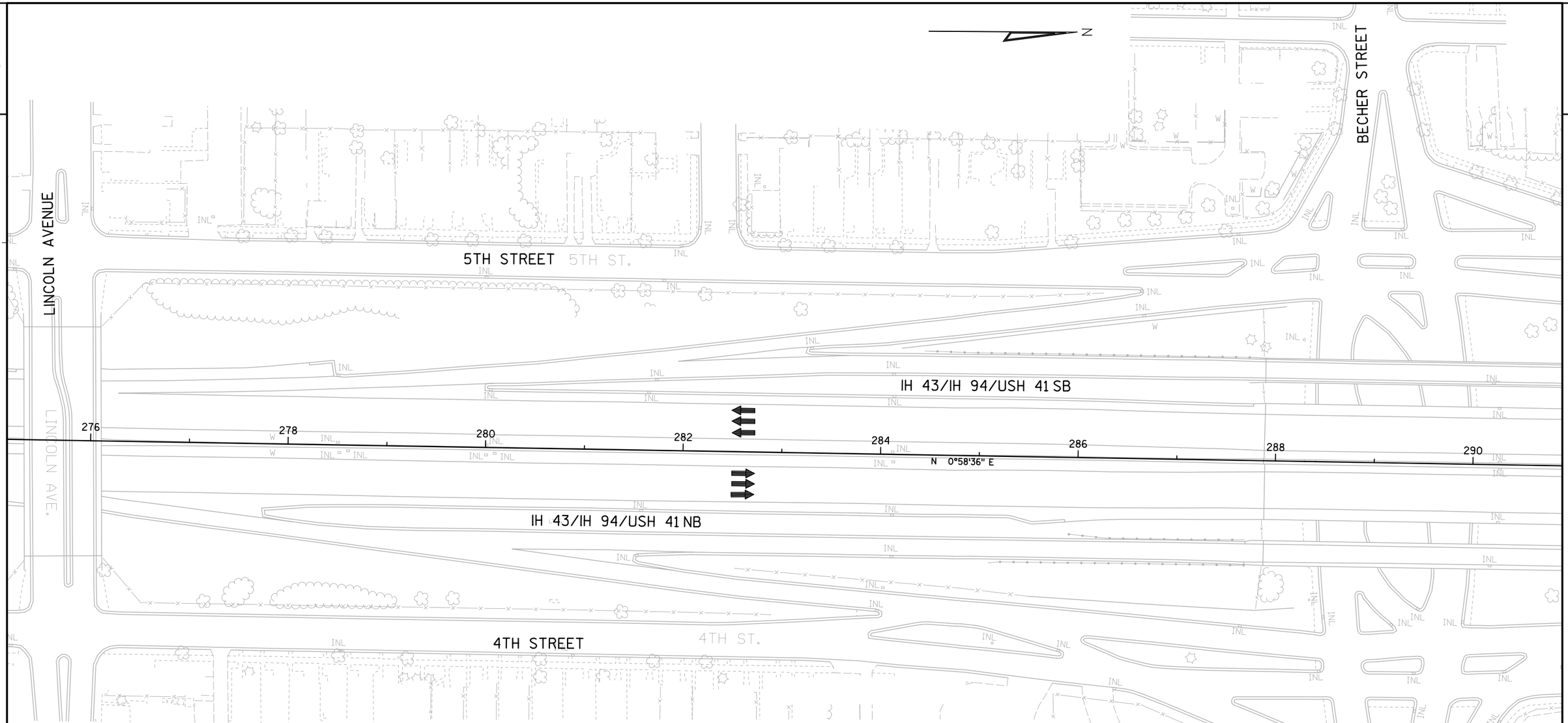
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
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- (A) TYPE A WARNING LIGHT (FLASHING)
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 226	E

2



LEGEND

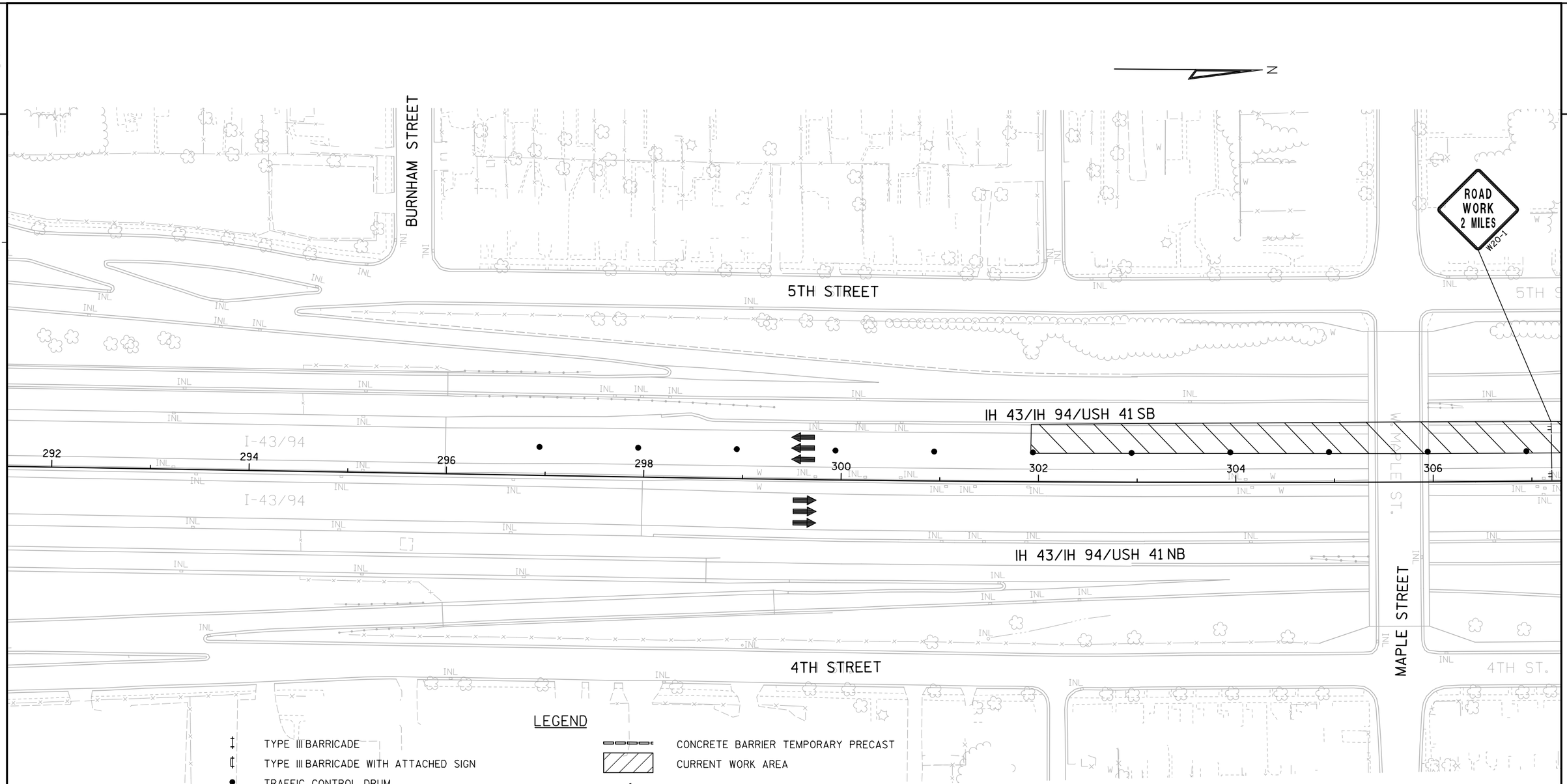
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
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- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 227	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

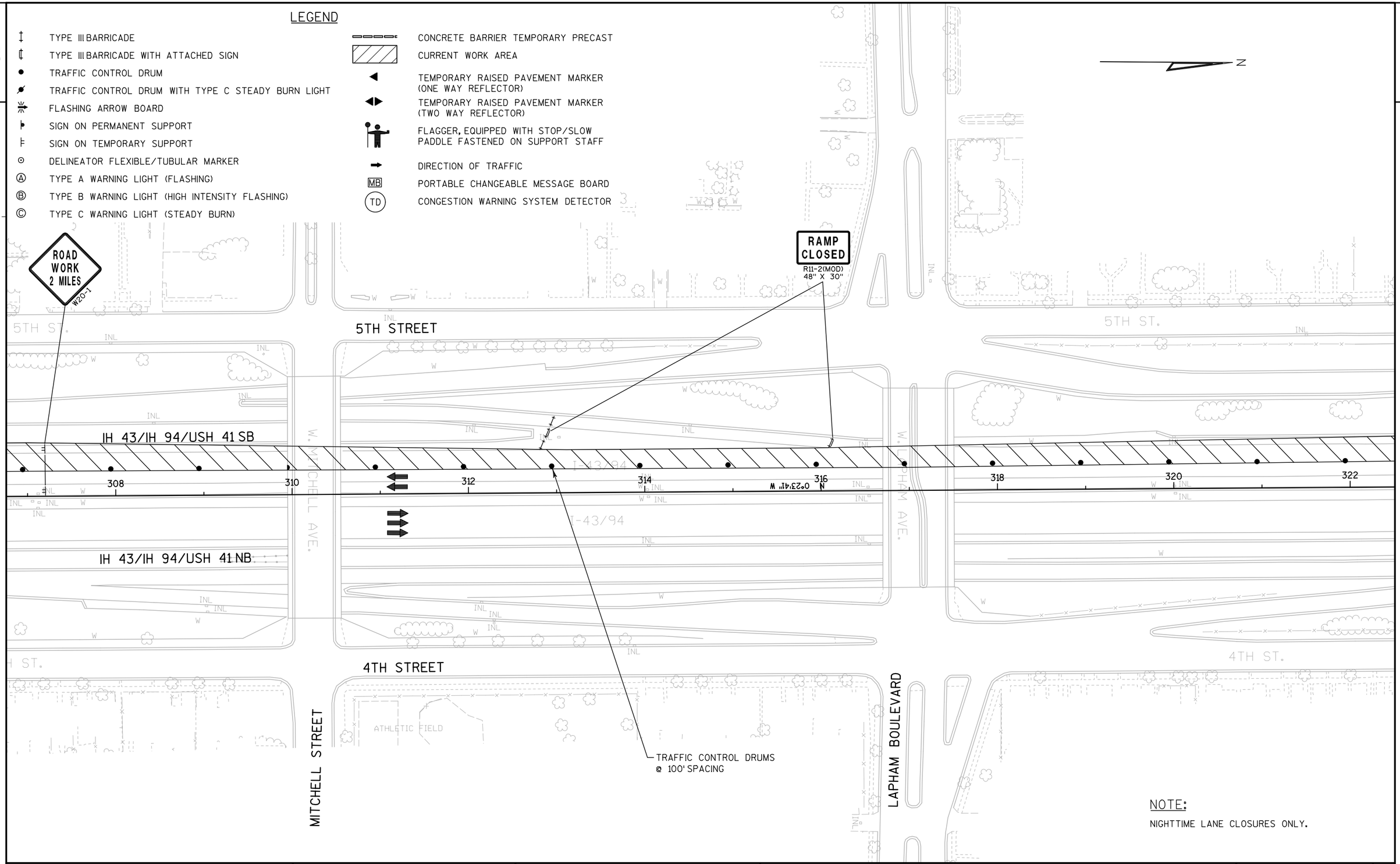
NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 228	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 229	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026436_s3.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

WISDOT/CADDS SHEET 42

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
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- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

TRAFFIC CONTROL DRUMS @ 100' SPACING

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

5TH STREET

4TH STREET

GREENFIELD AVENUE

S POLCYN STREET

I-43/94

320 322 324 326 328 330 160 162

660'

1320'

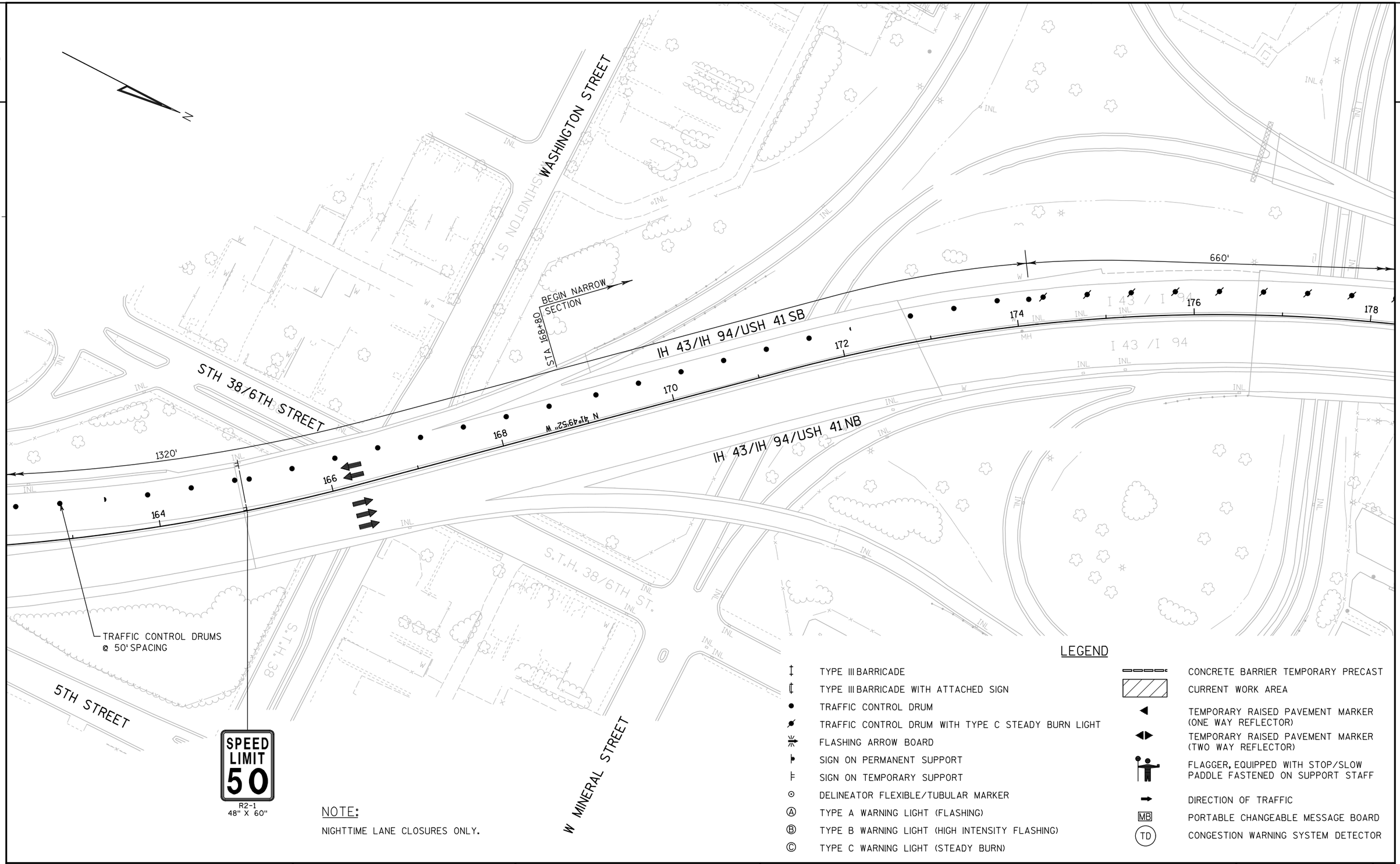
EQUATION Eqn331+33.88 = Eqn157+73.74

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 230	E

2



NOTE:

NIGHTTIME LANE CLOSURES ONLY.

LEGEND

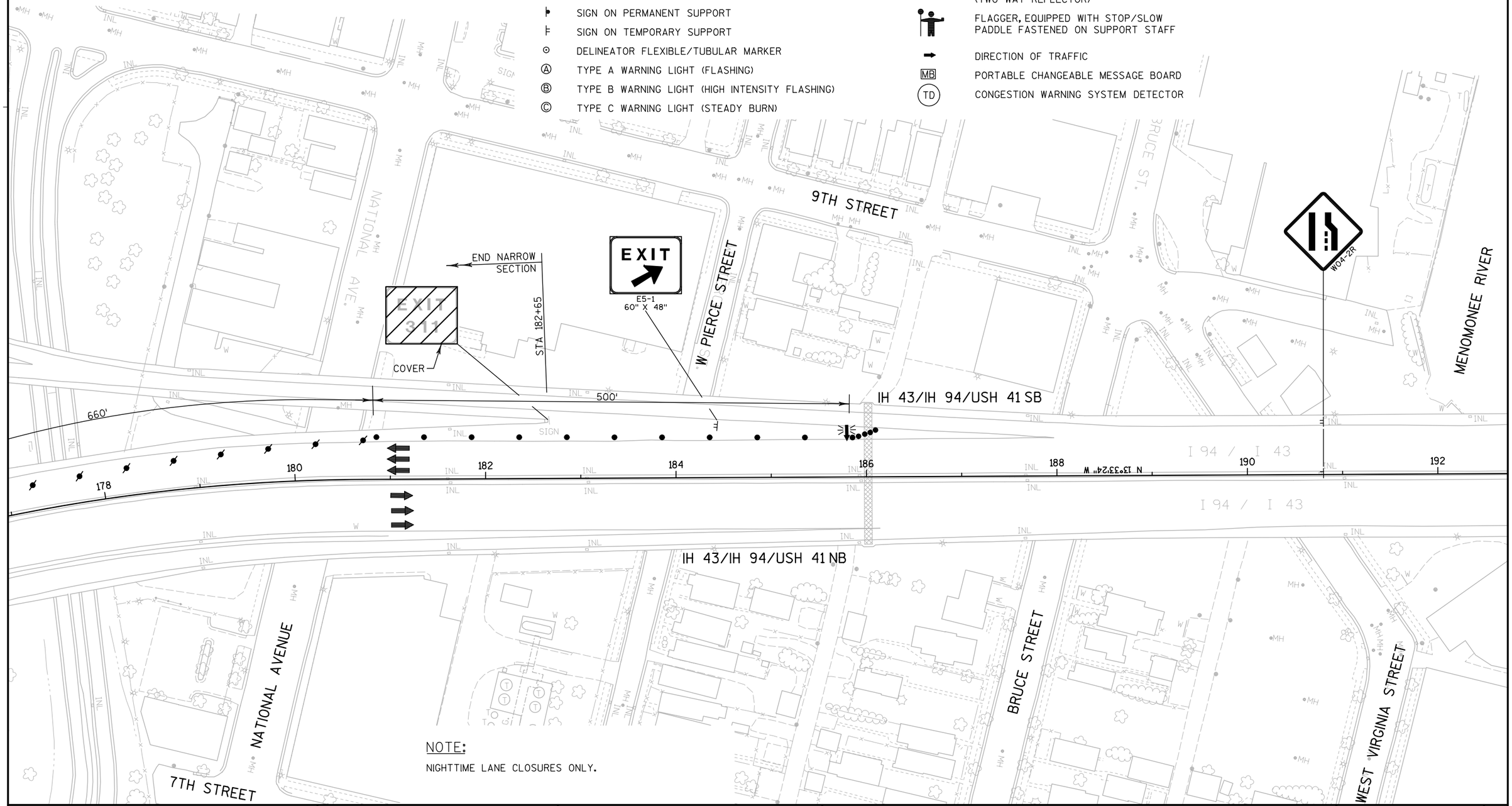
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 231	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N



NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 232	E

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
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- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

MENOMONEE RIVER

RIGHT LANE CLOSED 1500 FT
W20-5

W21-62Q
30" X 48"
WORK ZONE
FINES DOUBLE
W21-62R
30" X 48"

RIGHT LANE CLOSED 1/2 MILE
W20-5

194 196 198 200 202 204 206 208

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

MENOMONEE R.

PIER

SIGN

RUINS

SOO LINE RAILROAD COMPANY
D/B/A CANADIAN PACIFIC RAILWAY COMPANY

MENOMONEE RIVER

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 233	E

2

CANADIAN PACIFIC RAILWAY COMPANY

MENOMONEE RIVER

CANADIAN PACIFIC RAILWAY COMPANY

N

SUBSTATION

FINES DOUBLE IN WORK ZONES

Give 'em a BRAKE SLOW DOWN

$200 MINIMUM

W21-62 96" X 48"

W21-62P 96" X 12"

BIKE PATH

WALLS

IH 94/STH 41

IH 43/IH 94/USH 41 SB

SIGN

94 / I 43

IH 43

210 212 214

N 0°17'04" E

IH 43/IH 94/USH 41 NB

BIKE PATH

IH 94/STH 41

RIPRAP

CHICAGO MILWAUKEE ST.PAUL AND PACIFIC RR.

ST. PAUL AVENUE

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 234	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

IH 94/USH 41 EB

IH 94/USH 41 WB

TORY HILL STREET

11TH STREET

WISCONSIN AVENUE

IH 43 SB

IH 43 NB

ROAD WORK 1 MILE W20-1

N

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 235	E

2

N

BURNHAM STREET

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

TRAFFIC CONTROL DRUMS @ 100' SPACING

5TH STREET

IH 43/IH 94/USH 41 SB

I-43/94

292 294 296 298 300 302 304 306

IH 43/IH 94/USH 41 NB

W. MAPLE ST.

MAPLE STREET

4TH STREET

4TH ST.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
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- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 236 E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

2

N

5TH ST.

5TH STREET

5TH ST.

500'

660'

500'

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I-43/94

I-43/94

308 310 312 314 316 318 320 322

N 0°23'41" W

W. MITCHELL AVE.

W. LAPHAM AVE.

4TH STREET

4TH ST.

ATHLETIC FIELD

MITCHELL STREET

LAPHAM BOULEVARD

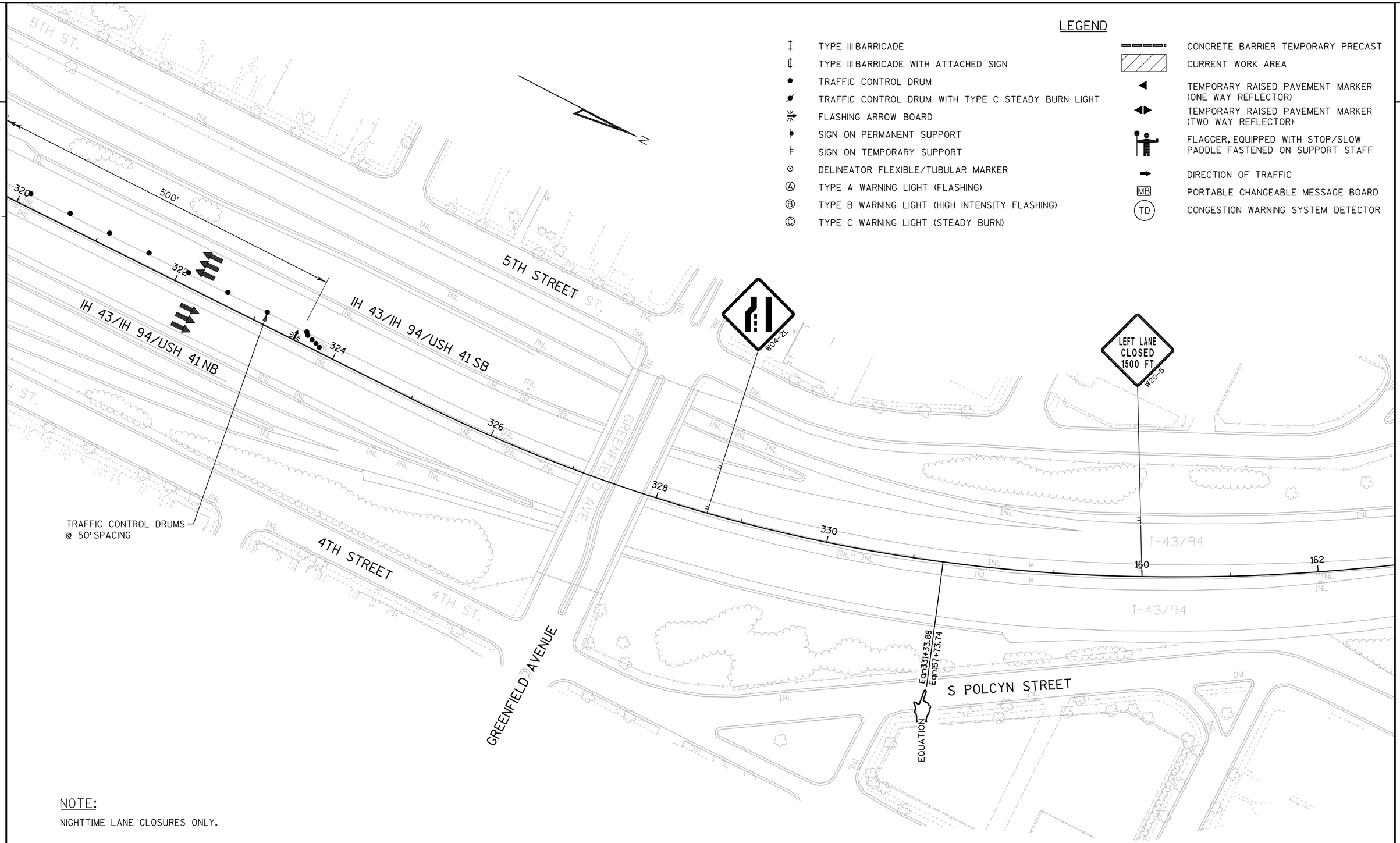
LANE CLOSED
R11-2(MOD)
48" X 30"

TRAFFIC CONTROL DRUMS @ 50' SPACING

NOTE:
NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 237	E

2



NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 238	E

2

2

N

WASHINGTON STREET

STH 38/6TH STREET

5TH STREET

W MINERAL STREET

S.T.H. 38/6TH ST.

S.T.H. 38

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I 43 / I 94

I 43 /I 94

LEFT LANE CLOSED 1/2 MILE
W20-5

W21-62Q
30" X 48"
WORK ZONE
FINES DOUBLE

W21-62R
30" X 48"

W21-62
96" X 48"
FINES DOUBLE IN WORK ZONES
Give 'em a BRAKE SLOW DOWN
$200 MINIMUM

W21-62P
96" X 12"

164 166 168 170 172 174 176 178

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 239	E

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
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- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

2

9TH STREET

W PIERCE STREET

NATIONAL AVE.

BRUCE ST.

MENOMONEE RIVER

IH 43/IH 94/USH 41 SB

I 94 / I 43

178 180 182 184 186 188 190 192

N 13°33'24" W

I 94 / I 43

IH 43/IH 94/USH 41 NB

NATIONAL AVENUE

7TH STREET

BRUCE STREET

WEST VIRGINIA STREET

NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 240	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026447_s3.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

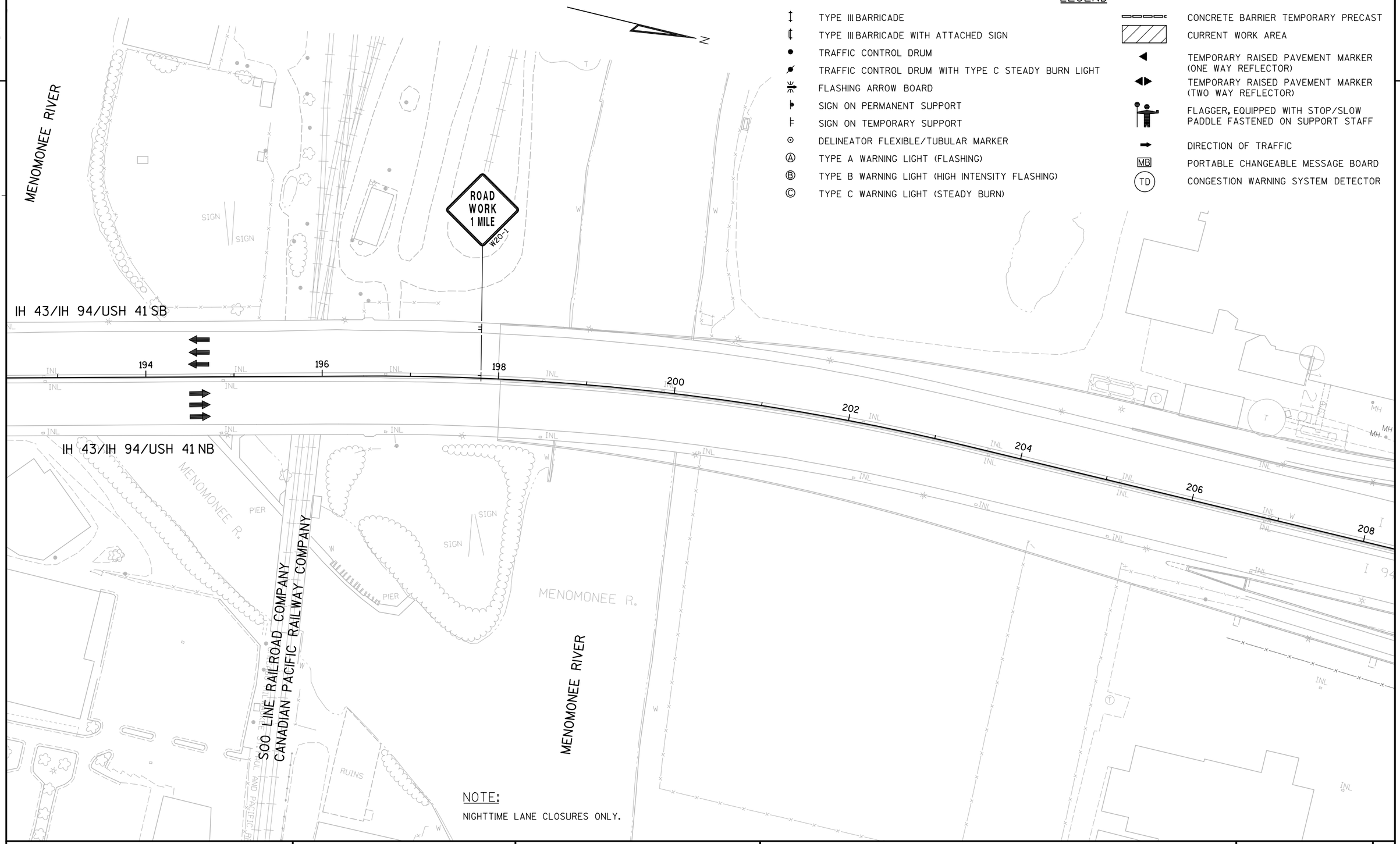
WISDOT/CADDS SHEET 42

2

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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- (C) TYPE C WARNING LIGHT (STEADY BURN)
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- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



NOTE:

NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3	SHEET 241	E

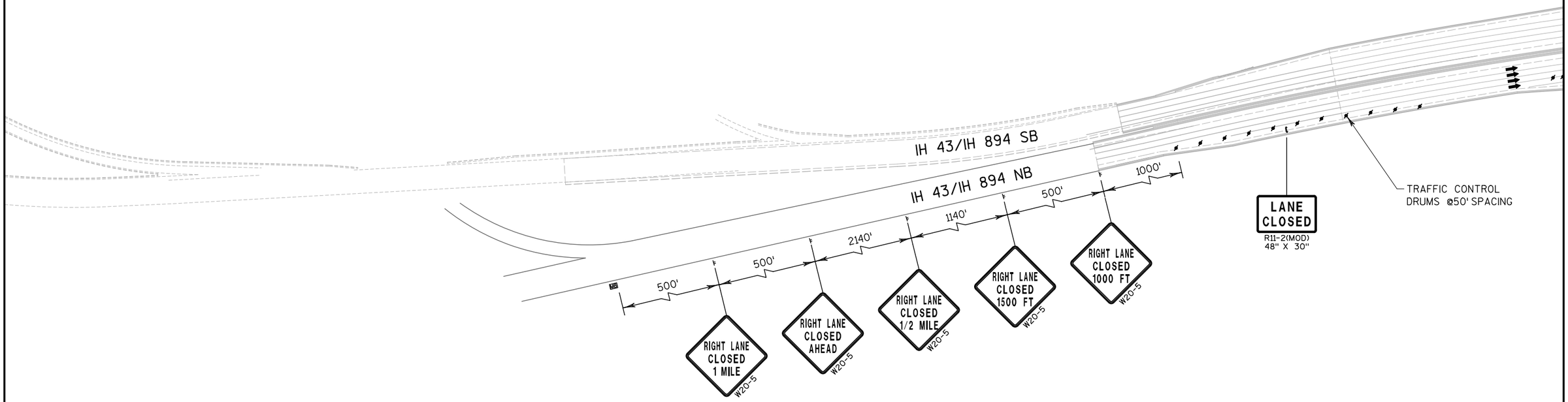
FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\026448_s3.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
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- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
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- (A) TYPE A WARNING LIGHT (FLASHING)
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- (C) TYPE C WARNING LIGHT (STEADY BURN)
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- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR

N

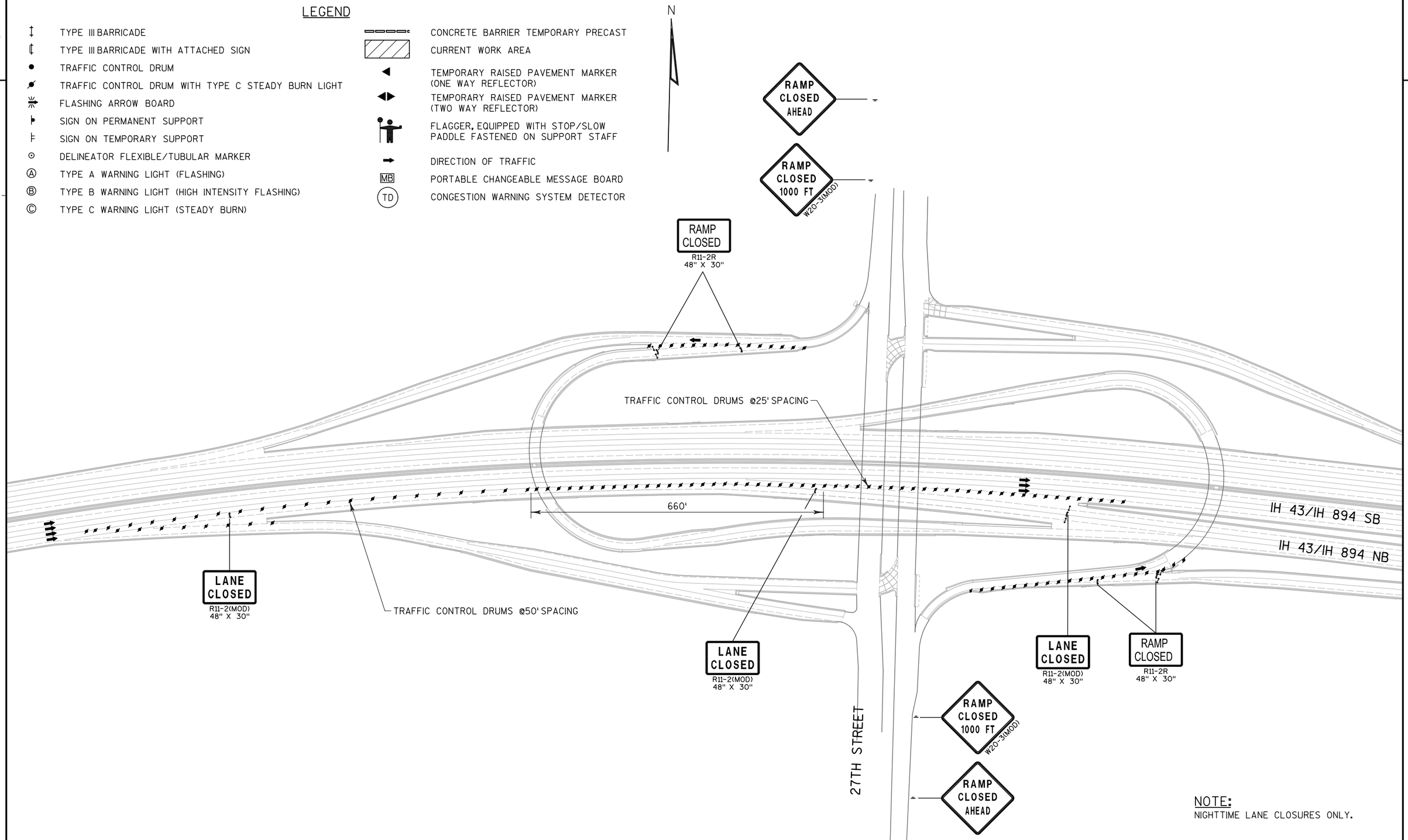


NOTE:
NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - WN RAMP CLOSURE	SHEET 242	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- (A) TYPE A WARNING LIGHT (FLASHING)
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- (C) TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- TD CONGESTION WARNING SYSTEM DETECTOR



NOTE:
NIGHTTIME LANE CLOSURES ONLY.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	TRAFFIC CONTROL STAGE 3 - WN RAMP CLOSURE	SHEET 243	E

2

2

CONSTRUCTION STAGE 4 NOTES

STAGE 4 TRAFFIC CONTROL NOTES

1) ALL CROSSROADS WITHIN THE PROJECT VICINITY ARE TO REMAIN OPEN AT ALL TIMES.

2) MAINLINE IH 43 NORTHBOUND AND SOUTHBOUND LANES TO REMAIN OPEN DURING PEAK HOURS.

3) MAINTAIN IH 43 EXIT AND ENTRANCE RAMP TRAFFIC DURING PEAK HOURS.

4) RAMP CLOSURE FROM IH 43 PERMITTED DURING NIGHTTIME WORK ONLY.

STAGE 4 CONSTRUCTION STAGING NOTES

1) PERFORM REMAINING STRUCTURE GIRDER PAINTING.

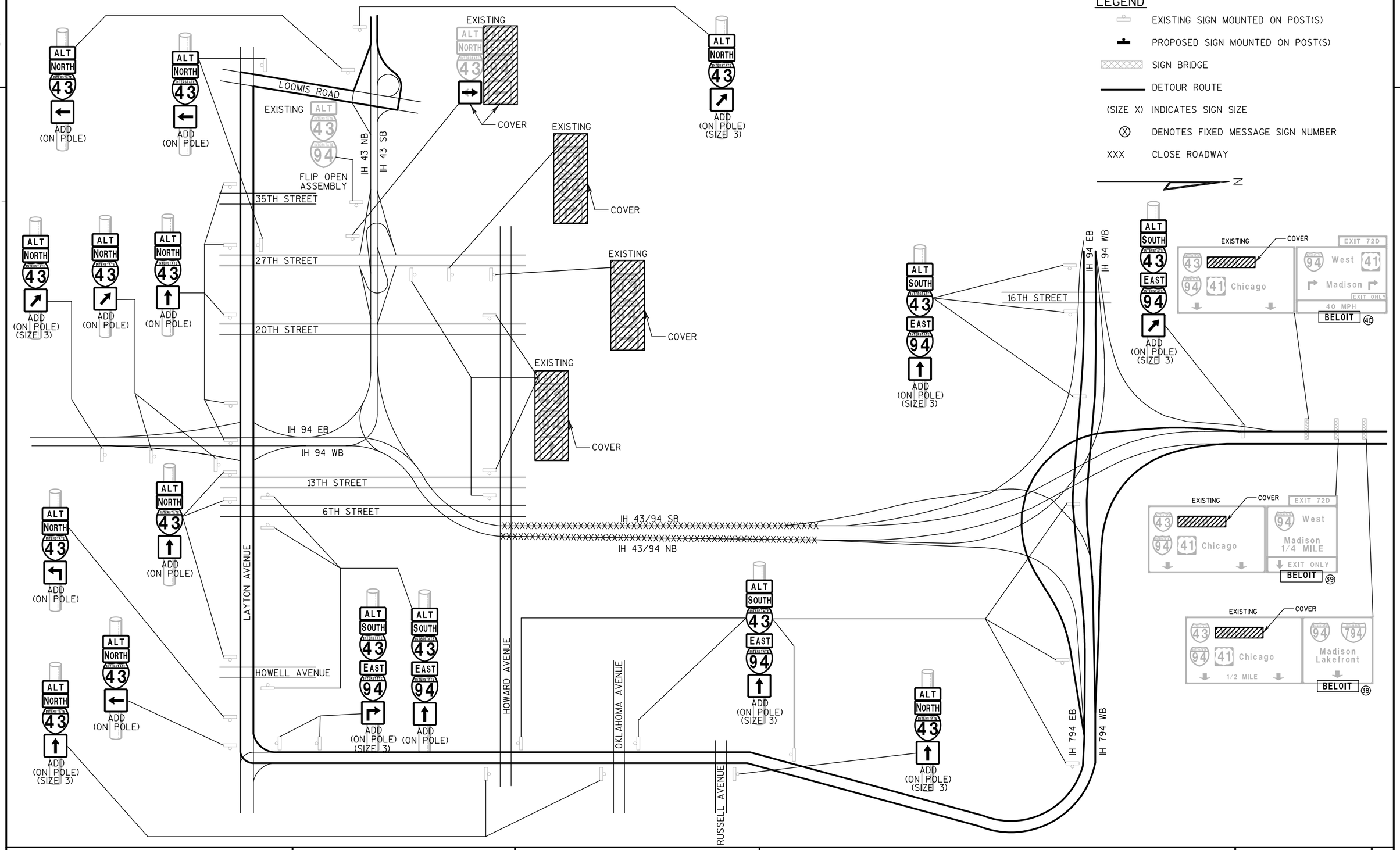
2) COMPLETE SIGN STRUCTURE REPLACEMENT WORK ON THE BECHER STREET SB EXIT RAMP AND NB EXIT RAMP FOR STRUCTURES S-40-92, S-40-94 AND S-40-95. TEMPORARY SINGLE LANE CLOSURES AND TEMPORARY NIGHT TIME RAMP CLOSURES REQUIRED.

3) COVER TEMPORARY PAVEMENT MARKINGS INSTALLED AT END OF STAGE 2A, 2B AND 3 WITH PERMANENT GROOVED PAVEMENT MARKINGS ALONG ALL RAMPS AND MAINLINE IH 43.

4) COMPLETE LAPHAM BOULEVARD SOUTHBOUND EXIT RAMP AND 6TH STREET PAVEMENT MARKINGS.

NOTE:

SEE STANDARD DETAIL DRAWING 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" AND "CONSTRUCTION DETAIL - ENTRANCE RAMP" FOR RAMP CLOSURES.


LEGEND
EXISTING SIGN MOUNTED ON POST(S)
PROPOSED SIGN MOUNTED ON POST(S)
SIGN BRIDGE
DETOUR ROUTE
(SIZE X) INDICATES SIGN SIZE
(X) DENOTES FIXED MESSAGE SIGN NUMBER
XXX CLOSE ROADWAY
N
LOOMIS ROAD
IH 43 NB
IH 43 SB
35TH STREET
27TH STREET
20TH STREET
IH 94 EB
IH 94 WB
13TH STREET
6TH STREET
IH 43/94 SB
IH 43/94 NB
LAYTON AVENUE
HOWELL AVENUE
HOWARD AVENUE
OKLAHOMA AVENUE
RUSSELL AVENUE
IH 794 EB
IH 794 WB
16TH STREET
EXISTING
COVER
FLIP OPEN ASSEMBLY
ADD (ON POLE)
ADD (ON POLE) (SIZE 3)
EXIT 72D
West
Madison
EXIT ONLY
40 MPH
BELOIT
Chicago
1/4 MILE
1/2 MILE
Madison Lakefront

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

N

COVER

EXISTING TO EAST INTERSTATE 94

INTERSTATE 794 WEST
RAMP TO
INTERSTATE 43 INTERSTATE 94 SOUTH
CLOSED
USE ALT ROUTE

(33) (34)

2ND STREET

PLANKINTON AVENUE

MILWAUKEE RIVER

WATER STREET

BROADWAY STREET

MILWAUKEE STREET

JEFFERSON STREET

JACKSON STREET

VAN BUREN STREET

ADD ALT SOUTH INTERSTATE 43 EAST INTERSTATE 94 ←

ADD ALT SOUTH INTERSTATE 43 EAST INTERSTATE 94 ↰

ADD ALT SOUTH INTERSTATE 43 EAST INTERSTATE 94 →

ADD ALT SOUTH INTERSTATE 43 EAST INTERSTATE 94 ↑

LINCOLN MEMORIAL DRIVE

CLYBOURN STREET

ADD ALT SOUTH INTERSTATE 43 EAST INTERSTATE 94 ↑

IH 794 WB

IH 794 EB

ST PAUL AVENUE

COVER

EXISTING

(35) (36) (37)

INTERSTATE 794 WEST
RAMP TO
INTERSTATE 43 INTERSTATE 94 SOUTH
CLOSED
USE ALT ROUTE

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - IH 43 & 94 SIGNED ALTERNATE ROUTE	SHEET 246	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

EXISTING
NORTH WEST
INTERSTATE 43 INTERSTATE 94
41
COVER

EXISTING
NORTH WEST
INTERSTATE 43 INTERSTATE 94
41
COVER

TO 38
Holt Ave
WEST EAST
H
EXISTING

ADD
DETOUR
NORTH
INTERSTATE 43
WEST
INTERSTATE 94
ADD

IH 43/94 SB
IH 43/94 NB

4TH STREET

DETOUR AHEAD
TO NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD
(SIZE 3)

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD
(SIZE 3)

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

ADD
DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

HOWARD AVENUE

CHASE AVENUE/STH 38

1ST STREET

HOLT AVENUE

LINCOLN AVENUE

BECHER STREET

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

NORTH WEST
INTERSTATE 43 INTERSTATE 94
41
END DETOUR
ADD

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - HOWARD AVE/HOLT AVE NB ENT RAMP STAGE 1	SHEET 247	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

N

ADD
DETOUR AHEAD
TO
National Ave
H-D Museum
(SIZE 3)

EXISTING
Becher-Mitchell 3/4
National Ave
INTERSTATE 794
3
ADD
RAMP CLOSED
⑮

EXISTING
EXIT 311
59
National Ave
3/4 Mile
RAMP CLOSED
ADD
⑯

EXISTING
Harley-Davidson Museum
COVER

EXISTING
National Ave
INTERSTATE 794
East 1
ADD
RAMP CLOSED
⑰

EXISTING
EXIT 311
59
National Ave
⑱ RAMP CLOSED
ADD

EXISTING
EXIT 311
59
COVER

9TH STREET
6TH STREET
5TH STREET
4TH STREET
LINCOLN AVENUE
IH 43/94 SB
IH 43/94 NB
BARAGA STREET
POLCYN STREET
BECHER STREET
LAPHAM BOULEVARD
GREENFIELD AVENUE
MINERAL STREET
NATIONAL AVENUE

ADD
DETOUR
TO
National Ave
H-D Museum
(SIZE 3)

ADD
DETOUR
TO
National Ave
H-D Museum

EXISTING
4th Street
SPEED LIMIT 30

ADD
DETOUR
TO
National Ave
H-D Museum

ADD
DETOUR
TO
National Ave
H-D Museum

ADD
DETOUR
TO
National Ave
H-D Museum

EXISTING
JCT
59
DETOUR
TO
National Ave
H-D Museum
ADD

EXISTING
TO
INTERSTATE 43
INTERSTATE 94
H-D Museum
ADD

EXISTING
WEST
59
END DETOUR
National Ave
DETOUR
TO
H-D Museum
ADD

⑰ DETOUR
NATIONAL AVE
H-D MUSEUM

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

N

EXISTING
Exit 311
59
National
6 th Street
EXIT ONLY
RAMP CLOSED
ADD (22)

COVER
EXISTING
RAMP CLOSED
EXIT ONLY
1/2 MILE

EXISTING
NORTH
38
SPEED LIMIT
30
DETOUR TO
National Ave
H-D Museum
ADD

9TH STREET

ADD
DETOUR AHEAD
TO
National Ave
H-D Museum
(SIZE 3)

EXISTING
Harley-Davidson Museum
COVER

EXISTING
Exit 311
59
National
6 th Street
EXIT ONLY
RAMP CLOSED
ADD (23)

EXISTING
National-6 RAMP CLOSED
Lapham-Mitchell 1
Becher-Lincoln 1/4
ADD (24)

6TH STREET

ADD
DETOUR TO
National Ave
H-D Museum

DETOUR TO ADD
National Ave
H-D Museum

BARAGA STREET

5TH STREET

IH 43/94 SB

IH 43/94 NB

4TH STREET

LAPHAM BOULEVARD

GREENFIELD AVENUE

EXISTING
Mitchell St
Lapham Boulevard
East West

DETOUR TO
ADD National Ave

DETOUR TO
National Ave
ADD
(SIZE 3)

POLCYN STREET

DETOUR
NATIONAL AVE
(46)

MINERAL STREET

EXISTING
NORTH WEST
43 94
41

END DETOUR
H-D Museum
ADD

NATIONAL AVENUE

DETOUR TO
National Ave
ADD
(SIZE 3)

EXISTING
Exit 311
59
National
6 th Street
1/2 Mile
RAMP CLOSED
ADD (25)

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - NATIONAL AVE/6TH ST SB EXIT RAMP STAGE 2B	SHEET 249	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

N

DETOUR ADD TO Holt Ave H Park & Ride Alverno College ←
ADD (TO EXISTING POLE)

DETOUR ADD TO Holt Ave H Park & Ride Alverno College →
ADD (TO EXISTING POLE)

END DETOUR ADD Holt Ave TO Park & Ride H Alverno College ←
ADD (TO EXISTING POLE)

DETOUR ADD Holt Ave ↑
ADD (TO EXISTING POLE)

DETOUR ADD Holt Ave ↱
ADD (TO EXISTING POLE)

ADD DETOUR Holt Ave ↰

ADD DETOUR TO Holt Ave ↗ (SIZE 3)

ADD DETOUR TO Holt Ave ↱ (SIZE 3)

ADD DETOUR TO Holt Ave ↑ (SIZE 3)

ADD DETOUR AHEAD TO Holt Ave (SIZE 3)

EXISTING Holt Ave Howard Ave 894 RAMP CLOSED ADD 27

EXISTING EXIT 314A Holt Ave RAMP CLOSED ADD 26

EXISTING EXIT 314A Holt Ave 1 MILE

EXISTING Hospital Exit 314B COVER

EXISTING COVER

EXISTING Park & Ride

EXISTING Alverno College Exit 314B COVER

CRASH INVESTIGATION SITE EXIT 314-B COVER

6TH STREET

MORGAN AVENUE

HOWARD AVENUE

HOLT AVENUE

OKLAHOMA AVENUE

ROSEDALE

IH 43/94 SB

IH 43/94 NB

PROJECT NO:1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - HOLT AVE SB EXIT RAMP STAGE 1	SHEET 250	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\027006_dt.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 3000.0007 sf / in.

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- Ⓧ DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

N

ADD
DETOUR AHEAD
TO NORTH INTERSTATE 43 WEST INTERSTATE 94

ADD DETOUR NORTH WEST INTERSTATE 43 94 41 ←
EXISTING
COVER

ADD DETOUR NORTH WEST INTERSTATE 43 94 41 ↑
EXISTING
COVER

EXISTING 59 ← Casino
DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 →
ADD

IH 94 EB
IH 94 WB
IH 43 SB
IH 43 NB
IH 43/94 SB
IH 43/94 NB

EXISTING NORTH WEST INTERSTATE 43 94 41 ↑
COVER
ADD

ADD SOUTH 38 ↱
DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ↰
EXISTING

EXISTING ← Casino
DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ↑
ADD

EXISTING WEST INTERSTATE 94 ↑
END DETOUR
ADD

6TH STREET

ADD DETOUR NORTH WEST INTERSTATE 43 94 41 →
COVER
EXISTING

MINERAL STREET

EXISTING
COVER

ADD SOUTH 38 DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ←
EXISTING

ADD DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ↑

NATIONAL AVENUE

EXISTING ↑ Casino
DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ↑
ADD

ADD DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ↑

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ↗
ADD
(ON LIGHT POLE)

ADD DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ↰

ADD DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94 ←

CLYBOURN STREET

EXISTING NORTH 145 TO INTERSTATE 43 TO INTERSTATE 94 ↑
END DETOUR
ADD

KILBOURN AVENUE

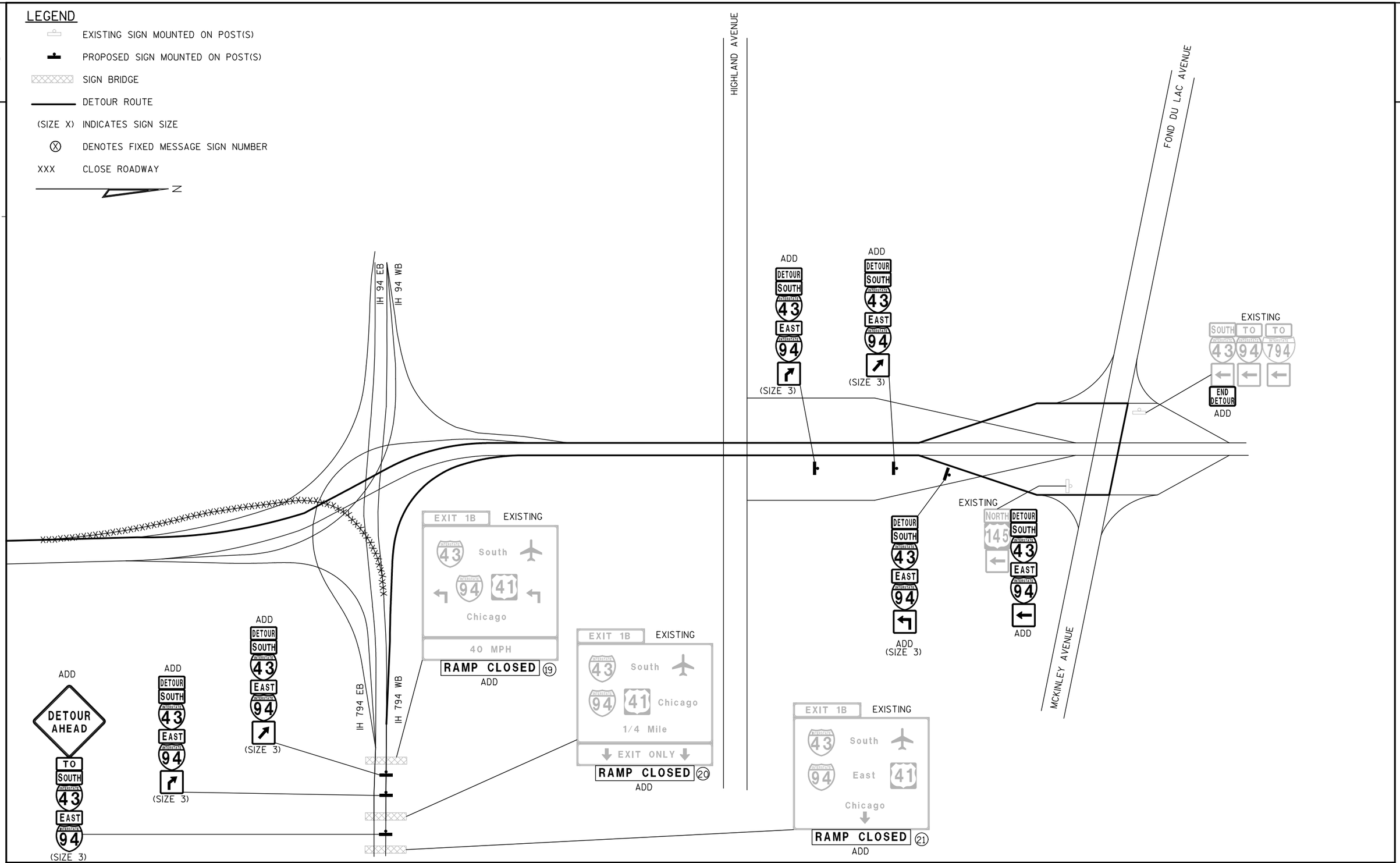
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - MINERAL ST/WALKER ST NB ENT RAMP STAGE 1-2A	SHEET 251	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\027007_dt.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 3000.0007 sf / in.

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- Ⓧ DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY
- N

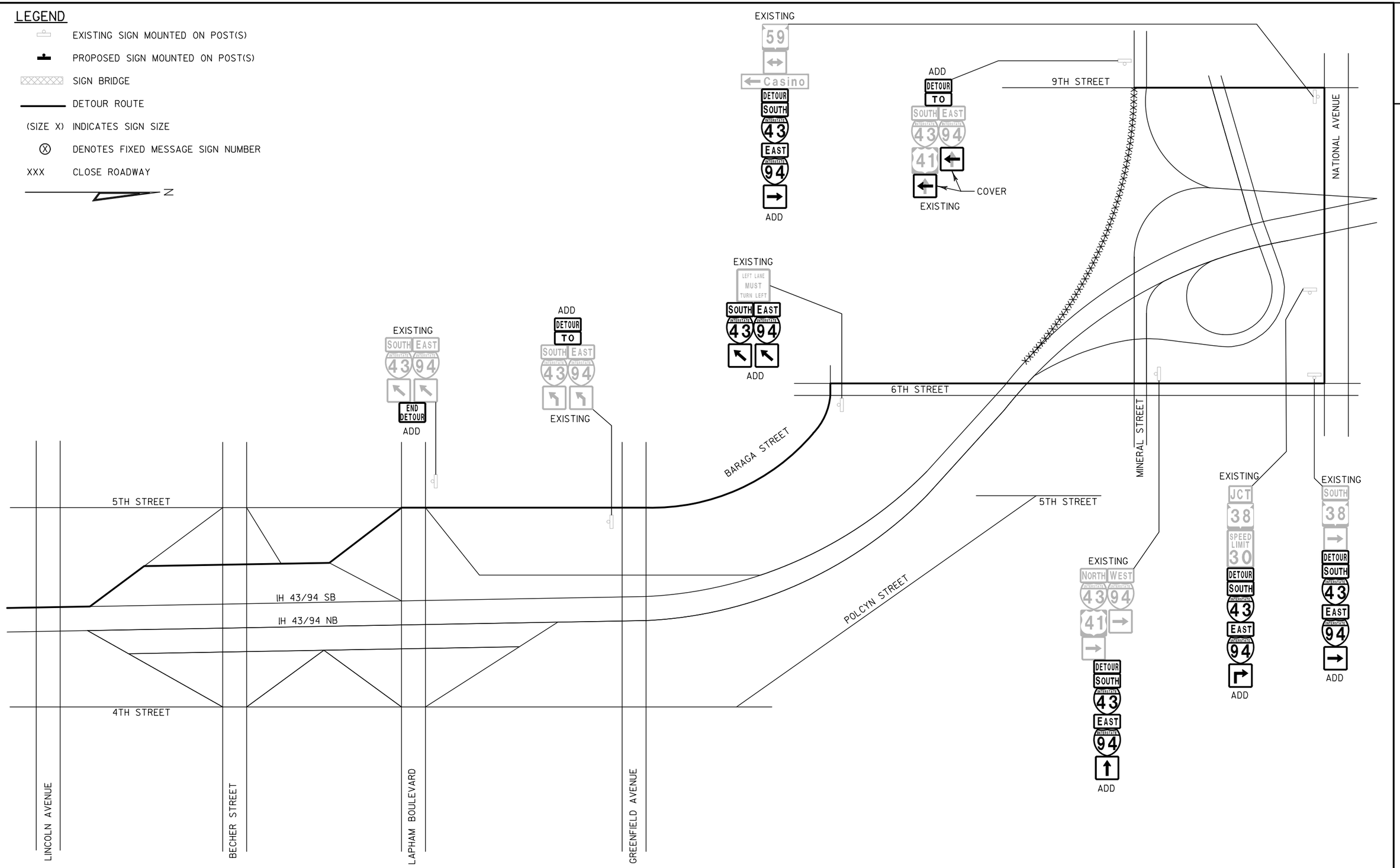


PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - EAST-SOUTH SYSTEM RAMP STAGE 2B-3	SHEET 252	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY
- N



PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - MINERAL ST SB ENT RAMP STAGE 2B-3	SHEET 253	E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\027009_dt.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 3000.0007 sf / in.

WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY
- N

6TH STREET

HOWARD AVENUE

IH 43/94 SB

IH 43/94 NB

DETOUR AHEAD
TO NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD (SIZE 3)

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD (SIZE 3)

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

HOLT AVENUE

END DETOUR
ADD

3RD STREET

CHASE AVENUE

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

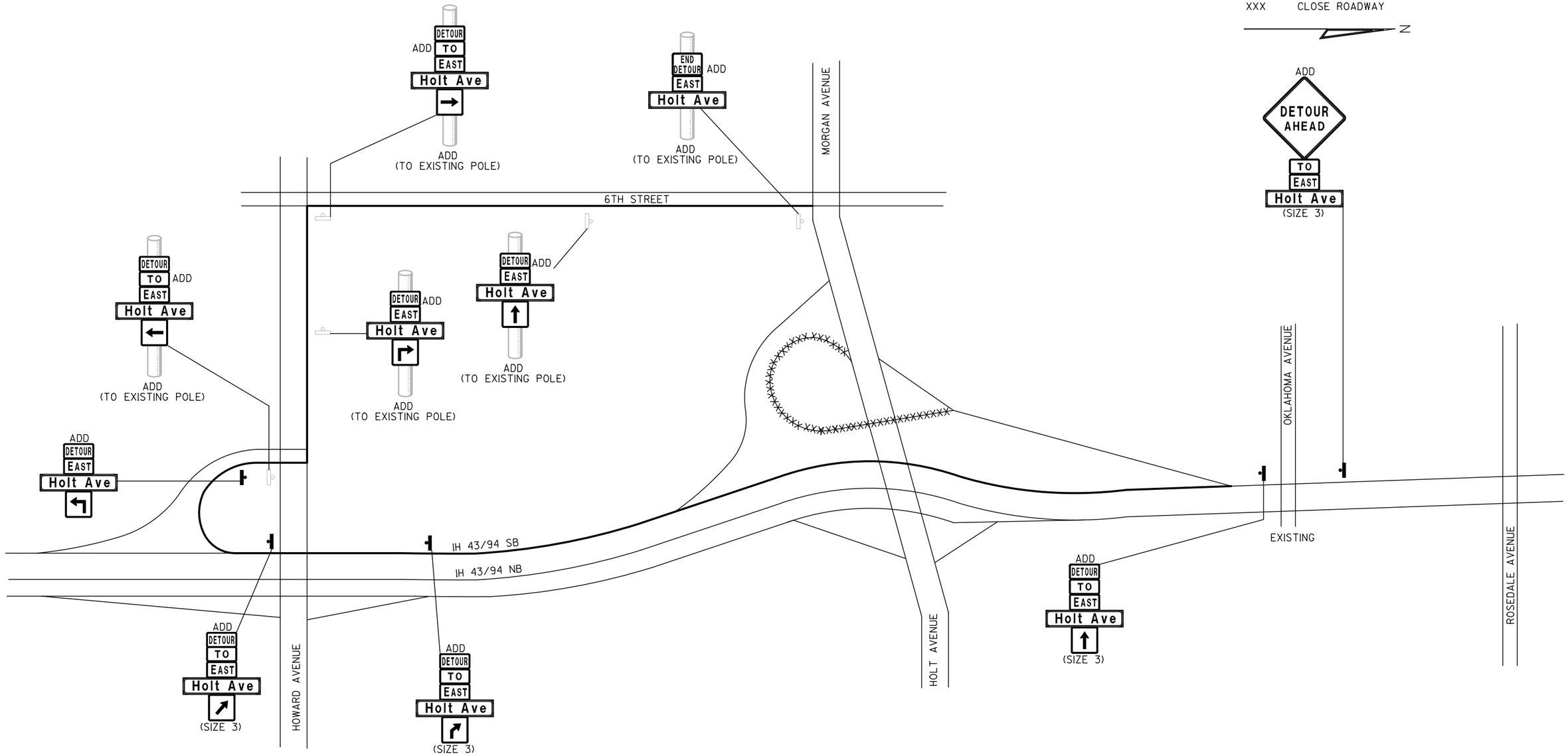
DETOUR NORTH INTERSTATE 43 WEST INTERSTATE 94
ADD

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - HOWARD AVE NB ENT RAMP STAGE 2A	SHEET 254	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY
- N



PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - EASTBOUND HOLT AVE SB EXIT RAMP STAGE 2A	SHEET 255	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

N

6TH STREET

5TH COURT

IH 43/94 SB

IH 43/94 NB

OKLAHOMA AVENUE

ROSEDALE AVENUE

CHASE AVENUE

DETOUR AHEAD
ADD

DETOUR EAST
Rosedale Ave
ADD (TO POLE)

DETOUR WEST
Rosedale Ave
ADD (TO POLE)

DETOUR EAST
Rosedale Ave
ADD (TO POLE)

NO OUTLET
ADD

END DETOUR
ADD (TO POLE)

13' 6"
EXISTING

DETOUR TO EAST
Rosedale Ave
ADD (TO POLE)

EXISTING
AHEAD
DETOUR WEST
Rosedale Ave
ADD (TO POLE)

DETOUR EAST
Rosedale Ave
ADD (TO POLE)

DETOUR WEST
Rosedale Ave
ADD (TO POLE)

LEFT TURN LANE
EXISTING
DETOUR WEST
Rosedale Ave
ADD (TO POLE)

DETOUR EAST
Rosedale Ave
ADD (TO POLE)

DETOUR EAST
Rosedale Ave
ADD (TO POLE)

DETOUR WEST
Rosedale Ave
ADD (TO POLE)

END DETOUR
ADD (TO POLE)

ADD
NO OUTLET

ADD
DETOUR AHEAD

SPEED LIMIT 30
NO PARKING ON THIS SIDE
EXISTING
DETOUR TO WEST
Rosedale Ave
ADD (TO POLE)

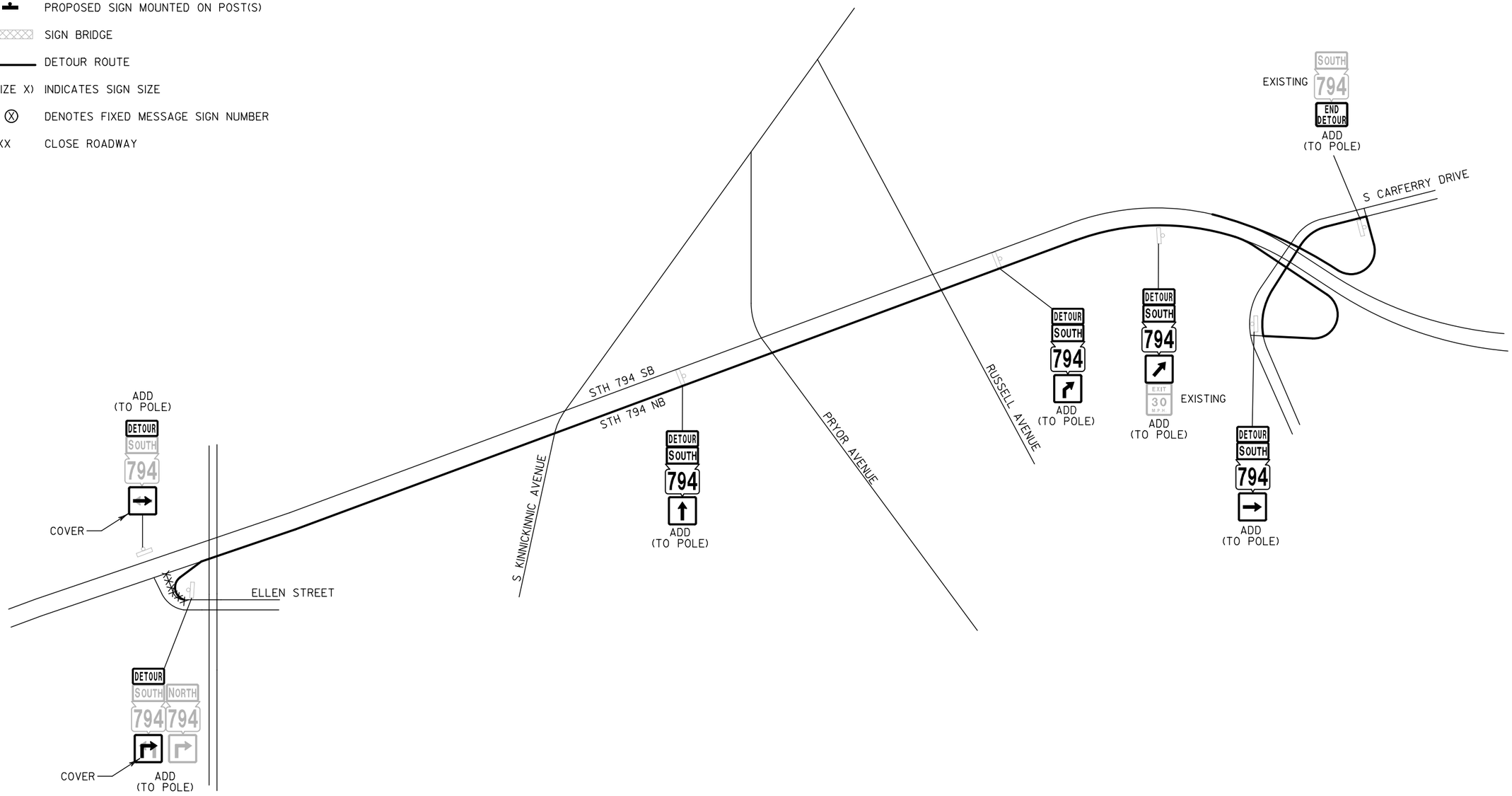
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - ROSEDALE AVE STAGE 4	SHEET 256	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- Ⓧ DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

N



PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - ELLEN STREET TO SB STH 794 STAGE 1-2A	SHEET 257	E

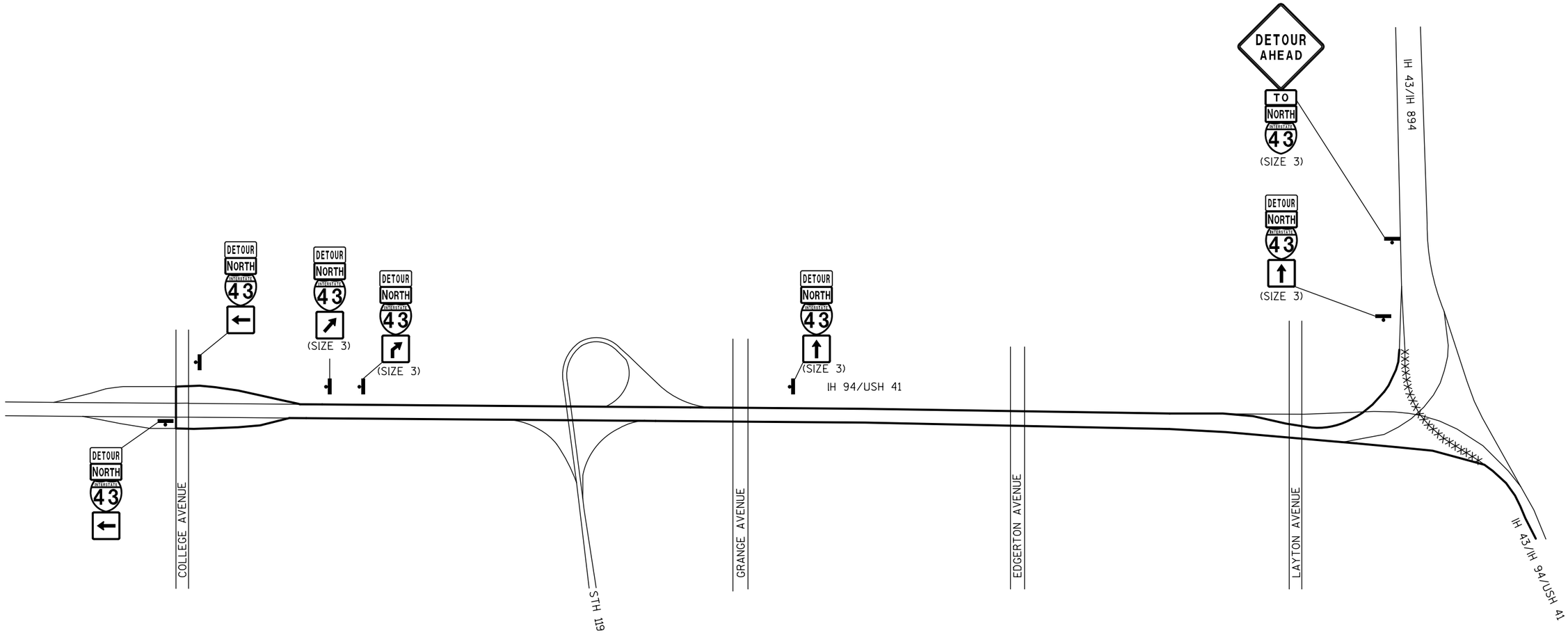
2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY

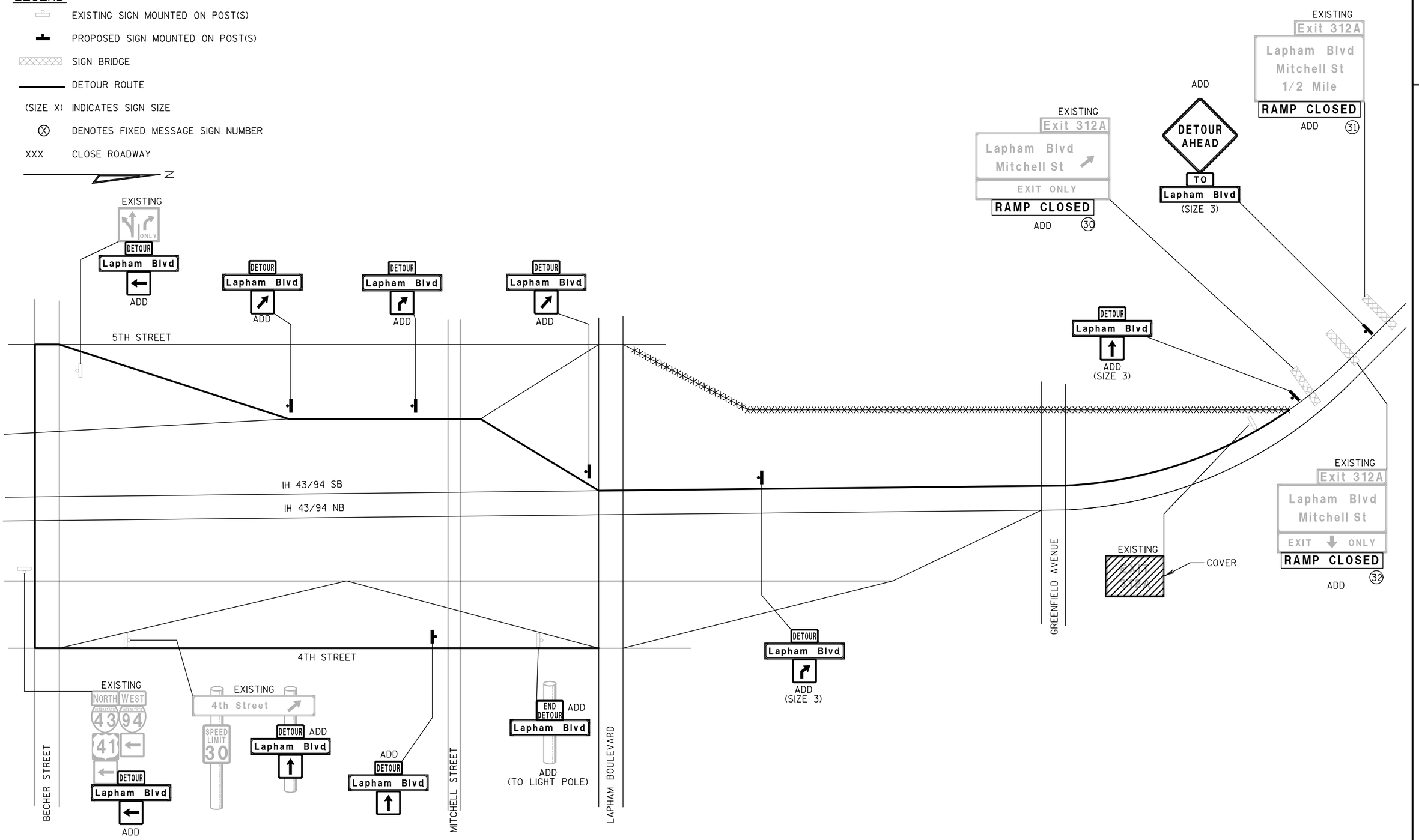
N



PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - WN RAMP STAGE 3	SHEET 258	E

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- SIGN BRIDGE
- DETOUR ROUTE
- (SIZE X) INDICATES SIGN SIZE
- (X) DENOTES FIXED MESSAGE SIGN NUMBER
- XXX CLOSE ROADWAY



PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	DETOUR PLAN - LAPHAM BLVD SB EXIT RAMP STAGE 2B	SHEET 259 E

DATE 15NOV12 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	1228-26-70 QUANTITY
0010	108.4400	CPM PROGRESS SCHEDULE	EACH	1.000	1.000
0020	201.0105	CLEARING	STA	50.000	50.000
0030	201.0120	CLEARING	ID	4.000	4.000
0040	201.0205	GRUBBING	STA	50.000	50.000
0050	201.0220	GRUBBING	ID	4.000	4.000
0060	203.0200	REMOVING OLD STRUCTURE (STATION) 01. 96+98.03	LS	1.000	1.000
0070	203.0200	REMOVING OLD STRUCTURE (STATION) 02. 46+18.88	LS	1.000	1.000
0080	203.0200	REMOVING OLD STRUCTURE (STATION) 03. 9+71 MN-S	LS	1.000	1.000
0090	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 01. B-40-260	LS	1.000	1.000
0100	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL (STRUCTURE) 02. B-40-263	LS	1.000	1.000
0110	204.0100	REMOVING PAVEMENT	SY	36,091.000	36,091.000
0120	204.0125	REMOVING ASPHALTIC SURFACE MILLING	TON	38,595.000	38,595.000
0130	204.0157	REMOVING CONCRETE BARRIER	LF	4,172.000	4,172.000
0140	204.0165	REMOVING GUARDRAIL	LF	200.000	200.000
0150	204.0170	REMOVING FENCE	LF	2,000.000	2,000.000
0160	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	500.000	500.000
0170	204.9090.S	REMOVING (ITEM DESCRIPTION) 01. NOISE BARRIER	LF	2,544.000	2,544.000
0180	204.9090.S	REMOVING (ITEM DESCRIPTION) 02. MODULAR WALL	LF	320.000	320.000
0190	205.0100	EXCAVATION COMMON	CY	2,751.000	2,751.000
0200	213.0100	FINISHING ROADWAY (PROJECT) 01. 1228-26-70	EACH	1.000	1.000
0210	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	10,535.000	10,535.000
0220	311.0110	BREAKER RUN	TON	528.000	528.000
0230	390.0303	BASE PATCHING CONCRETE	SY	24,359.000	24,359.000
0240	415.0090	CONCRETE PAVEMENT 9-INCH	SY	23,518.000	23,518.000
0250	415.0120	CONCRETE PAVEMENT 12-INCH	SY	681.000	681.000
0260	415.0410	CONCRETE PAVEMENT APPROACH SLAB	SY	2,068.000	2,068.000
0270	416.0610	DRILLED TIE BARS	EACH	24,993.000	24,993.000
0280	416.0620	DRILLED DOWEL BARS	EACH	40,004.000	40,004.000
0290	440.4410.S	INCENTIVE IRI RIDE	DOL	34,848.000	34,848.000
0300	455.0115	ASPHALTIC MATERIAL PG64-22	TON	1,182.800	1,182.800
0310	455.0140	ASPHALTIC MATERIAL PG64-28P	TON	982.400	982.400
0320	455.0605	TACK COAT	GAL	7,895.000	7,895.000
0330	460.1110	HMA PAVEMENT TYPE E-10	TON	39,211.000	39,211.000
0340	460.2000	INCENTIVE DENSITY HMA PAVEMENT	DOL	25,100.000	25,100.000
0350	502.0100	CONCRETE MASONRY BRIDGES	CY	554.800	554.800
0360	502.2000	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC (WIDTH) 01. 2.5 INCH	LF	62.000	62.000
0370	502.3200	PROTECTIVE SURFACE TREATMENT	SY	82,847.000	82,847.000
0380	502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EACH	560.000	560.000
0390	502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	828.000	828.000
0400	502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	2.000	2.000
0410	502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EACH	328.000	328.000
0420	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	218,040.000	218,040.000
0430	505.0904	BAR COUPLERS NO. 4	EACH	68.000	68.000
0440	505.0905	BAR COUPLERS NO. 5	EACH	473.000	473.000
0450	505.0906	BAR COUPLERS NO. 6	EACH	303.000	303.000

3

DATE 15NOV12 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	1228-26-70 QUANTITY
0460	505.0907	BAR COUPLERS NO. 7	EACH	24.000	24.000
0470	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	76.000	76.000
0480	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	32.000	32.000
0490	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-40-260	EACH	22.000	22.000
0500	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 02. B-40-263	EACH	26.000	26.000
0510	506.7050.S	REMOVING BEARINGS (STRUCTURE) 01. B-40-261	EACH	16.000	16.000
0520	506.7050.S	REMOVING BEARINGS (STRUCTURE) 02. B-40-262	EACH	16.000	16.000
0530	509.0301	PREPARATION DECKS TYPE 1	SY	519.000	519.000
0540	509.0302	PREPARATION DECKS TYPE 2	SY	262.000	262.000
0550	509.0500	CLEANING DECKS	SY	76,417.000	76,417.000
0560	509.1000	JOINT REPAIR	SY	1,476.000	1,476.000
0570	509.1500	CONCRETE SURFACE REPAIR	SF	2,343.000	2,343.000
0580	509.2000	FULL-DEPTH DECK REPAIR	SY	33.000	33.000
0590	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	4,504.000	4,504.000
0600	509.5100.S	POLYMER OVERLAY	SY	4,080.000	4,080.000
0610	509.9020.S	EPOXY CRACK SEALING	LF	281.000	281.000
0620	514.0900	ADJUSTING FLOOR DRAINS	EACH	63.000	63.000
0630	514.2625	DOWNSPOUT 6-INCH	LF	200.000	200.000
0640	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	54.000	54.000
0650	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 04. B-40-174	LS	1.000	1.000
0660	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 05. B-40-175	LS	1.000	1.000
0670	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 06. B-40-176	LS	1.000	1.000
0680	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 07. B-40-177	LS	1.000	1.000
0690	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 09. B-40-180	LS	1.000	1.000
0700	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 10. B-40-181	LS	1.000	1.000
0710	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 11. B-40-182	LS	1.000	1.000
0720	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 12. B-40-183	LS	1.000	1.000
0730	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 13. B-40-184	LS	1.000	1.000
0740	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 16. B-40-286-24C	LS	1.000	1.000
0750	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 17. B-40-286-24D	LS	1.000	1.000
0760	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 18. B-40-286-21	LS	1.000	1.000
0770	517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE (STRUCTURE) 19. B-40-286-26	LS	1.000	1.000
0780	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING (STRUCTURE) 01. B-40-183	LS	1.000	1.000
0790	517.3000.S	STRUCTURE OVERCOATING CLEANING AND PRIMING (STRUCTURE) 02. B-40-184	LS	1.000	1.000
0800	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 04. B-40-174	LS	1.000	1.000

3

DATE 15NOV12 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	1228-26-70 QUANTITY
0810	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 05. B-40-175	LS	1.000	1.000
0820	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 06. B-40-176	LS	1.000	1.000
0830	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 07. B-40-177	LS	1.000	1.000
0840	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 09. B-40-180	LS	1.000	1.000
0850	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 10. B-40-181	LS	1.000	1.000
0860	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 11. B-40-182	LS	1.000	1.000
0870	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 12. B-40-183	LS	1.000	1.000
0880	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 13. B-40-184	LS	1.000	1.000
0890	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 16. B-40-286-24C	LS	1.000	1.000
0900	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 17. B-40-286-24D	LS	1.000	1.000
0910	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 18. B-40-286-21	LS	1.000	1.000
0920	517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 19. B-40-286-26	LS	1.000	1.000
0930	517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	13.000	13.000
0940	531.0300.S	NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE (STRUCTURE) 01. N-40-7	SF	47,570.000	47,570.000
0950	601.0331	CONCRETE CURB & GUTTER 31-INCH	LF	326.000	326.000
0960	601.0409	CONCRETE CURB & GUTTER 30-INCH TYPE A	LF	8,602.000	8,602.000
0970	601.0511	CONCRETE CURB AND GUTTER INTEGRAL 6-INCH SLOPED 36-INCH	LF	19,292.000	19,292.000
0980	603.0105	CONCRETE BARRIER SINGLE-FACED 32-INCH	LF	1,258.000	1,258.000
0990	603.1142	CONCRETE BARRIER TYPE S42	LF	4,427.000	4,427.000
1000	603.3213	CONCRETE BARRIER TRANSITION TYPE F32SF TO S36	EACH	11.000	11.000
1010	603.3255	CONCRETE BARRIER TRANSITION TYPE F42SF TO S42	EACH	3.000	3.000
1020	603.3535	CONCRETE BARRIER TRANSITION TYPE S36 TO S42	EACH	11.000	11.000
1030	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	11,892.000	11,892.000
1040	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	30,779.000	30,779.000
1050	604.0400	SLOPE PAVING CONCRETE	SY	500.000	500.000
1060	611.0410	RECONSTRUCTING CATCH BASINS	EACH	39.000	39.000
1070	611.0420	RECONSTRUCTING MANHOLES	EACH	19.000	19.000
1080	611.0430	RECONSTRUCTING INLETS	EACH	15.000	15.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1228-26-70 QUANTITY
1090	611.8105	ADJUSTING CATCH BASIN COVERS	EACH	70.000	70.000
1100	611.8110	ADJUSTING MANHOLE COVERS	EACH	34.000	34.000
1110	611.8115	ADJUSTING INLET COVERS	EACH	107.000	107.000
1120	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	226.000	226.000
1130	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2.000	2.000
1140	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	1,352.000	1,352.000
1150	614.0305	STEEL PLATE BEAM GUARD CLASS A	LF	163.000	163.000
1160	614.0700	SAND BARRELS ARRAYS	EACH	1.000	1.000
1170	614.0800	CRASH CUSHIONS PERMANENT	EACH	3.000	3.000
1180	614.0905	CRASH CUSHIONS TEMPORARY	EACH	18.000	18.000
1190	614.0935	SALVAGED SAND BARRELS	EACH	49.000	49.000
1200	614.2300	MGS GUARDRAIL 3	LF	6,834.000	6,834.000
1210	614.2500	MGS THRIE BEAM TRANSITION	LF	128.000	128.000
1220	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	19.000	19.000
1230	614.2620	MGS GUARDRAIL TERMINAL TYPE 2	EACH	3.000	3.000
1240	616.0700.S	FENCE SAFETY	LF	1,040.000	1,040.000
1250	619.1000	MOBILIZATION	EACH	1.000	1.000
1260	625.0500	SALVAGED TOPSOIL	SY	7,326.000	7,326.000
1270	628.1504	SILT FENCE	LF	3,170.000	3,170.000
1280	628.1520	SILT FENCE MAINTENANCE	LF	3,170.000	3,170.000
1290	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	14.000	14.000
1300	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	6.000	6.000
1310	628.2023	EROSION MAT CLASS II TYPE B	SY	7,326.000	7,326.000
1320	628.7010	INLET PROTECTION TYPE B	EACH	301.000	301.000
1330	628.7020	INLET PROTECTION TYPE D	EACH	67.000	67.000
1340	629.0210	FERTILIZER TYPE B	CWT	6.000	6.000
1350	630.0130	SEEDING MIXTURE NO. 30	LB	132.000	132.000
1360	630.0200	SEEDING TEMPORARY	LB	198.000	198.000
1370	633.1100	DELINEATORS TEMPORARY	EACH	2,334.000	2,334.000
1380	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	230.000	230.000
1390	634.0885	POSTS TUBULAR STEEL 2X2-INCH X 8.5-FT	EACH	12.000	12.000
1400	635.0200	SIGN SUPPORTS STRUCTURAL STEEL HS	LB	1,000.000	1,000.000
1410	635.0300	SIGN SUPPORTS REPLACING BASE CONNECTION BOLTS	EACH	36.000	36.000
1420	636.0100	SIGN SUPPORTS CONCRETE MASONRY	CY	5.000	5.000
1430	636.0500	SIGN SUPPORTS STEEL REINFORCEMENT	LB	500.000	500.000
1440	637.0101	SIGNS TYPE I	SF	5,177.000	5,177.000
1450	637.0202	SIGNS REFLECTIVE TYPE II	SF	5,082.447	5,082.447
1460	638.2102	MOVING SIGNS TYPE II	EACH	2.000	2.000
1470	638.2601	REMOVING SIGNS TYPE I	EACH	54.000	54.000
1480	638.2602	REMOVING SIGNS TYPE II	EACH	360.000	360.000
1490	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	194.000	194.000
1500	638.3100	REMOVING STRUCTURAL STEEL SIGN SUPPORTS	EACH	2.000	2.000
1510	638.3620	ERECTING STATE OWNED SIGNS TYPE II	EACH	40.000	40.000
1520	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 01. S-40-977	LS	1.000	1.000
1530	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 02. S-40-978	LS	1.000	1.000
1540	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 03. S-40-979	LS	1.000	1.000
1550	642.5201	FIELD OFFICE TYPE C	EACH	1.000	1.000
1560	643.0100	TRAFFIC CONTROL (PROJECT) 01. 1228-26-70	EACH	1.000	1.000
1570	643.0300	TRAFFIC CONTROL DRUMS	DAY	141,428.000	141,428.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1228-26-70 QUANTITY
1580	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	16,523.000	16,523.000
1590	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	33.000	33.000
1600	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	33.000	33.000
1610	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	10,067.000	10,067.000
1620	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	25,881.000	25,881.000
1630	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	1,906.000	1,906.000
1640	643.0900	TRAFFIC CONTROL SIGNS	DAY	34,746.000	34,746.000
1650	643.0910	TRAFFIC CONTROL COVERING SIGNS TYPE I	EACH	17.000	17.000
1660	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	49.000	49.000
1670	643.1000	TRAFFIC CONTROL SIGNS FIXED MESSAGE	SF	2,314.000	2,314.000
1680	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	2,720.000	2,720.000
1690	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1228-26-70	EACH	1.000	1.000
1700	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	76,127.000	76,127.000
1710	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	149,747.000	149,747.000
1720	646.0600	REMOVING PAVEMENT MARKINGS	LF	39,465.000	39,465.000
1730	646.0841.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH	LF	24,175.000	24,175.000
1740	646.0843.S	PAVEMENT MARKING GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH	LF	23,948.000	23,948.000
1750	647.0158	PAVEMENT MARKING ARROWS PREFORMED THERMOPLASTIC TYPE 1	EACH	8.000	8.000
1760	647.0168	PAVEMENT MARKING ARROWS PREFORMED THERMOPLASTIC TYPE 2	EACH	12.000	12.000
1770	647.0178	PAVEMENT MARKING ARROWS PREFORMED THERMOPLASTIC TYPE 3	EACH	11.000	11.000
1780	647.0188	PAVEMENT MARKING ARROWS PREFORMED THERMOPLASTIC TYPE 4	EACH	16.000	16.000
1790	647.0258	PAVEMENT MARKING SYMBOLS PREFORMED THERMOPLASTIC	EACH	4.000	4.000
1800	647.0568	PAVEMENT MARKING STOP LINE PREFORMED THERMOPLASTIC 18-INCH	LF	571.000	571.000
1810	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	5,788.000	5,788.000
1820	647.0746	PAVEMENT MARKING DIAGONAL EPOXY 24-INCH	LF	2,263.000	2,263.000
1830	647.0768	PAVEMENT MARKING CROSSWALK PREFORMED THERMOPLASTIC 6-INCH	LF	860.000	860.000
1840	647.0955	REMOVING PAVEMENT MARKINGS ARROWS	EACH	4.000	4.000
1850	647.0960	REMOVING PAVEMENT MARKINGS SYMBOLS	EACH	5.000	5.000
1860	647.0965	REMOVING PAVEMENT MARKINGS WORDS	EACH	3.000	3.000
1870	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	119,784.000	119,784.000
1880	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	106,256.000	106,256.000
1890	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	375.000	375.000
1900	649.1500	TEMPORARY PAVEMENT MARKING DIAGONAL 12-INCH	LF	214.000	214.000
1910	649.1800	TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE	EACH	6.000	6.000
1920	649.2100	TEMPORARY RAISED PAVEMENT MARKERS	EACH	753.000	753.000
1930	652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	290.000	290.000
1940	652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	385.000	385.000
1950	652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	62.000	62.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1228-26-70 QUANTITY
1960	652.0335	CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH	LF	31.000	31.000
1970	652.0340	CONDUIT RIGID NONMETALLIC SCHEDULE 80 4-INCH	LF	31.000	31.000
1980	653.0220	JUNCTION BOXES 18X6X6-INCH	EACH	6.000	6.000
1990	655.0128	CABLE IN DUCT 3-8 AWG	LF	675.000	675.000
2000	657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EACH	2.000	2.000
2010	670.0100	FIELD SYSTEM INTEGRATOR	LS	1.000	1.000
2020	670.0200	ITS DOCUMENTATION	LS	1.000	1.000
2030	676.0100	SIGNAL ASSEMBLY RAMP CONTROL SIDEMOUNT	EACH	12.000	12.000
2040	676.0105	SIGNAL ASSEMBLY RAMP CONTROL OVERHEAD	EACH	2.000	2.000
2050	690.0250	SAWING CONCRETE	LF	150,301.000	150,301.000
2060	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR	HRS	6,000.000	6,000.000
2070	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	5,000.000	5,000.000
2080	SPV.0045	SPECIAL 01. TRUCK MOUNTED ATTENUATOR	DAY	132.000	132.000
2090	SPV.0045	SPECIAL 02. CONGESTION WARNING SYSTEM	DAY	180.000	180.000
2100	SPV.0045	SPECIAL 03. PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) CELLULAR COMMUNICATIONS	DAY	1,433.000	1,433.000
2110	SPV.0045	SPECIAL 04. DISINCENTIVE FOR INTERIM COMPLETION OF WORK STAGE 2B	DAY	0.010	0.010
2120	SPV.0045	SPECIAL 05. INCENTIVE FOR INTERIM COMPLETION OF WORK STAGE 2B	DAY	0.010	0.010
2130	SPV.0060	SPECIAL 01. CLEANING AND PAINTING BEARINGS	EACH	795.000	795.000
2140	SPV.0060	SPECIAL 02. HANGER ASSEMBLY	EACH	2.000	2.000
2150	SPV.0060	SPECIAL 03. REMOVE AND REINSTALL LIGHT POLE	EACH	2.000	2.000
2160	SPV.0060	SPECIAL 04. CONCRETE BARRIER TRANSITION SLOPED FACE PARAPET HF	EACH	1.000	1.000
2170	SPV.0060	SPECIAL 05. MOBILIZATIONS EMERGENCY PAVEMENT REPAIR	EACH	20.000	20.000
2180	SPV.0060	SPECIAL 06. FIRE HYDRANT SIGN MOUNTING	EACH	4.000	4.000
2190	SPV.0060	SPECIAL 07. TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP	EACH	22.000	22.000
2200	SPV.0060	SPECIAL 08. TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE	EACH	132.000	132.000
2210	SPV.0060	SPECIAL 09. PAVEMENT MARKING GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 5	EACH	2.000	2.000
2220	SPV.0060	SPECIAL 10. WIRELESS TRAFFIC SENSOR	EACH	32.000	32.000
2230	SPV.0060	SPECIAL 11. WIRELESS TRAFFIC SENSOR ACCESS POINT	EACH	7.000	7.000
2240	SPV.0060	SPECIAL 12. WIRELESS TRAFFIC SENSOR REPEATER	EACH	10.000	10.000
2250	SPV.0060	SPECIAL 13. WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE	EACH	4.000	4.000
2260	SPV.0060	SPECIAL 14. REMOVING RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT	EACH	12.000	12.000
2270	SPV.0060	SPECIAL 15. REMOVING RAMP CONTROL SIGNAL ASSEMBLY OVERHEAD	EACH	2.000	2.000
2280	SPV.0060	SPECIAL 16. REFOCUS MICROWAVE VEHICLE DETECTOR ASSEMBLY	EACH	10.000	10.000
2290	SPV.0060	SPECIAL 17. UTILITY LINE OPENING	EACH	4.000	4.000
2300	SPV.0070	SPECIAL 01. CORROSION INHIBITING PROTECTIVE COATING	GAL	941.000	941.000
2310	SPV.0075	SPECIAL 01. PAVEMENT CLEANUP	HRS	690.000	690.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1228-26-70 QUANTITY
2320	SPV.0090	SPECIAL 01. FENCE TEMPORARY	LF	1,600.000	1,600.000
2330	SPV.0090	SPECIAL 02. REMOVE PAVEMENT MARKING GROOVED TAPE	LF	14,501.000	14,501.000
2340	SPV.0105	SPECIAL 01. REMOVING SIGN BRIDGE S-40-92	LS	1.000	1.000
2350	SPV.0105	SPECIAL 02. REMOVING SIGN BRIDGE S-40-94	LS	1.000	1.000
2360	SPV.0105	SPECIAL 03. REMOVING SIGN BRIDGE S-40-95	LS	1.000	1.000
2370	SPV.0105	SPECIAL 04. INSTALL EXPANSION DEVICE B-40-175	LS	1.000	1.000
2380	SPV.0105	SPECIAL 05. INSTALL EXPANSION DEVICE B-40-176	LS	1.000	1.000
2390	SPV.0105	SPECIAL 06. INSTALL EXPANSION DEVICE B-40-183	LS	1.000	1.000
2400	SPV.0105	SPECIAL 07. INSTALL EXPANSION DEVICE B-40-184	LS	1.000	1.000
2410	SPV.0105	SPECIAL 08. INSTALL EXPANSION DEVICE B-40-261	LS	1.000	1.000
2420	SPV.0105	SPECIAL 09. INSTALL EXPANSION DEVICE B-40-262	LS	1.000	1.000
2430	SPV.0105	SPECIAL 10. INSTALL EXPANSION DEVICE B-40-285-22A	LS	1.000	1.000
2440	SPV.0105	SPECIAL 11. INSTALL EXPANSION DEVICE B-40-286-21	LS	1.000	1.000
2450	SPV.0105	SPECIAL 12. INSTALL EXPANSION DEVICE B-40-286-24A	LS	1.000	1.000
2460	SPV.0105	SPECIAL 13. INSTALL EXPANSION DEVICE B-40-286-24B	LS	1.000	1.000
2470	SPV.0105	SPECIAL 14. INSTALL EXPANSION DEVICE B-40-286-24C	LS	1.000	1.000
2480	SPV.0105	SPECIAL 15. INSTALL EXPANSION DEVICE B-40-286-24D	LS	1.000	1.000
2490	SPV.0105	SPECIAL 16. INSTALL EXPANSION DEVICE B-40-286-26	LS	1.000	1.000
2500	SPV.0105	SPECIAL 17. INSTALL MODULAR EXPANSION DEVICE B-40-175	LS	1.000	1.000
2510	SPV.0105	SPECIAL 18. INSTALL MODULAR EXPANSION DEVICE B-40-176	LS	1.000	1.000
2520	SPV.0105	SPECIAL 19. INSTALL MODULAR EXPANSION DEVICE B-40-184	LS	1.000	1.000
2530	SPV.0105	SPECIAL 20. INSTALL EXPANSION DEVICE MODULAR B-40-285-27C	LS	1.000	1.000
2540	SPV.0105	SPECIAL 21. INSTALL EXPANSION DEVICE MODULAR B-40-285-27D	LS	1.000	1.000
2550	SPV.0105	SPECIAL 22. INSTALL EXPANSION DEVICE MODULAR B-40-285-27E1	LS	1.000	1.000
2560	SPV.0105	SPECIAL 23. INSTALL EXPANSION DEVICE MODULAR B-40-285-27E2	LS	1.000	1.000
2570	SPV.0105	SPECIAL 24. INSTALL EXPANSION DEVICE MODULAR B-40-285-27F1	LS	1.000	1.000
2580	SPV.0105	SPECIAL 25. INSTALL EXPANSION DEVICE MODULAR B-40-285-27F2	LS	1.000	1.000
2590	SPV.0105	SPECIAL 26. INSTALL EXPANSION DEVICE B-40-285-22B	LS	1.000	1.000
2600	SPV.0105	SPECIAL 27. INSTALL EXPANSION DEVICE B-40-286-23A	LS	1.000	1.000
2610	SPV.0105	SPECIAL 28. INSTALL EXPANSION DEVICE B-40-285-23B	LS	1.000	1.000
2620	SPV.0105	SPECIAL 29. INSTALL EXPANSION DEVICE B-40-285-25A	LS	1.000	1.000

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LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1228-26-70 QUANTITY
2630	SPV.0105	SPECIAL 30. INSTALL EXPANSION DEVICE B-40-285-25B	LS	1.000	1.000
2640	SPV.0105	SPECIAL 31. INSTALL EXPANSION DEVICE B-40-285-25C	LS	1.000	1.000
2650	SPV.0105	SPECIAL 32. INSTALL EXPANSION DEVICE B-40-285-25D	LS	1.000	1.000
2660	SPV.0105	SPECIAL 33. INSTALL EXPANSION DEVICE B-40-285-27A	LS	1.000	1.000
2670	SPV.0105	SPECIAL 34. INSTALL EXPANSION DEVICE B-40-285-27B	LS	1.000	1.000
2680	SPV.0165	SPECIAL 01. CATHODIC PROTECTION	SF	1,760.000	1,760.000

INLET REPAIR LOCATIONS (NORTHBOUND)

STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7020 INLET PROTECTION TYPE D EACH
NORTHBOUND				
656+00	MED	-	1	-
661+41	MED	-	1	-
665+34	SHLDR	1	1	-
665+33	SHLDR	1	1	-
665+41	MED	-	1	-
669+32	SHLDR	1	1	-
669+42	MED	-	1	-
673+31	SHLDR	1	1	-
673+32	SHLDR	1	1	-
673+32	SHLDR	1	1	-
673+42	MED	-	1	-
675+98	MED	-	1	-
675+99	MED	-	1	-
191+19	SHLDR	1	-	1
191+59	SHLDR	1	-	1
191+59	SHLDR	1	-	1
191+65	MED	-	-	1
192+07	SHLDR	1	-	1
195+60	SHLDR	1	1	-
197+19	SHLDR	1	1	-
199+41	MED	-	1	-
199+70	SHLDR	1	1	-
199+90	RAMP	-	1	-
201+90	SHLDR	1	1	-
205+10	MED	-	1	-
205+10	MED	-	1	-
205+85	MED	-	1	-
205+92	MED	-	1	-
205+93	MED	-	1	-
205+93	SHLDR	1	1	-
209+88	MED	-	1	-
209+90	SHLDR	1	1	-
210+00	MED	1	1	-
212+04	MED	-	1	-
212+06	MED	-	1	-
213+61	MED	-	1	-
219+19	MED	-	1	-
221+58	MED	-	1	-
223+38	MED	-	1	-
227+62	MED	-	1	-
227+62	SHLDR	1	1	-
231+62	MED	-	-	1
231+62	SHLDR	1	-	1
234+77	SHLDR	1	1	-
234+78	MED	-	1	-
237+86	MED	-	1	-
237+92	SHLDR	1	1	-
241+07	SHLDR	1	1	-
241+17	MED	-	1	-
243+06	SHLDR	1	1	-
243+14	MED	-	1	-
245+06	MED	-	1	-
245+07	MED	-	1	-
245+21	SHLDR	1	1	-
248+75	MED	-	1	-
248+94	MED	-	1	-
249+47	MED	-	1	-
250+62	MED	-	1	-
252+60	MED	-	1	-
255+49	SHLDR	1	1	-
255+62	MED	-	1	-
257+25	SHLDR	1	1	-
257+27	MED	-	1	-
260+21	SHLDR	1	1	-
260+23	MED	-	1	-
262+02	MED	-	1	-
263+42	MED	-	1	-
263+42	SHLDR	1	1	-
265+60	SHLDR	1	1	-
271+34	SHLDR	1	1	-
278+52	MED	-	1	-
278+61	MED	-	1	-
280+00	MED	-	1	0
280+09	MED	-	1	-
281+60	SHLDR	1	1	-
284+13	MED	-	1	-
284+13	SHLDR	1	1	-
290+26	SHLDR	1	1	-
290+28	MED	-	1	-
293+44	SHLDR	1	1	-
293+46	MED	-	1	-
SUBTOTALS		34	74	7

STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7020 INLET PROTECTION TYPE D EACH
NORTHBOUND				
295+92	SHLDR	1	1	-
295+94	MED	-	1	-
296+66	SHLDR	1	1	-
296+68	MED	-	1	-
301+02	SHLDR	1	-	1
301+06	MED	-	-	1
301+36	MED	-	-	1
301+45	SHLDR	1	-	1
301+88	SHLDR	1	-	1
301+90	MED	-	-	1
304+15	SHLDR	1	1	-
304+16	MED	-	1	-
306+62	SHLDR	1	1	-
307+05	MED	-	1	-
307+12	MED	-	1	-
307+13	MED	-	1	-
314+04	MED	-	1	-
314+04	SHLDR	1	1	-
316+54	MED	-	1	-
316+54	SHLDR	1	1	-
320+02	MED	-	1	-
323+39	SHLDR	1	1	-
323+88	SHLDR	1	1	-
323+92	MED	-	1	-
325+73	MED	-	-	1
326+17	MED	-	-	1
326+63	MED	-	-	1
330+32	MED	-	1	-
158+18	MED	-	1	-
162+02	MED	-	1	-
166+75	SHLDR	1	1	-
172+40	SHLDR	1	1	-
174+67	SHLDR	1	-	1
175+14	SHLDR	1	-	1
176+50	SHLDR	1	1	-
179+92	SHLDR	1	1	-
181+61	SHLDR	1	1	-
181+63	MED	-	1	-
183+06	SHLDR	1	1	-
183+08	MED	-	1	-
185+92	SHLDR	1	1	-
185+94	MED	-	1	-
187+66	SHLDR	1	1	-
187+69	MED	-	1	-
191+02	MED	-	1	-
191+03	SHLDR	1	1	-
192+83	SHLDR	1	1	-
192+85	MED	-	1	-
194+85	SHLDR	1	1	-
194+87	MED	-	1	-
196+71	SHLDR	1	1	-
SIDEROADS & RAMPS				
HOLT ON/HOWARD OFF RAMP				
654+43	RAMP	-	1	-
659+09	RAMP	-	1	-
659+11	RAMP	-	1	-
662+17	RAMP	-	-	1
662+17	RAMP	-	-	1
665+34	RAMP	-	1	-
669+32	RAMP	-	1	-
676+61	RAMP	-	1	-
191+10	RAMP	-	1	-
191+70	RAMP	-	1	-
194+49	RAMP	-	-	1
194+83	RAMP	-	-	1
196+92	RAMP	-	1	-
197+75	RAMP	-	1	-
HOLT ON RAMP				
199+69	RAMP	-		
199+96	RAMP	-		
200+39	RAMP	-		
200+55	RAMP	-		
202+19	RAMP	-	1	-
202+43	RAMP	-		
203+09	RAMP	-		
203+65	RAMP	-	1	-
204+00	RAMP	-	1	-
204+00	RAMP	-	1	-
204+40	RAMP	-	1	-
206+89	RAMP	-		
SUBTOTALS		25	55	15

STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7020 INLET PROTECTION TYPE D EACH
SIDEROADS & RAMPS				
NATIONAL OFF				
171+64	RAMP	-	-	1
172+77	RAMP	-	-	1
175+81	RAMP	-	-	1
177+43	RAMP	-	-	1
177+83	RAMP	-	1	-
178+55	RAMP	-	1	-
179+18	RAMP	-	1	-
NATIONAL ON				
169+97	RAMP	-	-	1
172+26	RAMP	-	1	-
173+87	RAMP	-	1	-
175+74	RAMP	-	1	-
177+72	RAMP	-	1	-
177+90	RAMP	-	1	-
179+91	RAMP	-	1	-
SUBTOTALS		0	9	5
UNDISTRIBUTED		6	14	3
TOTAL NORTHBOUND		65	152	30

INLET REPAIR LOCATIONS (SOUTHBOUND)

STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7020 INLET PROTECTION TYPE D EACH
SOUTHBOUND				
655+99	SHLDR	1	1	-
656+01	MED	-	1	-
658+66	SHLDR	-	1	-
658+83	SHLDR	1	1	-
661+33	MED	-	1	-
661+33	SHLDR	-	1	-
661+33	SHLDR	1	1	-
665+03	SHLDR	-	1	-
665+16	SHLDR	1	1	-
668+02	MED	-	1	-
668+03	SHLDR	1	1	-
671+02	MED	-	1	-
671+03	SHLDR	1	1	-
673+32	MED	-	1	-
673+32	SHLDR	1	1	-
675+45	SHLDR	1	1	-
676+98	MED	-	1	-
191+64	MED	-	-	1
192+10	MED	-	-	1
192+18	MED	-	-	1
192+61	MED	-	-	1
195+62	MED	-	1	-
195+71	MED	-	1	-
196+68	SHLDR	-	1	-
199+20	MED	-	1	-
199+36	SHLDR	-	1	-
202+00	MED	-	1	-
205+92	MED	-	1	-
209+83	MED	-	1	-
211+97	SHLDR	-	1	-
211+98	SHLDR	-	1	-
216+47	SHLDR	-	1	-
218+04	SHLDR	-	1	-
222+27	SHLDR	-	1	-
227+55	MED	-	1	-
227+61	SHLDR	1	1	-
231+62	MED	-	-	1
231+62	SHLDR	1	-	1
234+77	MED	-	1	-
234+77	SHLDR	1	1	-
237+92	MED	-	1	-
237+95	SHLDR	1	1	-
241+06	MED	-	1	-
241+07	SHLDR	1	1	-
243+06	MED	-	1	-
243+07	SHLDR	-	1	-
244+94	SHLDR	-	1	-
245+07	MED	-	1	-
248+53	SHLDR	-	1	-
249+46	MED	-	1	-
250+62	SHLDR	1	1	-
252+52	SHLDR	-	1	-
252+52	SHLDR	1	1	-
255+51	SHLDR	-	1	-
255+51	SHLDR	1	1	-
255+69	MED	-	1	-
257+25	SHLDR	-	1	-
257+26	SHLDR	1	1	-
257+26	MED	-	1	-
260+19	SHLDR	-	1	-
260+20	SHLDR	1	1	-
260+22	MED	-	1	-
262+02	MED	-	1	-
262+02	SHLDR	1	1	-
263+42	MED	-	1	-
263+42	SHLDR	-	1	-
263+42	SHLDR	1	1	-
267+55	SHLDR	1	1	-
270+89	MED	-	1	-
270+97	MED	-	1	-
274+49	MED	-	-	1
274+49	SHLDR	1	-	1
274+99	MED	-	-	1
274+99	SHLDR	1	-	1
278+50	MED	-	1	-
278+50	SHLDR	1	1	-
280+04	SHLDR	1	1	-
280+01	MED	-	1	-
281+64	SHLDR	1	1	-
284+12	MED	-	1	-
SUBTOTALS		26	70	10

STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7020 INLET PROTECTION TYPE D EACH
SOUTHBOUND				
284+13	SHLDR	1	1	-
290+26	SHLDR	-	1	-
290+27	MED	-	1	-
293+23	MED	-	1	-
293+23	SHLDR	-	1	-
295+15	MED	-	1	-
295+15	SHLDR	-	1	-
299+74	MED	-	-	1
299+75	SHLDR	1	-	1
300+17	SHLDR	1	-	1
300+24	MED	-	-	1
300+60	MED	-	-	1
300+61	SHLDR	1	-	1
304+10	MED	-	1	-
307+12	MED	-	1	-
314+03	MED	-	1	-
314+04	MED	-	1	-
316+51	SHLDR	1	1	-
316+53	MED	-	1	-
320+00	MED	-	1	-
320+00	SHLDR	1	1	-
323+85	MED	-	1	-
323+91	SHLDR	1	1	-
325+77	SHLDR	1	-	1
326+16	MED	-	-	1
326+17	SHLDR	-	-	1
326+17	SHLDR	1	-	1
326+65	SHLDR	1	-	1
330+40	MED	-	1	-
158+25	MED	-	1	-
158+37	SHLDR	1	1	-
162+00	MED	-	1	-
162+54	SHLDR	1	1	-
165+02	SHLDR	-	1	-
174+21	MED	-	-	1
174+71	MED	-	-	1
175+21	MED	-	-	1
178+95	MED	-	1	-
181+60	MED	-	1	-
181+63	SHLDR	-	1	-
183+06	MED	-	1	-
183+07	SHLDR	-	1	-
185+93	MED	-	1	-
187+67	MED	-	1	-
187+70	SHLDR	-	1	-
190+77	MED	-	1	-
190+82	SHLDR	-	1	-
192+34	SHLDR	-	1	-
192+84	MED	-	1	-
194+98	MED	-	1	-
197+72	MED	-	1	-
SIDEROADS & RAMPS				
196+85	HOLT EB	-	1	-
198+01	HOLT EB	-	1	-
198+25	HOLT EB	-	1	-
198+64	HOLT EB	-	1	-
198+21	HOLT WB	-	1	-
198+75	HOLT WB	-	1	-
199+28	HOLT WB	-	1	-
HOLT OFF RAMP				
193+77	RAMP	-	1	-
195+13	RAMP	-	-	1
195+50	RAMP	-	-	1
195+71	RAMP	-	1	-
195+86	RAMP	-	-	1
197+91	RAMP	-	1	-
198+15	RAMP	-	1	-
199+28	RAMP	-	1	-
201+14	RAMP	-	1	-
201+51	RAMP	-	1	-
201+89	RAMP	-	1	-
205+90	RAMP	-	1	-
206+08	RAMP	-	1	-
			1	-
HOLT ON RAMP				
191+31	RAMP	-	1	-
193+22	RAMP	-	1	-
195+48	RAMP	-	-	1
SUBTOTALS		12	57	18

STATION	LOCATION	611.8115 ADJUSTING INLET COVERS EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7020 INLET PROTECTION TYPE D EACH
SIDEROADS & RAMPS				
NATIONAL OFF				
169+75	RAMP	-	1	-
175+18	RAMP	-	1	-
175+63	RAMP	-	1	-
175+73	RAMP	-	-	1
176+01	RAMP	-	-	1
176+02	RAMP	-	-	1
176+15	RAMP	-	1	-
179+06	RAMP	-	1	-
181+62	RAMP	-	1	-
NATIONAL ON				
172+19	RAMP	-	1	-
174+21	RAMP	-	1	-
174+48	RAMP	-	-	1
174+75	RAMP	-	-	1
SUBTOTALS		0	8	5
UNDISTRIBUTED		4	14	4
TOTAL SOUTHBOUND		42	149	37
PROJECT TOTAL		107	301	67

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PROJECT NO: 1228-26-70 | HWY: IH 43 | COUNTY: MILWAUKEE | MISCELLANEOUS QUANTITIES | SHEET 268 E

CONGESTION WARNING SYSTEM

STAGE	LOCATION	SPV.0045.02 CONGESTION WARNING SYSTEM DAY	TRAFFIC DETECTORS (FOR INFORMATION PURPOSES ONLY) EA	FLASHING BEACON SIGN ASSEMBLY (FOR INFORMATION PURPOSES ONLY) EA
STAGE 1		60	-	-
	I-94 WB AT LAYTON AVE		-	2
	I-43/894 NB AT 20TH ST		-	1
	I-43/94 NB AT STA 607+00		1	2
	I-43/94 NB AT STA 640+00		1	-
	I-43/94 SB AT STA 325+50		1	-
	I-43/94 SB AT STA 182+50		1	1
	NORTH-SOUTH RAMP (MARQUETTE)		-	1
	WEST-SOUTH RAMP (MARQUETTE)		-	1
	EAST-SOUTH RAMP (MARQUETTE)		-	1
STAGE 2A		20	-	-
	I-94 WB AT LAYTON AVE		-	2
	I-43/894 NB AT 20TH ST		-	1
	I-43/94 NB AT STA 607+00		1	2
	I-43/94 NB AT STA 640+00		1	-
	I-43/94 SB AT STA 325+50		1	-
	I-43/94 SB AT STA 182+50		1	1
	NORTH-SOUTH RAMP (MARQUETTE)		-	1
	WEST-SOUTH RAMP (MARQUETTE)		-	1
	EAST-SOUTH RAMP (MARQUETTE)		-	1
STAGE 2B		50	-	-
	I-94 WB AT LAYTON AVE		-	2
	I-43/894 NB AT 20TH ST		-	1
	I-43/94 NB AT STA 607+00		1	2
	I-43/94 NB AT STA 640+00		1	-
	I-43 SB AT STA 214+00		1	-
	NORTH-SOUTH RAMP (MARQUETTE)		-	1
	I-94 EB AT 25TH ST		-	1
	I-43 SB AT FOND DU LAC AVE ON-RAMP		1	-
	I-43 SB AT BROWN ST		-	1
STAGE 3		50	-	-
	I-43 SB AT STA 214+00		1	-
	NORTH-SOUTH RAMP (MARQUETTE)		-	1
	I-94 EB AT 25TH ST		-	1
	I-43 SB AT FOND DU LAC AVE ON-RAMP		1	-
	I-43 SB AT BROWN ST		-	1
TOTALS		180	14	29

SILT FENCE

	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	REMARKS
IH 43 NORTHBOUND			
195+62 TO 197+29	170	170	HOLT AVENUE
199+55 TO 200+76	125	125	HOLT AVENUE
209+55 TO 210+20	68	68	OKLAHOMA AVENUE
224+30 TO 224+80	52	52	OKLAHOMA AVENUE
242+70 TO 245+45	283	283	ROSEDALE AVENUE
248+61 TO 249+11	51	51	ROSEDALE AVENUE
286+75 TO 287+87	113	113	BECHER STREET
297+98 TO 298+59	62	62	BECHER STREET
164+46 TO 164+99	58	58	WASHINGTON STREET
172+40 to 173+34	97	97	WASHINGTON STREET
176+18 TO 176+71	60	60	NATIONAL AVENUE
UNDISTRIBUTED	500	500	
SUBTOTALS	1,639	1,639	
IH 43 SOUTHBOUND			
196+29 TO 196+89	62	62	HOLT AVENUE
198+92 TO 199+76	87	87	HOLT AVENUE
209+35 TO 209+97	64	64	OKLAHOMA AVENUE
224+30 TO 224+90	66	66	OKLAHOMA AVENUE
242+34 TO 245+12	281	281	ROSEDALE AVENUE
248+31 TO 249+18	92	92	ROSEDALE AVENUE
286+70 TO 287+88	119	119	BECHER STREET
295+98 TO 296+51	54	54	BECHER STREET
164+43 TO 164+94	56	56	WASHINGTON STREET
172+53 to 173+38	87	87	WASHINGTON STREET
176+32 TO 176+91	63	63	NATIONAL AVENUE
UNDISTRIBUTED	500	500	
SUBTOTALS	1,531	1,531	
1228-26-70 TOTALS	3,170	3,170	

INLET & MANHOLE RECONSTRUCTION

STATION	DIRECTION	LOCATION	611.0410 RECONSTRUCTING CATCH BASINS EA	611.0420 RECONSTRUCTING MANHOLES EA	611.8105 ADJUSTING CATCH BASIN COVERS EA	611.8110 ADJUSTING MANHOLE COVERS EA
651+07.34	SB	SHLDR	-	1	-	-
655+65.72	SB	SHLDR	1	-	-	-
658+50.18	SB	SHLDR	1	-	-	-
661+15.70	SB	SHLDR	1	-	-	-
661+31.26	NB	SHLDR	-	-	1	-
661+34.71	NB	SHLDR	-	-	1	-
663+86.58	SB	SHLDR	1	-	-	-
665+03.36	SB	SHLDR	1	-	-	-
665+33.03	NB	SHLDR	-	-	1	-
667+35.76	NB	SHLDR	-	-	1	-
673+32.19	NB	SHLDR	-	-	1	-
675+45.13	SB	SHLDR	-	-	1	-
191+09.63	NB	SHLDR	-	-	1	-
191+61.55	NB	SHLDR	-	-	-	1
191+60.97	NB	SHLDR	-	-	1	-
191+61.32	NB	SHLDR	-	-	1	-
191+71.86	NB	SHLDR	-	-	-	1
192+10.39	NB	SHLDR	-	-	1	-
193+57.23	NB	SHLDR	-	-	-	1
195+60.94	NB	SHLDR	1	-	-	-
195+60.94	NB	SHLDR	-	-	-	1
196+36.46	SB	SHLDR	-	-	1	-
201+11.31	NB	SHLDR	-	-	1	-
205+92.21	NB	SHLDR	-	-	1	-
209+83.73	SB	MEDIAN	1	-	-	-
209+76.07	SB	SHLDR	1	-	-	-
210+00.00	NB	SHLDR	-	1	-	-
226+67.06	SB	SHLDR	-	-	-	1
226+98.81	SB	MEDIAN	1	-	-	-
227+62.74	SB	SHLDR	-	-	1	-
227+62.84	NB	SHLDR	-	-	1	-
231+30.77	SB	SHLDR	-	-	1	-
231+63.56	NB	SHLDR	-	-	1	-
234+58.78	SB	SHLDR	-	-	1	-
234+77.78	NB	SHLDR	-	-	1	-
237+90.88	SB	SHLDR	-	-	1	-
237+91.29	NB	SHLDR	1	-	-	-
241+03.71	SB	SHLDR	1	-	-	-
241+05.88	NB	SHLDR	-	-	1	-
249+48.19	NB	SHLDR	-	-	1	-
250+07.82	SB	SHLDR	-	-	1	-
251+65.84	SB	SHLDR	-	-	1	-
255+50.23	SB	SHLDR	-	-	1	-
255+52.39	NB	SHLDR	-	-	1	-
256+34.62	SB	SHLDR	-	-	-	1
257+03.96	SB	SHLDR	1	-	-	-
257+27.85	NB	SHLDR	1	-	-	-
262+01.09	SB	SHLDR	1	-	-	-
262+94.45	SB	SHLDR	1	-	-	-
263+44.21	NB	SHLDR	-	-	1	-
265+61.95	NB	SHLDR	-	-	1	-
268+17.17	SB	SHLDR	-	-	1	-
268+17.17	SB	SHLDR	-	-	1	-
268+43.12	NB	SHLDR	1	-	-	-
271+19.65	NB	SHLDR	-	-	1	-
271+36.18	NB	SHLDR	-	-	1	-
A 274+04.98	SB	SHLDR	-	-	1	-
A 274+56.19	SB	SHLDR	-	1	-	-
A 275+40.04	NB	SHLDR	-	-	1	-
A 276+45.46	NB	SHLDR	-	-	1	-
SUBTOTAL			16	3	35	6

STATION	DIRECTION	LOCATION	611.0410 RECONSTRUCTING CATCH BASINS EA	611.0420 RECONSTRUCTING MANHOLES EA	611.8105 ADJUSTING CATCH BASIN COVERS EA	611.8110 ADJUSTING MANHOLE COVERS EA
A 278+03.78	NB	SHLDR	-	-	1	-
A 278+37.74	SB	SHLDR	-	-	-	1
A 279+79.47	SB	SHLDR	-	-	-	1
A 279+97.38	SB	SHLDR	-	-	1	-
A 279+98.60	SB	MEDIAN	1	-	-	-
A 281+54.58	NB	SHLDR	-	-	1	-
A 281+58.74	SB	SHLDR	1	-	-	-
A 283+41.42	SB	SHLDR	-	-	-	1
A 284+10.35	SB	SHLDR	-	-	1	-
A 284+10.35	NB	SHLDR	-	-	1	-
A 287+66.14	SB	SHLDR	-	-	-	1
A 299+73.65	SB	SHLDR	1	-	-	-
A 300+15.09	SB	SHLDR	-	-	1	-
A 300+15.69	SB	SHLDR	-	-	1	-
A 300+59.47	SB	SHLDR	-	-	1	-
A 300+97.32	SB	SHLDR	-	-	-	1
A 301+02.82	NB	SHLDR	-	-	1	-
A 301+45.58	NB	SHLDR	1	-	-	-
A 301+63.38	NB	SHLDR	-	-	1	-
A 303+67.87	SB	SHLDR	-	-	1	-
A 304+13.26	NB	SHLDR	-	-	1	-
A 305+10.85	NB	SHLDR	-	-	-	1
A 305+13.40	SB	SHLDR	-	-	-	1
A 306+18.47	NB	SHLDR	-	-	-	1
A 306+61.28	SB	SHLDR	-	-	-	1
A 306+61.28	NB	SHLDR	-	-	1	-
A 306+97.57	SB	SHLDR	1	-	-	-
A 307+10.60	SB	SHLDR	-	-	-	1
A 309+44.71	SB	SHLDR	-	-	-	1
A 310+73.13	NB	SHLDR	-	-	-	1
A 310+86.31	SB	SHLDR	-	-	-	1
A 312+06.72	SB	SHLDR	-	-	-	1
A 313+01.45	SB	SHLDR	-	-	1	-
A 314+02.36	NB	SHLDR	-	-	1	-
A 316+39.93	NB	SHLDR	-	-	-	1
A 316+52.60	NB	SHLDR	1	-	-	-
A 317+65.45	NB	SHLDR	-	-	-	1
A 319+90.21	SB	SHLDR	-	-	1	-
A 320+00.37	SB	SHLDR	-	-	1	-
A 320+02.69	NB	SHLDR	-	-	1	-
A 323+34.72	NB	SHLDR	-	-	-	1
A 323+35.98	NB	SHLDR	-	-	1	-
A 323+47.65	SB	SHLDR	-	-	-	1
A 323+85.56	NB	SHLDR	-	-	1	-
A 323+89.16	SB	SHLDR	-	-	1	-
A 325+78.06	SB	SHLDR	1	-	-	-
A 326+18.91	SB	SHLDR	1	-	-	-
A 326+66.95	SB	SHLDR	-	-	1	-
A 328+38.49	SB	SHLDR	-	1	-	-
A 330+32.53	NB	SHLDR	-	-	1	-
B 158+43.08	SB	SHLDR	-	-	1	-
B 162+04.44	SB	SHLDR	-	-	1	-
B 176+50.00	NB	SHLDR	-	-	1	-
SUBTOTAL			8	1	25	18
UNDISTRIBUTED			15	15	10	10
TOTAL			39	19	70	34

NOTE:
A' & 'B' DENOTE LOCATION OF STATION EQUATIONS
RESTORING GRANULAR BACKFILL INCIDENTAL TO RECONSTRUCTION AND ADJUSTING ITEMS

CLEARING AND GRUBBING

START STATION	START OFFSET	END STATION	END OFFSET	201.0105 CLEARING STA	201.0120 CLEARING ID	201.0205 GRUBBING STA	201.0220 GRUBBING ID
663+05	RT	192+60	RT	26	-	26	-
249+00	RT	250+65	RT	2	-	2	-
251+66	LT	252+71	LT	2	-	2	-
254+28	RT	260+19	RT	6	-	6	-
259+27	LT	262+14	LT	4	-	4	-
265+62	LT	267+98	LT	3	-	3	-
268+96	RT			-	4	-	4
272+32	LT	A 275+18	LT	3	-	3	-
A 319+90	LT	A 320+42	LT	2	-	2	-
A 328+73	RT	A 329+76	RT	2	-	2	-
PROJECT TOTAL				50	4	50	4

CRASH CUSHIONS PERMANENT

	*204.0100 REMOVING PAVEMENT SY	614.0800 CRASH CUSHIONS PERMANENT EACH	415.1080 CONCRETE PAVEMENT HES 8-INCH SY	614.0935 SALVAGED SAND BARRELS EACH
IH 43 NORTHBOUND				
STATION 316+56	14	1	14	22
STATION 168+65	14	1	14	15
IH 43 SOUTHBOUND				
STATION 182+78	14	1	14	12
1228-26-70 TOTALS	42	3	42	49

*DENOTES QUANTITY FOUND ELSEWHERE

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PROJECT NO: 1228-26-70 | HWY: IH 43 | COUNTY: MILWAUKEE | MISCELLANEOUS QUANTITIES | SHEET 269 E

PAVEMENT MARKING

STATION	TO	STATION	646.0106 EPOXY 4-INCH SOLID YELLOW LF	646.0106 EPOXY 4-INCH SOLID WHITE LF	646.0841.S GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH WHITE DASH/DOT LF	646.0843.S GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH WHITE SOLID LF	646.0843.S GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH WHITE DASH/DOT LF	647.0726 DIAGONAL EPOXY 12-INCH SOLID YELLOW LF	647.0726 DIAGONAL EPOXY 12-INCH SOLID WHITE LF	647.0568 STOP LINE PREFORMED THERMOPLASTIC 18-INCH WHITE LF	647.0746 DIAGONAL EPOXY 24-INCH SOLID WHITE LF	647.0768 CROSSWALK PREFORMED THERMOPLASTIC 6-INCH WHITE LF	647.0158 ARROWS PREFORMED THERMOPLASTIC TYPE 1 EACH	647.0168 ARROWS PREFORMED THERMOPLASTIC TYPE 2 EACH	647.0178 ARROWS PREFORMED THERMOPLASTIC TYPE 3 EACH	647.0188 ARROWS PREFORMED THERMOPLASTIC TYPE 4 EACH	647.0258 SYMBOLS PREFORMED THERMOPLASTIC EACH	SPV.0060.09 GROOVED PREFORMED THERMOPLASTIC ARROWS TYPE 5 EACH
IH 43 NORTHBOUND																		
653+20	TO	660+00	681	685	341	933	17	116	-	-	87	-	-	-	-	-	-	-
660+00	TO	670+00	1,001	1,005	502	333	-	165	-	-	117	-	-	-	-	-	-	-
670+00	TO	677+24	724	724	362	-	-	116	-	-	-	-	-	-	-	-	-	-
190+83	TO	198+00	713	703	354	-	-	132	-	-	-	-	-	-	-	-	-	-
198+00	TO	211+00	1,296	1,277	646	621	-	215	-	-	-	-	-	-	-	-	-	-
211+00	TO	220+00	905	926	456	1,460	-	149	-	-	-	-	-	-	-	-	-	-
220+00	TO	230+00	1,001	1,004	501	-	-	165	-	-	-	-	-	-	-	-	-	-
230+00	TO	240+00	1,000	1,000	500	-	-	165	-	-	-	-	-	-	-	-	-	-
240+00	TO	247+00	700	700	350	-	-	116	-	-	-	-	-	-	-	-	-	-
247+00	TO	260+00	1,301	1,304	652	-	-	215	-	-	-	-	-	-	-	-	-	-
260+00	TO	270+00	997	991	497	-	-	165	-	-	-	-	-	-	-	-	-	-
270+00	TO	280+00	899	847	450	487	-	149	-	-	200	-	-	-	-	-	-	-
280+00	TO	290+00	1,000	1,000	500	-	-	165	-	-	-	-	-	-	-	-	-	-
290+00	TO	300+00	1,000	1,000	500	-	-	165	-	-	-	-	-	-	-	-	-	-
300+00	TO	310+00	1,014	1,015	508	-	-	165	-	-	-	-	-	-	-	-	-	-
310+00	TO	320+00	1,000	1,000	500	-	-	165	-	-	-	-	-	-	-	-	-	-
320+00	TO	331+34	1,139	993	648	475	-	182	-	-	-	-	-	-	-	-	-	-
157+74	TO	170+00	1,232	1,243	912	326	-	66	-	-	203	-	-	-	-	-	-	-
170+00	TO	180+00	997	975	739	-	-	-	-	-	-	-	-	-	-	-	-	-
180+00	TO	190+00	1,000	998	726	1,132	-	-	-	-	-	-	-	-	-	-	-	-
190+00	TO	200+00	999	993	747	-	48	-	-	-	-	-	-	-	-	-	-	-
200+00	TO	END	735	728	522	1,088	29	71	-	-	422	-	-	-	-	-	-	-
RAMPS																		
HOWARD AVE EXIT			304	307	-	179	-	-	-	24	-	58	-	1	1	1	-	-
HOWARD AVE ENT/HOLT AVE EXIT			2,936	3,075	149	1,559	-	-	-	58	-	137	-	3	1	1	-	-
HOWARD CD ROAD			1,184	1,178	-	-	-	-	-	15	-	-	-	-	-	-	-	-
HOLT AVE ENT			821	1,872	24	685	-	-	165	36	-	143	-	-	-	-	4	-
BECHER ST EXIT			1,074	896	77	362	-	-	-	47	-	-	3	-	1	1	-	-
BECHER CD ROAD			1,915	1,915	-		-	-	-	-	-	-	-	-	-	-	-	-
BECHER ST ENT			1,512	1,364	21	894	-	-	-	-	-	-	-	-	-	-	-	-
LAPHAM BLVD EXIT			1,158	1,411	65	695	-	-	-	36	-	-	-	2	2	1	-	-
LAPHAM BLVD CD ROAD			1,218	1,218	-		-	-	-	16	-	-	-	-	-	-	-	-
LAPHAM BLVD ENT			933	647	-	576	-	-	-	15	-	-	-	-	-	-	-	-
NATIONAL AVE EXIT			1,690	1,745	-	54	-	-	-	26	-	63	-	-	-	3	-	-
NATIONAL AVE ENT			2,478	2,410	60	296	-	-	-	30	-	55	-	-	-	-	-	-
IH 43 SOUTHBOUND																		
653+20	TO	660+00	679	678	339	-	-	116	-	-	-	-	-	-	-	-	-	-
660+00	TO	670+00	999	995	498	231	-	165	-	-	-	-	-	-	-	-	-	-
670+00	TO	677+24	724	730	362	1,458	-	116	-	-	-	-	-	-	-	-	-	-
190+83	TO	198+00	720	669	363	62	-	132	-	-	-	-	-	-	-	-	-	-
198+00	TO	211+00	1,303	1,262	653	414	-	215	-	-	188	-	-	-	-	-	-	-
211+00	TO	220+00	896	882	445	-	-	149	-	-	-	-	-	-	-	-	-	-
220+00	TO	230+00	999	997	499	-	-	165	-	-	-	-	-	-	-	-	-	-
230+00	TO	240+00	1,000	1,000	500	-	-	165	-	-	-	-	-	-	-	-	-	-
240+00	TO	247+00	700	700	350	-	-	116	-	-	-	-	-	-	-	-	-	-
247+00	TO	260+00	1,299	1,296	649	-	-	215	-	-	-	-	-	-	-	-	-	-
260+00	TO	270+00	1,002	1,010	503	-	6	165	-	-	-	-	-	-	-	-	-	2
270+00	TO	280+00	900	899	450	744	132	149	-	-	-	-	-	-	-	-	-	-
280+00	TO	290+00	1,000	863	500	137	-	165	-	-	-	-	-	-	-	-	-	-
290+00	TO	300+00	1,000	1,000	500	-	-	165	-	-	-	-	-	-	-	-	-	-
300+00	TO	310+00	1,000	999	500	-	-	165	-	-	-	-	-	-	-	-	-	-
310+00	TO	320+00	1,000	947	500	666	-	165	-	-	282	-	-	-	-	-	-	-
320+00	TO	331+34	1,129	1,058	562	291	-	182	-	-	180	-	-	-	-	-	-	-
157+74	TO	170+00	1,223	1,208	608	599	211	66	-	-	28	-	-	-	-	-	-	-
170+00	TO	180+00	1,002	1,018	505	-	-	-	-	-	-	-	-	-	-	-	-	-
180+00	TO	190+00	1,000	1,003	500	1,204	-	-	-	-	556	-	-	-	-	-	-	-
190+00	TO	200+00	1,000	1,006	501	353	201	-	-	-	-	-	-	-	-	-	-	-
200+00	TO	210+00	1,000	1,008	557	1,156	63	-	-	-	-	-	-	-	-	-	-	-
210+00	TO	END	1,200	754	399	1,251	125	-	-	-	-	-	-	-	-	-	-	-
WISCONSIN ST ON RAMP			-	-	153	-	-	-	-	-	-				-		-	-
RAMPS																		
HOWARD ENT			787	778	-	-	-	-	-	-	-	60	-	-	-	-	-	-
HOWARD EXIT			561	786	32	-	-	-	-	44	-	121	-	5	-	1	-	-
HOLT AVE ENT			832	853	-	94	-	-	-	16	-	-	-	-	-	-	-	-
HOLT AVE EXIT			2,450	2,118	-	355	-	-	-	19	-	62	1	1	-	2	-	-
BECHER ST ENT			847	622	64	580	-	-	-	16	-	-	-	-	-	-	-	-
BECHER CD ROAD			1,387	1,387	-	-	-	-	-	17	-	-	-	-	-	-	-	-
BECHER ST EXIT			1,518	1,390	131	741	-	-	-	47	-	-	4	-	2	1	-	-
LAPHAM BLVD ENT			1,453	1,353	77	264	-	-	-	-	-	-	-	-	-	-	-	-
LAPHAM BLVD EXIT			1,179	1,155	75	-	-	-	-	39	-	-	-	-	2	1	-	-
NATIONAL AVE ENT			921	913	-	-	-	-	-	12	-	41	-	-	-	4	-	-
NATIONAL AVE EXIT			1,994	2,000	91	361	-	-	-	58	-	120	-	-	2	-	-	-
TOTAL			75,261	74,486	24,175	23,116	832	5,623	165	571	2,263	860	8	12	11	16	4	2
			149,747			23,948		5,788										

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	MISCELLANEOUS QUANTITIES	SHEET 270	E

BARRIER REPLACEMENT

START STATION	START OFFSET	END STATION	END OFFSET	*603.0105 CONCRETE BARRIER SINGLE-FACED 32-INCH LF	*614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	*690.0250 SAWING CONCRETE LF
665+15	2' LT	17882.44	2' LT	8	-	6
669+40	8' RT	66945.8	8' RT	6	17	6
191+52	8' RT	19157.56	8' RT	6	17	6
196+33	58' RT	19639.46	58' RT	6	17	6
199+63	60' RT	19971.33	60' RT	8	-	6
201+30	63' LT	20136.11	63' LT	6	17	6
208+15	13' LT	20831.39	13' LT	16	-	6
208+29	7' RT	20836.5	7' RT	8	-	6
209+81	8' RT	20986.73	8' RT	6	17	6
224+34	57' RT	22440.0	57' RT	6	17	6
228+38	12' LT	22854.23	12' LT	16	-	6
229+24	13' LT	22940.48	13' LT	16	-	6
231+27	7' RT	23134.77	7' RT	8	-	6
234+56	7' RT	23461.78	7' RT	6	17	6
235+96	14' LT	23604.13	14' LT	8	-	6
237+21	7' RT	23727.29	7' RT	6	17	6
237+43	7' RT	23748.91	7' RT	6	17	6
237+69	7' RT	23777.06	7' RT	8	-	6
239+41	12' LT	23947.09	12' LT	6	17	6
243+39	8' RT	24346.56	8' RT	8	-	6
243+57	8' RT	24372.79	8' RT	16	-	6
244+48	59' RT	24455.89	59' RT	8	-	6
244+66	8' RT	24472.13	8' RT	6	17	6
244+79	13' LT	24494.92	13' LT	16	-	6
244+82	9' RT	24487.92	9' RT	6	17	6
248+93	55' RT	24899.26	55' RT	6	17	6
257+41	8' RT	25747.04	8' RT	6	17	6
260+67	13' LT	26083.43	13' LT	16	-	6
262+69	6' RT	26275.21	6' RT	6	17	6
262+86	6' RT	26302.45	6' RT	16	-	6
264+24	56' RT	26431.89	56' RT	8	-	6
265+14	13' LT	26529.63	13' LT	16	-	6
265+81	13' LT	26588.98	13' LT	8	-	6
266+23	13' LT	26631.45	13' LT	8	-	6
266+40	13' LT	26646.2	13' LT	6	17	6
266+89	14' LT	26705.31	14' LT	16	-	6
268+66	13' LT	26882.32	13' LT	16	-	6
270+17	12' LT	27023.0	12' LT	6	17	6
270+64	13' LT	27071.52	13' LT	8	-	6
271+17	5' RT	27122.65	5' RT	6	17	6
A 274+45	14' LT	B 274+51	14' LT	6	17	6
A 275+30	12' LT	B 275+3	12' LT	6	17	6
A 277+60	6' RT	B 277+6	6' RT	6	17	6
SUBTOTAL (RAW)				382	357	258
A 279+80	13' LT	B 279+8	13' LT	6	17	6
A 279+96	13' LT	B 280+0	13' LT	6	17	6
A 279+96	13' LT	B 280+0	13' LT	6	17	6
A 287+41	6' RT	B 287+4	6' RT	6	17	6
A 287+43	6' RT	A 287+6	6' RT	24	-	6
A 296+11	13' LT	A 296+5	13' LT	40	-	6
A 297+02	14' LT	A 297+3	14' LT	32	-	6
A 298+24	6' RT	B 298+3	6' RT	6	17	6
A 300+79	13' LT	B 300+8	13' LT	6	17	6
A 301+94	6' RT	A 302+0	6' RT	8	-	6
A 302+33	14' LT	B 302+3	14' LT	6	17	6
A 305+25	13' LT	B 305+3	13' LT	6	17	6
A 306+09	84' LT	B 306+1	84' LT	6	17	6
A 307+35	13' LT	B 307+4	13' LT	6	17	6
A 310+92	64' LT	B 310+9	64' LT	6	17	6
A 311+01	115' LT	B 311+07	115' LT	6	17	6
A 311+01	115' LT	B 311+07	115' LT	6	17	6
A 311+01	115' LT	B 311+07	115' LT	6	17	6
A 320+11	5' RT	A 320+1	5' RT	8	-	6
A 321+51	13' LT	B 321+57	13' LT	6	17	6
A 323+79	13' LT	A 323+8	13' LT	8	-	6
A 323+89	14' LT	B 323+9	14' LT	6	17	6
A 325+96	14' LT	B 326+0	14' LT	6	17	6
A 330+74	6' RT	B 330+8	6' RT	6	17	6
B 158+91	6' RT	B 158+97	6' RT	6	17	6
B 159+01	12' LT	B 159+0	12' LT	6	17	6
B 159+13	1' RT	B 159+19	1' RT	6	17	6
B 159+38	13' LT	B 159+44	13' LT	6	17	6
B 159+71	13' LT	B 159+77	13' LT	6	17	6
B 159+77	12' LT	B 159+85	12' LT	8	-	6
B 159+99	12' LT	B 160+0	12' LT	8	-	6
B 160+21	12' LT	B 160+2	12' LT	6	17	6
B 160+43	6' RT	B 160+5	6' RT	16	-	6
B 160+65	7' RT	B 160+81	7' RT	16	-	6
B 161+17	6' RT	B 161+23	6' RT	6	17	6
B 161+62	11' LT	B 161+68	11' LT	6	17	6
B 161+78	6' RT	B 161+84	6' RT	6	17	6
B 164+24	59' RT	B 164+32	59' RT	8	-	6
B 172+58	51' LT	B 172+66	51' LT	8	-	6
B 182+62	59' LT	B 182+7	59' LT	8	-	6
SUBTOTAL (RAW)				354	459	240
UNDISTRIBUTED				393	495	266
PROJECT TOTAL				1129	1311	764

*DENOTES QUANTITY FOUND ELSEWHERE

TRAFFIC CONTROL SIGNS FIXED MESSAGE

SIGN NO.	SIGN MESSAGE	SIGN SIZE W (FT)	X	SIGN SIZE H (FT)	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF
1	IH 43/IH 94 NORTH RAMP CLOSED AHEAD FOLLOW DETOUR (TIMES) (DATES)	6	X	7	42
2	IH 43/IH 94 NORTH RAMP CLOSED AHEAD FOLLOW DETOUR (TIMES) (DATES)	6	X	7	42
3	HOLT AVENUE RAMP CLOSED AHEAD FOLLOW DETOUR (TIMES) (DATES)	12	X	9.5	114
4	STH 59 NATIONALAVENUE RAMP CLOSED AHEAD FOLLOW DETOUR (TIMES) (DATES)	12	X	12	144
5	STH 59 NATIONALAVENUE RAMP CLOSED AHEAD FOLLOW DETOUR (TIMES) (DATES)	12	X	12	144
6	ROADWORK IH 43 IH 94 NORTH AHEAD X MILES EXPECT DELAYS	12	X	8.5	102
7	ROADWORK IH 43 IH 94 NORTH AHEAD X MILES EXPECT DELAYS	12	X	8.5	102
8	LANE CLOSURES IH 43 IH 94 NORTH AHEAD EXPECT DELAYS BEGINS XXXX	12	X	9	108
9	LANE CLOSURES IH 43 IH 94 NORTH AHEAD EXPECT DELAYS BEGINS XXXX	12	X	9	108
10	ROADWORK IH 43 IH 94 SOUTH AHEAD X MILES EXPECT DELAYS	12	X	8.5	102
11	ROADWORK IH 43 IH 94 SOUTH AHEAD X MILES EXPECT DELAYS	12	X	8.5	102
12	LANE CLOSURES IH 43 IH 94 SOUTH AHEAD EXPECT DELAYS BEGINS XXXX	12	X	9	108
13	LANE CLOSURES IH 43 IH 94 SOUTH AHEAD EXPECT DELAYS BEGINS XXXX	12	X	9	108
14	ROADWORK IH 43 IH 94 SOUTH AHEAD X MILES EXPECT DELAYS	12	X	8.5	102
15	RAMP CLOSED	10	X	2	20
16	RAMP CLOSED	10	X	2	20
17	RAMP CLOSED	10	X	2	20
18	RAMP CLOSED	10	X	2	20
19	RAMP CLOSED	10	X	2	20
20	RAMP CLOSED	10	X	2	20
21	RAMP CLOSED	10	X	2	20
22	RAMP CLOSED	10	X	2	20
23	RAMP CLOSED	10	X	2	20
24	RAMP CLOSED	10	X	2	20
25	RAMP CLOSED	10	X	2	20
26	RAMP CLOSED	10	X	2	20
27	RAMP CLOSED	10	X	2	20
28	EXIT ONLY	7	X	2	14
29	EXIT ONLY	7	X	2	14
30	EXIT ONLY	7	X	2	14
31	EXIT ONLY	7	X	2	14
32	IH 43/IH 94 NORTH RAMP CLOSED AHEAD FOLLOW DETUR (TIMES) (DATES)	6	X	7	42
33	IH 794 WEST RAMP TO IH 43/IH 94 SOUTH CLOSED USE ALT ROUTE	6	X	6	36
34	IH 794 WEST RAMP TO IH 43/IH 94 SOUTH CLOSED USE ALT ROUTE	6	X	6	36
35	IH 794 WEST RAMP TO IH 43/IH 94 SOUTH CLOSED USE ALT ROUTE	6	X	6	36
36	IH 794 WEST RAMP TO IH 43/IH 94 SOUTH CLOSED USE ALT ROUTE	6	X	6	36
37	IH 794 WEST RAMP TO IH 43/IH 94 SOUTH CLOSED USE ALT ROUTE	6	X	6	36
38	BELOIT	5	X	2	10
39	BELOIT	5	X	2	10
40	BELOIT	5	X	2	10
41	USE IH 894/ USH 45 NORTH TO DOWNTOWN	12	X	6	72
42	IH 43/IH 94 RAMPS CLOSED AHEAD FOLLOW DETOUR (TIMES) (DATES)	6	X	7	42
43	IH 43/IH 94 RAMPS CLOSED AHEAD FOLLOW DETOUR (TIMES) (DATES)	6	X	7	42
44	ACCESS TO STH 794 SOUTH CLOSED USE ALT ROUTE	6	X	5	30
45	ACCESS TO STH 794 SOUTH CLOSED USE ALT ROUTE	6	X	5	30
46	DETOUR NATIONAL AVE (ARROW)	12	X	3.5	42
47	DETOUR NATIONAL AVE (ARROW) H-D MUSEUM	12	X	5	60
1228-26-70 TOTAL					2,314

PAVEMENT

STA		*204.0100 REMOVING PAVEMENT SB(SY)	NB(SY)	*204.0125 REMOVING ASPHALTIC SURFACE MILLING SB(TON)	NB(TON)	204.0157 REMOVING CONCRETE BARRIER SB(LF)	NB(LF)	305.0120 BASE AGGREGATE DENSE 1 1/4 INCH SB(TON)	NB(TON)	390.0303 BASE PATCHING CONCRETE SB(SY)	NB(SY)	415.0090 CONCRETE PAVEMENT 9-INCH SB(SY)	NB(SY)	*416.0610 DRILLED TIE BARS SB(EA)	NB(EA)	*416.0620 DRILLED DOWEL BARS SB(EA)	NB(EA)	*455.0115 ASPHALTIC MATERIAL PG64-22 SB(TON)	NB(TON)	*455.014 ASPHALTIC MATERIAL PG64-28P SB(TON)	NB(TON)	455.0605 TACK COAT SB(GAL)	NB(GAL)	460.1110 HMA PAVEMENT TYPE E-10 SB(TON)	NB(TON)	460.2000 INCENTIVE DENSITY HMA PAVEMENT SB(DOL)	NB(DOL)	601.0511 CONCRETE CURB & GUTTER INTEGRAL 6-INCH SLOPED 36-INCH SB(LF)	NB(LF)	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A SB(LF)	NB(LF)	*603.1142 CONCRETE BARRIER TYPE S42 SB(LF)	NB(LF)	*690.0250 SAWING CONCRETE SB(LF)	NB(LF)
653+20	South Limits	-	-	735	684	-	-	-	-	562	546	-	-	-	-	-	-	22	22	18	18	141	136	738	716	472	458	-	-	-	-	-	-	-	-
660+00		-	-	1204	1006	-	-	-	-	921	803	-	-	-	-	-	-	37	32	30	26	230	201	1209	1054	774	675	-	-	-	-	-	-	-	-
670+00		-	999	1165	726	-	60	-	328	891	579	-	643	-	579	-	869	36	23	29	19	223	145	1170	760	749	486	-	724	-	-	-	60	-	3184
190+83	198+00 Holt Ave	766	693	617	507	6	147	246	246	472	405	477	478	469	392	708	608	19	16	15	13	118	101	619	531	396	340	584	474	-	-	6	147	2593	2214
198+00	Holt Ave 211+00 lahoma A	1151	1323	1175	1044	258	188	412	463	899	834	870	982	702	727	1349	1251	36	33	29	27	225	208	1180	1094	755	700	631	775	-	-	258	188	4747	4480
220+00	Oklahoma Ave 230+00	746	759	565	551	127	47	259	250	432	440	550	512	381	421	648	660	17	18	14	14	108	110	567	577	363	369	414	503	-	-	127	47	2325	2401
230+00	240+00	1382	1382	1047	1003	0	0	444	444	800	800	889	889	800	800	1200	1200	32	32	26	26	200	200	1051	1051	673	673	1000	1000	-	-	0	0	4400	4400
240+00	247+00 cklnnic	364	415	276	301	0	0	117	133	211	240	234	267	211	240	317	360	8	10	7	8	53	60	277	315	177	202	264	300	-	-	0	0	1160	1320
247+00	Innlcklnnic Riv 260+00	1531	1554	1161	1125	109	49	508	506	888	898	1043	1024	843	879	1332	1347	36	36	29	29	222	224	1166	1179	746	755	998	1076	-	-	109	49	4839	4920
260+00	270+00	1440	1396	1339	997	166	276	473	480	1024	796	988	1030	850	683	1536	1194	41	32	33	26	256	199	1344	1045	860	669	847	714	-	-	166	276	5458	4265
270+00	280+00	1356	892	1281	1037	328	265	453	313	980	828	1062	642	658	602	1470	1242	39	33	32	27	245	207	1286	1087	823	696	420	470	-	-	328	265	5068	4328
280+00	290+00 echer S	968	975	733	707	0	62	311	322	560	565	622	659	560	540	840	848	22	23	18	18	140	141	735	741	470	474	702	643	-	-	0	62	3080	3082
290+00	Becher St 300+00	537	238	397	172	140	0	189	76	304	137	413	152	247	137	456	206	12	5	10	4	76	34	398	180	255	115	239	171	-	-	140	0	1615	753
300+00	310+00	1420	1384	1046	1004	99	206	455	468	800	801	888	890	800	801	1200	1202	32	32	26	26	200	200	1050	1051	672	673	1000	1001	-	-	99	206	4400	4405
310+00	320+00	1000	1382	1304	1003	284	136	328	461	997	800	711	929	658	767	1496	1200	40	32	32	26	249	200	1309	1051	838	673	399	919	-	-	284	136	5144	4367
320+00	331+34	1347	1291	1249	1306	78	112	430	448	955	1042	843	838	856	942	1433	1563	38	42	31	34	239	260	1254	1368	803	876	945	1054	-	-	78	112	5153	5631
157+74	170+00 hington	854	954	969	953	34	561	261	377	741	761	505	871	611	445	1112	1142	30	30	24	24	185	190	973	998	623	639	601	162	-	-	34	561	3945	3869
170+00	Washington St 177+00 lonal Av	507	310	380	446	106	328	178	133	291	356	383	291	250	178	437	534	12	14	9	11	73	89	381	467	244	299	262	0	-	-	106	328	1559	1780
NB RAMPS																																			
HOWARD AVE ENT/HOLT AVE EXIT		-	-	-	1123	-	-	-	-	-	1117	-	-	-	1148.5	-	1675.5	-	30	-	30	-	279	-	1074	-	687	-	-	-	1476	-	-	-	6503
CD ROAD		-	-	-	185	-	-	-	-	-	184	-	-	-	227	-	276	-	5	-	5	-	46	-	177	-	113	-	-	-	340	-	-	-	1168
HOLT AVE ENT		-	-	-	853	-	-	-	-	-	848	-	-	-	814	-	1272	-	22	-	22	-	212	-	816	-	522	-	-	-	977	-	-	-	4793
NATIONAL AVE EXIT		-	-	-	504	-	-	-	-	-	501	-	-	-	1162.5	-	751.5	-	13	-	13	-	125	-	482	-	308	-	-	-	2280	-	-	-	4535
NATIONAL AVE ENT		-	-	-	761	-	-	-	-	-	757	-	-	-	721.5	-	1135.5	-	20	-	20	-	189	-	728	-	466	-	-	-	858	-	-	-	4264
SB RAMPS																																			
HOLT AVE EXIT		-	-	811	-	-	-	-	-	807	-	-	-	961.5	-	1210.5	-	21	-	21	-	202	-	776	-	497	-	-	-	-	1397	-	-	5029	-
HOLT AVE ENT		-	-	324	-	-	-	-	-	322	-	-	-	479	-	483	-	9	-	9	-	80	-	310	-	198	-	-	-	-	797	-	-	2246	-
NATIONAL AVE EXIT		-	-	598	-	-	-	-	-	595	-	-	-	414.5	-	892.5	-	16	-	16	-	149	-	572	-	366	-	-	-	-	294	-	-	2972	-
NATIONAL AVE ENT		-	-	302	-	-	-	-	-	300	-	-	-	223	-	450	-	8	-	8	-	75	-	289	-	185	-	-	-	-	184	-	-	1534	-
EMERGENCY VEHICLE ACCES	675+62 - 676+19	-	-	-	-	-	-	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15,369	15,947	18,678	17,998	1,735	2,437	5,064	5,471	14,752	15,038	10,478	11,097	10,971	13,204	18,567	20,534	563	555	466	466	3,689	3,756	18,654	18,542	11,939	11,867	9,306	9,986	2,672	5,931	1,735	2,437	67,266	76,661
TOTAL		31,316		36,676		4,172		10,535		24,359		21,575		24,175		39,101		1,118		932		7,445		37,196		23,810		19,292		8,602		4,172		143,927	

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PROJECT NO: 1228-26-70 | HWY: IH 43 | COUNTY: MILWAUKEE | MISCELLANEOUS QUANTITIES | SHEET 271 | E

TEMPORARY PAVEMENT MARKING

STAGE 1 IH 43 NORTHBOUND STATION TO STATION	646.0600 REMOVING PAVEMENT MARKINGS LF	SPV.0090.02 REMOVE PAVEMENT MARKING GROOVED TAPE LF	647.0955 REMOVING PAVEMENT MARKING ARROWS EACH	647.0960 REMOVING PAVEMENT MARKING SYMBOLS EACH	647.0965 REMOVING PAVEMENT MARKING WORDS EACH	649.0100 4-INCH SOLID YELLOW LF	649.0100 4-INCH SOLID WHITE LF	649.0100 4-INCH DASH/DOT WHITE LF	649.0400 REMOVABLE TAPE 4-INCH SOLID YELLOW LF	649.0400 REMOVABLE TAPE 4-INCH SOLID WHITE LF	649.0400 REMOVABLE TAPE 4-INCH DASH/DOT WHITE LF	649.0400 REMOVABLE TAPE 4-INCH SOLID BLACK LF	649.0801 REMOVABLE TAPE 8-INCH SOLID WHITE LF	649.1500 DIAGONAL 12-INCH LF	649.1800 ARROWS REMOVEABLE TAPE TYPE 2 EACH	649.1800 ARROWS REMOVEABLE TAPE TYPE 3 EACH	649.2100 TEMPORARY RAISED PAVEMENT MARKERS EACH
653+20 TO 660+00	680	170	-	-	-	582	1,748	-	-	-	-	-	-	-	-	-	-
660+00 TO 670+00	1,000	250	-	-	-	1,003	1,723	101	-	-	-	-	-	-	-	-	39
670+00 TO 677+24	724	181	-	-	-	724	1,164	71	-	-	-	-	-	-	-	-	41
190+83 TO 198+00	718	180	-	-	-	715	709	178	-	-	-	-	-	-	-	-	-
198+00 TO 211+00	1,300	325	-	-	-	1,299	1,769	2,006	-	-	-	-	-	-	-	-	33
211+00 TO 220+00	900	225	-	-	-	903	911	227	-	-	-	-	-	-	-	-	-
220+00 TO 230+00	1,000	250	-	-	-	1,001	1,002	251	-	-	-	-	-	-	-	-	-
230+00 TO 240+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
240+00 TO 247+00	700	175	-	-	-	700	700	175	-	-	-	-	-	-	-	-	-
247+00 TO 260+00	1,300	325	-	-	-	1,301	1,303	326	-	-	-	-	-	-	-	-	-
260+00 TO 270+00	1,000	250	-	-	-	999	1,362	156	-	-	-	-	-	-	-	-	30
270+00 TO 280+00	1,000	250	-	-	-	900	1,949	191	-	-	-	-	-	-	-	-	10
280+00 TO 290+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
290+00 TO 300+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
300+00 TO 310+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
310+00 TO 320+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
320+00 TO 331+34	1,134	284	-	-	-	1,135	2,262	289	-	-	-	-	-	-	-	-	-
157+74 TO 170+00	1,227	307	-	-	-	1,228	1,239	324	-	-	-	-	-	-	-	-	-
170+00 TO 180+00	1,000	250	-	-	-	999	990	249	-	-	-	-	-	-	-	-	-
180+00 TO 190+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
190+00 TO 200+00	1,000	250	-	-	-	-	-	-	1,000	997	250	-	-	-	-	-	-
200+00 TO 210+00	1,000	250	-	-	-	-	-	-	100	800	75	-	375	-	-	-	8
210+00 TO END	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IH 43 SOUTHBOUND																	
653+20 TO 660+00	680	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
660+00 TO 670+00	1,000	250	-	-	-	663	892	166	-	-	-	-	-	-	-	-	-
670+00 TO 677+24	724	181	-	-	-	724	1,327	31	-	-	-	-	-	-	-	-	48
190+83 TO 198+00	718	180	-	-	-	719	725	181	-	-	-	-	-	-	-	-	-
198+00 TO 211+00	1,300	325	-	-	-	1,301	1,781	207	-	-	-	-	-	-	-	-	33
211+00 TO 220+00	900	225	-	-	-	900	892	224	-	-	-	-	-	-	-	-	-
220+00 TO 230+00	1,000	250	-	-	-	1,000	999	250	-	-	-	-	-	-	-	-	-
230+00 TO 240+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
240+00 TO 247+00	700	175	-	-	-	700	700	175	-	-	-	-	-	-	-	-	-
247+00 TO 260+00	1,300	325	-	-	-	1,300	1,298	325	-	-	-	-	-	-	-	-	-
260+00 TO 270+00	1,000	250	-	-	-	1,000	1,004	251	-	-	-	-	-	-	-	-	-
270+00 TO 280+00	1,000	250	-	-	-	900	2,061	225	-	-	-	-	-	-	-	-	-
280+00 TO 290+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
290+00 TO 300+00	1,000	250	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
300+00 TO 310+00	1,000	250	-	-	-	996	1,725	69	-	-	-	-	-	-	-	-	27
310+00 TO 320+00	1,000	250	-	-	-	400	1,001	-	-	-	-	-	-	-	-	-	-
HOLT RAMP	1,460	-	-	5	-	-	2,103	-	-	-	-	-	-	214	-	-	-
LAPHAM RAMP	-	-	4	-	1	-	256	-	-	-	25	-	-	-	2	2	-
6TH STREET	-	548	-	-	2	-	-	548	-	-	-	-	-	-	-	2	-
STAGE 1 SUBTOTAL	38,465	9,801	4	5	3	33,092	44,595	9,446	1,100	1,797	350	0	375	214	2	4	269
STAGE 2A IH 43 NORTHBOUND																	
653+20 TO 660+00	-	-	-	-	-	-	-	-	581	1,583	-	-	-	-	-	-	-
660+00 TO 670+00	-	-	-	-	-	-	-	219	1,005	1,301	-	-	-	-	-	-	-
670+00 TO 677+24	-	-	-	-	-	-	-	60	723	1,129	-	-	-	-	-	-	36
190+83 TO 198+00	-	-	-	-	-	-	-	176	706	700	-	-	-	-	-	-	-
198+00 TO 211+00	-	-	-	-	-	-	-	323	1,292	1,287	-	-	-	-	-	-	-
211+00 TO 220+00	-	-	-	-	-	-	-	241	910	1,879	-	-	-	-	-	-	-
220+00 TO 230+00	-	-	-	-	-	-	-	251	1,002	1,004	-	-	-	-	-	-	-
230+00 TO 240+00	-	-	-	-	-	-	-	250	1,000	1,000	-	-	-	-	-	-	-
240+00 TO 247+00	-	-	-	-	-	-	-	175	700	700	-	-	-	-	-	-	-
247+00 TO 260+00	-	-	-	-	-	-	-	327	1,303	1,306	-	-	-	-	-	-	-
260+00 TO 270+00	-	-	-	-	-	-	-	248	994	990	-	-	-	-	-	-	-
270+00 TO 280+00	-	-	-	-	-	-	-	225	900	1,082	-	-	-	-	-	-	-
280+00 TO 290+00	-	-	-	-	-	-	-	250	1,000	1,000	-	-	-	-	-	-	-
290+00 TO 300+00	-	-	-	-	-	-	-	250	1,000	1,000	-	-	-	-	-	-	-
300+00 TO 310+00	-	-	-	-	-	-	-	250	1,000	1,000	-	-	-	-	-	-	-
310+00 TO 320+00	-	-	-	-	-	-	-	165	1,000	1,340	-	-	-	-	-	-	30
320+00 TO 331+34	-	-	-	-	-	-	-	332	1,144	1,806	-	-	-	-	-	-	12
157+74 TO 170+00	-	-	-	-	-	-	-	228	1,240	2,480	-	-	-	-	-	-	28
170+00 TO 180+00	-	-	-	-	-	-	-	245	984	974	-	-	-	-	-	-	-
180+00 TO 190+00	-	-	-	-	-	-	-	250	999	998	-	-	-	-	-	-	-
190+00 TO 200+00	-	-	-	-	-	-	-	224	998	1,092	-	-	-	-	-	-	-
200+00 TO 210+00	400	-	-	-	-	-	-	74	426	1,444	-	-	-	-	-	-	34
210+00 TO END	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STAGE 2A NB SUBTOTAL	400	0	0	0	0	0	0	4,763	20,907	27,095	0	0	0	0	0	0	140

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

TEMPORARY PAVEMENT MARKING (CONTINUED)

STATION TO STATION	646.0600 REMOVING PAVEMENT MARKINGS LF	SPV.0090.02 REMOVE PAVEMENT MARKING GROOVED TAPE LF	647.0955 REMOVING PAVEMENT MARKING ARROWS EACH	647.0960 REMOVING PAVEMENT MARKING SYMBOLS EACH	647.0965 REMOVING PAVEMENT MARKING WORDS EACH	649.0100 4-INCH SOLID YELLOW LF	649.0100 4-INCH SOLID WHITE LF	649.0100 4-INCH DASH/DOT WHITE LF	649.0400 REMOVABLE TAPE 4-INCH SOLID YELLOW LF	649.0400 REMOVABLE TAPE 4-INCH SOLID WHITE LF	649.0400 REMOVABLE TAPE 4-INCH DASH/DOT WHITE LF	649.0400 REMOVABLE TAPE 4-INCH SOLID BLACK LF	649.0801 REMOVABLE TAPE 8-INCH SOLID WHITE LF	649.1500 DIAGONAL 12-INCH LF	649.1800 ARROWS REMOVABLE TAPE TYPE 2 EACH	649.1800 ARROWS REMOVABLE TAPE TYPE 3 EACH	649.2100 TEMPORARY RAISED PAVEMENT MARKERS EACH
STAGE 2A CONTINUED																	
IH 43 SOUTHBOUND																	
653+20 TO 660+00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
660+00 TO 670+00	-	-	-	-	-	-	-	101	663	1,152	-	-	-	-	-	-	18
670+00 TO 677+24	-	-	-	-	-	-	-	31	724	1,325	-	-	-	-	-	-	-
190+83 TO 198+00	-	-	-	-	-	-	-	183	728	733	-	-	-	-	-	-	60
198+00 TO 211+00	-	-	-	-	-	-	-	328	1,308	1,516	-	-	-	-	-	-	-
211+00 TO 220+00	-	-	-	-	-	-	-	221	888	879	-	-	-	-	-	-	-
220+00 TO 230+00	-	-	-	-	-	-	-	250	999	996	-	-	-	-	-	-	-
230+00 TO 240+00	-	-	-	-	-	-	-	250	1,000	1,000	-	-	-	-	-	-	-
240+00 TO 247+00	-	-	-	-	-	-	-	175	700	700	-	-	-	-	-	-	-
247+00 TO 260+00	-	-	-	-	-	-	-	324	1,295	1,297	-	-	-	-	-	-	-
260+00 TO 270+00	-	-	-	-	-	-	-	252	1,006	1,011	-	-	-	-	-	-	-
270+00 TO 280+00	-	-	-	-	-	-	-	225	900	1,276	-	-	-	-	-	-	-
280+00 TO 290+00	-	-	-	-	-	-	-	250	1,000	1,014	-	-	-	-	-	-	-
290+00 TO 300+00	-	-	-	-	-	-	-	250	1,000	1,000	-	-	-	-	-	-	-
300+00 TO 310+00	-	-	-	-	-	-	-	69	1,000	1,724	-	-	-	-	-	-	27
310+00 TO 320+00	-	-	-	-	-	-	-	-	400	1,000	-	-	-	-	-	-	-
STAGE 2A SB SUBTOTAL	0	0	0	0	0	0	0	2,909	13,611	16,623	0	0	0	0	0	0	105
STAGE 2B																	
IH 43 SOUTHBOUND																	
320+00 TO 331+34	-	-	-	-	-	1,129	1,399	200	-	-	-	-	-	-	-	-	28
157+74 TO 170+00	-	-	-	-	-	1,225	1,216	305	-	-	-	-	-	-	-	-	-
170+00 TO 180+00	-	-	-	-	-	1,001	1,011	252	-	-	-	-	-	-	-	-	-
180+00 TO 190+00	-	-	-	-	-	1,000	1,000	250	-	-	-	-	-	-	-	-	-
190+00 TO 200+00	-	-	-	-	-	1,003	999	251	-	-	-	-	-	-	-	-	-
200+00 TO 210+00	600	-	-	-	-	600	1,558	155	-	-	-	-	-	-	-	-	21
210+00 TO END	-	-	-	-	-	-	4,904	113	-	-	-	-	-	-	-	-	-
IH 794	-	-	-	-	-	-	1,630	282	-	-	-	900	-	-	-	-	-
STAGE 2B SB SUBTOTAL	600	0	0	0	0	5,958	13,717	1,808	0	0	0	900	0	0	0	0	49
STAGE 3																	
320+00 TO 331+34	-	-	-	-	-	-	-	104	1,123	2,345	-	-	-	-	-	-	76
157+74 TO 170+00	-	-	-	-	-	-	-	403	1,213	1,321	-	-	-	-	-	-	-
170+00 TO 180+00	-	-	-	-	-	-	-	254	1,010	1,020	-	-	-	-	-	-	-
180+00 TO 190+00	-	-	-	-	-	-	-	251	1,001	1,519	-	-	-	-	-	-	-
190+00 TO 200+00	-	400	-	-	-	-	-	252	1,004	1,007	-	-	-	-	-	-	-
200+00 TO 210+00	-	2,100	-	-	-	-	-	118	1,005	1,536	-	-	-	-	-	-	33
210+00 TO END	-	2,200	-	-	-	-	-	202	1,197	6,672	-	-	-	-	-	-	81
IH 794	-	-	-	-	-	-	1,630	282	-	-	-	900	-	-	-	-	-
STAGE 3 SUBTOTAL	0	4,700	0	0	0	0	1,630	1,866	7,553	15,420	0	900	0	0	0	0	190
TOTAL	39,465	14,501	4	5	3	39,050	59,942	20,792	43,171	60,935	350	1,800	375	214	2	4	753
							119,784			106,256					6		

NOTE: MAINLINE PAVEMENT MARKINGS TO BE REMOVED AT THE END OF EACH STAGE WITH THE EXCEPTION OF STAGE 1

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

TRAFFIC CONTROL

	643.0100 TRAFFIC CONTROL 1228-26-70 EACH	643.2000 TRAFFIC CONTROL DETOUR 1228-26-70 EACH	643.0300 TRAFFIC CONTROL DRUMS EACH	643.0300 DAYS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH	643.0420 DAYS	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH	643.0705 DAYS	643.0715 TYPE C EACH	643.0715 DAYS	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH	643.0800 DAYS	643.0900 TRAFFIC CONTROL SIGNS EACH	643.0900 DAYS	SPV.0045.03 PCMS CELLULAR COMMUNICATIONS DAYS	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH	643.1050 DAY	SPV.0045.01 TRUCK MOUNTED ATTENUATOR EACH	SPV.0045.01 DAY	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH	SPV.0060.08 TRAFFIC CONTROL INTERIM FREEWAY LANE CLOSURE EACH	SPV.0060.07 TRAFFIC CONTROL CLOSE-OPEN FREEWAY ENTRANCE RAMP EACH	NO. OF CLOSURES	REMARKS
PROJECT 1228-26-70	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
IH 43 NORTHBOUND																													
STAGE 1																													
LENGTH	-	-	343	20,923	16	976	-	-	32	1,952	70	4,270	4	244	58	3,538	183	3	183	-	-	7,210	7,210	4	15	4	1	61	
WARNIMONT STREET	-	-	40	2,440	2	122	-	-	6	366	-	-	-	-	11	671	-	-	-	-	-	-	-	-	-	-	1	61	
STAGE 2A																													
LENGTH	-	-	325	18,200	6	336	-	-	12	672	60	3,360	3	168	58	3,248	168	4	224	-	-	61	7,271	4	15	2	1	56	
STAGE 3																													
LENGTH	-	-	207	10,557	3	153	-	-	6	306	54	2,754	5	255	48	2,448	-	-	-	-	-	-	-	-	12	-	1	51	
STAGE 4																													
PAINTING SHOULDER CLOSURE	-	-	43	2,580	-	-	-	-	-	-	5	300	1	60	14	840	60	1	60	1	60	-	-	-	8	4	3	20	
S-40-92	-	-	15	150	3	30	-	-	-	-	-	-	-	-	4	40	-	-	-	-	-	-	-	-	-	-	1	10	
NORTHBOUND SUBTOTALS	1	1	973	54,850	30	1,617	0	0	56	3,296	189	10,684	13	727	193	10,785	411	8	467	1	60	7,271	14,481	8	50	10			
IH 43 SOUTHBOUND																													
STAGE 1																													
LENGTH	-	-	215	13,115	10	610	-	-	20	1,220	19	1,159	2	122	27	1,647	244	4	244	-	-	3,270	3,270	3	12	2	1	61	
STAGE 2A																													
LENGTH	-	-	195	10,920	7	392	-	-	14	784	16	896	2	112	36	2,016	224	4	224	-	-	-	3,220	3	12	1	1	56	
STAGE 2B																													
LENGTH	-	-	177	6,726	7	266	-	-	6	228	57	2,166	2	76	32	1,216	152	4	152	-	-	270	3,540	1	15	2	1	38	
IH 794	-	-	62	2,356	5	190	-	-	10	380	25	950	1	38	16	608	-	-	-	-	-	-	-	-	-	1	1	38	
STAGE 3																													
LENGTH			450	22,950	76	3,876	-	-	32	1,632	114	5,814	9	459	71	3,621	204	4	204	-	-	-	3,470	1	15	1	1	51	
IH 794	-	-	62	3,162	5	255	-	-	10	510	25	1,275	1	51	16	816	-	-	-	-	-	-	-	-	-	1	1	51	
WN RAMP CLOSURE	-	-	125	1,750	14	196	-	-	-	-	-	-	-	-	17	238	-	1	14	-	-	-	-	-	-	-	1	14	
STAGE 4																													
PAINTING SHOULDER CLOSURE	-	-	43	2,580	-	-	-	-	-	-	5	300	1	60	14	840	60	1	60	1	60	-	-	-	8	2	3	20	
S-40-95	-	-	26	260	3	30	-	-	6	60	-	-	1	10	9	90	-	-	-	-	-	-	-	-	-	-	1	10	
S-40-94	-	-	15	150	3	30	-	-	6	60	-	-	-	-	4	40	-	-	-	-	-	-	-	-	-	-	1	10	
SOUTHBOUND SUBTOTALS	0	0	1,370	63,969	130	5,845	0	0	104	4,874	261	12,560	19	928	242	11,132	884	18	898	1	60	3,540	13,500	8	62	10	1		
SIDE ROAD TRAFFIC CONTROL																													
ELLEN STREET	-	-	13	1,521	1	117	-	-	2	234	-	-	-	-	3	351	-	-	-	-	-	-	-	-	-	-	1	117	
BECHER STREET	-	-	193	2,895	4	60	-	-	12	180	8	120	2	30	20	300	-	-	-	-	-	-	-	-	-	-	1	15	
ROSEDALE AVENUE	-	-	-	-	8	120	-	-	16	240	-	-	-	-	9	135	-	-	-	-	-	-	-	-	-	-	1	15	
HOLT AVENUE CLOSURE	-	-	54	216	18	72	-	-	32	128	21	84	2	8	11	44	8	2	8	-	-	-	-	-	-	-	1	4	
PAINTING - TWO LANE ROADWAY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	240	-	-	-	-	-	-	-	-	-	-	2	5	
PAINTING - FOUR LANE ROADWAY	-	-	72	720	4	40	-	-	20	200	8	80	4	40	24	240	-	-	-	-	-	-	-	-	-	-	2	5	
RAMP CLOSURES - UNDISTRIBUTED	-	-	15	1,650	45	4,950	-	-	-	-	-	-	-	-	11	1,210	-	-	-	-	-	-	-	-	-	-	1	110	
TRUCK INGRESS/EGRESS LOCATIONS	-	-	5	2,750	4	2,200	30	30	-	-	-	-	-	-	13	7,150	-	2	1,100	-	-	-	-	-	-	-	5	110	
SUBTOTALS	0	0	352	9,752	84	7,559	30	30	82	982	37	284	8	78	115	9,670	8	4	1,108	0	0	0	0	0	0	0			
UNDISTRIBUTED	-	-	270	12,857	24	1,502	3	3	24	915	49	2,353	4	173	55	3,159	130	3	247	0	12	1,081	2,798	2	20	2			
TOTALS	1	1		141,428		16,523	33	33		10,067		25,881		1,906		34,746	1,433		2,720		132	11,892	30,779	18	132	22			

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PROJECT NO: 1228-26-70 | HWY: IH 43 | COUNTY: MILWAUKEE | MISCELLANEOUS QUANTITIES | SHEET 274 | E

DETOUR SIGNS

SIGN MESSAGE	SIGN CODE	SIZE	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS SIZE 2 EACH	SIZE 2 DAY	SIZE 3 EACH	SIZE 3 DAY	DAYS
HOWARD AVE/HOLT AVE NB ENTRANCE RAMP STAGE 1							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	61	61
DETOUR	M4-8	24" X 12"	15	915	-	-	61
DETOUR	M4-8	36" X 18"	-	-	1	61	61
TO	M4-5	36" X 18"	-	-	1	61	61
NORTH	M3-1	24" X 12"	15	915	-	-	61
NORTH	M3-1	36" X 18"	-	-	2	122	61
SHIELD 43	M1-1	24" X 24"	15	915	-	-	61
SHIELD 43	M1-1	36" X 36"	-	-	2	122	61
WEST	M3-4	24" X 12"	15	915	-	-	61
WEST	M3-4	36" X 18"	-	-	2	122	61
SHIELD 94	M1-1	24" X 24"	15	915	-	-	61
SHIELD 94	M1-1	36" X 36"	-	-	2	122	61
ARROW TILT RT OR LT	M06-2	30" X 30"	-	-	1	61	61
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	14	854	-	-	61
AHEAD RIGHT TURN	M05-1R	21" X 21"	3	183	-	-	61
AHEAD LEFT TURN	M05-1L	21" X 21"	2	122	-	-	61
END DETOUR	M4-8A	24" X 18"	1	61	-	-	61
POSTS	13		-	-	-	-	61
NATIONAL AVE NB EXIT RAMP STAGE							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	61	61
TO	M4-5	24" X 12"	6	366	-	-	61
TO	M4-5	36" X 18"	-	-	2	122	61
NATIONAL AVE	M1-94	44" X 12"	6	366	-	-	61
NATIONAL AVE	M1-94	66" X 18"	-	-	2	122	61
H-D MUSEUM	M1-94	36" X 12"	7	427	-	-	61
H-D MUSEUM	M1-94	54" X 18"	-	-	2	122	61
DETOUR	M4-8	24" X 12"	6	366	-	-	61
DETOUR	M4-8	36" X 18"	-	-	1	61	61
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	6	366	-	-	61
ARROW TILT RT OR LT	M06-2	21" X 21"	1	61	-	-	61
ARROW AHEAD & RIGHT TILT	M05-2R	30" X 30"	-	-	1	61	61
END DETOUR	M4-8A	24" X 18"	1	61	-	-	61
POSTS	6		-	-	-	-	61
HOLT AVENUE SB EXIT RAMP STAGE 1							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	61	61
TO	M4-5	24" X 12"	3	183	-	-	61
TO	M4-5	36" X 18"	-	-	4	244	61
DETOUR	M4-8	24" X 12"	5	305	-	-	61
DETOUR	M4-8	36" X 18"	-	-	3	183	61
HOLT AVE	M1-94	28" X 12"	6	366	-	-	61
HOLT AVE	M1-94	42" X 18"	-	-	4	244	61
PARK & RIDE	M1-94	40" X 12"	3	183	-	-	61
ALVERNO COLLEGE	M1-94	56" X 12"	3	183	-	-	61
HOSPITAL	D9-2	24" X 24"	3	183	-	-	61
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	5	305	-	-	61
ARROW RT OR LT OR AHEAD	M06-1	30" X 30"	-	-	1	61	61
ARROW AHEAD & RIGHT TILT	M05-2R	30" X 30"	-	-	1	61	61
ARROW TILT RT OR LT	M06-2	30" X 30"	-	-	1	61	61
AHEAD LEFT TURN	M05-1L	21" X 21"	1	61	-	-	61
AHEAD RIGHT TURN	M05-1R	21" X 21"	1	61	-	-	61
END DETOUR	M4-8A	24" X 18"	1	61	-	-	61
POSTS	5		-	-	-	-	61
MINERAL ST/WALKER ST NB ENTRANCE RAMP STAGE 1-2A							
DETOUR AHEAD	W20-2A	48" X 48"	2	234	-	-	117
TO	M4-5	24" X 12"	2	234	-	-	117
DETOUR	M4-8	24" X 12"	13	1,521	-	-	117
NORTH	M3-1	24" X 12"	12	1,404	-	-	117
WEST	M3-4	24" X 12"	12	1,404	-	-	117
SHIELD 43	M1-1	24" X 24"	12	1,404	-	-	117
SHIELD 94	M1-1	24" X 24"	12	1,404	-	-	117
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	17	1,989	-	-	117
AHEAD LEFT TURN	M05-1L	21" X 21"	2	234	-	-	117
ARROW TILT RT OR LT	M06-2	21" X 21"	1	117	-	-	117
END DETOUR	M4-8A	24" X 18"	2	234	-	-	117
POSTS	7		-	-	-	-	117
ELLEN STREET TO SB STH 794 STAGE 1-2A							
DETOUR	M4-8	24" X 12"	6	702	-	-	117
SOUTH	M3-2	24" X 12"	4	468	-	-	117
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	2	234	-	-	117
AHEAD RIGHT TURN	M05-1R	21" X 21"	1	117	-	-	117
ARROW AHEAD & RIGHT TILT	M05-2R	21" X 21"	1	117	-	-	117
ARROW TILT RT OR LT	M06-2	21" X 21"	1	117	-	-	117
STH 794	M1-6	24" X 24"	3	351	-	-	117
END DETOUR	M4-8A	24" X 18"	1	117	-	-	117
POSTS	7		-	-	-	-	117
SUBTOTAL			265	22,101	36	2,196	

DETOUR SIGNS (CONTINUED)

SIGN MESSAGE	SIGN CODE	SIZE	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS SIZE 2 EACH	SIZE 2 DAY	SIZE 3 EACH	SIZE 3 DAY	DAYS
EAST-SOUTH SYSTEM RAMP STAGE							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	89	89
TO	M4-5	36" X 18"	-	-	1	89	89
DETOUR	M4-8	24" X 12"	1	89	-	-	89
DETOUR	M4-8	36" X 18"	-	-	5	445	89
SOUTH	M3-2	24" X 12"	1	89	-	-	89
SOUTH	M3-2	36" X 18"	-	-	6	534	89
SHIELD 43	M1-1	24" X 24"	1	89	-	-	89
SHIELD 43	M1-1	36" X 36"	-	-	6	534	89
EAST	M3-3	24" X 12"	1	89	-	-	89
EAST	M3-3	36" X 18"	-	-	6	534	89
SHIELD 94	M1-1	24" X 24"	1	89	-	-	89
SHIELD 94	M1-1	36" X 36"	-	-	6	534	89
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	1	89	-	-	89
ARROW TILT RT OR LT	M06-2	30" X 30"	-	-	2	178	89
ARROW AHEAD & RIGHT TILT	M05-2R	30" X 30"	-	-	2	178	89
AHEAD LEFT TURN	M05-1L	30" X 30"	-	-	1	89	89
END DETOUR	M4-8A	24" X 18"	1	89	-	-	89
POSTS	6		-	-	-	-	89
MINERAL ST SB ENT RAMP STAGE							
DETOUR	M4-8	24" X 12"	6	534	-	-	89
TO	M4-5	24" X 12"	2	178	-	-	89
SOUTH	M3-2	24" X 12"	5	445	-	-	89
SHIELD 43	M1-1	24" X 24"	5	445	-	-	89
EAST	M3-3	24" X 12"	5	445	-	-	89
SHIELD 94	M1-1	24" X 24"	5	445	-	-	89
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	5	445	-	-	89
ARROW TILT RT OR LT	M06-2	21" X 21"	2	178	-	-	89
AHEAD RIGHT TURN	M05-1R	21" X 21"	1	89	-	-	89
END DETOUR	M4-8A	24" X 18"	1	89	-	-	89
POSTS	0		-	-	-	-	89
HOWARD AVE NB ENTRANCE RAMP STAGE 2A							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	56	56
TO	M4-5	36" X 18"	-	-	1	56	56
DETOUR	M4-8	24" X 12"	4	224	-	-	56
DETOUR	M4-8	36" X 18"	-	-	1	56	56
NORTH	M3-1	24" X 12"	4	224	-	-	56
NORTH	M3-1	36" X 18"	-	-	2	112	56
SHIELD 43	M1-1	24" X 24"	4	224	-	-	56
SHIELD 43	M1-1	36" X 36"	-	-	2	112	56
WEST	M3-4	24" X 12"	4	224	-	-	56
WEST	M3-4	36" X 18"	-	-	2	112	56
SHIELD 94	M1-1	24" X 24"	4	224	-	-	56
SHIELD 94	M1-1	36" X 36"	-	-	2	112	56
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	3	168	-	-	56
AHEAD RIGHT TURN	M05-1R	21" X 21"	1	56	-	-	56
ARROW TILT RT OR LT	M06-2	30" X 30"	-	-	1	56	56
END DETOUR	M4-8A	24" X 18"	1	56	-	-	56
POSTS	4		-	-	-	-	56
EASTBOUND HOLT AVE SB EXIT RAMP STAGE 2A							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	56	56
TO	M4-5	24" X 12"	2	-	2	112	56
TO	M4-5	36" X 18"	-	-	4	224	56
HOLT AVE	M1-94	28" X 12"	6	336	-	-	56
HOLT AVE	M1-94	42" X 18"	-	-	4	224	56
EAST	M3-3	24" X 12"	6	336	-	-	56
EAST	M3-3	36" X 18"	-	-	4	224	56
DETOUR	M4-8	24" X 12"	5	280	-	-	56
DETOUR	M4-8	36" X 18"	-	-	3	168	56
AHEAD RIGHT TURN	M05-1R	21" X 21"	1	56	-	-	56
AHEAD LEFT TURN	M05-1L	21" X 21"	1	56	-	-	56
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	3	168	-	-	56
ARROW RT OR LT OR AHEAD	M06-1	30" X 30"	-	-	1	56	56
ARROW TILT RT OR LT	M06-2	30" X 30"	-	-	1	56	56
ARROW AHEAD & RIGHT TILT	M05-2R	30" X 30"	-	-	1	56	56
POSTS	0						
SUBTOTAL			93	6,548	69	5,052	

DETOUR SIGNS (CONTINUED)

SIGN MESSAGE	SIGN CODE	SIZE	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAYS SIZE 2 EACH	SIZE 2 DAY	SIZE 3 EACH	SIZE 3 DAY	DAYS
NATIONAL AVE/6TH ST SB EXIT RAMP STAGE 2B							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	38	38
TO	M4-5	24" X 12"	5	190	-	-	38
TO	M4-5	36" X 18"	-	-	3	114	38
DETOUR	M4-8	24" X 12"	5	190	-	-	38
DETOUR	M4-8	36" X 18"	-	-	2	76	38
NATIONAL AVE	M1-94	44" X 12"	5	190	-	-	38
NATIONAL AVE	M1-94	66" X 18"	-	-	3	114	38
H-D MUSEUM	M1-94	36" X 12"	5	190	-	-	38
H-D MUSEUM	M1-94	54" X 18"	-	-	1	38	38
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	4	152	-	-	38
ARROW RT OR LT OR AHEAD	M06-1	30" X 30"	-	-	1	38	38
ARROW AHEAD & RIGHT TILT	M05-2R	30" X 30"	-	-	1	38	38
AHEAD RIGHT TURN	M05-1R	21" X 21"	2	76	-	-	38
END DETOUR	M4-8A	24" X 18"	1	38	-	-	38
POSTS	7		-	-	-	-	38
ROSEDALE AVENUE STAGE 4							
DETOUR AHEAD	W20-2A	48" X 48"	2	28	-	-	14
NO OUTLET	W14-2	30" X 30"	2	28	-	-	14
TO	M4-5	24" X 12"	2	28	-	-	14
DETOUR	M4-8	24" X 12"	12	168	-	-	14
EAST	M3-3	24" X 12"	6	84	-	-	14
WEST	M3-4	24" X 12"	6	84	-	-	14
ROSEDALE AVE	M1-94	44" X 12"	12	168	-	-	14
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	8	112	-	-	14
AHEAD LEFT TURN	M05-1L	21" X 21"	2	28	-	-	14
AHEAD RIGHT TURN	M05-1R	21" X 21"	2	28	-	-	14
END DETOUR	M4-8A	24" X 18"	2	28	-	-	14
POSTS	4		-	-	-	-	14
MITCHELL INTERCHANGE WN RAMP STAGE 3							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	5	5
TO	M4-5	36" X 18"	-	-	1	5	5
DETOUR	M4-8	24" X 12"	2	10	-	-	5
DETOUR	M4-8	36" X 18"	-	-	4	20	5
NORTH	M3-1	24" X 12"	2	10	-	-	5
NORTH	M3-1	36" X 18"	-	-	5	25	5
SHIELD 43	M1-1	24" X 24"	2	10	-	-	5
SHIELD 43	M1-1	36" X 36"	-	-	5	25	5
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	2	10	-	-	5
ARROW RT OR LT OR AHEAD	M06-2	30" X 30"			2	10	5
ARROW AHEAD & RIGHT TILT	M05-2R	30" X 30"	-	-	1	5	5
ARROW TILT RT OR LT	M06-2	30" X 30"	-	-	1	5	5
LAHPAM BLVD SB EXIT RAMP STAGE							
DETOUR AHEAD	W20-2A	48" X 48"	-	-	1	12	12
TO	M4-5	36" X 18"	-	-	1	12	12
DETOUR	M4-8	24" X 12"	7	84	-	-	12
DETOUR	M4-8	36" X 18"	-	-	2	24	12
LAPHAM BLVD	M1-94	40" X 12"	8	96	-	-	12
LAPHAM BLVD	M1-94	60" X 18"	-	-	3	36	12
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	4	48	-	-	12
ARROW RT OR LT OR AHEAD	M06-1	30" X 30"	-	-	1	12	12
ARROW AHEAD & RIGHT TILT	M05-2R	21" X 21"	1	12	-	-	12
ARROW AHEAD & RIGHT TILT	M05-2R	30" X 30"	-	-	1	12	12
ARROW TILT RT OR LT	M06-2	21" X 21"	2	24	-	-	12
END DETOUR	M4-8A	24" X 18"	1	12	-	-	12
POSTS	7		-	-	-	-	12
IH 43 & 94 SIGNED ALTERNATE ROUTE							
ALT	M4-1A	24" X 12"	23	4,140	-	-	180
ALT	M4-1A	36" X 12"	-	-	18	3,240	180
NORTH	M3-1	24" X 12"	15	2,700	-	-	180
NORTH	M3-1	36" X 18"	-	-	5	900	180
SOUTH	M3-2	24" X 12"	8	1,440	-	-	180
SOUTH	M3-2	36" X 18"	-	-	13	2,340	180
EAST	M3-3	24" X 12"	8	1,440	-	-	180
EAST	M3-3	36" X 18"	-	-	13	2,340	180
SHIELD 43	M1-1	24" X 24"	23	4,140	-	-	180
SHIELD 43	M1-1	36" X 36"	-	-	18	3,240	180
SHIELD 94	M1-1	24" X 24"	8	1,440	-	-	180
SHIELD 94	M1-1	36" X 36"	-	-	12	2,160	180
ARROW RT OR LT OR AHEAD	M06-1	21" X 21"	20	3,600	-	-	180
ARROW RT OR LT OR AHEAD	M06-1	30" X 30"	-	-	16	2,880	180
AHEAD LEFT TURN	M05-1L	21" X 21"	2	360	-	-	180
AHEAD LEFT TURN	M05-1R	30" X 30"	-	-	1	180	180
ARROW TILT RT OR LT	M06-2	21" X 21"	2	360	-	-	180
ARROW TILT RT OR LT	M06-2	30" X 30"	-	-	3	540	180
POSTS	0		-	-	-	-	180
SUBTOTAL			223	21,746	140	18,484	
TOTAL			50,395		25,732		
				76,127			

NOTE: POST QUANTITY FOR INFORMATION ONLY

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

PROJECT NO: 1228-26-70 | HWY: IH 43 | COUNTY: MILWAUKEE | MISCELLANEOUS QUANTITIES | SHEET 275 | E

LANDSCAPING

STATION	TO STATION	625.0500 SALVAGED TOPSOIL SY	628.2023 EROSION MAT CLASS II TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB
IH 43 NORTHBOUND						
653+20	660+00	-	-	-	-	-
660+00	670+00	99	99	0.07	1.78	2.67
670+00	677+24	81	81	0.06	1.46	2.19
190+83	198+00	69	69	0.05	1.24	1.86
198+00	211+00	103	103	0.07	1.85	2.78
220+00	230+00	62	62	0.04	1.12	1.67
230+00	240+00	112	112	0.08	2.02	3.02
240+00	247+00	34	34	0.03	0.61	0.92
247+00	260+00	125	125	0.08	2.25	3.38
260+00	270+00	110	110	0.07	1.98	2.97
270+00	280+00	82	82	0.06	1.48	2.21
280+00	290+00	79	79	0.05	1.42	2.13
290+00	300+00	19	19	0.02	0.34	0.51
300+00	310+00	145	145	0.1	2.61	3.92
310+00	320+00	124	124	0.08	2.23	3.35
320+00	331+34	129	129	0.09	2.32	3.48
157+74	170+00	81	81	0.06	1.46	2.19
170+00	180+00	37	37	0.03	0.67	1.00
IH 43 SOUTHBOUND						
653+20	660+00	75	75	0.05	1.35	2.03
660+00	670+00	111	111	0.07	2.00	3.00
670+00	677+24	81	81	0.06	1.46	2.19
190+83	198+00	65	65	0.05	1.17	1.76
198+00	211+00	99	99	0.07	1.78	2.67
220+00	230+00	60	60	0.04	1.08	1.62
230+00	240+00	112	112	0.08	2.02	3.02
240+00	247+00	30	30	0.02	0.54	0.81
247+00	260+00	123	123	0.08	2.21	3.32
260+00	270+00	112	112	0.08	2.02	3.02
270+00	280+00	84	84	0.06	1.51	2.27
280+00	290+00	78	78	0.05	1.40	2.11
290+00	300+00	43	43	0.03	0.77	1.16
300+00	310+00	134	134	0.09	2.41	3.62
310+00	320+00	82	82	0.06	1.48	2.21
320+00	331+34	123	123	0.08	2.21	3.32
157+74	170+00	71	71	0.05	1.28	1.92
170+00	180+00	42	42	0.03	0.76	1.13
NOISE WALL						
663+02	192+65	3,207	3,207	2	58	87
666+71	668+62	437	437	0	8	12
UNDISTRIBUTED						
		666	666	1	12	18
TOTALS (ROUNDED)		7,326	7,326	6	132	198

TEMPORARY DELINEATORS

STATION TO STATION	633.1100 DELINEATORS TEMPORARY EACH
IH 43 NORTHBOUND STAGE 1	
673+00 TO 677+24	17
190+83 TO 198+00	29
198+00 TO 211+00	52
211+00 TO 220+00	36
220+00 TO 230+00	40
230+00 TO 240+00	40
240+00 TO 247+00	28
247+00 TO 260+00	52
260+00 TO 270+00	40
270+00 TO 280+00	40
280+00 TO 290+00	40
290+00 TO 300+00	40
300+00 TO 310+00	40
310+00 TO 320+00	40
320+00 TO 331+34	45
157+74 TO 170+00	49
170+00 TO 180+00	40
180+00 TO 190+00	40
190+00 TO 200+00	40
200+00 TO 210+00	40
SUBTOTAL	1,151
IH 43 NORTHBOUND STAGE 2	
195+67 TO 198+00	-
198+00 TO 199+66	7
220+00 TO 225+00	20
243+00 TO 247+00	16
247+00 TO 249+30	9
264+33 TO 267+10	11
272+47 TO 276+12	15
286+43 TO 298+29	47
316+70 TO 317+51	3
151+32 TO 170+00	75
170+00 TO 180+00	40
180+00 TO 190+00	40
190+00 TO 200+00	40
200+00 TO 210+00	40
SUBTOTAL	1,151

STATION TO STATION	633.1100 DELINEATORS TEMPORARY EACH
IH 43 SOUTHBOUND STAGE 1	
672+00 TO 677+24	21
190+83 TO 198+00	29
198+00 TO 211+00	52
211+00 TO 220+00	36
220+00 TO 230+00	40
230+00 TO 240+00	40
240+00 TO 247+00	28
247+00 TO 260+00	52
260+00 TO 270+00	40
270+00 TO 280+00	40
280+00 TO 290+00	40
290+00 TO 300+00	40
300+00 TO 310+00	40
310+00 TO 320+00	40
320+00 TO 331+34	45
157+74 TO 170+00	49
170+00 TO 180+00	40
180+00 TO 190+00	40
190+00 TO 200+00	40
200+00 TO 210+00	40
210+00 TO END	65
IH 43 SOUTHBOUND STAGE 2	
196+67 TO 200+51	15
208+51 TO 225+86	69
242+64 TO 249+97	29
268+42 TO 270+97	10
275+23 TO 277+55	9
287+00 TO 297+61	42
316+70 TO 319+00	9
164+34 TO 170+00	23
170+00 TO 180+00	40
180+00 TO 190+00	40
190+00 TO 200+00	40
SUBTOTAL	1,183
TOTAL	2,334

TRAFFIC CONTROL COVERING SIGNS

	643.0910 TYPE I EACH	643.0920 TYPE II EACH	EXISTING SIGN	SIGN CODE	CYCLES
NATIONAL AVE NB EXIT RAMP	1	-	EXIT 311	-	1
	1	-	H-D MUSEUM EXIT 311	-	1
MINERAL ST/WALKER ST NB ENT RAMP	-	1	NORTH	M3-1	1
	-	1	WEST	M3-4	1
	-	1	SHIELD 43	M1-1	1
	-	1	SHIELD 94	M1-1	1
	-	1	SHIELD 41	M1-4	1
	-	2	ARROW RIGHT	M06-1	1
NATIONAL AVE/6TH ST SB EXIT RAMP	1	-	RT LANE EXIT ONLY 1/4 MILE	-	1
	1	-	H-D MUSEUM EXIT 311	-	1
HOLT AVE SB EXIT RAMP	1	-	EXIT 314A	-	1
	1	-	"A" IN CRASH SITE 314A-B	-	1
IH 43 & 94 SIGNED ALTERNATE ROUTE	-	1	ARROW LEFT	M06-1	1
	-	7	ALT	M4-1	1
	-	1	EAST	M3-2	1
	-	7	SHIELD 94	M-11A	1
	-	6	SHIELD 43	M1-1	1
	-	1	AHEAD RIGHT TURN	M05-1L	1
	-	4	ARROW AHEAD	M06-1	1
	-	1	ARROW RIGHT	M06-1	1
	3	-	BEL01T	-	1
CLYBOURN STREET SB ENT RAMP	-	2	EAST	M3-2	1
	-	2	SHIELD 43	M1-1	1
	-	2	SHIELD 94	M1-1	1
	-	2	AHEAD LEFT TURN	M05-1L	1
	-	2	ARROW LEFT	M06-1	1
ELLEN STREET	-	1	LEFT TURN OR RIGHT TURN ONLY	R3-8F	1
6TH STREET	-	1	RIGHT LANE MUST TURN RIGHT	R3-7R	1
IH 43 NB					
STAGE 1	1	-	EXIT 314A	-	1
	1	-	EXIT 312A-B	-	1
STAGE 2A	1	-	EXIT 312A-B	-	1
	1	-	EXIT 311	-	1
			EXIT 310C	-	1
IH 43 SB					
STAGE 2A	1	-	EXIT 314A	-	1
STAGE 2B	1	-	EXIT 314A	-	1
	1	-	EXIT 312A	-	1
	-	1	LANE ENDS 500 FEET	-	1
STAGE 3	1	-	EXIT 311	-	1
	-	1	LANE ENDS 500 FEET	-	1
TOTAL	17	49			

GUARDRAIL

START STATION	START OFFSET	END STATION	END OFFSET	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EA	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EA
STRUCTURES AND BARRIERS							
656+25	71' RT	657+15	71' RT	-	15	2	-
190+30	57' RT	191+20	57' RT	-	-	1	2
A 280+02	71' RT	A 280+92	71' RT	-	8	1	-
A 299+57	64' LT	A 831+18	64' LT	-	15	1	-
A 303+94	55' RT	A 304+84	55' RT	-	15	2	-
A 306+18	64' LT	A 837+80	64' LT	-	15	2	-
A 308+14	57' RT	A 309+04	57' RT	-	15	2	-
A 310+74	64' LT	A 842+35	64' LT	-	15	2	-
A 326+67	63' LT	A 858+29	63' LT	-	15	2	-
UNPROTECTED SIDE SLOPES							
201+33	63' LT	245+00	63' LT	4375	-	1	-
225+01	56' RT	245+39	56' RT	2050	-	1	-
A 298+13	53' RT	A 298+62	53' RT	49	-	1	-
REPLACE							
193+04	300' LT	193+38	372' LT	-	8	1	-
232+98	63' LT	234+52	63' LT	64	-	-	-
A 284+21	110' LT	A 287+85	107' LT	272	8	-	1
A 316+40	98' RT	316+65	98' RT	25	-	-	-
PROJECT TOTAL				6834	128	19	3

MOBILIZATIONS EMERGENCY PAVEMENT REPAIR

	SPV.0060.05 EACH
NORTHBOUND	10
SOUTHBOUND	10
TOTAL	20

FENCE TEMPORARY

STA	OFFSET	STA	OFFSET	204.0170 REMOVING FENCE LF	SPV.0090.01 FENCE TEMPORARY LF
659+80	195' RT	663+03	148' RT	-	341
663+03	148' RT	669+02	146' RT	704	-
669+02	146' RT	673+70	140' RT	532	494
673+84	150' RT	193+93	241' RT	615	633
UNDISTRIBUTED				149	132
TOTAL				2,000	1,600

REMOVING MODULAR WALL

STATION TO STATION	204.9090.S LF
IH 43 NORTHBOUND	
266+71 TO 268+62	320
TOTAL	320

FINISHING ROADWAY

	213.0100 EACH
PROJECT 1228-26-70	1
TOTAL	1

PAVEMENT CLEANUP

	SPV.0075.01 HRS
IH 43 NORTHBOUND	345
IH 43 SOUTHBOUND	345
TOTAL	690

INCENTIVE IRI RIDE

	*440.4410.S DOL
IH 43 NORTHBOUND	16,443
IH 43 SOUTHBOUND	17,699
1228-26-70 TOTAL	34,142

*DENOTES QUANTITY FOUND ELSEWHERE

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

EARTHWORK SUMMARY

From/To Station		Location	Common Excavation (1) (item # 205.0100)		Salvaged/ Unusable Pavement Material (4)	Contaminated soils	Available Material (5)	Reduced EBS in Fill (9)	Expanded Marsh Backfill (10)	Expanded EBS Backfill (11)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Contaminated Soil Management	Waste	Borrow	Comment:
			Cut (2) CY	EBS Excavation (3) CY				Factor 0.80	Factor 1.50	Factor 1.30		Factor 1.25		TONS (item *SPV.0195.01)		(item *208.0100)	
653+20	660+00	NORTHBOUND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
660+00	670+00	NORTHBOUND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
670+00	677+24	NORTHBOUND	77	0	77	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
190+83	198+00	NORTHBOUND	54	0	54	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	63	0	63	0	0	0	0	0	0	0	0	0	0	0	
198+00	211+00	NORTHBOUND	111	0	111	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	120	0	120	0	0	0	0	0	0	0	0	0	0	0	
220+00	230+00	NORTHBOUND	59	0	59	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	58	0	58	0	0	0	0	0	0	0	0	0	0	0	
230+00	240+00	NORTHBOUND	107	0	107	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	107	0	107	0	0	0	0	0	0	0	0	0	0	0	
240+00	247+00	NORTHBOUND	32	0	32	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	28	0	28	0	0	0	0	0	0	0	0	0	0	0	
247+00	260+00	NORTHBOUND	120	0	120	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	118	0	118	0	0	0	0	0	0	0	0	0	0	0	
260+00	270+00	NORTHBOUND	106	0	106	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	136	0	136	0	0	0	0	0	0	0	0	0	0	0	
270+00	280+00	NORTHBOUND	110	0	110	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	131	0	131	0	0	0	0	0	0	0	0	0	0	0	
280+00	290+00	NORTHBOUND	75	0	75	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	75	0	75	0	0	0	0	0	0	0	0	0	0	0	
290+00	300+00	NORTHBOUND	18	0	18	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	40	0	40	0	0	0	0	0	0	0	0	0	0	0	
300+00	310+00	NORTHBOUND	107	0	107	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	107	0	107	0	0	0	0	0	0	0	0	0	0	0	
310+00	320+00	NORTHBOUND	107	0	107	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	133	0	133	0	0	0	0	0	0	0	0	0	0	0	
320+00	331+34	NORTHBOUND	139	0	139	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	127	0	127	0	0	0	0	0	0	0	0	0	0	0	
157+74	170+00	NORTHBOUND	101	0	101	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	99	0	99	0	0	0	0	0	0	0	0	0	0	0	
170+00	177+00	NORTHBOUND	47	0	47	0	0	0	0	0	0	0	0	0	0	0	
		SOUTHBOUND	39	0	39	0	0	0	0	0	0	0	0	0	0	0	
			2751	0	2751	0	0	0	0	0	0	0	0	0	0	0	
		Total Common Exc	2751														

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 205.0500
7) Rock Excavation Item number 205.0200
8) Reduced Marsh in Fill - Excavated Marsh material is usuable in Fills outside the 1:1 slope. Marsh in Fill Reduction factor = 0.6
9) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
10) Expanded Marsh Backfill - This is to be filled with Select Borrow material. Marsh Backfill Factor = 1.5. Item number 208.11
11) Expanded EBS Backfill - This is to be filled with Select Borrow material. EBS Backfill Factor = 1.3. Item number 208.11
12) Expanded Rock - Factor = 1.1.

REMOVING NOISE BARRIER

	204.9090.S LF
STATION TO STATION	
IH 43 NORTHBOUND	
659+88 TO 192+66	1,967
191+33 TO 197+36	577
TOTAL	2,544

FENCE SAFETY

	616.0700.S LF
WARNIMONT STREET CLOSURE	150
ROSEDALE AVENUE	390
UNDISTRIBUTED	500
1228-26-70 TOTAL	1,040

MOBILIZATIONS EROSION CONTROL

	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
IH 43 NORTHBOUND	7	3
IH 43 SOUTHBOUND	7	3
1228-26-70 TOTAL	14	6

BREAKER RUN

	311.0110 TON
IH 43 NORTHBOUND	274
IH 43 SOUTHBOUND	254
1228-26-70 TOTAL	528

* = ADDITIONAL QUANTITIES LISTED ELSEWHERE | ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

REMOVING PAVEMENT

STATION			OFFSET	LOCATION	AT	* 204.0100 REMOVING PAVEMENT SY	* 204.0125 REMOVING ASPHALTIC SURFACE MILLING TON
196+66	-	199+45	SB	B-40-261	HOLT AVE	349	85
195+95	-	200+50	NB	B-40-262	HOLT AVE	570	288
95+51	-	99+00	SB OFF RAMP	B-40-260	HOLT AVE	136	48
46+25	-	49+91	NB CD ROAD	B-40-263	HOLT AVE	189	54
209+65	-	224+60	SB	B-40-183	OKLAHOMA AVE	251	84
209+85	-	224+51	NB	B-40-184	OKLAHOMA AVE	292	97
242+64	-	248+88	SB	B-40-181	ROSEDALE AVE	610	377
243+00	-	248+81	NB	B-40-182	ROSEDALE AVE	598	320
287+00	-	296+21	SB	B-40-175	BECHER ST	303	124
287+05	-	298+29	NB	B-40-176	BECHER ST	322	127
164+70	-	173+04	SB	B-40-286	WASHINGTON ST	286	87
164+74	-	173+17	NB	B-40-286	WASHINGTON ST	337	114
			SB ON RAMP	B-40-286	NATIONAL AVE	38	12
			NB OFF RAMP	B-40-286	NATIONAL AVE	42	10
176+63	-	176+84	SB	B-40-285	VALLEY	126	24
176+56	-	176+83	NB	B-40-285	VALLEY	139	33
			SB OFF RAMP	B-40-285	NATIONAL AVE	81	24
			NB ON RAMP	B-40-285	NATIONAL AVE	62	13
TOTAL						4,733	1,919

*DENOTES QUANTITY FOUND ELSEWHERE

REMOVING GUARDRAIL

STATION	OFFSET	LOCATION	AT	204.0165 REMOVING GUARDRAIL LF
98+06 - 99+11	SB OFF RAMP	B-40-260	HOLT AVE	200
TOTAL				200

CONCRETE PAVEMENT APPROACH SLAB

STATION			OFFSET	LOCATION	AT	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	* 416.0620 DRILLED DOWEL BARS EACH
196+72	-	199+28	SB	B-40-261	HOLT AVE	196	66
197+00	-	199+64	NB	B-40-262	HOLT AVE	197	66
95+80	-	98+15	SB OFF RAMP	B-40-260	HOLT AVE	61	14
47+04	-	49+61	NB CD ROAD	B-40-263	HOLT AVE	66	14
209+86	-	224+44	SB	B-40-183	OKLAHOMA AVE	129	69
210+05	-	224+45	NB	B-40-184	OKLAHOMA AVE	179	94
245+01	-	248+56	SB	B-40-181	ROSEDALE AVE	167	66
245+19	-	248+75	NB	B-40-182	ROSEDALE AVE	167	66
287+72	-	296+15	SB	B-40-175	BECHER ST	126	66
287+72	-	298+15	NB	B-40-176	BECHER ST	126	66
164+80	-	172+68	SB	B-40-286	WASHINGTON ST	148	77
164+80	-	172+68	NB	B-40-286	WASHINGTON ST	170	88
			SB ON RAMP	B-40-286	NATIONAL AVE	28	14
			NB OFF RAMP	B-40-286	NATIONAL AVE	30	16
176+69	-	176+84	SB	B-40-285	VALLEY	71	33
176+62	-	176+83	NB	B-40-285	VALLEY	98	44
			SB OFF RAMP	B-40-285	NATIONAL AVE	62	28
			NB ON RAMP	B-40-285	NATIONAL AVE	46	16
TOTAL						2,068	903

CONCRETE CURB & GUTTER

STATION	OFFSET	LOCATION	AT	601.0331 CONCRETE CURB & GUTTER 31-INCH LF
95+51 - 99+00	SB OFF RAMP	B-40-260	HOLT AVE	251
49+47 - 49+91	NB CD ROAD	B-40-263	HOLT AVE	75
TOTAL				326

ALL QUANTIIES ARE CATEGORY 0010 UNLESS NOTED

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3

PAVEMENT ITEMS

STATION			OFFSET	LOCATION	AT	*415.0090 CONCRETE PAVEMENT 9-INCH SY	415.0120 CONCRETE PAVEMENT 12-INCH SY	*416.0610 DRILLED TIE BARS EACH	*440.4410.S INCENTIVE IRI RIDE DOL	*455.0115 ASPHALTIC MATERIAL PG64-22 TON	*455.0140 ASPHALTIC MATERIAL PG64-28P TON	*455.0605 TACK COAT GAL	*460.1110 HMA PAVEMENT TYPE E-10 TON	*460.2000 INCENTIVE DENSITY HMA PAVEMENT DOL
196+66	-	199+45	SB	B-40-261	HOLT AVE	105	48	30	27	2.9	2.2	19	89	57
195+95	-	200+50	NB	B-40-262	HOLT AVE	324	48	93	91	9.7	7.6	66	302	193
95+51	-	99+00	SB OFF RAMP	B-40-260	HOLT AVE	28	20	121	57	1.6	1.3	15	51	33
46+25	-	49+91	NB CD ROAD	B-40-263	HOLT AVE	89	20	119	57	1.8	1.4	16	57	36
209+65	-	224+60	SB	B-40-183	OKLAHOMA AVE	72	50	27	25	2.8	2.2	19	88	56
209+85	-	224+51	NB	B-40-184	OKLAHOMA AVE	44	68	24	22	3.3	2.5	22	101	65
242+64	-	248+88	SB	B-40-181	ROSEDALE AVE	395	48	124	118	12.7	9.9	86	396	253
243+00	-	248+81	NB	B-40-182	ROSEDALE AVE	383	48	107	101	10.8	8.4	73	336	215
287+00	-	296+21	SB	B-40-175	BECHER ST	130	48	44	41	4.2	3.3	28	130	83
287+05	-	298+29	NB	B-40-176	BECHER ST	148	48	45	42	4.3	3.3	29	133	85
164+70	-	173+04	SB	B-40-286	WASHINGTON ST	82	56	31	30	2.9	2.3	20	91	58
164+74	-	173+17	NB	B-40-286	WASHINGTON ST	103	64	34	33	3.8	3.0	26	119	76
			SB ON RAMP	B-40-286	NATIONAL AVE	--	10	--	10	0.4	0.3	4	12	8
			NB OFF RAMP	B-40-286	NATIONAL AVE	--	12	--	8	0.3	0.3	3	11	7
176+63	-	176+84	SB	B-40-285	VALLEY	31	24	10	8	0.8	0.6	5	25	16
176+56	-	176+83	NB	B-40-285	VALLEY	9	32	9	10	1.1	0.9	7	34	22
			SB OFF RAMP	B-40-285	NATIONAL AVE	--	20	--	17	0.8	0.6	7	25	16
			NB ON RAMP	B-40-285	NATIONAL AVE	--	16	--	8	0.4	0.3	4	14	9
TOTAL						1,943	681	818	706	64.8	50.4	450	2,015	1,290

*DENOTES QUANTITY FOUND ELSEWHERE

CONCRETE BARRIER

STATION			OFFSET	LOCATION	AT	* 603.0105 CONCRETE BARRIER SINGLE-FACED 32-INCH LF	* 603.1142 CONCRETE BARRIER TYPE S42 LF	603.3213 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36 EACH	603.3255 CONCRETE BARRIER TRANSITION TYPE F42SF TO S42 EACH	603.3535 CONCRETE BARRIER TRANSITION TYPE S36 TO S42 EACH	SPV.0060.04 CONCRETE BARRIER TRANSITION SLOPED FACE PARAPET HF EACH
199+28	-	199+54	SB	B-40-261	HOLT AVE	--	--	1	--	1	--
195+50	-	197+00	NB	B-40-262	HOLT AVE	--	24	1	--	1	--
46+25	-	47+15	NB CD ROAD	B-40-263	HOLT AVE	129	--	--	--	--	1
209+60	-	224+70	SB	B-40-183	OKLAHOMA AVE	--	--	2	--	2	--
209+79	-	224+71	NB	B-40-184	OKLAHOMA AVE	--	--	2	--	2	--
248+56	-	248+88	SB	B-40-181	ROSEDALE AVE	--	40	--	1	--	--
243+86	-	248+87	NB	B-40-182	ROSEDALE AVE	--	140	--	2	--	--
296+15	-	296+41	SB	B-40-175	BECHER ST	--	--	1	--	1	--
287+05	-	287+72	NB	B-40-176	BECHER ST	--	41	1	--	1	--
164+54	-	173+04	SB	B-40-286	WASHINGTON ST	--	10	2	--	2	--
164+54	-	173+17	NB	B-40-286	WASHINGTON ST	--	--	1	--	1	--
TOTAL						129	255	11	3	11	1

*DENOTES QUANTITY FOUND ELSEWHERE

ALL QUANTIIES ARE CATEGORY 0010 UNLESS NOTED

3

STORM SEWER ADJUSTMENTS

STATION			OFFSET	LOCATION	AT	611.0430 RECONSTRUCTING INLETS EACH
196+66	-	199+45	SB	B-40-261	HOLT AVE	1
195+95	-	200+50	NB	B-40-262	HOLT AVE	3
95+51	-	99+00	SB OFF RAMP	B-40-260	HOLT AVE	--
46+25	-	49+91	NB CD ROAD	B-40-263	HOLT AVE	1
209+65	-	224+60	SB	B-40-183	OKLAHOMA AVE	1
209+85	-	224+51	NB	B-40-184	OKLAHOMA AVE	1
242+64	-	248+88	SB	B-40-181	ROSEDALE AVE	4
243+00	-	248+81	NB	B-40-182	ROSEDALE AVE	3
287+00	-	296+21	SB	B-40-175	BECHER ST	--
287+05	-	298+29	NB	B-40-176	BECHER ST	--
164+70	-	173+04	SB	B-40-286	WASHINGTON ST	--
164+74	-	173+17	NB	B-40-286	WASHINGTON ST	--
			SB ON RAMP	B-40-286	NATIONAL AVE	--
			NB OFF RAMP	B-40-286	NATIONAL AVE	--
176+63	-	176+84	SB	B-40-285	VALLEY	--
176+56	-	176+83	NB	B-40-285	VALLEY	--
			SB OFF RAMP	B-40-285	NATIONAL AVE	--
			NB ON RAMP	B-40-285	NATIONAL AVE	1
SUBTOTAL						15

STEEL PLATE BEAM GUARD

STATION	OFFSET	LOCATION	AT	*614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0305 STEEL PLATE BEAM GUARD CLASS A LF
98+06 - 99+11	SB OFF RAMP	B-40-260	HOLT AVE	41	163
TOTAL				41	163

*DENOTES QUANTITY FOUND ELSEWHERE

SAWING CONCRETE

STATION			OFFSET	LOCATION	AT	* 690.0250 SAWING CONCRETE LF
196+66	-	199+45	SB	B-40-261	HOLT AVE	365
195+95	-	200+50	NB	B-40-262	HOLT AVE	527
95+51	-	99+00	SB OFF RAMP	B-40-260	HOLT AVE	406
46+25	-	49+91	NB CD ROAD	B-40-263	HOLT AVE	403
209+65	-	224+60	SB	B-40-183	OKLAHOMA AVE	312
209+85	-	224+51	NB	B-40-184	OKLAHOMA AVE	352
242+64	-	248+88	SB	B-40-181	ROSEDALE AVE	575
243+00	-	248+81	NB	B-40-182	ROSEDALE AVE	532
287+00	-	296+21	SB	B-40-175	BECHER ST	343
287+05	-	298+29	NB	B-40-176	BECHER ST	345
164+70	-	173+04	SB	B-40-286	WASHINGTON ST	332
164+74	-	173+17	NB	B-40-286	WASHINGTON ST	373
			SB ON RAMP	B-40-286	NATIONAL AVE	86
			NB OFF RAMP	B-40-286	NATIONAL AVE	77
176+63	-	176+84	SB	B-40-285	VALLEY	158
176+56	-	176+83	NB	B-40-285	VALLEY	170
			SB OFF RAMP	B-40-285	NATIONAL AVE	160
			NB ON RAMP	B-40-285	NATIONAL AVE	94
TOTAL						5,610

ALL QUANTIIES ARE CATEGORY 0010 UNLESS NOTED

PROPOSED SIGN BRIDGES AND SIGN BRIDGE REMOVALS

SIGN BRIDGE NO.		OVERHEAD SIGN SUPPORT (PROPOSED STRUC. NO.)	REMOVING OVERHEAD SIGN SUPPORT (PROPOSED STRUC. NO.)	
PROPOSED	REMOVED	LS	LS	REMARKS
S-40-977 (FOH)	S-40-92 (FOH)	1	1	ITEM 641.8100.01, ITEM SPV.0105.01
S-40-978 (FOH)	S-40-94 (FOH)	1	1	ITEM 641.8100.02, ITEM SPV.0105.02
S-40-979 (FOH)	S-40-95 (FOH)	1	1	ITEM 641.8100.03, ITEM SPV.0105.03

(FOH) = FULL SPAN OVERHEAD

PROPOSED SIGN BRIDGE MISCELLANEOUS QUANTITIES

PROPOSED SIGN BRIDGE NO.	614.0700 *SAND BARREL ARRAYS * EACH
S-40-977	0
S-40-978	1
S-40-979	0
TOTALS	1

SAND BARREL ARRAY NOTES

* GRADING, SHAPING, FINISHING AND CONCRETE SIDEWALK PAD ARE CONSIDERED INCIDENTAL TO SAND BARREL ARRAYS.

ALL QUANTIIES ARE CATEGORY 0010 UNLESS NOTED

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (EA)	634.0618 WOOD POSTS 4"X6"x18' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
NORTHBOUND																							
1	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	--	MOUNT ON EXISTING EXIT SIGN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
2	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
3	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
4	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#5	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
5	R3-20L(2S)	BEGIN LEFT TURN LANE	24 x 36	6.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
6	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
7	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
8	J3-1(2S)	--	24 x 81	13.500	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
9	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
10	J3-2(2S)	--	48 x 81	27.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
11	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	#6	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
12	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
13	M1-94(MOD)	HOWARD AVE 3900 SOUTH	90 x 36	22.500	--	--	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
14	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	#15	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
15	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
16	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	--	MOUNT ON EXISTING EXIT SIGN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
17	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
18	W4-3R(3)	MERGE ADDED LANE RT	36 x 36	9.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
19	W4-3R(5)	MERGE ADDED LANE RT	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
20	M1-1(2S)	IH 94	24 x 24	4.000	2	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M4-20L(2S)(MOD)	LEFT LANE	24 x 24	4.000	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
21	R8-7(5)	EMERGENCY STOP ONLY	48 x 36	12.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
22	W4-1	MERGING TRAFFIC	-- x --	--	1	1	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
23	D9-2(2S)	HOSPITAL	24 x 24	4.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1(2S)	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
24	D9-2	HOSPITAL	-- x --	--	1	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
25	E3-1(MOD)	HOLT AVE RIGHT LANE	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	13 x 5.5	71.50	1	--	--	--	--	--	2	--	--	--	--
26	--	[CRASH LOGO] [A]	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
27	D4-2R(3)(MOD)	PARK & RIDE [A]	36 x 48	12.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
28	E6-1(MOD)	[43] [94] [41] [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-50	15 x 7.5	112.50	1	--	--	--	--	--	--	--	--	--	--
29	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
30	E6-1	HOLT AVE [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-50	15 x 4.5	67.50	1	--	--	--	--	--	--	--	--	--	--
31	D9-2(2S)	HOSPITAL	24 x 24	4.000	2	--	--	--	--	MOUNT ON UPRIGHT OF S-40-50	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2(2S)	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
32	E5-1(5)	EXIT [A]	72 x 60	30.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
33	W8-74(5)	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
34	W1-2R(5)	RIGHT CURVE	48 x 48	16.000	--	--	--	1	--	MOUNT ON POLE NEXT TO BRIDGE PIER	x	0.00	--	--	--	--	--	--	--	--	--	--	--
35	W1-2R(5)	RIGHT CURVE	48 x 48	16.000	--	--	--	1	--	MOUNT ON POLE NEXT TO BRIDGE PIER	x	0.00	--	--	--	--	--	--	--	--	--	--	--
36	W8-74(5)	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
37	--	[CRASH LOGO] [A]	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
38	M1-94(MOD)	HOLT AVE MORGAN AVE	90 x 36	22.500	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
39	J2-1(2S)	--	24 x 57	9.500	1	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M4-5	TO	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 38	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M6-1	ARROW RIGHT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
40	D1-60	HOLT AVE [A] WEST EAST [A]	78 x 30	16.250	1	2	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
41	D9-2(2S)	HOSPITAL	24 x 24	4.000	1	--	--	--	#39	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2(2S)	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
42	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
43	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
44	J2-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON BRIDGE COLUMN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
45	J2-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON BRIDGE COLUMN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
46	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	1	--	--	--	#50	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
47	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
48	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
49	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	#48	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
50	R4-7(2S)	KEEP RIGHT	24 x 30	5.000	1	--	--	--	#46	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
51	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
52	R7-1D(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	#51	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
53	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	#49	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
54	R3-51(2S)(MOD)	LEFT LANE RESTRICTED	48 x 78	26.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
55	R3-51(2S)(MOD)	LEFT LANE RESTRICTED	48 x 78	26.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
56	R3-51(2S)(MOD)	LEFT LANE RESTRICTED	48 x 78	26.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
57	W4-1L(2S)	MERGING TRAFFIC LEFT	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
58	R3-8MM(2S)	LANE CONTROL	36 x 30	7.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
59	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	1	--	--	--	#50	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
60	R1-1(3)	STOP	36 x 36	7.460	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
61	R1-1(3)	STOP	36 x 36	7.460	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
62	R3-8B(2S)	LANE CONTROL	36 x 30	7.500	1	--	--	--	#48	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
63	R7-1R(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	#51	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
64	R3-7L(3)	LEFT LANE MUST TURN	36 x 36	9.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
65	R2-1(2S)	SPEED LIMIT 30	24 x 30	5.000	1	--	--	--	#64	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.] x [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
66	J2-1(2S)	--	24 x 57	9.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M4-5	TO	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 38	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M5-1R	ADV ARROW RIGHT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
67	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	SHEET 4	x	0.00	--	--	--	--	--	--	--	--	--	--	--
68	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
69	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#67	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
70	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#68	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
71	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
72	D4-2L(2S)(MOD)	PARK & RIDE [A]	30 x 36	7.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
73	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
74	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
75	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
76	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	1	1	--	1	--	2' MOUNTING HT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
77	J3-2(2S)	--	48 x 81	27.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
78	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
79	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
80	R3-51L(2S)	LEFT LANE RESTRICTED	48 x 78	26.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
81	W4-2R(2S)	LANE REDUCTION	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
82	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
83	R10-10R(2S)(MOD)	RIGHT LANE SIGNAL	36 x 42	10.500	1	--	--	--	#82	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
84	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
85	R10-10C(2S)(MOD)	CENTER LANE SIGNAL	36 x 42	10.500	1	--	--	--	--	INSTALL ON S-40-284	x	0.00	--	--	--	--	--	--	--	--	--	--	--
86	R10-10L(2S)(MOD)	LEFT LANE SIGNAL	36 x 42	10.500	1	--	--	--	--	INSTALL ON S-40-284	x	0.00	--	--	--	--	--	--	--	--	--	--	--
87	W4-1(5)	MERGING TRAFFIC	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
88	W1-2L(5)	LEFT CURVE	48 x 48	16.000	--	--	--	--	--	MOUNT ON UPRIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
89	W1-2L(5)	LEFT CURVE	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
90	W8-74(5)	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
91	W8-74(5)	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
92	W1-2L(5)	LEFT CURVE	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
93	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
94	D12-2B(2M)	RIDESHARE INFO	84 x 36	21.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
95	W4-1(5)	MERGING TRAFFIC	48 x 48	16.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
96	E1-1A	BECHER ST MITCHELL ST 1 MILE	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	18 x 10	180.00	1	--	--	--	--	--	2	--	--	--	--
96A	E1-5P	EXIT 312 A - B	-- x --	--	--	--	--	--	--	--	15 x 2.5	37.50	1	--	--	--	--	--	--	--	--	--	--
97	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
98	D12-3(MOD)	STADIUM TRAFFIC INFO	90 x 54	33.750	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
99	J4-1(5)	--	36 x 108	27.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
100	E1-1A(MOD)	LAKEFRONT PORT OF MILW USE [794] EST	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	20 x 11.5	230.00	1	--	--	--	--	--	2	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
101	--	[CRASH LOGO] CRASH INVESTIGATION SITE EXIT 312 A-B	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	13 x 9.5	123.50	1	--	--	--	--	--	2	--	--	--	--
102	R2-1(5)	SPEED LIMIT 55	48 x 60	20.000	1	--	--	--	#64	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
103	R8-7(5)	EMERGENCY STOP ONLY	48 x 36	12.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
104	E1-1A(MOD)	HENRY W MAIER FESTIVAL PARK EXIT 312 A-B	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	15 x 7	105.00	1	--	--	--	--	--	2	--	--	--	--
105	W1-2R(5)	RIGHT CURVE	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
106	W1-2R(5)	RIGHT CURVE	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
107	W8-74(5)	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
108	W8-74(5)	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
109	E1-1A(MOD)	LAPHAM BLVD GREENFIELD AVE EXIT 312 A-B	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	23 x 10	230.00	1	--	--	--	--	--	2	--	--	--	--
110	W1-2R(5)	RIGHT CURVE	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
111	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
112	M1-94(5)	CHASE AVE	84 x 24	14.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
113	E4-1A	BECHER ST MITCHELL ST [A]	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	21 x 7	147.00	1	--	--	--	--	--	2	--	--	--	--
113A	E1-5P	EXIT 312 A - B	-- x --	--	--	--	--	--	--	--	15 x 2.5	37.50	1	--	--	--	--	--	--	--	--	--	--
114	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
115	M1-94(5)(MOD)	LINCOLN AVE 2300 SOUTH	84 x 36	21.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
116	--	NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES	42 x 36	10.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
117	--	NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES	42 x 36	10.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
118	--	2 HOUR LIMIT	24 x 18	3.000	1	--	--	--	#116	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
119	--	2 HOUR	24 x 18	3.000	1	--	--	--	#117	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
120	E6-1	BECHER ST MITCHELL ST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-85	18 x 6	108.00	1	--	--	--	--	--	--	--	--	--	--
121	D1-2(MOD)	[A] MITCHELL ST BECHER ST [A] WEST EAST [A]	108 x 54	40.500	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
122	E4-1A(MOD)	[43] [94] [41] [A] DOWNTOWN BECHER ST - WEST	-- x --	--	--	--	--	--	--	INSTALL ON S-40-977	15 x 7.5	112.50	1	--	--	--	--	--	--	--	--	--	--
123	E6-1(MOD)	4TH ST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-977	7 x 4.5	31.50	1	--	--	--	--	--	--	--	--	--	--
124	E6-1(MOD)	BECHER ST EAST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-977	9 x 6	54.00	1	--	--	--	--	--	--	--	--	--	--
125	R7-1L(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	--	MOUNT ON UPRIGHT OF S-40-977	x	0.00	--	--	--	--	--	--	--	--	--	--	--
126	R7-1R(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	--	MOUNT ON UPRIGHT OF S-40-977	x	0.00	--	--	--	--	--	--	--	--	--	--	--
127	R7-1D(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
128	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
129	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#173	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
130	R1-2(2S)	YIELD	36 x 31	3.880	1	--	--	--	--	MOUNT ON UPRIGHT OF S-40-93	x	0.00	--	--	--	--	--	--	--	--	--	--	--
131	W4-4AL(2S)	TRAFFIC FROM LEFT	30 x 12	2.500	1	--	--	--	--	MOUNT ON UPRIGHT OF S-40-93	x	0.00	--	--	--	--	--	--	--	--	--	--	--
132	R3-3(2S)	NO TURNS	24 x 24	4.000	1	--	--	--	#133	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
133	J3-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
134	R7-1D(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	#128	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
135	W4-4AL(2S)	TRAFFIC FROM LEFT	30 x 12	2.500	1	--	--	--	#128	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
136	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
137	R10-11B(2S)	NO TURN ON RED	24 x 24	4.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
138	R7-1D(2S)	NO PARKING	18 x 24	3.000	1	--	--	--	#128	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
139	R1-1(3)	STOP	36 x 36	7.460	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
140	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
141	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
142	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
143	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
144	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	--	--	--	1	--	2' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
145	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
146	R3-3(2S)	NO TURNS	24 x 24	4.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
147	J3-2(2S)	--	48 x 81	27.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
148	J3-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
149	W4-1L(2S)	MERGE TRAFFIC LEFT	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
150	D1-1	4TH ST [A]	72 x 15	7.500	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
151	D1-60(MOD)	BECHER ST [A] WEST	78 x 24	13.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
152	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
153	J2-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON BRIDGE COLUMN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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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)	638.2102 MOVING SIGN TYPE II (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]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
154	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
155	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
156	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	1	1	--	1	--	2' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
157	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
158	J2-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON UPRIGHT OF S-40-93	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
159	E6-1	BECHER ST EAST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-93	12 x 4	48.00	1	--	--	--	--	--	--	--	--	--	--
160	E6-1(MOD)	[43] [94] [41] DOWNTOWN 4TH ST MITCHELL ST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-93	12 x 11	132.00	1	--	--	--	--	--	--	--	--	--	--
161	E6-1(MOD)	BECHER ST WEST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-93	9 x 6	54.00	1	--	--	--	--	--	--	--	--	--	--
162	D12-2B(2M)	RIDESHARE INFO	84 x 36	21.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
163	E6-1(MOD)	LAPHAM BLVD GREENFIELD AVE [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-85	18 x 8.5	153.00	1	--	--	--	--	--	--	--	--	--	--
164	R2-1(5)	SPEED LIMIT 55	48 x 60	20.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
165	E5-1A(5)	EXIT 312 [A] A-B	96 x 90	60.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
166	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#165	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
167	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#165	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
168	--	[CRASH LOGO] [A]	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
169	--	[CRASH LOGO] SITE 312 S	48 x 36	12.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
170	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
171	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	--	--	--	--	MOUNT ON UPRIGHT OF S-40-977	x	0.00	--	--	--	--	--	--	--	--	--	--	--
172	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	#171	MOUNT ON UPRIGHT OF S-40-977	x	0.00	--	--	--	--	--	--	--	--	--	--	--
173	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
174	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	1	1	--	1	#173	2' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
175	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
176	JV3-1(2S)	--	48 x 93	31.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
177	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
178	E3-1(MOD)	LAPHAM BLVD GREENFIELD AVE RIGHT LANE	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	18 x 8	144.00	1	--	--	--	--	--	2	--	--	--	--
179	M1-94(MOD)	MAPLE ST 1800 SOUTH	78 x 36	19.500	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
180	E6-1	LAPHAM BLVD GREENFIELD AVE [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-90	22 x 6	132.00	1	--	--	--	--	--	--	--	--	--	--
181	E5-1(5)	EXIT [A]	72 x 60	30.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
182	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
183	D1-60(MOD)	GREENFIELD AVE LAPHAM BLVD [A] WEST EAST [A]	114 x 54	42.750	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
184	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#181	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
185	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#181	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
186	J3-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
187	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
188	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
189	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
190	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
191	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
192	J2-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
193	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
194	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
195	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	1	1	--	1	--	2' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
196	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
197	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
198	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
199	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	1	--	--	--	#198	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
200	D1-1(MOD)	GREENFIELD AVE [A]	96 x 18	12.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
201	JV3-1(2S)	--	48 x 93	31.000	1	--	--	--	#200	MOUNT ABOVE D1-1	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
202	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
203	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
204	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
205	M1-94(MOD)	LAPHAM BLVD 1600 SOUTH	96 x 36	24.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
206	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
207	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
208	M1-94(MOD)	MITCHELL ST 1700 SOUTH	84 x 36	21.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
209	E6-1(MOD)	[43] [94] [41] [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-90	15 x 7.5	112.50	1	--	--	--	--	--	--	--	--	--	--
210	W4-1(2S)	MERGING TRAFFIC	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
211	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
212	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
213	M1-94(MOD)	GREENFIELD AVE 1400 SOUTH	108 x 36	27.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
214	J4-3(5)	--	108 x 54	40.500	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M3-1	NORTH	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
215	R2-1(5)	SPEED LIMIT 50	48 x 60	20.000	1	--	--	--	--	MOUNT ON UPRIGHT OF SIGN BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
216	W4-3R(5)	MERGE ADDED LANE RT	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
217	W3-5(5)	SPEED LIMIT 50 AHEAD	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
218	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#220	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
219	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#220	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
220	E5-1A(5)	EXIT 311 [A]	108 x 60	45.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
221	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	--	MOUNT ON BRIDGE COLUMN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
222	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
223	R6-2R(2S)	ONE WAY	24 x 30	5.000	--	--	--	--	#222	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
224	R6-2L(2S)	ONE WAY	24 x 30	5.000	--	--	--	--	#223	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
225	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
226	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
227	R10-10L(2S)(MOD)	LEFT LANE SIGNAL	36 x 42	10.500	1	--	--	--	#228	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
228	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
229	R10-10R(2S)(MOD)	RIGHT LANE SIGNAL	36 x 42	10.500	1	--	--	--	#230	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
230	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
231	--	FREEWAY ENTRANCE	66 x 30	13.750	--	--	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
232	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
233	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
234	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
235	W3-2(2S)	YIELD AHEAD	36 x 36	9.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
236	W3-1(2M)	STOP AHEAD	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
237	W4-2L(2S)	LANE REDUCTION	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
238	D1-60	HOLT AVE [A] EAST WEST [A]	78 x 24	13.000	1	2	--	2	--	SHEET 4A	x	0.00	--	--	--	--	--	--	--	--	--	--	--
239	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
240	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#32	SHEET 4	x	0.00	--	--	--	--	--	--	--	--	--	--	--
241	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#32	SHEET 4	x	0.00	--	--	--	--	--	--	--	--	--	--	--
242	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	--	--	1	--	SHEET 4	x	0.00	--	--	--	--	--	--	--	--	--	--	--
243	R3-8B(2S)	LANE CONTROL	36 x 30	7.500	1	--	--	--	#48	MOUNT ON SIGNAL POLE. SHEET 4A	x	0.00	--	--	--	--	--	--	--	--	--	--	--
244	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	--	--	--	1	--	2' MOUNTING HEIGHT. SHEET 10A	x	0.00	--	--	--	--	--	--	--	--	--	--	--
245	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	--	--	--	1	--	SHEET 10	x	0.00	--	--	--	--	--	--	--	--	--	--	--
246	J2-2(2S)	--	48 x 81	27.000	1	1	--	1	--	SHEET 10A	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.] x [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
247	W3-5(5)	SPEED LIMIT 50 AHEAD	48 x 48	16.000	1	1	--	1	--	SHEET 13	x	0.00	--	--	--	--	--	--	--	--	--	--	--
248	W12-2(5)	LOW CLEARANCE	48 x 48	16.000	--	--	--	1	--	SHEET 1	x	0.00	--	--	--	--	--	--	--	--	--	--	--
249	W12-2(5)	LOW CLEARANCE	48 x 48	16.000	--	--	--	1	--	SHEET 1	x	0.00	--	--	--	--	--	--	--	--	--	--	--
250	--	LINCOLN AVE	42 x 24	7.000	--	--	--	--	#249	MOUNT UNDER SIGN #249	x	0.00	--	--	--	--	--	--	--	--	--	--	--
251	--	LINCOLN AVE	42 x 24	7.000	--	--	--	--	#248	MOUNT UNDER SIGN #248	x	0.00	--	--	--	--	--	--	--	--	--	--	--
252	W12-2(5)	LOW CLEARANCE	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
253	W12-2(5)	LOW CLEARANCE	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
254	--	LINCOLN AVE	42 x 24	7.000	--	--	--	--	#252	MOUNT UNDER SIGN #252	x	0.00	--	--	--	--	--	--	--	--	--	--	--
255	--	LINCOLN AVE	42 x 24	7.000	--	--	--	--	#253	MOUNT UNDER SIGN #253	x	0.00	--	--	--	--	--	--	--	--	--	--	--
256	W1-4C(5)		48 x 48	16.000	--	--	--	1	--	SHEET 1	x	0.00	--	--	--	--	--	--	--	--	--	--	--
257	W1-4C(5)		48 x 48	16.000	--	--	--	1	--	SHEET 1	x	0.00	--	--	--	--	--	--	--	--	--	--	--
258	R2-1(5)	SPEED LIMIT 50	48 x 60	20.000	--	--	--	--	--	MOUNT ON LIGHT POLE. SHEET 13	x	0.00	--	--	--	--	--	--	--	--	--	--	--
259	R2-1(2S)	SPEED LIMIT 30	24 x 30	5.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
260	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
261	W5-53S(2)	LOW INLET MARKER	4 x 12	0.333	--	--	--	--	--	ON BARRIER WALL - SEE DETAIL	x	0.00	--	--	--	--	--	--	--	--	--	--	--
262	W5-53S(2)	LOW INLET MARKER	4 x 12	0.333	--	--	--	--	--	ON BARRIER WALL - SEE DETAIL	x	0.00	--	--	--	--	--	--	--	--	--	--	--
263	W5-53S(2)	LOW INLET MARKER	4 x 12	0.333	--	--	--	--	--	ON BARRIER WALL - SEE DETAIL	x	0.00	--	--	--	--	--	--	--	--	--	--	--
264	W5-53S(2)	LOW INLET MARKER	4 x 12	0.333	--	--	--	--	--	ON BARRIER WALL - SEE DETAIL	x	0.00	--	--	--	--	--	--	--	--	--	--	--
SOUTHBOUND																							
500																							
501	W4-3R(5)	MERGE ADDED LANE RT	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
502	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#506	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
503	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
504	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	1	--	--	--	--	2' MOUNTING HT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
505	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
506	D1-60	HOWARD AVE [A] WEST EAST [A]	78 x 24	13.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
507	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
508	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
509	J2-2(2S)	--	48 x 81	27.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
510	R3-8MM(2S)	LANE CONTROL	36 x 30	7.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
511	R10-11B(2S)	NO TURN ON RED	24 x 24	4.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
512	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
513	W13-2(5)	EXIT 30 MPH	48 x 60	20.000	1	--	--	--	--	MOUNT ON BRIDGE COLUMN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
514	R8-7(5)	EMERGENCY STOP ONLY	48 x 36	12.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
515	M1-94(MOD)	HOWARD AVE 3900 SOUTH	90 x 36	22.500	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
516	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	--	MOUNT ON EXISTING EXIT SIGN POST	x	0.00	--	--	--	--	--	--	--	--	--	--	--
517	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	--	MOUNT ON EXISTING EXIT SIGN POST	x	0.00	--	--	--	--	--	--	--	--	--	--	--
518	R3-7L(2S)	LEFT LANE MUST TURN LEFT	30 x 30	6.250	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
519	R3-50R(2S)	RIGHT ARROW ONLY	30 x 36	7.500	1	--	--	--	#510	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
520	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	--	MOUNT ON SIGNAL POLE 3' HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
521	R3-4(2S)	NO U-TURN	24 x 24	4.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
522	--	FREEWAY ENTRANCE	66 x 30	13.750	-- *	--	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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)	638.2102 MOVING SIGN TYPE II (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]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
523	R2-1(5)	SPEED LIMIT 50	48 x 60	20.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
524	R2-1(5)	SPEED LIMIT 50	48 x 60	20.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
525	W3-5(5)	SPEED LIMIT 50 AHEAD	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
526	W3-5(5)	SPEED LIMIT 50 AHEAD	48 x 48	16.000	--	--	--	--	--	MOUNT ON UPRIGHT OF S-40-773	x	0.00	--	--	--	--	--	--	--	--	--	--	--
527	W4-1(5)	MERGING TRAFFIC	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
528	W1-6(3)	NIGHT ARROW	60 x 30	12.500	1	1	--	1	--	4' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
529	J2-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON BRIDGE COLUMN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
530	W1-8(3)	CHEVRON	24 x 30	5.000	--	--	--	1	--	4' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
531	W1-8(3)	CHEVRON	24 x 30	5.000	--	--	--	1	--	4' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
532	W1-8(3)	CHEVRON	24 x 30	5.000	--	--	--	1	--	4' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
533	W1-8(3)	CHEVRON	24 x 30	5.000	--	--	--	1	--	4' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
534	W1-8(3)	CHEVRON	24 x 30	5.000	--	--	--	1	--	4' MOUNTING HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
535	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
536	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	#535	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
537	--	[CRASH LOGO] [A]	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
538	--	RESTRICTED LANE	-- x --	--	1	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
539	R1-1(3)	STOP	36 x 36	7.460	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
540	D4-2R(3)	PARK & RIDE [A]	36 x 48	12.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
541	D4-2A	HOLT AVENUE [BUS] [CAR] PARK & RIDE	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	13 x 7.5	97.50	1	--	--	--	--	--	2	--	--	--	--
542	D4-2A	HOLT AVENUE [BUS] [CAR] PARK & RIDE	-- x --	--	--	--	--	--	#541	RE-USE STEEL POSTS	13 x 7.5	97.50	1	--	--	--	--	--	2	--	--	--	--
543	--	[CRASH LOGO] [A]	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
544	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
545	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	#539	TRIM TO BACK OF STOP SIGN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
546	J3-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1	ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
547	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
548	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
549	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
550	R4-7(2S)	KEEP RIGHT	24 x 30	5.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
551	W5-52L(2S)	CLEARANCE STRIPER	12 x 36	3.000	1	--	--	--	#550	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
552	--	FREEWAY ENTRANCE	66 x 30	13.750	--	--	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
553	W5-52L(2S)	CLEARANCE STRIPER	12 x 36	3.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
554	W4-1(2S)	MERGING TRAFFIC	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
555	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
556	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
557	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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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)	638.2102 MOVING SIGN TYPE II (EA)	634.0618 WOOD POSTS 4"X6"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]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
558	J3-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
559	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
560	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
561	M1-94(MOD)	HOLT AVE MORGAN AVE	90 x 36	22.500	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
562	W1-1R(2S)	RIGHT CURVE	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
563	W13-1(3)	ADVISORY SPEED 25 MPH	24 x 24	4.000	1	--	--	--	#562	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
564	W3-1(2S)	STOP AHEAD	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
565	D9-2(2S)	HOSPITAL	24 x 24	4.000	1	--	--	--	#566	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-1(2S)	ARROW	21 x 21	--	1	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
566	D1-60	HOLT AVE [A] EAST WEST [A]	78 x 24	13.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
567	D1-1(MOD)	ALVERNO COLLEGE [A]	102 x 18	12.750	1	--	--	--	#566	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
568	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#570	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
569	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#571	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
570	R3-11D(2S)	BUSES ONLY	54 x 54	20.250	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
571	R3-11D(2S)	BUSES ONLY	54 x 54	20.250	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
572	E6-1	HOLT AVE [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-390	15 x 4.5	67.50	1	--	--	--	--	--	--	--	--	--	--
572A	E1-5P	EXIT 314 A	-- x --	--	--	--	--	--	--	--	13 x 2.5	32.50	1	--	--	--	--	--	--	--	--	--	--
573	R3-11D(2S)	BUSES ONLY	54 x 54	20.250	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
574	E6-51	HOWARD AVE 3/4 MILE	-- x --	--	--	--	--	--	--	INSTALL ON S-40-390	15 x 6	90.00	1	--	--	--	--	--	--	--	--	--	--
574A	E1-5	EXIT 314 B	-- x --	--	--	--	--	--	--	--	13 x 2.5	32.50	1	--	--	--	--	--	--	--	--	--	--
575	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
576	E5-1A(5)	EXIT 314 A [A]	108 x 60	45.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
577	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#576	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
578	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#576	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
579	R2-1(5)	SPEED LIMIT 55	48 x 60	20.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
580	R8-7(5)	EMERGENCY STOP ONLY	48 x 36	12.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
581	--	* NOT USED *	-- x --	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
582	--	* NOT USED *	-- x --	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
583	W1-2L(5)	LEFT CURVE	48 x 48	16.000	--	--	--	--	#579	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
584	W1-2L(5)	LEFT CURVE	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
585	--	[BUS] [CAR] PARK & RIDE [CRASH LOGO] CRASH INVESTIGATION SITE EXIT 314 A-B	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	14 x 13	182.00	1	--	--	--	--	--	2	--	--	--	--
586	E10-61	HOSPITAL EXIT 314 A	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	12 x 4.5	54.00	1	--	--	--	--	--	2	--	--	--	--
587	E3-1	ALVERNO COLLEGE EXIT 314 A	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	16 x 5	80.00	1	--	--	--	--	--	2	--	--	--	--
588	--	TRAFFIC INFO TUNE RADIO TO 1610 AM IMPORTANT WHEN FLASHING	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	11 x 6.5	71.50	1	--	--	--	--	--	2	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (EA)	634.0618 WOOD POSTS 4"X6"x18' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
589	E1-1A	HOLT AVE 1 MILE	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	15 x 7	105.00	1	--	--	--	--	--	2	--	--	--	--
589A	E1-5P	EXIT 314 A	-- x --	--	--	--	--	--	--	--	13 x 2.5	32.50	1	--	--	--	--	--	--	--	--	--	--
590	R2-1(5)	SPEED LIMIT 55	48 x 60	20.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
591	J4-3(5)	--	108 x 54	40.500	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
592	M1-94	CHASE AVE	84 x 24	14.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
593	JV4-1(5)	--	36 x 108	27.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
594	W1-2L(5)	LEFT CURVE	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
595	--	* NOT USED *	-- x --	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
596	M1-94(MOD)	LINCOLN AVE 2300 SOUTH	84 x 36	21.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
597	W9-63(5)(MOD)	LANE ENDS 1/4 MILE [A]	72 x 90	45.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
598	W4-2R(5)	LANE REDUCTION	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
599	W4-2R(2S)	LANE REDUCTION	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
600	W4-1(5)	MERGING TRAFFIC	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
601	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
602	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
603	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
604	D1-1(MOD)	5 TH ST [A]	60 x 18	7.500	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
605	J3-2(2S)	--	48 x 81	27.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
606	J2-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON BRIDGE COLUMN	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
607	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
608	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	1	1	--	1	--	2' MOUNTING HT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
609	D1-1	[A] DOWNTOWN	72 x 18	9.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
610	W8-74(5)	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
611	W8-74(5)	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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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)	638.2102 MOVING SIGN TYPE II (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]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
612	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	--	--	--	--	#613	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
613	R5-1(3)	DO NOT ENTER	36 x 36	9.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
614	R3-8H(2S)	LANE CONTROL	36 x 30	7.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
615	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
616	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	#615	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
617	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
618	R7-1D(2S)	NO PARKING	18 x 24	3.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
619	R3-3(2S)	NO TURNS	24 x 24	4.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
620	R3-3(2S)	NO TURNS	24 x 24	4.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
621	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
622	R1-2(2S)	YIELD	36 x 31	3.880	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
623	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
624	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
625	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
626	W4-2R(2S)	LANE REDUCTION	36 x 36	9.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
627	W4-3L(2S)	MERGE ADDED LANE LT	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
628	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
629	J3-2(2S)	--	48 x 81	27.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
630	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
631	J2-2(2S)	--	48 x 81	27.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
632	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
633	R10-65R(2S)	RIGHT LANE SIGNAL	24 x 30	5.000	1	--	--	--	#634	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
634	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
635	R10-65L(2S)	LEFT LANE SIGNAL	24 x 30	5.000	1	--	--	--	#636	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
636	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
637	E6-1(MOD)	BECHER ST EAST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-978	9 x 6	54.00	1	--	--	--	--	--	--	--	--	--	--
638	E6-1(MOD)	[43] [94] [41] 5TH ST LINCOLN AVE [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-978	12 x 9.5	114.00	1	--	--	--	--	--	--	--	--	--	--
639	E6-1(MOD)	BECHER ST WEST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-978	12 x 4	48.00	1	--	--	--	--	--	--	--	--	--	--
640	E5-1(5)	EXIT [A]	72 x 60	30.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
641	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#640	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
642	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#640	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
643	--	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
644	--	WATCH FOR BACKUPS	48 x 48	16.000	--	--	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.] x [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
645	M1-94(MOD)	MAPLE ST 1800 SOUTH	78 x 36	19.500	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
646	--	[CRASH LOGO] SITE 312 S	48 x 36	12.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
647	--	[CRASH LOGO] [A]	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
648	--	2 HOUR LIMIT	24 x 18	3.000	1	--	--	--	#649	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
649	--	NO PARKING EXCEPT CRASH INVESTIGATION VEHICLES	42 x 36	10.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
650	E6-1	BECHER ST LINCOLN AVE [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-89	19 x 6	114.00	1	--	--	--	--	--	--	--	--	--	--
651	E6-1(MOD)	[43] [94] [41] [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-89	15 x 7.5	112.50	1	--	--	--	--	--	--	--	--	--	--
652	D2-2(2)(MOD)	[A] LINCOLN AVE BECHER ST [A] EAST WEST [A]	84 x 36	21.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
653	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
654	E6-1(MOD)	BECHER ST WEST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-979	9 x 6	54.00	1	--	--	--	--	--	--	--	--	--	--
655	E6-1(MOD)	5 TH ST [A]	-- x --	--	--	--	--	--	--	INSTALL ON S-40-979	6 x 4.5	27.00	1	--	--	--	--	--	--	--	--	--	--
656	E6-1(MOD)	[43] BELOIT [A] [94] [41] CHICAGO BECHER ST - EAST	-- x --	--	--	--	--	--	--	INSTALL ON S-40-979	18 x 8.5	153.00	1	--	--	--	--	--	--	--	--	--	--
657	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
658	R5-1A(3)	WRONG WAY	42 x 30	8.750	--	--	--	--	--	MOUNT ON BACK OF EXISTING M1-85	x	0.00	--	--	--	--	--	--	--	--	--	--	--
659	R7-1D(2S)	NO PARKING	18 x 24	3.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
660	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
661 669		* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
670	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
671	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
672	E3-1(MOD)	BECHER ST LINCOLN AVE RIGHT LANE	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	15 x 8	120.00	1	--	--	--	--	--	2	--	--	--	--
673	JV3-1(2S)	--	24 x 93	15.500	--	--	--	--	#675	MOUNT ABOVE SIGN #675	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
674	--	EXISTING TYPE II	-- x --	--	1	2	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
675	D1-1	MITCHELL ST [A]	78 x 18	9.750	--	--	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
676	R5-57(5)	PEDESTRIANS ETC...PROHIB.	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
677	J2-2(2S)	--	48 x 81	27.000	1			--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-1	NORTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-4	WEST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-1L	ADV ARROW LEFT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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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)	638.2102 MOVING SIGN TYPE II (EA)	634.0618 WOOD POSTS 4"X6"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]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
678	R10-11B(2M)	NO TURN ON RED	24 x 24	4.000	1	--	--	--	--	MOUNT ON OVERHEAD MAST	x	0.00	--	--	--	--	--	--	--	--	--	--	--
679	R6-2R(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
680	J3-2(2S)	--	48 x 81	27.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
681	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	--	MOUNT ON BACK OF EX. PARKING	x	0.00	--	--	--	--	--	--	--	--	--	--	--
682	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#683	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
683	D2-2(2)(MOD)	[A] MITCHELL ST LAPHAM BLVD [A] EAST WEST [A]	102 x 54	38.250	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
684	R2-1(5)	SPEED LIMIT 55	48 x 60	20.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
685	D12-2B(2M)	RIDESHARE INFO	84 x 36	21.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
686	E4-1A	BECHER ST LINCOLN AVE [A]	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	22 x 7.5	165.00	1	--	--	--	--	--	2	--	--	--	--
686A	E1-5P	EXIT 312 B	-- x --	--	--	--	--	--	--	--	13 x 2.5	32.50	1	--	--	--	--	--	--	--	--	--	--
687	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	1	--	1	--	SHEET 12	x	0.00	--	--	--	--	--	--	--	--	--	--	--
688	M1-94(MOD)	LAPHAM BLVD 1600 SOUTH	96 x 36	24.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
689	R3-1(2S)	NO RIGHT TURN	24 x 24	4.000	1	--	--	--	#690	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
690	R3-2(2S)	NO LEFT TURN	24 x 24	4.000	1	--	--	--	#689	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
691	R6-2L(2S)	ONE WAY	24 x 30	5.000	1	--	--	--	#679	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
692	R3-58(2S)	FORM SINGLE LANE	24 x 30	5.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
693	R3-58(2S)	FORM SINGLE LANE	24 x 30	5.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
694	E5-1A(5)	EXIT 312 B [A]	108 x 60	45.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
695	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#694	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
696	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#694	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
697	M1-94(MOD)	MITCHELL ST 1700 SOUTH	84 x 36	21.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
698	R5-1(3)	DO NOT ENTER	36 x 36	9.000	1	--	--	--	#691	MOUNT ON SIGNAL POLE 3' HEIGHT	x	0.00	--	--	--	--	--	--	--	--	--	--	--
699	--	[CRASH LOGO] CRASH INVESTIGATION SITE EXIT 314 A-B	-- x --	--	--	--	--	--	--	RE-USE STEEL POSTS	10 x 9.5	95.00	1	--	--	--	--	--	2	--	--	--	--
700	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
701	J2-2(2S)	--	48 x 57	19.000	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB5-2L	ARROW ADV LEFT BENT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
702	M1-94(MOD)	GREENFIELD AVE 1400 SOUTH	108 x 36	27.000	1	--	--	--	--	MOUNT ON BRIDGE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
703	E5-1A(5)	EXIT 312 A [A]	108 x 60	45.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
704	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#703	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
705	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#703	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (EA)	634.0618 WOOD POSTS 4"X6"x18' [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION	TYPE I SIGN SIZE W x H [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
706	E6-1(MOD)	LAPHAM BLVD MITCHELL ST [A] EXIT ONLY	-- x --	--	--	--	--	--	--	INSTALL ON S-40-393	20 x 8.5	170.00	1	--	--	--	--	--	--	--	--	--	--
706A	E1-5P	EXIT 312 A	-- x --	--	--	--	--	--	--	--	13 x 2.5	32.50	1	--	--	--	--	--	--	--	--	--	--
707	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
708	E6-1(MOD)	LAPHAM BLVD MITCHELL ST EXIT [A] ONLY	-- x --	--	--	--	--	--	--	INSTALL ON S-40-154	16 x 9	144.00	1	--	--	--	--	--	--	--	--	--	--
708A	E1-5P	EXIT 312 A	-- x --	--	--	--	--	--	--	--	12 x 2.5	30.00	1	--	--	--	--	--	--	--	--	--	--
709	J4-3(5)	--	108 x 54	40.500	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-3	SOUTH	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 43	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	MB3-2	EAST	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-1	IH 94	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M3-3	SOUTH	36 x 18	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-4	USH 41	36 x 36	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
710	E6-51	BECHER ST LINCOLN AVE 1/4 MILE	-- x --	--	--	--	--	--	--	INSTALL ON S-40-393	15 x 8	120.00	1	--	--	--	--	--	--	--	--	--	--
710A	E1-5P	EXIT 312 B	-- x --	--	--	--	--	--	--	INSTALL ON S-40-393	12 x 2.5	30.00	1	--	--	--	--	--	--	--	--	--	--
711	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
712	R10-6(2S)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
713	R10-6(2S)(MOD)	STOP HERE ON RED	24 x 36	6.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
714	D1-2	[A] MINERAL ST 6TH ST [A]	78 x 30	16.250	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
715	W4-3R(5)	MERGE LANE RIGHT	48 x 48	16.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
716	E6-1(MOD)	[A] 6TH ST	-- x --	--	--	--	--	--	--	INSTALL ON S-40-124	13 x 3.5	45.50	1	--	--	--	--	--	--	--	--	--	--
717	E6-1	[59] [A] NATIONAL AVE	-- x --	--	--	--	--	--	--	INSTALL ON S-40-124	20 x 7.5	150.00	1	--	--	--	--	--	--	--	--	--	--
718	J2-1(2S)	--	24 x 57	9.500	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M4-5	TO	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 59	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M5-1R	ARROW ADV RIGHT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
719	D2-3(2)	[A] WALKER ST NATIONAL AVE 9TH ST [A]	90 x 42	26.250	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
720	J3-1(2S)	--	24 x 57	9.500	1	--	--	--	--	MOUNT ON LIGHT POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M4-5	TO	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 59	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M6-1	ARROW RIGHT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
721	W3-1(2S)	STOP AHEAD	36 x 36	9.000	1	--	--	--	--	MOUNT ON UPRIGHT OF S-40-124	x	0.00	--	--	--	--	--	--	--	--	--	--	--
722	W12-1D(2M)	DOUBLE DOWN ARROWS	24 x 24	4.000	1	1	--	1	--	2' MOUNTING HT.	x	0.00	--	--	--	--	--	--	--	--	--	--	--
723	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
724	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	--	MOUNT ON BACK OF EX. D2-3	x	0.00	--	--	--	--	--	--	--	--	--	--	--
725	R5-1A(3)	WRONG WAY	42 x 30	8.750	1	--	--	--	#729	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
726	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
727	W3-8(5)	RAMP METERED	48 x 48	16.000	1	--	--	--	--	MOUNT ON SIGNAL POLE	x	0.00	--	--	--	--	--	--	--	--	--	--	--
728	--	* NOT USED *	-- x --	--	--	--	--	--	--	* NOT USED *	x	0.00	--	--	--	--	--	--	--	--	--	--	--
729	J3-1(2S)	--	24 x 57	9.500	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M4-5	TO	24 x 12	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M1-6	STH 59	24 x 24	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
	M6-2	ARROW TILT	21 x 21	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
730	E5-1A(5)	EXIT 311 [A]	108 x 60	45.000	1	2	--	2	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--

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SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	637.0202 SIGNS REFLC TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	638.2102 MOVING SIGN TYPE II (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 x H [FT.] x [FT.]	637.0101 SIGNS TYPE I [SF]	638.2601 REM SIGNS TYPE I [EA]	638.3100 REM STR STEEL SIGN SUP [EA]	STEEL POST TYPE	636.0100 SIGN NO. SUPPORTS CONCRETE MASONRY [CY]	636.0500 SIGN SUPPORTS STEEL REINF. [LBS]	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS [EST.LBS]	635.0300 SIGN SUPPORTS REPLACING BASE CONN. BOLTS [EA]	INFO ONLY-POST LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO 1 LENGTH [FT]	POST NO 2 LENGTH [FT]	OFF SET DISTANCE [FT]	DIST BTWN POSTS "S" [FT]
731	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#730	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
732	W5-54(2M)	CLEARANCE MARKER	18 x 18	2.250	--	--	--	--	#730	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
733	W1-2L(5)	LEFT CURVE	48 x 48	16.000	--	--	--	--	--	MOUNT ON LIGHT POLE. SHEET 24	x	0.00	--	--	--	--	--	--	--	--	--	--	--
734	--	* NOT USED *	-- x --	--	--	--	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
735	W1-4C(5)	--	48 x 48	16.000	--	--	--	--	--	SHEET 30	x	0.00	--	--	--	--	--	--	--	--	--	--	--
736	W1-4C(5)	--	48 x 48	16.000	--	--	--	--	--	SHEET 30	x	0.00	--	--	--	--	--	--	--	--	--	--	--
737	R3-51(MOD)	--	-- x --	--	1	1	--	--	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
738	R1-2(2S)	YIELD	36 x 31	3.880	1	1	--	1	--	--	x	0.00	--	--	--	--	--	--	--	--	--	--	--
739	W5-53S(2)	LOW INLET MARKER	4 x 12	0.333	--	--	--	--	--	ON BARRIER WALL - SEE DETAIL	x	0.00	--	--	--	--	--	--	--	--	--	--	--
740	W5-53S(2)	LOW INLET MARKER	4 x 12	0.333	--	--	--	--	--	ON BARRIER WALL - SEE DETAIL	x	0.00	--	--	--	--	--	--	--	--	--	--	--
741	W5-53S(2)	LOW INLET MARKER	4 x 12	0.333	--	--	--	--	--	ON BARRIER WALL - SEE DETAIL	x	0.00	--	--	--	--	--	--	--	--	--	--	--
742	W5-53S(2)	LOW INLET MARKER	4 x 12	0.333	--	--	--	--	--	ON BARRIER WALL - SEE DETAIL	x	0.00	--	--	--	--	--	--	--	--	--	--	--
743	--	ENGINE BRAKING	-- x --	--	--	--	1	--	--	ON SIGN BRIDGE UPRIGHT. SHEET 26	x	0.00	--	--	--	--	--	--	--	--	--	--	--
744	--	CITY OF MILWAUKEE	-- x --	--	--	--	1	--	--	ON SIGN BRIDGE UPRIGHT. SHEET 26	x	0.00	--	--	--	--	--	--	--	--	--	--	--
745	W3-3(2S)	SIGNAL AHEAD	36 x 36	9.000	1	1	--	1	--	SHEET 26	x	0.00	--	--	--	--	--	--	--	--	--	--	--
UNDISTRIBUTED				--	--	--	--	--	--	--	x	0.00	--	2	--	5.0	500	1000	--	--	--	--	--
TOTALS				5082.447	338 *	186 *	2	230 *	--	--		5177.000	54	2	--	5.0	500	1000	36				

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE**

*

TYPE II PERMANENT SIGNING - MILE MARKERS

1228-26-70 IH 43/94

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	638.3620 ERECTING STATE OWNED SIGNS TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0885 POSTS TUBULAR STEEL 2 X 2 8.5 FT EACH	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
2003	D10-5A(5)	E(94/43 SHIELD) 314/.8	21 x 72	1	--	--	--	--	MOUNT ON LIGHT POLE
2004	D10-5A(5)	W(94/43 SHIELD) 314/.8	21 x 72	1	--	--	--	#2003	MOUNT ON LIGHT POLE
2005	D10-5A(5)	E(94/43 SHIELD) 314/.6	21 x 72	1	--	--	--	--	MOUNT ON LIGHT POLE
2006	D10-5A(5)	W(94/43 SHIELD) 314/.6	21 x 72	1	--	--	--	#2005	MOUNT ON LIGHT POLE
2007	D10-5A(5)	E(94/43 SHIELD) 314/.4	21 x 72	1	--	--	--	--	MOUNT ON LIGHT POLE
2008	D10-5A(5)	W(94/43 SHIELD) 314/.4	21 x 72	1	--	--	--	#2007	MOUNT ON LIGHT POLE
2009	D10-5A(5)	E(94/43 SHIELD) 314/.2	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2010	D10-5A(5)	W(94/43 SHIELD) 314/.2	21 x 72	1	--	--	--	#2009	MOUNT ON TOP OF BARRIER WALL
2011	D10-5A(5)	E(94/43 SHIELD) 314/0	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2012	D10-5A(5)	W(94/43 SHIELD) 314/0	21 x 72	1	--	--	--	#2011	MOUNT ON TOP OF BARRIER WALL
2013	D10-5A(5)	E(94/43 SHIELD) 313/.8	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2014	D10-5A(5)	W(94/43 SHIELD) 313/.8	21 x 72	1	--	--	--	#2013	MOUNT ON TOP OF BARRIER WALL
2015	D10-5A(5)	E(94/43 SHIELD) 313/.6	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2016	D10-5A(5)	W(94/43 SHIELD) 313/.6	21 x 72	1	--	--	--	#2015	MOUNT ON TOP OF BARRIER WALL
2017	D10-5A(5)	E(94/43 SHIELD) 313/.4	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2018	D10-5A(5)	W(94/43 SHIELD) 313/.4	21 x 72	1	--	--	--	#2017	MOUNT ON TOP OF BARRIER WALL
2019	D10-5A(5)	E(94/43 SHIELD) 313/.2	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2020	D10-5A(5)	W(94/43 SHIELD) 313/.2	21 x 72	1	--	--	--	#2019	MOUNT ON TOP OF BARRIER WALL
2021	D10-5A(5)	E(94/43 SHIELD) 313/0	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2022	D10-5A(5)	W(94/43 SHIELD) 313/0	21 x 72	1	--	--	--	#2021	MOUNT ON TOP OF BARRIER WALL
2023	D10-5A(5)	E(94/43 SHIELD) 312/.8	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2024	D10-5A(5)	W(94/43 SHIELD) 312/.8	21 x 72	1	--	--	--	#2023	MOUNT ON TOP OF BARRIER WALL
2025	D10-5A(5)	E(94/43 SHIELD) 312/.6	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2026	D10-5A(5)	W(94/43 SHIELD) 312/.6	21 x 72	1	--	--	--	#2025	MOUNT ON TOP OF BARRIER WALL
2027	D10-5A(5)	E(94/43 SHIELD) 312/.4	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

SHEET 1 OF 2

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING QUANTITIES	SHEET E

TYPE II PERMANENT SIGNING - MILE MARKERS

1228-26-70 IH 43/94

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.] x H [IN.]	638.3620 ERECTING STATE OWNED SIGNS TYPE II [SF]	638.2602 REM SIGNS TYPE II (EA)	638.3000 REM SMALL SIGN SUP (EA)	634.0885 POSTS TUBULAR STEEL 2 X 2 8.5 FT EACH	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
2028	D10-5A(5)	W(94/43 SHIELD) 312/.4	21 x 72	1	--	--	--	#2027	MOUNT ON TOP OF BARRIER WALL
2029	D10-5A(5)	E(94/43 SHIELD) 312/.2	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2030	D10-5A(5)	W(94/43 SHIELD) 312/.2	21 x 72	1	--	--	--	#2029	MOUNT ON TOP OF BARRIER WALL
2031	D10-5A(5)	E(94/43 SHIELD) 312/0	21 x 72	1	--	--	1	--	MOUNT ON TOP OF BARRIER WALL SEE DETAIL INCIDENTAL
2032	D10-5A(5)	W(94/43 SHIELD) 312/0	21 x 72	1	--	--	--	#2031	MOUNT ON TOP OF BARRIER WALL
2033	D10-5A(5)	E(94/43 SHIELD) 311/.8	21 x 72	1	1	--	--	--	MOUNT ON TOP OF BARRIER WALL RE-USE EXISTING POST
2034	D10-5A(5)	W(94/43 SHIELD) 311/.8	21 x 72	1	1	--	--	#2033	MOUNT ON TOP OF BARRIER WALL
2035	D10-5A	E(94/43 SHIELD) 311/.7	-- x --	--	1	1	--	--	--
2036	D10-5A	W(94/43 SHIELD) 311/.7	-- x --	--	1	--	--	--	--
2037	D10-5A(5)	E(94/43 SHIELD) 311/.6	21 x 72	1	1	--	--	--	MOUNT ON TOP OF BARRIER WALL RE-USE EXISTING POST
2038	D10-5A(5)	W(94/43 SHIELD) 311/.6	21 x 72	1	1	--	--	#2037	MOUNT ON TOP OF BARRIER WALL
2039	D10-5A	E(94/43 SHIELD) 311/.5	-- x --	--	1	1	--	--	--
2040	D10-5A	W(94/43 SHIELD) 311/.5	-- x --	--	1	--	--	--	--
2041	D10-5A(5)	E(94/43 SHIELD) 311/.4	21 x 72	1	1	--	--	--	MOUNT ON TOP OF BARRIER WALL RE-USE EXISTING POST
2042	D10-5A(5)	W(94/43 SHIELD) 311/.4	21 x 72	1	1	--	--	#2041	MOUNT ON TOP OF BARRIER WALL
2043	D10-5A	E(94/43 SHIELD) 311/.3	-- x --	--	1	1	--	--	--
2044	D10-5A	W(94/43 SHIELD) 311/.3	-- x --	--	1	--	--	--	--
2045	D10-5A(5)	E(94/43 SHIELD) 311/.2	21 x 72	1	1	--	--	--	MOUNT ON TOP OF BARRIER WALL RE-USE EXISTING POST
2046	D10-5A(5)	W(94/43 SHIELD) 311/.2	21 x 72	1	1	--	--	#2045	MOUNT ON TOP OF BARRIER WALL
2047	D10-5A	E(94/43 SHIELD) 311/.1	-- x --	--	1	1	--	--	--
2048	D10-5A	W(94/43 SHIELD) 311/.1	-- x --	--	1	--	--	--	--
2049	D10-5A(5)	E(94/43 SHIELD) 311/0	21 x 72	1	1	--	--	--	MOUNT ON TOP OF BARRIER WALL RE-USE EXISTING POST
2050	D10-5A(5)	W(94/43 SHIELD) 311/0	21 x 72	1	1	--	--	#2049	MOUNT ON TOP OF BARRIER WALL
2051	D10-3	MILE 315	-- x --	--	1	1	--	--	DO NOT REMOVE UNTIL NEW SIGNS INSTALLED
2052	D10-3	MILE 314	-- x --	--	1	1	--	--	DO NOT REMOVE UNTIL NEW SIGNS INSTALLED
2053	D10-3	MILE 312	-- x --	--	1	1	--	--	DO NOT REMOVE UNTIL NEW SIGNS INSTALLED
2054	D10-3	MILE 313	-- x --	--	1	1	--	--	DO NOT REMOVE UNTIL NEW SIGNS INSTALLED
	TOTALS			40	22 *	8 *	12	--	--

*** ADDITIONAL QUANTITIES SHOWN ELSEWHERE**

ALL QUANTITIES ARE CATEGORY 0010 UNLESS NOTED

SHEET 2 OF 2

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	PERMANENT SIGNING QUANTITIES	SHEET E

RAMP METER EQUIPMENT

ROADWAY	ITEM ID	LOCATION	676.0100 SIGNAL ASSEMBLY RAMP CONTROL SIDEMOUNT EACH	676.0105 SIGNAL ASSEMBLY RAMP CONTROL OVERHEAD EACH	SPV.0060.10 WIRELESS TRAFFIC SENSOR EACH	SPV.0060.11 WIRELESS TRAFFIC SENSOR ACCESS POINT EACH	SPV.0060.12 WIRELESS TRAFFIC SENSOR REPEATER EACH	SPV.0060.13 WIRELESS TRAFFIC SENSOR CONTACT CLOSURE MODULE EACH	SPV.0060.14 REMOVING RAMP CONTROL SIGNAL ASSEMBLY SIDEMOUNT EACH	SPV.0060.15 REMOVING RAMP CONTROL SIGNAL ASSEMBLY OVERHEAD EACH	SPV.0060.16 REFOCUS MICROWAVE VEHICLE DETECTOR ASSEMBLY EACH
IH 43 / 94											
	EXCB-RM-40-0055	HOLT AVE. SB	--	--	2	1	1	1	--	--	--
	SB0055A	HOLT AVE. SB	1	--	5	--	--	--	1	--	--
	SB0055B	HOLT AVE. SB	1	--	--	--	--	--	1	--	--
	EXCB-RM-40-0017	HOLT AVE. NB	--	--	2	1	1	--	--	--	--
	FY0017A	HOLT AVE. NB	1	--	--	--	1	--	1	--	--
	SP0017A	HOLT AVE. NB	1	--	--	--	--	--	1	--	--
	SP0017B	HOLT AVE. NB	1	--	--	--	--	--	1	--	--
	EXCB-RM-40-0018	HOLT AVE. NB	--	--	4	2	--	1	--	--	--
	SB0018A	HOLT AVE. NB	1	--	--	--	--	--	1	--	--
	OHSS0018A	HOLT AVE. NB	--	2	6	--	1	--	--	2	--
	EXCB-RM-40-0027	MINERAL ST. SB	--	--	--	1	--	1	--	--	--
	FY0027A	MINERAL ST. SB	--	--	3	--	1	--	--	--	--
	SB0027A	MINERAL ST. SB	1	--	4	--	1	--	1	--	--
	SB0027B	MINERAL ST. SB	1	--	--	--	--	--	1	--	--
	EXCB-RM-40-0058/0059	NATIONAL AVE. NB	--	--	--	1	--	1	--	--	--
	SB0058A	6TH ST. NB	1	--	2	--	1	--	1	--	--
	SB0058B	6TH ST. NB	1	--	4	--	1	--	1	--	--
	EXDPNA05	6TH ST. NB	--	--	--	1	--	--	--	--	--
	SB0059A	NATIONAL AVE. NB	1	--	--	--	1	--	1	--	--
	SB0059B	NATIONAL AVE. NB	1	--	--	--	1	--	1	--	--
	UNDISTRIBUTED	PROJECT	--	--	--	--	--	--	--	--	10
	TOTALS		12	2	32	7	10	4	12	2	10

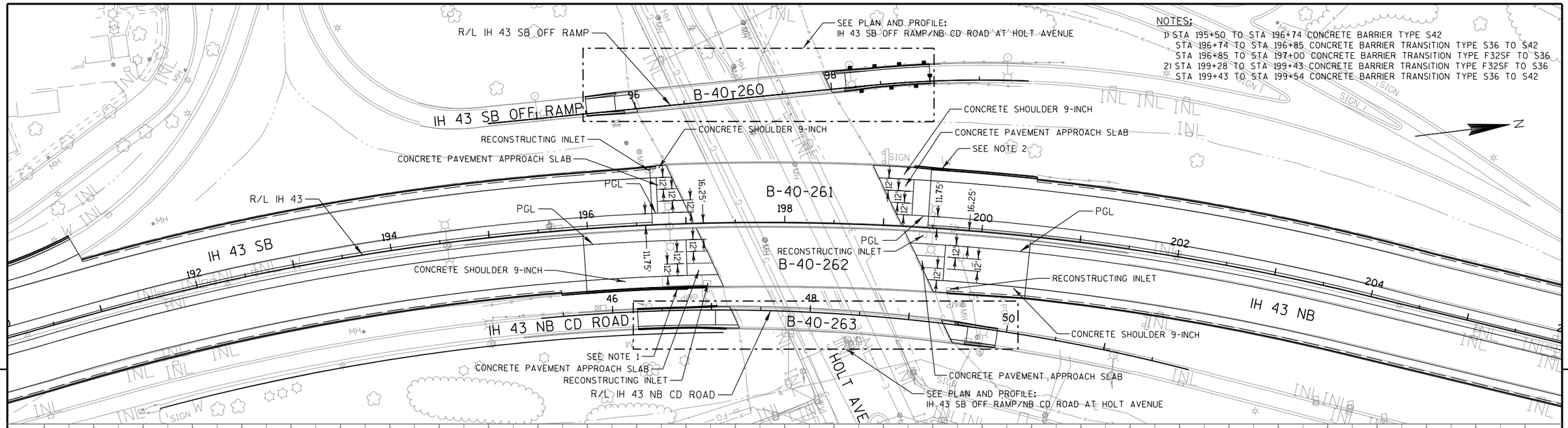
ITS LUMP SUM ITEMS

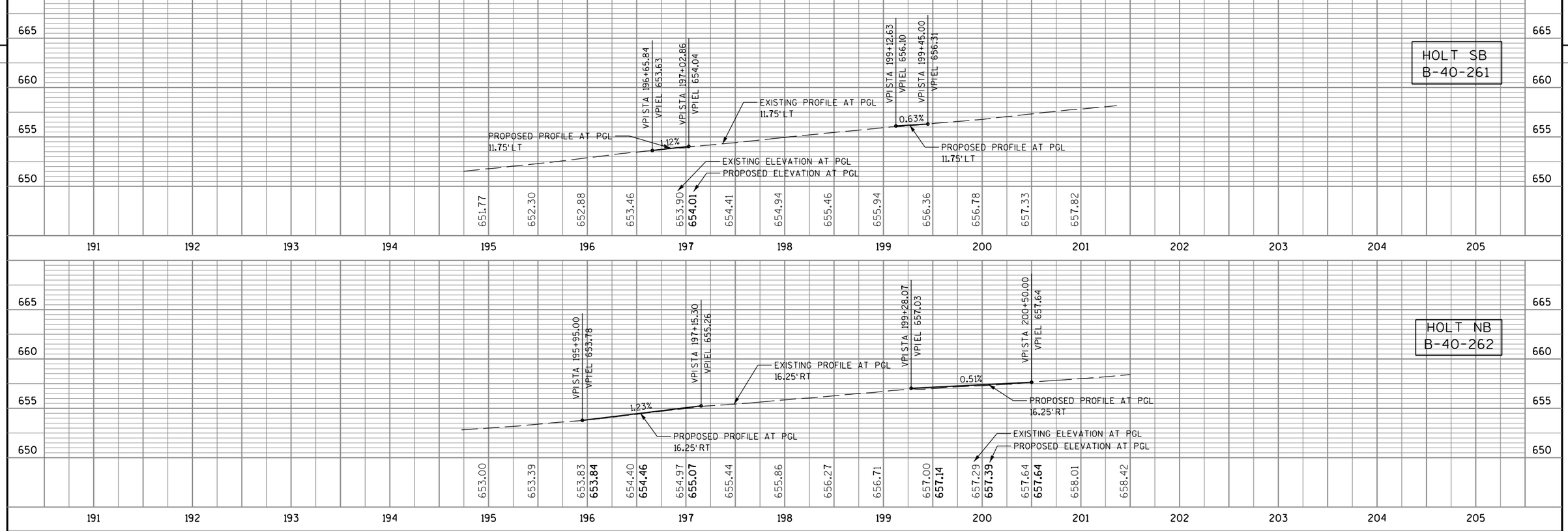
ROADWAY	LOCATION	670.0100 FIELD SYSTEM INTEGRATOR LS	670.0200 ITS DOCUMENTATION LS
IH 43 / 94			
	PROJECT	1	1
TOTAL		1	1

ALL QUANTITIES ARE CATEGORY 1300 UNLESS NOTED

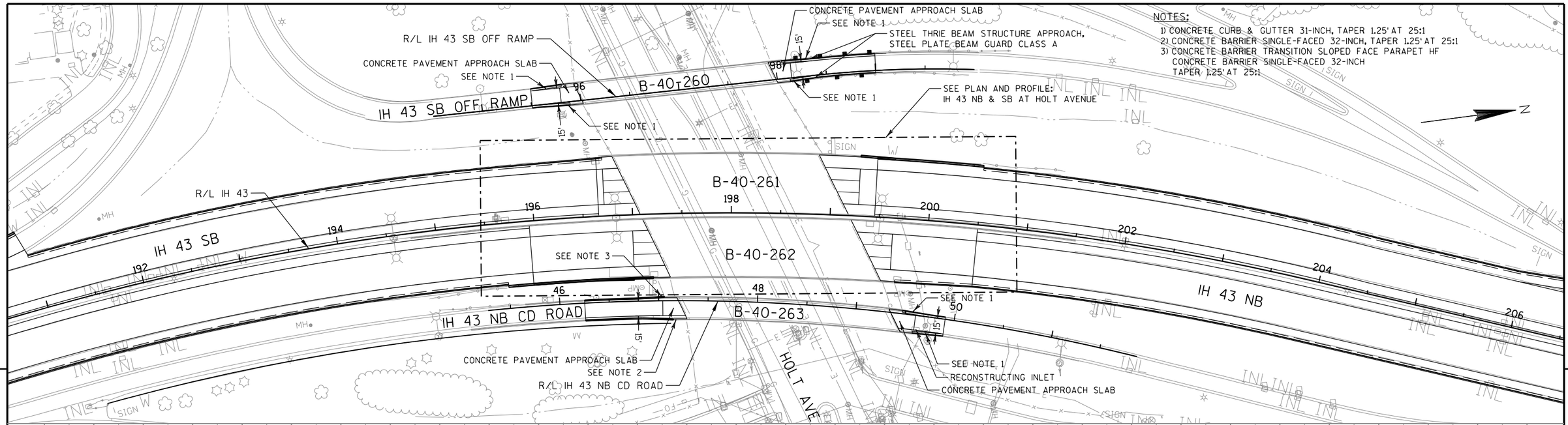
PROJECT NO: 1228-26-70	HWY: IH 43 / 94	COUNTY: MILWAUKEE	FTMS MISCELLANEOUS QUANTITIES	SHEET NO:	E

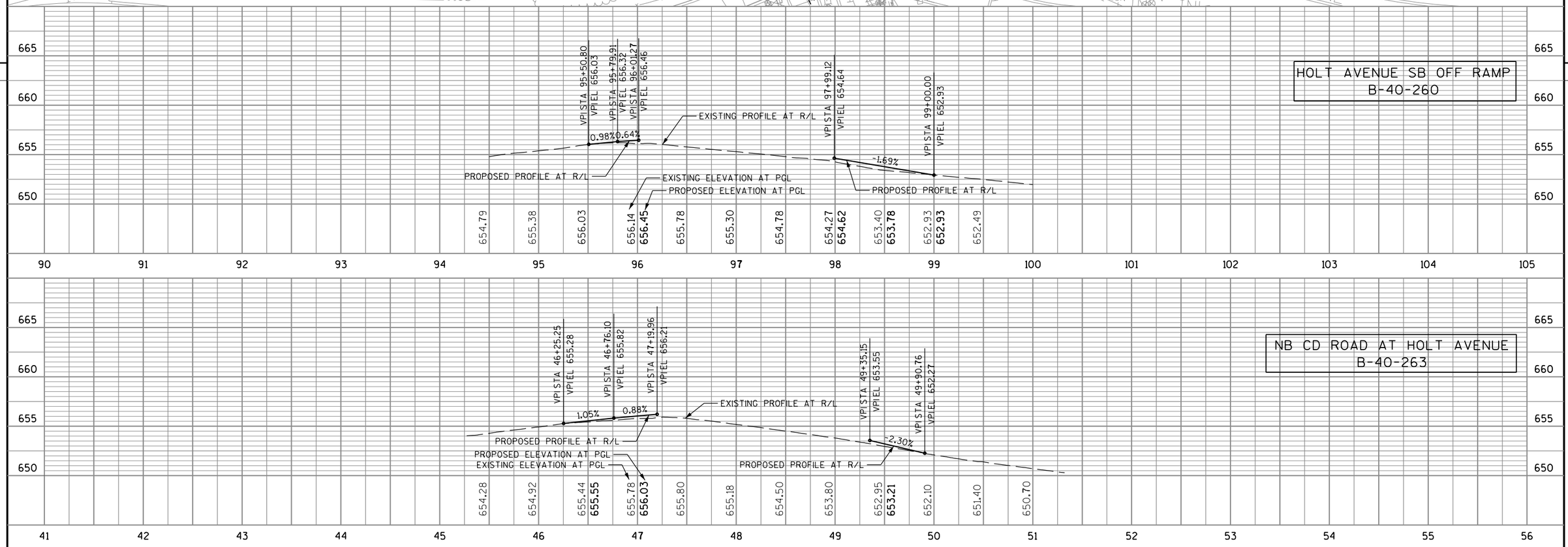
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PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN AND PROFILE: IH 43 NB & SB AT HOLT AVENUE	SHEET 302	E

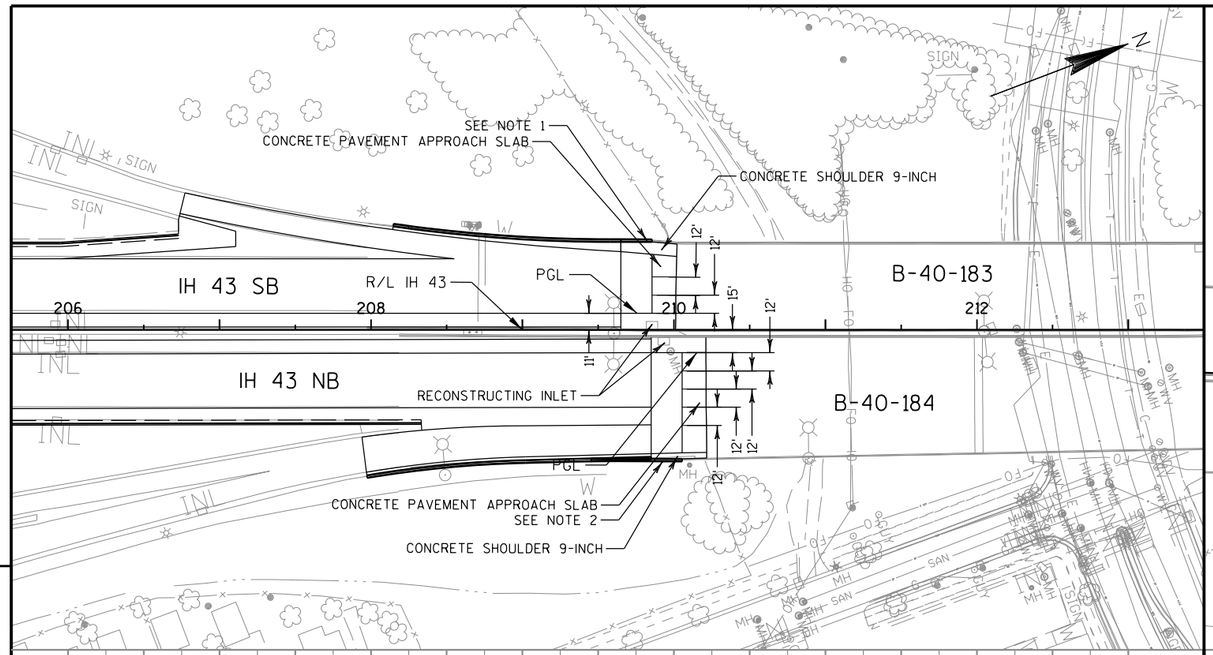


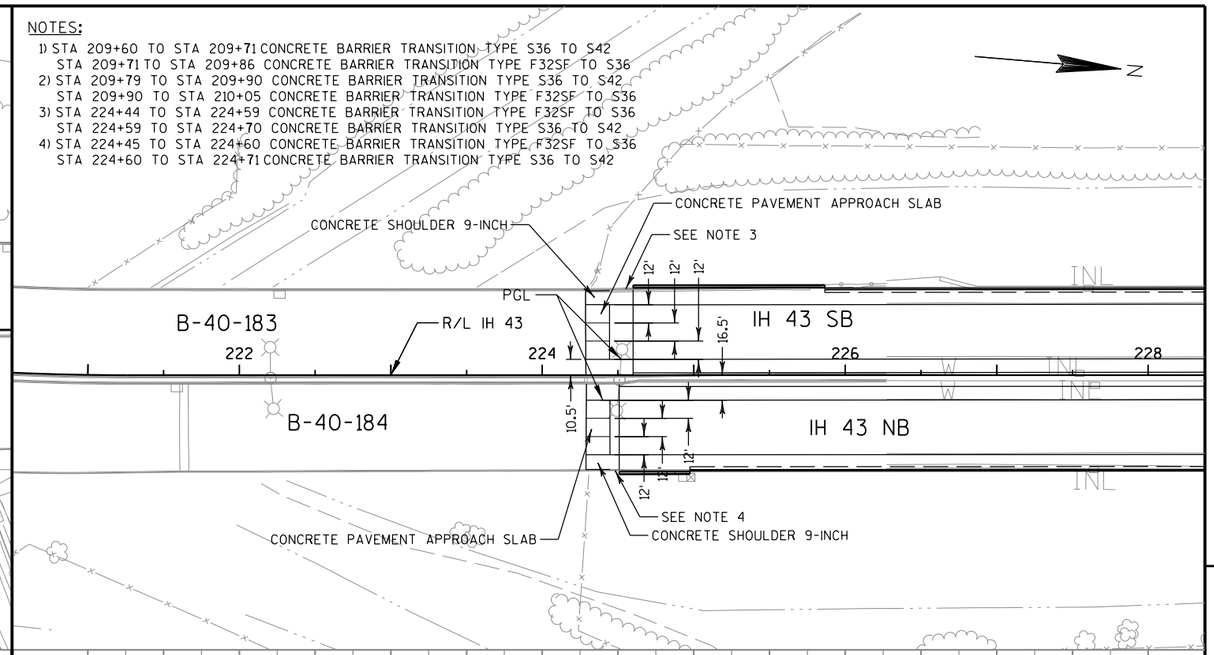


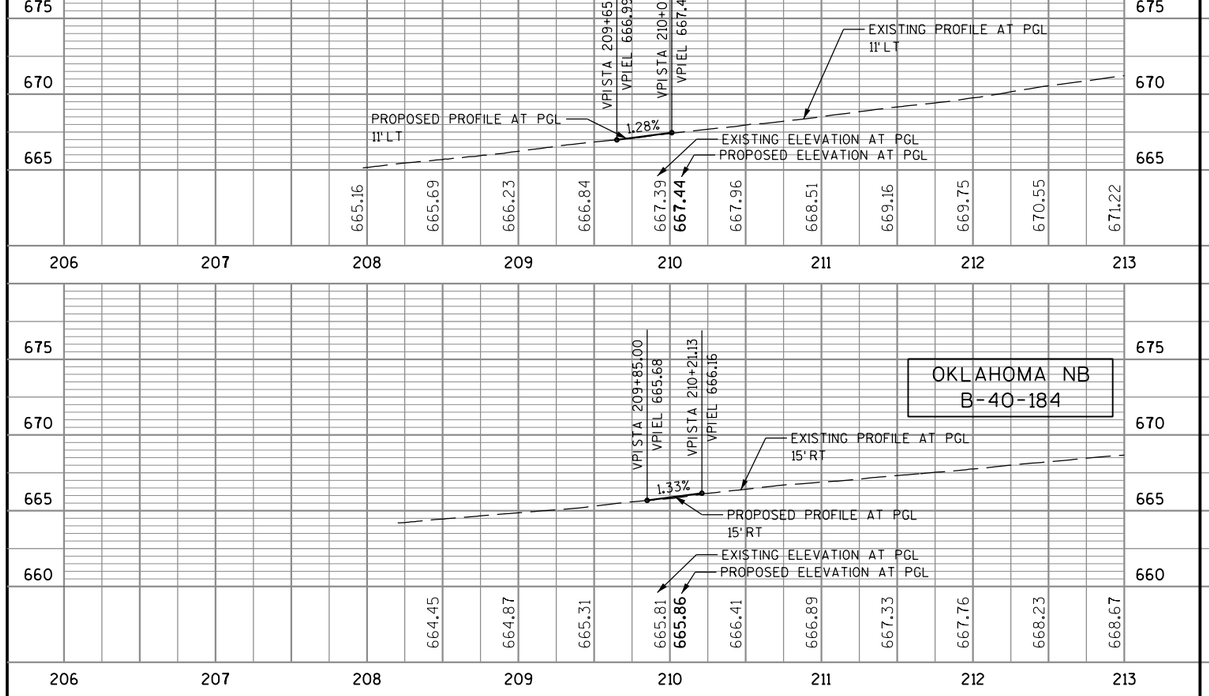
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN AND PROFILE: IH 43 SB OFF RAMP/NB CD ROAD AT HOLT AVE	SHEET 303	E

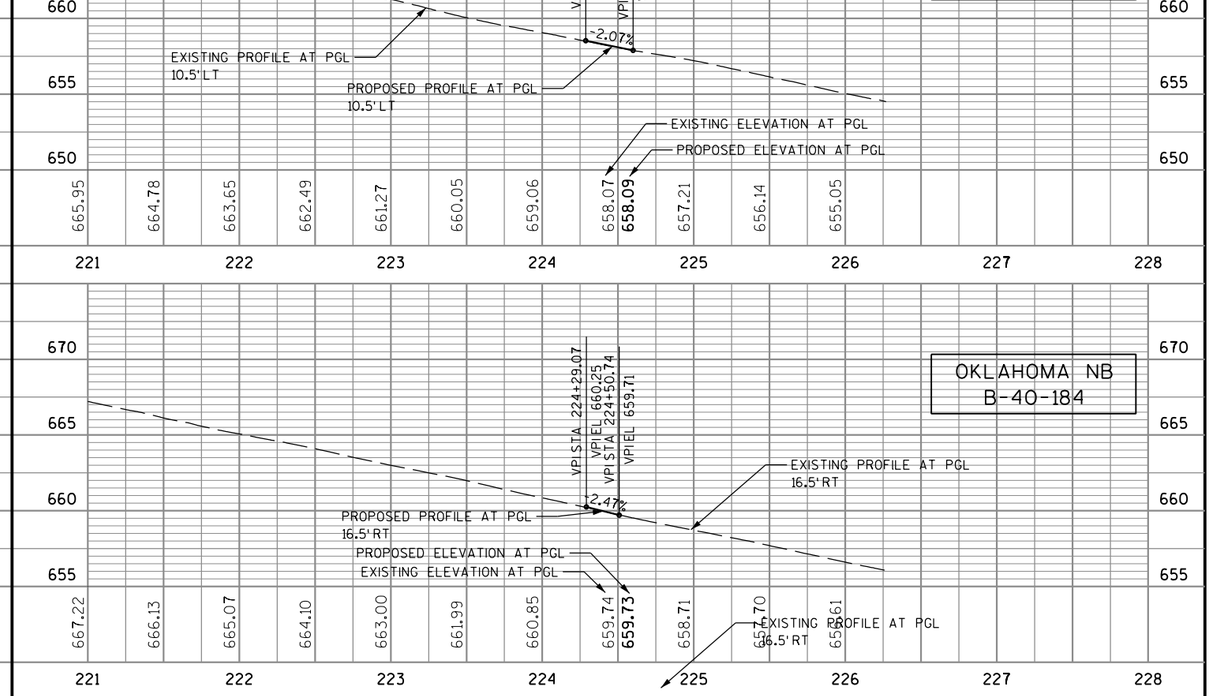
NOTES:

1) STA 209+60 TO STA 209+71 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
   STA 209+71 TO STA 209+86 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
2) STA 209+79 TO STA 209+90 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
   STA 209+90 TO STA 210+05 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
3) STA 224+44 TO STA 224+59 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
   STA 224+59 TO STA 224+70 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
4) STA 224+45 TO STA 224+60 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
   STA 224+60 TO STA 224+71 CONCRETE BARRIER TRANSITION TYPE S36 TO S42

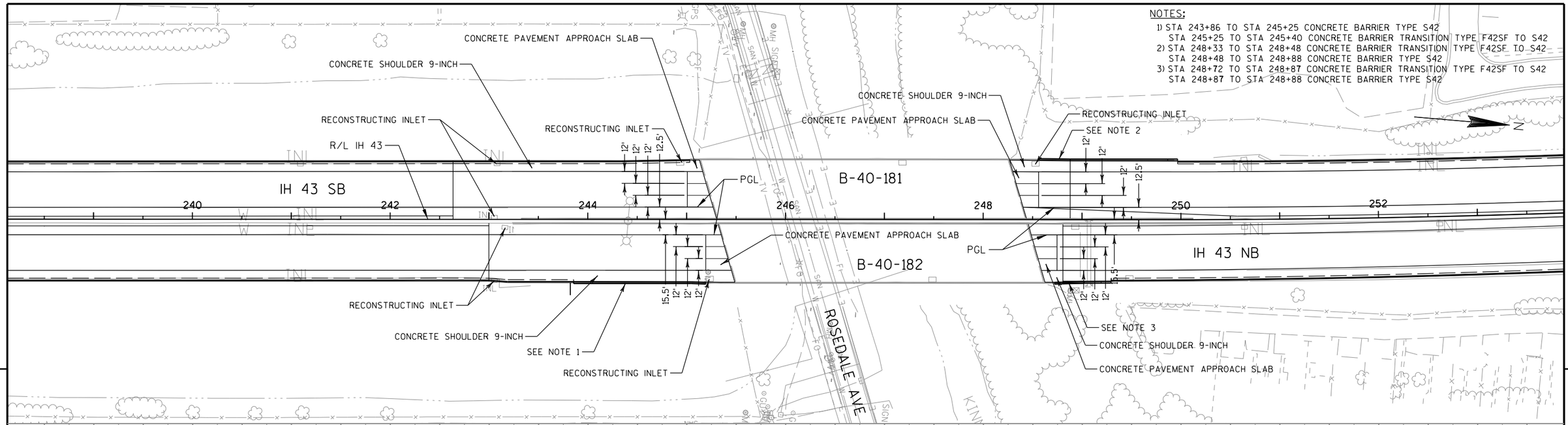








PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN AND PROFILE: IH 43 NB & SB AT OKLAHOMA AVENUE	SHEET 304 E



PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN AND PROFILE: IH 43 NB & SB AT ROSEDALE AVENUE	SHEET 305	E

NOTES:
1) STA 287+05 TO STA 287+46 CONCRETE BARRIER TYPE S42
STA 287+46 TO STA 287+57 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
STA 287+57 TO STA 287+72 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
2) STA 296+15 TO STA 296+30 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
STA 296+30 TO STA 296+41 CONCRETE BARRIER TRANSITION TYPE S36 TO S42

N

BECHER ST

S 5TH STREET

IH 43 SB

IH 43 NB

B-40-175

B-40-176

R/L IH 43

CONCRETE PAVEMENT APPROACH SLAB

CONCRETE SHOULDER 9-INCH

SEE NOTE 1

SEE NOTE 2

PGL

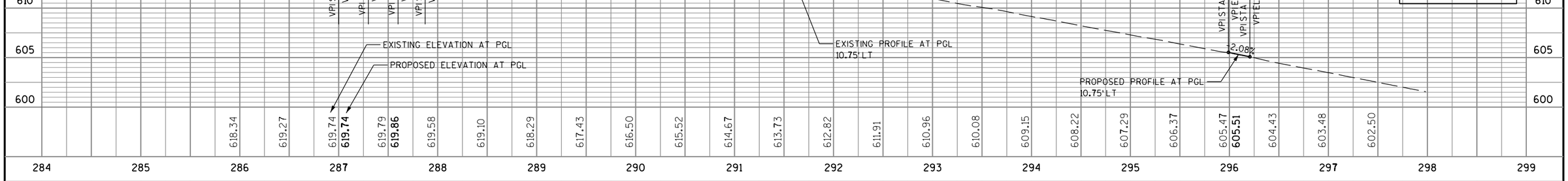
12'

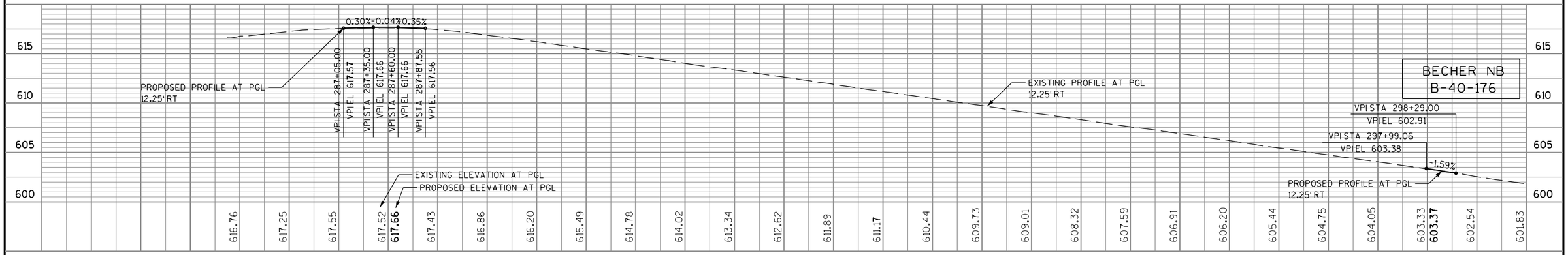
10.75'

12.25'

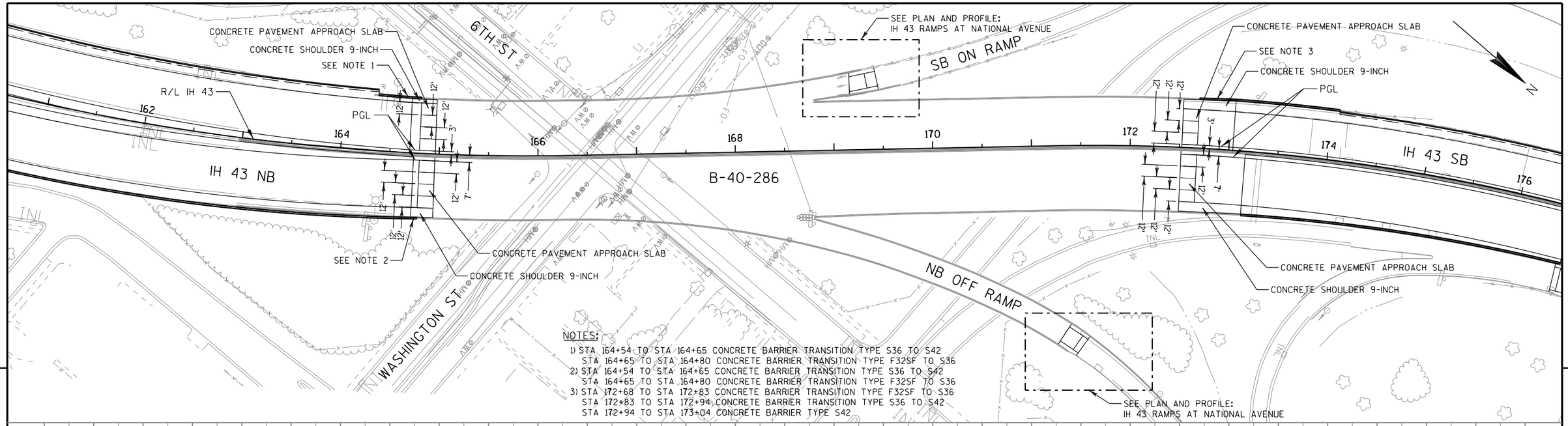
284 286 288 290 292 294 296 298

5



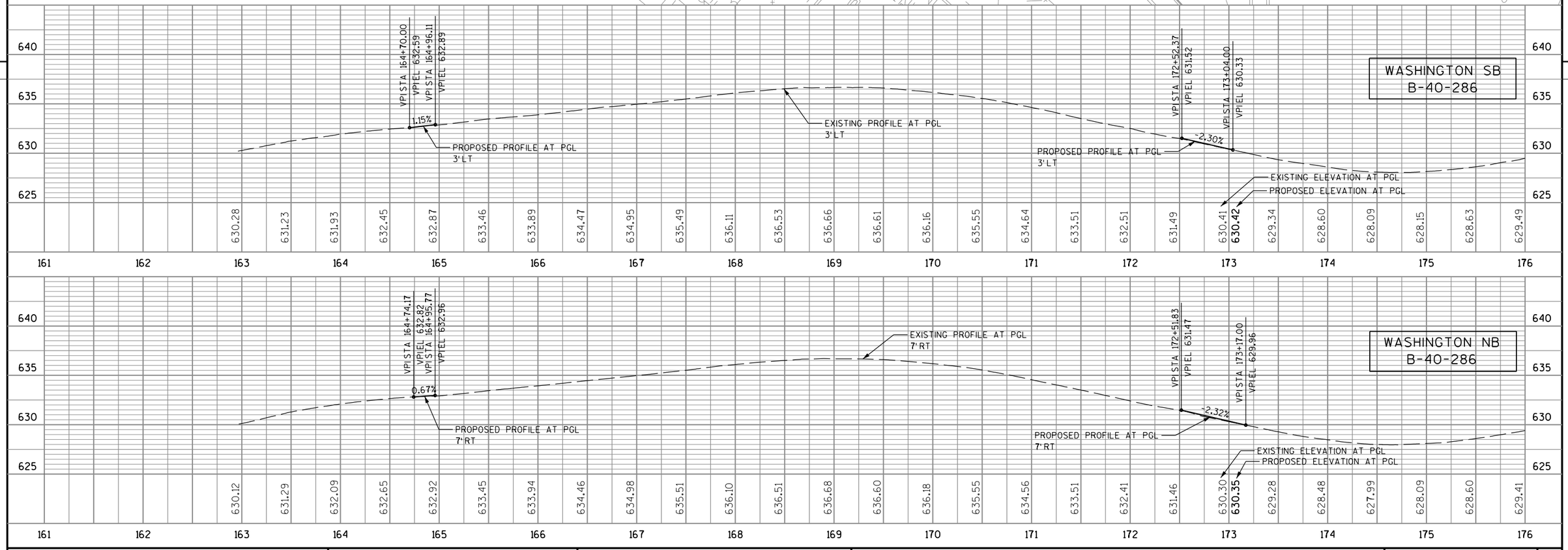


PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN AND PROFILE: IH 43 NB & SB AT BECHER STREET	SHEET 306	E

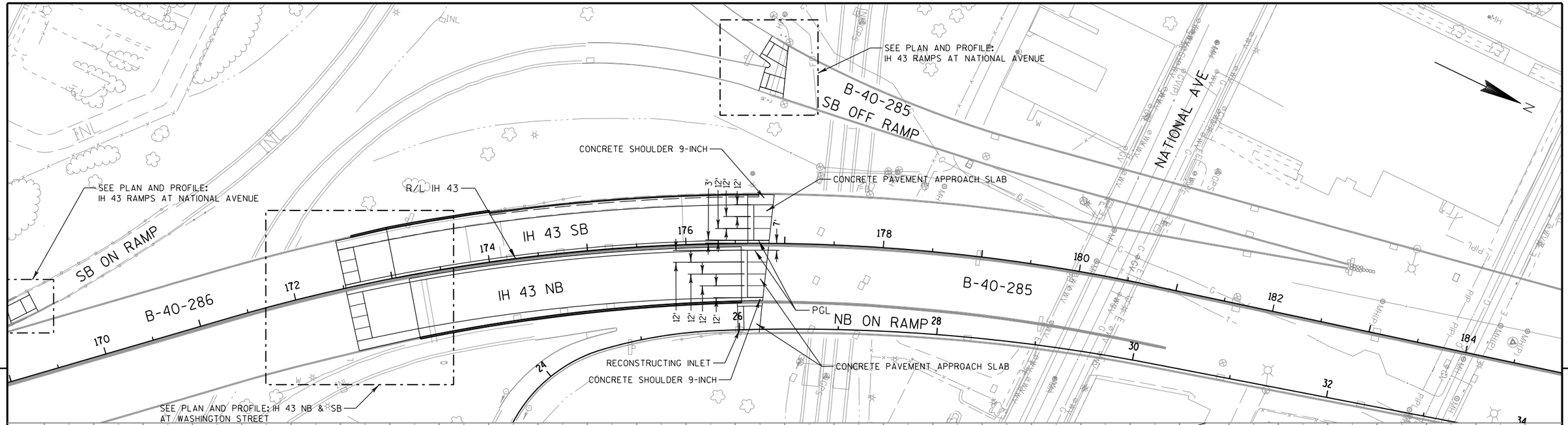


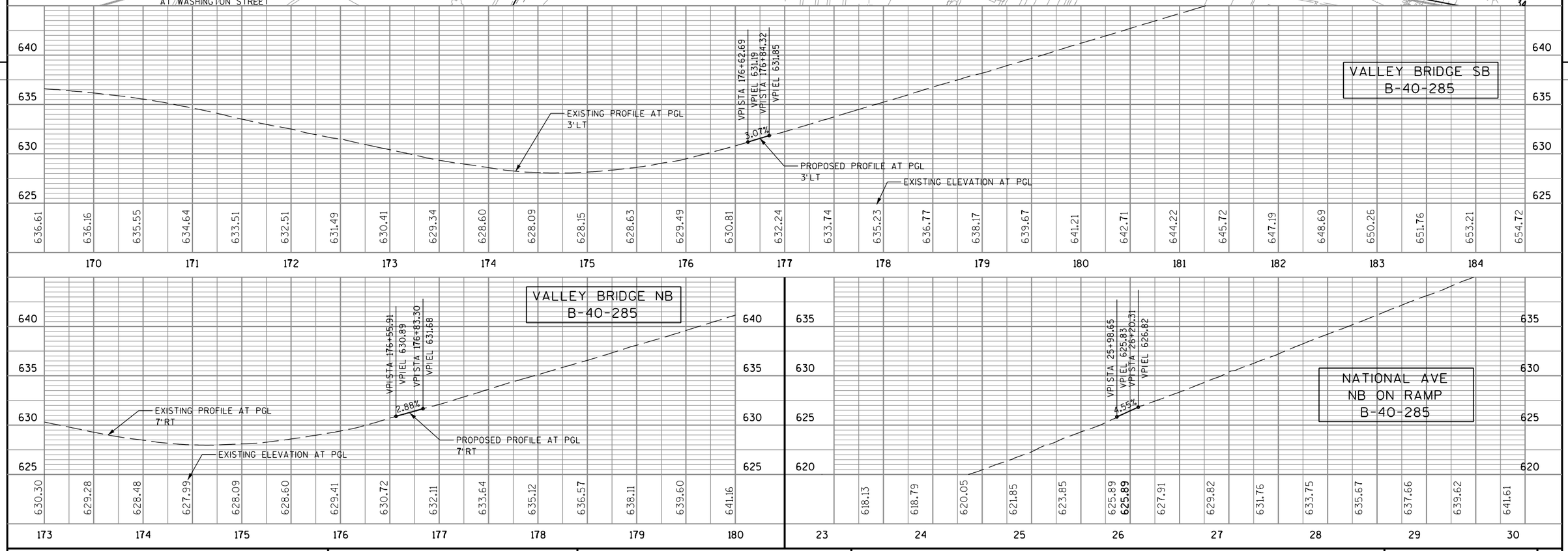
NOTES:

1) STA 164+54 TO STA 164+65 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
   STA 164+65 TO STA 164+80 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
2) STA 164+54 TO STA 164+65 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
   STA 164+65 TO STA 164+80 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
3) STA 172+68 TO STA 172+83 CONCRETE BARRIER TRANSITION TYPE F32SF TO S36
   STA 172+83 TO STA 172+94 CONCRETE BARRIER TRANSITION TYPE S36 TO S42
   STA 172+94 TO STA 173+04 CONCRETE BARRIER TYPE S42

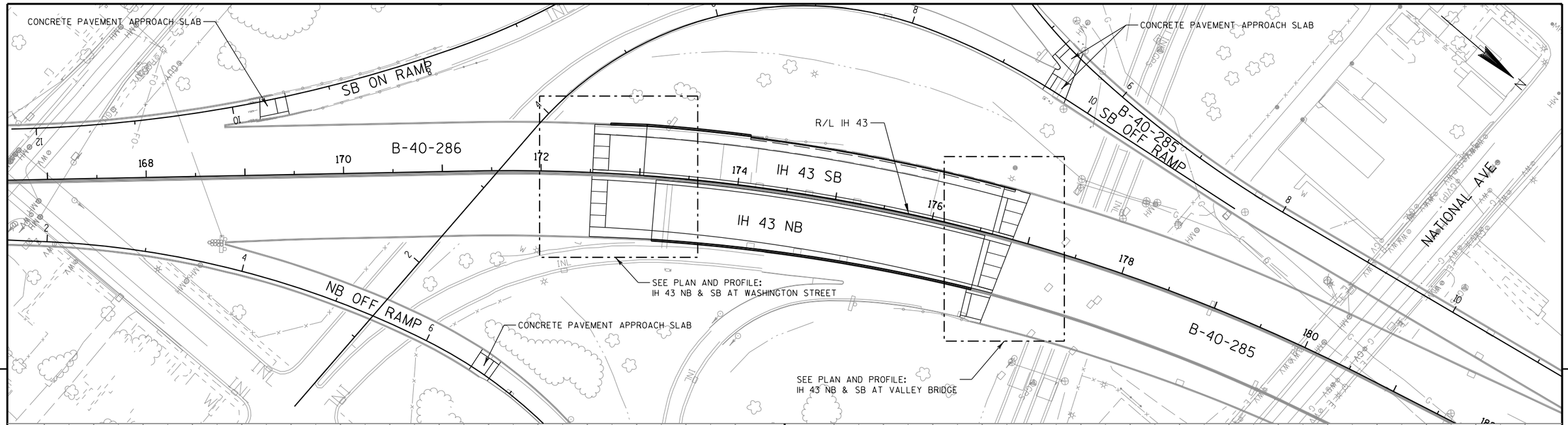


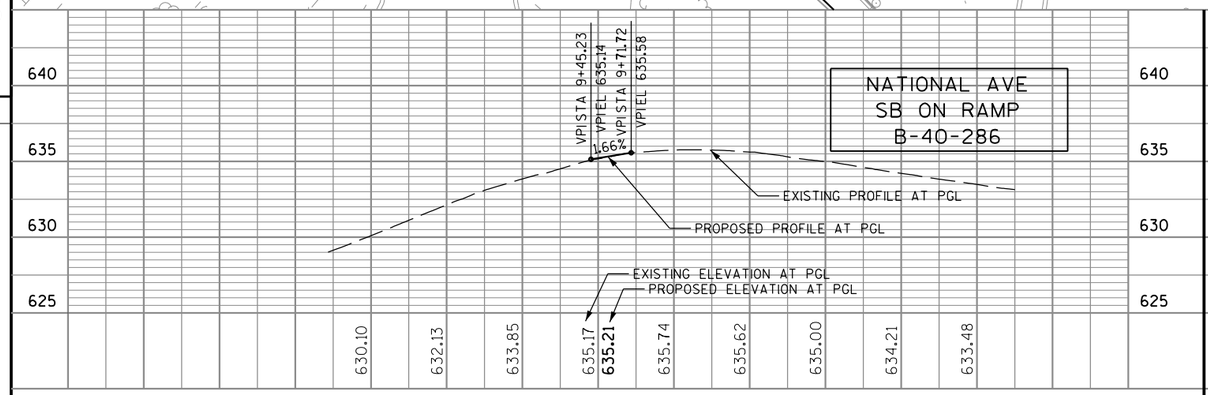
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN AND PROFILE: IH 43 NB & SB AT WASHINGTON STREET	SHEET 307	E

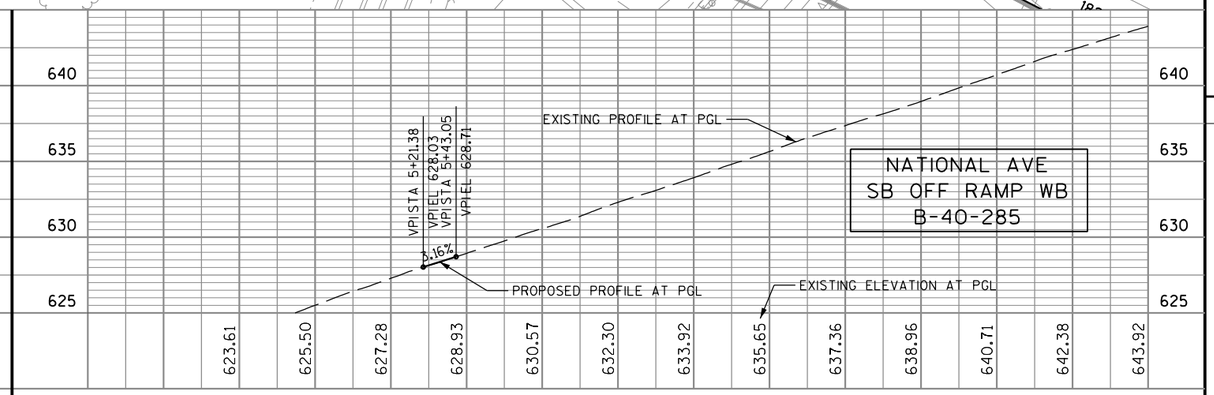


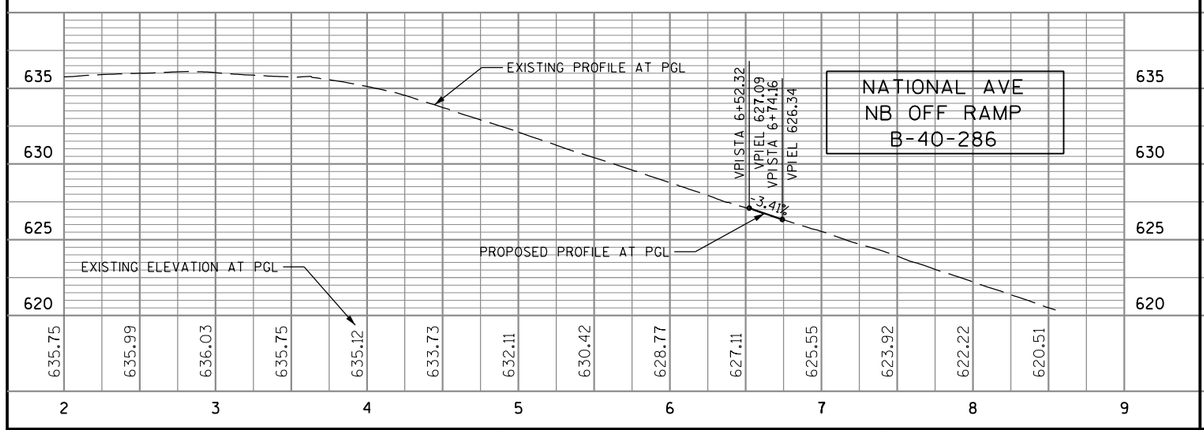


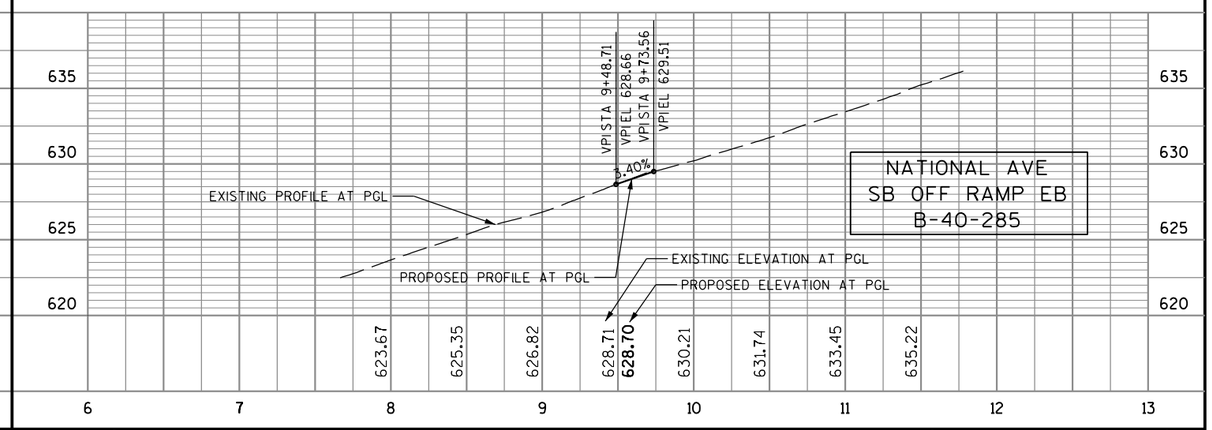
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN AND PROFILE: IH 43 NB & SB AT VALLEY BRIDGE	SHEET 308	E











PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN AND PROFILE: IH 43 RAMPS AT NATIONAL AVENUE	SHEET 309	E

BEGIN PROJECT
STA 653+20.00
X = 604,346.036
Y = 275,883.868

HOWARD AVENUE

IH 43/IH 94/USH 41 SB

I43/94/USH 41

IH 43/IH 94/USH 41 NB

N 0°17'08" E

36'

28.2'

36'

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

REMOVE AND REPLACE SHOULDER, CONCRETE PAVEMENT 9-INCH

IH 43 R

SAWING CONCRETE, (TYP)

STRUCTURE B-40-265

REMOVE AND REPLACE
NOISE BARRIER SN-40-07

INLET PROTECTION
TYPE D

TEMPORARY FENCE,
REMOVE AFTER NOISE
BARRIER IS COMPLETE

LANDSCAPE ALL DISTURBED
AREAS AT END OF PROJECT
WITH EROSION MAT,
FERTILIZER AND SEEDING

CLEAR AND GRUB PRIOR TO
NOISE BARRIER CONSTRUCTION

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: BEGIN PROJECT - STA 663+76	SHEET 310 E

LEGEND

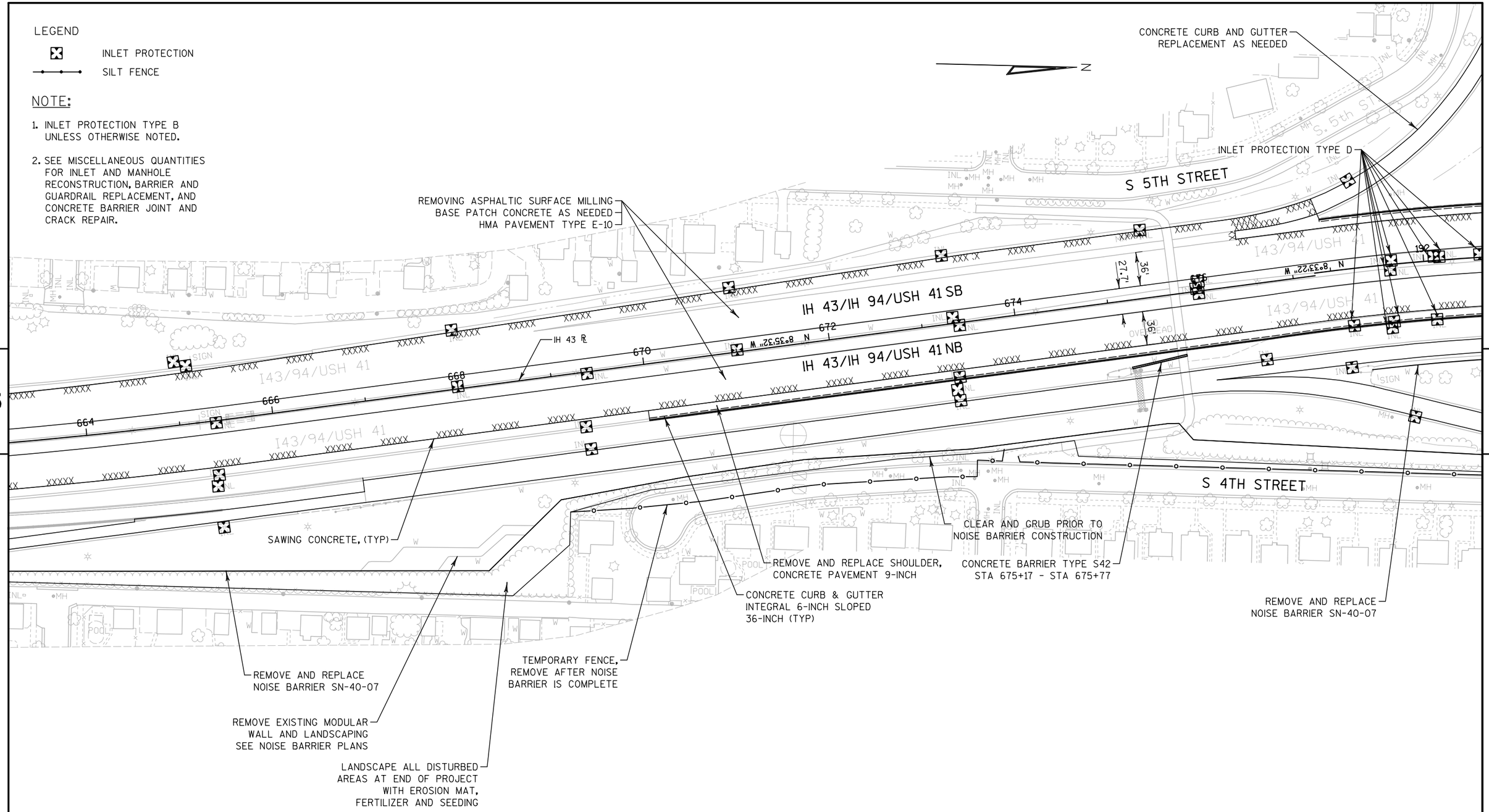
INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.

2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.



PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 663+76 - STA 675+68	SHEET 311	E

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

N

CONCRETE CURB AND GUTTER REPLACEMENT AS NEEDED

MATCH EXISTING PAVEMENT JOINT, TO BE VERIFIED BY FIELD ENGINEER

SOO LINE RAILROAD COMPANY

CONCRETE CURB AND GUTTER REPLACEMENT AS NEEDED

HOLT AVENUE

INLET PROTECTION TYPE D

CONCRETE PAVEMENT APPROACH SLAB

STRUCTURE B-40-260

STRUCTURE B-40-261

ADJUSTING INLET

REMOVE AND REINSTALL LIGHT POLE STA 96+60

ADJUSTING INLET

CONCRETE PAVEMENT APPROACH SLAB

STRUCTURE B-40-262

CONCRETE BARRIER TYPE S42 STA 199+46 - STA 200+52

REMOVE AND REPLACE SHOULDER, CONCRETE PAVEMENT 9-INCH

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

IH 43 ℄

INLET PROTECTION TYPE D

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

SILT FENCE (TYP)

REMOVE AND REPLACE NOISE BARRIER SN-40-07

INLET PROTECTION TYPE D

CONCRETE BARRIER TYPE S42 STA 195+67 - STA 197+19

SAWING CONCRETE, (TYP)

STRUCTURE B-40-263

ADJUSTING INLET

CONCRETE PAVEMENT APPROACH SLAB

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

CONCRETE CURB & GUTTER INTEGRAL 6-INCH SLOPED 36-INCH (TYP)

CONCRETE BARRIER TYPE S42 STA 675+17 - STA 675+77

REMOVE AND REINSTALL LIGHT POLE STA 47+98

MATCH EXISTING PAVEMENT JOINT, TO BE VERIFIED BY FIELD ENGINEER

LANDSCAPE ALL DISTURBED AREAS AT END OF PROJECT WITH EROSION MAT, FERTILIZER AND SEEDING

MATCH EXISTING PAVEMENT JOINT, TO BE VERIFIED BY FIELD ENGINEER

INLET PROTECTION TYPE D

INLET PROTECTION TYPE D

TEMPORARY FENCE, REMOVE AFTER NOISE BARRIER IS COMPLETE

REMOVE AND REPLACE NOISE BARRIER SN-40-07

CLEAR AND GRUB PRIOR TO NOISE BARRIER CONSTRUCTION

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 675+68 - STA 204+92	SHEET 312	E

SOO LINE RAILROAD COMPANY D/B/A CANADIAN PACIFIC RAILWAY COMPANY

OKLAHOMA AVENUE

CONCRETE CURB AND GUTTER REPLACEMENT AS NEEDED

REMOVE AND REPLACE SHOULDER, CONCRETE PAVEMENT 9-INCH

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

CONCRETE BARRIER TYPE S42
STA 208+15 - STA 209+65

SILT FENCE, (TYP)

CONCRETE PAVEMENT APPROACH SLAB

STRUCTURE B-40-183

STRUCTURE B-40-184

IH 43 R

206 208 210 212 214 216 218 220

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

CONCRETE CURB & GUTTER INTEGRAL 6-INCH SLOPED 36-INCH (TYP)

SAWING CONCRETE, (TYP)

CONCRETE BARRIER TYPE S42
STA 207+97- STA 209+85

ADJUSTING INLET

CONCRETE CURB AND GUTTER REPLACEMENT AS NEEDED

S 3RD STREET

CANADIAN PACIFIC RAILROAD COMPANY

LEGEND

INLET PROTECTION

SILT FENCE

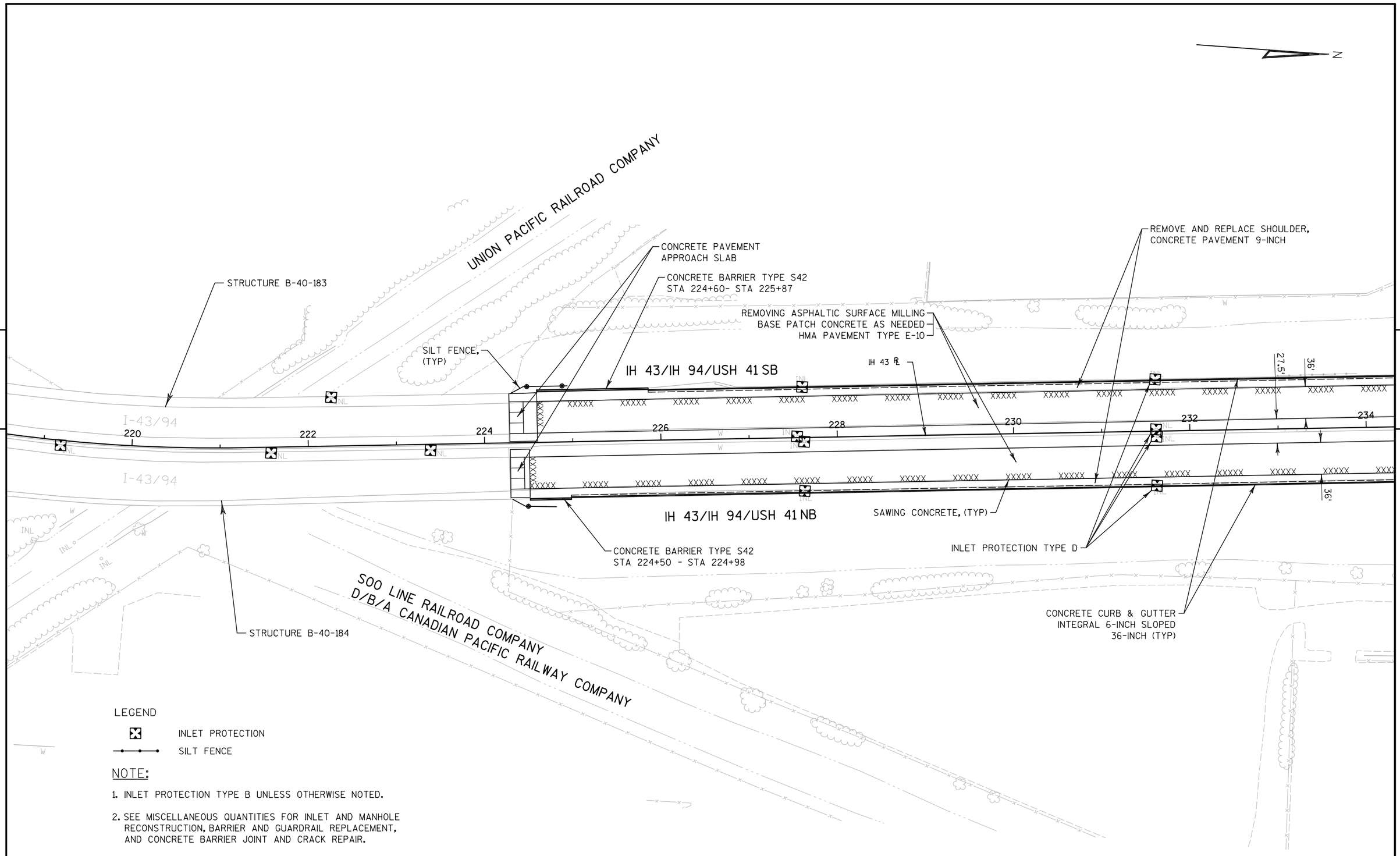
NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

5

5

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 204+92 - STA 220+00	SHEET 313	E



5

5

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 220+00 - STA 234+33	SHEET 314	E

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.

2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

N

REMOVE AND REPLACE SHOULDER, CONCRETE PAVEMENT 9-INCH

SAWING CONCRETE, (TYP)

IH 43 ℄

IH 43/IH 94/USH 41 SB

ADJUSTING INLET

CONCRETE PAVEMENT APPROACH SLAB

CONCRETE BARRIER TYPE S42
STA 248+88 - STA 249+97

STRUCTURE B-40-181

ADJUSTING INLET

CONCRETE PAVEMENT APPROACH SLAB

236 238 240 242 244 246 248

27.7' 36'

I-43/94

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

CONCRETE CURB & GUTTER
INTEGRAL 6-INCH SLOPED
36-INCH (TYP)

IH 43/IH 94/USH 41 NB

MGS THRIE BEAM TRANSITION
MGS GUARDRAIL TERMINAL EAT

STRUCTURE B-40-182

ROSEDALE AVENUE

KINNICKINNIC RIVER

CONCRETE BARRIER TYPE S42
STA 248+81 - STA 249+29

RAMP

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 234+33 - STA 250+00	SHEET 315	E

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

5TH STREET

4TH STREET

CONCRETE BARRIER TYPE S42
STA 248+88 - STA 249+97

SAWING CONCRETE, (TYP)

IH 43 ℄

36'

IH 43/IH 94/USH 41 SB

REMOVE AND REPLACE SHOULDER, CONCRETE PAVEMENT 9-INCH

CONCRETE CURB & GUTTER INTEGRAL 6-INCH SLOPED 36-INCH (TYP)

250 252 254 256 258 260 262 264

I-43/94

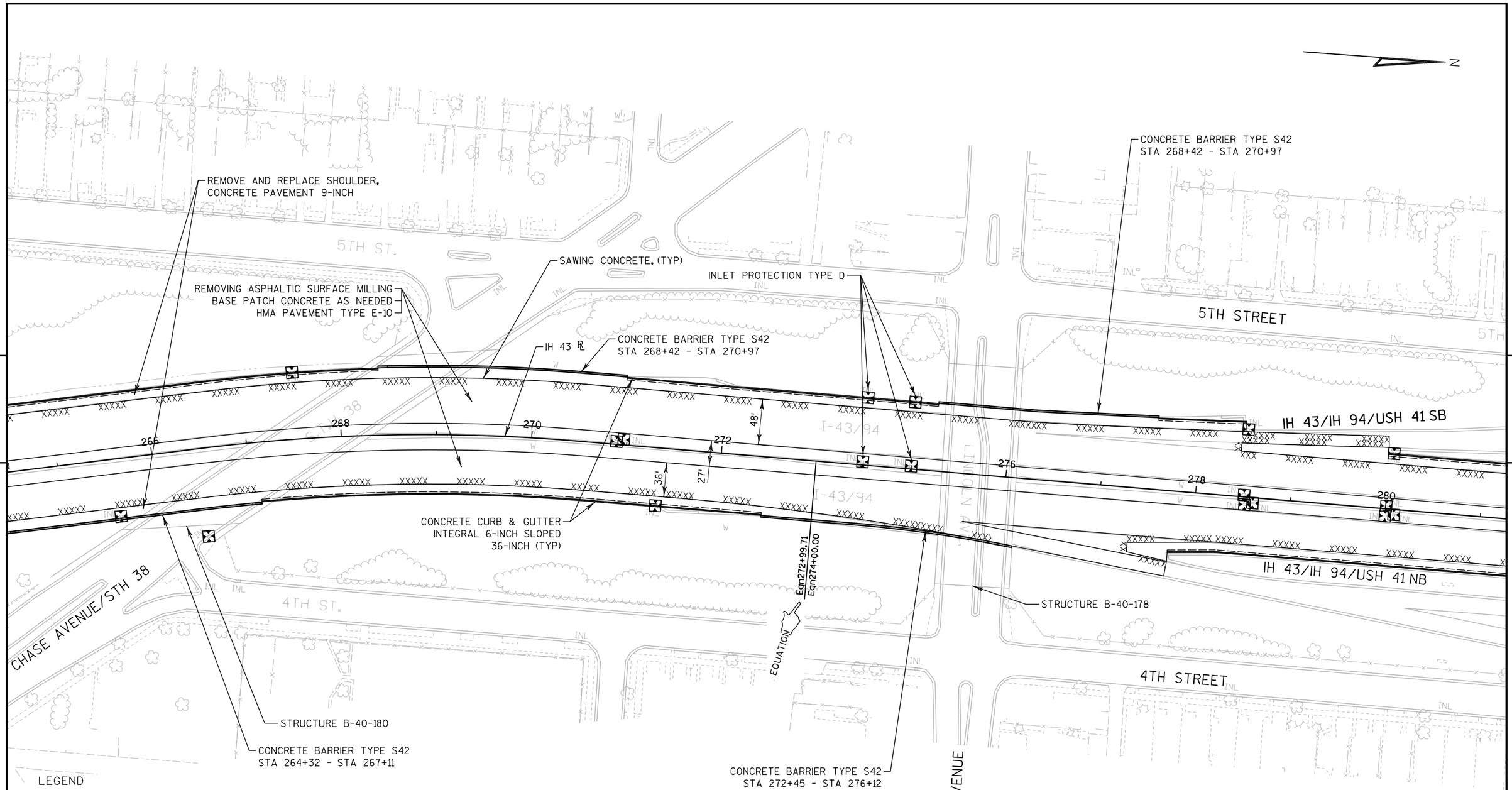
IH 43/IH 94/USH 41 NB

CONCRETE BARRIER TYPE S42
STA 248+81 - STA 249+29

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

CHASE AVENUE/STH 38

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 250+00 - STA 264+47	SHEET 316	E



LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 264+47 - STA 281+00	SHEET 317	E

S 5TH PLACE

5TH STREET

4TH STREET

BECHER STREET

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

I-43/94

REMOVE AND REPLACE SHOULDER, CONCRETE PAVEMENT 9-INCH

SAWING CONCRETE, (TYP)

CONCRETE PAVEMENT APPROACH SLAB

IH 43 ℄

STRUCTURE S-40-94 REMOVE & REPLACE

STRUCTURE S-40-95 REMOVE & REPLACE

STRUCTURE B-40-174

STRUCTURE B-40-175

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

CONCRETE CURB & GUTTER INTEGRAL 6-INCH SLOPED 36-INCH (TYP)

STRUCTURE S-40-92 REMOVE & REPLACE

CONCRETE BARRIER TYPE S42 STA 286+43 - STA 287+05

SILT FENCE, (TYP)

280 282 284 286 288 290 292 294

36' 24.2' 36'

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 281+00 - STA 295+64	SHEET 318	E

N

STRUCTURE B-40-174

STRUCTURE B-40-175

CONCRETE BARRIER TYPE S42
STA 296+20 - STA 297+61

INLET PROTECTION TYPE D

REMOVE AND REPLACE SHOULDER,
CONCRETE PAVEMENT 9-INCH

IH 43 ℄

SAWING CONCRETE, (TYP)

CONCRETE BARRIER TYPE S42
STA 305+34 - STA 306+96

5TH STREET

CONCRETE BARRIER TYPE S42
STA 309+95 - STA 310+55

5

5

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

36'

26'

36'

296 298 300 302 304 306 308 310

STRUCTURE B-40-176

SILT FENCE, (TYP)

INLET PROTECTION TYPE D

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

CONCRETE BARRIER TYPE S42
STA 304+85 - STA 305+96

4TH STREET

4TH ST.

CONCRETE BARRIER TYPE S42
STA 309+95 - STA 310+55

CONCRETE PAVEMENT
APPROACH SLAB

STRUCTURE B-40-177

STRUCTURE B-40-173

MAPLE STREET

STRUCTURE B-40-172

MITCHELL STREET

CONCRETE CURB & GUTTER
INTEGRAL 6-INCH SLOPED
36-INCH (TYP)

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.

2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 295+64 - STA 311+00	SHEET 319	E

N

LAPHAM BOULEVARD

5TH STREET

IH 43/IH 94/USH 41 SB

I-43/94

IH 43/IH 94/USH 41 NB

4TH STREET

5TH ST.

4TH ST.

CONCRETE BARRIER TYPE S42
STA 316+70 - STA 319+00

SAWING CONCRETE, (TYP)

REMOVE AND REPLACE SHOULDER,
CONCRETE PAVEMENT 9-INCH

INLET PROTECTION TYPE D

312

316

318

320

322

324

326

36'

27.5'

IH 43 ℄

CONCRETE BARRIER TYPE S42
STA 316+69 - STA 317+51

STRUCTURE B-40-171

REMOVE SAND BARRELS & REPLACE
WITH CRASH CUSHION PERMANENT

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

STA 325+81

STA 326+72

REMOVE EXISTING VERTICAL CURB
AND REPLACE WITH CONCRETE
CURB & GUTTER INTEGRAL 36-INCH

CONCRETE CURB & GUTTER
INTEGRAL 6-INCH SLOPED
36-INCH (TYP)

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.

2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 311+00 - STA 326+00	SHEET 320	E

N

6TH STREET/ STH 38

GREENFIELD AVENUE

S BARAGA STREET

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

S POLCYN STREET

WASHINGTON STREET/ STH 38

S.T.H. 38/6TH ST

CONCRETE CURB AND GUTTER
REPLACEMENT AS NEEDED

REMOVE SAND BARRELS & REPLACE
WITH CRASH CUSHION PERMANENT

CONCRETE BARRIER TYPE S42
STA 164+34 - STA 164+68

SAWING CONCRETE, (TYP)

REMOVE AND REPLACE SHOULDER,
CONCRETE PAVEMENT 9-INCH

STRUCTURE B-40-286-24A

CONCRETE CURB & GUTTER
INTEGRAL 6-INCH SLOPED
36-INCH (TYP)

CONCRETE BARRIER TYPE S42
STA 327+18 - STA 328+00

REMOVE EXISTING VERTICAL CURB
AND REPLACE WITH CONCRETE
CURB & GUTTER INTEGRAL 36-INCH

CONCRETE PAVEMENT
APPROACH SLAB

SILT FENCE, (TYP)

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

CONCRETE BARRIER TYPE S42
STA 332+30 - STA 164+74

CONCRETE BARRIER TYPE S42
STA 326+77 - STA 327+83

STRUCTURE B-40-170

IH 43 ℄

EQUATION
Eqn 331+33.88
Eqn 51+73.74

STA 328+98

STA 329+59

170

168

166

164

162

160

330

328

48'

11.5'

28.1'

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 126+86 - STA 168+00	SHEET 321	E

LEGEND

INLET PROTECTION

SILT FENCE

NOTE:

1. INLET PROTECTION TYPE B UNLESS OTHERWISE NOTED.
2. SEE MISCELLANEOUS QUANTITIES FOR INLET AND MANHOLE RECONSTRUCTION, BARRIER AND GUARDRAIL REPLACEMENT, AND CONCRETE BARRIER JOINT AND CRACK REPAIR.

INLET PROTECTION TYPE D

N

SEE INSET FOR LIMITS

CONCRETE CURB AND GUTTER REPLACEMENT AS NEEDED

INLET PROTECTION TYPE D

REMOVE AND REPLACE SHOULDER, CONCRETE PAVEMENT 9-INCH

CONCRETE CURB & GUTTER INTEGRAL 6-INCH SLOPED 36-INCH (TYP)

CONCRETE BARRIER TYPE S42 STA 173+04 - STA 174+07

SAWING CONCRETE, (TYP)

CONCRETE PAVEMENT APPROACH SLAB

SILT FENCE, (TYP)

REMOVING ASPHALTIC SURFACE MILLING
BASE PATCH CONCRETE AS NEEDED
HMA PAVEMENT TYPE E-10

CONCRETE BARRIER TYPE S42 STA 173+17 - STA 174+56

IH 43 ℞

CONCRETE CURB AND GUTTER REPLACEMENT AS NEEDED

INLET PROTECTION TYPE D

MATCH EXISTING PAVEMENT JOINT, TO BE VERIFIED BY FIELD ENGINEER

STH 38/ S 6TH STREET

CONCRETE PAVEMENT APPROACH SLAB

CONCRETE CURB AND GUTTER REPLACEMENT AS NEEDED

REMOVE SAND BARRELS & REPLACE WITH CRASH CUSHION PERMANENT

INLET PROTECTION TYPE D

STRUCTURE B-40-285

9TH STREET

NATIONAL AVENUE

IH 43/IH 94/USH 41 SB

IH 43/IH 94/USH 41 NB

7TH STREET

INSET

MATCH EXISTING PAVEMENT JOINT, TO BE VERIFIED BY FIELD ENGINEER

9TH STREET

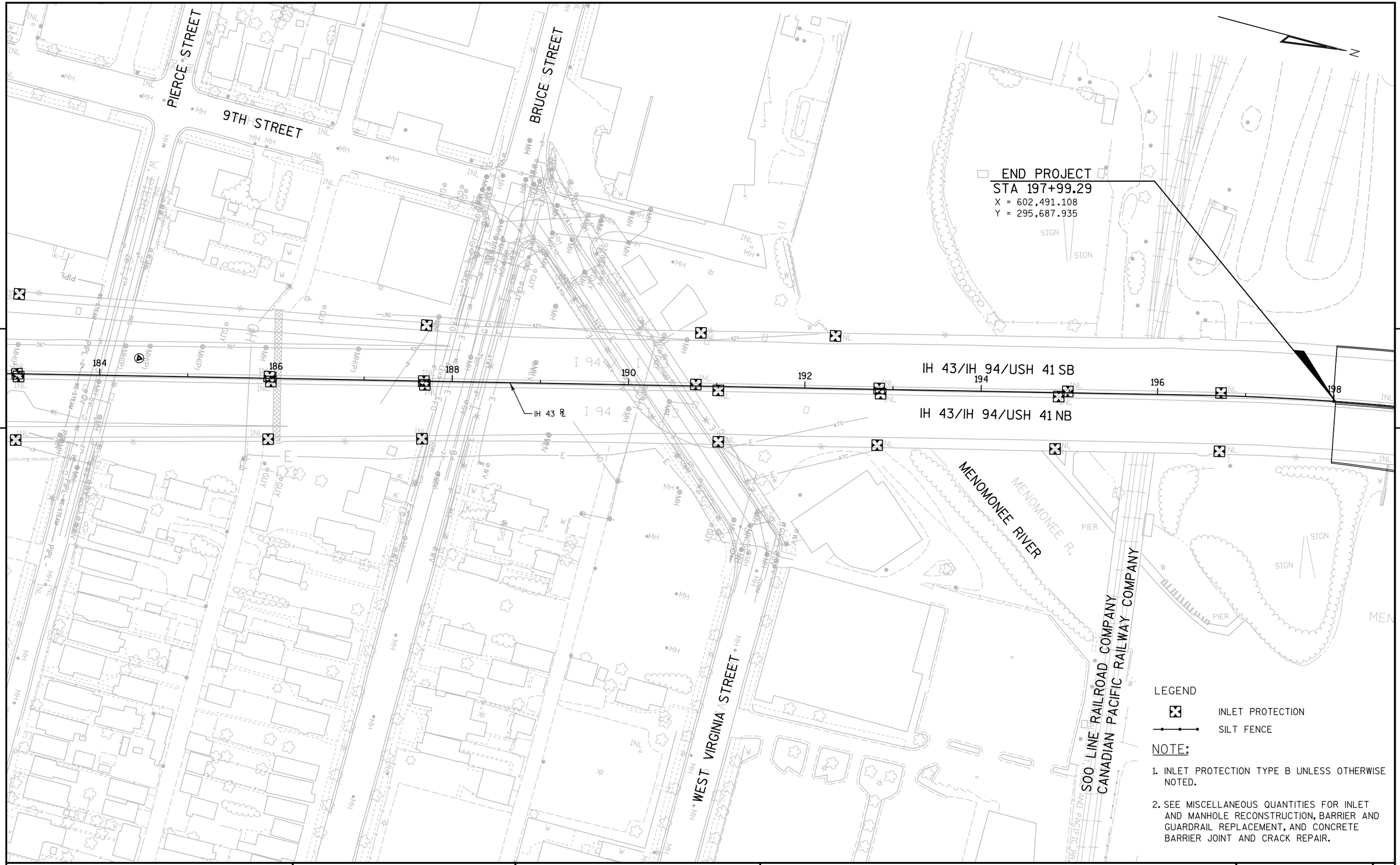
INLET PROTECTION TYPE D

CONCRETE CURB AND GUTTER REPLACEMENT AS NEEDED

PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 168+00 - STA 183+00	SHEET 322 E

FILE NAME : P:\Transportation\I43 Valley Bridge\CADD\sheets\050113_pp.dgn PLOT DATE : 10/31/2012 PLOT BY : jessica_meddaugh PLOT NAME : PLOT SCALE : 100.0000 sf / in.

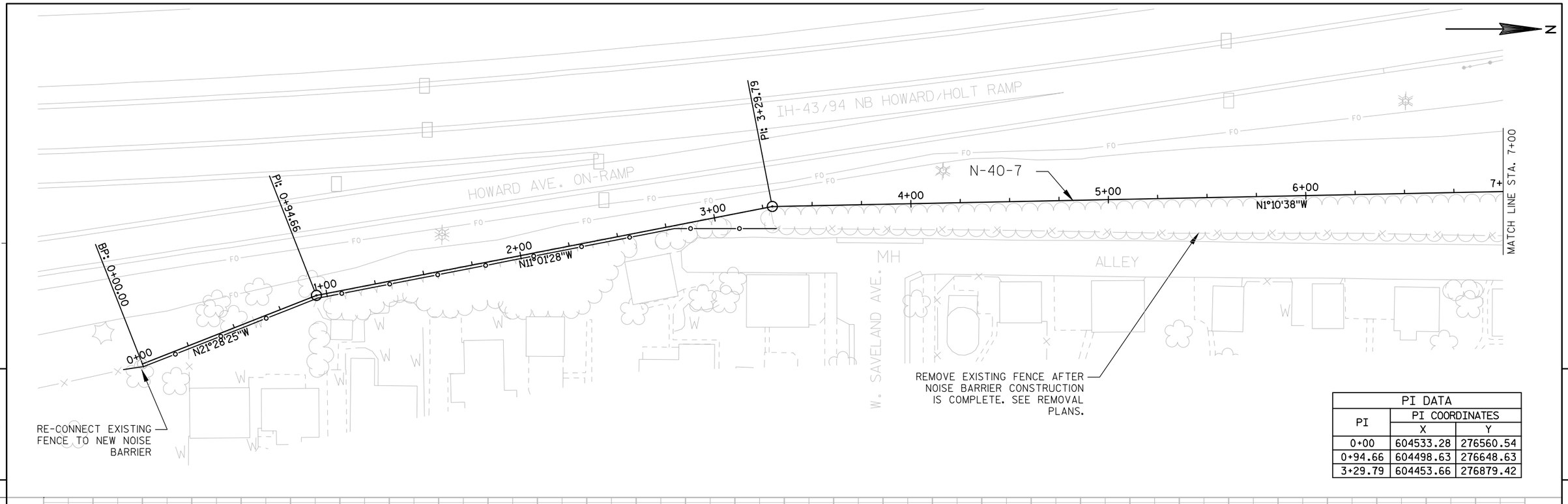
WISDOT/CADDS SHEET 46



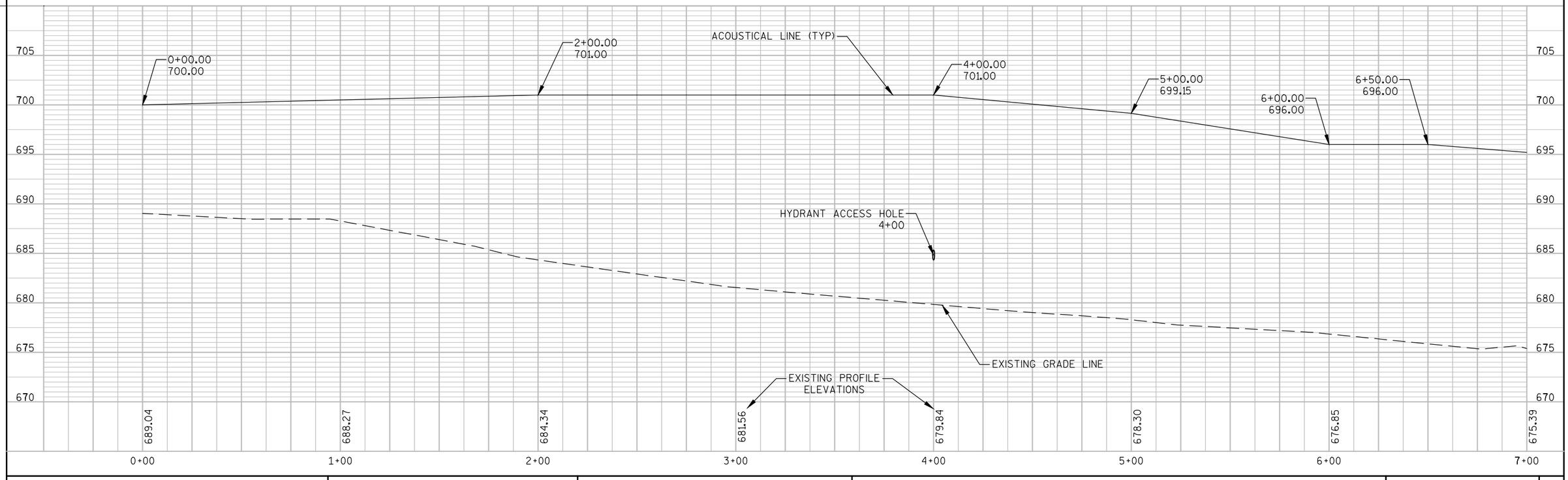
5

5

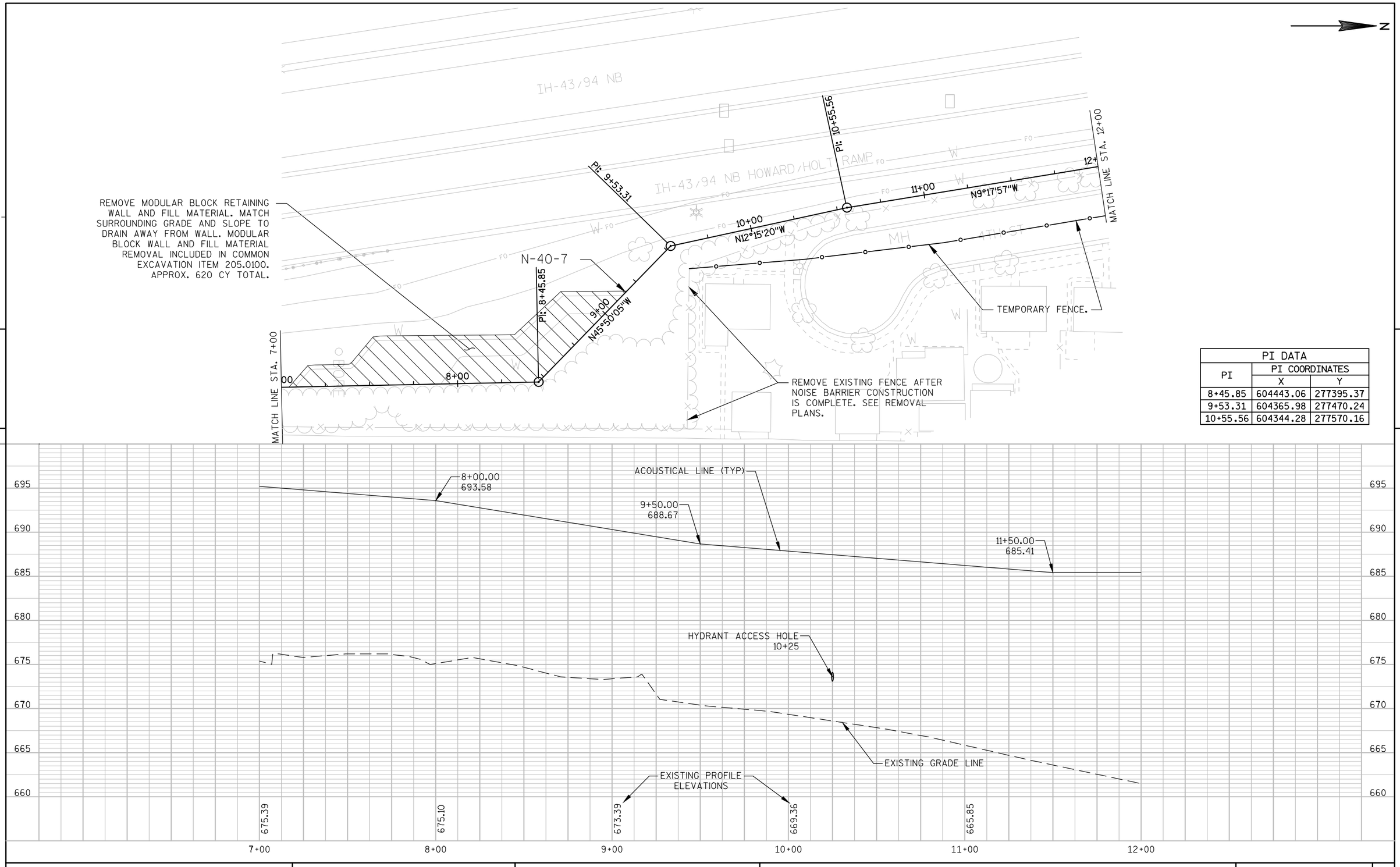
PROJECT NO: 1228-26-70	HWY: IH 43	COUNTY: MILWAUKEE	PLAN: STA 183+00 - END PROJECT	SHEET 323	E



PI DATA		
PI	PI COORDINATES	
	X	Y
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0+94.66	604498.63	276648.63
3+29.79	604453.66	276879.42

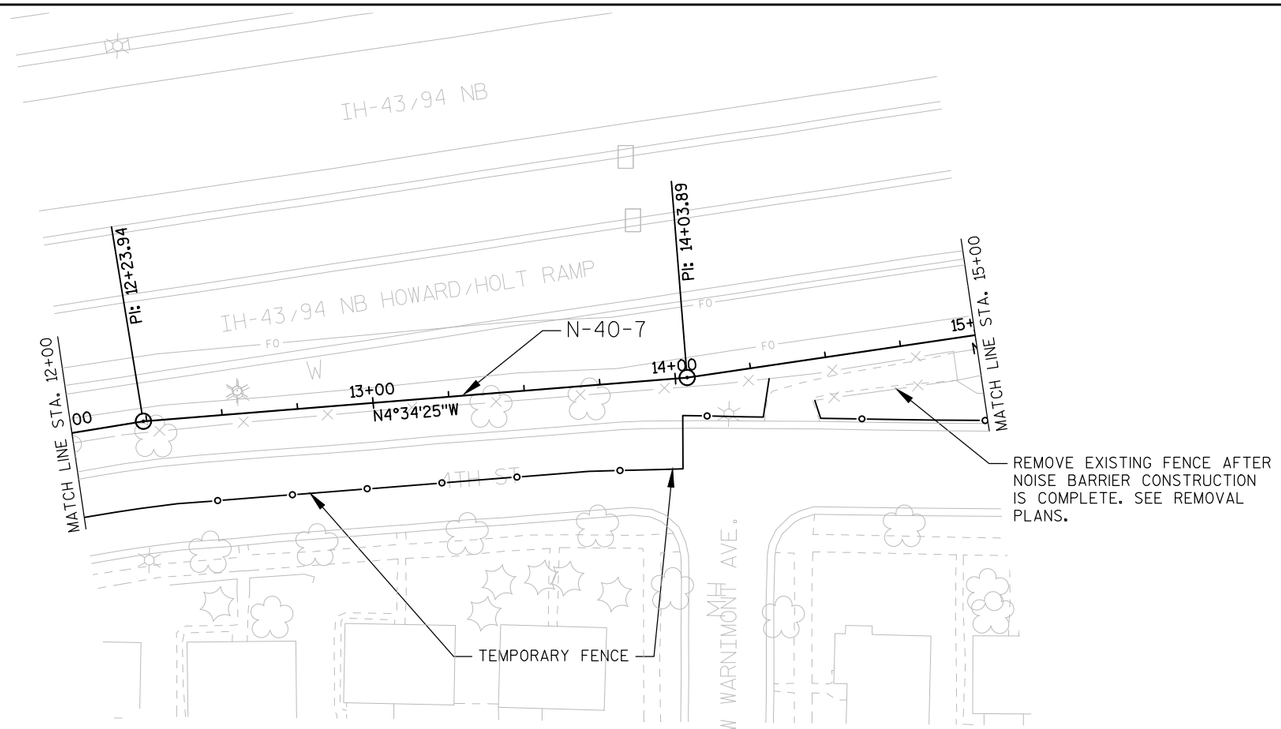


PROJECT NO: 1228-26-70	HWY: I43/94/USH 41	COUNTY: MILWAUKEE	PLAN & PROFILE: NOISE BARRIER N-40-7	SHEET 324	E

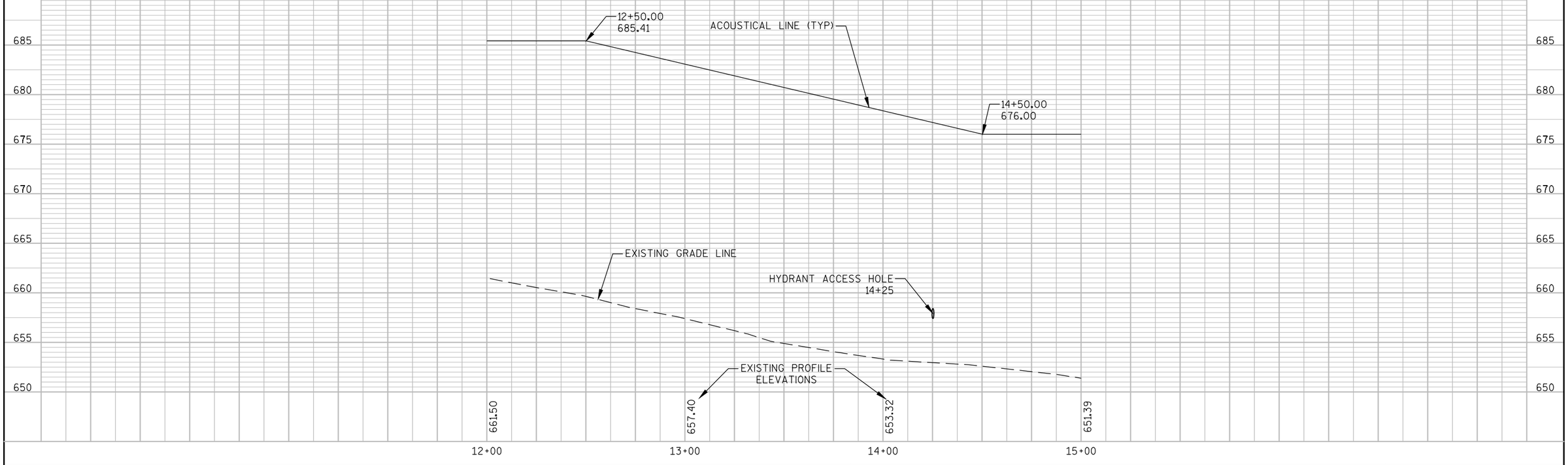


PI DATA		
PI	PI COORDINATES	
	X	Y
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9+53.31	604365.98	277470.24
10+55.56	604344.28	277570.16

PROJECT NO: 1228-26-70	HWY: I43/94/USH 41	COUNTY: MILWAUKEE	PLAN & PROFILE: NOISE BARRIER N-40-7	SHEET 325	E

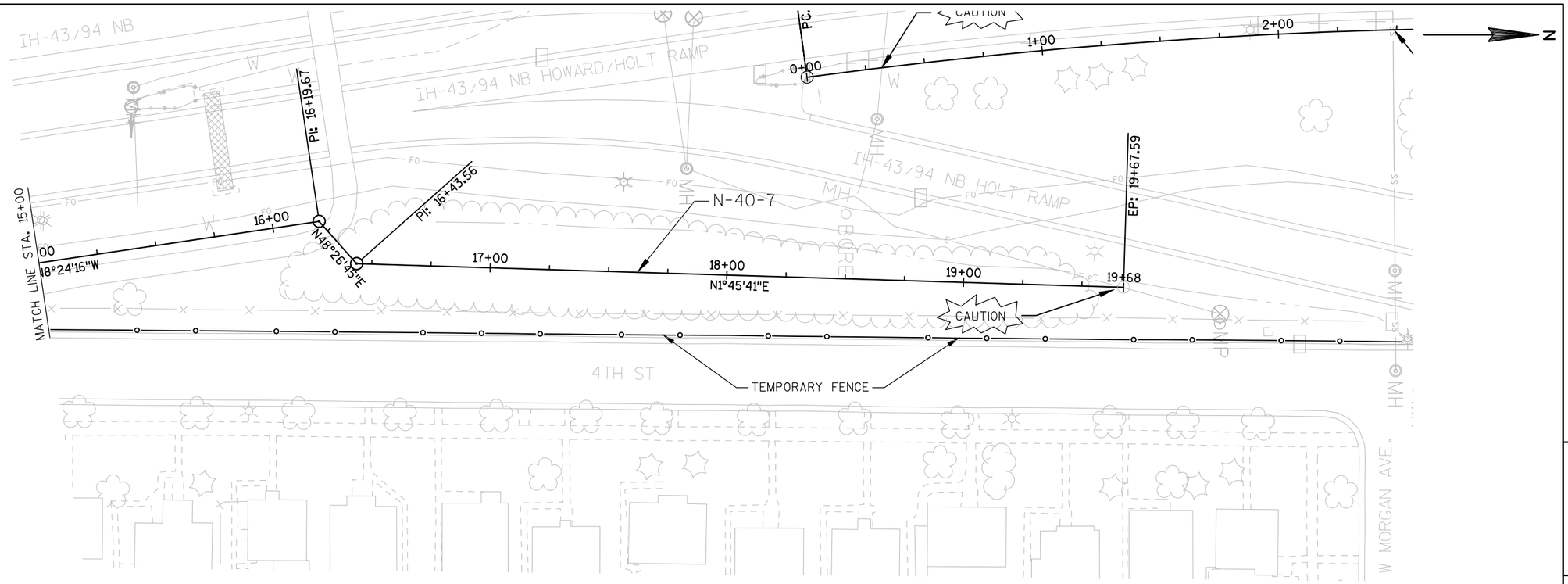


PI DATA		
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14+03.89	604302.72	277915.70

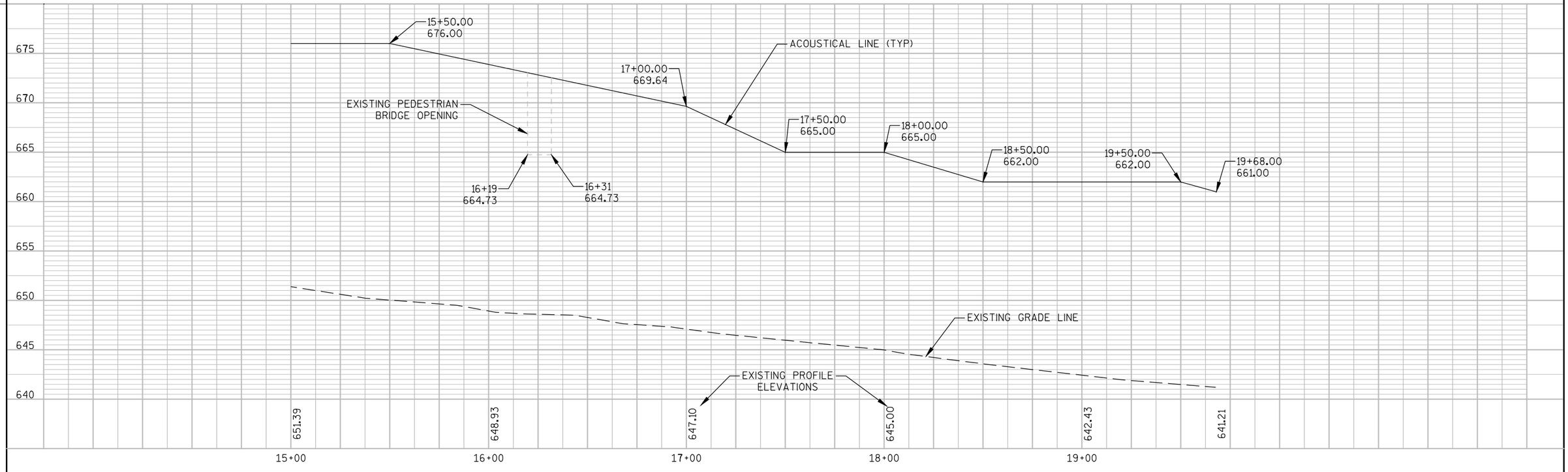


PROJECT NO: 1228-26-70	HWY: I43/94/USH 41	COUNTY: MILWAUKEE	PLAN & PROFILE: NOISE BARRIER N-40-7	SHEET 326	E

FILE NAME : G:\7391_I43 BRIDGE DESIGN\NOISE WALL PROJECT\CADD\SHEETS\SN-40-07.DWG PLOT DATE : 8/20/2012 4:30 PM PLOT BY : CHRIS HARTZELL PLOT NAME : ---------- PLOT SCALE : 1:50_XREF
WISDOT/CADDS SHEET 44



PI DATA		
PI	PI COORDINATES	
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16+43.56	604289.06	278145.01
19+67.59	604299.02	278468.89



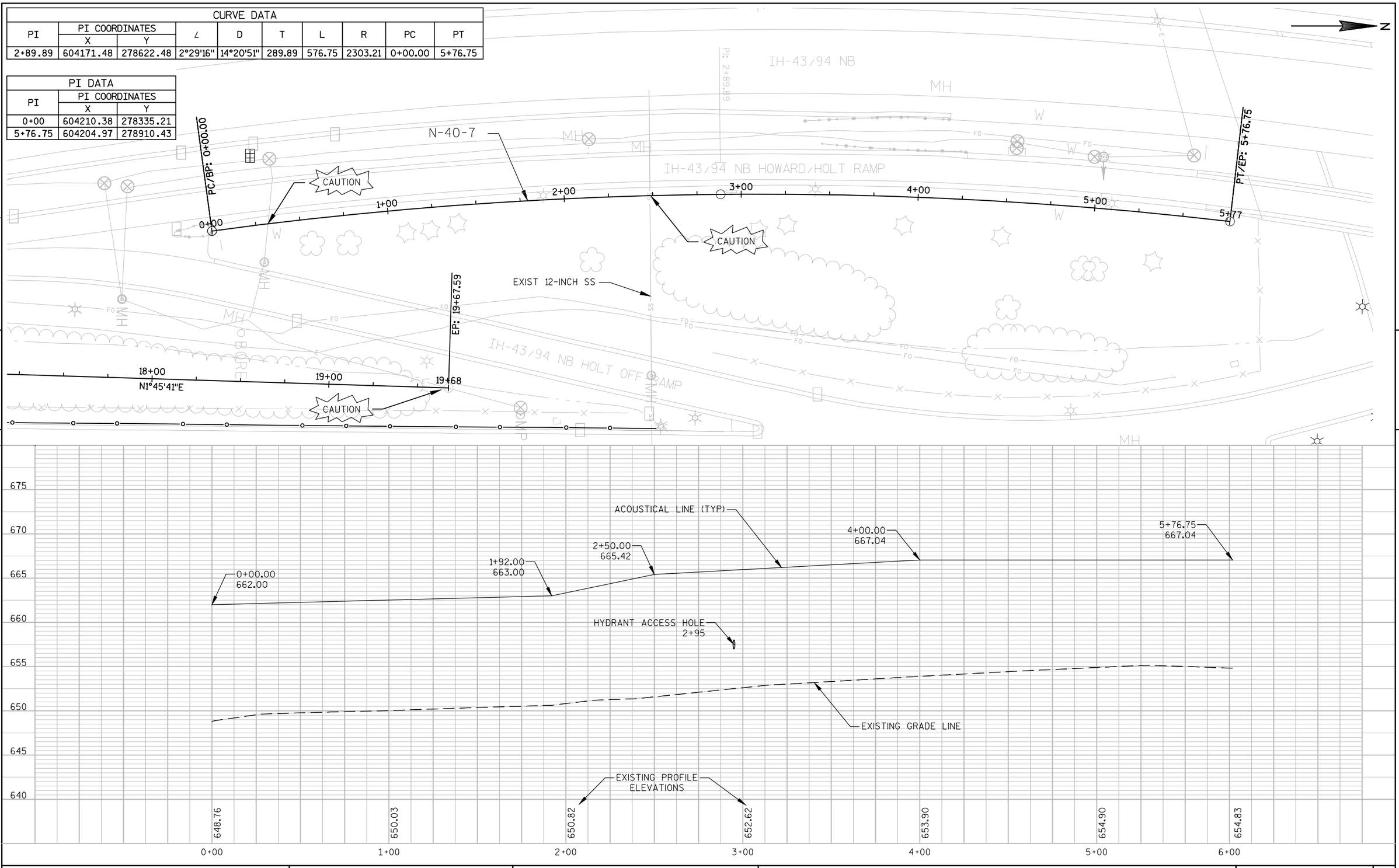
PROJECT NO: 1228-26-70	HWY: I43/94/USH 41	COUNTY: MILWAUKEE	PLAN & PROFILE: NOISE BARRIER N-40-7	SHEET 327	E

FILE NAME : G:\7391_I43 BRIDGE DESIGN\NOISE WALL PROJECT\CADD\SHEETS\SN-40-07.DWG PLOT DATE : 8/20/2012 4:30 PM PLOT BY : CHRIS HARTZELL PLOT NAME : ---------- PLOT SCALE : 1 IN:50 FT

WISDOT/CADDS SHEET 44

CURVE DATA									
PI	PI COORDINATES		∠	D	T	L	R	PC	PT
	X	Y							
2+89.89	604171.48	278622.48	2°29'16"	14°20'51"	289.89	576.75	2303.21	0+00.00	5+76.75

PI DATA		
PI	PI COORDINATES	
	X	Y
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5+76.75	604204.97	278910.43



PROJECT NO: 1228-26-70	HWY: I43/94/USH 41	COUNTY: MILWAUKEE	PLAN & PROFILE: NOISE BARRIER N-40-7	SHEET 328	E

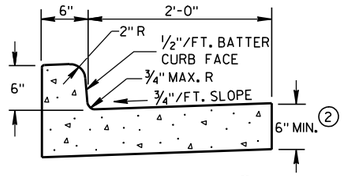
Standard Detail Drawing List

08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-07	CONDUIT
09E01-11D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-11G	HARDWARE DETAILS FOR POLE MOUNTINGS
13A03-05	CONCRETE PAVEMENT SHOULDERS
13B02-06	CONCRETE PAVEMENT APPROACH SLAB
13C01-15	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C14-04A	BASE PATCHING CONCRETE
13C14-04B	BASE PATCHING CONCRETE
13C14-04C	BASE PATCHING CONCRETE
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"
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B18-06B	STEEL PLATE BEAM GUARD, CLASS "A" AT MEDIAN APPROACH TO BRIDGES
14B20-10A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-10B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-10C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-10D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-10E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-10F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-10G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-10H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B22-05A	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
14B22-05B	CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)
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)
14B34-01A	32", 36" & 42" CONCRETE BARRIER SINGLE SLOPE CLASS B
14B36-01E	42-INCH SINGLE-FACED F SHAPE CONCRETE BARRIER TO 42-INCH SSCB TRANSITION
14B36-01F	42-INCH SINGLE-FACED F SHAPE CONCRETE BARRIER TO 42-INCH SSCB TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-02A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-02J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B47-01A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-01C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A02-07	DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR

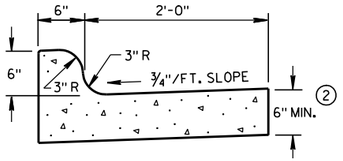
6

Standard Detail Drawing List

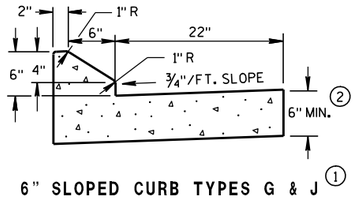
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C05-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-12A	PAVEMENT MARKING SYMBOLS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-14A	PAVEMENT MARKING (MAINLINE)
15C08-14B	PAVEMENT MARKING (INTERSECTIONS)
15C08-14E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-14F	PAVEMENT MARKING (ISLANDS, STOP LINE & CROSS WALK)
15C08-15A	PAVEMENT MARKING (MAINLINE)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-03	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C15-03	36" DIAMETER FULL SPAN OVERHEAD SIGN SUPPORT BASE
15C19-01C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-01B	LANE DROP PAVEMENT MARKING
15C31-01D	PAVEMENT MARKING FOR PARALLEL ON-RAMP AND PARALLEL OFF-RAMP
15D03-01	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
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)
15D15-01	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-01	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-01	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-01	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE



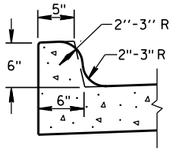
TYPES A & D (1)



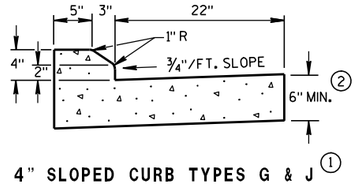
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

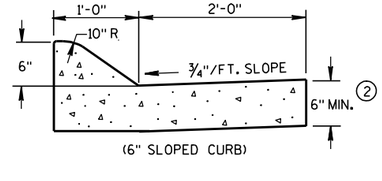


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

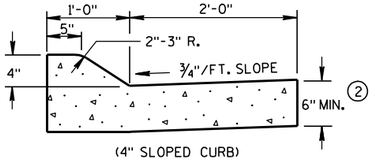


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

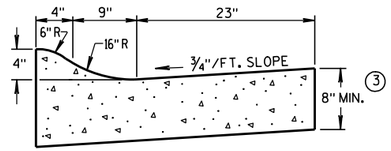


(6" SLOPED CURB)



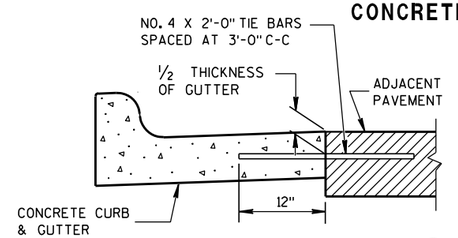
(4" SLOPED CURB)

TYPES A & D (1)

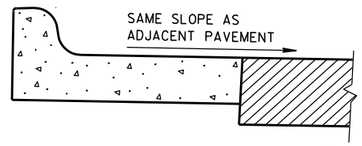


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)



REVERSE SLOPE GUTTER (5)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

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 AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

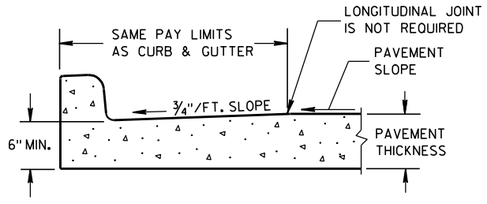
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

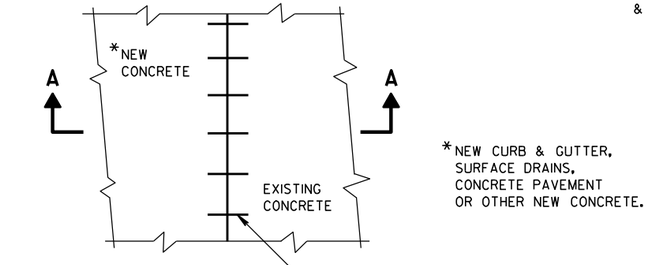
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



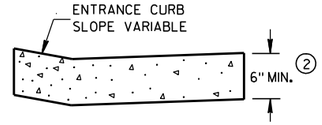
PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



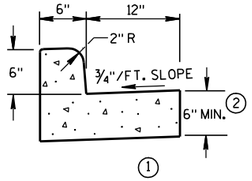
PLAN VIEW

SECTION A-A

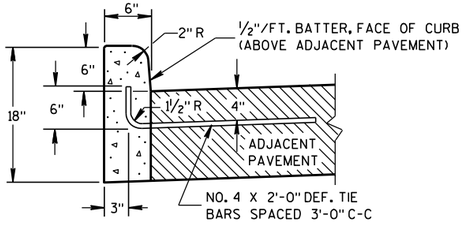
TIE BARS DRILLED INTO EXISTING PAVEMENT



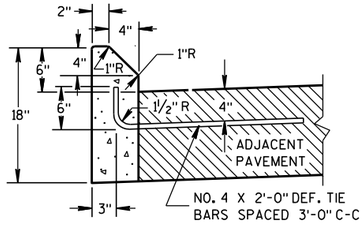
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



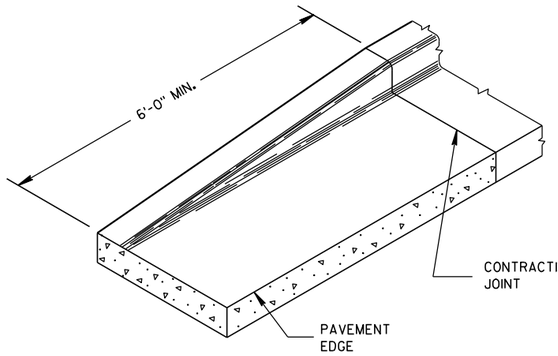
(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES A & D



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

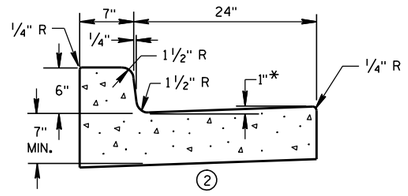
CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

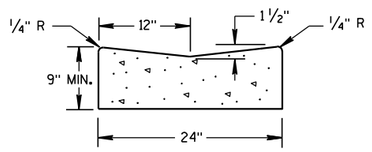
APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA

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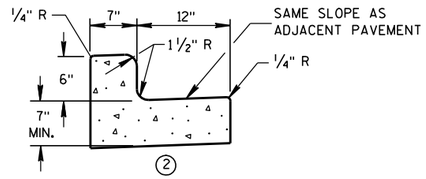
S.D.D. 8 D 1-17



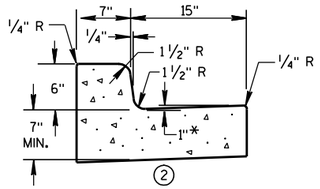
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

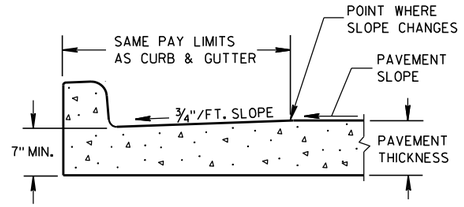


① CONCRETE CURB & GUTTER 19"



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.

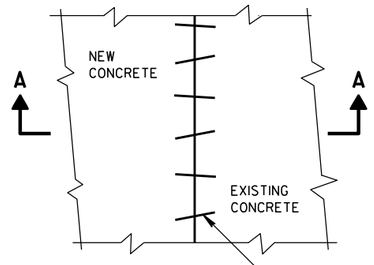
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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.

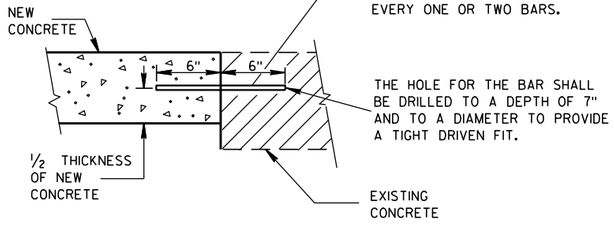
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

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

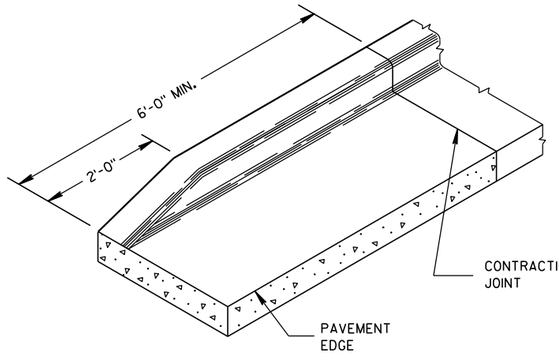
NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.



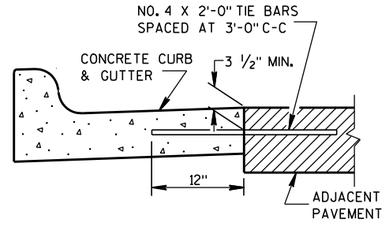
THE HOLE FOR THE BAR SHALL BE DRILLED TO A DEPTH OF 7" AND TO A DIAMETER TO PROVIDE A TIGHT DRIVEN FIT.

SECTION A-A

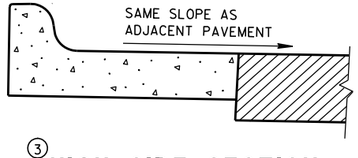
PAVEMENT TIES



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

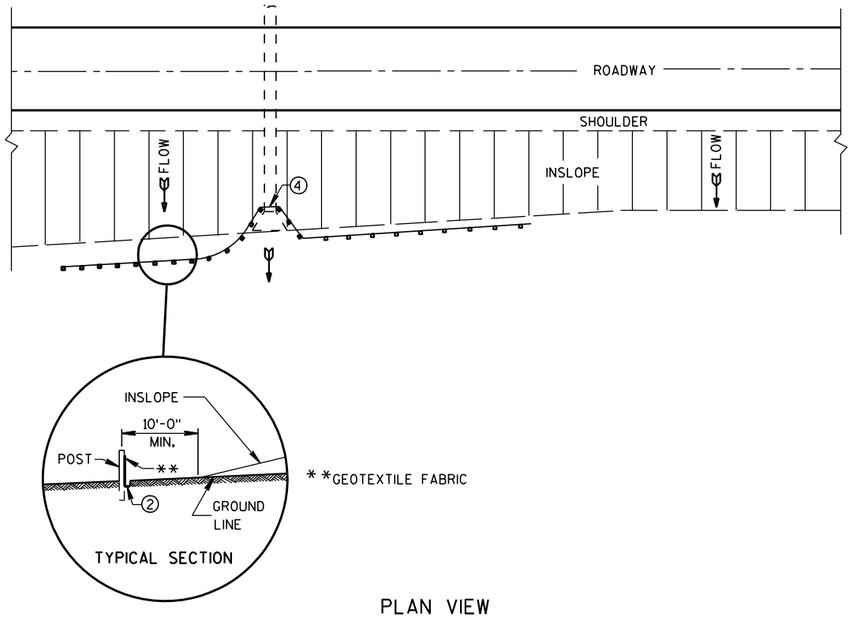
/S/ Jerry Zogg — ROADWAY STANDARDS ENGINEER

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FHWA

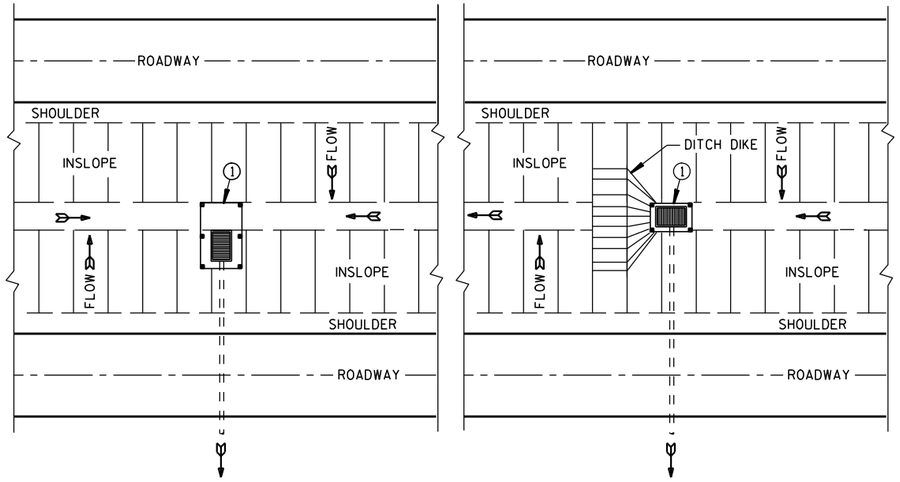
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PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



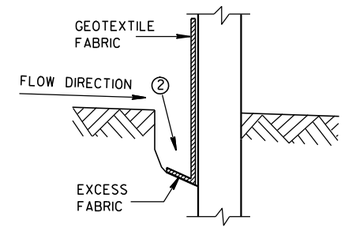
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

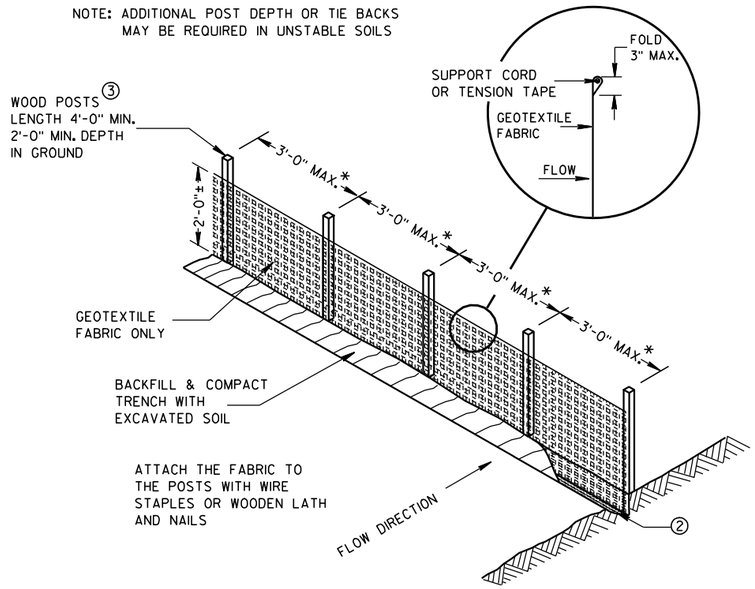
GENERAL NOTES

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

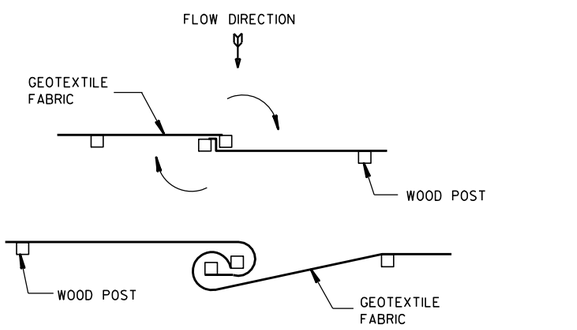
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



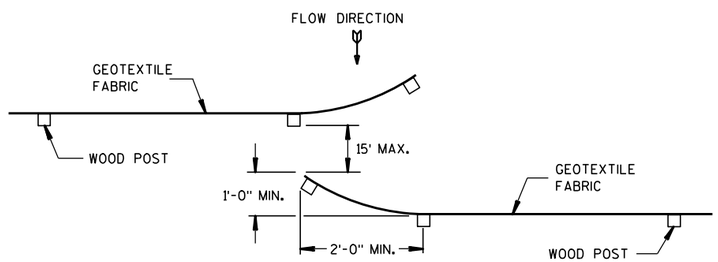
TRENCH DETAIL



SILT FENCE

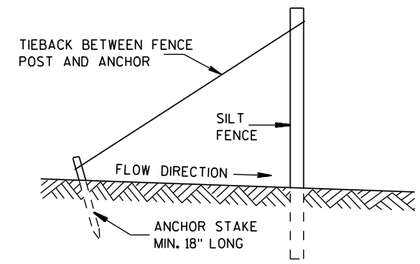


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

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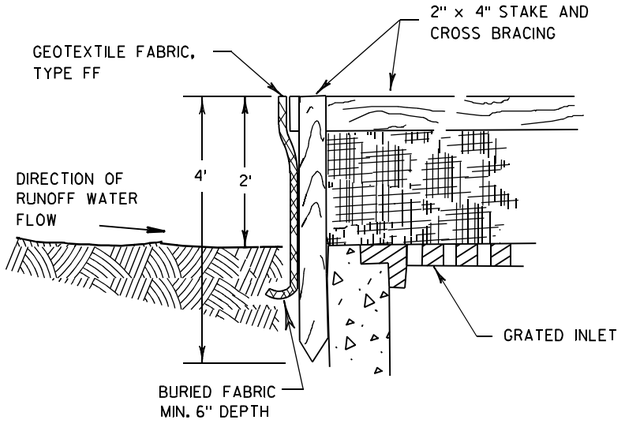
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

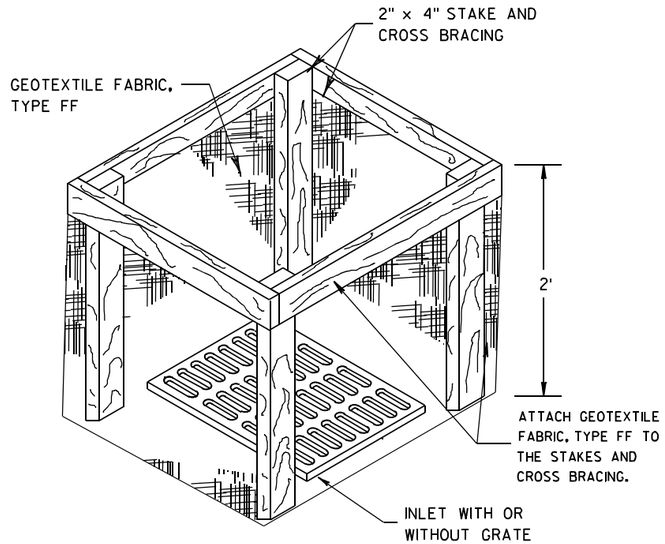
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S.D.D. 8 E 9-6

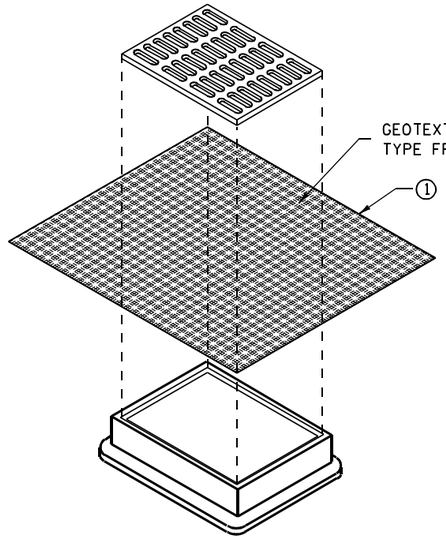
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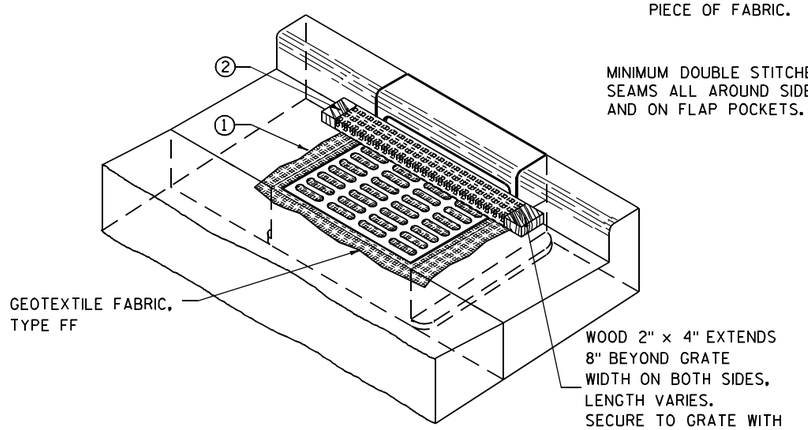


INLET PROTECTION, TYPE A

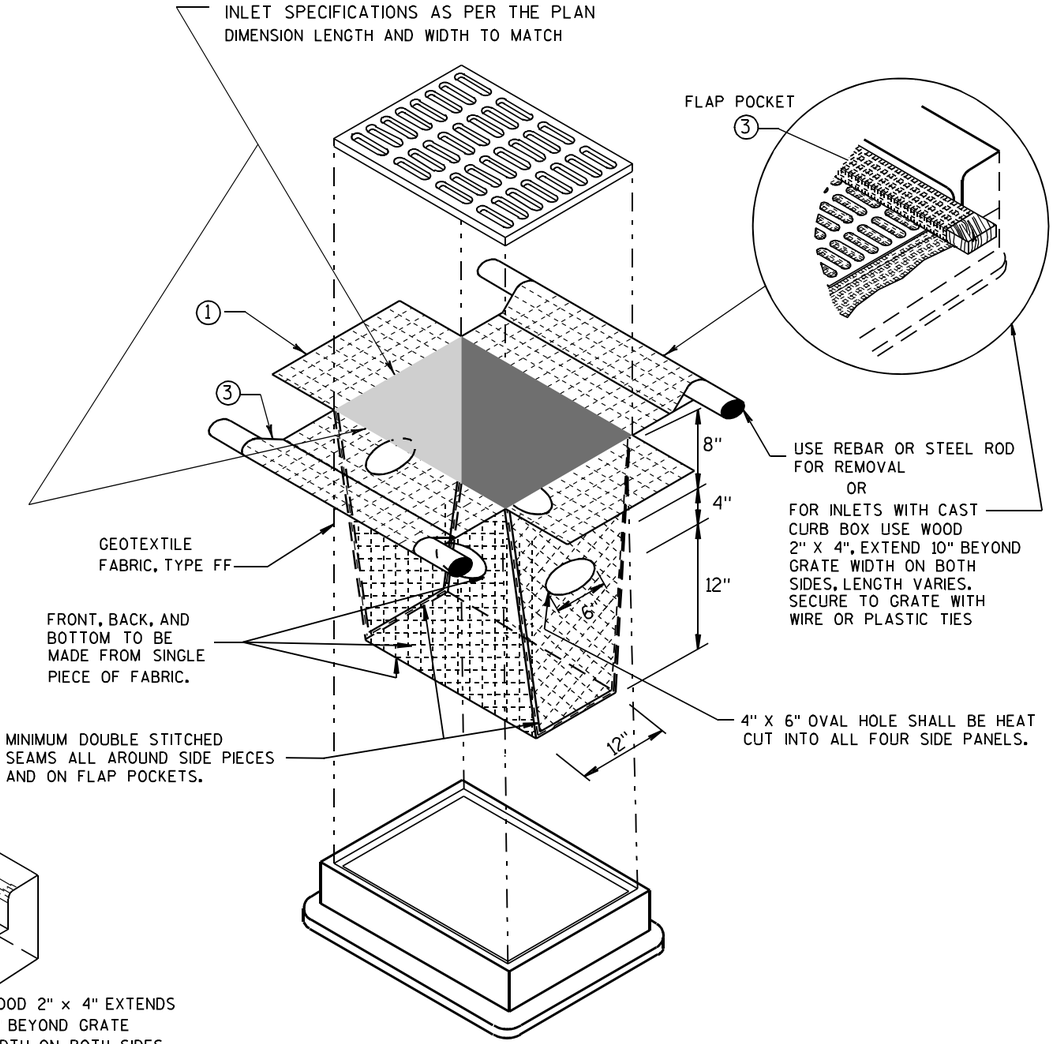


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

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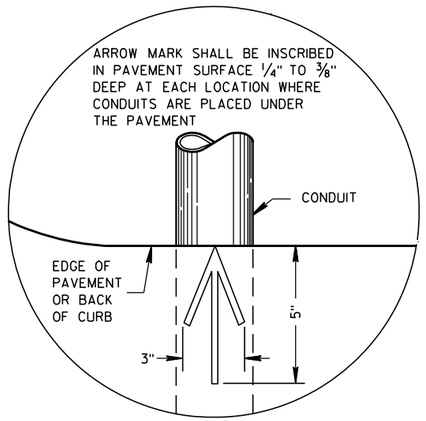
10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

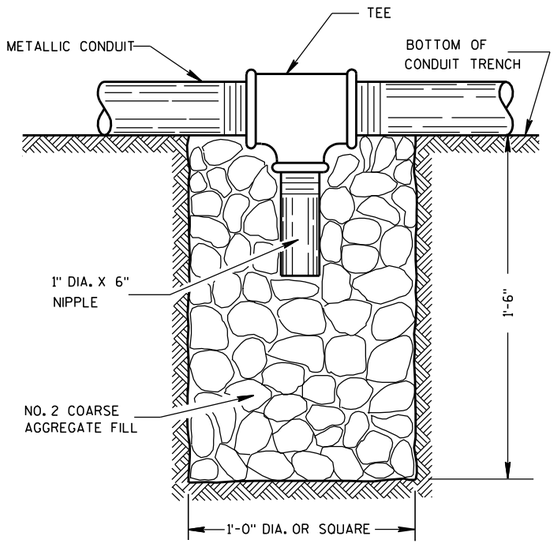
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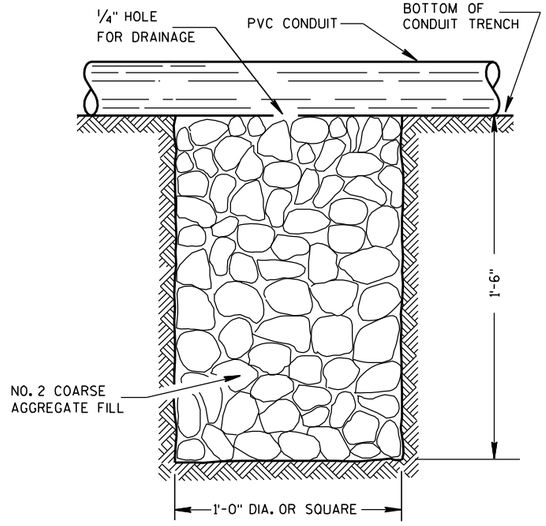
PLAN VIEW

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.

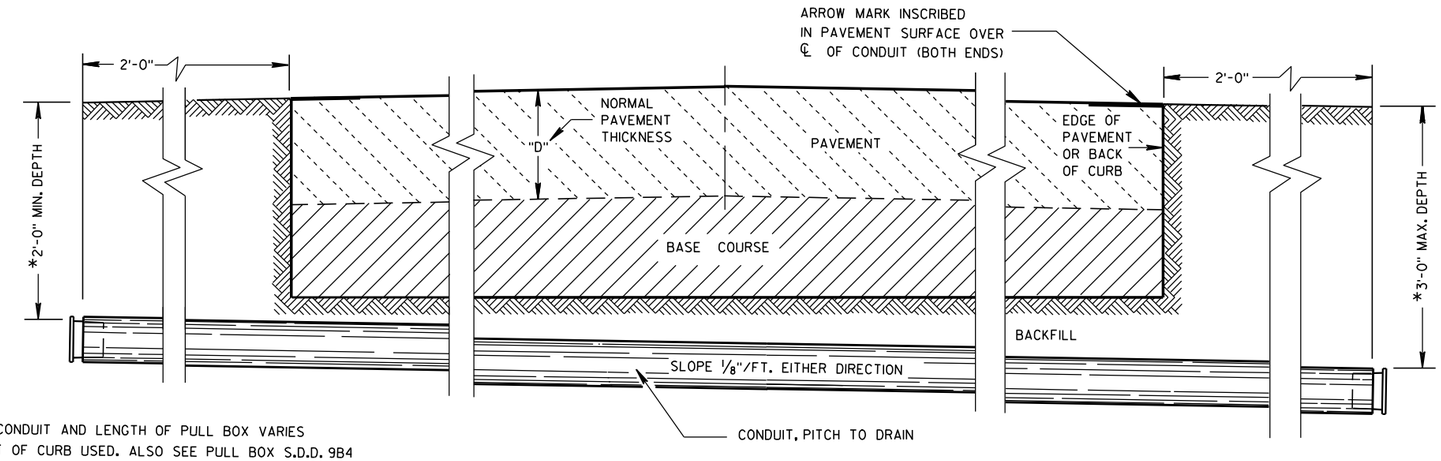
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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DEPARTMENT OF TRANSPORTATION

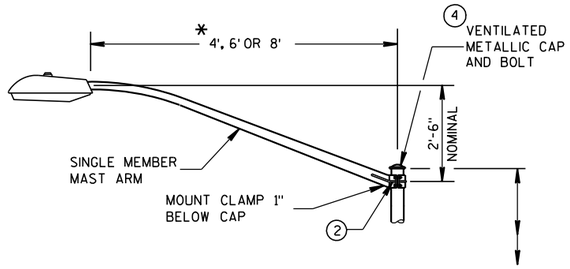
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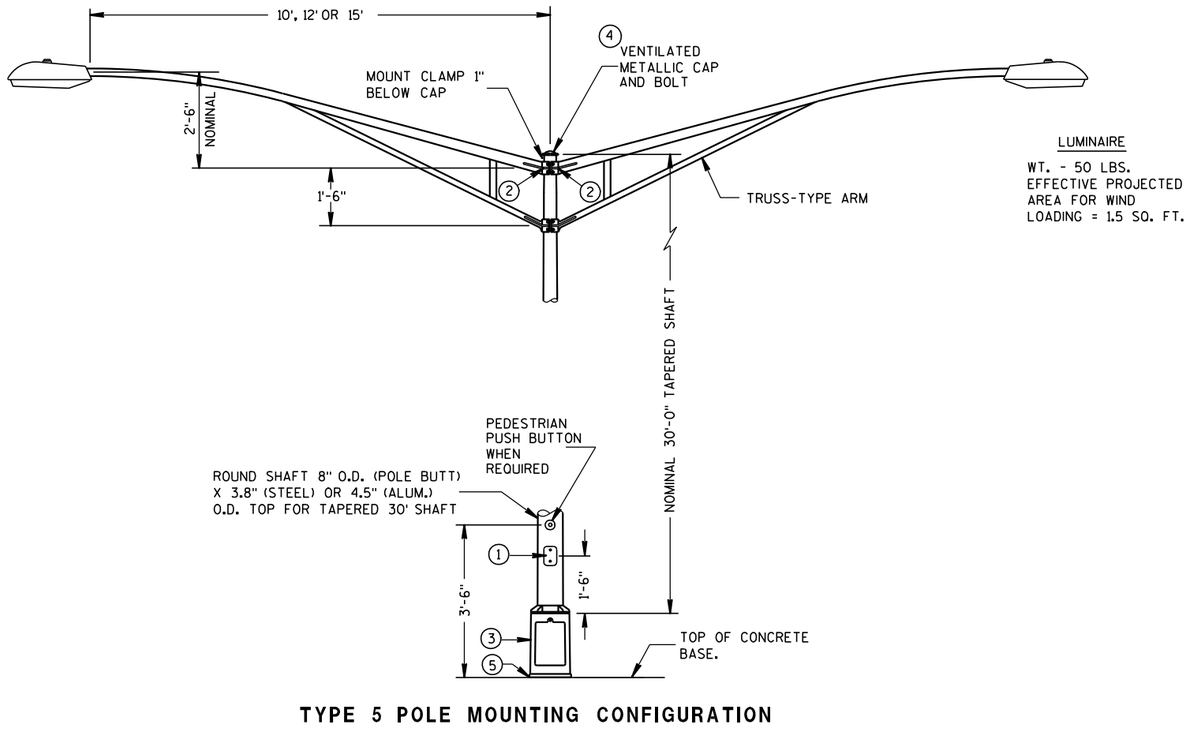
10/23/03 — DATE

/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI 335 HWYS

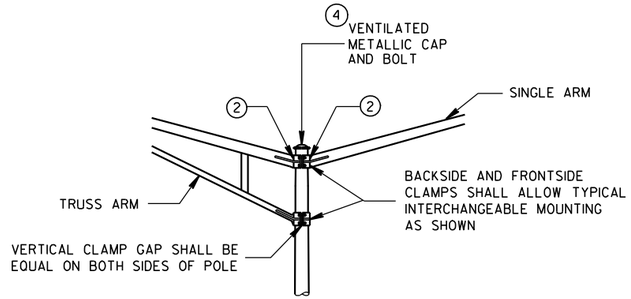
FHWA

*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.

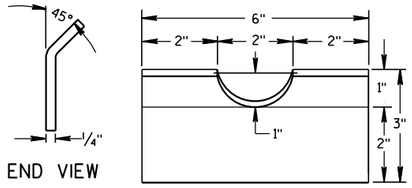
1. 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
2. GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.
3. CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
4. FURNISH AND 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 TRANSPO...

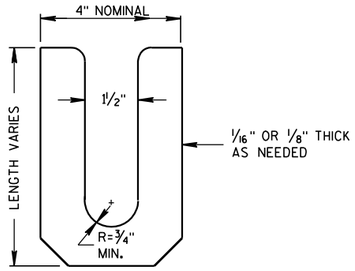
6

S.D.D. 9 E 1-11d



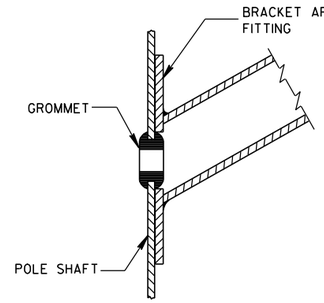
RECTANGULAR CLAMP SHIM

(4 TO A SET)

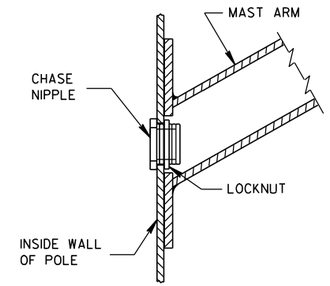


LEVELING SHIM (15)

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".

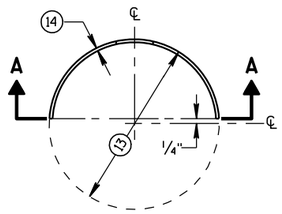
SHIM MATERIAL SHALL BE ALUMINUM ALLOY.

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

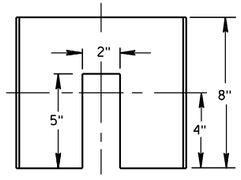
THE CONTRACTOR SHALL SUBMIT TWO COPIES OF ALL SHIM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.

(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.



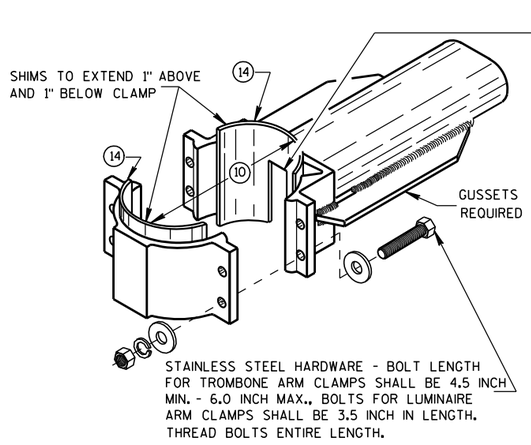
PLAN VIEW



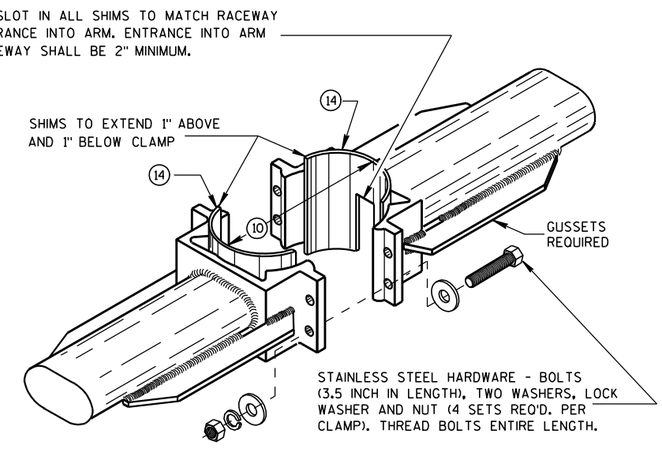
SECTION A-A

CIRCULAR CLAMP SHIM

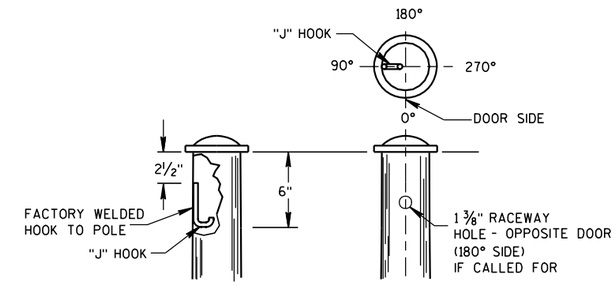
(2 TO A SET)



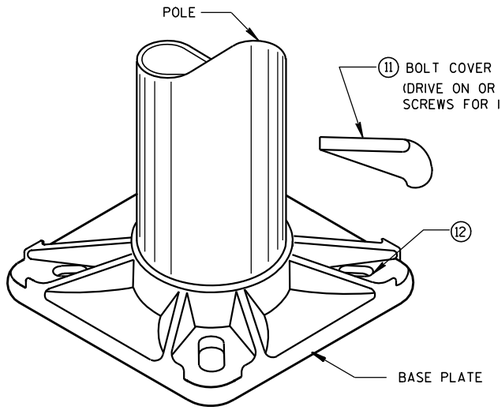
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



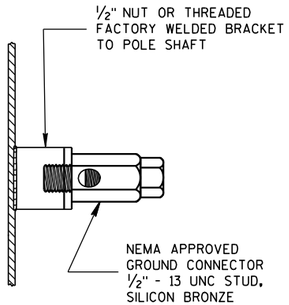
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

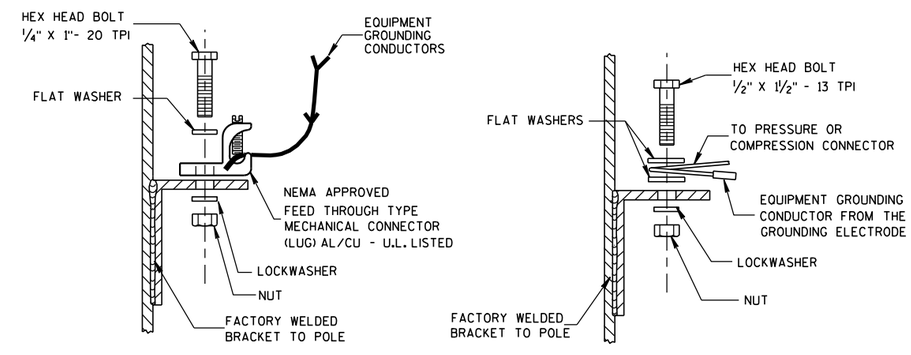


TYPICAL "J" HOOK LOCATION



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

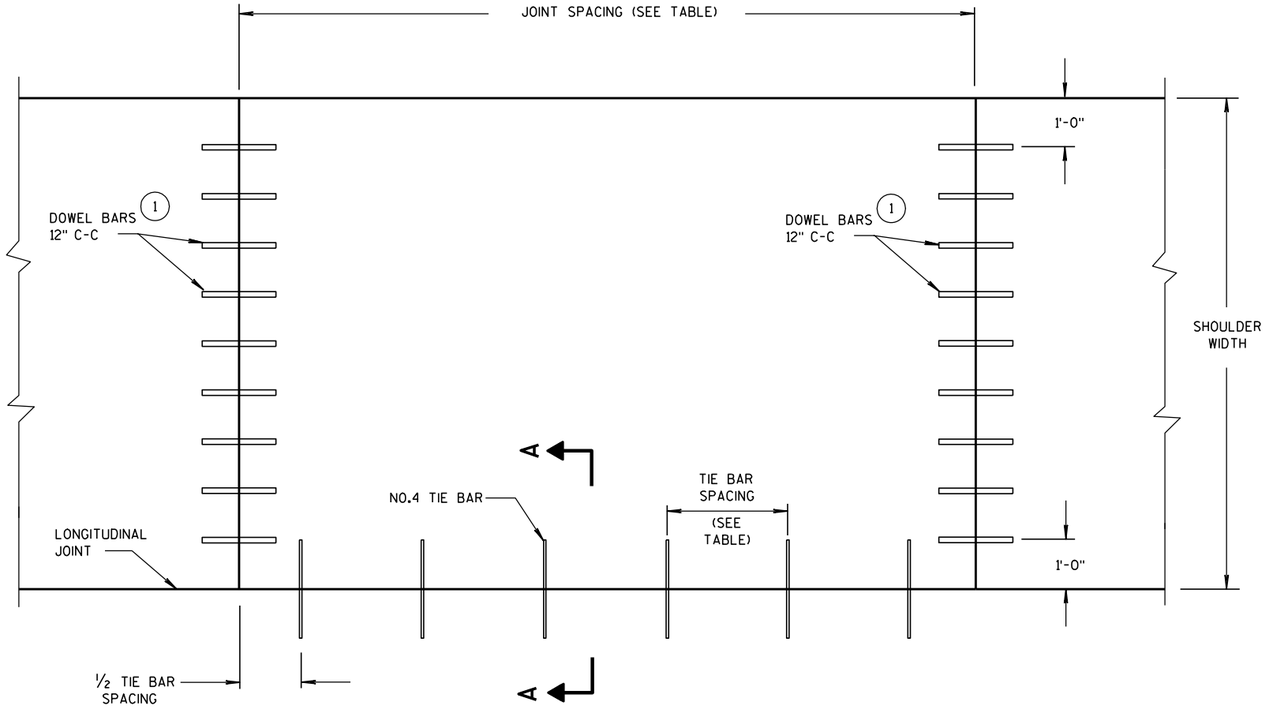
3/2/11 — DATE

/S/ Thomas J. Goerlinger — STATE ELECTRICAL ENGINEER

337 — HWYS

FHWA

6
S.D.D. 9 E 1-11g



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

PAVEMENT TYPE OF TRAFFIC LANES	TIE BAR SPACING	SHOULDER JOINT SPACING
NON-REINFORCED	30"	MATCH JOINT SPACING OF ADJACENT TRAFFIC LANE
CONTINUOUSLY REINFORCED	30"	15' FOR 6' TO 10' WIDE SHOULDERS
CONTINUOUSLY REINFORCED	36"	12' FOR 3' WIDE SHOULDERS

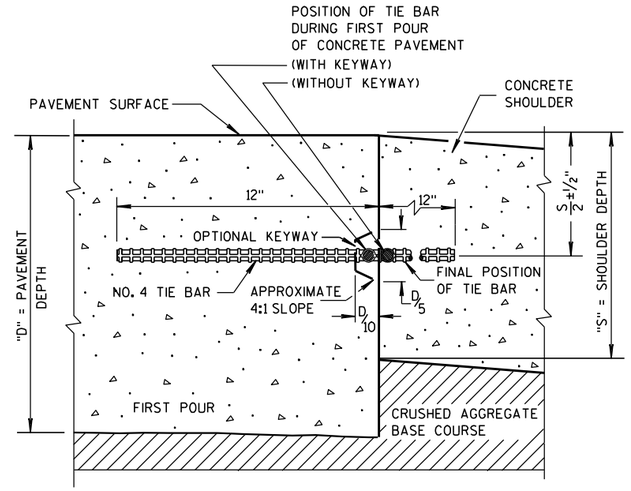
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

(1) **PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE**

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

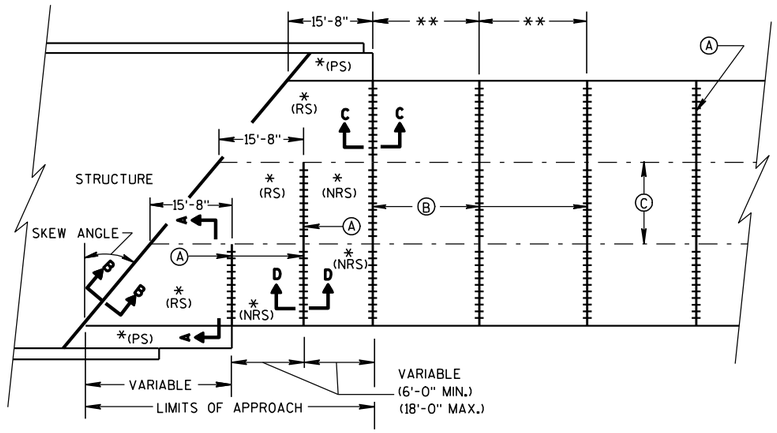
CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

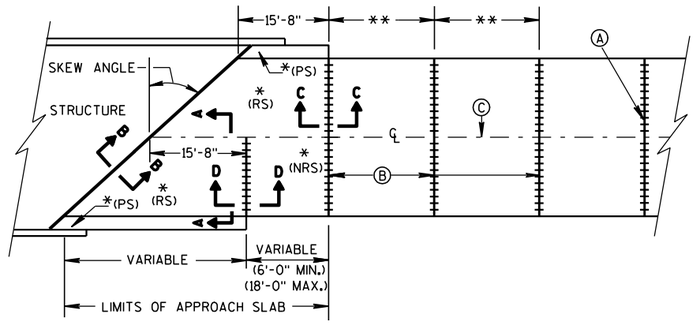
APPROVED
8/15/2011 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & D — INEER
FHWA

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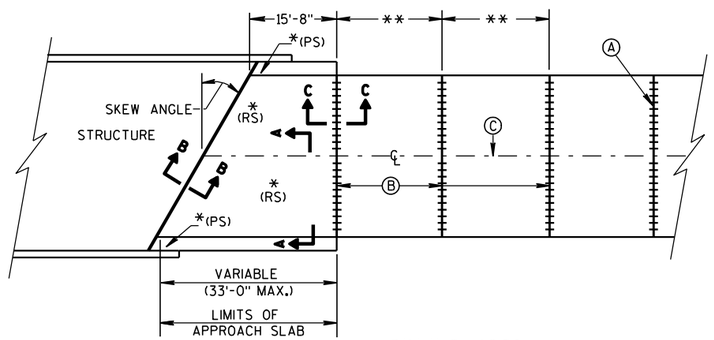
S.D.D. 13 A 3-5



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >30°
(PAVEMENT WIDTH ≤30')



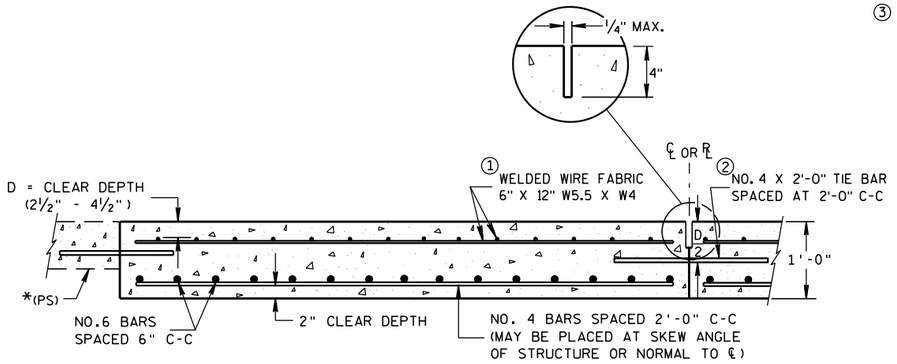
SKEWS ≤30°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

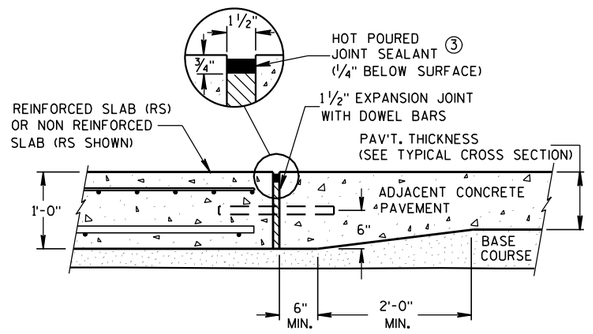
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

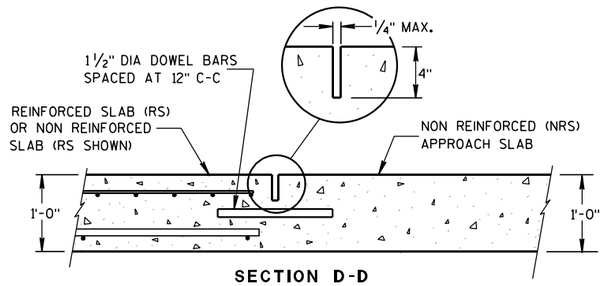
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
(B) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄
(C) STANDARD LONGITUDINAL JOINT AND TIE BARS.



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

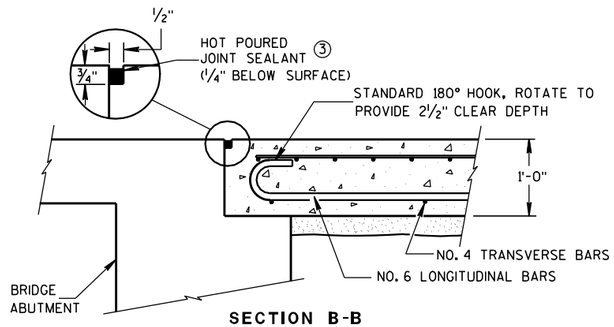
APPROACH SLABS ABUTTING AN HMA PAVEMENT OVER BASE COURSE DO NOT NEED TO BE DOWELED.

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.

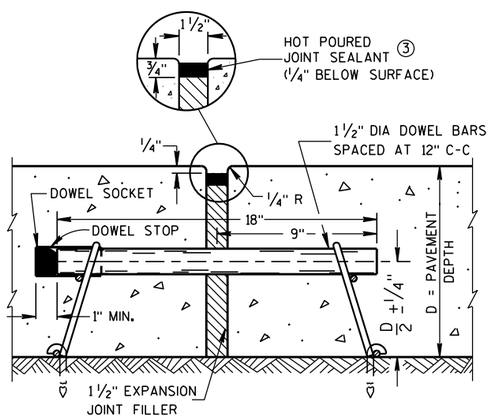
(1) THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

(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

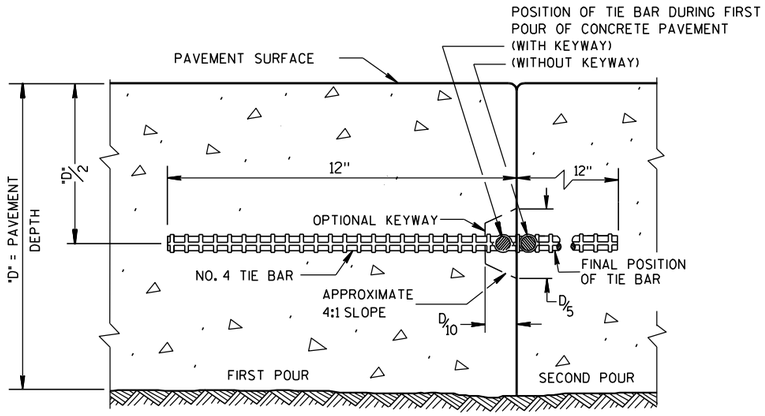


EXPANSION JOINT

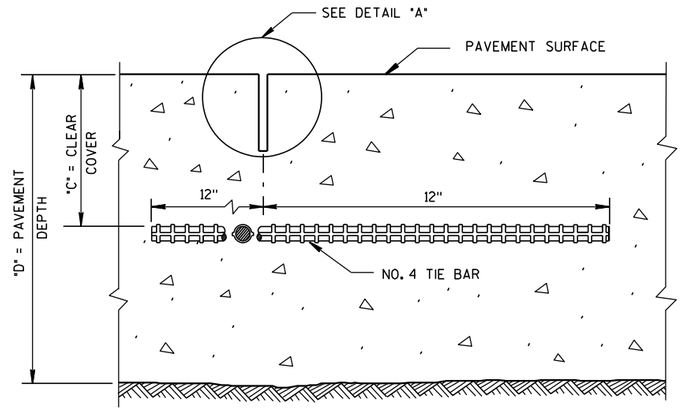
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/11/2009
DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE 339 NEER
FHWA



CONSTRUCTION JOINT



SAWED JOINT

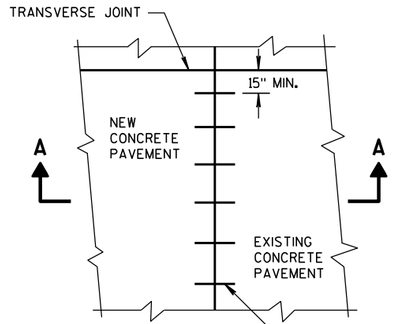
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

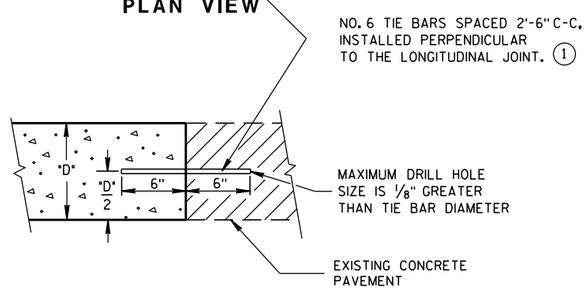
CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

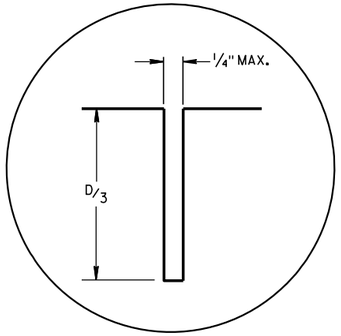
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW

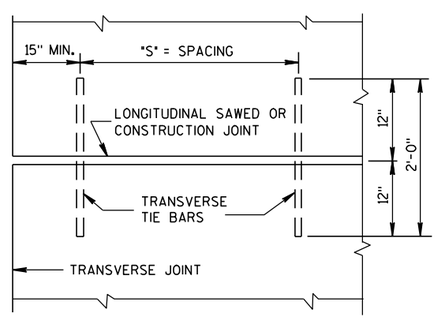


SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



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 & DI340 INEER

FHWA

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S.D.D. 13 C 1-15

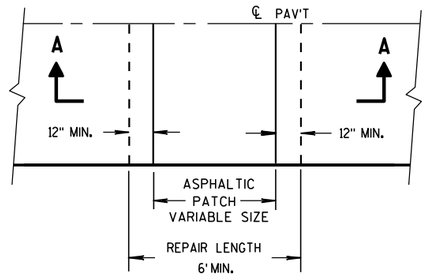
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

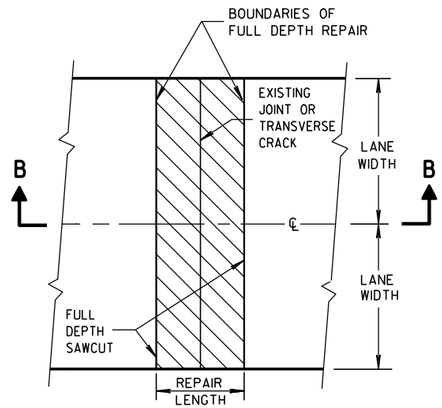
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

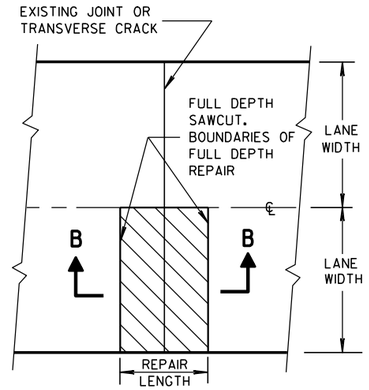
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW



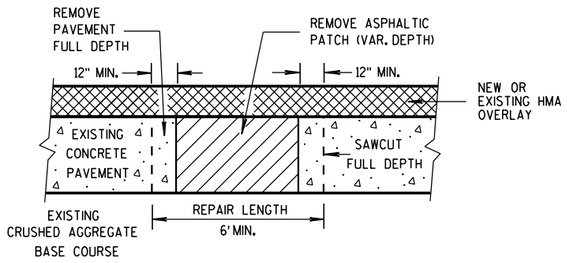
PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

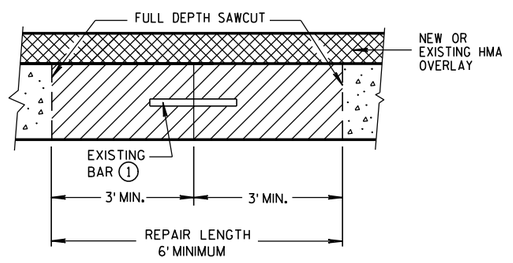
FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)



SECTION A-A

HMA PATCH REMOVAL



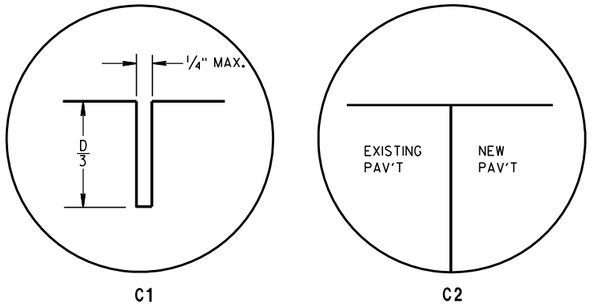
SECTION B-B

CONCRETE REMOVAL

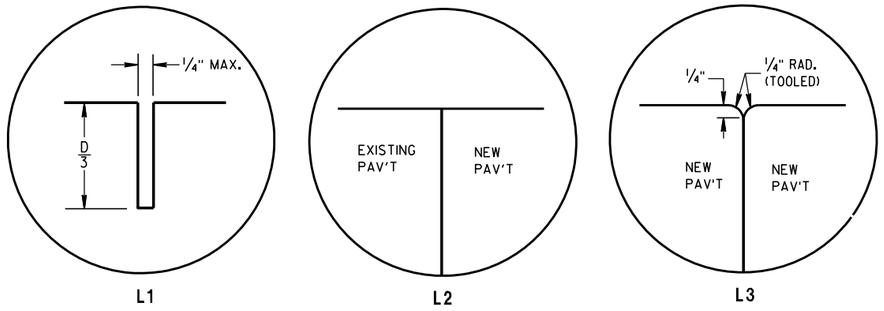
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

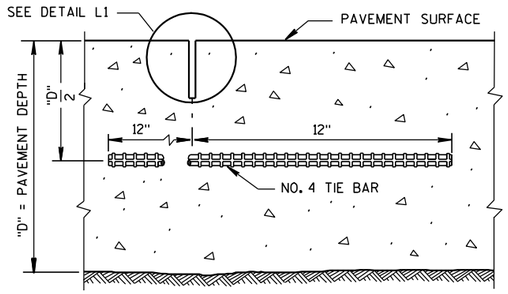
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S.D.D. 13 C 14-4a



TRANSVERSE JOINTS

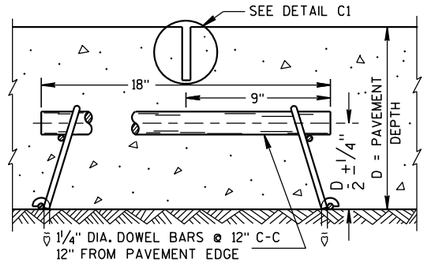


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

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

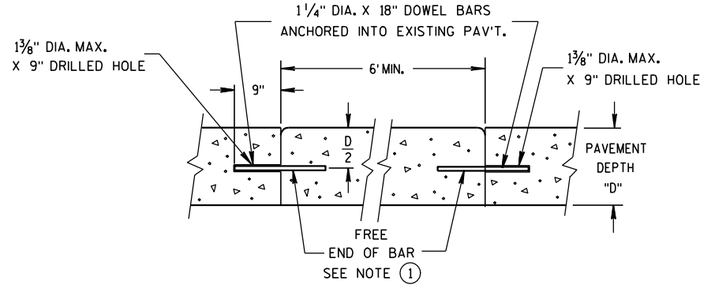
CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

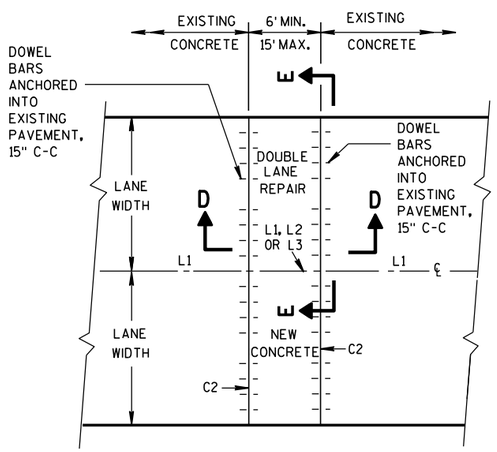
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 24 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

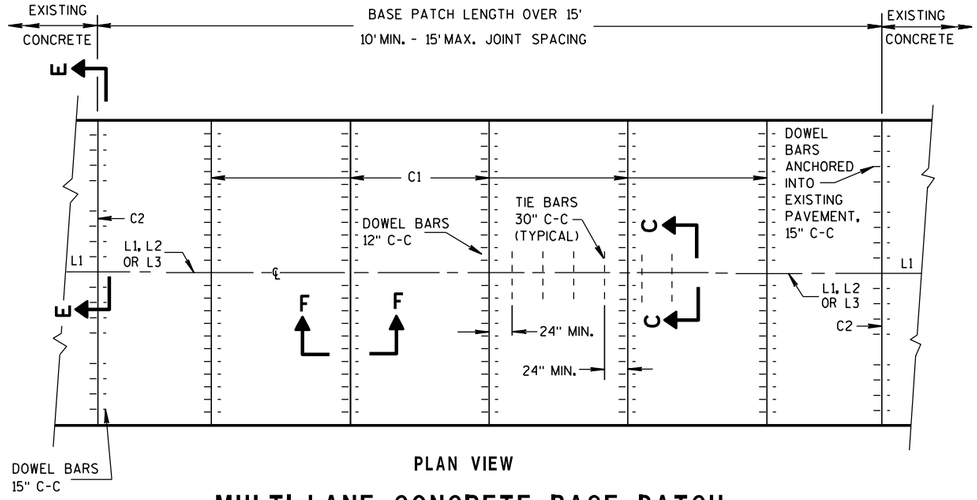


SECTION D-D



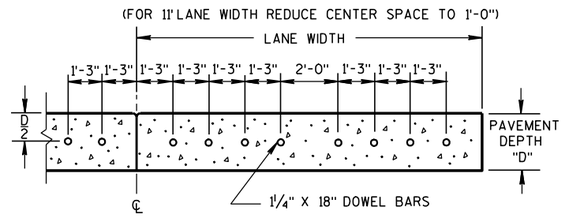
PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH



SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

BASE PATCHING CONCRETE

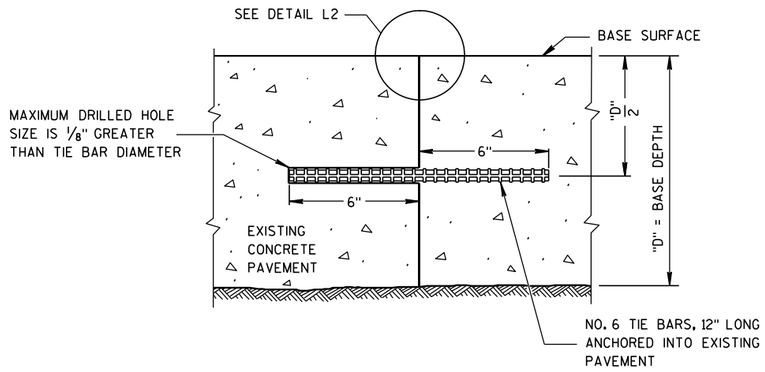
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 14-4b

6

S.D.D. 13 C 14-4b



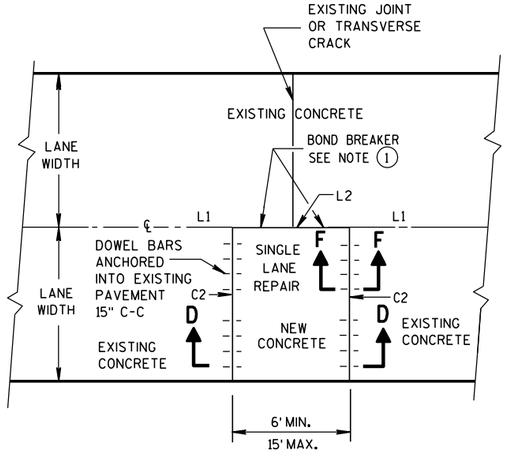
SECTION G-G

TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

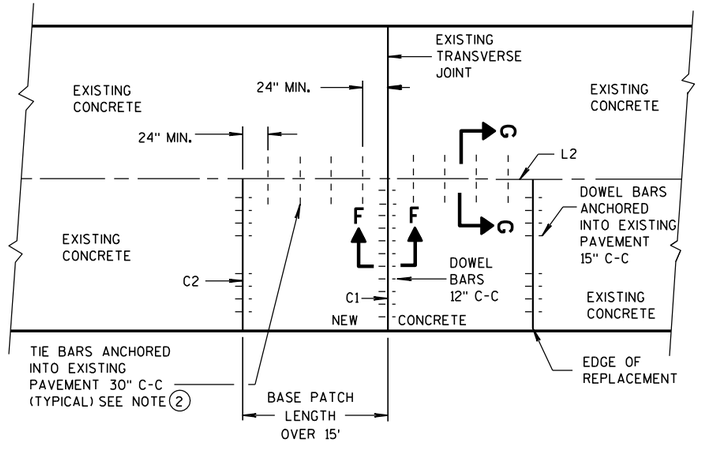
1. USE AN ENGINEER-APPROVED BOND BREAKER FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.

2. WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

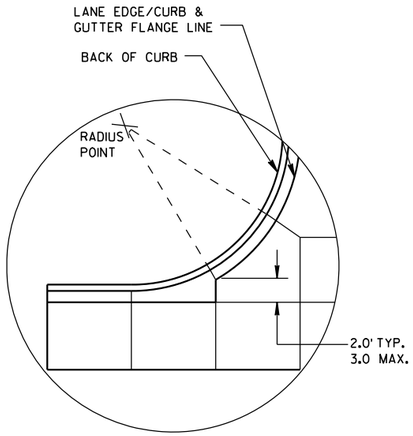
12-11-2009 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE NEER

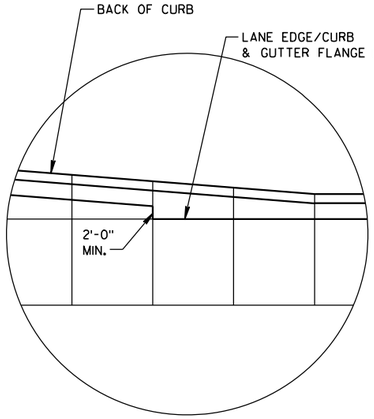
FHWA

6

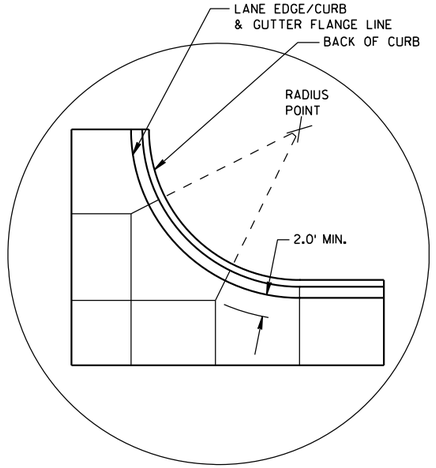
S.D.D. 13 C 14-4c



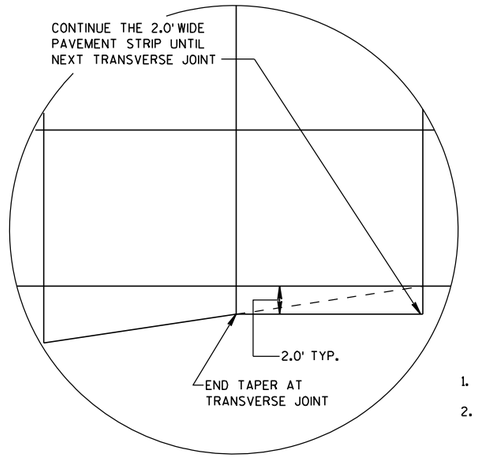
DETAIL "A"



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.

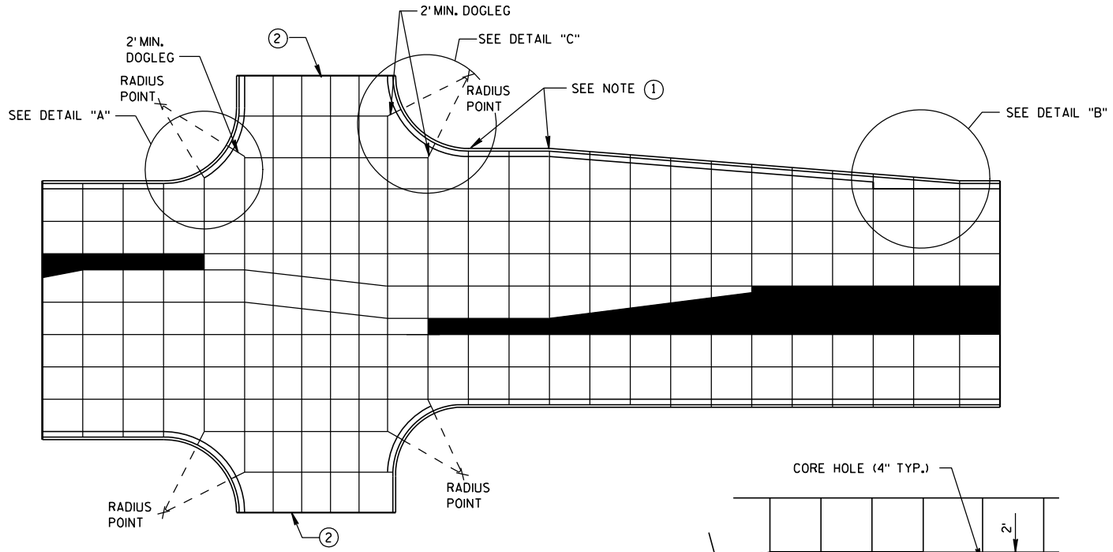
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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.

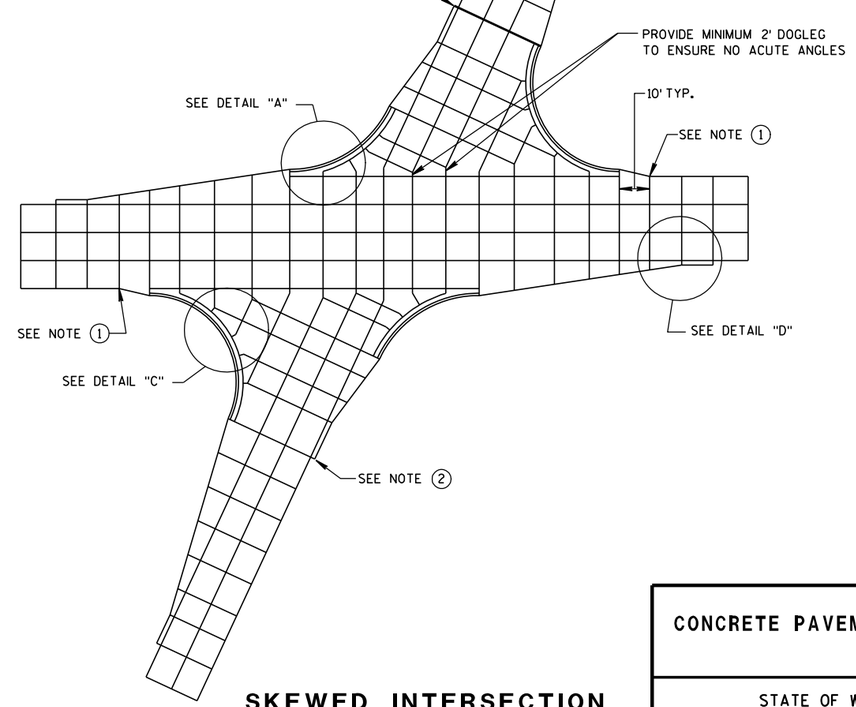
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



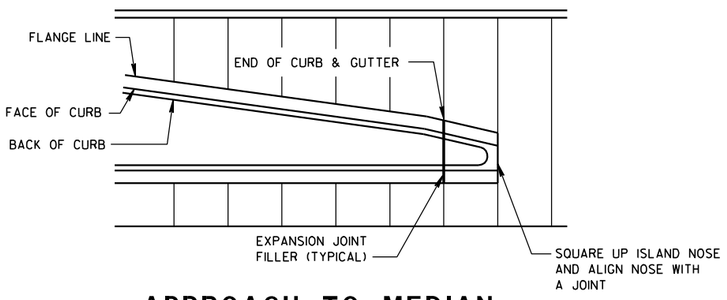
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

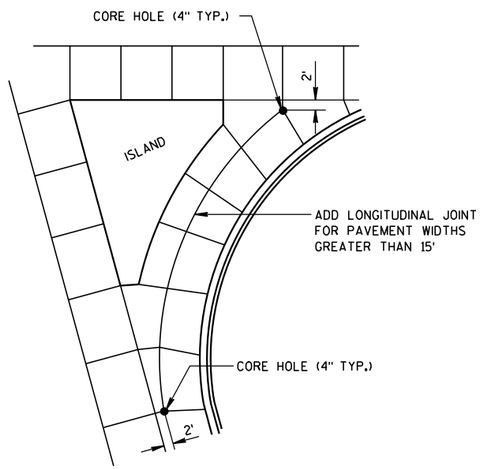
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

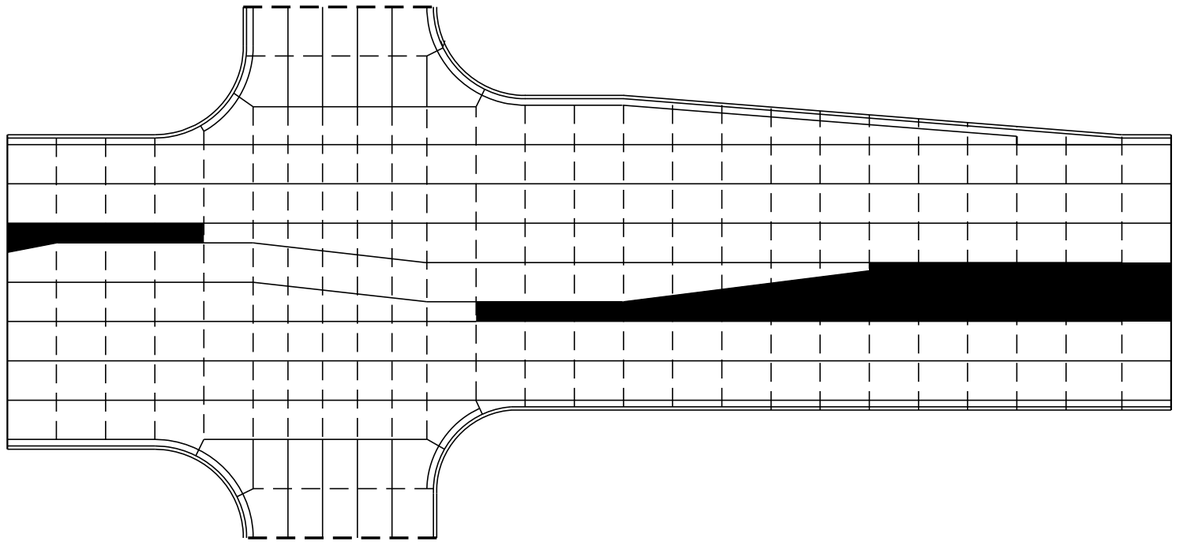
S.D.D. 13 C 18-1a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

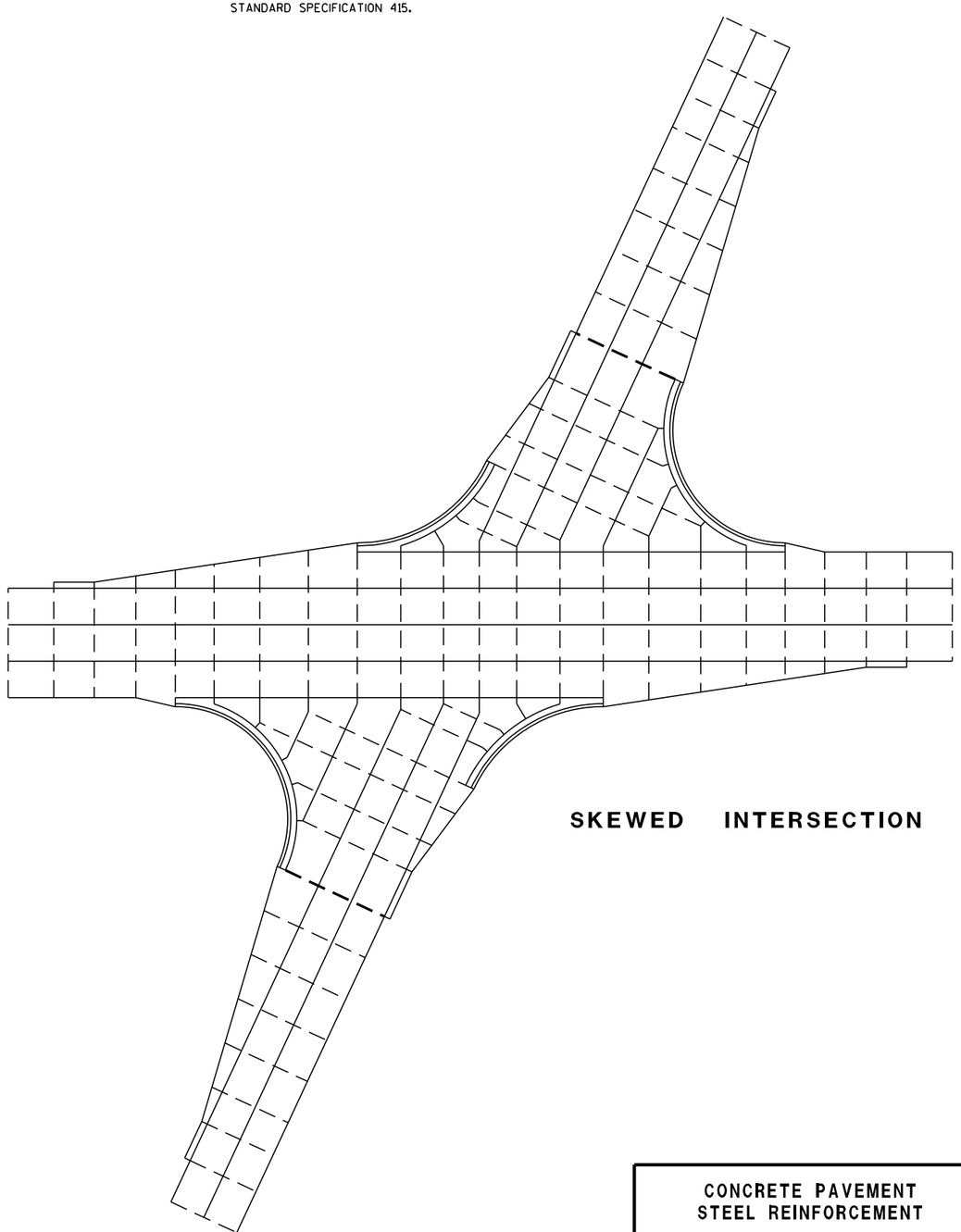
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

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



SKEWED INTERSECTION

6

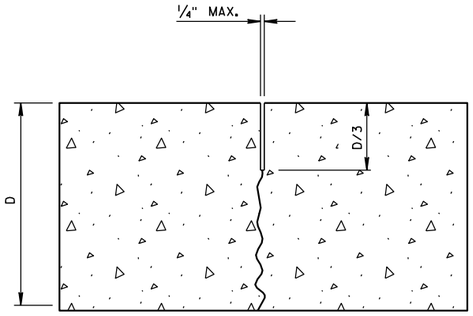
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S.D.D. 13 C 18-1b

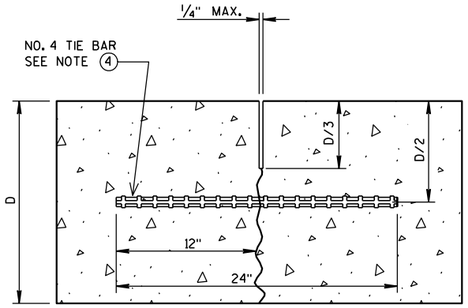
S.D.D. 13 C 18-1b

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



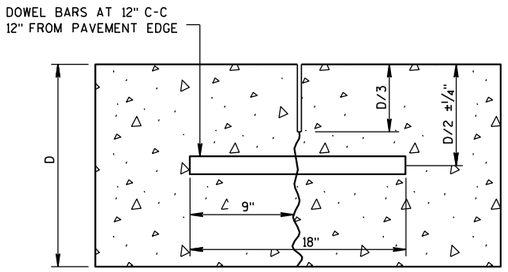
UNDOWELED-TRANSVERSE



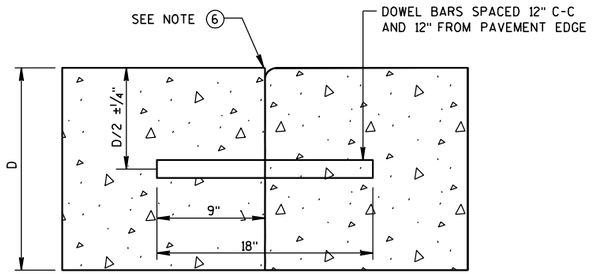
TIED LONGITUDINAL

GENERAL NOTES

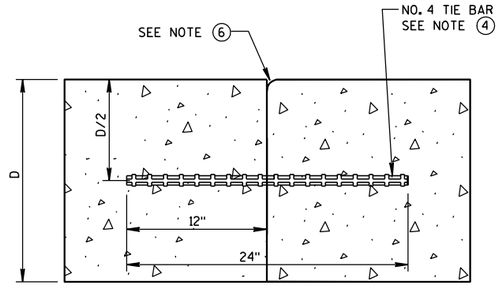
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 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



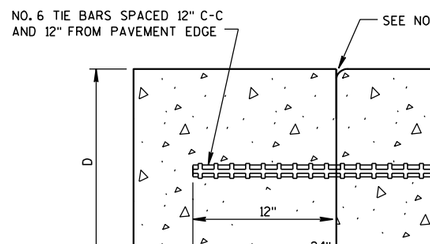
DOWELED TRANSVERSE



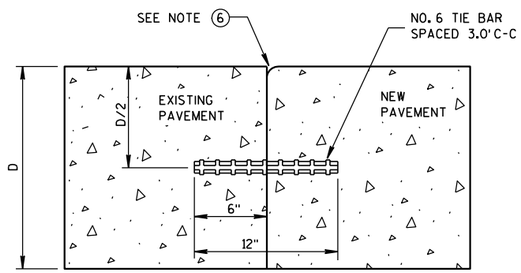
TIED LONGITUDINAL

CONTRACTION JOINTS

SEE NOTE (2)



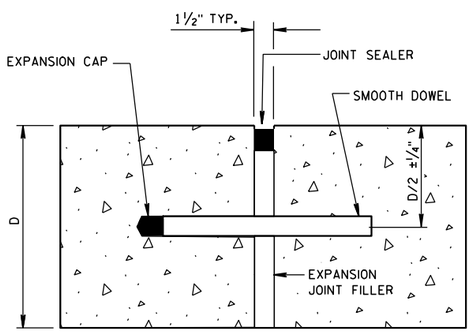
TIED TRANSVERSE
SEE NOTE (3)



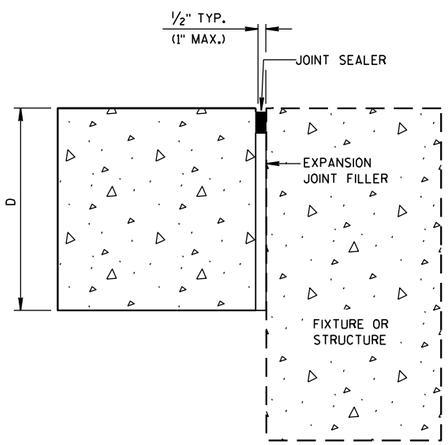
TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE (5)



DOWELED-TRANSVERSE
SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

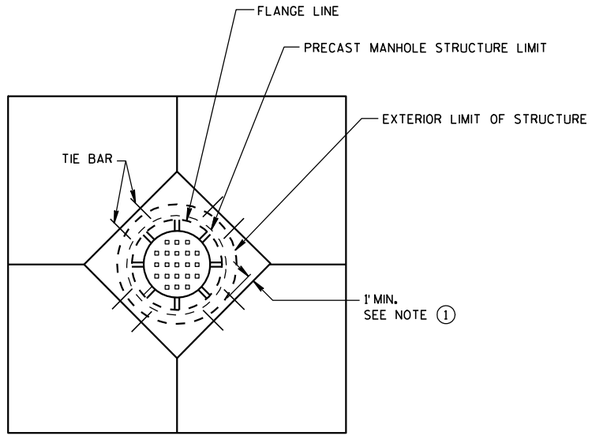
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

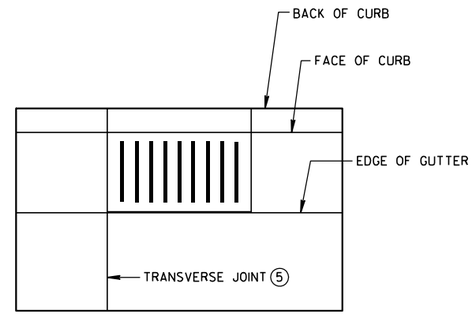
S.D.D. 13 C 18-1c

6

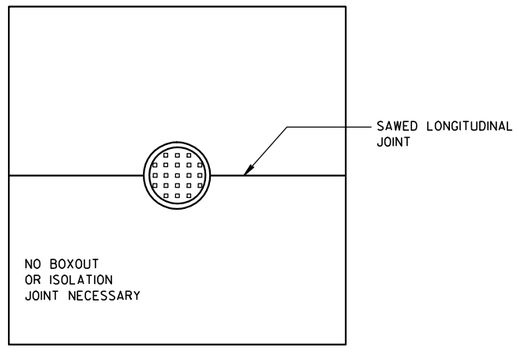
S.D.D. 13 C 18-1c



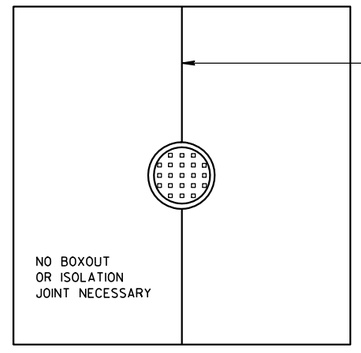
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



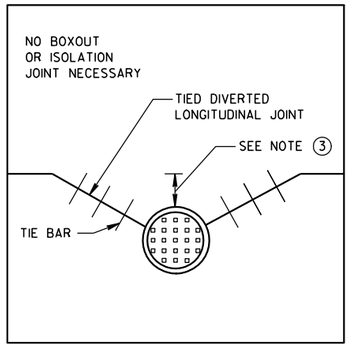
INLET WITH TRANSVERSE JOINT



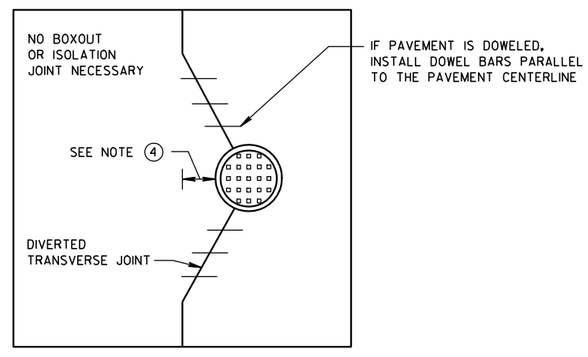
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

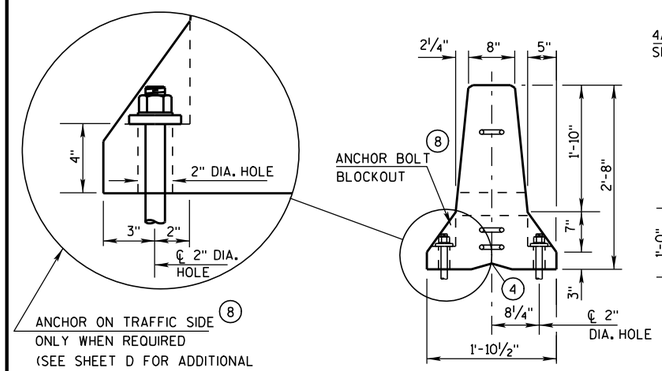
1. USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
2. ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
3. IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF 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

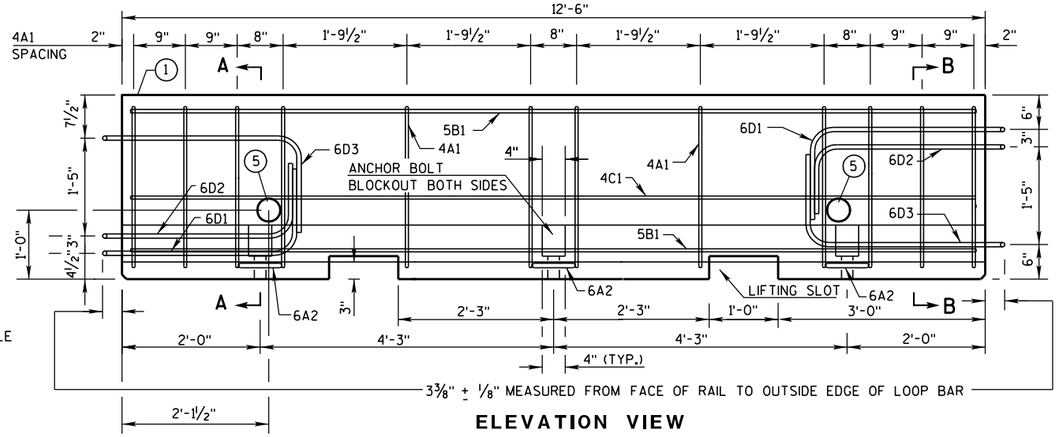
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-5-2010
DATE
/S/ Deb Bischoff
PAVEMENT POLICY & D 347 ENGINEER
FHWA

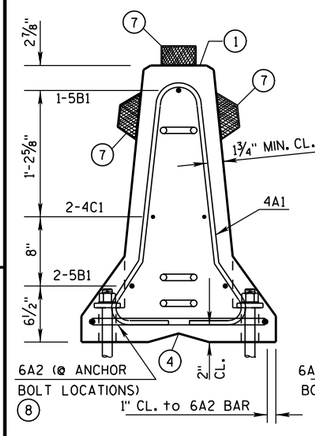
6
S.D.D. 13 C 18-1d



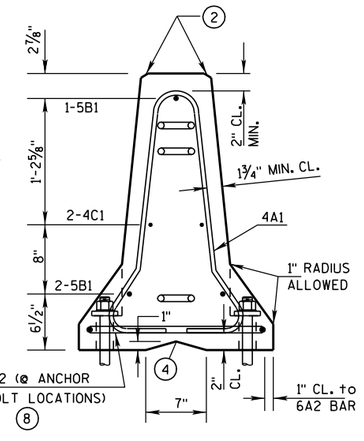
END VIEW



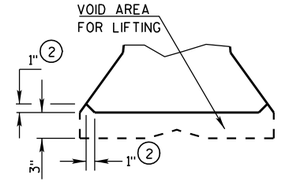
ELEVATION VIEW



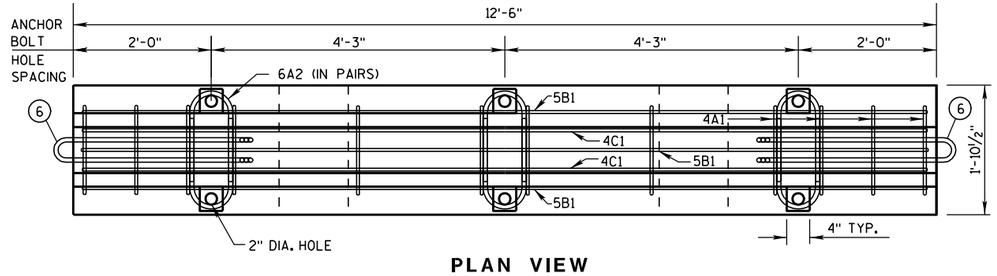
SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)

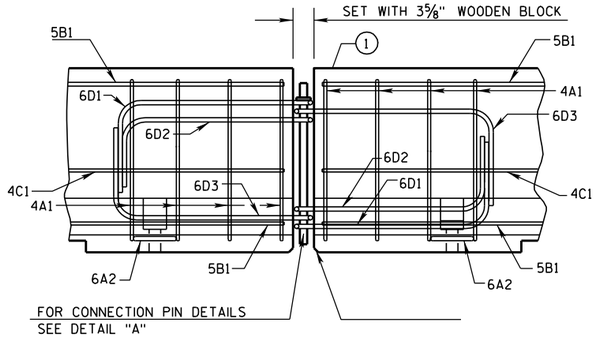


DETAIL "B"
LIFTING SLOT DETAIL

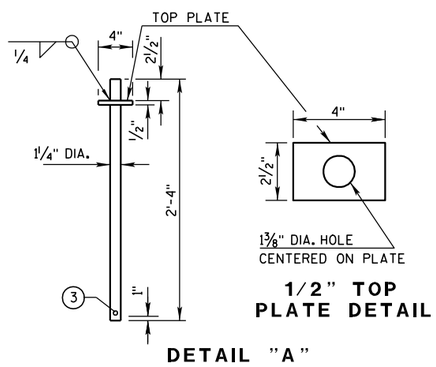


PLAN VIEW

DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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

GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-12(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.

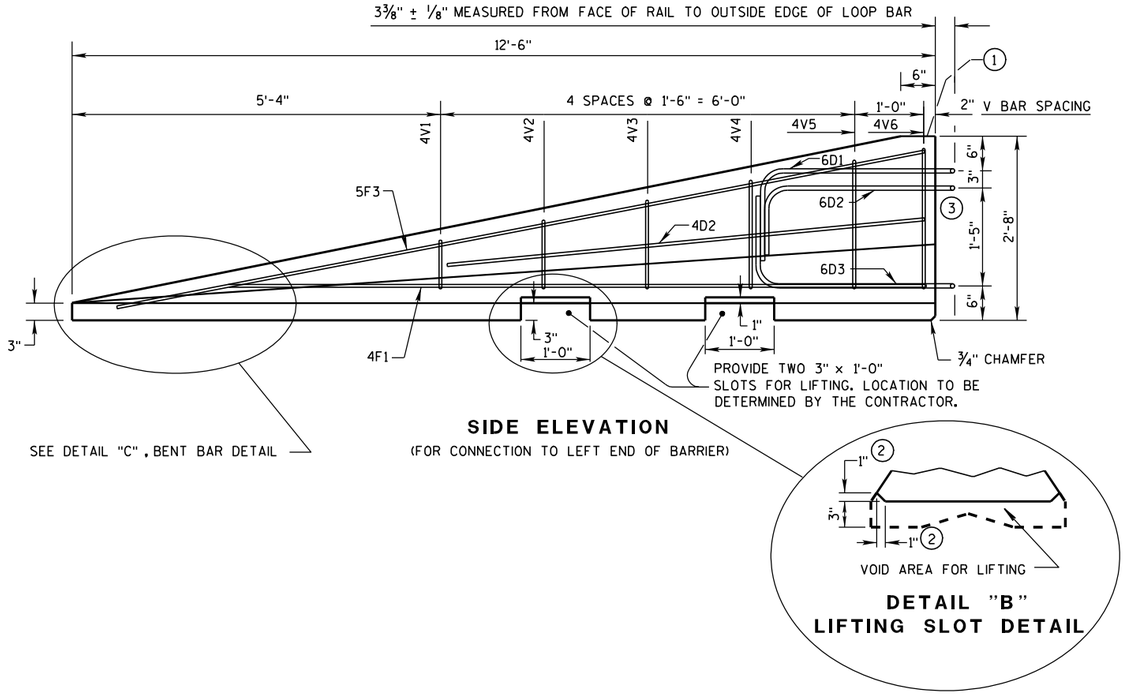
(8) SEE SHEET D FOR ANCHORING CRITERIA.

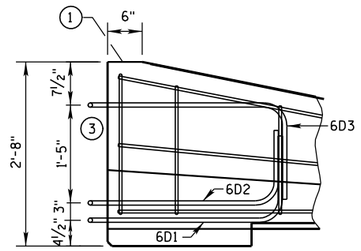
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

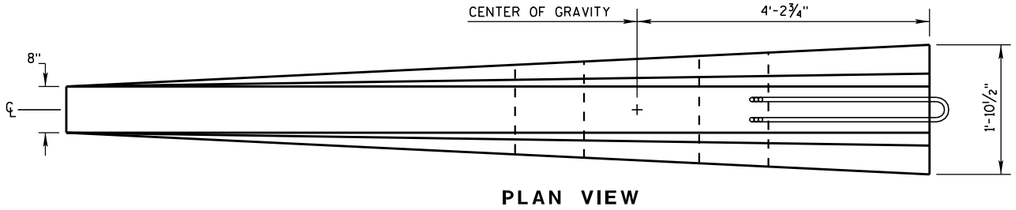
S.D.D. 14 B 7-12a

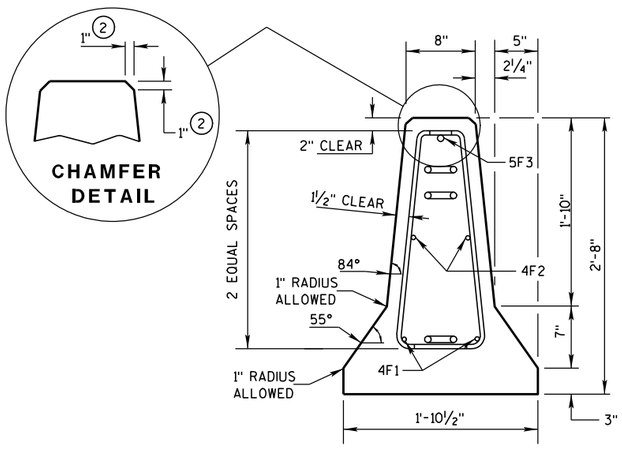


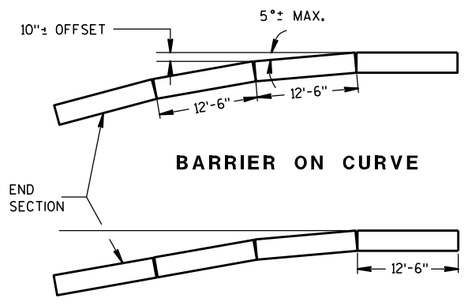


GENERAL NOTES

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.







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"

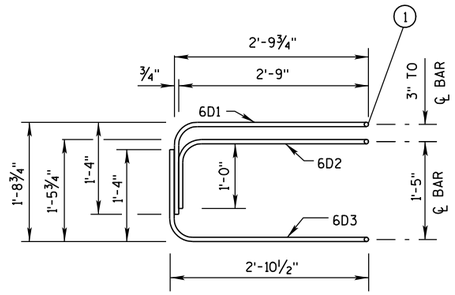
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

BARRIER TAPER SECTION BILL OF MATERIALS

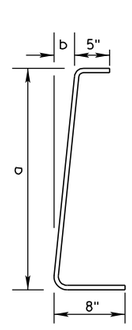
(PER 12'-6" BARRIER TAPER SECTION)

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

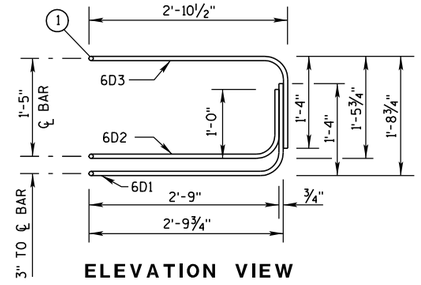
GENERAL NOTES

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

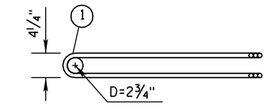
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

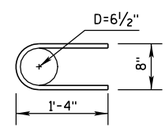
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



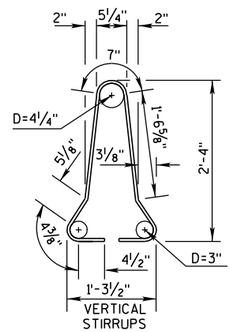
ELEVATION VIEW



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



6A2



4A1

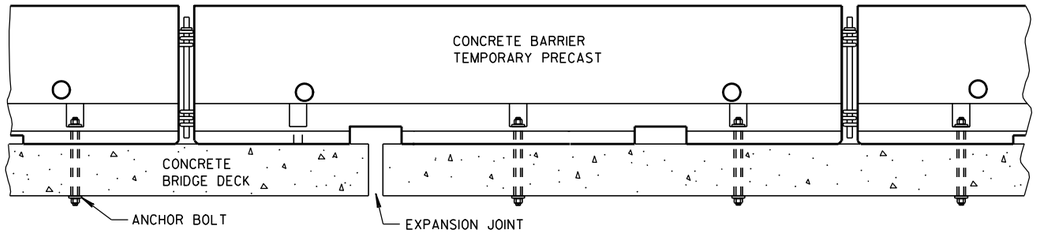
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

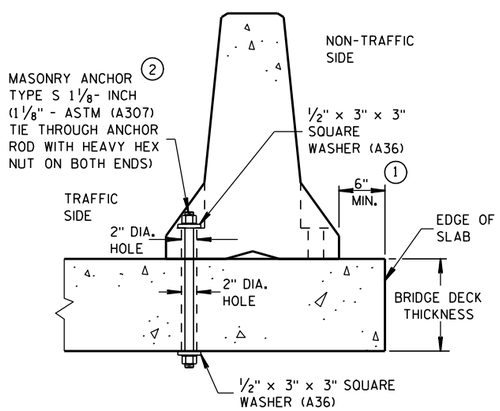
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S.D.D. 14 B 7-12c



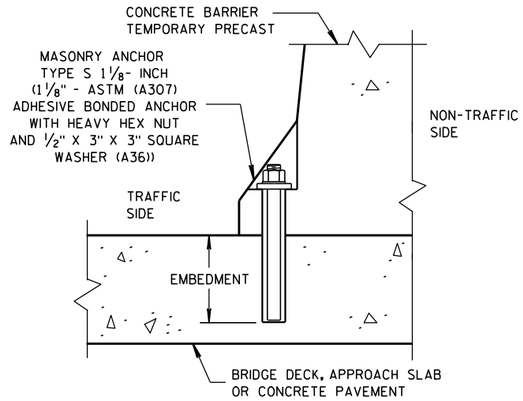
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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

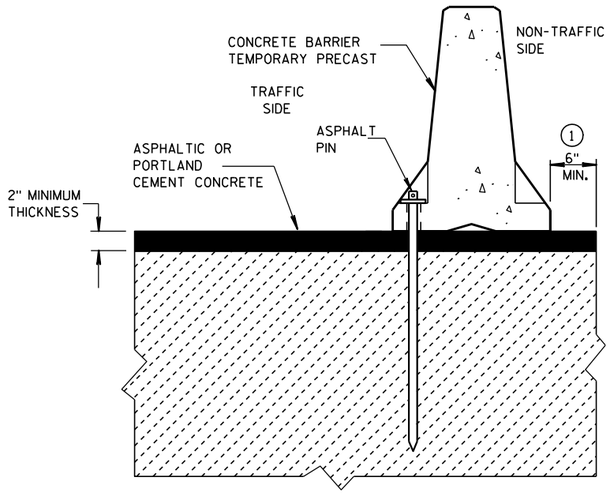
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE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

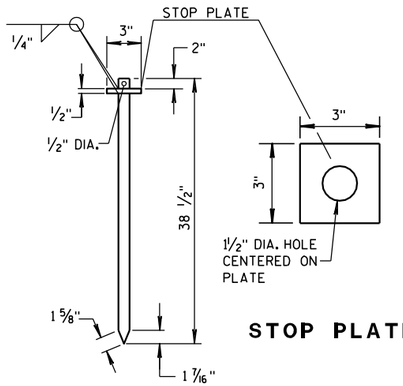
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE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



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

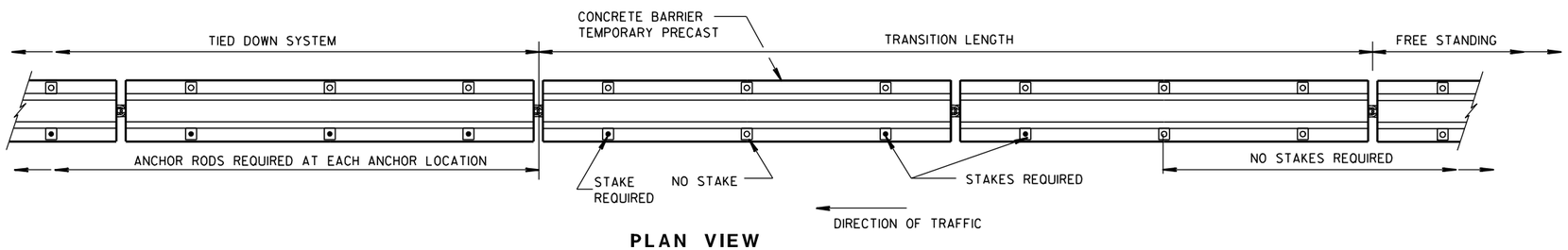
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zaas
ROADWAY STANDARD D 351 NT
ENGINEER

FHWA

6

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

6

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

GENERAL NOTES

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

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

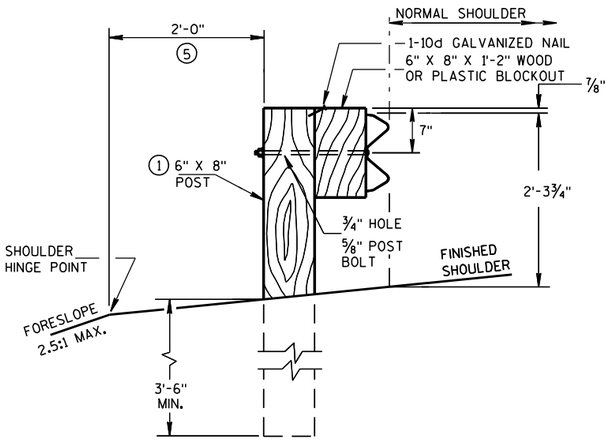
(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

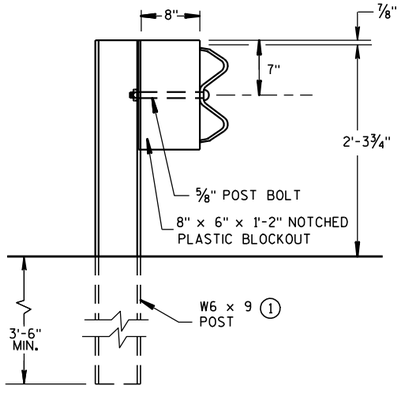
(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

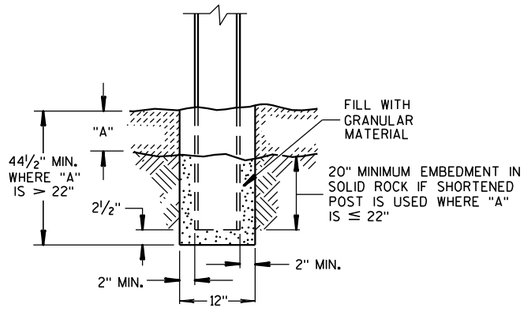
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



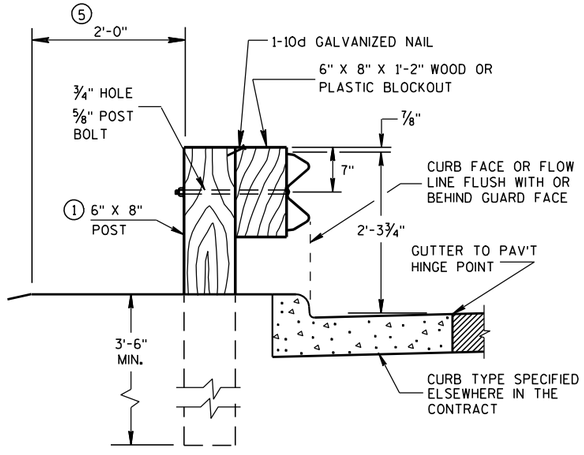
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



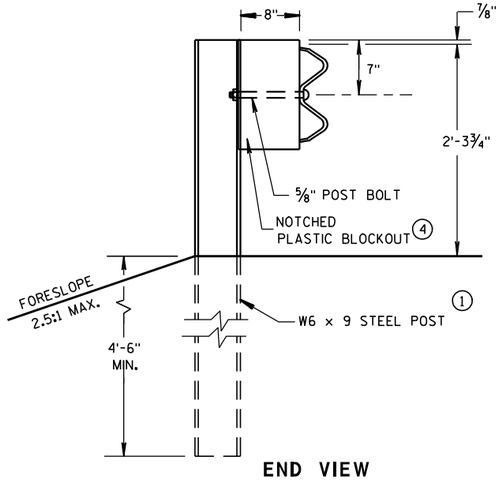
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



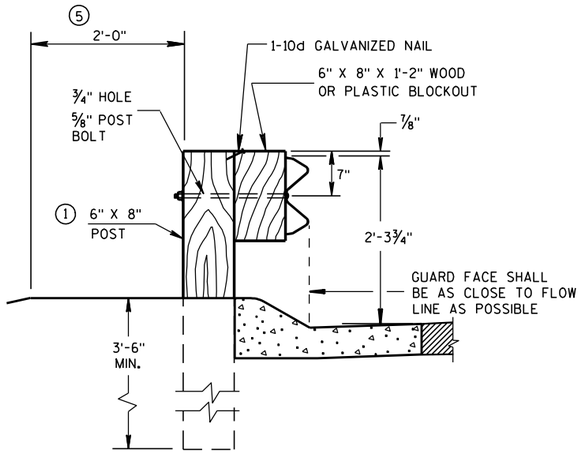
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



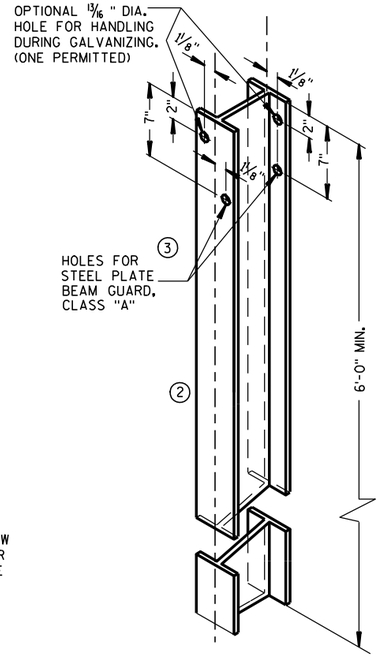
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

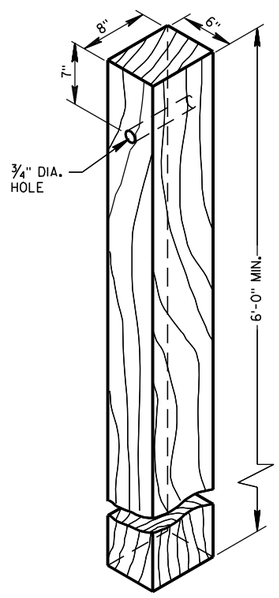


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

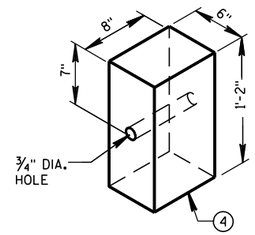


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

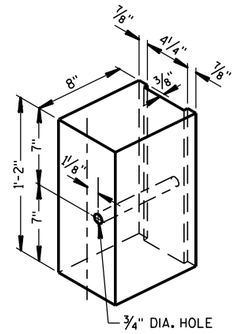
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



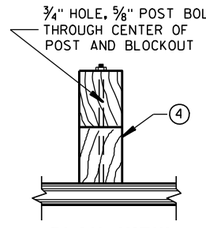
WOOD POST
(6"X8") NOMINAL



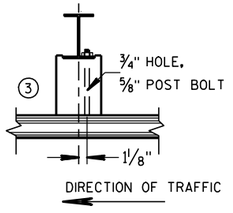
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



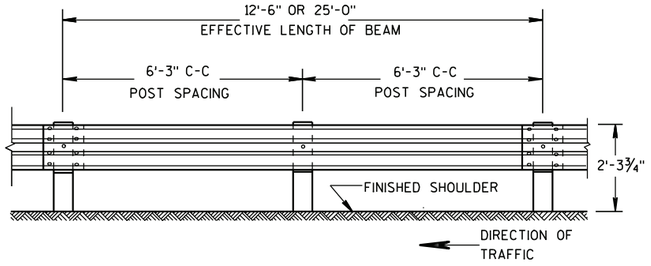
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

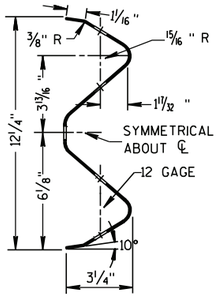
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6
S.D.D. 14 B 15-7a

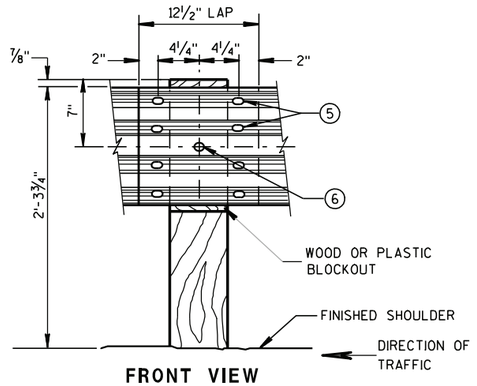


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM

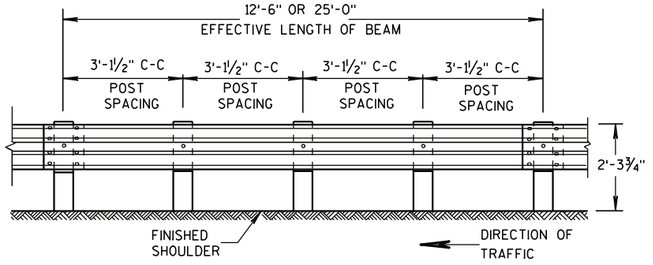


FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

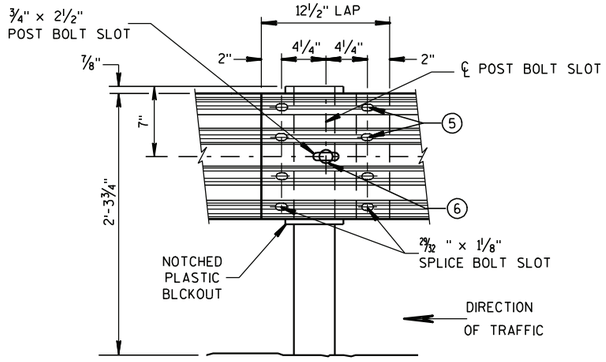
GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 8 - 5/8" ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
6. 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



FRONT VIEW

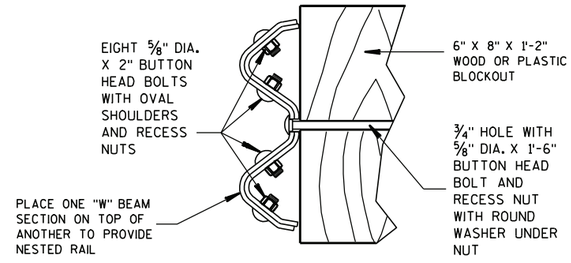
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

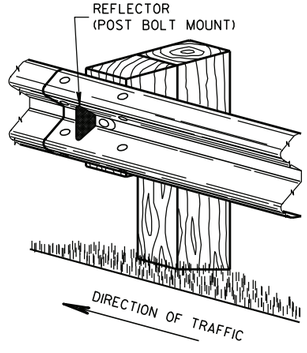


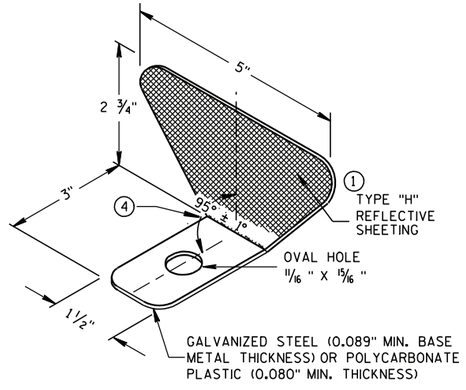
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (2)

	BEAM GUARD LENGTH	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 (3)	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 (4)	





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

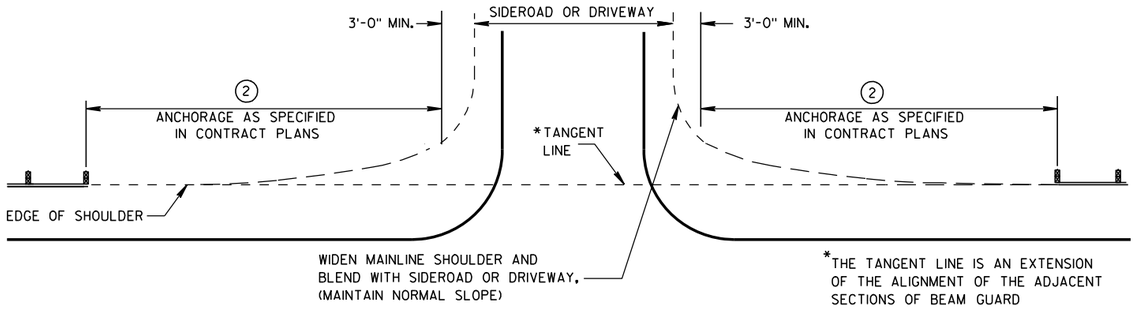
STATE OF WISCONSIN
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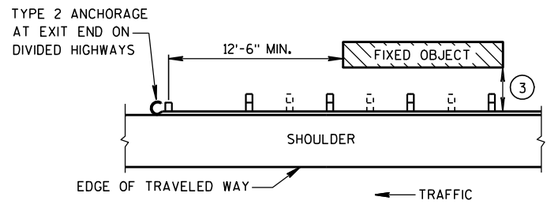
S.D.D. 14 B 15-7b

6

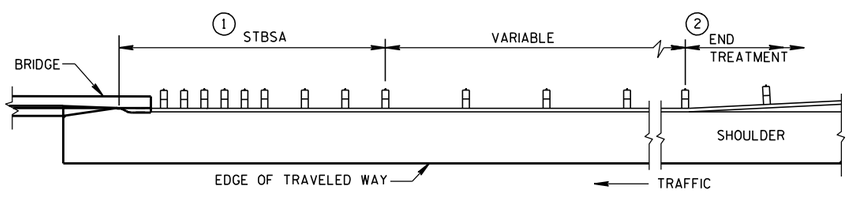
S.D.D. 14 B 15-7b



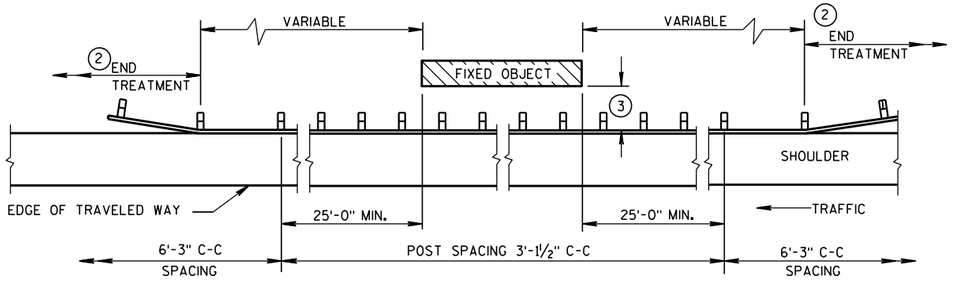
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

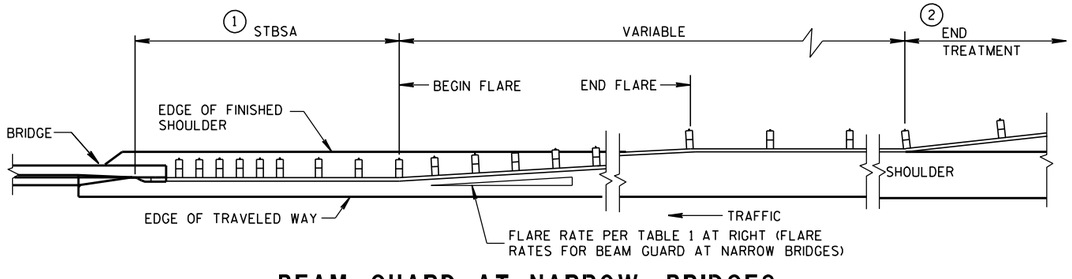


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
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APPROVED

8-21-07
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

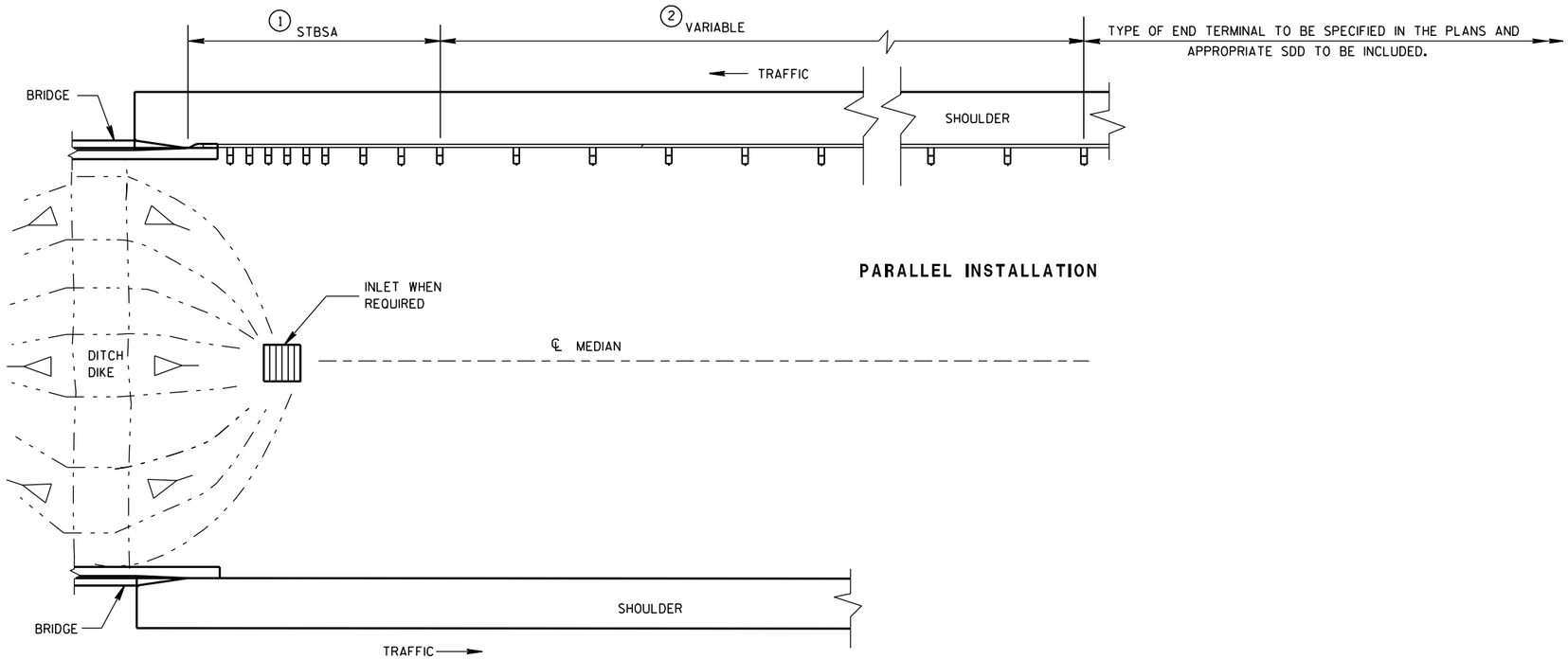
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S.D.D. 14 B 18-6a

GENERAL NOTES

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

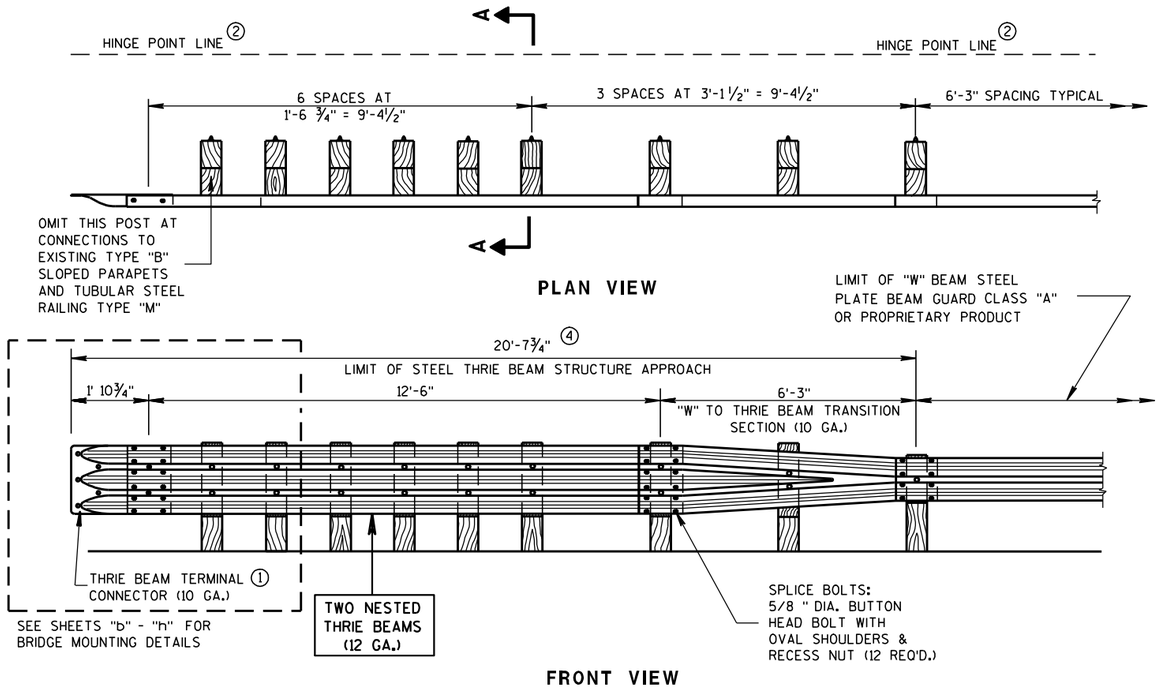
(2) LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.



PARALLEL INSTALLATION

BEAM GUARD AT MEDIAN APPROACH TO BRIDGES

STEEL PLATE BEAM GUARD CLASS "A" AT MEDIAN APPROACH TO BRIDGES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8-21-07 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



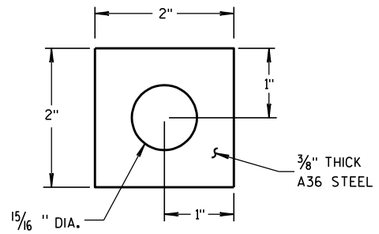


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

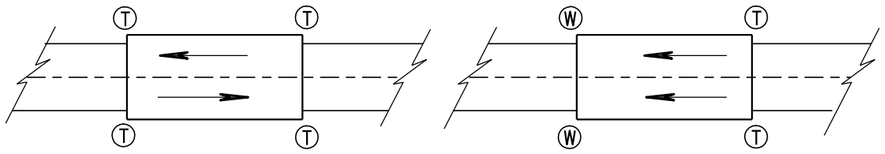
IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY, (SEE SDD 14 B 15 - a).

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



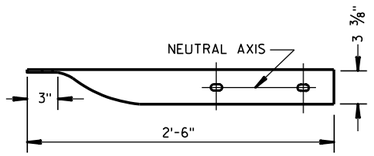
TWO WAY TRAFFIC

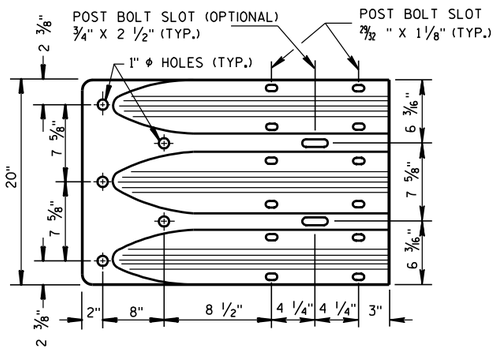
ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

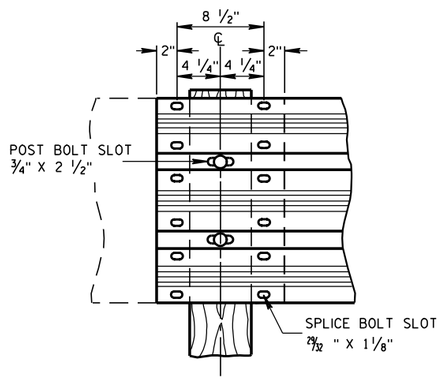
(W) W-BEAM CONNECTION WHEN REQUIRED

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

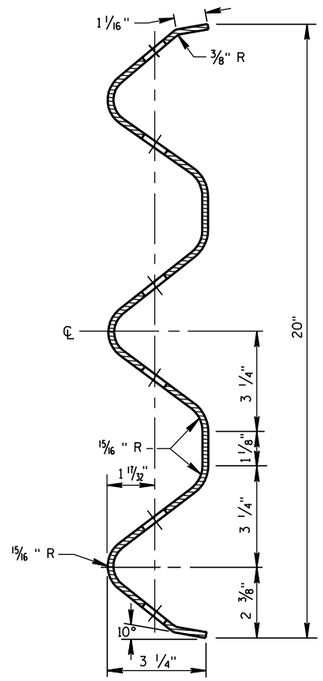




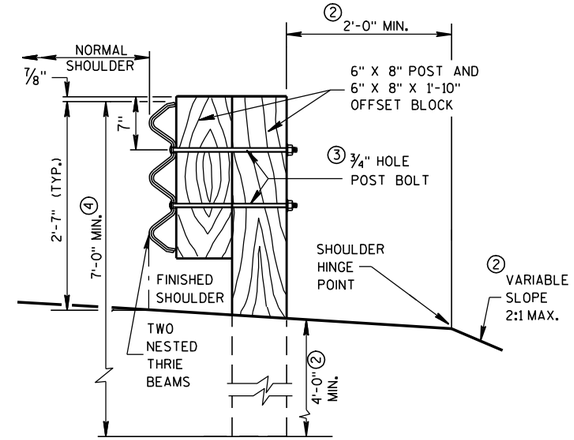
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

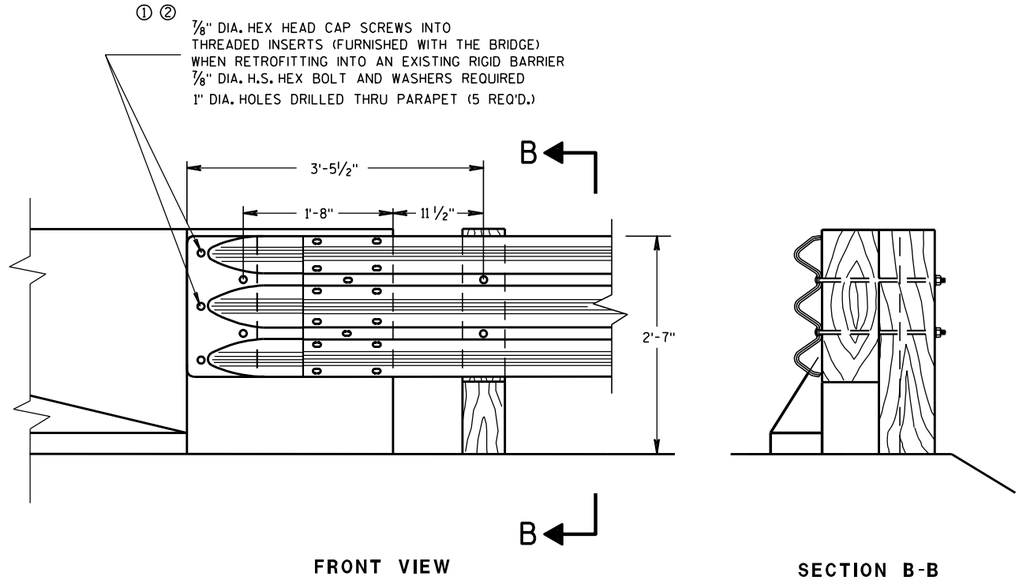
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-8-2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]
ENGINEER

FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

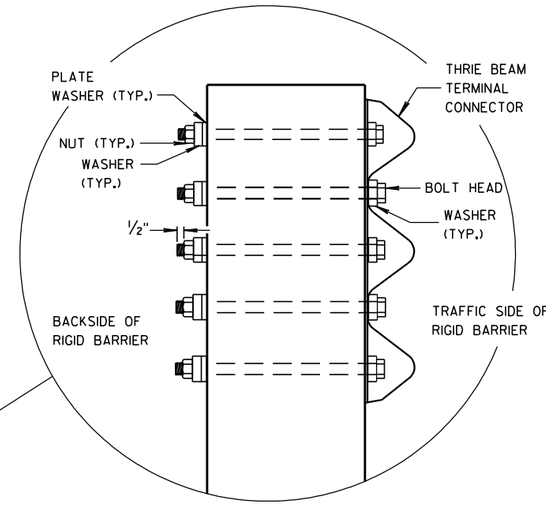
① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".

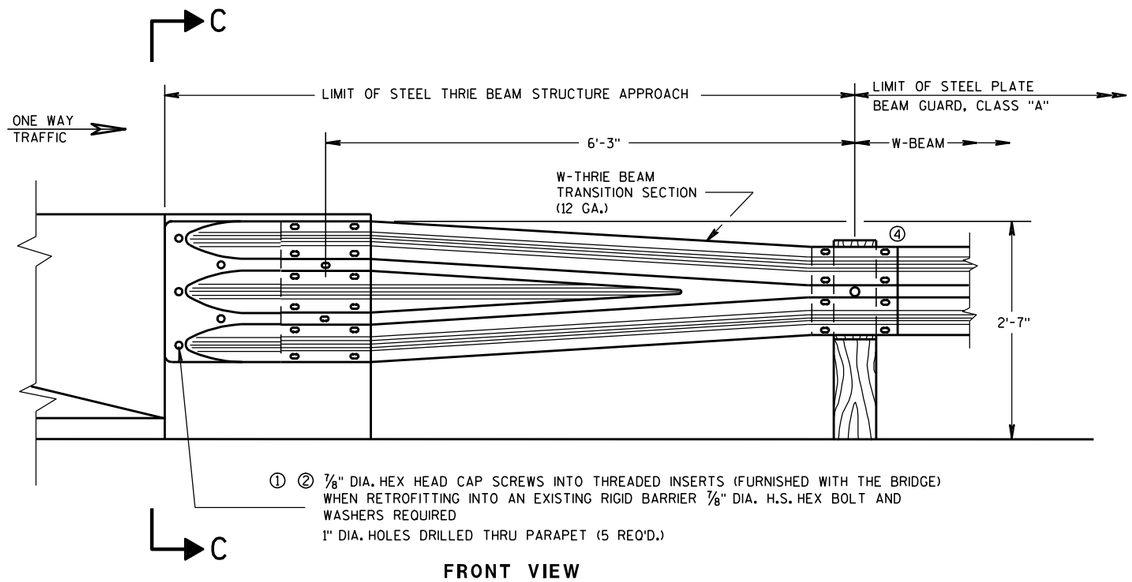
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

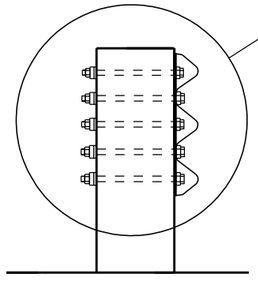
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW



SECTION C-C

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-8-2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS [357
ENGINEER

FHWA

6

S.D.D. 14 B 20-10b

6

S.D.D. 14 B 20-10b

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".

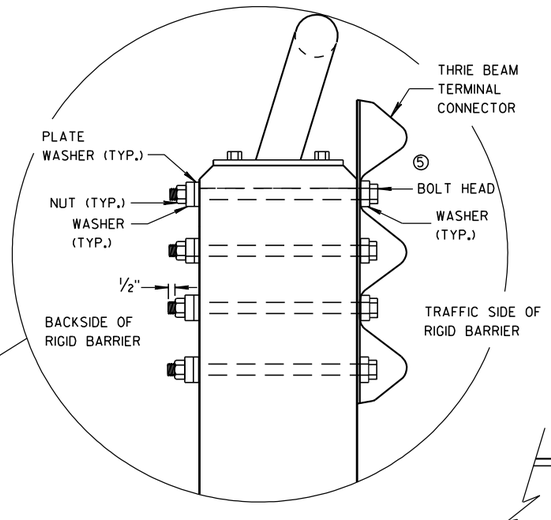
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR.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

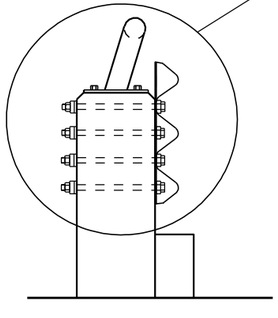
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

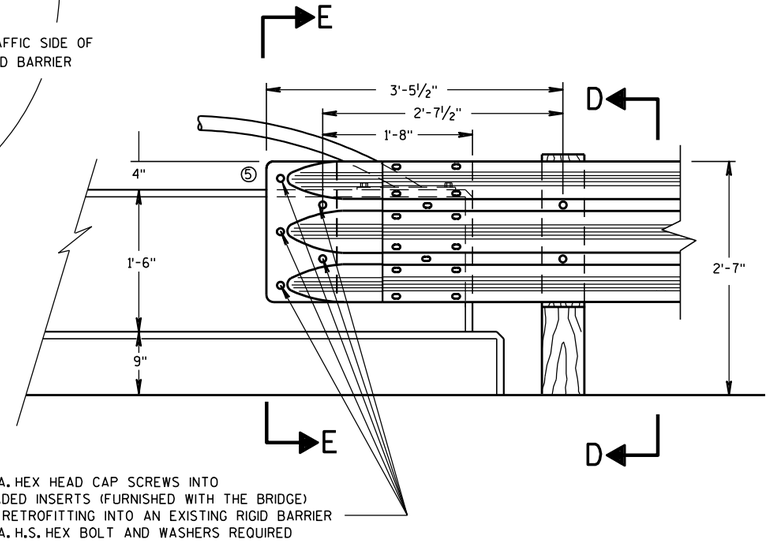
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



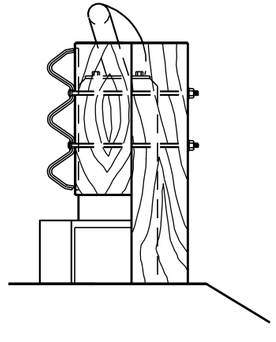


SECTION E-E



① ② 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW



SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

① ② 7/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)
1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)
LIMIT OF STEEL PLATE BEAM GUARD, CLASS "A"
5'-0 1/4"
4'-2 1/4"
3'-1 1/2"
ONE WAY TRAFFIC
④
W BEAM TERMINAL CONNECTOR ③
2'-3 3/4"

FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

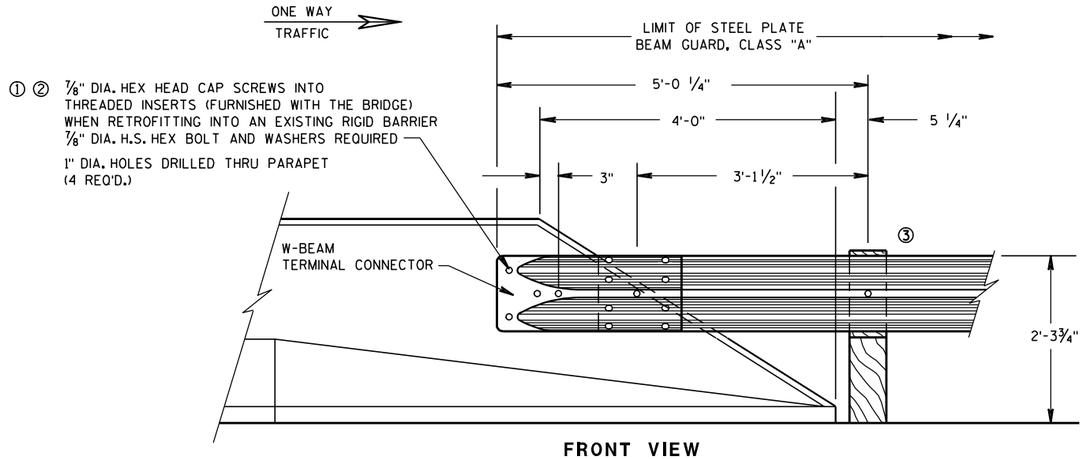
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
2-8-2012 DATE	/S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER
FHWA	358

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S.D.D. 14 B 20-10c



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

GENERAL NOTES

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

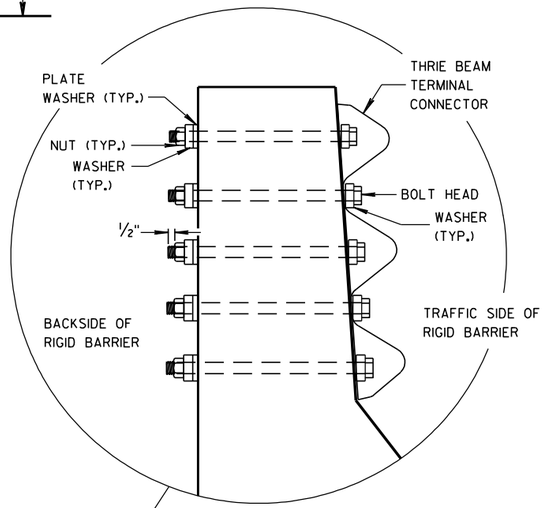
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".

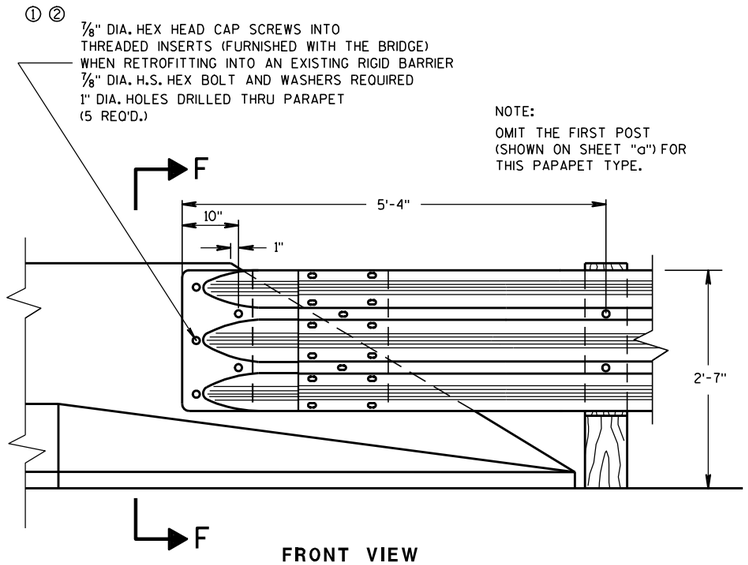
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR.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

③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

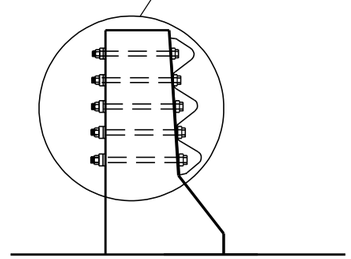
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

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2-8-2012 DATE — /S/ Jerry H. ROADWAY STANDARDS ENGINEER

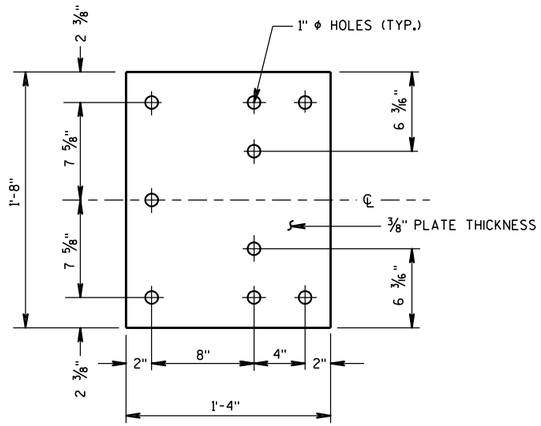
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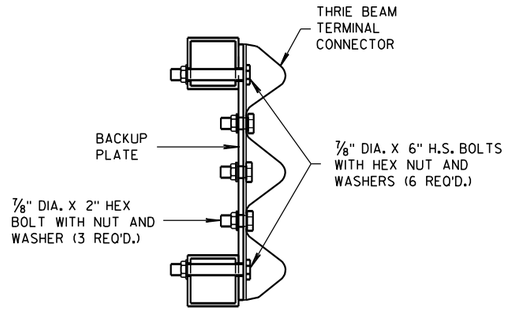
S.D.D. 14 B 20-10d

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S.D.D. 14 B 20-10d



BACK-UP PLATE DETAIL



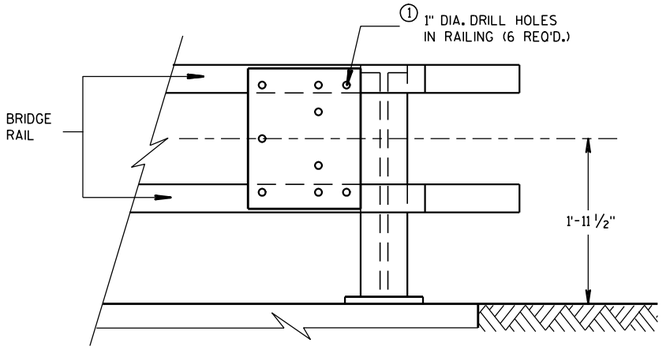
SECTION G-G

GENERAL NOTES

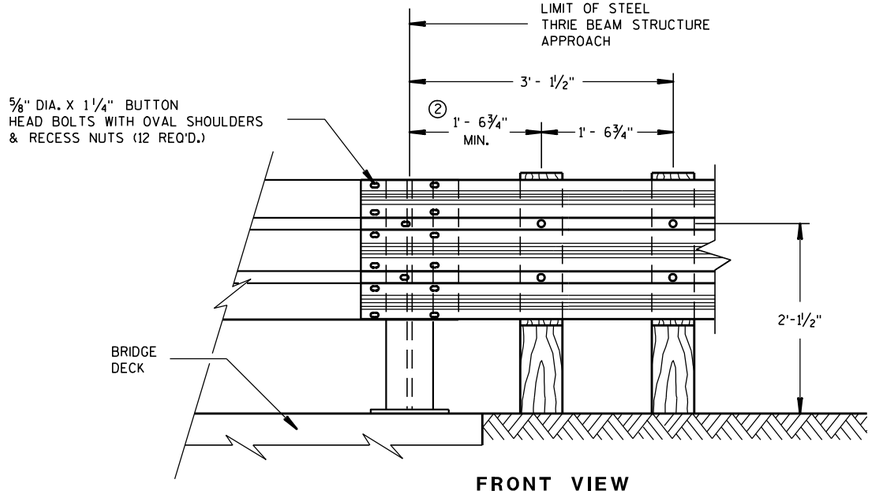
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

① INCLUDE THE PAYMENT FOR DRILLING HOLES IN RAILING IN THE ITEM "STEEL THRIE BEAM STRUCTURE APPROACH".

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

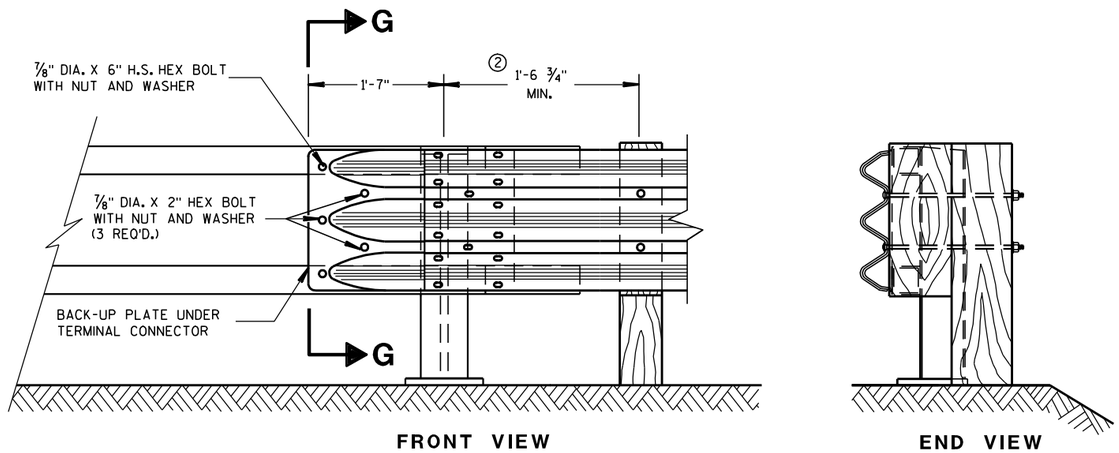


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW

END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-8-2012 DATE — /S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER — ENT

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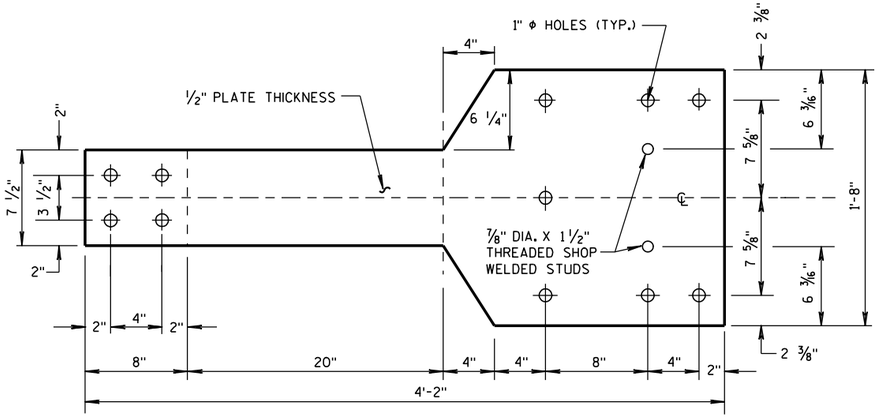
S.D.D. 14 B 20-10e

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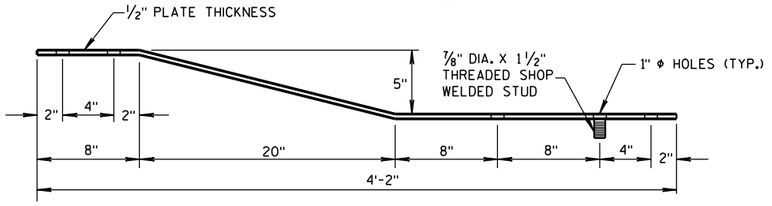
S.D.D. 14 B 20-10e

GENERAL NOTES

① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.

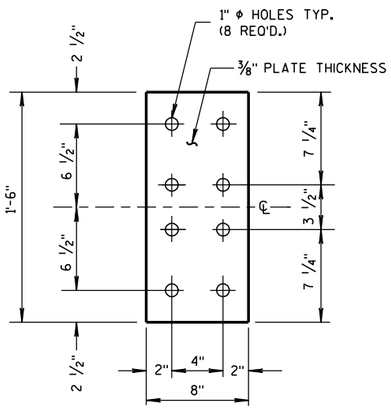


FRONT VIEW



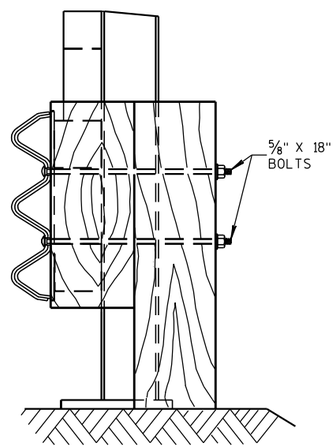
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

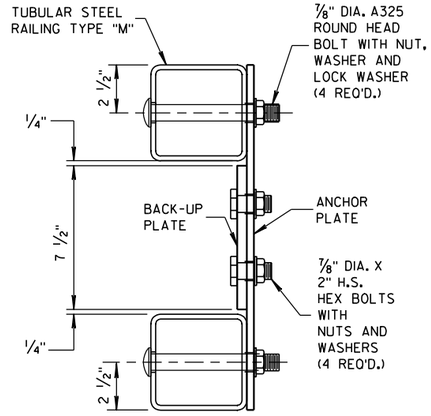


FRONT VIEW

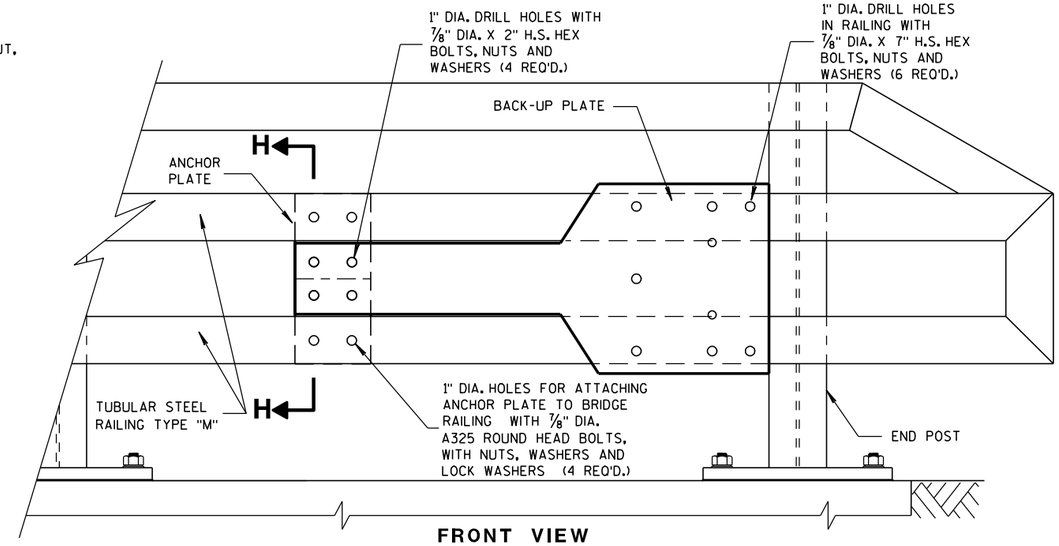
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I

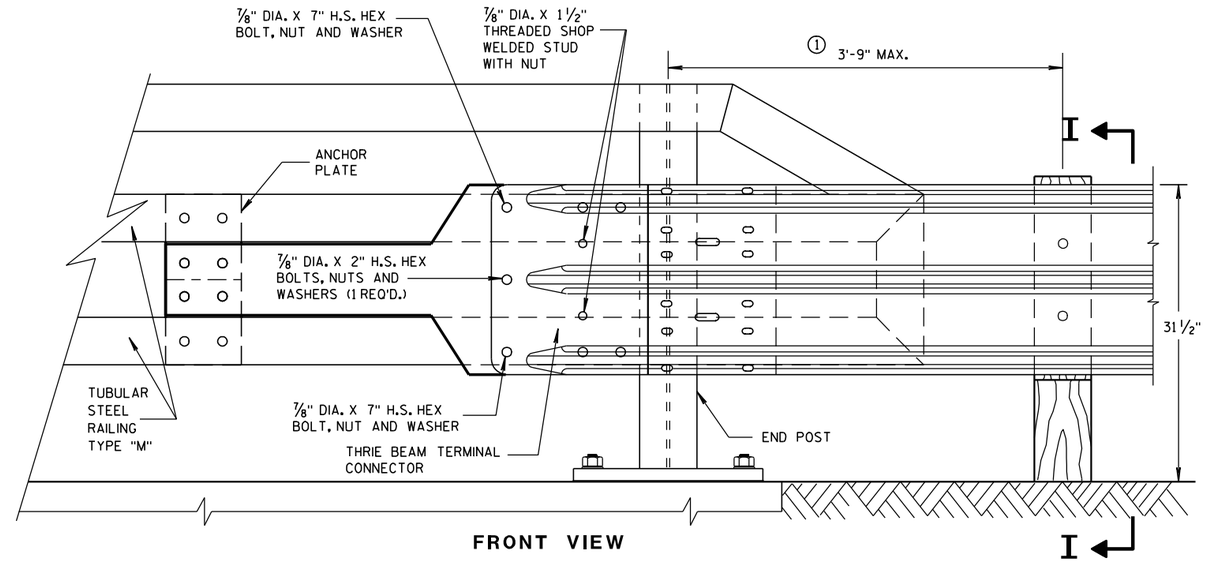


SECTION H-H

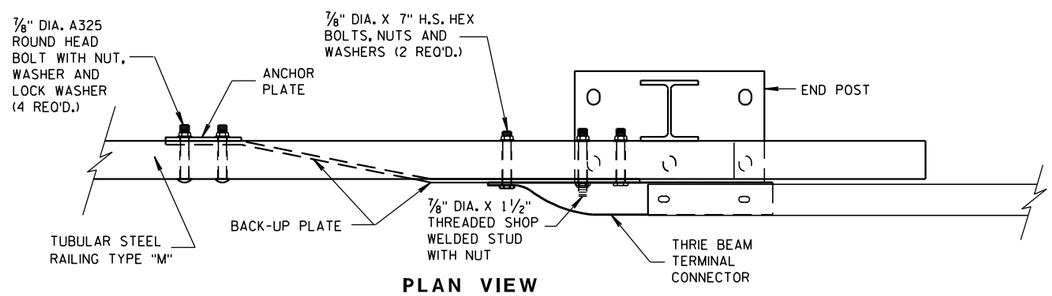


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

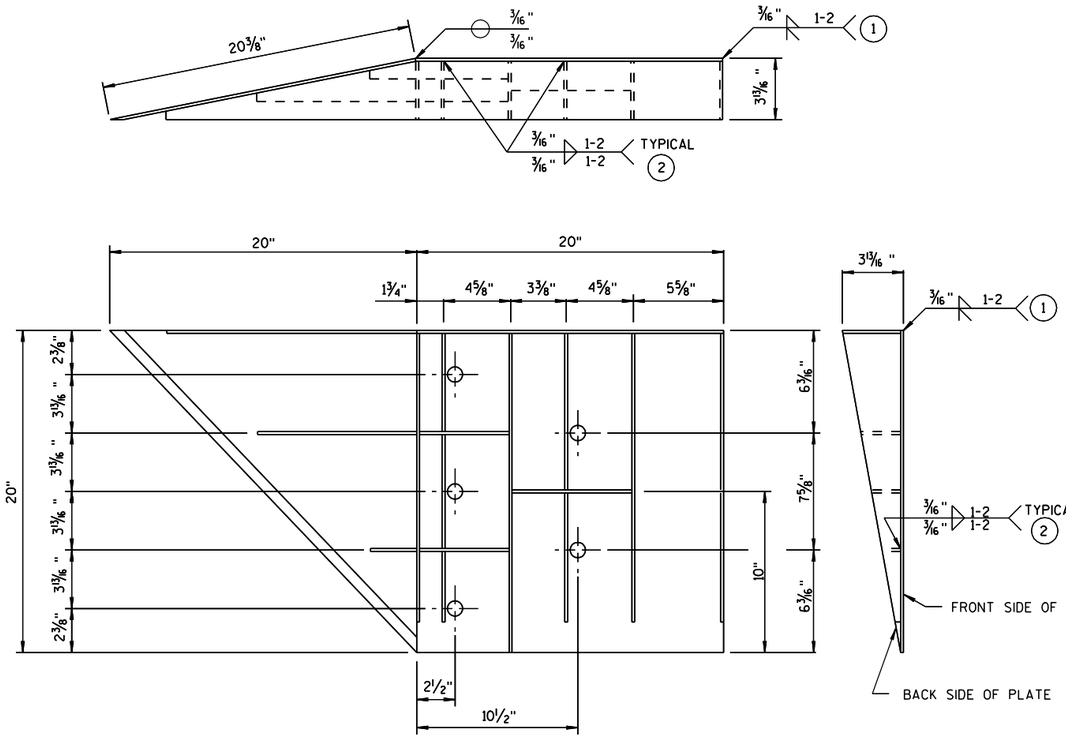
APPROVED
2-8-2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
361 — ENT
FHWA

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WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

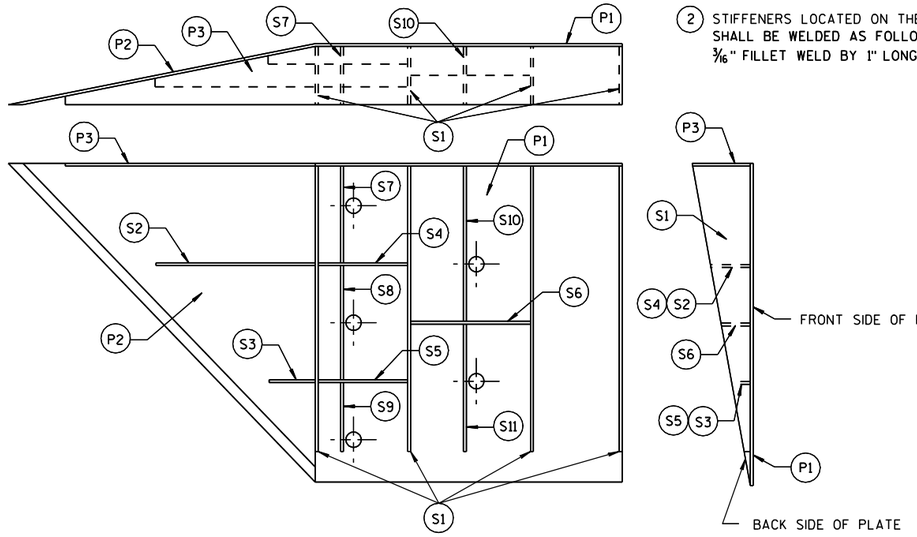


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

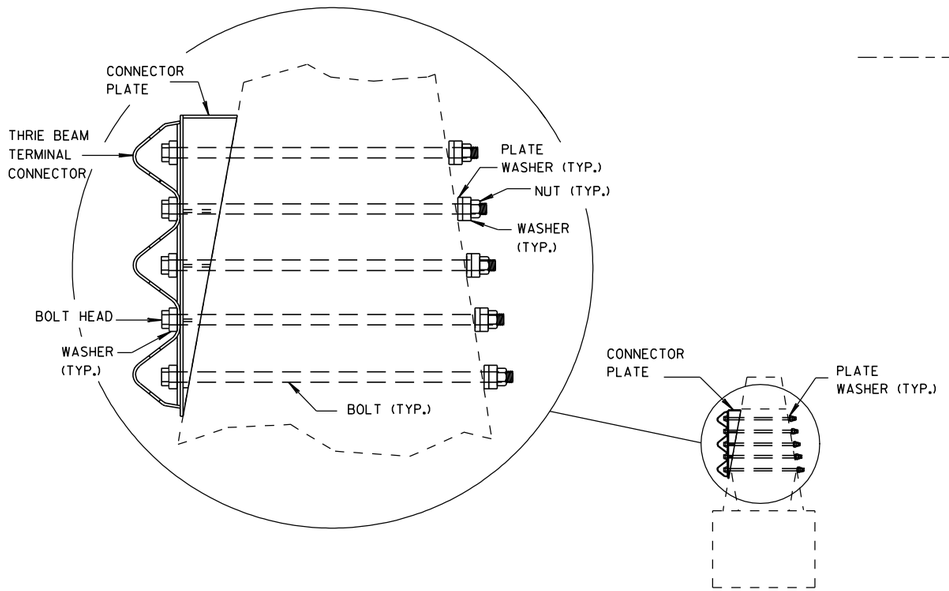
STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

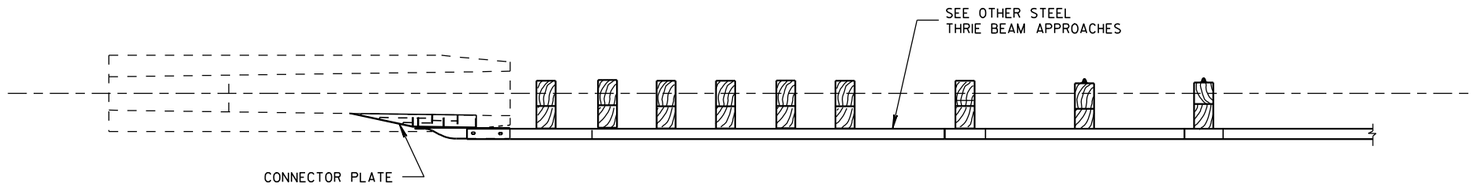
STATE OF WISCONSIN
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2-8-2012 DATE
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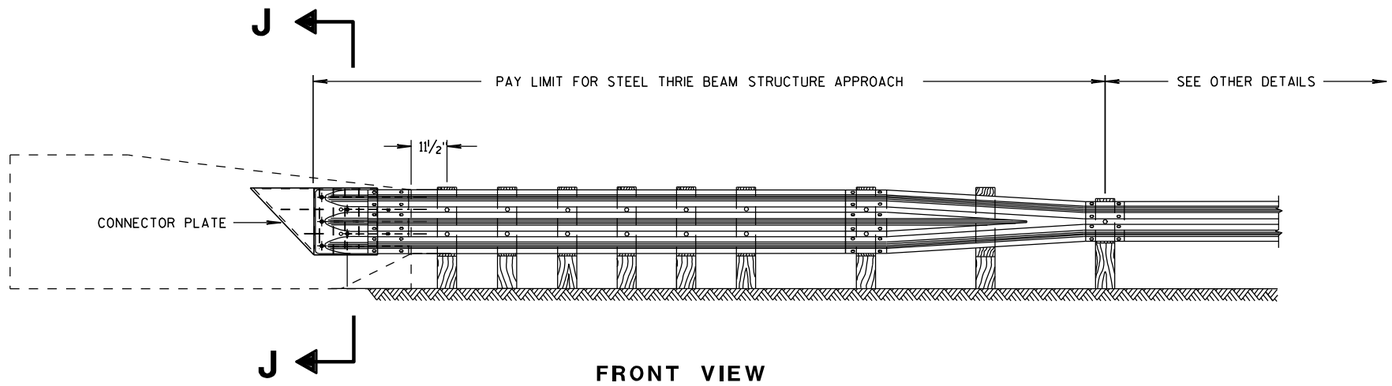
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S.D.D. 14 B 20-10g



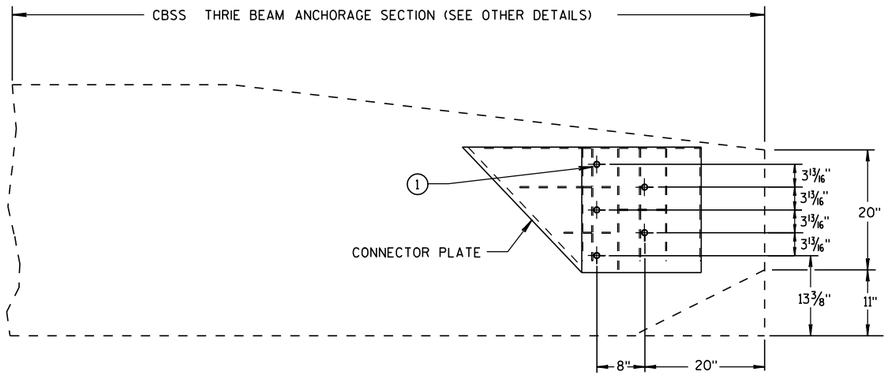
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE INCIDENTAL TO STEEL THRIE BEAM STRUCTURE APPROACH.

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

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

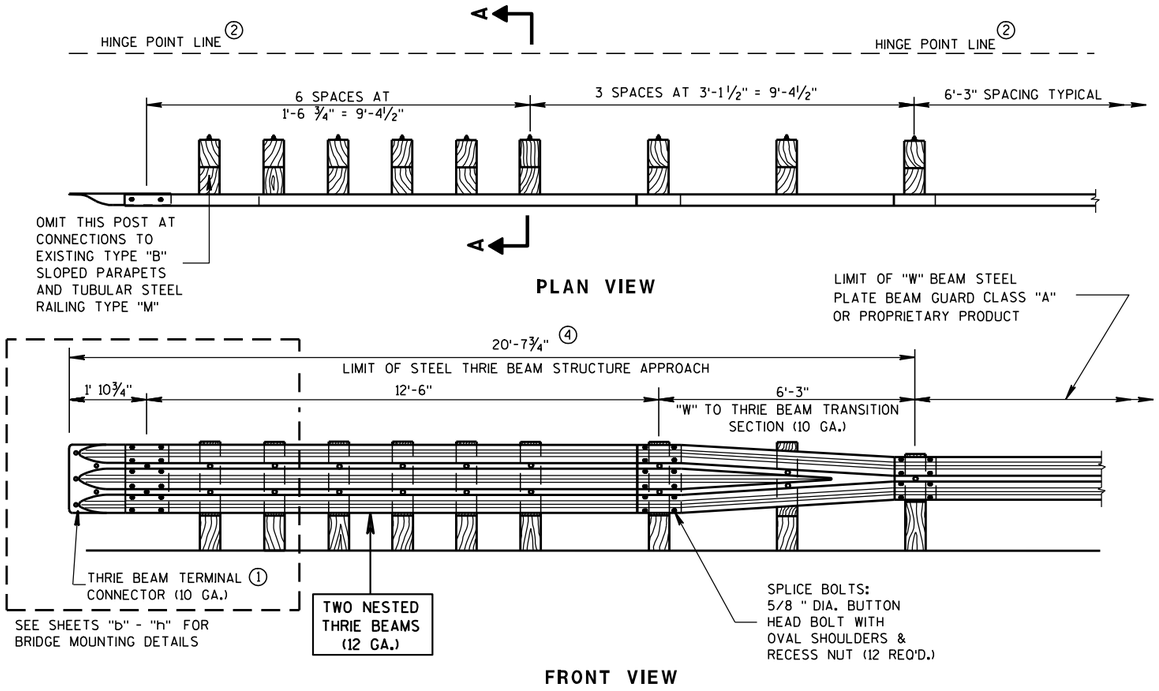
APPROVED

2-8-2012 DATE — /S/ Jerry H. [illegible] ROADWAY STANDARDS ENGINEER — [illegible]ENT

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S.D.D. 14 B 20-10h



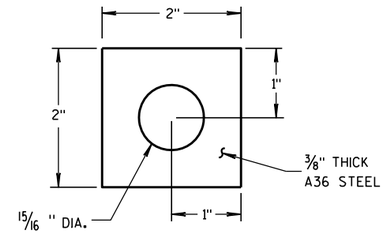


PLATE WASHER DETAIL

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

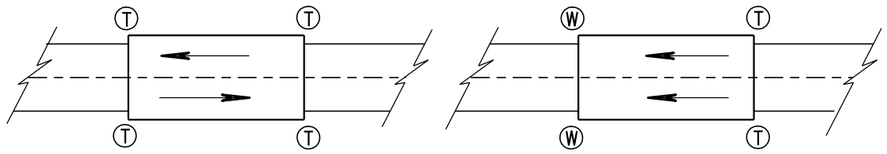
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



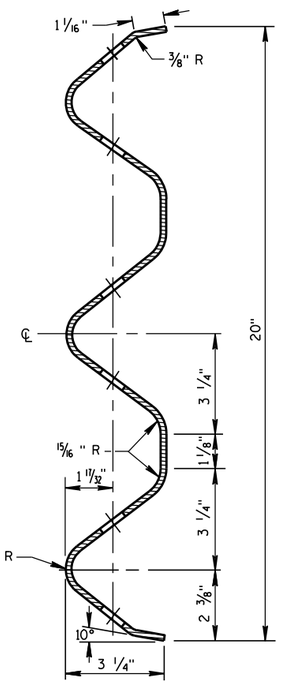
TWO WAY TRAFFIC

ONE WAY TRAFFIC

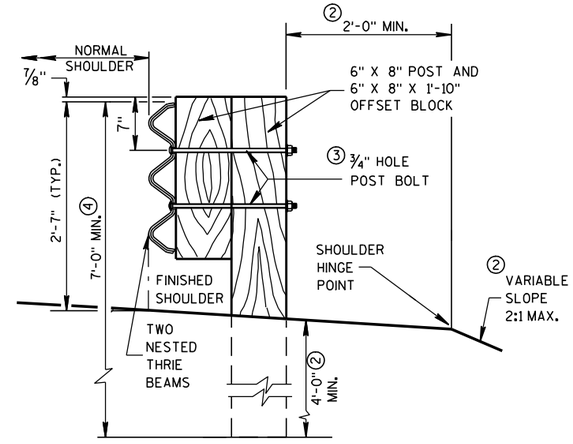
(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

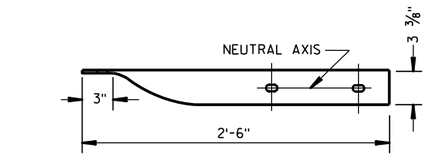
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

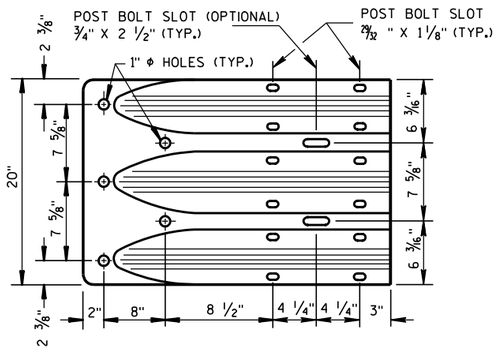


SECTION THRU THRIE BEAM RAIL ELEMENT

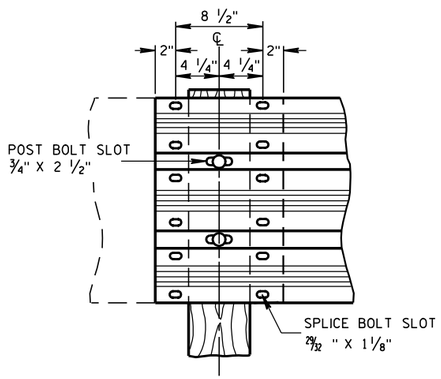


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

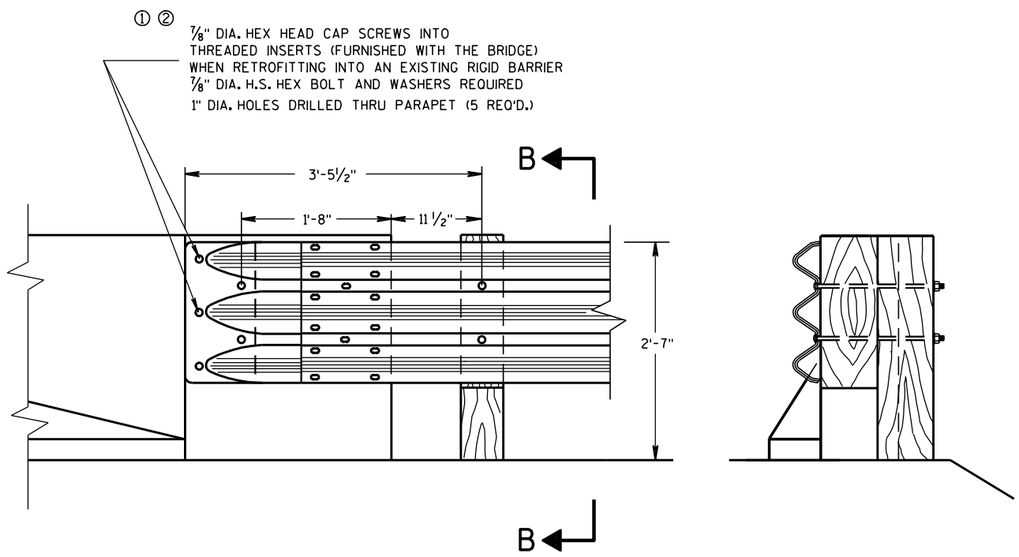
STATE OF WISCONSIN
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APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

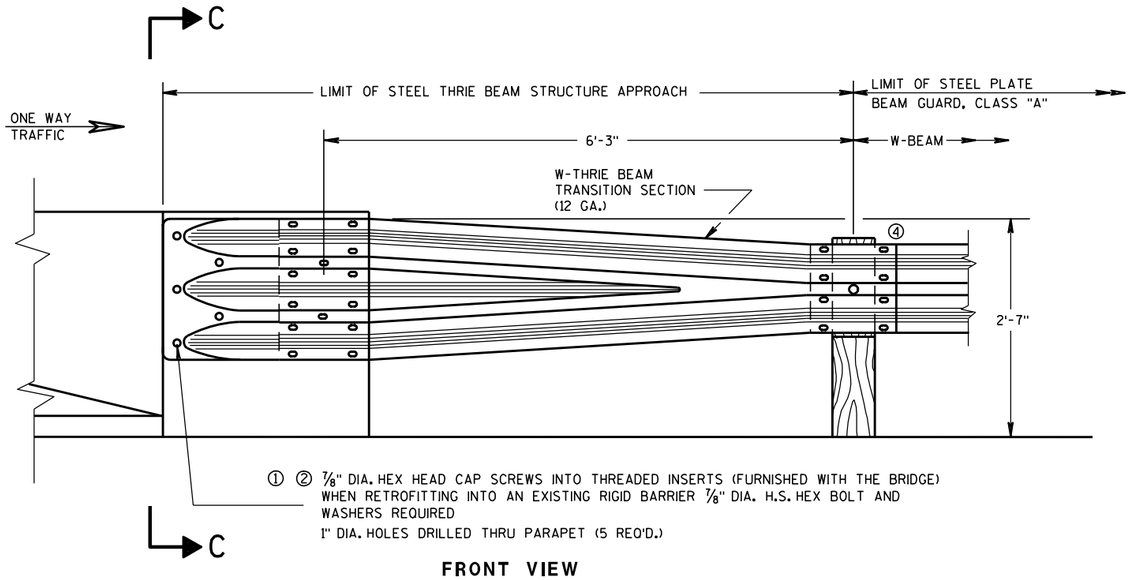
FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

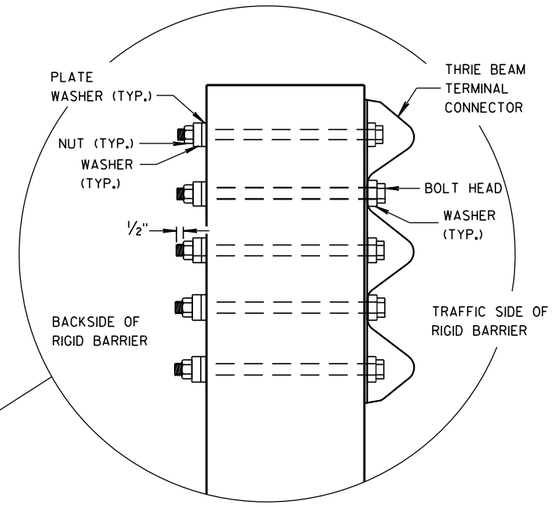
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

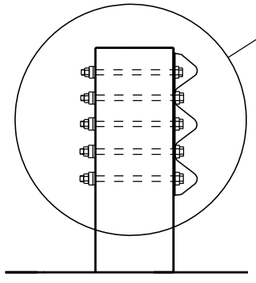
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





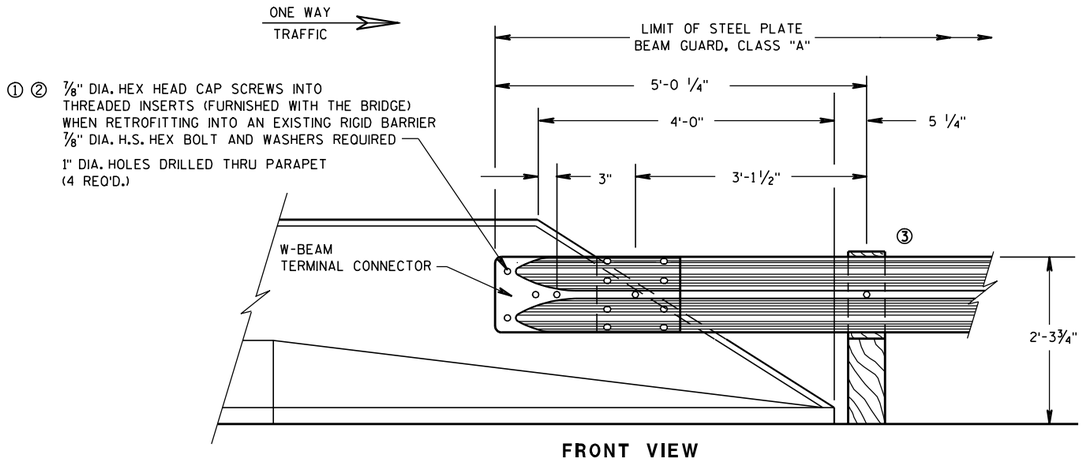
SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [365
ENGINEER
FHWA

6
S.D.D. 14 B 20-11b



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

GENERAL NOTES

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

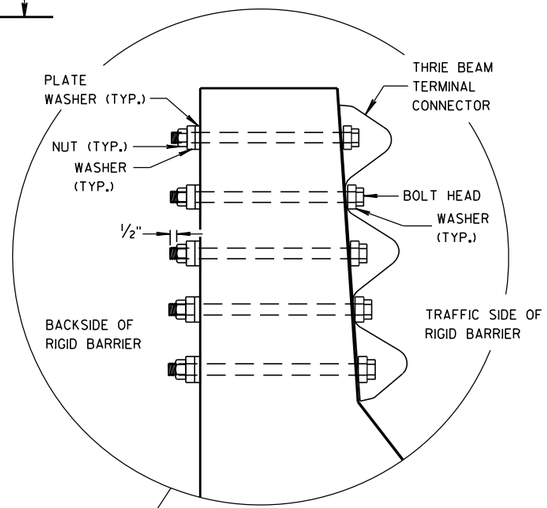
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

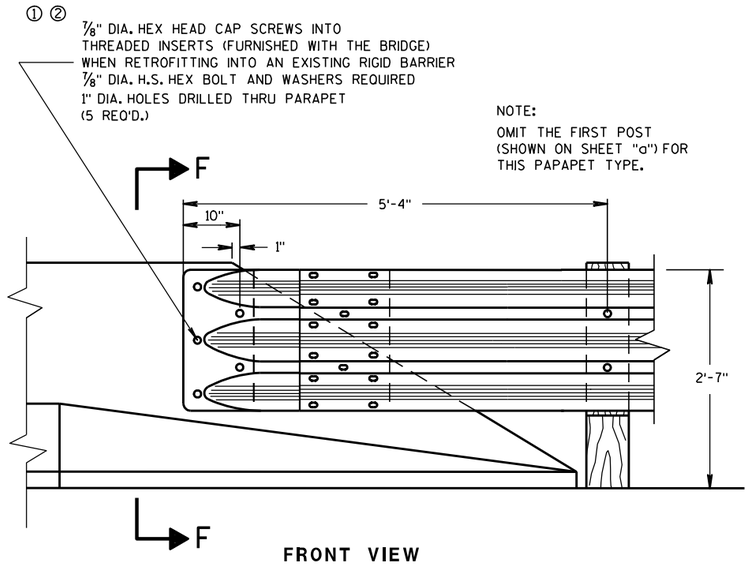
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR.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

③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

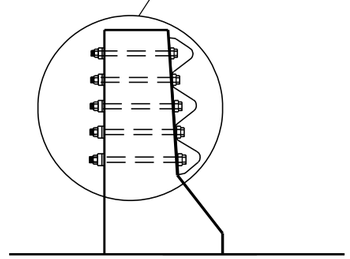
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

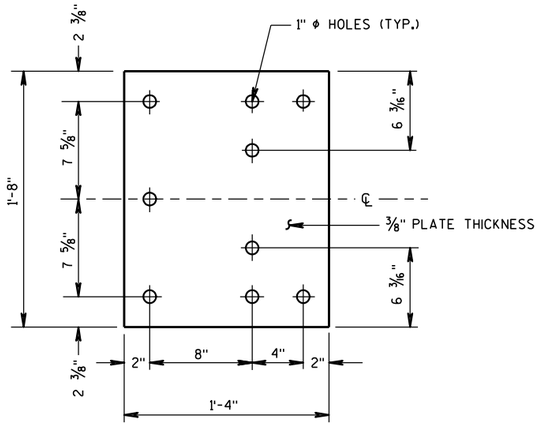
THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

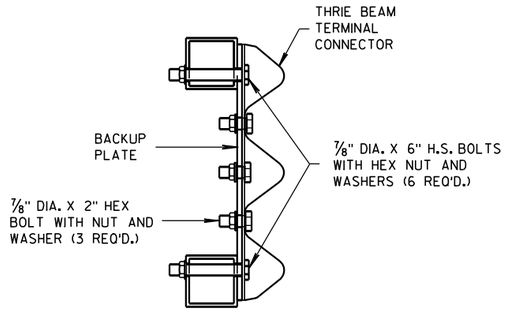
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER
FHWA

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S.D.D. 14 B 20-11d



BACK-UP PLATE DETAIL



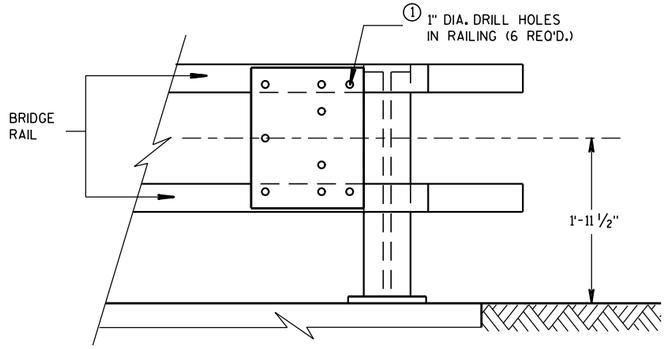
SECTION G-G

GENERAL NOTES

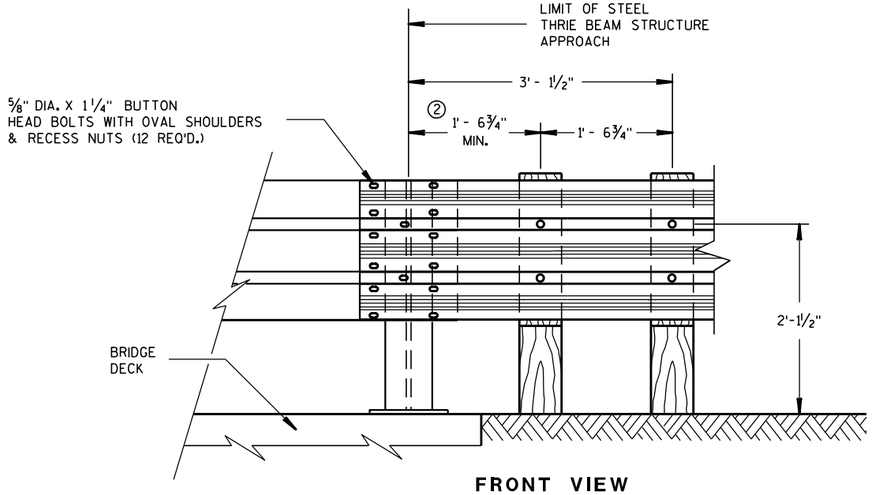
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

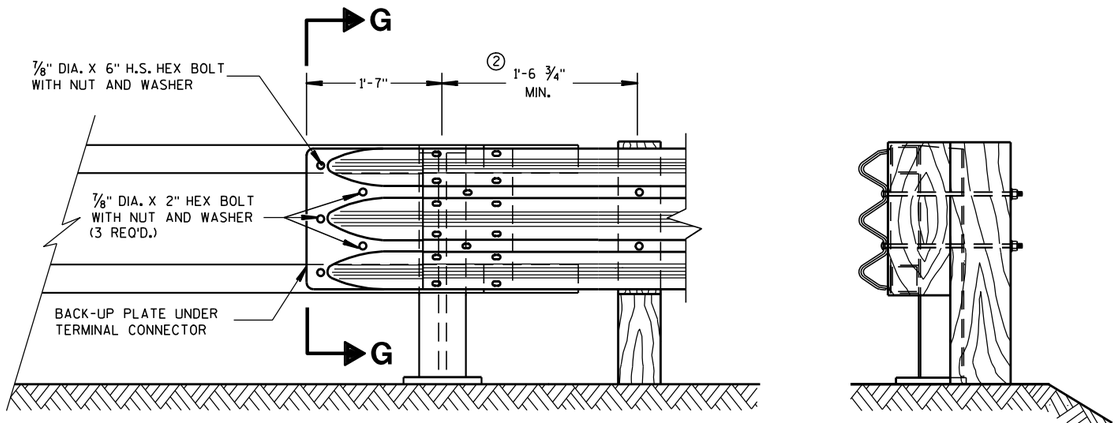


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW

END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H ____ — ROADWAY STANDARDS ENGINEER

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FHWA

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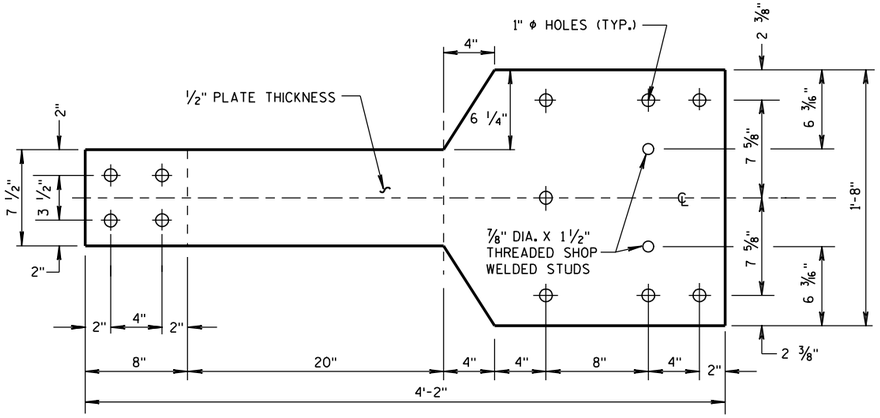
S.D.D. 14 B 20-11e

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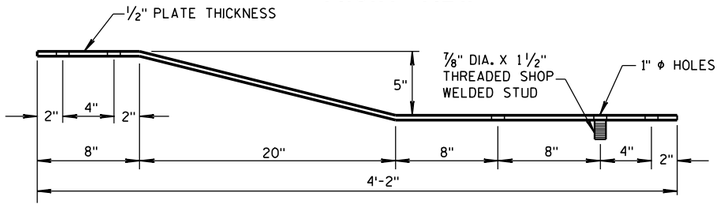
S.D.D. 14 B 20-11e

GENERAL NOTES

① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.

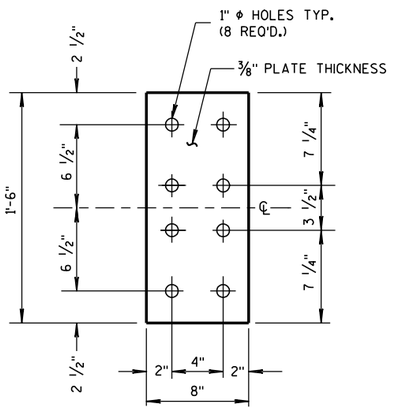


FRONT VIEW



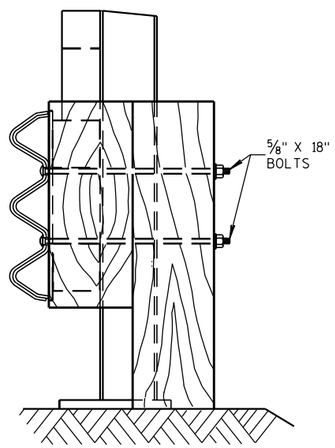
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

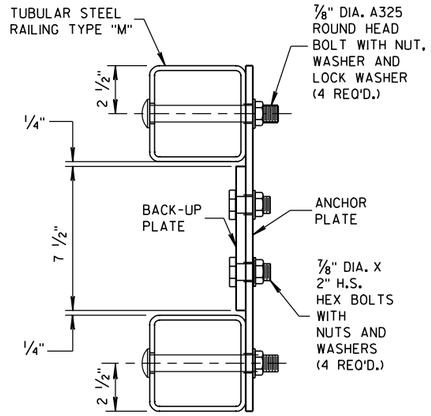


FRONT VIEW

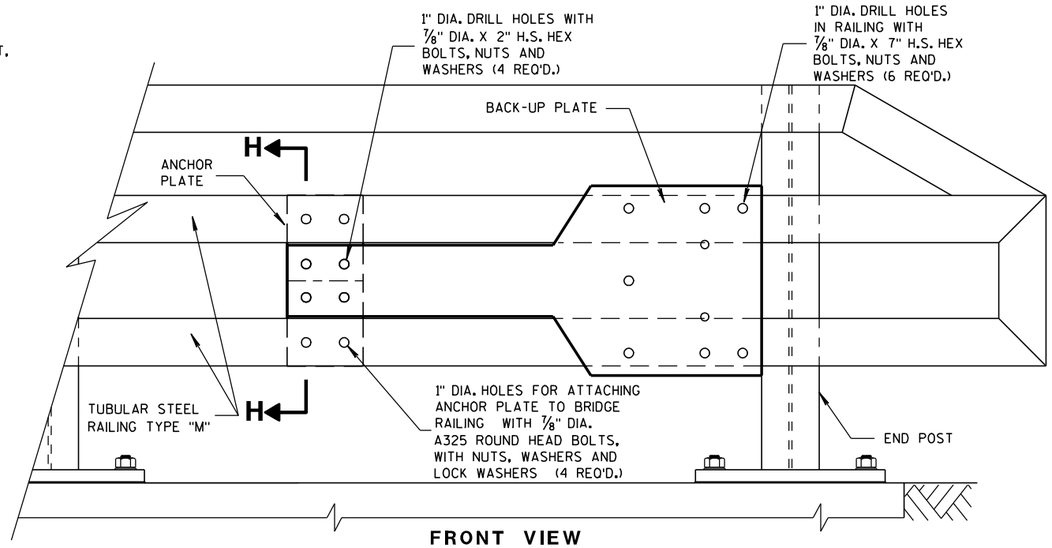
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I

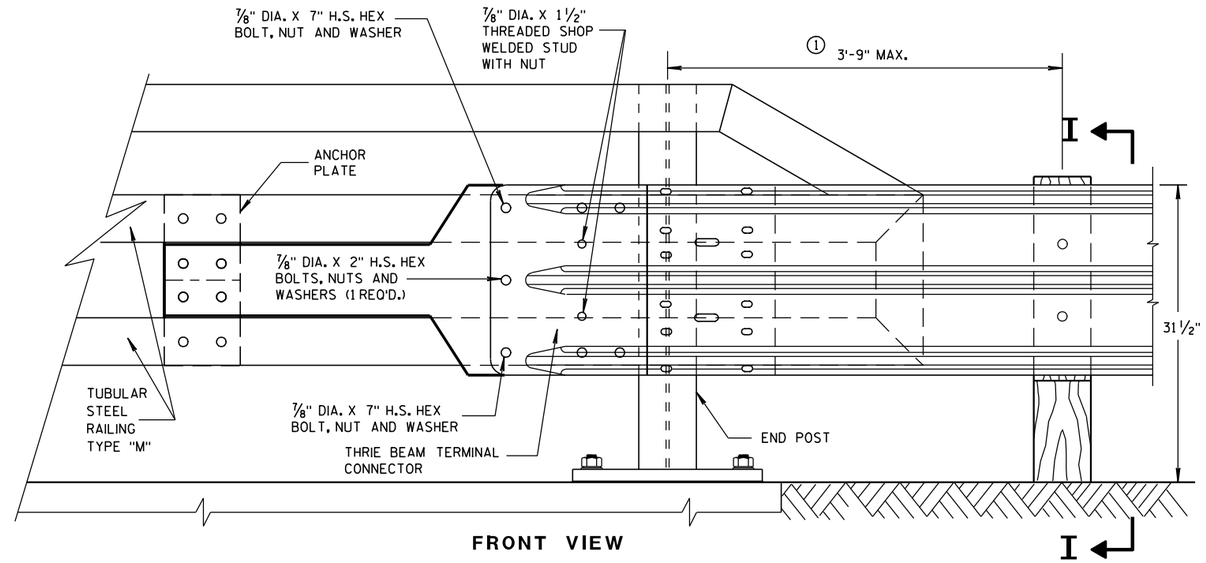


SECTION H-H

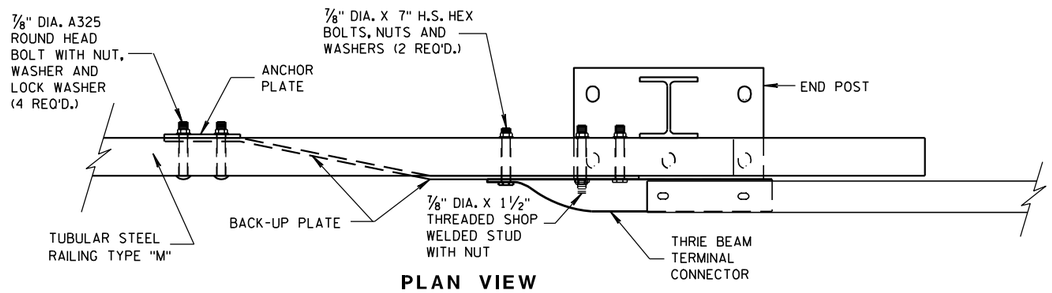


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

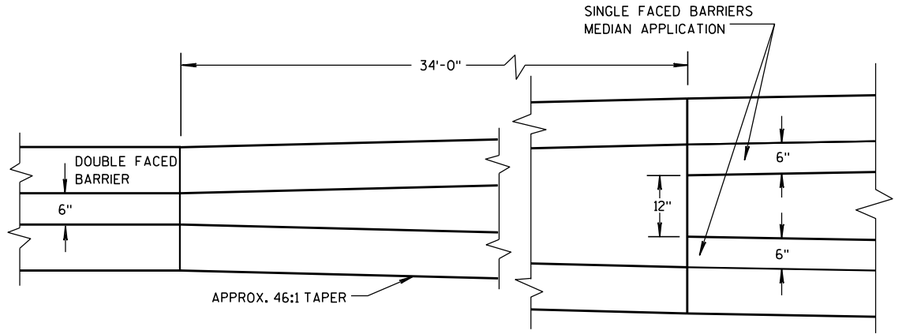
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

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S.D.D. 14 B 20-11f



PLAN VIEW

TRANSITION DETAILS OF DOUBLE FACED TO SINGLE FACED CONCRETE MEDIAN BARRIER

(FOOTINGS ARE NOT SHOWN)

GENERAL NOTES

SPLICES OF LONGITUDINAL BARS SHALL BE MADE WITH BARS LAPPED AT LEAST 18-INCHES AND FIRMLY TIED OR FASTENED TOGETHER.

ALL BAR STEEL REINFORCEMENT SHALL CONFORM TO REQUIREMENTS OF AASHTO M31, GRADE 60.

(1) BARRIER SHALL BE INSTALLED ON A CONCRETE SHOULDER INSTEAD OF THE CONCRETE FOOTING WHEN SPECIFIED OR SHOWN ELSEWHERE IN CONTRACT.

(2) OPENINGS FOR DRAINAGE SHALL BE PLACED AT LOW POINTS OF VERTICAL CURVES OR WHERE DIRECTED BY THE ENGINEER.

(3) ¾-INCH BEVEL OR 1-INCH RADIUS (TYPICAL).

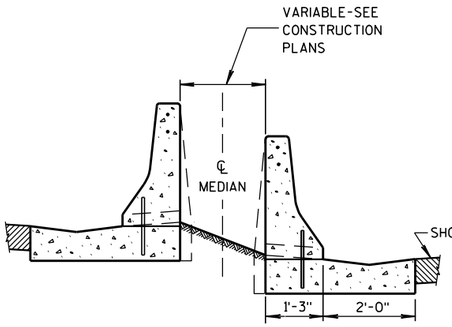
(4) NO. 4 BARS SHALL BE CONTINUED THROUGH CONSTRUCTION JOINTS.

(5) EXPANSION JOINTS SHALL BE PLACED AT EXISTING EXPANSION JOINTS IN THE PAVEMENT AND AT STRUCTURES. SEE REINFORCEMENT AT BARRIER END DETAIL.

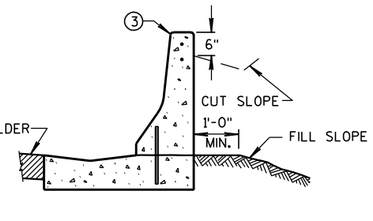
(6) SAWED CONTRACTION JOINTS SHALL BE PROVIDED ACROSS THE FULL WIDTH OF THE BARRIER FOOTING, AND IN FRONT, TOP AND BACK FACE OF THE BARRIER AT EXISTING PAVEMENT JOINTS AND AT UNIFORM INTERVALS BETWEEN WITH A MAXIMUM SPACING OF 25 FEET.



HIGH SIDE
CONCRETE BARRIER DETAIL

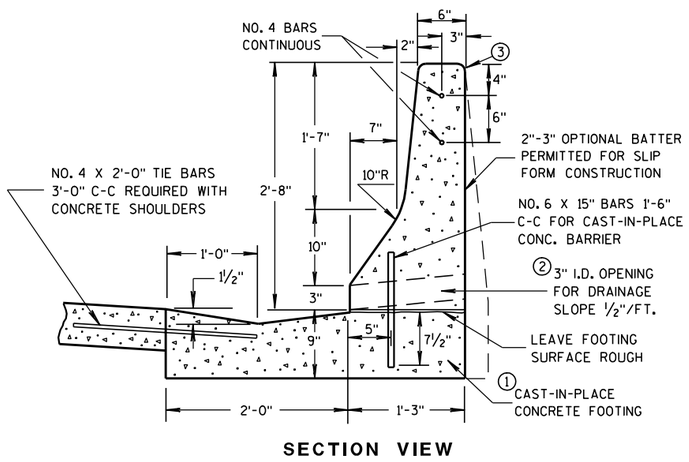


MEDIAN

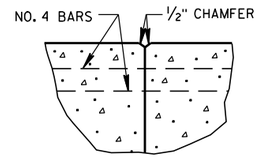


SHOULDER

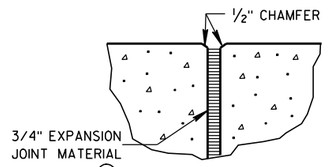
TYPICAL APPLICATIONS



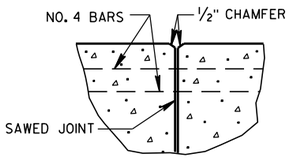
SECTION VIEW



④**CONSTRUCTION JOINT**



⑤**EXPANSION JOINT**



⑥**CONTRACTION JOINT**

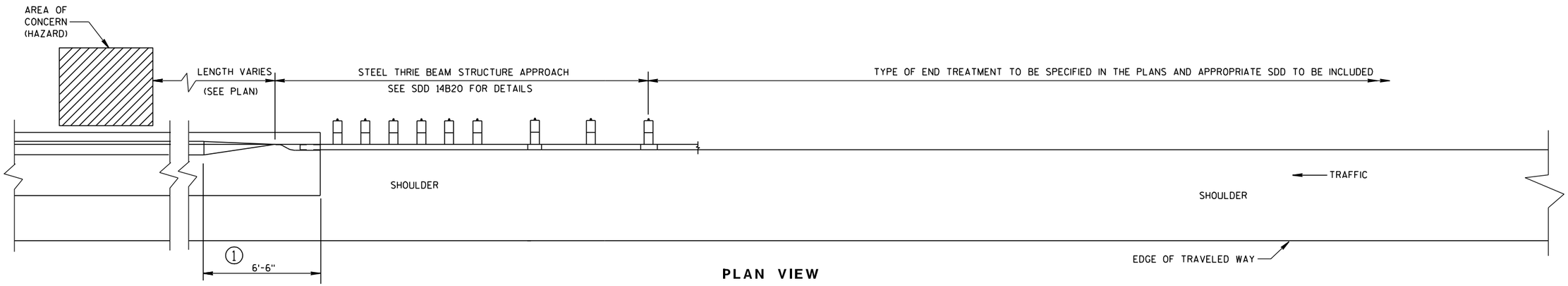
JOINT DETAILS

CONCRETE BARRIER
SINGLE-FACED
(WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

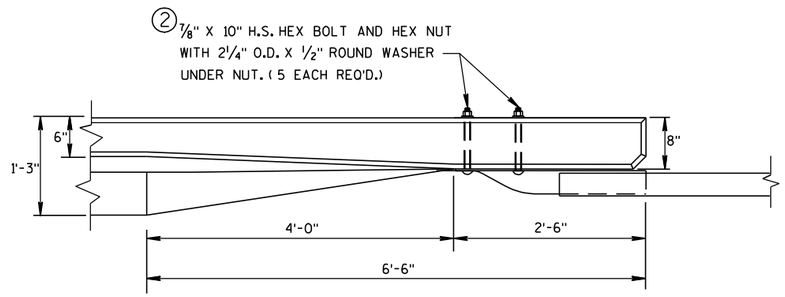
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S.D.D. 14 B 22-5a

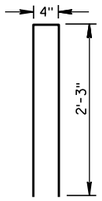


PLAN VIEW

TRANSITION TO STEEL PLATE BEAM GUARD AND END TERMINAL



PLAN VIEW

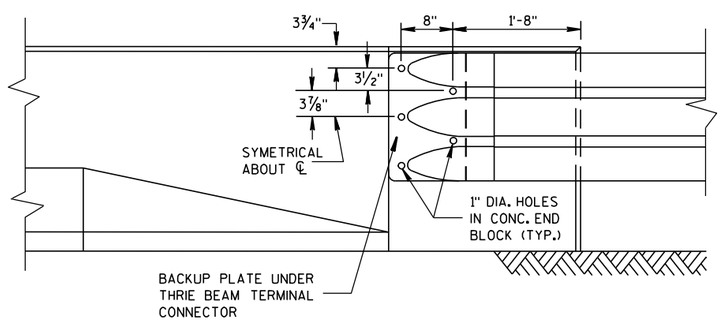


BENT BAR DETAIL

GENERAL NOTES

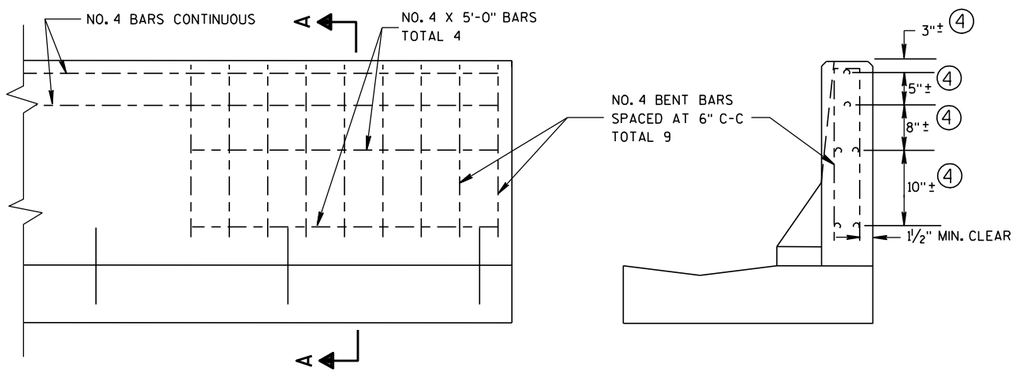
1. A SPECIAL END IS REQUIRED ON THE CONCRETE BARRIER TO TRANSITION TO A CONNECTION WITH THE STEEL THRIE BEAM STRUCTURE APPROACH. SEE THE DETAILS ON THIS SHEET.
2. HIGH STRENGTH BOLTS SHALL MEET REQUIREMENTS OF ASTM A325.
3. REINFORCEMENT REQUIRED AT EXPANSION JOINTS AND WHERE CONCRETE BARRIER IS TERMINATED.
4. PLACE REINFORCEMENT SUCH THAT IT WILL NOT CONFLICT WITH THE BOLT HOLES IN THE THRIE BEAM TERMINAL CONNECTOR.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



FRONT VIEW

CONCRETE BARRIER TRANSITION TO THRIE BEAM



FRONT VIEW **SECTION A-A**

3 REINFORCEMENT AT BARRIER END

CONCRETE BARRIER, SINGLE-FACED (WITH ANCHORAGE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

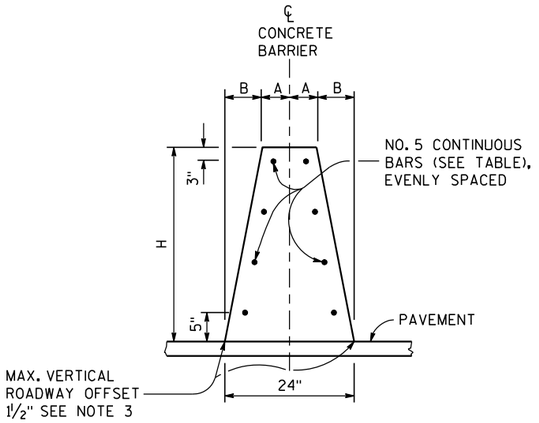
4/12/10 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

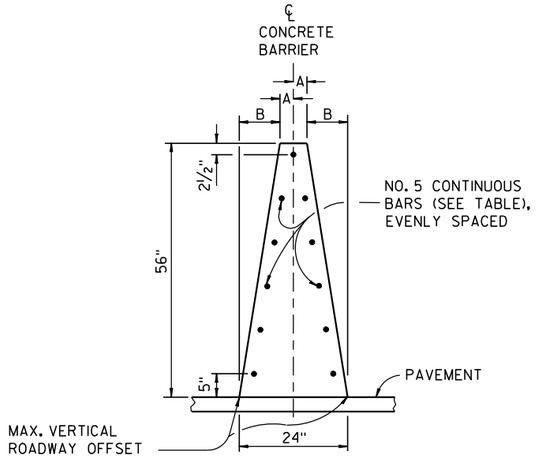
FHWA

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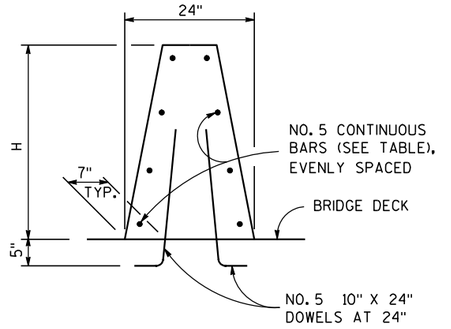
S.D.D. 14 B 22-5b



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

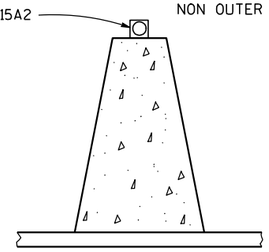
NON OUTER PARAPET APPLICATION

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.

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

SEE STANDARD DETAIL DRAWING 15A2 FOR DELINEATOR DETAILS



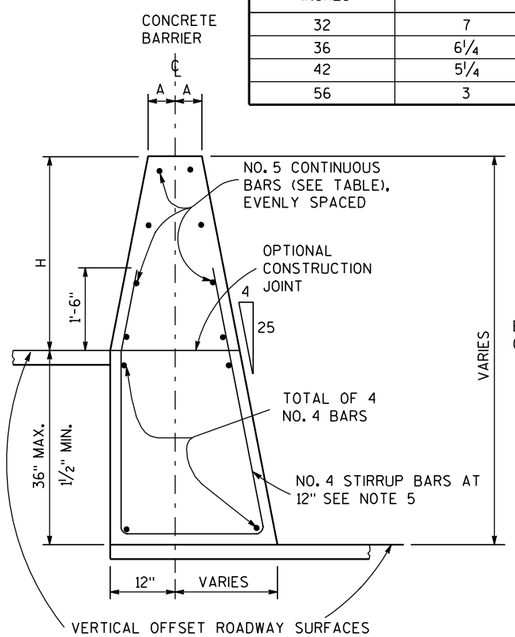
DELINEATION

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

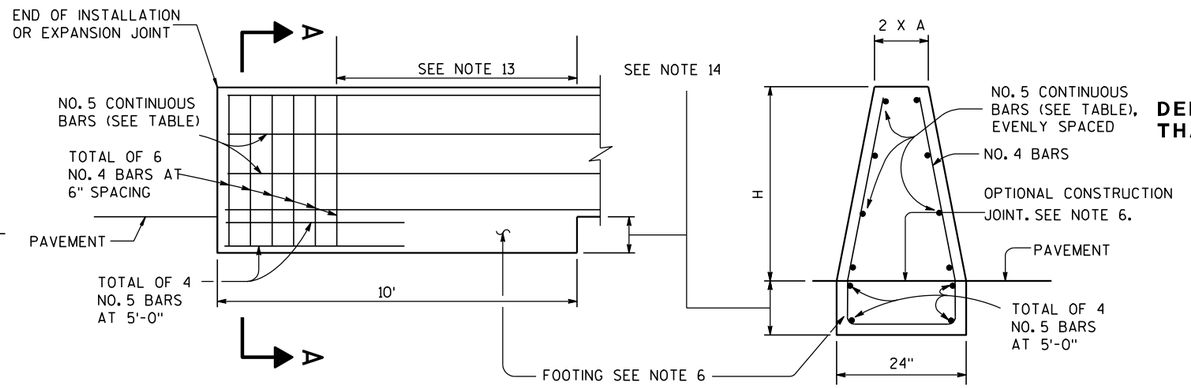
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	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	



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

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

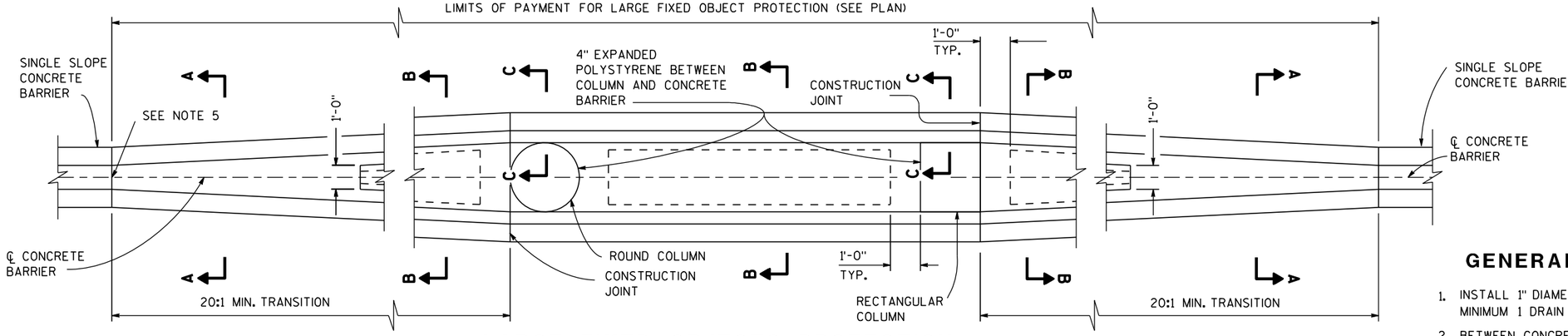
AT CONSTRUCTION JOINT

SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

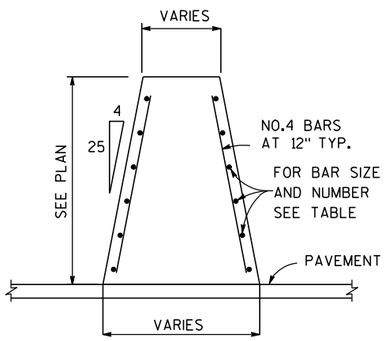
6
S.D.D. 14 B 32-1a



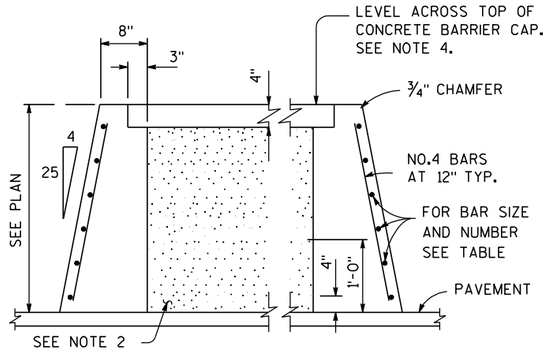
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

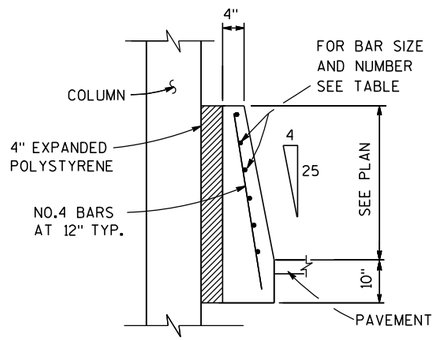
1. INSTALL 1" DIAMETER DRAIN PIPE EVERY 20' OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH GRANULAR BACKFILL GRADE 2
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET 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.



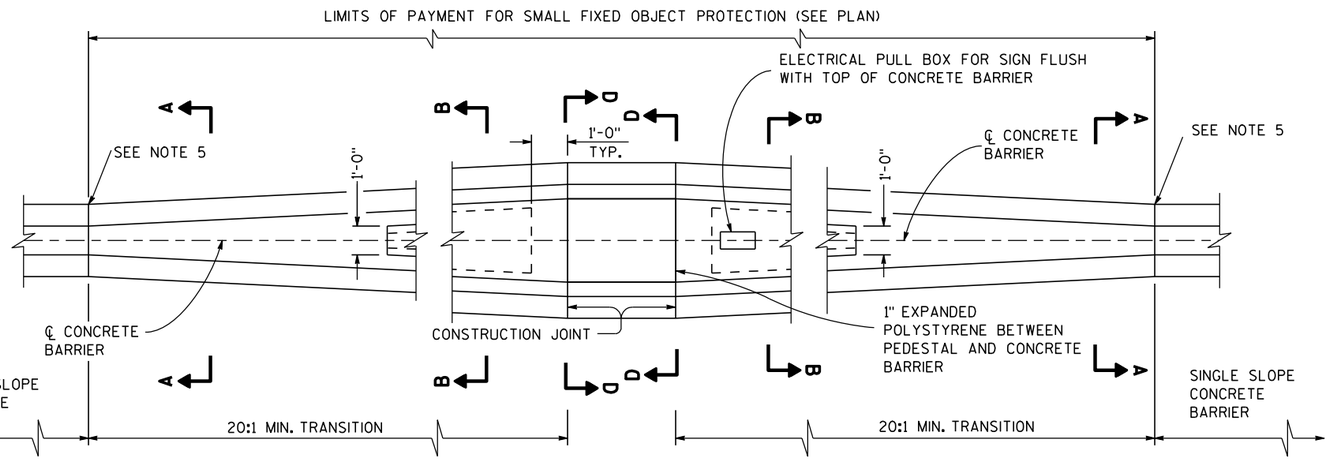
SECTION A-A



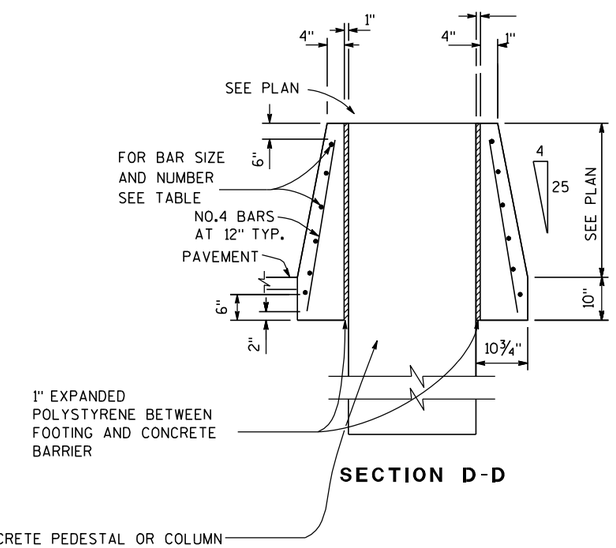
SECTION B-B



SECTION C-C



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



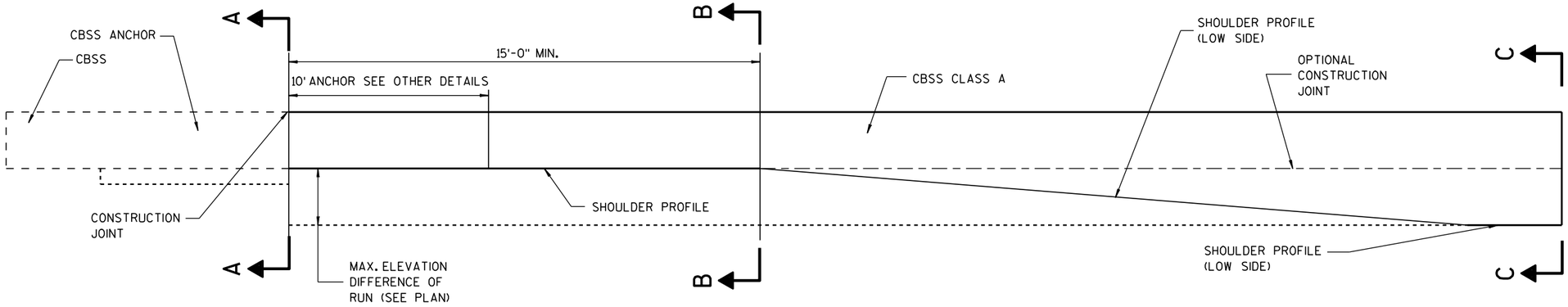
SECTION D-D

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

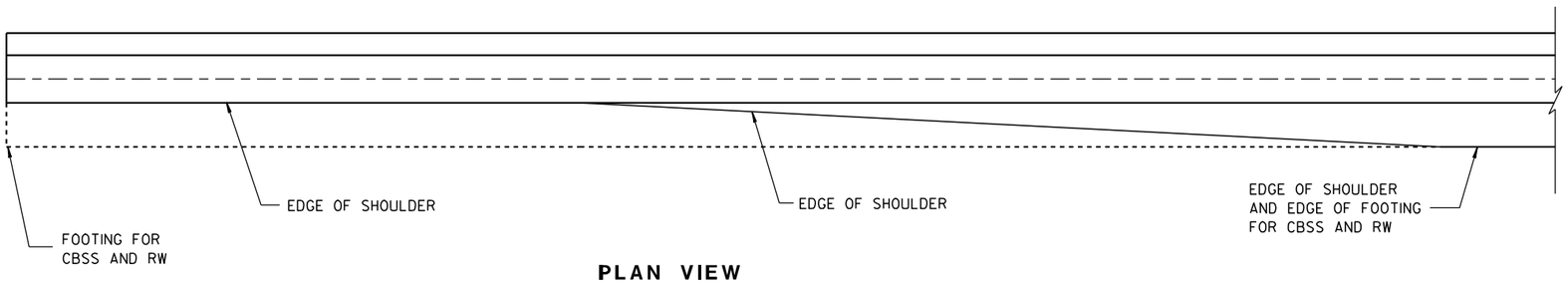
CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

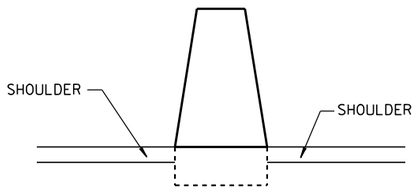
6
S.D.D. 14 B 32-1b



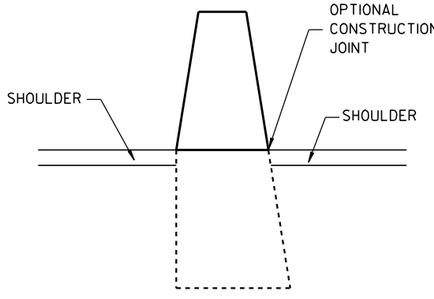
ELEVATION VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



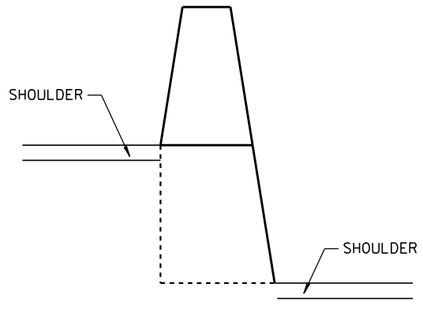
PLAN VIEW
TRANSITION TO CBSS CLASS A
(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)



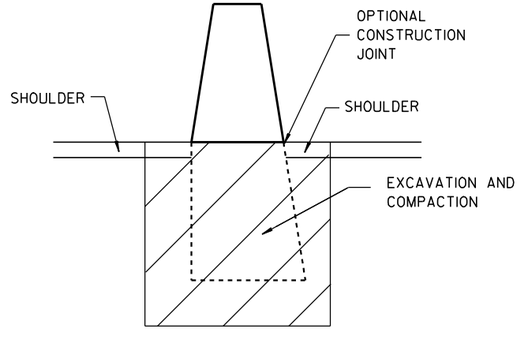
SECTION A-A



SECTION B-B



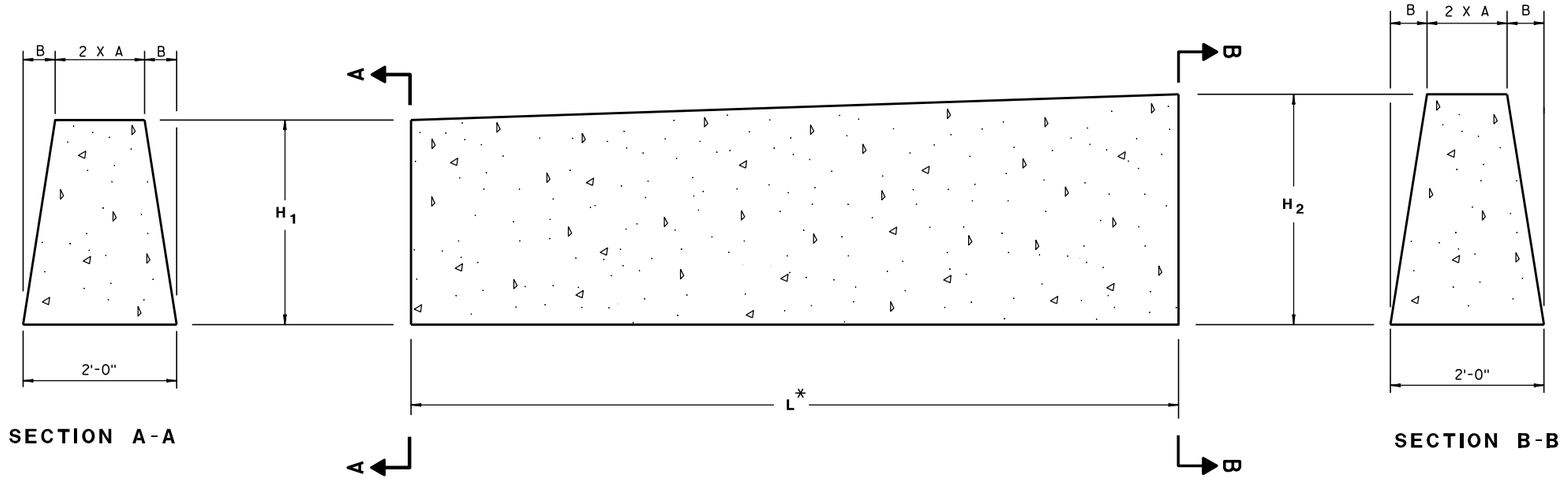
SECTION C-C



CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



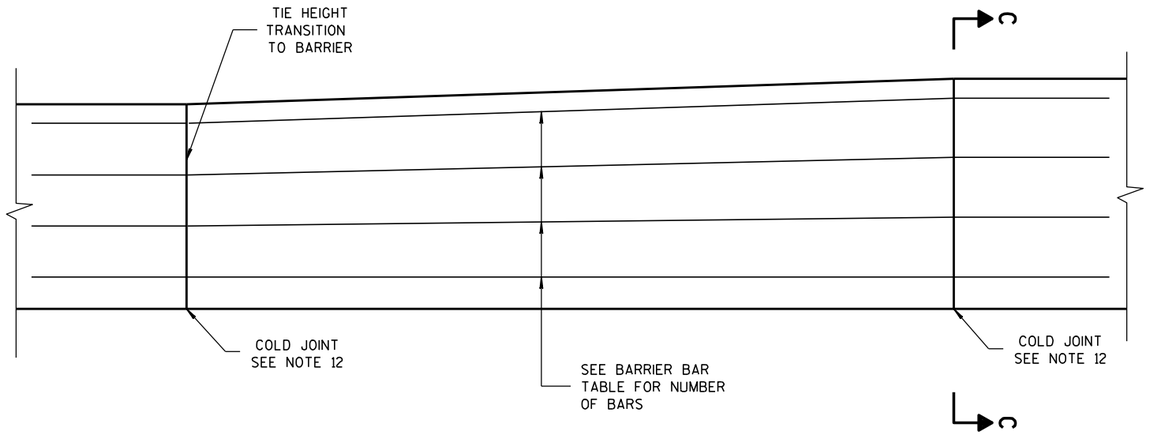
DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

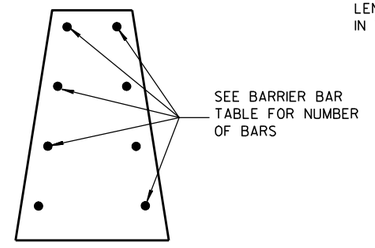
BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

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

374

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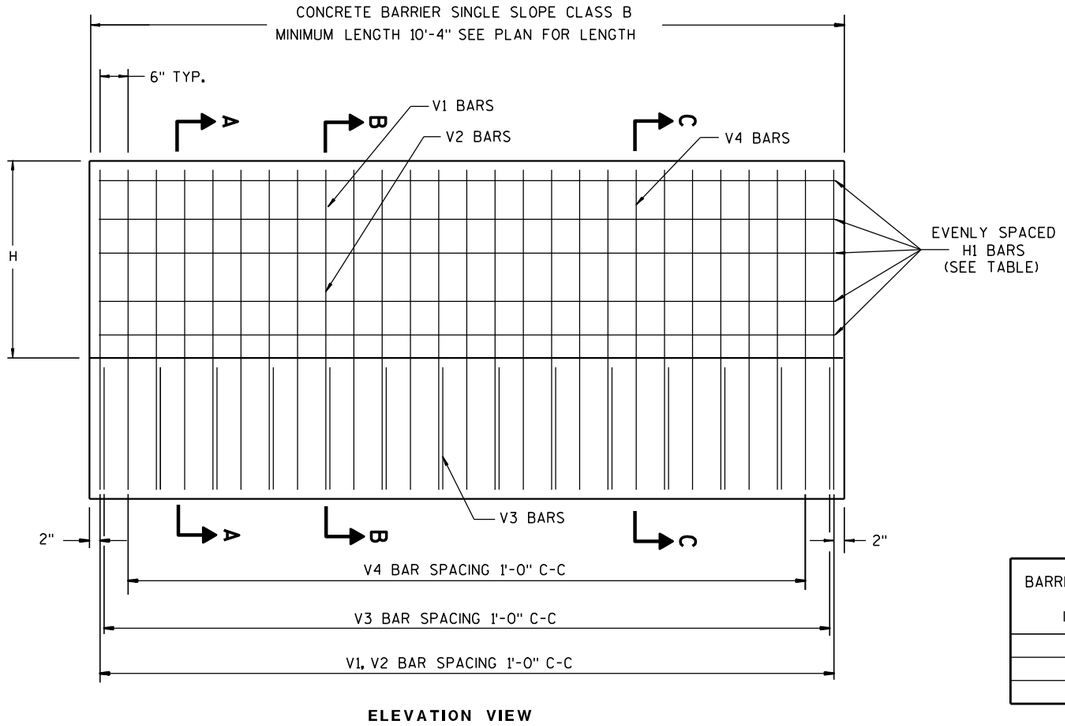
FHWA

6

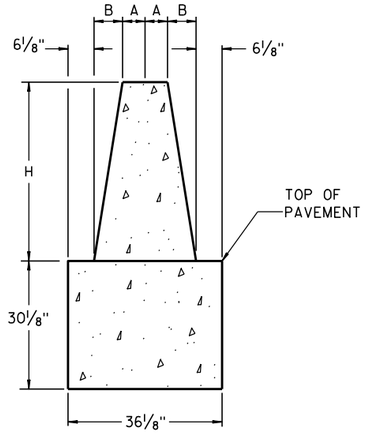
S.D.D. 14 B 32-1d

6

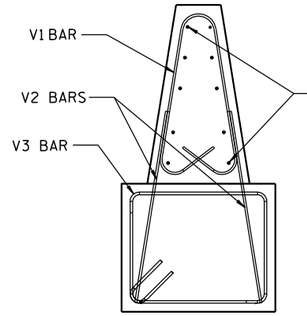
S.D.D. 14 B 32-1d



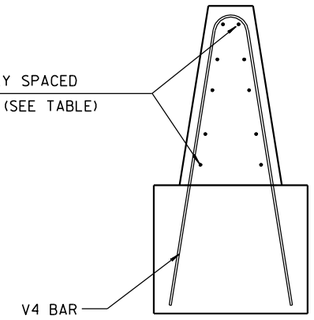
ELEVATION VIEW



SECTION A-A



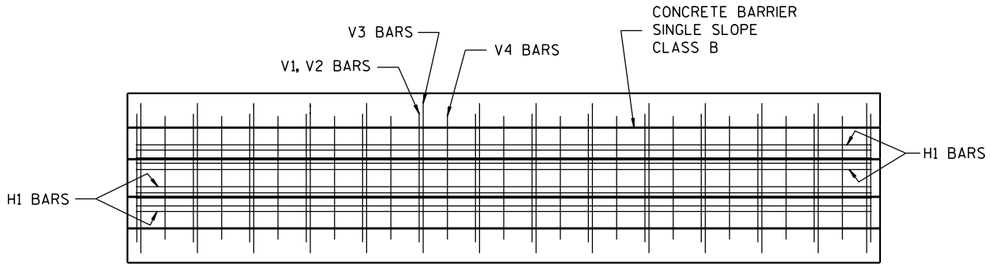
SECTION B-B



SECTION C-C

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF H1 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10

BARRIER HEIGHT H INCHES	V1 BAR		V4 BAR	
	C RAD. INCHES	D INCHES	E RAD. INCHES	F INCHES
32	5⅝	18¾	5½	53¾
36	4¾	23¾	4⅞	58⅜
42	3⅝	30½	3⅝	65⅜



PLAN VIEW

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

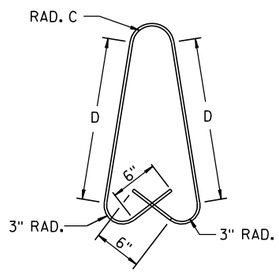
WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.

PAVEMENT AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL

PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.

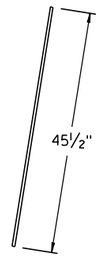
WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.

IF REQUIRED USE THRIE BEAM ANCHOR. NO OTHER ANCHOR REQUIRED.



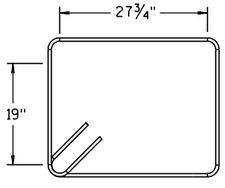
V1 BAR BENDING DETAIL

V1 BARS ARE NO. 4 BARS



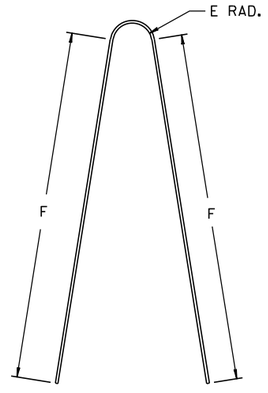
V2 BAR BENDING DETAIL

V2 BARS ARE NO. 5 BARS



V3 BAR BENDING DETAIL

V3 BARS ARE NO. 6 BARS



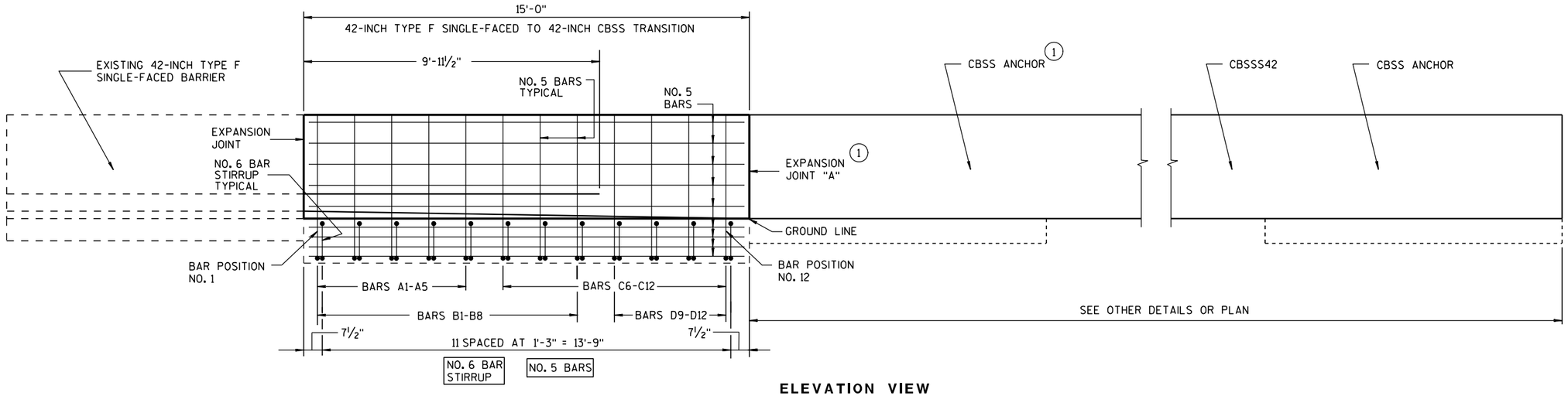
V4 BAR BENDING DETAIL

V4 BARS ARE NO. 6 BARS

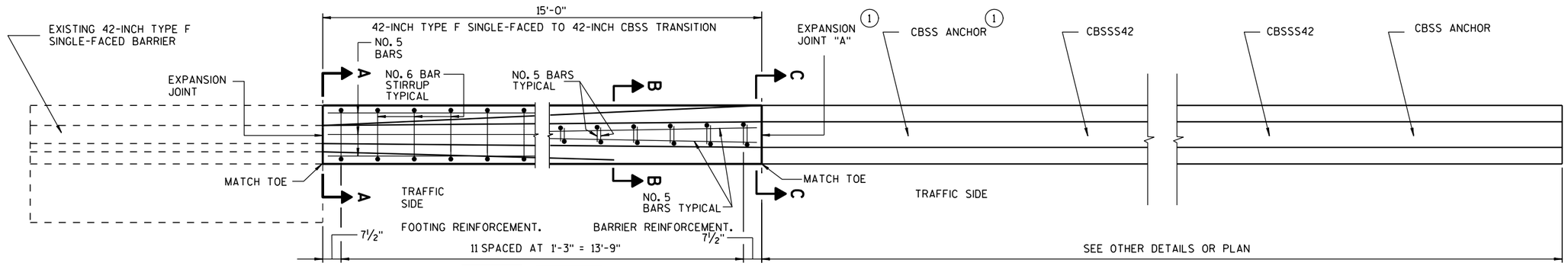
32", 36" & 42"
CONCRETE BARRIER
SINGLE SLOPE CLASS B

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

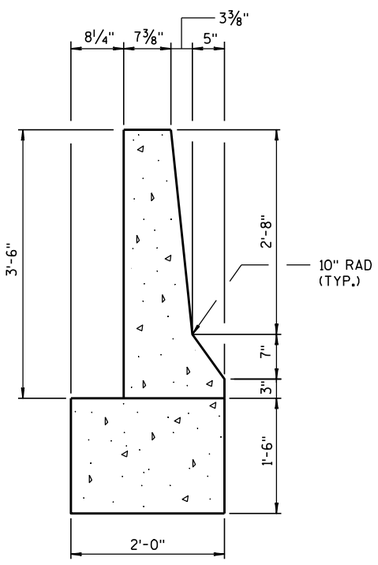
6
S.D.D. 14 B 34-1a



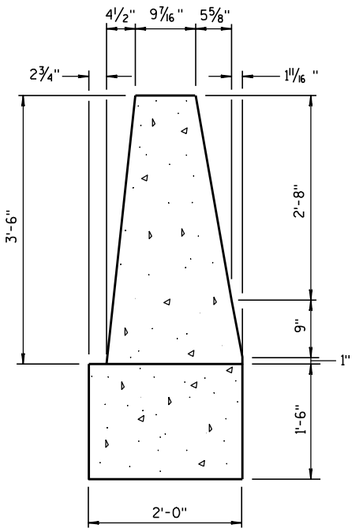
ELEVATION VIEW



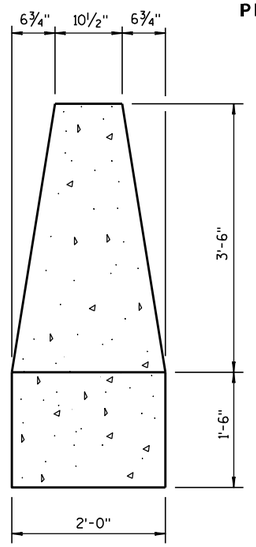
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

(2) IF COLD-JOINT IS USED ANCHORAGE NOT REQUIRED.

42-INCH SINGLE-FACED F SHAPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

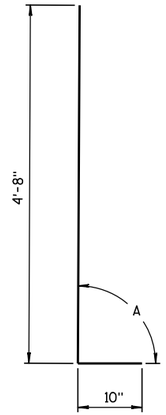
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 36-1e

"A" BAR CHART
BAR POSITIONS NO. 1 - NO. 5

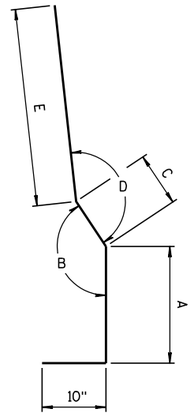
BAR	A
A1	89°-45'
A2	89°-15'
A3	88°-40'
A4	88°-05'
A5	87°-35'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 8

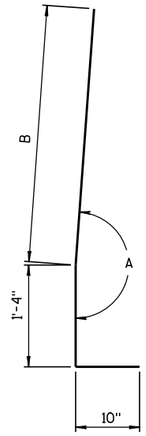
BAR	A	B	C	D	E
B1	1'-6"	146°-20'	8½"	152°-35'	2'-6½"
B2	1'-6"	149°-20'	8½"	156°-15'	2'-6⅞"
B3	1'-5½"	152°-20'	8½"	159°-30'	2'-6½"
B4	1'-5½"	155°-05'	8½"	163°-50'	2'-6½"
B5	1'-5½"	158°-55'	8½"	167°-10'	2'-6½"
B6	1'-5"	161°-50'	9"	170°-40'	2'-6½
B7	1'-5"	164°-35'	9"	173°-55'	2'-6½"
B8	1'-5"	166°-25'	8"	175°-05'	2'-8"



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

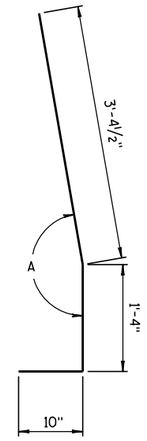
BAR	A	B
C6	175°-55'	3'-4"
C7	175°-05'	3'-4"
C8	174°-15'	3'-4"
C9	173°-35'	3'-4½"
C10	172°-45'	3'-4½"
C11	172°-05'	3'-4½"
C12	171°-15'	3'-4½"



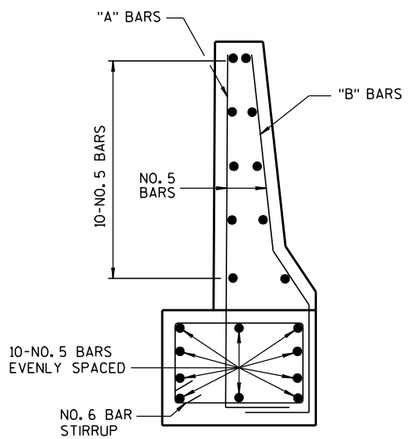
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 9 - NO. 12

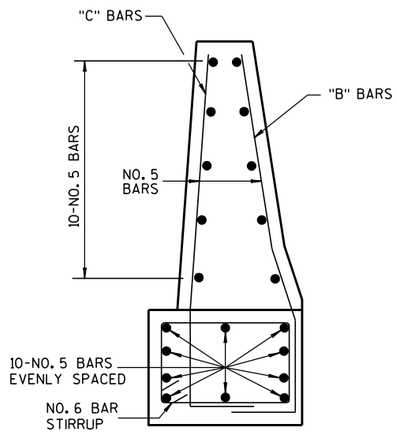
BAR	A
D9	170°-10'
D10	170°-25'
D11	170°-25'
D12	170°-50'



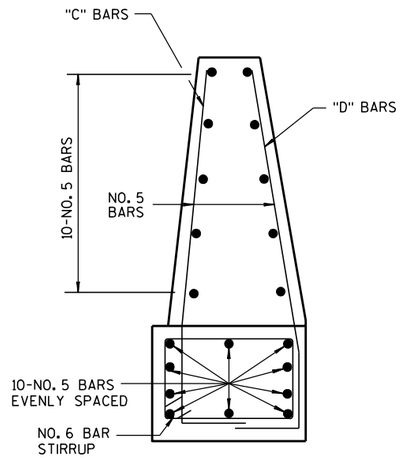
"D" BAR
BENDING DETAIL



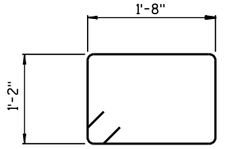
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITIONS NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

42-INCH SINGLE-FACED F SHAPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

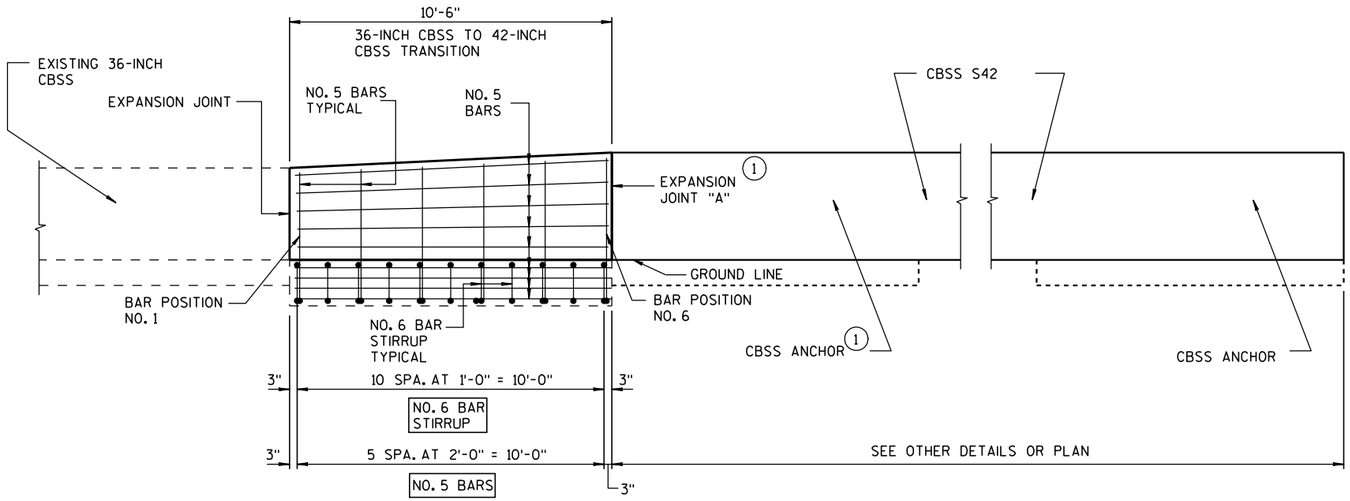
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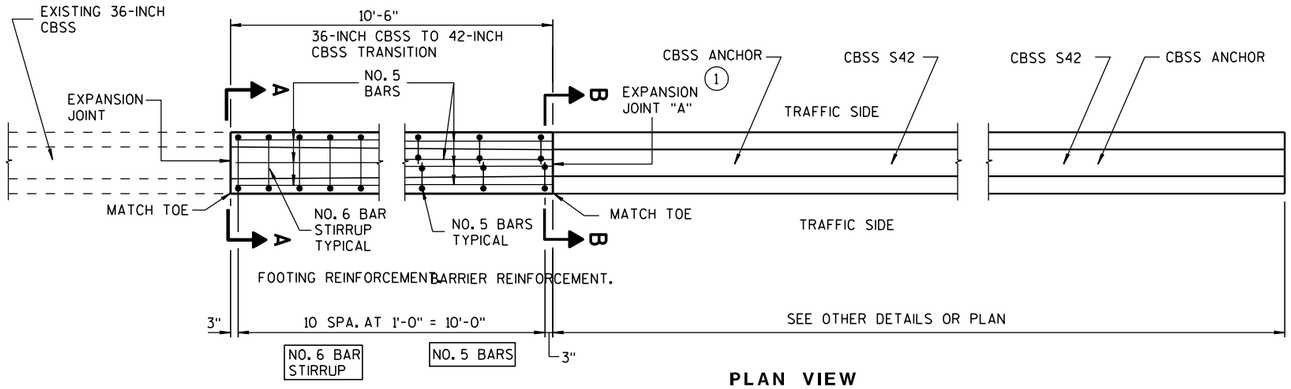
FHWA

6

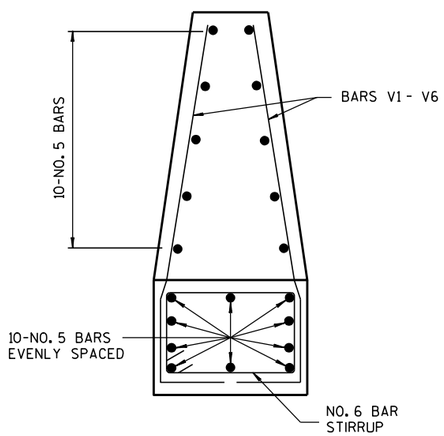
S.D.D. 14 B 36-1f



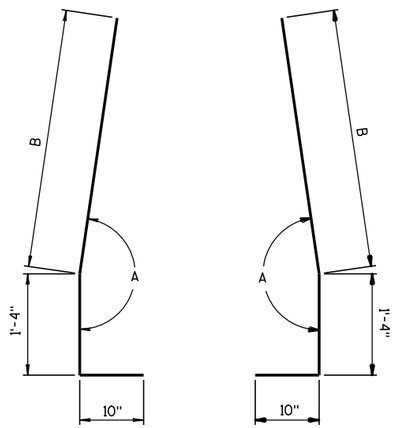
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

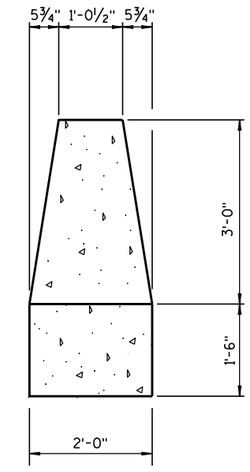
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

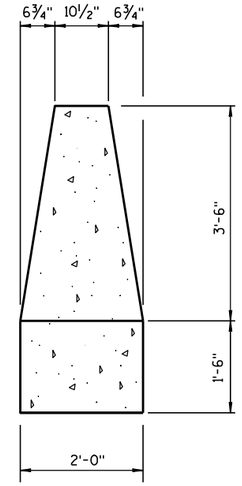
THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.



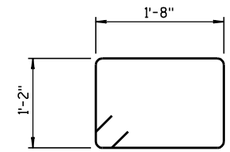
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010
DATE
/S/ Jerry H. Zoo
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 14 B 39-1c

GENERAL NOTES

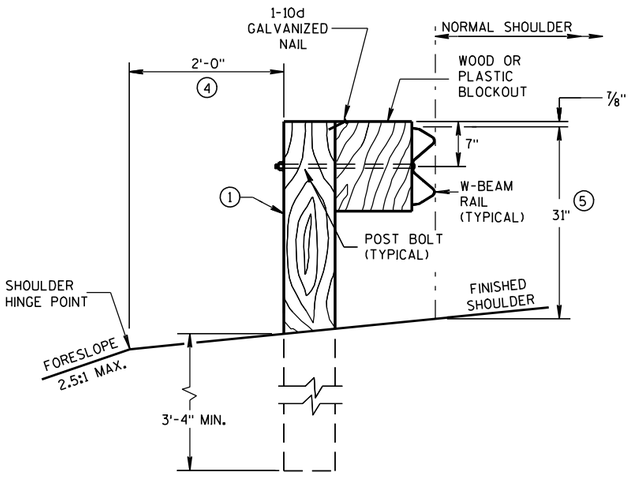
(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

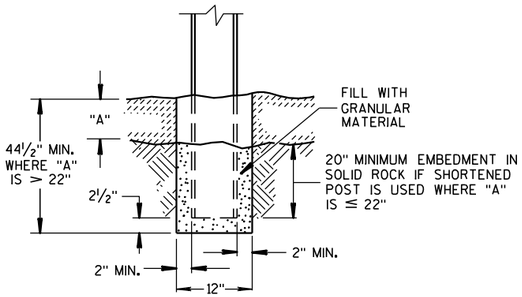
(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

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



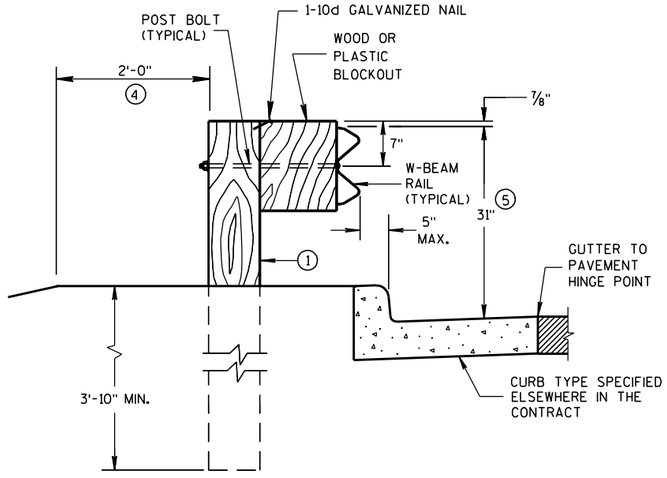
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



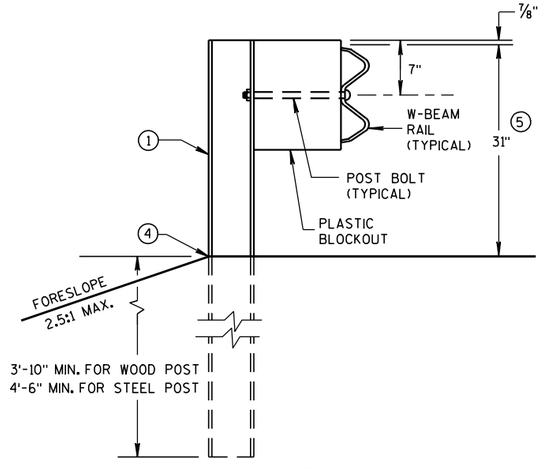
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



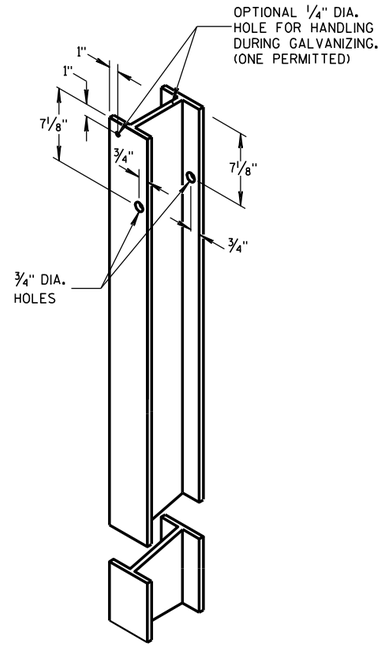
END VIEW

LOCATED ALONG A CURBED ROADWAY

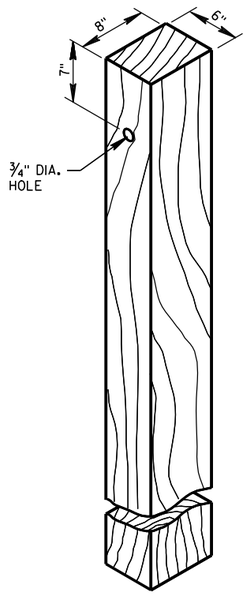


END VIEW

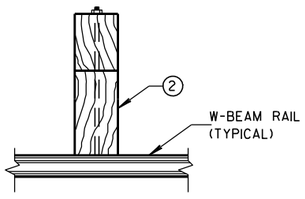
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



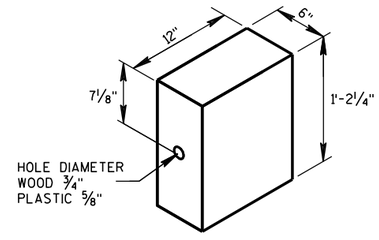
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



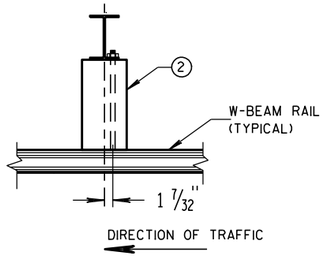
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②

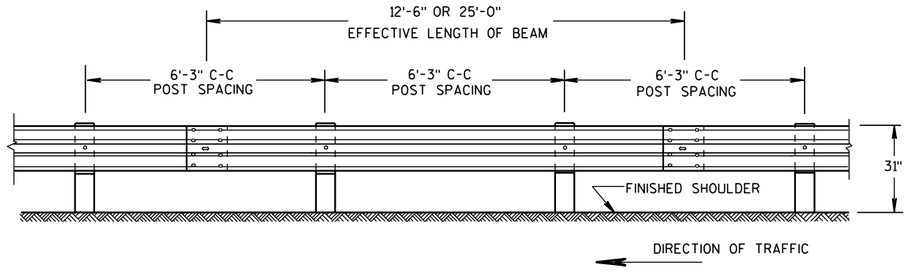


PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

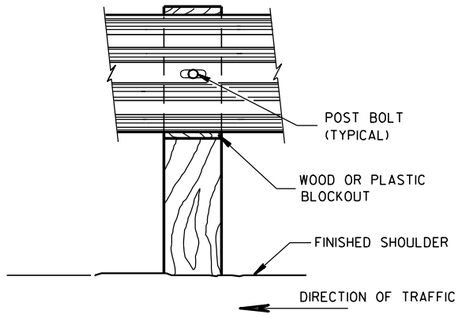
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 42-2a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



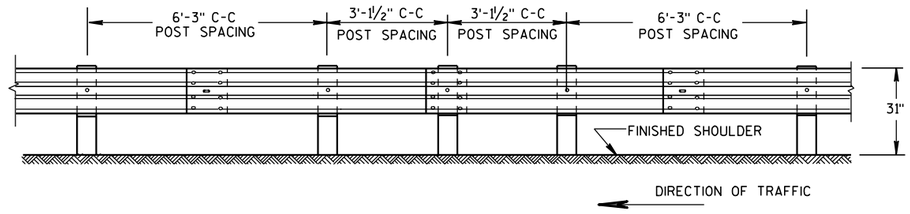
FRONT VIEW AT WOOD POST

GENERAL NOTES

1. PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
2. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
3. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
4. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.
5. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

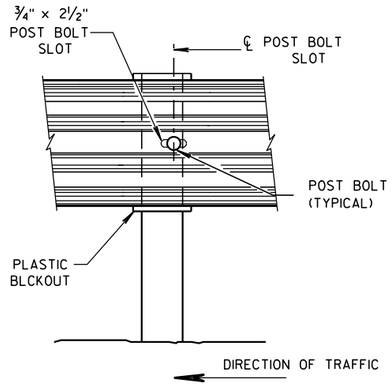
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

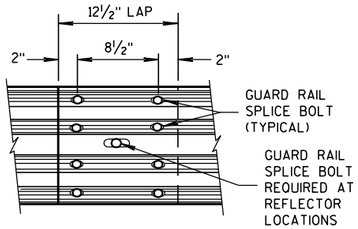


FRONT VIEW

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

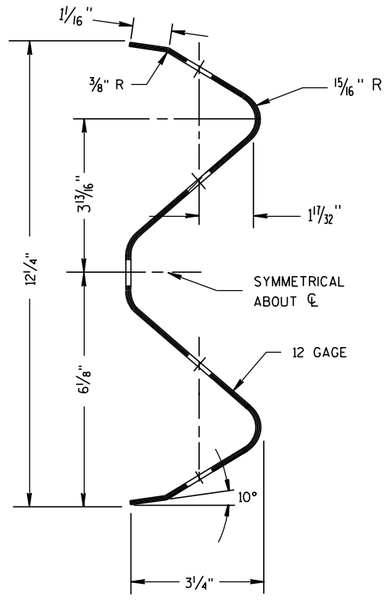


FRONT VIEW AT STEEL POST

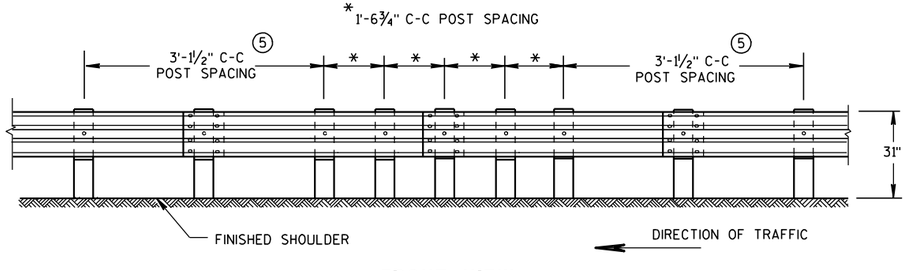


FRONT VIEW

MID-SPAN BEAM SPLICE

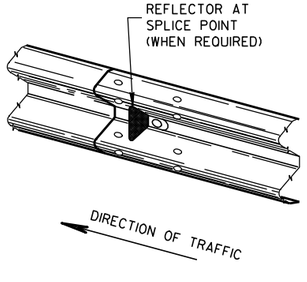


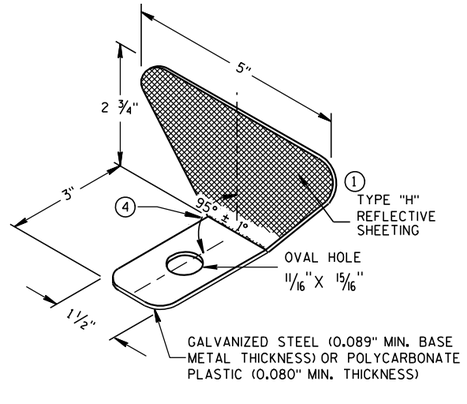
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ①

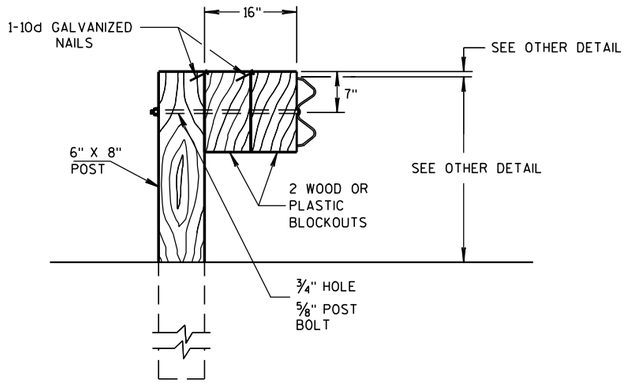
REFLECTOR SPACING ②

	BEAM GUARD LENGTH	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 ③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ④	3
	> 200'	100' C-C	2	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

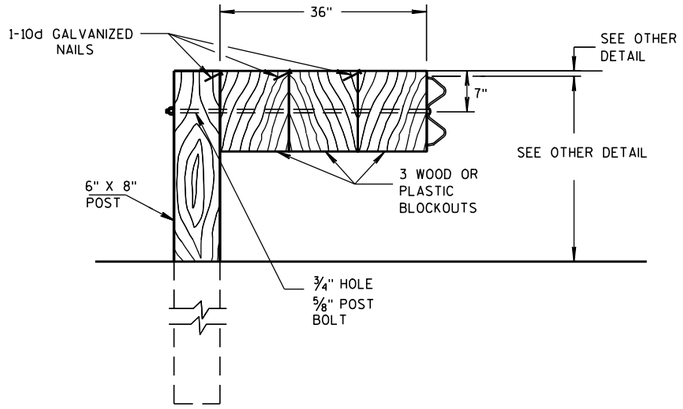
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 42-2b



DETAIL FOR 16" BLOCKOUT DEPTH

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

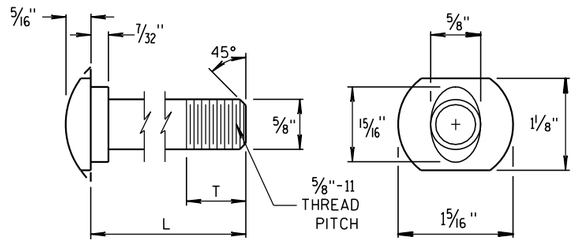


DETAIL FOR 36" BLOCKOUT DEPTH

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

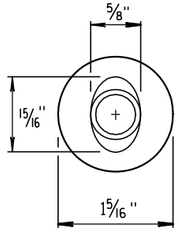
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

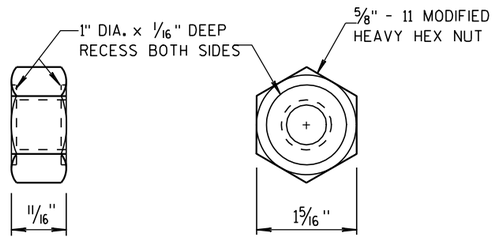


POST BOLT TABLE

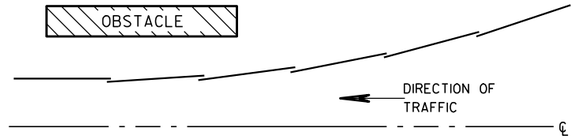
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

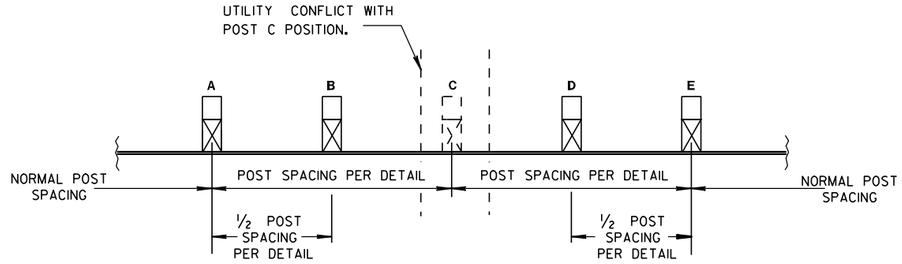


POST BOLT AND RECESS NUT

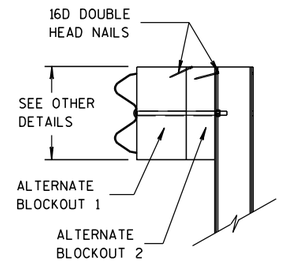


PLAN VIEW

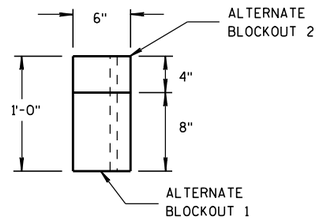
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

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FHWA

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S.D.D. 14 B 42-2c

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S.D.D. 14 B 42-2c

GENERAL NOTES

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

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

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

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

(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

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

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

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

SEE SDD 14B42 FOR MORE INFORMATION.

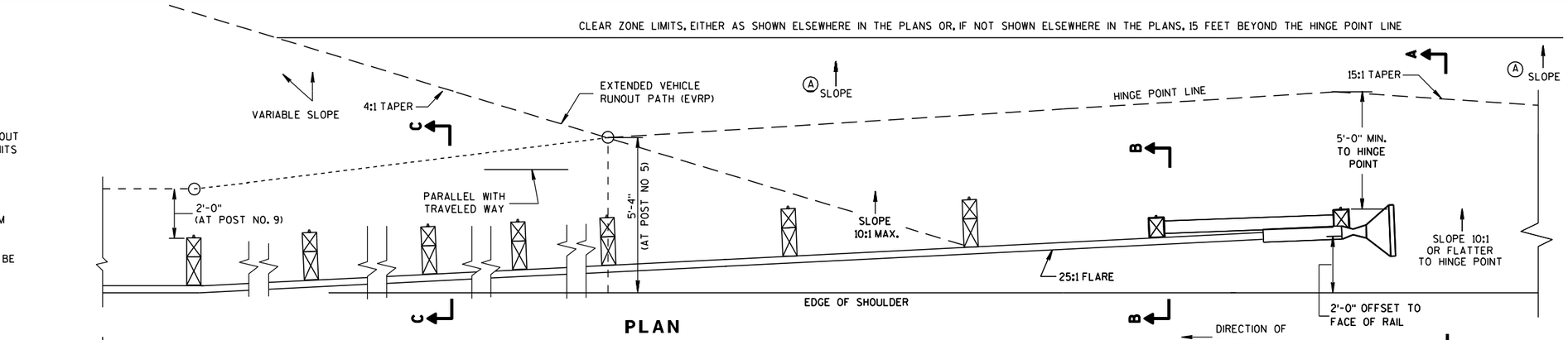
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

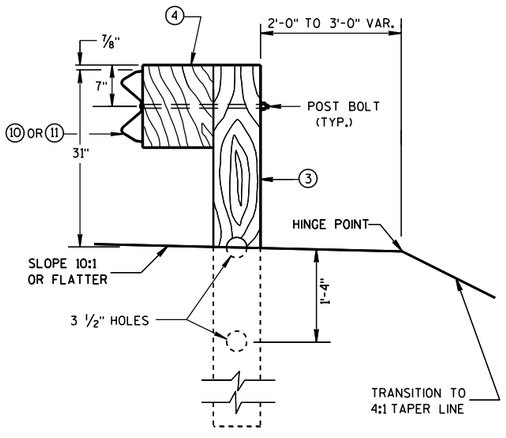
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

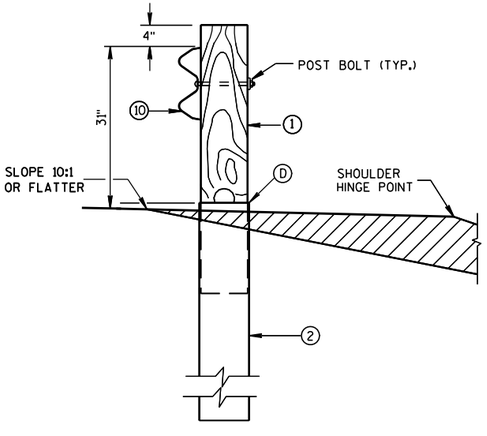
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE (± ¾")

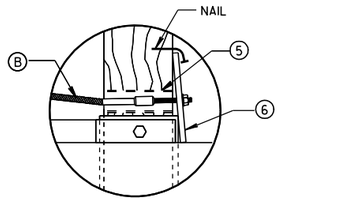


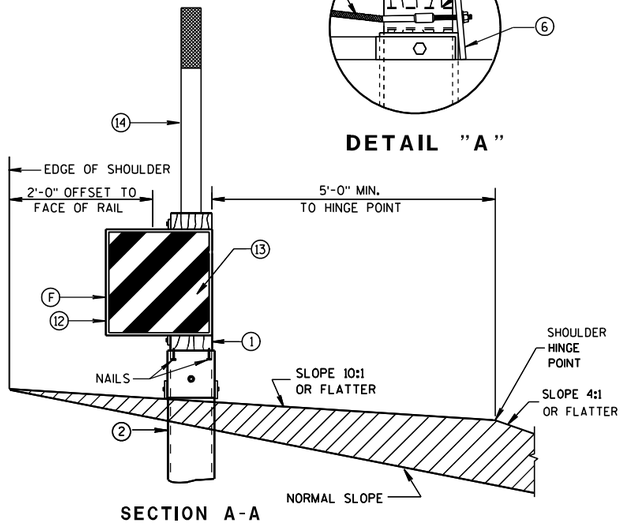


SECTION C-C
TYPICAL AT POST NOS. 3-9

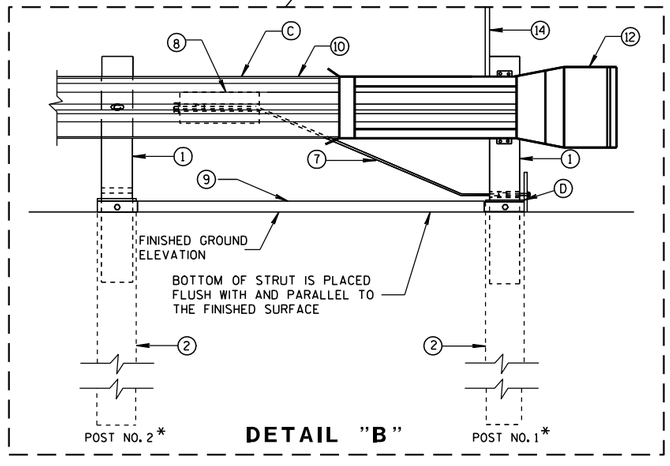


SECTION B-B
TYPICAL AT POST NO. 2*





SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

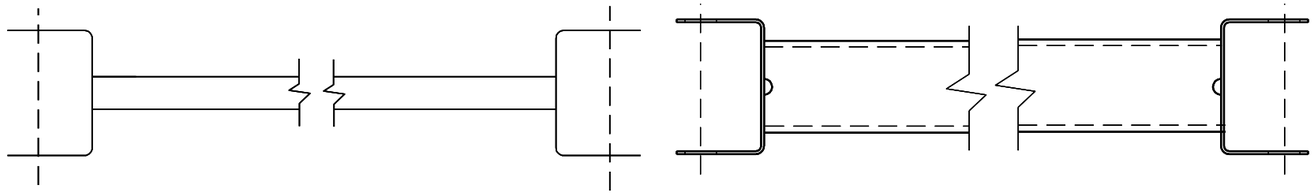
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1a

6

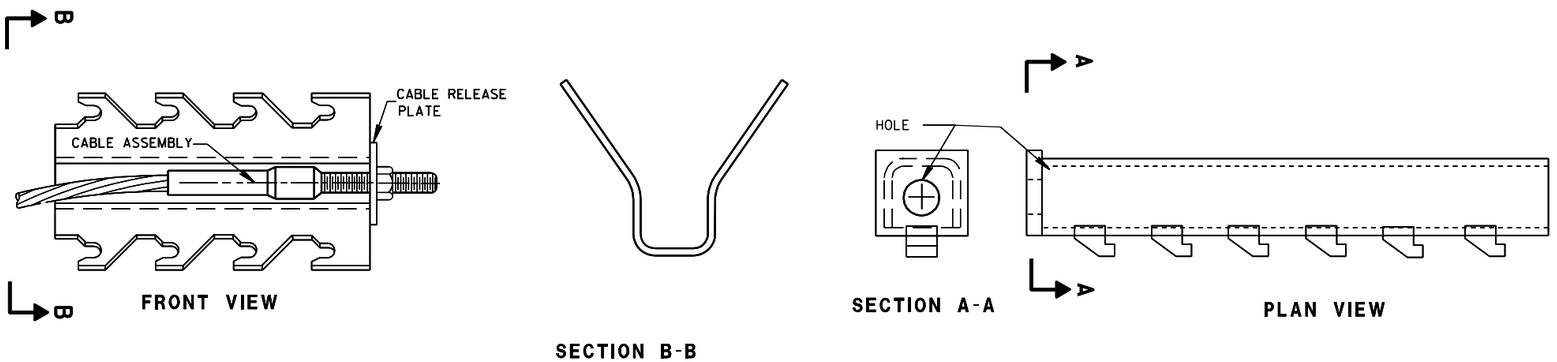
S.D.D. 14 B 44-1a



GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



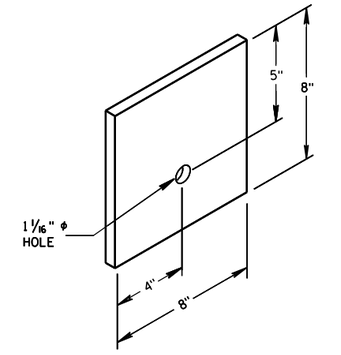
FRONT VIEW

SECTION B-B

SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



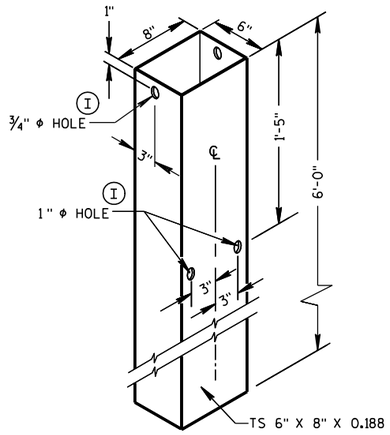
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

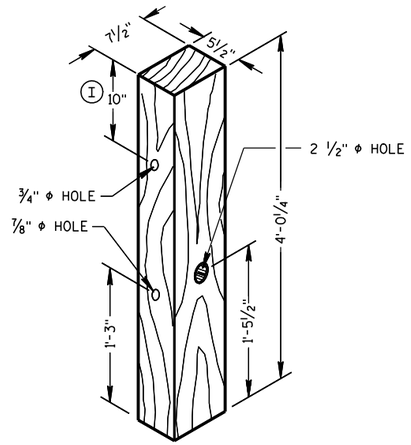
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 44-1b

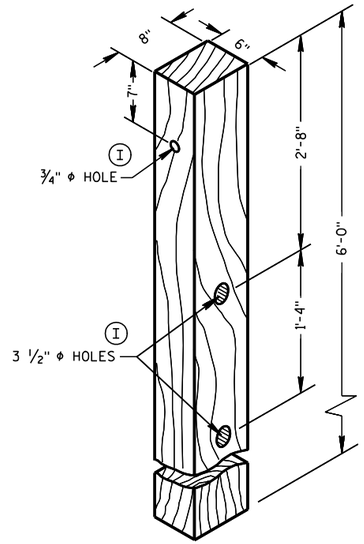


FOUNDATION TUBE (2)



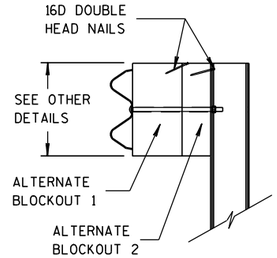
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

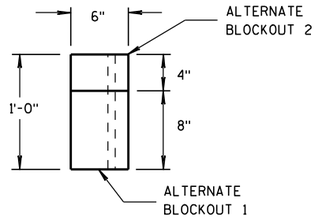


POSTS NUMBER 3-9

WOOD CRT POST (3)

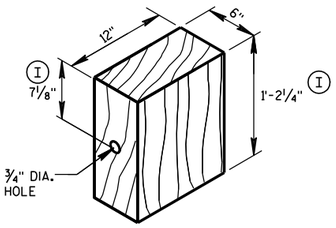


SIDE VIEW



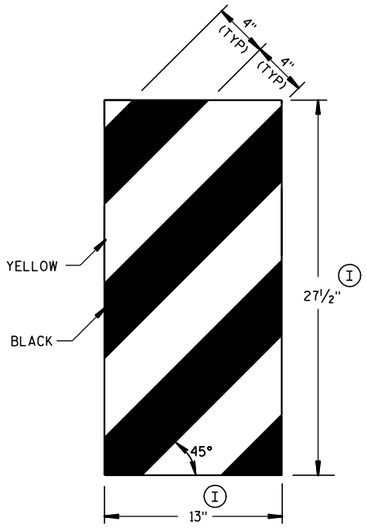
TOP VIEW

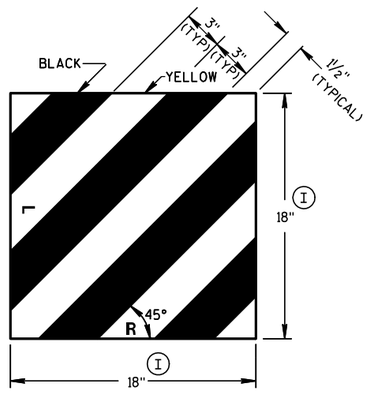
ALTERNATE WOOD BLOCKOUT DETAIL



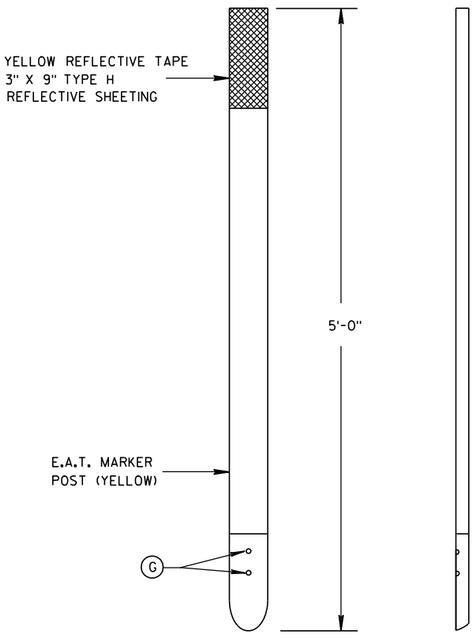
WOOD BLOCKOUT (4)

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





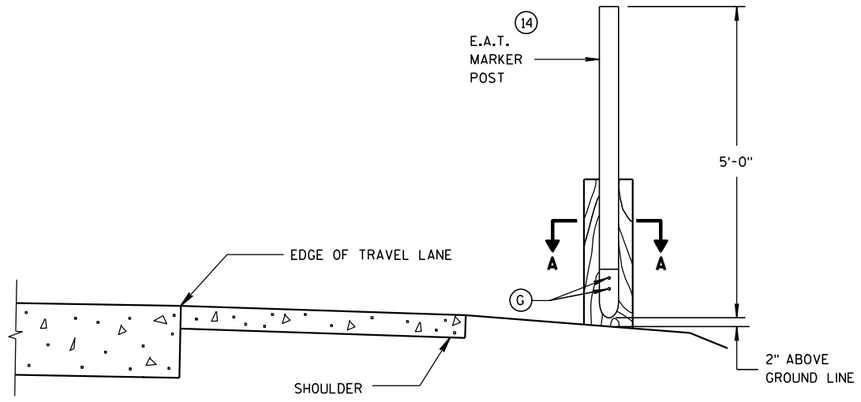
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

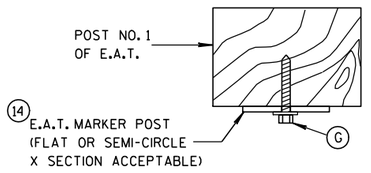
SIDE VIEW

E.A.T. MARKER POST (14)



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

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



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

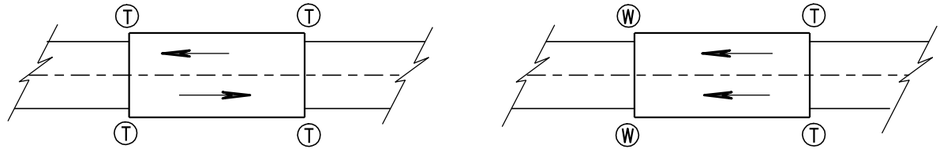
APPROVED
5/23/2011
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS 384 tENT
ENGINEER
FHWA

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S.D.D. 14 B 44-1c

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S.D.D. 14 B 44-1c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

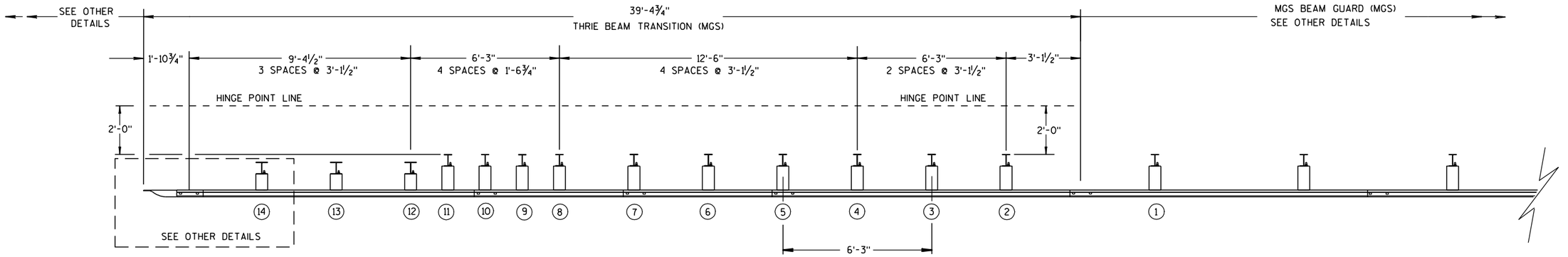
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED DURING EXCAVATION, SEE STANDARD DETAIL DRAWING 14 B 42.

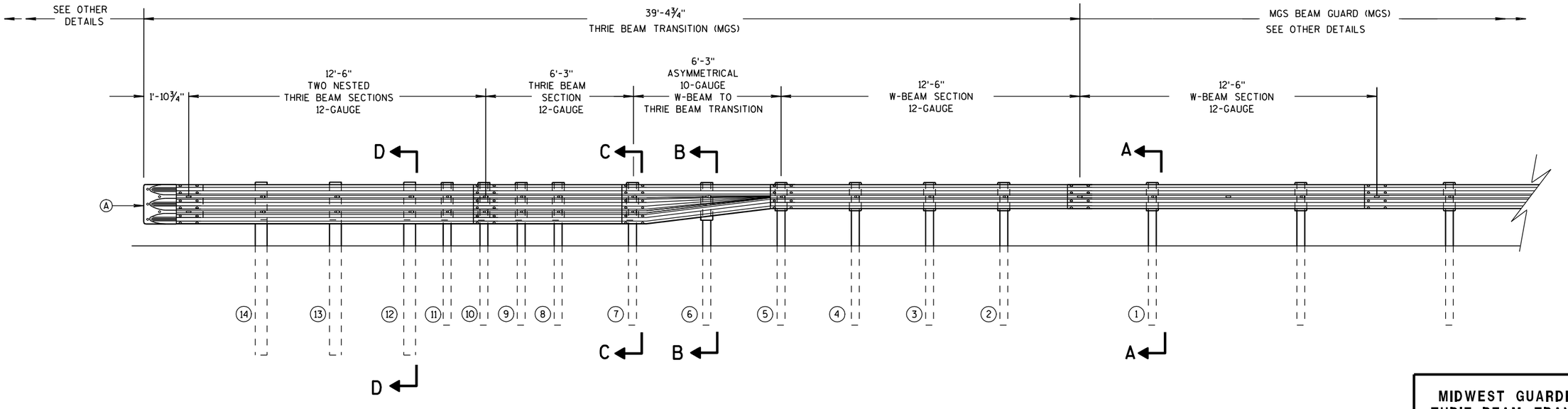
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

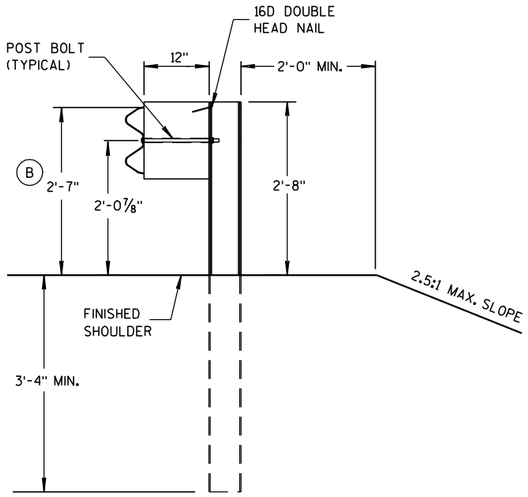
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 45-2a

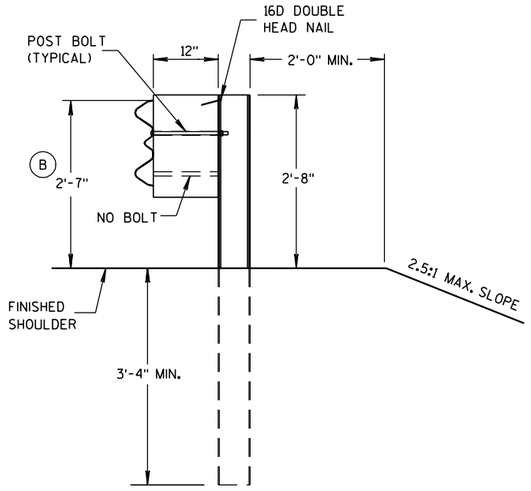
GENERAL NOTES

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



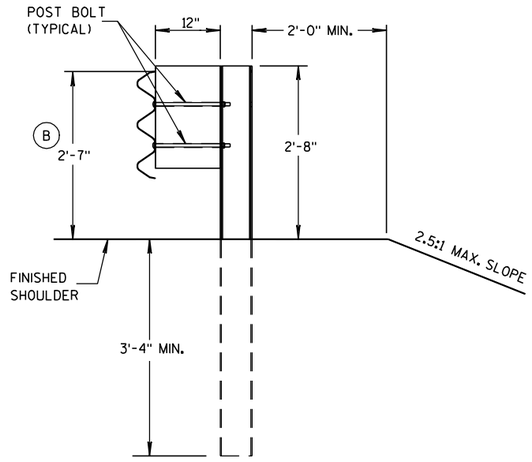
SECTION A-A

POSTS 1-5



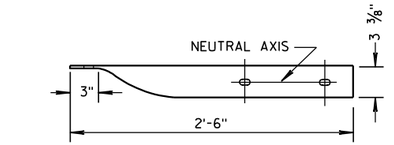
SECTION B-B

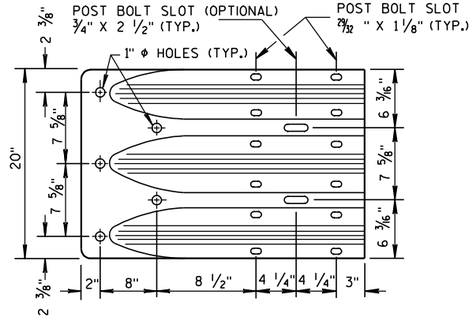
POST 6



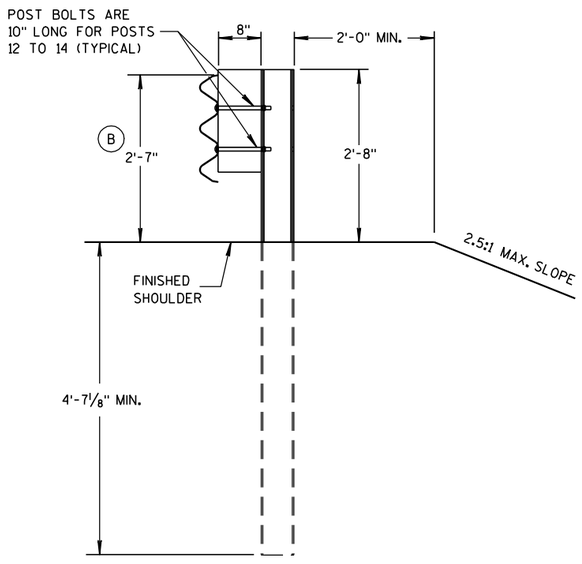
SECTION C-C

POSTS 7-11



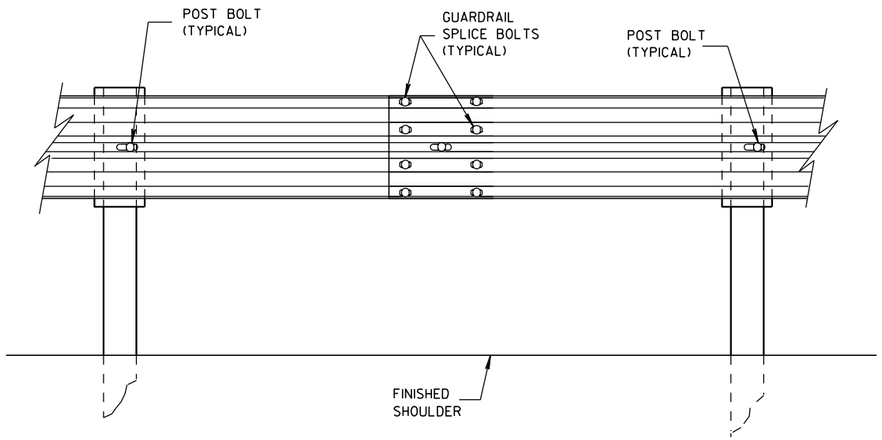


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-14



SPLICE DETAIL

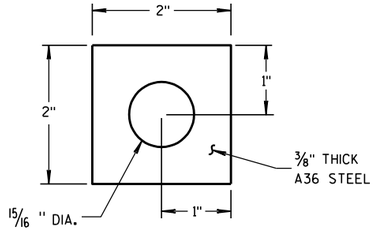
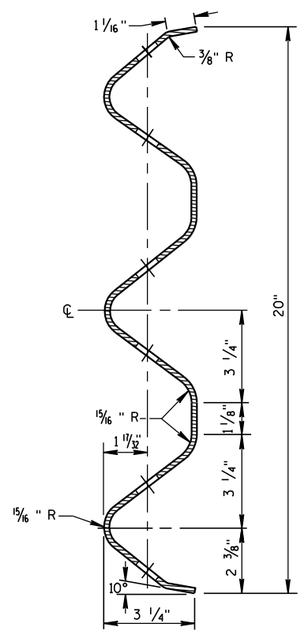


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

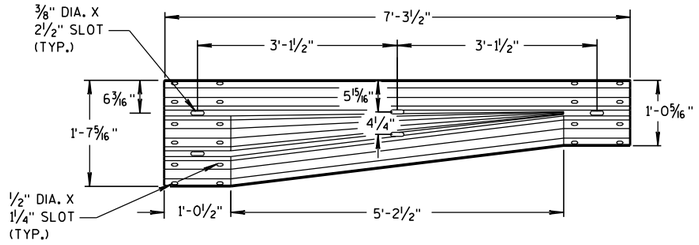
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

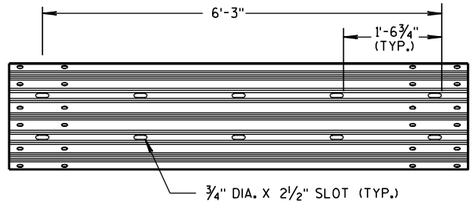
S.D.D. 14 B 45-2b

6

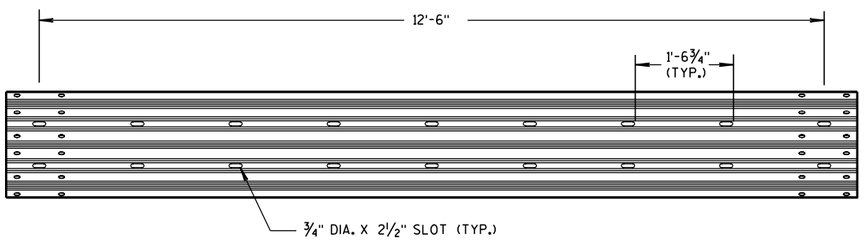
S.D.D. 14 B 45-2b



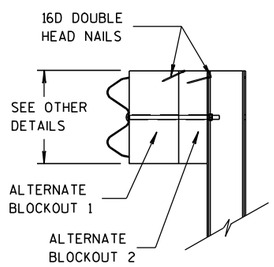
W-BEAM TO THRIE BEAM TRANSITION SECTION



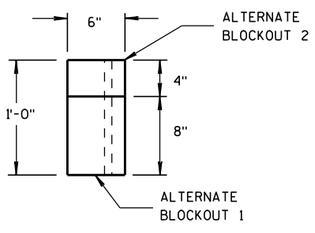
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

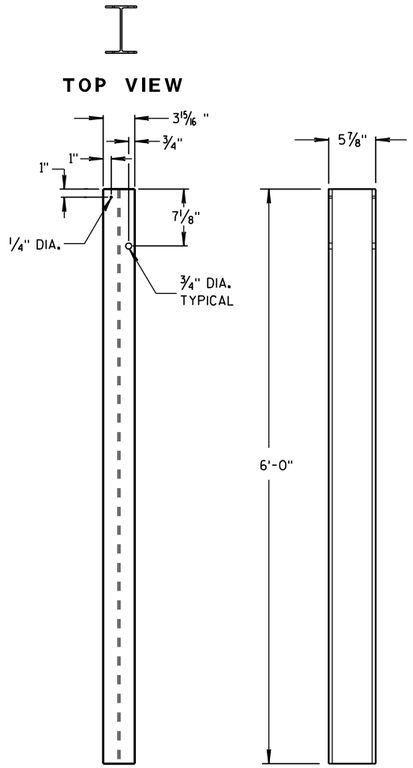


SIDE VIEW

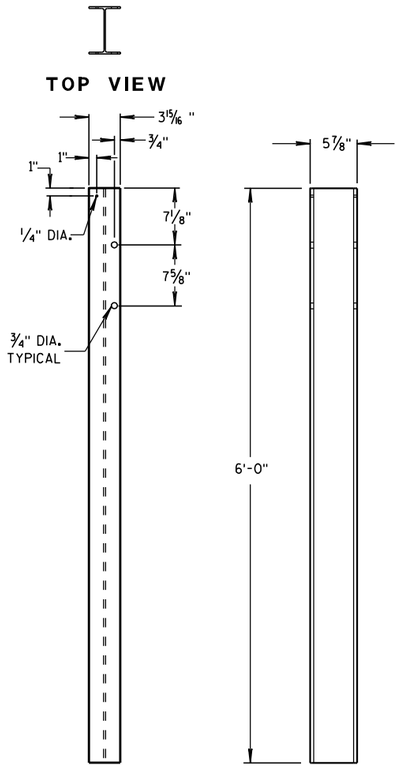


TOP VIEW

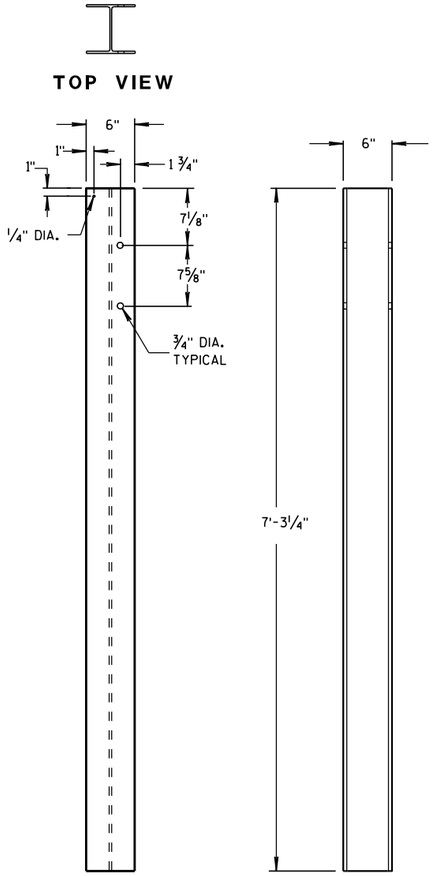
ALTERNATE WOOD BLOCKOUT DETAIL



STEEL POSTS 1-5

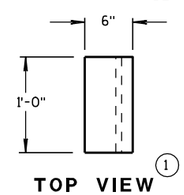


STEEL POSTS 6-11

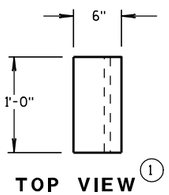


STEEL POSTS 12-14

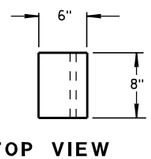
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



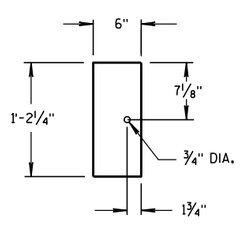
TOP VIEW (1)



TOP VIEW (1)

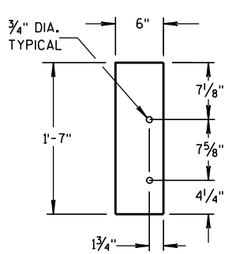


TOP VIEW



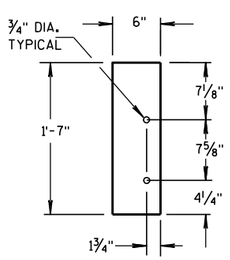
FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

BLOCKOUT POSTS 12-14

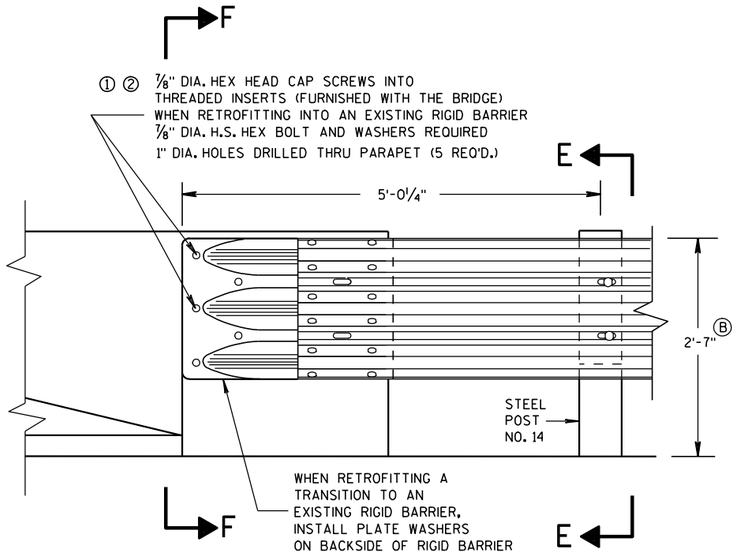
STEEL POST SIZES

POST NUMBER	SECTION TYPE	LENGTH
1	W6x9	72"
2	W6x9	72"
3	W6x9	72"
4	W6x9	72"
5	W6x9	72"
6	W6x9	72"
7	W6x9	72"
8	W6x9	72"
9	W6x9	72"
10	W6x9	72"
11	W6x9	72"
12	W6x15	87 1/8"
13	W6x15	87 1/8"
14	W6x15	87 1/8"

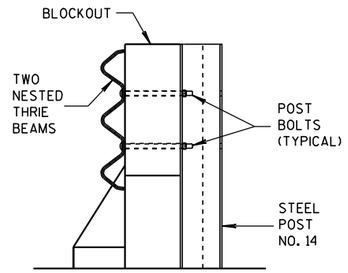
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 45-2c



FRONT VIEW



SECTION E-E

GENERAL NOTES

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

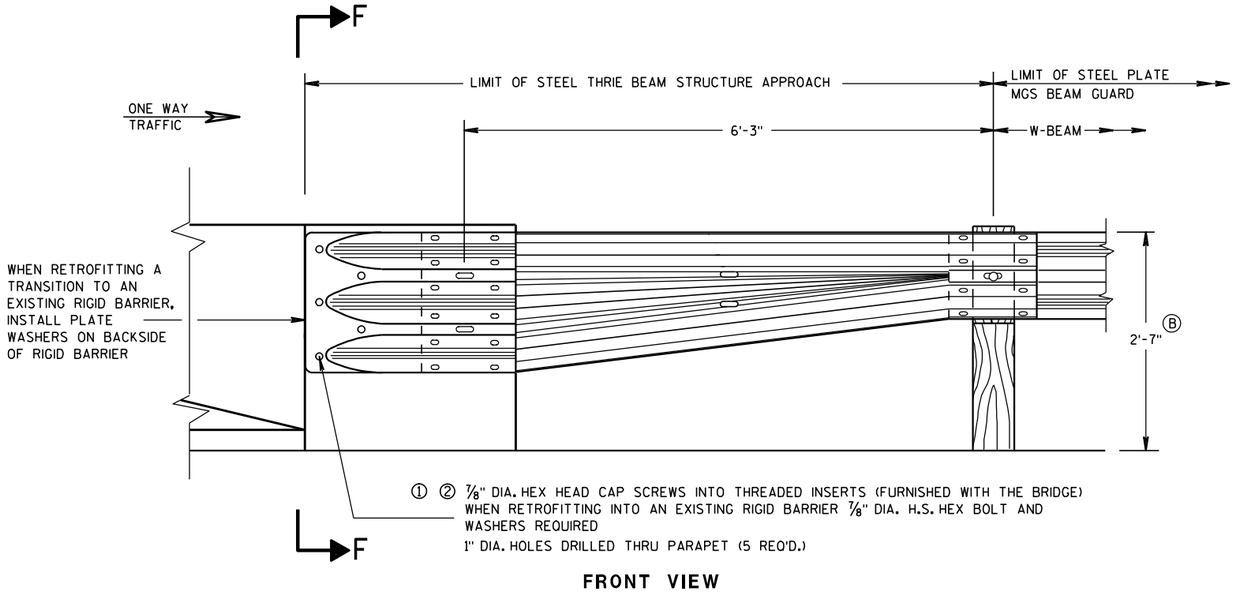
① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAMSTRUCTURAL APPROACH".

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

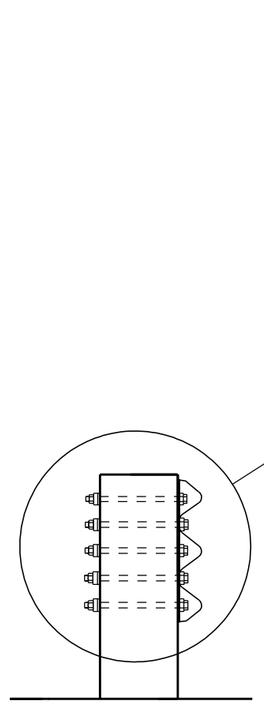
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

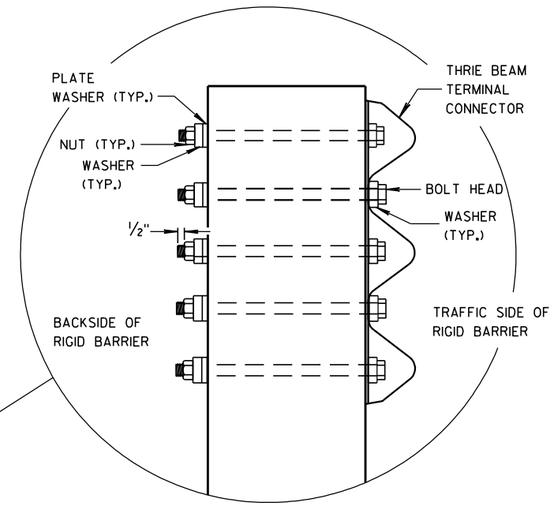
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW





W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/8/2012 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

FHWA

GENERAL NOTES

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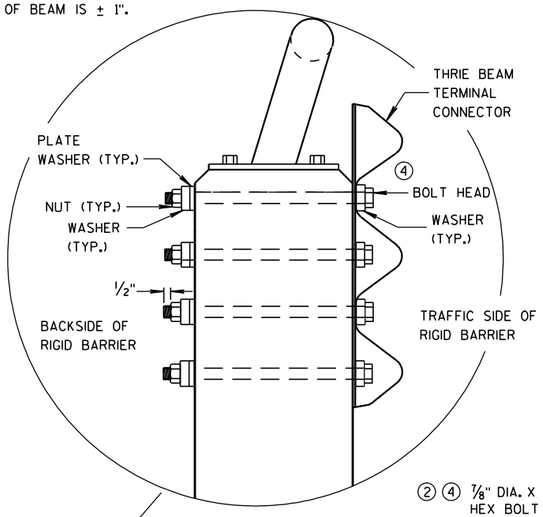
① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAMSTRUCTURAL APPROACH".

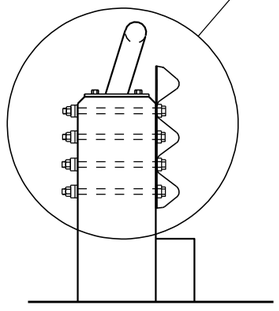
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③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

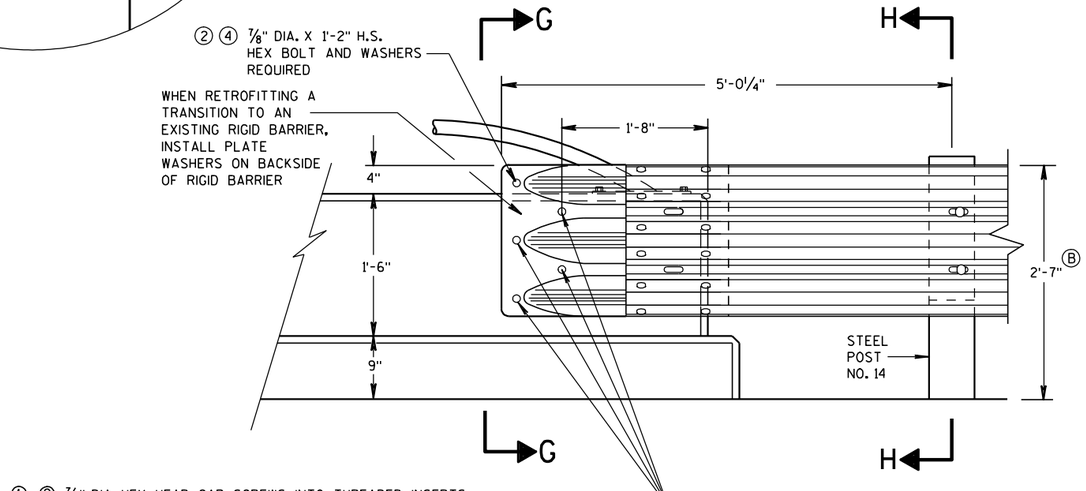
④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

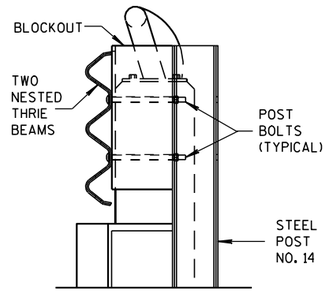




SECTION G-G

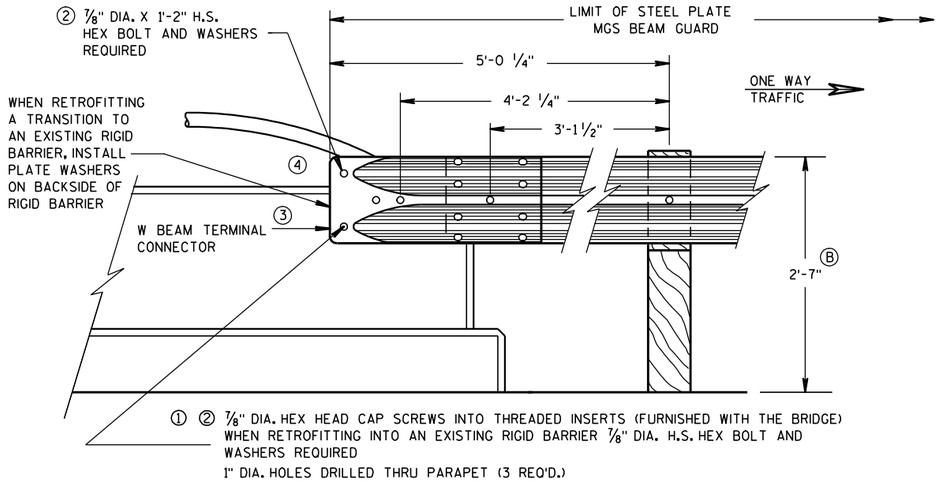


FRONT VIEW



SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-8-2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS DEVELOPMENT ENGINEER

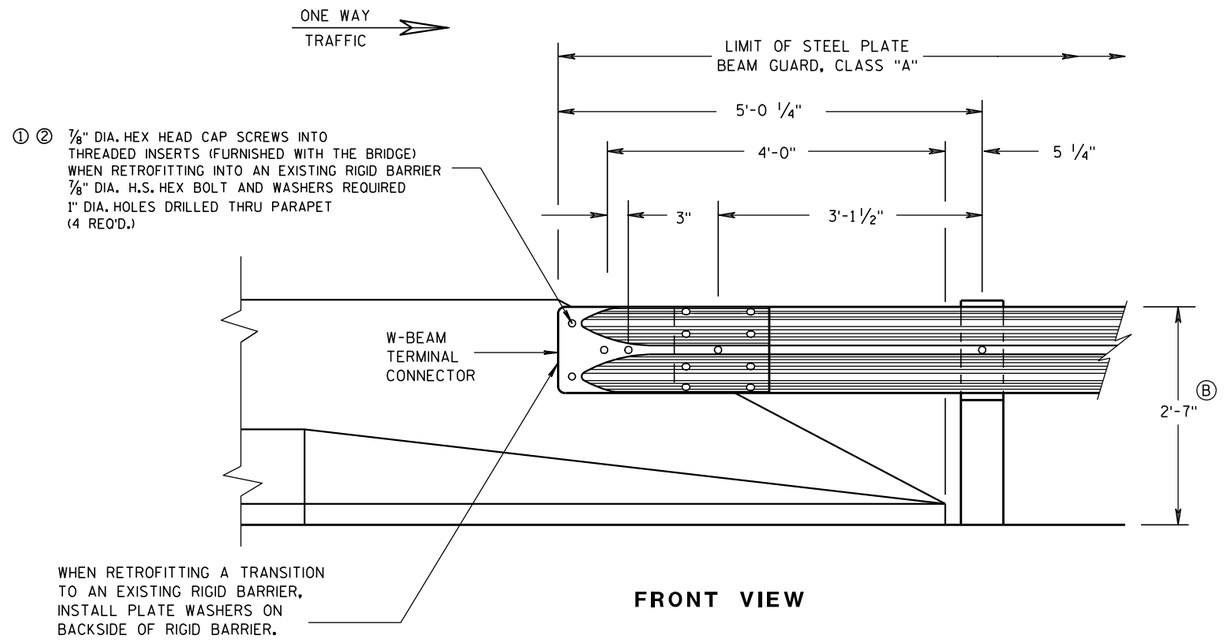
FHWA

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S.D.D. 14 B 45-2e

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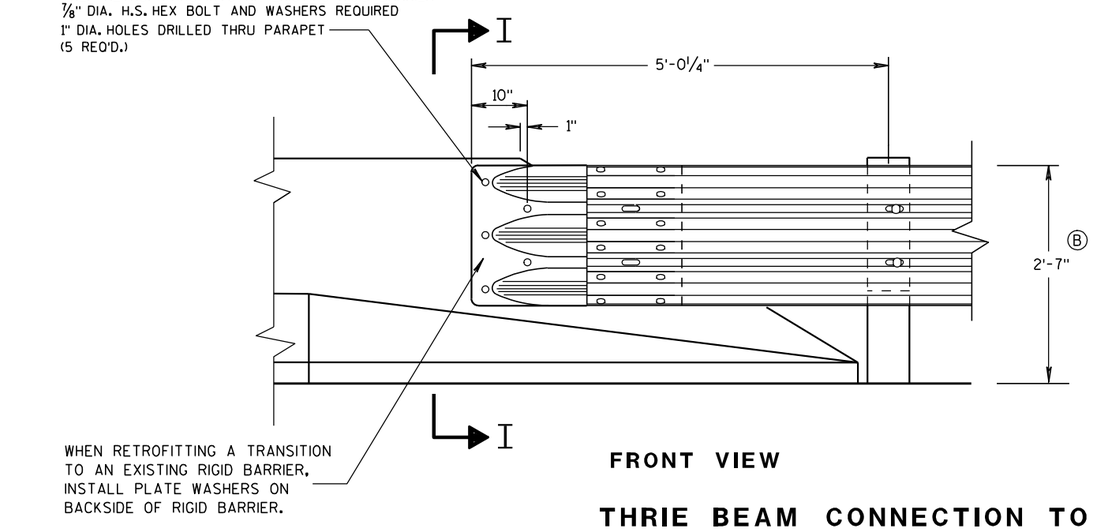
S.D.D. 14 B 45-2e



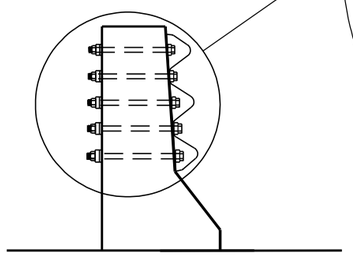
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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



FRONT VIEW



SECTION I-I

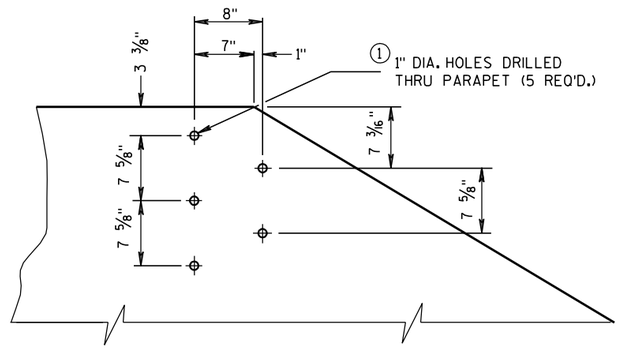
THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

GENERAL NOTES

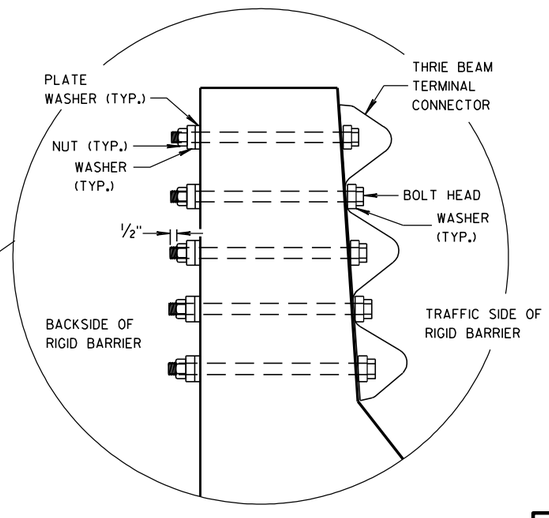
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Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-8-2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

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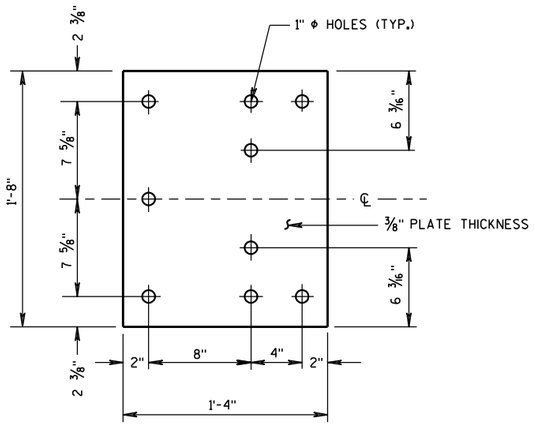
FHWA

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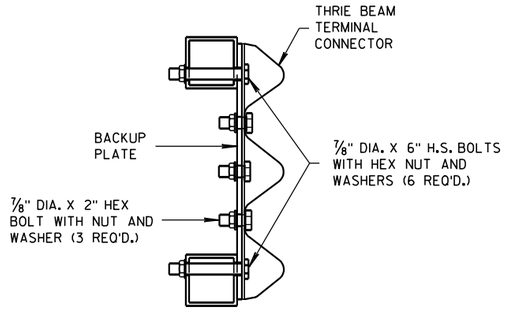
S.D.D. 14 B 45-2f

6

S.D.D. 14 B 45-2f



BACK-UP PLATE DETAIL

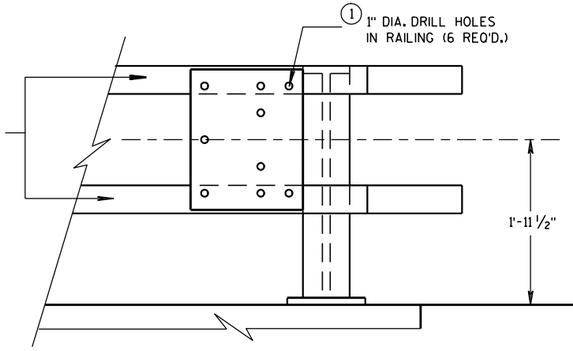


SECTION J-J

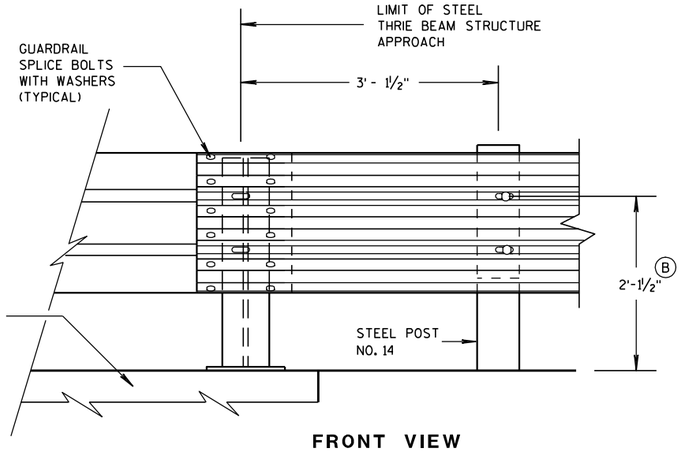
GENERAL NOTES

(1) INCLUDE THE PAYMENT FOR DRILLING HOLES IN RAILING IN THE ITEM "STEEL THRIE BEAM STRUCTURE APPROACH".

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

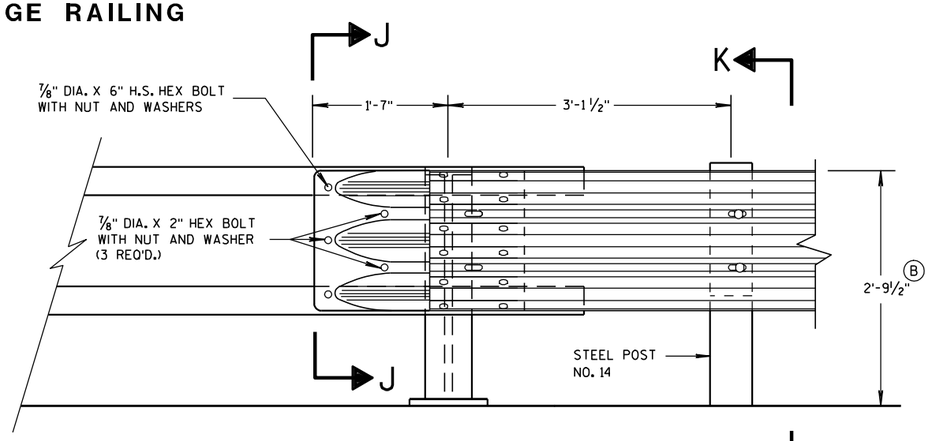


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

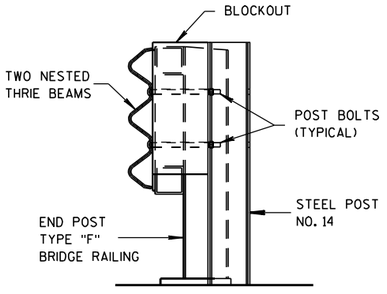


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-8-2012 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

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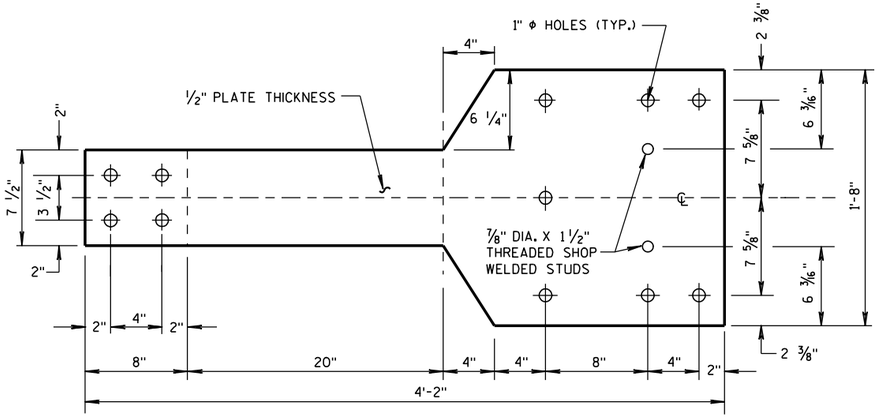
S.D.D. 14 B 45-2g

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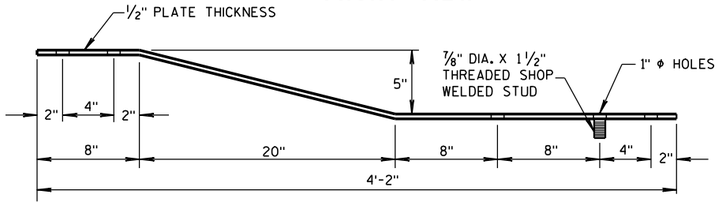
S.D.D. 14 B 45-2g

GENERAL NOTES

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

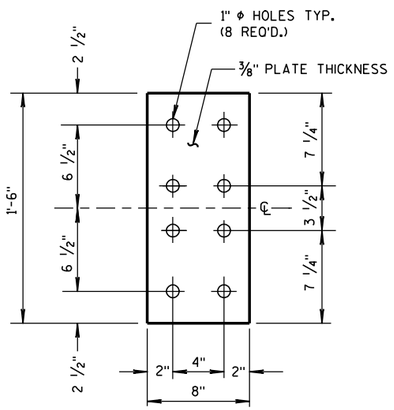


FRONT VIEW



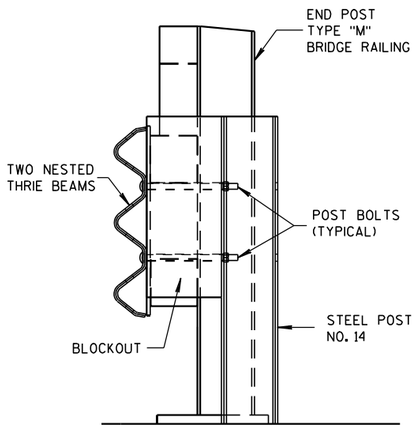
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

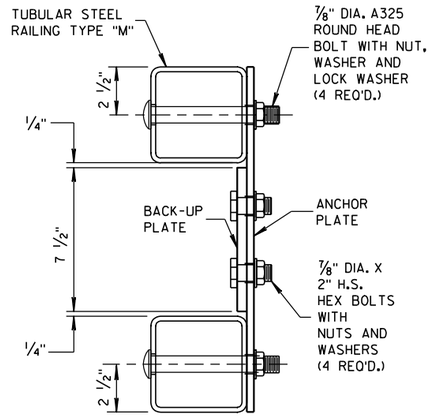


FRONT VIEW

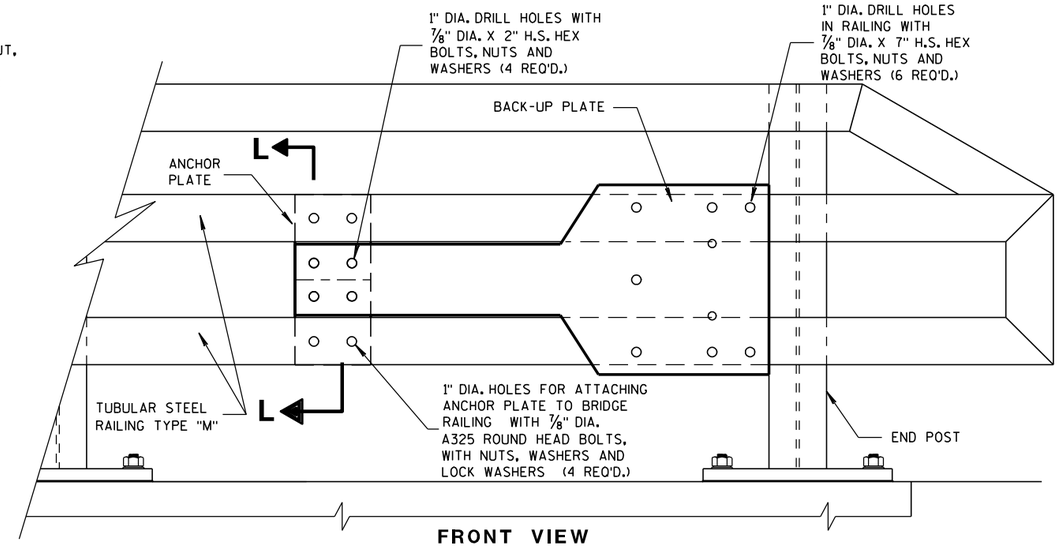
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

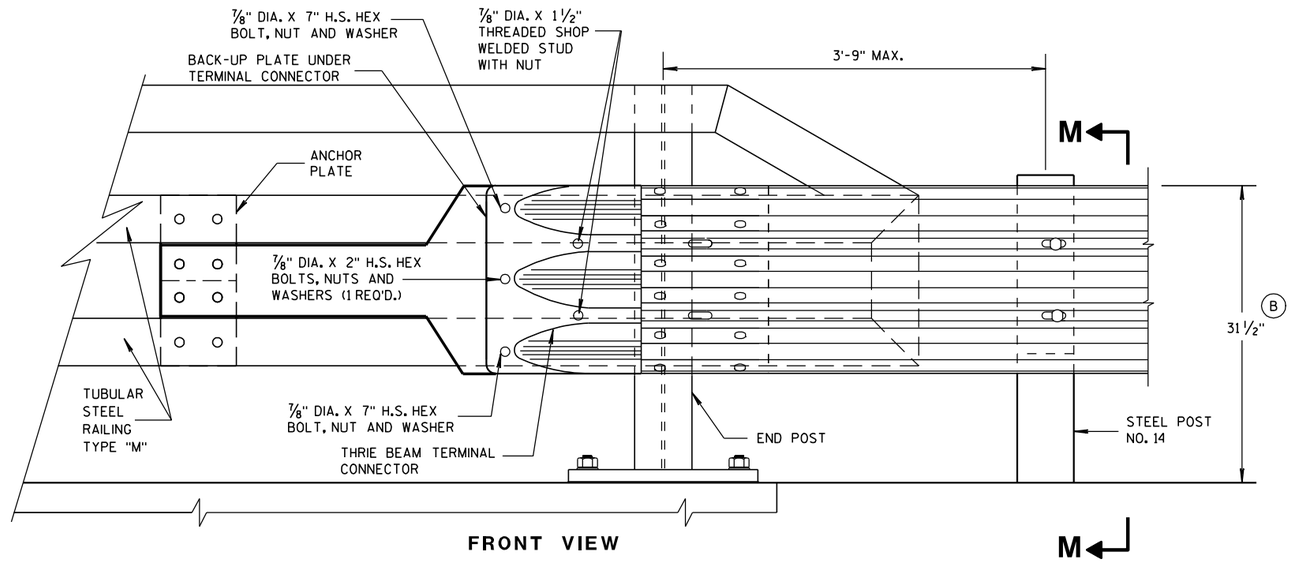


SECTION L-L

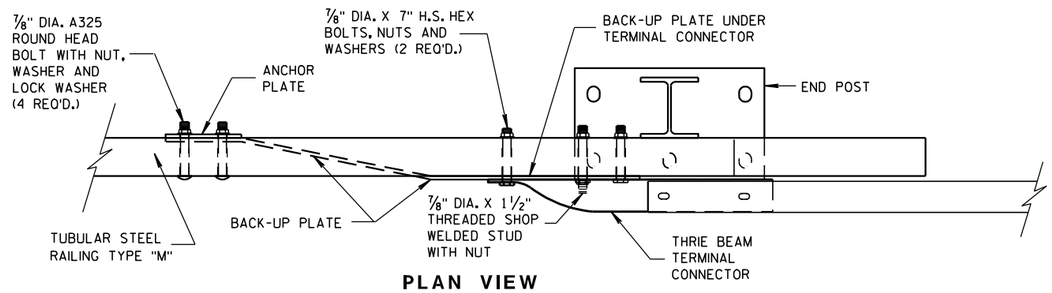


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-8-2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

392

FHWA

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S.D.D. 14 B 45-2h

6

S.D.D. 14 B 45-2h

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

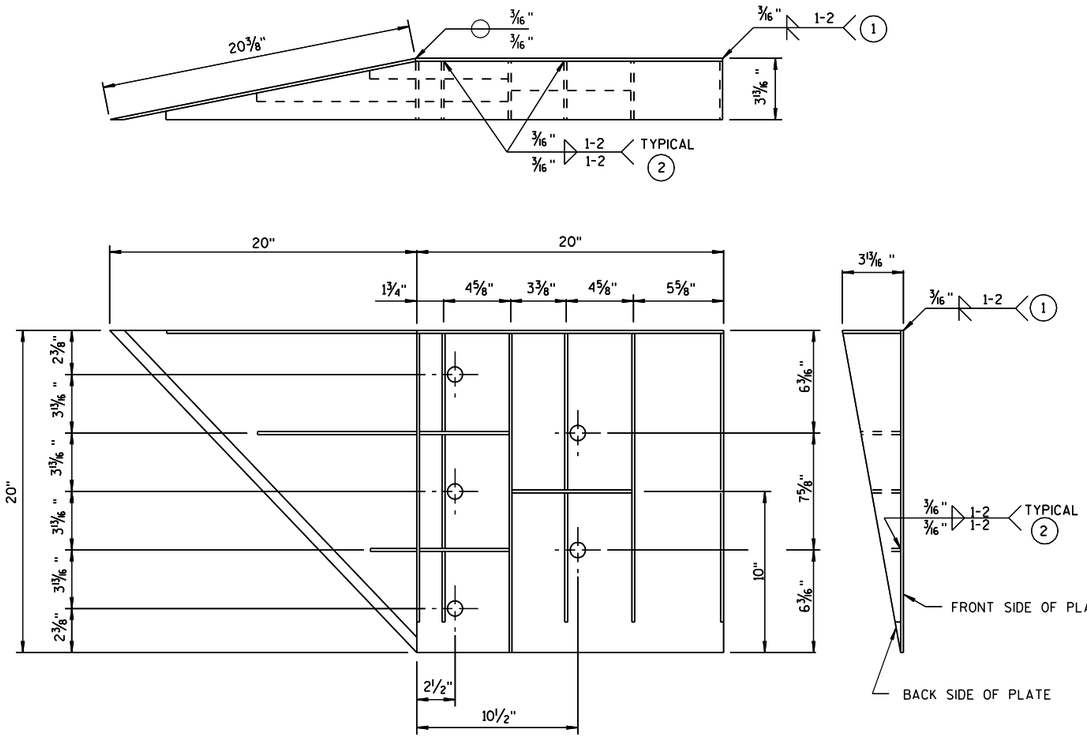
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

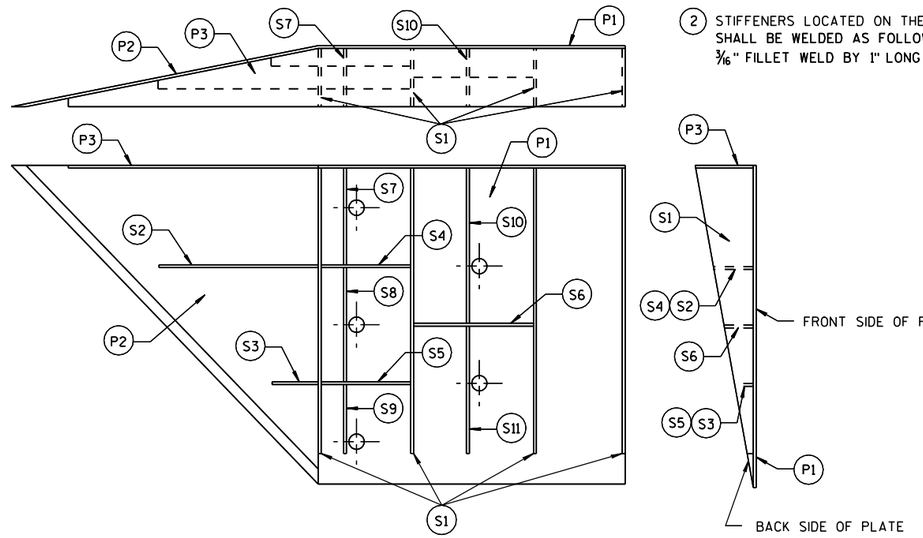


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

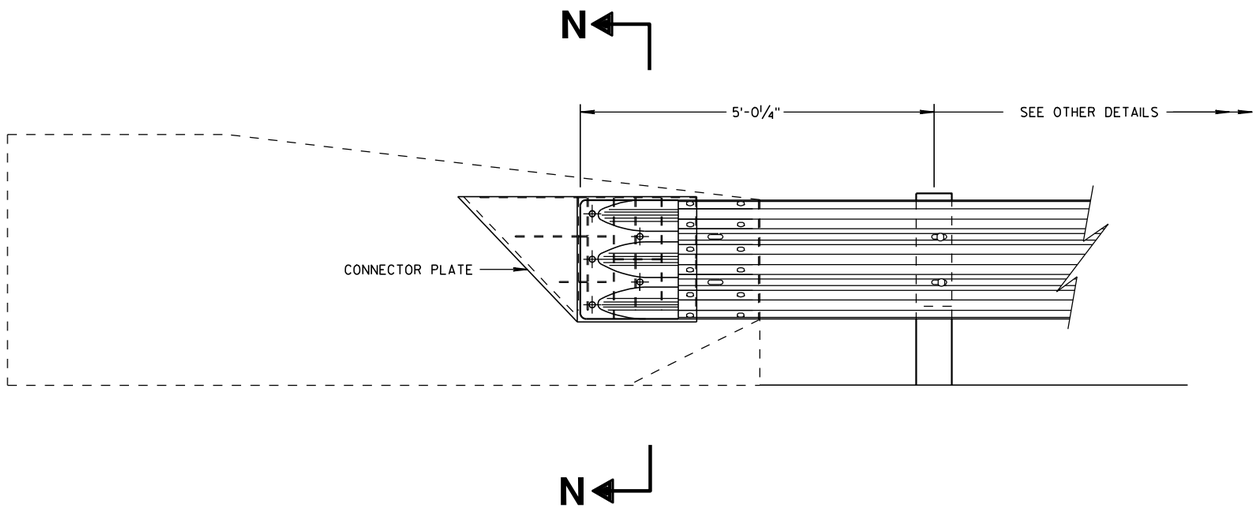
APPROVED
2-8-2012
DATE
/S/ Jerry H. Zaas
ROADWAY STANDARDS ENGINEER
393
FHWA

6

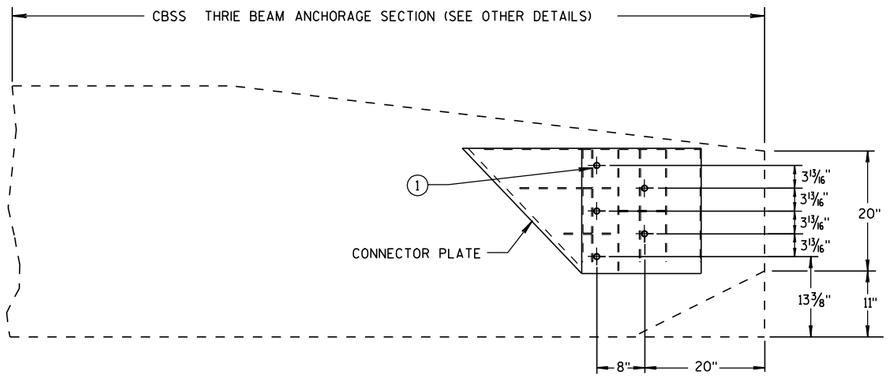
S.D.D. 14 B 45-2i

6

S.D.D. 14 B 45-2i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

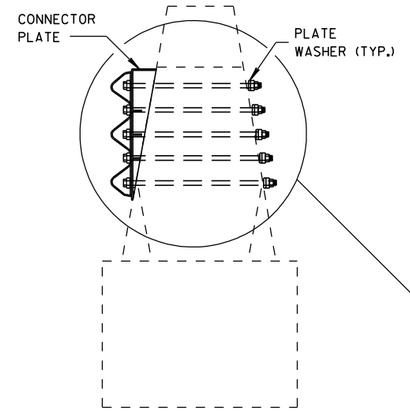


SINGLE SLOPE CONNECTION PLATE PLACEMENT

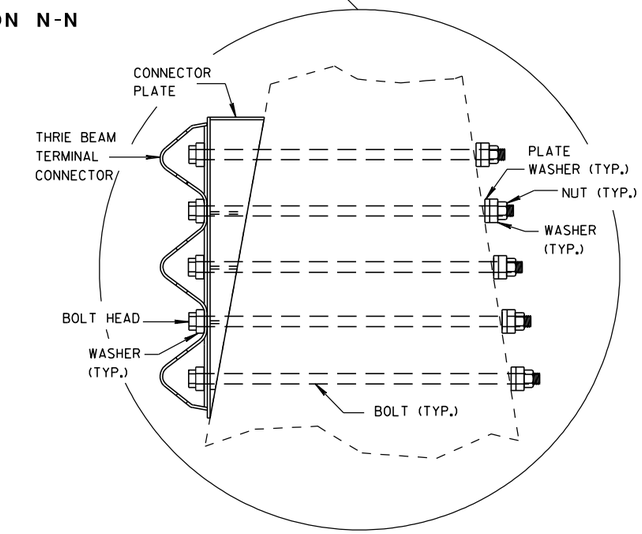
GENERAL NOTES

CONNECTION PLATE INCIDENTAL TO STEEL THRIE BEAM TRANSITION.

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



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2-8-2012
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS DEVELOPMENT ENGINEER

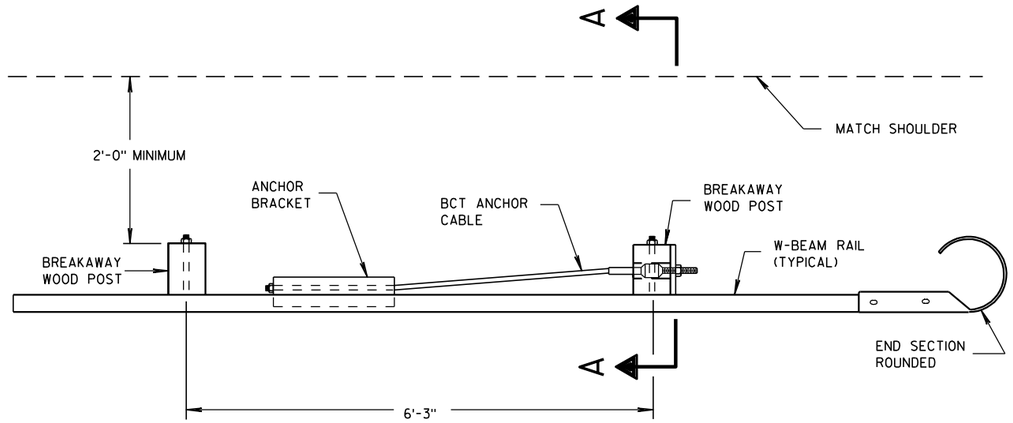
FHWA

6

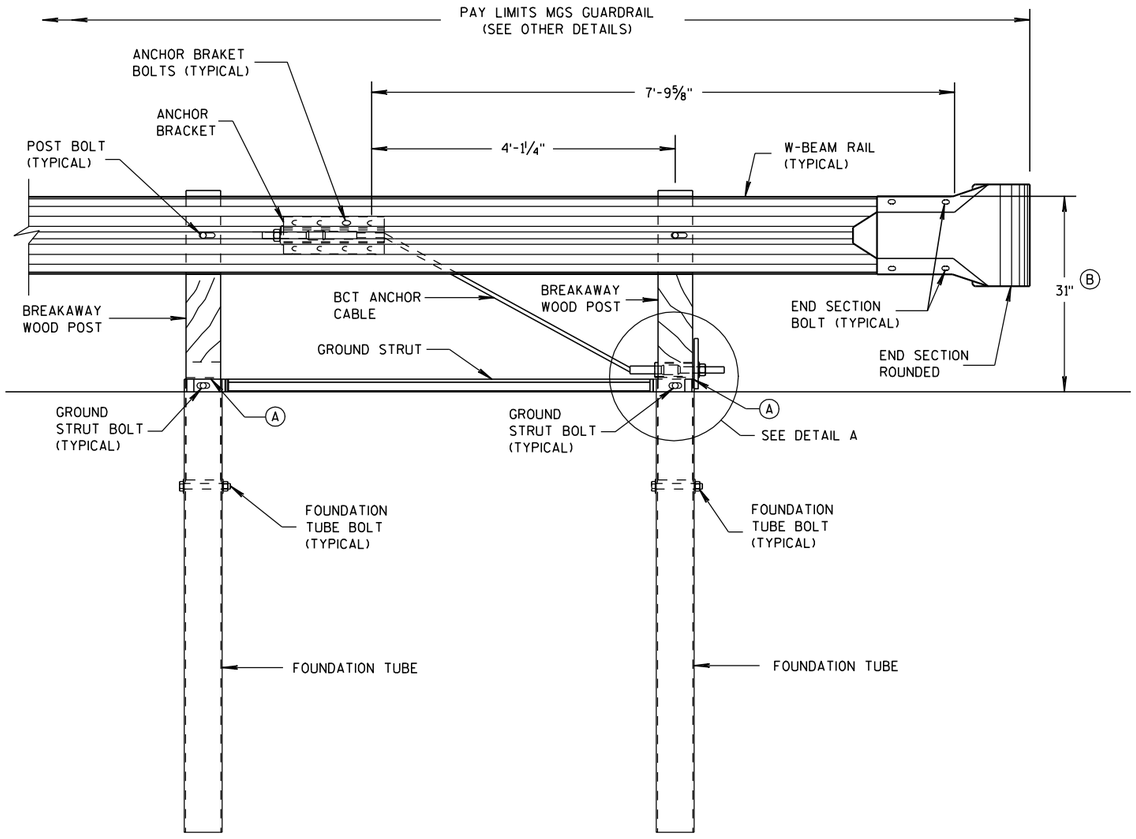
S.D.D. 14 B 45-2j

6

S.D.D. 14 B 45-2j

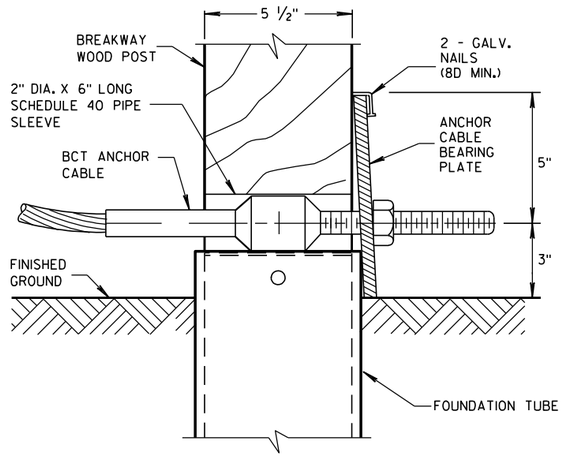


PLAN VIEW



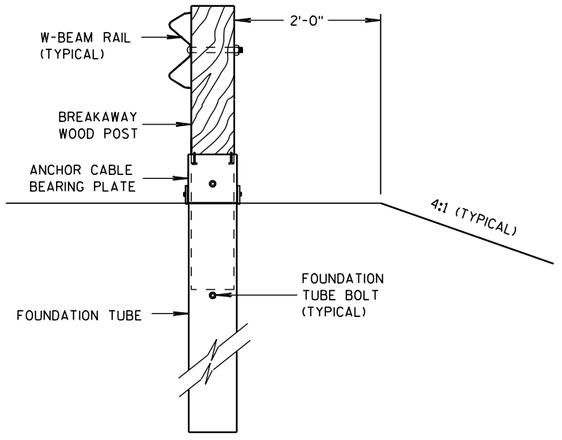
FRONT VIEW

END RAIL DETAIL



DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.



SECTION A-A

GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

POST BOLTS ARE A ⅝" DIAMETER X 10" LONG GUARDRAIL BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER DH MODIFIED (RECESSED) HEAVY HEX NUT AND ⅝" DIAMETER FLAT WASHER.

FOUNDATION TUBE BOLTS ARE A ⅞" DIAMETER X 7½" LONG HEAVY HEX HEAD BOLT. A FOUNDATION TUBE BOLT REQUIRES A ⅞" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

GROUND STRUT BOLTS ARE A ⅝" DIAMETER X 10" LONG HEAVY HEX HEAD BOLT. A GROUND STRUT BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

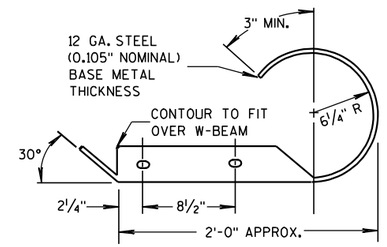
ANCHOR BRAKET BOLTS ARE A ⅝" DIAMETER X 1½" LONG HEAVY HEX HEAD BOLT. AN ANCHOR BRAKET BOLT REQUIRES A ⅝" DIAMETER DH HEAVY HEX NUT AND A FLAT WASHER.

END SECTION BOLTS ARE A ⅝" DIAMETER X 1½" HEAVY HEX HEAD BOLT. AN END SECTION BOLT REQUIRES ⅝" DIAMETER DH HEAVY HEX NUT AND A ⅝" DIAMETER FLAT WASHER.

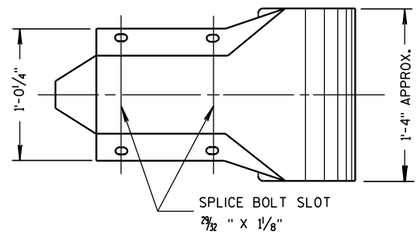
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".



PLAN VIEW



FRONT VIEW

W BEAM END SECTION ROUNDED

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

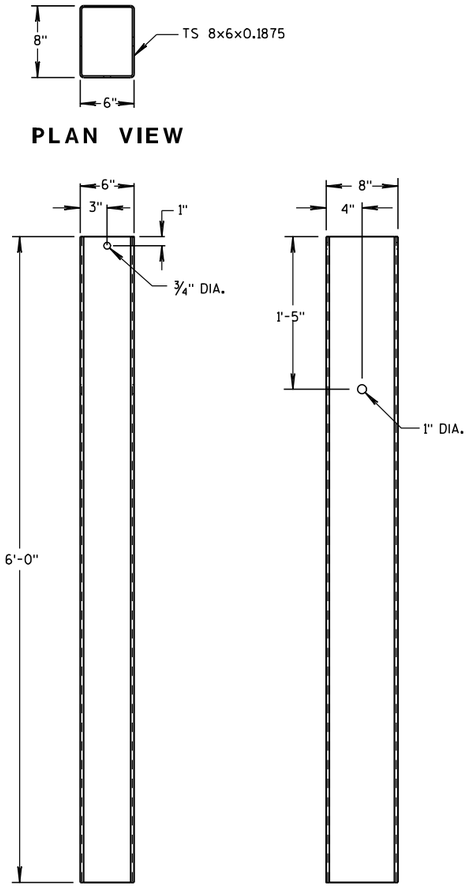
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 47-1a

6

S.D.D. 14 B 47-1a

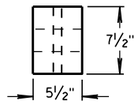


PLAN VIEW

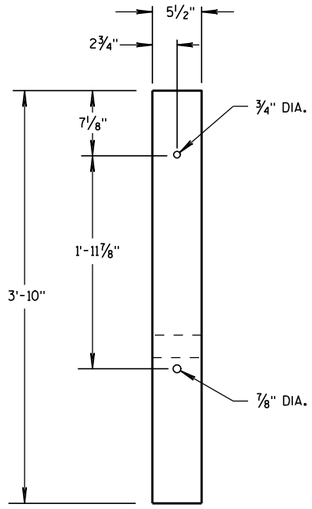
FRONT VIEW

SIDE VIEW

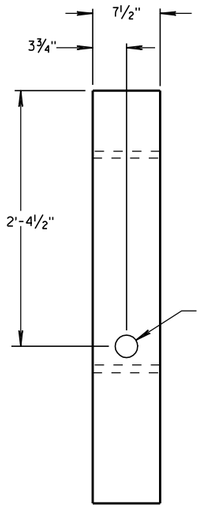
FOUNDATION TUBE



PLAN VIEW



FRONT VIEW

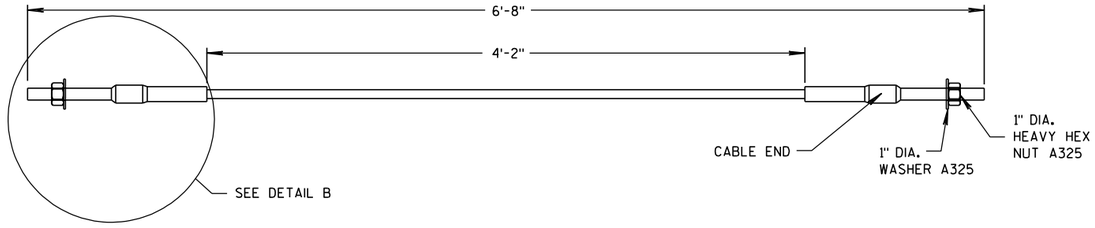


SIDE VIEW

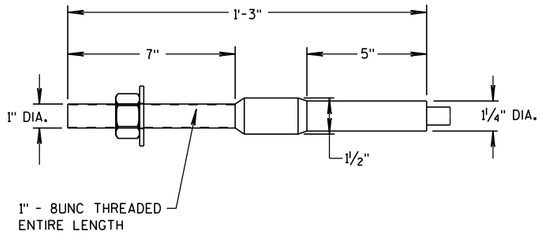
BREAKAWAY WOOD POST

GENERAL NOTES

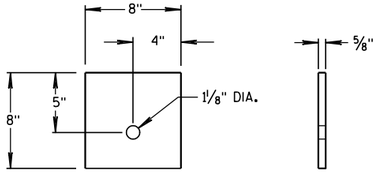
BCT ANCHOR CABLE IS A ⅜" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. THE END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. THE TREADED STUD SHOULD CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. TIGHTEN WIRE ROPE TO TAUT.



BCT ANCHOR CABLE



DETAIL B



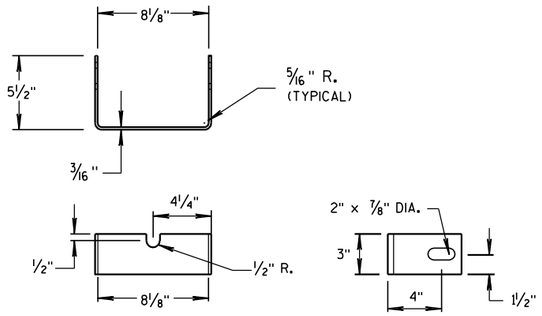
SIDE VIEW FRONT VIEW

ANCHOR CABLE
BEARING PLATE

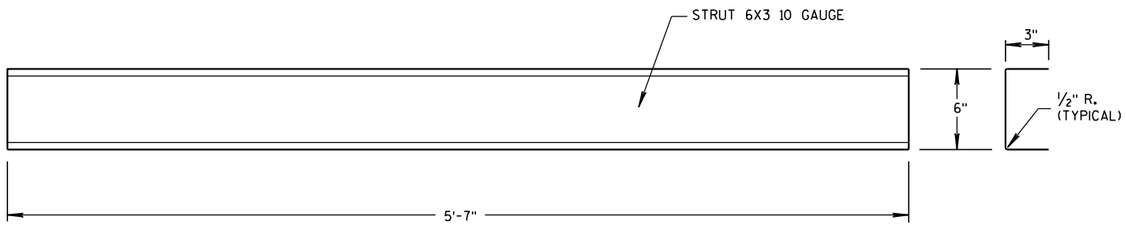
MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

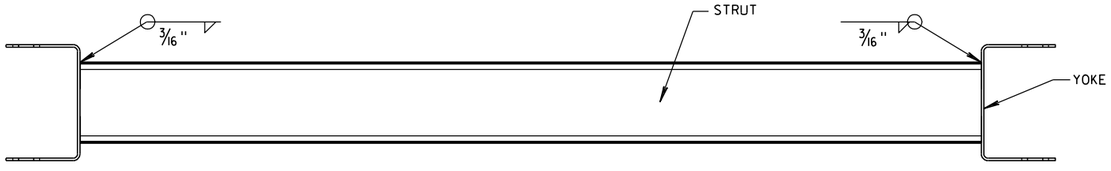
6
S.D.D. 14 B 47-1b



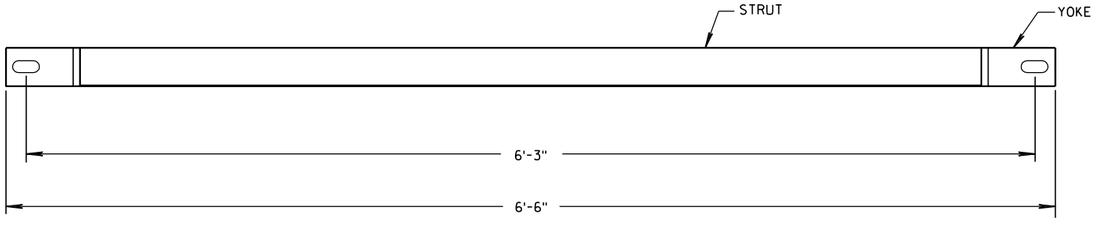
YOKE DETAIL



STRUT DETAIL

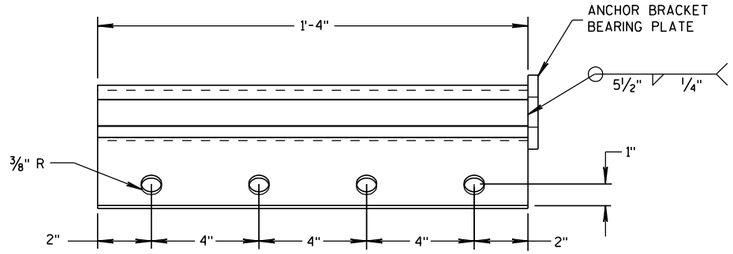


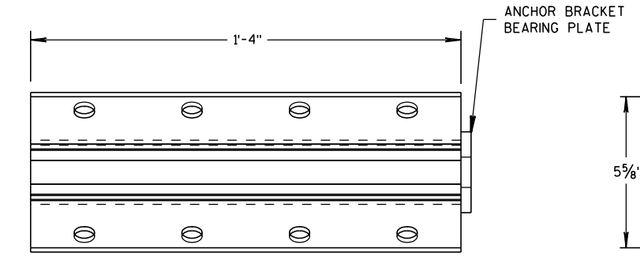
PLAN VIEW

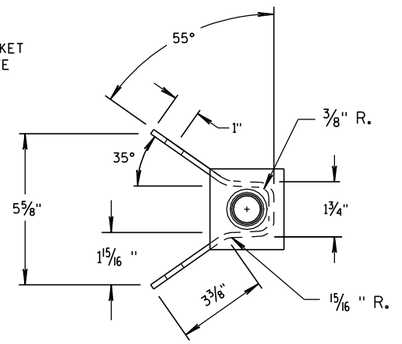


FRONT VIEW

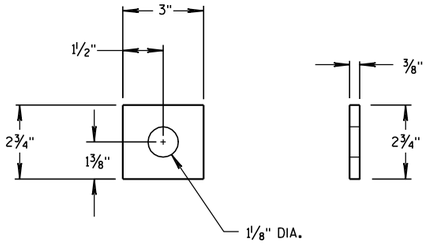
GROUND STRUT DETAIL







ANCHOR BRACKET



ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2011
DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

397

FHWA

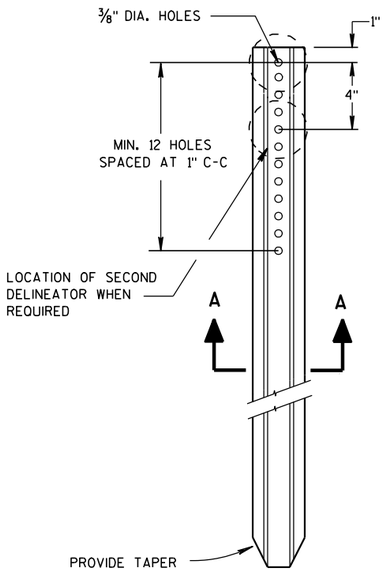
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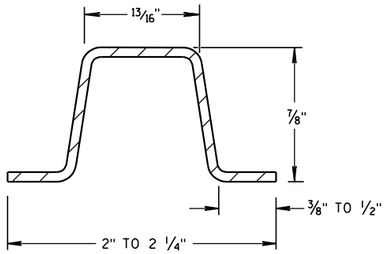
S.D.D. 14 B 47-1c

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S.D.D. 14 B 47-1c

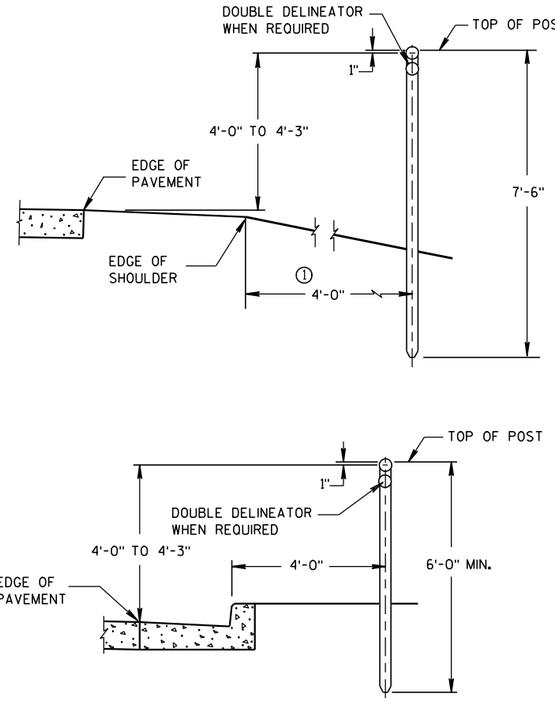


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

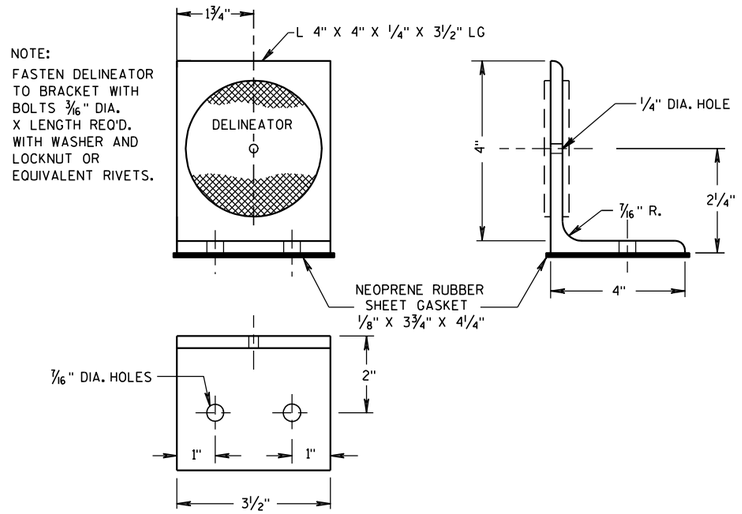


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

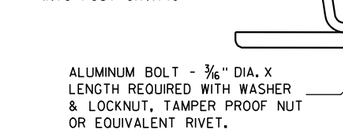
GENERAL NOTES

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

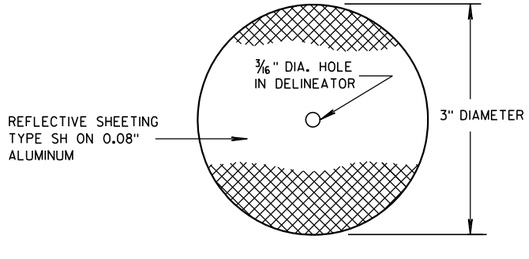
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



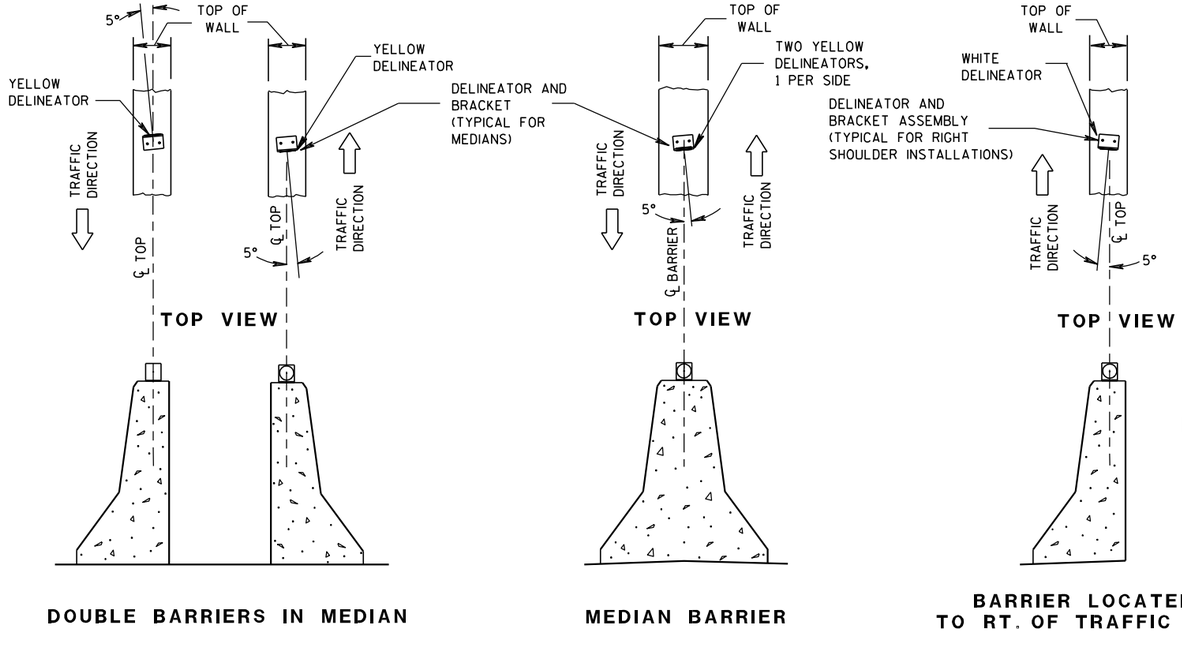
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR



DELINEATOR

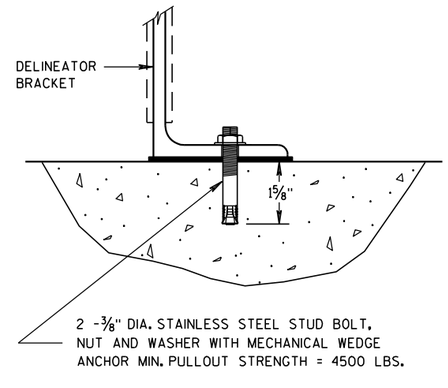


DOUBLE BARRIERS IN MEDIAN

MEDIAN BARRIER

BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATORS MOUNTED ON CONCRETE BARRIERS



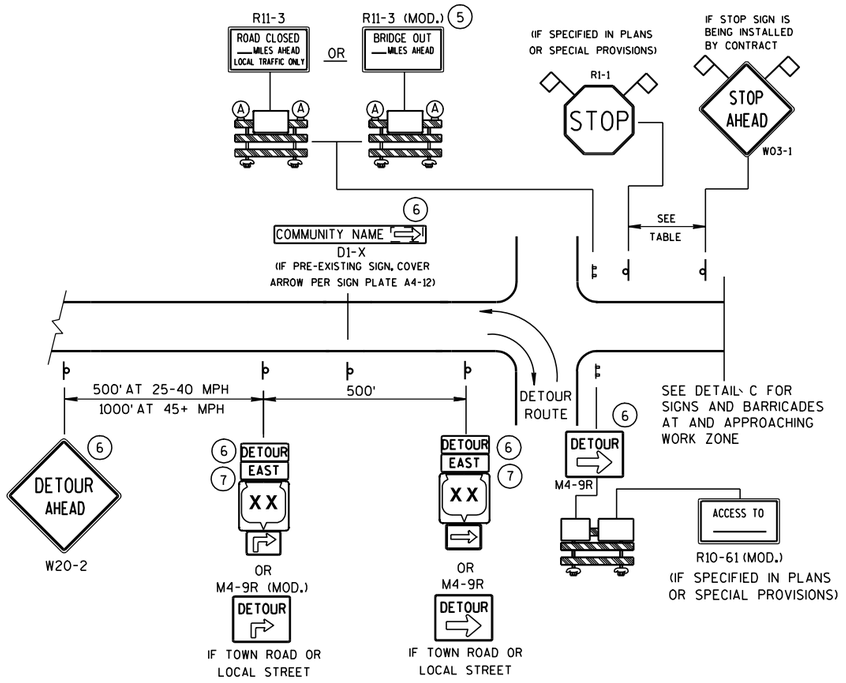
DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
1/25/2011 — DATE
/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER — DESIGN
FHWA

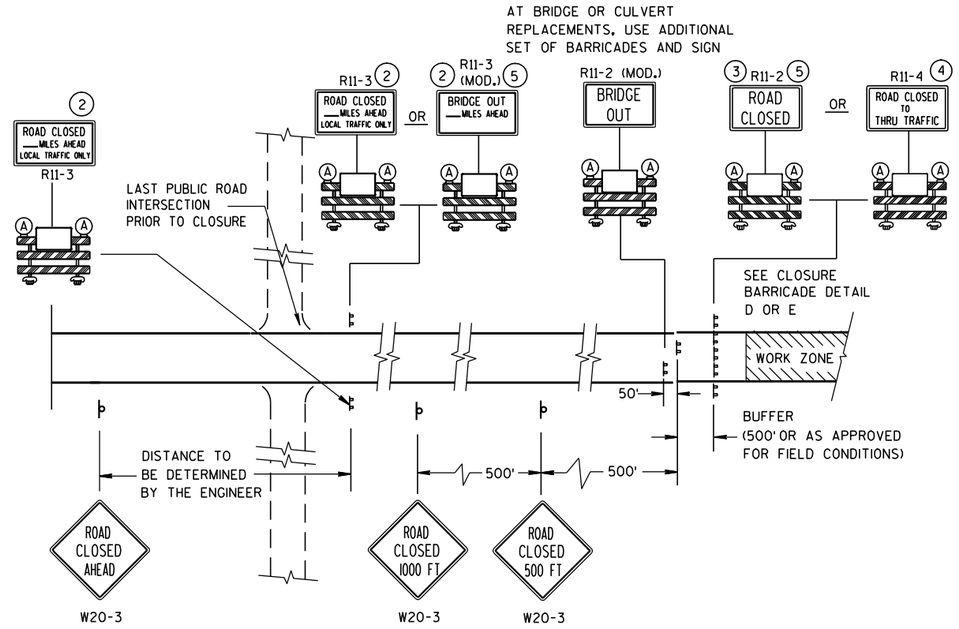
6
S.D.D. 15 A 2-7



DETAIL A

MAINLINE CLOSURE WITH POSTED DETOUR

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

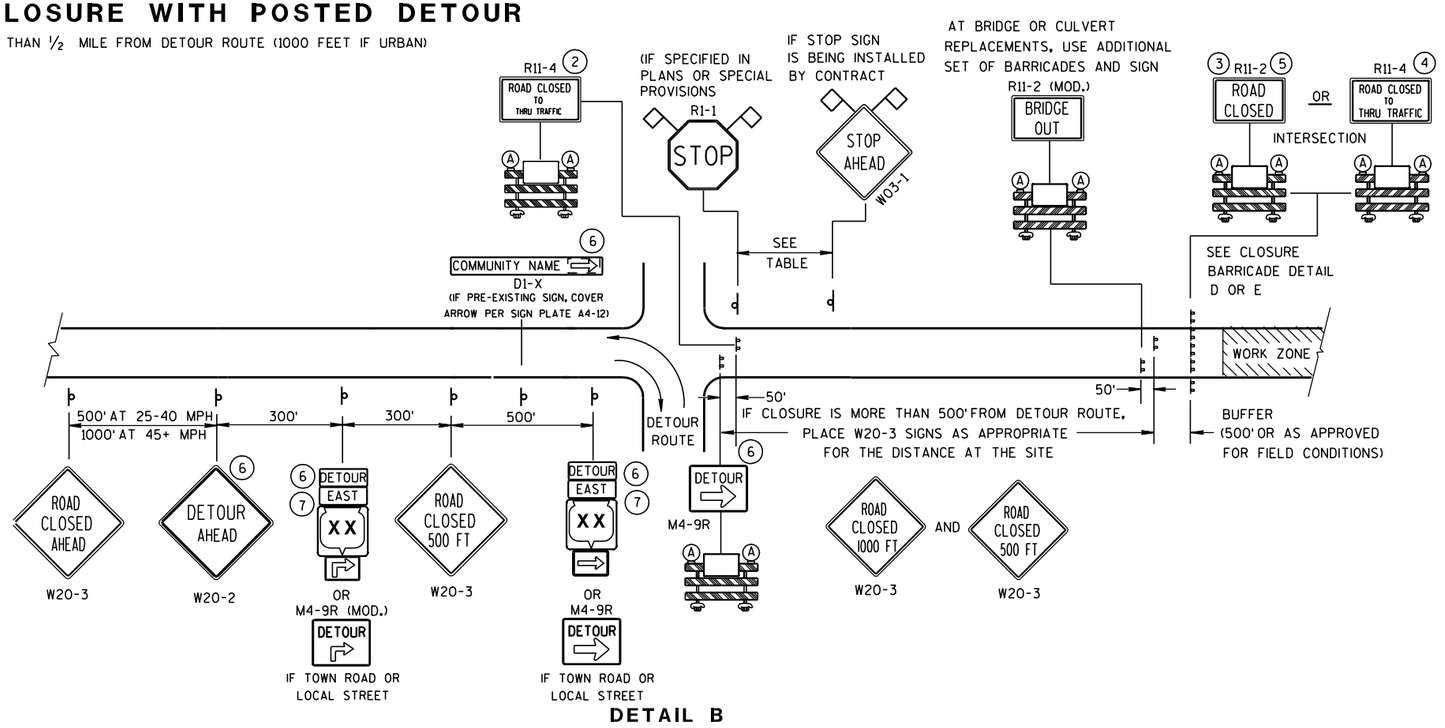


DETAIL C

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

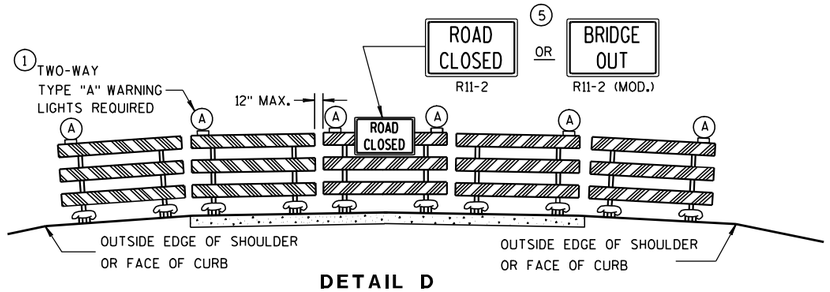
- POST MOUNTED SIGN
- TYPE III BARRICADES
- (A) TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

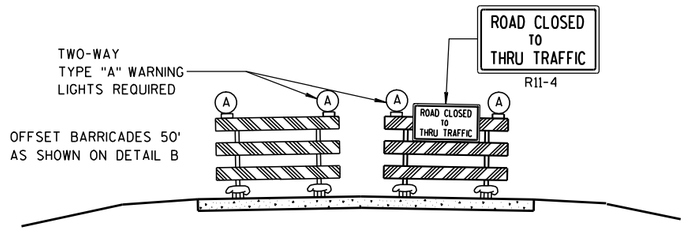
S.D.D. 15 C 2-4a



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 MARKINGS ENGINEER

FHWA

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.

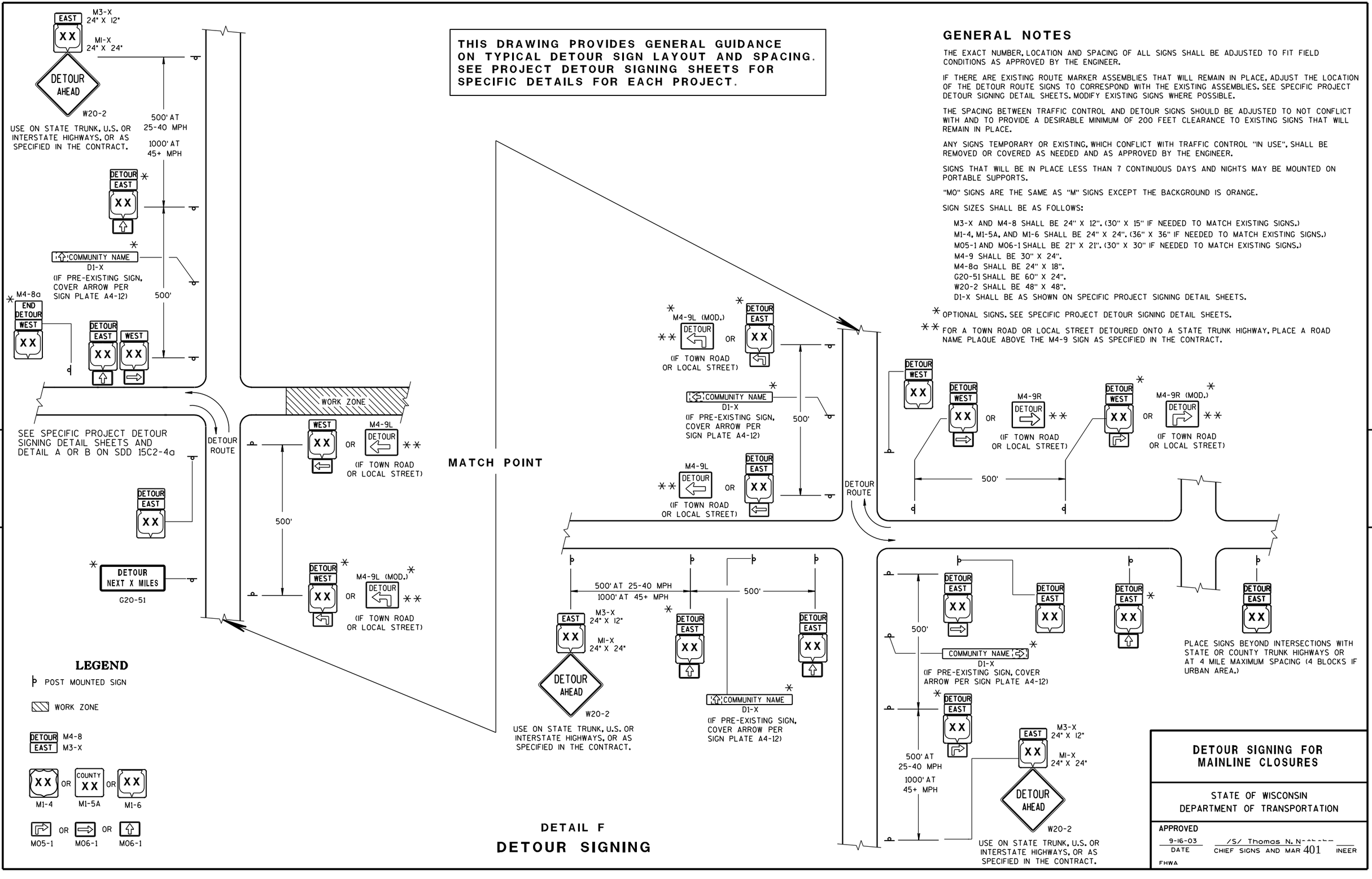
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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.



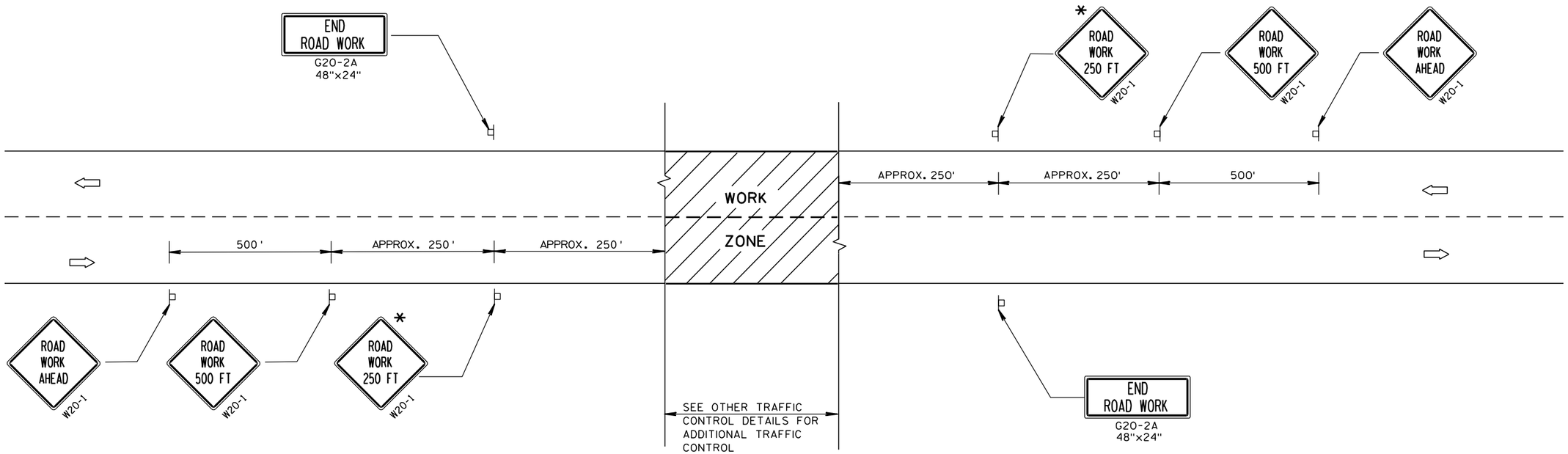
DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-16-03 DATE
/S/ Thomas N. [illegible] CHIEF SIGNS AND MAR 401 INEER
FHWA



GENERAL NOTES

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

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

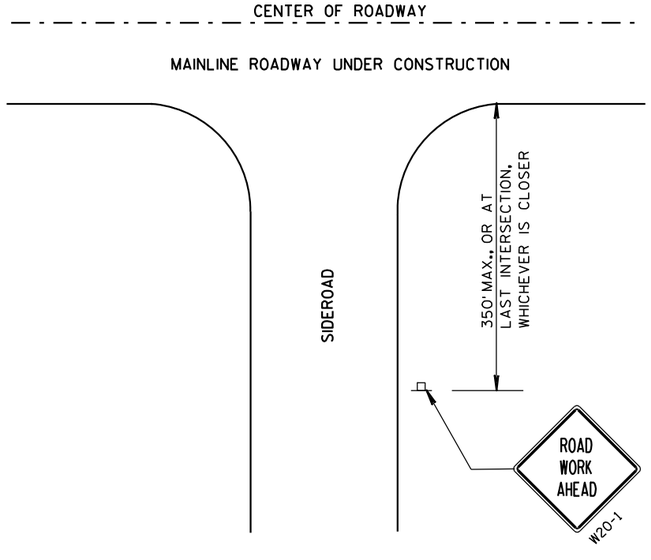
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



LEGEND

POST MOUNTED SIGN

DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/00
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKING ENGINEER

FHWA

6

S.D.D. 15 C 5-1

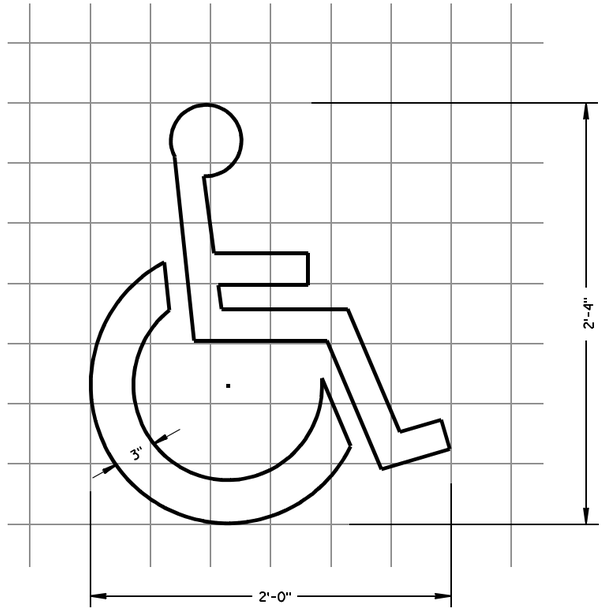
S.D.D. 15 C 5-1

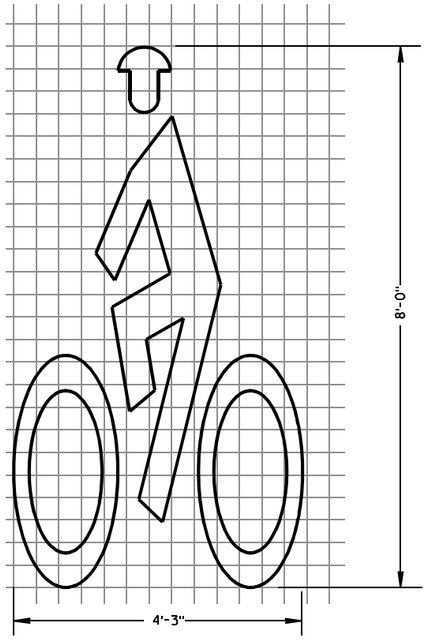
GENERAL NOTES

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

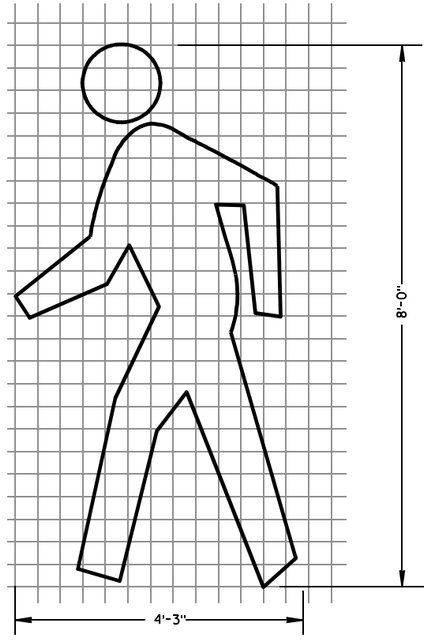
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

A DETAILED DRAWING OF THE HANDICAPPED PARKING SYMBOL IS ILLUSTRATED IN THE "STANDARD HIGHWAY SIGNS MANUAL" BY THE FEDERAL HIGHWAY ADMINISTRATION.

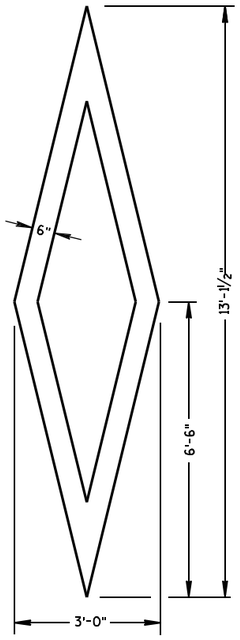




BIKE CROSSING SYMBOL



PEDESTRIAN SYMBOL



PREFERENTIAL LANE SYMBOL

PAVEMENT MARKING SYMBOLS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 DATE

/S/ Thomas N Nathan STATE TRAFFIC ENGINEER

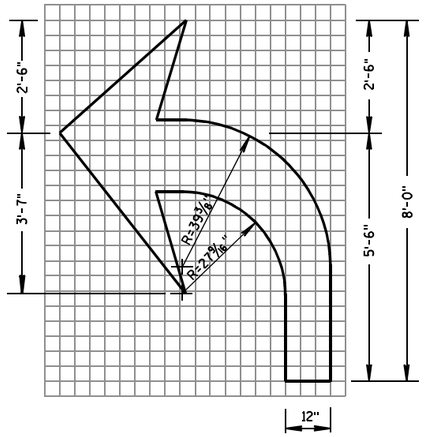
FHWA

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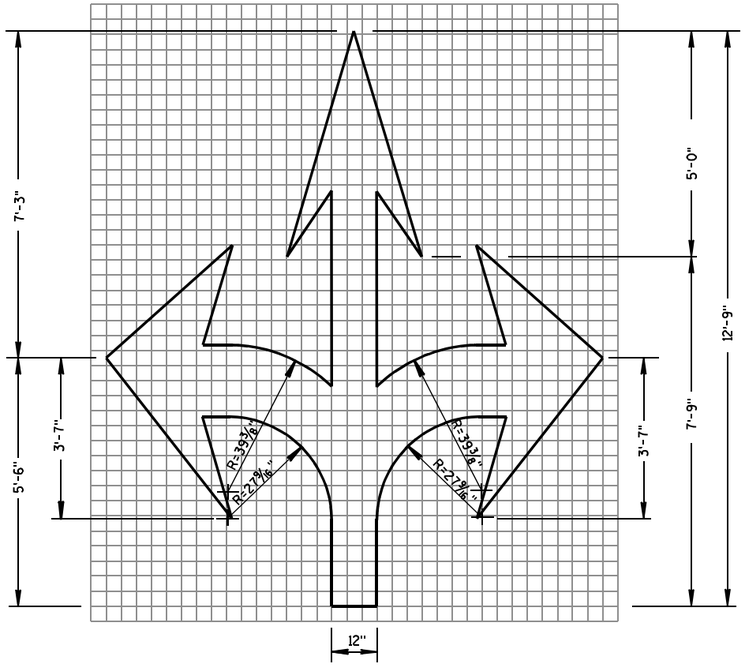
S.D.D. 15 C 7-12a

6

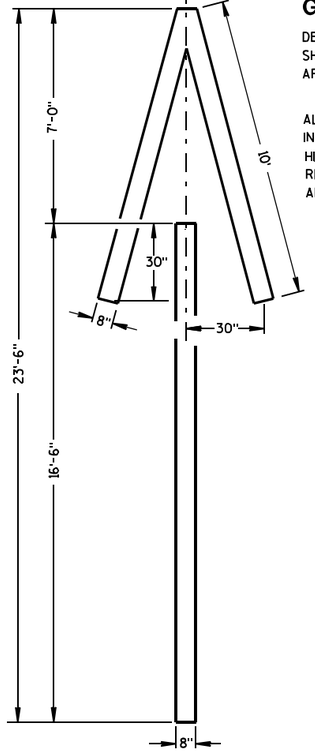
S.D.D. 15 C 7-12a



TYPE 2



TYPE 6

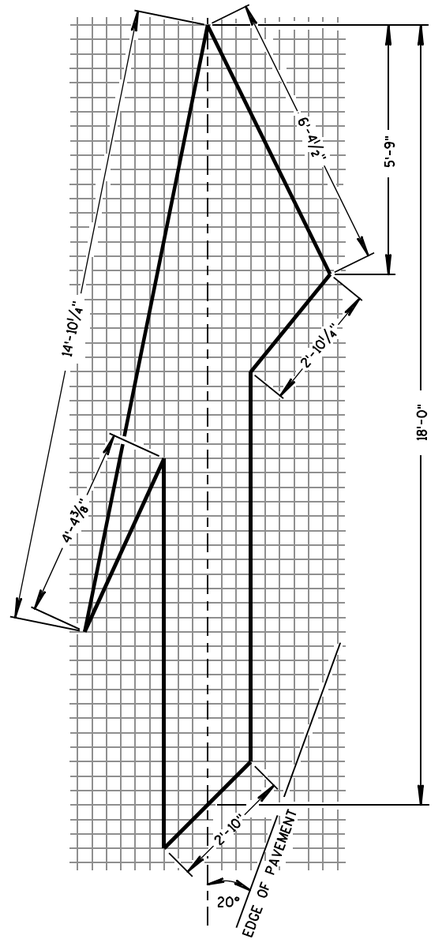


TYPE 4

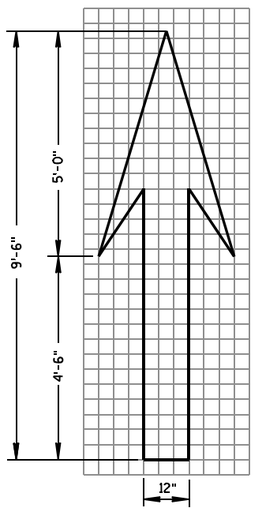
GENERAL NOTES

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

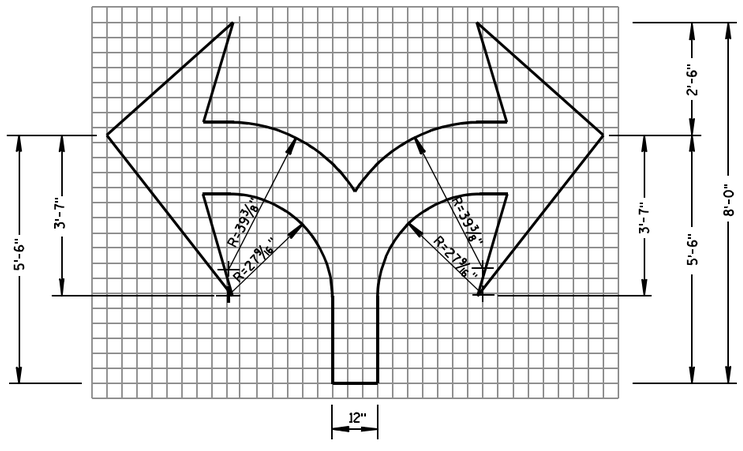
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



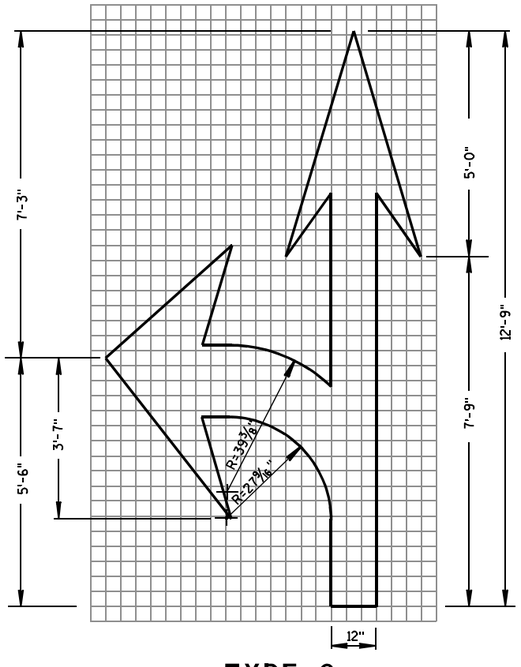
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

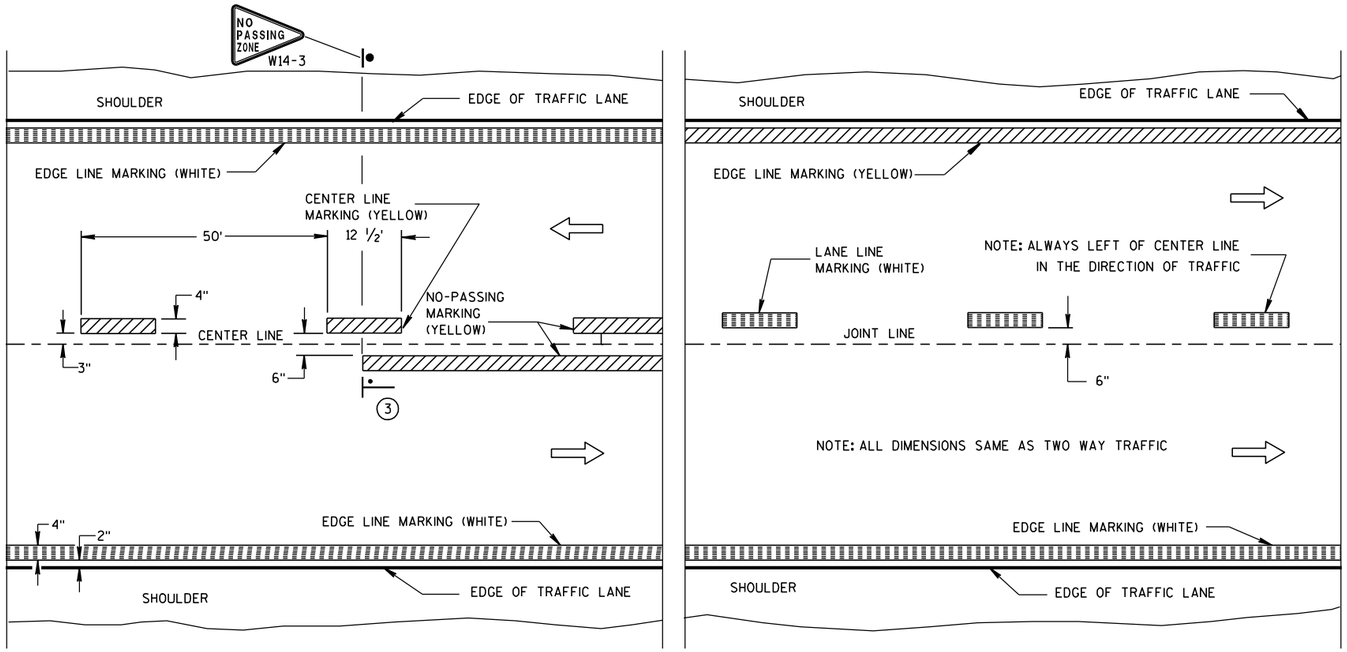
FHWA

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

6

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



TWO WAY TRAFFIC

ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

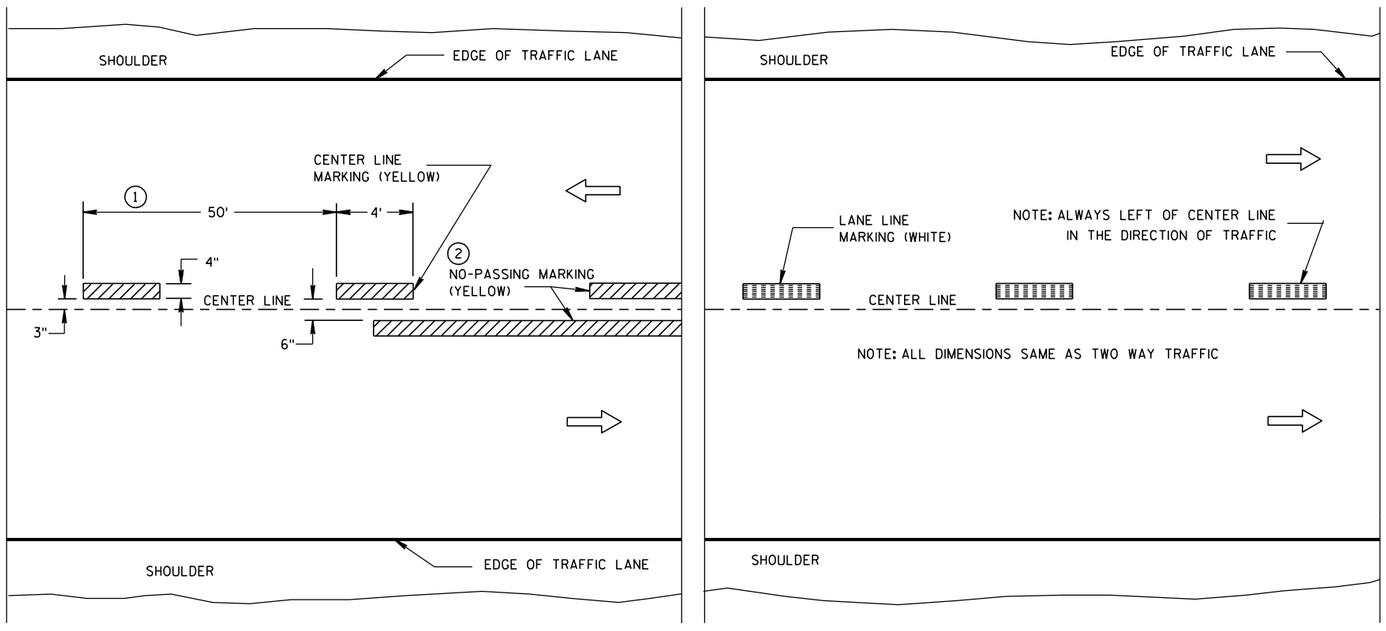
(1) HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.

(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

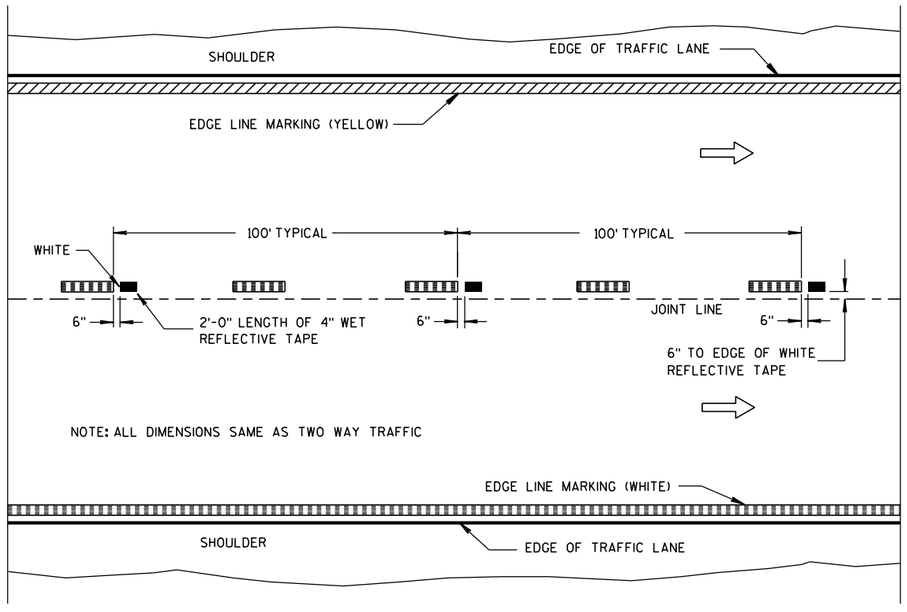


TWO WAY TRAFFIC

ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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



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

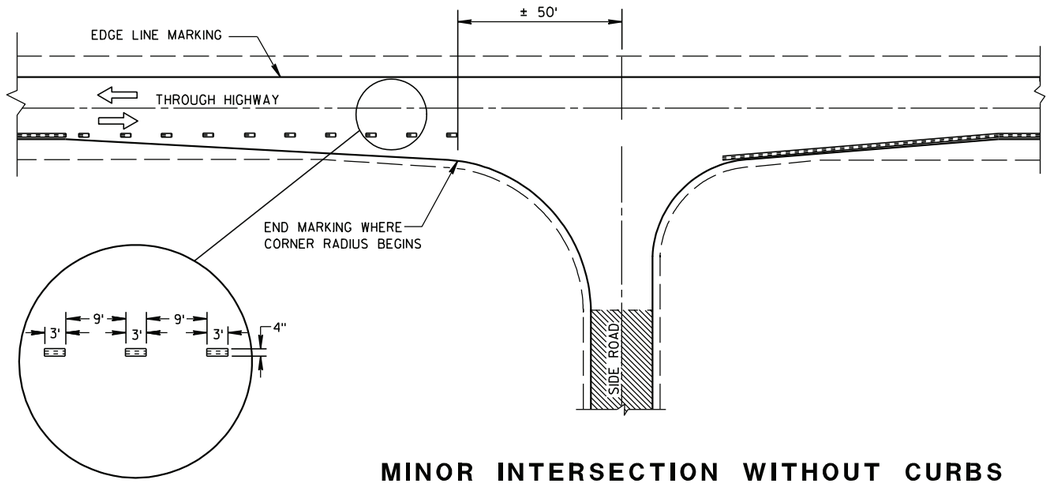
APPROVED
6-23-11 DATE
/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER
405 DESIGN
FHWA

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.

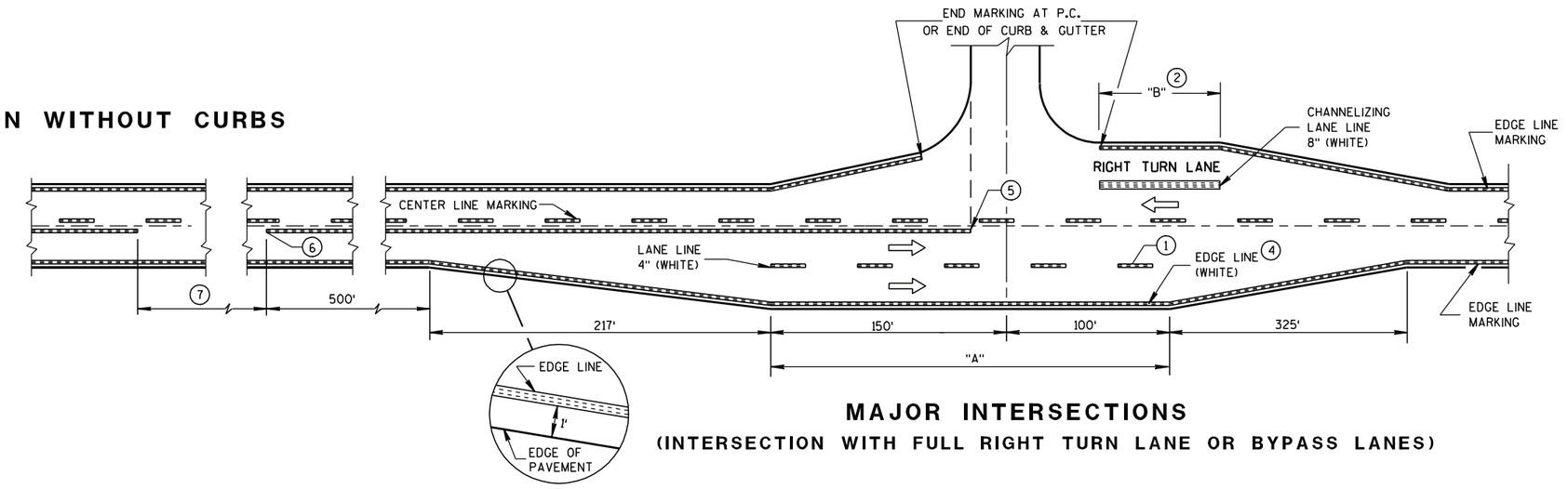
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

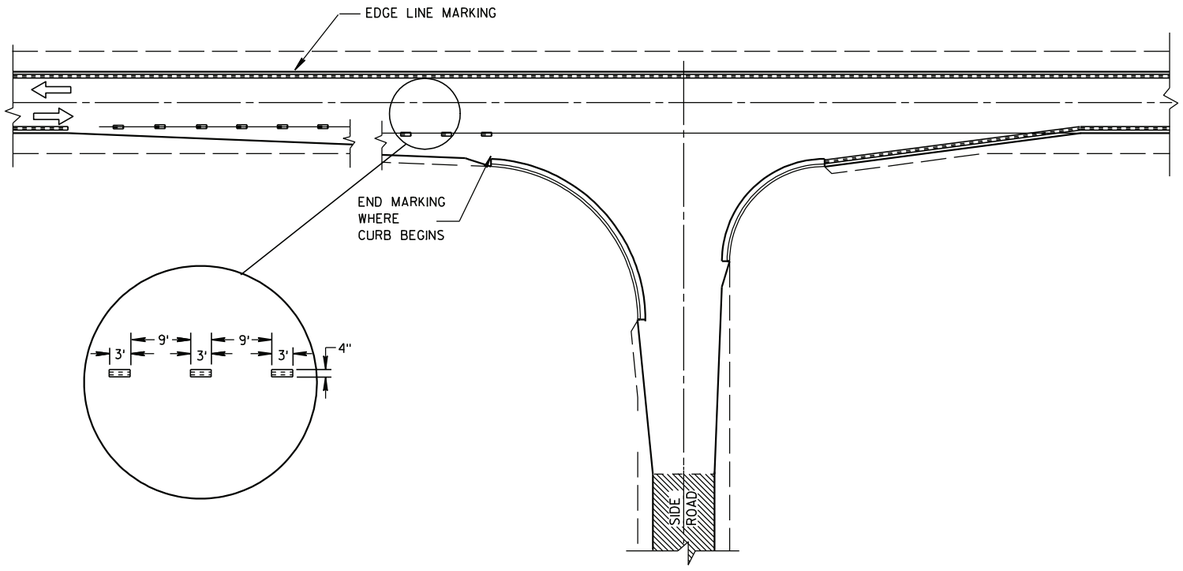
ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

(7)

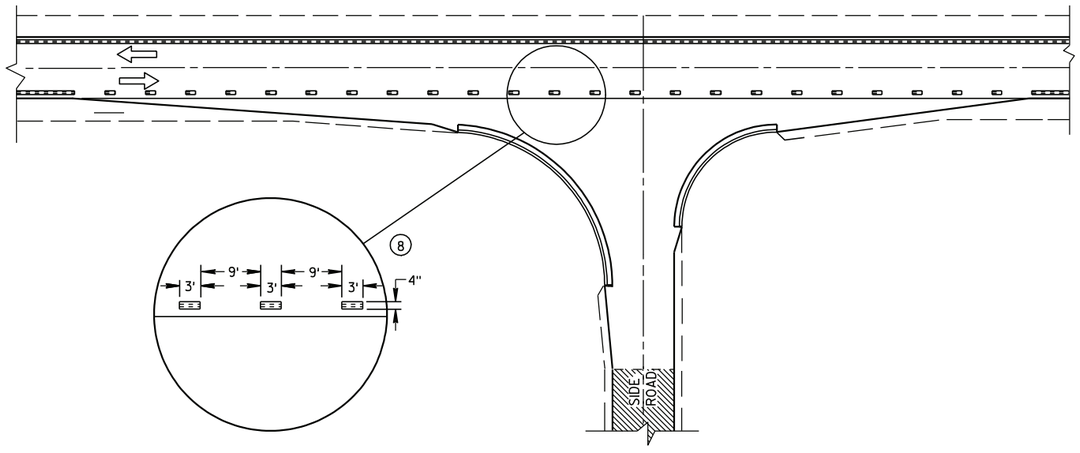
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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)

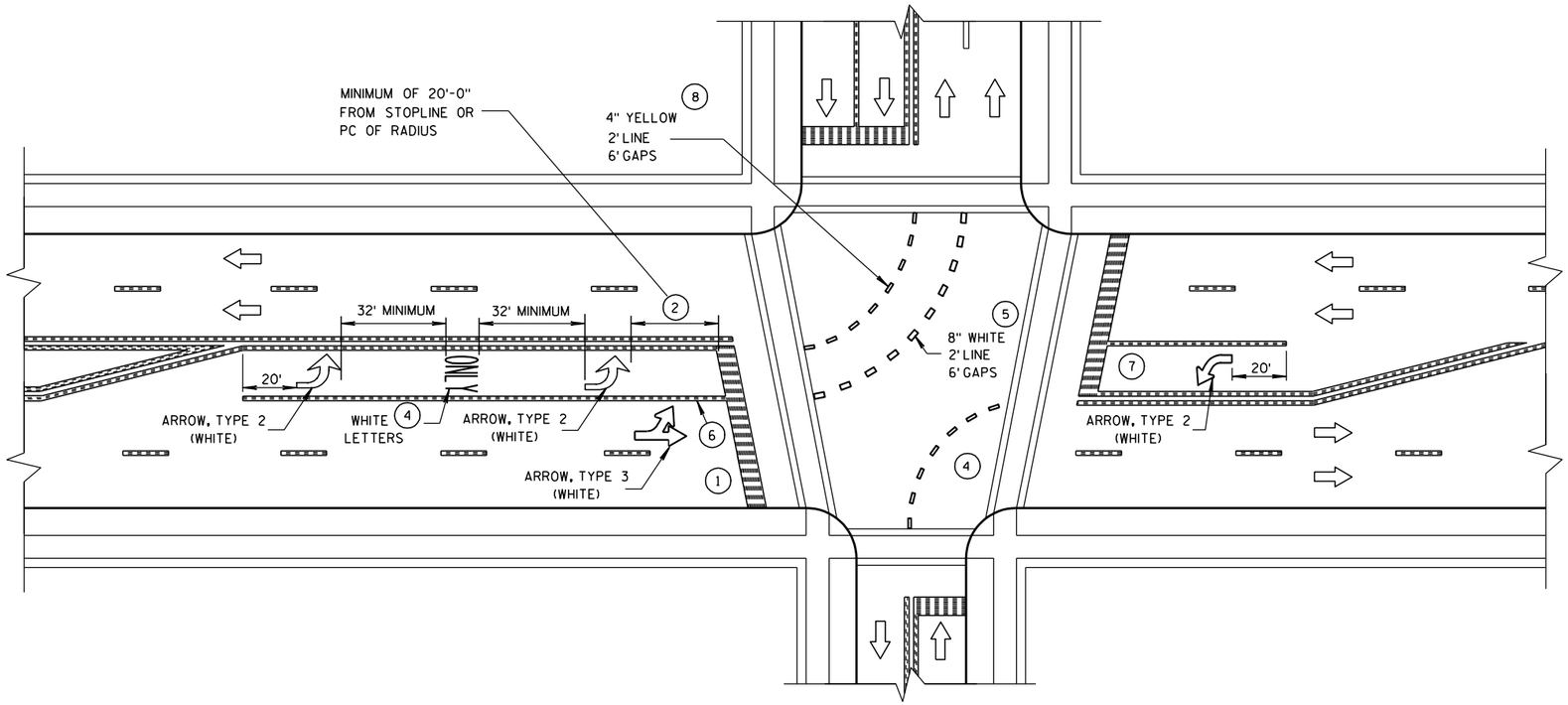
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

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

6

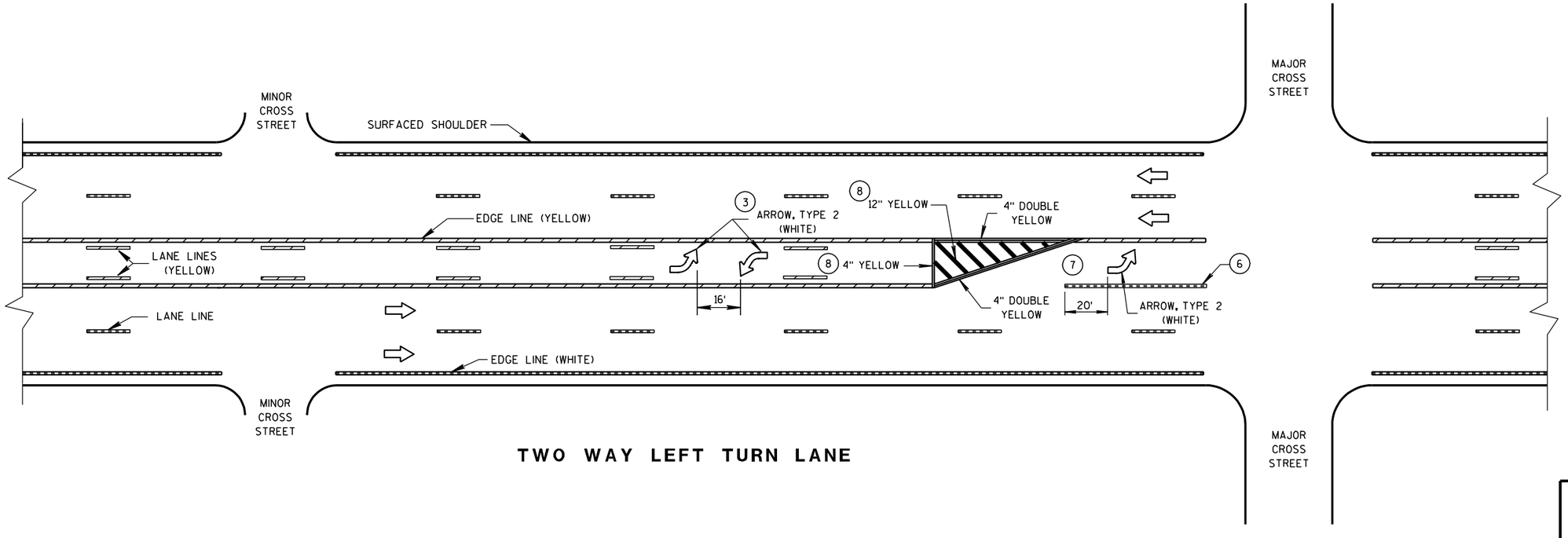
S.D.D. 15 C 8-14b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400' OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA ARROW AND ONLY PER 160' OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108'.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



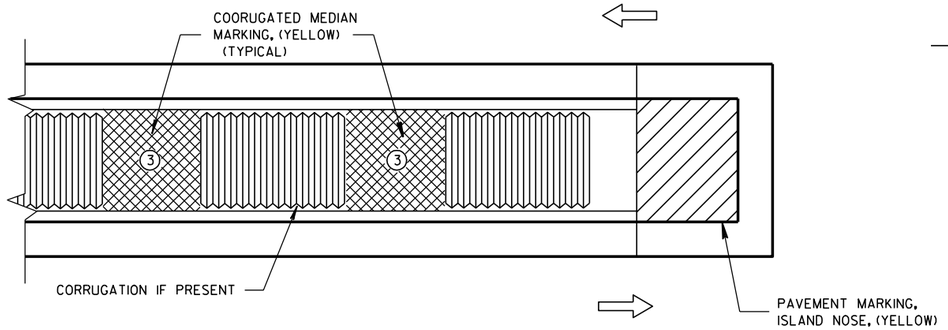
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(LEFT TURN LANE)

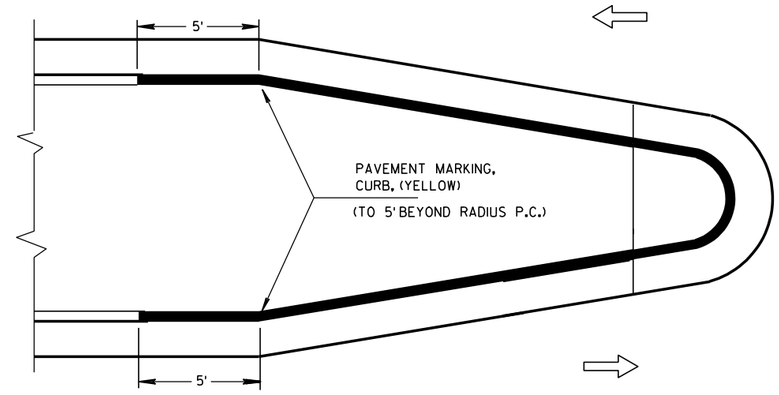
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

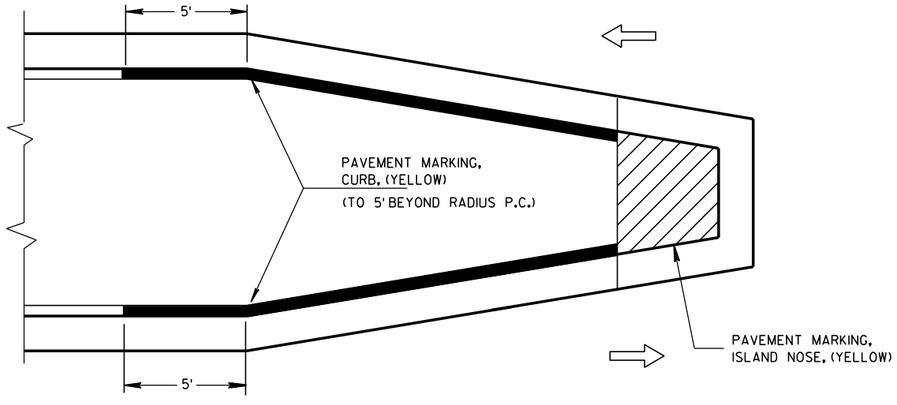
S.D.D. 15 C 8-14e



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

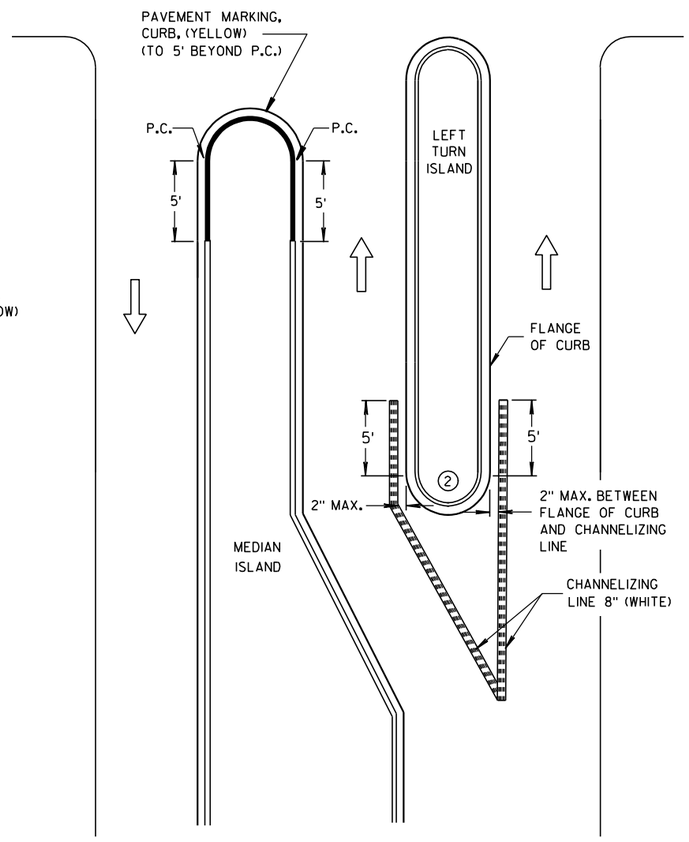


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

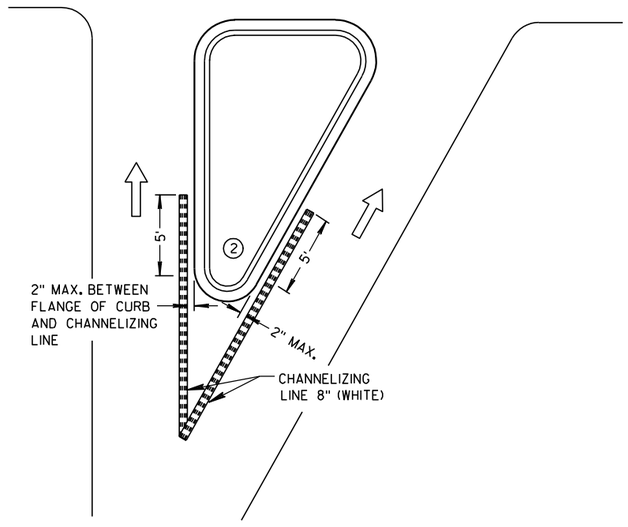
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



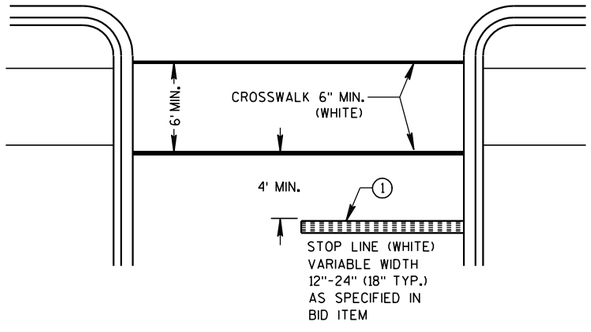
LEFT TURN & MEDIAN ISLAND

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)

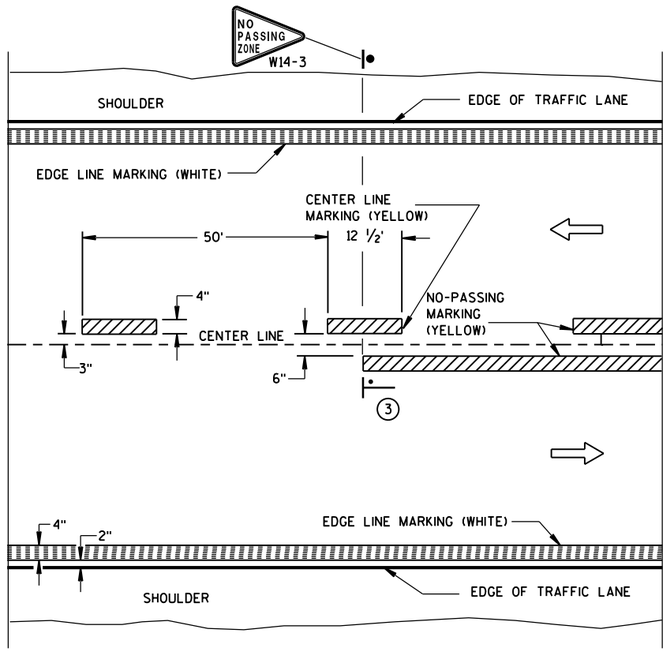
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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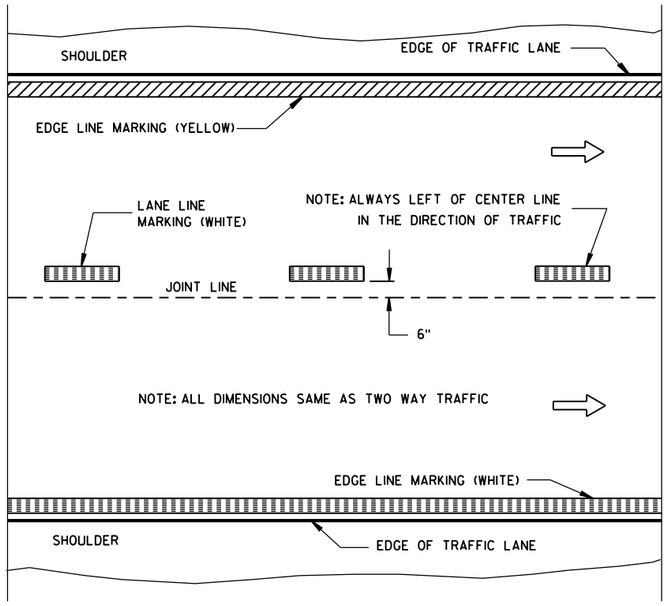
S.D.D. 15 C 8-14f

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

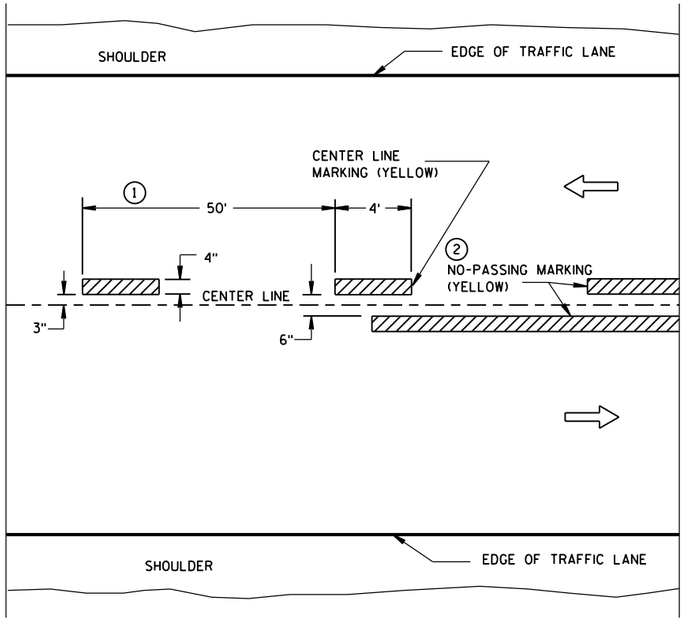


TWO WAY TRAFFIC

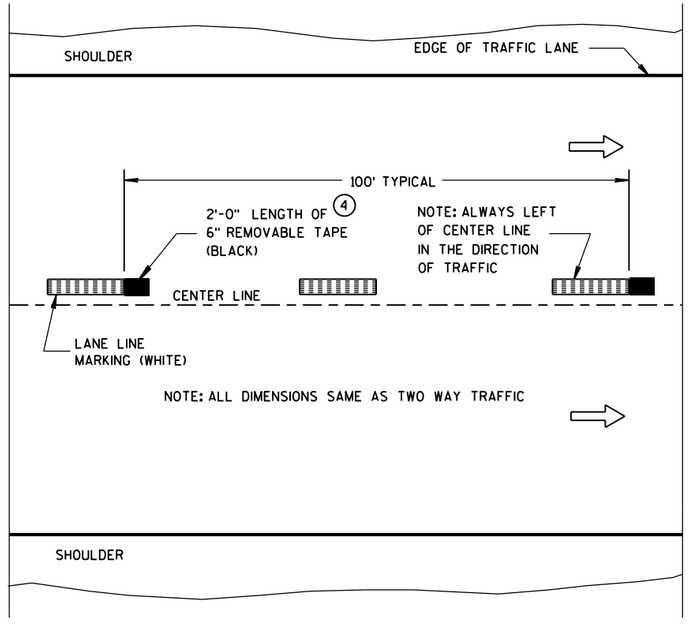


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

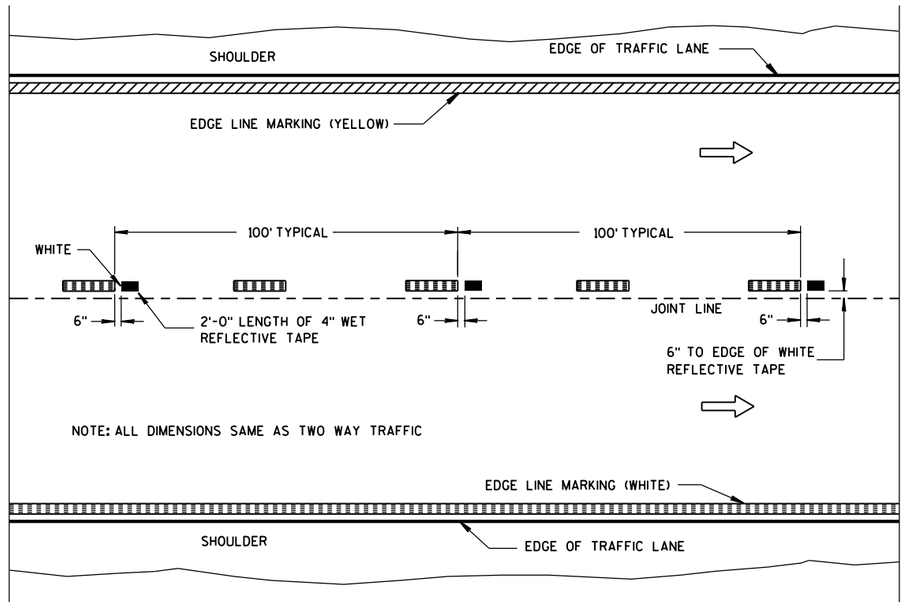
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

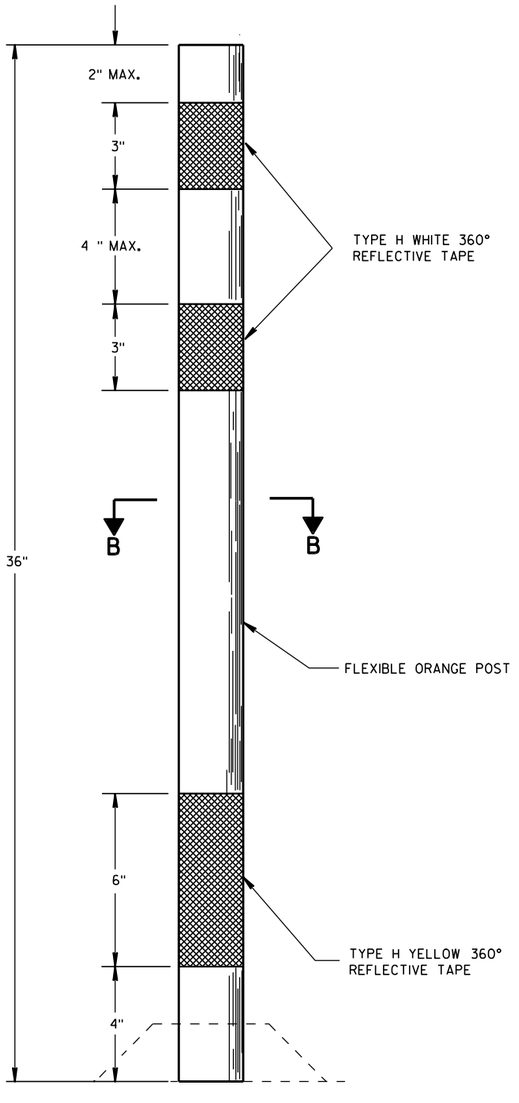
APPROVED
10-1-2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
409
FHWA

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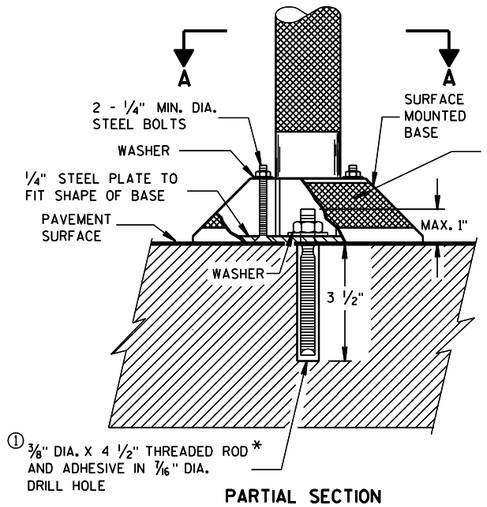
S.D.D. 15 C 8-15a

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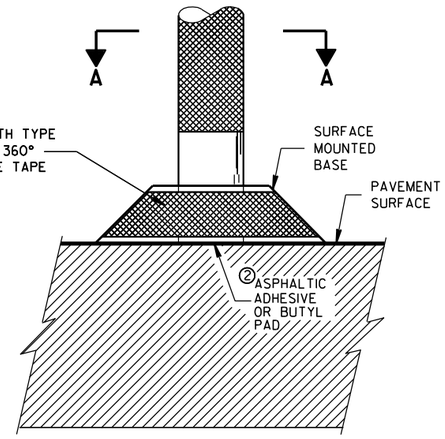
S.D.D. 15 C 8-15a



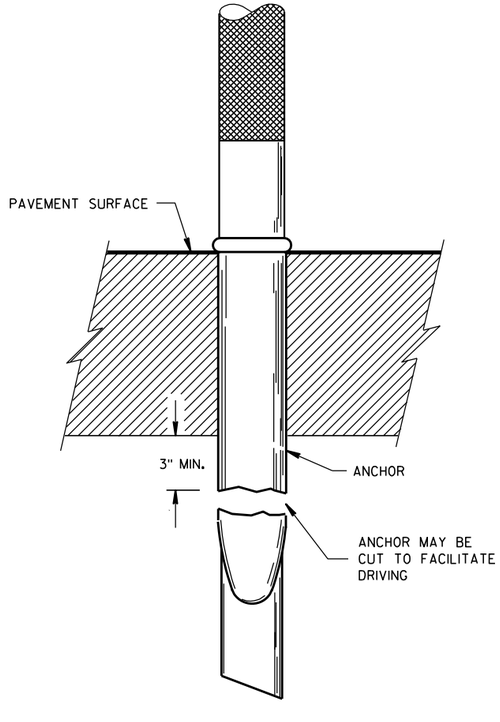
FLEXIBLE TUBULAR MARKER POST

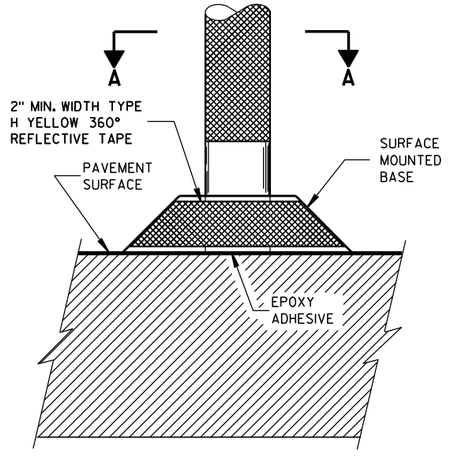


PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

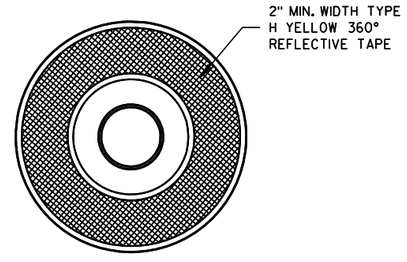
GENERAL NOTES

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

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

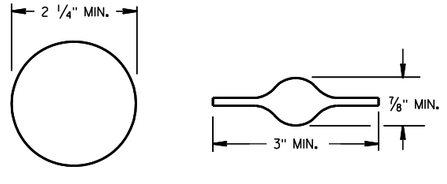
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



SECTION A-A

SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 DATE

/S/ Chester J. [illegible] DIRECTOR, OFFICE O

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S.D.D. 15 C 11-5

TWO-LANE ROADWAY

SYMBOLS

WORK AREA

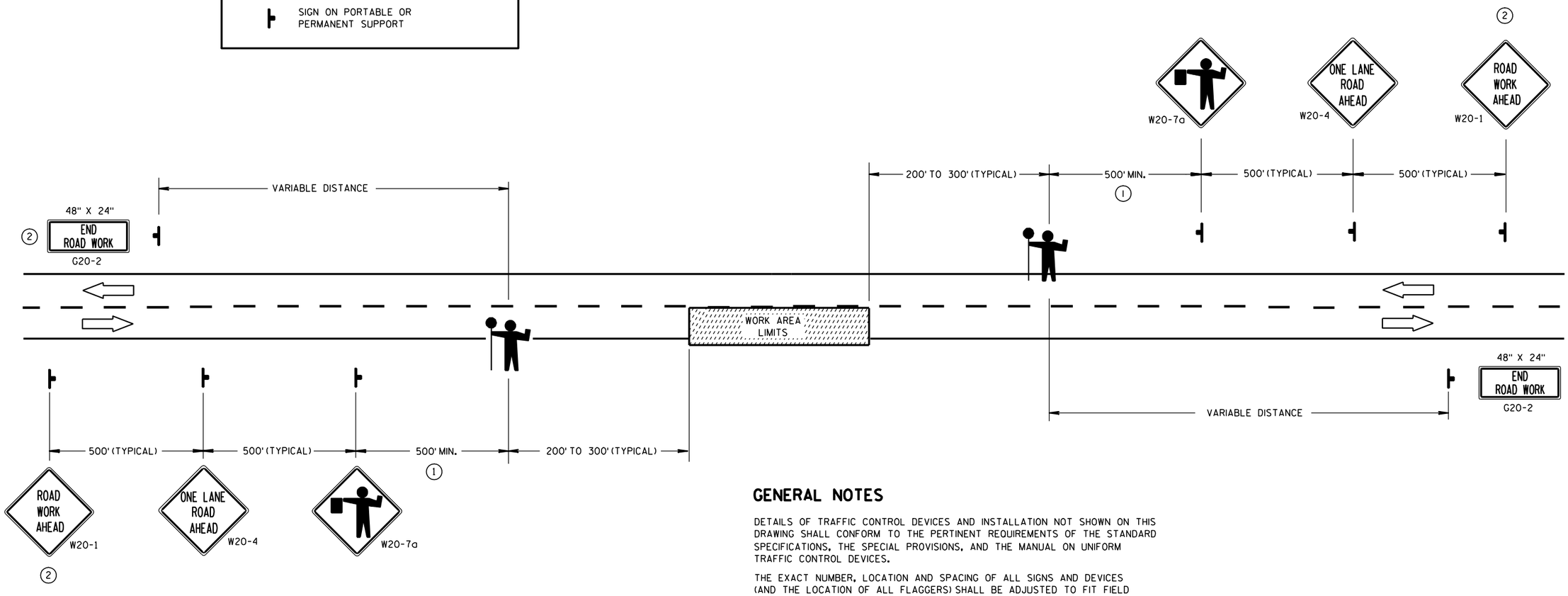
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN ON PORTABLE OR PERMANENT SUPPORT



W3-4

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



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

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

GENERAL NOTES

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

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

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

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

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, THE "FLAGGER AHEAD", THE "ROAD WORK AHEAD" AND THE ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/5/06	/S/ Thomas N. Nathaam
DATE	STATE TRAFFIC ENGINEER

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S.D.D. 15 C 12-3

GENERAL NOTES

ORIENT ANCHOR BOLTS IN FOOTING AND PROVIDE ANCHOR BOLT STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER FABRICATION DRAWING.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

WELDING OF ANCHOR BOLTS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR CAGE TO BE ASSEMBLED USING TIE WIRES ONLY, NO WELDING.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACK FILLING AROUND THE BASE. ANY REQUIRED BACKFILL SHALL BE WELL COMPACTED IN LAYERS OF 1 FOOT OR LESS. COMPACTION SHALL BE BY MECHANICAL MEANS. CARE SHALL BE TAKEN SO NO DAMAGE OCCURS TO THE CONCRETE BASE DURING COMPACTION.

EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

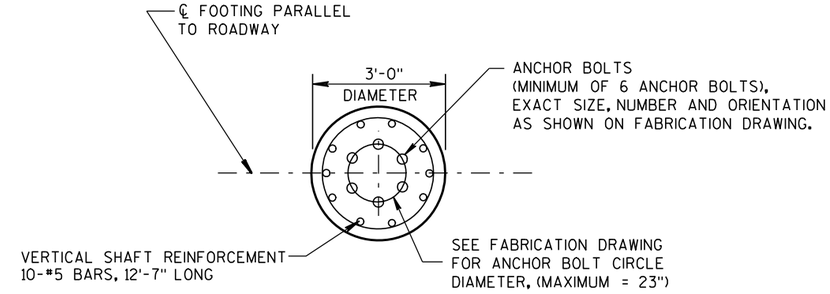
IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

THE REINFORCEMENT AND ANCHOR BOLTS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

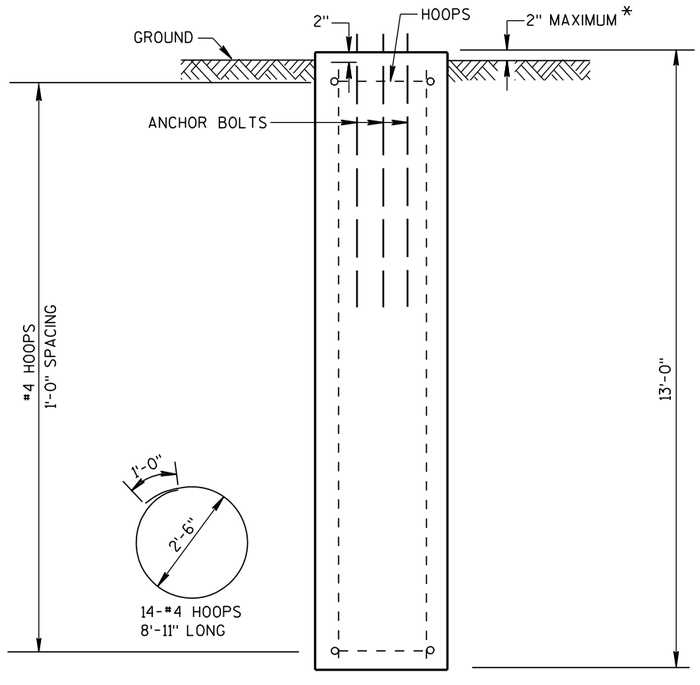
ANY DAMAGE TO THE CONCRETE BASE DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR BOLTS	AASHTO M314 GRADE 55

THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).



PLAN VIEW



ELEVATION VIEW

* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.

CONCRETE - 3.4 C.Y. PER FOOTING
H.S. REINFORCEMENT - 215 LBS. PER FOOTING

36" DIAMETER FULL SPAN OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/17/09 — DATE

/S/ Thomas N. Nothdurm — STATE TRAFFIC ENGINEER

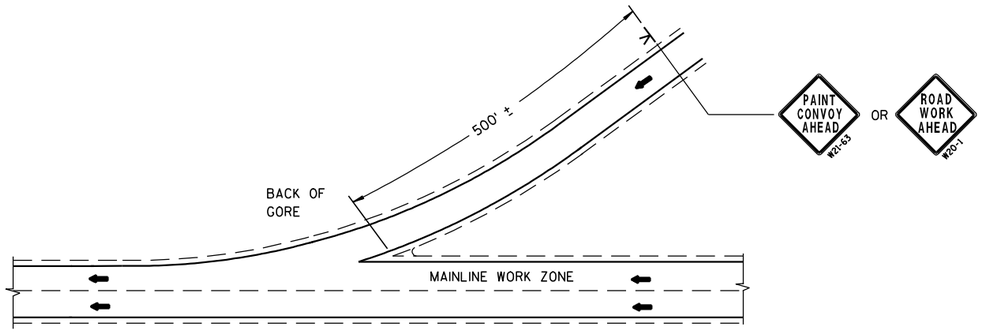
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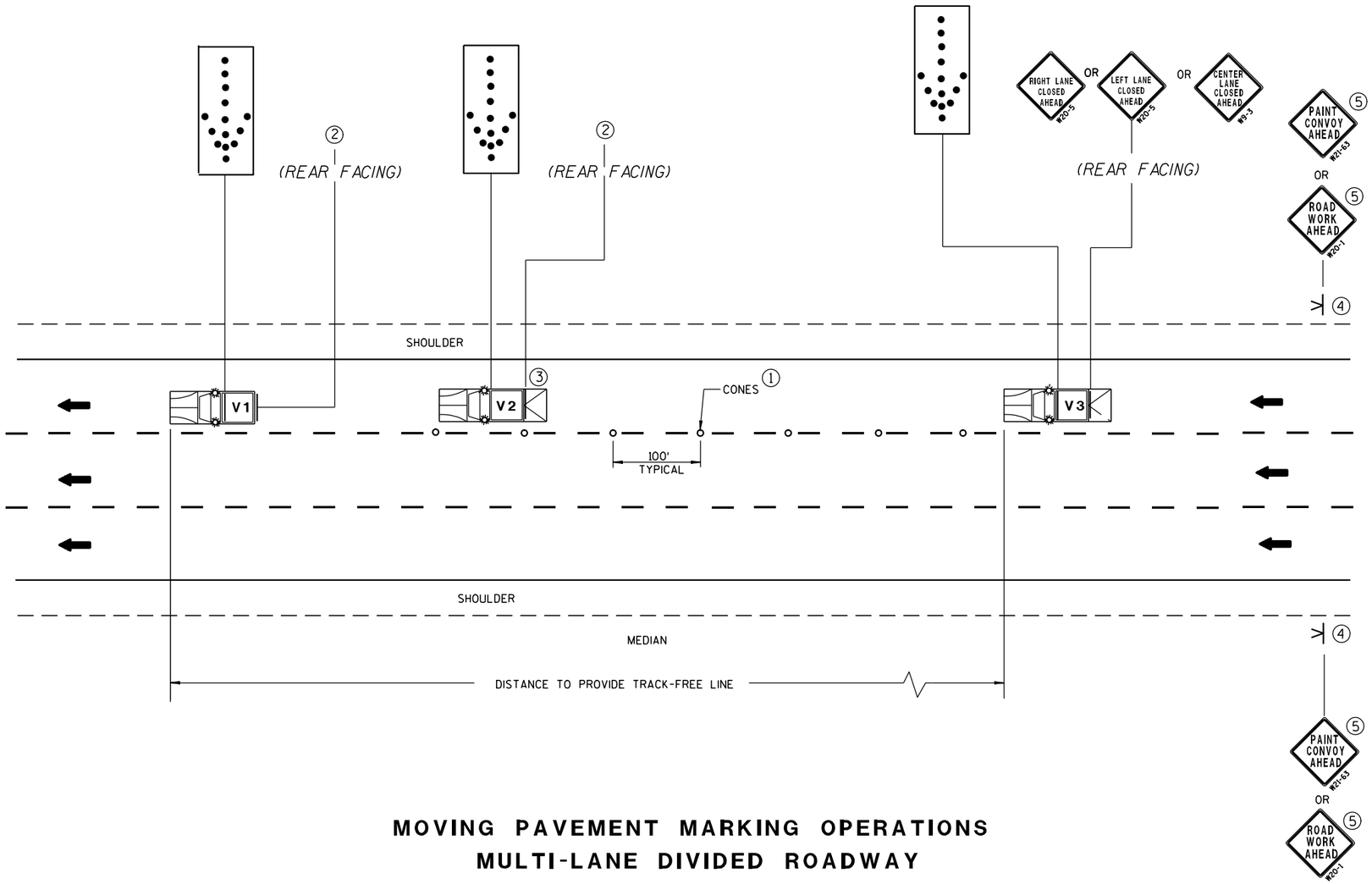
S.D.D. 15 C 15-3

S.D.D. 15 C 15-3

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MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT ↙ W21-64 OR WET PAINT ↘ W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

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

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

LEGEND

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

MOVING PAVEMENT MARKING OPERATION
MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

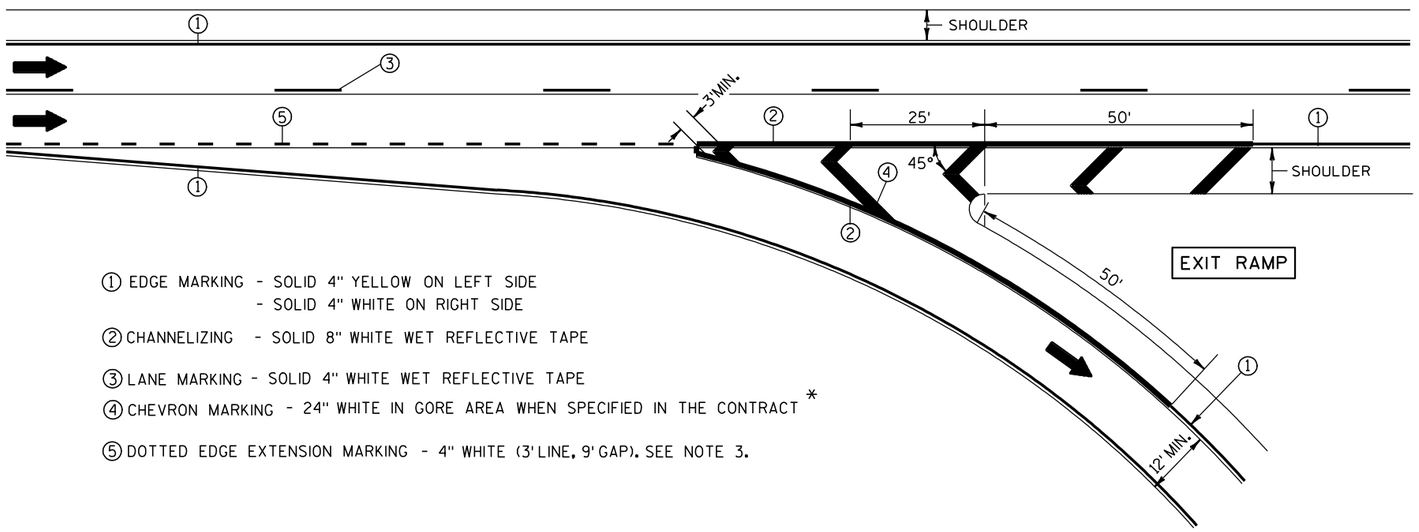
APPROVED

12/6/2011 DATE — /S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER

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S.D.D. 15 C 19-1c



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

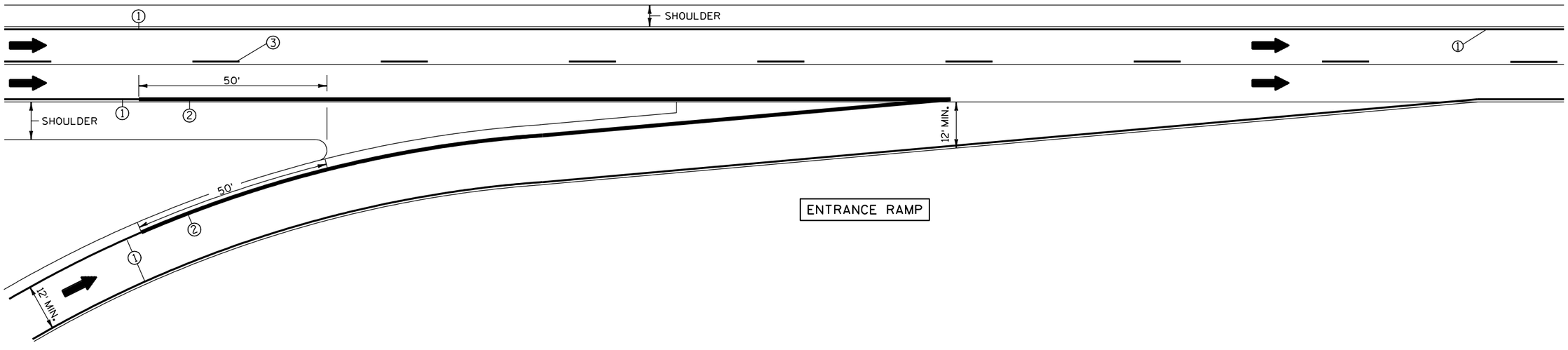
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



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

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

PAVEMENT MARKING
(RAMPS AND GORES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

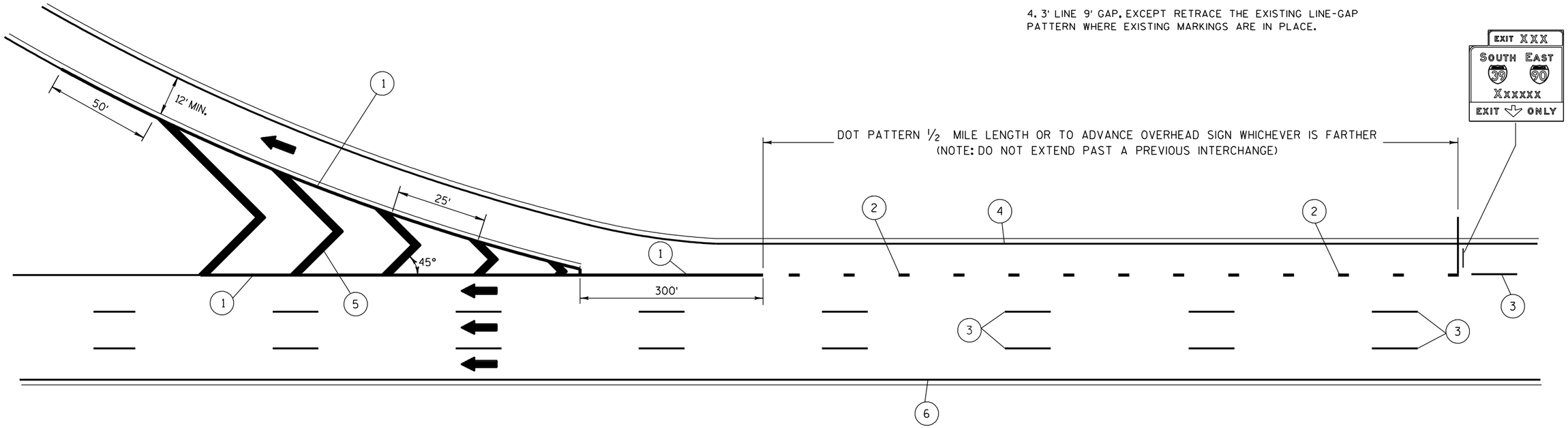
NOTES:

1. SEE STANDARD DETAIL DRAWING 15 C 10 FOR SPRAYED OR NON WET REFLECTIVE LINE SEGMENTS.

2. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

3. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

4. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.



1. CHANNELIZING - SOLID 8" WHITE WET RELECTIVE TAPE
2. 3' LINE, 9' GAP SOLID 8" WHITE WET REFLECTIVE TAPE. SEE NOTE 4.
3. SOLID 4" WHITE WET REFLECTIVE TAPE
4. 4" WHITE EDGELINE
5. CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT
6. 4" YELLOW EDGELINE

LANE DROP
PAVEMENT MARKING

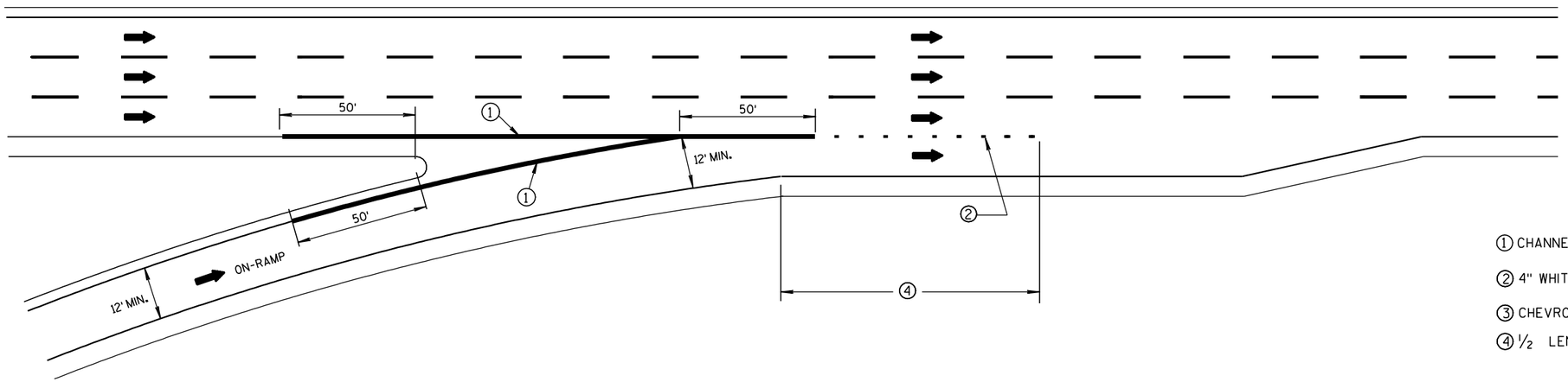
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

NOTES:

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



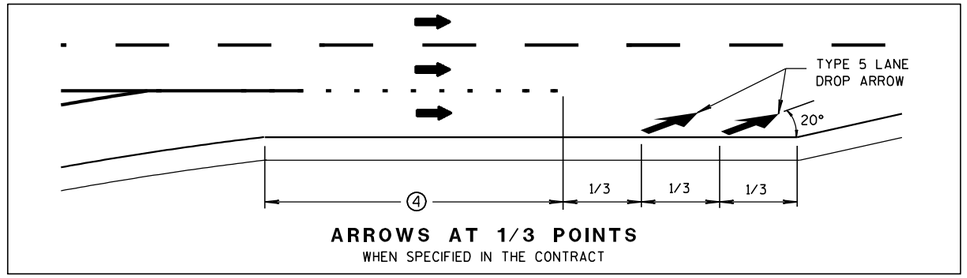
① CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE IN GORE AREA.

② 4" WHITE (3' LINE, 9' GAP).

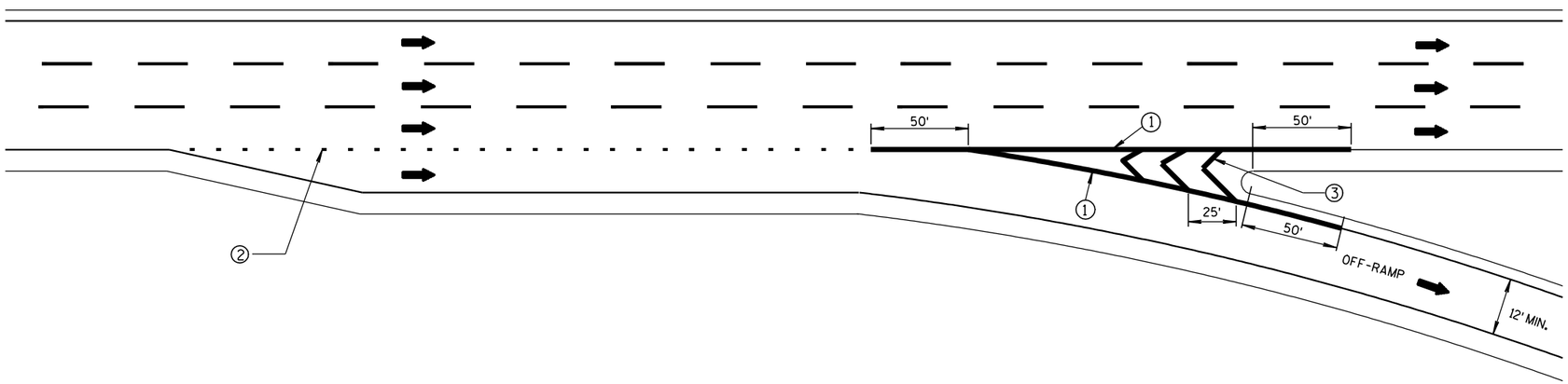
③ CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT.

④ ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE-RAMP



ARROWS AT 1/3 POINTS
WHEN SPECIFIED IN THE CONTRACT



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT-RAMP

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/23/2011 DATE
/S/ Thomas N. Nothnagel STATE TRAFFIC ENGINEER
416 SIGN
FHWA

6
S.D.D. 15 C 31-1d

LEGEND

- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- REMOVING PAVEMENT MARKING
- TEMPORARY PRECAST CONCRETE BARRIER
- DIRECTION OF TRAFFIC
- WORK ZONE

GENERAL NOTES :

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

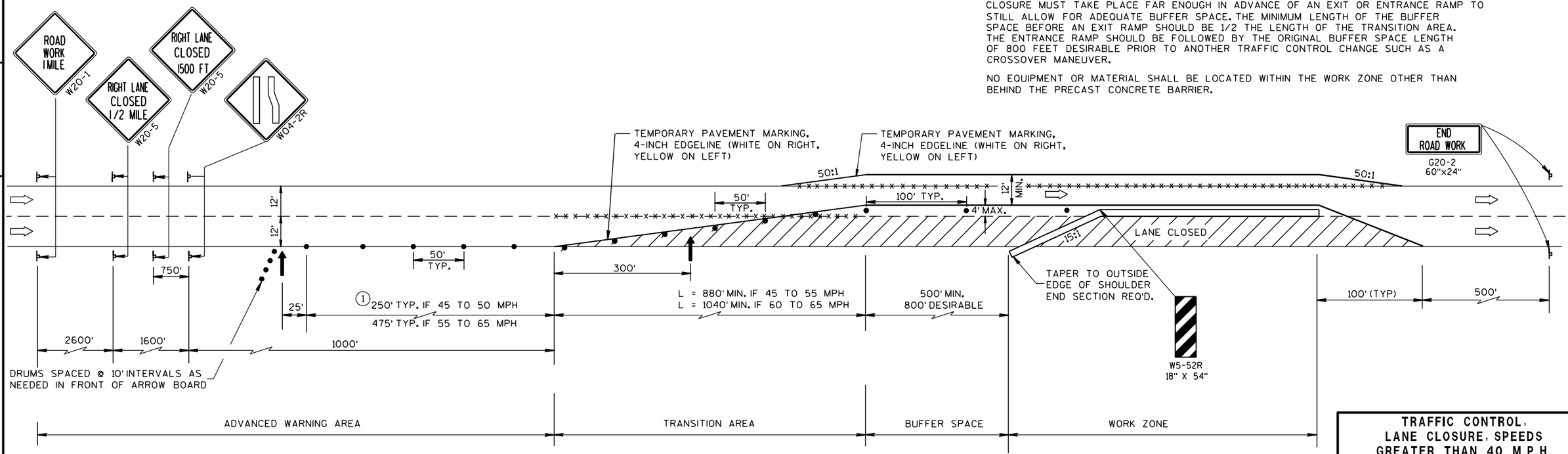
FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

NO EQUIPMENT OR MATERIAL SHALL BE LOCATED WITHIN THE WORK ZONE OTHER THAN BEHIND THE PRECAST CONCRETE BARRIER.



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-14-94
DATE

/S/ Chester J. [illegible]
DIRECTOR, OFFICE OF [illegible]

FHWA

6

S.D.D. 15 D 3-1

6

S.D.D. 15 D 3-1

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.

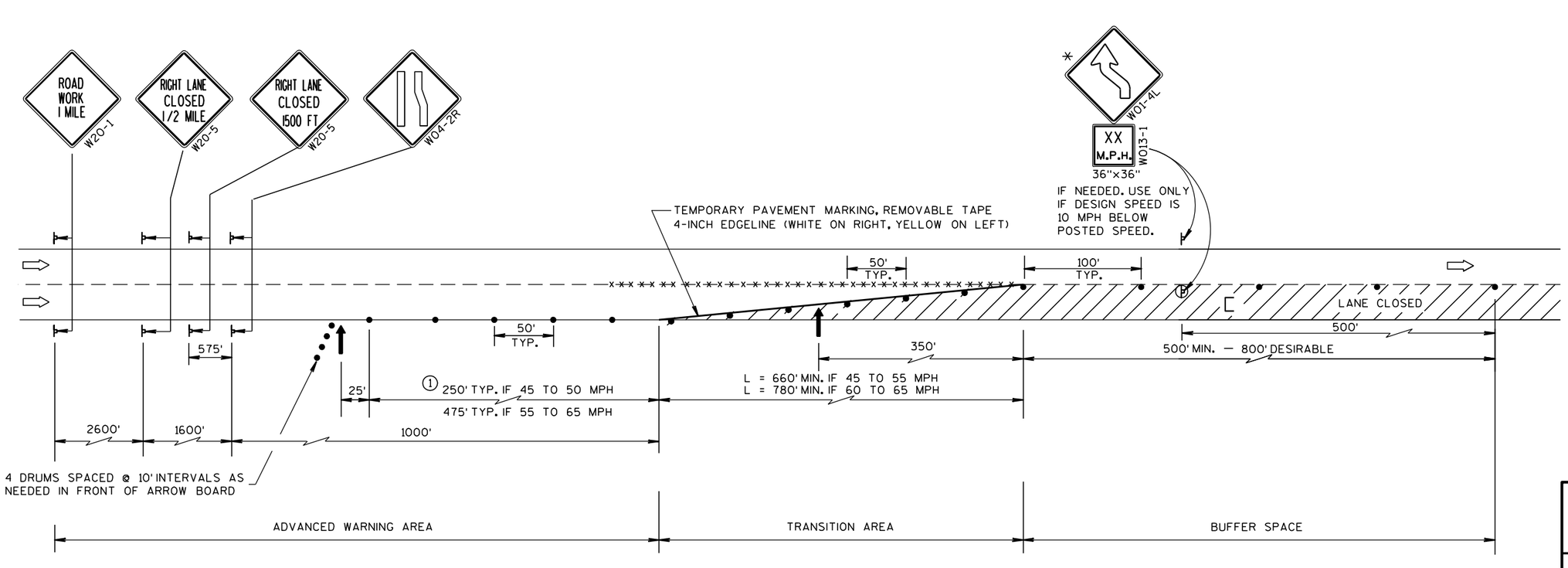
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

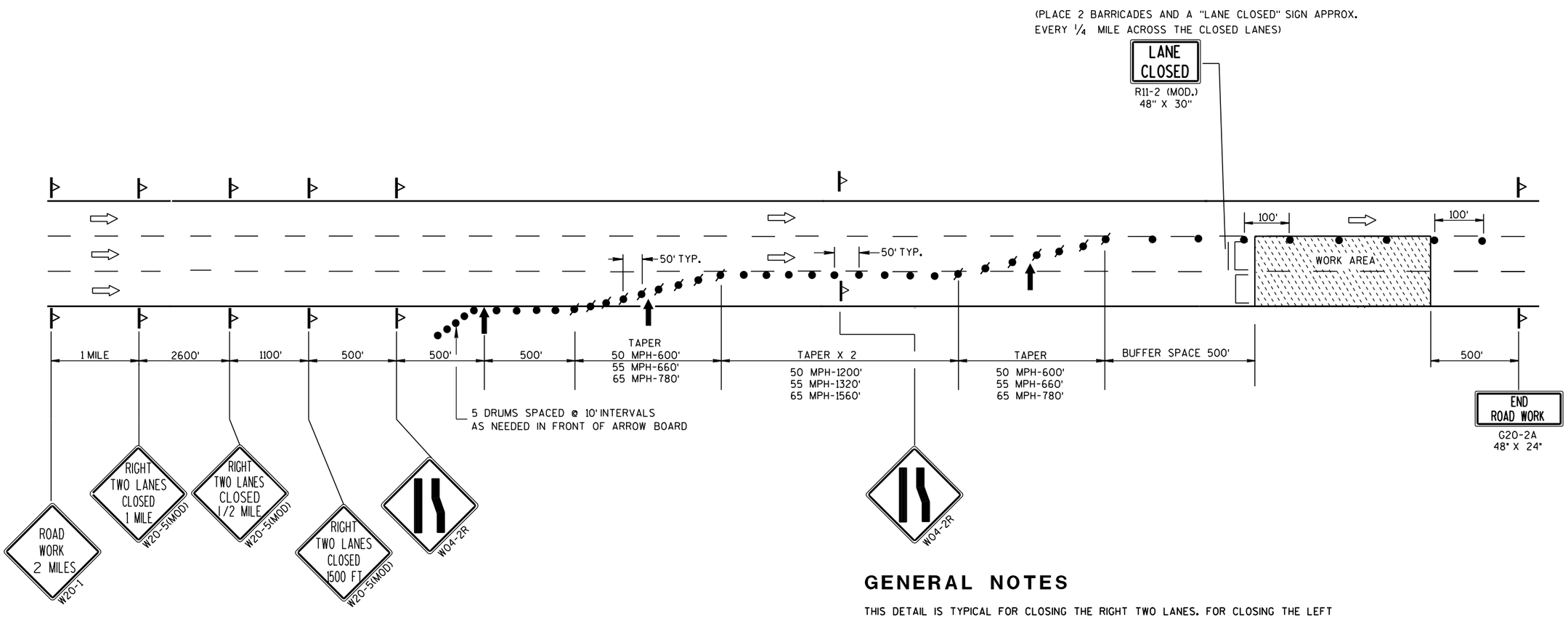
APPROVED
8-7-95
DATE
/S/ Chester J. [illegible]
DIRECTOR, OFFICE O 418 C
FHWA

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S.D.D. 15 D 12-2

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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)

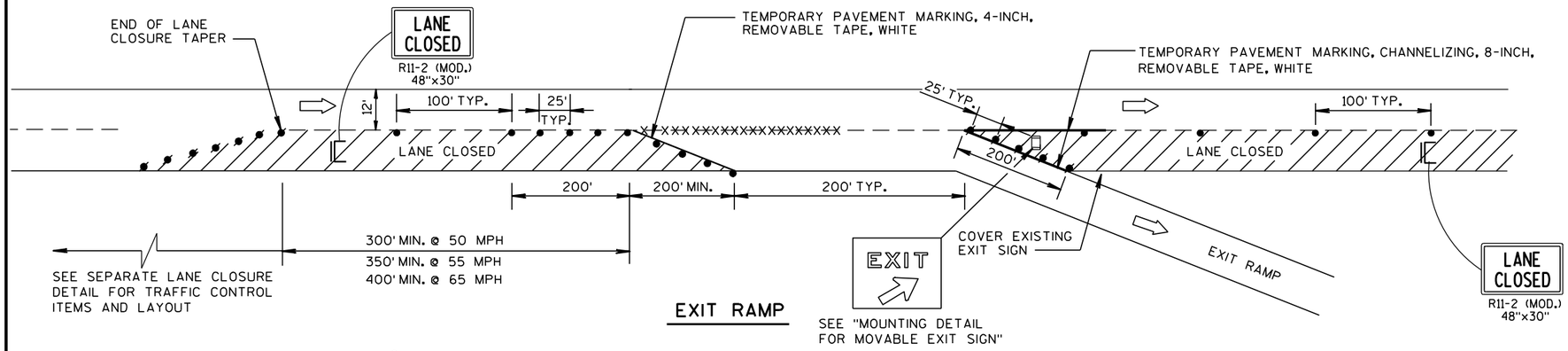
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

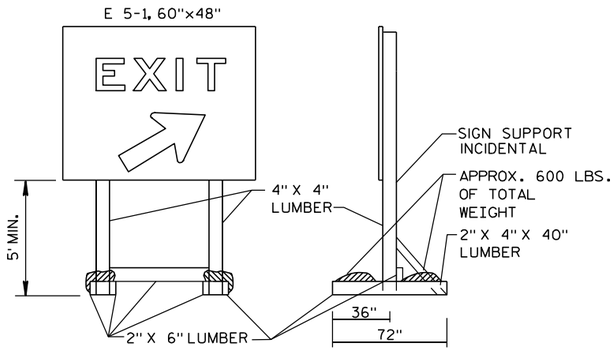
5/23/2000
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MAR 419 INEER

FHWA

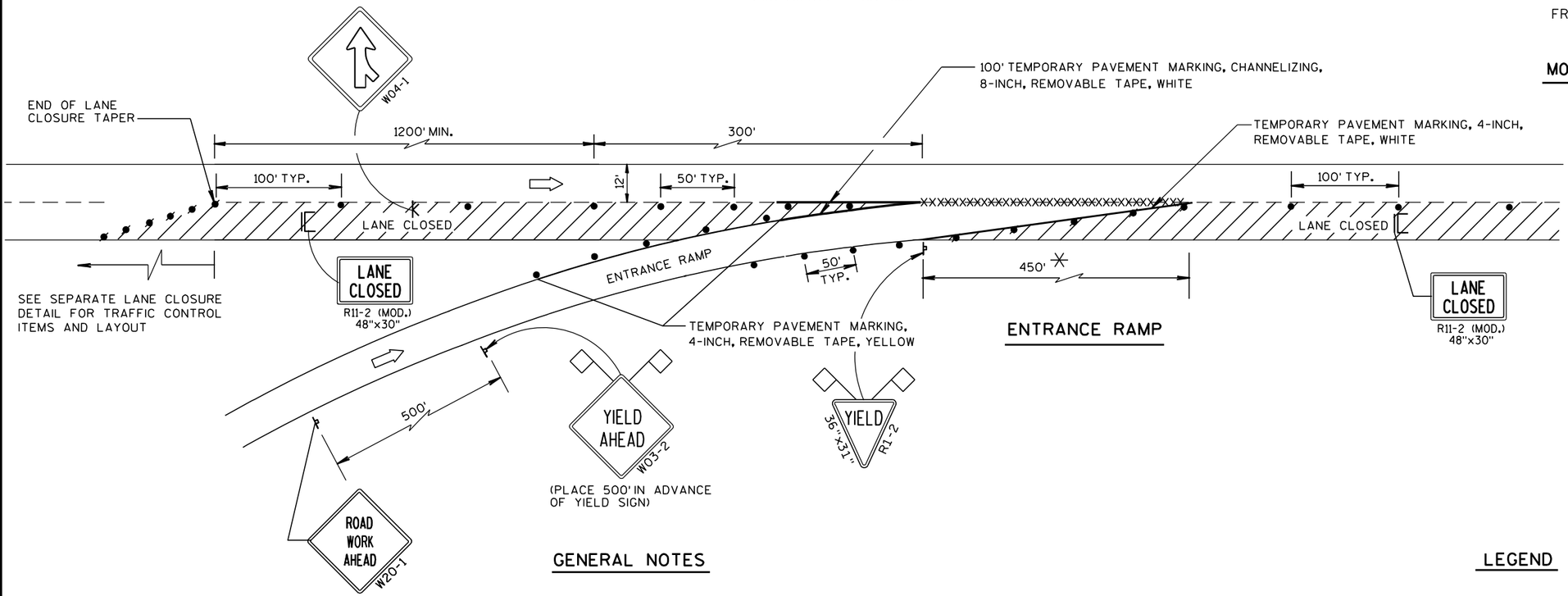


EXIT RAMP



NOTE: ALL LUMBER DIMENSIONS ARE NOMINAL

MOUNTING DETAIL FOR MOVABLE EXIT SIGN



ENTRANCE RAMP

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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

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

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

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

LEGEND

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

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 15 D 15-1

SYMBOLS

IC/C	TYPE III BARRICADE (8' EQUIVALENT) WITH/WITHOUT SIGN
•	DRUM
⊢	POST MOUNTED SIGN
(A)	WARNING LIGHT, TYPE A (FLASHING)
⇨	DIRECTION OF TRAFFIC

GENERAL NOTES

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

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

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

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

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

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

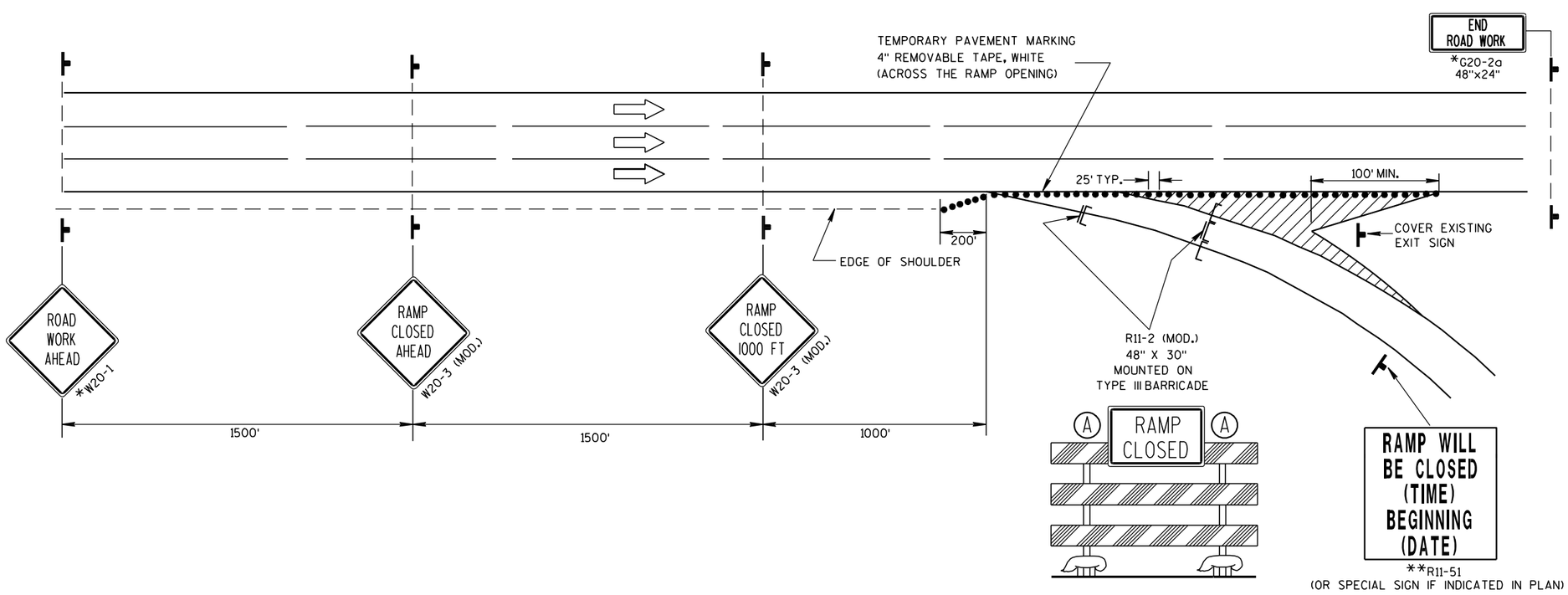
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

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

**USE THE "RAMP WILL BE CLOSED" SIGN IF INDICATED IN MISCELLANEOUS QUANTITIES. PLACE 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



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S.D.D. 15 D 16-1

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S.D.D. 15 D 16-1

TRAFFIC CONTROL, EXIT RAMP CLOSURE

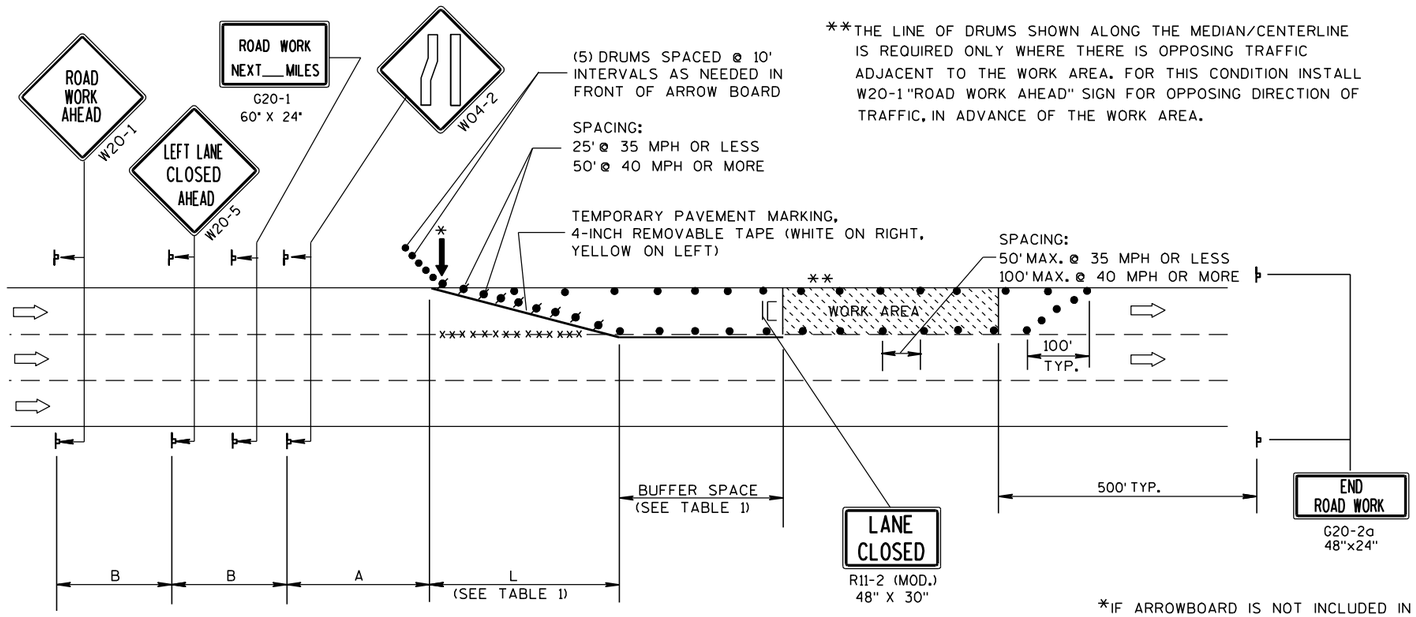
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/23/2000
DATE

/S/ Chester J. [illegible]
CHIEF SIGNS AND MAR 421 INEER

FHWA



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

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

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

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

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

W01-6
48"x24"

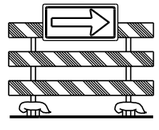


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- POST MOUNTED SIGN
- ARROW BOARD
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHTS, TYPE A (FLASHING) WITH/WITHOUT SIGN
- DIRECTION OF TRAFFIC FLOW
- xxxx REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

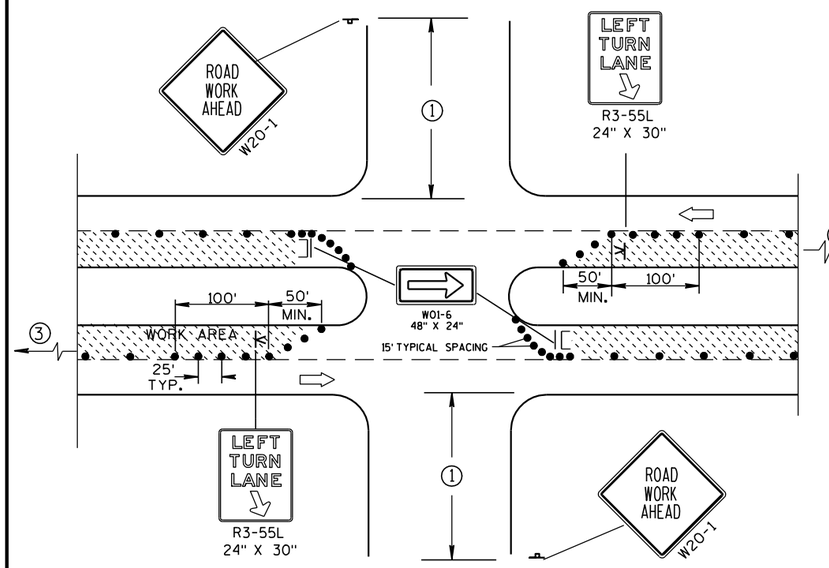
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

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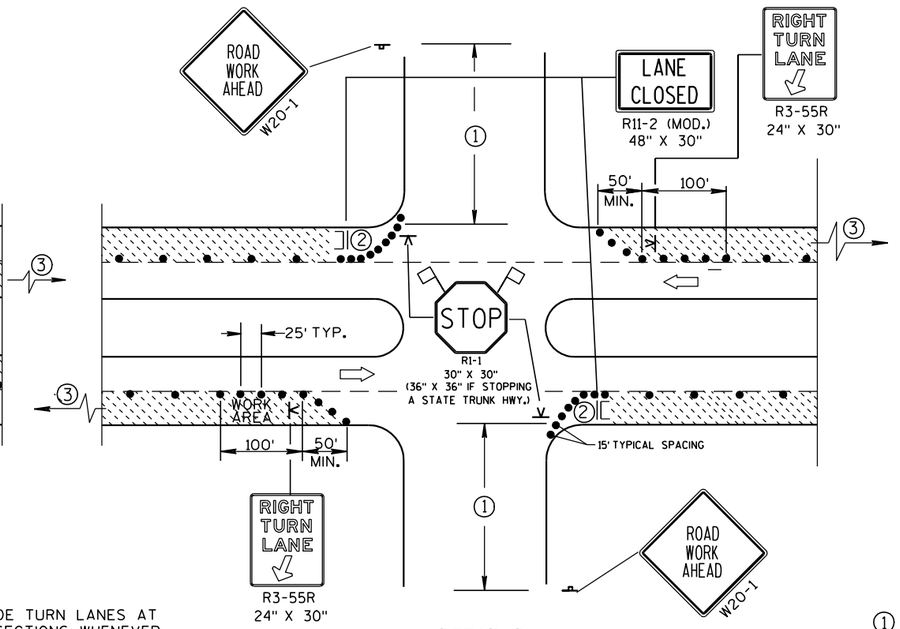
S.D.D. 15 D 20-1



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

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

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

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

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, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

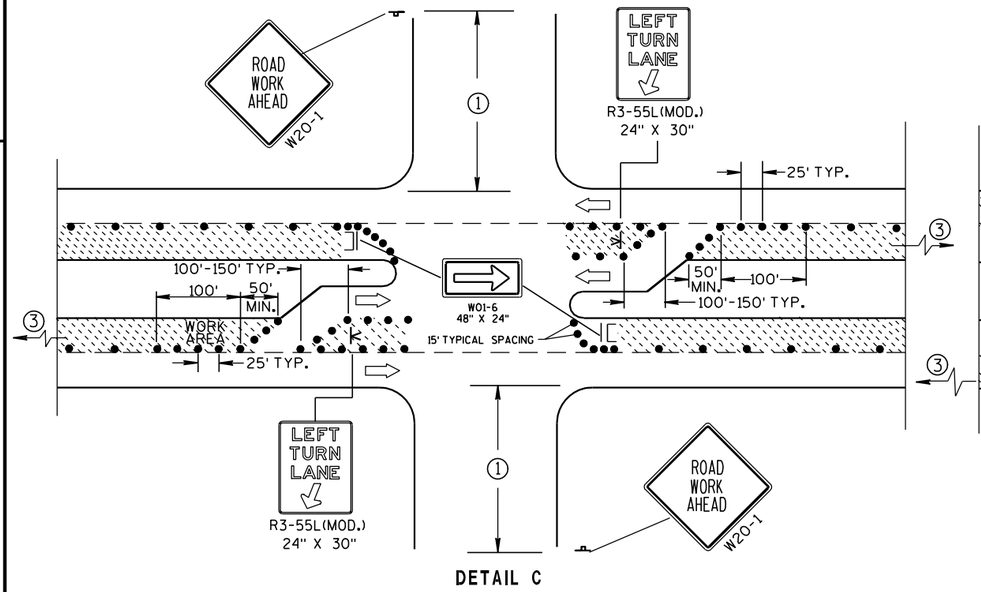
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

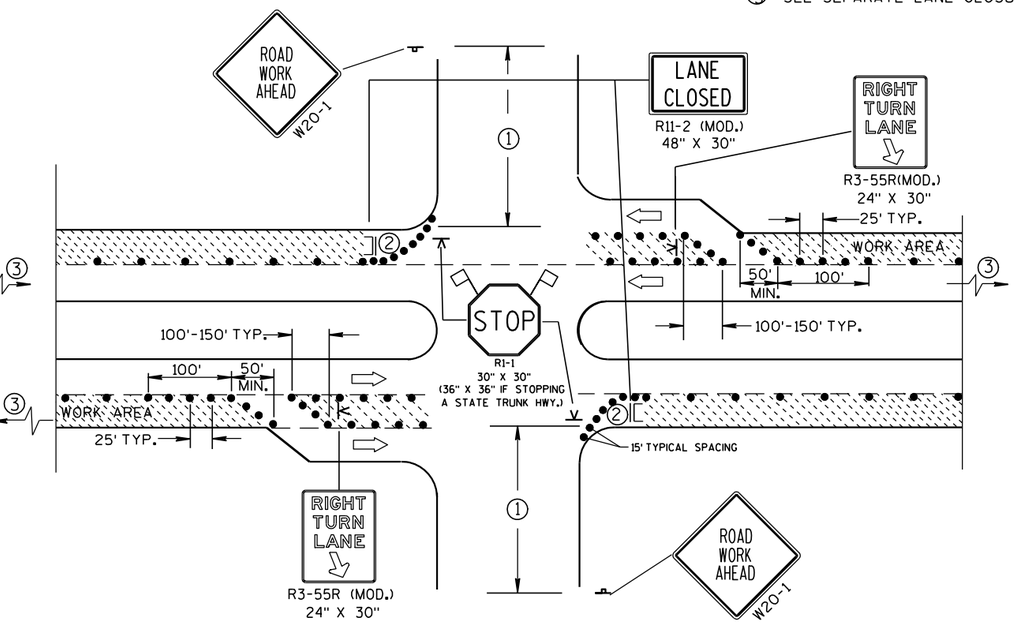
② ALSO USE BARRICADE AND 15' TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- DRUM
- POST MOUNTED SIGN
- SIGN ON PORTABLE SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE (8' EQUIVALENT) AND WARNING LIGHT, TYPE A (FLASHING) WITH SIGN
- DIRECTION OF TRAFFIC FLOW
- FLAGS, 16" X 16" MIN., ORANGE

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 — DATE
/S/ Chester J. Spang — CHIEF SIGNS AND MARKINGS ENGINEER
FHWA

6

S.D.D. 15 D 21-1
S.D.D. 15 D 21-1

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.

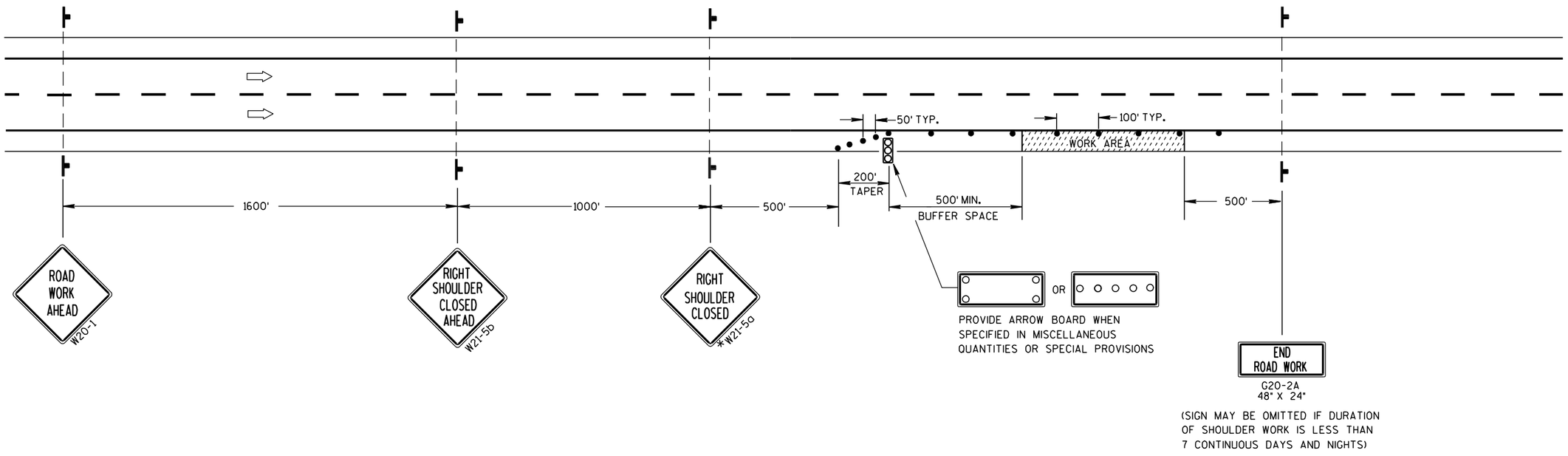
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

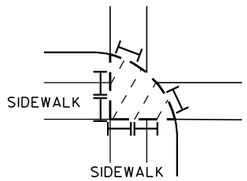
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

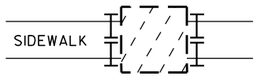
APPROVED
5/23/00 DATE
/S/ Chester J Spong
CHIEF SIGNS AND MARKING ENGINEER
FHWA

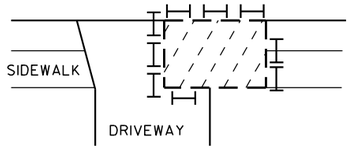
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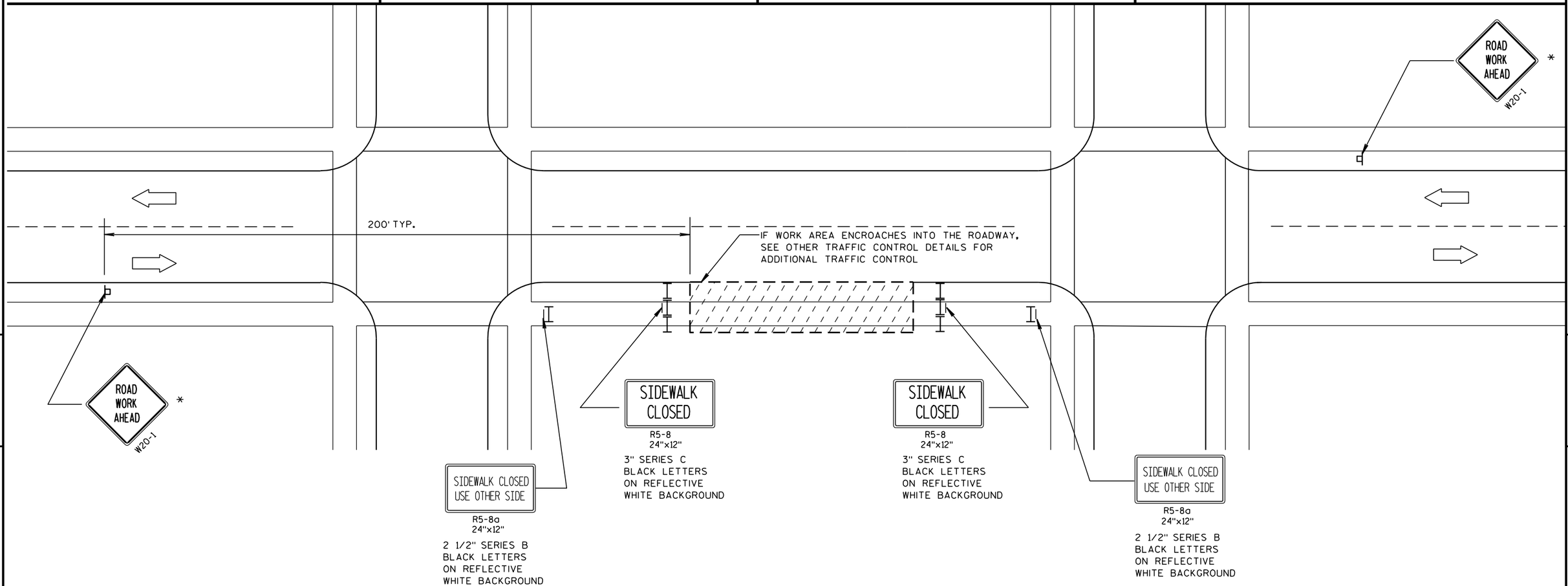
S.D.D. 15 D 27-1

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

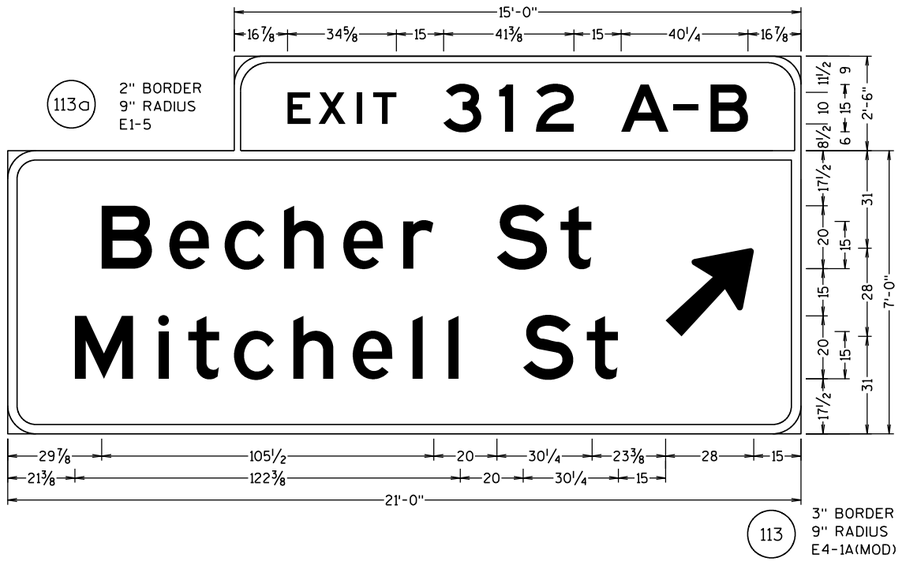
APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK 425 NEER
FHWA

6

S.D.D. 15 D 30-1

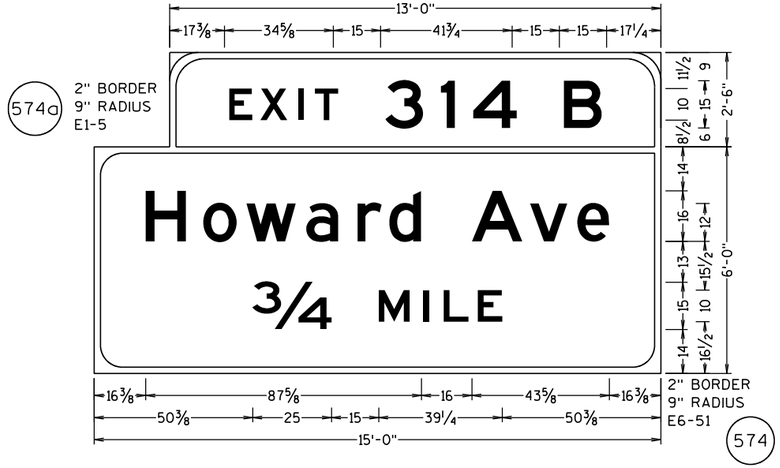
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S.D.D. 15 D 30-1



113a 2" BORDER 9" RADIUS E1-5

113 3" BORDER 9" RADIUS E4-1A(MOD)

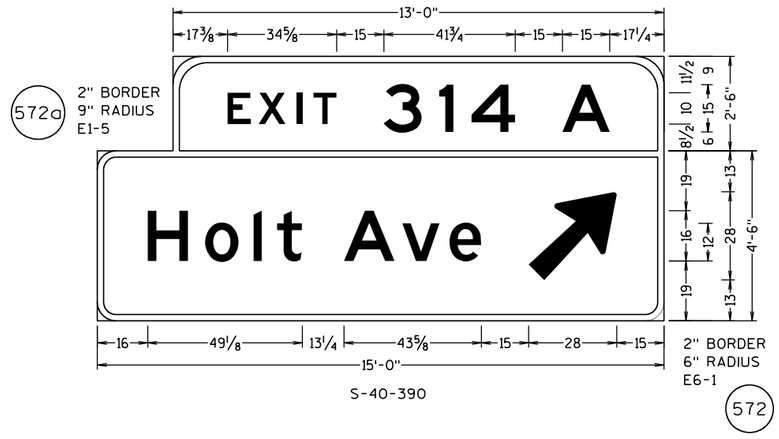


574a 2" BORDER 9" RADIUS E1-5

2" BORDER 9" RADIUS E6-51

574

S-40-390



572a 2" BORDER 9" RADIUS E1-5

2" BORDER 6" RADIUS E6-1

572

S-40-390



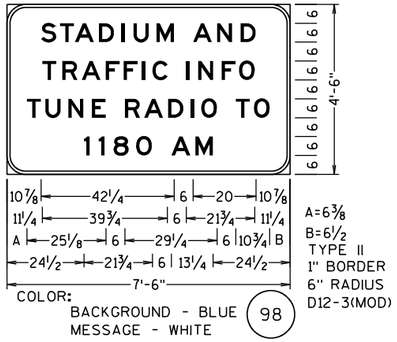
2" BORDER 12" RADIUS E6-1(MOD)

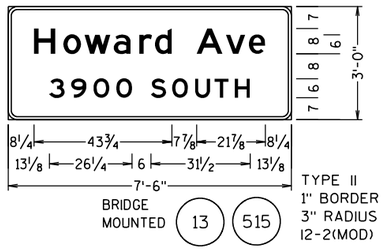
S-40-978

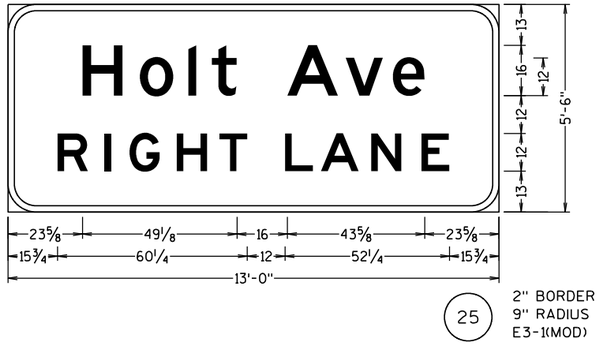
638

GENERAL NOTES:

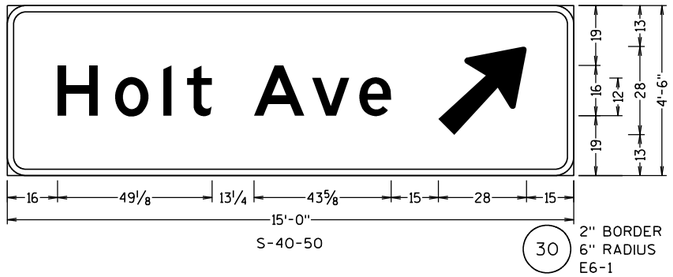
1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE I".
3. UNLESS OTHERWISE NOTED, 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.

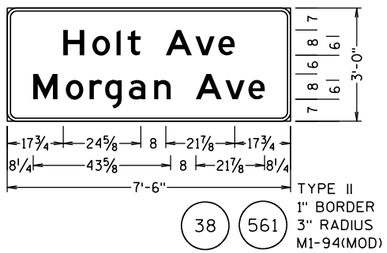














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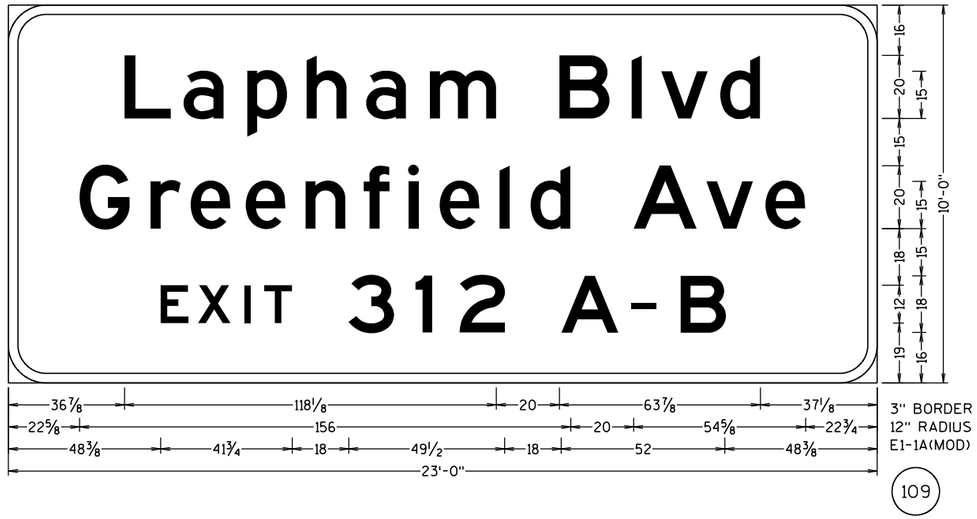
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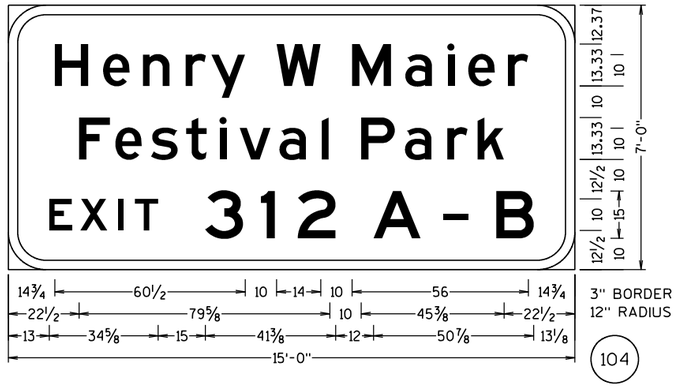
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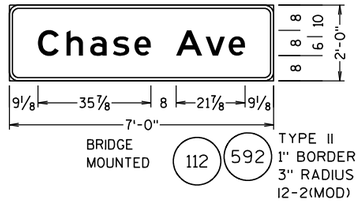
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.







GENERAL NOTES:

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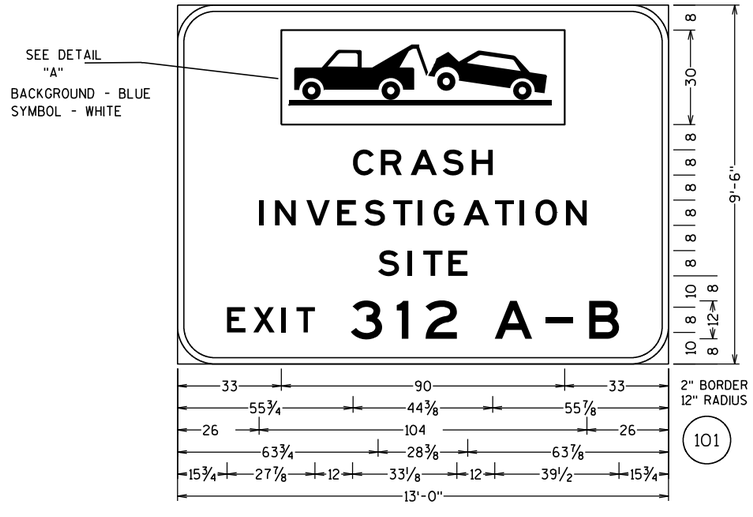
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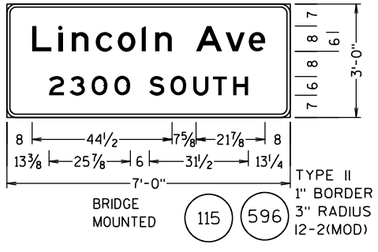
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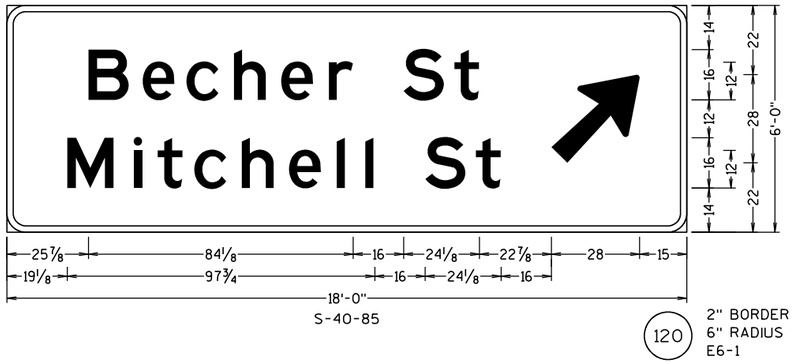
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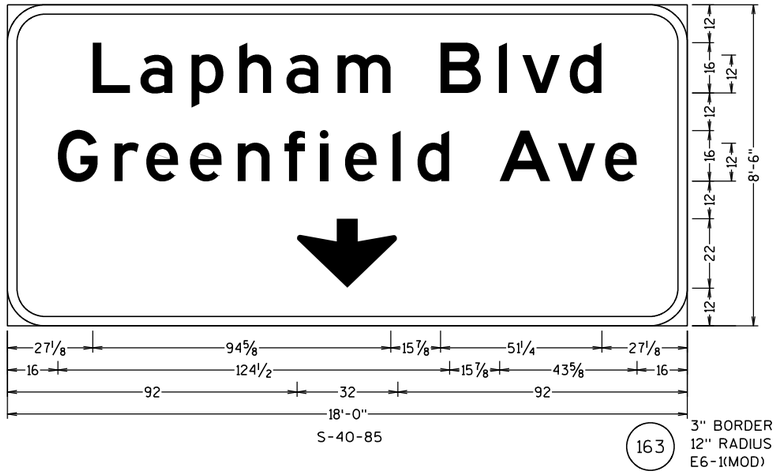
PROJECT NO: 1228-26-70	HWY: I-43	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I AND II SIGNS	SCALE: 0 1/2" 1"	SHEET E



S-40-85

120

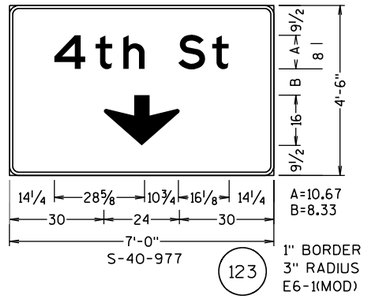
2" BORDER
6" RADIUS
E6-1



S-40-85

163

3" BORDER
12" RADIUS
E6-1(MOD)

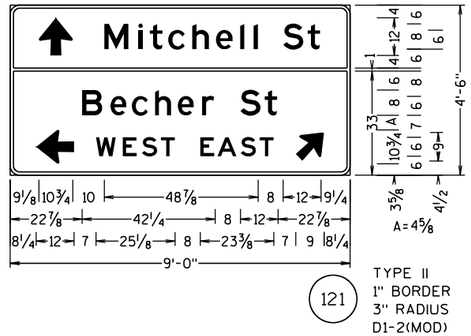


A=10.67
B=8.33

S-40-977

123

1" BORDER
3" RADIUS
E6-1(MOD)



A=4⅝

121

TYPE II
1" BORDER
3" RADIUS
D1-2(MOD)

GENERAL NOTES:

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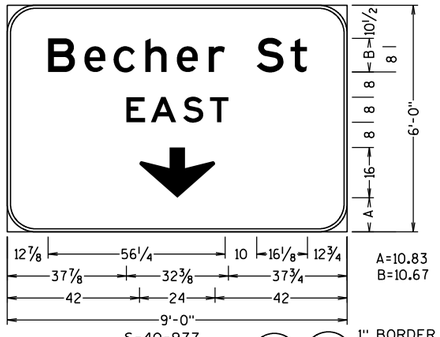
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8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

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11. DO NOT SCALE.

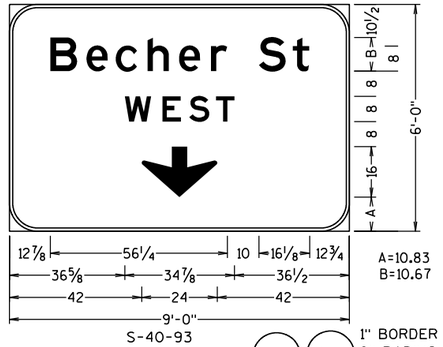


A=10.83
B=10.67

S-40-977
S-40-978

124 637

1" BORDER
9" RADIUS
E6-1(MOD)



A=10.83
B=10.67

S-40-93
S-40-979

161 654

1" BORDER
9" RADIUS
E6-1(MOD)

7

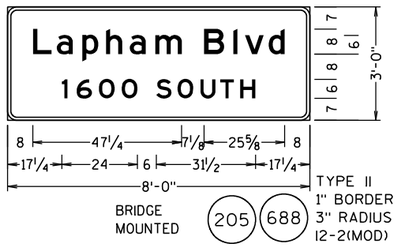
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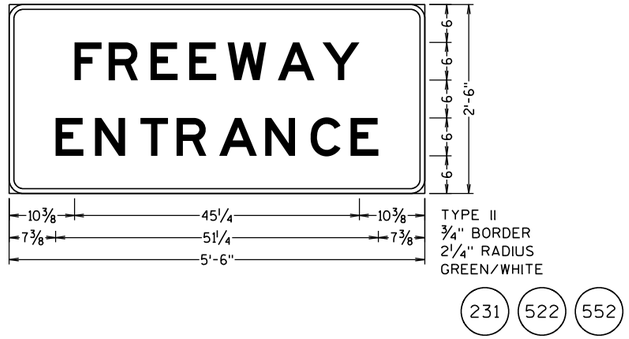
SHEET 4 OF 16

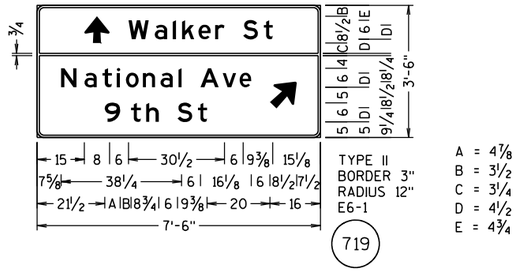
PROJECT NO: 1228-26-70	HWY: I-43	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I AND II SIGNS	SCALE: 0 ½" 1"	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\070101_ms.dgn PLOT DATE : 24-SEP-2012 10:04 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 48.125:1

WISDOT/CADDS SHEET 47







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 I".

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"

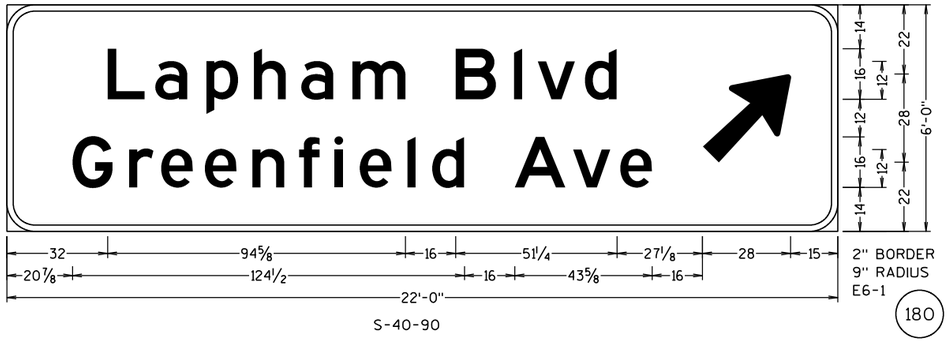
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

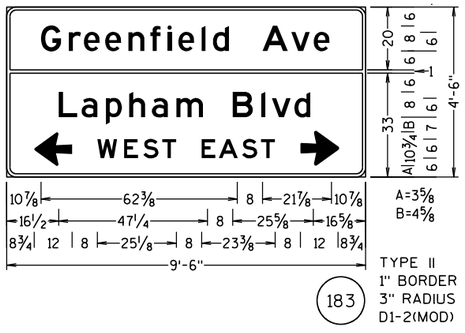
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

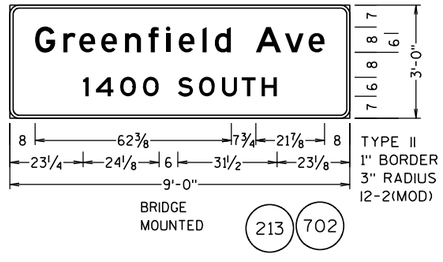
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

11. DO NOT SCALE.



S-40-90





PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I AND II SIGNS	SCALE: 0 ½" 1"	SHEET	E





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 I".

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"

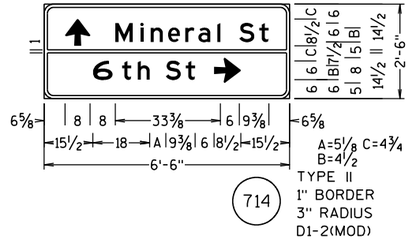
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

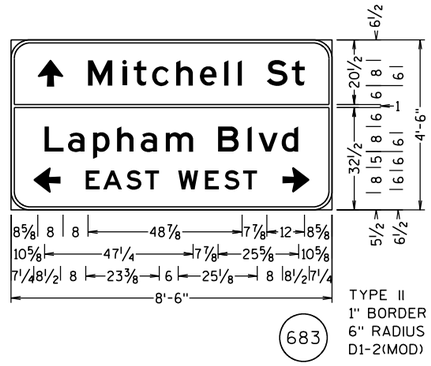
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

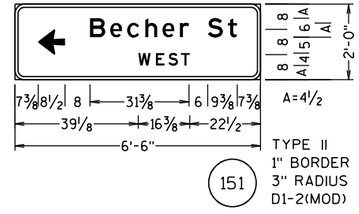
9. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

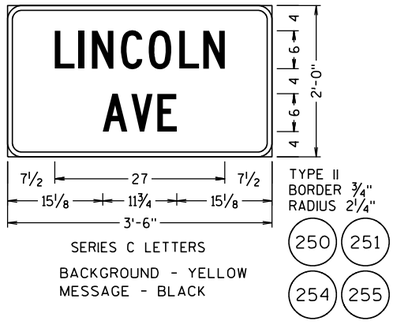
10. NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

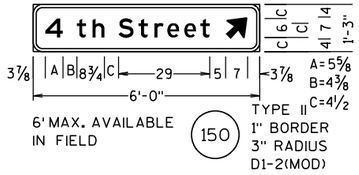
11. DO NOT SCALE.







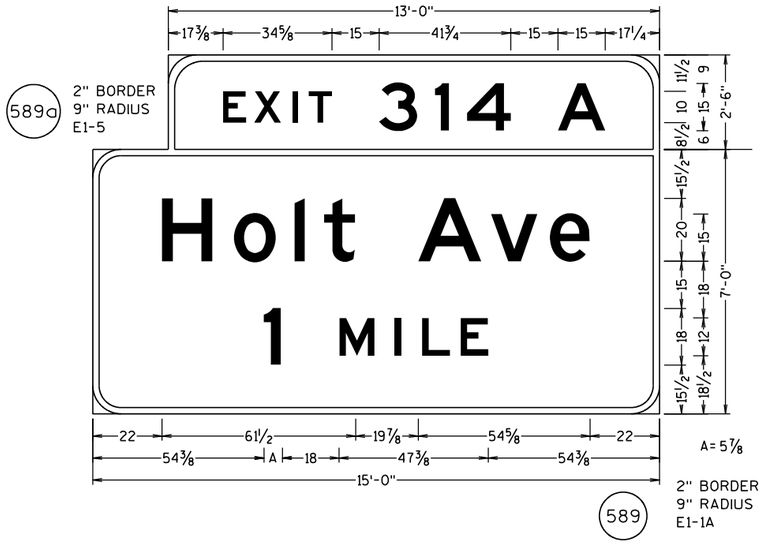


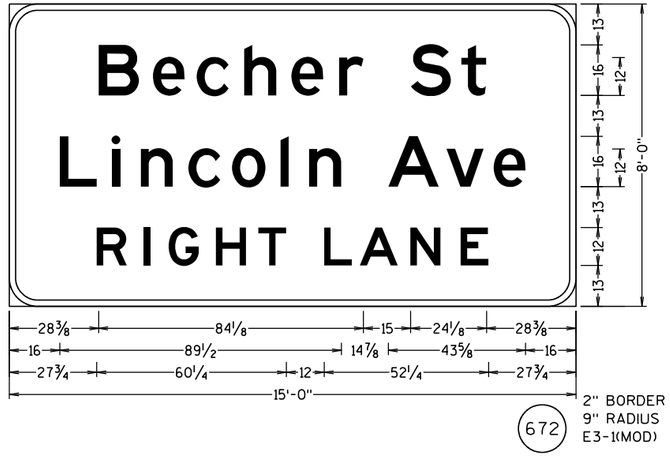


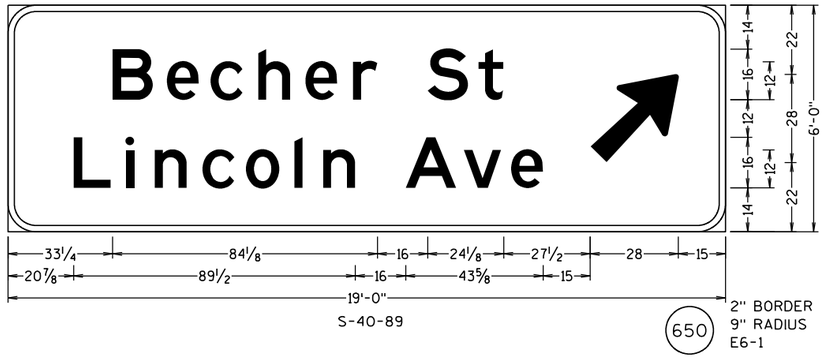
SHEET 6 OF 16

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I AND II SIGNS	SCALE: 0 ½" 1"	SHEET	E

FILE NAME : j:\projects\d2_12282643\Sign\070101_ms.dgn PLOT DATE : 24-SEP-2012 10:04 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 48.125:1

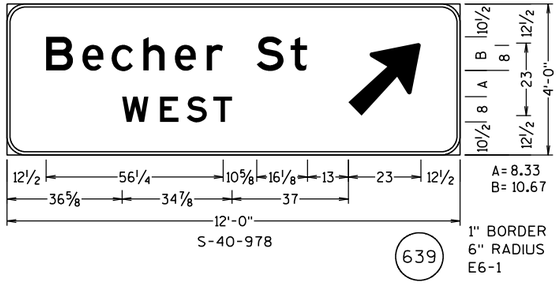


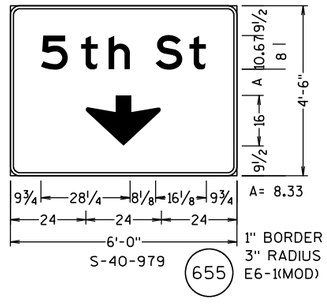




GENERAL NOTES:

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 I".
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.

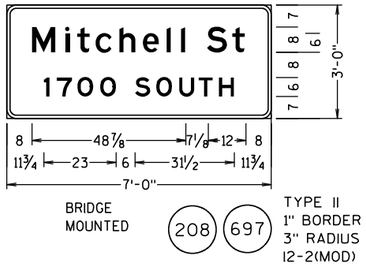


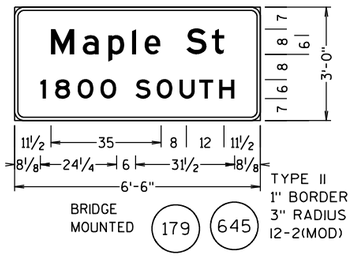


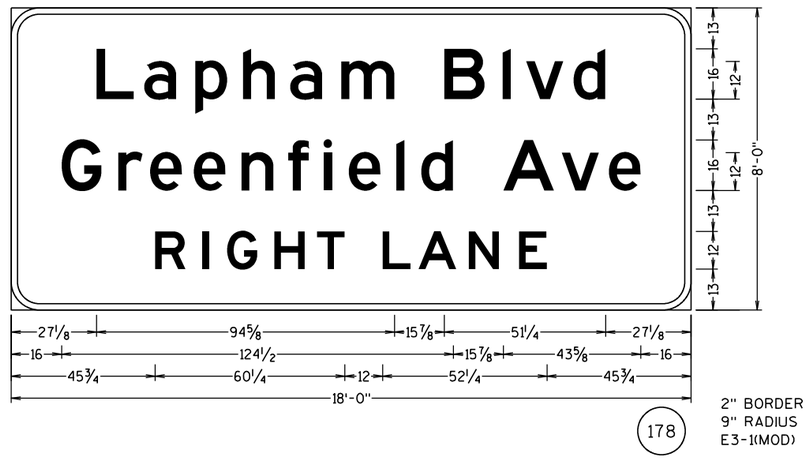
SHEET 7 OF 16

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I AND II SIGNS	SCALE: 0 1/2" 1"	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\070101_ms.dgn PLOT DATE : 24-SEP-2012 10:04 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 48.125:1







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 I".

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"

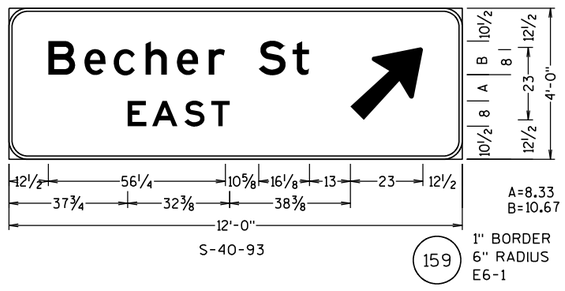
7. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

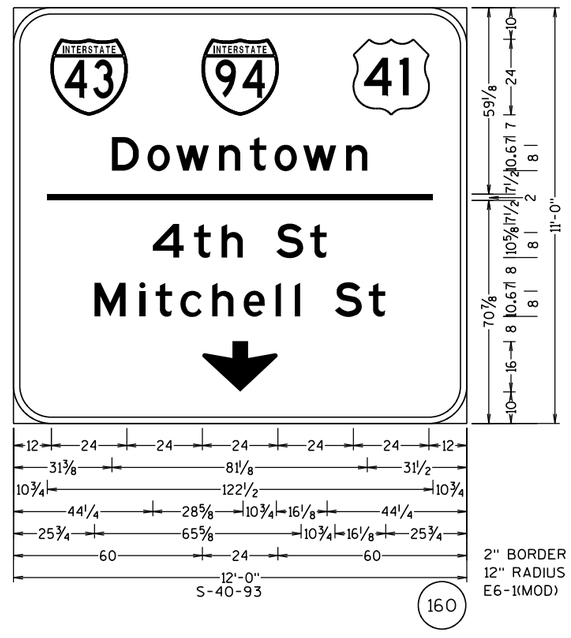
8. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

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.



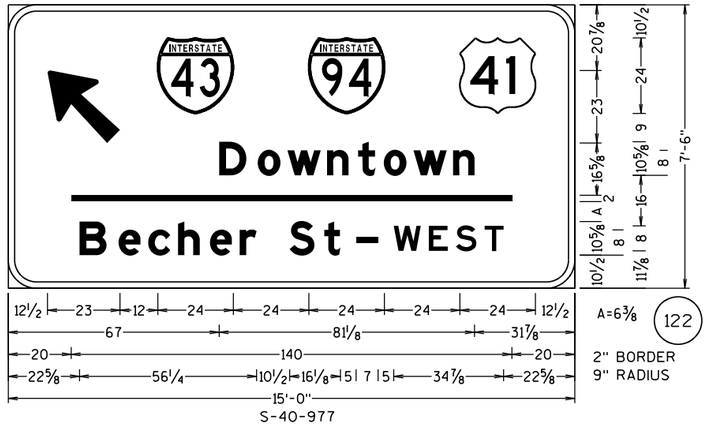


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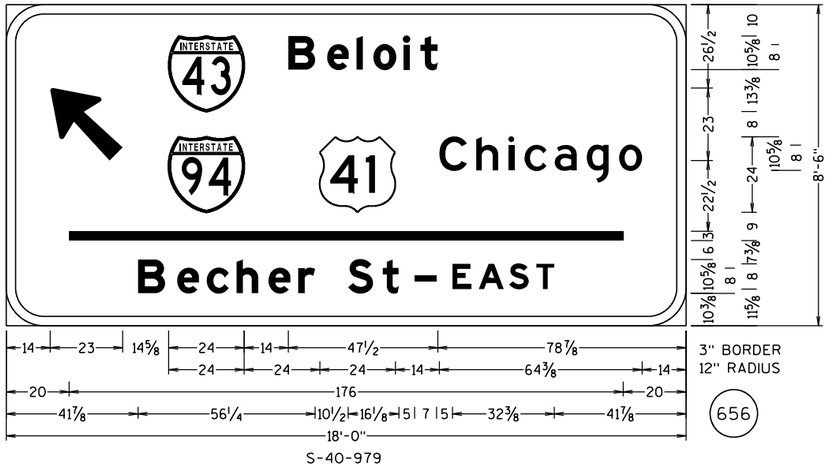
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PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I AND II SIGNS	SCALE: 0 1/2" 1"	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\070101_ms.dgn PLOT DATE : 24-SEP-2012 10:04 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 48.125:1



S-40-977



S-40-979

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 I".

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.

   UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

   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.

   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"

   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.

   SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

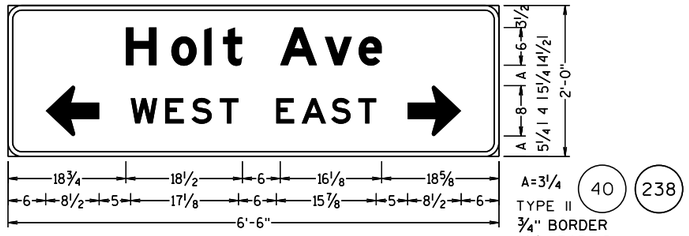
   THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

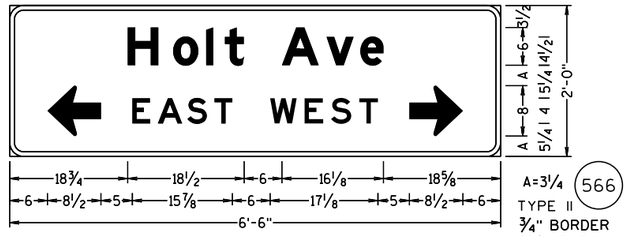
   NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

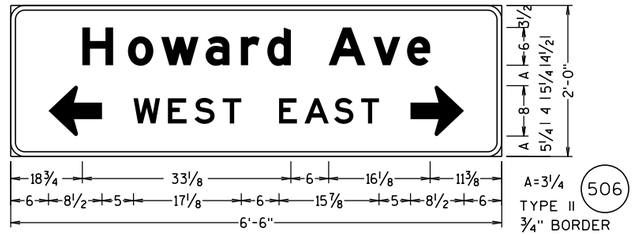
   DO NOT SCALE.

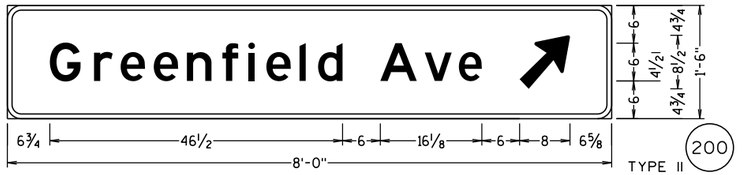
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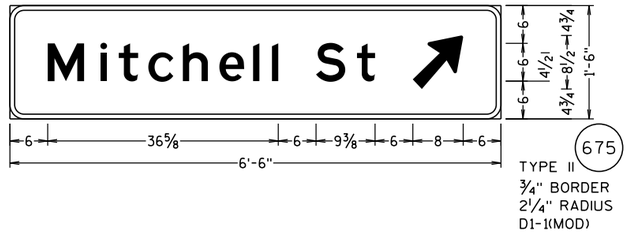
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GENERAL NOTES:

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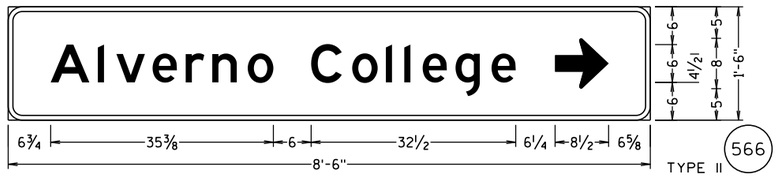
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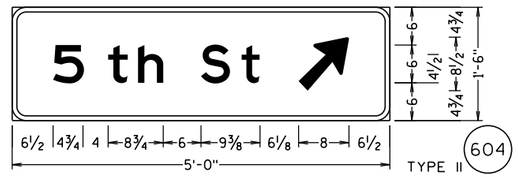
   SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

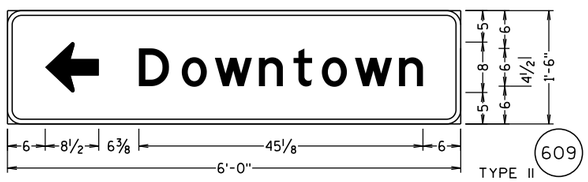
   THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

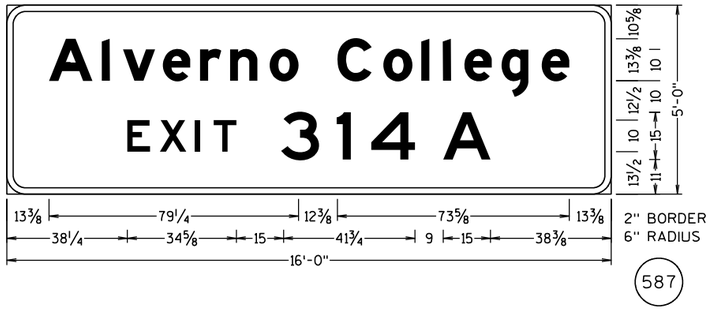
   NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

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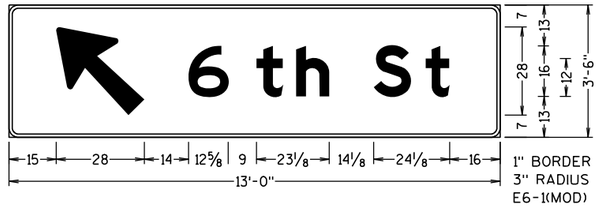




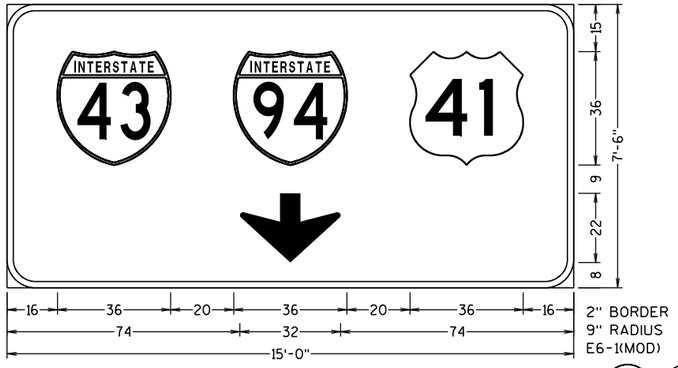




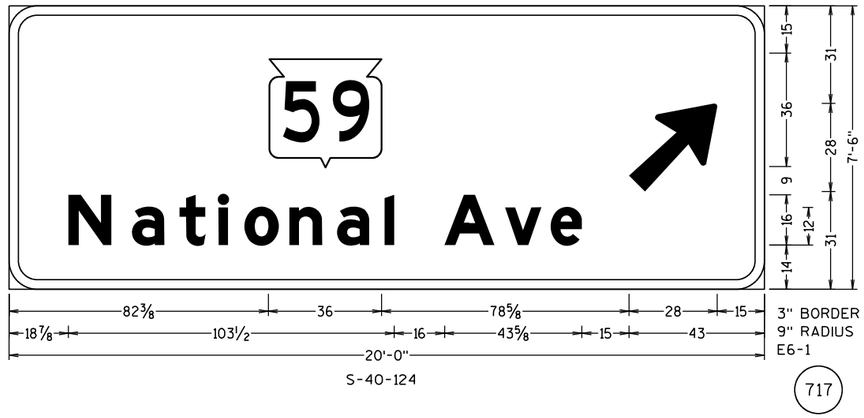
587



716



28 209 651



S-40-124

717

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 I".

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.

   UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

   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.

   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"

   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.

   SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

   THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

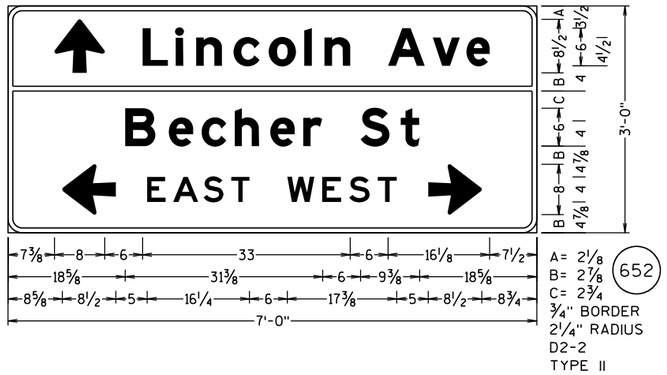
   NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

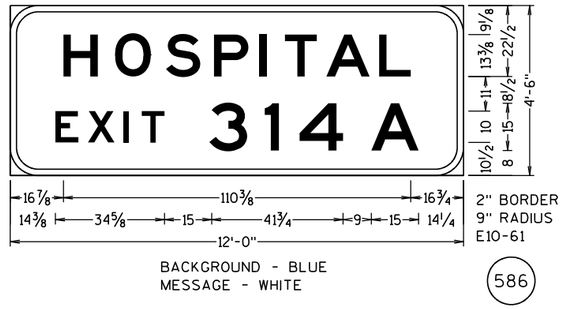
   DO NOT SCALE.

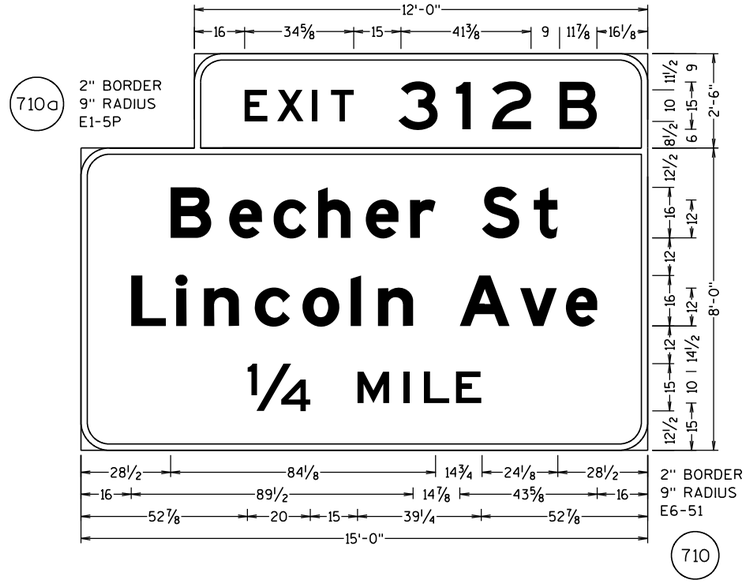
7

7

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I AND II SIGNS	SCALE: 0 ½" 1"	SHEET E







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 I".

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.

   UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.

   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.

   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"

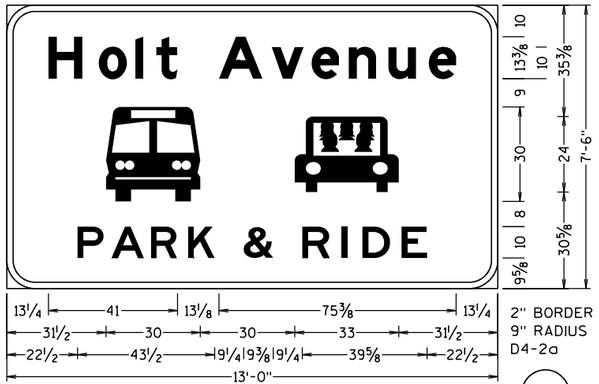
   UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE "TYPE A" OR "TYPE C" ARROWS AS SHOWN. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS.

   SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.

   THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.

   NUMBER FRACTIONS FOR INTERCHANGE SEQUENCE SIGNS SHALL BE SERIES "E" PER PLATES A11-7 AND A11-10

   DO NOT SCALE.





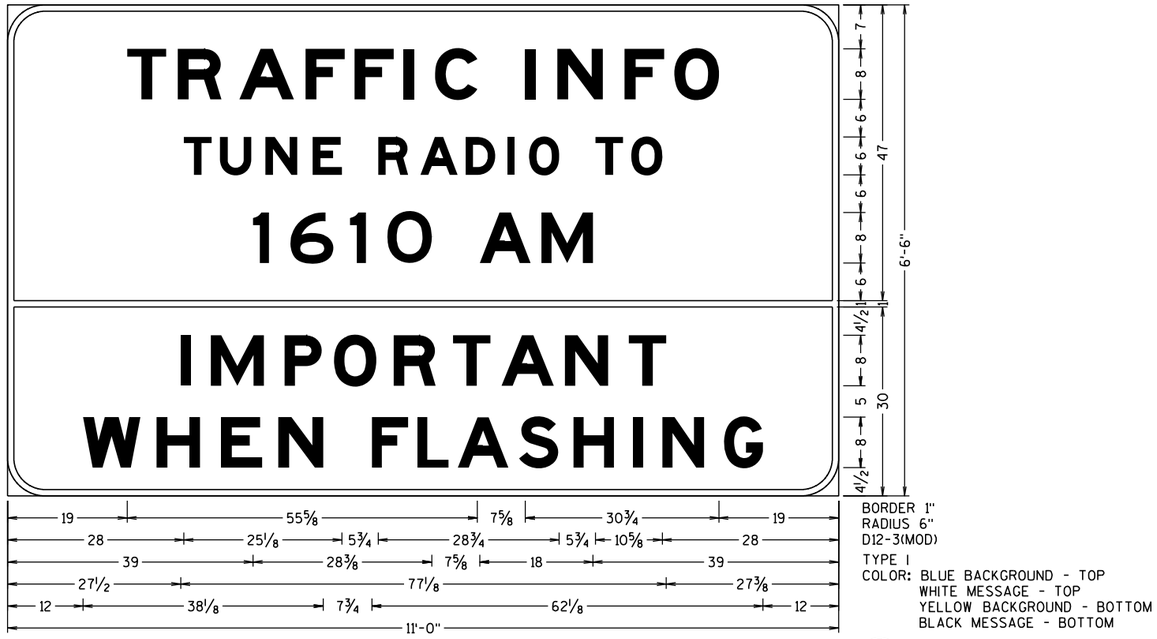
7

7

SHEET 12 OF 16

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	SIGNING DETAIL - TYPE I AND II SIGNS	SCALE: 0 1/2" 1"	SHEET E

FILE NAME : j:\projects\d2_12282643\Sign\070101_ms.dgn PLOT DATE : 24-SEP-2012 10:04 PLOT BY : MSCCXV PLOT NAME : PLOT SCALE : 48.125:1
WISDOT/CADDS SHEET 47



BORDER 1"
RADIUS 6"
D12-3(MOD)

TYPE I

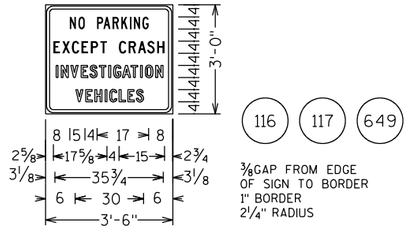
COLOR: BLUE BACKGROUND - TOP
WHITE MESSAGE - TOP
YELLOW BACKGROUND - BOTTOM
BLACK MESSAGE - BOTTOM

588

NOTES:

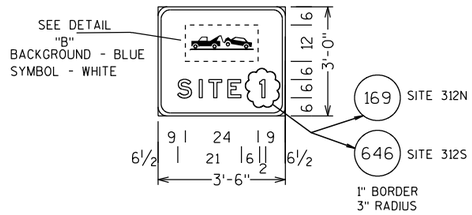
1. ALL SIGNS ARE TYPE 1 (EXCEPT AS NOTED) - TYPE SH REFLECTIVE-REFERENCE "WIS DOT STANDARD SPECIFICATION FOR HIGHWAY AND STRUCTURE CONSTRUCTION" LATEST EDITION.
2. CORNERS MAY BE SQUARE OR ROUNDED WHEN BASE MATERIAL IS PLYWOOD BUT BORDERS SHALL BE ROUNDED AS SHOWN. WHEN BASE MATERIAL IS METAL THE CORNERS AND BORDERS SHALL BE ROUNDED.
3. ALL CAP LETTERS ARE SERIES E MODIFIED. ALL UPPER AND LOWER CASE LETTERS ARE SERIES E MODIFIED.
4. SIGN NUMBERS SHOWN BY: ◯
5. DO NOT SCALE.

WHITE BACKGROUND/BLACK LETTERS

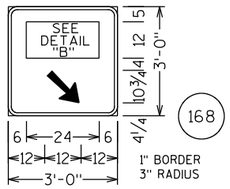


SERIES "C" LETTERS
TYPE II SIGN

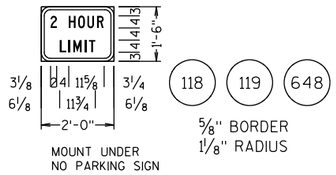
BLUE BACKGROUND/WHITE LETTERS



SERIES "C" LETTERS
TYPE II SIGN

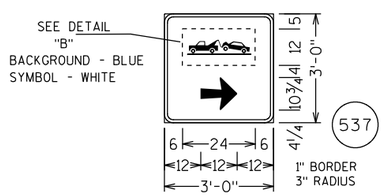


SERIES "C" LETTERS
TYPE II SIGN

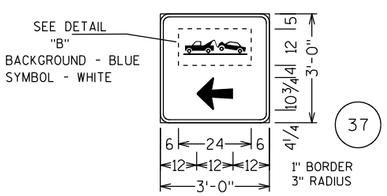


BLACK LETTERS
WHITE BACKGROUND

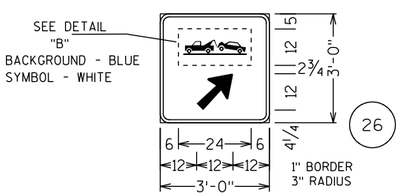
SERIES "C" LETTERS
TYPE II SIGN



SERIES "C" LETTERS
TYPE II SIGN



SERIES "C" LETTERS
TYPE II SIGN

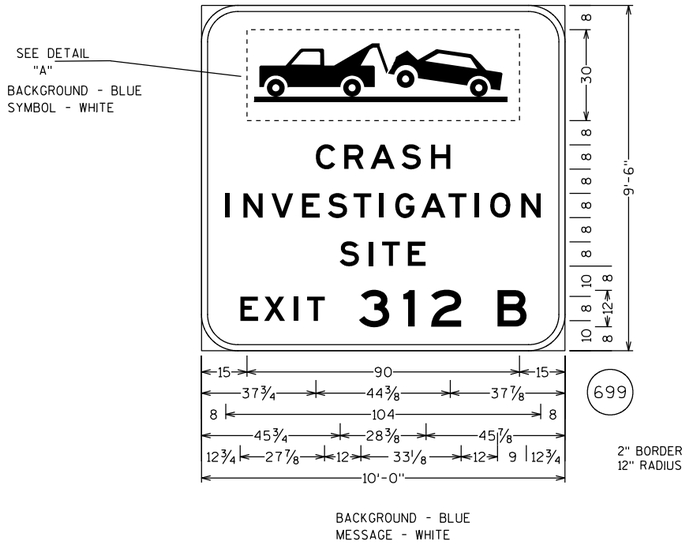


SERIES "C" LETTERS
TYPE II SIGN

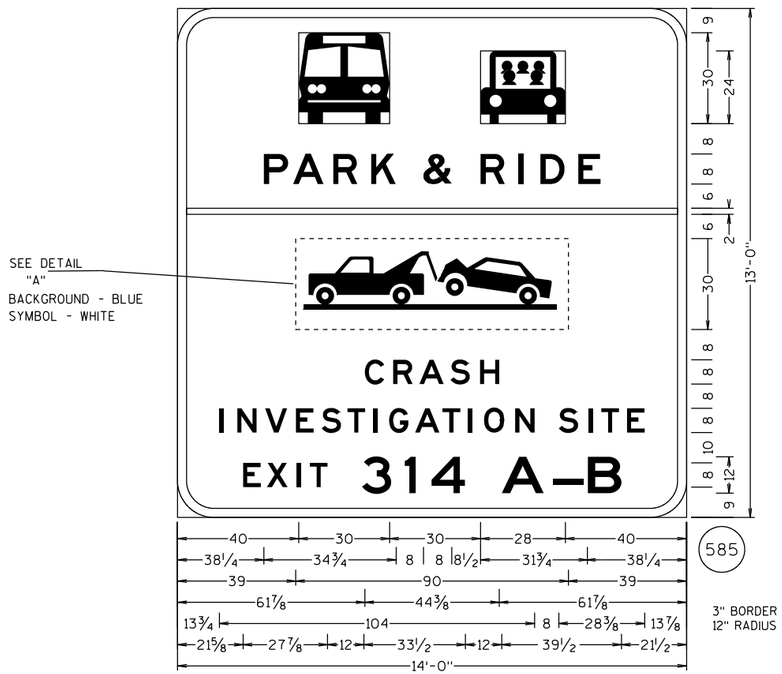
NOTE ARROW POSITION MAY VARY

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 SHEETING.
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A BLUE BACKGROUND AND WHITE MESSAGE.
5. ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E".
6. 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.
7. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
8. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
9. DO NOT SCALE.



BACKGROUND - BLUE
MESSAGE - WHITE



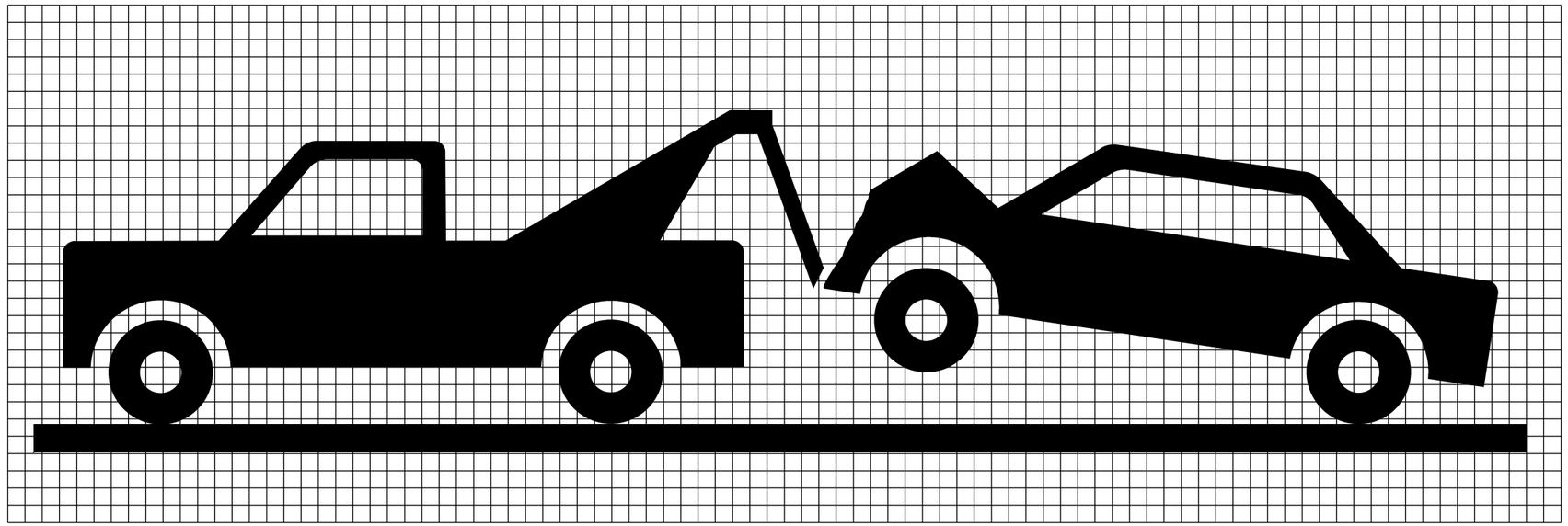
UPPER PANEL
GREEN BACKGROUND
WHITE MESSAGE

LOWER PANEL
BLUE BACKGROUND
WHITE MESSAGE

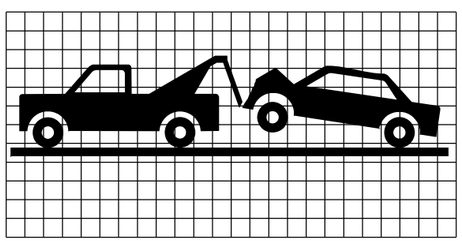
GENERAL NOTES:

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 XX".
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 SHEETING.
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A BLUE BACKGROUND AND WHITE MESSAGE.
5. ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E, MODIFIED". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E, MODIFIED".
6. 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.
7. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
8. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
9. DO NOT SCALE.

PROJECT NO: 1228-26-70	HWY: IH-43	COUNTY: MILWAUKEE	CRASH INVESTIGATION SIGN DETAILS	SCALE: 0 ½" 1"	SHEET E



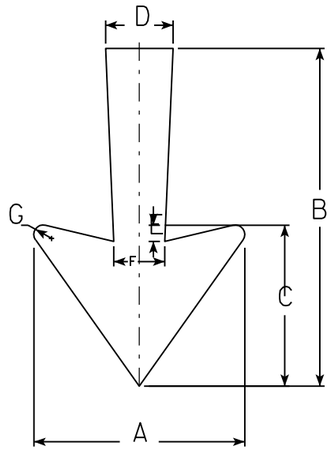
DETAIL "A"



DETAIL "B"

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIRMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE PLANS.
2. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET ARE "SIGNS, TYPE XX".
3. UNLESS OTHERWISE NOTED, TYPE I AND TYPE II SIGNS ON THIS SHEET SHALL HAVE "TYPE H REFLECTIVE SHEETING" AND, "TYPE H MESSAGE MATERIAL".
4. UNLESS OTHERWISE NOTED, ALL SIGNS SHOWN ON THIS SHEET SHALL HAVE A GREEN BACKGROUND AND WHITE MESSAGE.
5. ALL UPPER CASE MESSAGE (EXCEPT ON SHIELDS OR WHERE OTHERWISE NOTED) SHALL BE "SERIES E, MODIFIED". ALL LOWERCASE MESSAGE WITH AN INITIAL UPPERCASE LETTER SHALL BE "SERIES E, MODIFIED".
6. 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.
7. SEE THE STANDARD SIGN PLATES FOR FURTHER DETAILS ON ROUTE MARKER SHIELDS.
8. THE SIGN NUMBER IS DENOTED IN THE CIRCLE NEAR EACH DETAIL.
9. DO NOT SCALE.



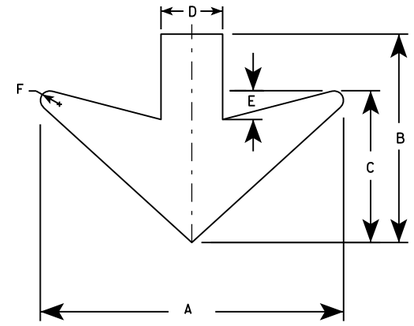
Type "A" & "B"

Type "A"

Copy Size	A	B	C	D	E	F	G
13.33 u.c. 10", 12" Caps	18 1/4	29 1/4	14	6	1 1/2	4 1/2	3/4
16" U. C.	22 1/4	35 5/8	17	7 1/8	1 3/4	5 3/8	1

Type "B"

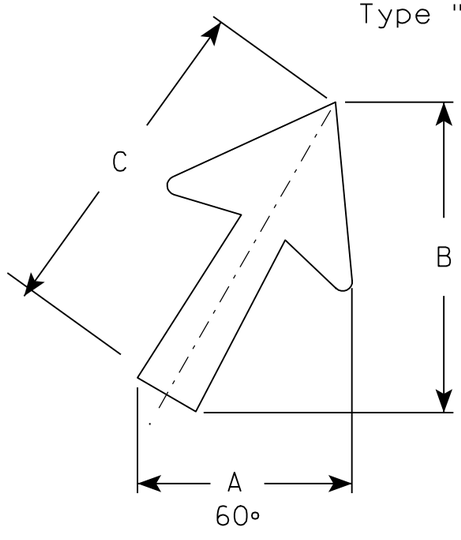
Copy Size	A	B	C	D	E	F	G
10" Caps	14 1/4	17 1/4	9 7/8	4 1/2	1 3/8	3 3/8	3/4
13.33 u.c. 12" Caps	17 1/2	20 1/4	11 3/4	5 5/8	1 1/2	4 3/8	7/8
16" U. C.	21 7/8	25	14 1/4	6 3/4	1 3/4	5	1



Type "C"

Type "C"

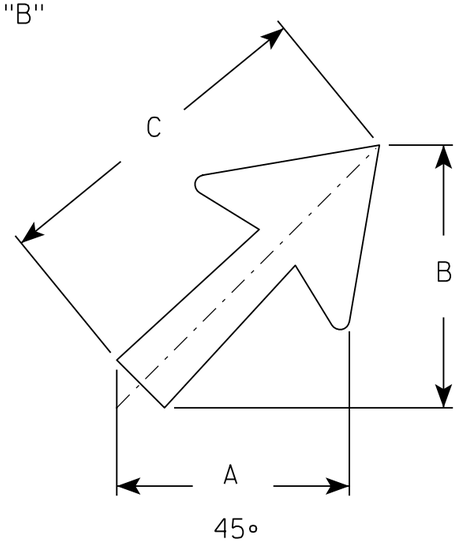
Copy Size	A	B	C	D	E	F
Overhead	32	22	16	6 1/2	3	1
Minimum	24	16	12 1/4	5	1 5/8	3/4



60°

Type "A"

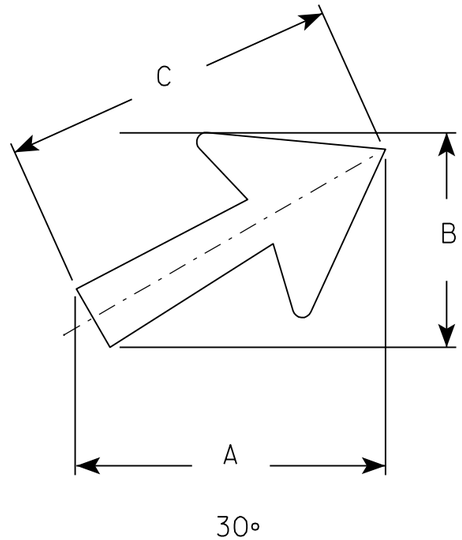
Angle	Arrow Size	A	B	C
60°	10.67" - 13" U.C. 10"- 12" Caps	18 1/2	27	29 1/4
	15" Caps - 16" U.C.	22 5/8	32 3/4	35 5/8
45°	10.67" - 13" U.C. 10"- 12" Caps	23	23	29 1/4
	15" Caps - 16" U.C.	28	28	35 5/8
30°	10.67" - 13" U.C. 10"- 12" Caps	27	18 1/2	29 1/4
	15" Caps - 16" U.C.	32 3/4	22 5/8	35 5/8



45°

Type "B"

Angle	Arrow Size	A	B	C
60°	8" - 10" Caps, 10.67 U.C.	12 1/2	16 1/8	17 1/4
	12" Caps - 13" U.C.	15 1/2	19	20 1/4
	15" Caps - 16" U.C.	19 1/8	23 1/2	25
45°	8" - 10" Caps, 10.67 U.C.	14	14	17 1/4
	12" Caps - 13" U.C.	16 5/8	16 5/8	20 1/4
	15" Caps - 16" U.C.	20 3/8	20 3/8	25
30°	8" - 10" Caps, 10.67 U.C.	16 1/8	12 1/2	17 1/4
	12" Caps - 13" U.C.	19	15 1/2	20 1/4
	15" Caps - 16" U.C.	23 1/2	19 1/8	25



30°

NOTES

1. Arrows to be of same material as other message units on each sign.
2. Taper should be held constant for longer or shorter shaft lengths on Type "A" & "B" arrows.

STANDARD ARROWS
FOR LARGE GUIDE SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 10/8/82 PLATE NO. A1-1.4

PROJECT NO:

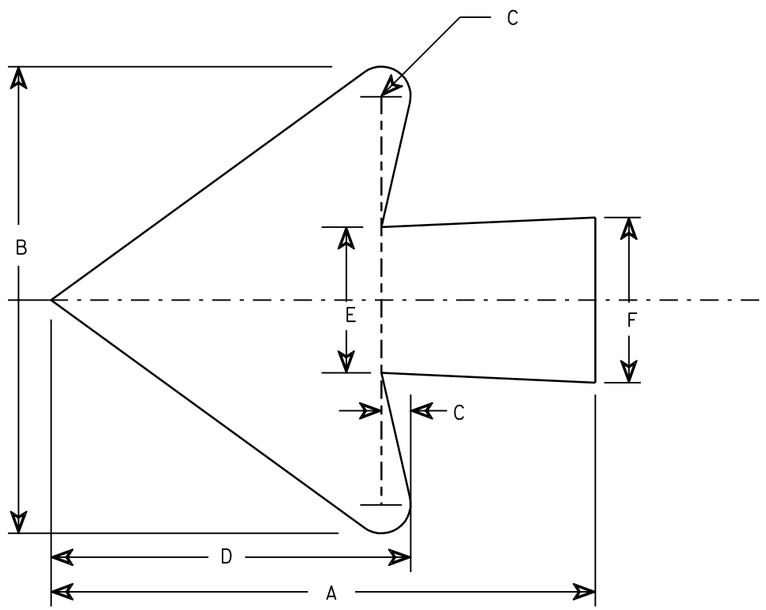
SHEET NO: 442 E

FILE NAME : C:\Users\Projects\tr_stdplate\A11.DGN PLOT DATE : 28-SEP-2005 06:57 PLOT BY : DOTDZK PLOT NAME :

WISDOT/CADDS SHEET 42

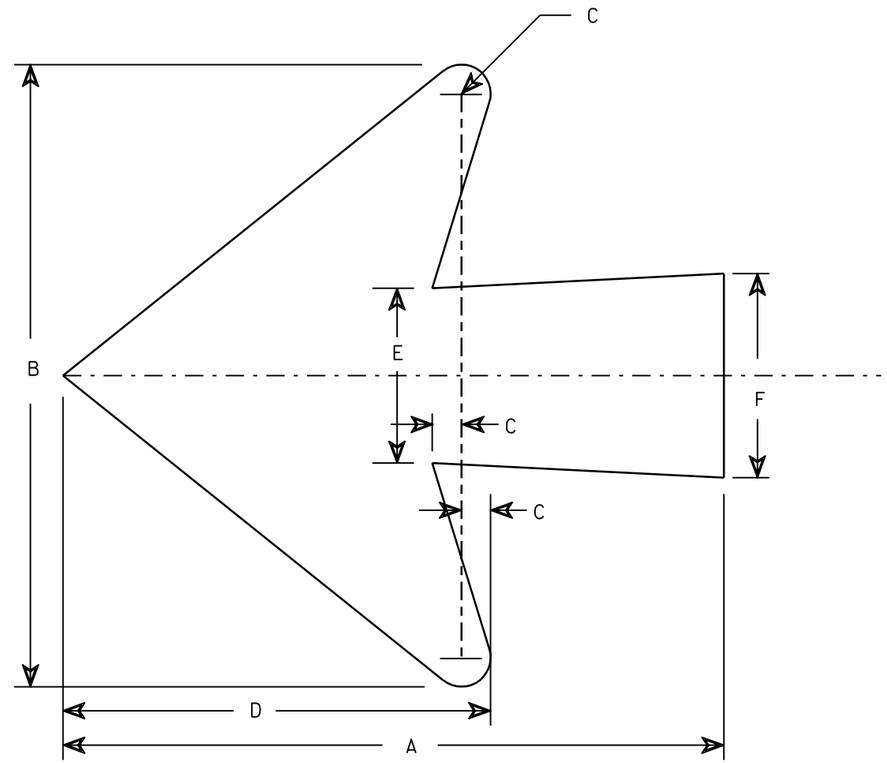
7

7



Lower Case Copy Size	A Right or Left	A * 2 Town	A * 3 Town	B	C	D	E	F
3¾ Series C	7	11	18	6	⅜	4⅝	1⅞	2⅛

* Indicates Ahead and Tilt for 2 & 3 Town applications.



Lower Case Copy Size	A Right or Left	A * 2 Town	A * 3 Town	B	C	D	E	F
4½ Series D&E	8½	11	18	8	⅜	5½	2¼	2⅝
6 Series D&E	12	18	24	10¾	½	7⅜	3¼	3½
8 Series E	15½	24	30	14¼	¾	9¾	4¼	4½

* Indicates Ahead and Tilt for 2 & 3 Town applications.

STANDARD ARROWS FOR D1 GUIDE SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spagg for State Traffic Engineer

DATE 8/10/92 PLATE NO. A1-2.3

7

7

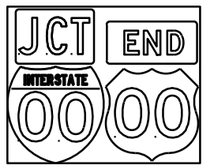
PROJECT NO:

SHEET NO: 443 E

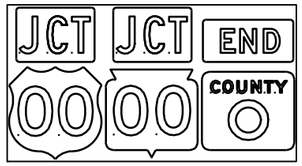
TYPICAL ASSEMBLIES



J1-1



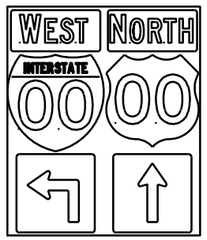
J1-2



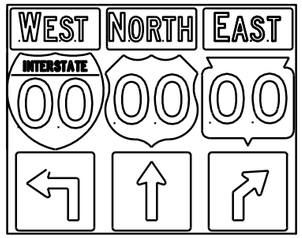
J1-3



J2-1



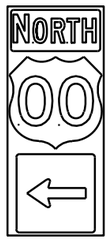
J2-2



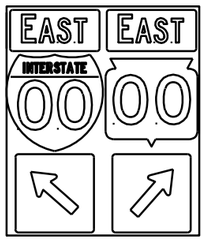
J2-3



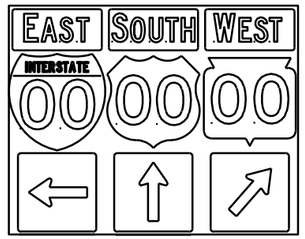
JV



J3-1



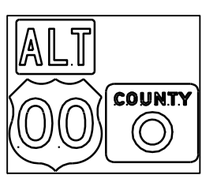
J3-2



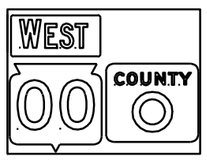
J3-3



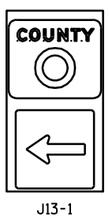
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



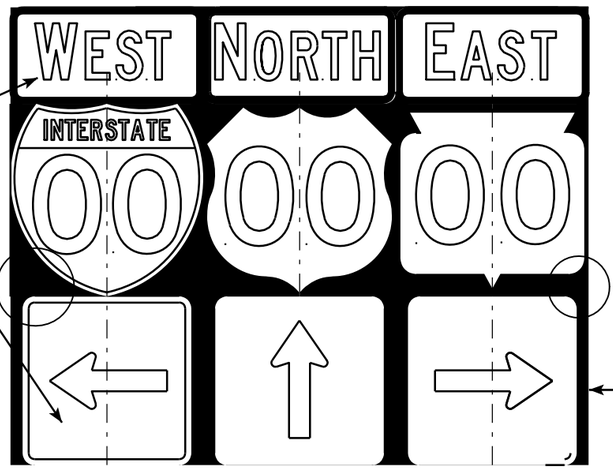
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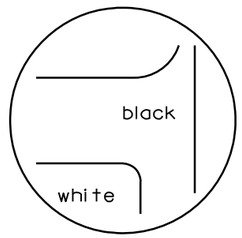


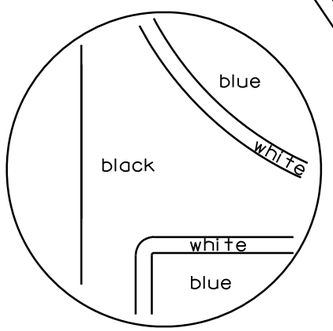
J22-1

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square since base material is plywood.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.







ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

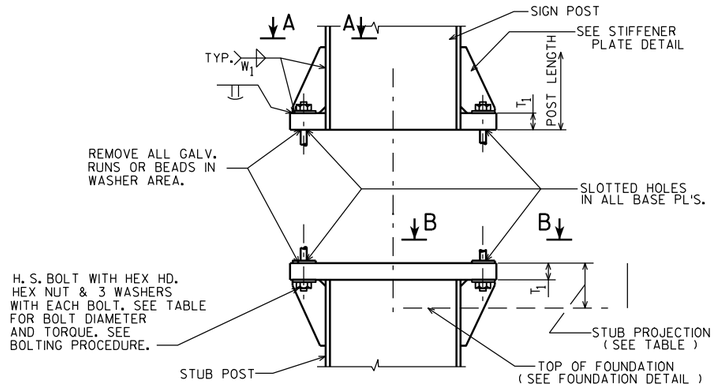
DATE 10/21/09 PLATE NO. A2-1S.6

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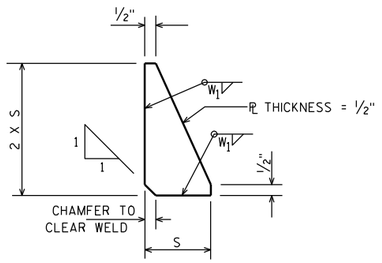
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PROJECT NO:

SHEET NO: 444 E

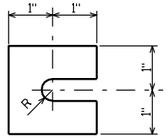


SIGN POST AND STUB POST ELEVATION



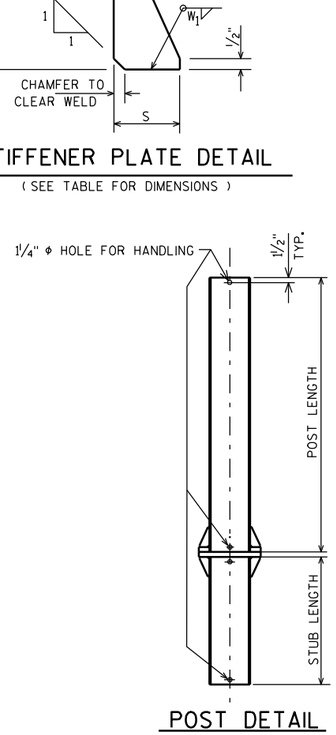
STIFFENER PLATE DETAIL

(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



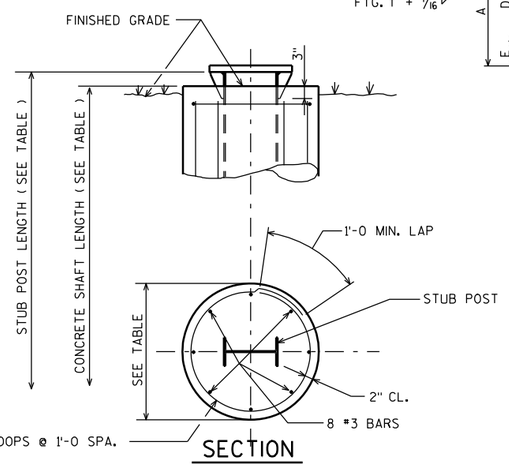
POST DETAIL

	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
E	1.0	62

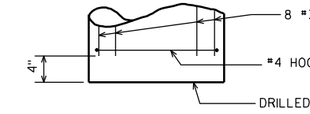
⑦

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

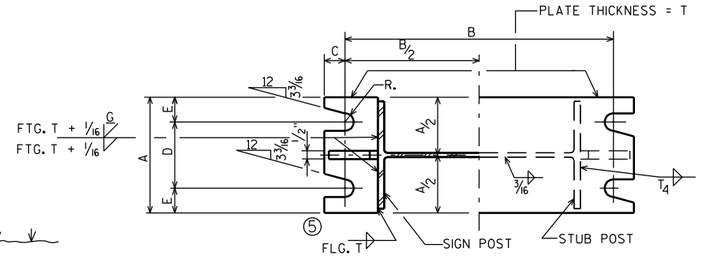
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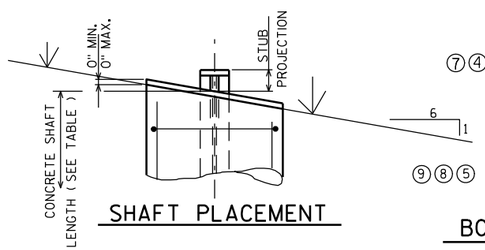
SECTION



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.

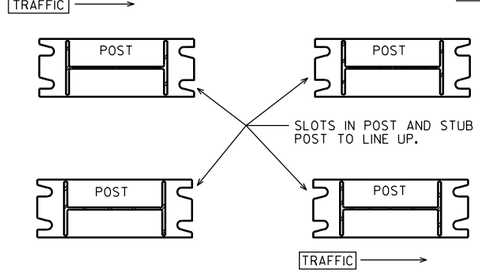
GENERAL NOTES

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

		BASE CONNECTION DATA TABLE											FOUNDATION DATA				②
	TYPE	DIMENSION / POST SIZE	BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	K
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

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" ③4-23-79 TYPE "E"
①	5-4-78	T_1 , T_2 & W_1

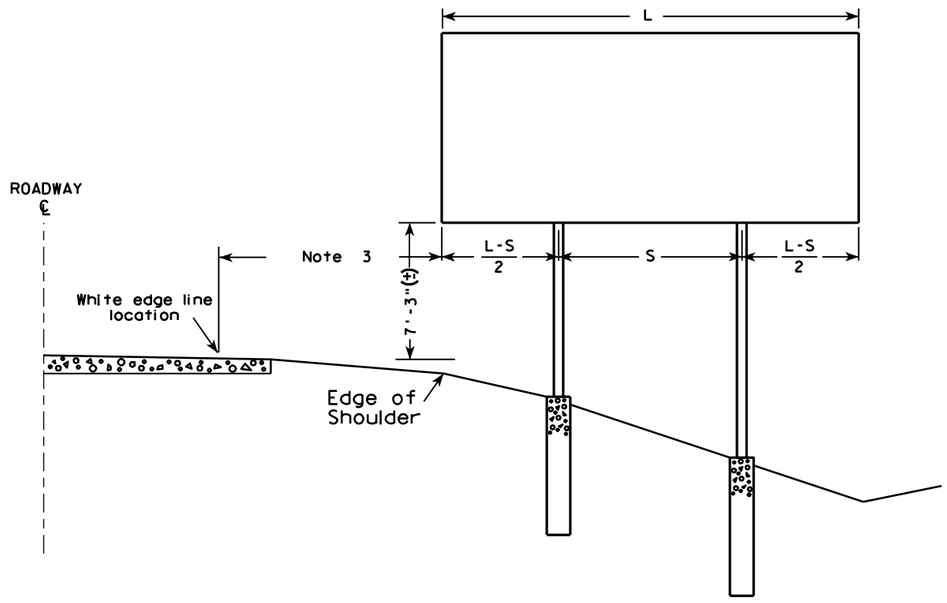
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

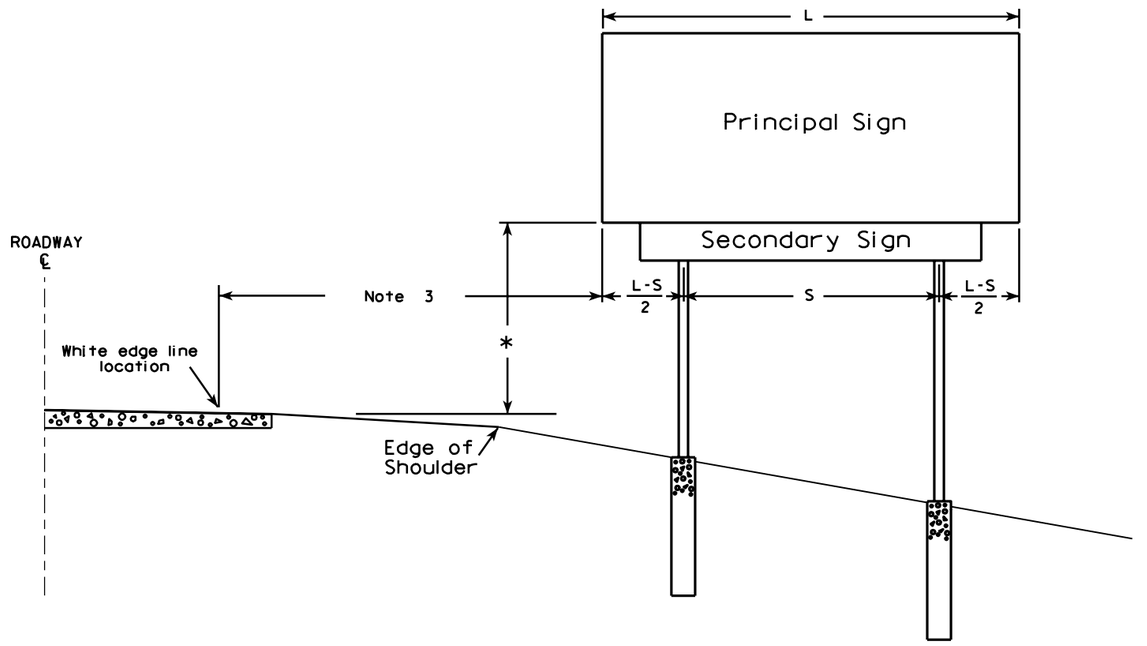
TYPE A, B, C, D, & E

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: 445 | 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"(±).

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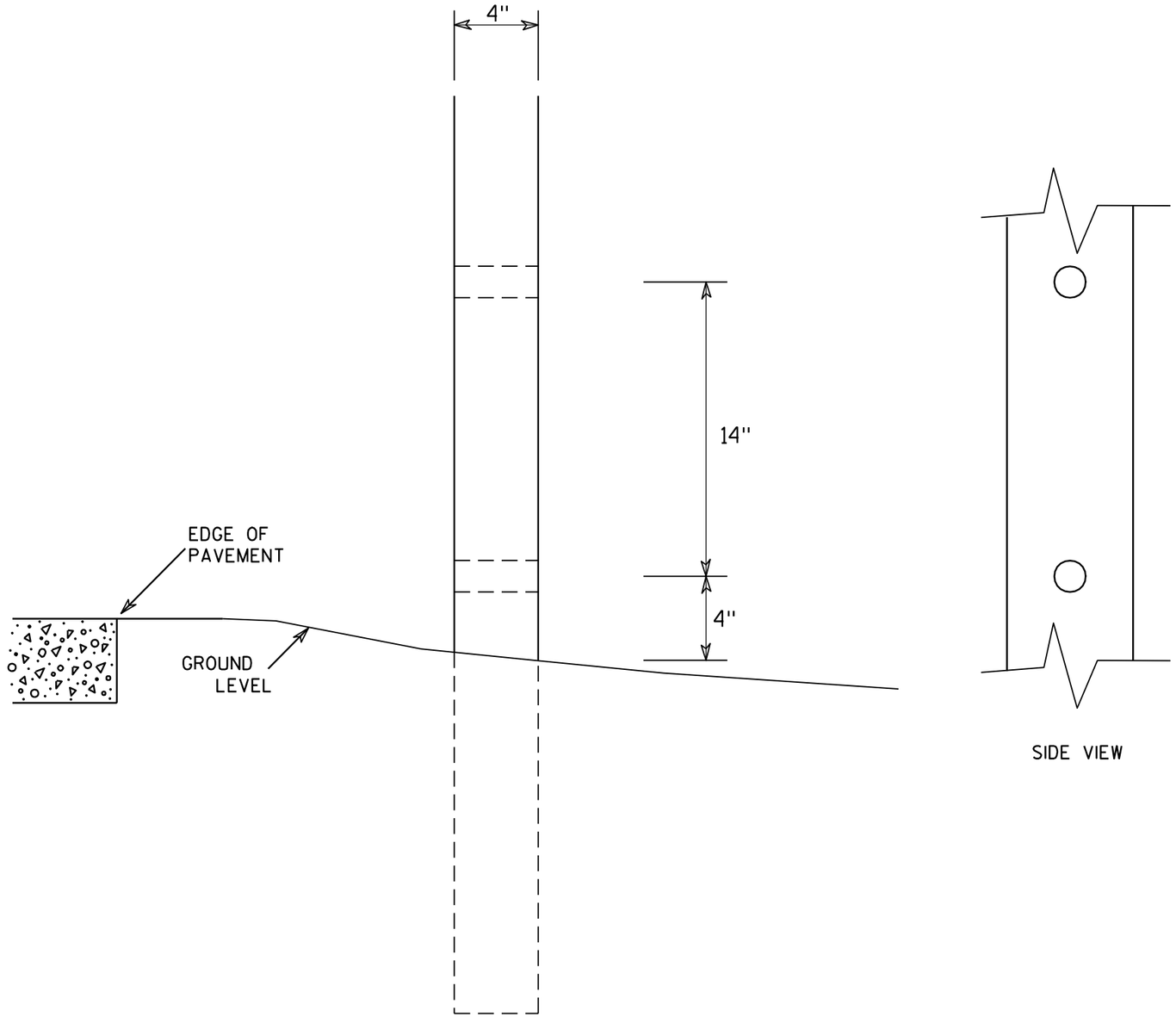
TYPICAL INSTALLATION OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:				SHEET NO: 446	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.

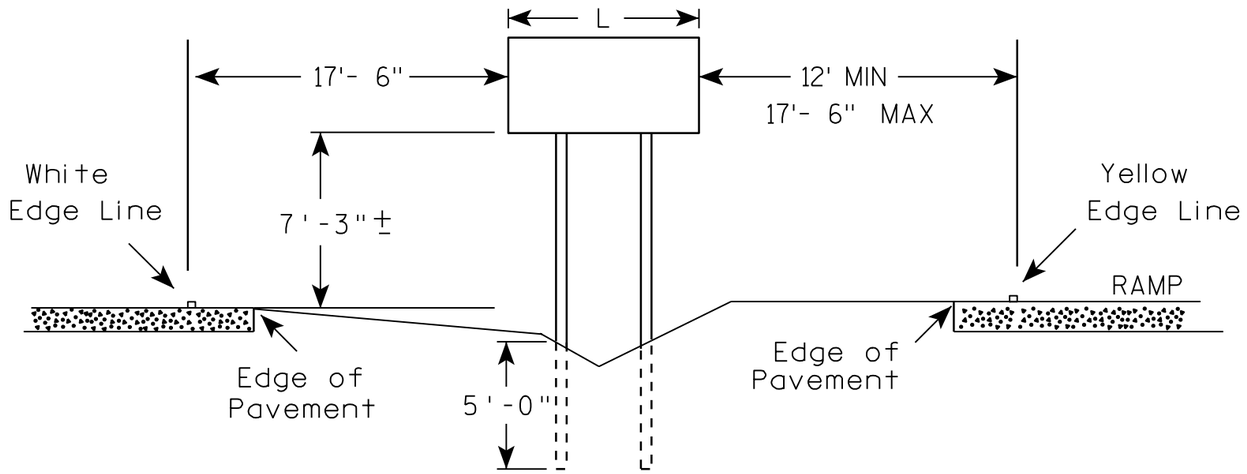
4 X 6 WOOD POST MODIFICATIONS

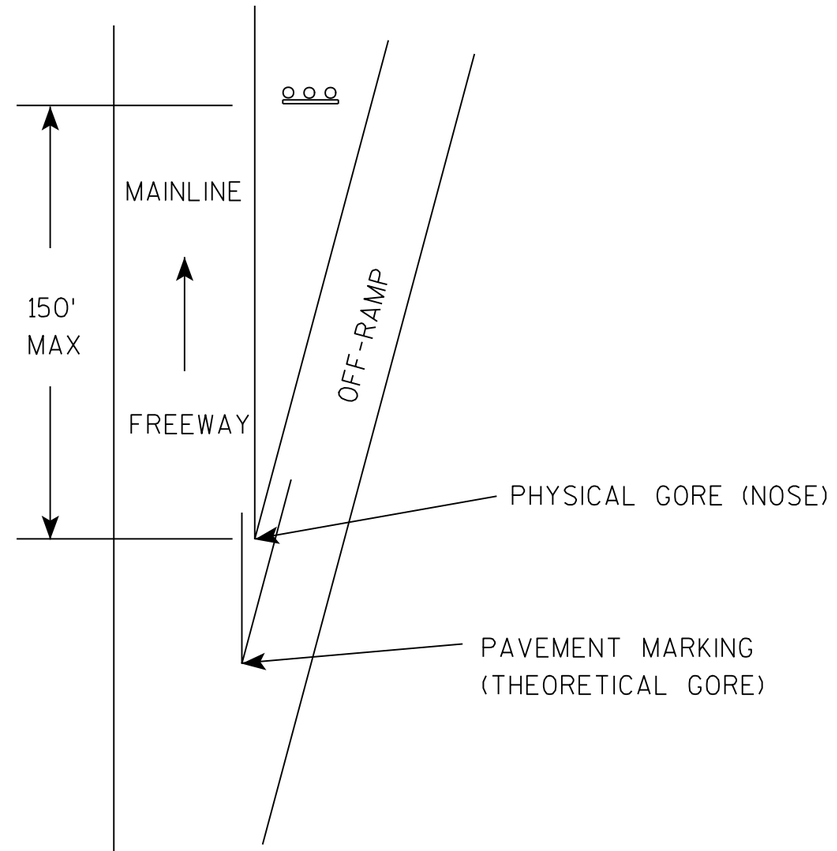
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 447	E





GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 9 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

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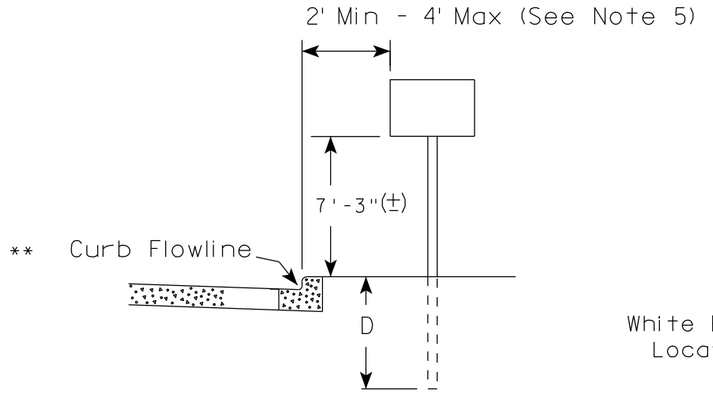
TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

WISCONSIN DEPT OF TRANSPORTATION

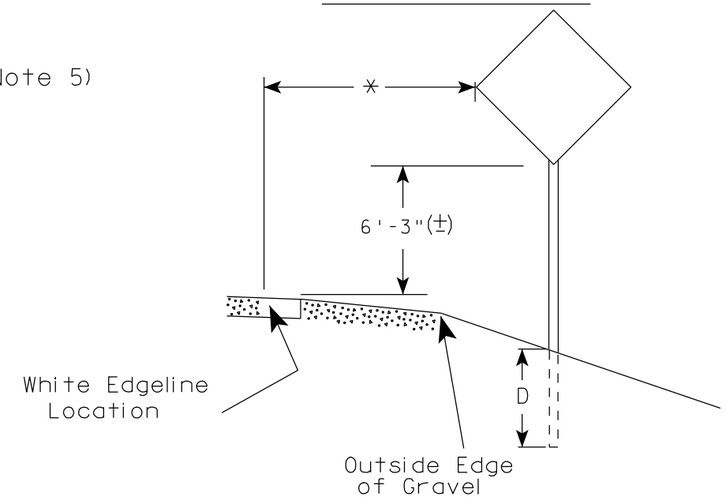
APPROVED Chester J Spagg
for State Traffic Engineer

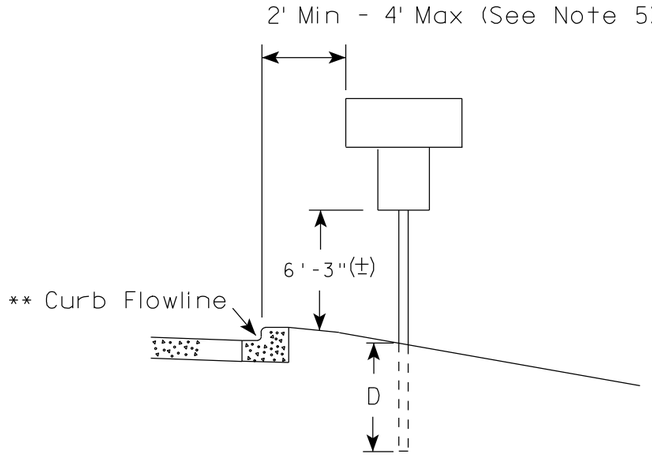
DATE 4/4/00 PLATE NO. A4-2.2

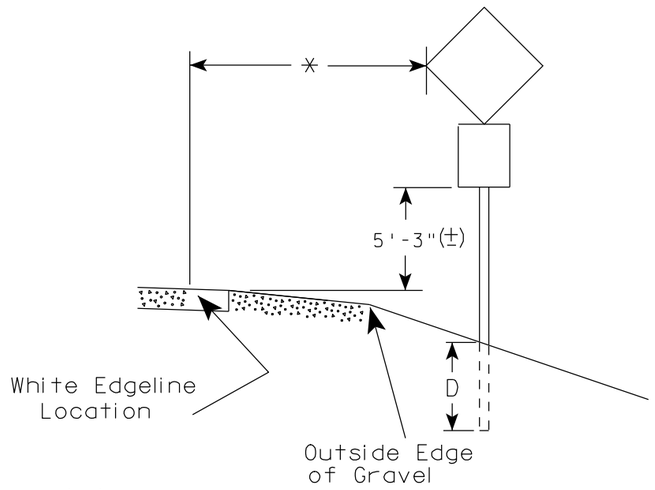
URBAN AREA



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

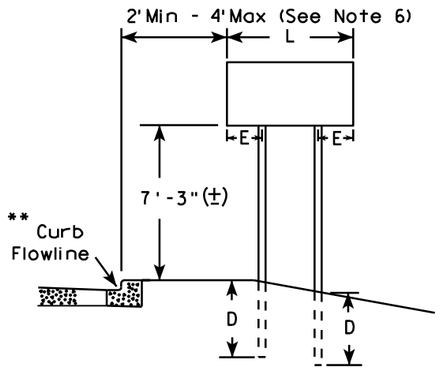
DATE 9/21/2011 PLATE NO. A4-3.16

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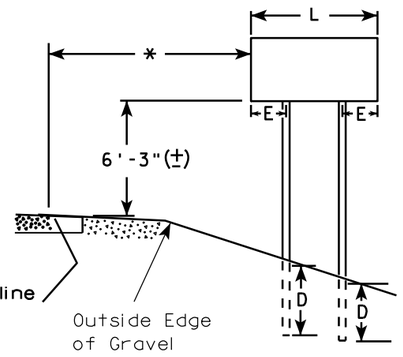
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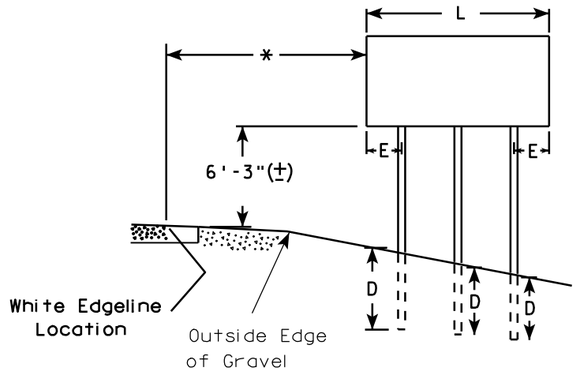
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 449 | E

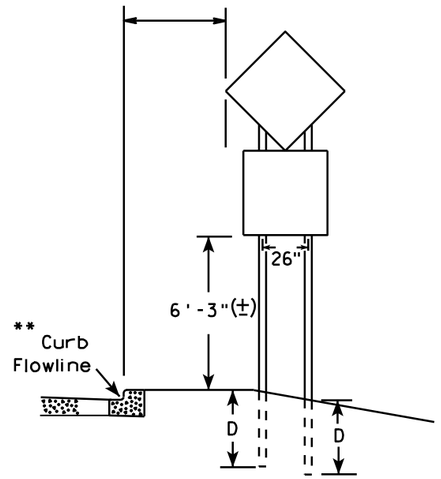
URBAN AREA



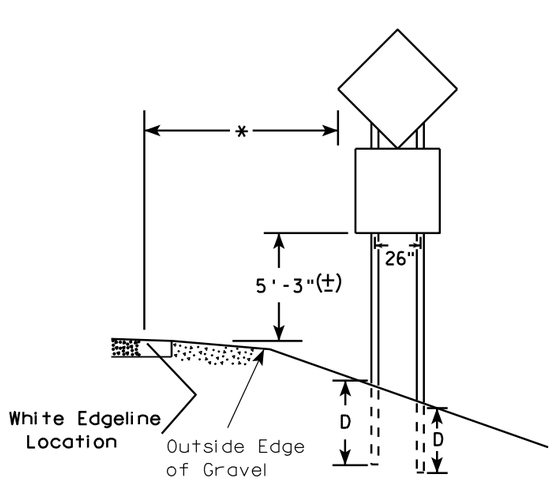
RURAL AREA (See Note 3)







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

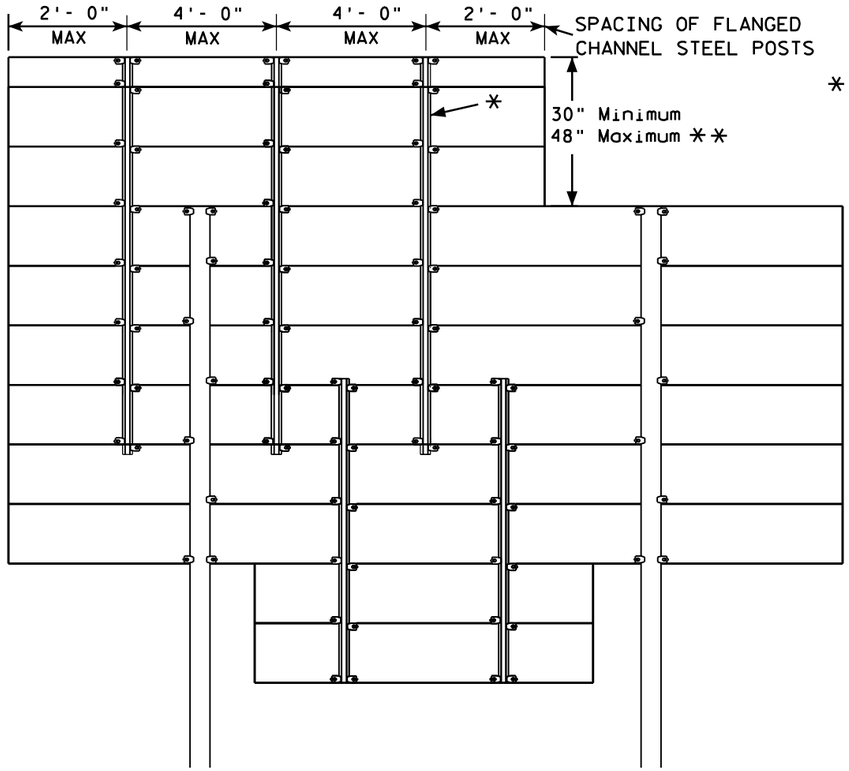
DATE 9/21/2011 PLATE NO. A4-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 450	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\A44.DGN PLOT DATE : 21-SEP-2011 13:36 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 109.249131:1.000000

WISDOT/CADDS SHEET 42

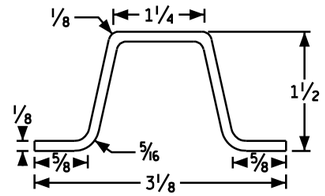
GROUND MOUNTED SIGN



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

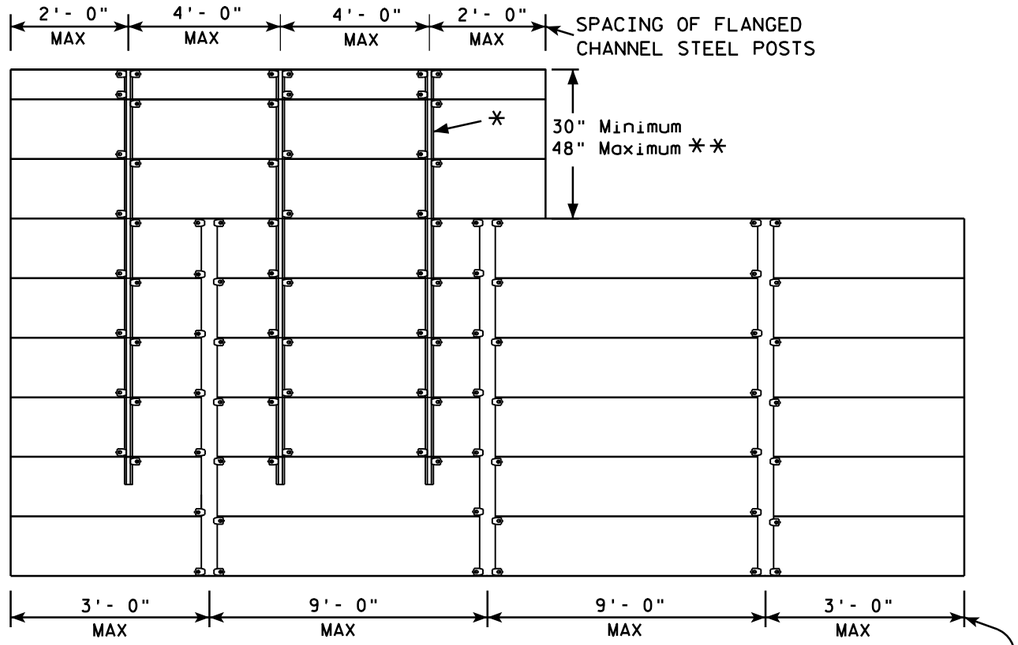
**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

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

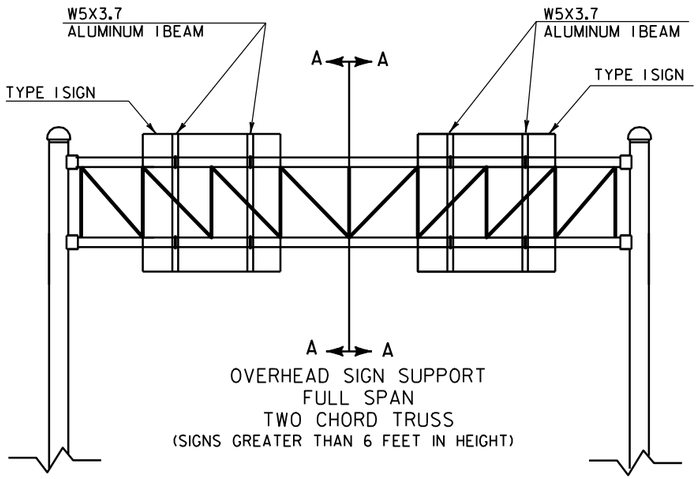
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

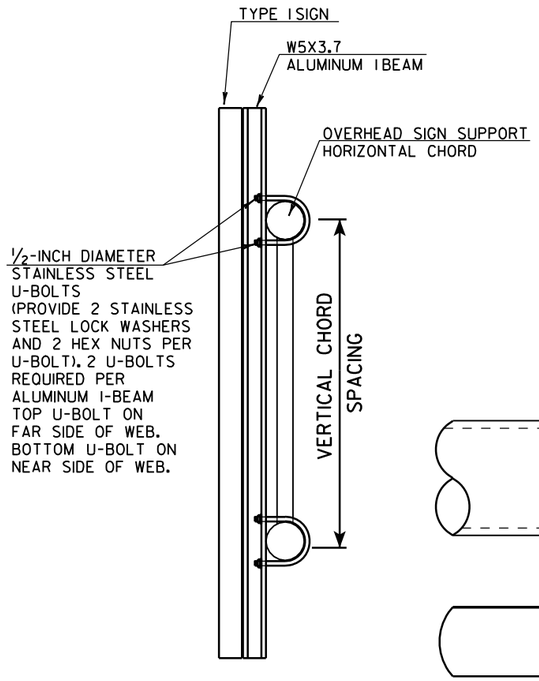
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/7/10 PLATE NO. A4-6.11

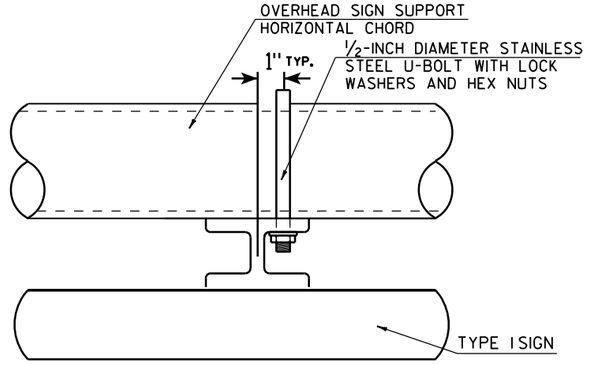
PROJECT NO:				SHEET NO: 451	E



OVERHEAD SIGN SUPPORT
FULL SPAN
TWO CHORD TRUSS
(SIGNS GREATER THAN 6 FEET IN HEIGHT)



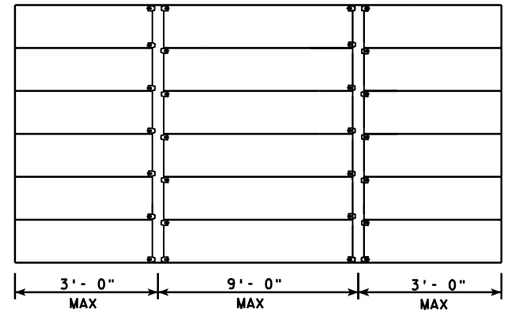
CUT SECTION A-A



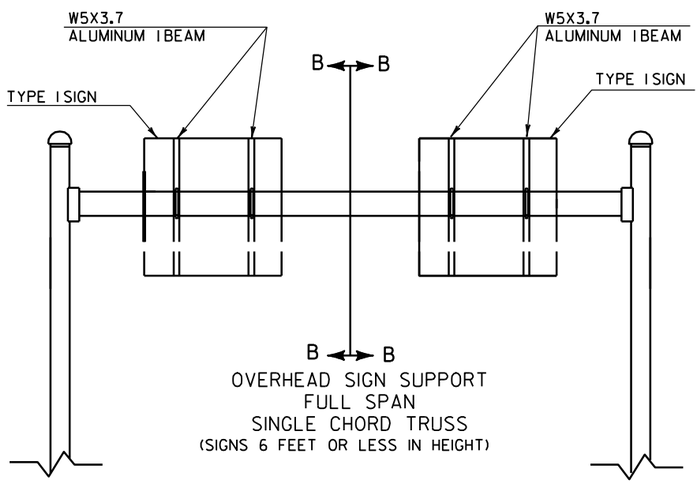
TYPICAL SIGN CONNECTION FOR
TWO CHORD TRUSS
PLAN VIEW

GENERAL NOTES

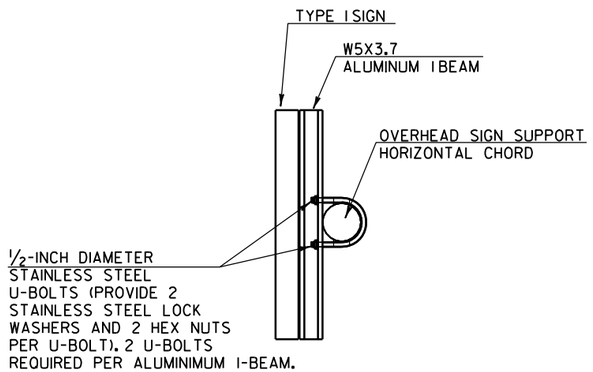
1. USE STAINLESS STEEL U-BOLTS, WASHERS, AND NUTS.
2. USE CLIPS ON EVERY EXTRUDED PANEL JOINT PER SIGN PLATE A4-6.
3. USE ALUMINUM VERTICAL SIGN SUPPORT BEAMS HAVING A 5 INCH BEAM DEPTH AND WEIGHT OF 3.7 LBS PER FOOT.
4. U-BOLTS SHALL BE STAINLESS STEEL AND MANUFACTURED TO THE PROPER SIZE TO FIT THE CHORDS OF THE OVERHEAD SIGN STRUCTURE.
5. DIAMETER OF U-BOLTS SHALL BE AS SHOWN.
6. THE LENGTH OF THE ALUMINUM VERTICAL SIGN SUPPORT BEAMS SHALL BE THE SAME AS THE HEIGHT OF THE SIGN THEY ARE SUPPORTING. BEAM LENGTHS MAY BE LONGER FOR PROPER ATTACHMENT TO CHORDS.
7. MINIMUM NUMBER OF BRACKETS PER SIGN IS TWO. SEE DETAIL BELOW FOR SPACING OF ALUMINUM VERTICAL SIGN SUPPORTS
8. MATERIAL NOTES:
   STAINLESS STEEL U-BOLTS AND LOCKWASHERS ASTM 304.
   STAINLESS STEEL HEX NUTS ASTM A276.
   ALUMINUM I-BEAMS ARE 6061-T6.



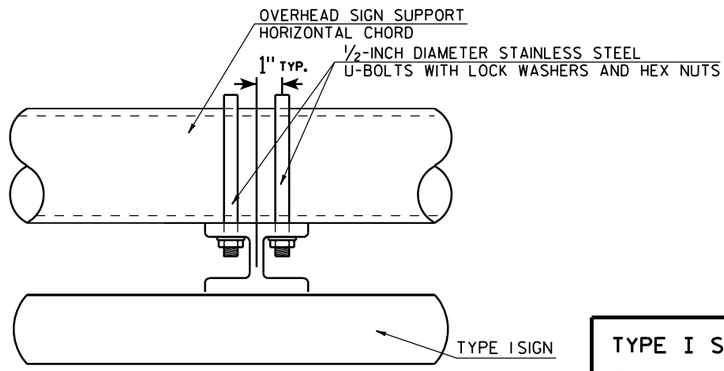
SPACING OF W5X3.7 ALUMINUM
VERTICAL SIGN SUPPORT



OVERHEAD SIGN SUPPORT
FULL SPAN
SINGLE CHORD TRUSS
(SIGNS 6 FEET OR LESS IN HEIGHT)



CUT SECTION B-B



TYPICAL SIGN CONNECTION FOR
SINGLE CHORD TRUSS
PLAN VIEW

TYPE I SIGN CONNECTION TO OVERHEAD SIGN SUPPORT

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/26/10 PLATE NO. A4-7.2

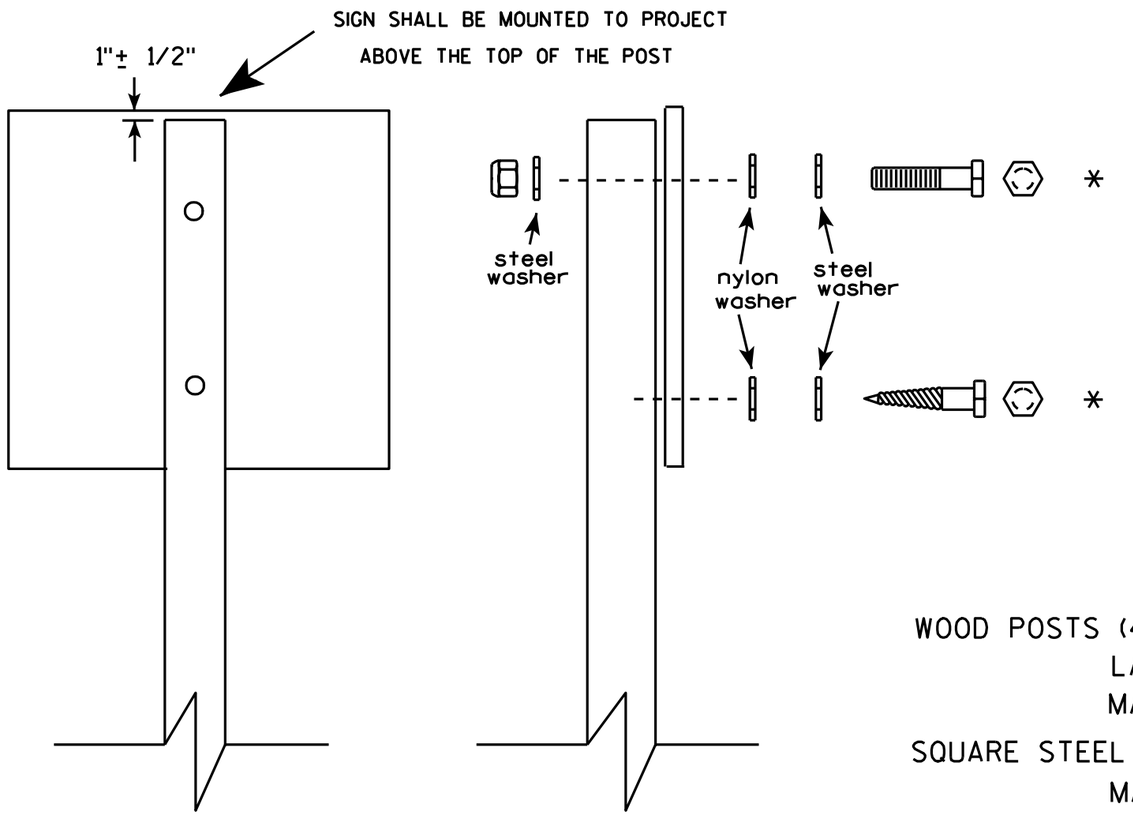
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 452	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\A47.DGN PLOT DATE : 26-FEB-2010 14:42 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 39.726957:1.000000

WISDOT/CADDS SHEET 42

7

7



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

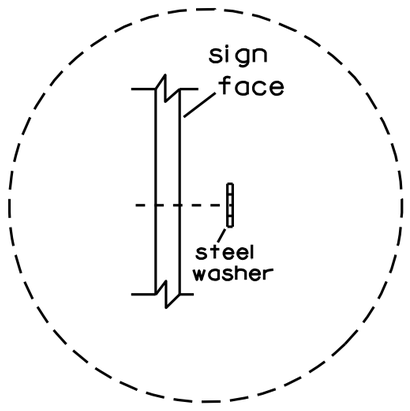
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

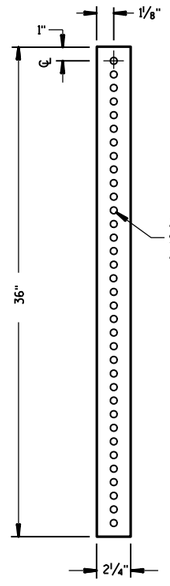
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PROJECT NO:

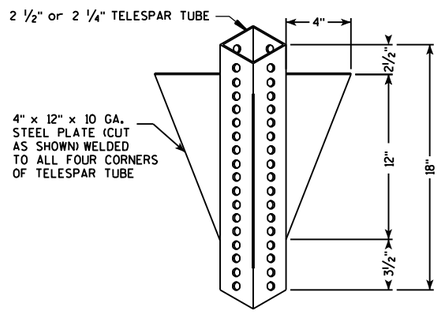
SHEET NO: 453 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

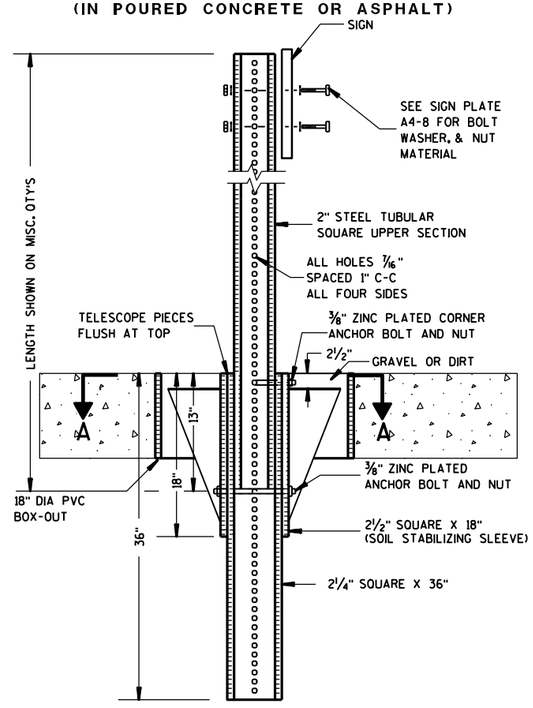
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



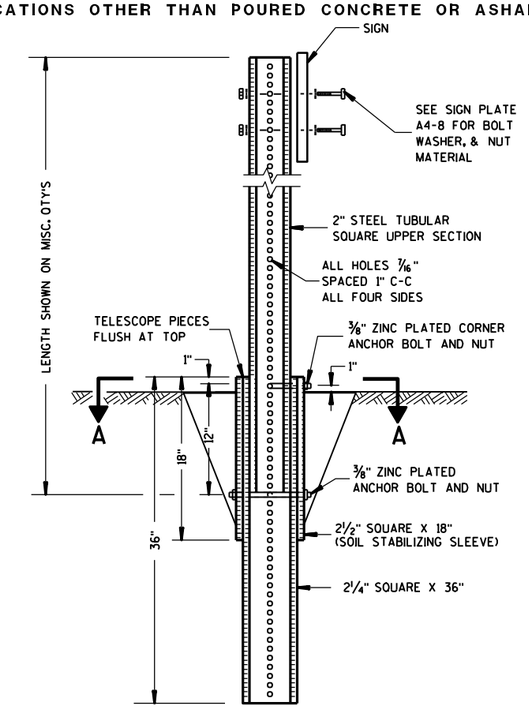
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

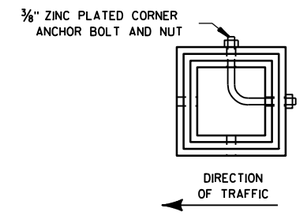


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

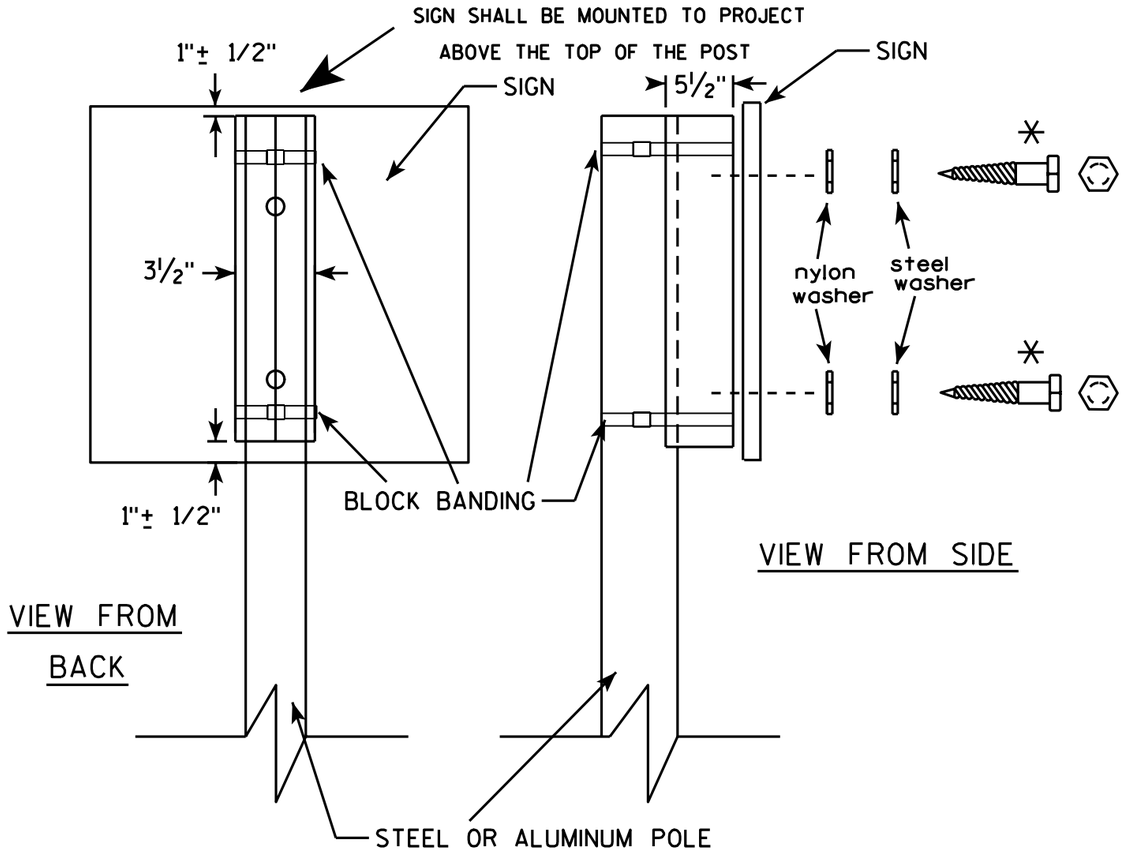
TUBULAR STEEL SIGN POST A4-9

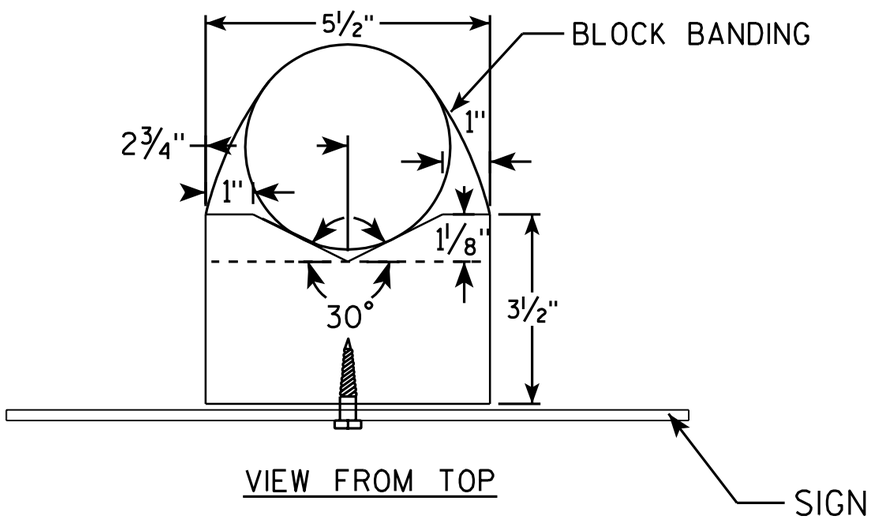
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 454	E





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
   b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
   c. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

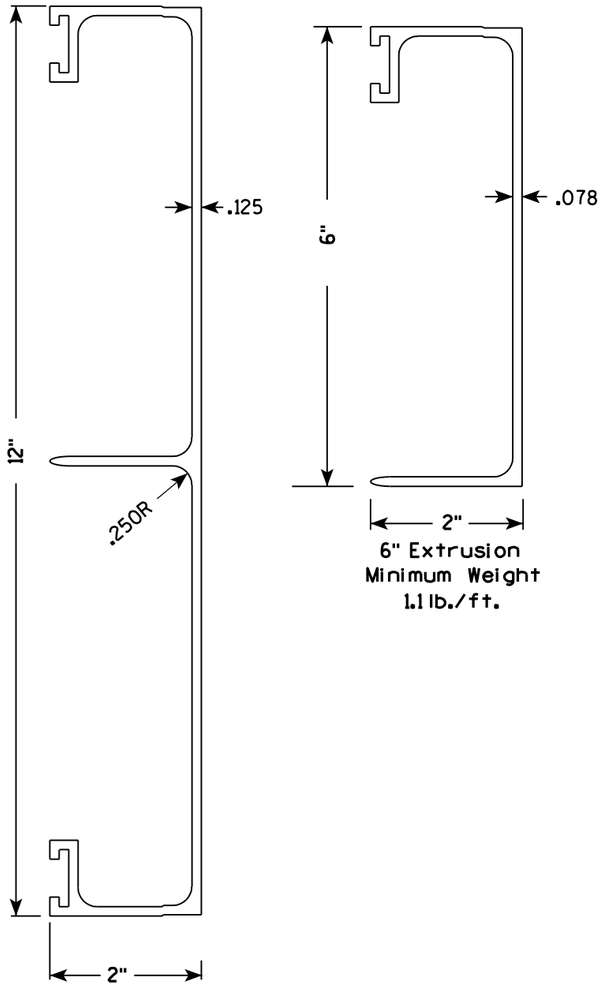
PROJECT NO:

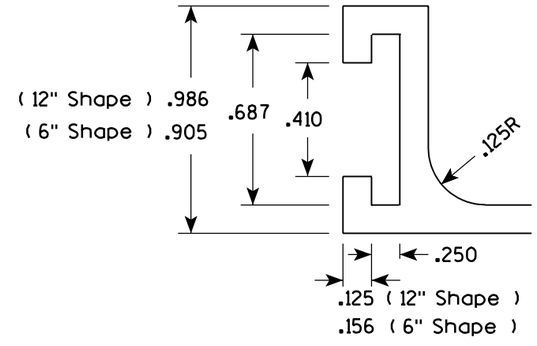
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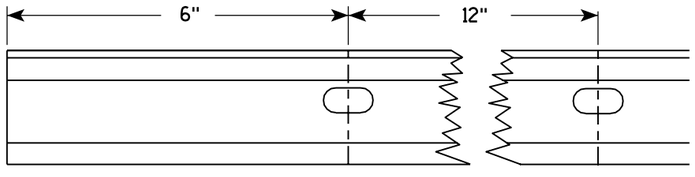
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WISDOT/CADDS SHEET 42

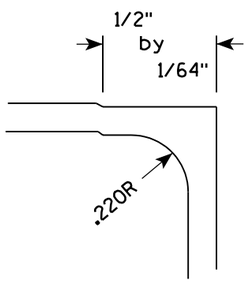
Extruded Shape







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.

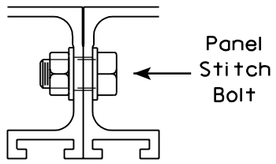


Hardware

STITCH BOLT, WASHER & NUT

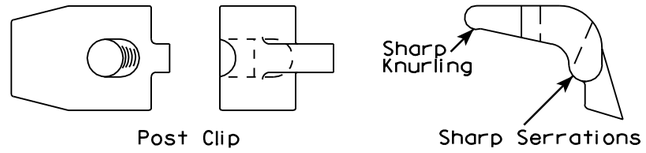
The hardware includes:

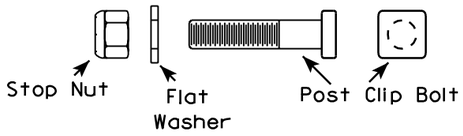
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



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

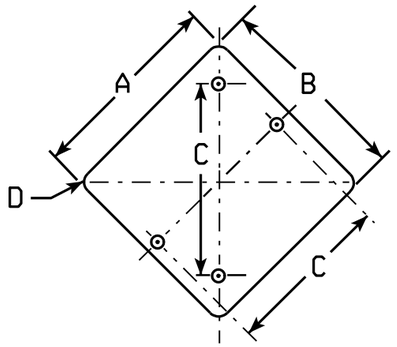
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

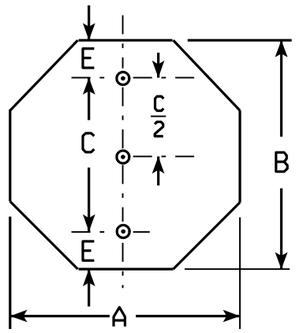
DATE 11/18/99 PLATE NO. A5-2.9

PROJECT NO:

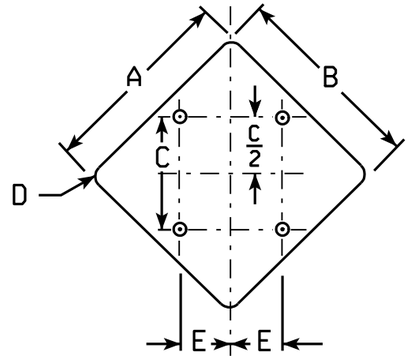
SHEET NO: 456 E



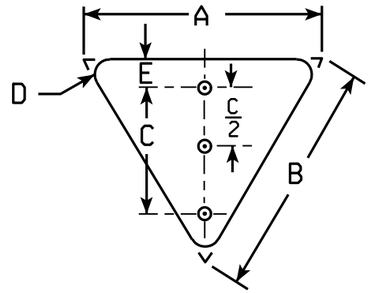
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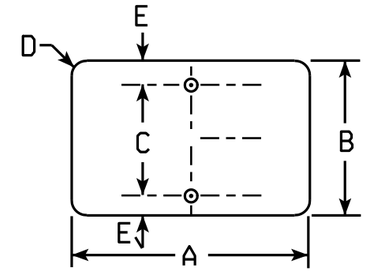
2



3



4



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 R Rauch

for State Traffic Engineer

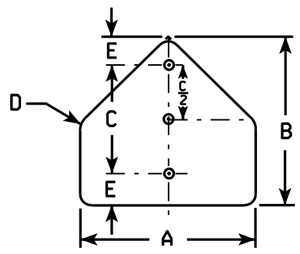
DATE 3/5/2012

PLATE NO. A5-3A.19

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 457 | E

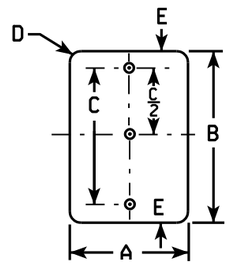
FILE NAME : c:\CAEFiles\Projects\tr_stdplate\A53.DGN PLOT DATE : 05-MAR-2012 14:49 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.986348:1.000000

WISDOT/CADDS SHEET 42



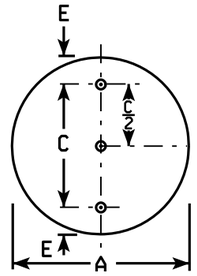
6

TYPE 6							
A	B	C	D	E	Area Sq. Ft	THICK NESS	Mounting Holes
30	30	24	$1\frac{3}{8}$	3	4.68	.080	2
36	36	26	$1\frac{5}{8}$	5	6.75	.100	2
48	48	32	$1\frac{7}{8}$	8	12.0	.125	3



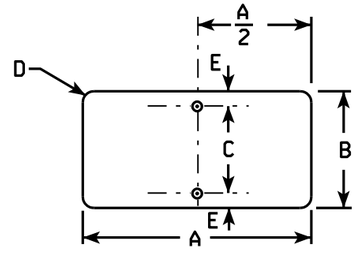
7

TYPE 7							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
12	18	15	$1\frac{1}{2}$	$1\frac{1}{2}$	1.5	.080	2
12	24	20	$1\frac{1}{2}$	2	2.0	.080	2
12	36	24	$1\frac{1}{2}$	6	3.0	.100	2
12	48	32	$1\frac{1}{2}$	8	4.0	.125	3
15	21	18	$1\frac{1}{2}$	$1\frac{1}{2}$	2.19	.080	2
18	24	20	$1\frac{1}{2}$	2	3.0	.080	2
18	36	24	$1\frac{1}{2}$	6	4.5	.100	2
18	54	36	$2\frac{1}{2}$	9	6.75	.080	3
21	60	40	$1\frac{1}{2}$	10	8.75	.080	3
21	72	52	$1\frac{1}{2}$	10	10.5	.080	3
24	30	22	$1\frac{1}{2}$	4	5.0	.080	2
24	36	24	$1\frac{1}{2}$	6	6.0	.100	2
24	39	27	$1\frac{1}{2}$	6	6.5	.080	3
24	45	32	$1\frac{7}{8}$	6	7.5	.080	3
24	48	32	$1\frac{7}{8}$	8	8.0	.125	3
24	57	37	$1\frac{7}{8}$	10	9.5	.080	3
36	48	32	$1\frac{7}{8}$	8	12.0	.125	3
36	54	36	$1\frac{7}{8}$	9	12.75	.100	3
36	57	37	$1\frac{7}{8}$	10	14.25	.100	3
48	39	27	$1\frac{7}{8}$	10	13.0	.125	3
48	45	32	$1\frac{7}{8}$	10	14.0	.125	3
48	57	37	3	6	19.0	.125	3
48	60	40	3	7	20.0	.125	3



8

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



9

TYPE 9							
A	B	C	D	E	Area Sq. Ft.	THICK NESS	Mounting Holes
48	24	20	$1\frac{7}{8}$	2	8.0	.125	2

NOTES

1. All sign blanks shall have $\frac{7}{16}$" Diameter mounting holes.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS

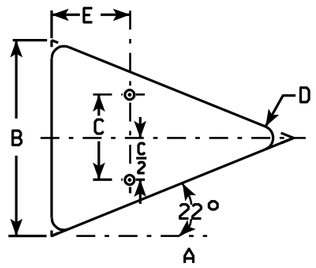
SHEET 2 OF 3

WISCONSIN DEPT OF TRANSPORTATION

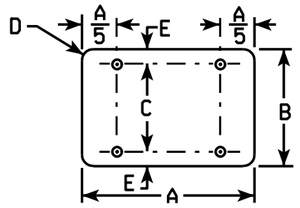
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/5/2012 PLATE NO. A5-3A.19

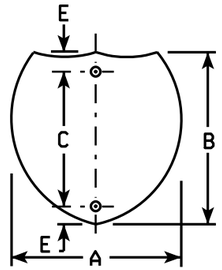
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 458	E



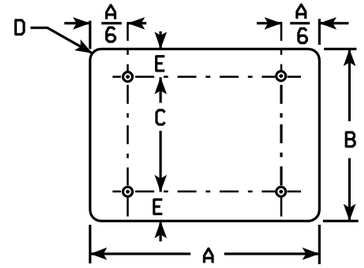
10



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

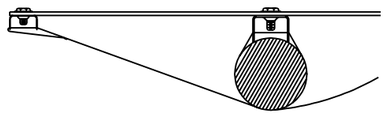
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

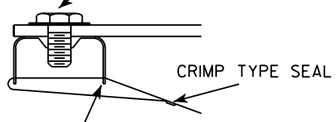
DATE 3/5/2012 PLATE NO. A5-3A.19

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 459	E

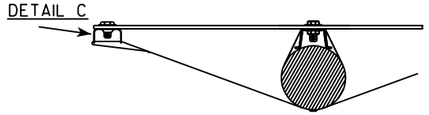
BRACE BANDING

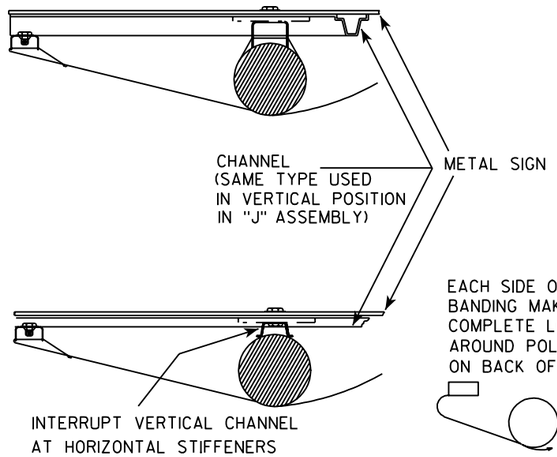


DETAIL C
CADMIUM PLATED STEEL BOLT
THROUGH BLACK BORDER



DETAIL C

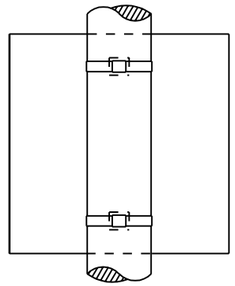


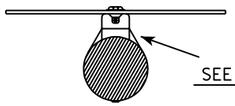


EACH SIDE OF BRACE
BANDING MAKES ONE
COMPLETE LOOP
AROUND POLE-SEAL
ON BACK OF POLE

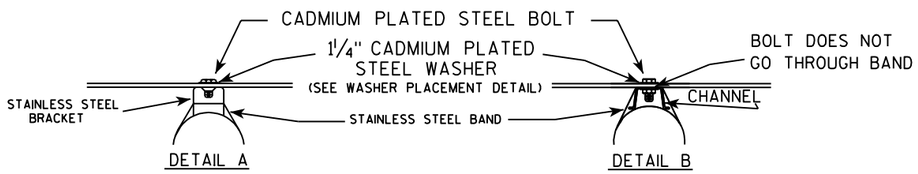
BRACKET BANDING

SINGLE SIGN





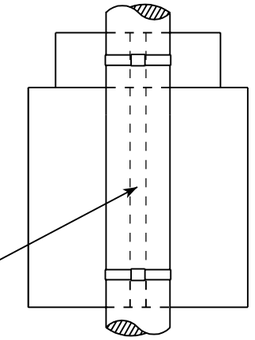
SEE DETAIL A



DETAIL A

DETAIL B

"J" ASSEMBLY

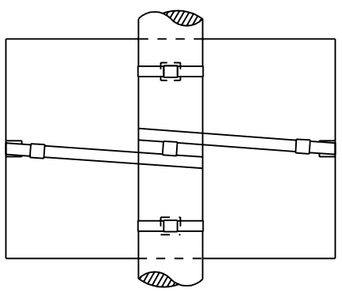


CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

SEE DETAIL B

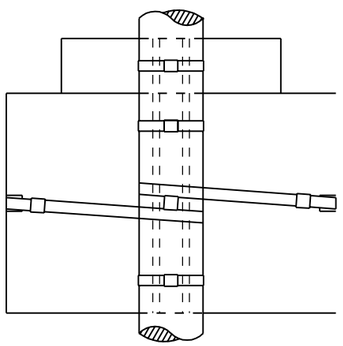
GENERAL NOTES

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.

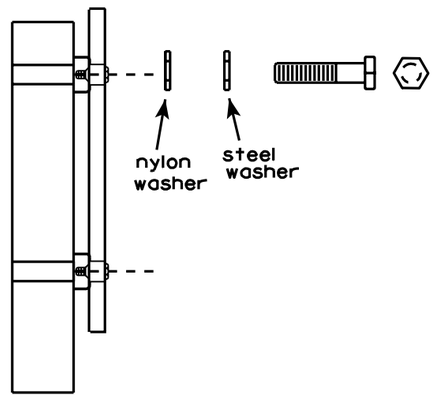


BRACE BANDING

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

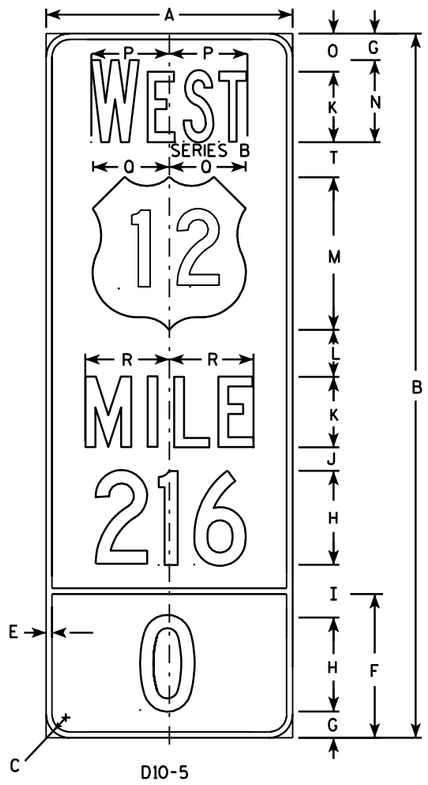
STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

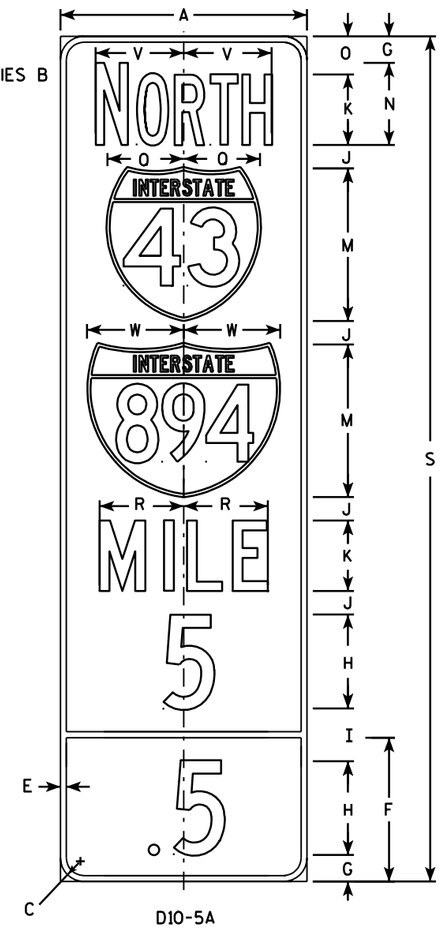
APPROVED *Matthew R Rauch*
for State Traffic Engineer

DATE 11/08/05 PLATE NO. A5-9.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 460	E



D10-5



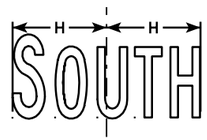
D10-5A

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - BLUE
   Message - WHITE
3. Interstate Shield Color
   Background - Top Red
   - Bottom Blue
   Message - White
4. Message Series - C or as noted on the Sign.
5. 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.
6. The decimal point is required for all digits except "0".
7. Optically adjust mileage numbers about the centerline of the sign to achieve proper balance.



SERIES B



SERIES B

Metric equivalent for this sign is:		Metric equivalent for this sign is:	
SIZE	D10-5	SIZE	D10-5A
1		1	
2		2	
3		3	
4	525 mm X 1500 mm	4	525 mm X 1950 mm
5	525 mm X 1500 mm	5	525 mm X 1950 mm

																										D10-5		D10-5A	
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2	Area sq. ft.	Area m2
1																														
2																														
3																														
4	21	60	1 ½		½	12 ¼	2 ¼	8	4 ½	2	6	4	13	7	3 ¼	6 ⅝	6 ½	7 ⅛	72	3		7 ½	8 ¼				8.75	0.79	10.5	1.03
5	21	60	1 ½		½	12 ¼	2 ¼	8	4 ½	2	6	4	13	7	3 ¼	6 ⅝	6 ½	7 ⅛	72	3		7 ½	8 ¼				8.75	0.79	10.5	1.03

STANDARD SIGN
D10-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/09/05 PLATE NO. D10-5.1

PROJECT NO:

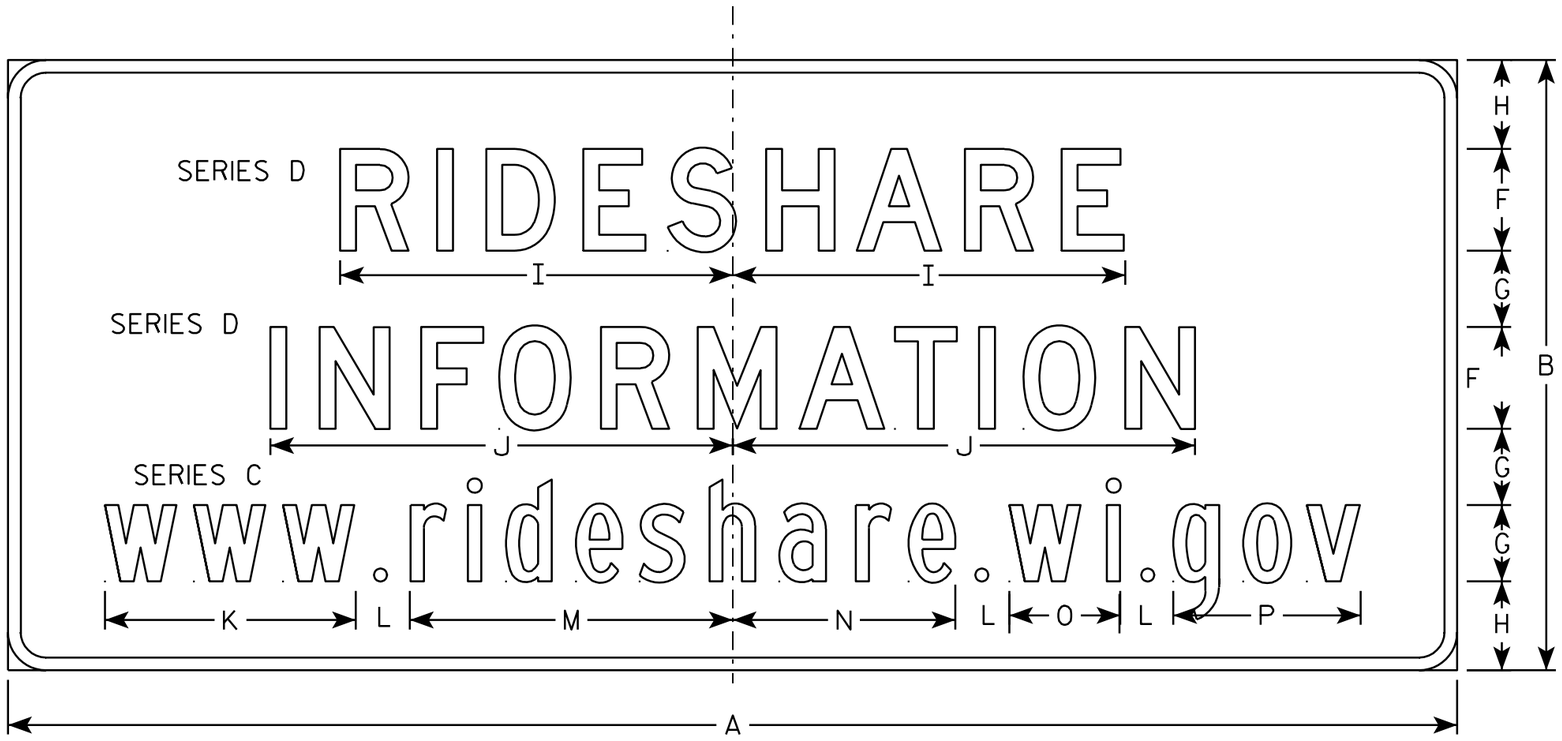
SHEET NO: 461 E

FILE NAME : C:\Users\Projects\tr_stdplate\D105.DGN PLOT DATE : 09-MAR-2005 08:35 PLOT BY : DOTSJA

WISDOT/CADDS SHEET 42

7

7



D12-2B

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	
2	2100 mm X 900 mm
3	
4	2850 mm X 1200 mm
5	2850 mm X 1200 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	84	36	2 1/4		3/4	6	4 1/2	5 1/4	24 1/4	28 5/8	14 3/4	3	19	13 1/8	6 1/2	11											21.0	1.90
3																												
4	114	48	3		1	8	6	7	30 7/8	36 3/8	19 3/4	4 1/4	25 3/8	17 1/2	8 3/4	14 3/4											38.0	3.42
5	114	48	3		1	8	6	7	30 7/8	36 3/8	19 3/4	4 1/4	25 3/8	17 1/2	8 3/4	14 3/4											38.0	3.42

STANDARD SIGN
D12-2B

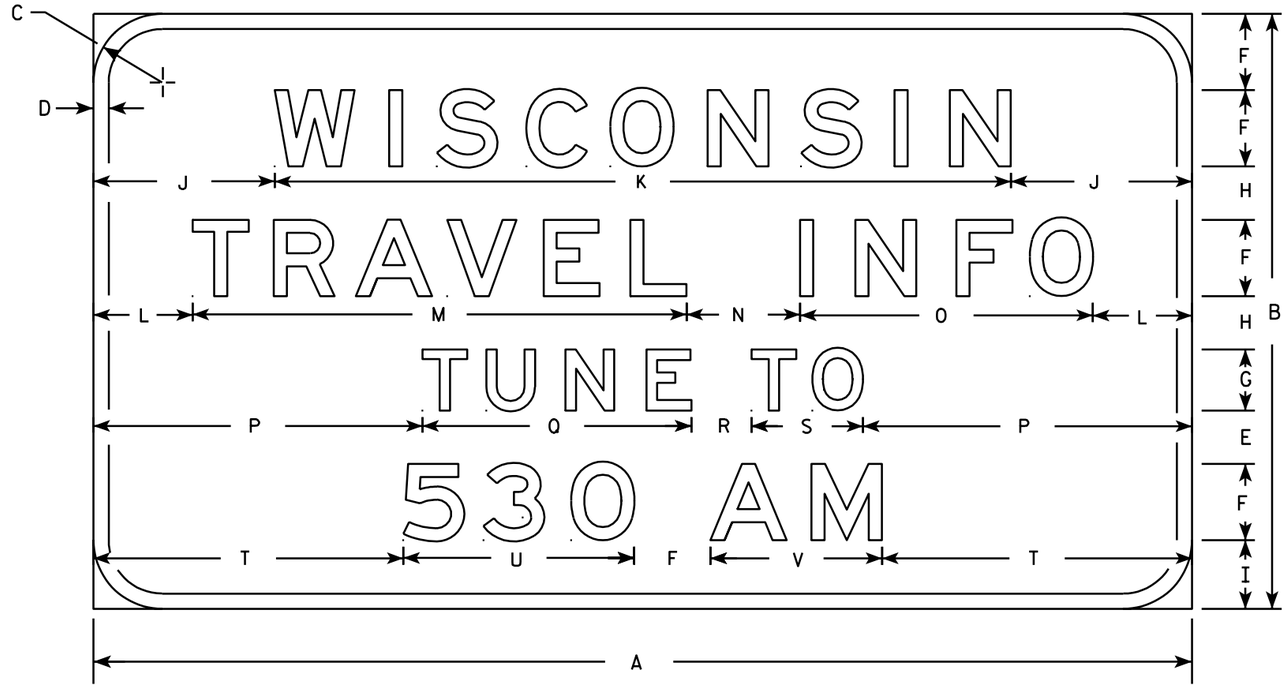
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/04/08 PLATE NO D12-2B.2

PROJECT NO:

SHEET NO: 462 E



NOTES

1. Sign Type as noted- Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Blue
   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.
5. Sign is Type II for size 2 and Type I for size 4 & 5.
6. For any other radio frequency, Substitute appropriate numerals and adjust spacing to achieve proper balance.

Metric equivalent for this sign is:

SIZE	
1	
2	2250 mm X 1050 mm
3	
4	3000 mm X 1500 mm
5	3600 mm X 1950 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		
1		9																										
2	90	42	6	1	3	6	4	3½	4	16	58	35⅝	39	8⅞	23⅛	30½	17⅝	3⅞	7⅜	26¼	18	13½					26.25	2.44
3																												
4	120	60	6	1	5	8	6	5	7	21⅜	77¼	12¾	51⅞	11⅞	30¾	38¼	26½	5⅞	11⅛	25⅛	24¼	18					50	4.64
5	144	78	9	2	7	10	8	7	9	23¾	96½	13	64¾	14⅞	38⅜	43⅛	35¼	7⅞	14⅝	40⅝	30¼	22½					78	7.25

STANDARD SIGN
D12 - 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for Director, Office of Traffic

DATE 1/17/02 PLATE NO. D12-3.5

PROJECT NO:

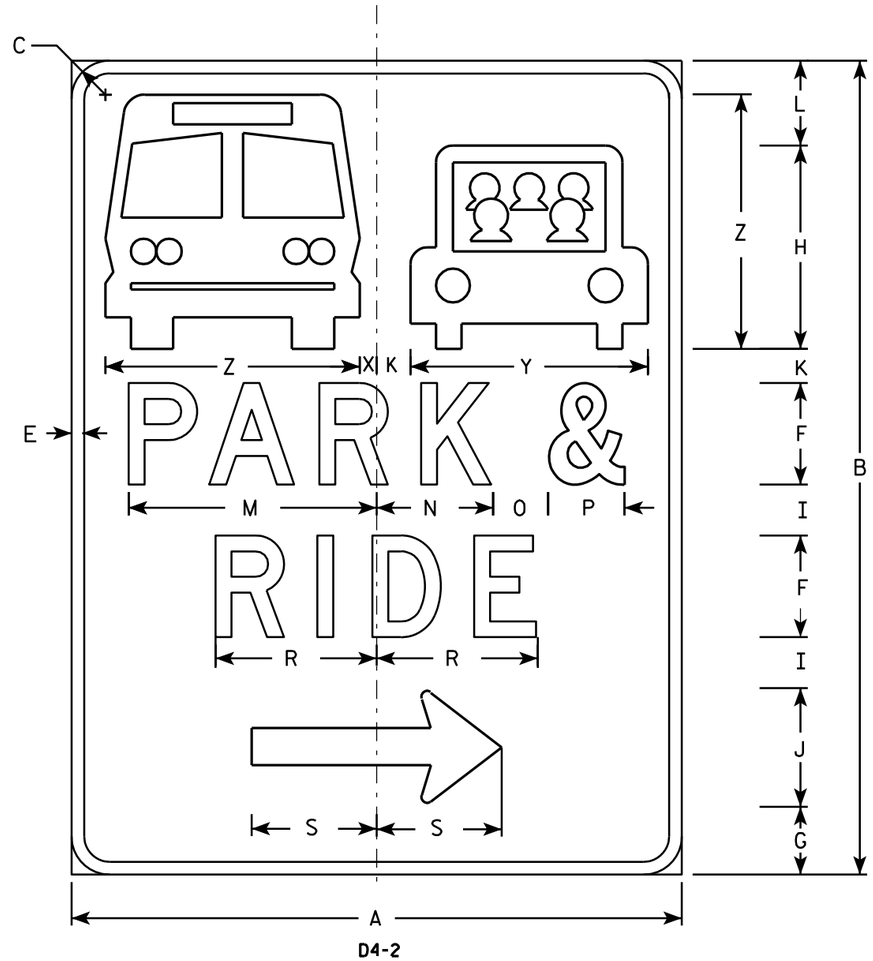
SHEET NO: 463 E

FILE NAME : C:\Users\Projects\tr_stdplate\D123.DGN PLOT DATE : 28-MAR-2006 08:23 PLOT BY : DOTSJA

WISDOT/CADDS SHEET 42

7

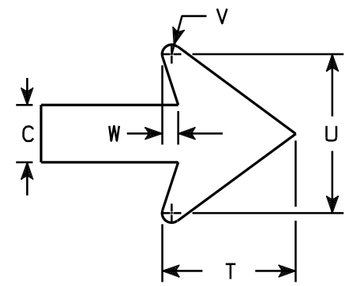
7



D4-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The D4-2L is the same as a D4-2R except the arrow is reversed.
6. The D4-2 sign may have either symbol or both symbols at the same time.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	30	1 1/8		1/2	4	1 5/8	7 1/2	1 1/2	4 5/8	1 3/8	3 7/8	9 3/4	4	2 3/4	3		6 3/8	4 7/8	3 1/2	4 1/8	1/4	3/8	5/8	9 3/8	10	5.0
2	30	36	1 3/8		5/8	5	2	9	1 5/8	5 1/2	1 5/8	4 5/8	12 1/4	5 1/8	3 3/8	3 3/4		8	6 1/8	4 3/8	5 1/4	3/8	1/2	7/8	11 3/4	12 1/2	7.50
3	36	48	2 1/4		3/4	6	4	12	3	7	2	5	14 5/8	6 7/8	3 1/4	4 1/2		9 1/2	7 1/2	5 1/4	6 1/4	3/8	5/8	1	14	15	12.0
4																											
5																											

STANDARD SIGN
D4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/20/10 PLATE NO. D4-2.5

PROJECT NO:

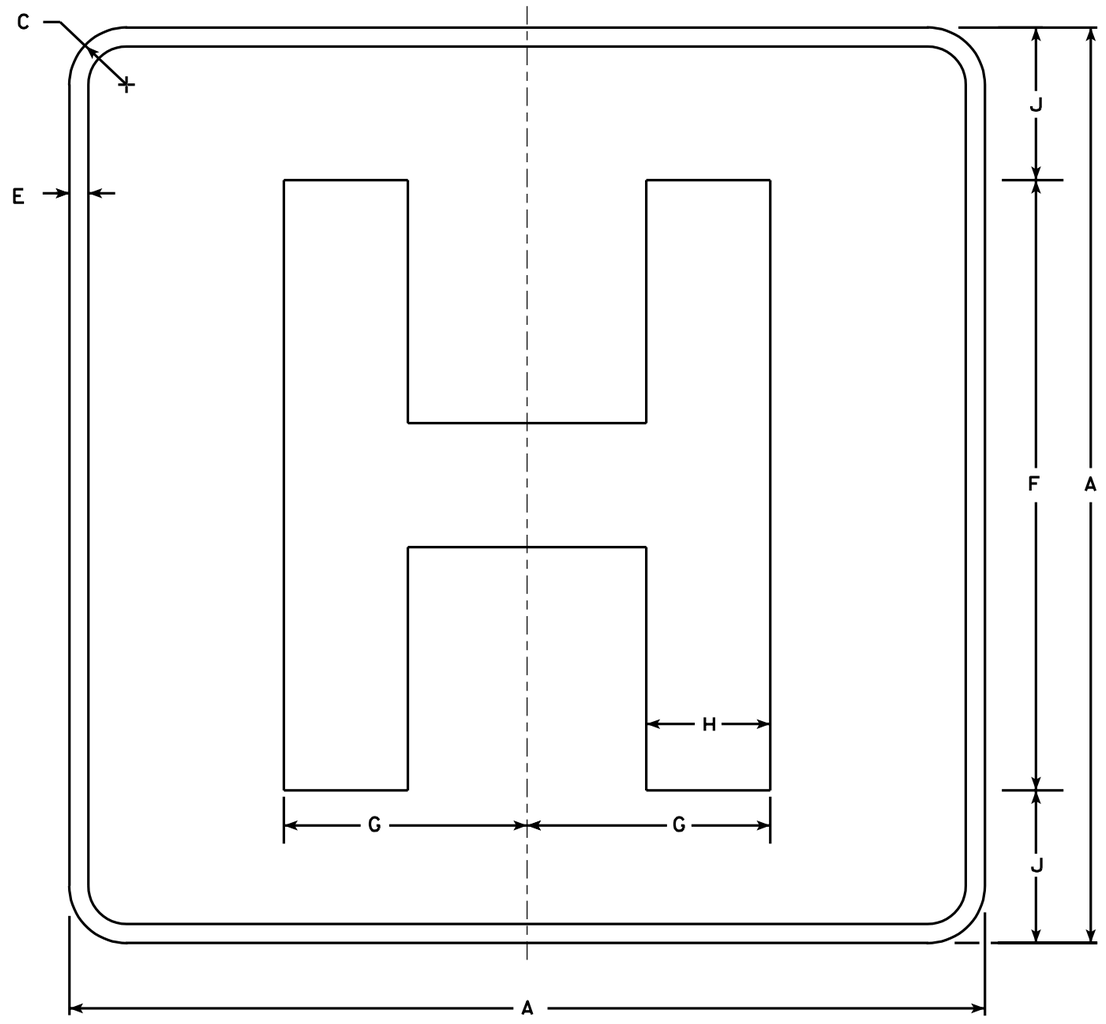
SHEET NO: 464 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\D42.dgn PLOT DATE : 10-FEB-2011 14:21 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

7



D9-2

NOTES

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

Metric equivalent for this sign is:

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

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		1 1/8		1/2	12	4 3/4	2 3/8		3																	4.0
2	24		1 1/2		1/2	16	6 3/8	3 1/4		4																	4.0
3	36		2 1/4		3/4	24	9 1/2	4 7/8		6																	9.0
4																											
5																											

STANDARD SIGN
D9-2

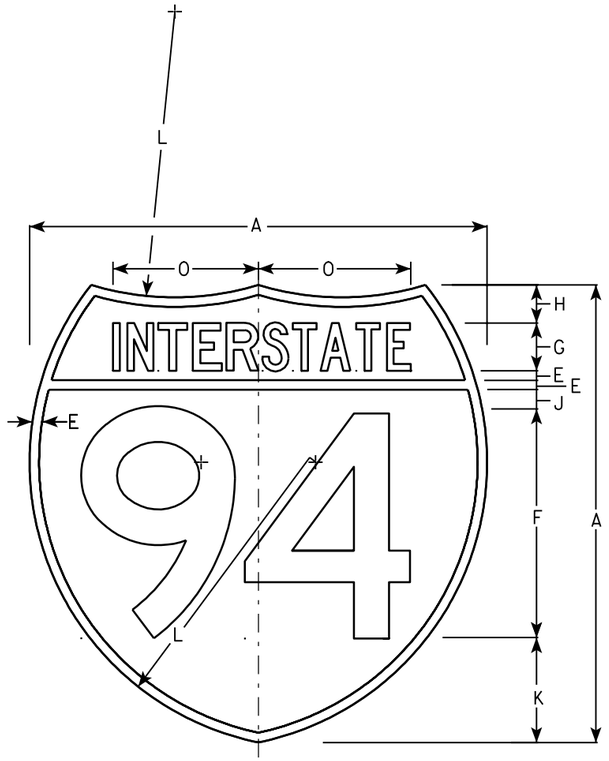
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spong for State Traffic Engineer

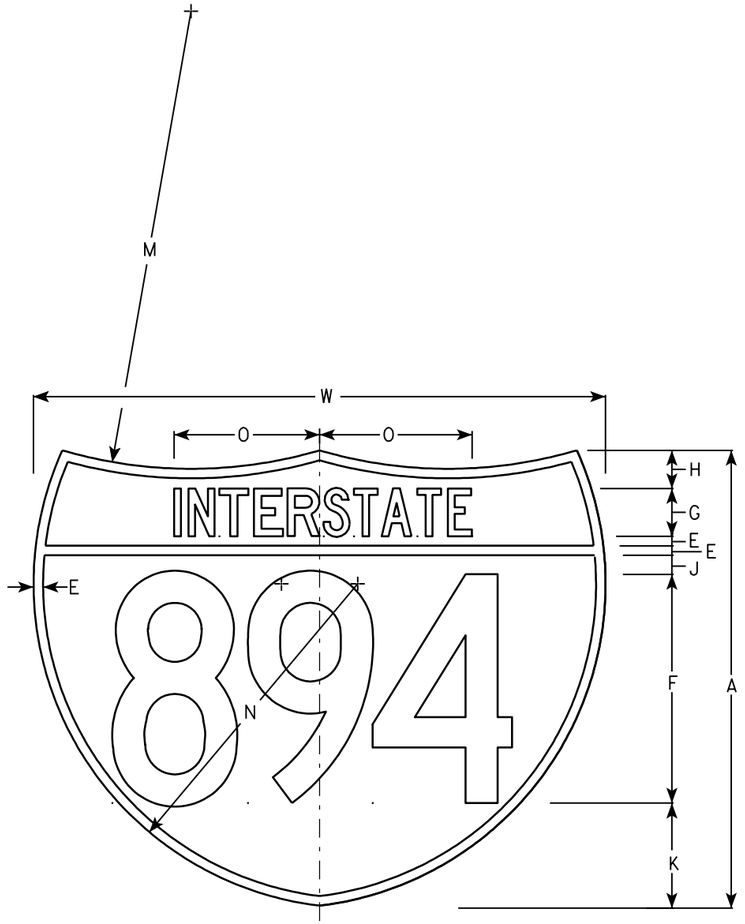
DATE 1/15/02 PLATE NO. D9-2.4

PROJECT NO:

SHEET NO: 465 E



M1-1



M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	M1-1 Area sq. ft.	M1-1A Area sq. ft.	M1-1 Area m2	M1-1A Area m2
1																													
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91	.36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79	.81	1.05

INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

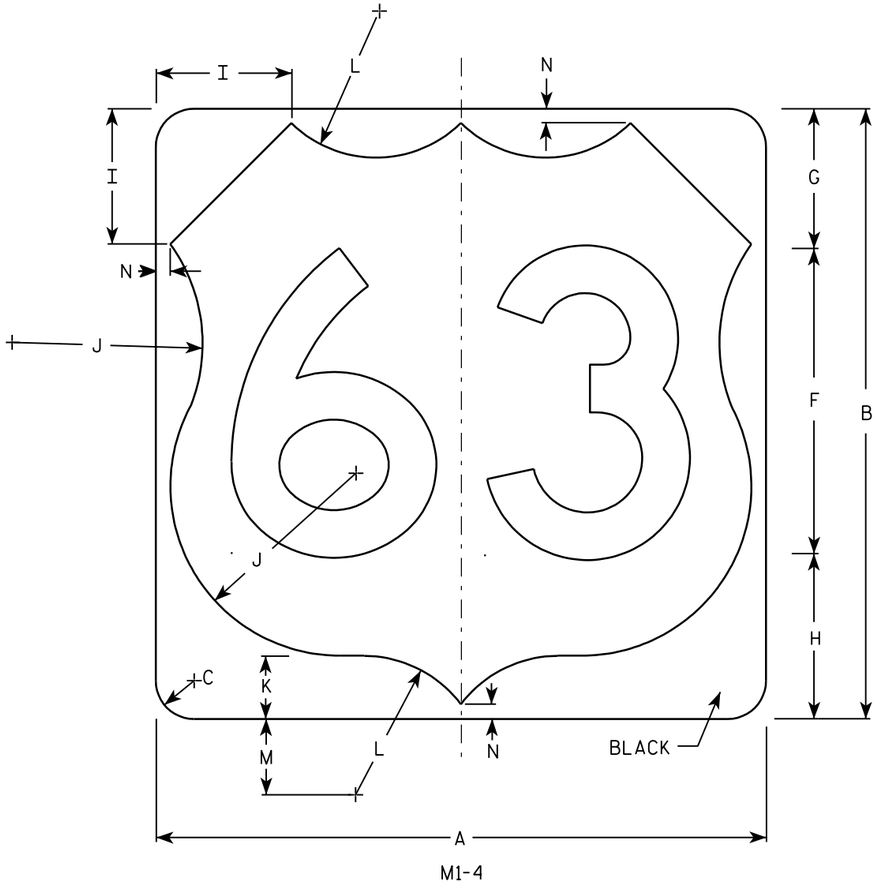
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

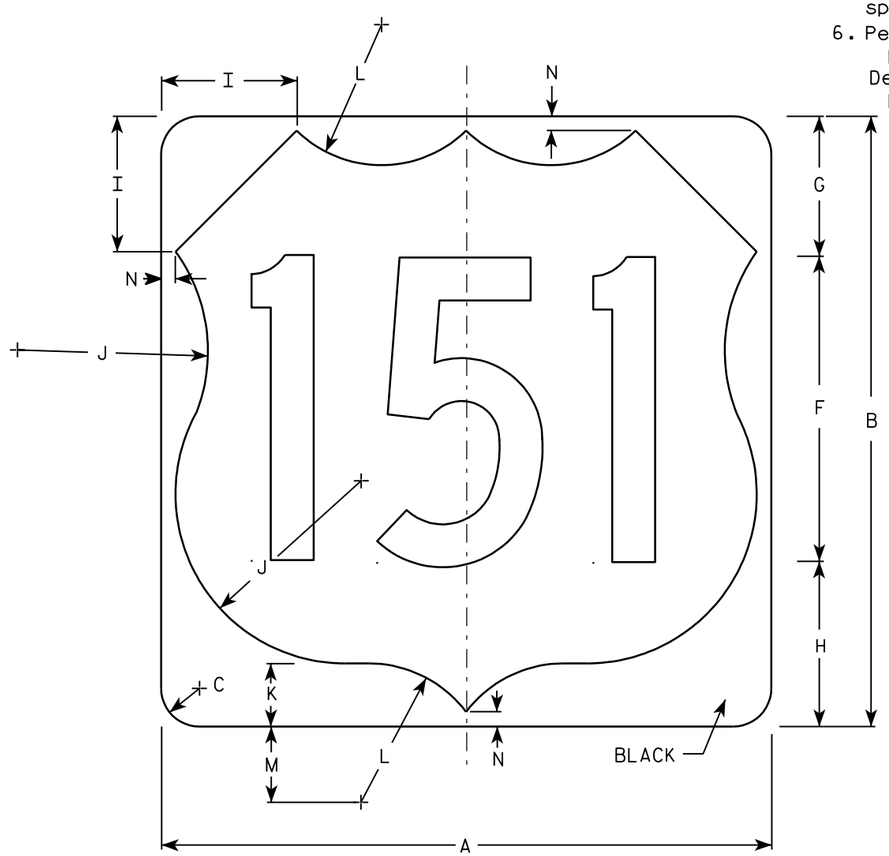
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 466	E

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective



M1-4



M1-4

7

7

Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

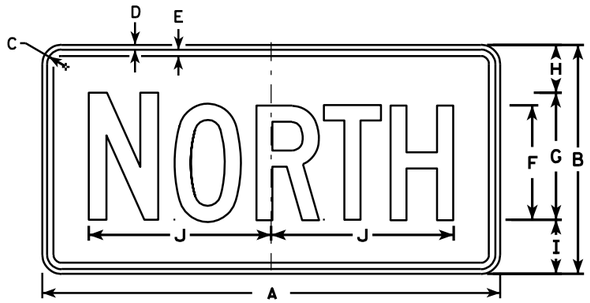
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

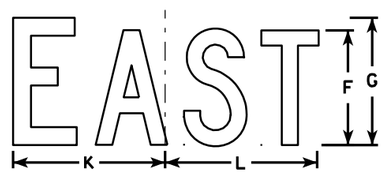
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

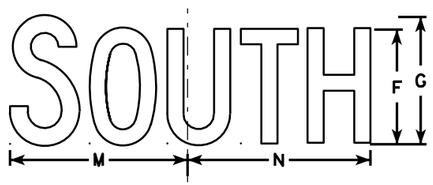
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 467	E



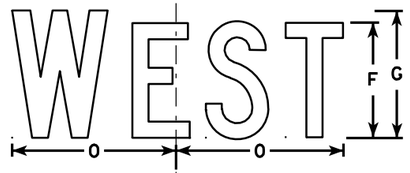
M3-1
MK3-1
MO3-1



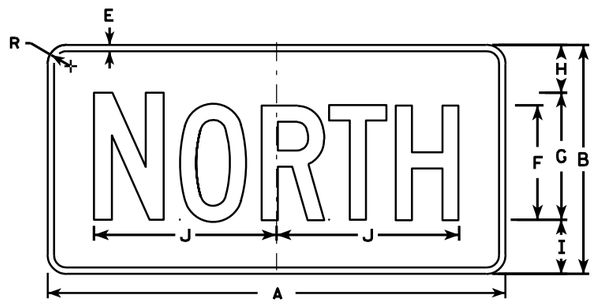
M3-2
MK3-2
MO3-2



M3-3
MK3-3
MO3-3



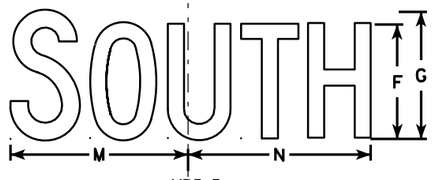
M3-4
MK3-4
MO3-4



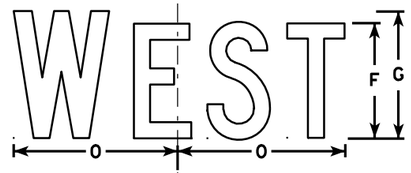
MB3-1
MG3-1
MM3-1
MN3-1



MB3-2
MG3-2
MM3-2
MN3-2



MB3-3
MG3-3
MM3-3
MN3-3



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White - Type H Reflective
   (Detour or temporary signs - Reflective)
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary signs - Reflective)
   MG3-1 thru MG3-4 Background - Green
   Message - White - Type H Reflective
   MK3-1 thru MK3-4 Background - Green
   Message - White - Type H Reflective
   MM3-1 thru MM3-4 Background - White - Type H Reflective
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White - Type H Reflective
   M03-1 thru M03-4 Background - Orange - Reflective
   Message - Black
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

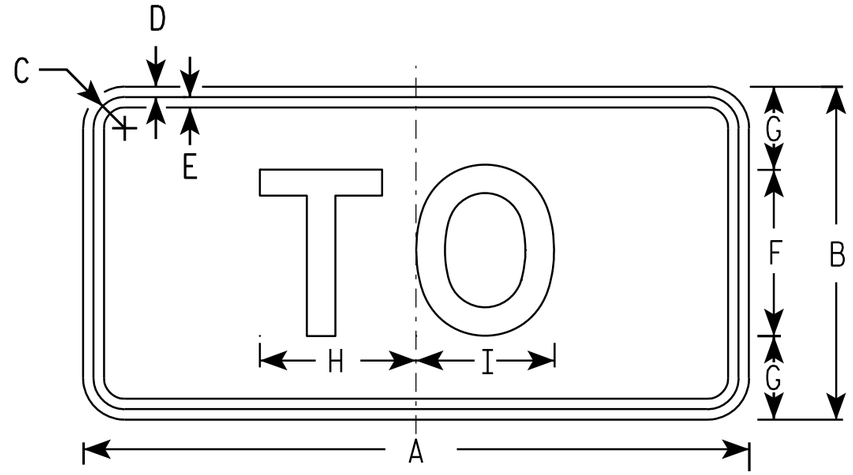
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

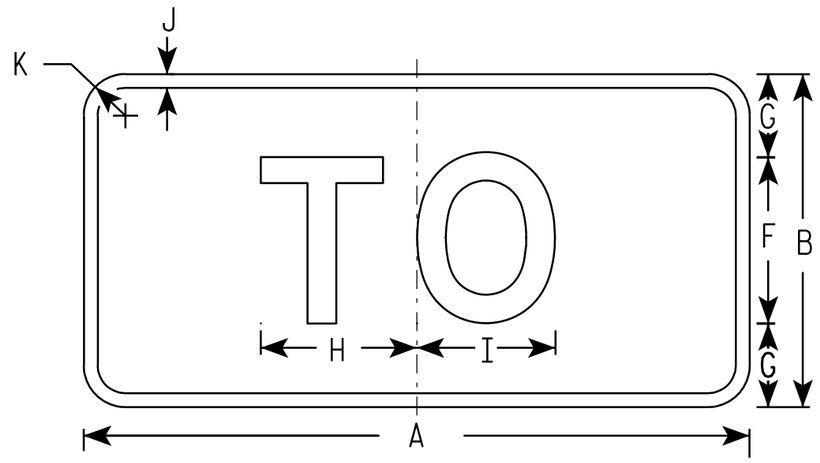
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 468	E



M4-5
MK4-5
MM4-5



MB4-5
MG4-5
MN4-5

NOTES

1. Sign is Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 5
   Message - See note 5
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. M4-5 Background - White - Type H Reflective (Detour or temporary Signs - Reflective)
   Message - Black
   MB4-5 Background - Blue
   Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
   MG4-5 Background - Green
   Message - White - Type H Reflective
   MK4-5 Background - Green
   Message - White - Type H Reflective
   MM4-5 Background - White - Type H Reflective
   Message - Green
   MN4-5 Background - Brown
   Message - White - Type H Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5

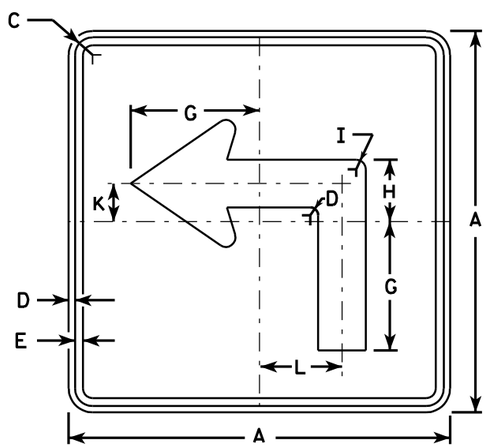
STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

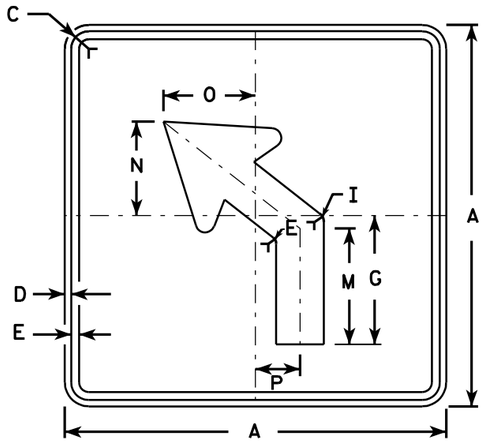
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-5.6

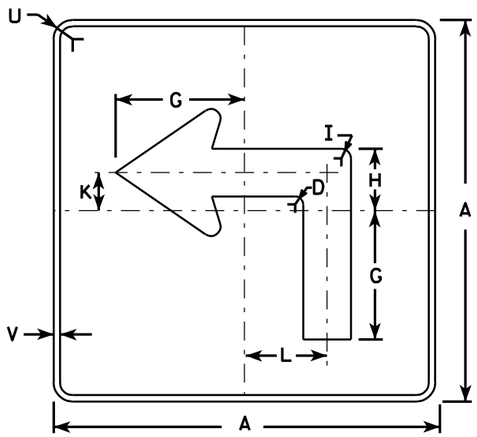
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 469	E



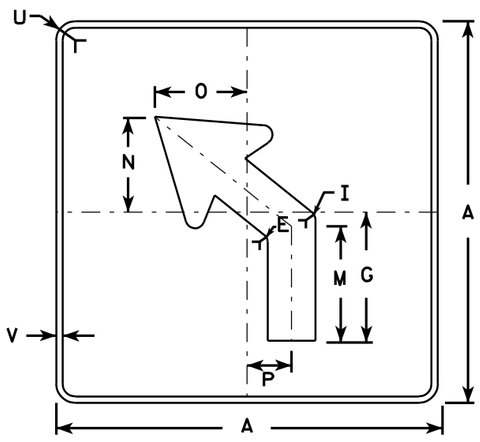
M5-1L
MK5-1L
MM5-1L
MO5-1L
MR5-1L



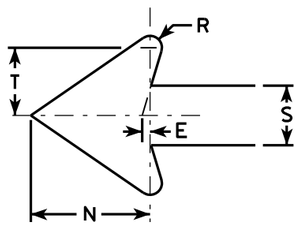
M5-2L
MK5-2L
MM5-2L
MO5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective) Message - Black
   MB5-1 and MB5-2 Background - Blue Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
   MG5-1 and MG5-2 Background - Green Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective Message - Green
   MN5-1 and MN5-2 Background - Brown Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Reflective Message - Black
   MR5-1 and MR5-2 Background - Brown Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25	0.56

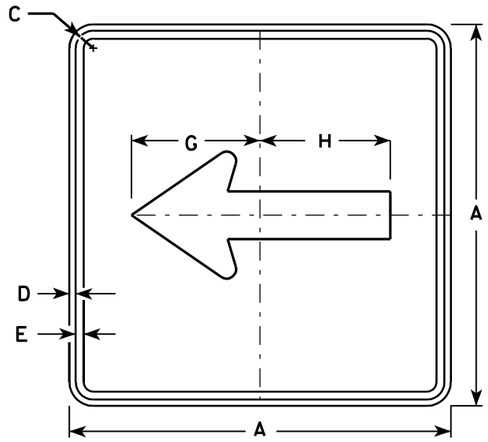
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

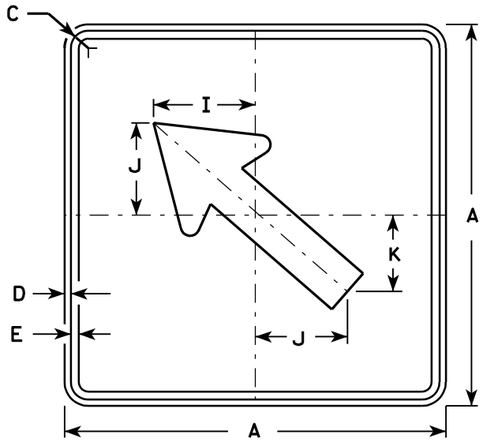
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M5-1.11

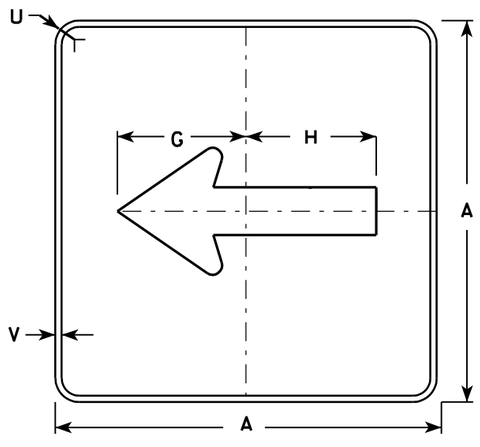
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 470	E



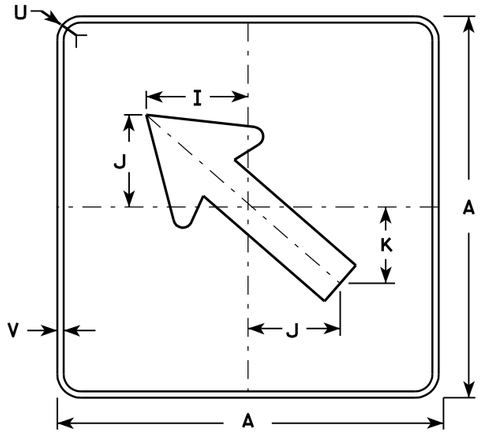
M6-1
MK6-1
MM6-1
MO6-1
MR6-1



M6-2
MK6-2
MM6-2
MO6-2
MR6-2



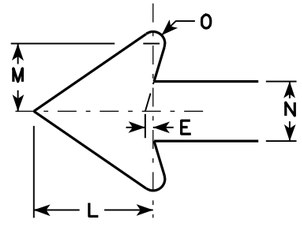
MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White - Type H Reflective (Detour or temporary Signs - Reflective) Message - Black
   MB6-1 and MB6-2 Background - Blue Message - White - Type H Reflective (Detour or temporary Signs - Reflective)
   MG6-1 and MG6-2 Background - Green Message - White - Type H Reflective
   MK6-1 and MK6-2 Background - Green Message - White - Type H Reflective
   MM6-1 and MM6-2 Background - White - Type H Reflective Message - Green
   MN6-1 and MN6-2 Background - Brown Message - White - Type H Reflective
   MO6-1 and MO6-2 Background - Orange - Reflective Message - Black
   MR6-1 and MR6-2 Background - Brown Message - Yellow - Type H Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

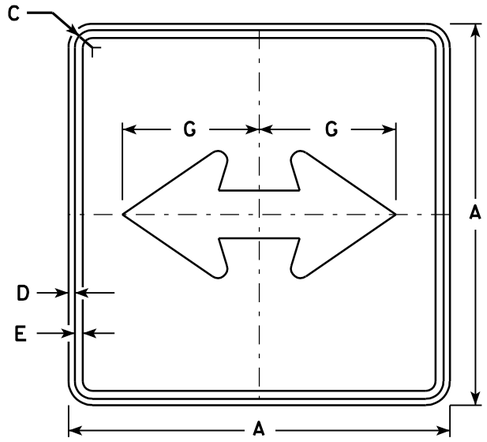
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

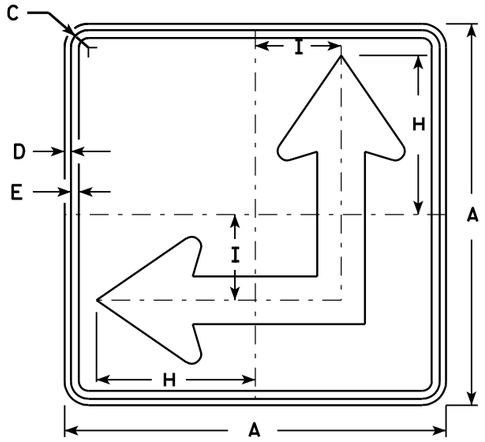
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-1.12

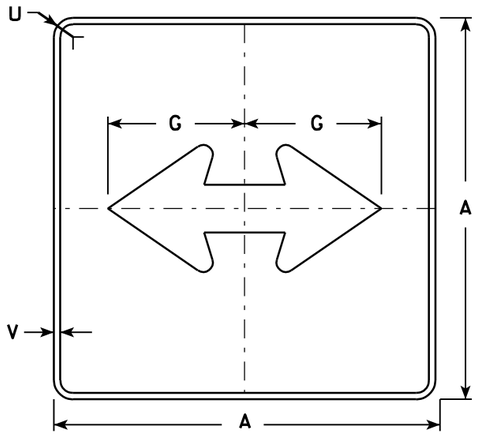
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 471	E



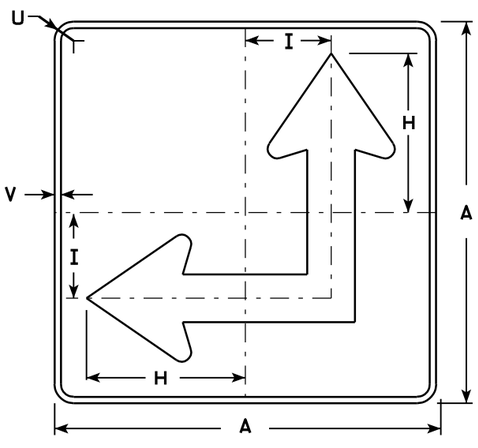
M6-4
MK6-4
MM6-4
MO6-4
MR6-4



M6-6
MK6-6
MM6-6
MO6-6
MR6-6



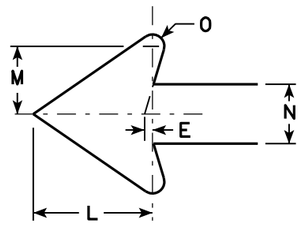
MB6-4
MG6-4
MN6-4



MB6-6
MG6-6
MN6-6

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White - Type H Reflective
   (Detour or temporary Signs - Reflective)
   MG6-4 and MG6-6 Background - Green
   Message - White - Type H Reflective
   MK6-4 and MK6-6 Background - Green
   Message - White - Type H Reflective
   MM6-4 and MM6-6 Background - White - Type H Reflective
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White - Type H Reflective
   MO6-4 and MO6-6 Background - Orange - Reflective
   Message - Black
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow - Type H Reflective
5. M6-6R same as M6-6L except arrow points ahead and right.



Metric equivalent for this sign is:

SIZE	
1	
2	525 mm X 525 mm
3	750 mm X 750 mm
4	750 mm X 750 mm
5	750 mm X 750 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06	0.28
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25	0.56

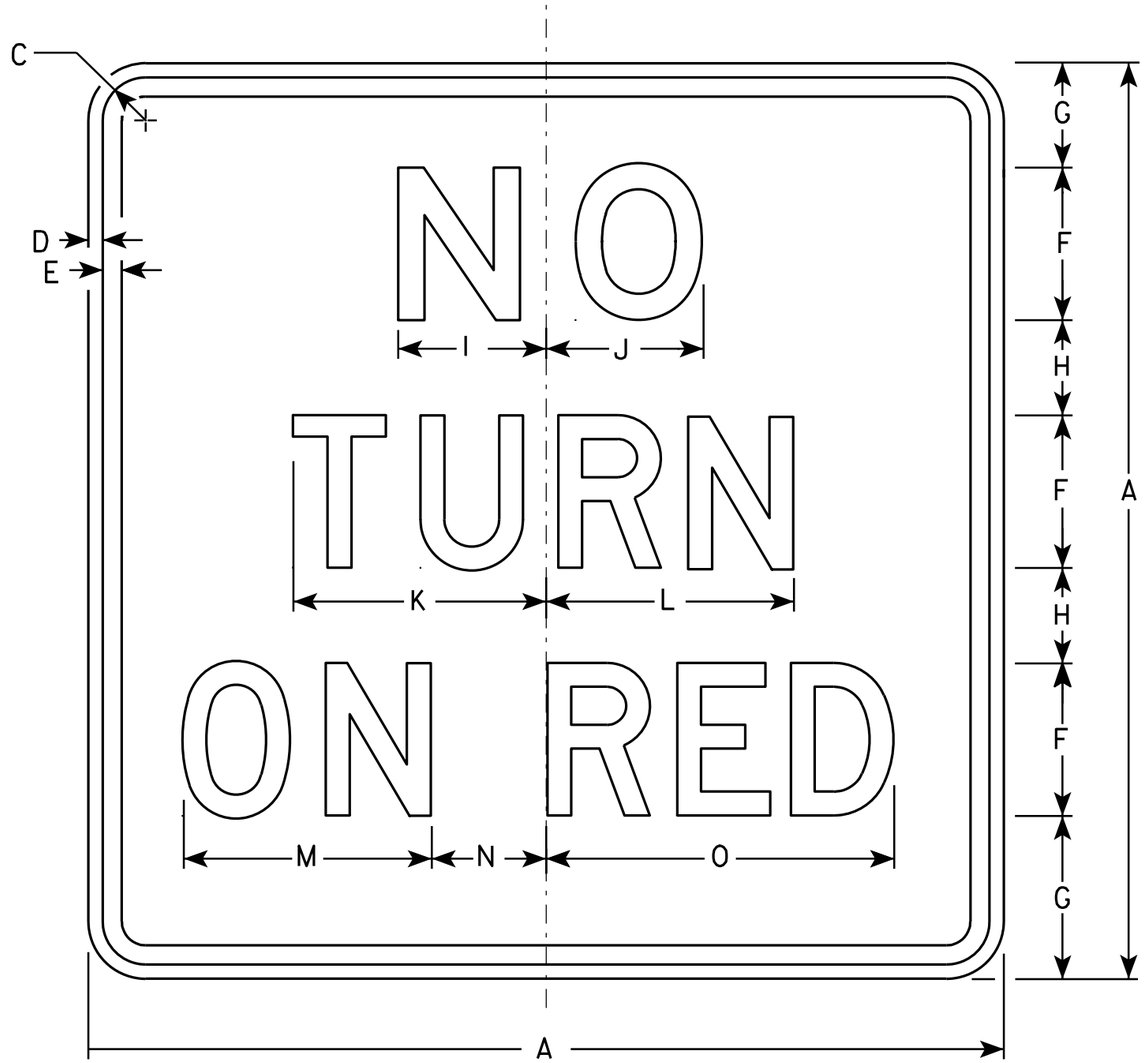
STANDARD SIGN M6-4 & M6-6 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/10 PLATE NO. M6-4.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 472	E



R10-11B

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 - See Note 5.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series E.
   Lines 2 and 3 are Series D.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18		1 1/8	3/8	3/8	3	2 3/4	1 3/4	3	3 1/8	5	4 7/8	5 1/4	1 7/8	7 1/8												2.25
2S	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 7/8	4 1/8	6 5/8	6 1/2	6 1/2	3	9 1/8												4.0
2M	24		1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 7/8	4 1/8	6 5/8	6 1/2	6 1/2	3	9 1/8												4.0
3	30		1 3/8	1/2	5/8	5	4 1/2	3	4 7/8	5 1/4	8 1/4	8 1/8	7 3/4	4 1/8	11 7/8												6.25
4																											
5																											

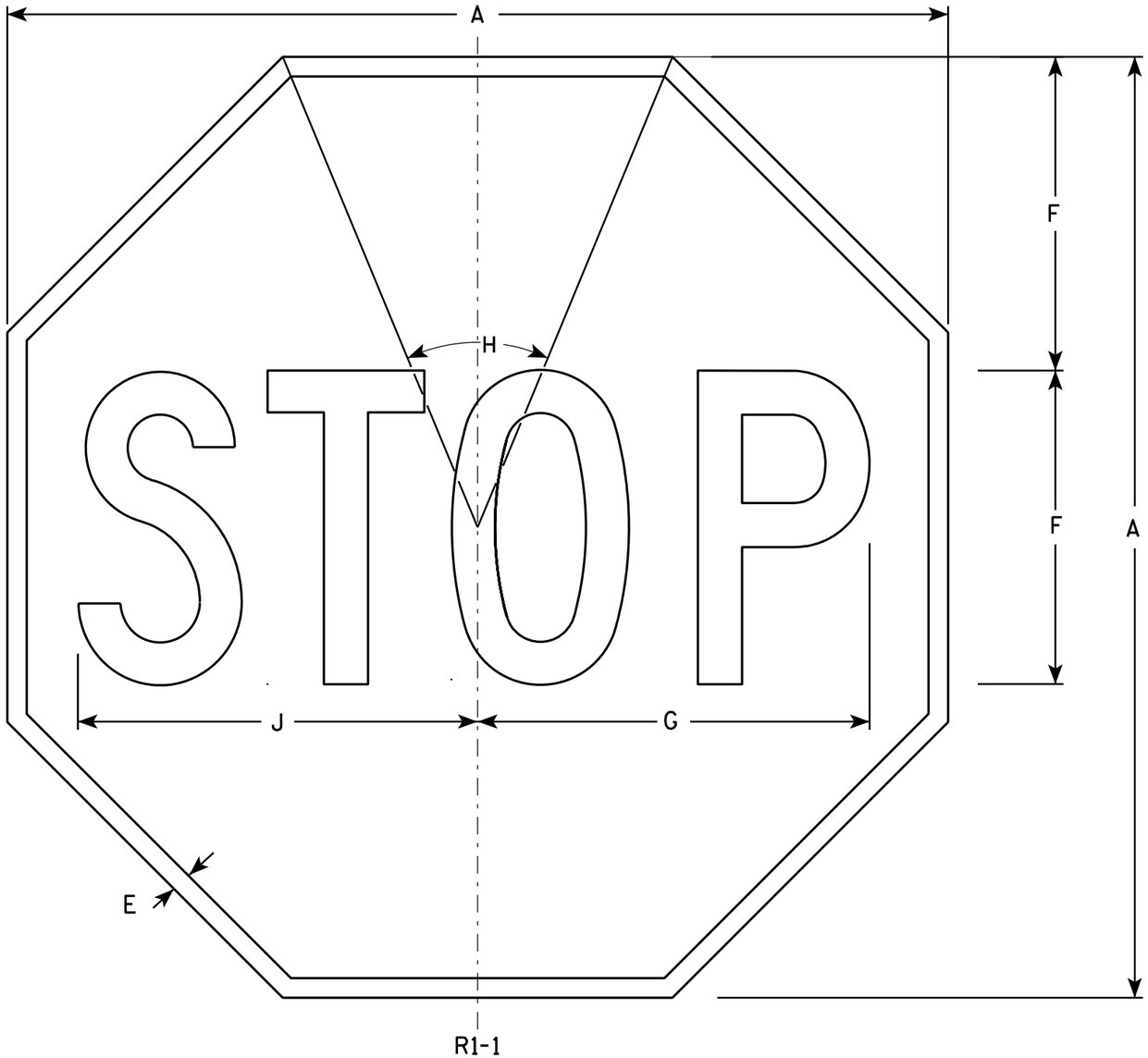
STANDARD SIGN
R10-11B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-11B.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 473 | 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

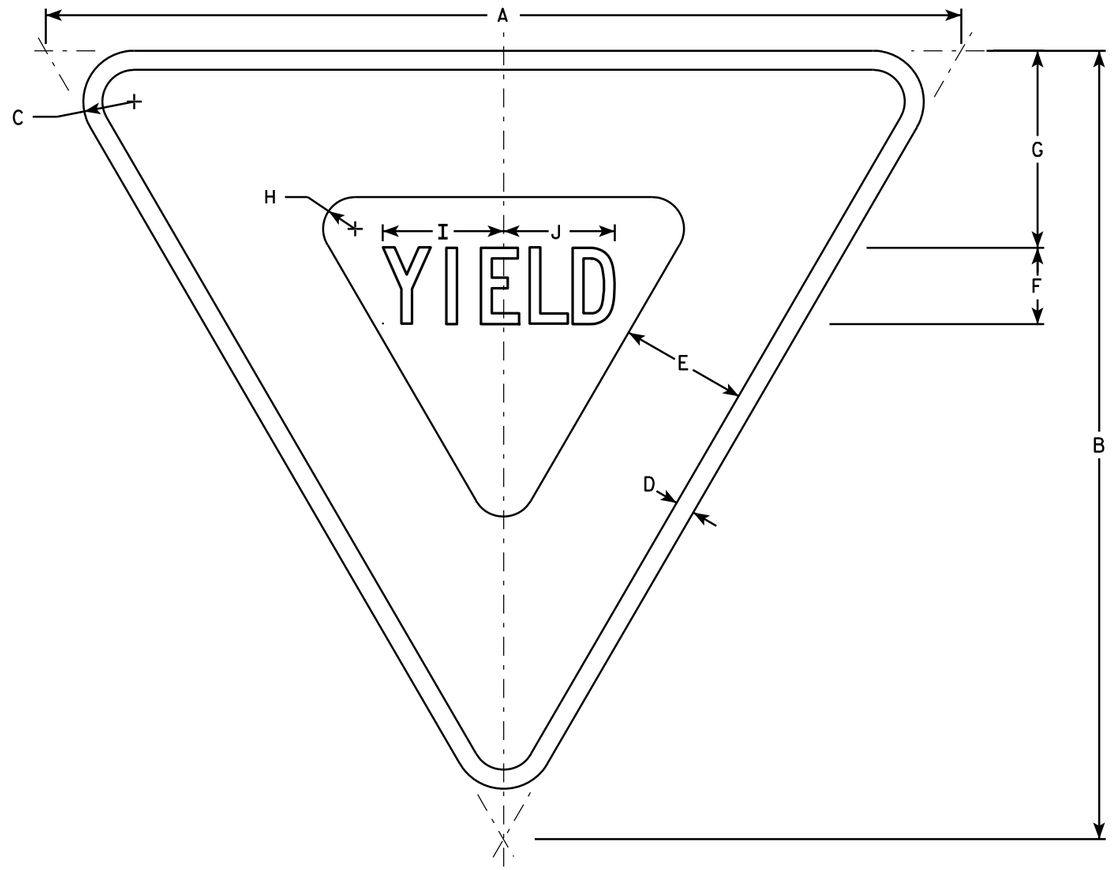
STANDARD SIGN
R1-1

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: 474	E



R1-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The border strip and word message are reflectorized red.

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	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6	24	21	1 1/2	3/8	3	2	4 3/4	7/8	3 1/4	3																	1.75
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

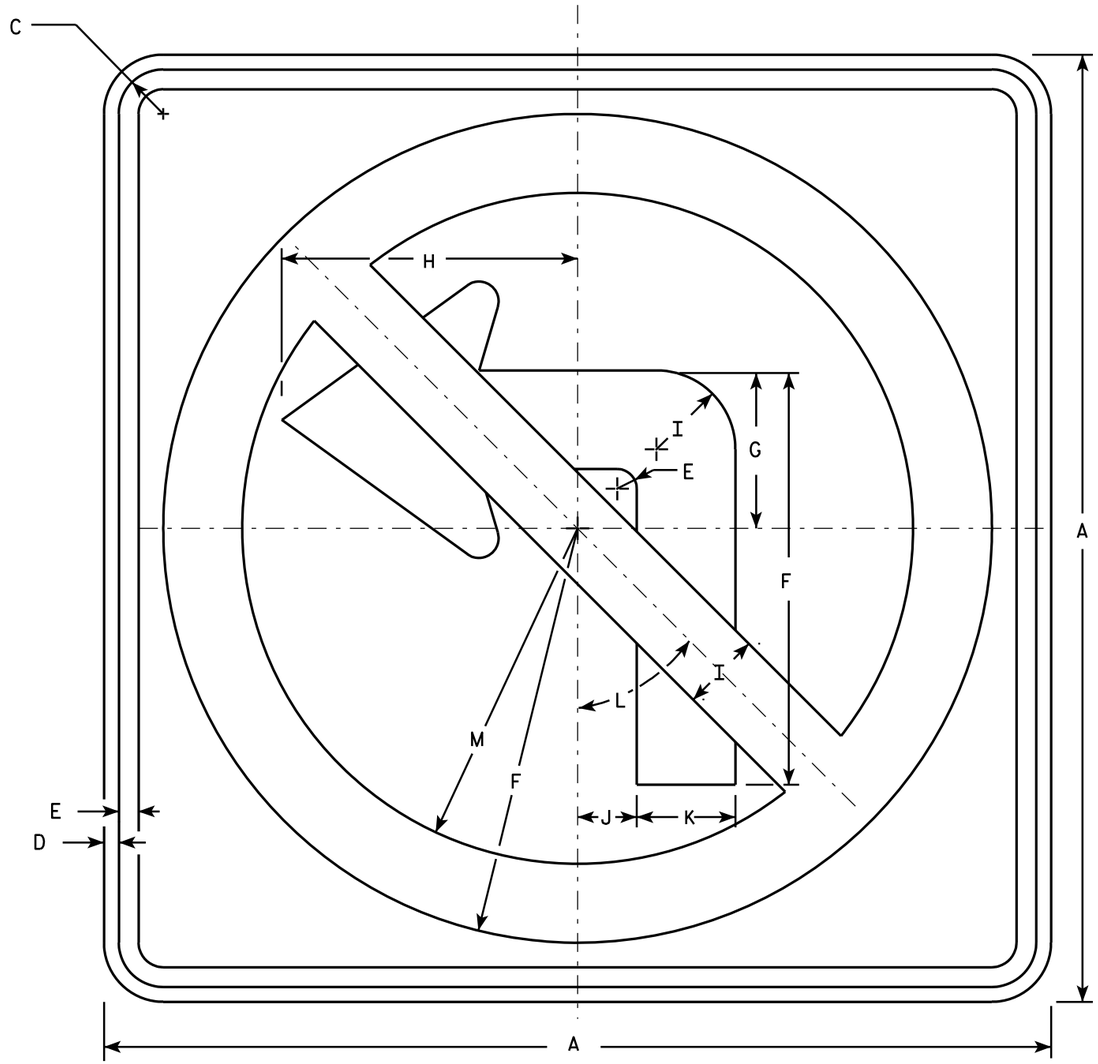
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. R1-2.11

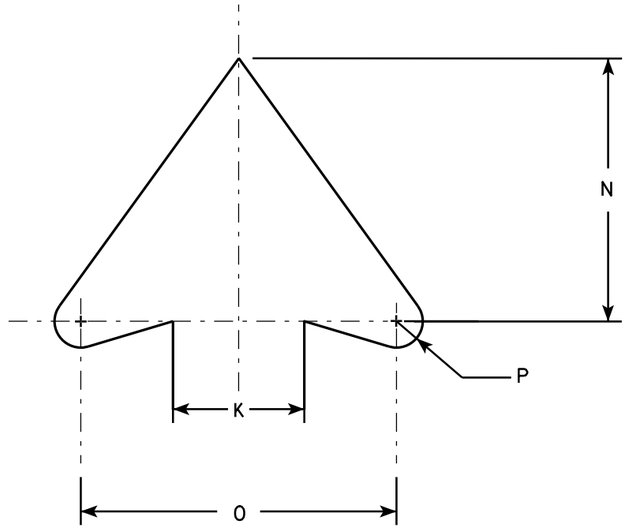
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 475 | E



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

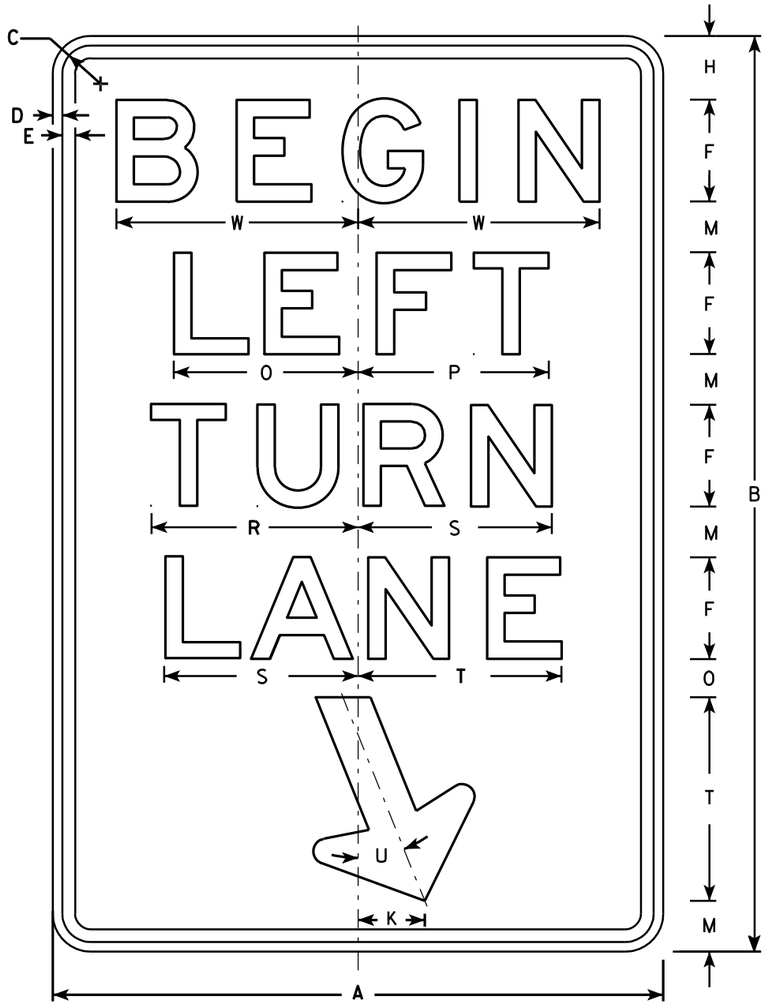
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

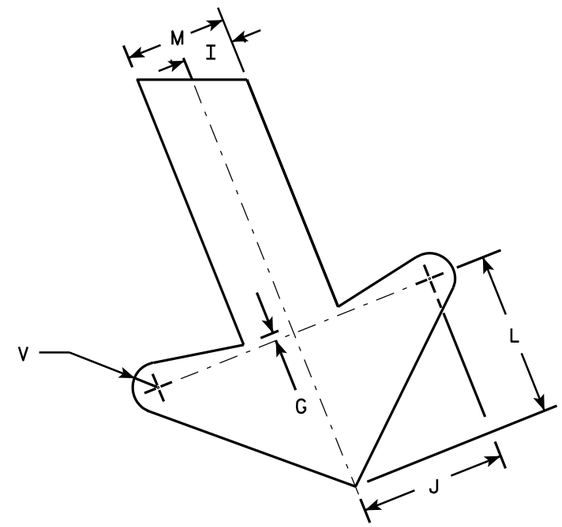
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 476	E



R3-20L

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.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

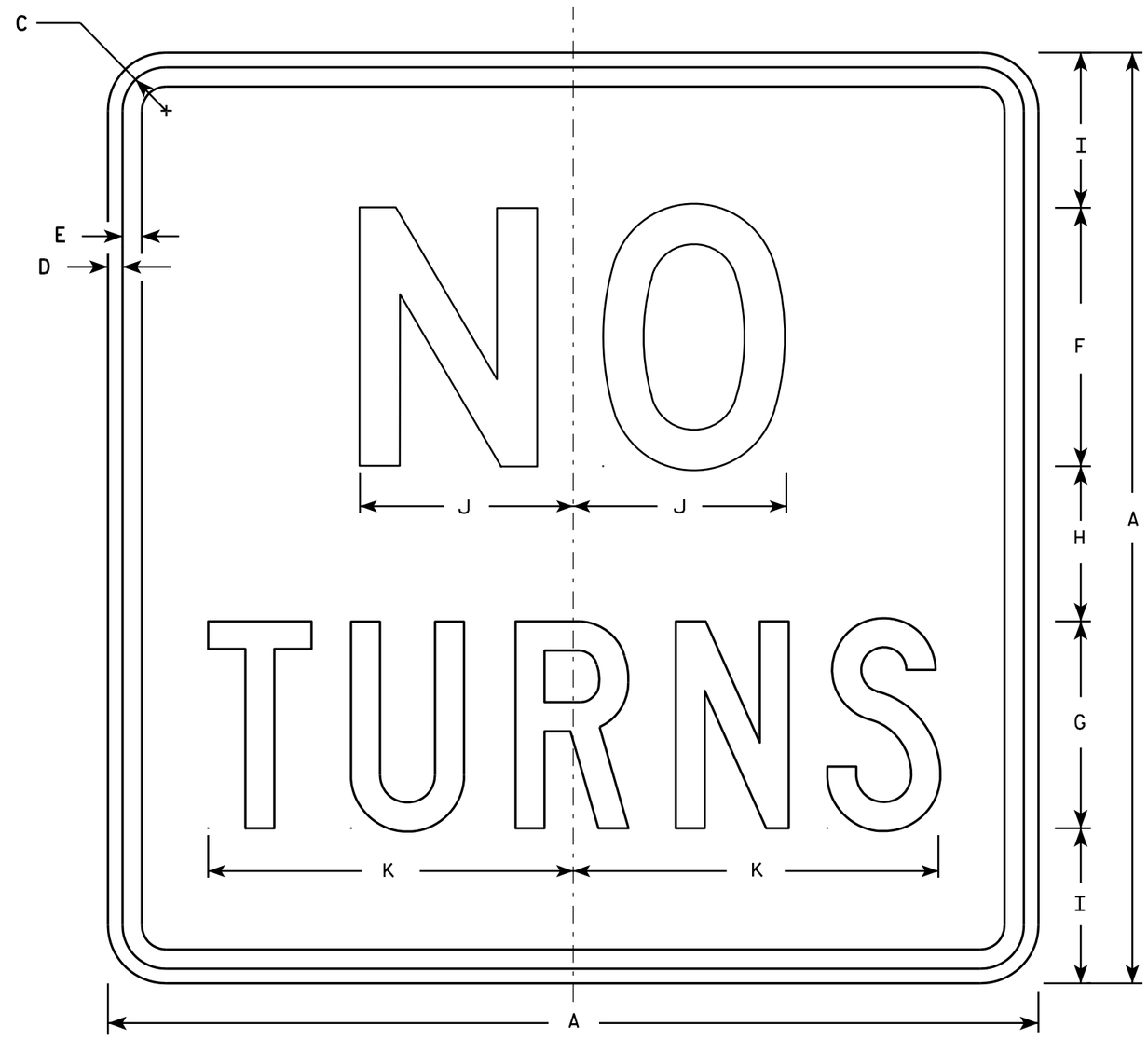
STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 477 | E



R3-3

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2	6	5	4	4 1/2	5 1/8	8 3/4																4.0
2M	36		1 5/8	5/8	3/4	10	8	6	6	8 1/4	14 1/8																9.0
3	36		1 5/8	5/8	3/4	10	8	6	6	8 1/4	14 1/8																9.0
4	36		1 5/8	5/8	3/4	10	8	6	6	8 1/4	14 1/8																9.0
5	48		2 1/4	3/4	1	12	10	8	9	10 1/4	17 5/8																16.0

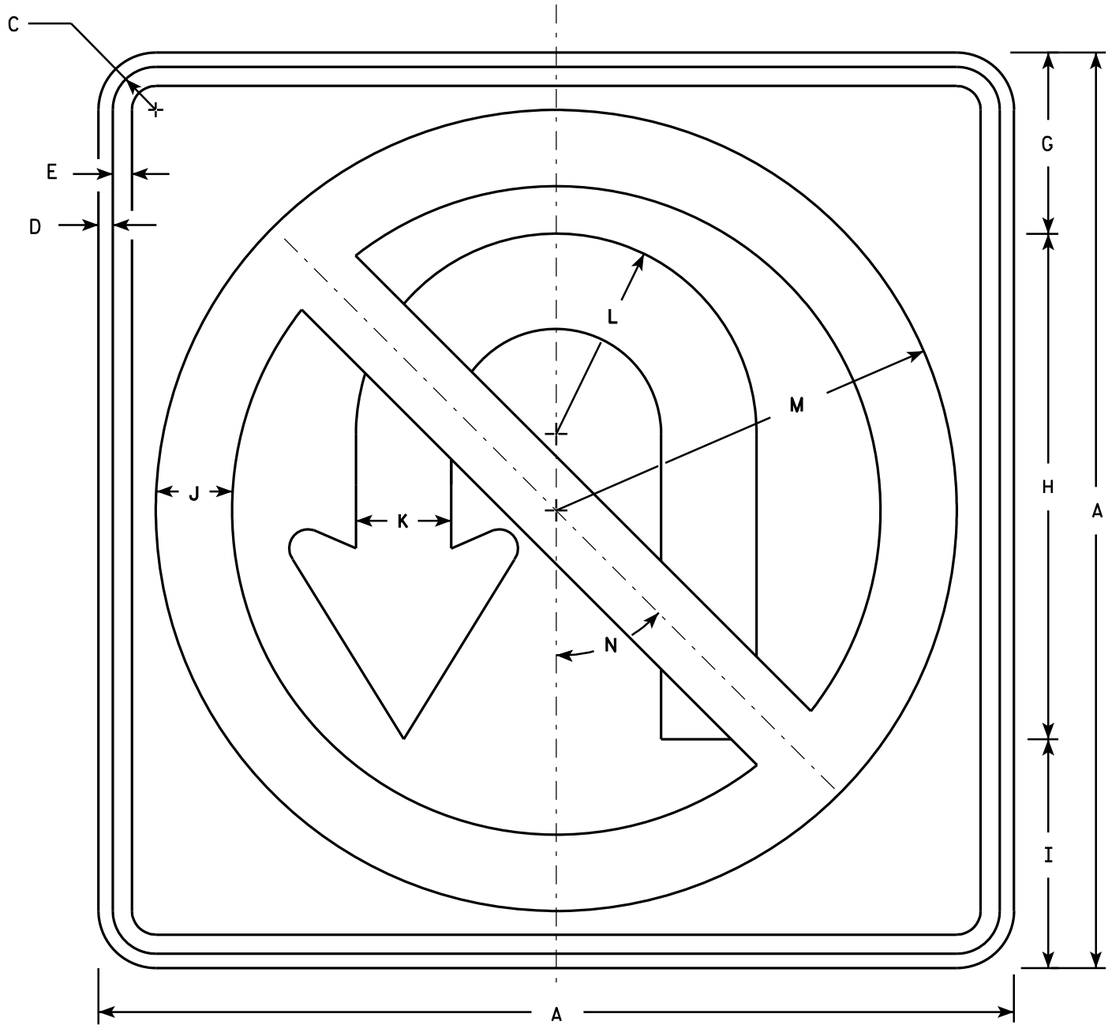
STANDARD SIGN
R3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-3.10

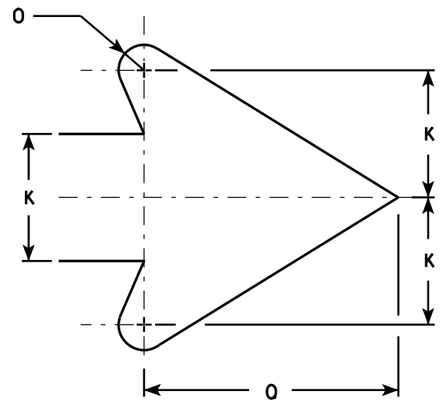
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 478 | E



R3-4

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 - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

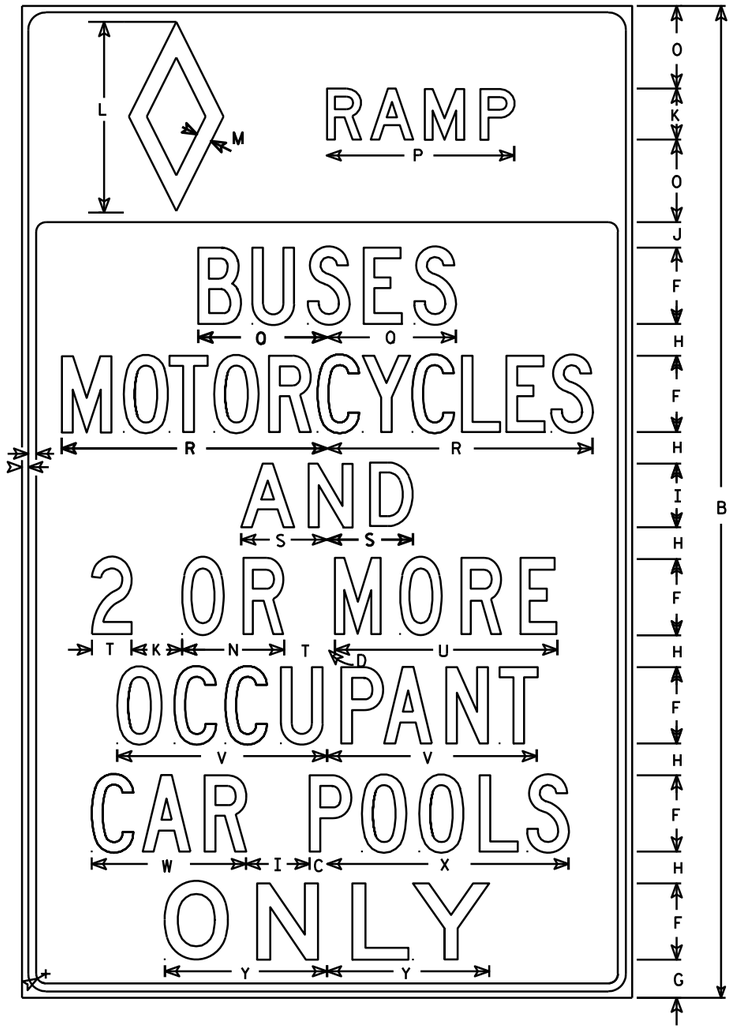
STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 479	E



R3-51

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See Note 5
   Message - See Note 5
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 symbol and legend are white Type H Reflective with Black background.
   Bottom legend is Black with White Type H Reflective background.
6. Lines 1 and 4 are Series D.
   Lines 2, 5, 6 and 7 are Series C.
   Line 3 is Series B.
   Bottom Line is Series E.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	78	1 3/8	5/8	1/2	6	3	2 1/2	5	2	4	15	1 1/4	8	6 1/2	14 3/4	10 1/8	20 7/8	6 3/4	3 1/8	17 1/2	16 1/2	12 1/8	19	12 3/4	3 3/4	26.0
2M	48	78	1 3/8	5/8	1/2	6	3	2 1/2	5	2	4	15	1 1/4	8	6 1/2	14 3/4	10 1/8	20 7/8	6 3/4	3 1/8	17 1/2	16 1/2	12 1/8	19	12 3/4	3 3/4	26.0
3																											
4																											
5																											

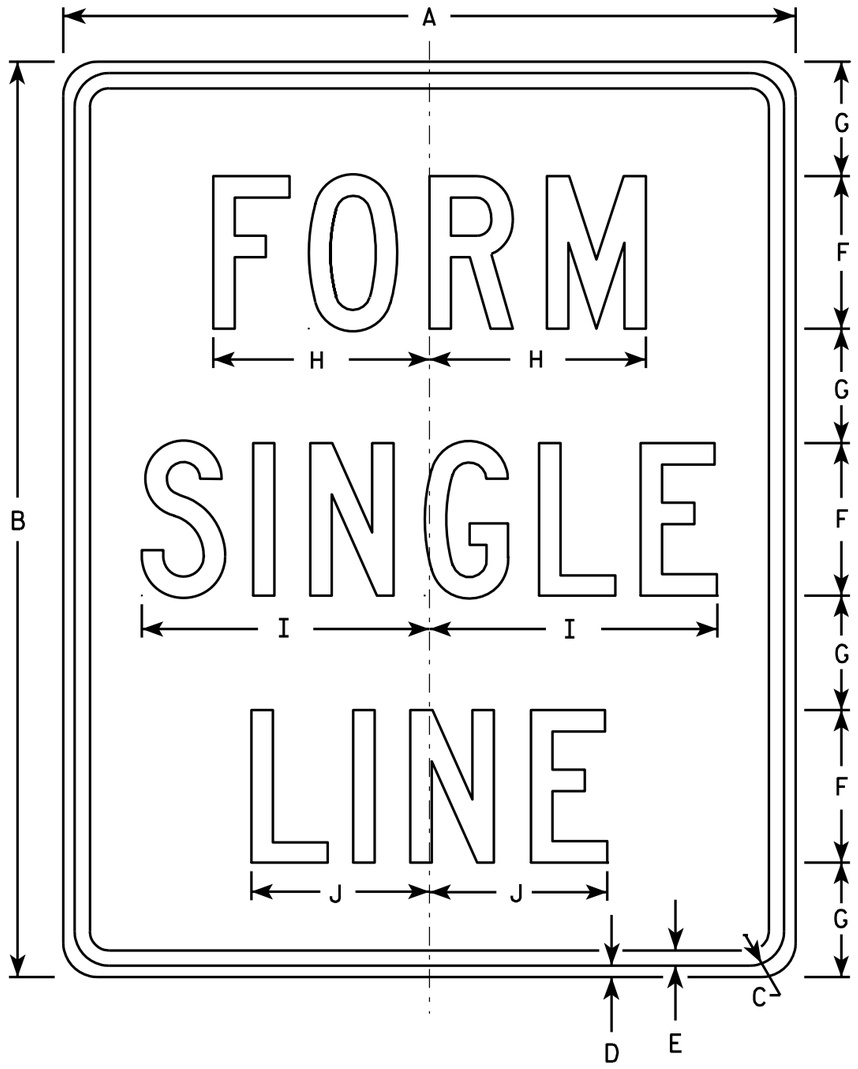
STANDARD SIGN
R3-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-51.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 480



R3-58

NOTES

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

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	30	1 1/8	3/8	1/2	5	3 3/4	7 1/8	9 3/8	5 7/8																	5.0
2S	24	30	1 1/8	3/8	1/2	5	3 3/4	7 1/8	9 3/8	5 7/8																	5.0
2M	24	30	1 1/8	3/8	1/2	5	3 3/4	7 1/8	9 3/8	5 7/8																	5.0
3	36	48	1 3/8	1/2	5/8	8	6	11 3/8	15 1/8	9 3/8																	12.0
4	36	48	1 3/8	1/2	5/8	8	6	11 3/8	15 1/8	9 3/8																	12.0
5																											

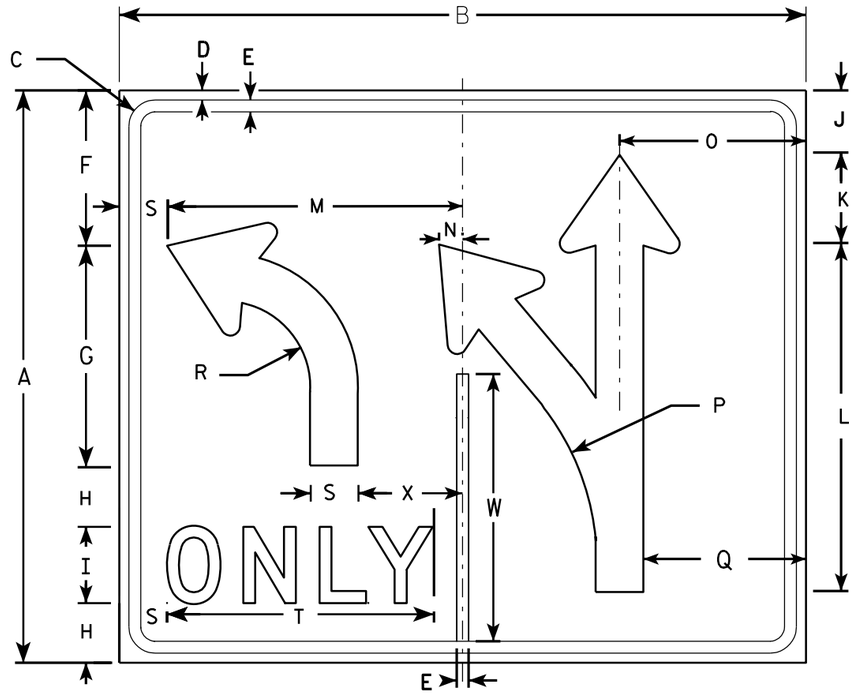
STANDARD SIGN
R3-58

WISCONSIN DEPT OF TRANSPORTATION

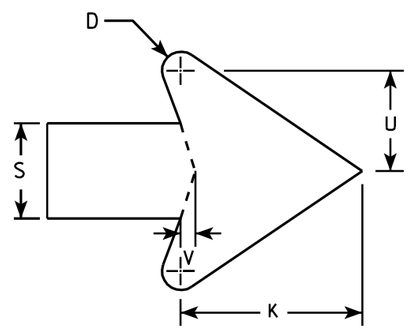
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-58.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 481 | E



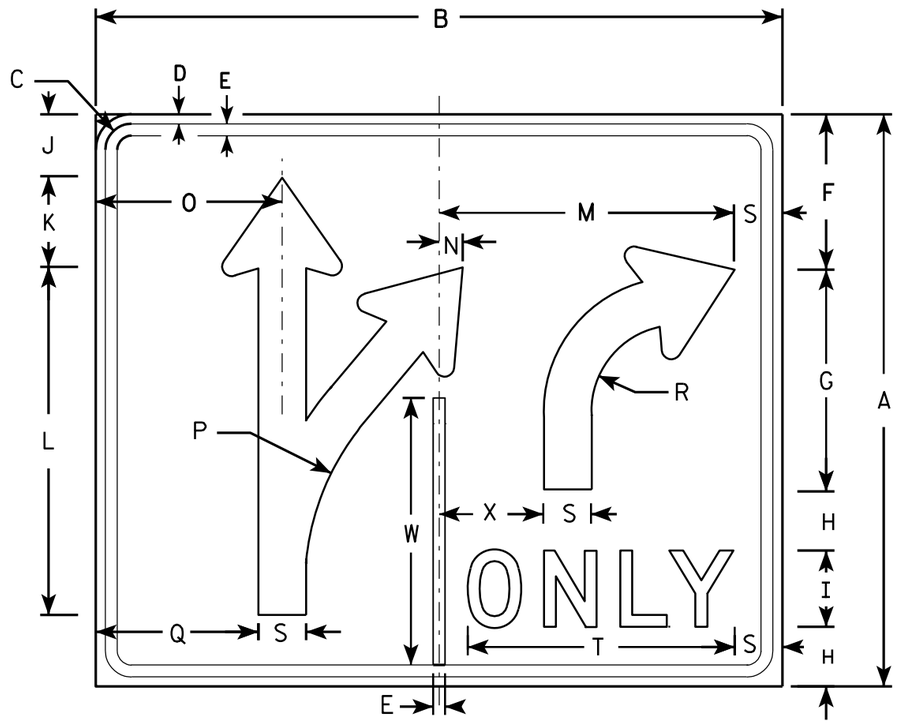
R3-8B



ARROW DETAIL

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - WHITE
   Message - BLACK
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R3-8B & R3-8C is the same but reversed.



R3-8C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	15 1/2	1 1/4	9 3/4	13 1/4	8 1/2	4 1/2	2 1/2	14	2 5/8	3/8	14	5 1/4			7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	3 1/4	4 3/4	18 1/4	15 1/2	1 1/4	9 3/4	13 1/4	8 1/2	4 1/2	2 1/2	14	2 5/8	3/8	14	5 1/4			7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7 1/8	29 5/8	23 1/8	1 7/8	14 5/8	21 7/8	12 3/4	7 1/4	3 3/4	20 5/8	4	5/8	22 3/8	8 1/8			18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	5 1/4	7 1/8	29 5/8	23 1/8	1 7/8	14 5/8	21 7/8	12 3/4	7 1/4	3 3/4	20 5/8	4	5/8	22 3/8	8 1/8			18.0

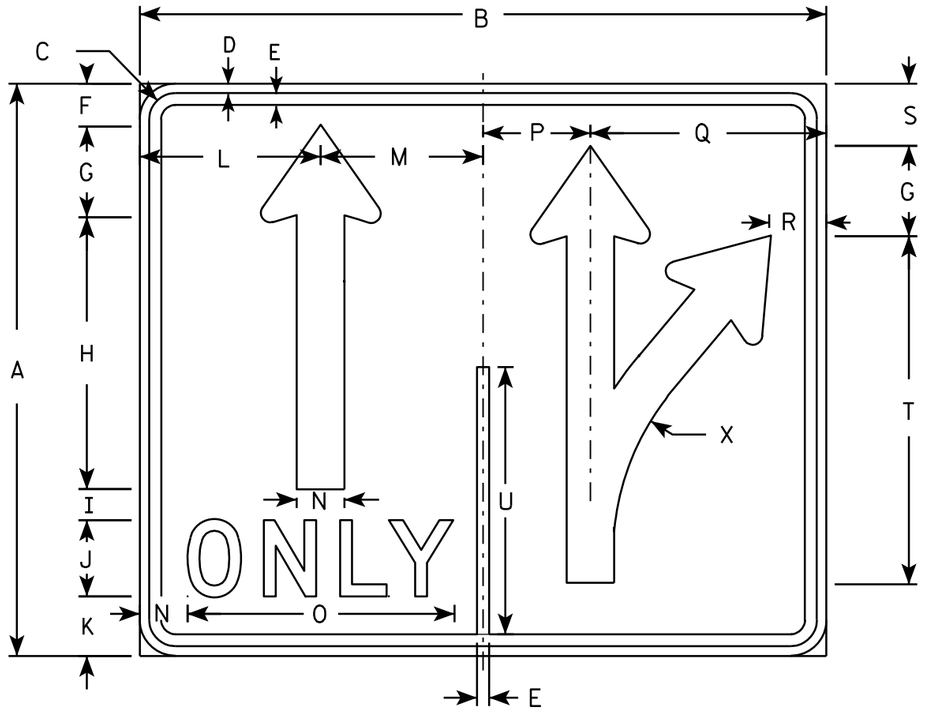
STANDARD SIGN
R3-8B & R3-8C

WISCONSIN DEPT OF TRANSPORTATION

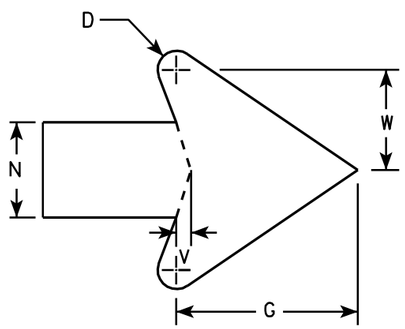
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8B.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 482	E



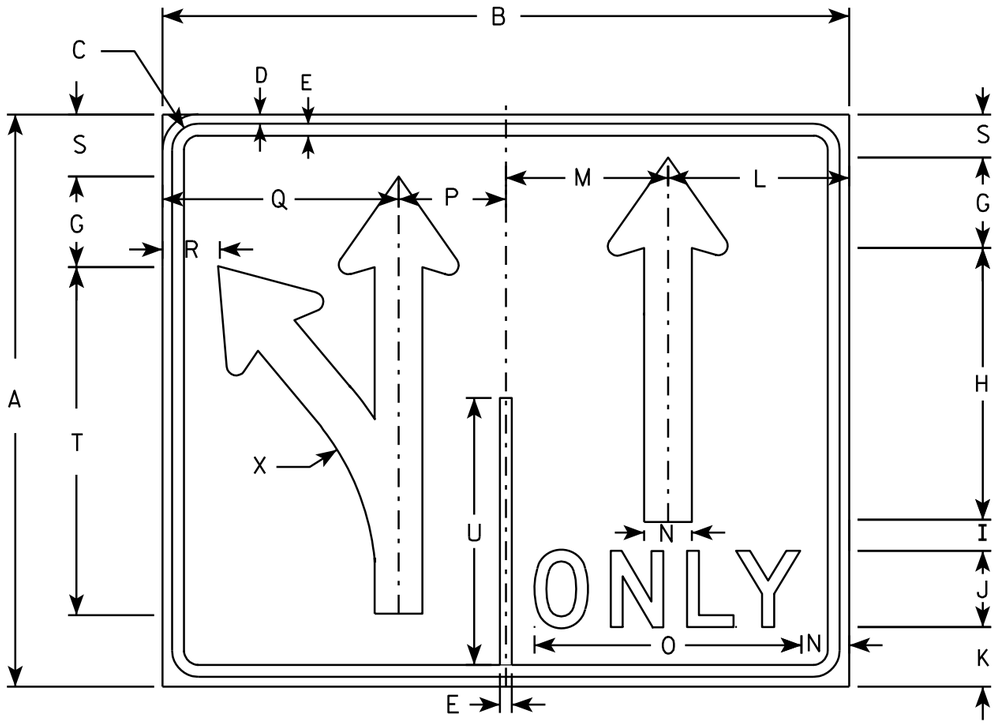
R3-8G



ARROW DETAIL

NOTES

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



R3-8H

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	2 1/4	4 3/4	14 1/4	1 5/8	4	3 1/8	9 1/2	8 1/2	2 1/2	14	5 5/8	12 3/8	3	3 1/4	18 1/4	14	3/8	2 5/8	13 1/4			7.5
2M	30	36	1 3/8	1/2	5/8	2 1/4	4 3/4	14 1/4	1 5/8	4	3 1/8	9 1/2	8 1/2	2 1/2	14	5 5/8	12 3/8	3	3 1/4	18 1/4	14	3/8	2 5/8	13 1/4			7.5
3																											
4	48	54	2 1/4	3/4	1	3 1/2	7 1/8	29 1/8	2 7/8	6	5 1/8	14 1/4	12 3/4	3 3/4	20 5/8	8 3/8	18 5/8	4 3/8	5 1/4	29 1/8	22 3/8	5/8	4	21 7/8			18.0
5	48	54	2 1/4	3/4	1	3 1/2	7 1/8	29 1/8	2 7/8	6	5 1/8	14 1/4	12 3/4	3 3/4	20 5/8	8 3/8	18 5/8	4 3/8	5 1/4	29 1/8	22 3/8	5/8	4	21 7/8			18.0

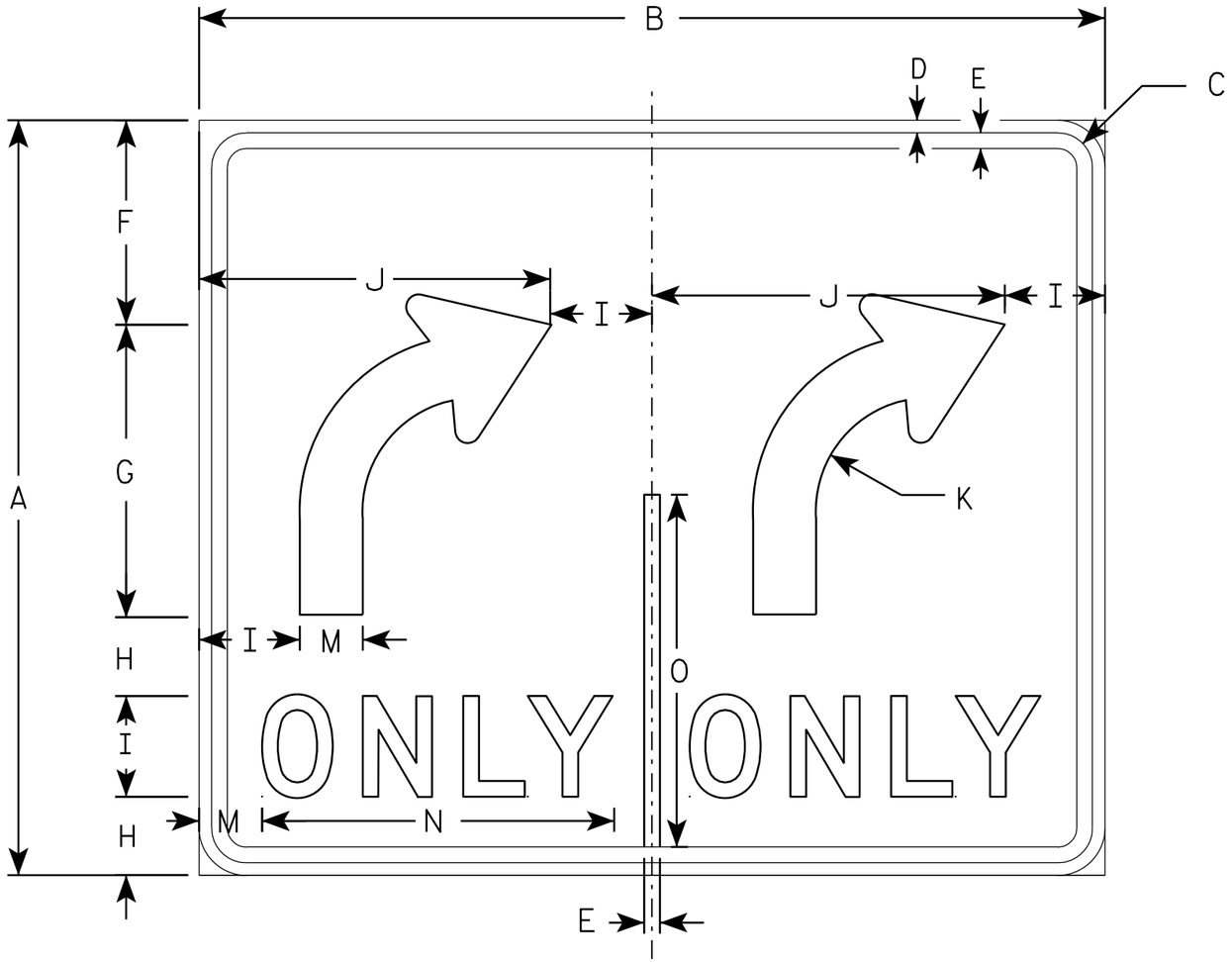
STANDARD SIGN
R3-8G & R3-8H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-8G.2

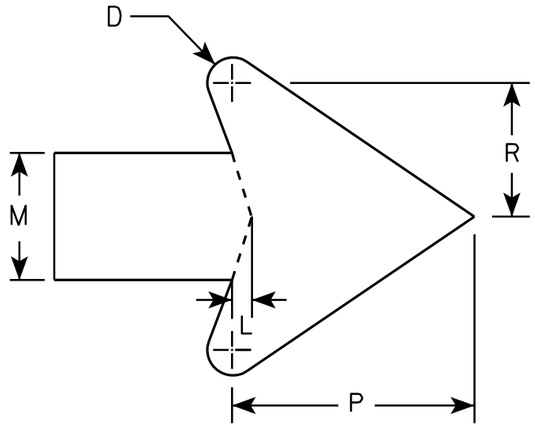
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 483 | E



R3-8MM

NOTES

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



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	3/8	2 1/2	14	14	4 3/4		2 5/8									7.5
2M	30	36	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	14	4 1/2	3/8	2 1/2	14	14	4 3/4		2 5/8									7.5
3																											
4	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	5/8	3 3/4	20 5/8	22 3/8	7 1/8		4									18.0
5	48	54	2 1/4	3/4	1	13 1/4	18 1/2	5 1/8	6	21	7 1/4	5/8	3 3/4	20 5/8	22 3/8	7 1/8		4									18.0

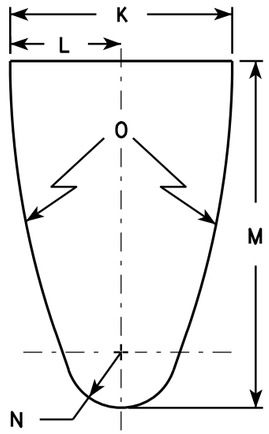
STANDARD SIGN
R3-8MM

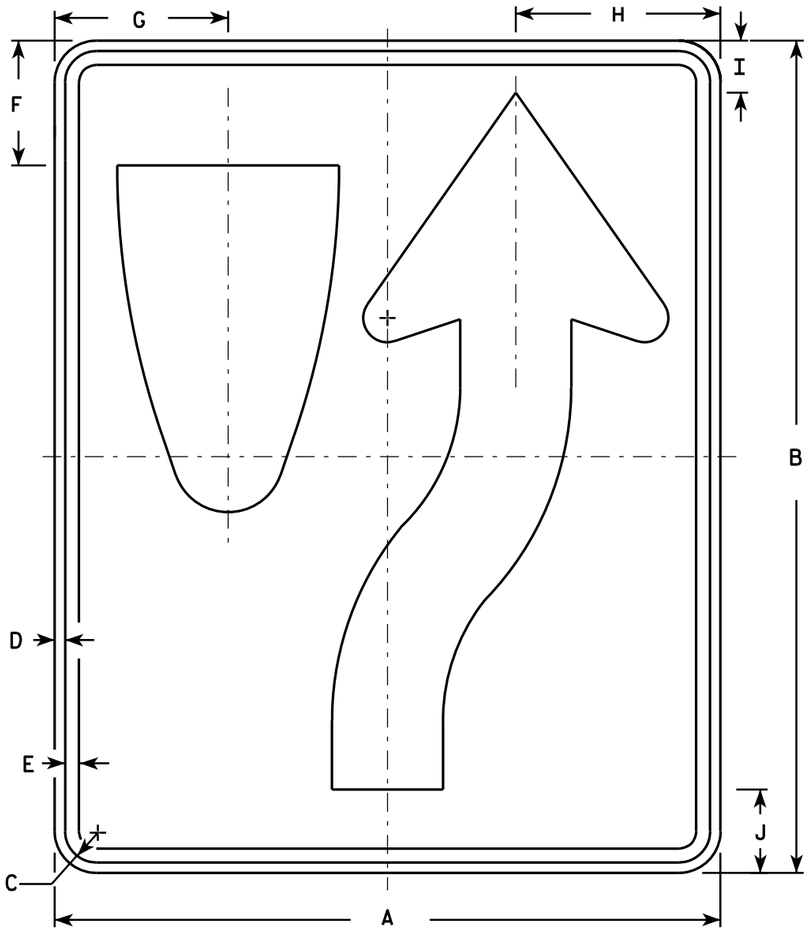
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/2011 PLATE NO. R3-8MM.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 484 | E

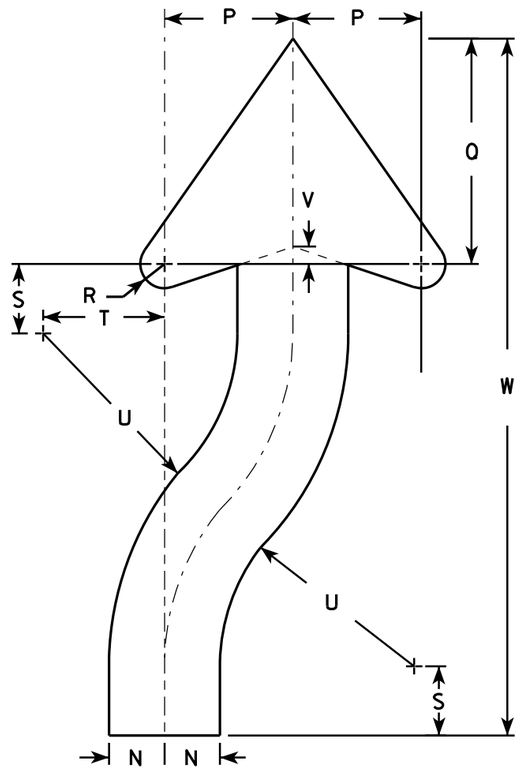




R4-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



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	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

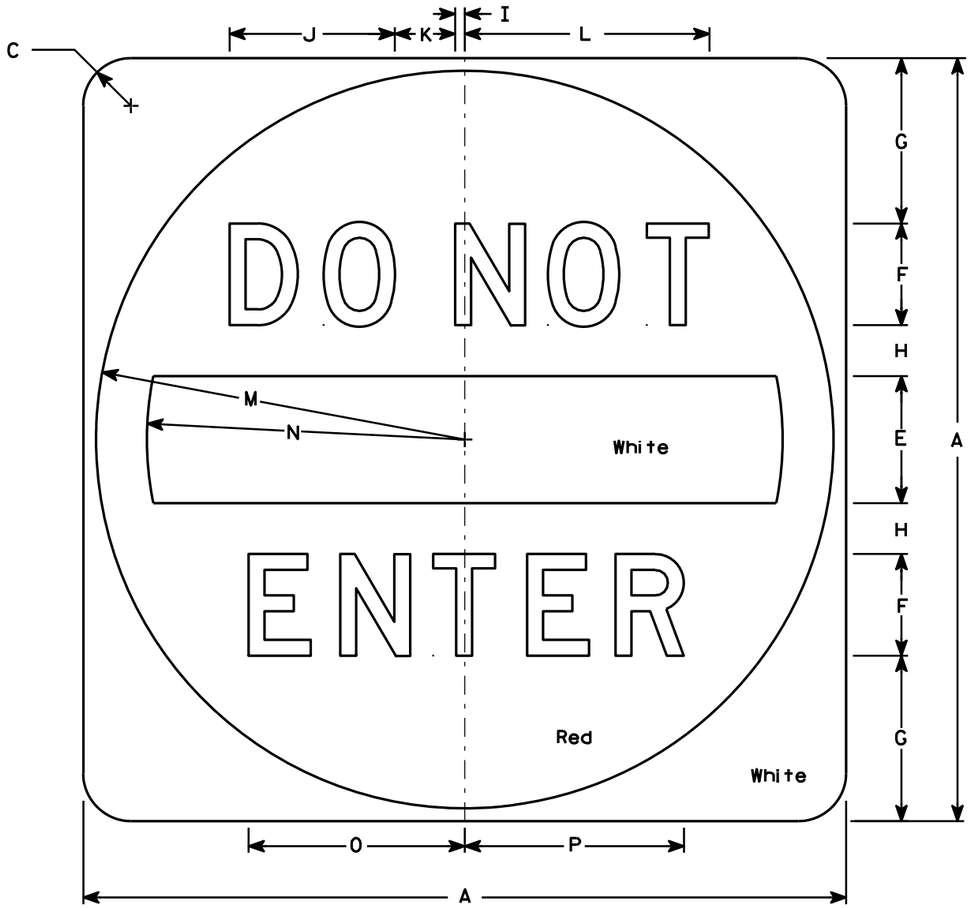
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 485	E



R5-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.26
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

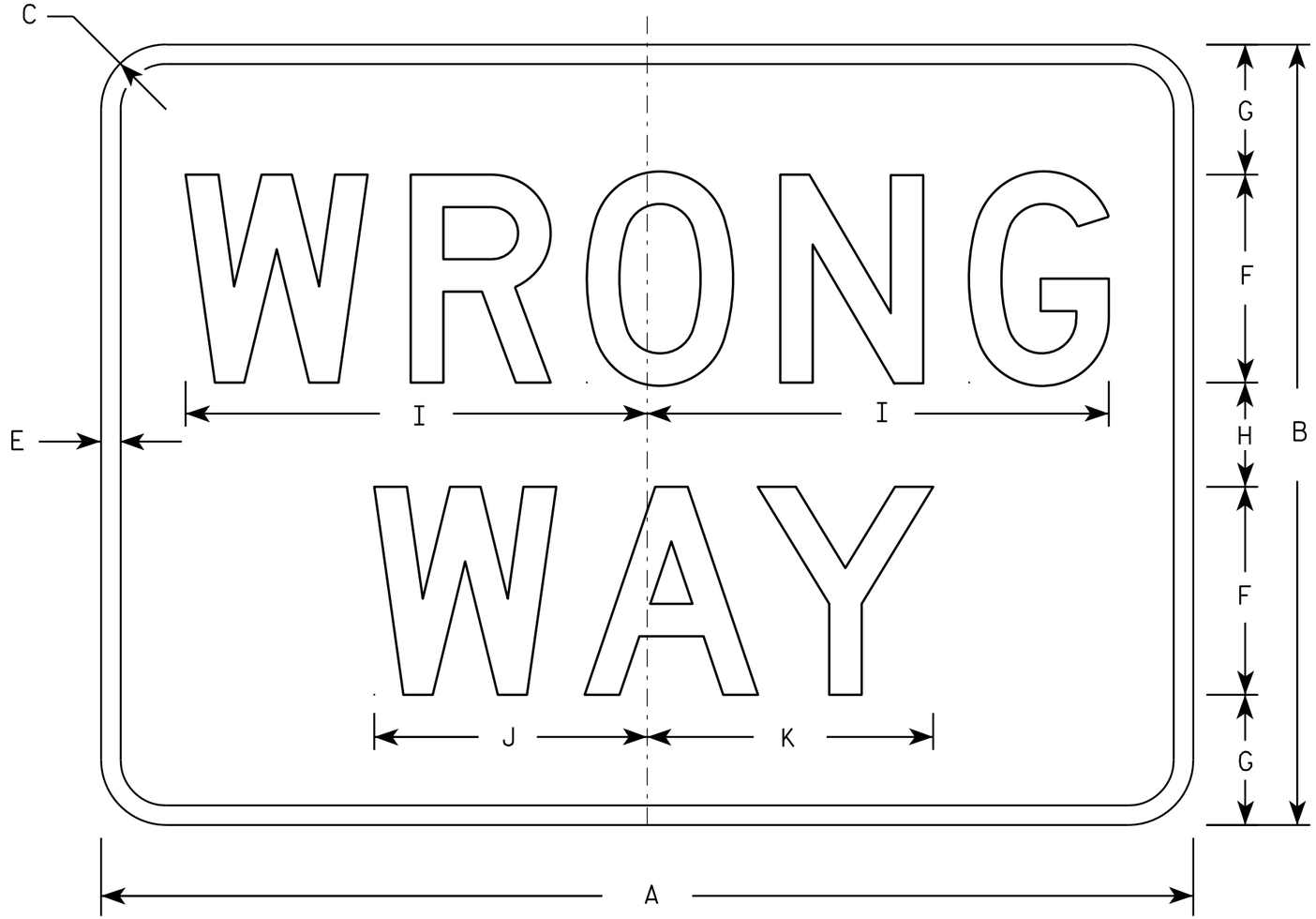
STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 486 | E



R5-1A

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 - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 487	E



R5-57

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 - Lines 1, 2, and 5 are Series C.
   Lines 3 and 4 are Series B.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

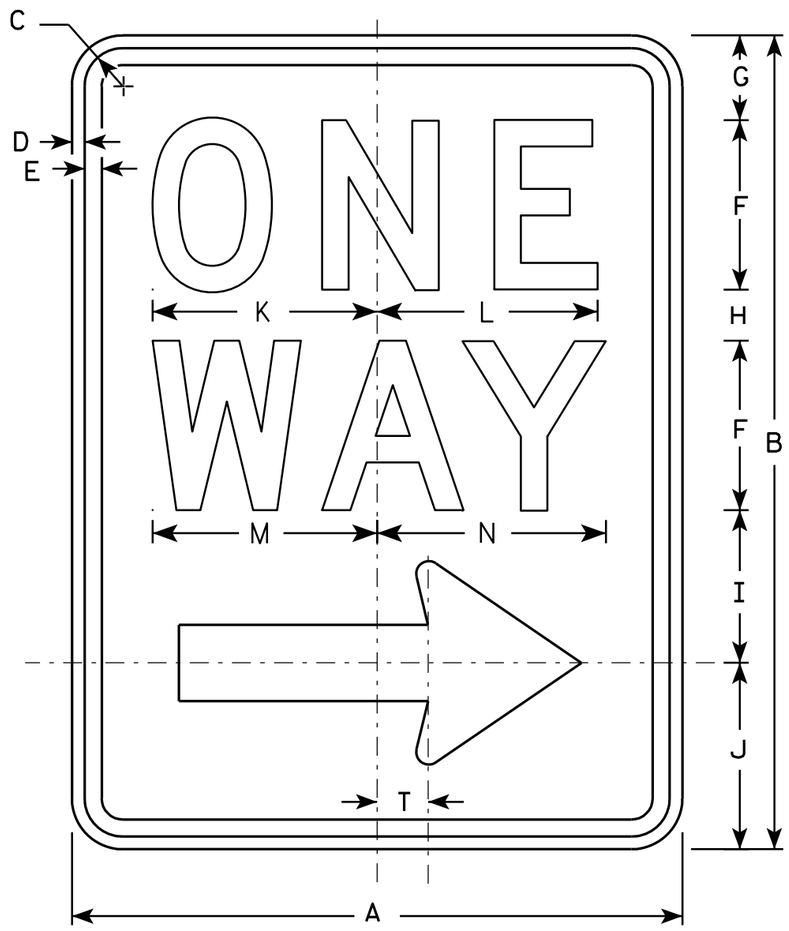
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

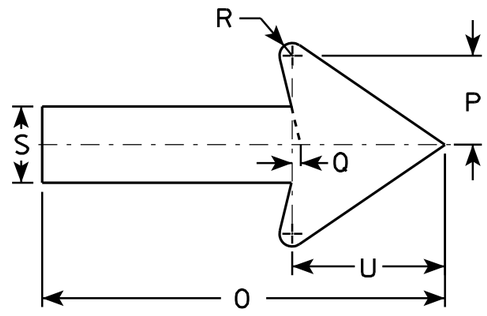
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 488 | E



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

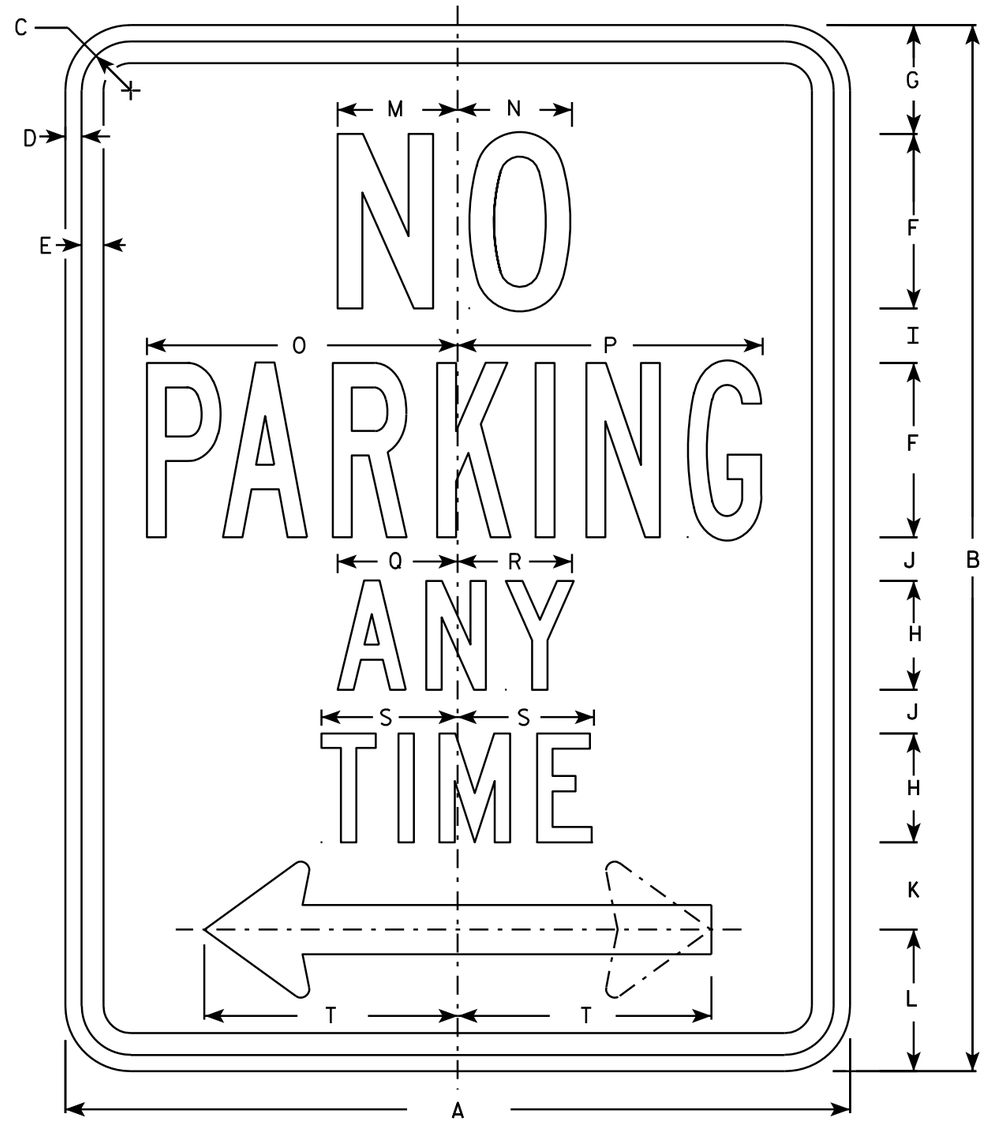
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

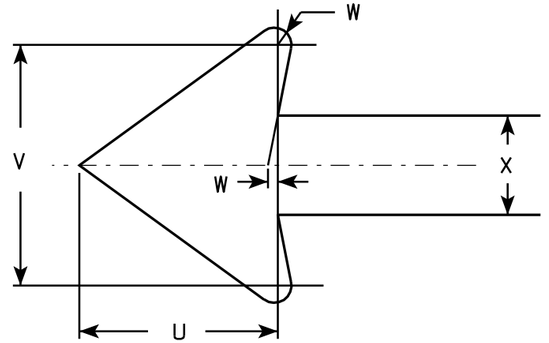
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 489	E



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																											

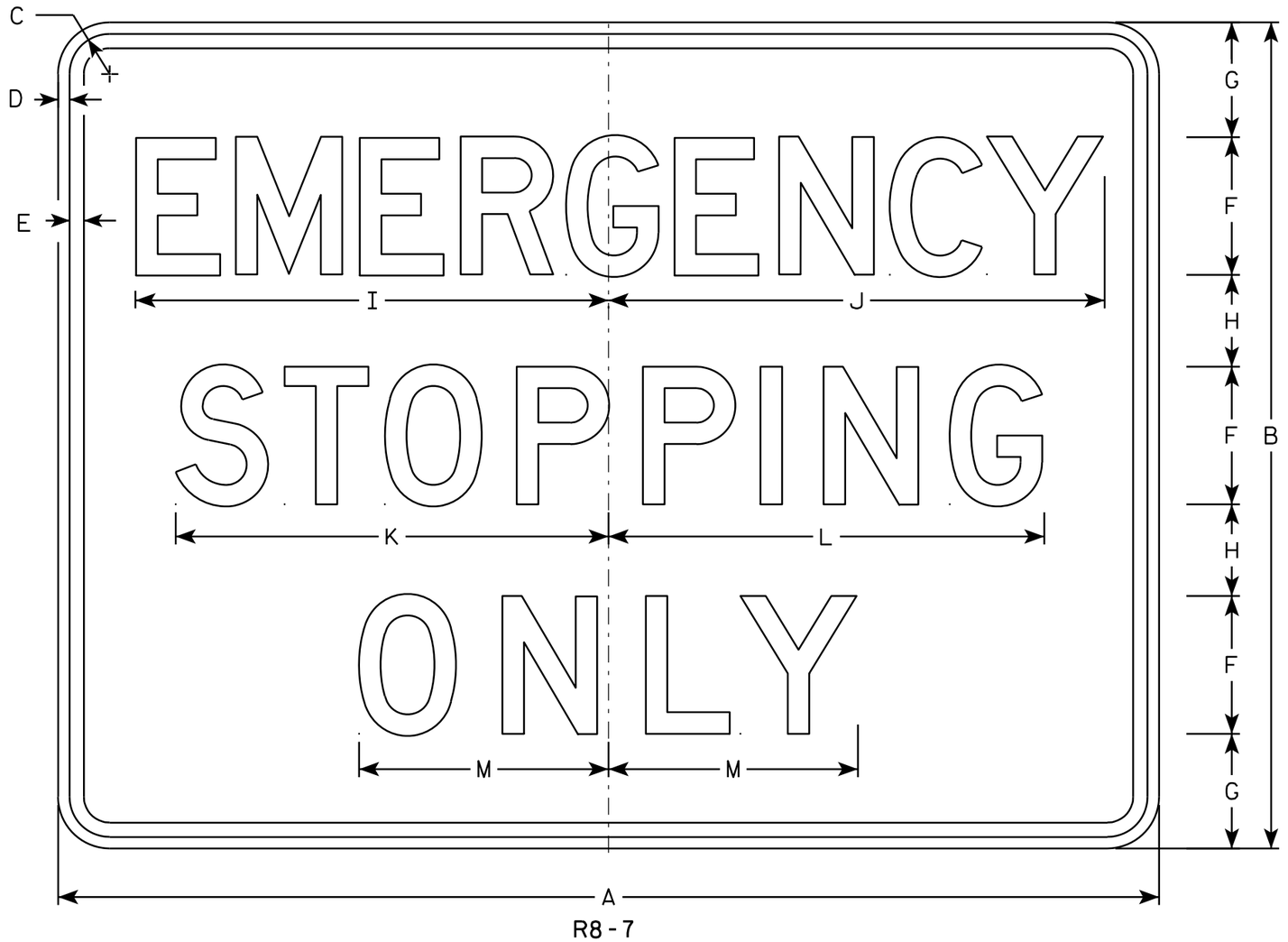
STANDARD SIGN
R7-1

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: 490	E



R8 - 7

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	48	36	1 3/4	1/2	5/8	6	5	4	20 5/8	21 5/8	18 7/8	19	10 7/8														12.0
5	48	36	1 3/4	1/2	5/8	6	5	4	20 5/8	21 5/8	18 7/8	19	10 7/8														12.0

STANDARD SIGN
R8 - 7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

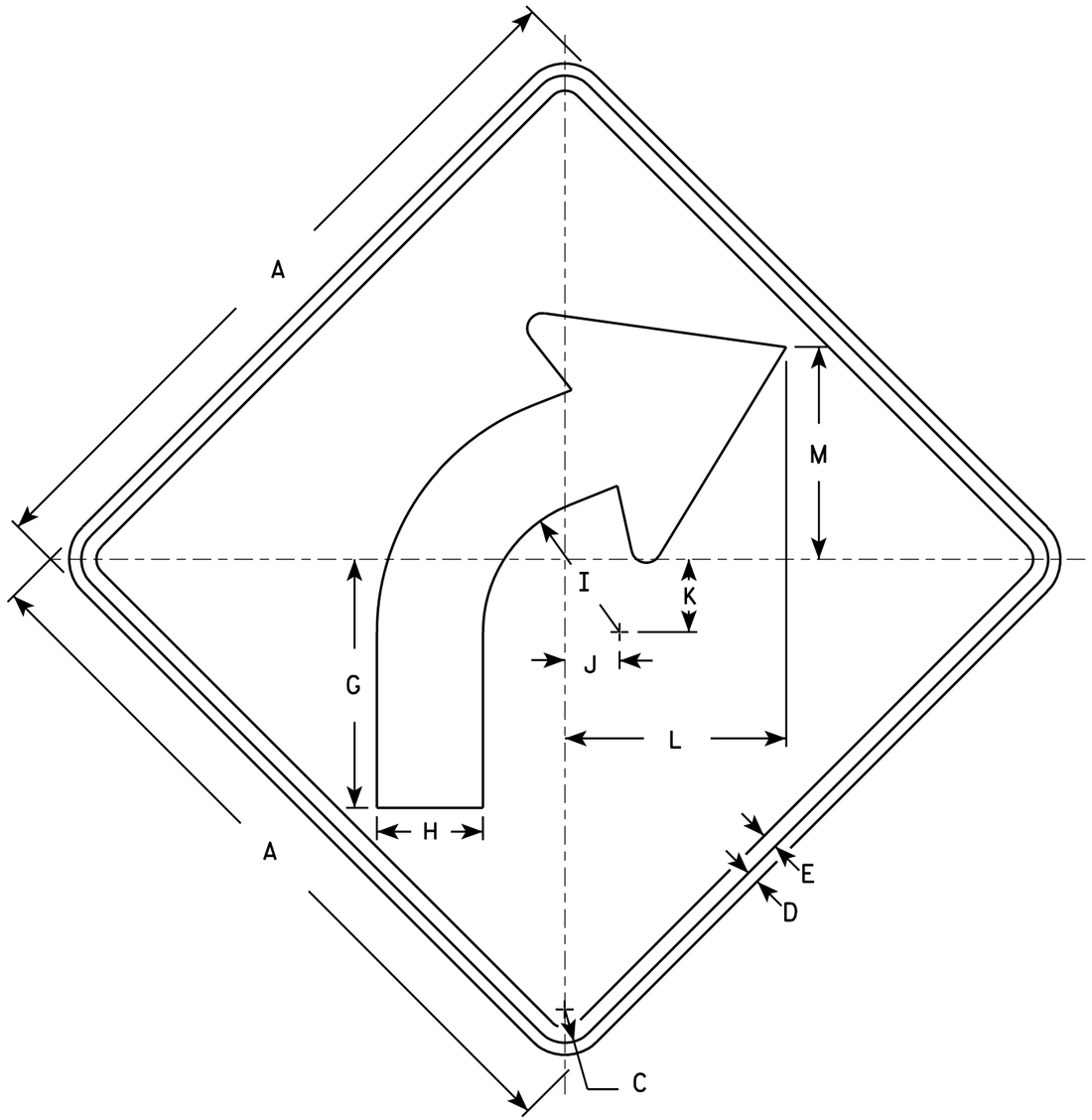
DATE 3/31/2011 PLATE NO. R8-7.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 491 | E

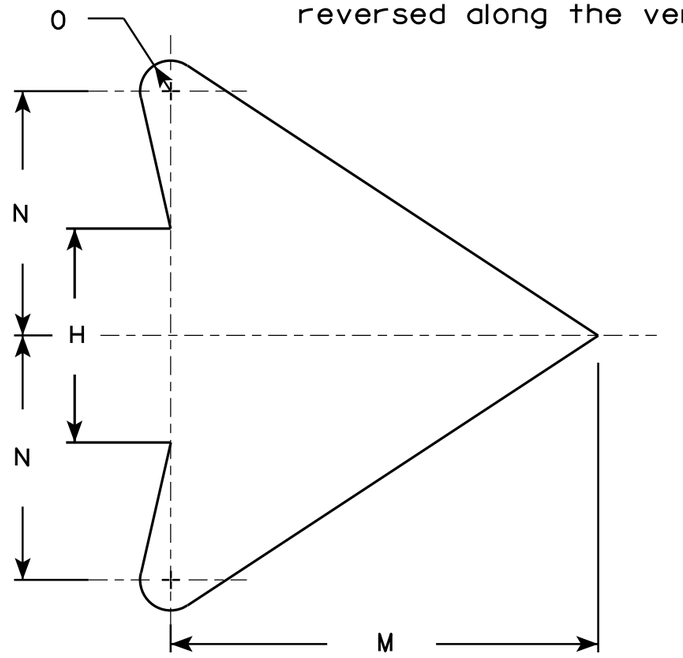
7

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. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



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	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

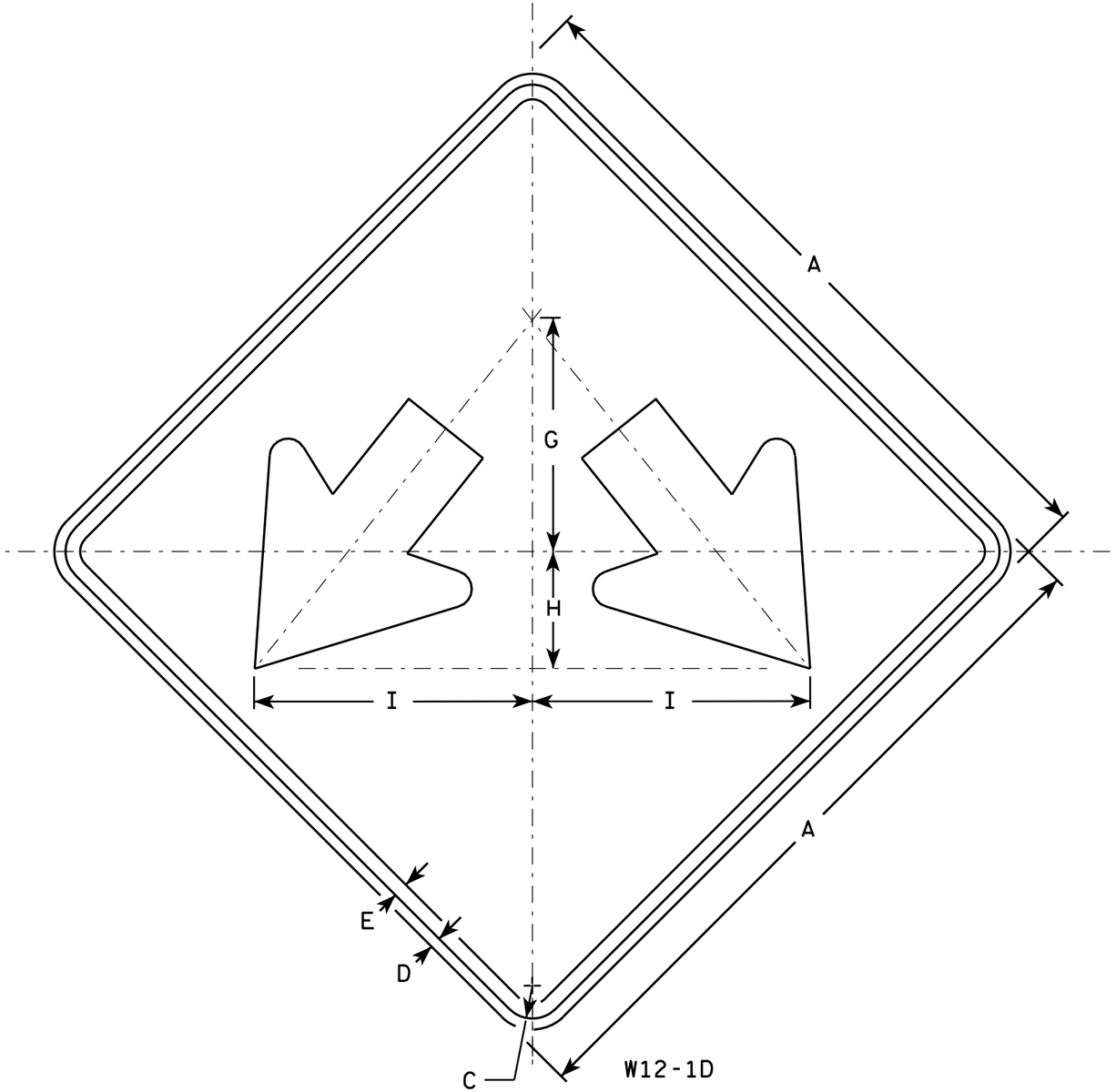
STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

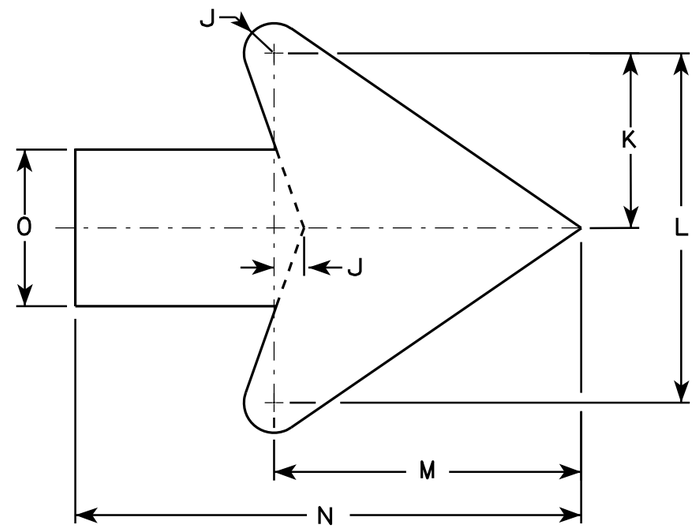
DATE 5/15/12 PLATE NO. W1-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 492	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 - 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.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

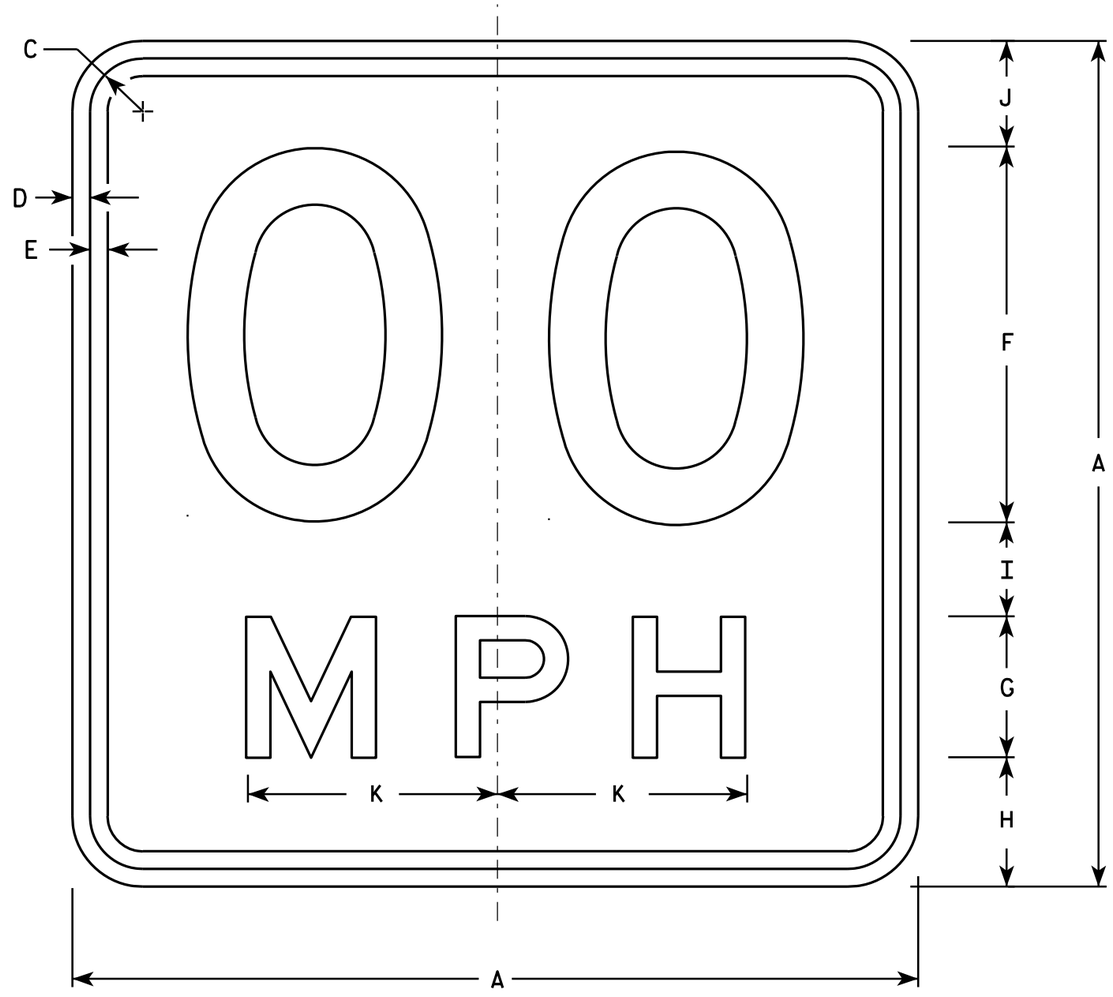
STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/11 PLATE NO. W12-1D.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 493 | E



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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. 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. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

	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		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

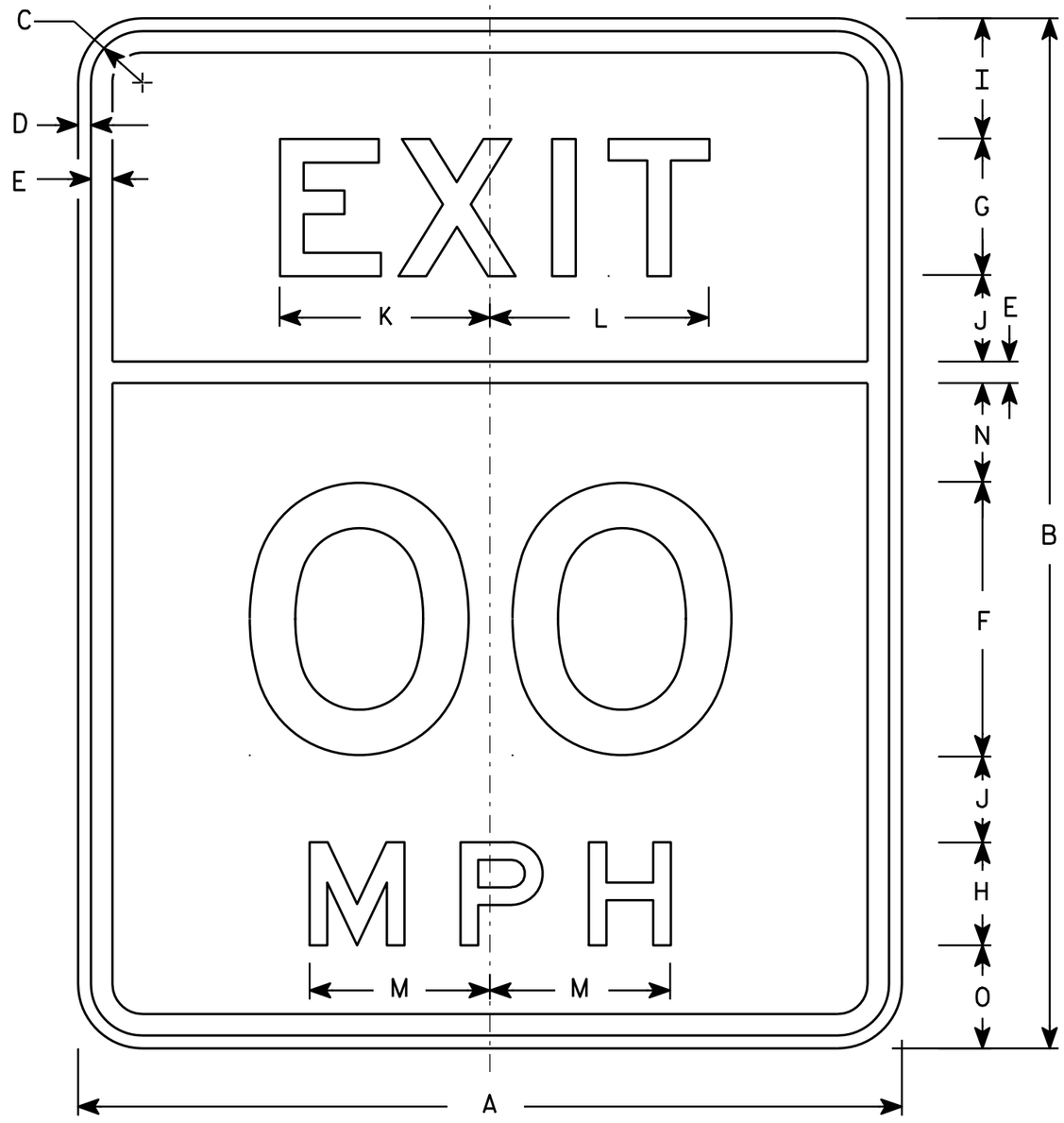
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 494 | E



W13-2

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. 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 space about centerline 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																											
2S	24	30	1 1/2	3/8	5/8	8	4	3	3 1/2	2 1/2	6 1/8	6 3/8	5 1/4	2 7/8	3												5.0
2M	24	30	1 1/2	3/8	5/8	8	4	3	3 1/2	2 1/2	6 1/8	6 3/8	5 1/4	2 7/8	3												5.0
3	36	48	2 1/4	5/8	7/8	12	6	4	6	4	9 1/4	9 1/2	7 1/8	5 1/8	6												12.0
4	36	48	2 1/4	5/8	7/8	12	6	4	6	4	9 1/4	9 1/2	7 1/8	5 1/8	6												12.0
5	48	60	2 1/4	3/4	1	16	8	6	7	5	12 1/4	12 3/4	10 5/8	5 3/4	6												20.0

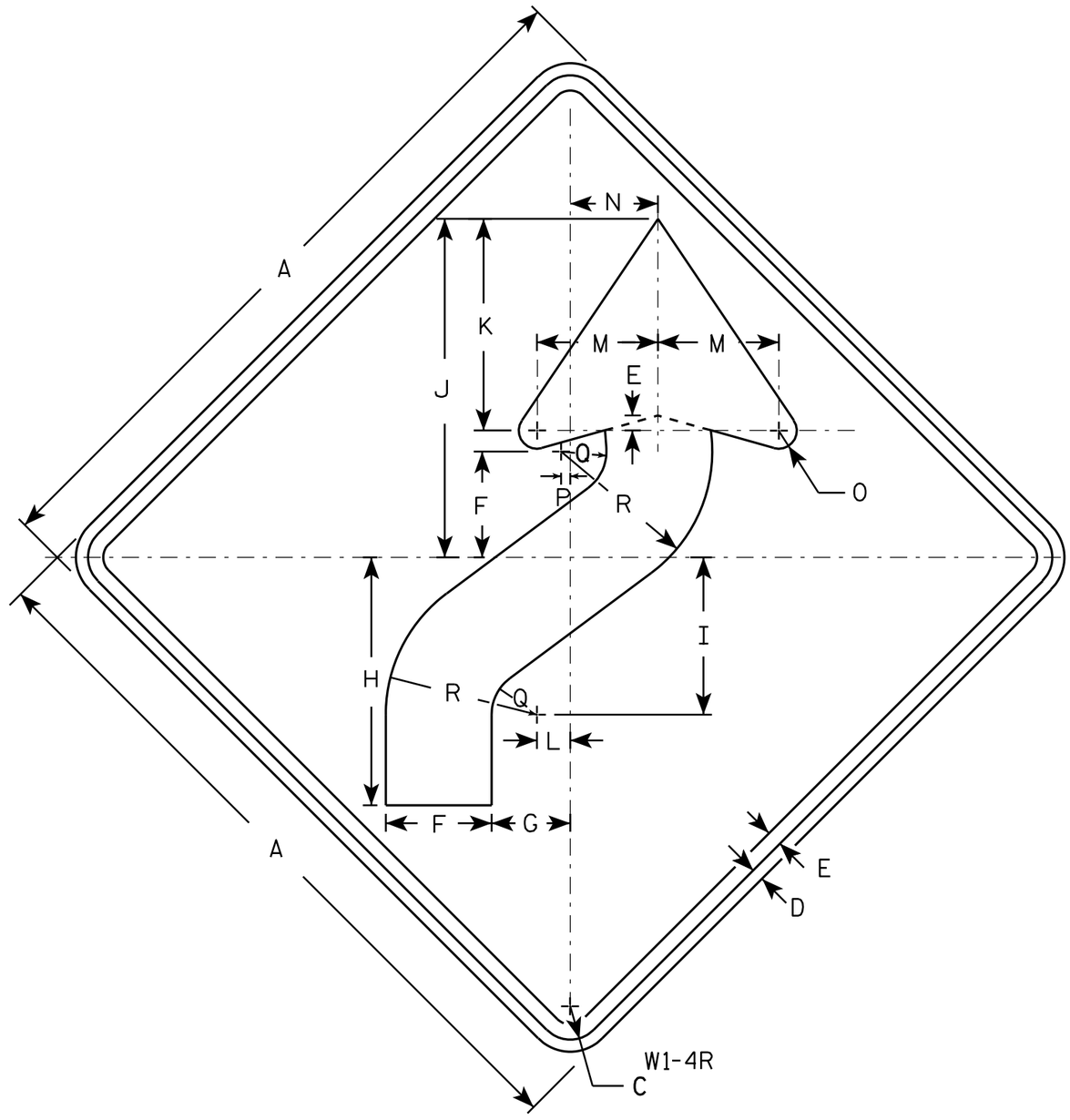
STANDARD SIGN
W13-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-2.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 495 | E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - 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. W1-4L is the same as W1-4R 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	24		1 1/8	3/8	1/2	3 1/2	2 5/8	8 1/4	5 1/4	11 1/4	7	1 1/8	4	3	5/8	1/4	1 1/2	5									4.0
2S	30		1 3/8	1/2	5/8	4 3/8	3 1/4	10 1/4	6 1/2	14	8 3/4	1 3/8	5	3 5/8	3/4	3/8	1 7/8	6 1/4									6.25
2M	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
3	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
4	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

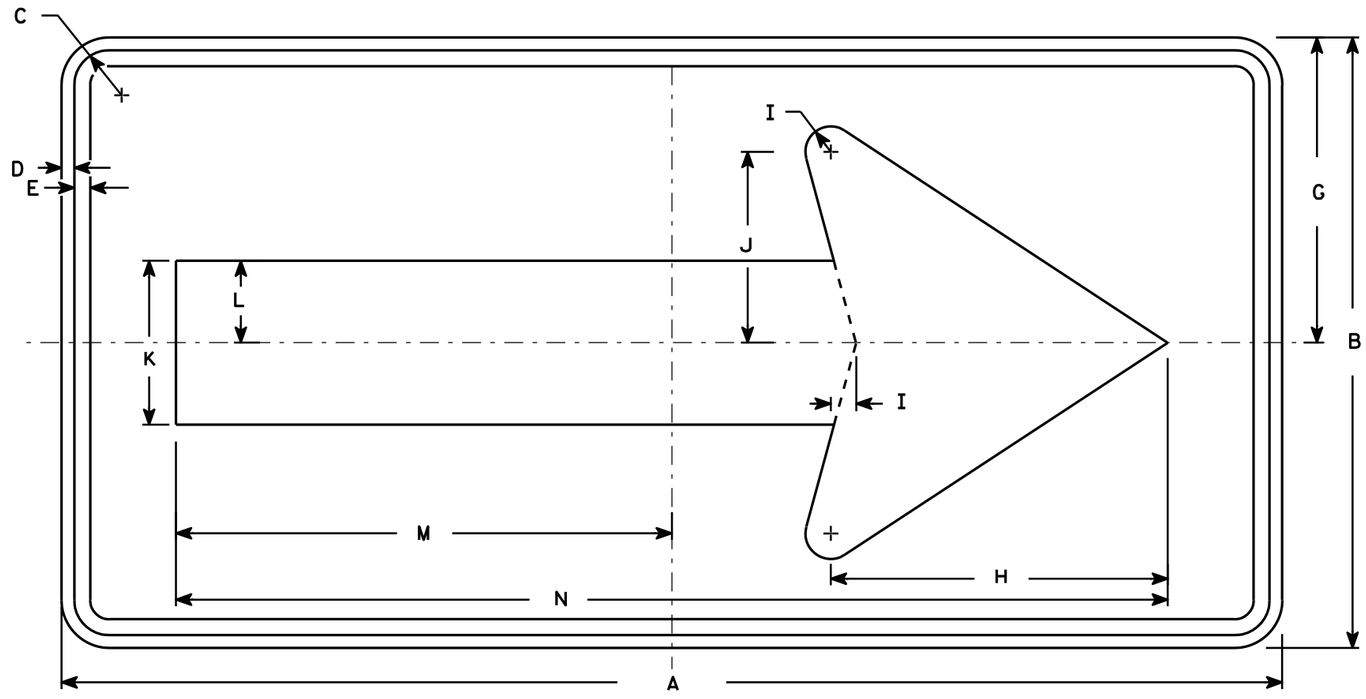
STANDARD SIGN
W1-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-4.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 496 | E



W1-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

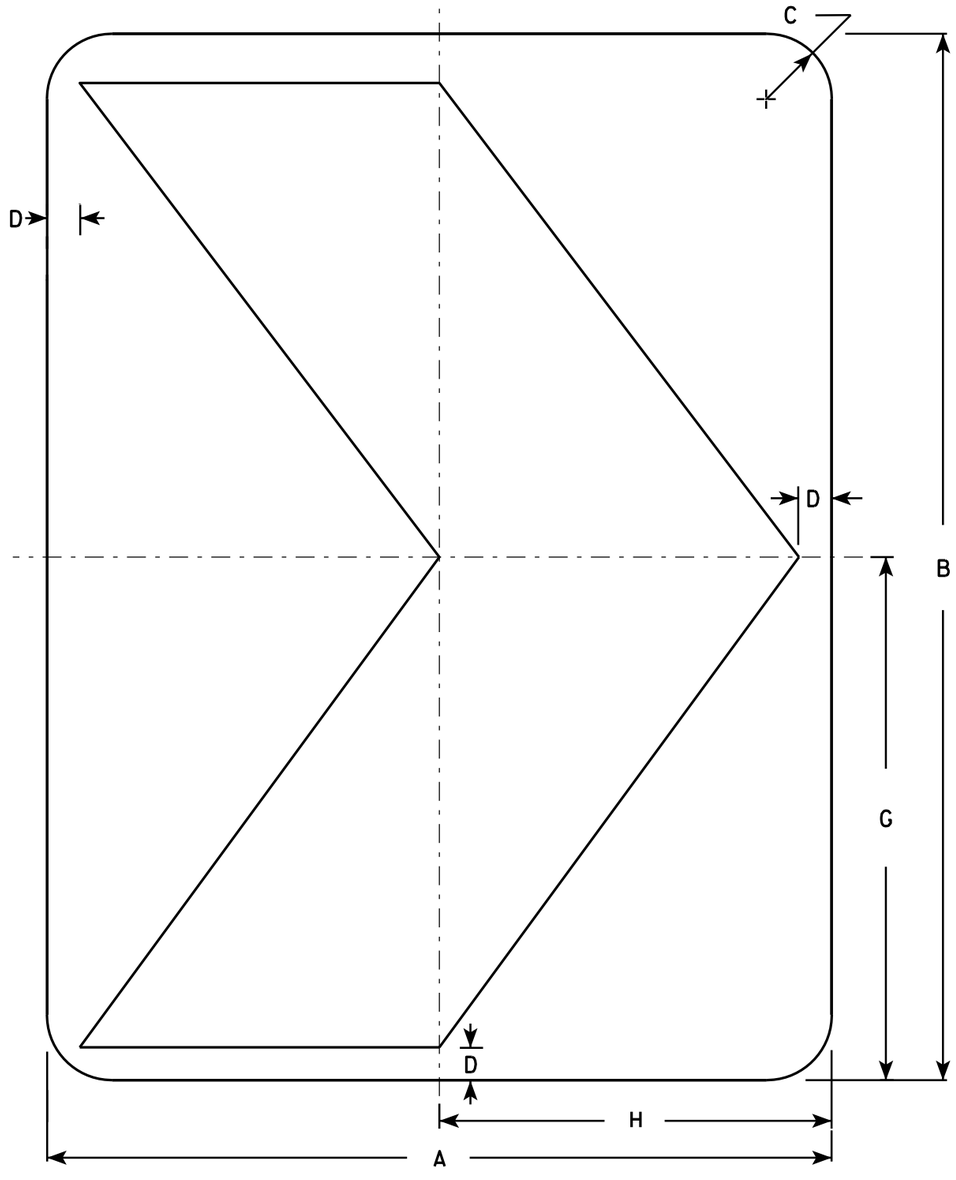
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 497



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.

W1-8

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 ½	½			9	6																			1.5
2S	18	24	1 ½	¾			12	9																			3.0
2M	18	24	1 ½	¾			12	9																			3.0
3	24	30	1 ½	1			15	12																			5.0
4	30	36	1 ⅞	1 ¼			18	15																			7.5
5	36	48	2 ¼	1 ½			24	18																			12.0

STANDARD SIGN
W1-8

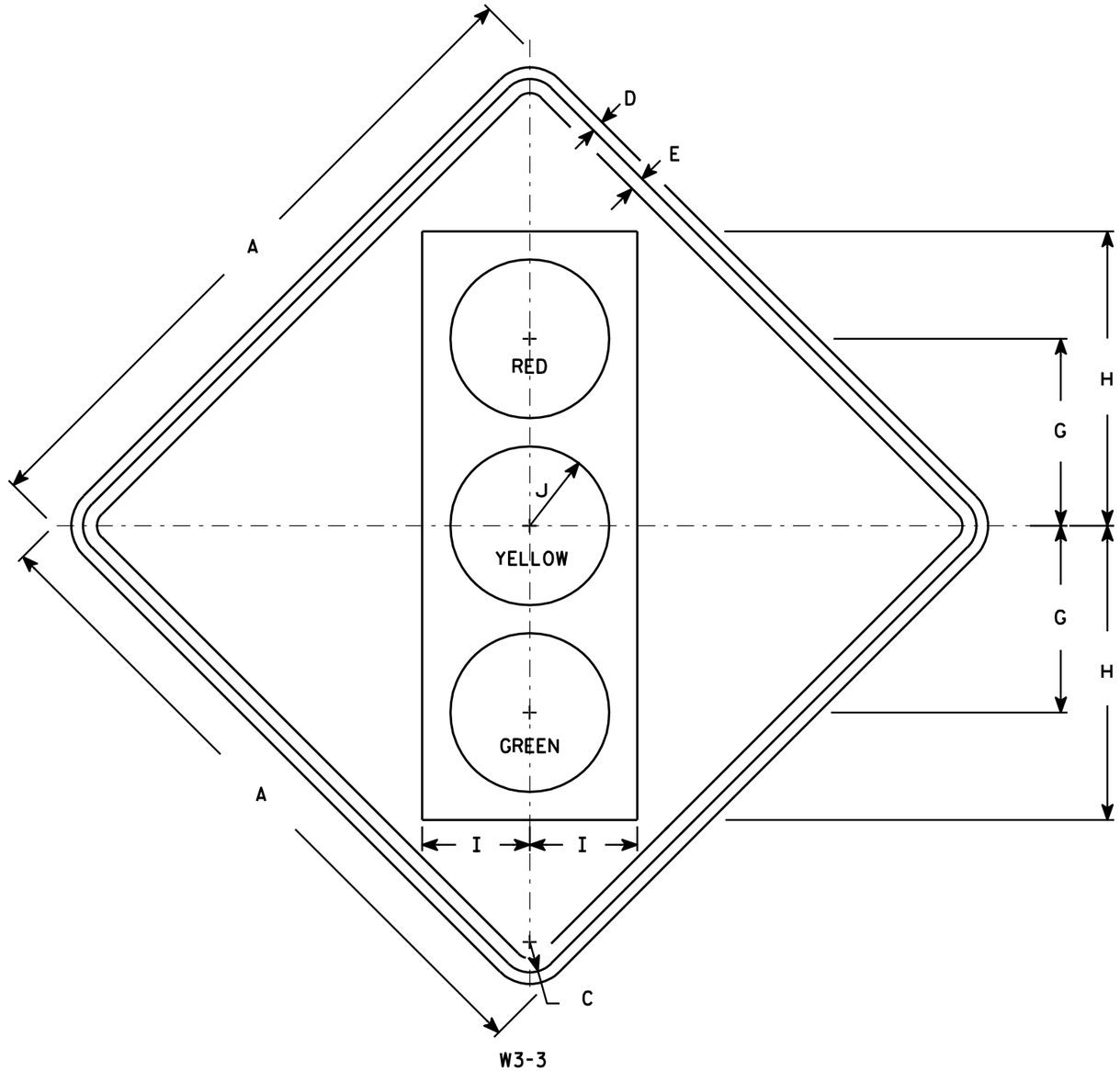
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO: 498 E



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
   Top circle - Type H Reflectorized Red
   Center circle - Same as background
   Bottom circle - Type H Reflectorized Green

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		8 3/4	13 3/4	5	3 3/4																	6.25
2S	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
2M	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
3	36		1 5/8	5/8	3/4		10	15 3/4	5 3/4	4 1/4																	9.0
4	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0
5	48		2 1/4	3/4	1		12 1/2	20	7 1/2	5																	16.0

STANDARD SIGN
W3-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-3.11

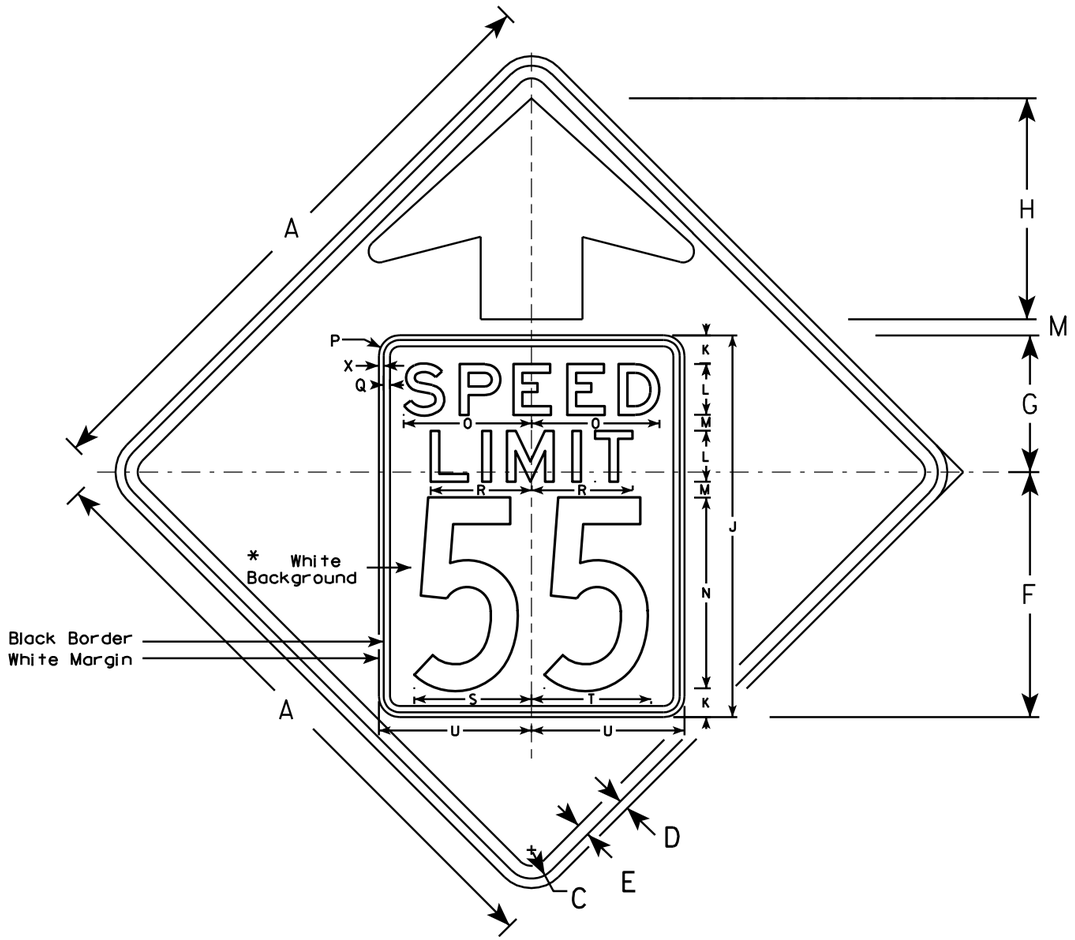
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 499 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W33.DGN PLOT DATE : 07-JUN-2010 13:07 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 7.448805:1.000000

WISDOT/CADDS SHEET 42

7

7

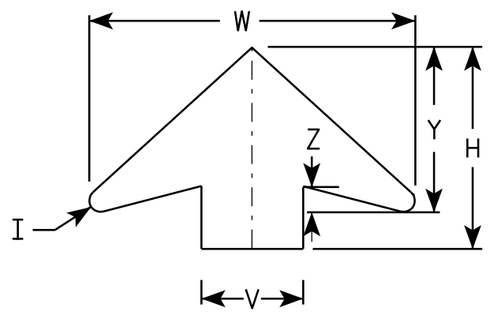


W3-5

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. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White 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																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

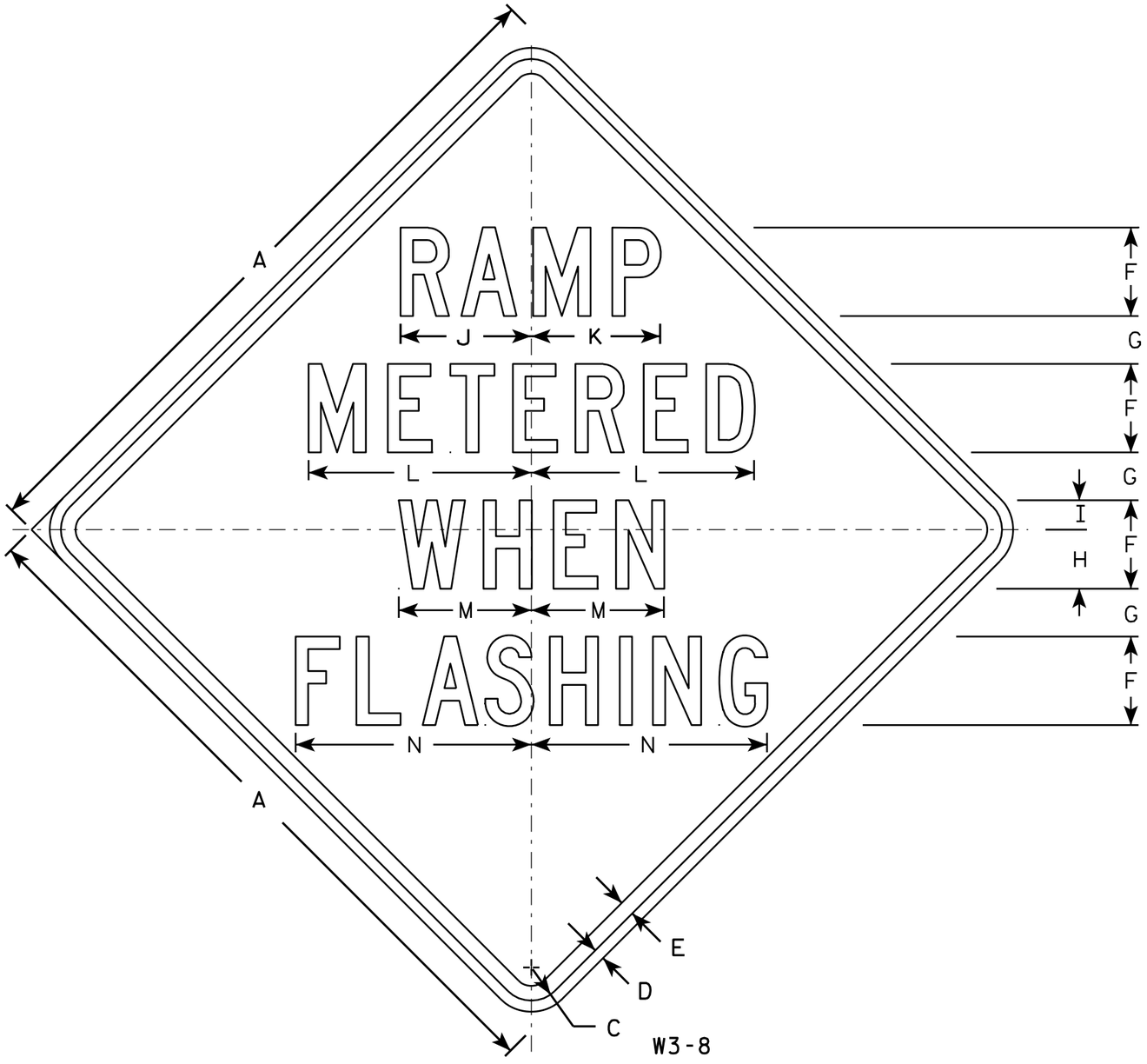
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 500 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 - Yellow
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

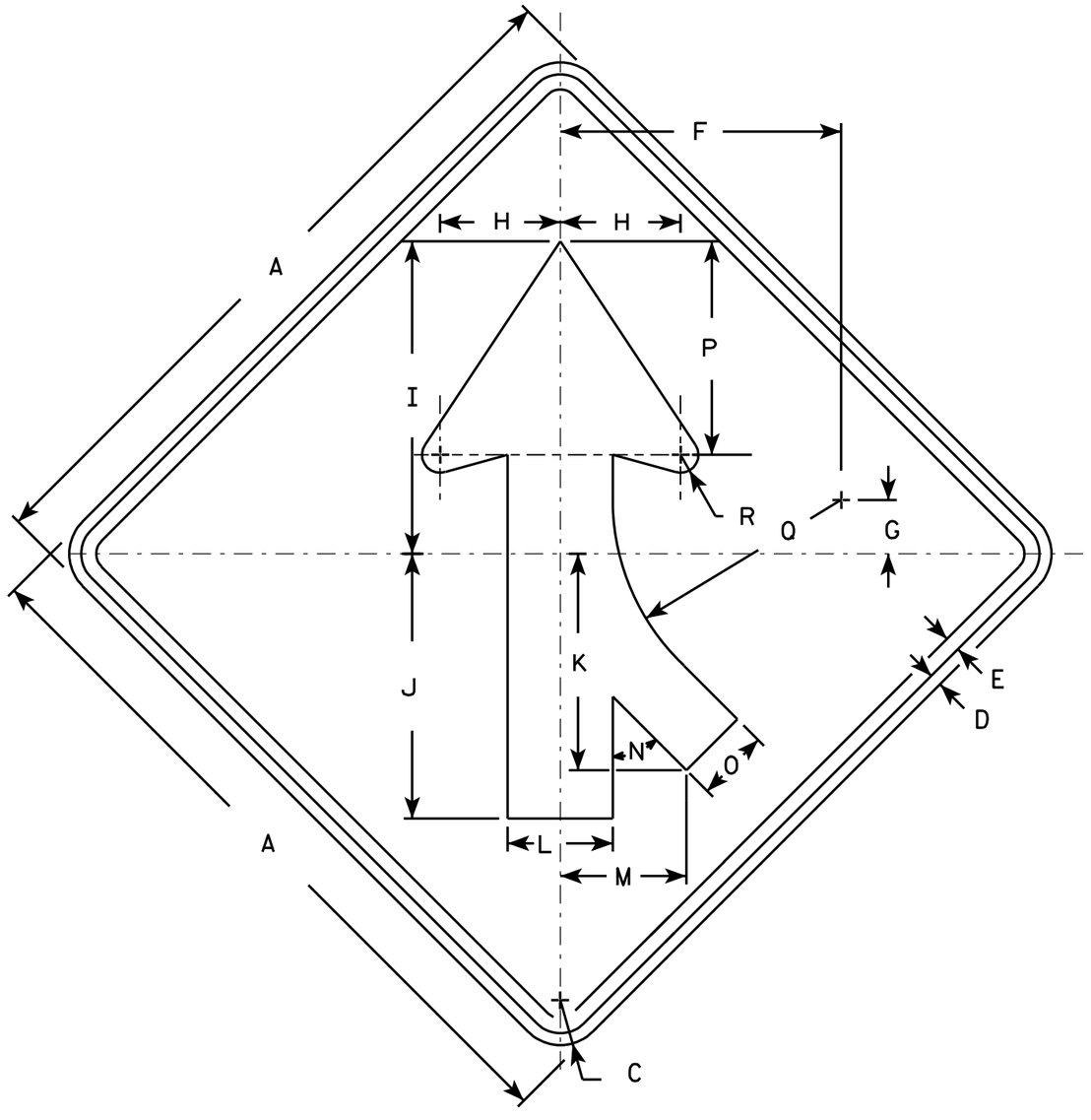
STANDARD SIGN
W3-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 06/01/10 PLATE NO. W3-8.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 501 | E



W4-1 R

NOTES

1. Sign is Type II - Type H 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. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

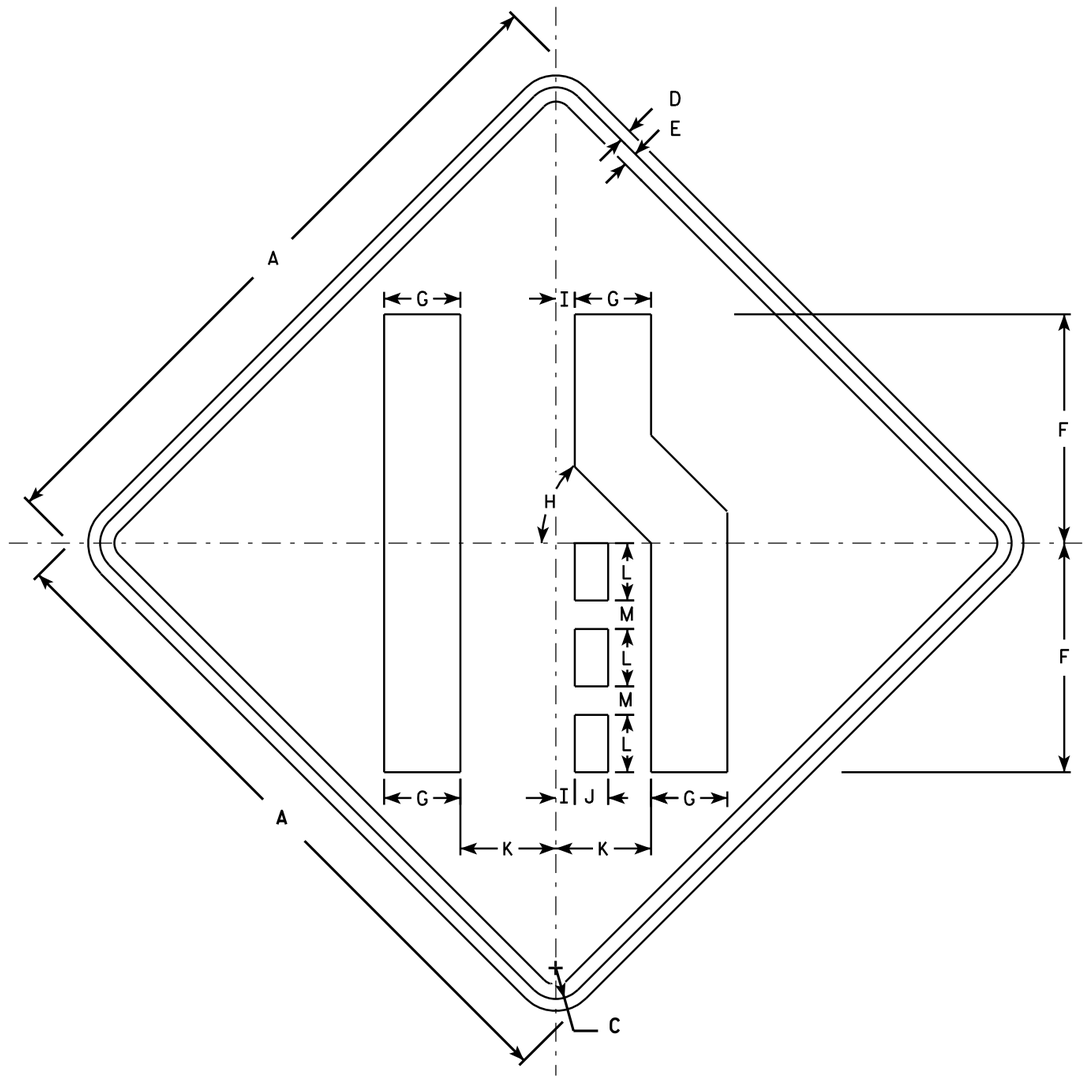
STANDARD SIGN
W4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/21/11 PLATE NO. W4-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 502	E



W4-2R

NOTES

1. Sign is Type II - Type H 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. W4-2L is the same as W4-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10	3 3/8	45°	7/8	1 1/2	4 1/4	2 1/2	1 1/4														6.25
2S	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2M	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
3	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W4-2

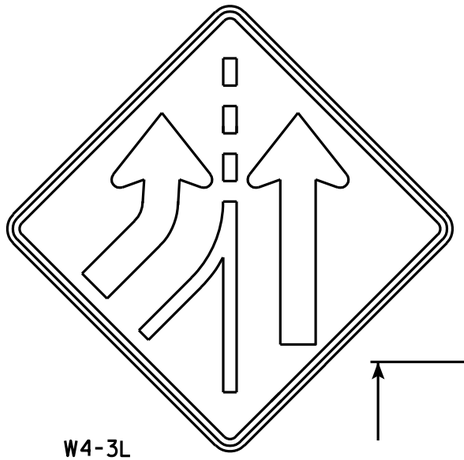
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

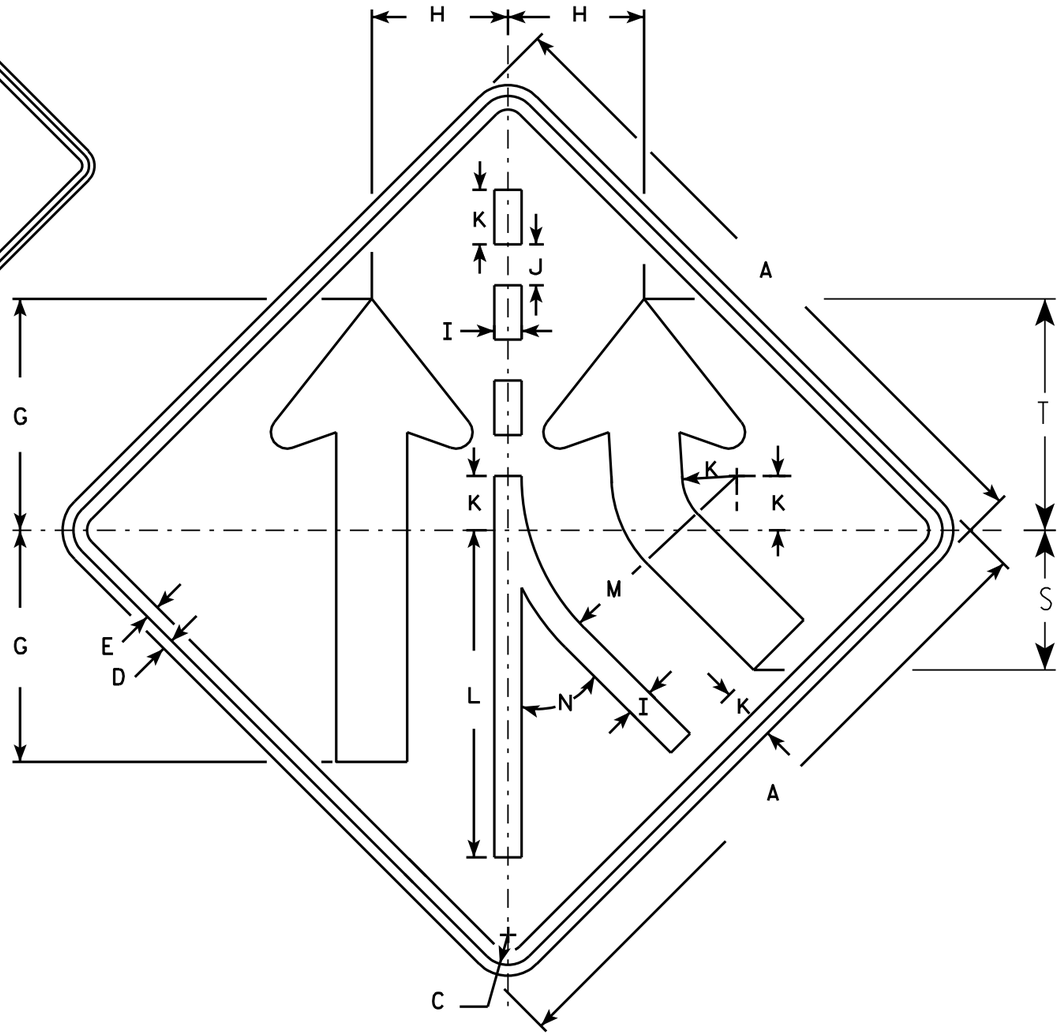
DATE 2/29/2012 PLATE NO. W4-2.13

PROJECT NO:

SHEET NO: 503 E



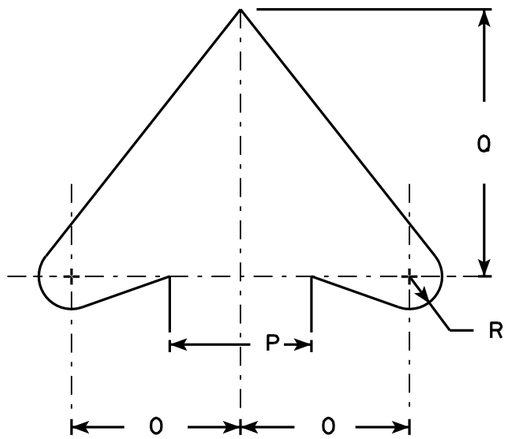
W4-3L



W4-3R

NOTES

1. Sign is Type II - Type H 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. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		10 5/8	6 1/4	1 1/4	1 7/8	2 1/2	15	9 7/8	45°	3 7/8	3 1/4	6 1/8	3/4	6 3/8	10 5/8							6.25
2S	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
2M	36		1 5/8	5/8	3/4		12 3/4	7 1/2	1 1/2	2 1/4	3	18	11 7/8	45°	4 5/8	4	7 3/8	7/8	7 3/4	12 3/4							9.0
3																											
4	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0
5	48		2 1/4	3/4	1		17	10	2	3	4	24	15 3/4	45°	6 1/4	5 1/2	9 7/8	1 1/4	10 1/4	17							16.0

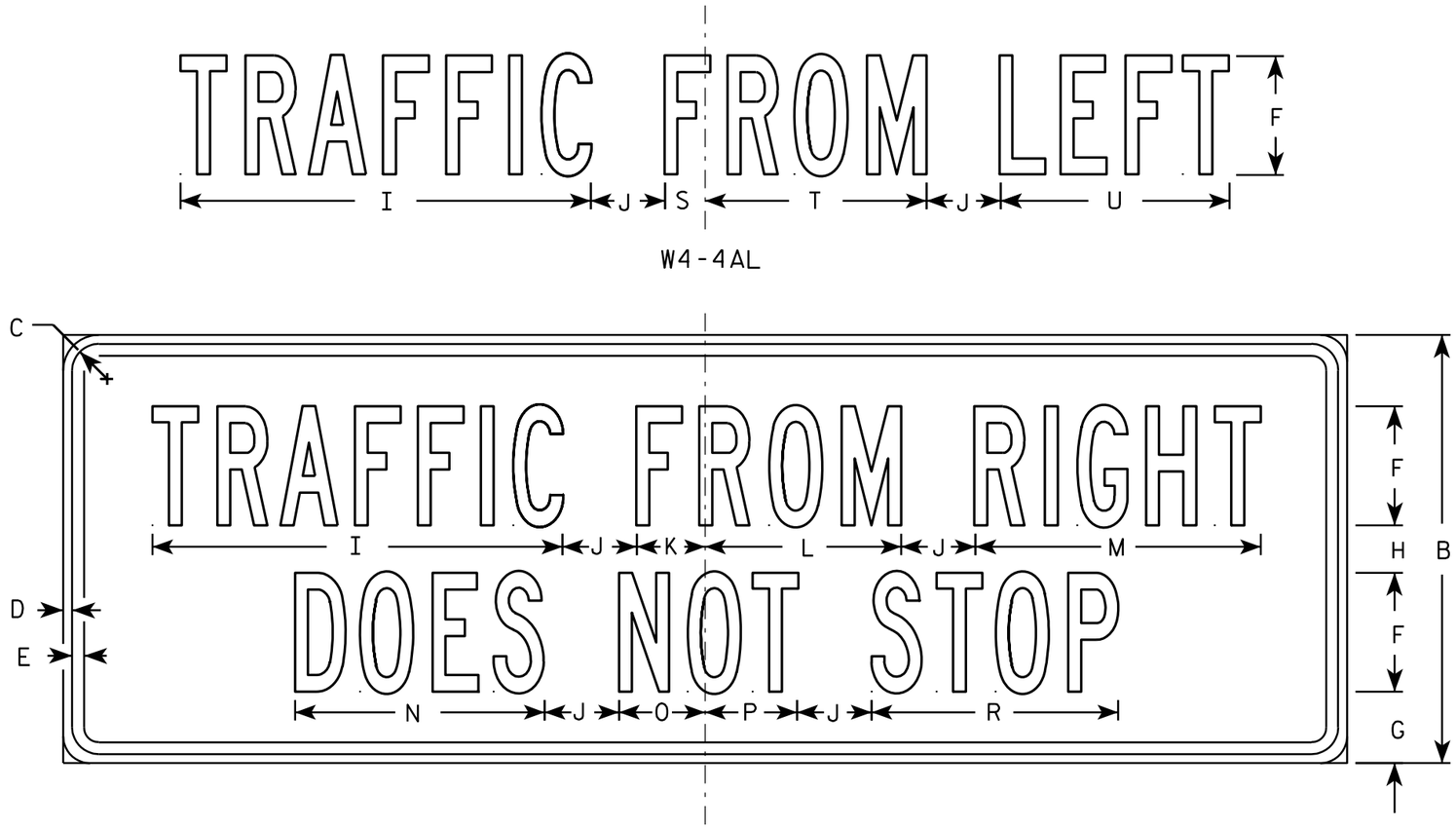
STANDARD SIGN
W4-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/21/11 PLATE NO. W4-3.7

PROJECT NO:

SHEET NO: 504 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 - Yellow
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R1-52L same as R1-52R except word LEFT replaces the word RIGHT and spacing is adjusted to achieve 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																											
2S	30	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	10 3/8	1 1/2	1 3/4	4 7/8	7 1/4	6 1/4	2 1/4	2 1/4		6 1/4	1	5 5/8	5 3/4						2.5
2M	30	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	10 3/8	1 1/2	1 3/4	4 7/8	7 1/4	6 1/4	2 1/4	2 1/4		6 1/4	1	5 5/8	5 3/4						2.5
3	42	15	1 1/8	3/8	1/2	4	2 5/8	1 3/4	13 7/8	2 3/8	2 1/8	6 3/4	9 3/4	8 3/8	2 3/4	3 3/8		8 3/8	1 1/8	7 3/4	7 3/4						4.4
4	54	18	1 1/8	3/8	1/2	5	3	2	17 1/4	3 1/8	2 7/8	8 1/4	12	10 1/2	3 5/8	3 7/8		10 3/8	1 3/4	9 3/8	9 5/8						6.8
5																											

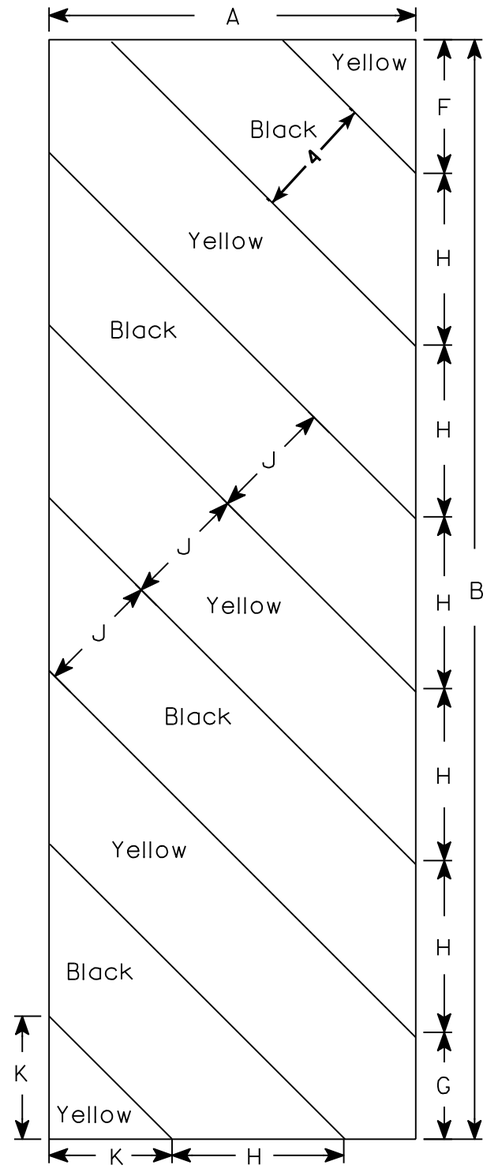
STANDARD SIGN
W4-4AL & W4-4AR

WISCONSIN DEPT OF TRANSPORTATION

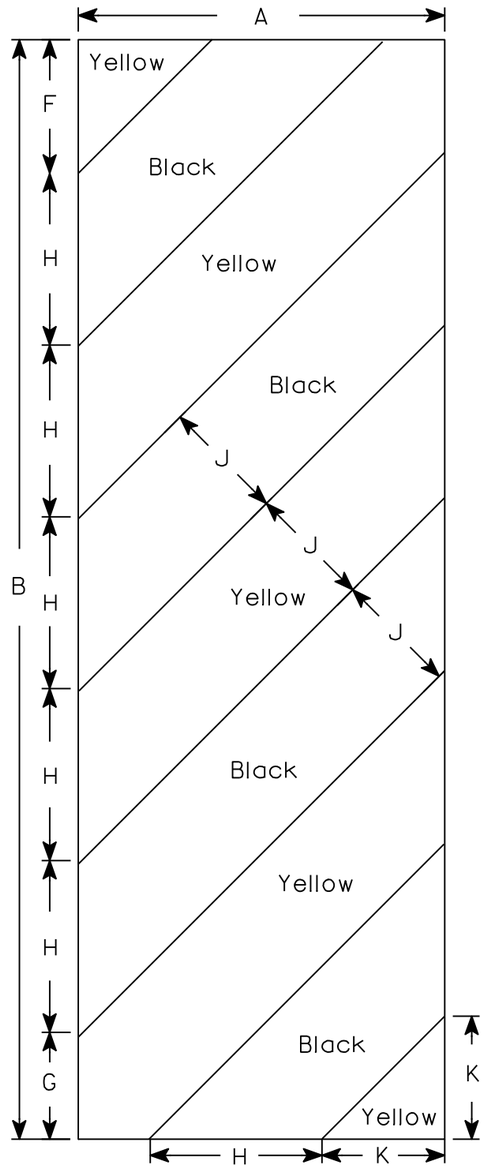
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/30/10 PLATE NO. W4-4A.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 505 | E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

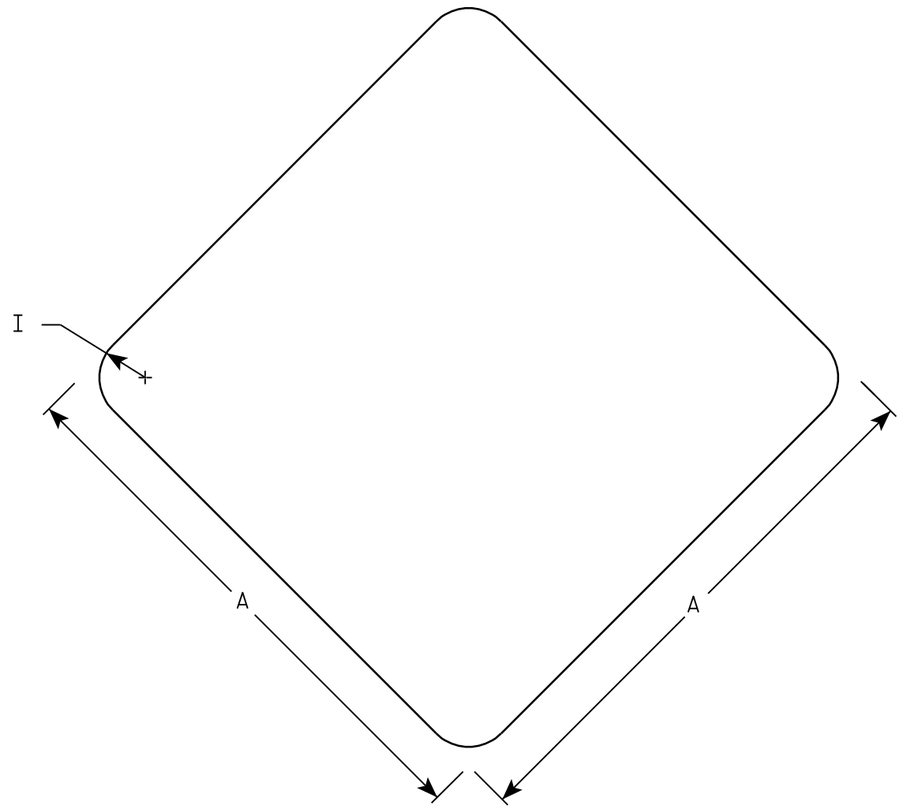
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 506 | E



W5-54

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
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners 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	12								1																		1.0
2S	18								1 ½																		2.25
2M	18								1 ½																		2.25
3																											
4																											
5																											

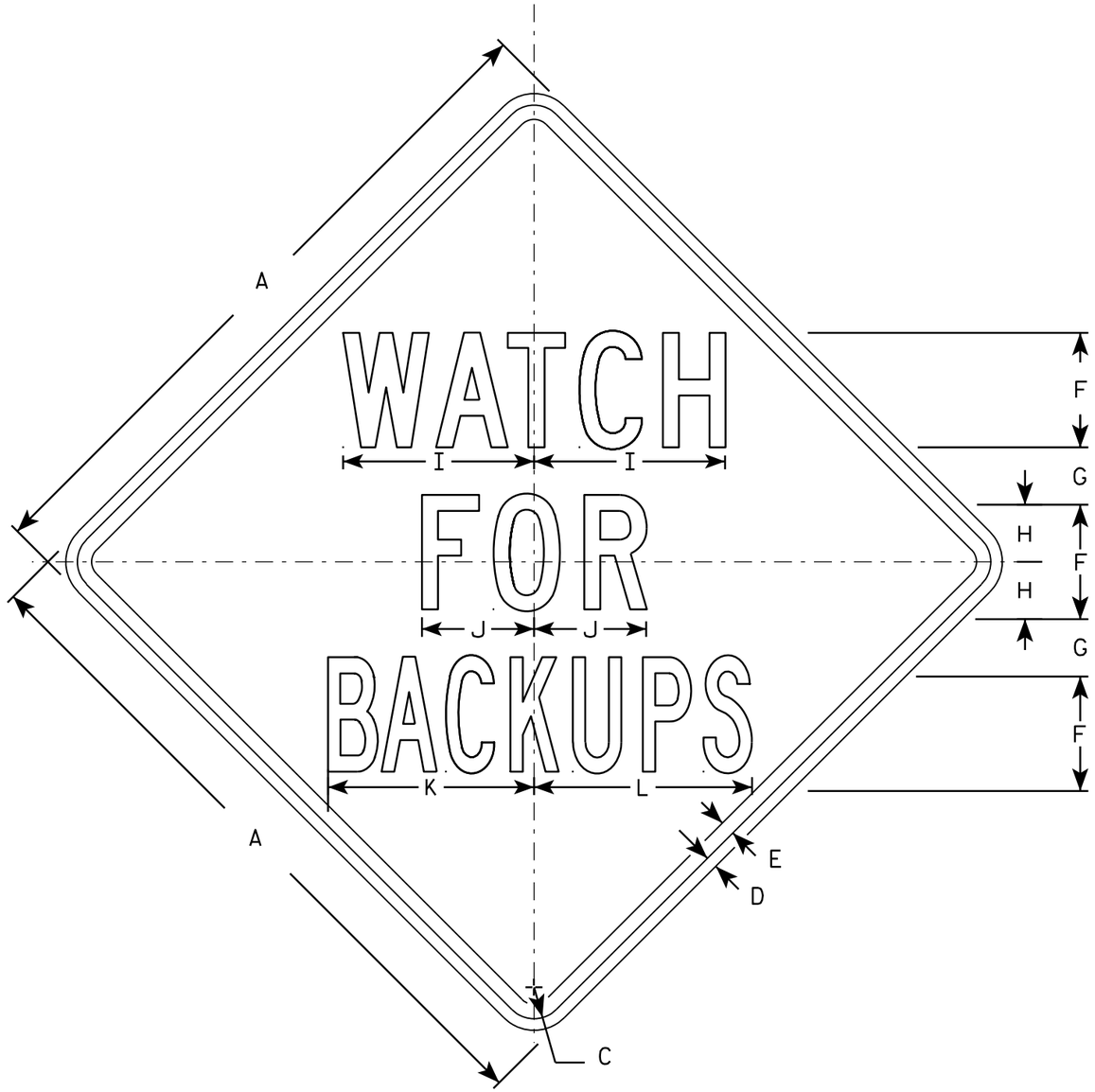
STANDARD SIGN
W5-54

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/3/10 PLATE NO. W5-54.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 507 | E



W8-74

NOTES

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

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

STANDARD SIGN
W8-74

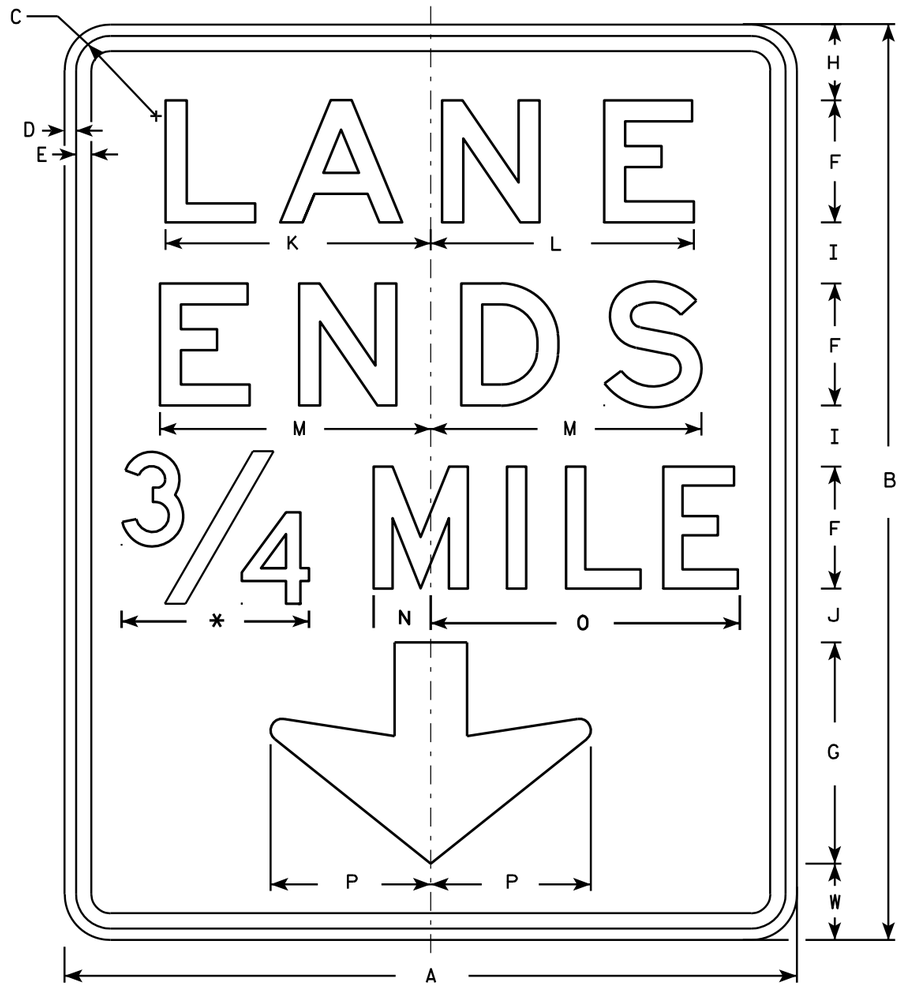
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/23/11 PLATE NO. W8-74.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 508 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W874.DGN PLOT DATE : 23-MAR-2011 10:22 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 7.510884:1.000000
WISDOT/CADDS SHEET 42

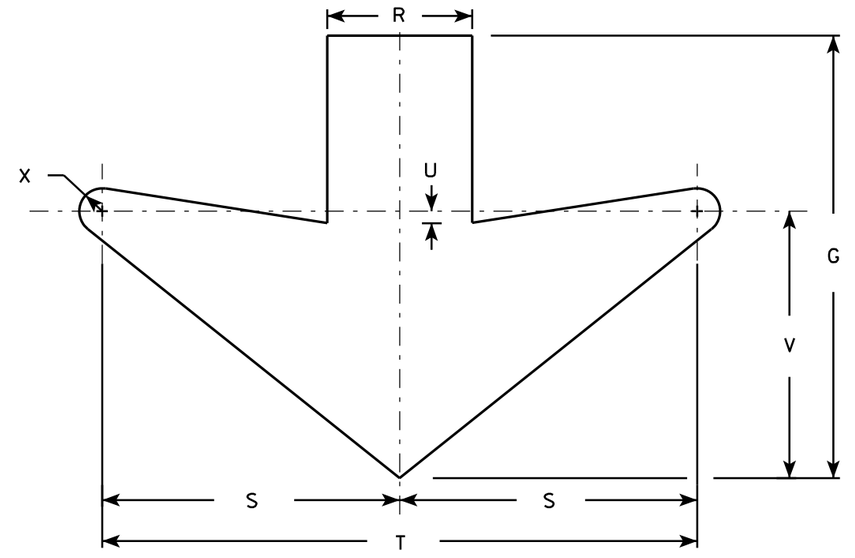


W9-63

* See Note 6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background -Yellow
   Message - Black non-reflective
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series E, Line 3 is Series D.
6. Substitute appropriate numerals and optically adjust spacing to give proper balance.



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	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
2S	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
2M	48	60	2 1/4	3/4	1	8	14 1/2	5	4	3 1/2	17 3/8	17 1/4	17 3/4	3 3/4	20 1/4	10 1/2		4 3/4	9 3/4	19 1/2	3/4	8 3/4	5	3/4			20.0
3																											
4	72	90	6	1	1 1/2	12	22	8	6	5	26 1/8	26 1/8	26 5/8	5 5/8	30 3/8	16		6 1/2	15	30	2	15	7	1			45.0
5	72	90	6	1	1 1/2	12	22	8	6	5	26 1/8	26 1/8	26 5/8	5 5/8	30 3/8	16		6 1/2	15	30	2	15	7	1			45.0

STANDARD SIGN
W9-63

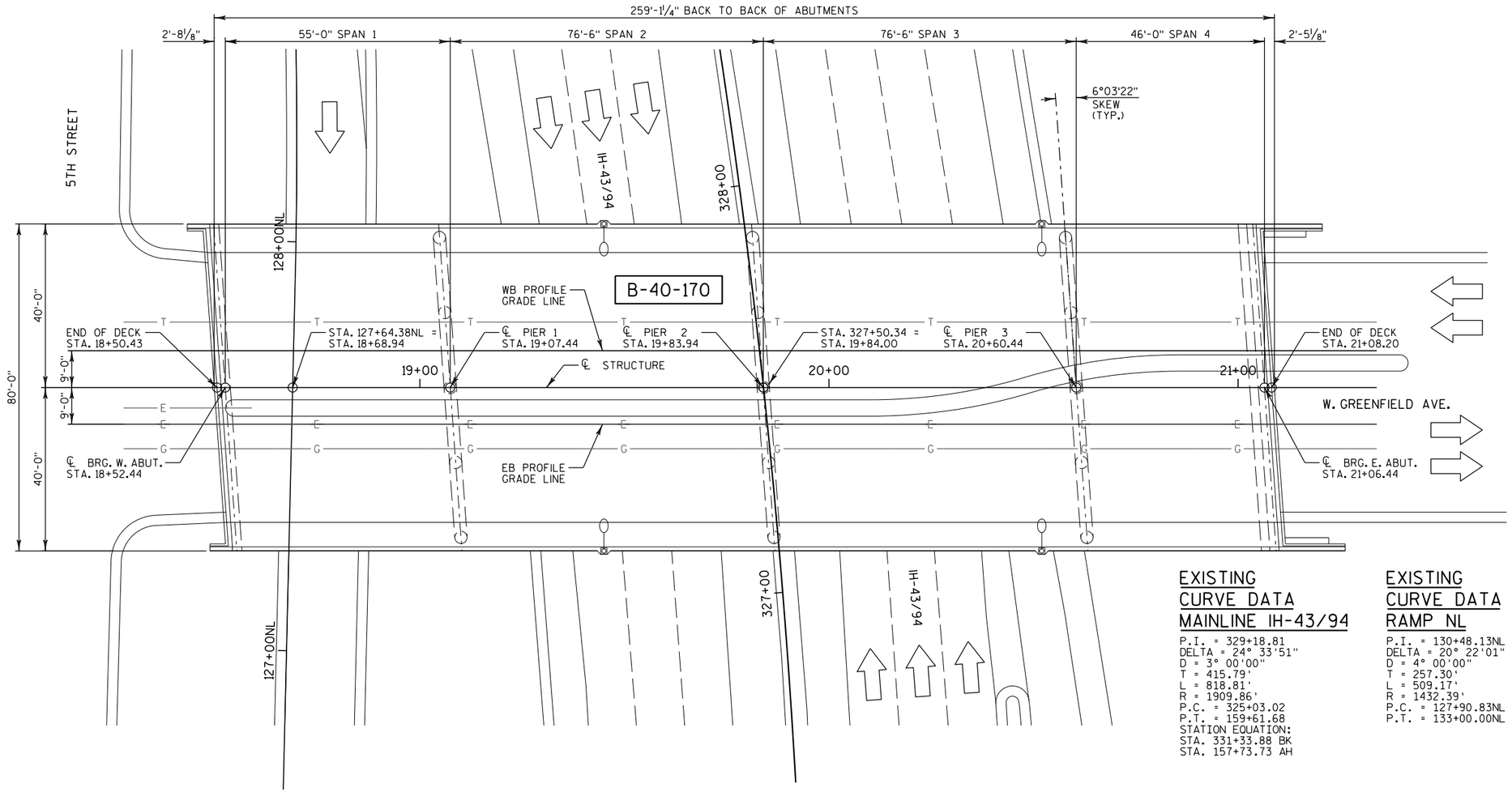
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

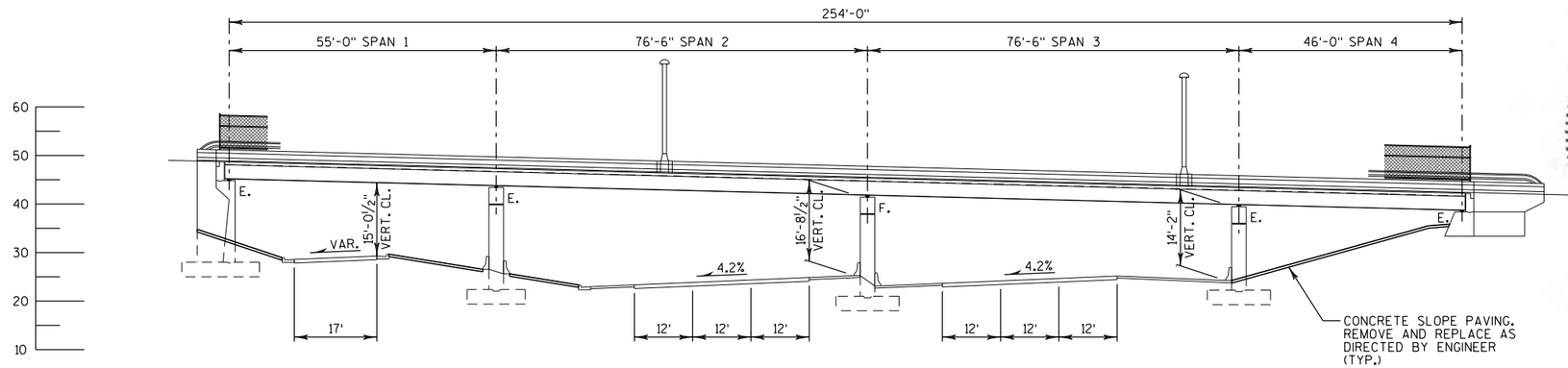
DATE 6/7/10 PLATE NO. W9-63.4

PROJECT NO:

SHEET NO: 509 E



PLAN B-40-170



ELEVATION
(LOOKING NORTH)

EXISTING CURVE DATA MAINLINE IH-43/94

P.I. = 329+18.81
DELTA = 24° 33'51"
D = 3° 00'00"
T = 415.79'
L = 818.81'
R = 1909.86'
P.C. = 325+03.02
P.T. = 159+61.68
STATION EQUATION:
STA. 331+33.88 BK
STA. 157+73.73 AH

EXISTING CURVE DATA RAMP NL

P.I. = 130+48.13NL
DELTA = 20° 22'01"
D = 4° 00'00"
T = 257.30'
L = 509.17'
R = 1432.39'
P.C. = 127+90.83NL
P.T. = 133+00.00NL

GENERAL NOTES

THE PROPOSED WORK INCLUDES SUBSTRUCTURE CONCRETE SURFACE REPAIR, SLOPE PAVING REPAIR AND CATHODIC PROTECTION.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

COAT ENTIRE CONCRETE SURFACE OF ALL PIERS AND THE WEST ABUTMENT WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

EXISTING DESIGN DATA

LIVE LOAD:
INVENTORY RATING ____ HS16
OPERATIONAL RATING ____ HS28
WISCONSIN STANDARD
PERMIT VEHICLE (WisSPV) ____ 180 KIPS

EXISTING FOUNDATION DATA

EXISTING SUBSTRUCTURES ARE SUPPORTED ON SPREAD FOOTINGS WITH A MAXIMUM DESIGN PRESSURE OF 4,000 PSF

TRAFFIC DATA

IH-43/94
A.D.T. (2040) = 137,000
D.H.V. (2040) = 13,426
R.D.S. - = 55 MPH

W. GREENFIELD AVE.
A.D.T. (2035) = 5,879
D.H.V. (2035) = 637
R.D.S. - = 35 MPH

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTION, DETAILS AND QUANTITIES

WISCONSIN PROFESSIONAL ENGINEER
WILLIAM A. HOVE
E-33600
MADISON, WI
9-27-2012

SE REGION CONTACT:
AL GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
BILL HOVE (262) 354-3014

NO.	DATE	REVISION	BY

CORRE
Structural Environmental Municipal Transportation
6410 GRAND TETON PLAZA, SUITE 314
MADISON, WI 53719
(608)826-0532
www.correengineering.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher MK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-170

W. GREENFIELD AVE. OVER IH 94/IH 43

COUNTY	TOWN/CITY/~~VILLAGE~~
MILWAUKEE	MILWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	PJM	DESIGN CK'D.	BH	DRAWN BY	BSS	PLANS CK'D.	PJM

GENERAL PLAN

SHEET 1 OF 2

510

STATE PROJECT NUMBER
1228-26-70

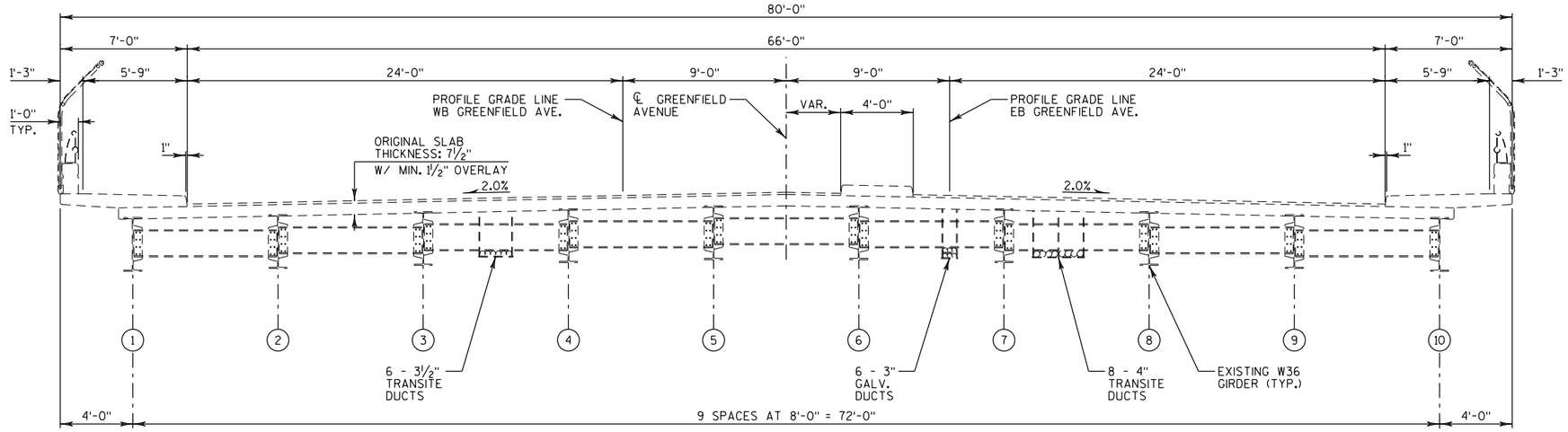
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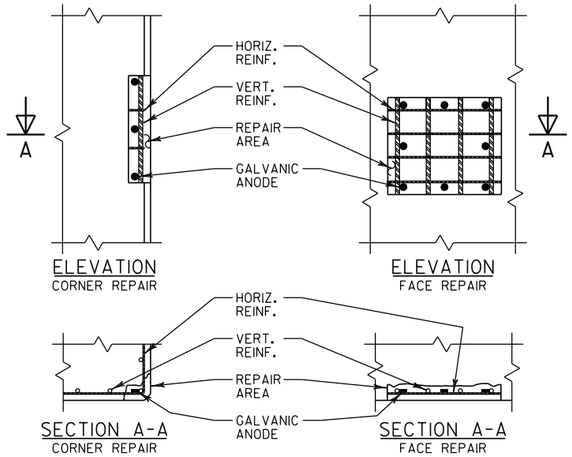
STATE PROJECT NUMBER

1228-26-70



TYPICAL SECTION

(LOOKING EAST)



CATHODIC PROTECTION DETAIL

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE/CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISIONS FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	ITEM DESCRIPTION	ITEM UNIT	WEST ABUTMENT	PIER #1	PIER #2	PIER #3	EAST ABUTMENT	SUPERSTRUCTURE	QUANTITY
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	10	10	0	0	5	----	25
509.1500	CONCRETE SURFACE REPAIR	SF	0	5	10	85	0	----	100
604.0400	SLOPE PAVING CONCRETE	SY	10	10	0	0	5	----	25
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	14	16	16	14	0	----	60
SPV.0165.01	CATHODIC PROTECTION	SF	0	0	0	70	0	----	70

ALL ITEMS ARE CATEGORY 20.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-170

DRAWN BY BSS | PLANS CK'D. BH

TYPICAL SECTION, DETAILS AND QUANTITIES

SHEET 2 OF 2

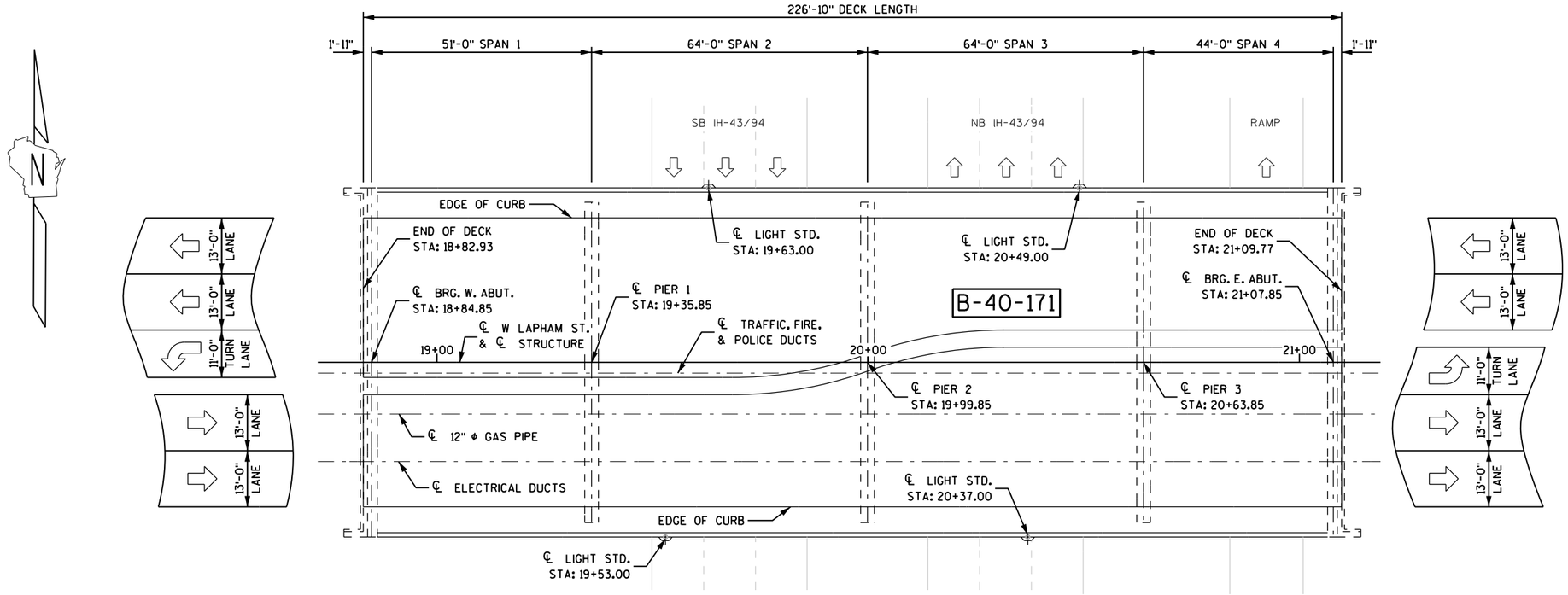
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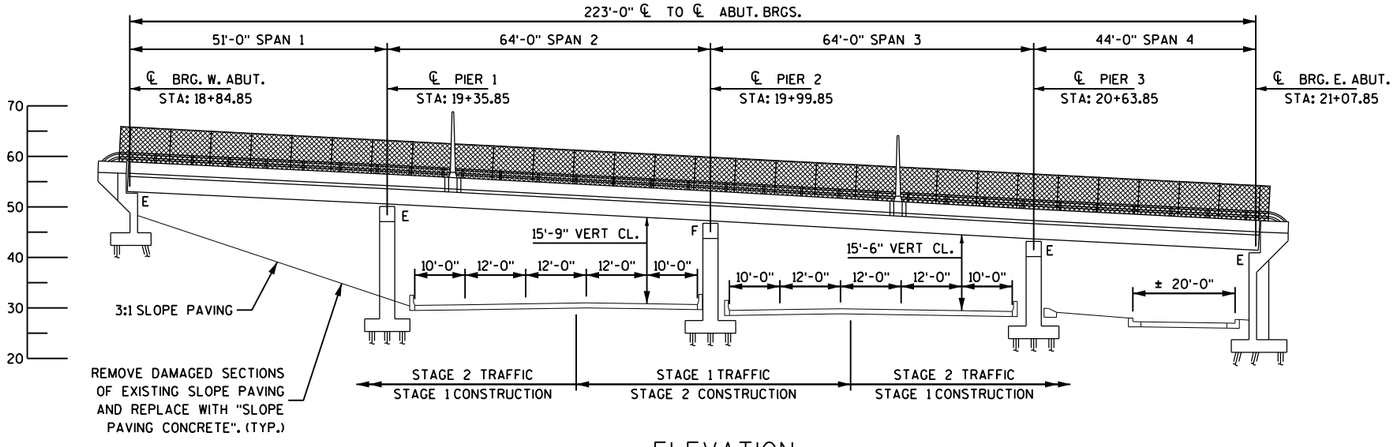
PLOT DATE : 9/27/2012

PLOT SCALE : 7.50000 ' / in.

STATE PROJECT NUMBER
1228-26-70



PLAN B-40-171



ELEVATION
(LOOKING NORTH)



LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. CATHODIC PROTECTION DETAILS

NO.	DATE	REVISION	BY

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-171

W. LAPHAM ST. OVER IH-43/94

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY MJH	PLANS CK'D. SJM

PLAN & ELEVATION

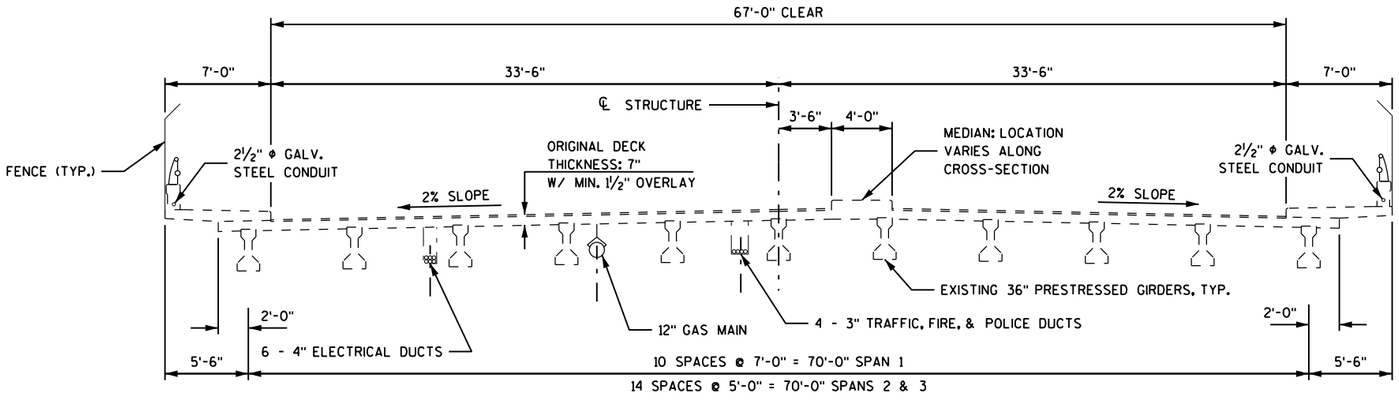
SHEET 1 OF 3
512

8

8

FILE NAME :01_B_40_171_ReDeck.dgn
PLOT DATE :9/28/2012 10:05:01 AM PLOT BY : Nicholas Hornyak v8i DRV :Pdf_bw_HS_739Lolt PEN :CEL_TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



CROSS SECTION THRU ROADWAY

(LOOKING WEST)

TOTAL ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	W. ABUT	PIER 1	PIER 2	PIER 3	E. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	5	-	-	-	-	5
509.1500	CONCRETE SURFACE REPAIR	SF	21	43	61	36	-	161
604.0400	SLOPE PAVING CONCRETE	SY	5	-	-	-	-	5
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	16	14	13	20	63
SPV.0165.01	CATHODIC PROTECTION	SF	-	23	56	35	-	114

TRAFFIC DATA

W. LAPHAM ST.
A.D.T. (2012) = 7,636

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-27
OPERATIONAL RATING	HS-47
MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

THE PROPOSED WORK INCLUDES CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS AND ON THE EAST ABUTMENT.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-171

DRAWN BY MJH | PLANS CK'D. SJM

CROSS SECTION & QUANTITIES

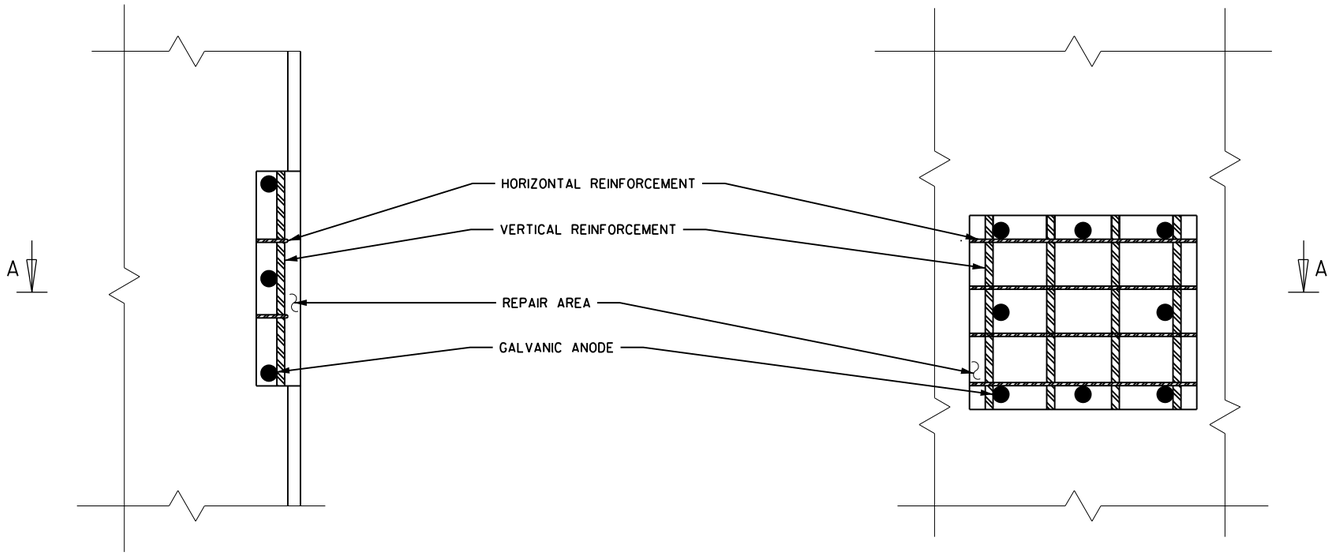
SHEET 2 OF 3

513

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PLOT DATE :9/28/2012 12:05:02 AM PLOT BY : Nicholas Hornyak-v8i DRV :Pdf.bw.HS.739Lblt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70

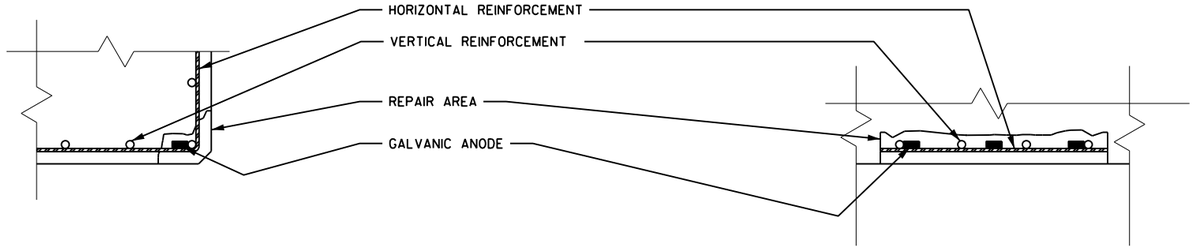


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-171

DRAWN BY	MJH	PLANS CK'D.	SJM

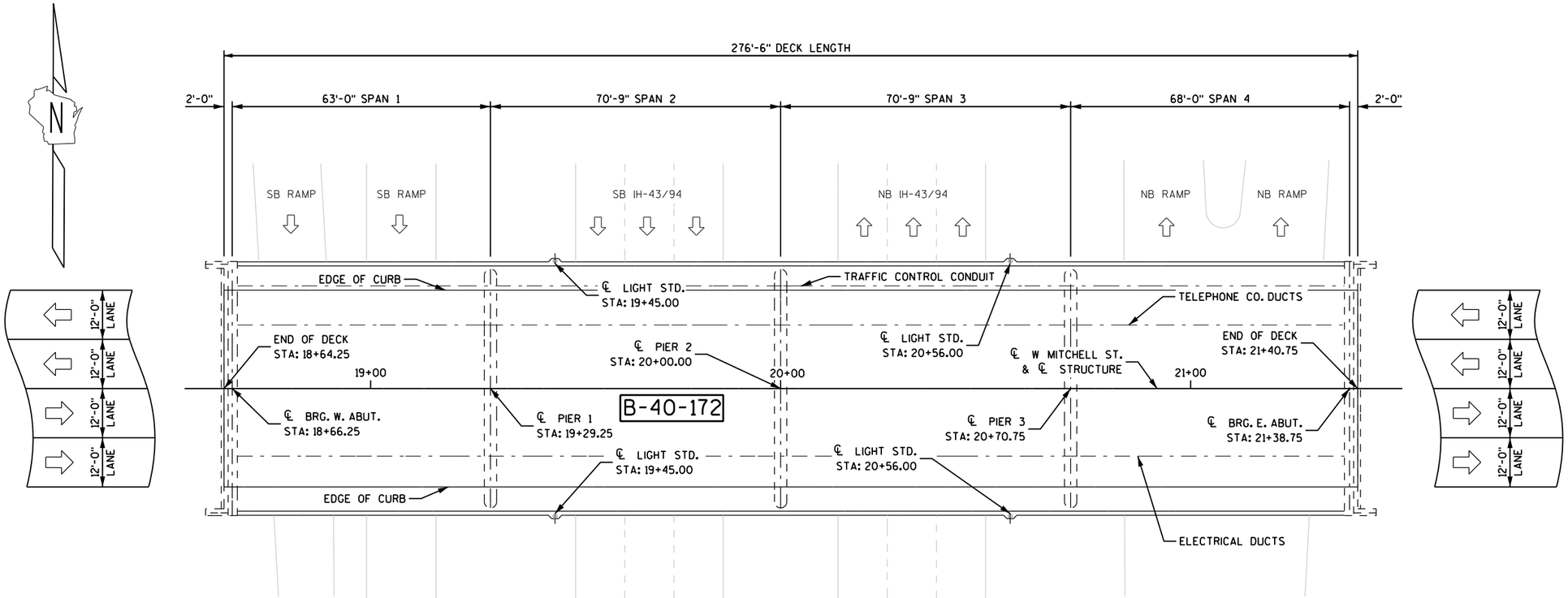
CATHODIC PROTECTION DETAILS

SHEET 3 OF 3

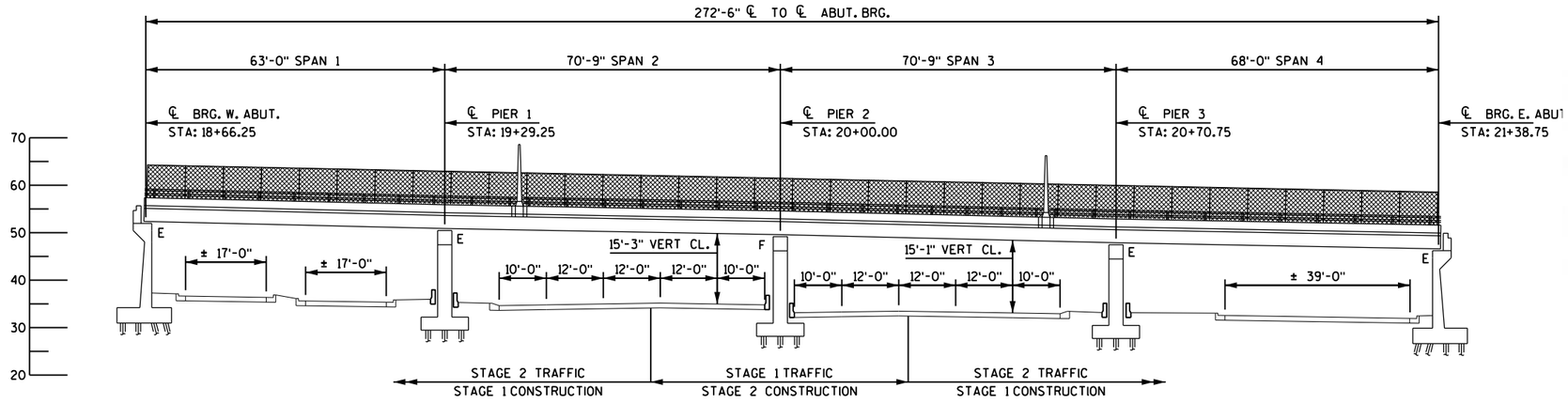
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STATE PROJECT NUMBER
1228-26-70



PLAN B-40-172



ELEVATION
(LOOKING NORTH)

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. CATHODIC PROTECTION DETAILS

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-172

W. MITCHELL ST. OVER IH-43/94

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY MJH	PLANS CK'D. SJM

PLAN & ELEVATION

SHEET 1 OF 3

515

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
10/01/2012

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

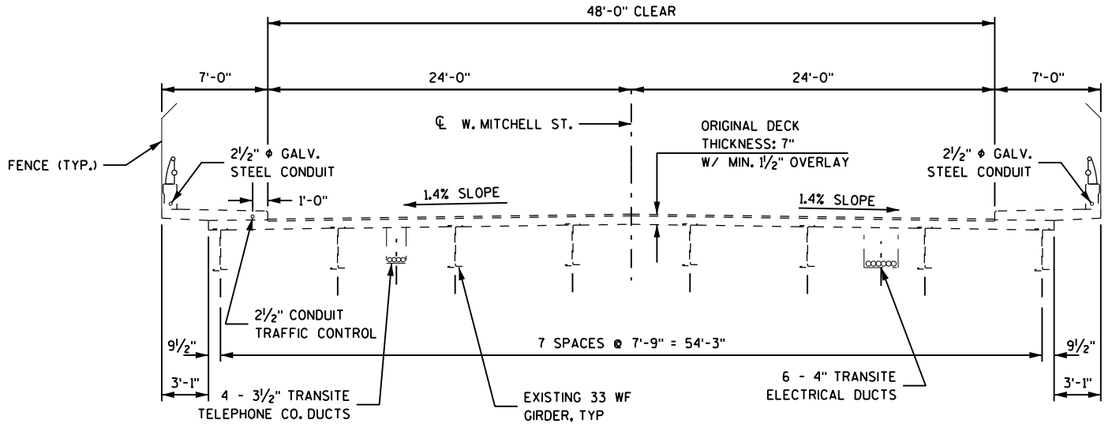
CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

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FILE NAME :01_B_40_172_ReDeck.dgn
PLOT DATE :9/28/2012 10:05:41 AM PLOT BY : Nicholas Hornyak@B DRV :Pdf_bw_HS_739Lblt PEN :CEL_TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	W. ABUT	PIER 1	PIER 2	PIER 3	E. ABUT	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	-	42	25	31	22	120
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	14	11	11	10	14	60
SPV.0165.01	CATHODIC PROTECTION	SF	-	39	22	23	22	106

TRAFFIC DATA

W. MITCHELL ST.
A.D.T. (2012) = 4,413

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-16
OPERATIONAL RATING	HS-27
MAXIMUM STANDARD PERMIT VEHICLE LOAD	220 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

THE PROPOSED WORK INCLUDES CONCRETE SURFACE REPAIR AND CATHODIC PROTECTION.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS AND ABUTMENTS.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-172

DRAWN BY MJH | PLANS CK'D. SJM

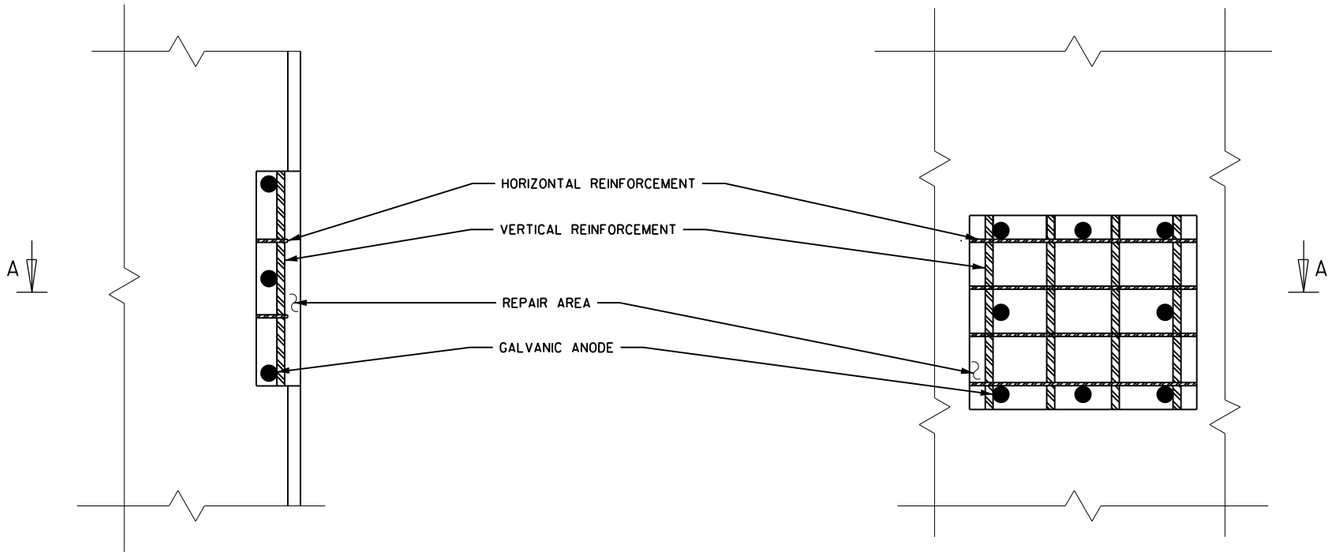
CROSS SECTION & QUANTITIES

SHEET 2 OF 3

516

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STATE PROJECT NUMBER
1228-26-70

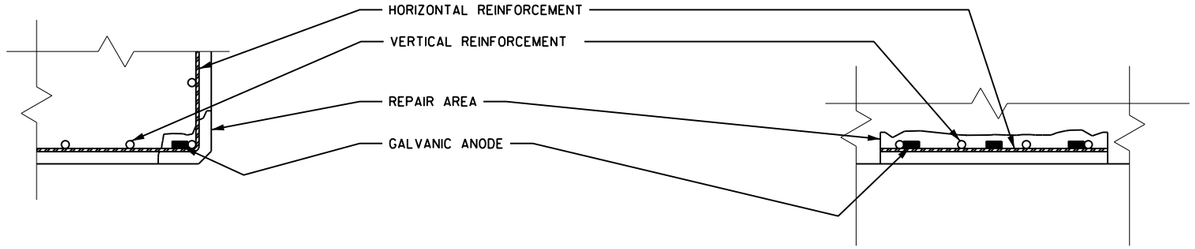


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-172

DRAWN BY	MJH	PLANS CK'D.	SJM

CATHODIC PROTECTION DETAILS

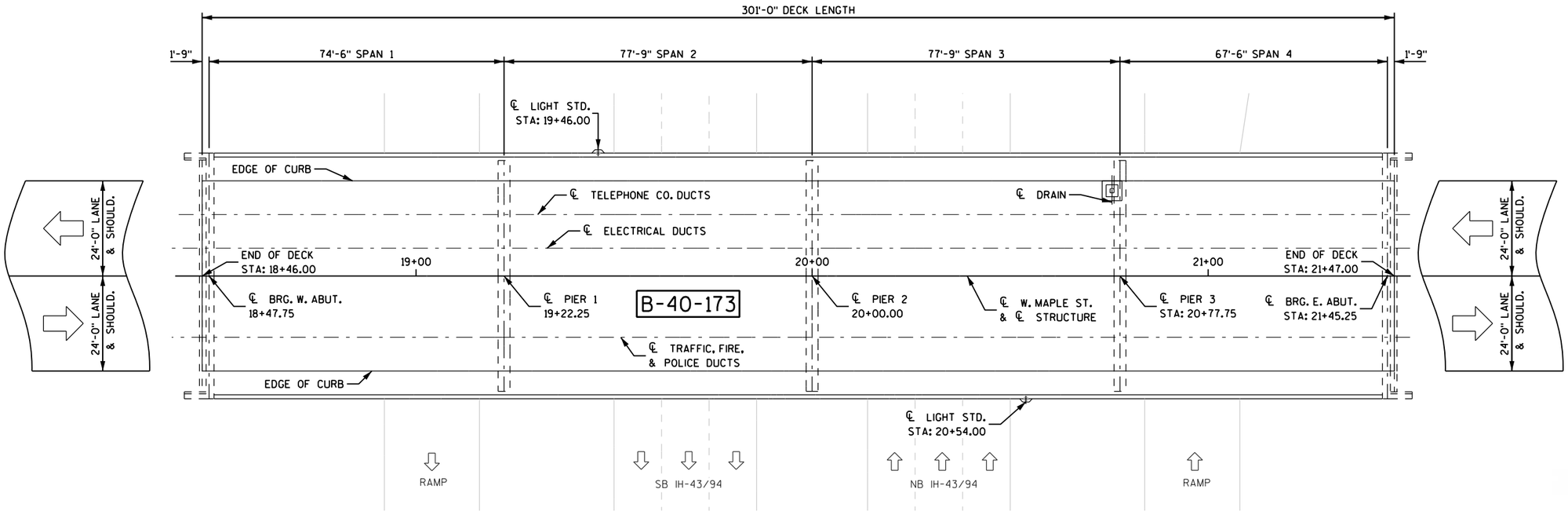
SHEET 3 OF 3

517

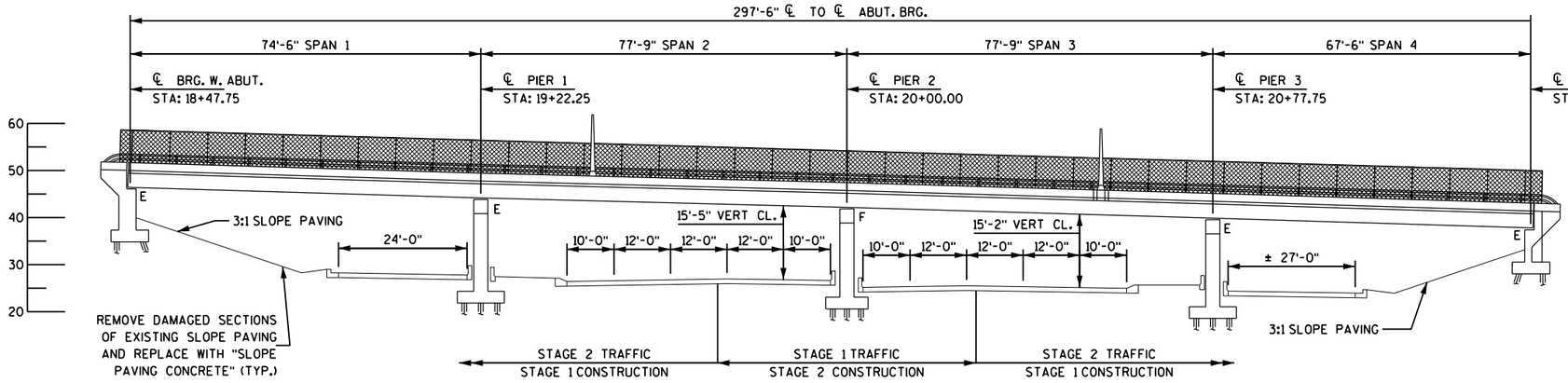
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STATE PROJECT NUMBER

1228-26-70



PLAN B-40-173



ELEVATION
(LOOKING NORTH)

STEVEN J. MILLER 36937 MILWAUKEE, WI
PROFESSIONAL ENGINEER
WISCONSIN
Steven J. Miller
10/01/2012

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. CATHODIC PROTECTION DETAILS

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-173

W. MAPLE ST. OVER IH-43/94

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY MJH	PLANS CK'D. SJM

PLAN & ELEVATION

SHEET 1 OF 3

518

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

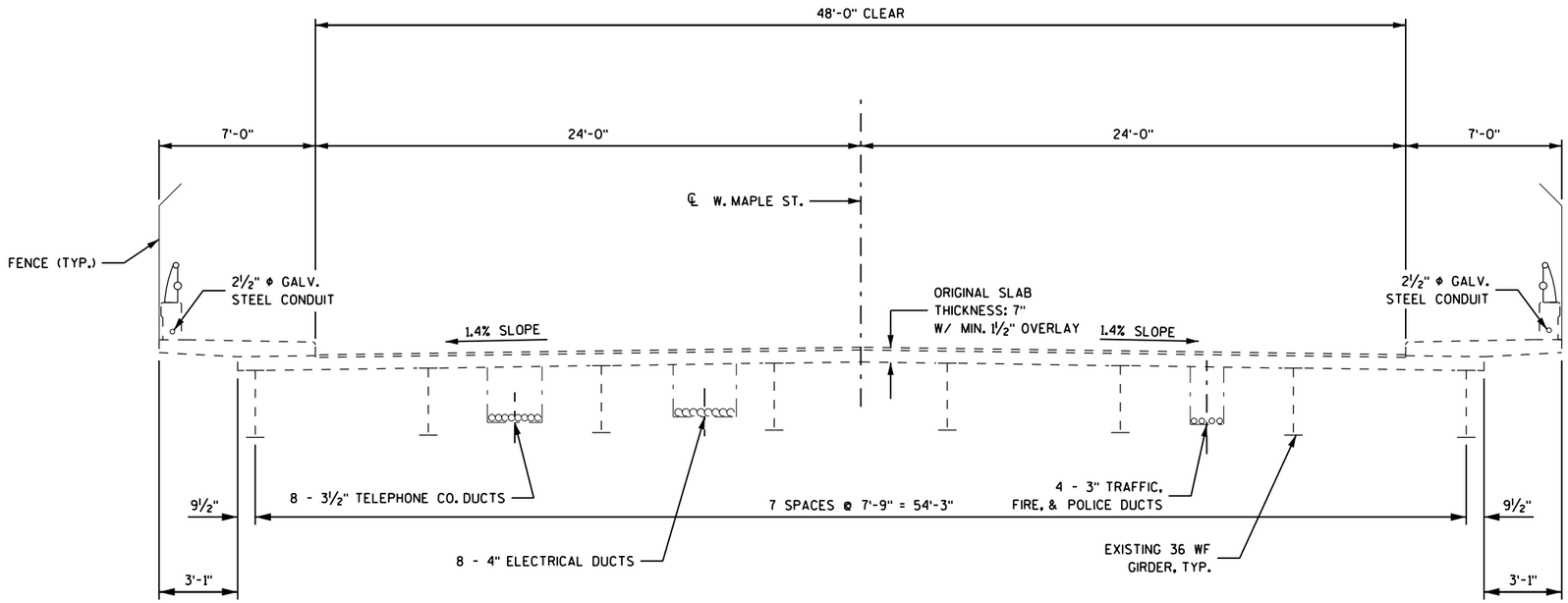
CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

8

8

FILE NAME :01.B.40.173.ReDeck.dgn
PLOT DATE :9/28/2012 10:06:40 AM PLOT BY : Nicholas Hornyak+BI DRV :Pdf.bw,HS.739Lblt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	W. ABUT	PIER 1	PIER 2	PIER 3	E. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	5	-	-	-	5	10
509.1500	CONCRETE SURFACE REPAIR	SF	6	34	28	17	14	99
604.0400	SLOPE PAVING CONCRETE	SY	5	-	-	-	5	10
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	11	11	11	-	33
SPV.0165.01	CATHODIC PROTECTION	SF	-	32	26	17	10	85

TRAFFIC DATA

W. MAPLE ST.
A.D.T. (2012) = 1,415

DESIGN DATA

LIVE LOAD;

INVENTORY RATING	HS-17
OPERATIONAL RATING	HS-29
MAXIMUM STANDARD PERMIT VEHICLE LOAD	210 KIPS

ULTIMATE DESIGN STRESSES;

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

THE PROPOSED WORK INCLUDES CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-173

DRAWN BY MJH | PLANS CK'D. SJM

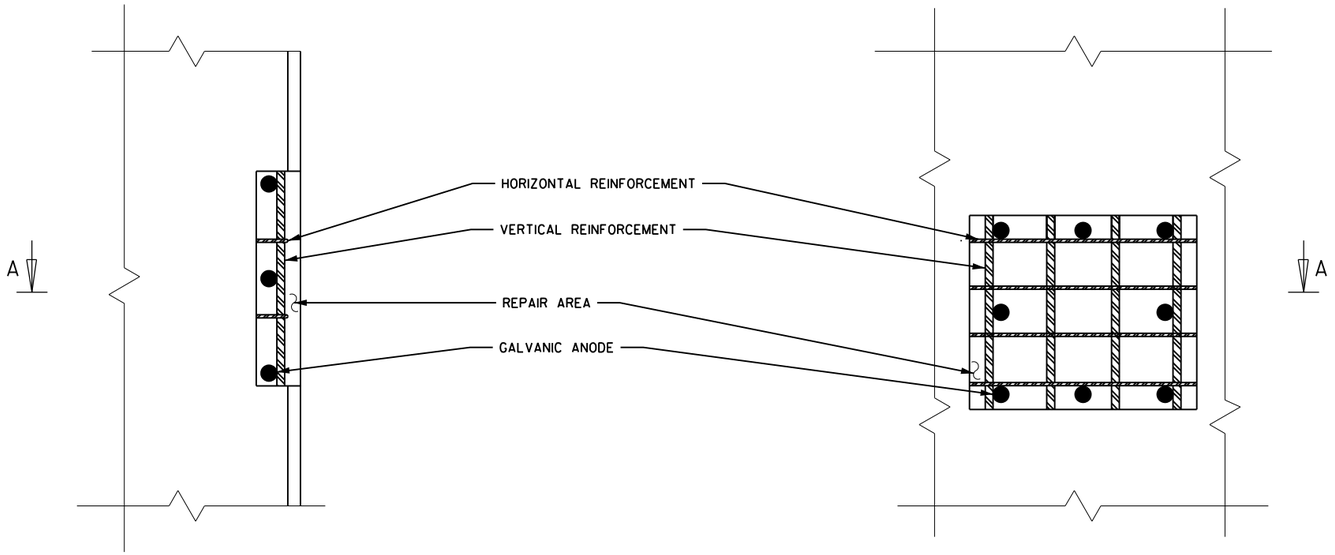
CROSS SECTION & QUANTITIES

SHEET 2 OF 3
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STATE PROJECT NUMBER

1228-26-70

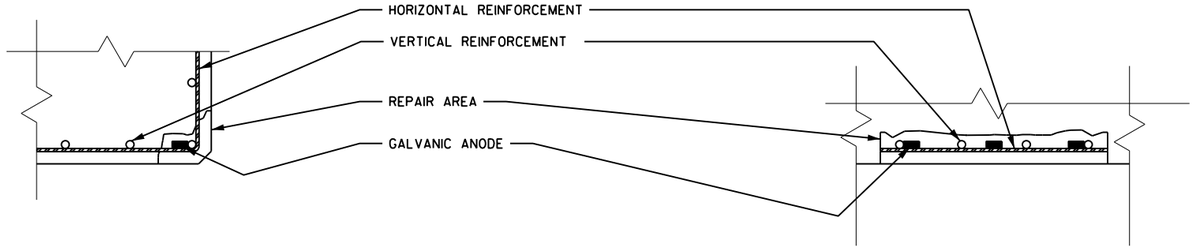


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-173

DRAWN BY MJH | PLANS CK'D. SJM

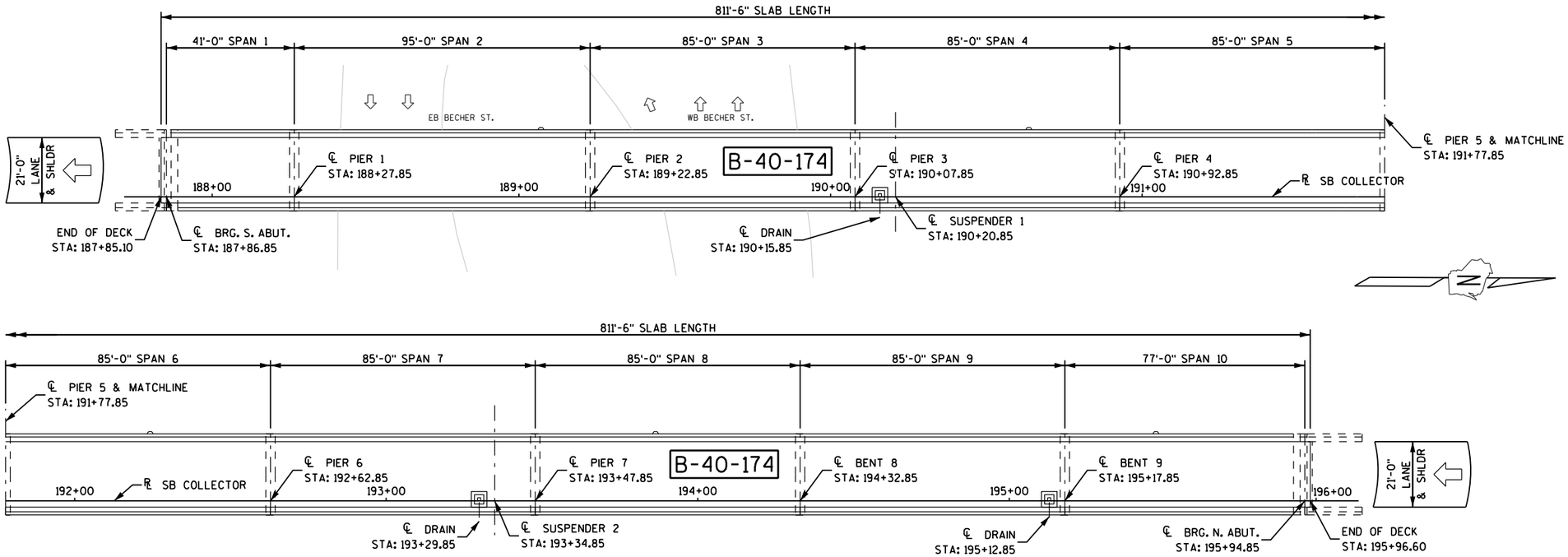
CATHODIC PROTECTION DETAILS

SHEET 3 OF 3

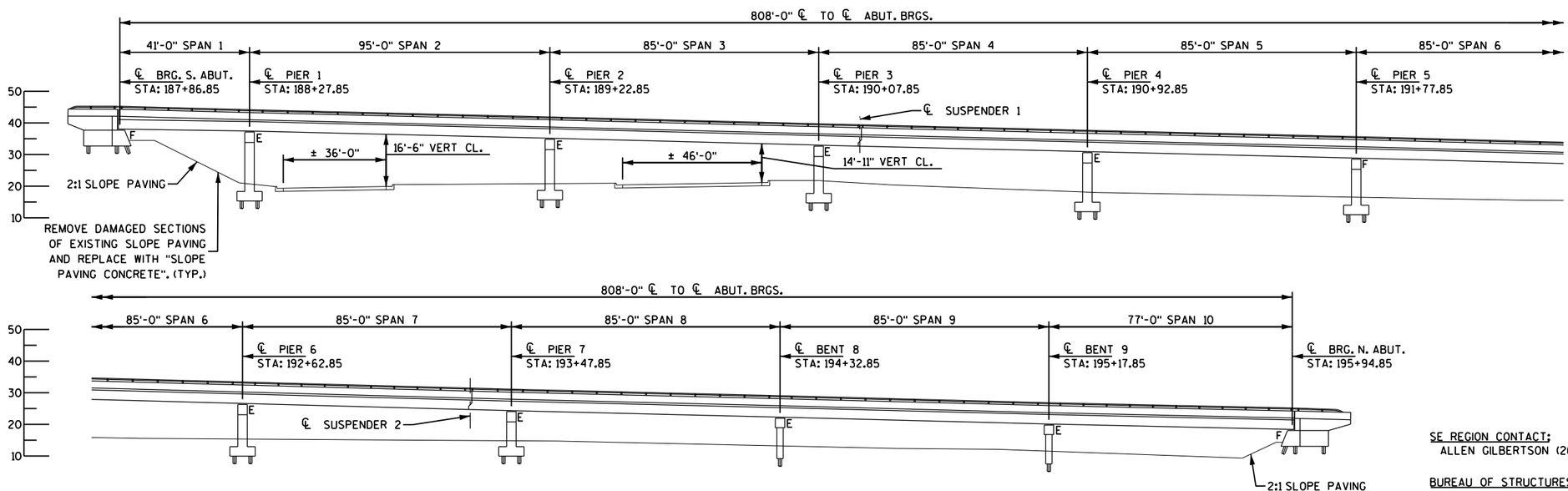
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STATE PROJECT NUMBER
1228-26-70



PLAN B-40-174



ELEVATION
(LOOKING WEST)

STEVEN J. MILLER 36937 MILWAUKEE, WI
PROFESSIONAL ENGINEER
WISCONSIN
Steven J. Miller
10/01/2012

LIST OF DRAWINGS

1. PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. CATHODIC PROTECTION DETAILS

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK — CHIEF STRUCTURES DESIGN ENGINEER — 11/02/12 DATE

STRUCTURE B-40-174

SB COLLECTOR OVER W. BECHER ST.

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY MJH	PLANS CK'D. SJM

PLAN & ELEVATION

SHEET 1 OF 3
521

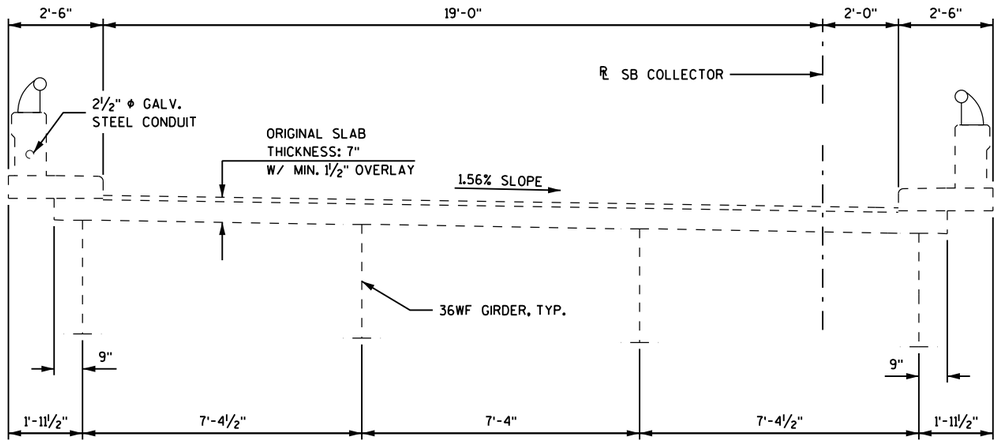
SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

FILE NAME :01_B_40_174_ReDeck.dgn
PLOT DATE :9/28/2012 10:07:32 AM PLOT BY : Nicholas Hornyak-VBI DRV :Pdf_bw_HS_7391.tbl PEN :CEL_TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

TRAFFIC DATA

SB CONNECTOR
A.D.T. (2010) = 7,400

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-20
OPERATIONAL RATING	HS-33
MAXIMUM STANDARD PERMIT VEHICLE LOAD	205 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS AND ABUTMENTS.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

8

TOTAL ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	S. ABUT	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	BENT 8	BENT 9	N. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	5	-	-	-	-	-	-	-	-	-	5	10
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	2	3	7	7	1	1	23	12	10	-	66
517.1800.S.04	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-174	LS	1	-	-	-	-	-	-	-	-	-	-	-	1
517.4500.S.04	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-40-174	LS	1	-	-	-	-	-	-	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EA	1	-	-	-	-	-	-	-	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	5	-	-	-	-	-	-	-	-	-	5	10
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	2	5	5	5	5	5	4	4	4	4	2	45
SPV.0165.01	CATHODIC PROTECTION	SF	-	-	-	3	7	7	-	-	21	11	10	-	59

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-174

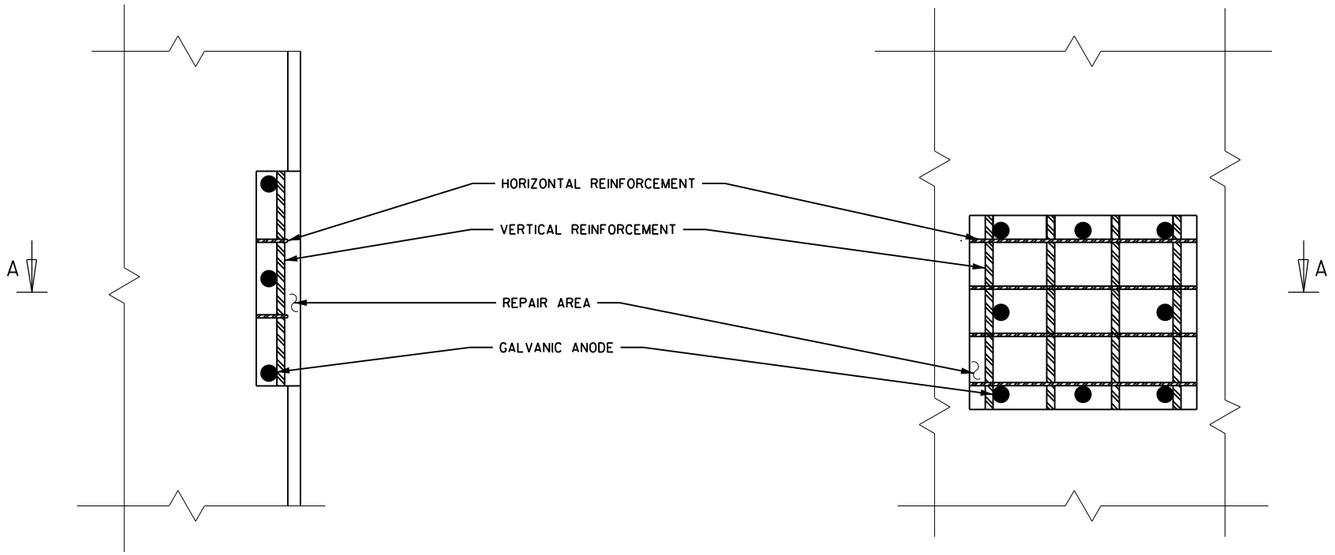
DRAWN BY MJH | PLANS CK'D. SJM

CROSS SECTION & QUANTITIES

SHEET 2 OF 3
522

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STATE PROJECT NUMBER
1228-26-70

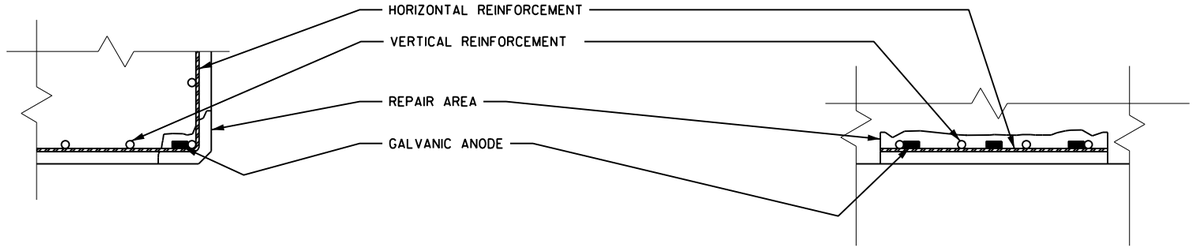


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-174

DRAWN BY	MJH	PLANS CK'D.	SJM

CATHODIC PROTECTION DETAILS

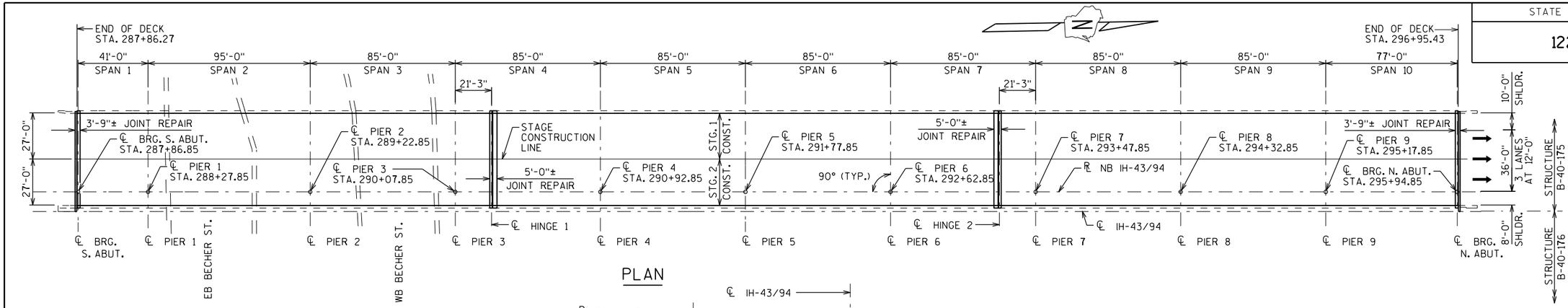
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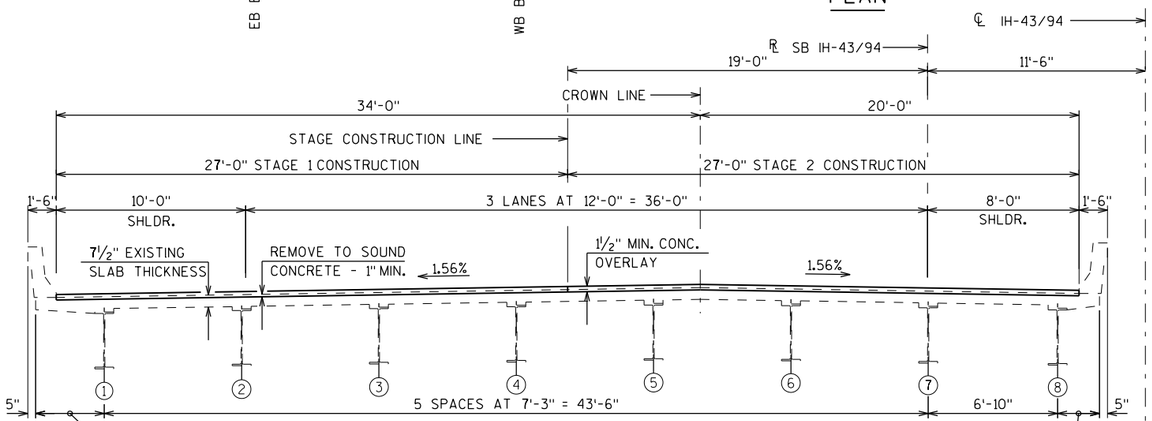
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STATE PROJECT NUMBER

1228-26-70



PLAN



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
502.0100	CONCRETE MASONRY BRIDGES	CY	3.5
502.3200	PROTECTIVE SURFACE TREATMENT	SY	4,883
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	46
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	9,630
505.0904	BAR COUPLERS NO. 4	EACH	16
505.0905	BAR COUPLERS NO. 5	EACH	64
505.0906	BAR COUPLERS NO. 6	EACH	26
509.0301	PREPARATION DECKS TYPE 1	SY	13
509.0302	PREPARATION DECKS TYPE 2	SY	7
509.0500	CLEANING DECKS	SY	4,764
509.1000	JOINT REPAIR	SY	111
509.1500	CONCRETE SURFACE REPAIR	SF	22
509.2000	FULL-DEPTH DECK REPAIR	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	283
514.0900	ADJUSTING FLOOR DRAINS	EACH	6
517.1800.S.05	STRUCTURAL REPAINTING RECYCLED ABRASIVE B-40-175	LS	1
517.4500.S.05	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-175	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	88
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	56
SPV.0105.04	INSTALL EXPANSION DEVICE B-40-175	LS	1
SPV.0105.17	INSTALL EXPANSION DEVICE MODULAR B-40-175	LS	1
SPV.0165.01	CATHODIC PROTECTION	SF	22

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. UNDERDECK INSPECTION RESULTS
4. INFRARED INSPECTION
5. DECK REPAIR AREAS
6. STRIP SEAL EXPANSION DEVICE
7. STRIP SEAL EXPANSION DEVICE COVER PLATES
8. MODULAR EXPANSION DEVICE
9. MODULAR EXPANSION DEVICE COVER PLATES
10. CATHODIC PROTECTION DETAILS
11. BAR SPLICER AND COUPLER DETAILS

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-15.8
OPERATIONAL RATING: HS-26.2
MAXIMUM STANDARD PERMIT VEHICLE LOAD=186.2 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SUPERSTRUCTURE f'c = 4,000 psi
BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 psi

JOINT REPAIR NOTES:

SEE JOINT DETAILS FOR EXISTING REINFORCEMENT TO BE PRESERVED.

EXISTING PARAPET IN JOINT REPAIR LIMITS SHALL BE REMOVED. COST INCLUDED WITH JOINT REPAIR.

ANY CONCRETE REMOVAL AND REPLACEMENT BEYOND THE REMOVAL LIMITS OR THE LIMITS SET BY THE ENGINEER WILL SHALL BE AT THE CONTRACTOR'S EXPENSE.

SUBSTRUCTURE NOTES:

COAT ALL EXPOSED SURFACES OF ALL PIERS AND ABUTMENTS WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

TRAFFIC DATA

I.H. 43/94
A.D.T. (2040) = 112,000
D.H.V. (2040) = 10,976
R.D.S. = 60 MPH

GENERAL NOTES

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, JOINT REPAIR, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND CLEANING AND PAINTING BEARINGS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

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

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER. EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES AND MODULAR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES AND MODULAR EXPANSION DEVICES ARE INCIDENTAL TO THE JOINT REPAIR ITEM.

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

INSTALLATION OF EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS, HARDWARE AND ANY GROUTING AND WELDING SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "INSTALL EXPANSION DEVICE B-40-175" OR "INSTALL EXPANSION DEVICE MODULAR B-40-175."

THE FIRST DIGIT OF A THREE DIGIT BARMARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "FULL-DEPTH DECK REPAIR", AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2."

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS"

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED

ALL ITEMS ARE CATEGORY 70.



SE REGION CONTACT:
AL GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MICHAEL DELEMONT (414) 831-4157

NO.	DATE	REVISION	BY

URS
342 North Water Street
Seventh Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-175

SB IH-43/94 OVER BECHER STREET

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	REHABILITATION		N/A
DESIGNED BY	AMK	DESIGN CK'D.	MAD
DRAWN BY	MRF	PLANS CK'D.	AMK

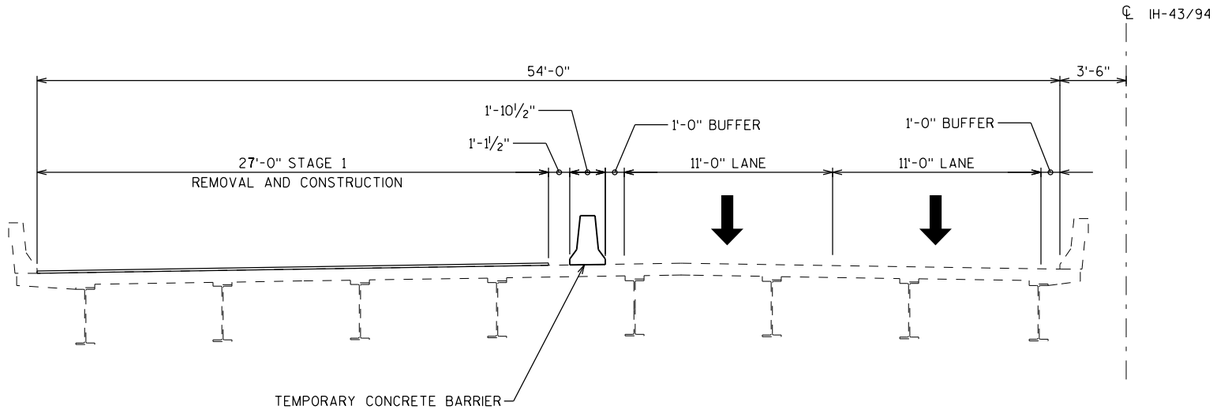
CONCRETE OVERLAY

SHEET 1 OF 11
524

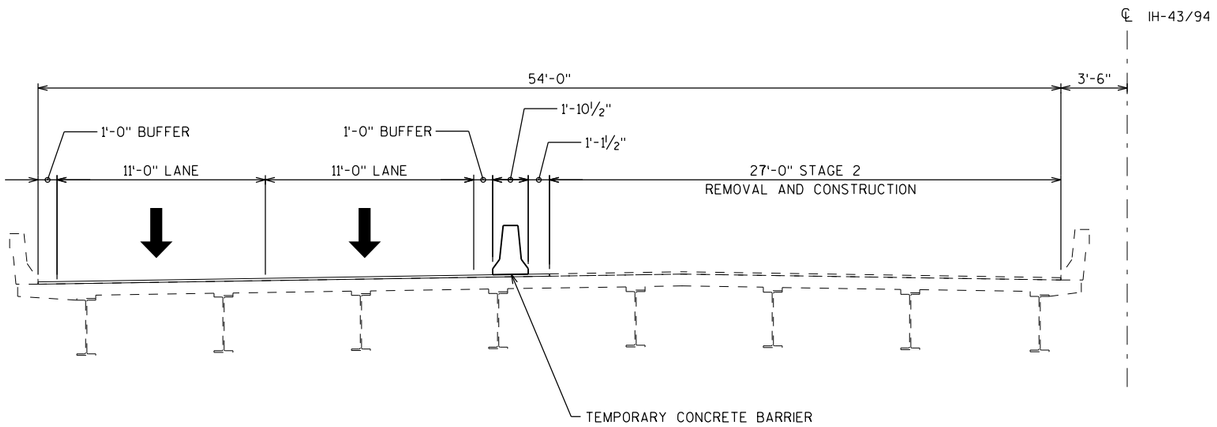
I.D.

DATE:

STATE PROJECT NUMBER
1228-26-70



STAGE 1 - CROSS SECTION THRU SB BRIDGE
(LOOKING NORTH)



STAGE 2 - CROSS SECTION THRU SB BRIDGE
(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY MRF | PLANS CK'D. AMK

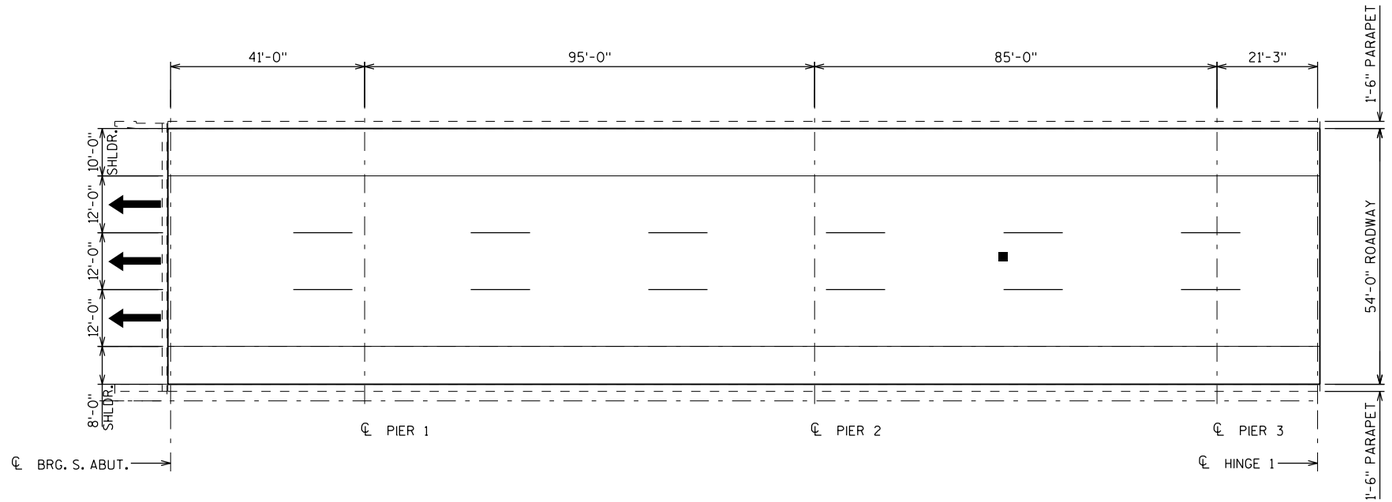
CONSTRUCTION STAGING

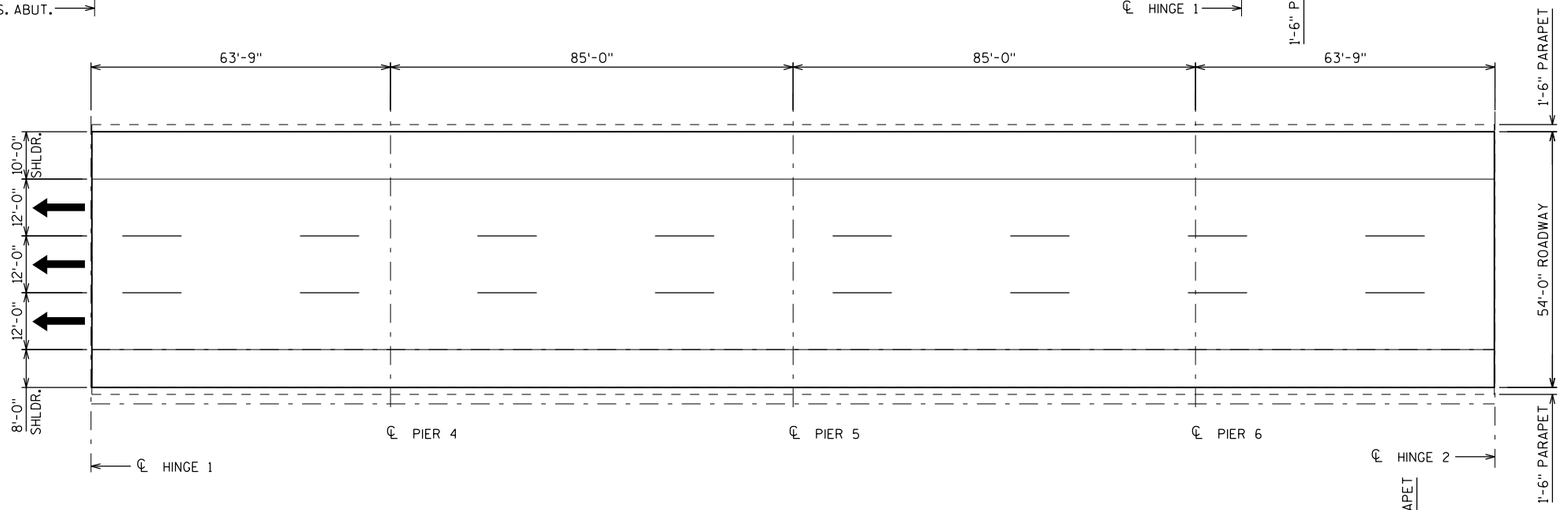
SHEET 2 OF 11
525

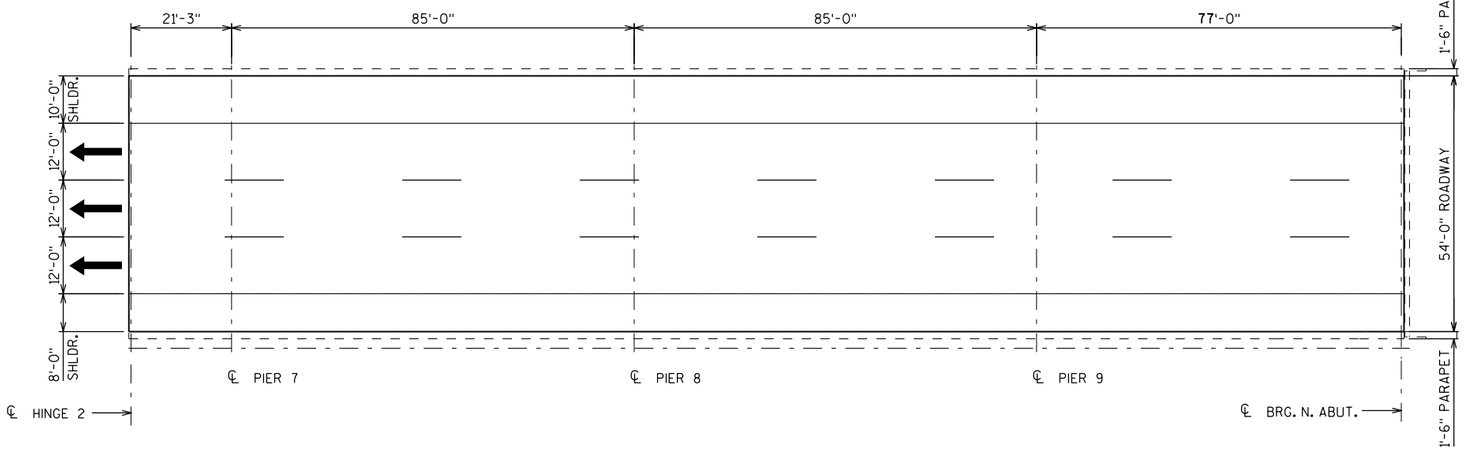
FOR REFERENCE ONLY

N
(ALL VIEWS)

STATE PROJECT NUMBER
1228-26-70







DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-175		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	46,255	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	4	< 0.1%	

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENSE BUT WERE TIGHT AND/OR HAIRLINE CRACKS.

INSPECTION DATE: 3/07/2012
INSPECTED BY: URS CORPORATION

SCALE, FEET 0 10 20
(ALL VIEWS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY MRF | PLANS CK'D. AMK

UNDERDECK INSPECTION RESULTS

SHEET 3 OF 11
526

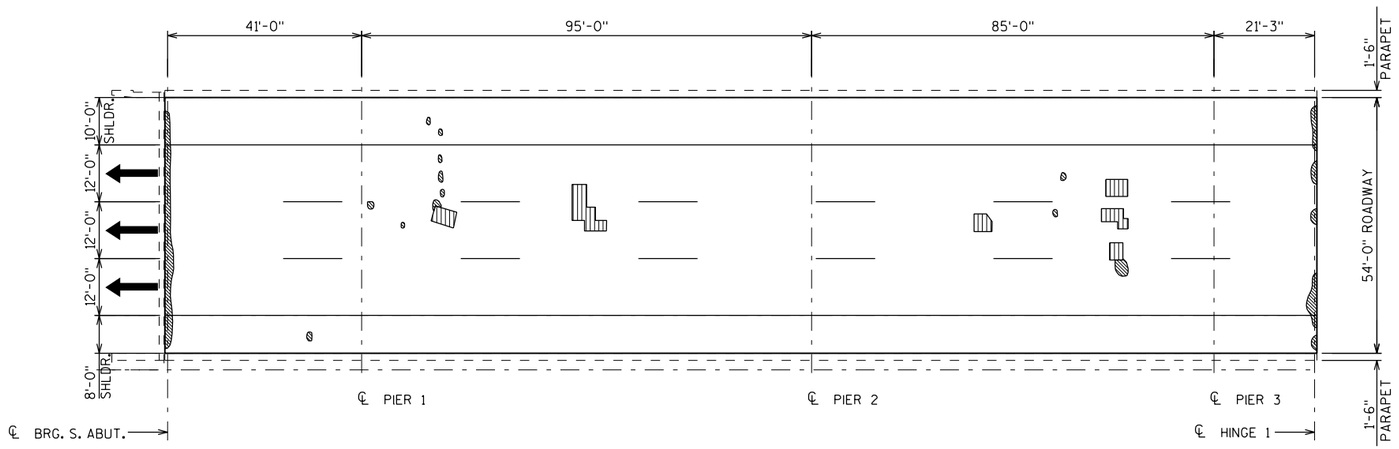
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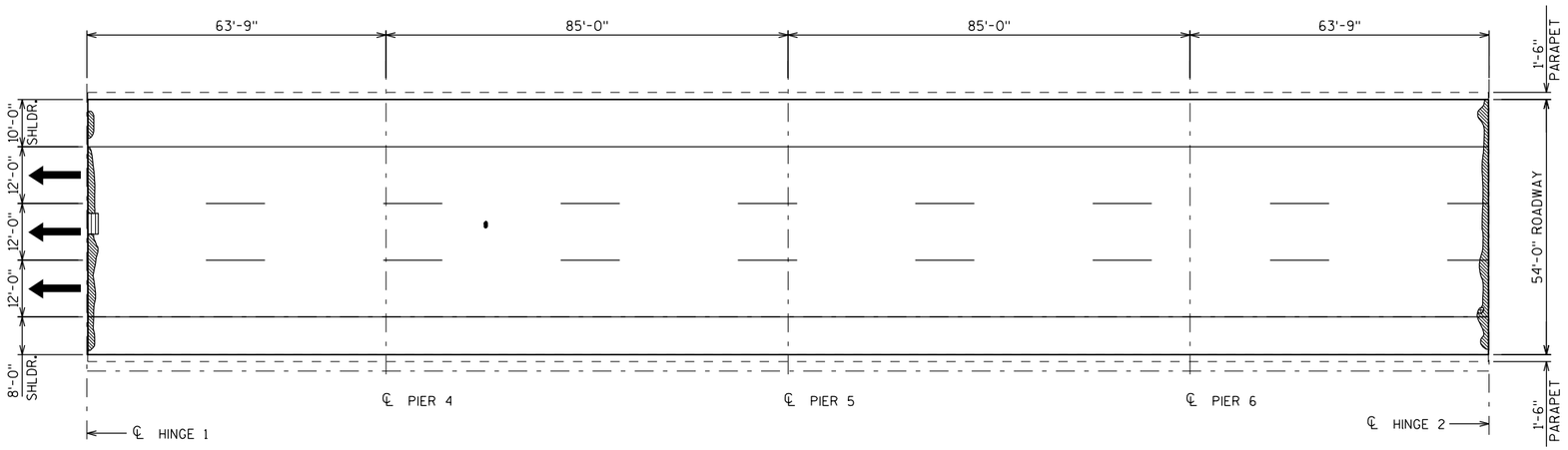
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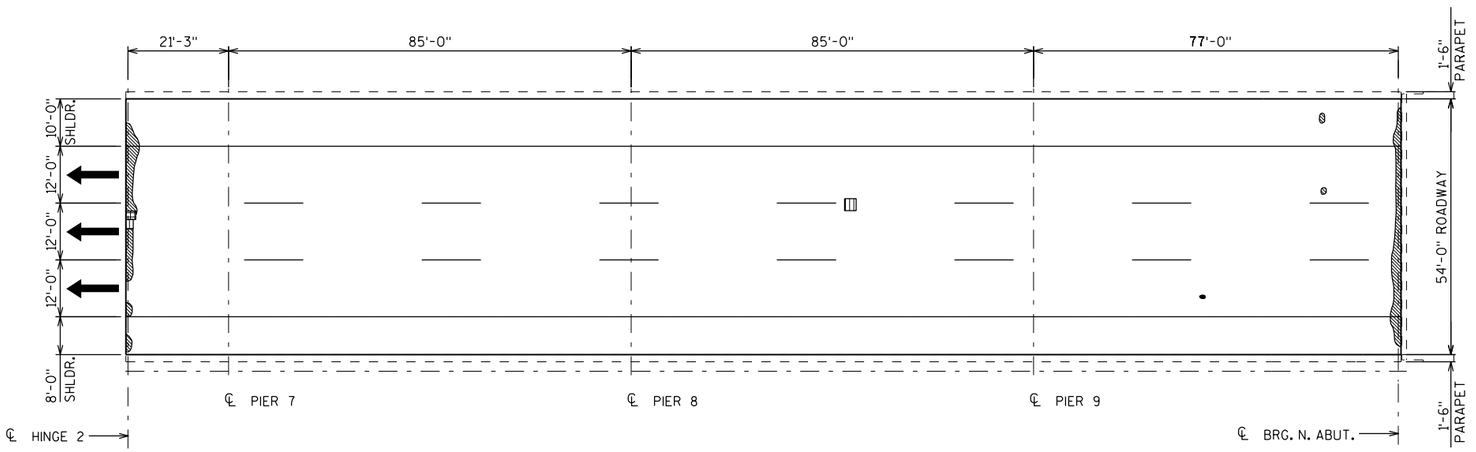
FOR REFERENCE ONLY

N (ALL VIEWS)

STATE PROJECT NUMBER
1228-26-70







DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-175	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$ft.^2$	43,821	
SHADE/DEBRIS	$ft.^2$	0	
DELAMINATION	$ft.^2$	389	0.9
SPALL	$ft.^2$	2	<0.1
DEBOND	$ft.^2$	N/A	N/A
ASPHALT PATCH	$ft.^2$	5	<0.1
CONCRETE PATCH	$ft.^2$	131	0.3

LEGEND

- DELAMINATION
- SPALL
- DEBOND
- ASPHALT PATCH
- CONCRETE PATCH
- SHADE/DEBRIS

SCALE, FEET 0 10 20
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY	DS	PLANS CK'D.	DU

INFRARED INSPECTION RESULTS

SHEET 4 OF 11
527

8

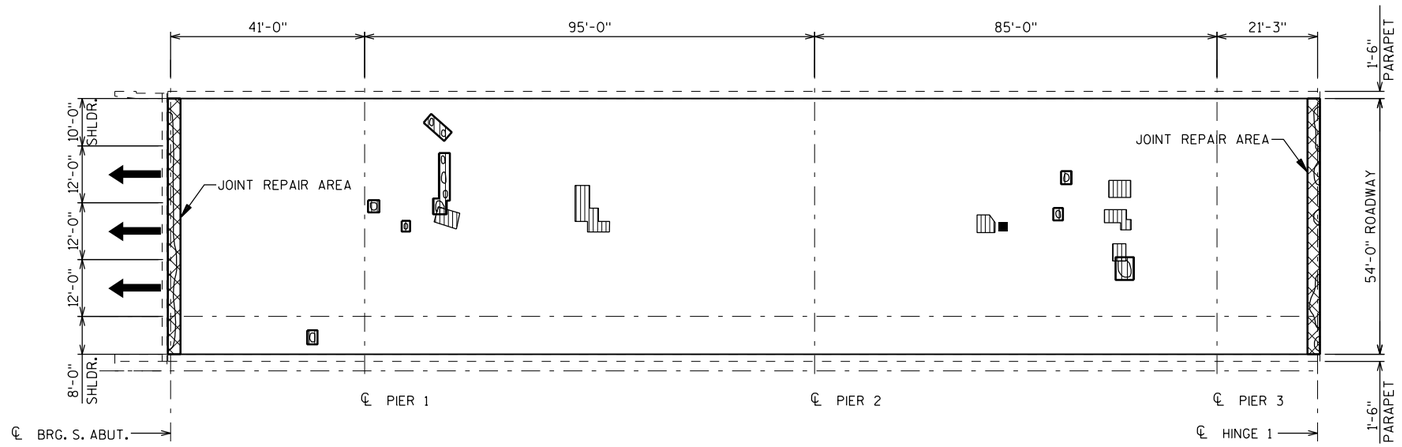
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FOR REFERENCE ONLY

N (ALL VIEWS)

STATE PROJECT NUMBER

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PROPOSED REHAB AREAS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-175	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$yd.^2$	5139	
SHADE/DEBRIS	$yd.^2$	0	
PREPARATION, DECKS, TYPE 1	$yd.^2$	13	0.3
PREPARATION, DECKS, TYPE 2 ✳	$yd.^2$	7	0.1
FULL DEPTH DECK REPAIR ✳	$yd.^2$	2	<0.1

✳ ESTIMATED

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

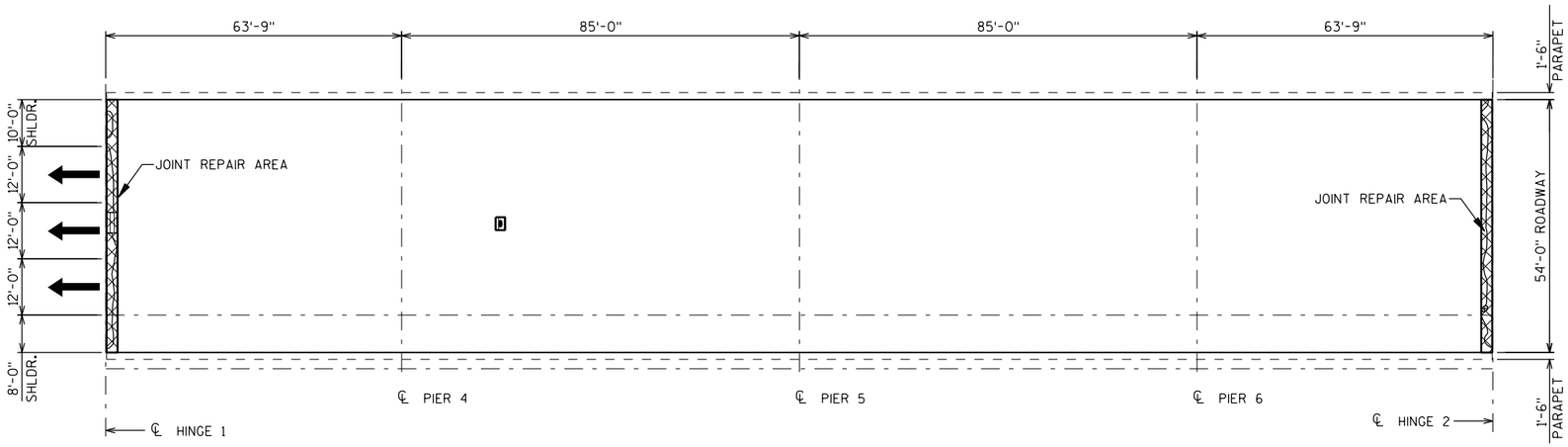
ASPHALT PATCH

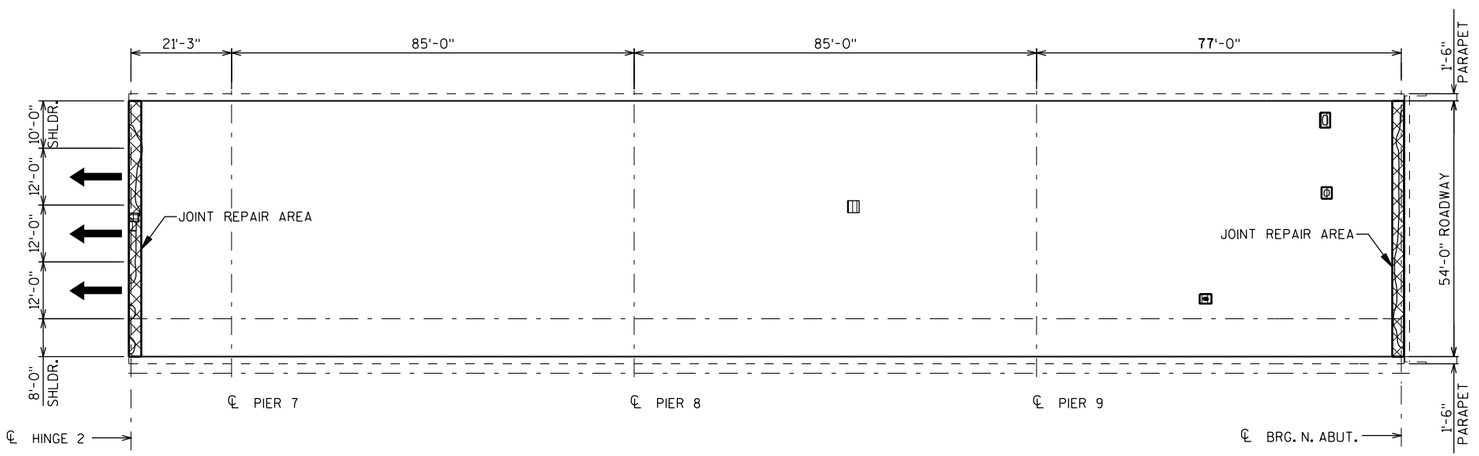
CONCRETE PATCH

NOTES:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.





SCALE, FEET 0 10 20 (ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY DS | PLANS CK'D. DU

DECK REPAIR AREAS

SHEET 5 OF 11

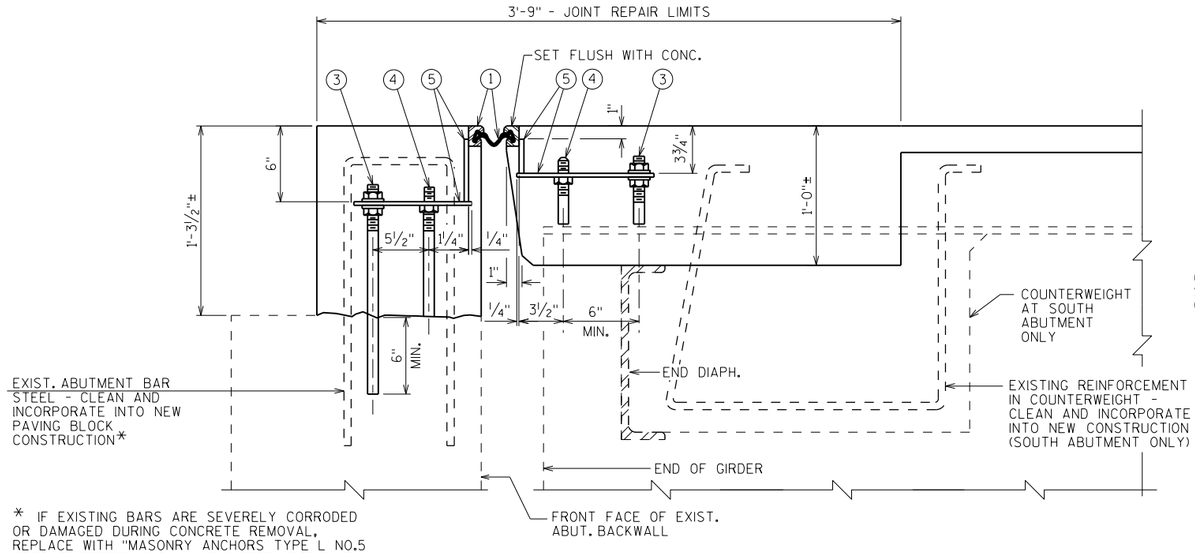
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STATE PROJECT NUMBER

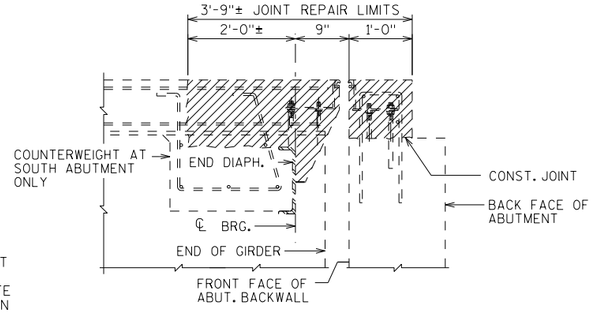
1228-26-70



* IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH "MASONRY ANCHORS TYPE L NO.5 BARS" EMBEDDED 1'-3" MIN. PULLOUT LOAD = 18 KIPS. PLACE 4" MIN. FROM EXISTING CONC FACE. USE L-SHAPED #5 COATED BARS.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

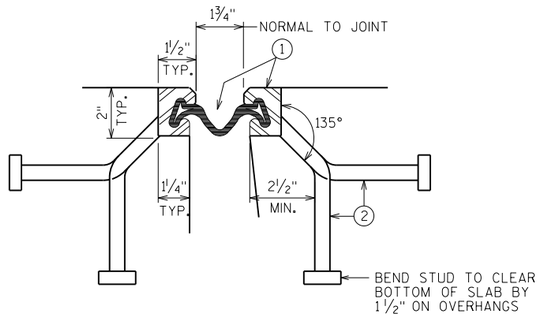


JOINT REPAIR AT ABUTMENTS

NORMAL TO ℄ SUBSTRUCTURE

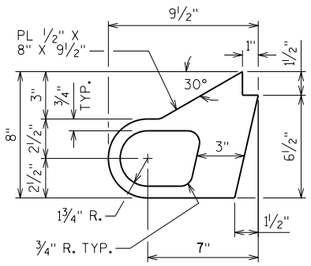
LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
2. STUDS 5/8"Φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. 1/2" THICK ANCHOR PLATE WITH 5/8"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. 3/4" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. 3/4"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE 3/8" X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. 3/4"Φ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. 3/4"Φ X 2 1/4" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

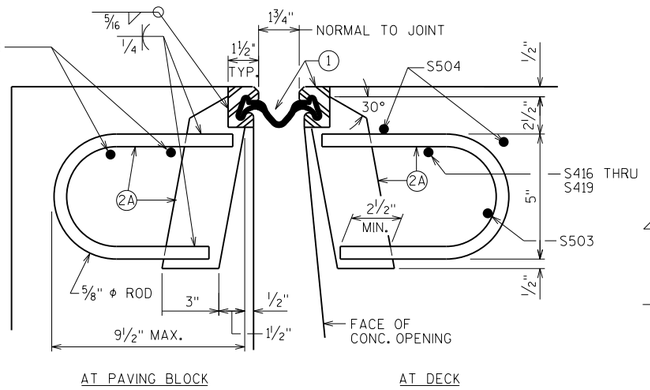


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

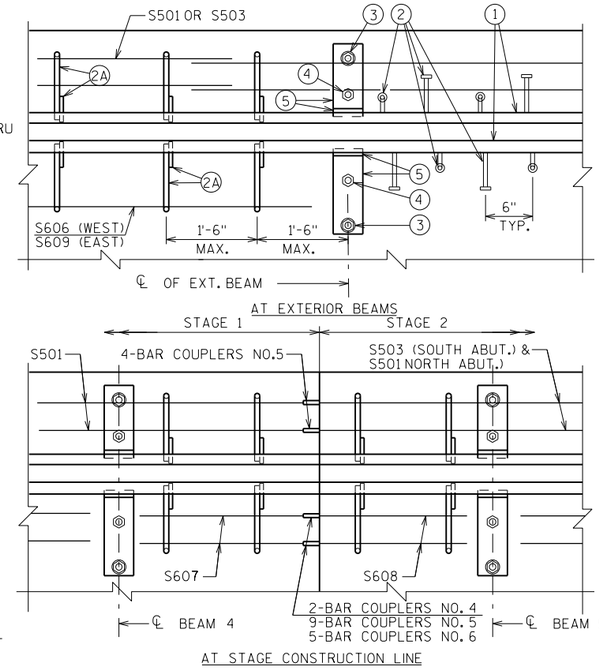


ALTERNATE STRIP SEAL ANCHOR



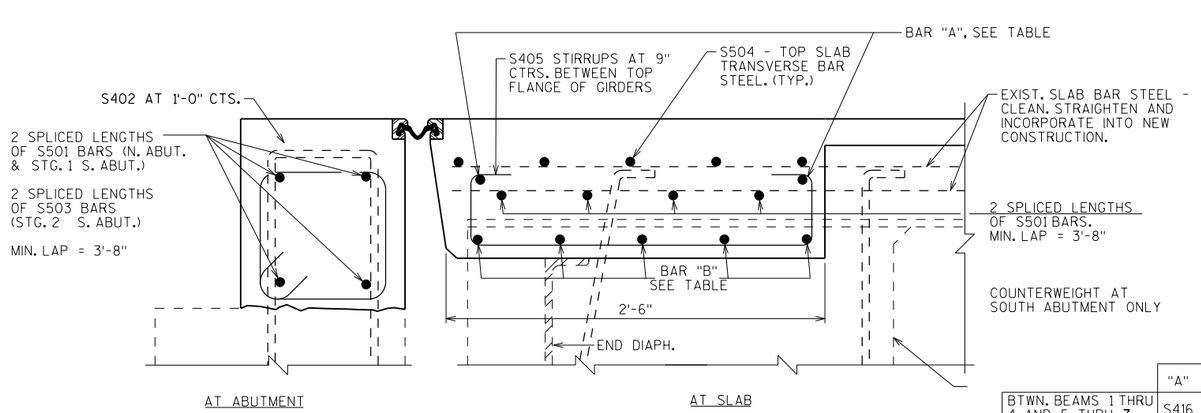
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



AT STAGE CONSTRUCTION LINE

PART PLAN



PAVING BLOCK AND EDGE BEAM REINFORCEMENT DETAILS AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

	"A"	"B"
BTWN. BEAMS 1 THRU 4 AND 5 THRU 7.	S416	S606
BTWN. BEAM 4 AND STG. CONST. LINE.	S417	S607
BTWN. STG. CONST. LINE AND BEAM 5	S418	S608
BTWN. BEAMS 7 AND 8	S419	S609

GENERAL NOTES

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

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

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

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

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-175".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY MA | PLANS CK'D. AMK

STRIP SEAL EXPANSION DEVICE

SHEET 6 OF 11

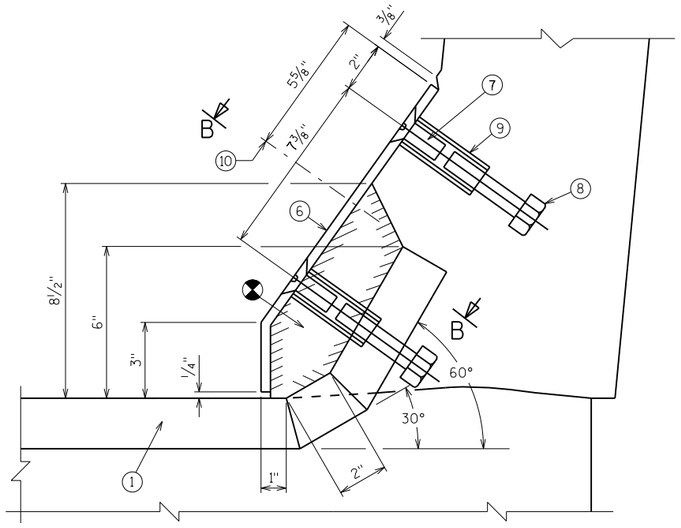
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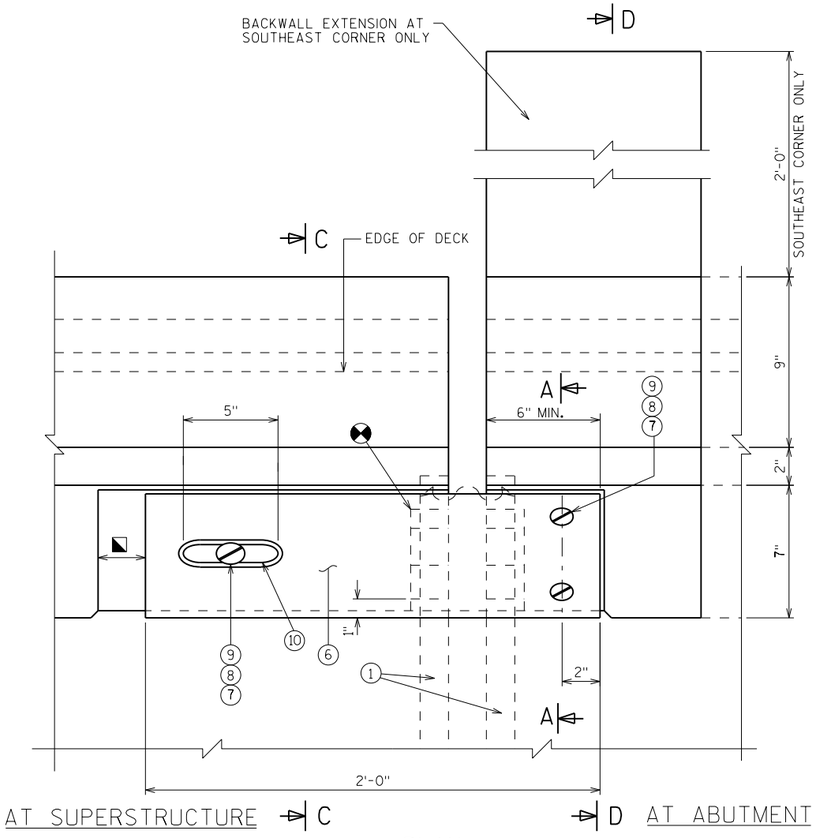
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STATE PROJECT NUMBER

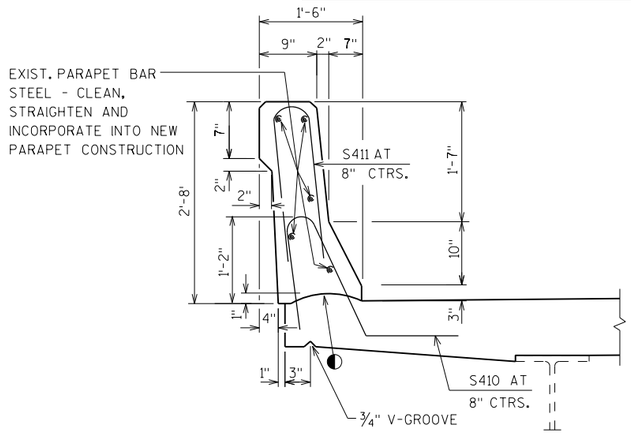
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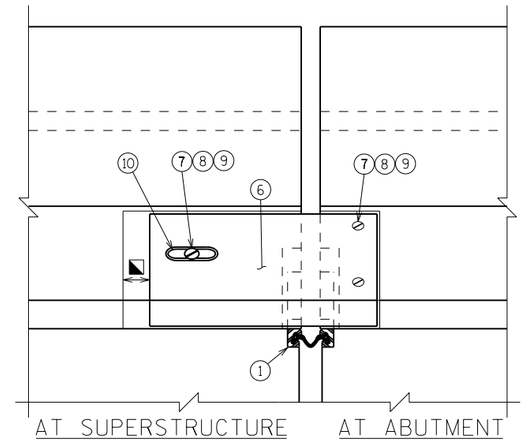
SECTION A-A



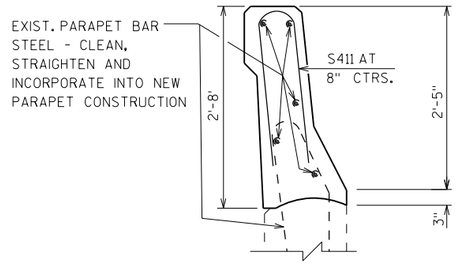
AT SUPERSTRUCTURE C D AT ABUTMENT



SECTION C-C

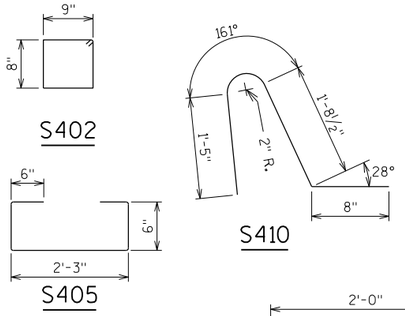


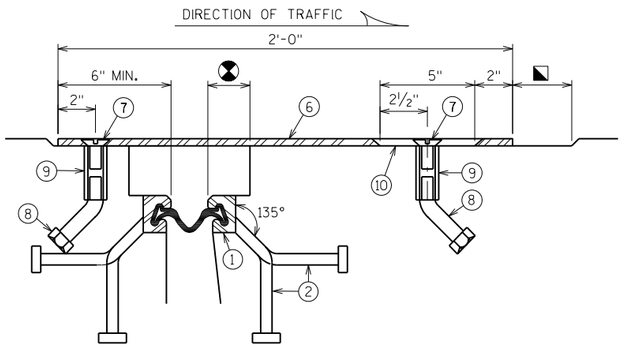
VIEW OF PARAPET PLATE FROM ROADWAY



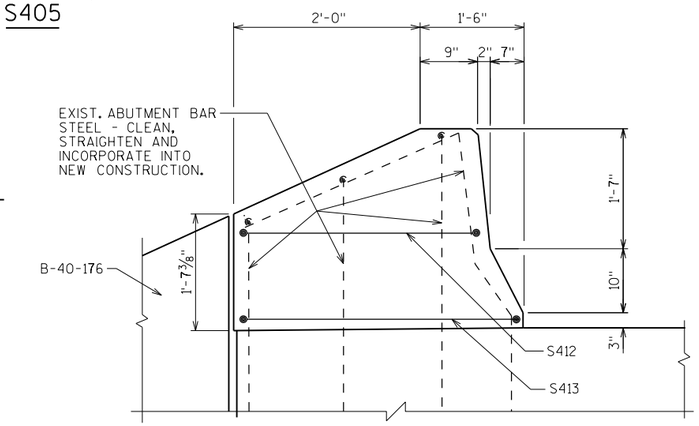
NOTE: SEE SECTION C-C FOR PARAPET DIMENSIONS NOT SHOWN

SECTION D-D AT SW, NE AND NW WINGWALLS





SECTION B-B



SECTION D-D - SE CORNER ABUTMENT

BILL OF BARS

BAR MARK	COAT	NO. REQ'D. STG. 1	NO. REQ'D. STG. 2	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	32	24	15'-9"			PAVING BLOCK AND DECK TRANSVERSE BOTTOM
S402	X	56	58	3'-2"	X		PAVING BLOCK
S503	X		8	16'-9"			S. ABUTMENT PAVING BLOCK
S504	X	10	10	27'-10"			DECK TRANSVERSE TOP
S405	X	62	62	3'-9"	X		EDGE BEAM
S606	X	30	20	6'-9"			EDGE BEAM BTWN BM'S 1 THRU 4 AND 5 THRU 7
S607	X	10		2'-5"			EDGE BEAM BTWN BM 4 & STG.JT.
S608	X		10	4'-3"			EDGE BEAM BTWN STG.JT. AND BM 5
S609	X		10	6'-6"			EDGE BEAM BTWN BM'S 7 AND 8
S410	X	12	6	4'-3"	X		DECK AND PAVING BLOCK AT PARAPET
S411	X	12	6	2'-6"	X		PARAPETS
S412	X		1	8'-0"	X		PAVING BLOCK AT MEDIAN
S413	X		1	8'-6'	X		PAVING BLOCK AT MEDIAN
S416	X	12	8	6'-9"			EDGE BEAM BTWN BM'S 1 THRU 4 AND 5 THRU 7
S417	X	4		2'-5"			EDGE BEAM BTWN BM 4 & STG.JT.
S418	X		4	4'-3"			EDGE BEAM BTWN STG.JT. AND BM 5
S419	X		4	6'-6"			EDGE BEAM BTWN BM'S 7 AND 8

PARAPET AREA = 2.25 FT'

PARAPET WEIGHT = 338 LBS./FT.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◥ JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

SEE LEGEND ON "STRIP SEAL EXPANSION DEVICE" SHEET FOR ◯

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY MA | PLANS CK'D. AMK

STRIP SEAL EXPANSION DEVICE COVER PLATES

SHEET 7 OF 11

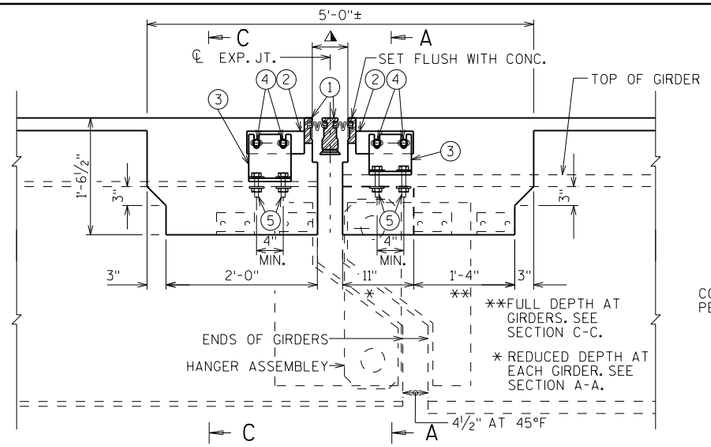
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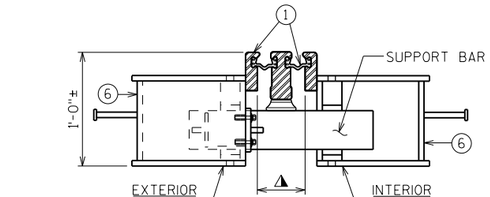
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STATE PROJECT NUMBER

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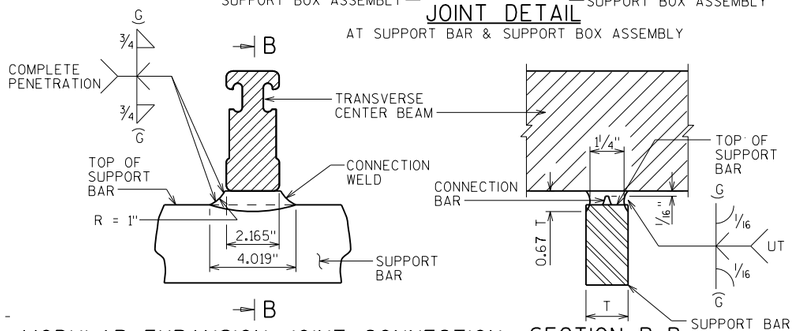


SECTION THRU JOINT AT HINGES



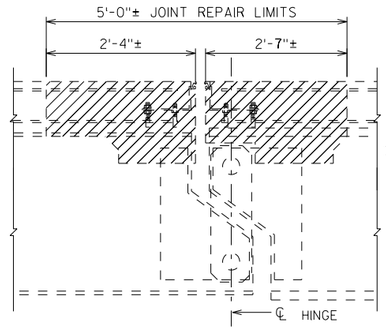
JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

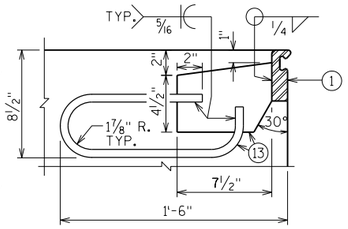


MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION

SECTION B-B

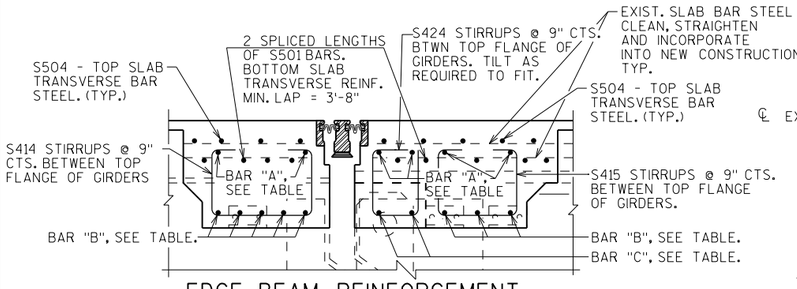


JOINT REPAIR AT HINGES



ANCHORAGE DETAIL

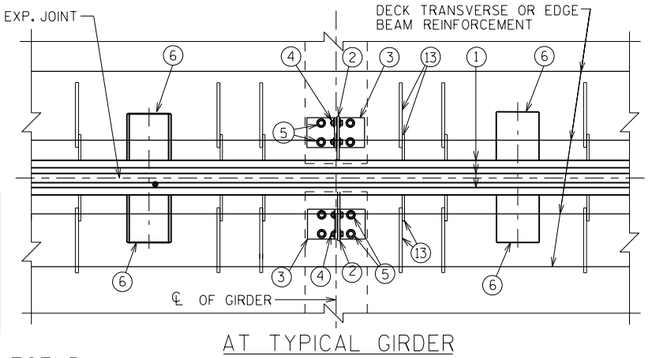
PLACE ADJACENT TO SUPPORT BOXES IN DECK @ CONC. DIAPH.



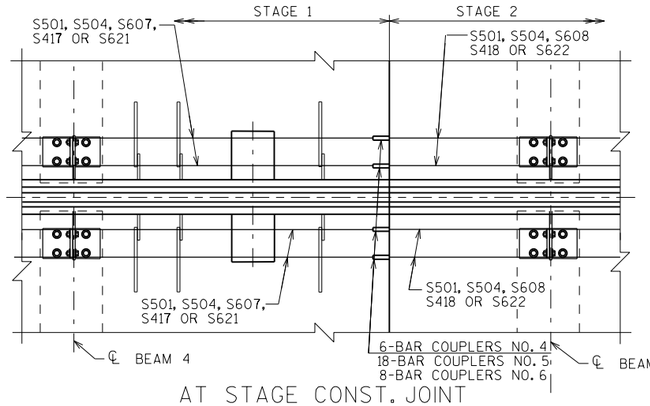
EDGE BEAM REINFORCEMENT

EDGE BEAM REINFORCEMENT DETAILS AT HINGES

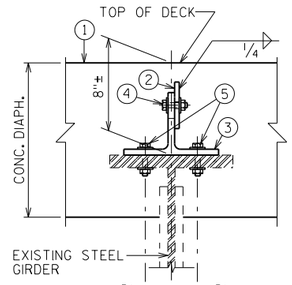
	"A"	"B"	"C"
BTWN. BEAMS 1 THRU 4 AND 5 THRU 7.	S416	S606	S620
BTWN. BEAM 4 AND STG. CONST. LINE.	S417	S607	S621
BTWN. STG. CONST. LINE AND BEAM 5	S418	S608	S622
BTWN. BEAMS 7 AND 8	S419	S609	S623



AT TYPICAL GIRDER



AT STAGE CONST. JOINT



SECTION C-C

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.

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

NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE, ON PARAPET ROADWAY FACE OR ABOVE SIDEWALK SURFACE (FOR RAISED SIDEWALK).

THE EXPANSION JOINT SEALS SHALL BE PLACED, BONDED & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.

EXPANSION JOINT EXTRUSIONS SHALL BE FABRICATED TO CONFORM TO ROADWAY CROWN & GRADE. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST BARS, PLATES, WT-SECTION, ANCHORAGE LOOP & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP.#6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVEER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

INSTALLATION OF THE EXPANSION JOINTS COMPLETE WITH PARAPET PLATES & SIDEWALK PLATES SHALL BE PAID FOR UNDER THE PRICE BID FOR "INSTALL EXPANSION DEVICE MODULAR B-40-175".

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECCESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

LEGEND

1. MODULAR EXPANSION JOINT DEVICE, 2 CELLS.
2. ½" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
3. WT 6X29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO.4.
4. ¾" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
5. ¾" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)
6. SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM ½" PLATES.
7. ⅜" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO. 14. WHEN CONDUIT IS PRESENT IN PARAPET OR SIDEWALK, ACCOMMODATE FOR BY PROVIDING OPENING IN NO.7.
8. INSIDE PLATE. FABRICATE FROM ⅜" PLATE.
9. OUTSIDE PLATE. FABRICATE FROM ⅝" PLATE.
10. ⅞" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
11. ¾" Φ X 4" LONG STUDS. WELD TO NO. 8, NO. 7 & NO. 14 AS SHOWN.
12. ¾" Φ X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
13. ½" PLATE WITH ⅝" Φ LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.
14. INSIDE PLATE. FABRICATE FROM ⅝" PLATE.
15. ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

PART PLAN

TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. 5/16" OF MOVEMENT PER 10° F
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (-5° F TO +95° F)

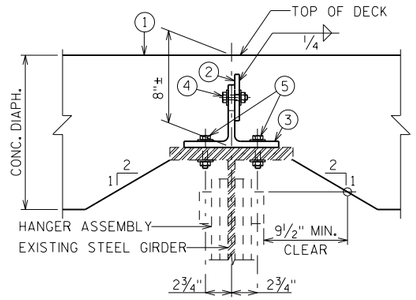
A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

NOTE

MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OF STRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.

⚠ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN ①.



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY MA | PLANS CK'D. AMK

MODULAR EXPANSION DEVICE

SHEET 8 OF 11

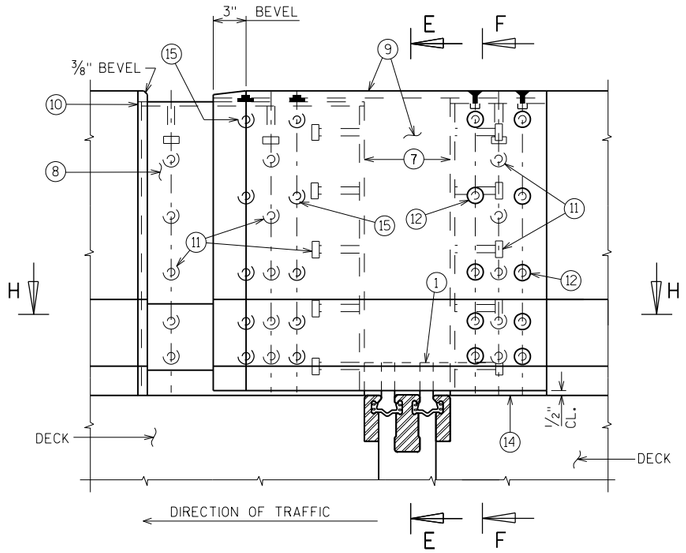
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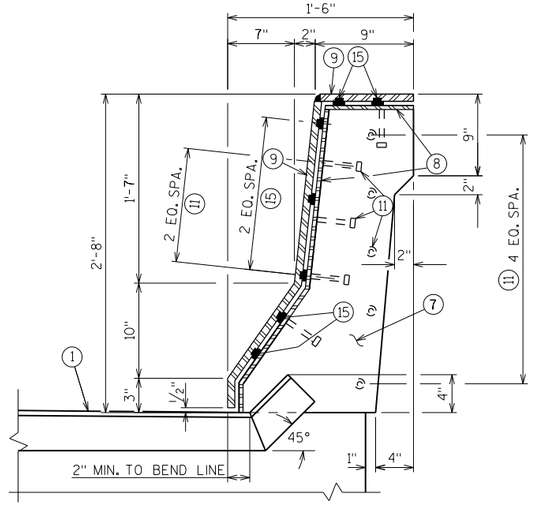
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STATE PROJECT NUMBER

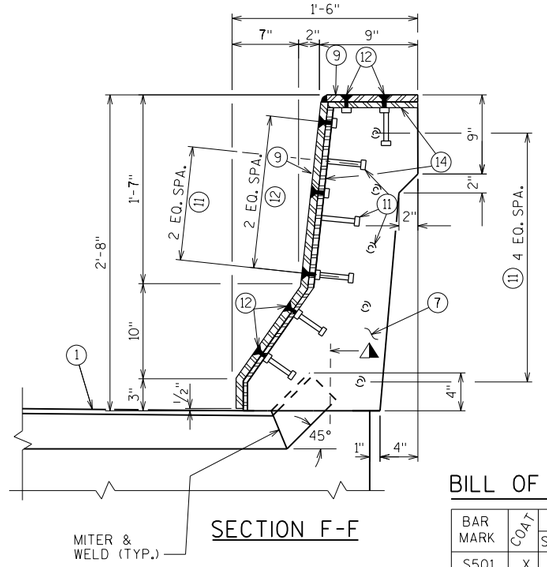
1228-26-70



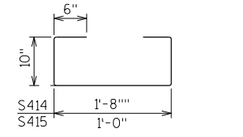
ELEVATION OF PARAPET



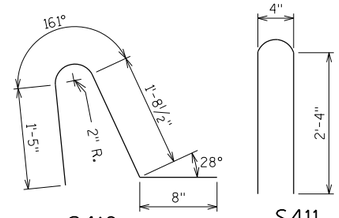
SECTION E-E



SECTION F-F



S414 & S415



S410 S411

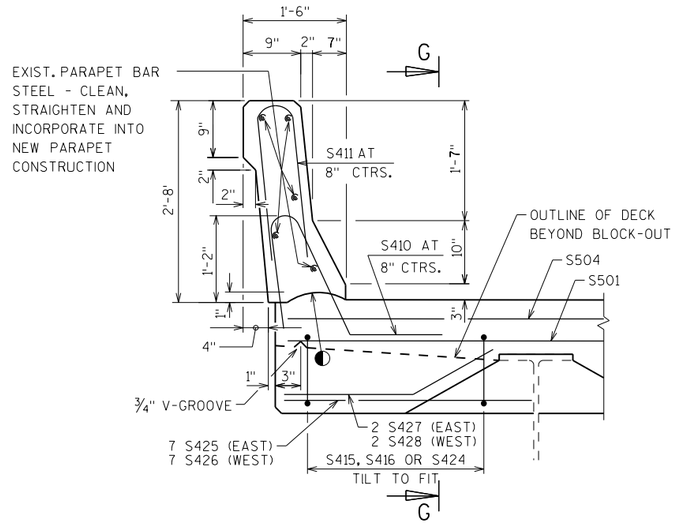
BILL OF BARS

BAR MARK	COAT	NO. REQ'D. STG. 1	NO. REQ'D. STG. 2	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	36	36	15'-9"			DECK TRANSVERSE BOTTOM
S504	X	18	18	27'-10"			DECK TRANSVERSE TOP
S606	X	48	32	6'-9"			EDGE BEAM BTWN. BM'S 1 THRU 4 AND 5 THRU 7
S607	X	16		2'-5"			EDGE BEAM BTWN BM 4 & STG.JT.
S608	X		16	4'-3"			EDGE BEAM BTWN STG.JT. AND BM 5
S609	X		16	6'-6"			EDGE BEAM BTWN BM'S 7 AND 8
S410	X	14	14	4'-3"	X		DECK AT PARAPET
S411	X	14	14	2'-6"	X		PARAPETS
S414	X	62	62	4'-0"	X		EDGE BEAM
S415	X	62	62	3'-4"	X		EDGE BEAM
S416	X	36	24	6'-9"			EDGE BEAM BTWN BM'S 1 THRU 4 AND 5 THRU 7
S417	X	12		2'-5"			EDGE BEAM BTWN BM 4 & STG.JT.
S418	X		12	4'-3"			EDGE BEAM BTWN STG.JT. AND BM 5
S419	X		12	6'-6"			EDGE BEAM BTWN BM'S 7 AND 8
S620	X	12	8	6'-1"	X		EDGE BEAM BTWN BM'S 1 THRU 4 AND 5 THRU 7
S621	X	4		2'-1"	X		EDGE BEAM BTWN BM 4 & STG.JT.
S622	X		4	3'-9"	X		EDGE BEAM BTWN STG.JT. AND BM 5
S623	X		4	5'-10"	X		EDGE BEAM BTWN BM'S 7 AND 8
S424	X	62	62	3'-3"	X		EDGE BEAM
S425	X		14	2'-5"			EDGE BEAM AT EAST OVERHANG
S426	X	14		3'-4"			EDGE BEAM AT WEST OVERHANG
S427	X		4	2'-2"	X		EDGE BEAM AT EAST OVERHANG
S428	X	4		2'-8"	X		EDGE BEAM AT WEST OVERHANG

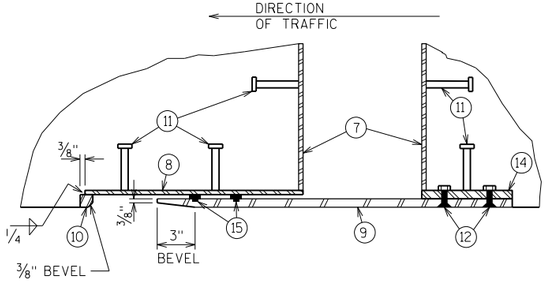
◐ CONST. JOINT - STRIKE OFF AS SHOWN

◭ MITER EXTRUSION ENDS AS REQ'D TO PROVIDE CLEARANCE

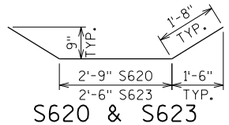
SEE LEGEND ON "MODULAR EXPANSION DEVICE" SHEET FOR ◯



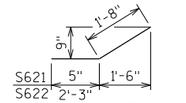
SECTION THRU PARAPET



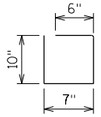
SECTION H-H



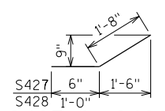
S620 & S623



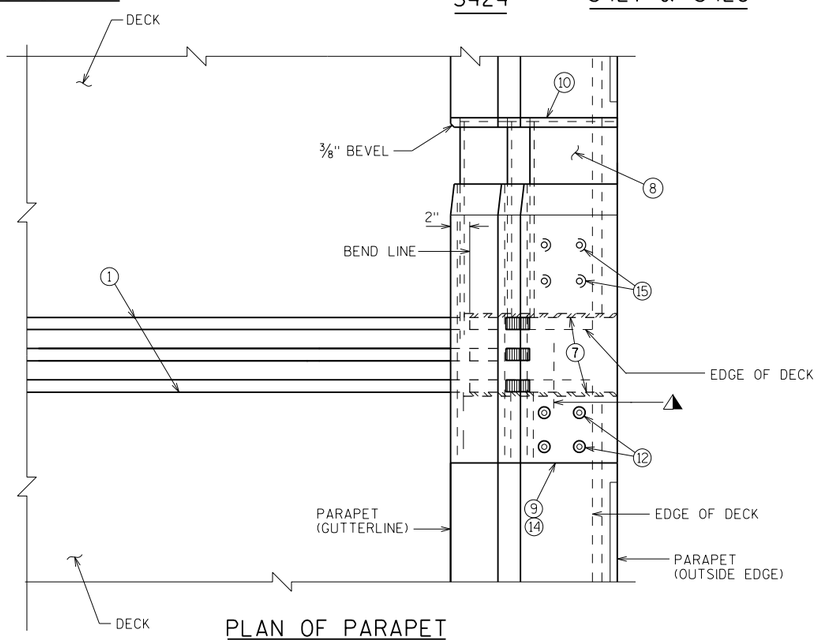
S621 & S622



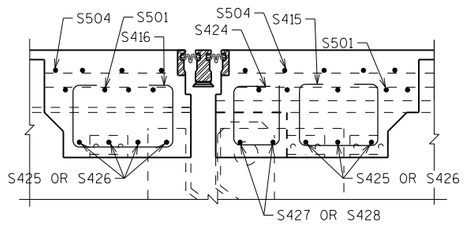
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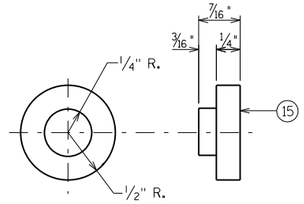
S427 & S428



PLAN OF PARAPET



SECTION G-G



ADIPRENE BUTTON DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY MA | PLANS CK'D. AMK

MODULAR EXPANSION DEVICE COVER PLATES

SHEET 9 OF 11
532

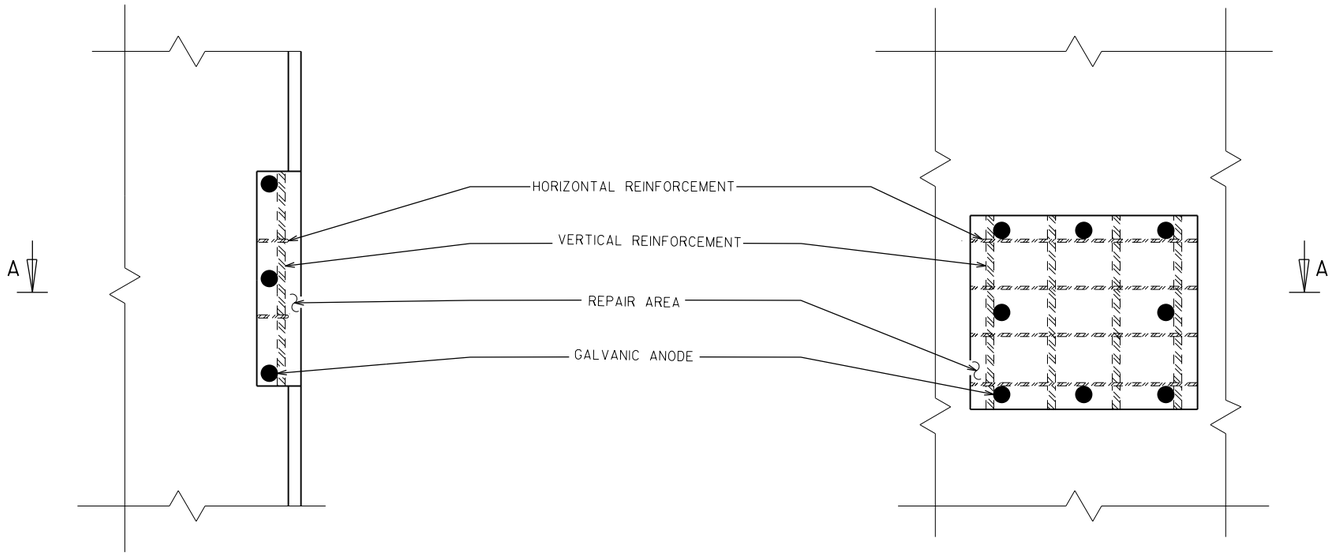
DATE: 10/30/2012
I.D. _____

FILE= O:\WisDOT_12345678_I-43 Milwaukee Rehabs\Plans\26 ID Deck Overlays\B-40-175 Becher SB\09 Cover Plate - Modular Joint.dgn

8

8

STATE PROJECT NUMBER
1228-26-70

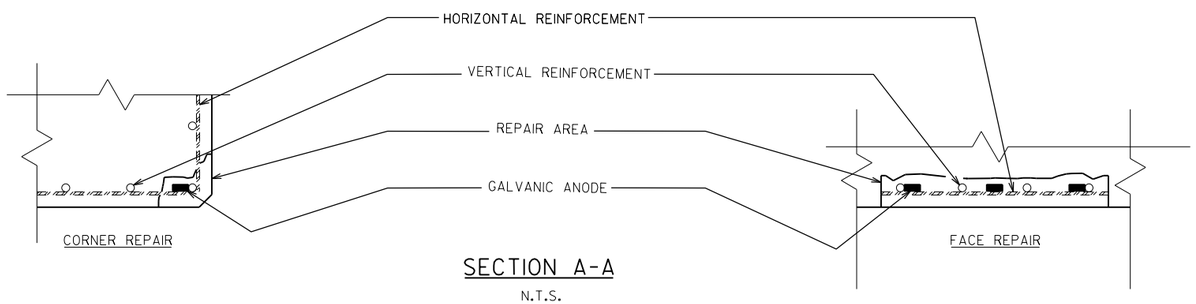


ELEVATION OF CORNER & FACE REPAIRS

N.T.S.

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY MS | PLANS CK'D. AMK

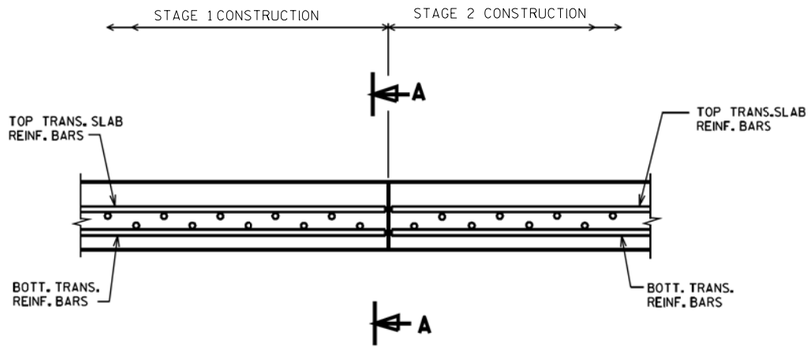
CATHODIC PROTECTION DETAILS

SHEET 10 OF 11

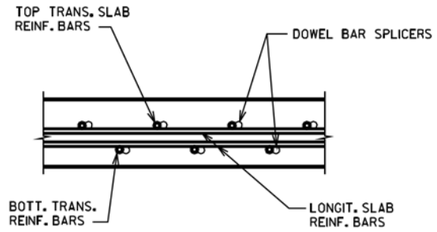
533

STATE PROJECT NUMBER

1228-26-70



SECTION THRU SLAB



SECTION A

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

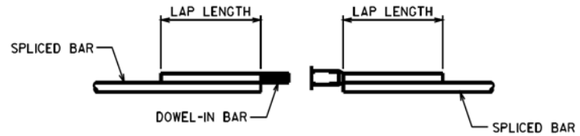
① MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

DOWEL BAR SPLICER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

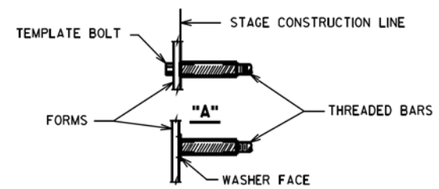


DOWEL BAR SPLICER



ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0175

DRAWN BY MS | PLANS CK'D. AMK

BAR SPLICER AND COUPLER DETAILS

SHEET 11 OF 11

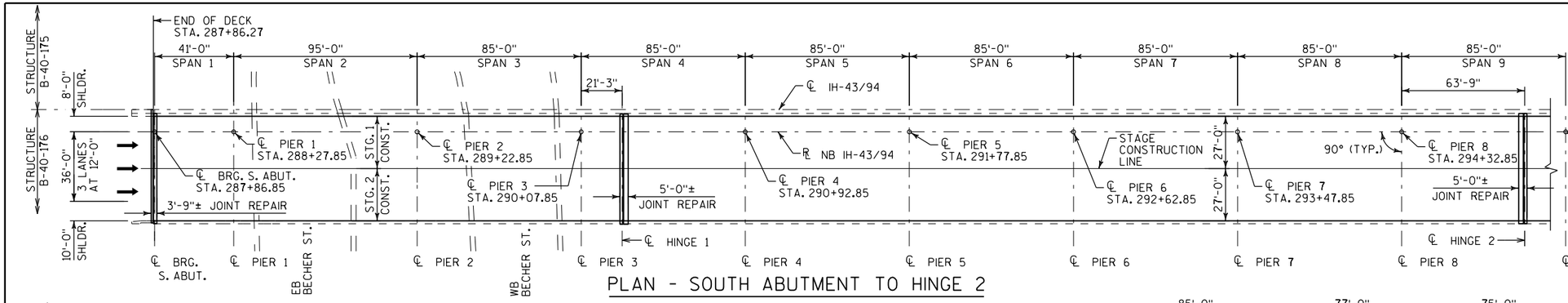
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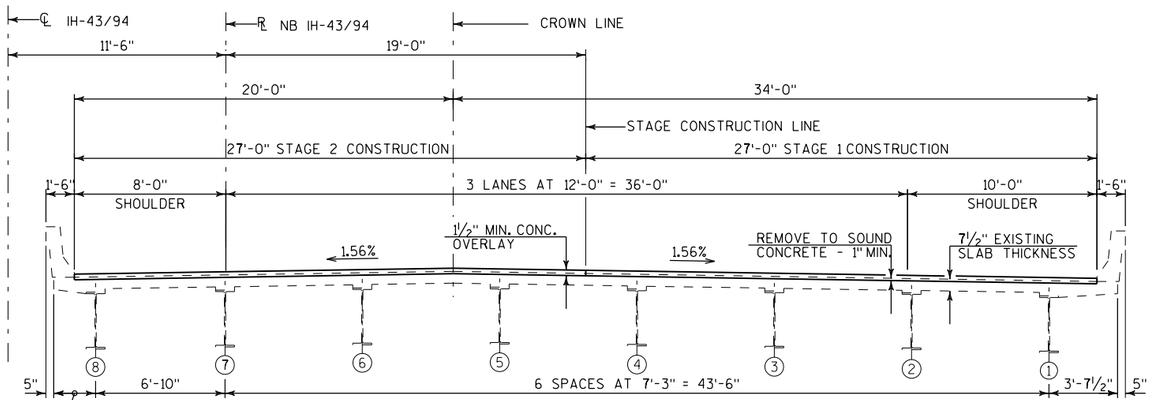
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STATE PROJECT NUMBER

1228-26-70

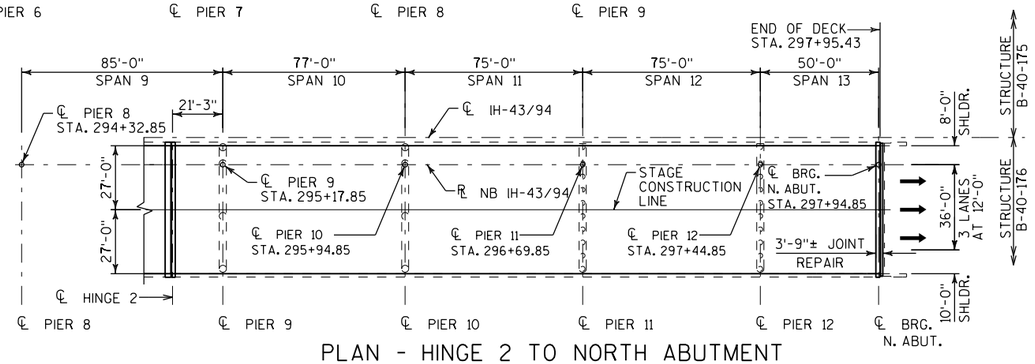


PLAN - SOUTH ABUTMENT TO HINGE 2



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



PLAN - HINGE 2 TO NORTH ABUTMENT

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEM	UNIT	TOTAL
502.0100	CONCRETE MASONRY BRIDGES	CY	3.7
502.3200	PROTECTIVE SURFACE TREATMENT	SY	6,083
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	46
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	9,630
505.0904	BAR COUPLERS NO. 4	EACH	16
505.0905	BAR COUPLERS NO. 5	EACH	64
050.0906	BAR COUPLERS NO. 6	EACH	26
509.0301	PREPARATION DECKS TYPE 1	SY	54
509.0302	PREPARATION DECKS TYPE 2	SY	27
509.0500	CLEANING DECKS	SY	5,964
509.1000	JOINT REPAIR	SY	111
509.1500	CONCRETE SURFACE REPAIR	SF	68
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	345
514.0900	ADJUSTING FLOOR DRAINS	EACH	8
517.1800.S.06	STRUCTURAL REPAINTING RECYCLED ABRASIVE B-40-176	LS	1
517.4500.S.06	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-176	LS	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	112
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	70
SPV.0105.05	INSTALL EXPANSION DEVICE B-40-176	LS	1
SPV.0105.18	INSTALL EXPANSION DEVICE MODULAR B-40-176	LS	1
SPV.0165.01	CATHODIC PROTECTION	SF	68

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. CONSTRUCTION STAGING
3. UNDERDECK INSPECTION RESULTS
4. INFRARED INSPECTION RESULTS
5. DECK REPAIR AREAS
6. STRIP SEAL EXPANSION DEVICE
7. STRIP SEAL EXPANSION DEVICE COVER PLATES
8. MODULAR EXPANSION DEVICE
9. MODULAR EXPANSION DEVICE COVER PLATES
10. CATHODIC PROTECTION DETAILS
11. BAR SPLICER AND COUPLER DETAILS

DESIGN DATA

LIVE LOAD:
INVENTORY RATING: HS-16.6
OPERATIONAL RATING: HS-27.8
MAXIMUM STANDARD PERMIT VEHICLE LOAD=155.8 KIPS

TRAFFIC DATA

I.H. 43/94
A.D.T. (2040) = 112,000
D.H.V. (2040) = 10,976
R.D.S. - 60 MPH

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SUPERSTRUCTURE
f'c = 4,000 psi
BAR STEEL REINFORCEMENT, GRADE 60
fy = 60,000 psi

JOINT REPAIR NOTES:

SEE JOINT DETAILS FOR EXISTING REINFORCEMENT TO BE PRESERVED.

EXISTING PARAPET IN JOINT REPAIR LIMITS SHALL BE REMOVED. COST INCLUDED WITH JOINT REPAIR.

ANY CONCRETE REMOVAL AND REPLACEMENT BEYOND THE REMOVAL LIMITS OR THE LIMITS SET BY THE ENGINEER WILL SHALL BE AT THE CONTRACTOR'S EXPENSE.

GENERAL NOTES

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS"

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

ALL ITEMS ARE CATEGORY 80.

SUBSTRUCTURE NOTES:

COAT ENTIRE EXPOSED SURFACES OF ALL PIERS AND ABUTMENTS WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

SE REGION CONTACT:
AL GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MICHAEL DELEMONT (414) 831-4157

GENERAL NOTES

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, JOINT REPAIR, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND CLEANING AND PAINTING BEARINGS.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1 ½" PLACED ABOVE THE DECK AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MINIMUM OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

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

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER. EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES AND MODULAR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES AND MODULAR EXPANSION DEVICES ARE INCIDENTAL TO THE JOINT REPAIR ITEM.

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

INSTALLATION OF EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS, HARDWARE, AND ANY GROUTING AND WELDING SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "INSTALL EXPANSION DEVICE B-40-176" OR "INSTALL EXPANSION DEVICE MODULAR B-40-176."

THE FIRST DIGIT OF A THREE DIGIT BARMARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "FULL-DEPTH DECK REPAIR", AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2."



NO.	DATE	REVISION	BY

URS
342 North Wather Street
Seventh Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK — CHIEF STRUCTURES DESIGN ENGINEER — 11/02/12 DATE

STRUCTURE B-40-176

NB IH-43/94 OVER BECHER STREET

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	REHABILITATION		N/A
DESIGNED BY	AMK	DESIGN CK'D.	MAD
DRAWN BY	MRF	PLANS CK'D.	AMK

CONCRETE OVERLAY

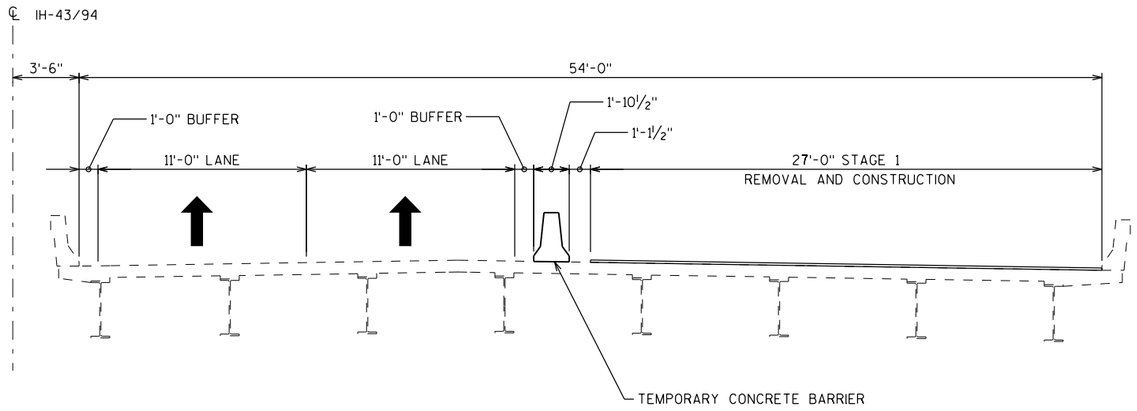
SHEET 1 OF 11
535

I.D.

DATE:

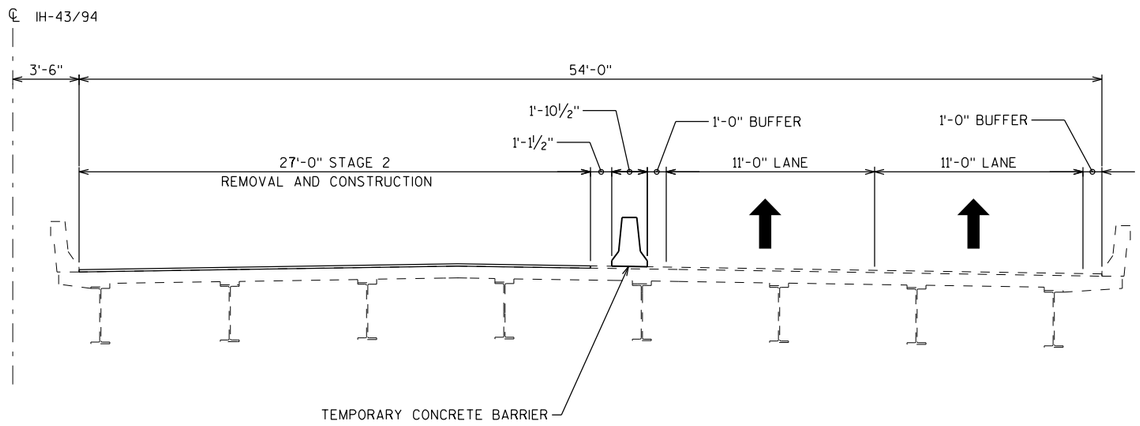
STATE PROJECT NUMBER

1228-26-70



STAGE 1 - CROSS SECTION THRU NB BRIDGE

(LOOKING NORTH)



STAGE 2 - CROSS SECTION THRU NB BRIDGE

(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY MRF | PLANS CK'D. AMK

CONSTRUCTION STAGING

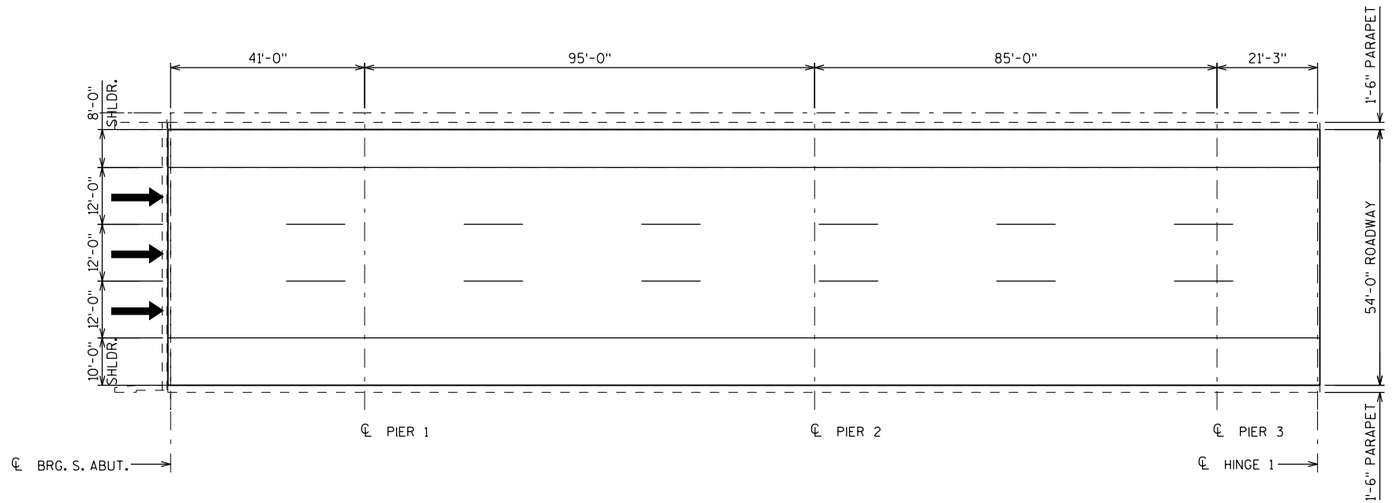
SHEET 7 OF 11

536

FOR REFERENCE ONLY

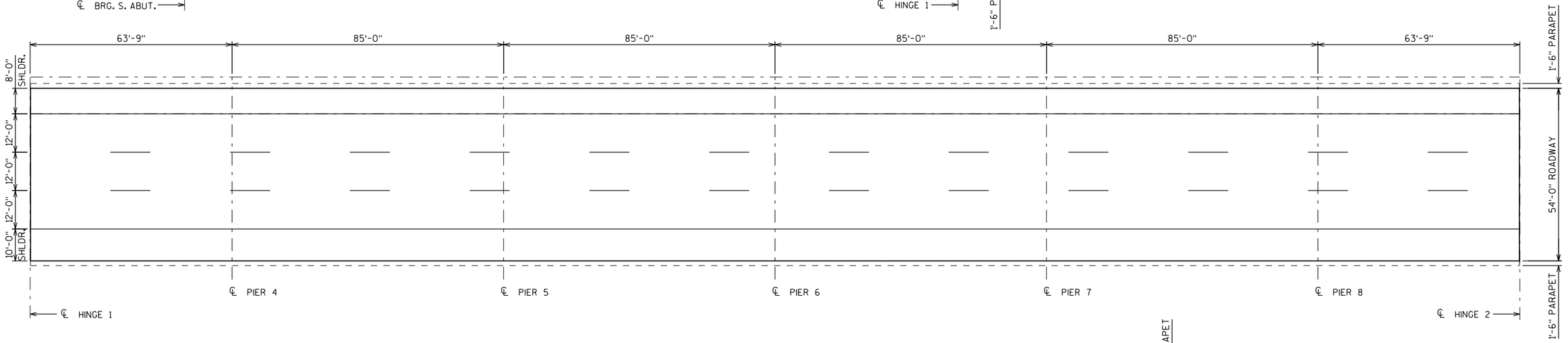
N
(ALL VIEWS)

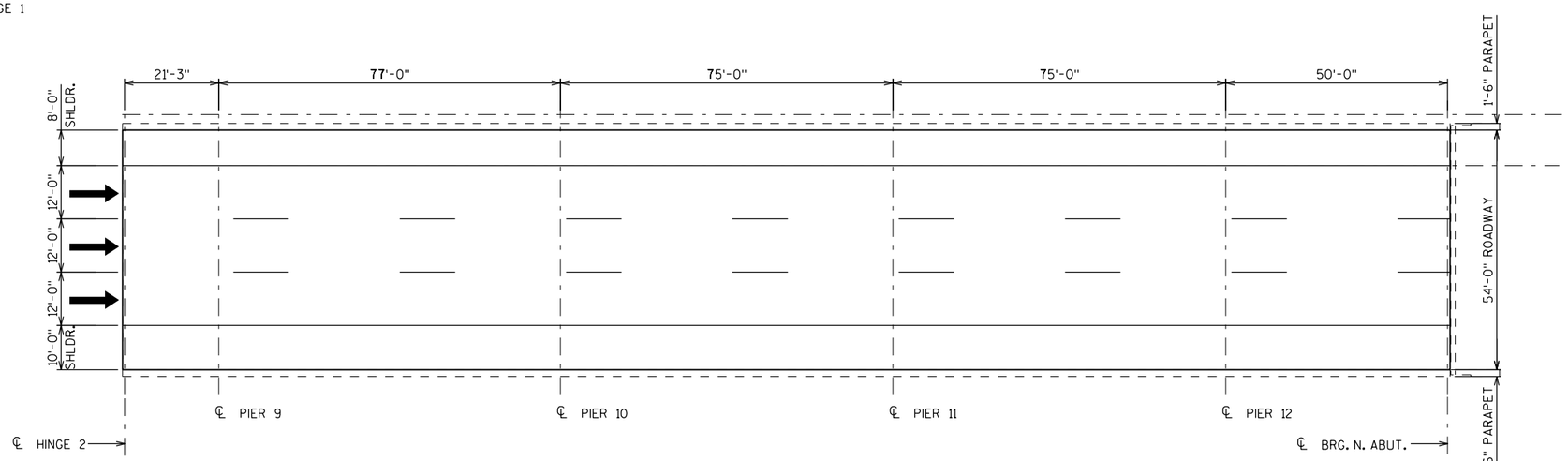
STATE PROJECT NUMBER
1228-26-70



DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-176		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	57,655	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	0	0	





NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENSE BUT WERE TIGHT AND/OR HAIRLINE CRACKS.
NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

INSPECTION DATE: 3/07/2012
INSPECTED BY: URS CORPORATION

SCALE, FEET 0 10 20
(ALL VIEWS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY MRF | PLANS CK'D. AMK

UNDERDECK INSPECTION RESULTS

SHEET 3 OF 11
537

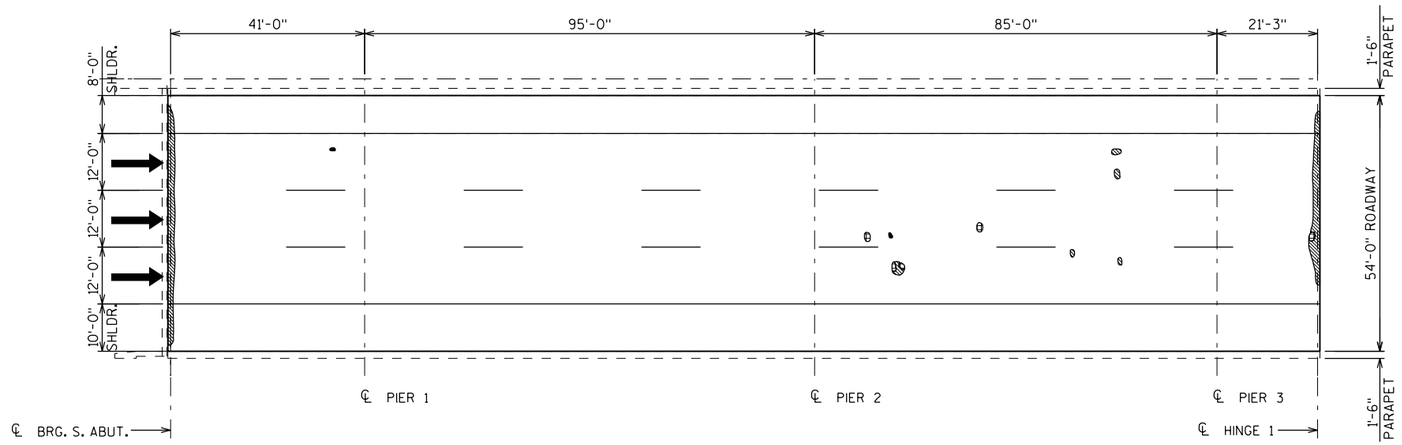
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FOR REFERENCE ONLY

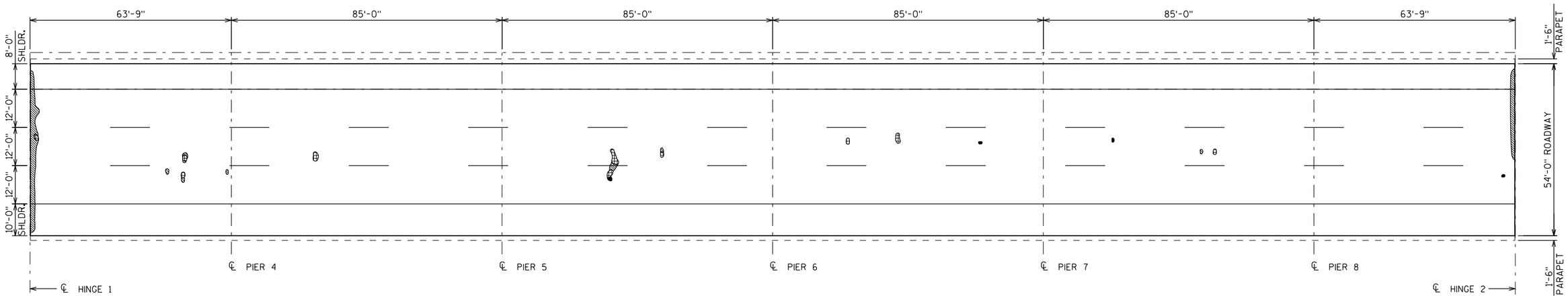
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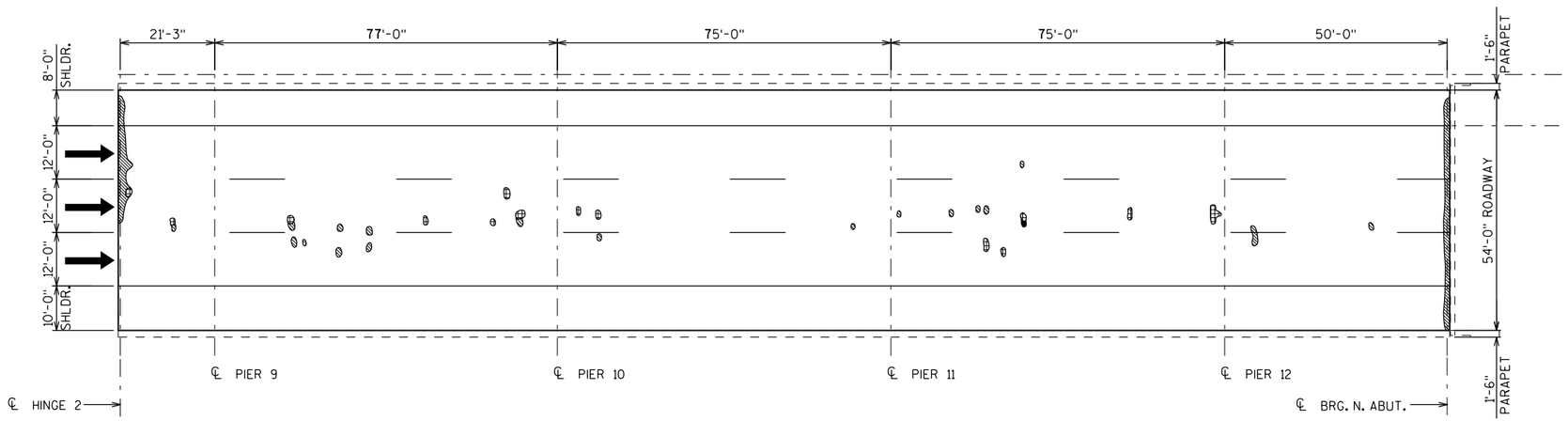
STATE PROJECT NUMBER
1228-26-70



DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-176		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	54,621		SPALL
SHADE/DEBRIS	ft.^{2}	0		DEBOND
DELAMINATION	ft.^{2}	392	0.7	ASPHALT PATCH
SPALL	ft.^{2}	9	<0.1	CONCRETE PATCH
DEBOND	ft.^{2}	N/A	N/A	SHADE/DEBRIS
ASPHALT PATCH	ft.^{2}	72	0.1	
CONCRETE PATCH	ft.^{2}	0	0	





SCALE, FEET 0 10 20
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 4/17/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY DS | PLANS CK'D. DU

INFRARED INSPECTION RESULTS

SHEET 4 OF 11
538

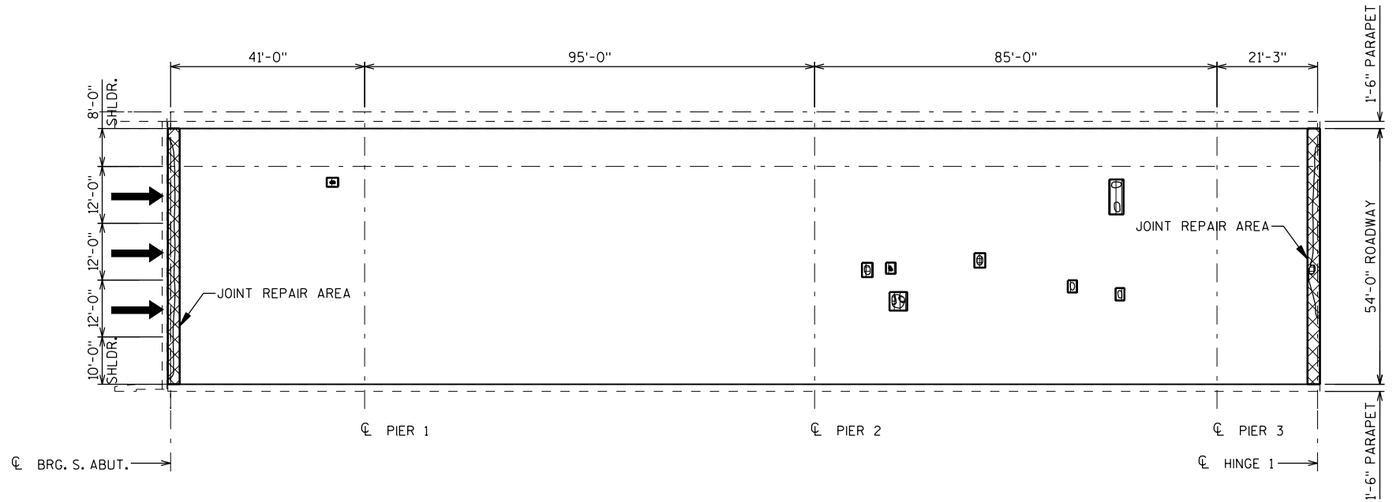
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FOR REFERENCE ONLY

(ALL VIEWS)

STATE PROJECT NUMBER
1228-26-70



PROPOSED REHAB AREAS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-176	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$yd.^2$	6406	
SHADE/DEBRIS	$yd.^2$	0	
PREPARATION, DECKS, TYPE 1	$yd.^2$	54	0.8
PREPARATION, DECKS, TYPE 2 ✳	$yd.^2$	27	0.4
FULL DEPTH DECK REPAIR ✳	$yd.^2$	1	<0.1

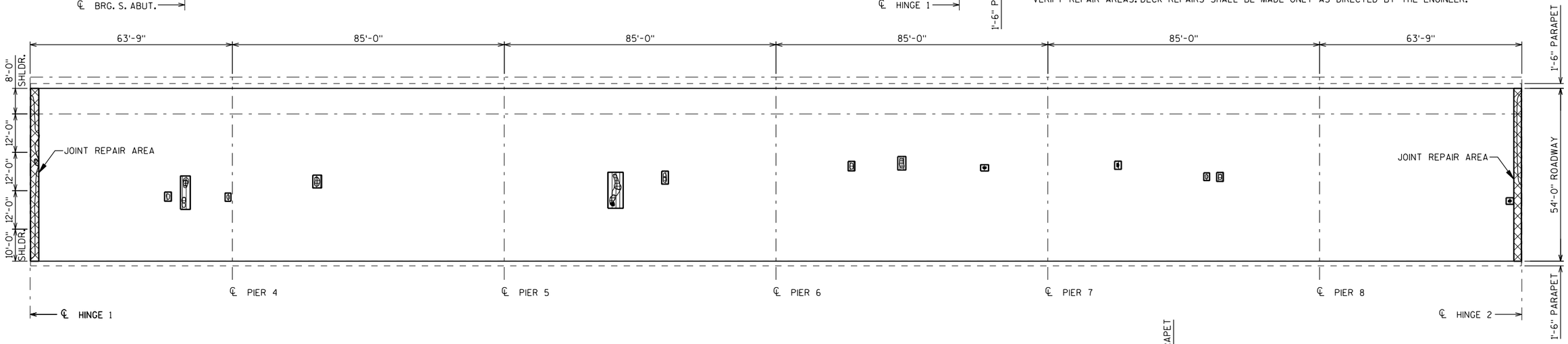
LEGEND: DECK PREPARATION AREA; SHADE/DEBRIS; DELAMINATION; SPALL; DEBOND; ASPHALT PATCH; CONCRETE PATCH

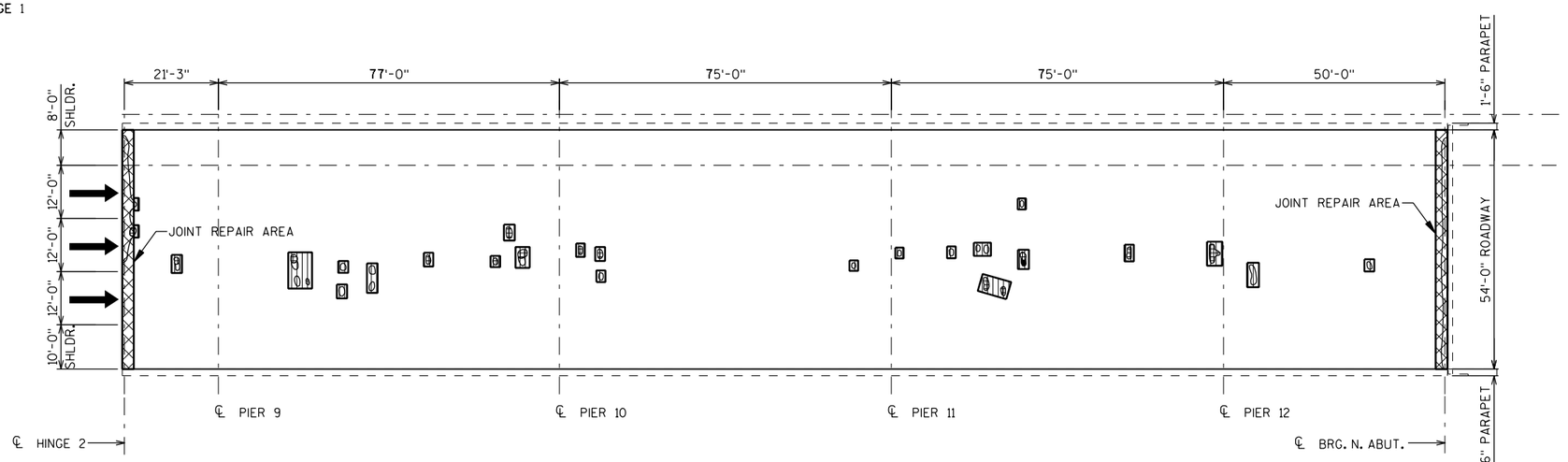
✳ ESTIMATED

NOTES:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.





SCALE, FEET 0 10 20

(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATE: 4/17/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY DS | PLANS CK'D. DU

DECK REPAIR AREAS

SHEET 5 OF 11

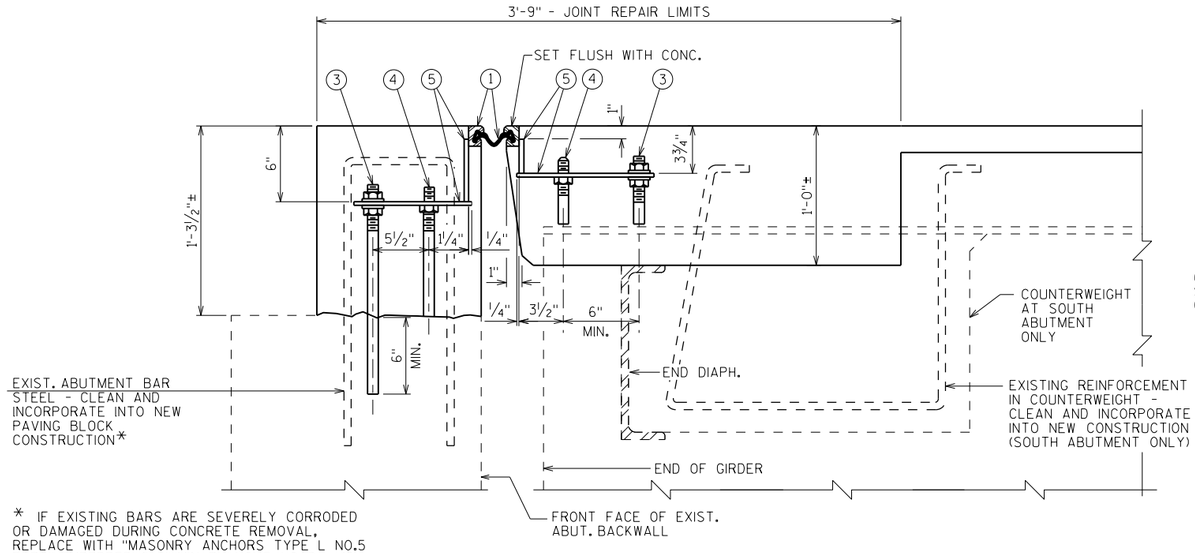
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STATE PROJECT NUMBER

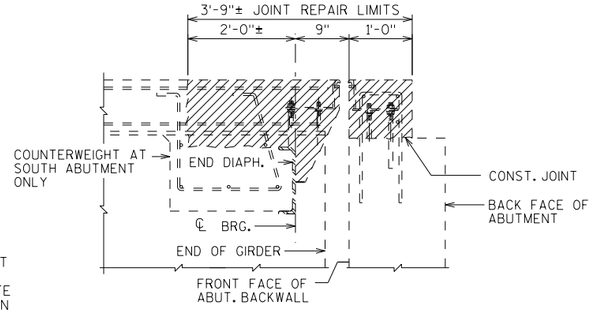
1228-26-70



* IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH "MASONRY ANCHORS TYPE L NO.5 BARS" EMBEDDED 1'-3" MIN. PULLOUT LOAD = 18 KIPS. PLACE 4" MIN. FROM EXISTING CONC FACE. USE L-SHAPED #5 COATED BARS.

SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

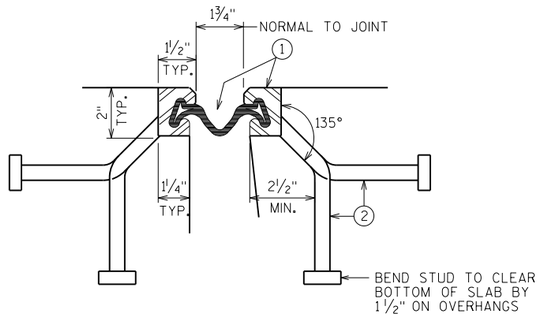


JOINT REPAIR AT ABUTMENTS

NORMAL TO ℄ SUBSTRUCTURE

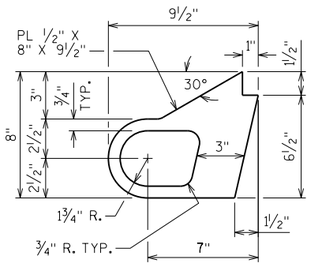
LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
2. STUDS 5/8"Φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. 1/2" THICK ANCHOR PLATE WITH 5/8"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. 3/4" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. 3/4"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.
6. GALVANIZED PLATE 3/8" X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. 3/4"Φ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. 3/4"Φ X 2 1/4" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

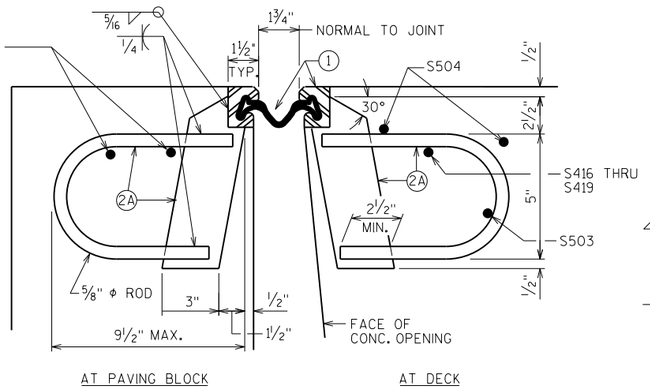


SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

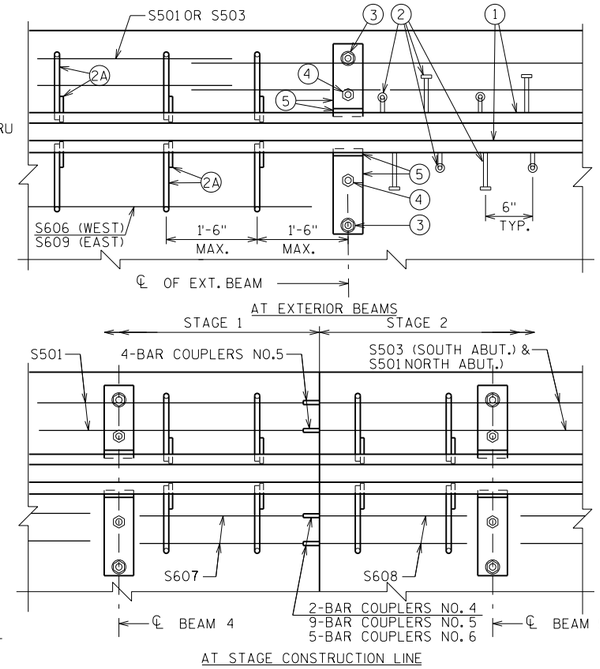


ALTERNATE STRIP SEAL ANCHOR

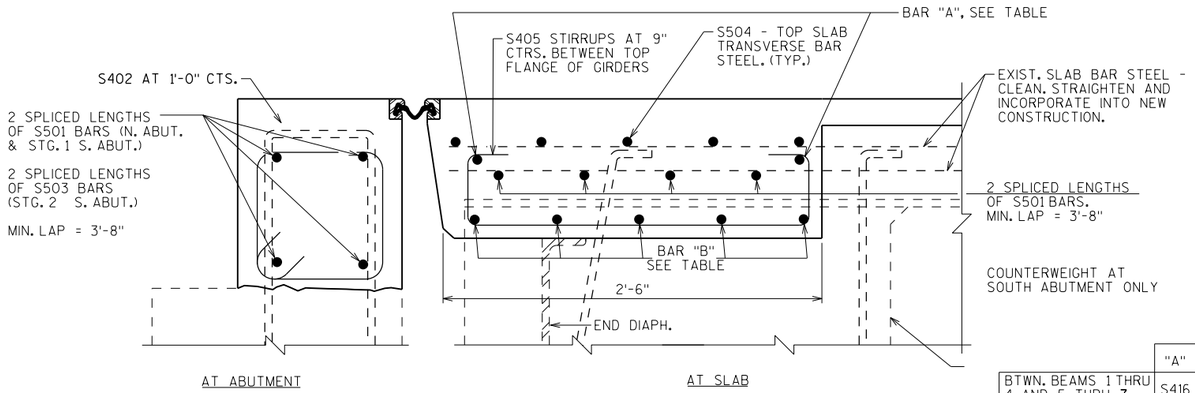


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



AT STAGE CONSTRUCTION LINE



PAVING BLOCK AND EDGE BEAM REINFORCEMENT DETAILS AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

	"A"	"B"
BTWN. BEAMS 1 THRU 4 AND 5 THRU 7.	S416	S606
BTWN. BEAM 4 AND STG. CONST. LINE.	S417	S607
BTWN. STG. CONST. LINE AND BEAM 5	S418	S608
BTWN. BEAMS 7 AND 8	S419	S609

GENERAL NOTES

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

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

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

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

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-176".

PART PLAN

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY | PLANS CK'D. AMK

STRIP SEAL EXPANSION DEVICE

SHEET 6 OF 11

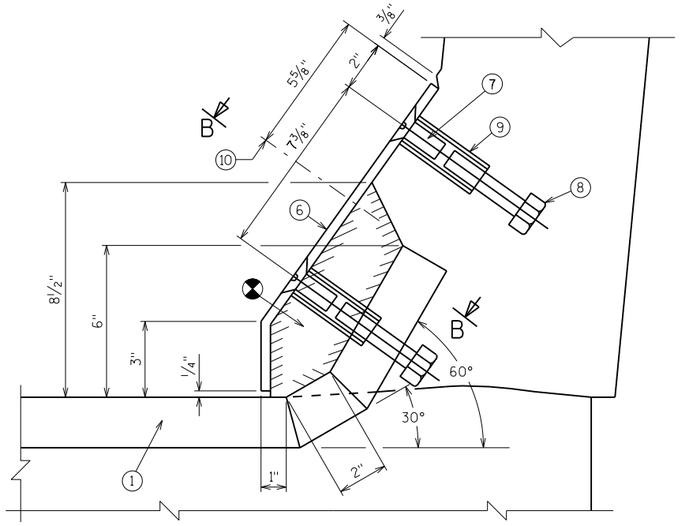
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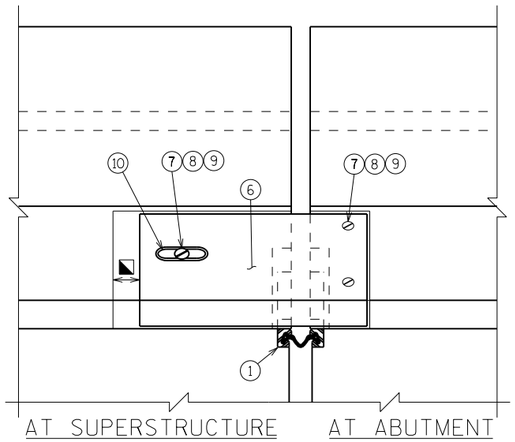
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STATE PROJECT NUMBER

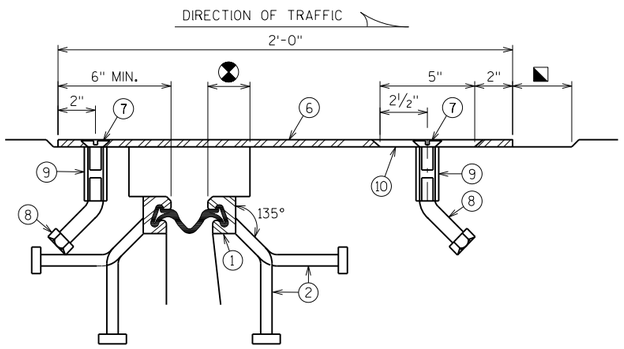
1228-26-70



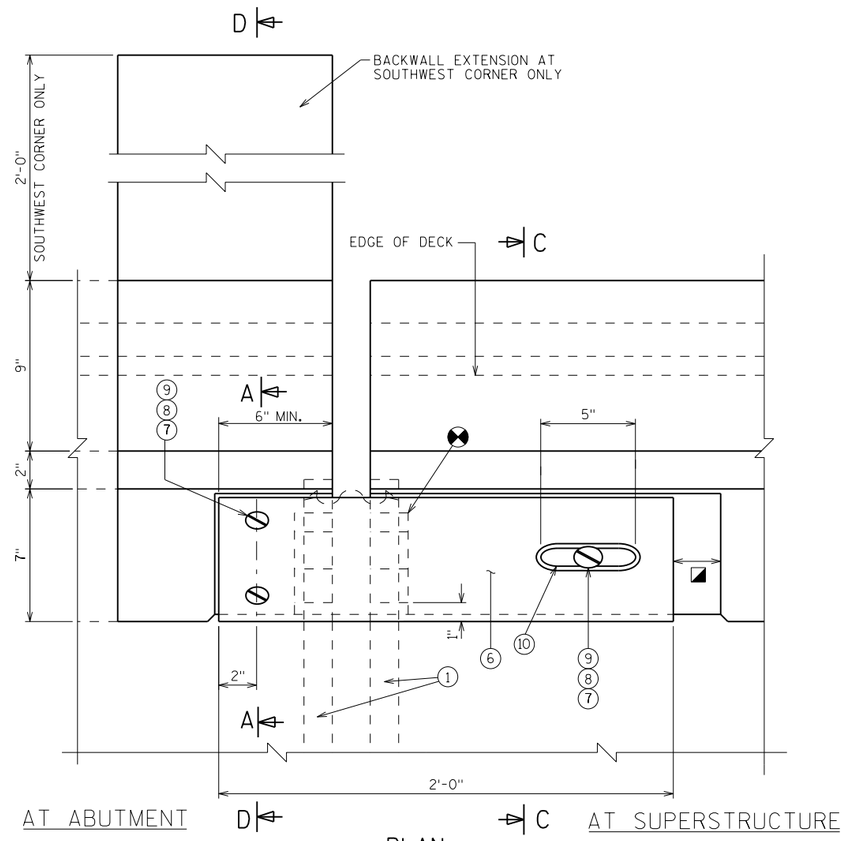
SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY



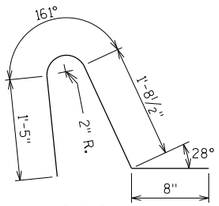
SECTION B-B



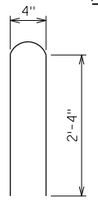
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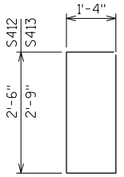
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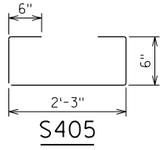
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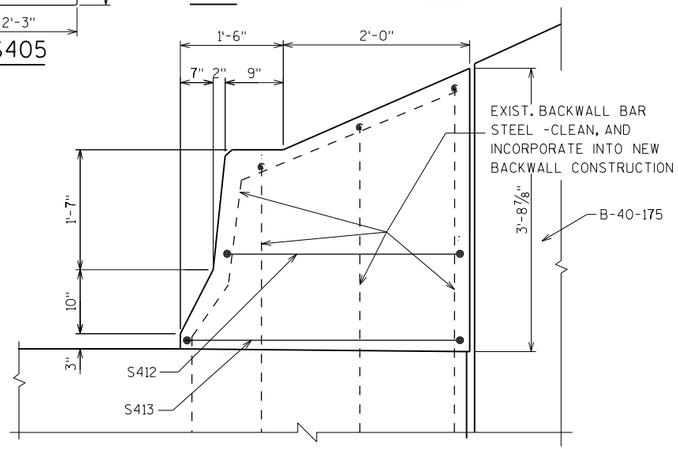
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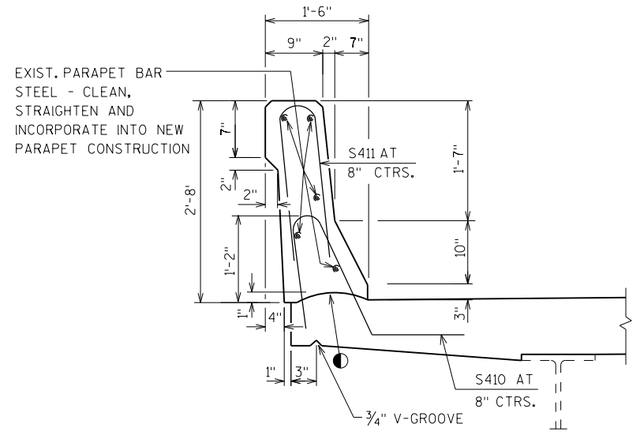
S412 & S413



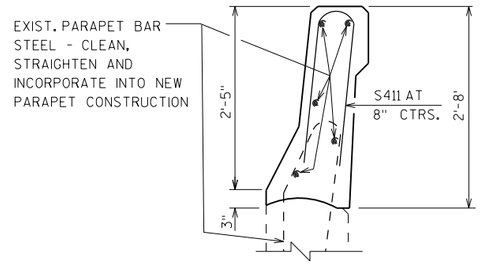
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SECTION D-D - SW CORNER ABUTMENT



SECTION C-C



NOTE: SEE SECTION C-C FOR PARAPET DIMENSIONS NOT SHOWN

SECTION D-D - AT SE, NE AND NW WINGWALLS

BILL OF BARS

BAR MARK	COAT	NO. REQ'D. STG. 1	NO. REQ'D. STG. 2	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	32	24	15'-9"			PAVING BLOCK AND DECK TRANSVERSE BOTTOM
S402	X	56	58	3'-2"	X		PAVING BLOCK
S503	X		8	16'-9"			S. ABUTMENT PAVING BLOCK
S504	X	10	10	27'-10"			DECK TRANSVERSE TOP
S405	X	62	62	3'-9"	X		EDGE BEAM
S606	X	30	20	6'-9"			EDGE BEAM BTWN BM'S 1 THRU 4 AND 5 THRU 7
S607	X	10		2'-5"			EDGE BEAM BTWN BM 4 & STG.JT.
S608	X		10	4'-3"			EDGE BEAM BTWN STG.JT. AND BM 5
S609	X		10	6'-6"			EDGE BEAM BTWN BM'S 7 AND 8
S410	X	12	6	4'-3"	X		DECK AND PAVING BLOCK AT PARAPET
S411	X	12	6	2'-6"	X		PARAPETS
S412	X		1	8'-0"	X		PAVING BLOCK AT MEDIAN
S413	X		1	8'-6'	X		PAVING BLOCK AT MEDIAN
S416	X	12	8	6'-9"			EDGE BEAM BTWN BM'S 1 THRU 4 AND 5 THRU 7
S417	X	4		2'-5"			EDGE BEAM BTWN BM 4 & STG.JT.
S418	X		4	4'-3"			EDGE BEAM BTWN STG.JT. AND BM 5
S419	X		4	6'-6"			EDGE BEAM BTWN BM'S 7 AND 8

PARAPET AREA = 2.25 FT'

PARAPET WEIGHT = 338 LBS./FT.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◥ JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

SEE LEGEND ON "STRIP SEAL EXPANSION DEVICE" SHEET FOR ◯

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY MA | PLANS CK'D. AMK

STRIP SEAL EXPANSION DEVICE COVER PLATES

SHEET 7 OF 11

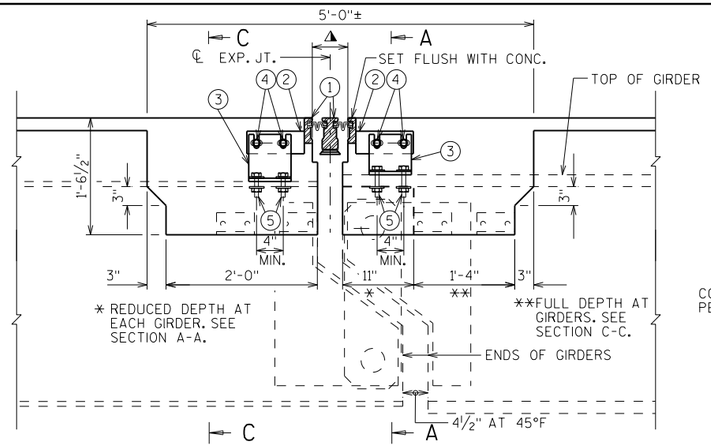
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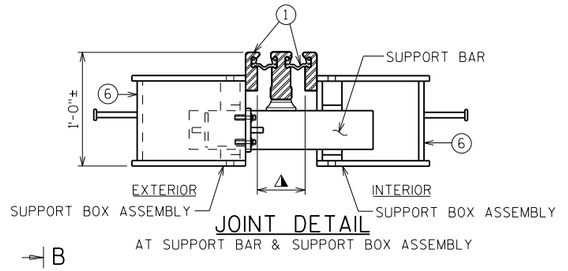
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STATE PROJECT NUMBER

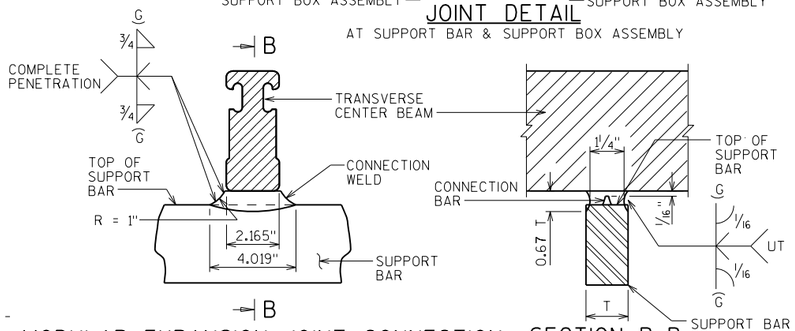
1228-26-70



SECTION THRU JOINT AT HINGES

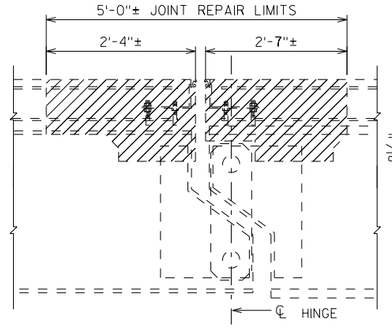


JOINT DETAIL
AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

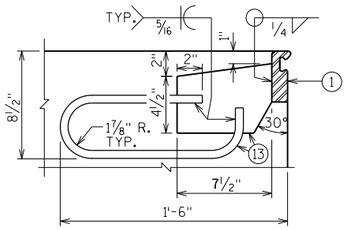


MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION

SECTION B-B

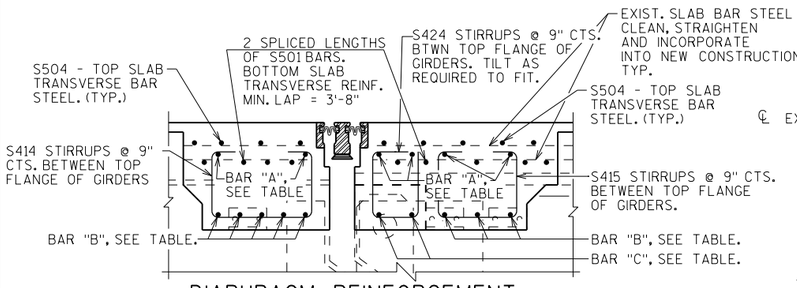


JOINT REPAIR AT HINGES



ANCHORAGE DETAIL

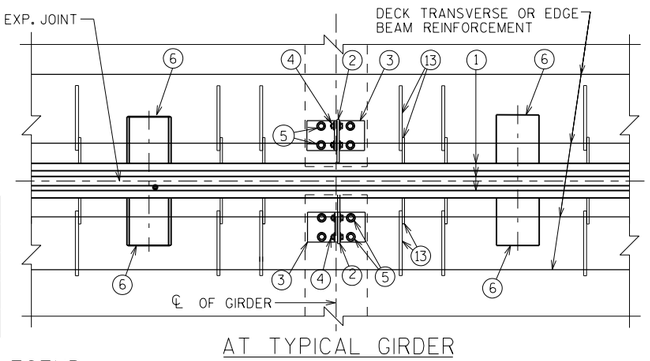
PLACE ADJACENT TO SUPPORT BOXES IN DECK ℄ CONC. DIAPH.



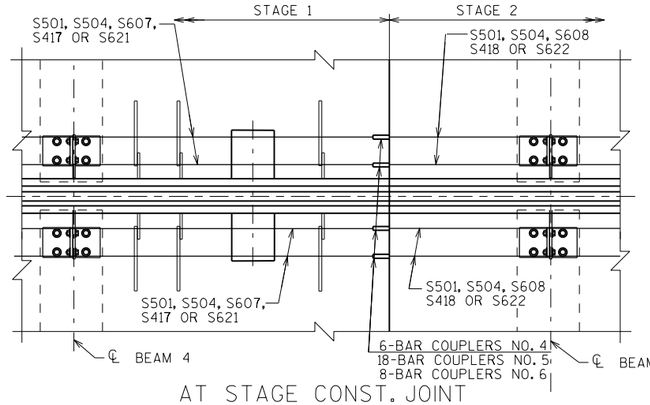
DIAPHRAGM REINFORCEMENT

DIAPHRAGM REINFORCEMENT DETAILS AT HINGES

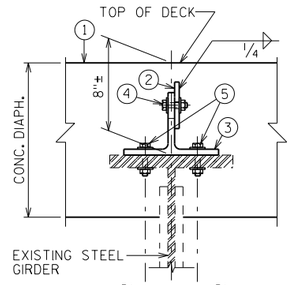
	"A"	"B"	"C"
BTWN. BEAMS 1 THRU 4 AND 5 THRU 7.	S416	S606	S620
BTWN. BEAM 4 AND STG. CONST. LINE.	S417	S607	S621
BTWN. STG. CONST. LINE AND BEAM 5	S418	S608	S622
BTWN. BEAMS 7 AND 8	S419	S609	S623



AT TYPICAL GIRDER



AT STAGE CONST. JOINT



SECTION C-C

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.

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

NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE, ON PARAPET ROADWAY FACE OR ABOVE SIDEWALK SURFACE (FOR RAISED SIDEWALK).

THE EXPANSION JOINT SEALS SHALL BE PLACED, BONDED & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.

EXPANSION JOINT EXTRUSIONS SHALL BE FABRICATED TO CONFORM TO ROADWAY CROWN & GRADE. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST BARS, PLATES, WT-SECTION, ANCHORAGE LOOP & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP.#6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVEER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

INSTALLATION OF THE EXPANSION JOINTS COMPLETE WITH PARAPET PLATES & SIDEWALK PLATES SHALL BE PAID FOR UNDER THE PRICE BID FOR "INSTALL EXPANSION DEVICE MODULAR B-40-176".

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECCESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

LEGEND

1. MODULAR EXPANSION JOINT DEVICE, 2 CELLS.
2. ½" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
3. WT 6X29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO.4.
4. ¾" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
5. ¾" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)
6. SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM ½" PLATES.
7. ⅜" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO. 14. WHEN CONDUIT IS PRESENT IN PARAPET OR SIDEWALK, ACCOMMODATE FOR BY PROVIDING OPENING IN NO.7.
8. INSIDE PLATE. FABRICATE FROM ⅜" PLATE.
9. OUTSIDE PLATE. FABRICATE FROM ⅝" PLATE.
10. ⅞" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
11. ¾" Φ X 4" LONG STUDS. WELD TO NO. 8, NO. 7 & NO. 14 AS SHOWN.
12. ¾" Φ X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
13. ½" PLATE WITH ⅝" Φ LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.
14. INSIDE PLATE. FABRICATE FROM ⅝" PLATE.
15. ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

PART PLAN

TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. ⅜" OF MOVEMENT AT HINGE 1 PER 10° F AND 5/16" OF MOVEMENT AT HINGE 2 PER 10° F
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (-5° F TO +95° F)

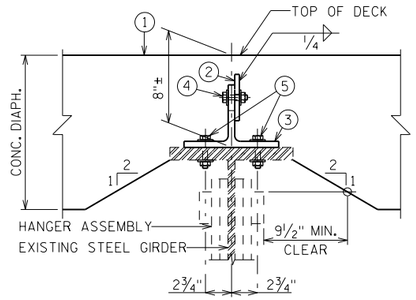
A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

NOTE

MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OF STRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.

⚠ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN ①.



SECTION A-A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY MA | PLANS CK'D. AMK

MODULAR EXPANSION DEVICE

SHEET 8 OF 11

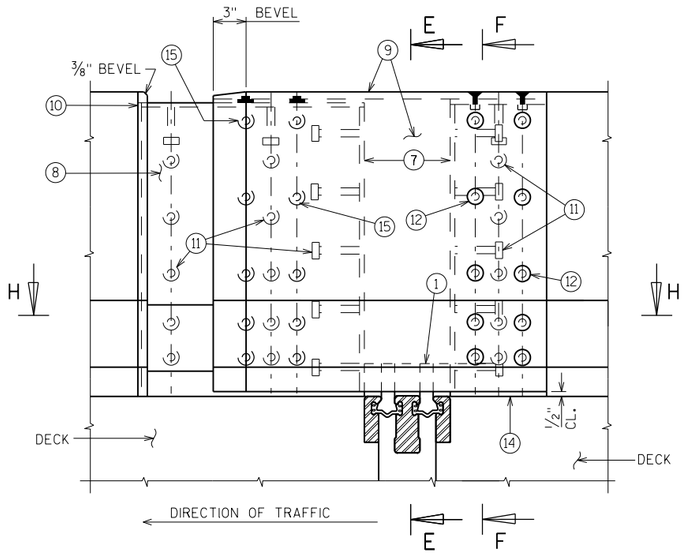
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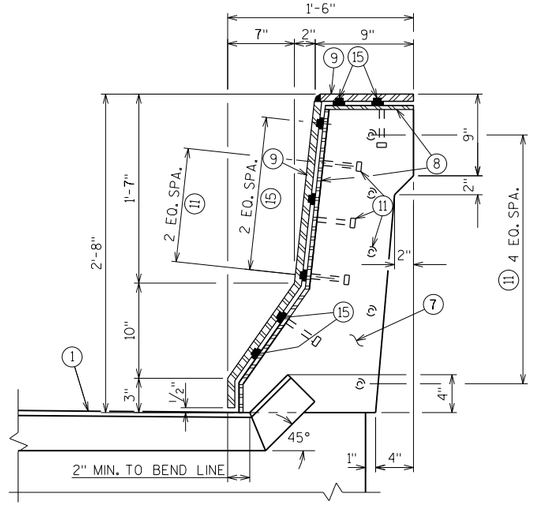
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STATE PROJECT NUMBER

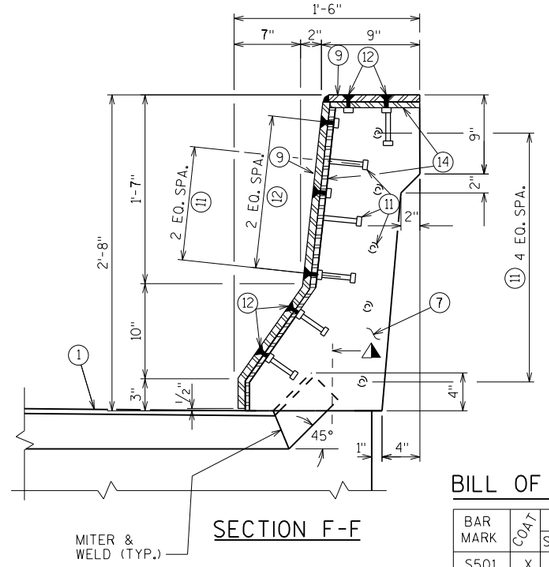
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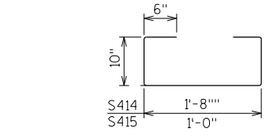
ELEVATION OF PARAPET



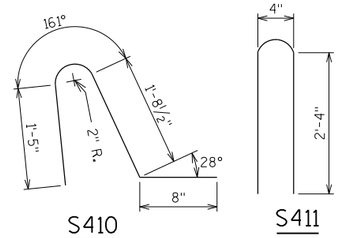
SECTION E-E



SECTION F-F



S414 & S415



S410 S411

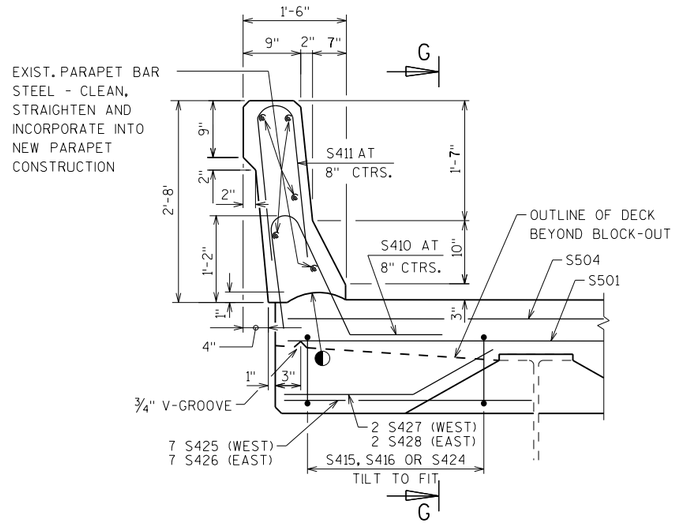
BILL OF BARS

BAR MARK	COAT	NO. REQ'D. STG. 1	NO. REQ'D. STG. 2	LENGTH	BENT	BAR SERIES	LOCATION
S501	X	36	36	15'-9"			DECK TRANSVERSE BOTTOM
S504	X	18	18	27'-10"			DECK TRANSVERSE TOP
S606	X	48	32	6'-9"			EDGE BEAM BTWN. BM'S 1 THRU 4 AND 5 THRU 7
S607	X	16		2'-5"			EDGE BEAM BTWN BM 4 & STG.JT.
S608	X		16	4'-3"			EDGE BEAM BTWN STG.JT. AND BM 5
S609	X		16	6'-6"			EDGE BEAM BTWN BM'S 7 AND 8
S410	X	14	14	4'-3"	X		DECK AT PARAPET
S411	X	14	14	2'-6"	X		PARAPETS
S414	X	62	62	4'-0"	X		EDGE BEAM
S415	X	62	62	3'-4"	X		EDGE BEAM
S416	X	36	24	6'-9"			EDGE BEAM BTWN BM'S 1 THRU 4 AND 5 THRU 7
S417	X	12		2'-5"			EDGE BEAM BTWN BM 4 & STG.JT.
S418	X		12	4'-3"			EDGE BEAM BTWN STG.JT. AND BM 5
S419	X		12	6'-6"			EDGE BEAM BTWN BM'S 7 AND 8
S620	X	12	8	6'-1"	X		EDGE BEAM BTWN BM'S 1 THRU 4 AND 5 THRU 7
S621	X	4		2'-1"	X		EDGE BEAM BTWN BM 4 & STG.JT.
S622	X		4	3'-9"	X		EDGE BEAM BTWN STG.JT. AND BM 5
S623	X		4	5'-10"	X		EDGE BEAM BTWN BM'S 7 AND 8
S424	X	62	62	3'-3"	X		EDGE BEAM
S425	X		14	2'-5"			EDGE BEAM AT WEST OVERHANG
S426	X	14		3'-4"			EDGE BEAM AT EAST OVERHANG
S427	X		4	2'-2"	X		EDGE BEAM AT WEST OVERHANG
S428	X	4		2'-8"	X		EDGE BEAM AT EAST OVERHANG

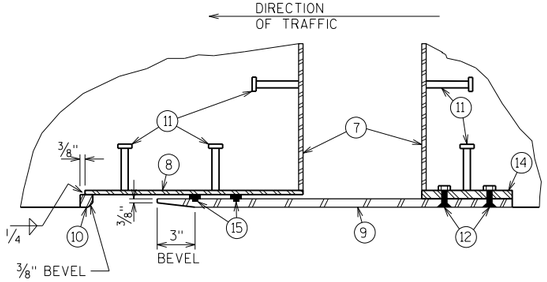
◐ CONST. JOINT - STRIKE OFF AS SHOWN

◭ MITER EXTRUSION ENDS AS REQ'D TO PROVIDE CLEARANCE

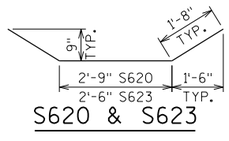
SEE LEGEND ON "MODULAR EXPANSION DEVICE" SHEET FOR ◯



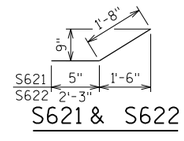
SECTION THRU PARAPET



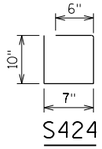
SECTION H-H



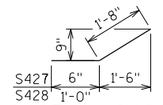
S620 & S623



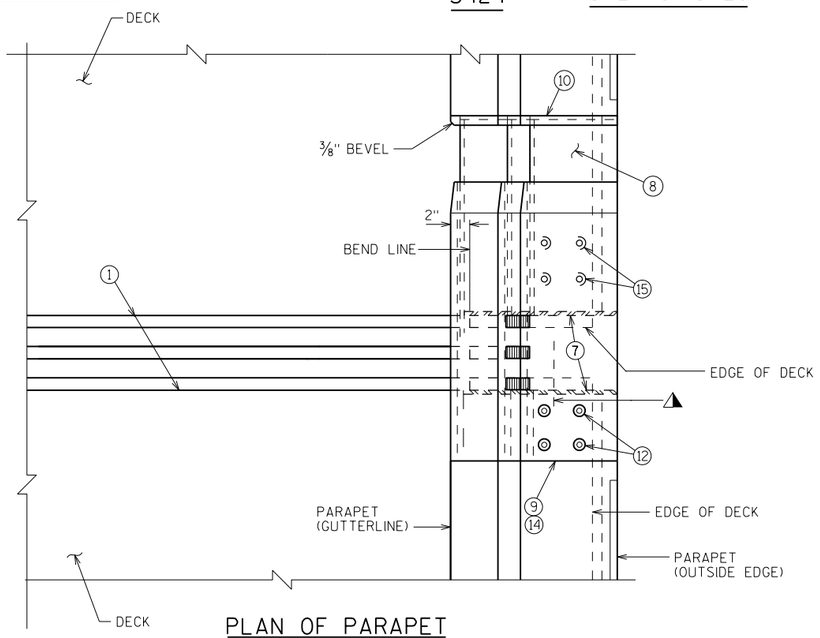
S621 & S622



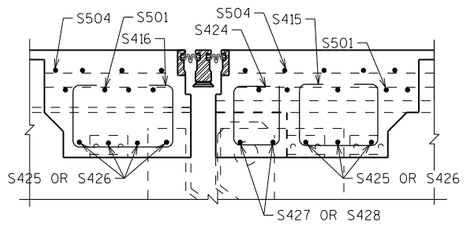
S424



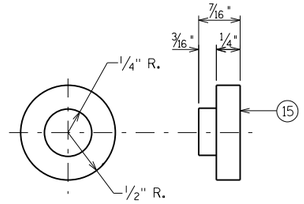
S427 & S428



PLAN OF PARAPET



SECTION G-G



ADIPRENE BUTTON DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY MA | PLANS CK'D. AMK

MODULAR EXPANSION DEVICE COVER PLATES

SHEET 9 OF 11
543

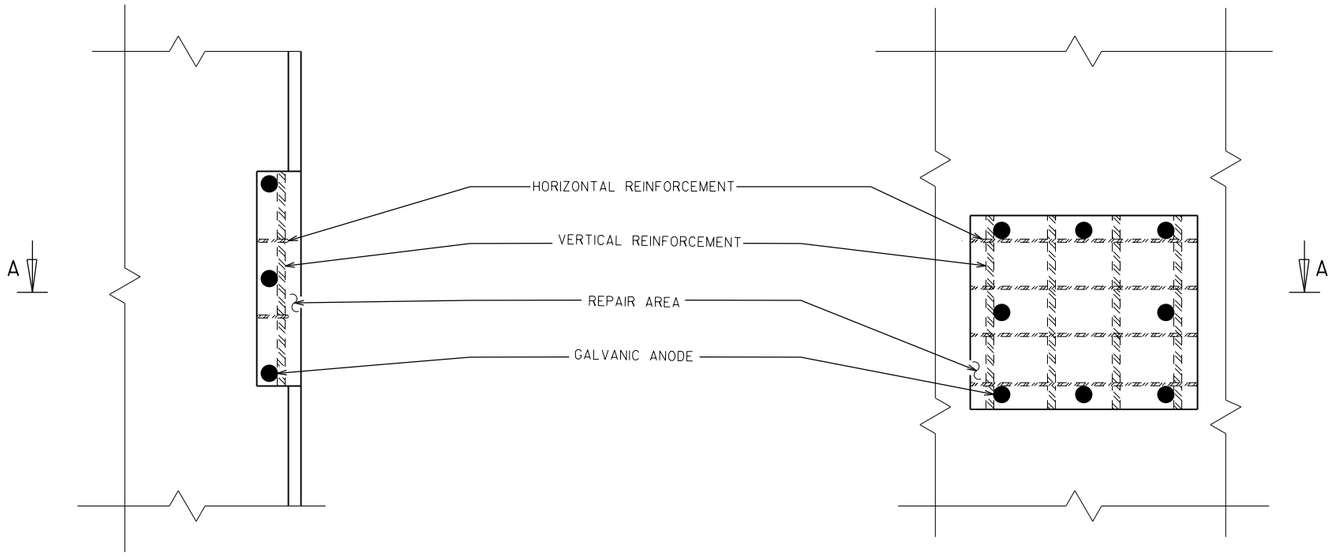
DATE: 10/30/2012
I.D. _____

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8

8

STATE PROJECT NUMBER
1228-26-70

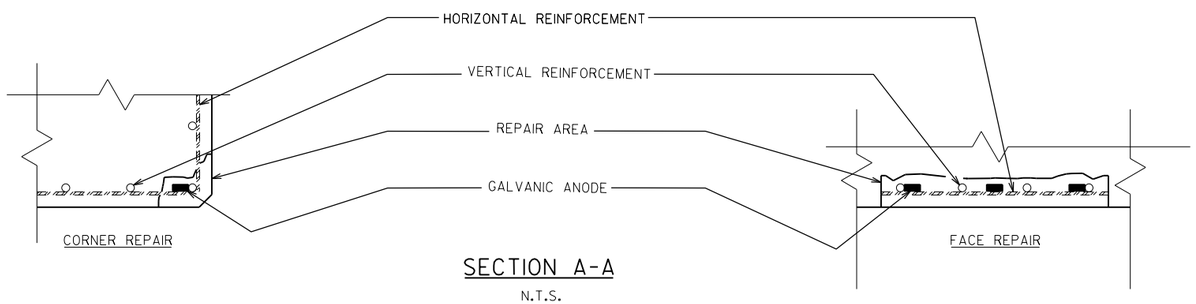


ELEVATION OF CORNER & FACE REPAIRS

N.T.S.

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY MS | PLANS CK'D. AMK

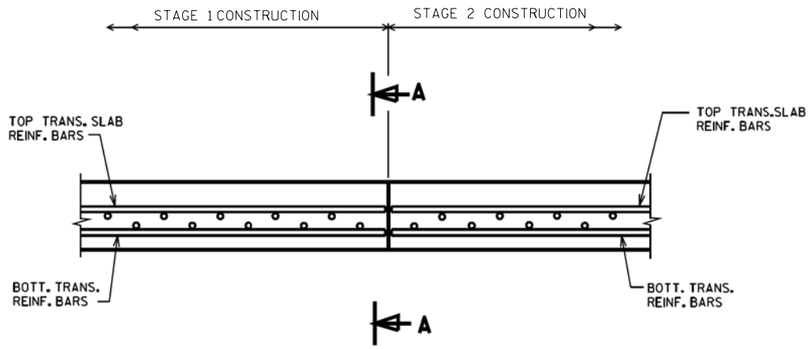
CATHODIC PROTECTION DETAILS

SHEET 10 OF 11

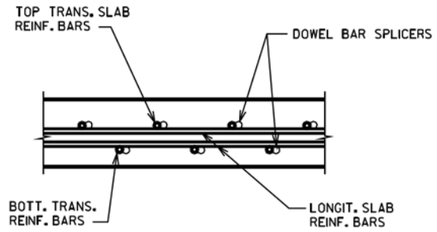
544

STATE PROJECT NUMBER

1228-26-70



SECTION THRU SLAB



SECTION A

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

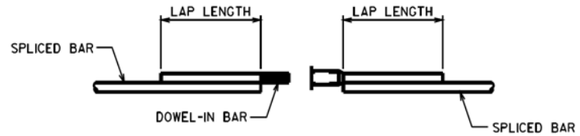
① MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

DOWEL BAR SPLICER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

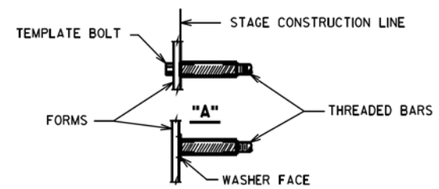


DOWEL BAR SPLICER



ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0176

DRAWN BY MS | PLANS CK'D. AMK

BAR SPLICER AND COUPLER DETAILS

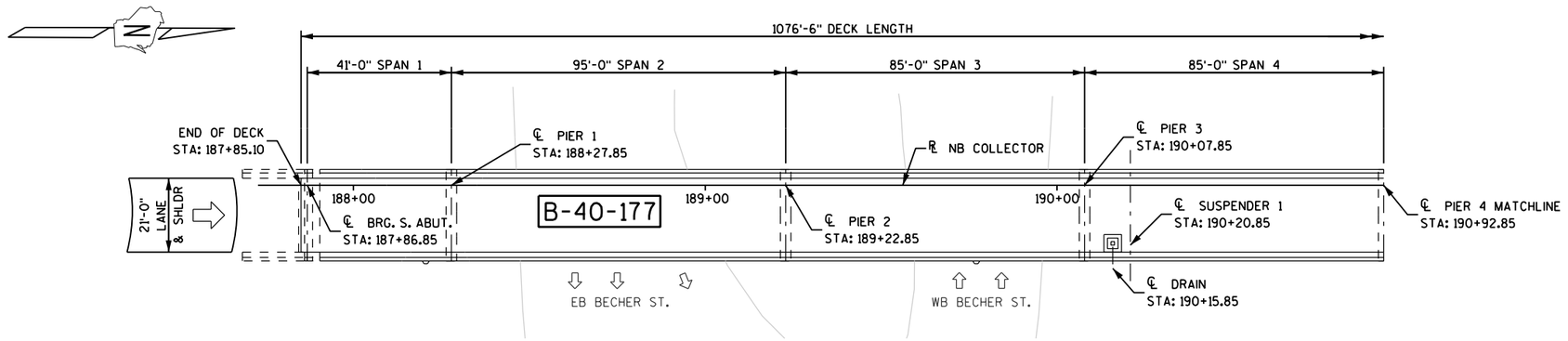
SHEET 11 OF 11

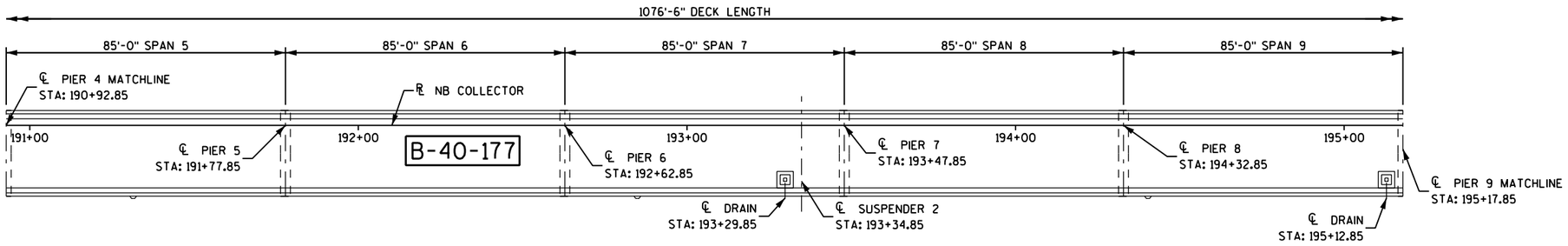
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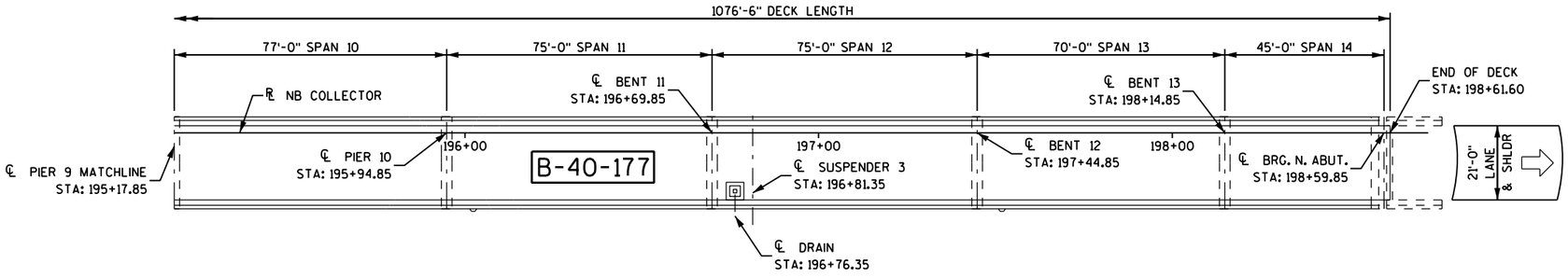
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8

STATE PROJECT NUMBER
1228-26-70







PLAN B-40-177

LIST OF DRAWINGS

1. GENERAL PLAN
2. ELEVATION
3. CROSS SECTION & QUANTITIES
4. CATHODIC PROTECTION DETAILS

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-177

NB COLLECTOR OVER W. BECHER ST.

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY MJH	PLANS CK'D. SJM

GENERAL PLAN

SHEET 1 OF 4

546

SE REGION CONTACT;
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT;
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT;
STEVE MILLER (414) 282-6905

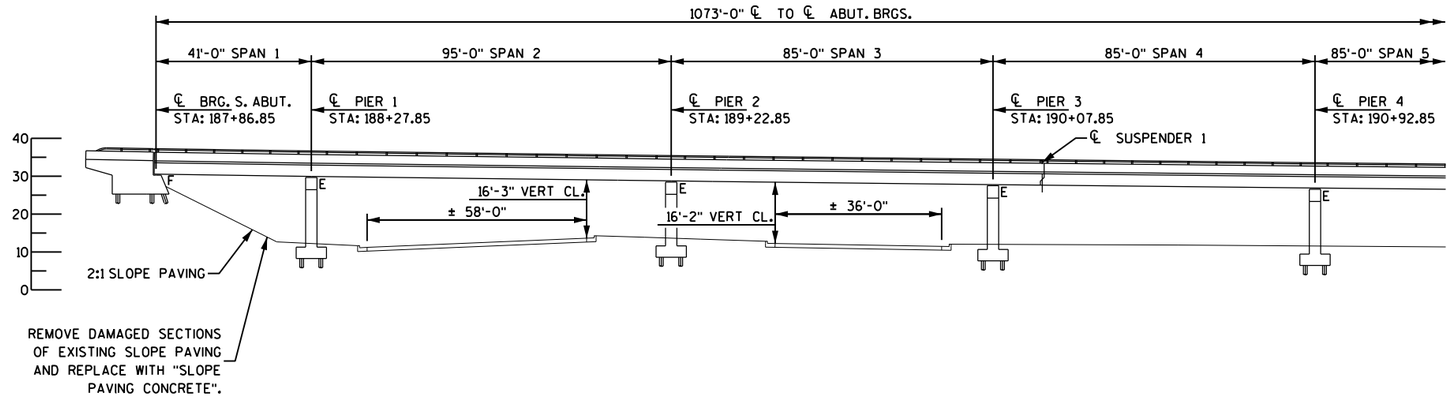
WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
10/01/2012

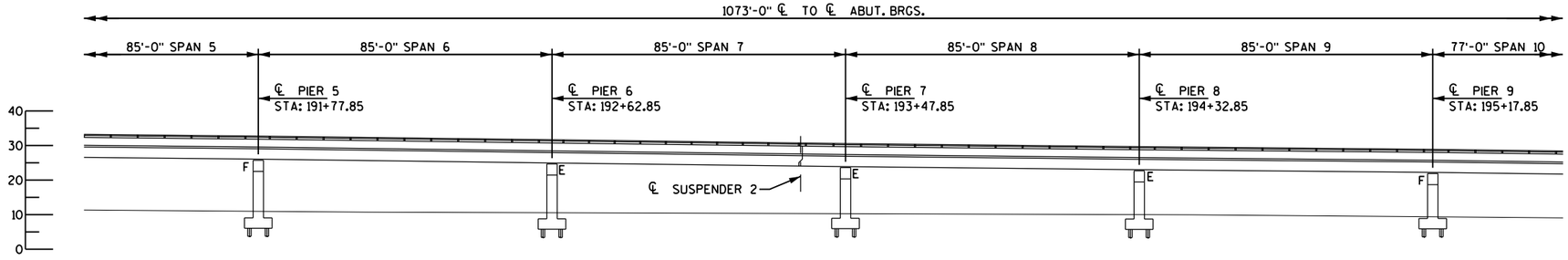
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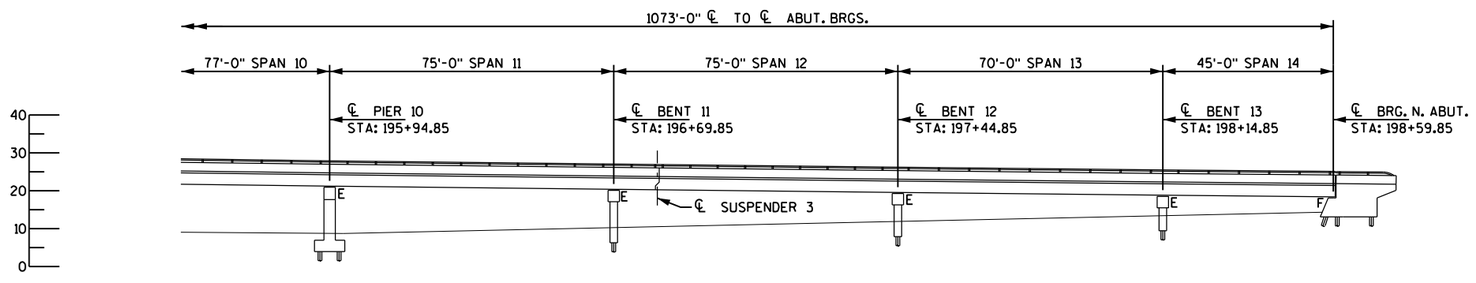
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PLOT DATE :9/28/2012 10:08:28 AM PLOT BY : Nicholas Hornyak+BI DRV :Pdf.bw,HS.739Lblt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70







ELEVATION
(LOOKING WEST)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-177

DRAWN BY MJH | PLANS CK'D. SJM

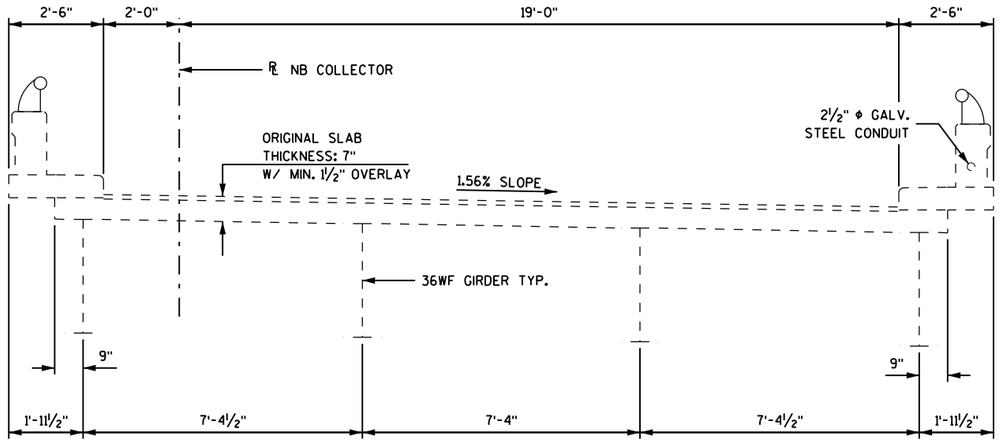
ELEVATION

SHEET 2 OF 4

547

FILE NAME :\02.B.40.177.Elevation.dgn
PLOT DATE :9/28/2012 12:08:29 AM PLOT BY : Nicholas Hornyak WI DRV :Pdf.bw.HS.7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

TRAFFIC DATA

NB CONNECTOR
A.D.T. (2006) = 6,600

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-19
OPERATIONAL RATING	HS-20
MAXIMUM STANDARD PERMIT VEHICLE LOAD	200 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS AND ABUTMENTS.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	S. ABUT	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	PIER 9	PIER 10	BENT 11	BENT 12	BENT 13	N. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	-	1	2	4	-	-	2	7	12	6	2	-	4	40
517.1800.S.07	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-177	LS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
517.4500.S.07	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-40-177	LS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EA	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	2	5	5	5	5	5	5	5	5	4	4	4	3	3	2	62
SPV.0165.01	CATHODIC PROTECTION	SF	-	-	-	-	-	2	4	-	-	-	7	10	6	2	-	3	34

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-177

DRAWN BY MJH | PLANS CK'D. SJM

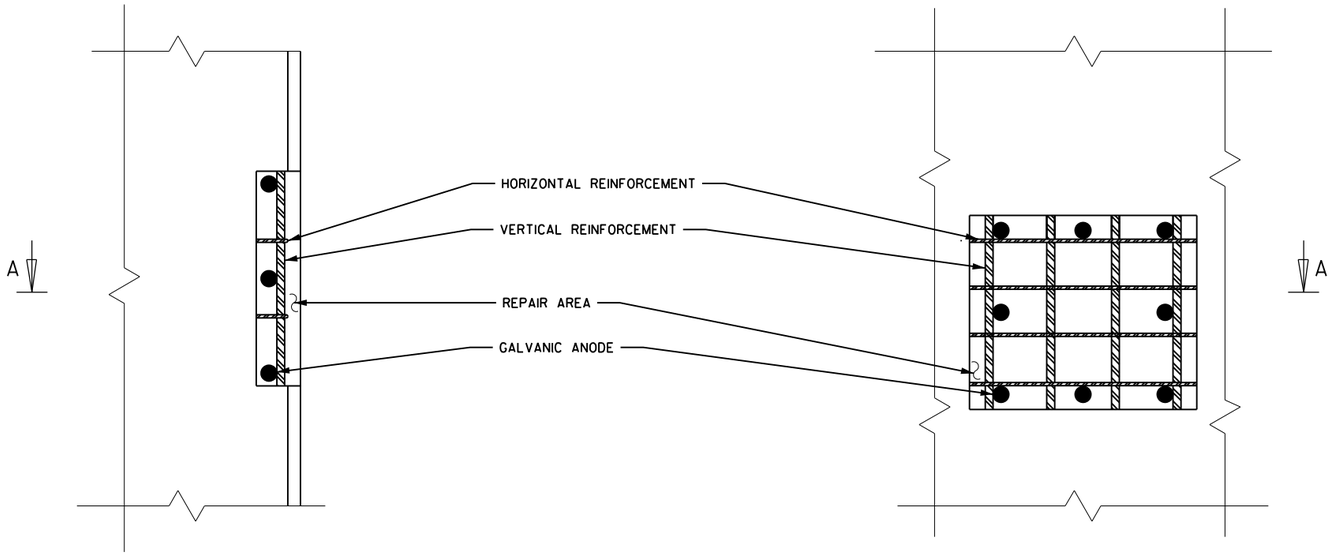
CROSS SECTION & QUANTITIES

SHEET 3 OF 4

548

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STATE PROJECT NUMBER
1228-26-70

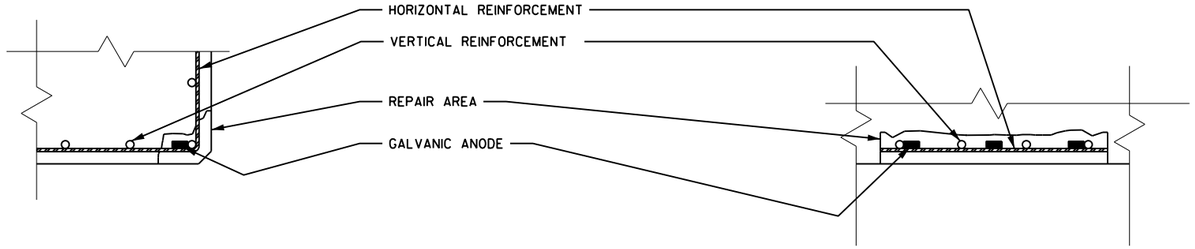


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-177

DRAWN BY	MJH	PLANS CK'D.	SJM

CATHODIC PROTECTION DETAILS

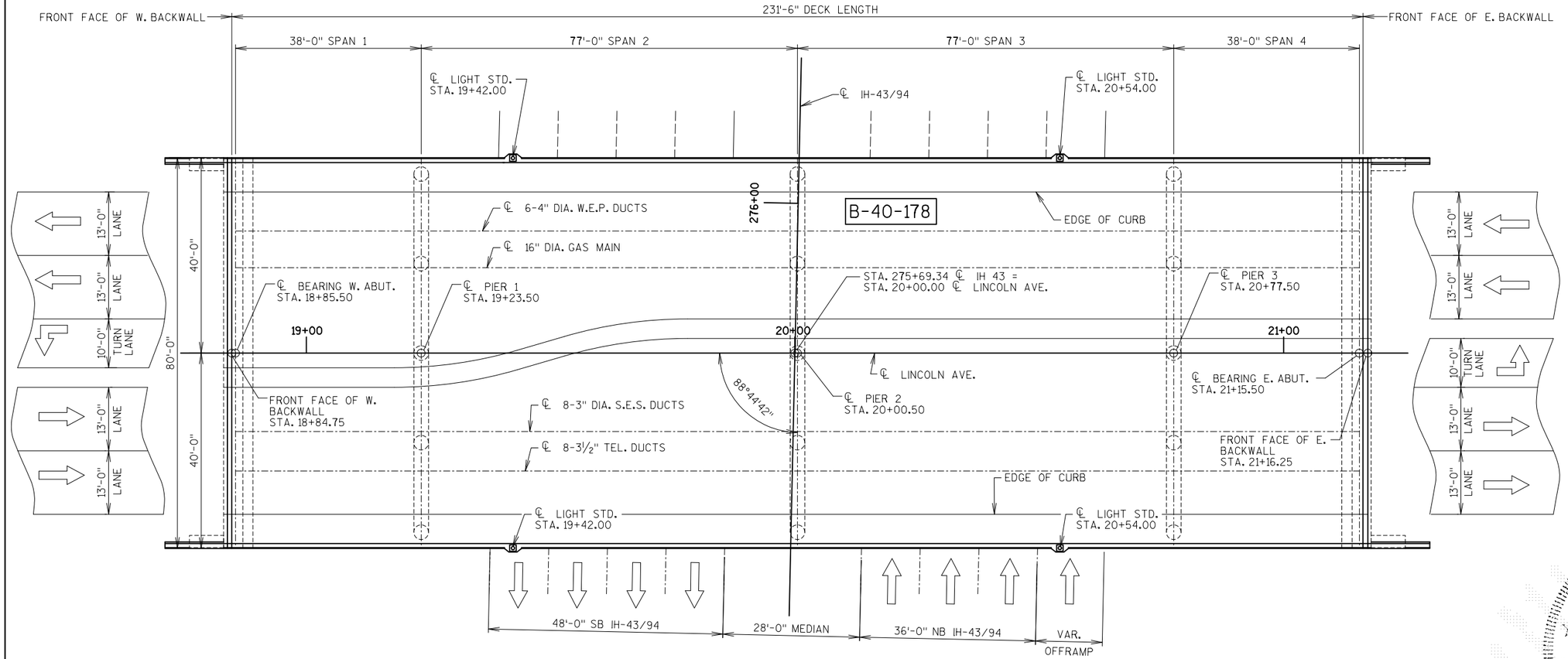
SHEET 4 OF 4

549

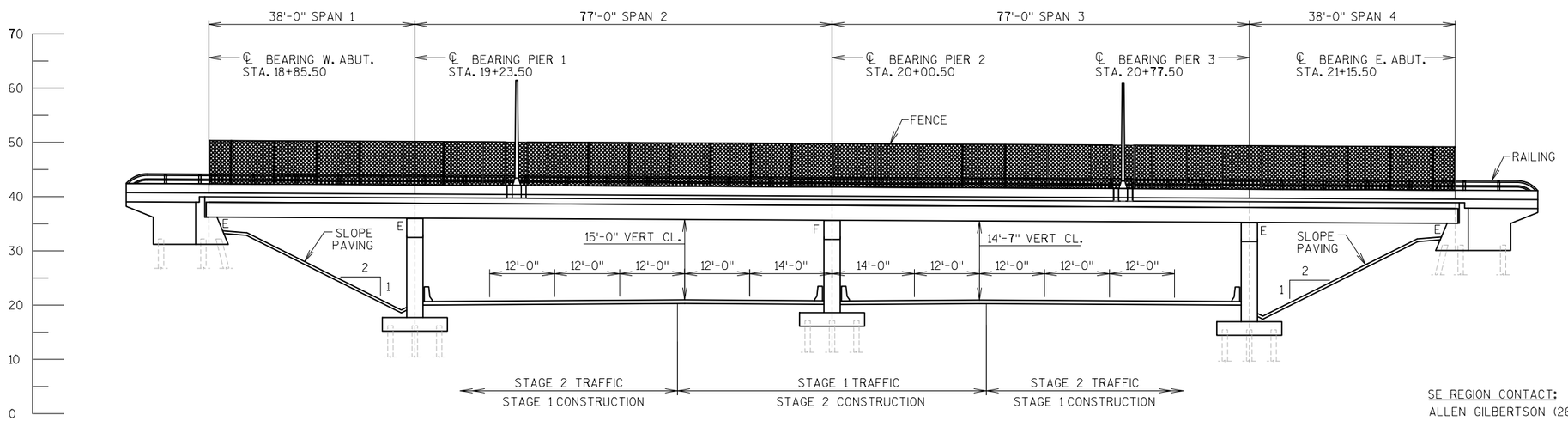
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STATE PROJECT NUMBER

1228-26-70



PLAN B-40-178



ELEVATION

(LOOKING NORTH)

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. TYPICAL SECTION AND QUANTITIES
3. CATHODIC PROTECTION DETAILS

NO.	DATE	REVISION	BY

URS

6737 West Washington Street
Suite 2265
Milwaukee, WI 53214
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-178

LINCOLN AVENUE OVER IH-43/94

COUNTY	TOWN/CITY/VILLAGE
MILWAUKEE	MILWAUKEE

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JDB	MAD	JDB	MAD

GENERAL PLAN AND ELEVATION

SHEET 1 OF 3

550

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MICHAEL DELEMONT (414) 831-4157

WISCONSIN
MICHAEL A. DELEMONT
E-42185
CRYSTAL LAKE, IL
PROFESSIONAL ENGINEER

8

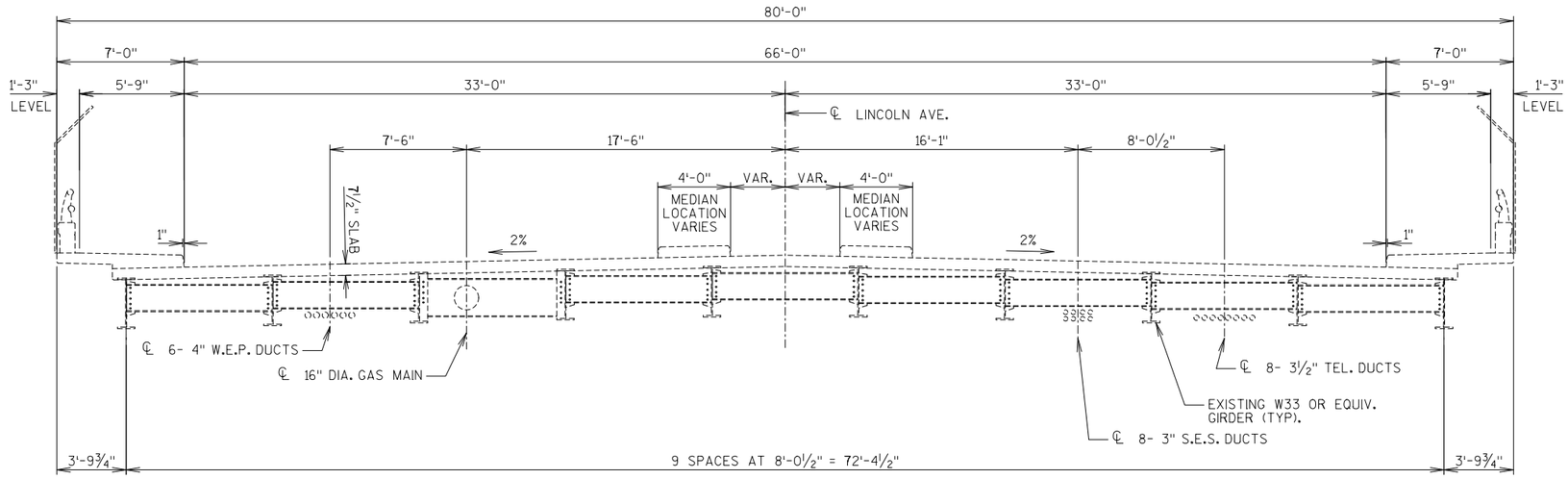
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FILE= P:\Transportation\143 Valley Bridge\CADD\sheets\Structures\B-40-178\01-178_general plan and elevation.dgn

DATE: 10/1/2012
I.D. justin_bohler

STATE PROJECT NUMBER

1228-26-70



TYPICAL SECTION

LOOKING UPSTATION

EXISTING DESIGN DATA

LIVE LOAD:

EXISTING INVENTORY RATING	HS-17
EXISTING OPERATIONAL RATING	HS-28
EXISTING MAXIMUM STANDARD PERMIT VEHICLE LOAD	190 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, GRADE "AA"	F'c = 1,400 P.S.I.
BAR STEEL REINFORCEMENT	Fs = 20,000 P.S.I.
STRUCTURAL CARBON STEEL	Fs = 20,000 P.S.I.
STRUCTURAL LOW ALLOY STEEL	
TO AND INCLUDING ¾" THICK	Fs = 27,000 P.S.I.
OVER ¾" TO AND INCLUDING 1½" THICK	Fs = 25,000 P.S.I.
OVER 1½" THICK	Fs = 23,000 P.S.I.

GENERAL NOTES

THE PROPOSED WORK INCLUDES SUBSTRUCTURE CONCRETE SURFACE REPAIR AND CATHODIC PROTECTION.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION OR CONSTRUCTION.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

COAT ENTIRE CONCRETE SURFACE OF ALL PIERS WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

TRAFFIC DATA

IH-43/94
A.D.T. (2040) - 127,000
D.H.V. (2040) - 12,446
R.D.S. 60 MPH

LINCOLN AVE.
A.D.T. (2035) - 7,681
D.H.V. (2035) - 732
R.D.S. 35 MPH

EXISTING FOUNDATION DATA

EXISTING TREATED TIMBER PILING IS DRIVEN TO A MINIMUM BEARING VALUE OF 30 TONS PER PILE AT THE ABUTMENTS AND 50 TONS PER PILE AT THE PIERS.

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	W. ABUT	PIER 1	PIER 2	PIER 3	E. ABUT	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	0	122	6	8	22	**158**
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	0	13	13	13	0	**39**
SPV.0165.01	CATHODIC PROTECTION	SF	0	122	6	8	22	**158**

ALL ITEMS ARE CATEGORY 100

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-178

DRAWN BY JDB | PLANS CK'D. MAD

TYPICAL SECTION AND QUANTITIES

SHEET 2 OF 3

551

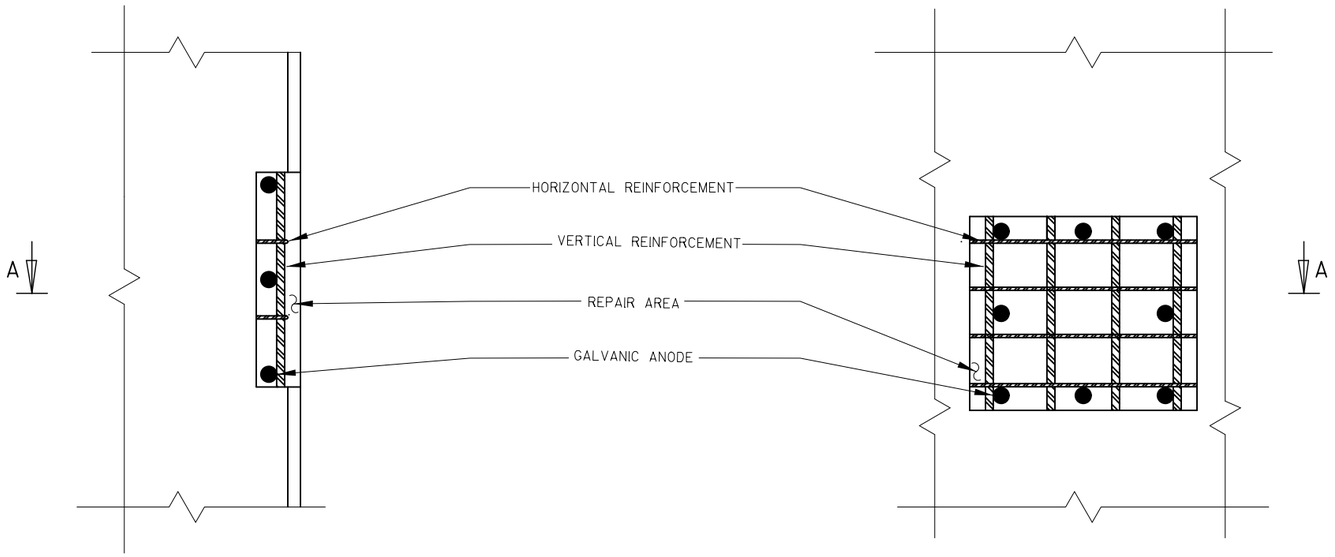
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DATE: 10/1/2012
I.D. Justin_bohler

STATE PROJECT NUMBER
1228-26-70

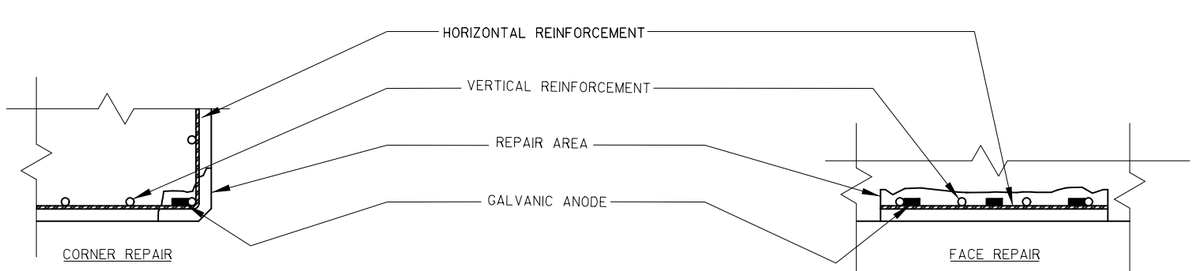


ELEVATION OF CORNER & FACE REPAIRS

N.T.S.

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-178

DRAWN BY MS | PLANS CK'D. MAD

CATHODIC PROTECTION DETAILS

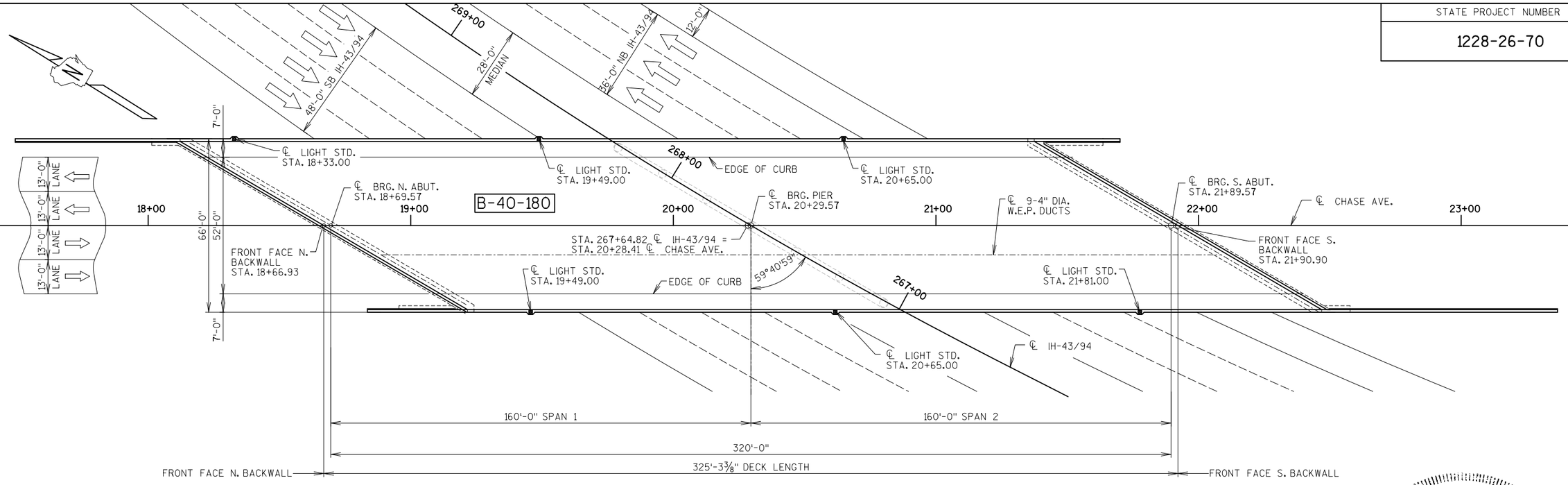
SHEET 3 OF 3

552

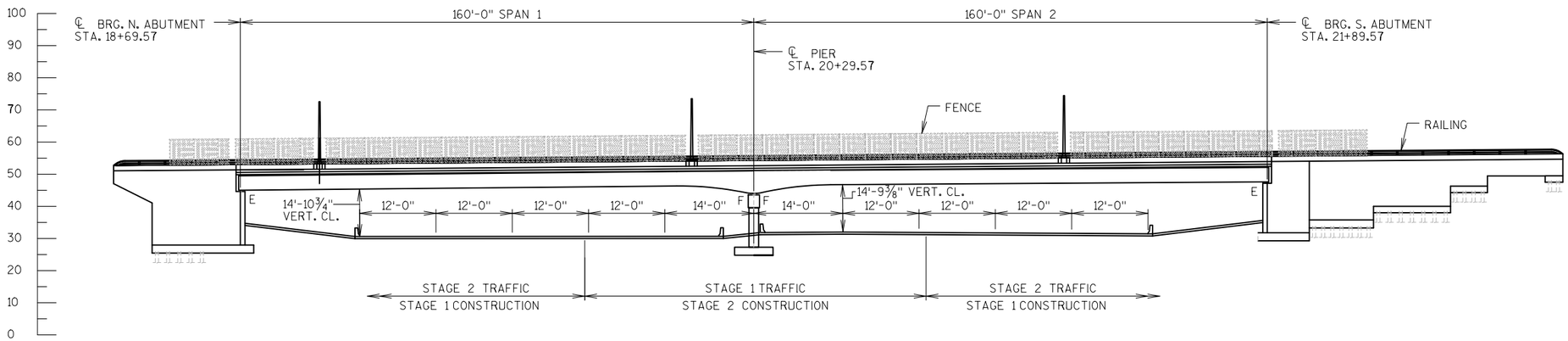
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DATE: 10/1/2012
I.D. justin_bohler

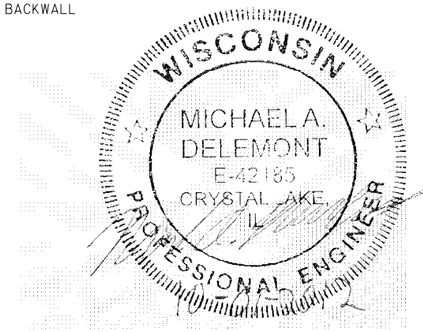
STATE PROJECT NUMBER
1228-26-70



PLAN B-40-180



ELEVATION
(LOOKING NORTHEAST)



LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. TYPICAL SECTION AND QUANTITIES
3. CATHODIC PROTECTION DETAILS

NO.	DATE	REVISION	BY

URS
6737 West Washington Street
Suite 2265
Milwaukee, WI 53214
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-180

CHASE AVENUE OVER IH-43/94

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	MILWAUKEE

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JDB	MAD	JDB	MAD

GENERAL PLAN AND ELEVATION

SHEET 1 OF 3
553

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MICHAEL DELEMONT (414) 831-4157

8

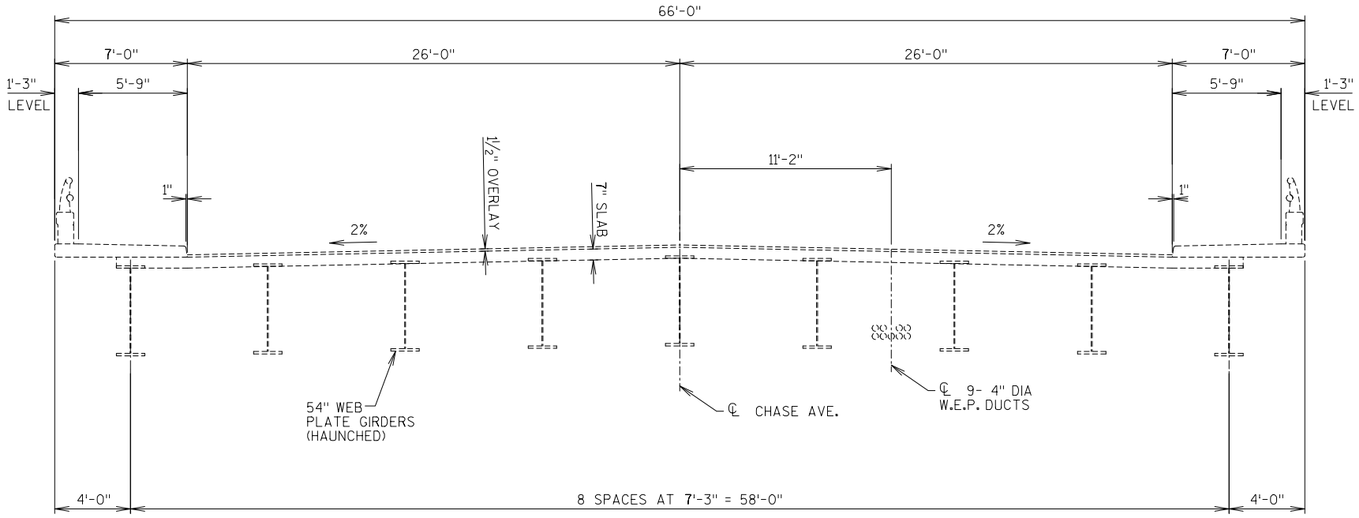
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FILE= P:\Transportation\I43 Valley Bridge\CADD\sheets\Structures\B-40-180\01-180_general plan and elevation.dgn

DATE: 10/1/2012

I.D.

STATE PROJECT NUMBER
1228-26-70



TYPICAL SECTION

LOOKING UPSTATION

EXISTING CURVE DATA

IH-43/94
DELTA = 11° 49' 03"
D = 3° 00'
R = 1909.86'
L = 393.92'
T = 197.66'
P.C. = STA 266+52.33
P.I. = 268+49.99
P.T. = 270+46.25

EXISTING DESIGN DATA

LIVE LOAD:

EXISTING INVENTORY RATING	HS-17
EXISTING OPERATIONAL RATING	HS-30
EXISTING MAXIMUM STANDARD PERMIT VEHICLE LOAD	180 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, GRADE "AA"	F'c = 1,400 P.S.I.
BAR STEEL REINFORCEMENT	Fs = 20,000 P.S.I.
STRUCTURAL CARBON STEEL	Fs = 20,000 P.S.I.
STRUCTURAL LOW ALLOY STEEL	
TO AND INCLUDING 3/4" THICK	Fs = 27,000 P.S.I.
OVER 3/4" TO AND INCLUDING 1 1/2" THICK	Fs = 25,000 P.S.I.
OVER 1 1/2" THICK	Fs = 23,000 P.S.I.

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, SUBSTRUCTURE CONCRETE SURFACE REPAIR AND CATHODIC PROTECTION.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

COAT ENTIRE CONCRETE SURFACE OF ABUTMENT WALLS AND CENTER PIER WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

TRAFFIC DATA

IH-43/94
A.D.T. (2040) - 127,000
D.H.V. (2040) - 12,446
R.D.S. 60 MPH

STH 38 / CHASE AVE.
A.D.T. (2035) - 8,651
D.H.V. (2035) - 734
R.D.S. 35 MPH

EXISTING FOUNDATION DATA

EXISTING TREATED TIMBER PILING IS DRIVEN TO A MINIMUM BEARING VALUE OF 24 TONS PER PILE AT ABUTMENTS AND PIERS.

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	W. ABUT	PIER	E. ABUT	TOTAL
509.1500	CONCRETE SURFACE REPAIR	SF	4	21	11	36
509.9020.S	EPOXY CRACK SEALING	LF	36	0	102	138
517.1800.S.09	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-180	LS	--	--	--	1
517.4500.S.09	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-40-180	LS	--	--	--	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	--	--	--	1
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	19	21	18	58
SPV.0165.01	CATHODIC PROTECTION	SF	4	21	11	36

ALL ITEMS ARE CATEGORY 110

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-180

DRAWN BY JDB | PLANS CK'D. MAD

TYPICAL SECTION AND QUANTITIES

SHEET 2 OF 3

554

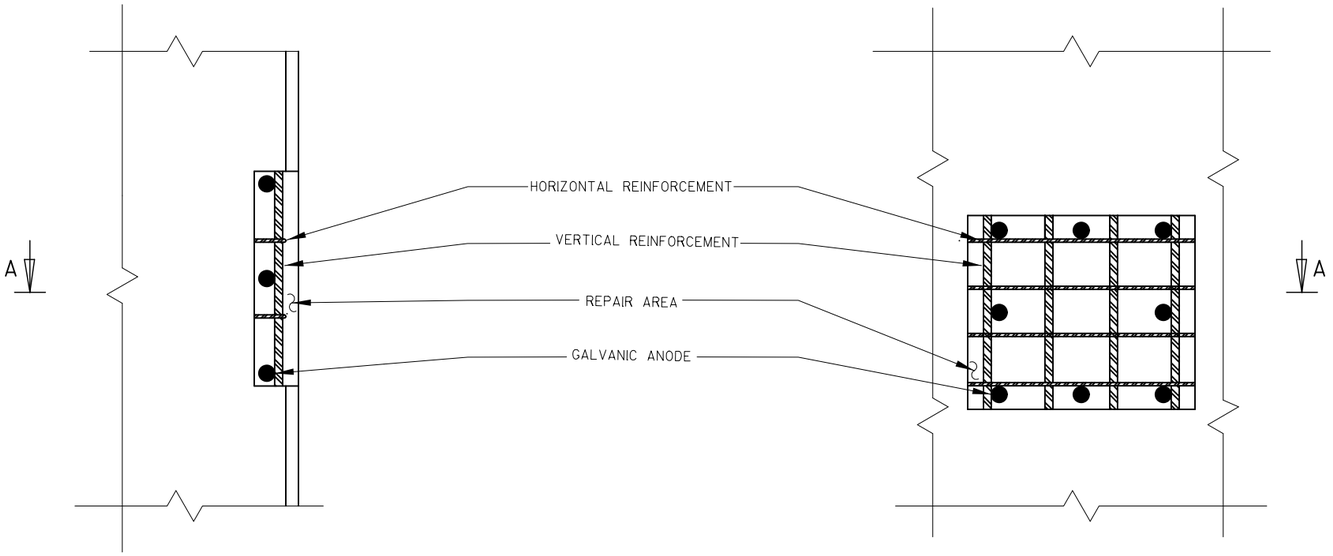
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DATE: 10/1/2012
I.D.

STATE PROJECT NUMBER
1228-26-70

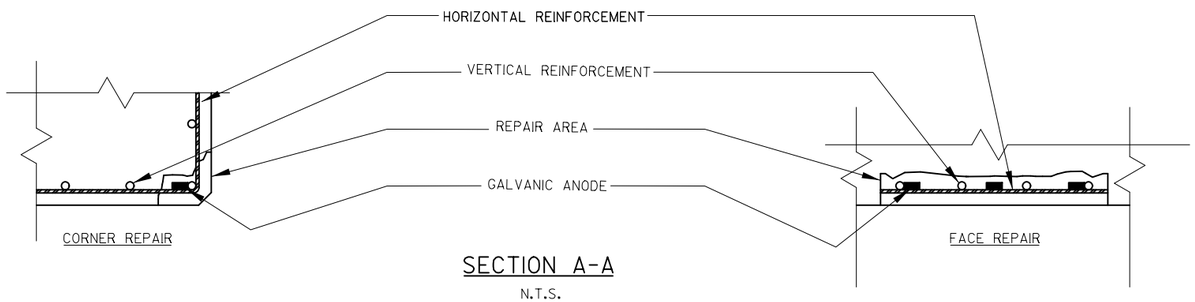


ELEVATION OF CORNER & FACE REPAIRS

N.T.S.

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-180

DRAWN BY: MS | PLANS CK'D.: MAD

CATHODIC PROTECTION DETAILS

SHEET 3 OF 3

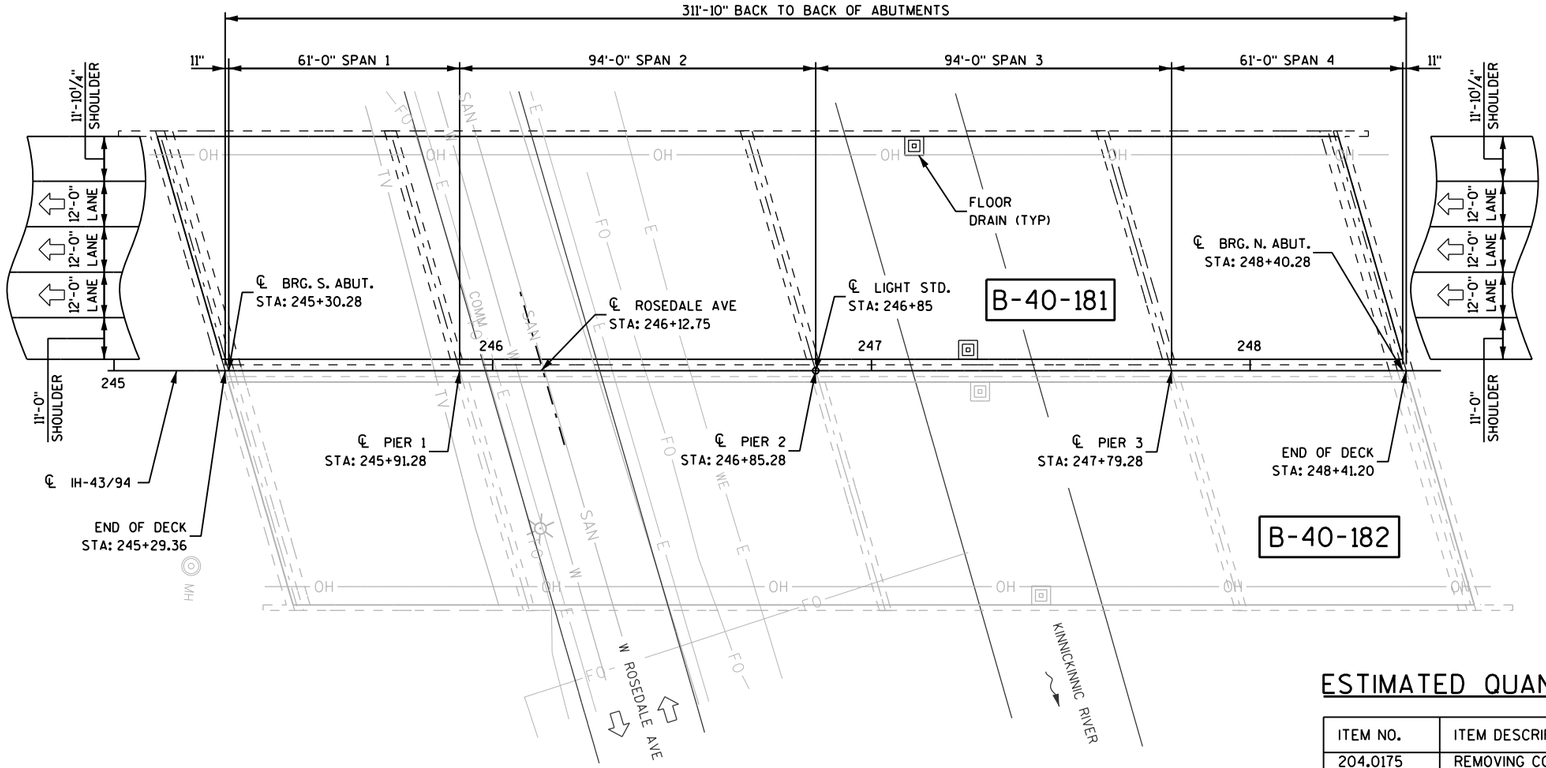
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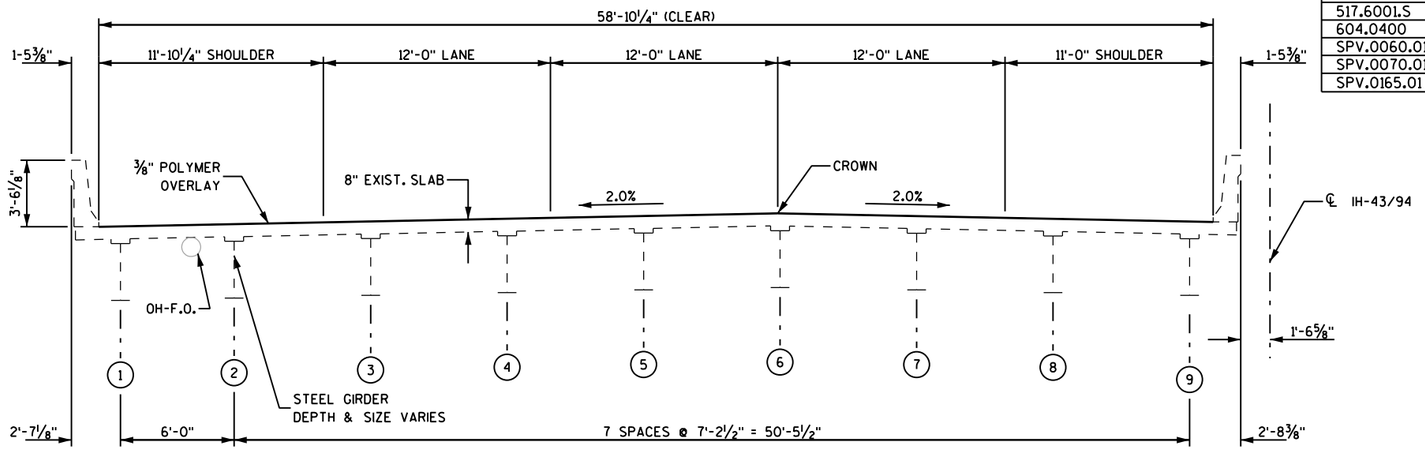
DATE: 10/1/2012

I.D.

STATE PROJECT NUMBER
1228-26-70



PLAN B-40-181



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

DESIGN DATA

LIVE LOAD;

INVENTORY RATING	HS-18
OPERATIONAL RATING	HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD	188 KIPS

ULTIMATE DESIGN STRESSES;

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
STRUCTURAL STEEL (ASTM A709 GRADE A 36)	fY = 36,000 P.S.I.

TRAFFIC DATA

IH-43/94 SB
A.D.T. (2009) = 56,900

LIST OF DRAWINGS

1. GENERAL PLAN
2. CONSTRUCTION STAGING
3. CATHODIC PROTECTION DETAILS
4. DECK REPAIR AREAS
5. UNDERDECK INSPECTION
6. INFRARED INSPECTION RESULTS

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	S. ABUT	PIER 1	PIER 2	PIER 3	N. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	5	-	-	-	5	10
502.3200	PROTECTIVE SURFACE TREATMENT	SY	303	-	-	-	-	-	303
509.1500	CONCRETE SURFACE REPAIR	SF	-	1	3	1	4	-	9
509.5100.S	POLYMER OVERLAY	SY	2040	-	-	-	-	-	2040
517.1800.S.10	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-181	LS	1	-	-	-	-	-	1
517.4500.S.10	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-40-181	LS	1	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	5	-	-	-	5	10
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	9	9	9	9	9	45
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	-	20	-	-	-	20
SPV.0165.01	CATHODIC PROTECTION	SF	-	-	-	-	-	-	5

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
11/1/12

SE REGION CONTACT;
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT;
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT;
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-181

IH-43/94 SB/EB OVER THE KINNICKINNIC RIVER

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY MJH	PLANS CK'D. SJM

GENERAL PLAN

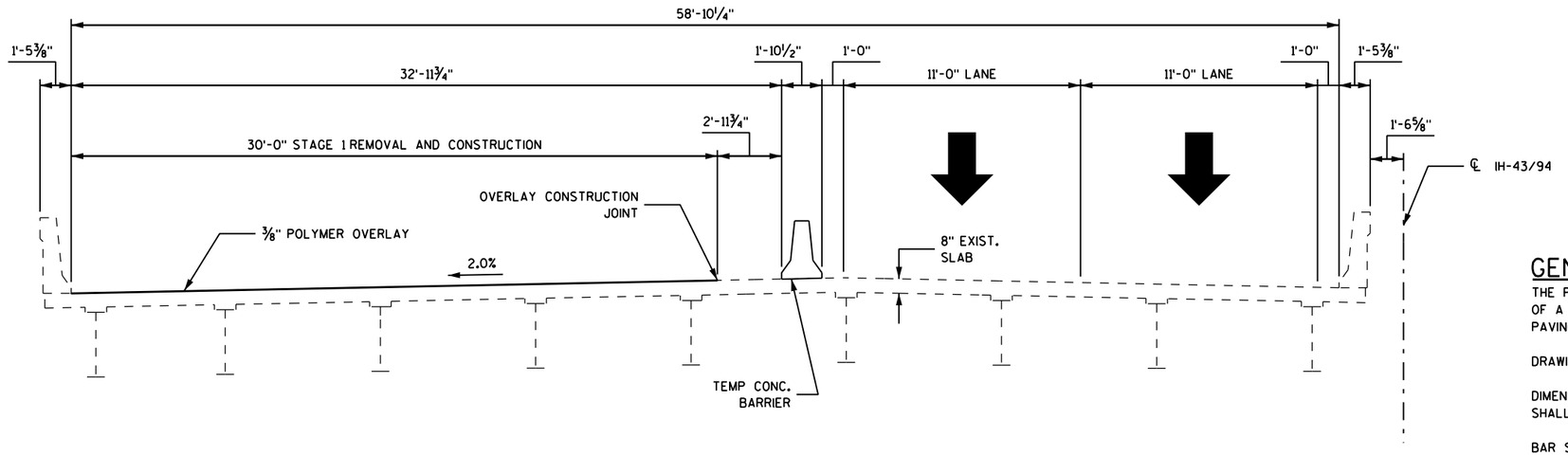
SHEET 1 OF 6
556

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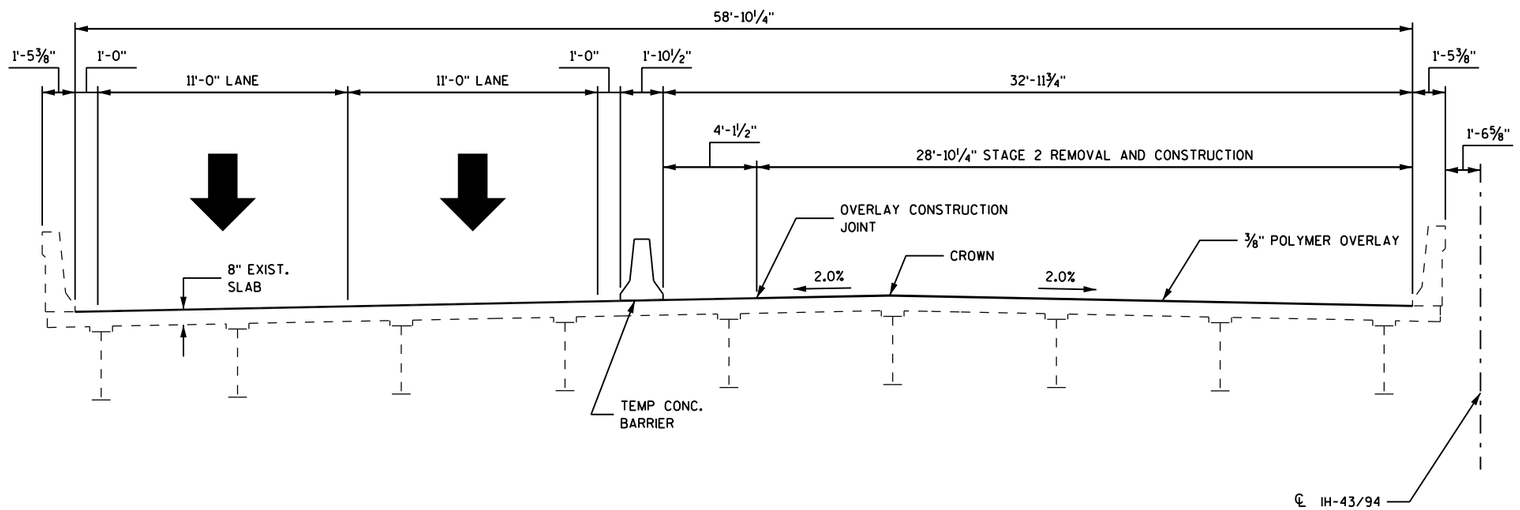
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PLOT DATE :10/24/2012 2:38:38 PM PLOT BY : Nicholas Hornyakv81 DRV :Pdf.bw.HS.7391.ctt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



STAGE 1- CROSS SECTION THRU SB BRIDGE

(LOOKING NORTH)



STAGE 2 - CROSS SECTION THRU SB BRIDGE

(LOOKING NORTH)

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, PLACEMENT OF A POLYMER OVERLAY, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

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

THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

ENTIRE DECK SURFACE SHALL BE PREPARED TO RECEIVE A POLYMER OVERLAY BY SHOTBLASTING TO THE DESIRED REQUIREMENTS. REFER TO THE PROJECT SPECIFICATIONS FOR DETAILS ON REQUIREMENTS FOR DECK PREPARATION. SHOTBLASTING DECK PREPARATION IS INCIDENTAL TO THE POLYMER OVERLAY BID ITEM.

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIER 1.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-181

DRAWN BY MJH | PLANS CK'D. SJM

CONSTRUCTION STAGING

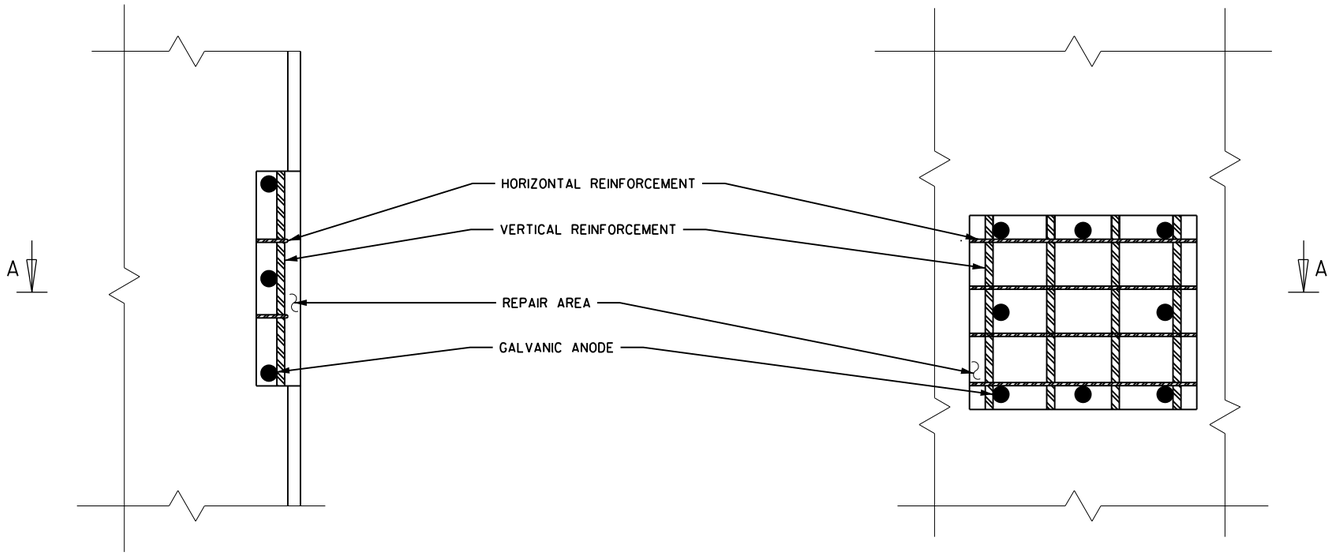
SHEET 2 OF 6
557

8

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FILE NAME :\02.8.40.181.Traffic Staging.dgn
PLOT DATE :10/24/2012 2:38:39 PM PLOT BY : Nicholas Hornyak WB DRV :Pdf.bw.HS.739Lplt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

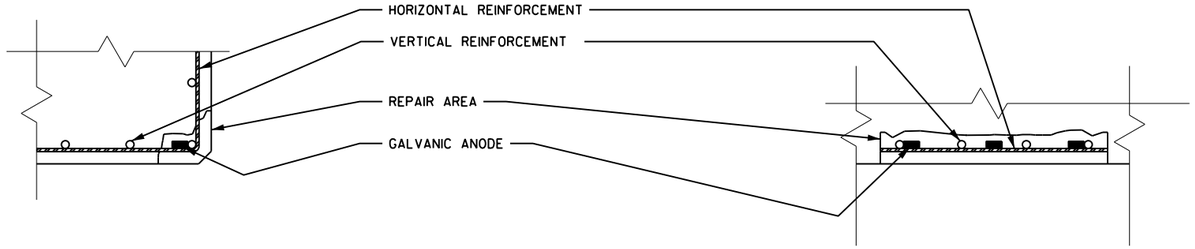


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-181

DRAWN BY	MJH	PLANS CK'D.	SJM

CATHODIC PROTECTION DETAILS

SHEET 3 OF 6

558

FILE NAME :03_B-40-181_Cathodic Protection Details.dgn
PLOT DATE :10/24/2012 2:38:44 PM PLOT BY : NicholasHornyakvBI DRV :Pdf_bw_HS_7391.drt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

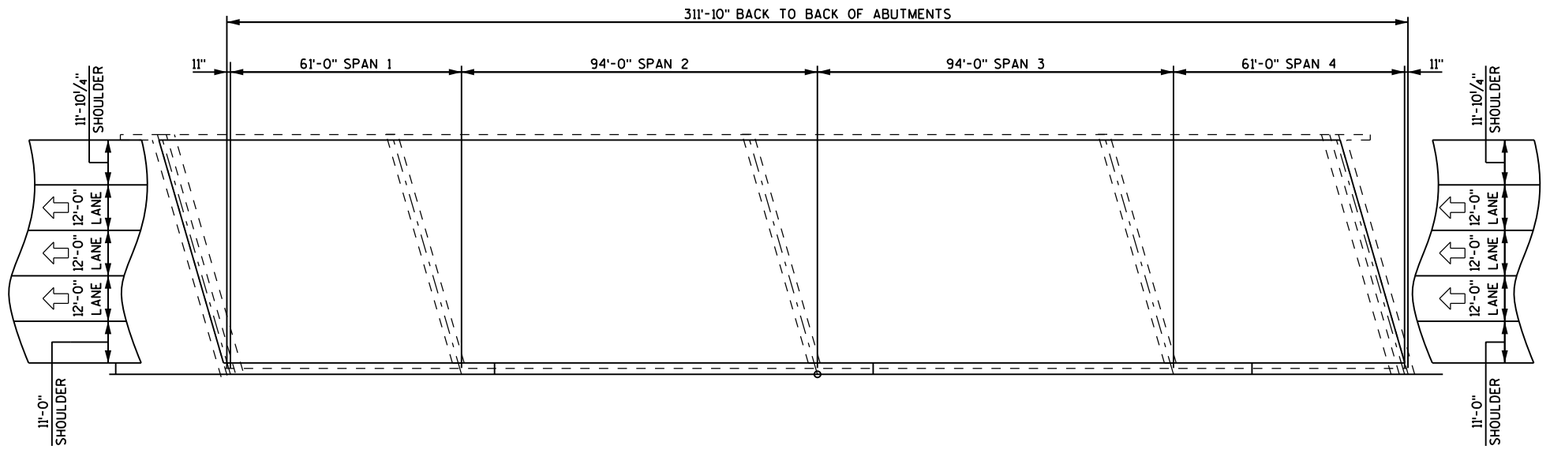
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

PROPOSED REHAB AREAS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-181		LEGEND	
ITEM	UNIT	QUANT.	%		
TOTAL AREA	yd.^{2}	2,040		DECK PREPARATION AREA	DELAMINATION
SHADE/DEBRIS	yd.^{2}	0			SPALL
PREPARATION, DECKS, TYPE 1	yd.^{2}	0	0		DEBOND
PREPARATION, DECKS, TYPE 2 ✳	yd.^{2}	0	0	SHADE/DEBRIS	ASPHALT PATCH
FULL DEPTH DECK REPAIR ✳	yd.^{2}	0	0		CONCRETE PATCH

✳ ESTIMATED



PLAN B-40-181

SCALE, FEET 0 12 24
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-181

DRAWN BY VC | PLANS CK'D. SJM

DECK REPAIR AREAS

SHEET 4 OF 6
559

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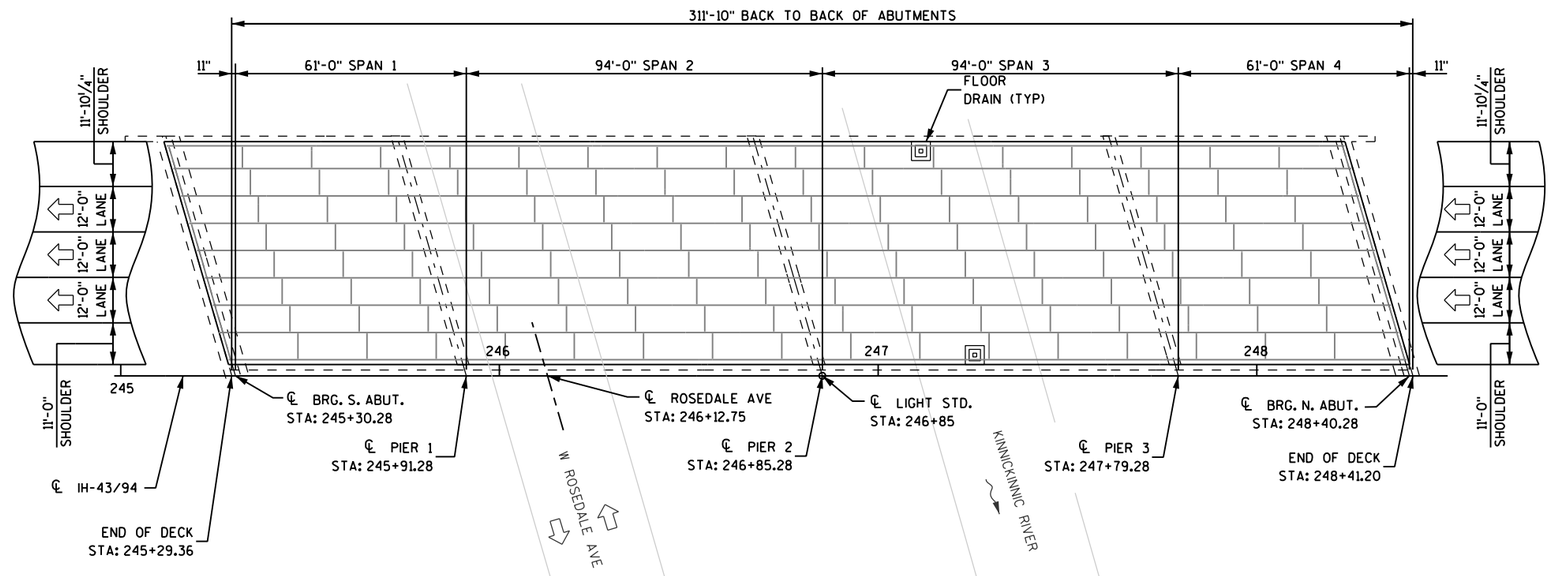
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FILE NAME :04_B_40_181_Deck Repair Areas.dgn
PLOT DATE :10/31/2012 10:33:52 AM PLOT BY : MatthewHollandv8i DRV :Pdf_bw_HS_7391.prt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-181		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	18,360	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



PLAN B-40-181

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INLCUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/6/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-181

DRAWN BY	VC	PLANS CK'D.	SJM

UNDERDECK INSPECTION

SHEET 5 OF 6
560

8

8

FILE NAME :05.B.40.181.UnderDeck Repair Areas.dgn
PLOT DATE :10/24/2012 2:38:45 PM PLOT BY : NicholasHornyak@8 DRV :Pdf.bw.M5.7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

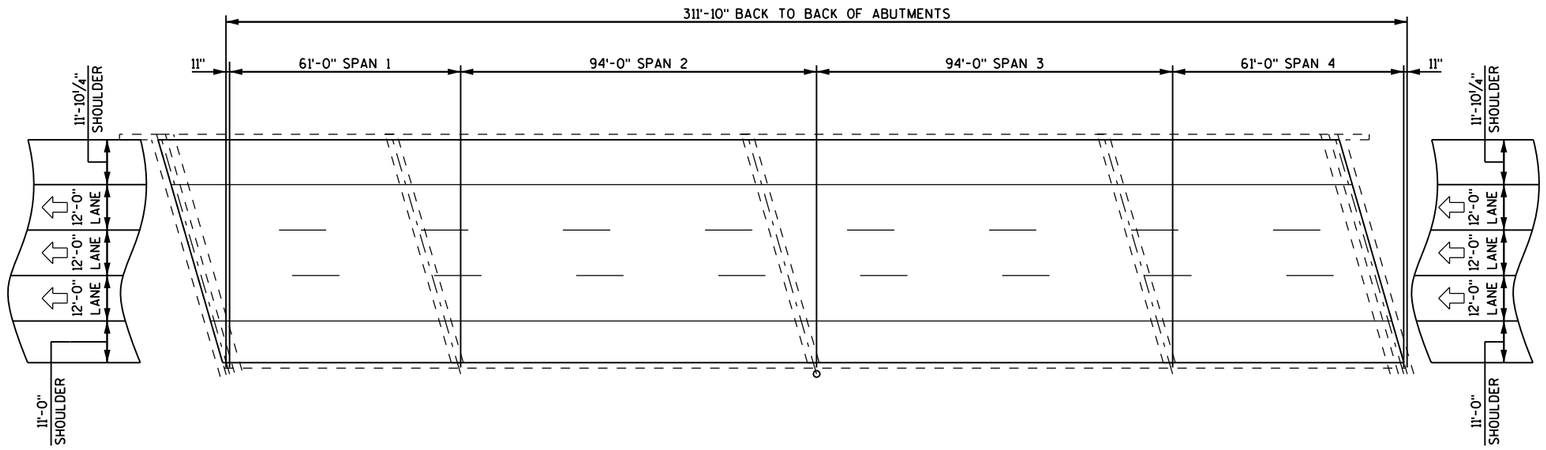
NOTE:

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-181		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	18,357		SPALL
SHADE/DEBRIS	ft.^{2}	0		DEBOND
DELAMINATION	ft.^{2}	0	0	ASPHALT PATCH
SPALL	ft.^{2}	0	0	CONCRETE PATCH
DEBOND	ft.^{2}	N/A	----	SHADE/DEBRIS
ASPHALT PATCH	ft.^{2}	0	0	
CONCRETE PATCH	ft.^{2}	0	0	



PLAN B-40-181

SCALE, FEET 0 10 20
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-181

DRAWN BY VC | PLANS CK'D. SJM

INFRARED INSPECTION RESULTS

SHEET 6 OF 6

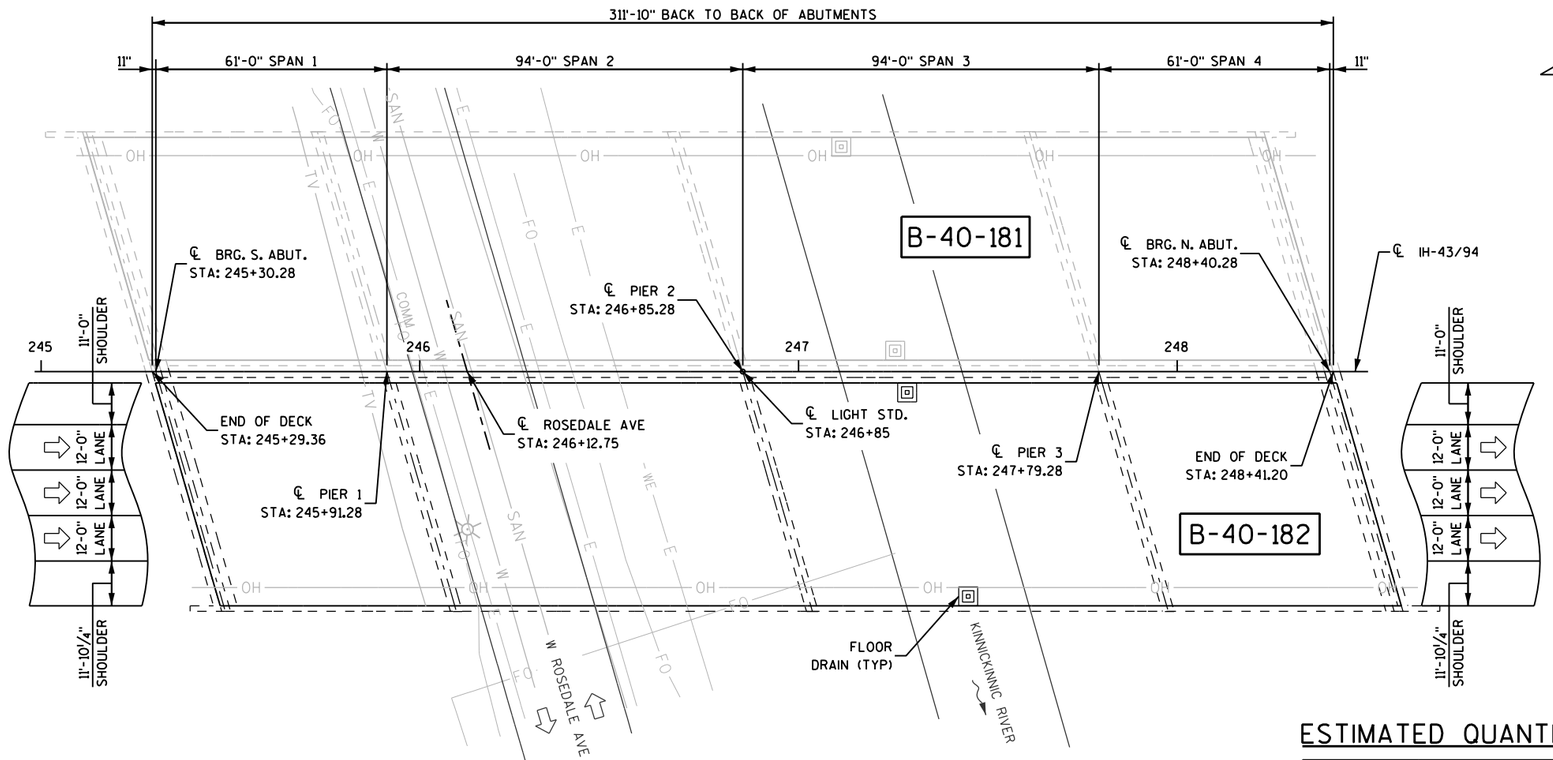
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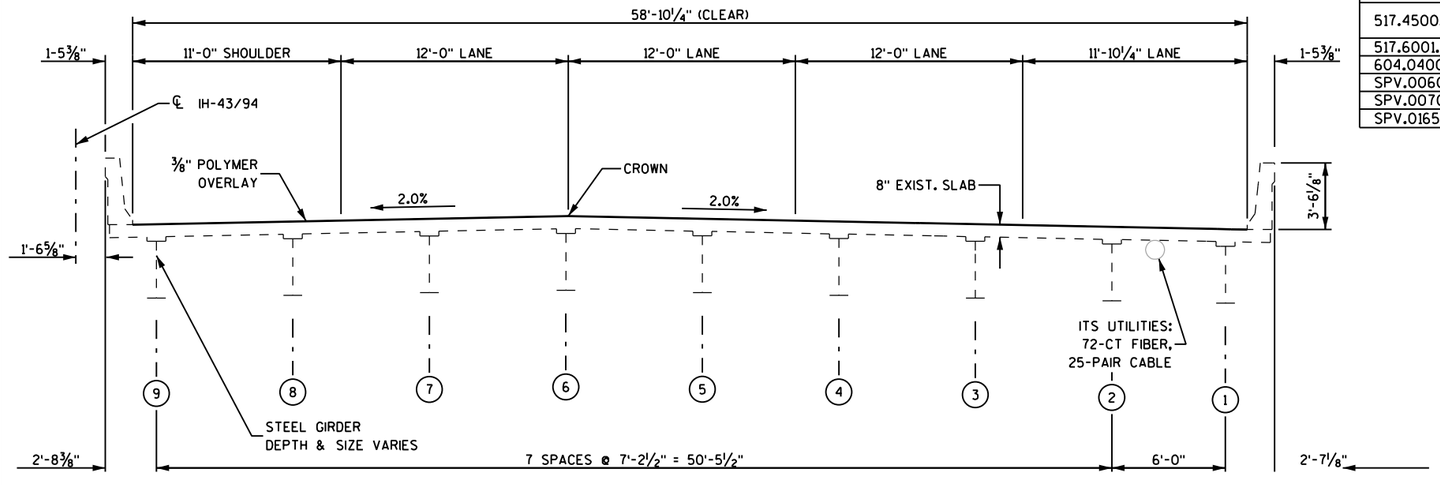
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FILE NAME :06_B_40_181_Infared Inspection.dgn
PLOT DATE :10/24/2012 2:38:45 PM PLOT BY : NicholasHornyakvBt DRV :Pdf_bw_HS_7391.drt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



PLAN B-40-182



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-18
OPERATIONAL RATING	HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD	188 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.
STRUCTURAL STEEL (ASTM A709 GRADE A 36)	fY = 36,000 P.S.I.

TRAFFIC DATA

IH-43/94 NB
A.D.T. (2009) = 51,800

LIST OF DRAWINGS

1. GENERAL PLAN
2. CONSTRUCTION STAGING
3. CATHODIC PROTECTION DETAILS
4. DECK REPAIR AREAS
5. UNDERDECK INSPECTION
6. INFRARED INSPECTION RESULTS

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	S. ABUT	PIER 1	PIER 2	PIER 3	N. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	10	-	-	-	10	20
502.3200	PROTECTIVE SURFACE TREATMENT	SY	303	-	-	-	-	-	303
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	15	15	4	34
509.5100.S	POLYMER OVERLAY	SY	2040	-	-	-	-	-	2040
517.1800.S.11	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-182	LS	1	-	-	-	-	-	1
517.4500.S.11	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-40-182	LS	1	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	10	-	-	-	10	20
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	9	9	9	9	9	45
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	20	-	-	-	-	20
SPV.0165.01	CATHODIC PROTECTION	SF	-	-	-	15	10	-	25

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
11/1/12

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-182

IH-43/94 NB/WB OVER THE KINNICKINNIC RIVER

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY MJH	PLANS CK'D. SJM

GENERAL PLAN

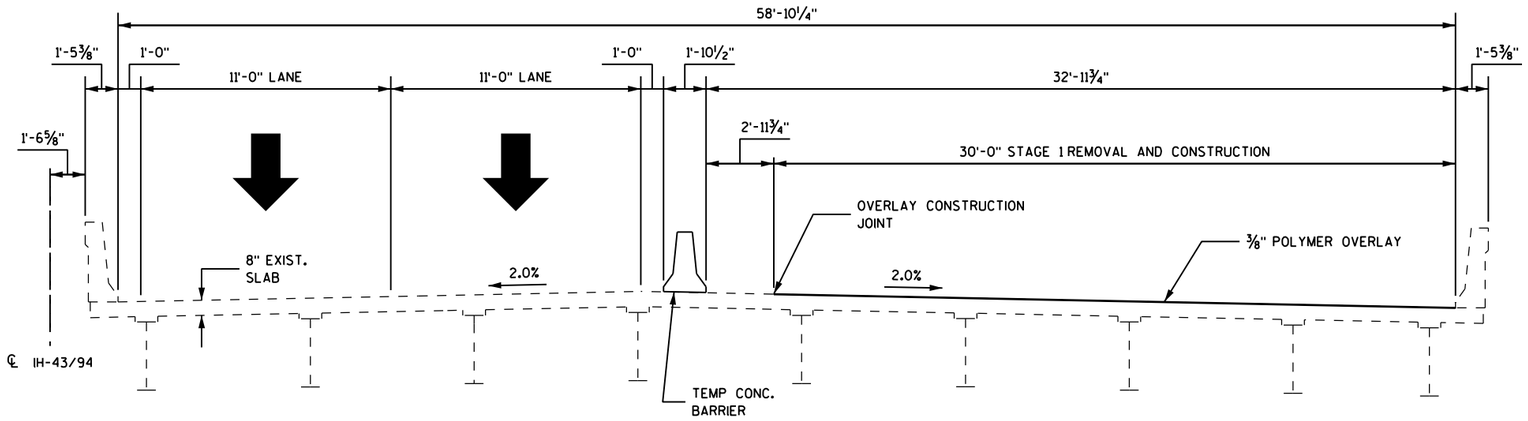
SHEET 1 OF 6
562

8

8

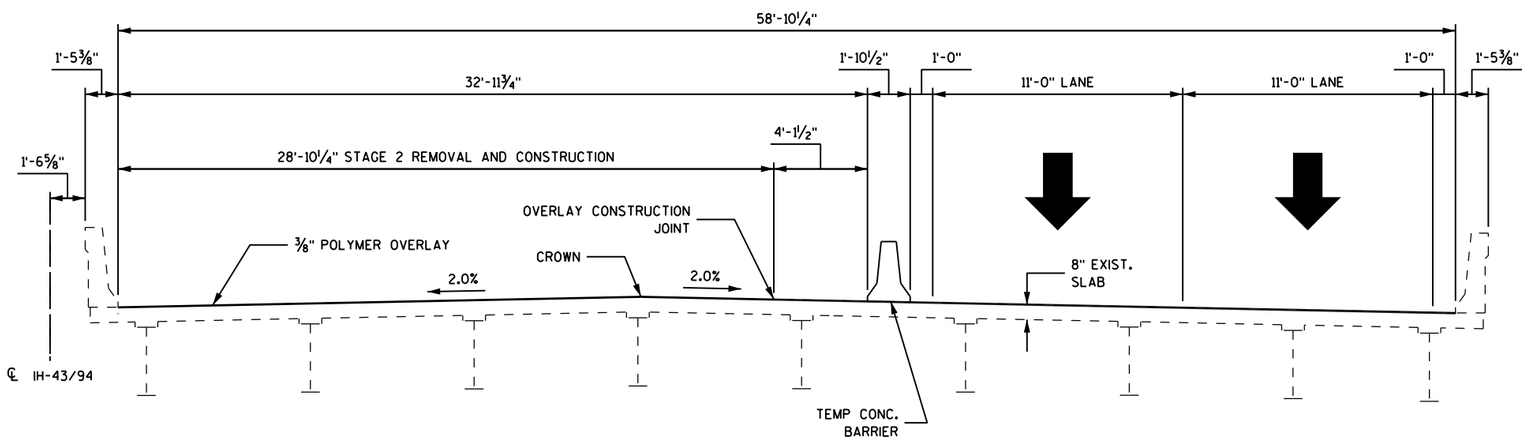
FILE NAME :01.B-40-182.Epoxy Overlay.dgn
PLOT DATE :10/24/2012 2:39:20 PM PLOT BY : Nicholas Hornyak-WI DRV :Pdf.bw,HS.739Lblt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



STAGE 1 - CROSS SECTION THRU NB BRIDGE

(LOOKING NORTH)



STAGE 2 - CROSS SECTION THRU NB BRIDGE

(LOOKING NORTH)

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, PLACEMENT OF A POLYMER OVERLAY, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

ENTIRE DECK SURFACE SHALL BE PREPARED TO RECEIVE A POLYMER OVERLAY BY SHOTBLASTING TO THE DESIRED REQUIREMENTS. REFER TO THE PROJECT SPECIFICATIONS FOR DETAILS ON REQUIREMENTS FOR DECK PREPARATION. SHOTBLASTING DECK PREPARATION IS INCIDENTAL TO THE POLYMER OVERLAY BID ITEM.

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIER 1.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-182

DRAWN BY	MJH	PLANS CK'D.	SJM

CONSTRUCTION STAGING

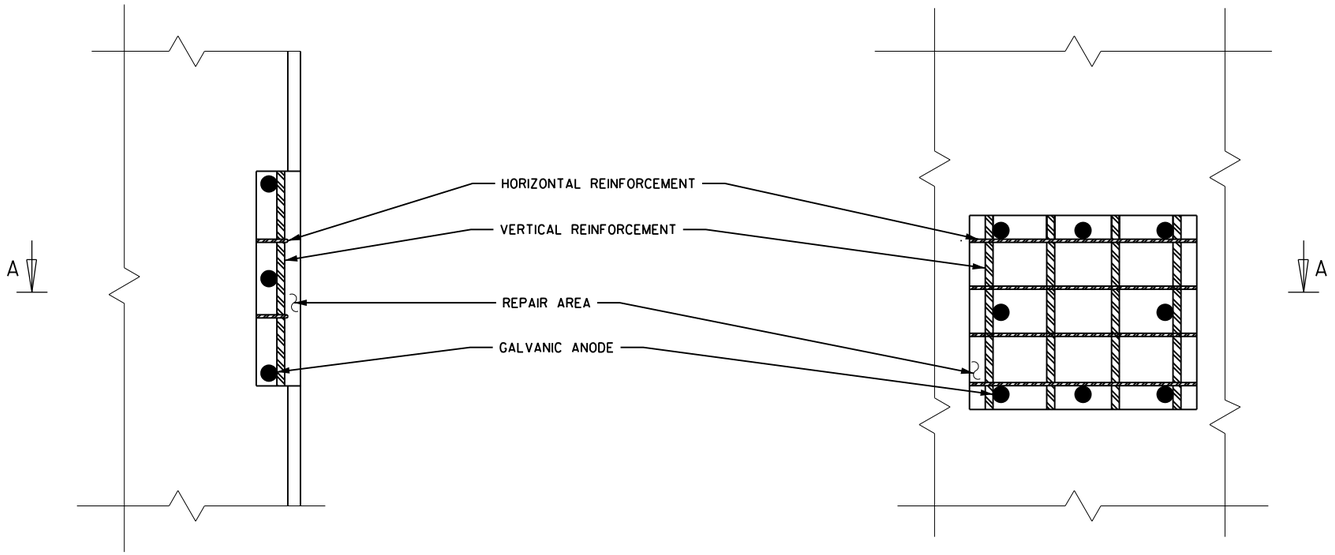
SHEET 2 OF 6

563

FILE NAME :02.B.40.182.Traffic Staging.dgn
PLOT DATE :10/24/2012 2:39:20 PM PLOT BY : Nicholas Hornyak-VBI DRV :Pdf.bw.HS.T391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70

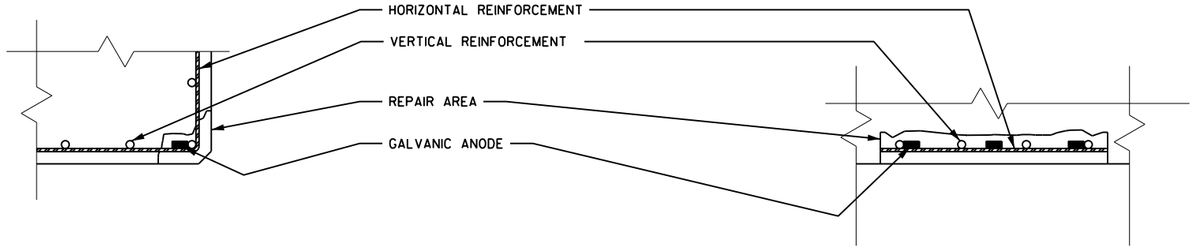


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-182

DRAWN BY MJH | PLANS CK'D. SJM

CATHODIC PROTECTION DETAILS

SHEET 3 OF 6

564

FILE NAME :03.B-40-182.Cathodic Protection Details.dgn
PLOT DATE :10/24/2012 2:39:27 PM PLOT BY : NicholasHornyakvBI DRV :Pdf.bw.HS.7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

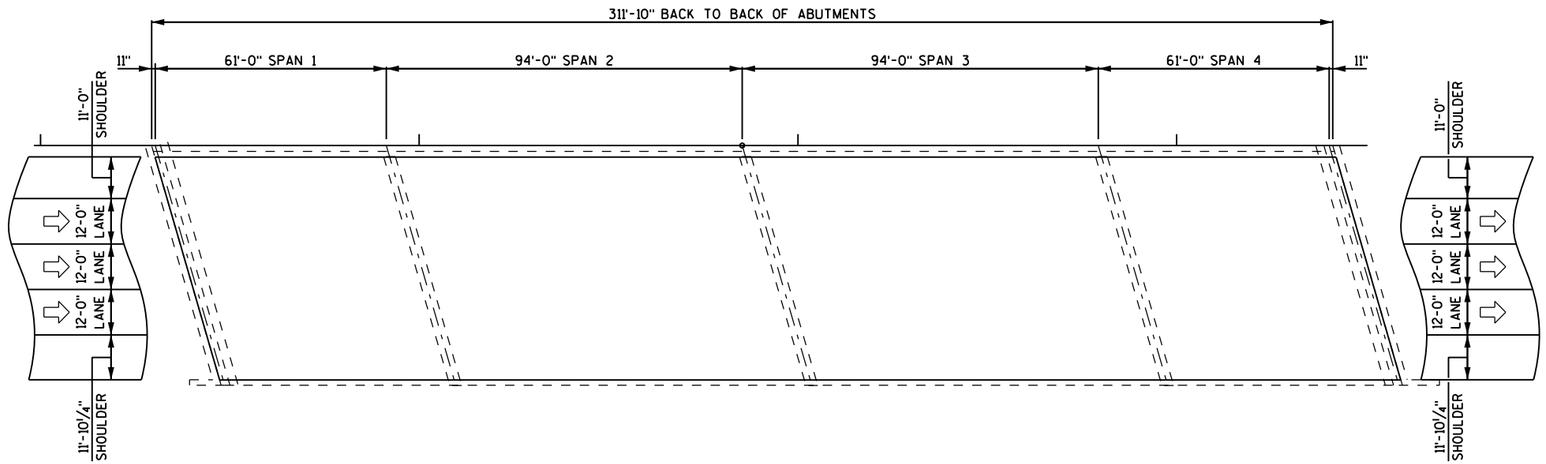
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

PROPOSED REHAB AREAS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-182		LEGEND
ITEM	UNIT	QUANT.	%	DECK PREPARATION AREA; SHADE/DEBRIS; DELAMINATION; SPALL; DEBOND; ASPHALT PATCH; CONCRETE PATCH
TOTAL AREA	$yd.^2$	2,040		
SHADE/DEBRIS	$yd.^2$	0		
PREPARATION, DECKS, TYPE 1	$yd.^2$	0	0	
PREPARATION, DECKS, TYPE 2 *	$yd.^2$	0	0	
FULL DEPTH DECK REPAIR *	$yd.^2$	0	0	

* ESTIMATED



PLAN B-40-182

SCALE, FEET 0 10 20
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-182

DRAWN BY VC | PLANS CK'D. SJM

DECK REPAIR AREAS

SHEET 4 OF 6

565

8

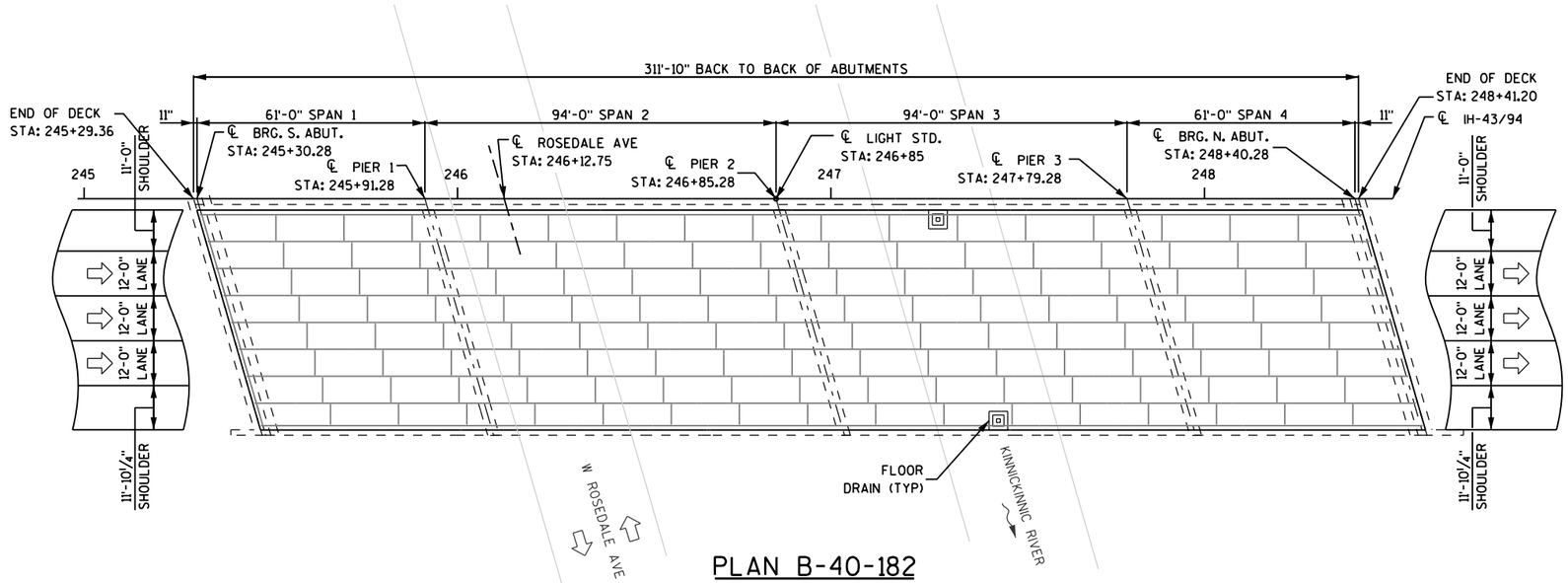
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FILE NAME :04_B-40-182_Deck Repair Areas.dgn
PLOT DATE :10/24/2012 2:39:27 PM PLOT BY : NicholasHornyak.vit DRV :Pdf_bw_HS_7391.tbl PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-182		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	ft.^{2}	18,360	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	0	0	



PLAN B-40-182

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/6/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-182

DRAWN BY	VC	PLANS CK'D.	SJM

UNDERDECK INSPECTION

SHEET 5 OF 6
566

8

8

FILE NAME :05_B-40-182_UnderDeck Repair Areas.dgn
PLOT DATE :10/24/2012 2:39:27 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_7391.dat PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

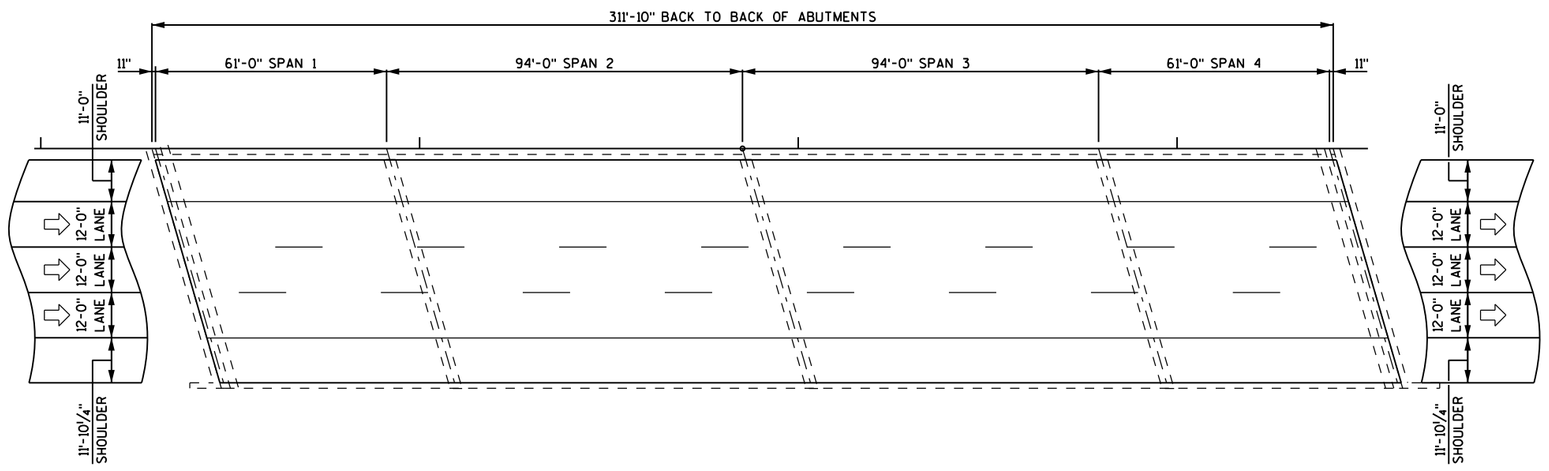
NOTE:

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-182		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	18,357		SPALL
SHADE/DEBRIS	ft.^{2}	0		DEBOND
DELAMINATION	ft.^{2}	0	0	ASPHALT PATCH
SPALL	ft.^{2}	0	0	CONCRETE PATCH
DEBOND	ft.^{2}	N/A	----	SHADE/DEBRIS
ASPHALT PATCH	ft.^{2}	0	0	
CONCRETE PATCH	ft.^{2}	0	0	



PLAN B-40-182

SCALE, FEET 0 10 20
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-182

DRAWN BY VC | PLANS CK'D. SJM

INFRARED INSPECTION RESULTS

SHEET 6 OF 6
567

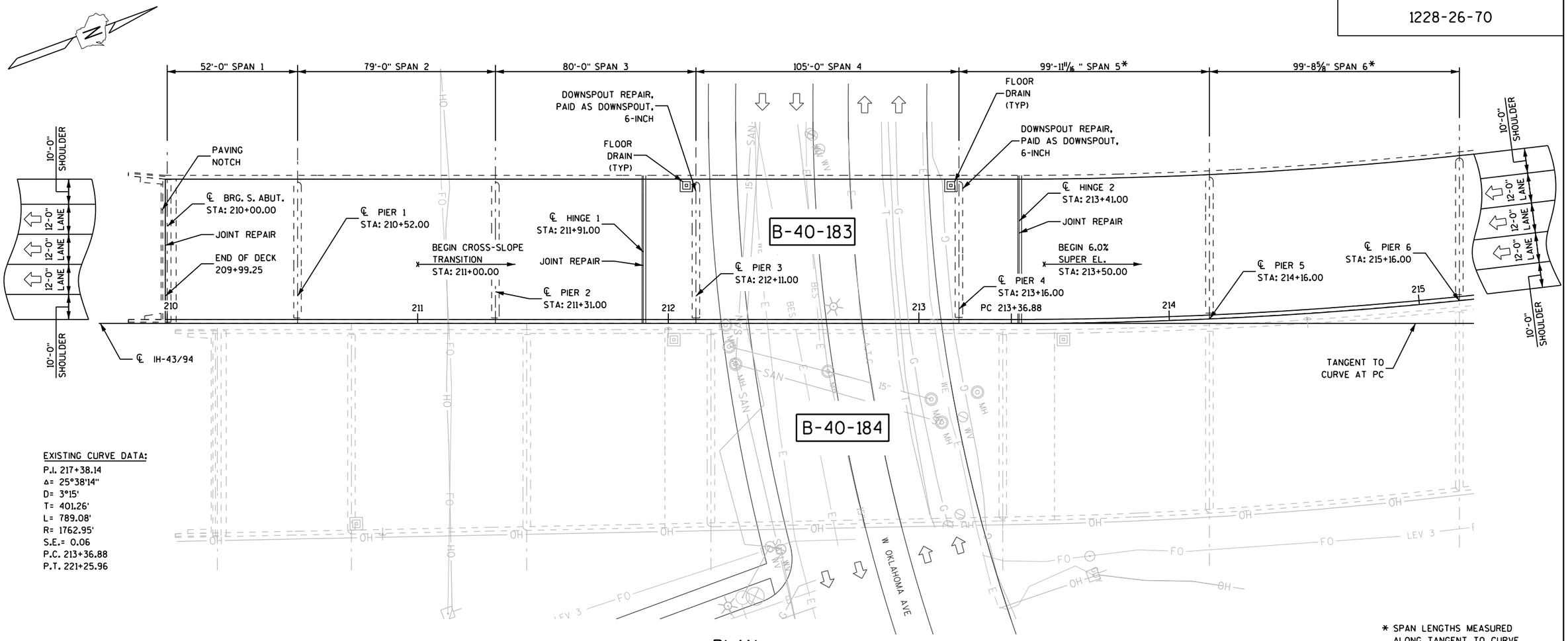
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8

FILE NAME :06_B-40-182_Infrared Inspection.dgn
PLOT DATE :10/24/2012 3:39:28 PM PLOT BY : NicholasHornyakvBL DRV :Pdf_bw_NS_7391.pltPEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70



EXISTING CURVE DATA:
P.I. 217+38.14
Δ= 25°38'14"
D= 3°15'
T= 401.26'
L= 789.08'
R= 1762.95'
S.E.= 0.06
P.C. 213+36.88
P.T. 221+25.96

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

PLAN

(S. ABUT. - PIER 6)

LIST OF DRAWINGS

1. GENERAL PLAN, SPANS 1-6
2. GENERAL PLAN, SPANS 7-11
3. GENERAL PLAN, SPANS 12-15
4. CROSS SECTIONS
5. CONSTRUCTION STAGING
6. JOINT REPAIR DETAILS AT ABUTMENTS
7. JOINT REPAIR DETAILS AT HINGES
8. JOINT REPAIR DETAILS AT PIERS
9. JOINT REPAIR DETAILS AT PARAPET
10. JOINT ELEVATIONS
11. JOINT REPAIR REBAR DETAILS
12. CATHODIC PROTECTION DETAILS
13. DECK REPAIR AREAS SPANS 1-6
14. DECK REPAIR AREAS SPANS 7-11
15. DECK REPAIR AREAS SPANS 12-15
16. UNDERDECK INSPECTION SPANS 1-6
17. UNDERDECK INSPECTION SPANS 7-11
18. UNDERDECK INSPECTION SPANS 12-15
19. INFRARED INSPECTION RESULTS SPANS 1-6
20. INFRARED INSPECTION RESULTS SPANS 7-11
21. INFRARED INSPECTION RESULTS SPANS 12-15

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

TRAFFIC DATA

IH-43/94 SB
A.D.T. (2009) = 56,900

DESIGN DATA

LIVE LOAD:	
INVENTORY RATING	HS-11
OPERATIONAL RATING	HS-19
MAXIMUM STANDARD PERMIT VEHICLE LOAD	141 KIPS
ULTIMATE DESIGN STRESSES:	
CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
11/1/12

SE REGION CONTACT:
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WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-183

IH-43/94 SB/EB OVER OKLAHOMA AVE

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY CSH	PLANS CK'D. SJM

GENERAL PLAN SPANS 1 - 6

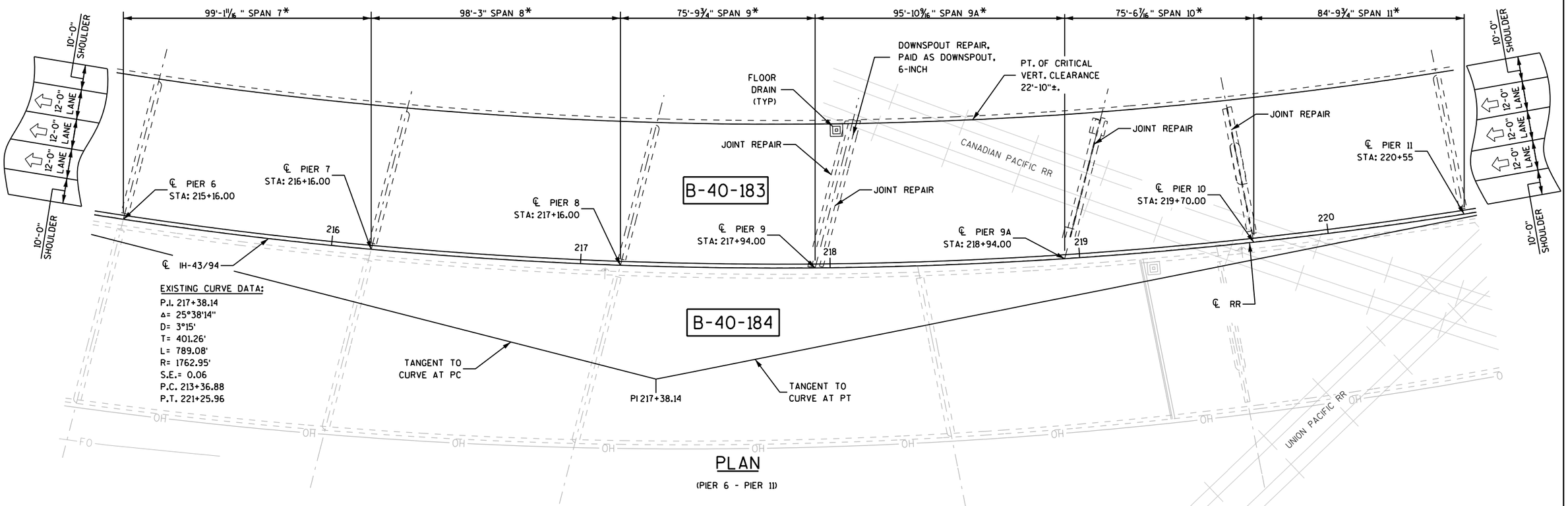
SHEET 1 OF 21
568

8

8

FILE NAME :01_B-40-183_Conc Overlay.dgn
PLOT DATE :10/24/2012 2:40:54 PM PLOT BY : NicholasMornyak-VBI DRV :Pdf_bw_HS_739Lat PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



PLAN

(PIER 6 - PIER 11)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, PLACEMENT OF A CONCRETE OVERLAY, JOINT REPAIR, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, SLOPE PAVING REPAIR, AND EPOXY CRACK SEALING.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER MILLING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," "CONCRETE SURFACE REPAIR," AND "EPOXY CRACK SEALING" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS 3 AND 4.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE "INSTALL EXPANSION DEVICE B-40-183" ITEM.

CLEANING AND PAINTING OF STRUCTURAL STEEL WITHIN THE SAFETY LIMITS OF THE RAILROADS REQUIRES SPECIAL COORDINATION WITH EACH RAILROAD OWNER. SEE SPECIAL PROVISIONS. STRUCTURAL STEEL WITHIN THESE LIMITS TO BE PAID UNDER THE BID ITEM "STRUCTURE OVERCOATING, CLEANING, AND PRIMING B-40-183".

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY CSH | PLANS CK'D. SJM

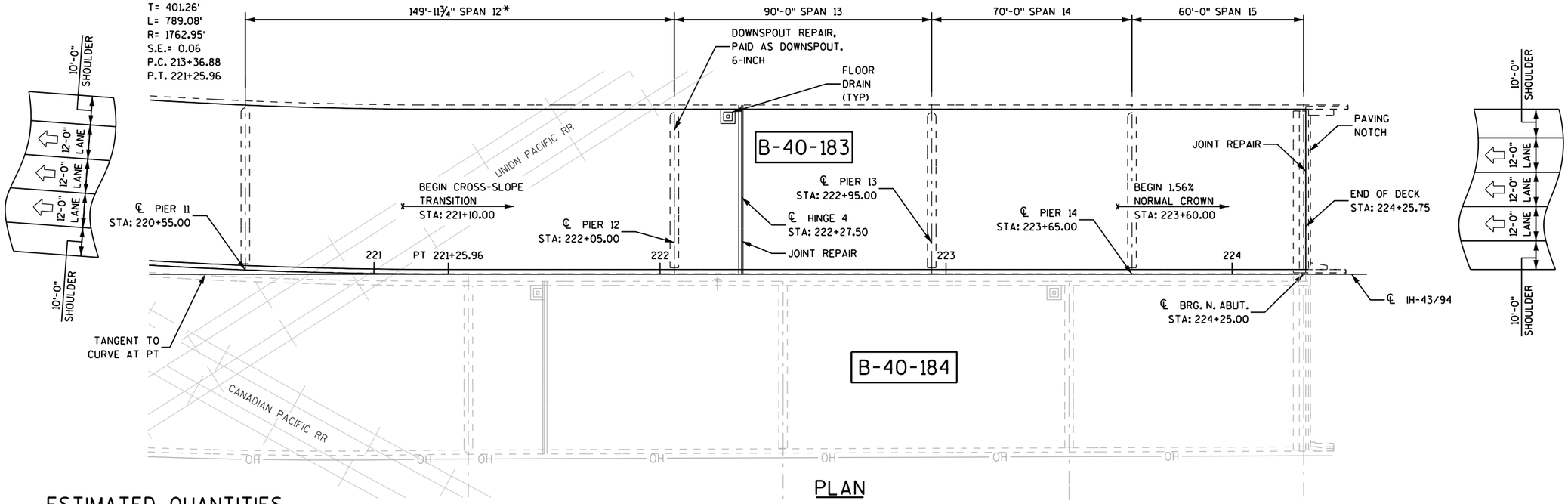
GENERAL PLAN
SPANS 7 - 11

SHEET 2 OF 21
569

FILE NAME :\02_B-40-183_Conc Overlay-2.dgn
PLOT DATE :10/24/2012 2:40:54 PM PLOT BY : NicholasHornyak.vbl DRV :PGF_bw_HS_7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

EXISTING CURVE DATA:
P.I. 217+38.14
Δ= 25°38'14"
D= 3°15'
T= 401.26'
L= 789.08'
R= 1762.95'
S.E.= 0.06
P.C. 213+36.88
P.T. 221+25.96



PLAN
(PIER 11 - N. ABUT.)

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	S. ABUT	PIER 1	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	PIER 9	PIER 9A	PIER 10	PIER 11	PIER 12	PIER 13	PIER 14	N. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	20
502.3200	PROTECTIVE SURFACE TREATMENT	SY	9930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,930
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS ☆	EACH	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	24
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	14930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14,930
505.0904	BAR COUPLERS NO. 4	EACH	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20
505.0905	BAR COUPLERS NO. 5	EACH	101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	101
505.0906	BAR COUPLERS NO. 6	EACH	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62
509.0301	PREPARATION DECKS TYPE 1	SY	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	240
509.0302	PREPARATION DECKS TYPE 2	SY	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120
509.0500	CLEANING DECKS	SY	8790	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,790
509.1000	JOINT REPAIR	SY	208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	208
509.1500	CONCRETE SURFACE REPAIR	SF	-	1	21	9	54	77	117	16	26	22	5	-	-	4	91	21	27	11	502
509.2000	FULL DEPTH DECK REPAIR	SY	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	582
509.9020.S	EPOXY CRACK SEALING	LF	-	-	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27
514.0900	ADJUSTING FLOOR DRAINS	EACH	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
514.2625	DOWNSPOUT 6-INCH	LF	20	-	-	-	50	40	-	-	-	-	40	-	-	-	50	-	-	-	200
517.1800.S.12	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-183	LS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
517.3000.S.01	STRUCTURE OVERCOATING, CLEANING, AND PRIMING B-40-183	LS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
517.4500.S.12	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-40-183	LS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	20
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	8	8	8	8	8	8	8	8	8	8	2	2	8	8	8	8	8	124
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	-	-	-	24	25	-	-	-	-	-	-	-	-	-	-	-	-	49
SPV.0105.06	INSTALL EXPANSION DEVICE B-40-183	LS	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
SPV.0165.01	CATHODIC PROTECTION	SF	-	-	17	-	26	77	96	10	18	19	-	-	-	-	88	-	16	7	374

☆ MASONRY ANCHOR QUANTITY BASED ON 20% REPLACEMENT ESTIMATE.

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY: CSH | PLANS CK'D.: SJM

GENERAL PLAN
SPANS 12 - 15

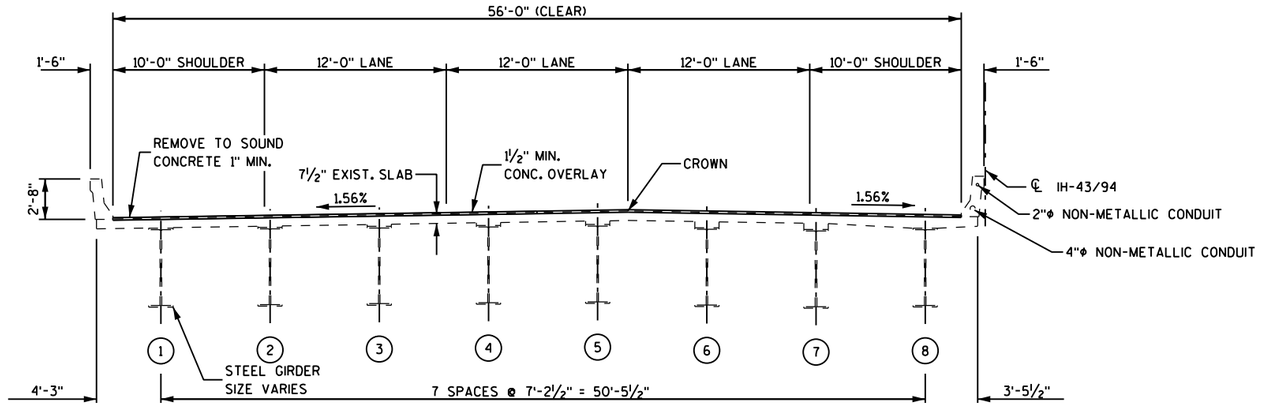
SHEET 3 OF 21
570

8

8

FILE NAME :03_B-40-183_Conc Overlay-3.dgn
PLOT DATE :10/24/2012 2:40:56 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_739Lclt PEN :CELTEXTSUB.TBL

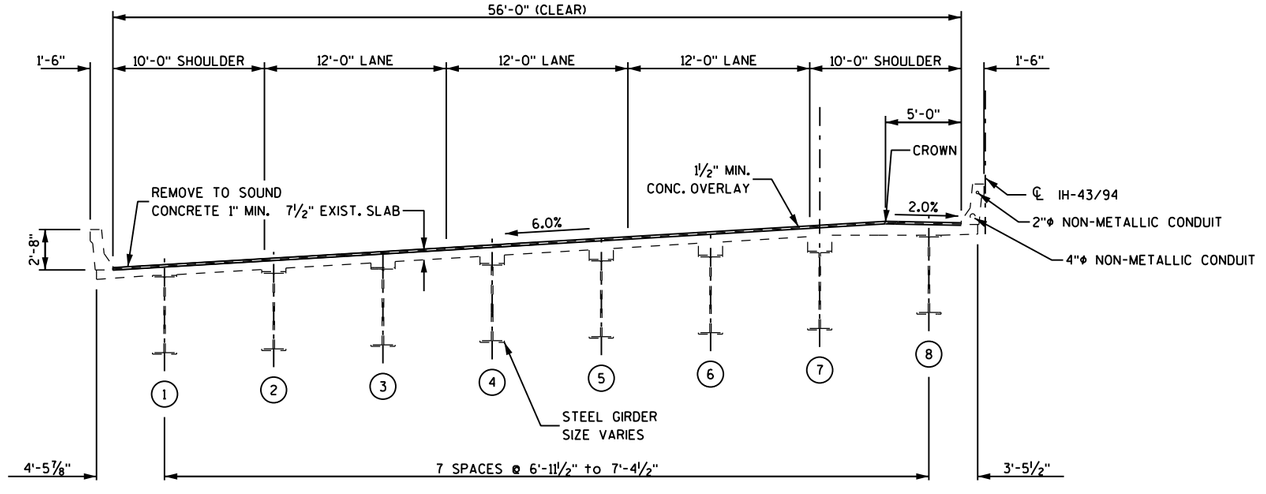
STATE PROJECT NUMBER
1228-26-70



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(S. ABUT. TO STA: 211+00 AND STA 223+60 TO N. ABUT.)

NOTE: 1.56% NORMAL CROWN FROM S. ABUT. TO STA: 211+00.00.
PARABOLIC TRANSITION STA: 211+00.00 TO STA: 213+50.00.
6.0% FULL SUPER ELEVATION STA: 213+50.00 TO STA: 221+10.00.
PARABOLIC TRANSITION STA: 221+10.00 TO STA: 223+60.00.
1.56% NORMAL CROWN FROM STA: 223+60.00 TO N. ABUT.



CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(0.06% FULL SUPER ELEVATION STA: 213+50.00 TO STA: 221+10.00)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

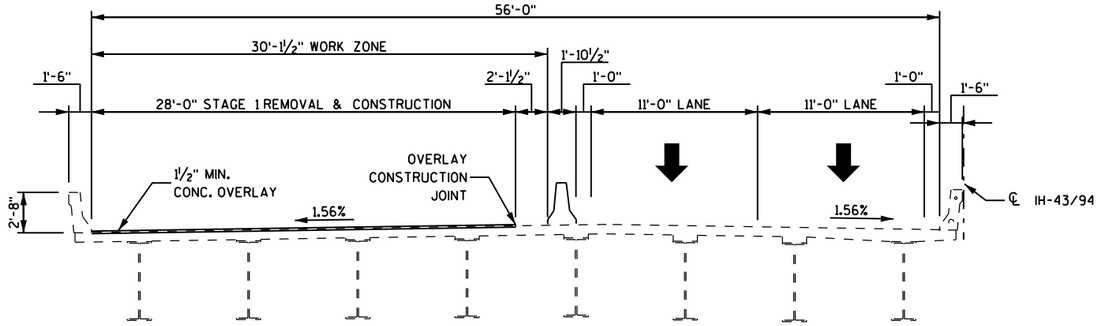
DRAWN BY CSH | PLANS CK'D. SJM

CROSS SECTIONS

SHEET 4 OF 21
571

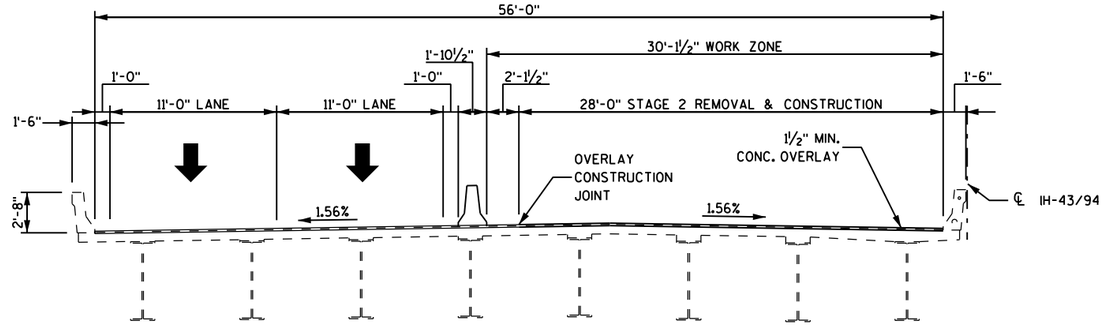
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PLOT DATE :10/24/2012 2:40:57 PM PLOT BY : NicholasHornyak.vBl DRV :Pdf_bw_HS_T39.bit PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



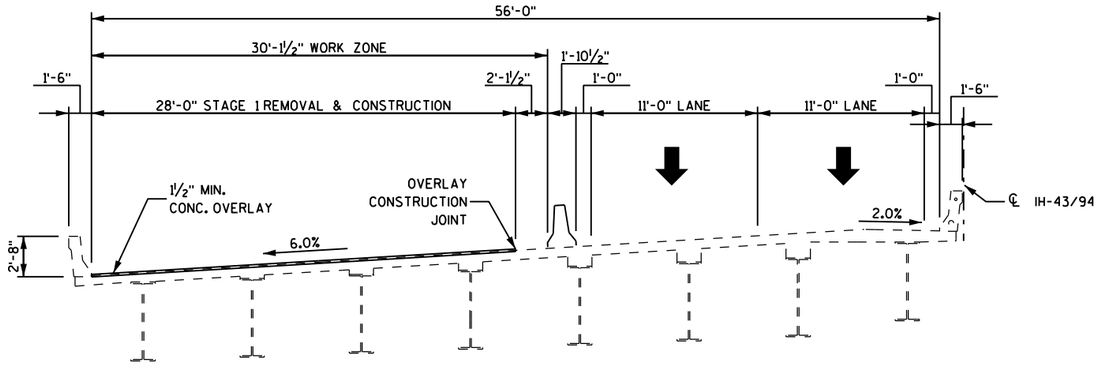
STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(S. ABUT. TO STA 211+00 AND STA 223+60 TO N. ABUT.)



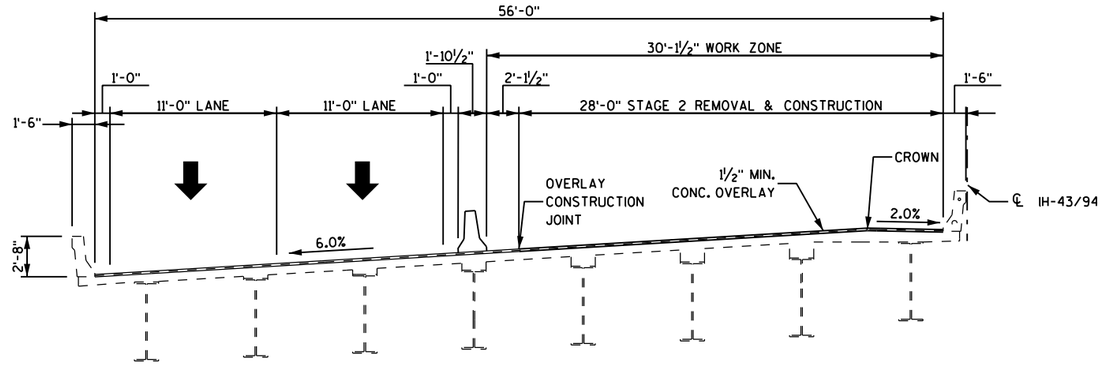
STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(S. ABUT. TO STA 211+00 AND STA 223+60 TO N. ABUT.)



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA: 213+50 TO STA: 221+10)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA: 213+50 TO STA: 221+10)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

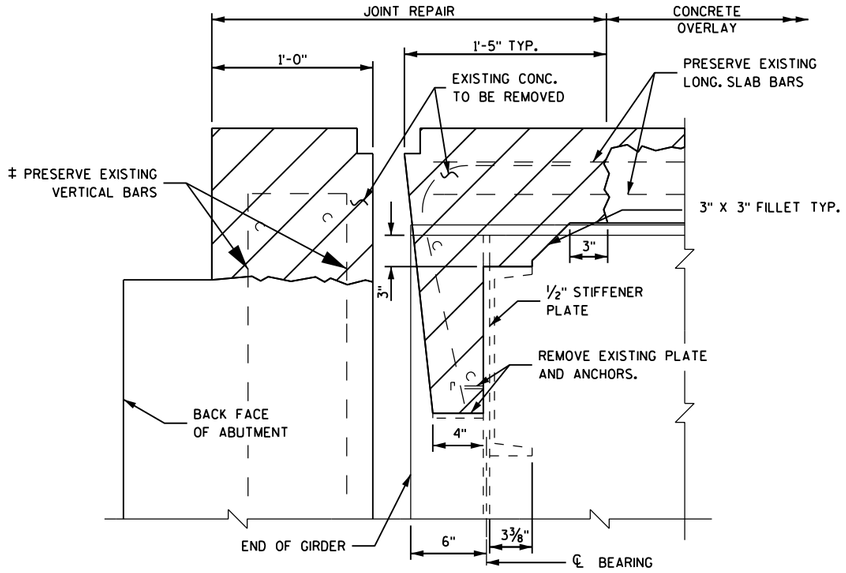
DRAWN BY	CSH	PLANS CK'D.	SJM

CONSTRUCTION STAGING

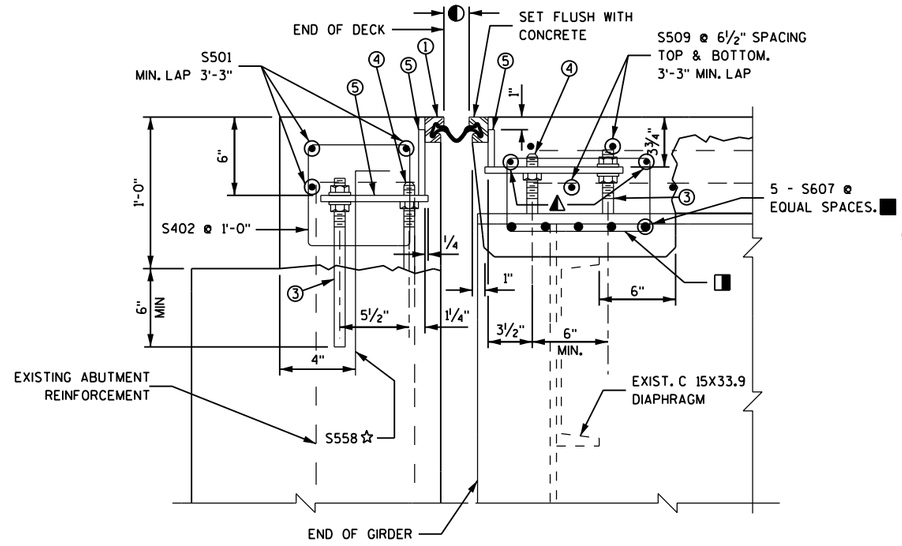
SHEET 5 OF 21
572

FILE NAME :05.B-40-183.Traffic Staging.dgn
PLOT DATE :10/24/2012 2:40:57 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_T39Lclt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



JOINT REPAIR-REMOVAL
AT ABUTMENTS



SECTION THRU JOINT
AT ABUTMENTS

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

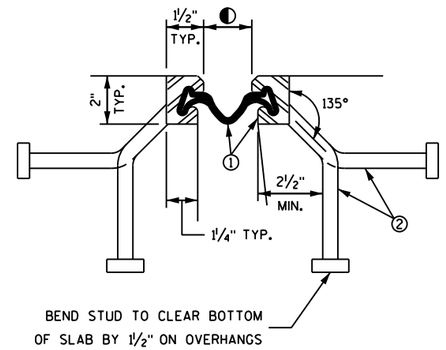
④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

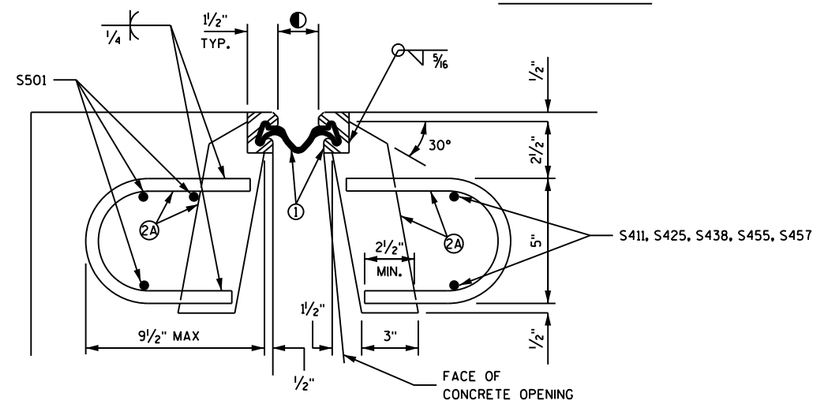
‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

☆ MASONRY ANCHORS TYPE L NO.5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

■ BETWEEN GIRDERS 4-5, INSTALL COUPLERS WITH S603 BARS AS PART OF STAGE 2 AND S605 BARS AS PART OF STAGE 3.

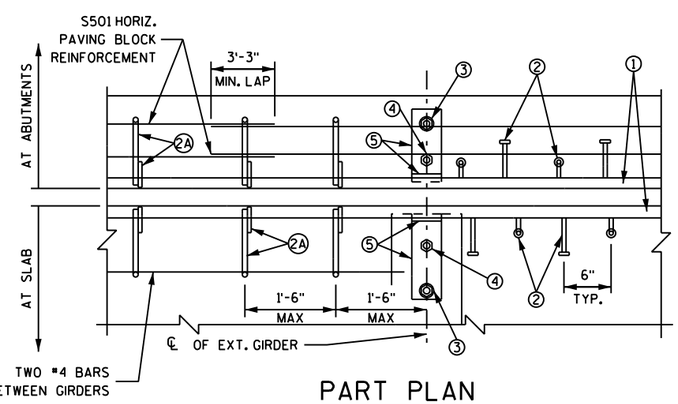


SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB &
AT PARAPETS



AT ABUTMENTS AT SLAB

SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

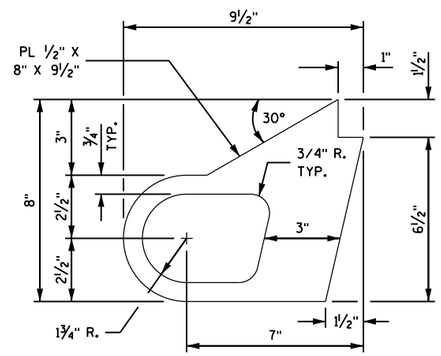


PART PLAN

▲ S408, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM. BETWEEN GIRDERS 4-5, INSTALL COUPLERS WITH S404 BARS FOR STAGE 2 AND S406 BARS FOR STAGE 3.

◨ S410 @ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS.

◐ SEE TEMPERATURE TABLE ON SHEET 7 FOR JOINT OPENING



ALTERNATE STRIP SEAL ANCHOR

EXPANSION JOINT NOTES

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

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

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

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-183".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY MJH | PLANS CK'D. SJM

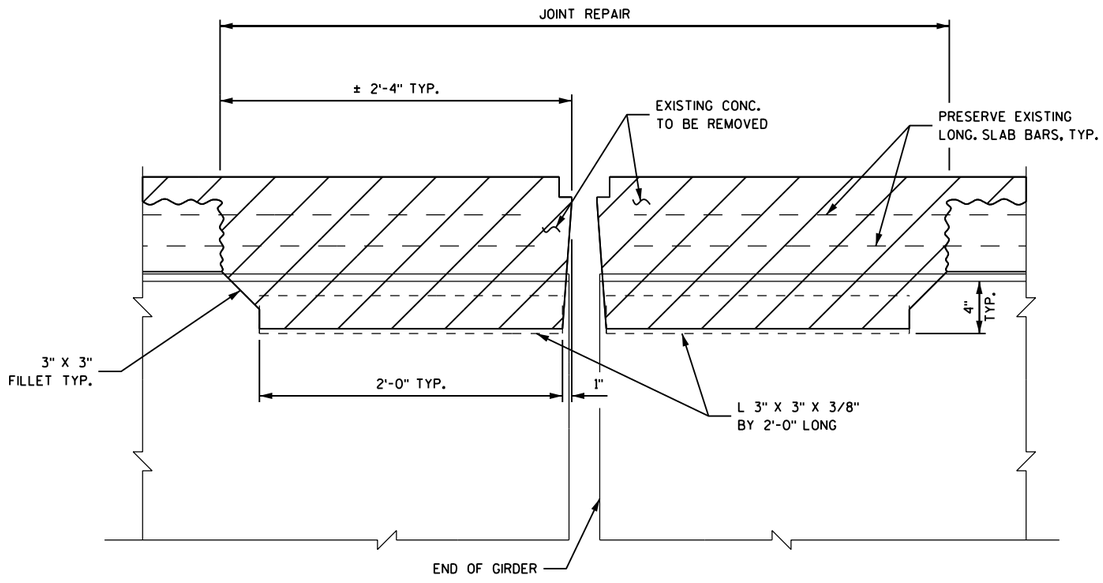
JOINT REPAIR DETAILS AT ABUTMENTS

SHEET 6 OF 21
573

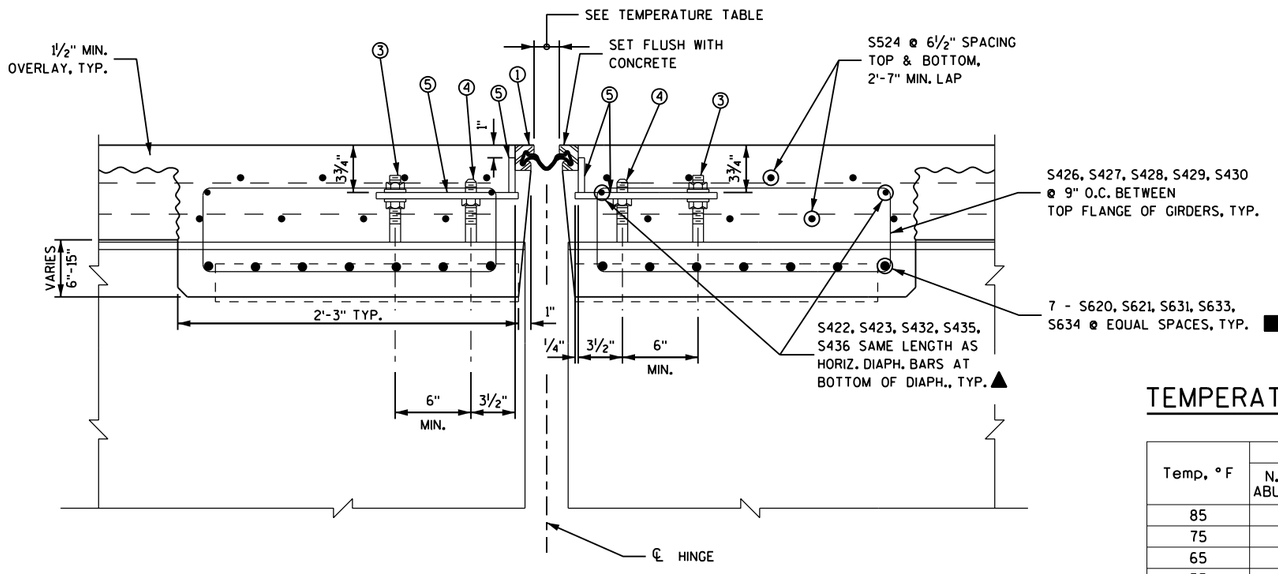
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8

FILE NAME :06_B-40-183_Strip Seal Details - At Abutments.dgn
PLOT DATE :10/24/2012 2:40:58 PM PLOT BY : NicholasMorrisyakvBL DRV :Pdf_bw_NS_7391.pltt PEN :CEL_TEXTSUB.TBL



JOINT REPAIR-REMOVAL
AT HINGE



SECTION THRU JOINT
AT HINGE

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

②A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

EXPANSION JOINT NOTES

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

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCAIL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-183".

SEE SHEET 6 FOR STRIP SEAL SECTION DETAILS SHOWING THE SECTION THRU JOINT AT THE EXTERIOR GIRDER TO EDGE OF SLAB, THE SECTION THRU JOINT AT THE ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS, A PARTIAL PLAN VIEW, AND THE ALTERNATE STRIP SEAL ANCHOR.

■ BETWEEN GIRDERS 4-5, INSTALL COUPLERS WITH S612/S613 BARS AS PART OF STAGE 2 AND S616/S617 BARS AS PART OF STAGE 3.

▲ BETWEEN GIRDERS 4-5, INSTALL COUPLERS WITH S414/S415 BARS AS PART OF STAGE 2 AND S418/S419 BARS AS PART OF STAGE 3.

TEMPERATURE TABLE

Temp. °F	Joint Opening							
	N. & S. ABUTMENT	HINGE 1	HINGE 2	PIER 9 SPAN 9	PIER 9 SPAN 9A	PIER 9A	PIER 10	HINGE 4
85	2"	1 1/8"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	2"	1 3/8"
75	2"	1 3/8"	1 3/8"	1 3/8"	1 1/2"	1 5/8"	2"	1 5/8"
65	2"	1 5/8"	1 5/8"	1 1/2"	1 5/8"	1 5/8"	2"	2"
55	2"	1 7/8"	1 7/8"	1 5/8"	1 5/8"	1 3/4"	2"	2 3/8"
45	2"	2 1/8"	2 1/8"	1 3/4"	1 3/4"	1 3/4"	2"	2 3/4"
35	2"	2 3/8"	2 3/8"	1 7/8"	1 7/8"	1 3/4"	2"	3 1/8"
25	2"	2 5/8"	2 5/8"	2"	1 7/8"	1 7/8"	2"	3 1/2"
15	2"	2 7/8"	2 7/8"	2 1/8"	2"	1 7/8"	2"	3 7/8"
5	2"	3 1/8"	3"	2 1/4"	2"	2"	2"	4 1/8"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT HINGES

SHEET 7 OF 21
574

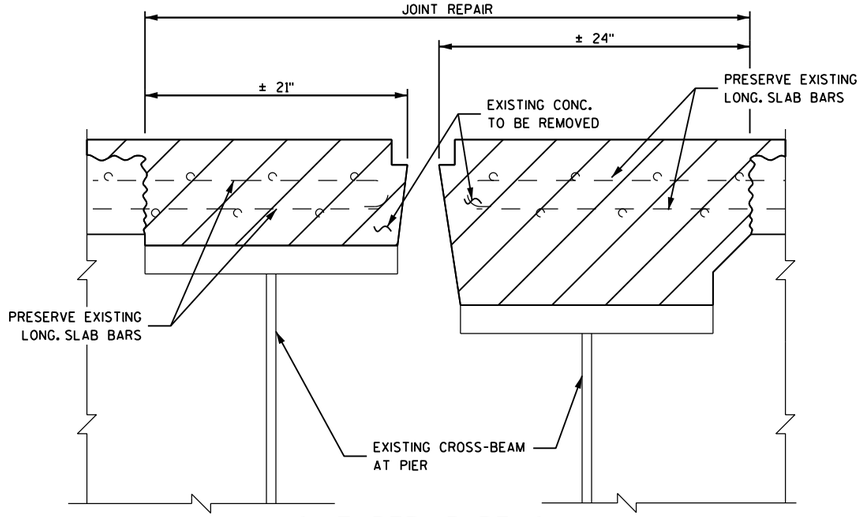
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FILE NAME :\07_B-40-183_Strip Seal Details - At Hinges.dgn
PLOT DATE :10/24/2012 2:40:59 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_T39.tbl PEN :CELTEXTSUB.TBL

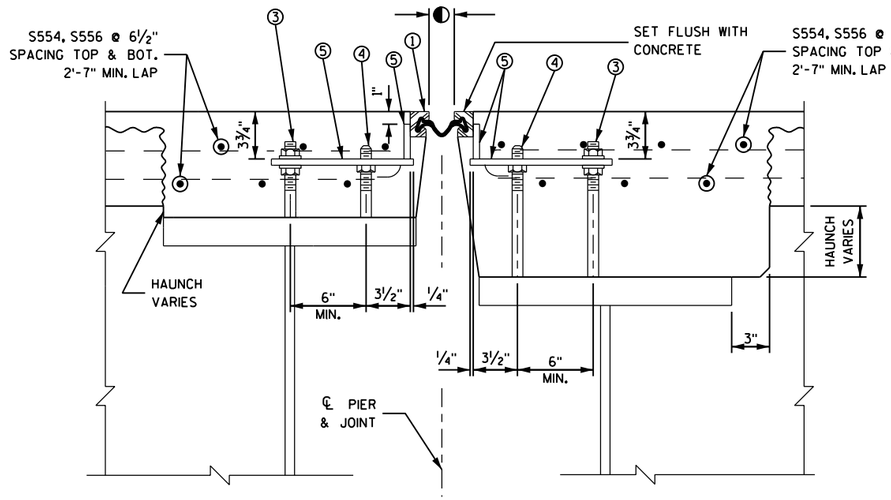
STATE PROJECT NUMBER

1228-26-70



JOINT REPAIR-REMOVAL

AT PIERS 9A & 10



SECTION THRU JOINT

AT PIERS 9A & 10

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

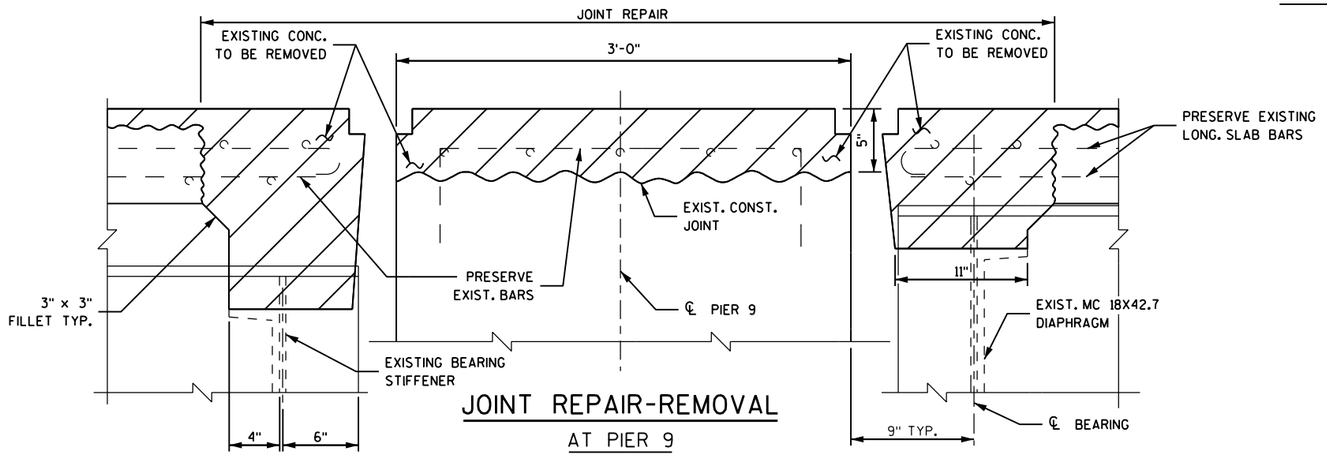
② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE.

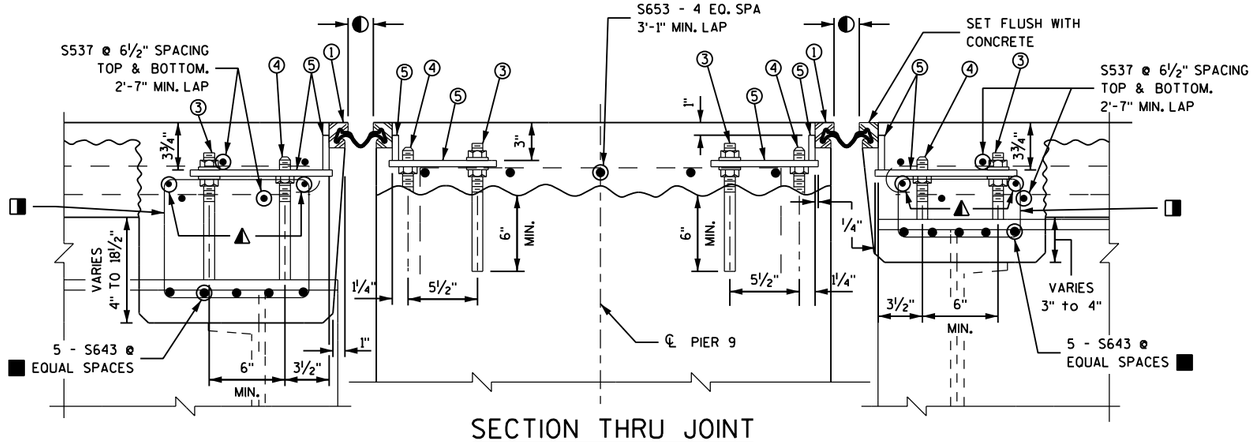
④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.



JOINT REPAIR-REMOVAL

AT PIER 9



SECTION THRU JOINT

AT PIER 9

◐ SEE TEMPERATURE TABLE ON SHEET 7 FOR JOINT OPENING

▲ S444, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM, TYPICAL AT BOTH SIDES OF JOINT. BETWEEN GIRDERS 4-5, INSTALL COUPLERS AND S440 BARS FOR STAGE 2 AND S442 BARS FOR STAGE 3.

◨ S445 TO S452 @ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS, TYPICAL AT BOTH SIDES OF JOINT

■ BETWEEN GIRDERS 4-5, INSTALL COUPLERS WITH S639 BARS AS PART OF STAGE 2 AND S641 BARS AS PART OF STAGE 3.

EXPANSION JOINT NOTES

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

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCAIL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-183".

SEE SHEET 6 FOR STRIP SEAL SECTION DETAILS SHOWING THE SECTION THRU JOINT AT THE EXTERIOR GIRDER TO EDGE OF SLAB, THE SECTION THRU JOINT AT THE ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS, A PARTIAL PLAN VIEW, AND THE ALTERNATE STRIP SEAL ANCHOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT REPAIR DETAILS AT PIERS

SHEET 8 OF 21

575

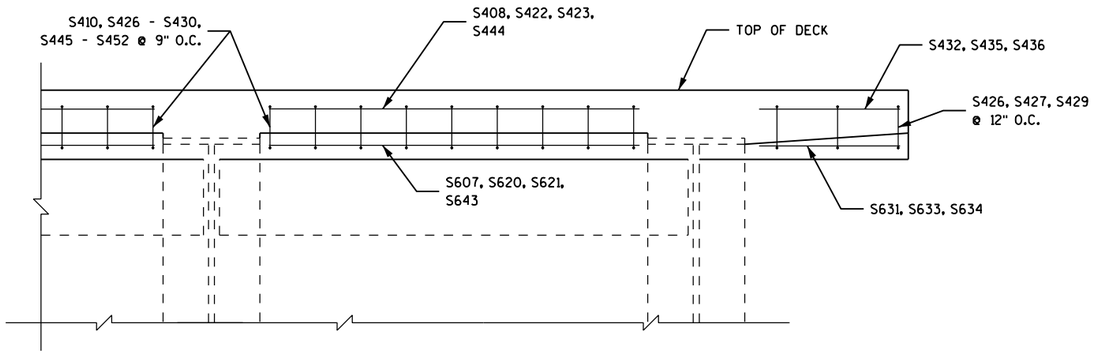
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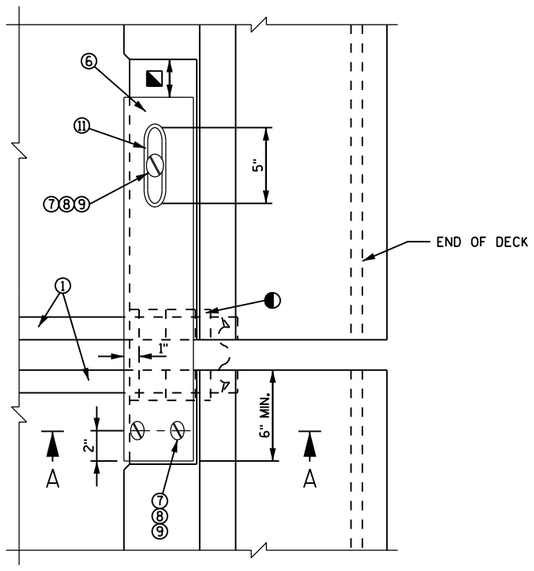
FILE NAME :\08.B-40-183.Strip Seal Details - At Pier.dgn
PLOT DATE :10/24/2012 2:45:00 PM PLOT BY : NicholasHornyak@ DRV :Pdf.bw.HS.T391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70

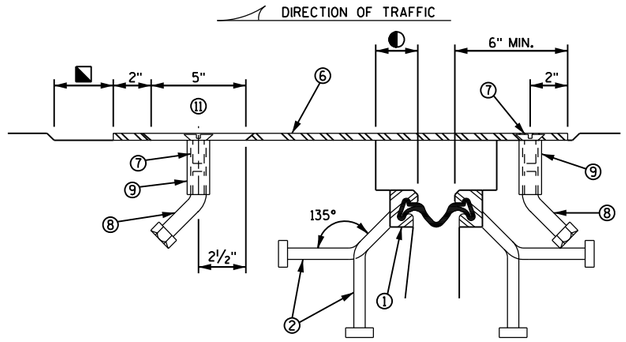


PART TRANSVERSE SECTION AT DIAPHRAGM EXPANSION END

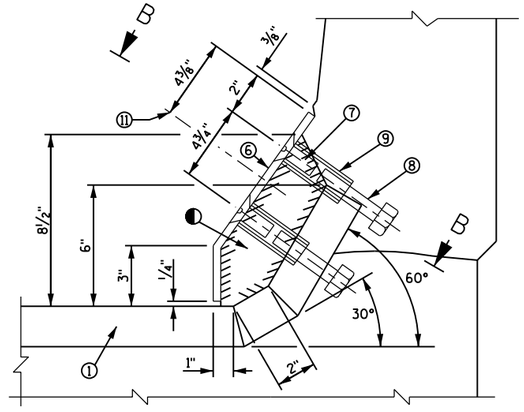


PLAN AT PARAPET

SLOPED FACE PARAPET

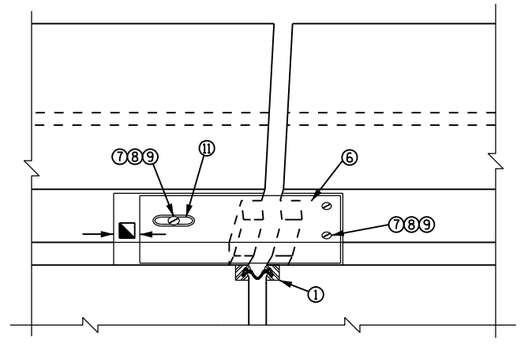


SECTION B-B



SECTION A-A

SLOPED FACE PARAPET



VIEW OF PARAPET PLATES FROM ROADWAY

SLOPED FACE PARAPET

LEGEND

⑥ GALVANIZED PLATE ⅜" X 10½" X 2'-0" LONG. BEND AS SHOWN.

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

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

EXPANSION JOINT NOTES

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

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

INSTALLATION OF ALL MATERIAL AND HARDWARE INLCUDED IN THE EXPANSION JOINT ASSEMBLIES AT THE PARAPET WILL BE INCLUDED IN THE BID ITEM "INSTALL EXPANSION DEVICE B-40-183".

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT REPAIR DETAILS AT PARAPETS

SHEET 9 OF 21

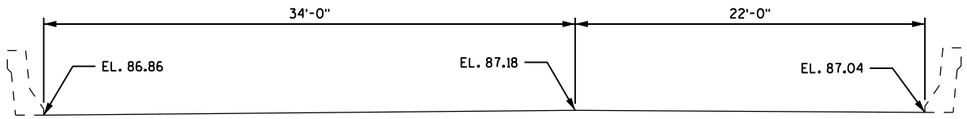
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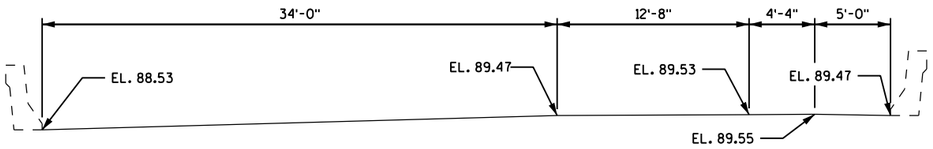
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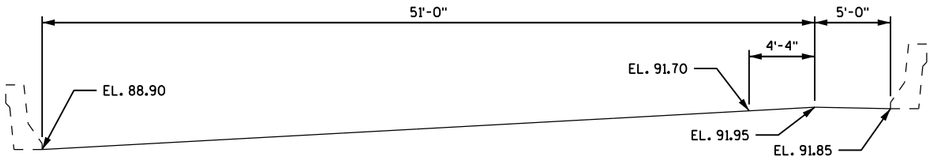
STATE PROJECT NUMBER
1228-26-70



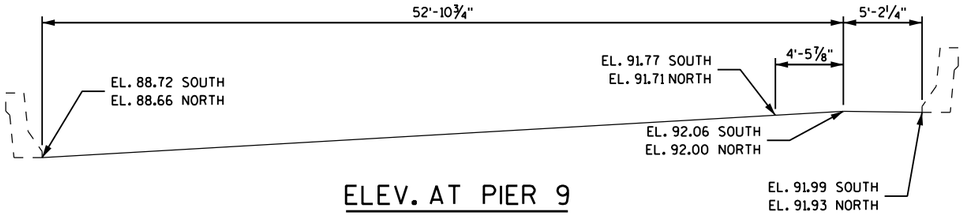
ELEV. AT S. ABUT.
(LOOKING NORTH)



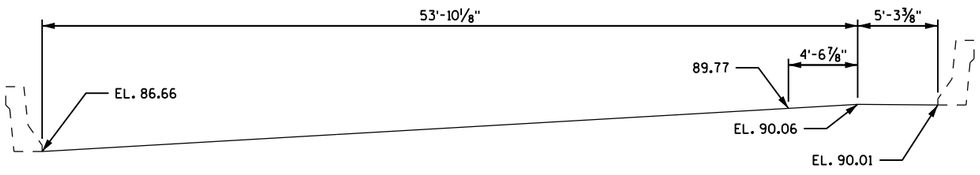
ELEV. AT HINGE 1
(LOOKING NORTH)



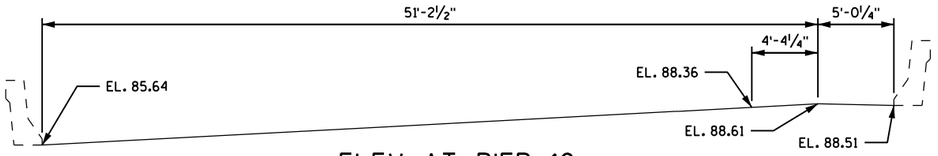
ELEV. AT HINGE 2
(LOOKING NORTH)



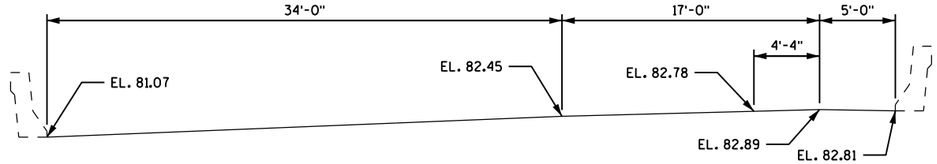
ELEV. AT PIER 9
(LOOKING NORTH)



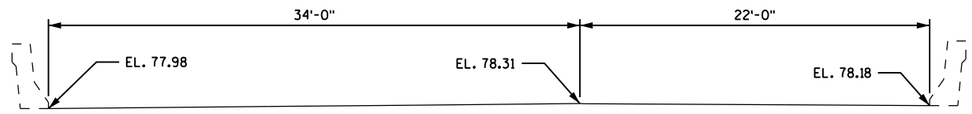
ELEV. AT PIER 9A
(LOOKING NORTH)



ELEV. AT PIER 10
(LOOKING NORTH)



ELEV. AT HINGE 4
(LOOKING NORTH)



ELEV. AT N. ABUT.
(LOOKING NORTH)

NOTE:

ELEVATIONS SHOWN ARE TOP OF DECK TAKEN FROM EXISTING PLANS. CONTRACTOR SHALL VERIFY AS NECESSARY PRIOR TO CONSTRUCTION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT ELEVATIONS

SHEET 10 OF 21

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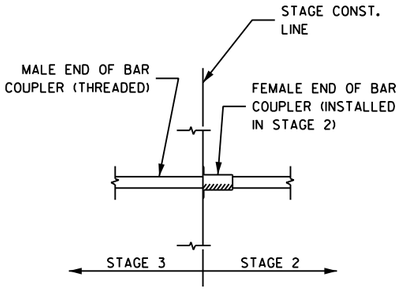
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PLOT DATE :10/24/2012 2:45:02 PM PLOT BY : NicholasHornyak@S DRV :Pdf_bw_HS_739Lclt PEN :CELTEXTSUB.TBL

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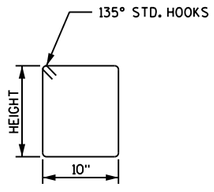
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	COUPLER	LOCATION
S501	X	24	16'-1"			X	S & N ABUT. PAVING BLOCK HOR. STAGE 2 & 3
S402	X	118	3'-2"	▲			S & N ABUT. PAVING BLOCK STIRRUPS
S603	X	10	2'-6"			X	S & N ABUT. DIAPH. BOT. HOR. BTWN. GIRDERS 4 - 5 STAGE 2
S404	X	4	2'-6"			X	S & N ABUT. DIAPH. TOP HOR. BTWN. GIRDERS 4 - 5 STAGE 2
S605	X	10	3'-4"				S & N ABUT. DIAPH. BOT. HOR. BTWN. GIRDERS 4 - 5 STAGE 3
S406	X	4	3'-4"				S & N ABUT. DIAPH. TOP HOR. BTWN. GIRDERS 4 - 5 STAGE 3
S607	X	60	5'-10"				S & N ABUT. DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S408	X	24	5'-10"				S & N ABUT. DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S509	X	32	16'-1"				S & N ABUT. DECK HOR. STAGE 2 & 3
S410	X	144	3'-6"	▲			S & N ABUT. DIAPH. STIRRUPS
S411	X	28	6'-9"				S & N ABUT. DECK EXP. DEVICE HOR.
S612	X	21	2'-6"			X	HINGE 1S,2N,4N DIAPH. BOT. HOR. BTWN. GIRDERS 4 - 5 STAGE 2
S613	X	21	2'-3"			X	HINGE 1N,2S,4S DIAPH. BOT. HOR. BTWN. GIRDERS 4 -5 STAGE 2
S414	X	6	2'-6"			X	HINGE 1S,2N,4N DIAPH. TOP HOR. BTWN. GIRDERS 4 - 5 STAGE 2
S415	X	6	2'-3"			X	HINGE 1N,2S,4S DIAPH. TOP HOR. BTWN. GIRDERS 4 - 5 STAGE 2
S616	X	21	3'-4"				HINGE 1S,2N,4N DIAPH. BOT. HOR. BTWN. GIRDERS 4 - 5 STAGE 3
S617	X	21	3'-1"				HINGE 1N,2S,4S DIAPH. BOT. HOR. BTWN. GIRDERS 4 -5 STAGE 3
S418	X	6	3'-4"				HINGE 1S,2N,4N DIAPH. TOP HOR. BTWN. GIRDERS 4 - 5 STAGE 3
S419	X	6	3'-1"				HINGE 1N,2S,4S DIAPH. TOP HOR. BTWN. GIRDERS 4 - 5 STAGE 3
S620	X	126	5'-10"				HINGE 1S,2N,4N DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S621	X	126	5'-4"				HINGE 1N,2S,4S DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S422	X	36	5'-10"				HINGE 1S,2N,4N DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S423	X	36	5'-4"				HINGE 1N,2S,4S DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S524	X	192	15'-9"			X	HINGE 1,2,4 DECK HOR. STAGE 2 & 3
S425	X	84	6'-9"				HINGE 1,2,4 DECK EXP. DEVICE HOR.
S426	X	130	5'-10"	▲			HINGE 1 DIAPH. STIRRUPS GIRDERS 1 - 8, OVERHANG
S427	X	82	5'-10"	▲			HINGE 2 DIAPH. STIRRUPS GIRDERS 1 - 4, 7 - 8, OVERHANG
S428	X	48	6'-10"	▲			HINGE 2 DIAPH. STIRRUPS GIRDERS 4 - 7
S429	X	98	5'-10"	▲			HINGE 4 DIAPH. STIRRUPS GIRDERS 1 - 5, 7 - 8, OVERHANG
S430	X	32	6'-4"	▲			HINGE 4 DIAPH. STIRRUPS GIRDERS 5 - 7
S631	X	42	2'-6"				HINGE 1, 2, 4 DIAPH. BOT. HOR. E. OVERHANG
S432	X	12	2'-6"				HINGE 1, 2, 4 DIAPH. TOP. HOR. E. OVERHANG
S633	X	21	3'-5"				HINGE 1N, 2S, 4S DIAPH. BOT. HOR. W. OVERHANG
S634	X	21	3'-2"				HINGE 1S, 2N, 4N DIAPH. BOT. HOR. W. OVERHANG
S435	X	6	3'-5"				HINGE 1N, 2S, 4S DIAPH. TOP HOR. W. OVERHANG
S436	X	6	3'-2"				HINGE 1S, 2N, 4N DIAPH. TOP HOR. W. OVERHANG

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	COUPLER	LOCATION
S537	X	32	16'-4"			X	PIER 9 DECK HOR. STAGE 2 & 3
S438	X	56	6'-11"				PIER 9 DECK EXP. DEVICE HOR.
S639	X	10	2'-11"			X	PIER 9 DIAPH. BOT. HOR. BTWN. GIRDERS 4 - 5 STAGE 2
S440	X	4	2'-11"			X	PIER 9 DIAPH. TOP HOR. BTWN. GIRDERS 4 - 5 STAGE 2
S641	X	10	2'-6"				PIER 9 DIAPH. BOT. HOR. BTWN. GIRDERS 4 - 5 STAGE 3
S442	X	4	2'-6"				PIER 9 DIAPH. TOP HOR. BTWN. GIRDERS 4 - 5 STAGE 3
S643	X	60	5'-6"				PIER 9 DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S444	X	24	5'-6"				PIER 9 DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S445	X	8	3'-6"	▲			PIER 9 S DIAPH. STIRRUPS GIRDERS 1 - 2
S446	X	8	3'-10"	▲			PIER 9 S DIAPH. STIRRUPS GIRDERS 2 - 3
S447	X	8	4'-2"	▲			PIER 9 S DIAPH. STIRRUPS GIRDERS 3 - 4
S448	X	8	4'-6"	▲			PIER 9 S DIAPH. STIRRUPS GIRDERS 4 - 5
S449	X	8	4'-10"	▲			PIER 9 S DIAPH. STIRRUPS GIRDERS 5 - 6
S450	X	8	5'-2"	▲			PIER 9 S DIAPH. STIRRUPS GIRDERS 6 - 7
S451	X	9	4'-4"	▲	△		PIER 9 S DIAPH. STIRRUPS GIRDERS 7 - 8
S452	X	56	3'-0"	▲			PIER 9 N DIAPH. STIRRUPS GIRDERS 1 - 8
S653	X	20	16'-7"				PIER 9 CAP DECK HOR. STAGE 2 & 3
S554	X	52	16'-8"			X	PIER 9A DECK HOR. STAGE 2 & 3
S455	X	8	16'-8"				PIER 9A DECK EXP. DEVICE HOR.
S556	X	52	15'-9"			X	PIER 10 DECK HOR. STAGE 2 & 3
S457	X	8	15'-9"				PIER 10 DECK EXP. DEVICE HOR.
S558	X	24	2'-11"	▲			MASONRY ANCHORS

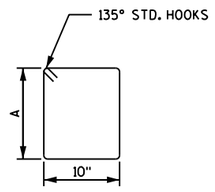


BAR COUPLER ASSEMBLY



BAR MARK	NO. REQ'D	WIDTH	HEIGHT
S451	3 SETS OF 3	10"	1'-7" TO 6"

BAR SERIES TABLE



BAR MARK	DIM "A"
S445	8"
S446	10"
S447	1-0"
S448	1'-2"
S449	1'-4"
S450	1'-6"

NOTES

BAR COUPLER ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT.

BAR COUPLER ASSEMBLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCING BARS.

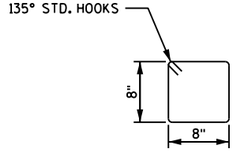
CONTRACTOR SHALL TAKE NECESSARY PRECAUTION WHEN INSTALLING THREADED BARS AND BAR COUPLER ASSEMBLY TO PREVENT DAMAGE TO BARS AND COUPLERS BETWEEN CONSTRUCTION STAGES.

BAR COUPLERS TO BE FURNISHED AND INSTALLED UNDER BID ITEMS "BAR COUPLERS (SIZE)".

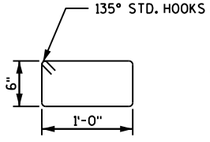
OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LAB THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X BAR AREA.

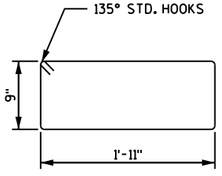
WHERE fy = YIELD STREGHT OF SPLICED BARS.



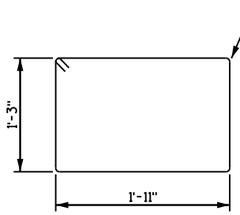
S402



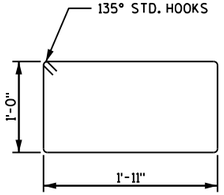
S410



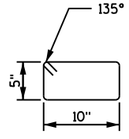
S426, S427, S429



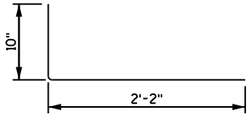
S428



S430



S452



S558

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR REBAR DETAILS

SHEET 11 OF 21

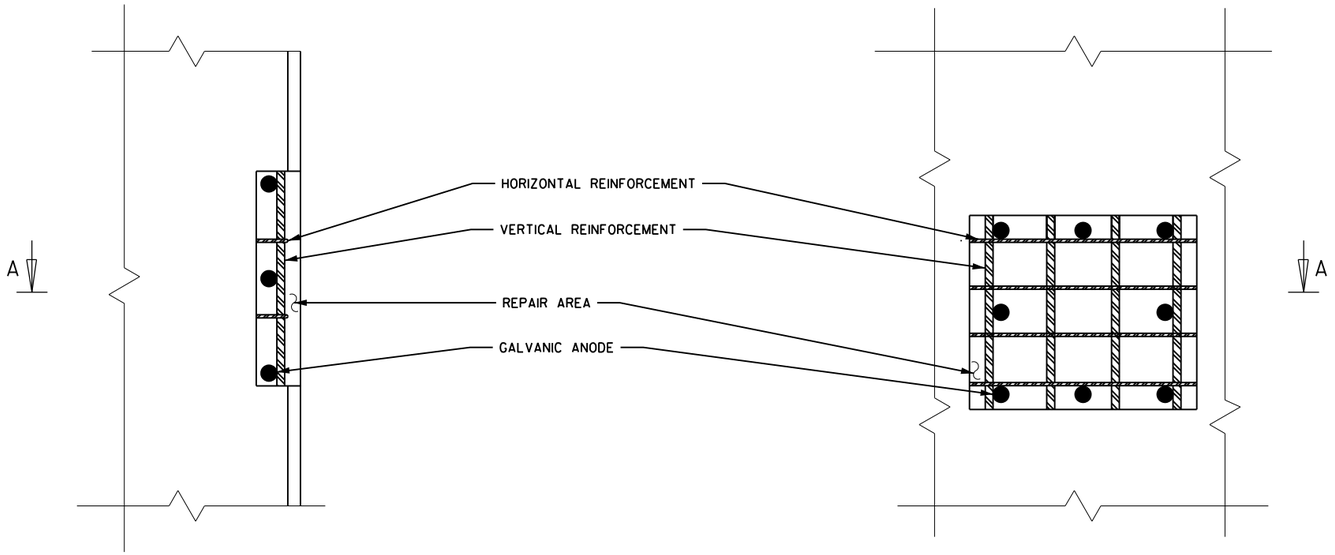
578

8

8

FILE NAME :11,B-40-183,Rebar Details.dgn
PLOT DATE :10/24/2012 2:41:32 PM PLOT BY : NicholasHornyak@ DRV :PDF.drv,MS.739Lxlt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

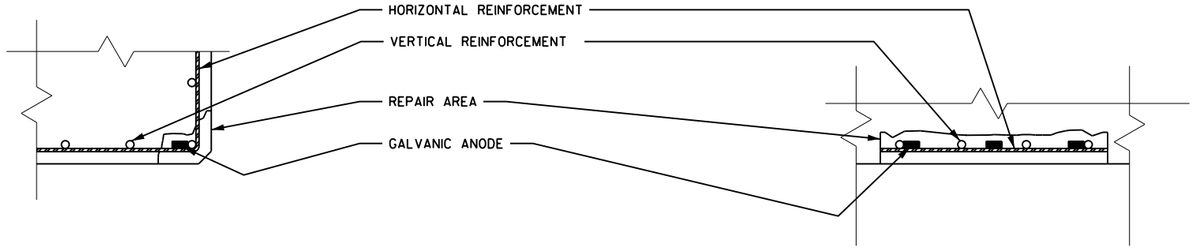


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY	MJH	PLANS CK'D.	SJM

CATHODIC PROTECTION DETAILS

SHEET 12 OF 21

579

FILE NAME :12_B-40-183_Cathodic Protection Details.dgn
PLOT DATE :10/24/2012 2:41:34 PM PLOT BY : NicholasHornyak.v8i DRV :Pdf_bw_HS_7391.drt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

PROPOSED REHAB AREAS

NOTE:

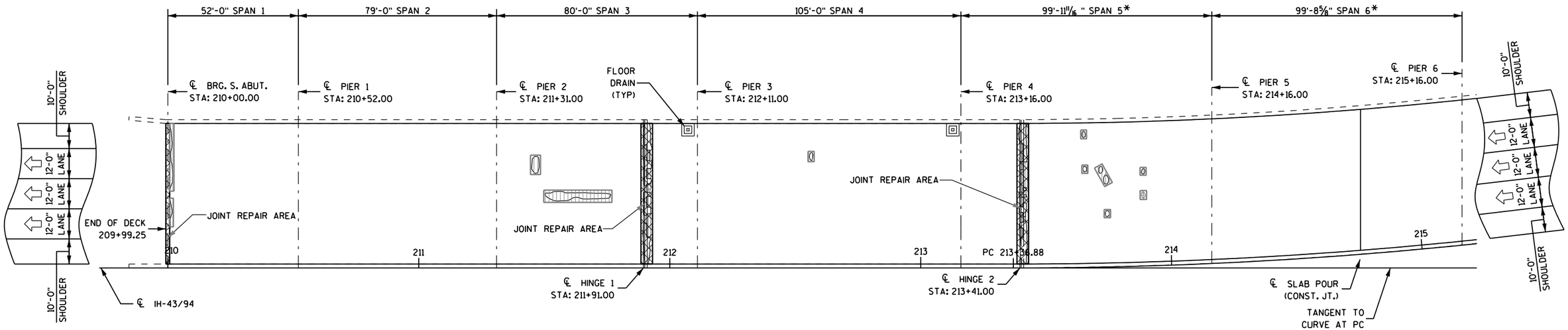
JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-183		LEGEND
ITEM	UNIT	QUANT.	%	DECK PREPARATION AREA; SHADE/DEBRIS; DELAMINATION; SPALL; DEBOND; ASPHALT PATCH; CONCRETE PATCH
TOTAL AREA	$yd.^2$	8,790		
SHADE/DEBRIS	$yd.^2$	0		
PREPARATION, DECKS, TYPE 1	$yd.^2$	240	2.7	
PREPARATION, DECKS, TYPE 2 ✳	$yd.^2$	120	1.4	
FULL DEPTH DECK REPAIR ✳	$yd.^2$	4	<0.1	

✳ ESTIMATED



PLAN

(S. ABUT. - PIER 6)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE & CONCRETE OVERLAY
INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY VC | PLANS CK'D. SJM

DECK REPAIR AREAS SPANS 1-6

SHEET 13 OF 21

580

8

8

FILE NAME :13_B-40-183_Deck Repair Areas-Logn
PLOT DATE :10/24/2012 2:41:14 PM PLOT BY : NicholasHornyakvBt DRV :Pdf_bw_HS_7391.drv PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

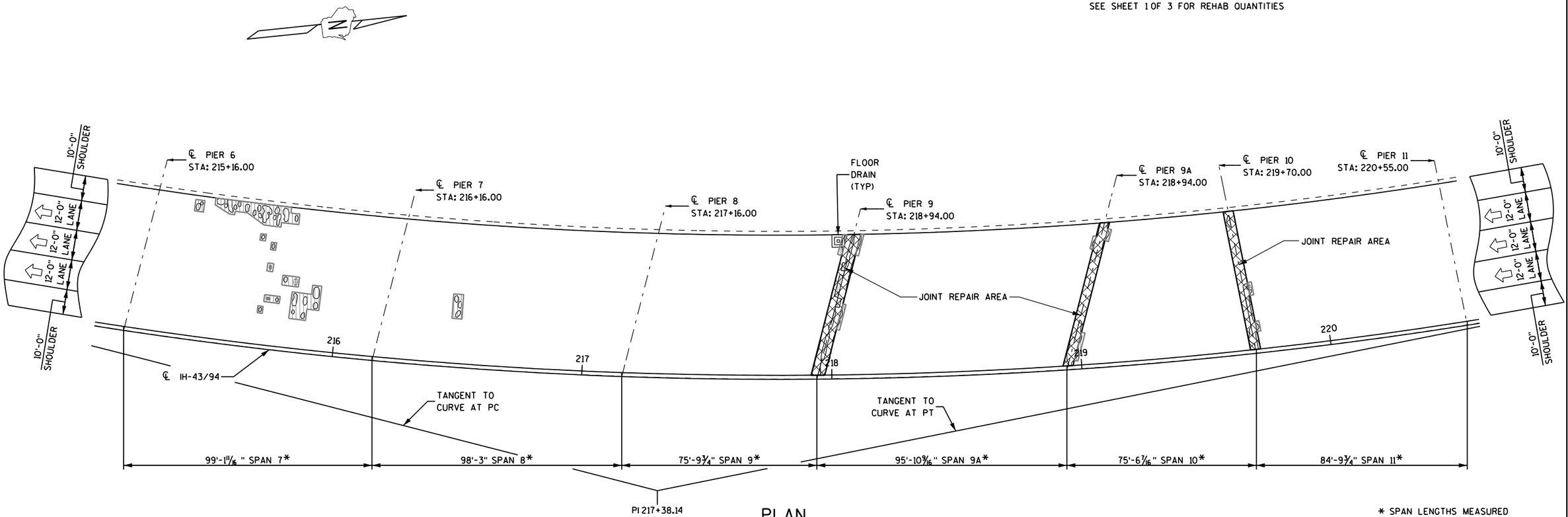
JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

LEGEND	
DECK PREPARATION AREA	DELAMINATION
	SPALL
	DEBOND
SHADE/DEBRIS	ASPHALT PATCH
	CONCRETE PATCH

SEE SHEET 1 OF 3 FOR REHAB QUANTITIES



PLAN

(PIER 6 - PIER 11)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE & CONCRETE OVERLAY
INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY VC | PLANS CK'D. SJM

DECK REPAIR AREAS SPANS 7-11

SHEET 14 OF 21

581

PROPOSED REHABILITATION AREAS BY

AECOM

8

8

FILE NAME :14_B-40-183_Deck Repair Areas-2.dgn
PLOT DATE :10/24/2012 2:45:25 PM PLOT BY : NicholasHornyak.vBl DRV :Pdf_bw_HS_7391.dlt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

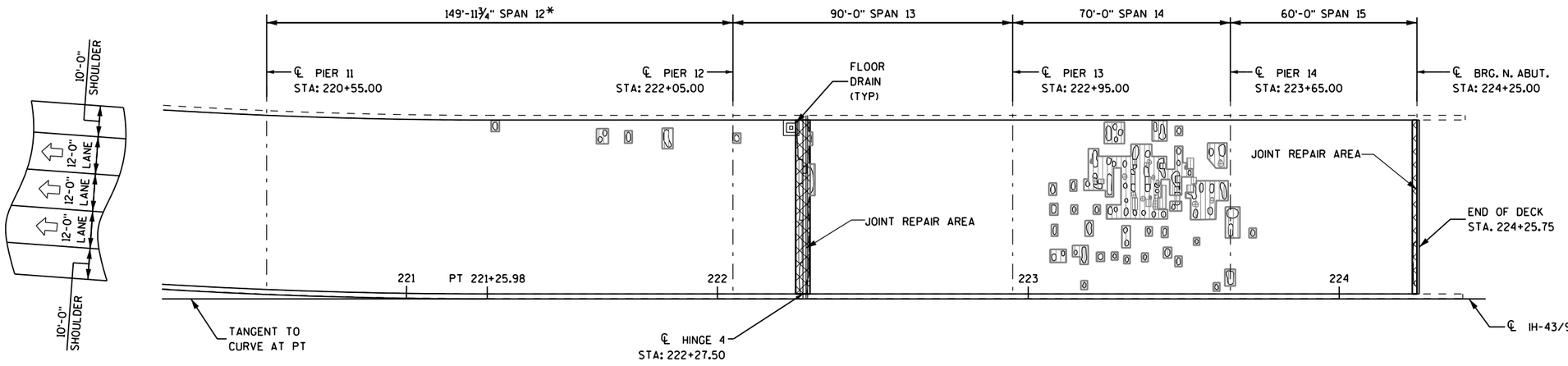
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

LEGEND	
DECK PREPARATION AREA	DELAMINATION
	SPALL
	DEBOND
	ASPHALT PATCH
SHADE/DEBRIS	CONCRETE PATCH

SEE SHEET 1 OF 3 FOR REHAB QUANTITIES





* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

PLAN

(PIER 11 - N. ABUT.)

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE & CONCRETE OVERLAY
INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY	VC	PLANS CK'D.	SJM

DECK REPAIR AREAS SPANS 12-15

SHEET 15 OF 21

582

8

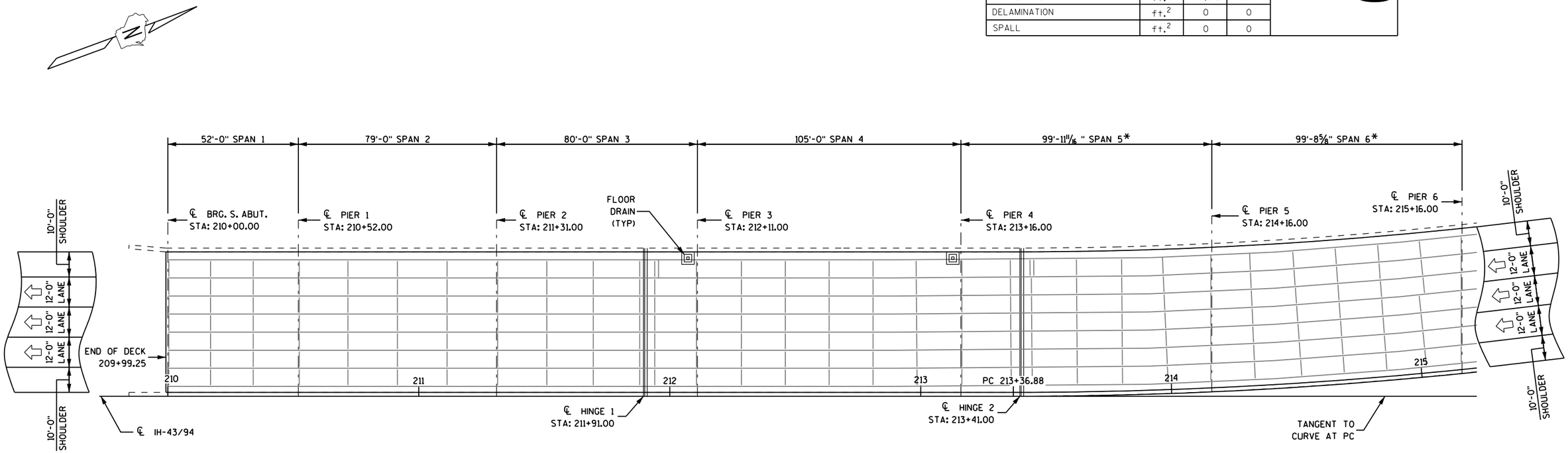
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FILE NAME :15.B-40-183.Deck Repair Areas-3.dgn
PLOT DATE :10/24/2012 2:42:25 PM PLOT BY : NicholasHornyakvBL DRV :Pdf_bw_NS_7391.dat PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-183		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	83,142	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

PLAN

(S. ABUT. - PIER 6)

8

8

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/8/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY VC | PLANS CK'D. SJM

UNDERDECK INSPECTION SPANS 1-6

SHEET 16 OF 21

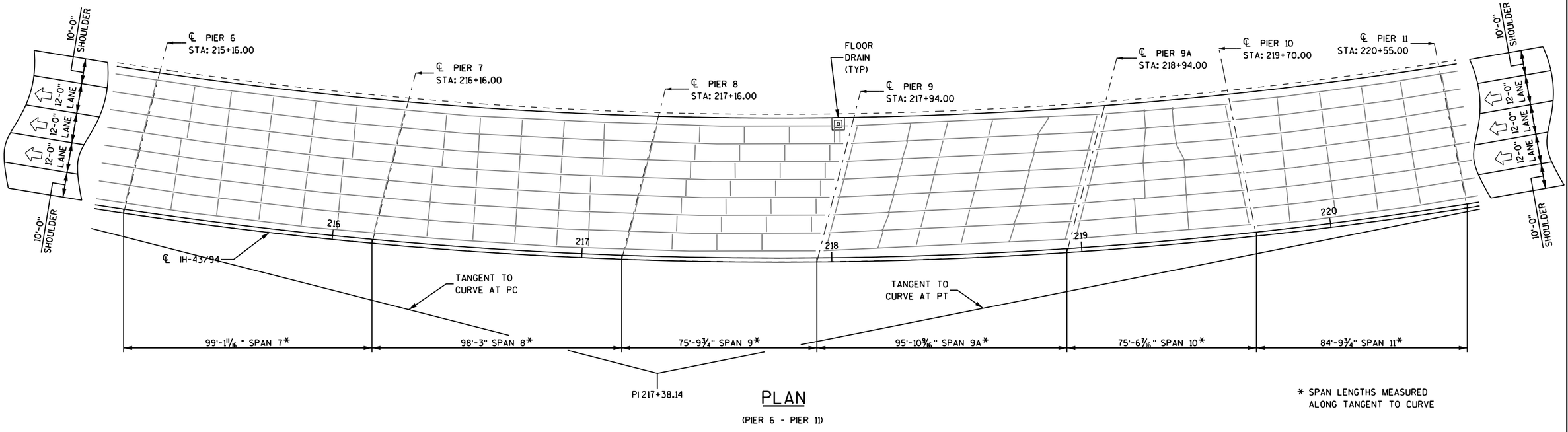
583

FILE NAME :16_B-40-183_UnderDeck Repair Areas-1.dgn
PLOT DATE :10/24/2012 2:41:25 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_7391.drv PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-183		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	83,142	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



PLAN

(PIER 6 - PIER 11)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/8/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY	VC	PLANS CK'D.	SJM

UNDERDECK INSPECTION SPANS 7-11

SHEET 17 OF 21

584

8

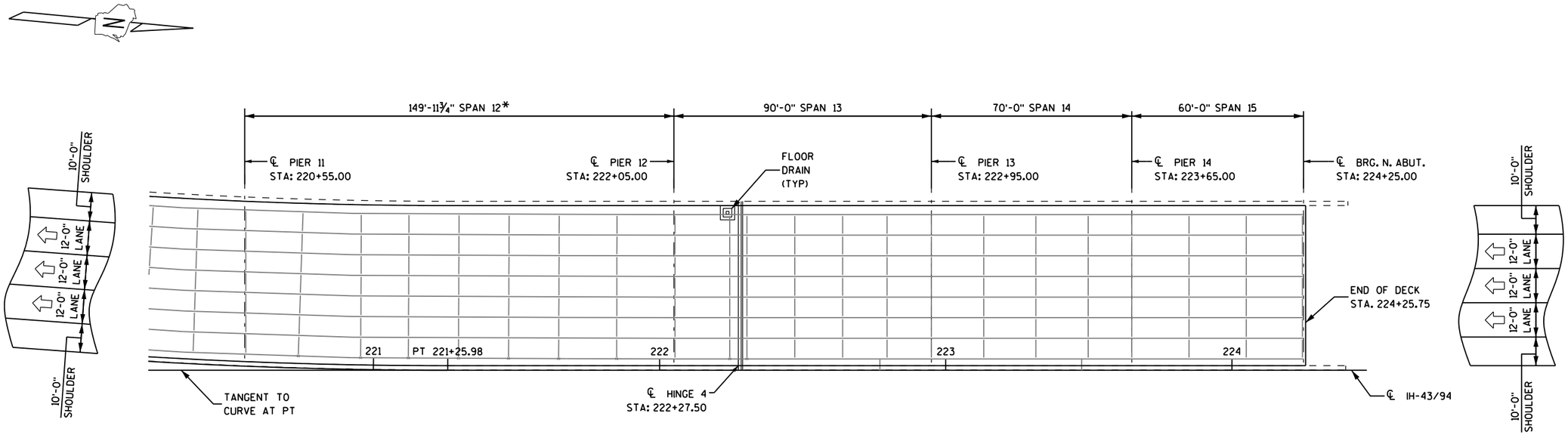
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FILE NAME :17_B-40-183_UnderDeck Repair Areas-2.dgn
PLOT DATE :10/31/2012 10:43:20 AM PLOT BY : MatthewHeiland v8i DRV :PGF.bw_HS_7391.slt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-183		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	ft.^{2}	83,142	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	0	0	



PLAN

(PIER 11 - N. ABUT.)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/8/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY VC | PLANS CK'D. SJM

UNDERDECK INSPECTION SPANS 12-15

SHEET 18 OF 21

585

8

8

FILE NAME :18.B-40-183.UnderDeck Repair Areas-3.dgn
PLOT DATE :10/31/2012 10:43:20 AM PLOT BY : MatthewHollandvBt DRV :Pdf_bw_HS_7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

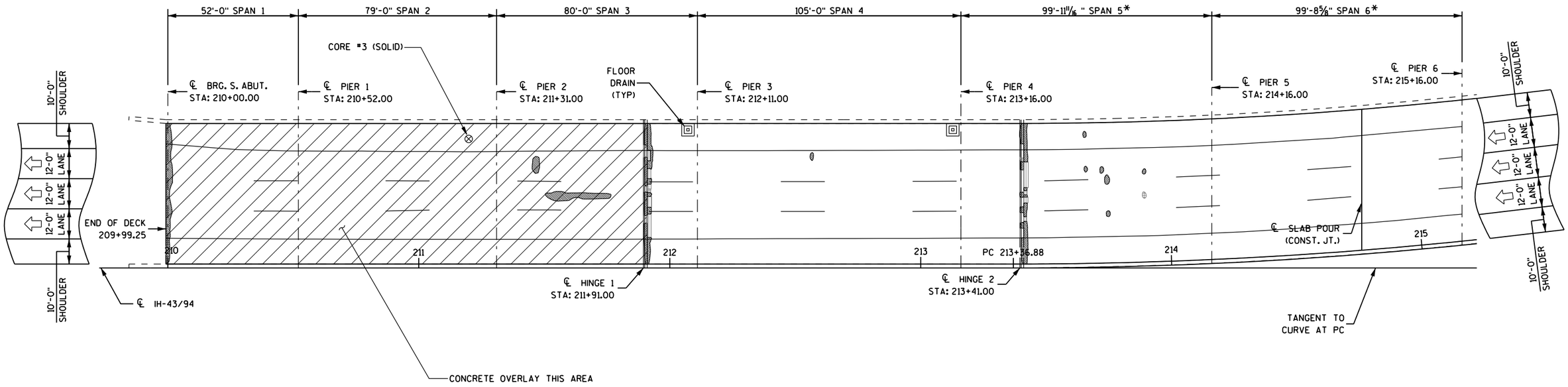
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-183	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$ft.^2$	7,9110	
SHADE/DEBRIS	$ft.^2$	0	
DELAMINATION	$ft.^2$	1346	1.7
SPALL	$ft.^2$	10	<0.1
DEBOND	$ft.^2$	0	0
ASPHALT PATCH	$ft.^2$	44	<0.1
CONCRETE PATCH	$ft.^2$	238	0.3

LEGEND	
DELAMINATION	
SPALL	
DEBOND	
ASPHALT PATCH	
CONCRETE PATCH	
SHADE/DEBRIS	



PLAN

(S. ABUT. - PIER 6)

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE & CONCRETE OVERLAY
INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY	VC	PLANS CK'D.	SJM

INFRARED INSPECTION RESULTS SPANS 1-6

SHEET 19 OF 21

8

8

FILE NAME :19.B-40-183.infrared inspection-Ldgn
PLOT DATE :10/24/2012 2:41:36 PM PLOT BY : NicholasHornyak.vbl DRV :Pdf.bw.HS.7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

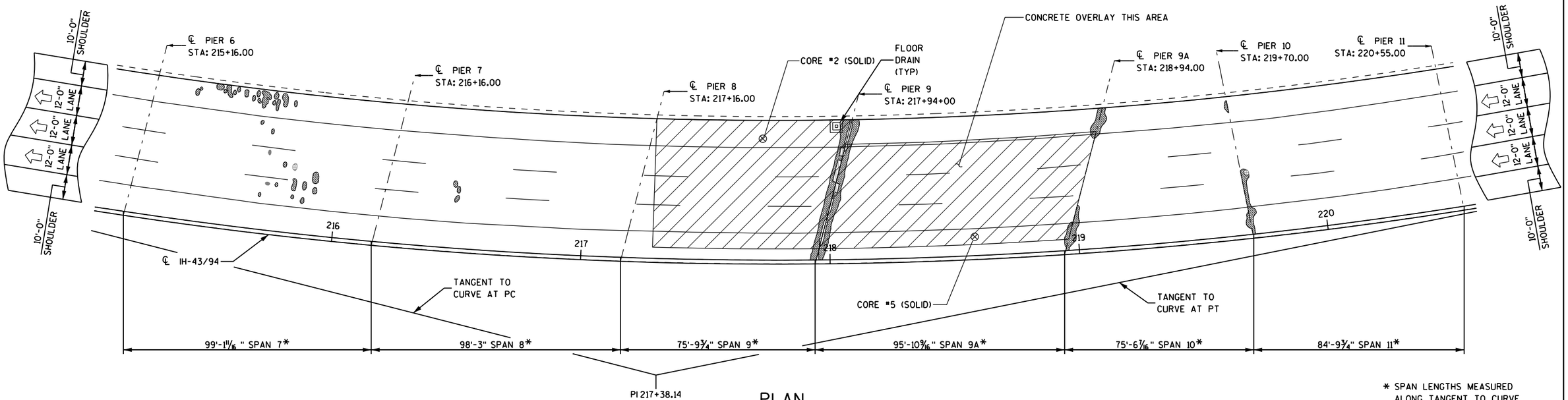
NOTE:

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

LEGEND	
DELAMINATION	
SPALL	
DEBOND	
ASPHALT PATCH	
CONCRETE PATCH	
SHADE/DEBRIS	

SEE SHEET 1 OF 3 FOR DEFECT QUANTITIES



PLAN

(PIER 6 - PIER 11)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE & CONCRETE OVERLAY
INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY VC | PLANS CK'D. SJM

INFRARED INSPECTION RESULTS SPANS 7-11

SHEET 20 OF 21

8

8

FILE NAME :20_B-40-183_Infrared Inspection-2.dgn
PLOT DATE :10/24/2012 2:45:17 PM PLOT BY : NicholasHornyakvBL DRV :PDF.bw.HS.7391.dlt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

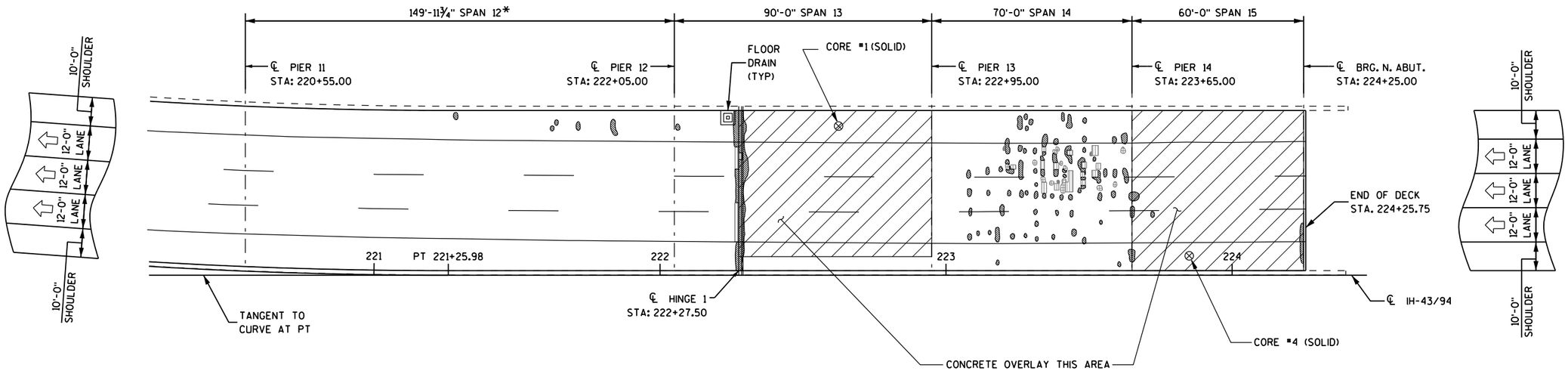
NOTE:

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

LEGEND	
DELAMINATION	
SPALL	
DEBOND	
ASPHALT PATCH	
CONCRETE PATCH	
SHADE/DEBRIS	

SEE SHEET 1 OF 3 FOR DEFECT QUANTITIES



* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

PLAN

(PIER 11 - N. ABUT.)

SCALE. FEET 0 10 20

SURFACE TYPE: CONCRETE & CONCRETE OVERLAY
INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-183

DRAWN BY	VC	PLANS CK'D.	SJM

INFRARED INSPECTION RESULTS SPANS 12-15

SHEET 21 OF 21

588

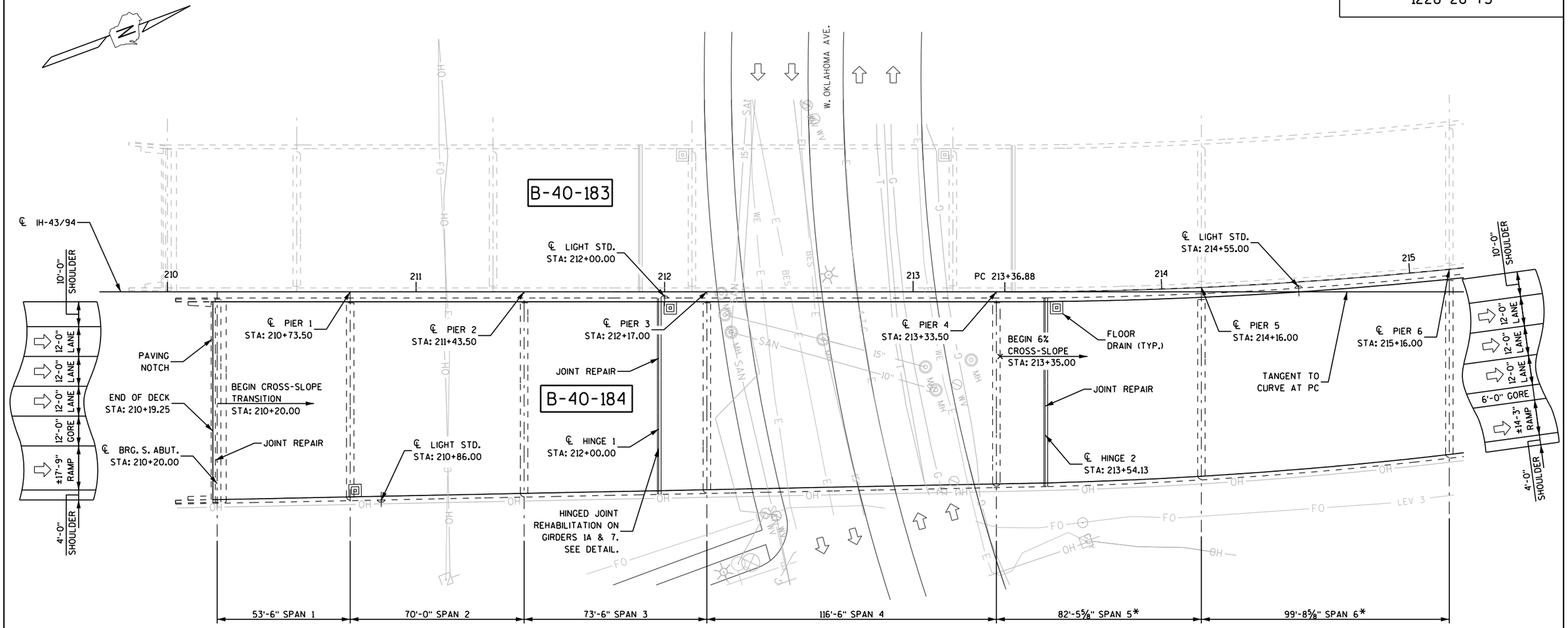
8

8

FILE NAME :21.8-40-183.infrared inspection-3.dgn
PLOT DATE :10/24/2012 2:42:17 PM PLOT BY : NicholasHornyak@8 DRV :Pdf_bw_HS_7391.pltPEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-73



LIST OF DRAWINGS

1. GENERAL PLAN, SPANS 1-6
2. GENERAL PLAN, SPANS 7-10
3. GENERAL PLAN, SPANS 11-14
4. CROSS SECTIONS
5. CROSS SECTIONS
6. CONSTRUCTION STAGING
7. CONSTRUCTION STAGING
8. CONSTRUCTION STAGING
9. JOINT REPAIR DETAILS AT ABUTMENTS
10. JOINT REPAIR DETAILS AT HINGES
11. JOINT REPAIR DETAILS AT PARAPET
12. MODULAR EXPANSION JOINT DETAILS
13. JOINT ELEVATIONS
14. JOINT REPAIR REBAR DETAILS
15. PIN DETAILS AT HINGE 1
16. CATHODIC PROTECTION DETAILS
17. DECK REPAIR AREAS, SPANS 1-6
18. DECK REPAIR AREAS, SPANS 7-10
19. DECK REPAIR AREAS, SPANS 11-14
20. UNDERDECK INSPECTION, SPANS 1-6
21. UNDERDECK INSPECTION, SPANS 7-10
22. UNDERDECK INSPECTION, SPANS 11-14
23. INFRARED INSPECTION RESULTS SPANS 1-6
24. INFRARED INSPECTION RESULTS SPANS 7-10
25. INFRARED INSPECTION RESULTS SPANS 11-14

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

ESTIMATED QUANTITIES

SEE SHEET 3 FOR ESTIMATED QUANTITIES.

TRAFFIC DATA

IH-43/94 NB
A.D.T. (2009) = 56,400

DESIGN DATA

LIVE LOAD:	
INVENTORY RATING	HS-16
OPERATIONAL RATING	HS-27
MAXIMUM STANDARD PERMIT VEHICLE LOAD	178 KIPS
ULTIMATE DESIGN STRESSES:	
CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

PLAN

(S. ABUT. - PIER 6)

EXISTING CURVE DATA:
P.I. 217+38.14
Δ= 25°38'14"
D= 3°15'
T= 401.26'
L= 789.08'
R= 1762.95'
S.E.= 0.06
P.C. 213+36.88
P.T. 221+25.96

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

WISCONSIN STEVEN J. MILLER 36937 MILWAUKEE, WI PROFESSIONAL ENGINEER
Steven J. Miller
10/15/2012

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher LIS 10/17/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-184

IH-43/94 NB/WB OVER OKLAHOMA AVE

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D.	NJH
DRAWN BY	CSH	PLANS CK'D.	SJM

GENERAL PLAN SPANS 1 - 6

SHEET 1 OF 25
589

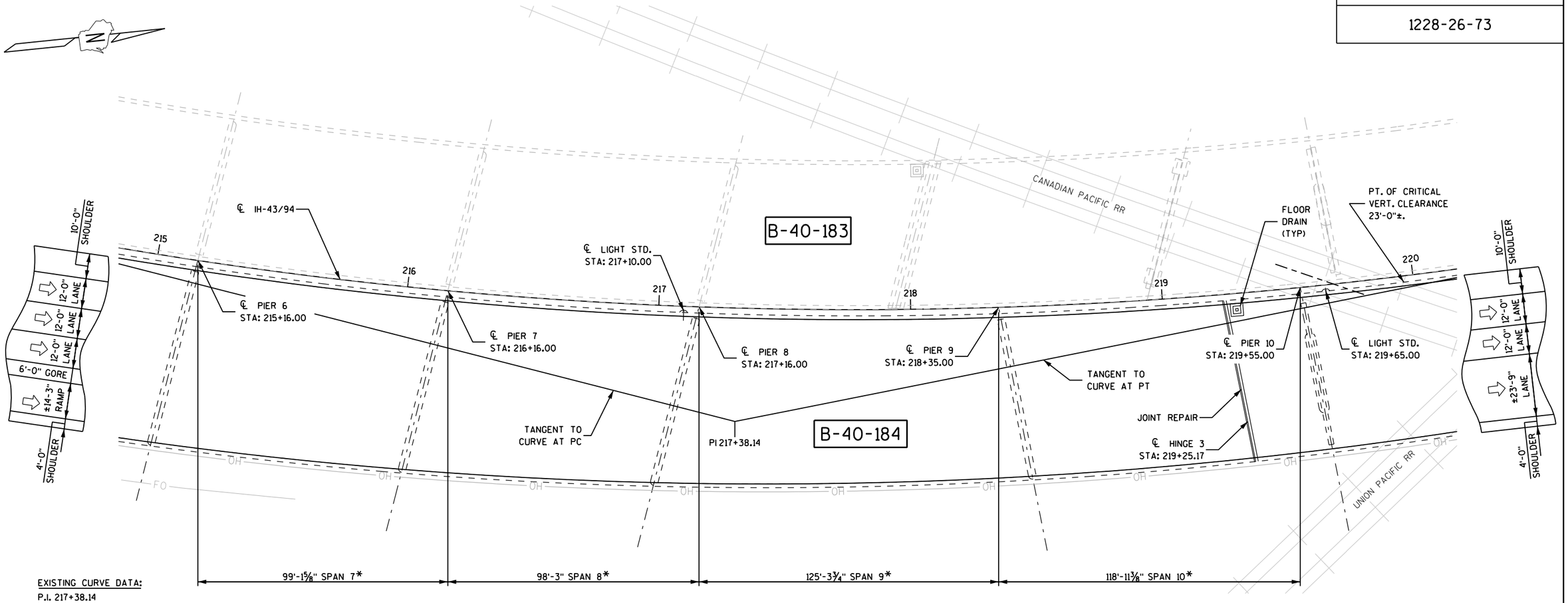
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FILE NAME :01,B-40-184,Conc Overlay.dgn
PLOT DATE :10/15/2012 12:02:26 PM PLOT BY : NicholasMornyakvBl DRV :Pdf.bw,HS.739Lat PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-73



EXISTING CURVE DATA:

P.I. 217+38.14
Δ= 25°38'14"
D= 3°15'
T= 401.26'
L= 789.08'
R= 1762.95'
S.E.= 0.06
P.C. 213+36.88
P.T. 221+25.96

PLAN

(PIER 6 - PIER 10)

* SPAN LENGTHS MEASURED
ALONG TANGENT TO CURVE

GENERAL NOTES

THE PROPOSED WORK INCLUDES PROVIDING ALL STEEL, NEOPRENE STRIP SEALS, INCIDENTAL HARDWARE, FABRICATION, STORAGE, AND DELIVERY FOR EXPANSION DEVICES AND MODULAR EXPANSION DEVICES. OTHER PLANS AND DETAILS ARE INCLUDED FOR REFERENCE ONLY.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "FURNISH AND DELIVER EXPANSION DEVICES B-40-184" AND "FURNISH AND DELIVER EXPANSION DEVICES MODULAR B-40-184".

EXPANSION DEVICES HARDWARE TO BE STORED UNTIL DELIVERY DATE AND THEN DELIVERED TO THE PROJECT LOCATION. DELIVERY DATES AND LOCATIONS SHALL BE COORDINATED WITH THE DEPARTMENT. SEE SPECIAL PROVISIONS FOR DELIVERY DATES.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY CSH | PLANS CK'D. SJM

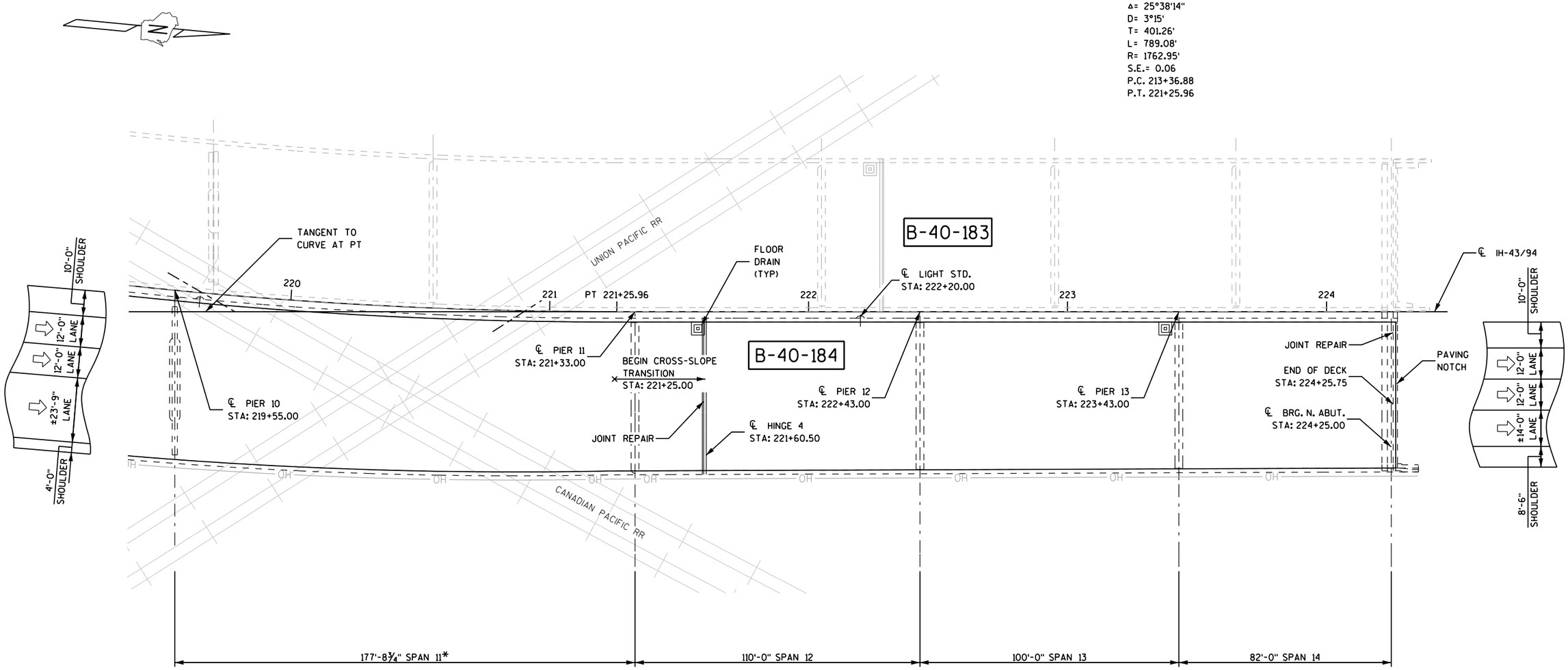
GENERAL PLAN
SPANS 7 - 10

SHEET 2 OF 25
590

FILE NAME :\02.B-40-184.Conc Overlay 2.dgn
PLOT DATE :10/15/2012 12:02:27 PM PLOT BY : NicholasHornyakvBI DRV :PDF.bw.HS.7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

EXISTING CURVE DATA:
P.I. 217+38.14
Δ= 25°38'14"
D= 3°15'
T= 401.26'
L= 789.08'
R= 1762.95'
S.E.= 0.06
P.C. 213+36.88
P.T. 221+25.96



PLAN

(PIER 10 - N. ABUT.)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	TOTAL
SPV.0105.04	FURNISH AND DELIVER EXPANSION DEVICE B-40-184	LS	1	1
SPV.0105.25	FURNISH AND DELIVER EXPANSION DEVICE MODULAR B-40-184	LS	1	1

ALL ITEMS ARE CATEGORY 40

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY CSH | PLANS CK'D. SJM

GENERAL PLAN
SPANS 11 - 14

SHEET 3 OF 25
591

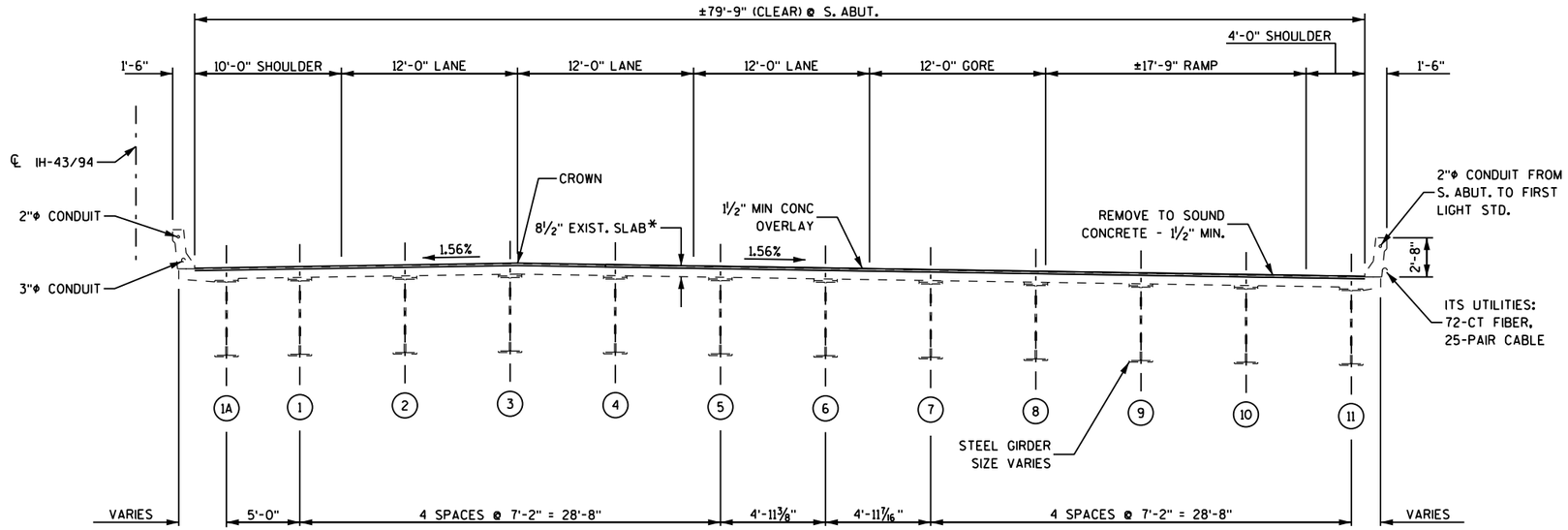
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STATE PROJECT NUMBER

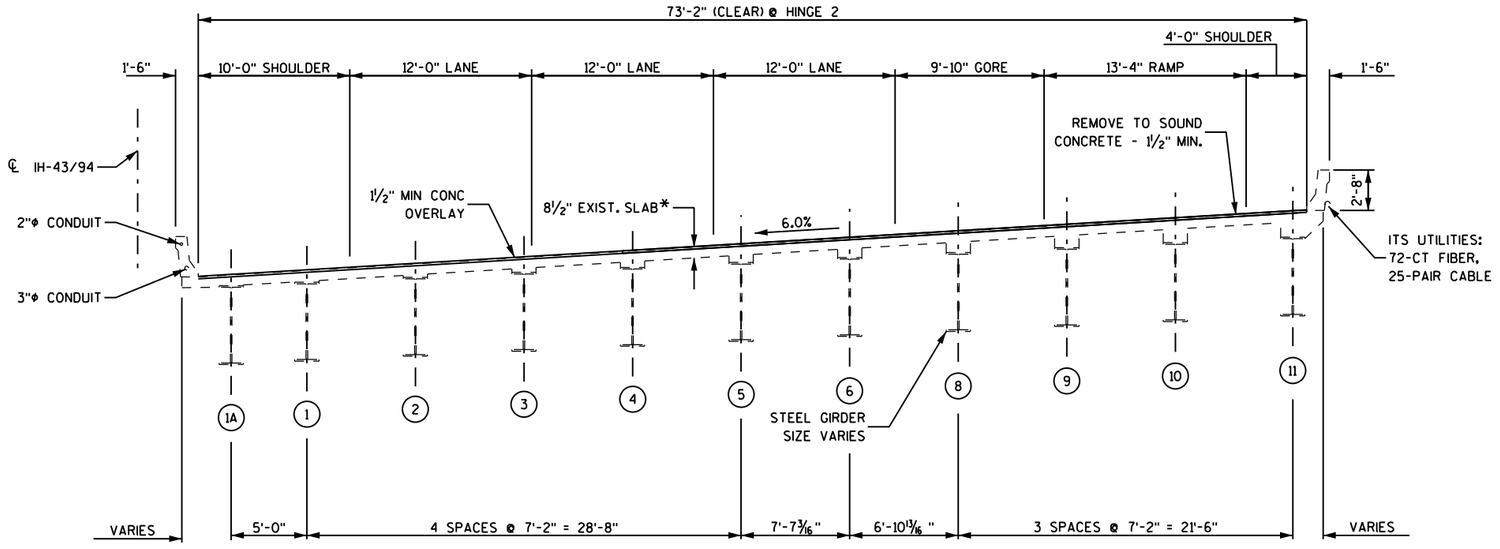
1228-26-73



CROSS SECTION THRU ROADWAY

(LOOKING NORTH ℄ S. ABUT.)

NOTE: 1.56% NORMAL CROWN TO STA: 210+20.00 (S. ABUT.)
PARABOLIC TRANSITION STA: 210+20.00 TO STA: 213+35.00
6% FULL SUPER ELEVATION STA: 213+35.00 TO STA: 221+25.00
PARABOLIC TRANSITION STA: 221+25.00 TO STA: 224+40.00
1.56% NORMAL CROWN AT STA: 224+40.00



CROSS SECTION THRU ROADWAY

(LOOKING NORTH ℄ HINGE 2 STA: 213+54.13)

* EXISTING DECK CONSISTS OF A 7" SLAB WITH A 1½" INTEGRAL CONCRETE OVERLAY

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	PLANS CK'D.
CSH	SJM

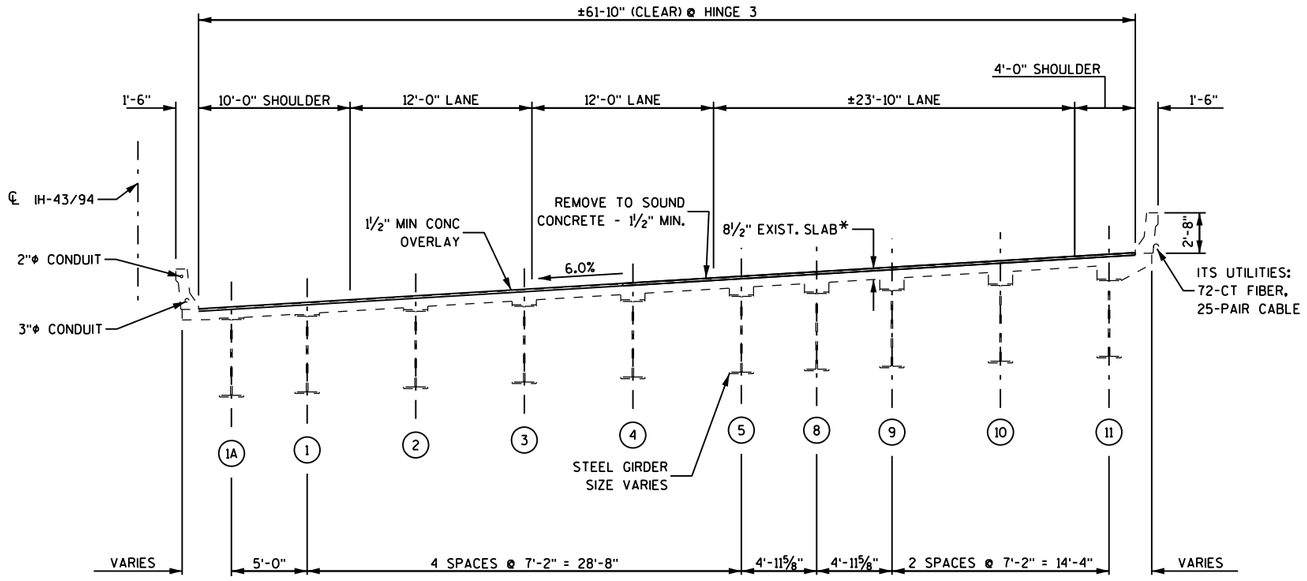
CROSS SECTIONS

SHEET 4 OF 25

592

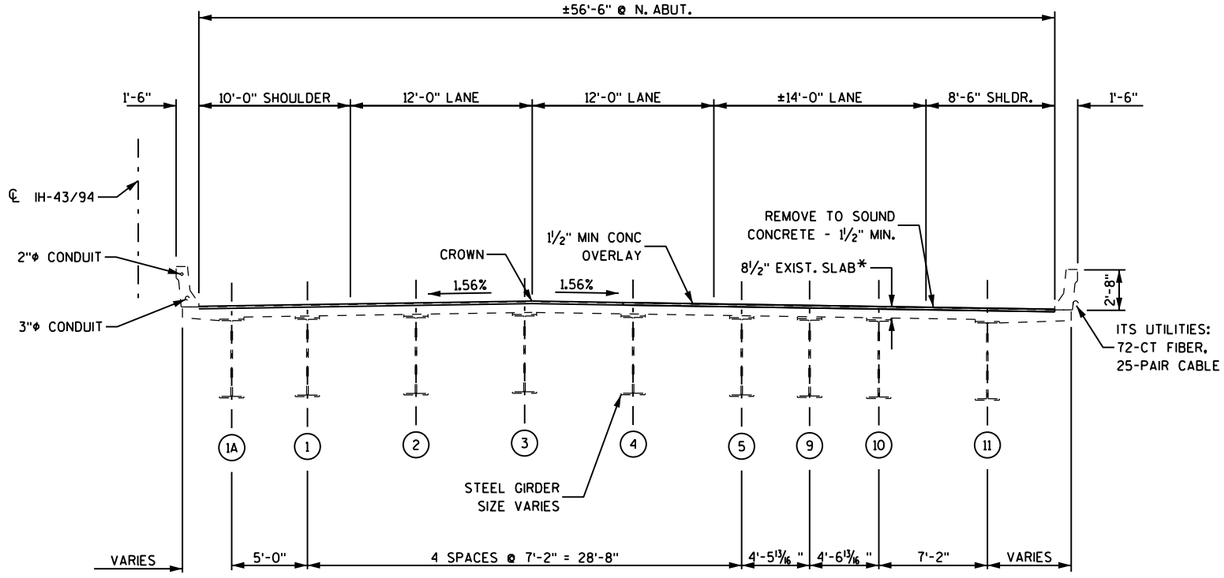
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PLOT DATE :10/12/2012 1:50:58 PM PLOT BY : NicholasHornyak@ DRV :Pdf_bw_HS_7391.tbl PEN :CEL_TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73



CROSS SECTION THRU ROADWAY

(LOOKING NORTH @ HINGE 3 STA: 219+25.17)



CROSS SECTION THRU ROADWAY

(LOOKING NORTH @ N. ABUT.)

* EXISTING DECK CONSISTS OF A 7" SLAB WITH A 1-½" INTEGRAL CONCRETE OVERLAY

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	CSH	PLANS CK'D.	SJM

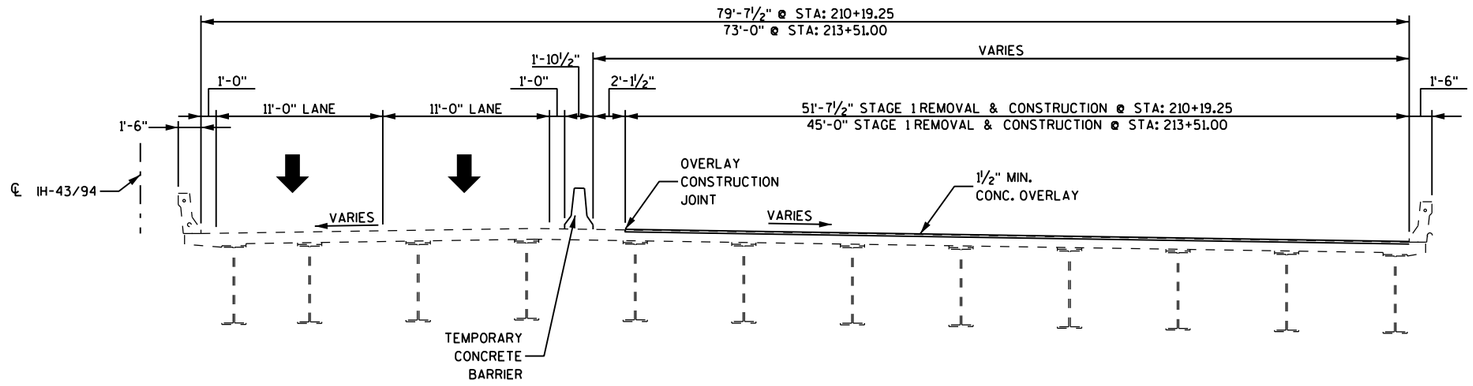
CROSS SECTIONS

SHEET 5 OF 25

593

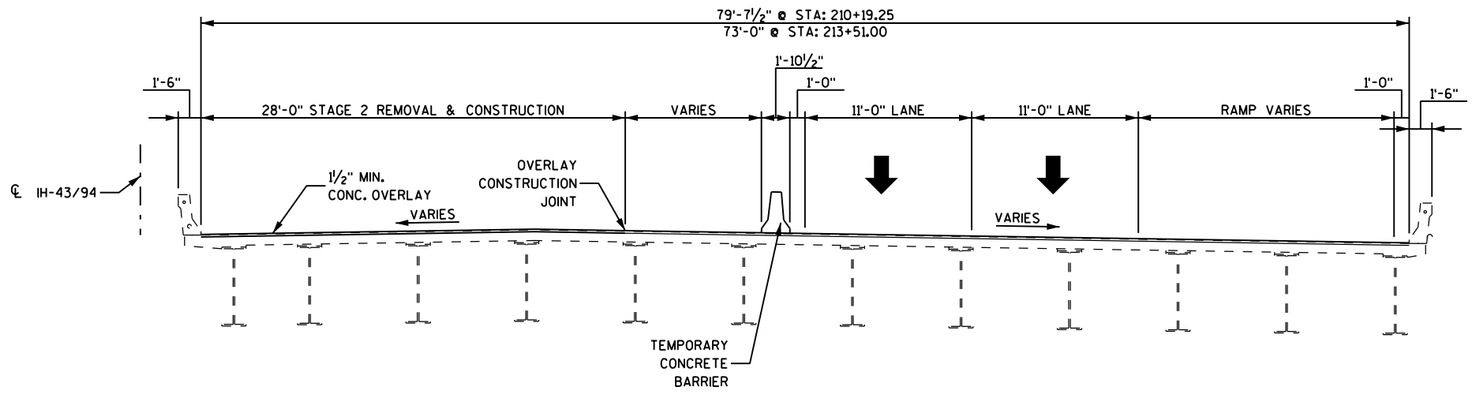
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PLOT DATE :10/12/2012 1:50:59 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_T39Ldit PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA 210+19.25- STA 213+51.00)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA 210+19.25 - STA 213+51.00)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

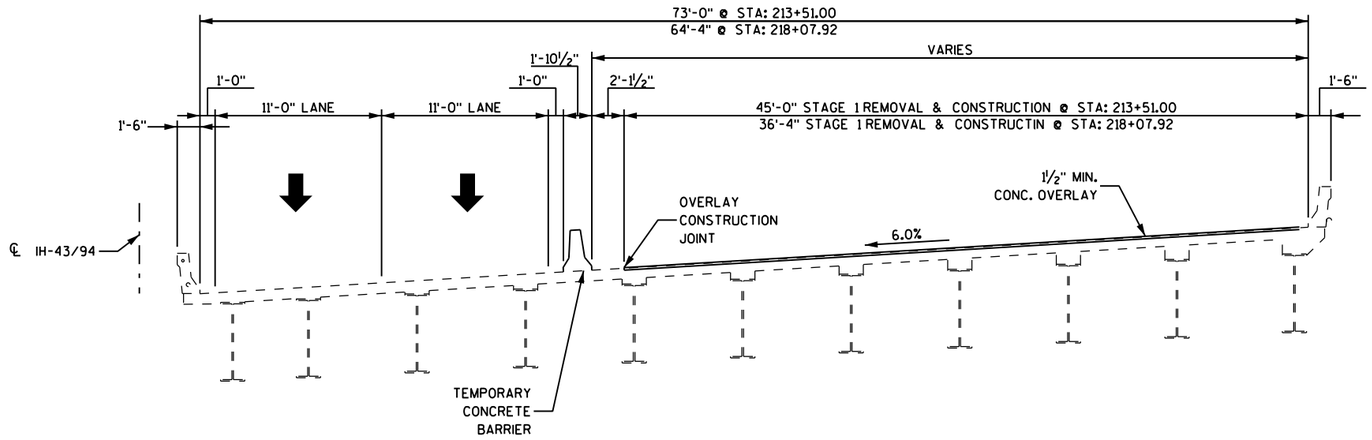
DRAWN BY	CSH	PLANS CK'D.	SJM

CONSTRUCTION STAGING

SHEET 6 OF 25
594

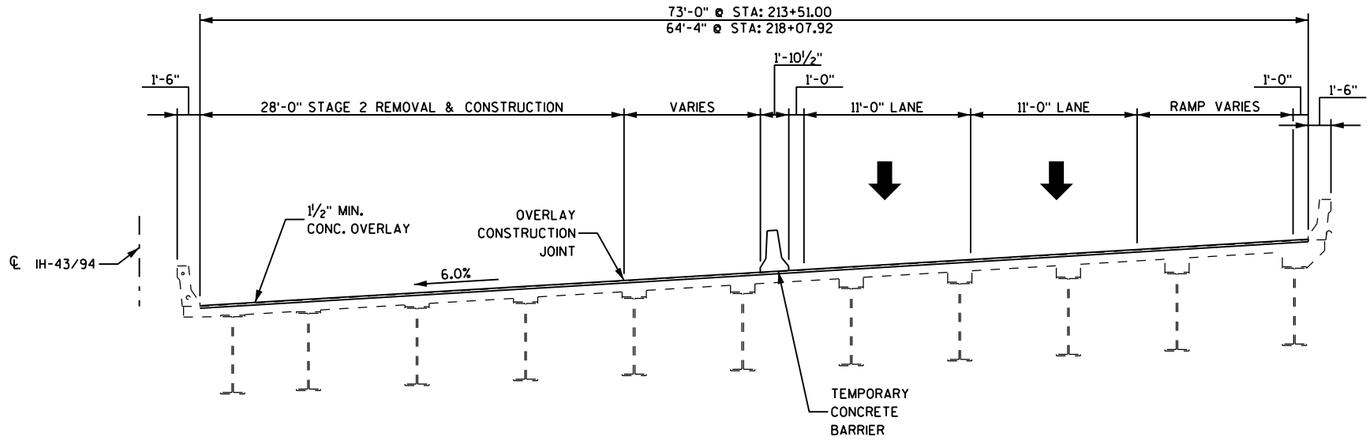
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PLOT DATE :10/12/2012 1:50:59 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_T39Lclt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA: 213+51.00 - STA: 218+07.92)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA: 213+51.00 - STA: 218+07.92)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

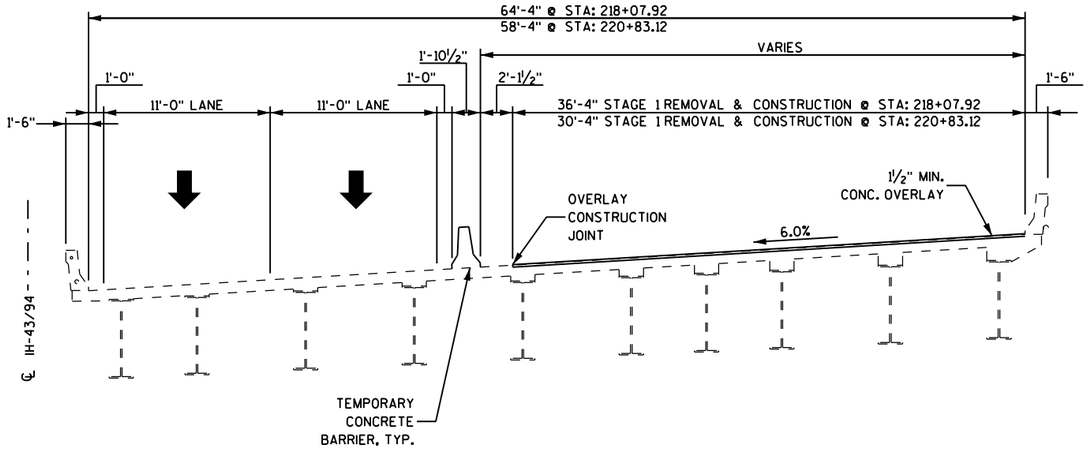
DRAWN BY	CSH	PLANS CK'D.	SJM

CONSTRUCTION STAGING

SHEET 7 OF 25
595

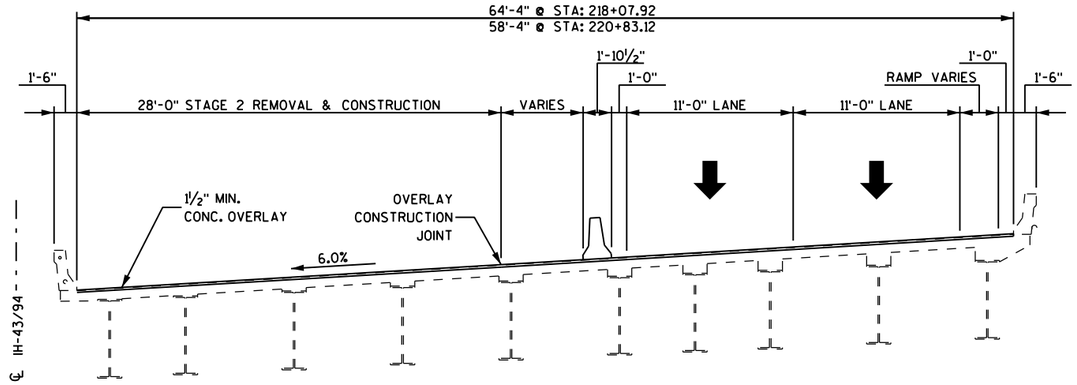
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STATE PROJECT NUMBER
1228-26-73



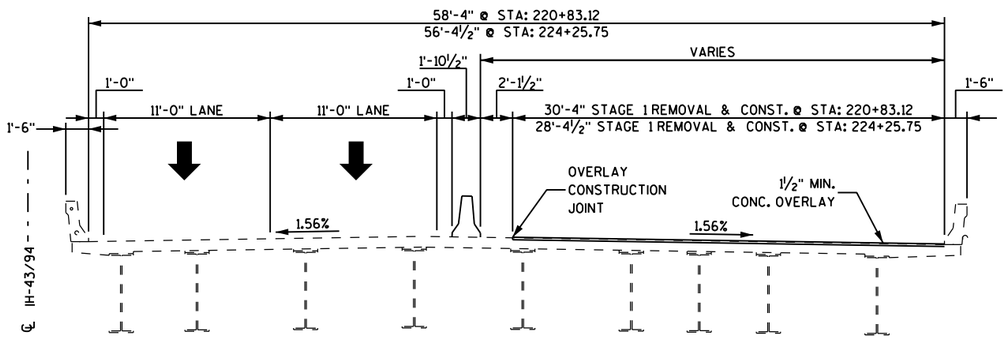
STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA: 218+07.92 - STA: 220+83.12)



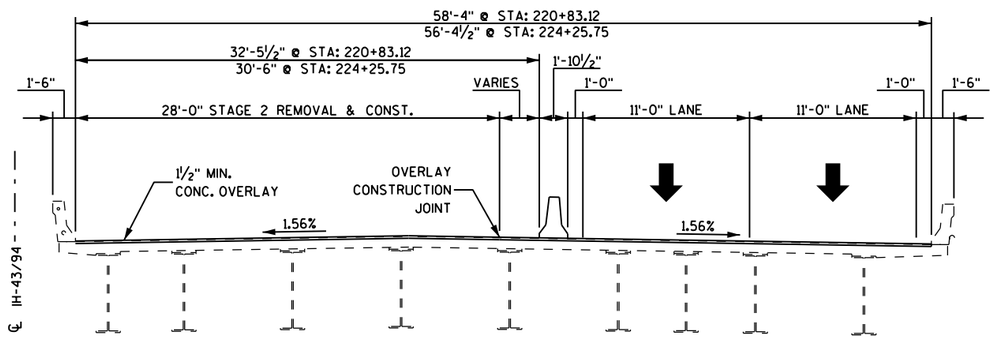
STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA: 218+07.92 - STA: 220+83.12)



STAGE 1 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA: 220+83.12 - STA: 224+25.75)



STAGE 2 - CROSS SECTION THRU ROADWAY

(LOOKING NORTH)
(STA: 220+83.12 - STA: 224+25.75)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	CSH	PLANS CK'D.	SJM

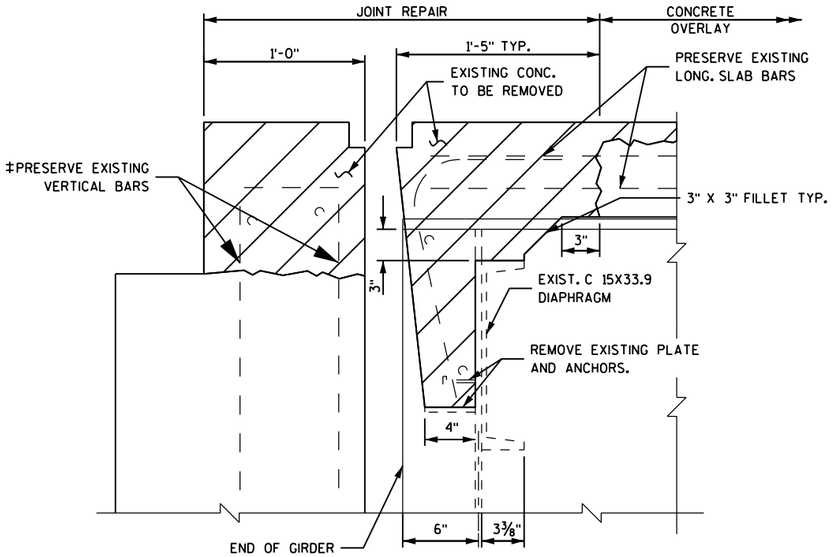
CONSTRUCTION STAGING

SHEET 8 OF 25
596

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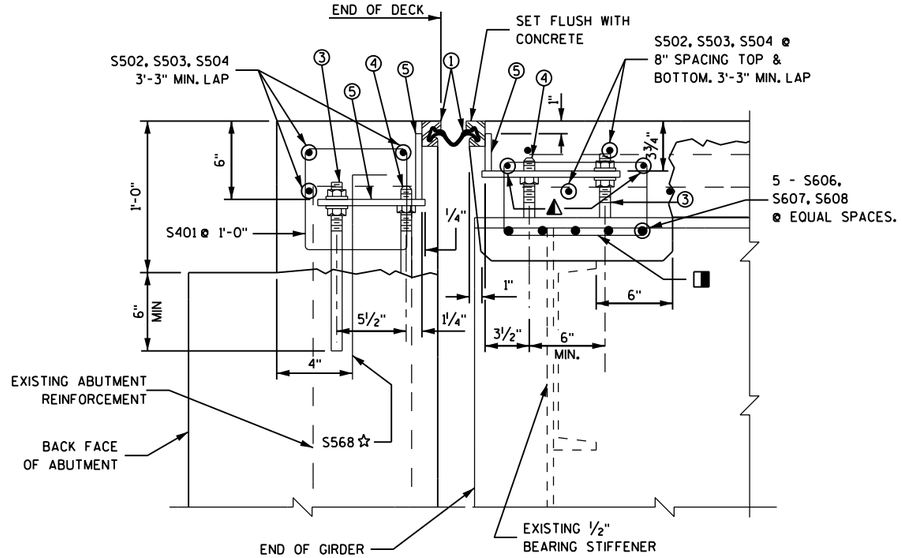
STATE PROJECT NUMBER

1228-26-73



JOINT REPAIR-REMOVAL

AT ABUTMENTS



SECTION THRU JOINT

AT ABUTMENTS

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

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

☆ MASONRY ANCHORS TYPE L NO.5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS

PART PLAN

AT ABUTMENTS AT SLAB

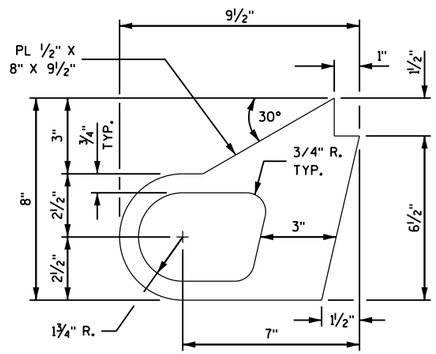
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

▲ S409, S410, S411, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM.

◨ S405 ℄ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS.

◐ SEE TEMPERATURE TABLE ON SHEET 7 FOR JOINT OPENING



ALTERNATE STRIP SEAL ANCHOR

EXPANSION JOINT NOTES

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

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

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

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "FURNISH AND DELIVER EXPANSION DEVICE B-40-184".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT ABUTMENTS

SHEET 9 OF 25

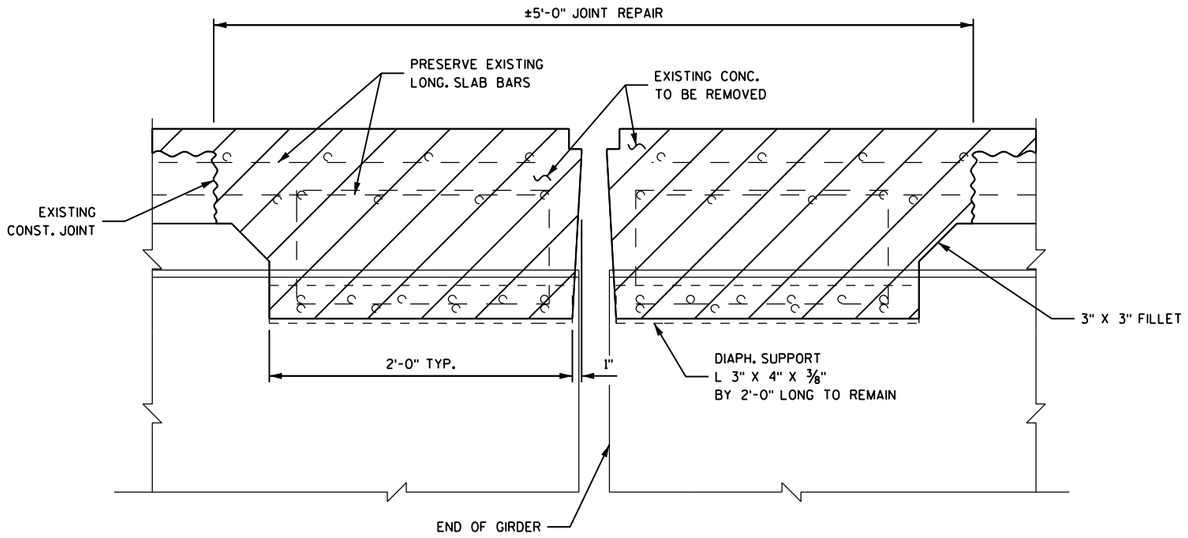
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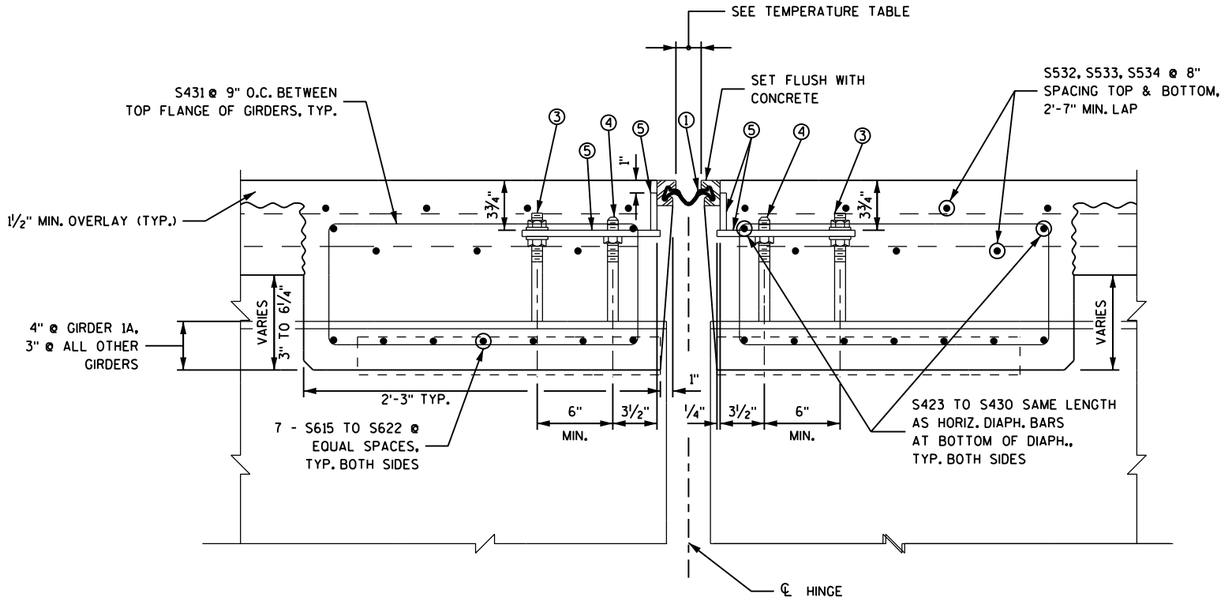
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PLOT DATE :10/12/2012 15:00:00 PM PLOT BY : NicholasMorrnyakvBE DRV :Pdf_bw_MS_7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73



JOINT REPAIR-REMOVAL

AT HINGES 1& 4



SECTION THRU JOINT

AT HINGES 1& 4

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

TEMPERATURE TABLE

Temp. °F	Joint Openings		
	N. & S. ABUTMENT	HINGE 1	HINGE 4
85	2"	1"	1 1/8"
75	2"	1 1/4"	1 3/8"
65	2"	1 1/2"	1 1/2"
55	2"	1 3/4"	1 3/4"
45	2"	2"	2"
35	2"	2 1/4"	2 1/4"
25	2"	2 1/2"	2 1/2"
15	2"	2 3/4"	2 5/8"
5	2"	3"	2 7/8"

EXPANSION JOINT NOTES

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

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

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

SANDBLAST PLATES & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCAIL BLAST CLEANING". AFTER BLAST CLEANING THE PLATES & EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "FURNISH AND DELIVER EXPANSION DEVICE B-40-184".

SEE SHEET 9 FOR STRIP SEAL SECTION DETAILS SHOWING THE SECTION THRU JOINT AT THE EXTERIOR GIRDER TO EDGE OF SLAB, THE SECTION THRU JOINT AT THE ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS, A PARTIAL PLAN VIEW, AND THE ALTERNATE STRIP SEAL ANCHOR.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT HINGES

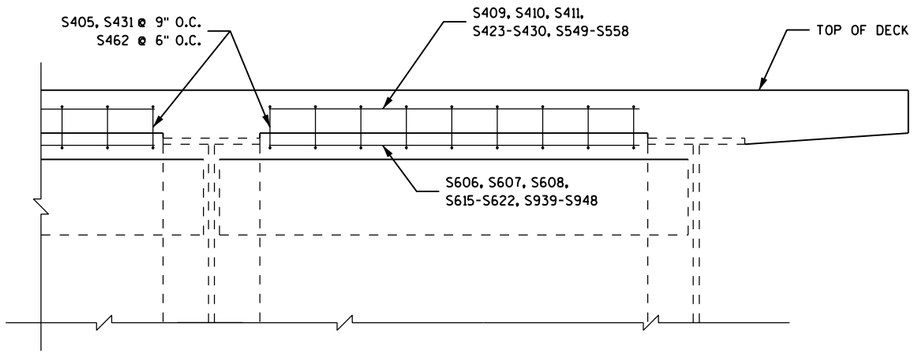
SHEET 10 OF 25

598

FILE NAME :10.B-40-184.Strip Seal Details - At Hinges.dgn
PLOT DATE :10/12/2012 15:01:01 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw.HS.7391.plt PEN :CELTEXTSUB.TBL

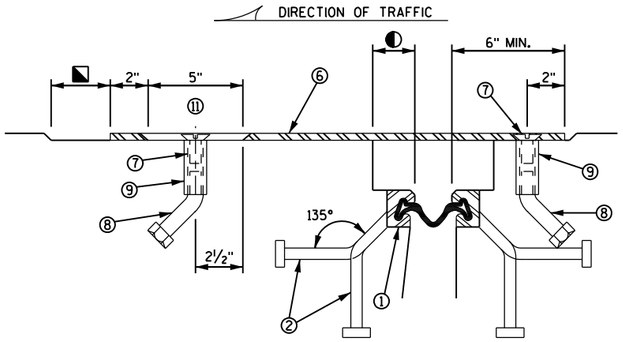
STATE PROJECT NUMBER

1228-26-73

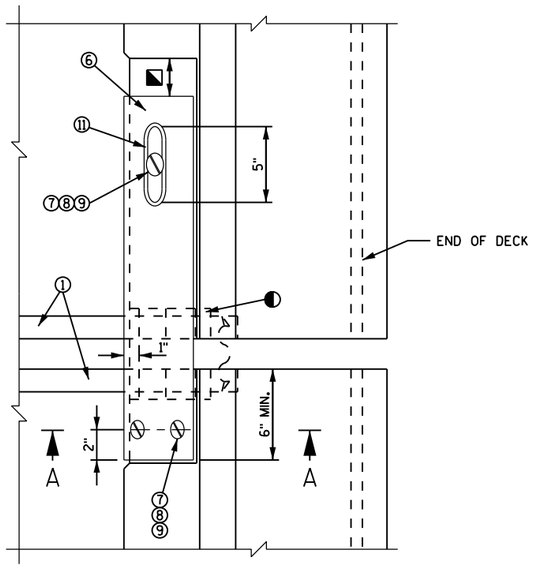


PART TRANSVERSE SECTION AT DIAPHRAGM

EXPANSION END

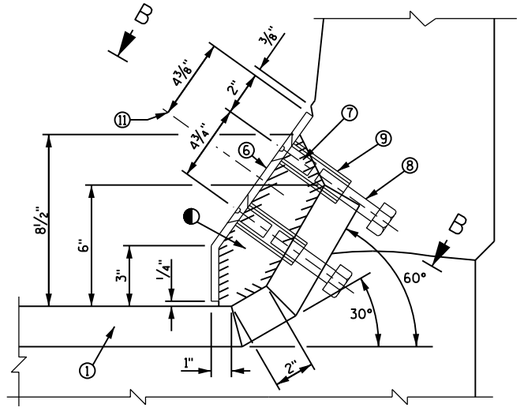


SECTION B-B



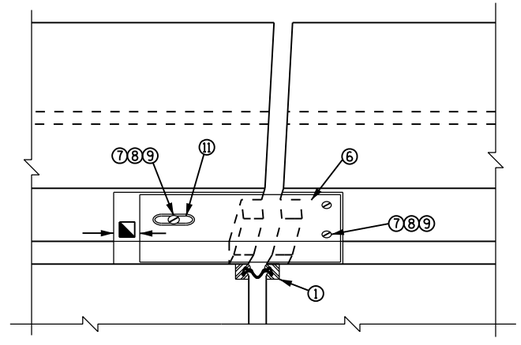
PLAN AT PARAPET

SLOPED FACE PARAPET



SECTION A-A

SLOPED FACE PARAPET



VIEW OF PARAPET PLATES

FROM ROADWAY

SLOPED FACE PARAPET

LEGEND

⑥ GALVANIZED PLATE ⅜" X 10½" X 2'-0" LONG WITH HOLES FOR ⑦. BEND AS SHOWN.

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

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

EXPANSION JOINT NOTES

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

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL AND HARDWARE INCLUDED IN THE EXPANSION JOINT ASSEMBLIES AT THE PARAPET WILL BE INCLUDED IN THE BID ITEM "FURNISH AND DELIVER EXPANSION DEVICE B-40-184".

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT REPAIR DETAILS AT PARAPETS

SHEET 11 OF 25

599

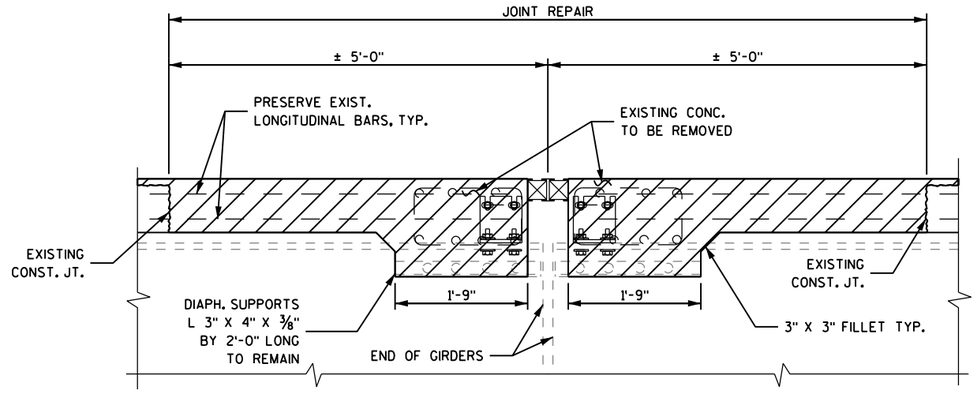
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FILE NAME :11.B-40-184,Strip Seal Details - At Parapets.dgn
PLOT DATE :10/12/2012 15:01 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_7391.tbl PEN :CELTEXTSUB.TBL

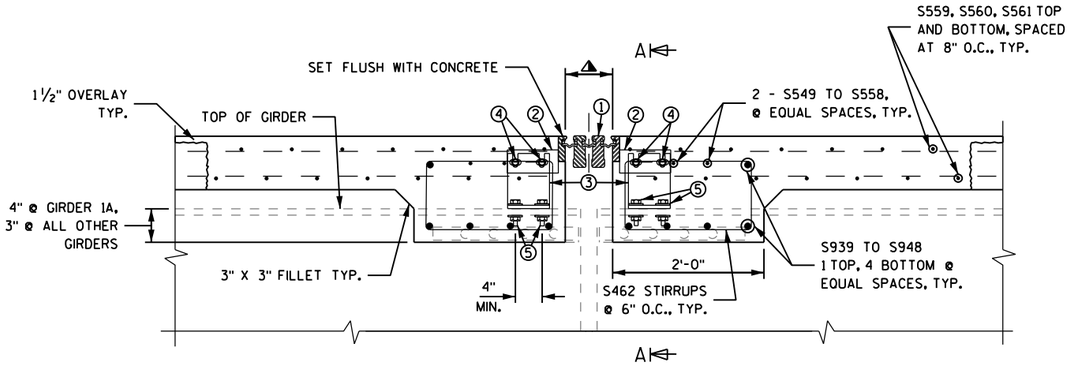
STATE PROJECT NUMBER

1228-26-73



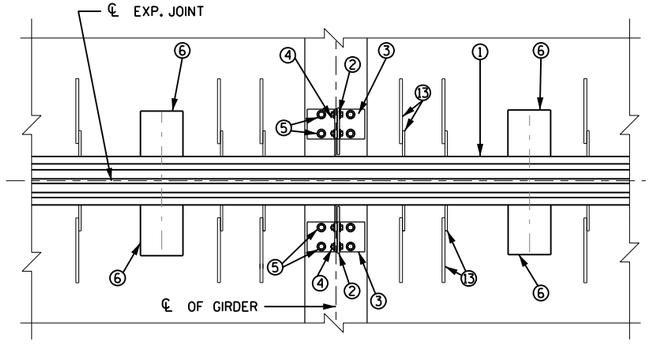
MODULAR JOINT REPAIR-REMOVAL

AT HINGES 2 & 3



SECTION THRU MODULAR JOINT

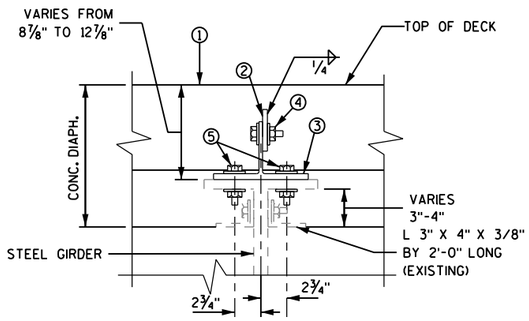
AT HINGES 2 & 3



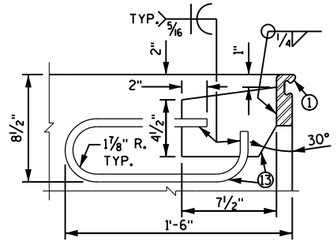
PART PLAN

NOTE:
MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OFSTRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.

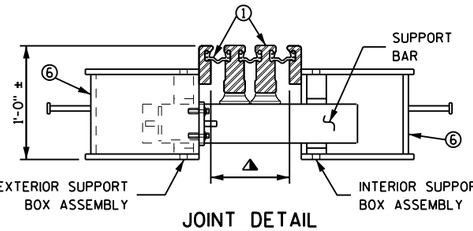


SECTION A-A



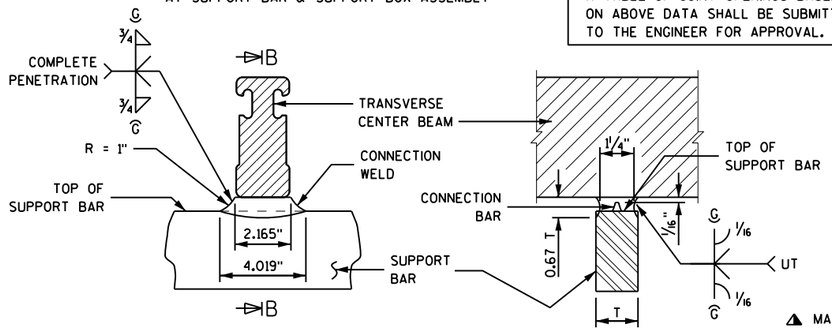
ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES IN DECK @ CONC. DIAPH.



JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY



MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION

SECTION B-B

TEMP. TABLE

TEMP. TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. 0.3 IN. AND 0.33 IN. OF MOVEMENT PER 10° F HINGE 2 AND HINGE 3 RESPECTIVELY.
2. MEDIAN TEMP. OF 45° F
3. TEMP. RANGE IN TABLE FROM (-5°F) TO (+95°F) FOR STEEL GIRDERS.

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

MODULAR JOINT NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSTIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.

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

NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE, ON PARAPET ROADWAY FACE OR ABOVE SIDEWALK SURFACE (FOR RAISED SIDEWALK).

THE EXPANSION JOIINT SEALS SHALL BE PLACED, BONDED & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.

EXPANSION JOINT EXTRUSIONS SHALL BE FABRICATED TO CONFORM TO ROADWAY CROWN & GRADE. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST BARS, PLATES, WT-SECTION, ANCHORAGE LOOP, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BALST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED.

THE EXPANSION JOINTS COMPLETE WITH PARAPET PLATES & SIDEWALK PLATES SHALL BE PAID FOR UNDER THE PRICE BID FOR "FURNISH AND DELIVER EXPANSION DEVICE MODULAR B-40-184".

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM. CONCRETE DIAPHRAGM TO EXTEND BETWEEN OUTSIDE EDGES OF DECK.

LEGEND

① MODULAR EXPANSION JOINT DEVICE, 2 CELLS.

② 1/2" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.

③ WT 6 x 29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.

④ 3/4" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)

⑤ 3/4" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)

⑥ SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM 1/2" PLATES.

⑦ 1/2" PLATE WITH 5/8" Φ LOOP ANCHOR FAB. AS SHOWN. SPACED AT MANUFACTORER'S SPEC.

▲ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMP. ON THE DAY OF PLACEMENT PER TEMP. TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN ①.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	MJH	PLANS CK'D.	SJM

MODULAR EXPANSION JOINT DETAILS

SHEET 12 OF 25

600

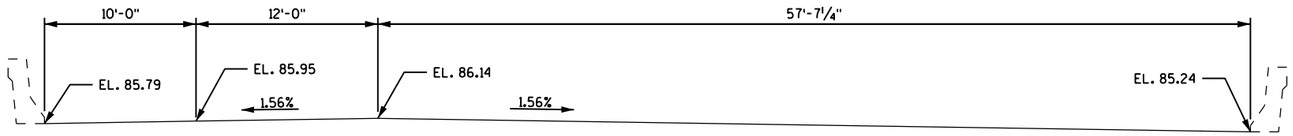
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FILE NAME :12,B-40-184,Modular Expansion Joint Details.dgn
PLOT DATE :10/12/2012 15:02 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_NS_7391.pltt PEN :CELTEXTSUB.TBL

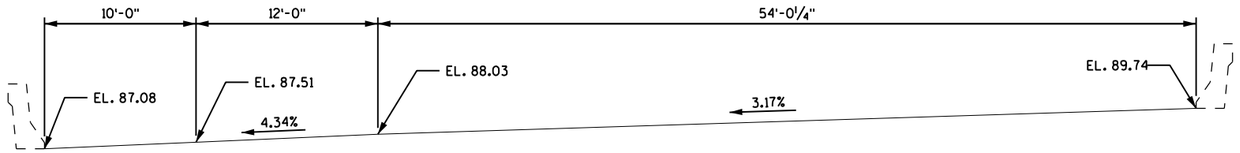
STATE PROJECT NUMBER

1228-26-73



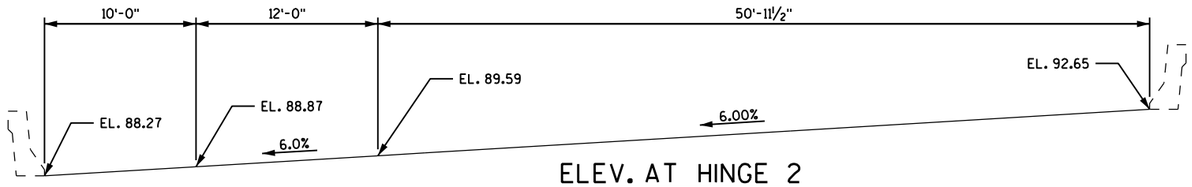
ELEV. AT S. ABUT.

(LOOKING NORTH)



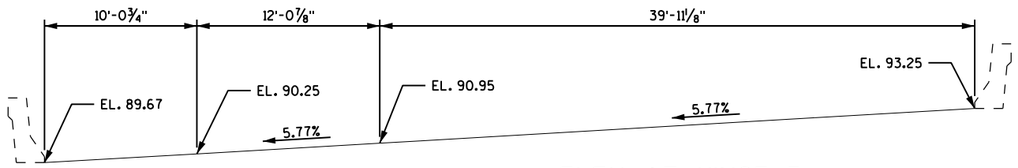
ELEV. AT HINGE 1

(LOOKING NORTH)



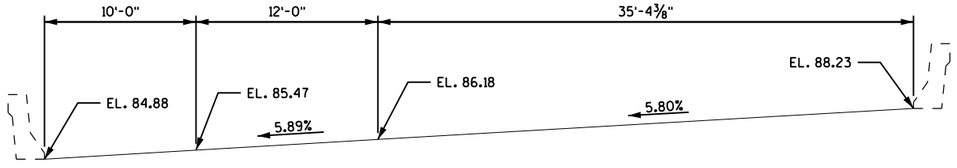
ELEV. AT HINGE 2

(LOOKING NORTH)



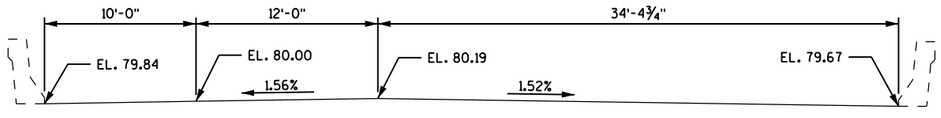
ELEV. AT HINGE 3

(LOOKING NORTH)



ELEV. AT HINGE 4

(LOOKING NORTH)



ELEV. AT N. ABUT.

(LOOKING NORTH)

8

NOTE:

ELEVATIONS SHOWN ARE TOP OF DECK TAKEN FROM EXISTING PLANS. CONTRACTOR SHALL VERIFY AS NECESSARY PRIOR TO CONSTRUCTION.

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT ELEVATIONS

SHEET 13 OF 25

601

FILE NAME :13.B-40-184_Joint Cross Sections.dgn
PLOT DATE :10/12/2012 12:02 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_7391.plt PEN :CELTEXTSUB.TBL

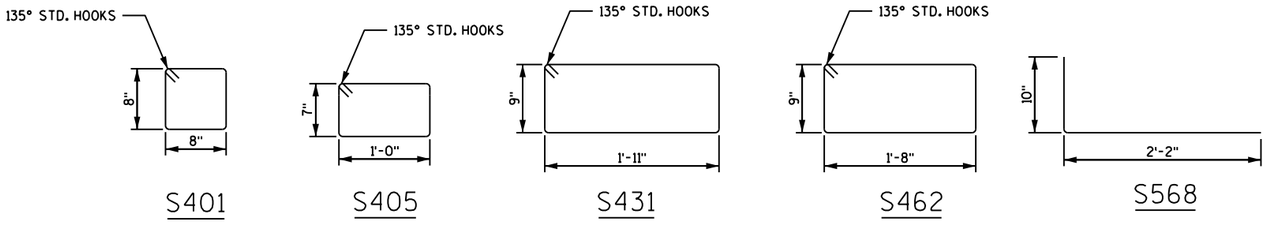
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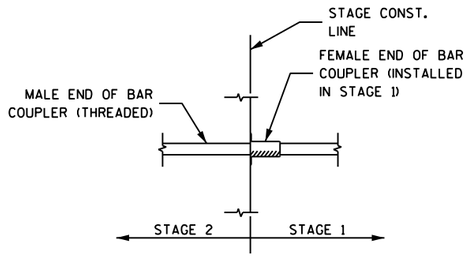
1228-26-73

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	COUPLER	LOCATION
S401	X	146	3'-2"	▲		S & N ABUT. PAVING BLOCK STIRRUPS
S502	X	28	15'-6"		X	S ABUT. PAVING BLOCK & DECK HOR. STAGE 2
S503	X	28	16'-1"			S & N ABUT. PAVING BLOCK & DECK HOR. STAGE 3
S504	X	14	15'-8"		X	S & N ABUT. PAVING BLOCK & DECK HOR. STAGE 2
S405	X	157	3'-8"	▲		S & N ABUT. DIAPH. STIRRUPS
S606	X	10	3'-8"			S & N ABUT. DIAPH. BOT. HOR. BTWN. GIRDERS 1A-1
S607	X	10	2'-7"			N ABUT. DIAPH. BOT. HOR. BTWN. GIRDERS 5-9, 9-10
S608	X	75	5'-10"			S & N ABUT. DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S409	X	4	3'-8"			S & N ABUT. DIAPH. TOP HOR. BTWN. GIRDERS 1A-1
S410	X	4	2'-7"			N ABUT. DIAPH. TOP HOR. BTWN. GIRDERS 5-9, 9-10
S411	X	30	5'-10"			S & N ABUT. DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S412	X	4	4'-7"			S & N ABUT. DECK EXP. DEVICE HOR. BTWN. GIRDERS 1A-1
S413	X	4	3'-6"			N ABUT. DECK EXP. DEVICE HOR. BTWN. GIRDERS 5-9, 9-10
S414	X	30	6'-9"			S & N ABUT. DECK EXP. DEVICE HOR. BTWN. ALL OTHER GIRDERS
S615	X	14	3'-2"			HINGE 1N, 4S DIAPH. BOT. HOR. BTWN. GIRDERS 1A-1
S616	X	14	3'-8"			HINGE 1S, 4N DIAPH. BOT. HOR. BTWN. GIRDERS 1A-1
S617	X	14	4'-6"			HINGE 4S DIAPH. BOT. HOR. BTWN. GIRDERS 5-9, 9-10
S618	X	14	5'-0"			HINGE 4N DIAPH. BOT. HOR. BTWN. GIRDERS 5-9, 9-10
S619	X	14	4'-2"			HINGE 1S DIAPH. BOT. HOR. BTWN. GIRDERS 5-6, 6-7
S620	X	14	3'-8"			HINGE 1N DIAPH. BOT. HOR. BTWN. GIRDERS 5-6, 6-7
S621	X	91	5'-4"			HINGE 1N, 4S DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S622	X	91	5'-10"			HINGE 1S, 4N DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S423	X	4	3'-2"			HINGE 1N, 4S DIAPH. TOP HOR. BTWN. GIRDERS 1A-1
S424	X	4	3'-8"			HINGE 1S, 4N DIAPH. TOP HOR. BTWN. GIRDERS 1A-1
S425	X	4	4'-6"			HINGE 4S DIAPH. TOP HOR. BTWN. GIRDERS 5-9, 9-10
S426	X	4	5'-0"			HINGE 4N DIAPH. TOP HOR. BTWN. GIRDERS 5-9, 9-10
S427	X	4	4'-2"			HINGE 1S DIAPH. TOP HOR. BTWN. GIRDERS 5-6, 6-7
S428	X	4	3'-8"			HINGE 1N DIAPH. TOP HOR. BTWN. GIRDERS 5-6, 6-7
S429	X	26	5'-4"			HINGE 1N, 4S DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S430	X	26	5'-10"			HINGE 1S, 4N DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S431	X	330	5'-10"	▲		HINGE 1 & 4 DIAPH. STIRRUPS
S532	X	56	14'-2"		X	HINGE 1 DECK HOR. STAGE 2
S533	X	56	15'-9"			HINGE 1 & 4 DECK HOR. STAGE 3
S534	X	28	16'-5"		X	HINGE 4 DECK HOR. STAGE 2
S435	X	8	4'-7"			HINGE 1 & 4 DECK EXP. DEVICE HOR. BTWN. GIRDERS 1A-1
S436	X	8	6'-0"			HINGE 4 DECK EXP. DEVICE HOR. BTWN. GIRDERS 5-9, 9-10
S437	X	8	5'-1"			HINGE 1 DECK EXP. DEVICE. HOR. BTWN. GIRDERS 5-6, 6-7
S438	X	52	6'-9"			HINGE 1 & 4 DECK EXP. DEVICE HOR. BTWN. ALL OTHER GIRDERS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	COUPLER	LOCATION
S939	X	10	3'-6"			HINGE 2N, 3S DIAPH. BOT. HOR. BTWN. GIRDERS 1A-1
S940	X	10	3'-2"			HINGE 2S, 3N DIAPH. BOT. HOR. BTWN. GIRDERS 1A-1
S941	X	5	6'-2"			HINGE 2N DIAPH. BOT. HOR. BTWN. GIRDERS 5-7
S942	X	5	5'-6"			HINGE 2N DIAPH. BOT. HOR. BTWN. GIRDERS 7-8
S943	X	5	5'-8"			HINGE 2S DIAPH. BOT. HOR. BTWN. GIRDERS 5-7
S944	X	5	5'-0"			HINGE 2S DIAPH. BOT. HOR. BTWN. GIRDERS 7-8
S945	X	10	3'-1"			HINGE 3N DIAPH. BOT. HOR. BTWN. GIRDERS 5-8, 8-9
S946	X	10	3'-7"			HINGE 3S DIAPH. BOT. HOR. BTWN. GIRDERS 5-8, 8-10
S947	X	65	5'-10"			HINGE 2N, 3S DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S948	X	65	5'-4"			HINGE 2S, 3N DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S549	X	4	3'-6"			HINGE 2N, 3S DIAPH. TOP HOR. BTWN. GIRDERS 1A-1
S550	X	4	3'-2"			HINGE 2S, 3N DIAPH. TOP HOR. BTWN. GIRDERS 1A-1
S551	X	2	6'-2"			HINGE 2N DIAPH. TOP HOR. BTWN. GIRDERS 5-7
S552	X	2	5'-6"			HINGE 2N DIAPH. TOP HOR. BTWN. GIRDERS 7-8
S553	X	2	5'-8"			HINGE 2S DIAPH. TOP HOR. BTWN. GIRDERS 5-7
S554	X	2	5'-0"			HINGE 2S DIAPH. TOP HOR. BTWN. GIRDERS 7-8
S555	X	4	3'-1"			HINGE 3N DIAPH. TOP HOR. BTWN. GIRDERS 5-8, 8-9
S556	X	4	3'-7"			HINGE 3S DIAPH. TOP HOR. BTWN. GIRDERS 5-8, 8-10
S557	X	26	5'-10"			HINGE 2N, 3S DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S558	X	26	5'-4"			HINGE 2S, 3N DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S559	X	112	13'-5"		X	HINGE 2 DECK HOR. STAGE 2
S560	X	112	15'-9"			HINGE 2 & 3 DECK HOR. STAGE 3
S561	X	56	18'-11"		X	HINGE 3 DECK HOR. STAGE 2
S462	X	484	5'-4"	▲		HINGE 2 & 3 DIAPH. STIRRUPS
S463	X	8	4'-7"			HINGE 2 & 3 DECK EXP. DEVICE HOR. BTWN. GIRDERS 1A-1
S464	X	4	7'-1"			HINGE 2 DECK EXP. DEVICE HOR. BTWN. GIRDERS 5-7
S465	X	4	6'-5"			HINGE 2 DECK EXP. DEVICE HOR. BTWN. GIRDERS 7-8
S466	X	8	4'-6"			HINGE 3 DECK EXP. DEVICE HOR. BTWN. GIRDERS 5-8, 8-9
S467	X	52	6'-9"			HINGE 2 & 3 DECK EXP. DEVICE HOR. BTWN. ALL OTHER GIRDERS
S568	X	29	2'-11"	▲		MASONRY ANCHORS





BAR COUPLER ASSEMBLY

NOTES

BAR COUPLER ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT.

BAR COUPLER ASSEMBLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCING BARS.

CONTRACTOR SHALL TAKE NECESSARY PRECAUTION WHEN INSTALLING THREADED BARS AND BAR COUPLER ASSEMBLY TO PREVENT DAMAGE TO BARS AND COUPLERS BETWEEN CONSTRUCTION STAGES.

BAR COUPLERS TO BE FURNISHED AND INSTALLED UNDER BID ITEMS "BAR COUPLERS (SIZE)".

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LAB THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X BAR AREA.

WHERE fy = YIELD STREGHT OF SPLICED BARS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR REBAR DETAILS

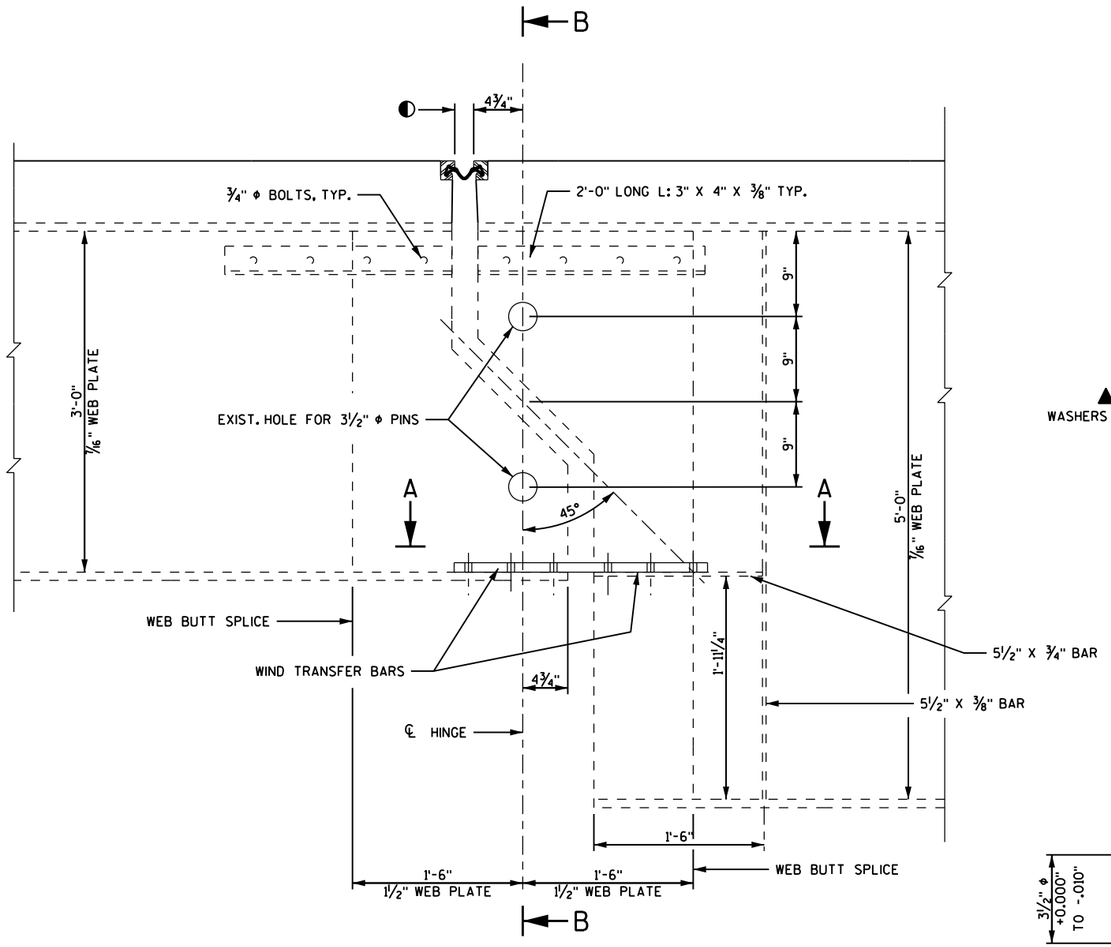
SHEET 14 OF 25

602

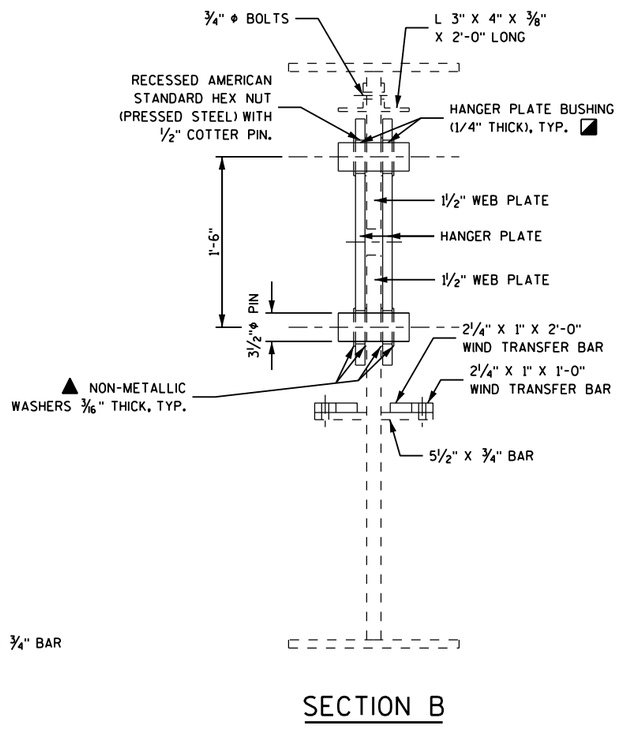
FILE NAME :14.B-40-184.Rebar Details.dgn
PLOT DATE :10/12/2012 15303 PM PLOT BY : NicholasHornyakvBl DRV :Pdf.bw.HS.7391.pltPEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

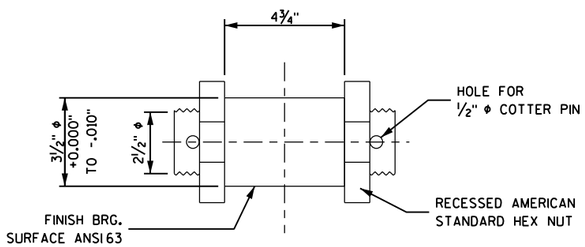
1228-26-73



ELEVATION AT HINGE 1



SECTION B



PIN DETAILS

(2 REQUIRED)

NOTES

INSIDE HOLES OF HANGER PLATES SHALL BE COATED WITH "BLOXIDE" OR AN APPROVED EQUAL AFTER FINISHING. THE BUSHINGS SHALL HAVE A PRESS FIT INTO HANGER PLATES. THE INSIDE DIAMETER OF THE BUSHING SHALL PROVIDE A CLEARANCE OF 0.005" MINIMUM AND 0.010" MAXIMUM OVER THE FINISHED DIAMETER OF THE PIN. NOTE THAT THE HOLE DIAMETER SHALL BE SMALLER THAN THE BUSHING O.D. BY AT LEAST 0.001". FINISH ANSI 125.

ALL DIMENSIONS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR.

REMOVE EXISTING HANGER PLATES, PINS, AND WIND TRANSFER PLATES AND REPLACE WITH NEW MATERIALS.

BID ITEM SHALL BE "HANGER ASSEMBLY", EACH. ALL MATERIAL AND WORK INVOLVED SHALL BE PAID FOR UNDER "HANGER ASSEMBLY".

3½" DIAMETER PIN SHALL CONFORM TO ASTM A668 CLASS M.

BLAST CLEAN GIRDER WEB AND FLANGES WITHIN 2'-0" OF ℄ OF HINGE IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL'S SPECIFICATION SSPC-SP6. PAINT AREA CLEANED WITH ORGANIC ZINC RICH PAINT SYSTEM.

HANGER PLATES AND WIND TRANSFER BARS SHALL BE SHOP PAINTED.

WIND TRANSFER BARS SHALL BE ASTM A 709, GRADE 36

BUSHINGS SHALL BE THE SAME LENGTH AS THE HANGER PLATE THICKNESS.

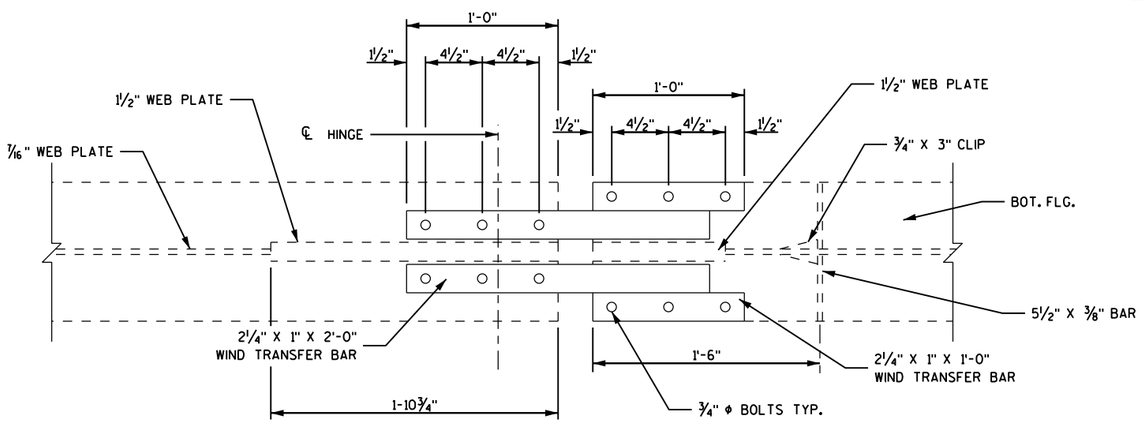
NON-METALLIC WASHERS SHALL HAVE AN INSIDE DIAMETER OF BETWEEN 0.005" AND 0.010" LARGER THAN THE PIN DIAMETER.

◪ BUSHINGS SHALL BE GAR-MAX AS MANUFACTURED BY GARLOCK BEARINGS, INC. OR DURALON JOURNAL BEARINGS AS MANUFACTURED BY REXNORD BEARING DIVISION, OR APPROVED EQUALS. BUSHINGS SHALL HAVE A NOMINAL WALL THICKNESS OF 1/4"

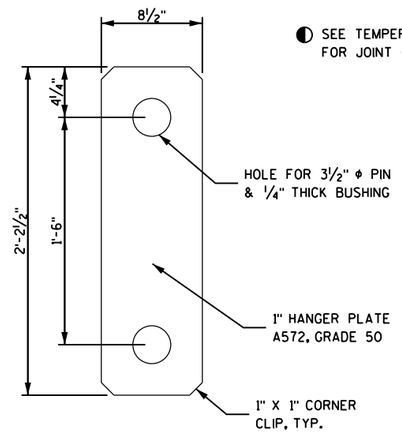
▲ NON-METALLIC WASHERS REQUIRED FOR USE AS SPACERS BETWEEN THE PIN PLATES AND THE HANGER PLATES AND THE HANGER PLATES AND NUTS SHALL BE MADE FROM ONE OF THE FOLLOWING MATERIALS:

1. PHENOLIC, CANVAS REINFORCED, MIL-P-15035
2. POLYETHYLENE, HIGH DENSITY, BLACK ASTM D 1248, TYPE III, CLASS B.
3. ACETAL, FEDERAL SPECIFICATION L-P-392
4. TEFLON TFE, MIL-P-22241A

◐ SEE TEMPERATURE TABLE ON SHEET 10 FOR JOINT OPENING



SECTION A



NEW HANGER PLATE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY MJH | PLANS CK'D. SJM

PIN DETAILS AT HINGE 1

SHEET 15 OF 25

603

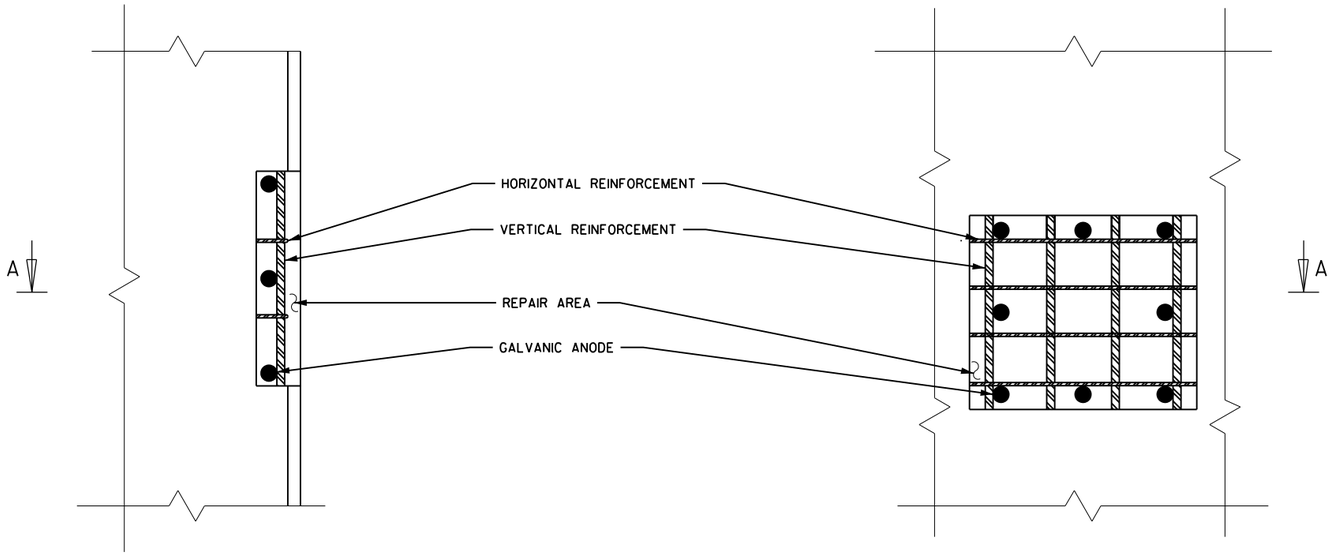
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8

FILE NAME :15.B-40-184.Pin Details.dgn
PLOT DATE :10/12/2012 15:04 PM PLOT BY : NicholasHornyak@E DRV :Pdf_bw_HS_T39.tbl PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-73

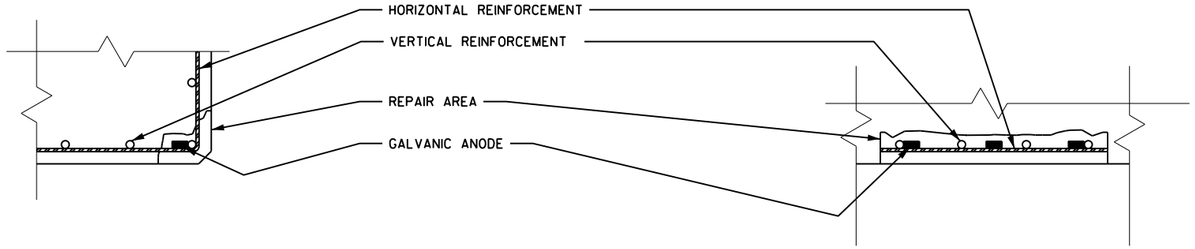


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY MJH | PLANS CK'D. SJM

CATHODIC PROTECTION DETAILS

SHEET 16 OF 25

604

FILE NAME :16.B-40-184.Cathodic Protection Details.dgn
PLOT DATE :10/12/2012 1:51:05 PM PLOT BY : NicholasHornyakv81 DRV :Pdf.bw.HS.7391.bit PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

NOTE:

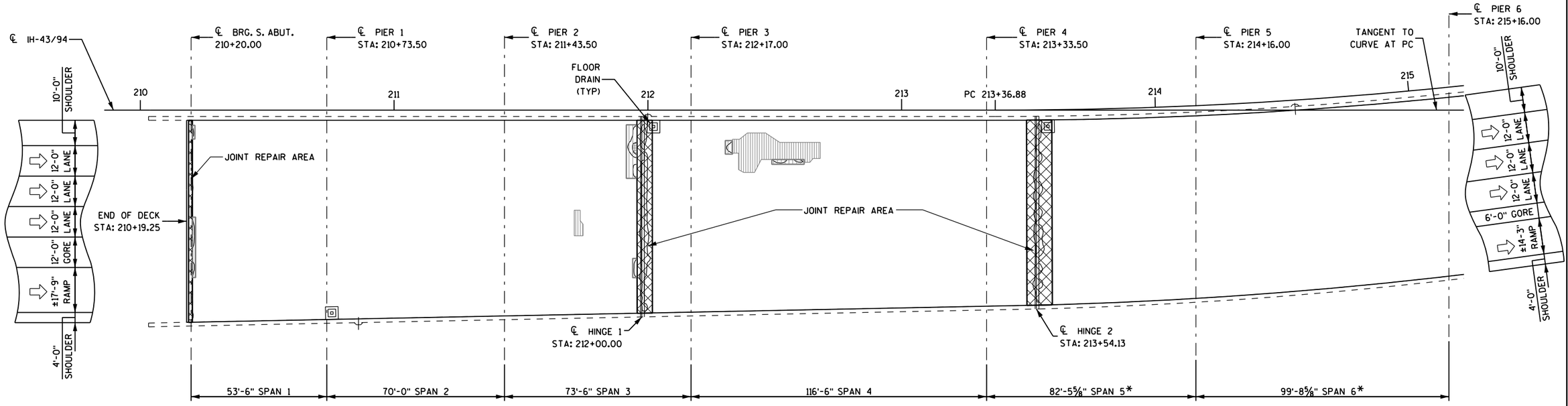
JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

PROPOSED REHAB AREAS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-184		LEGEND
ITEM	UNIT	QUANT.	%	DECK PREPARATION AREA; SHADE/DEBRIS; DELAMINATION; SPALL; DEBOND; ASPHALT PATCH; CONCRETE PATCH
TOTAL AREA	$yd.^2$	10,490		
SHADE/DEBRIS	$yd.^2$	0		
PREPARATION, DECKS, TYPE 1	$yd.^2$	29	0.3	
PREPARATION, DECKS, TYPE 2 ✳	$yd.^2$	15	0.1	
FULL DEPTH DECK REPAIR ✳	$yd.^2$	4	<0.1	

✳ ESTIMATED



PLAN

(S. ABUT. - PIER 6)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE OVERLAY
INFRARED INSPECTION DATES: 5/8/12 & 5/16/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY CSH | PLANS CK'D. SJM

DECK REPAIR AREAS SPANS 1-6

SHEET 17 OF 25

605

8

8

FILE NAME :17.B-40-184.Deck Repair Areas-Logn
PLOT DATE :10/12/2012 15505 PM PLOT BY : NicholasHornyakvBt DRV :Pdf.bw.HS.7391plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

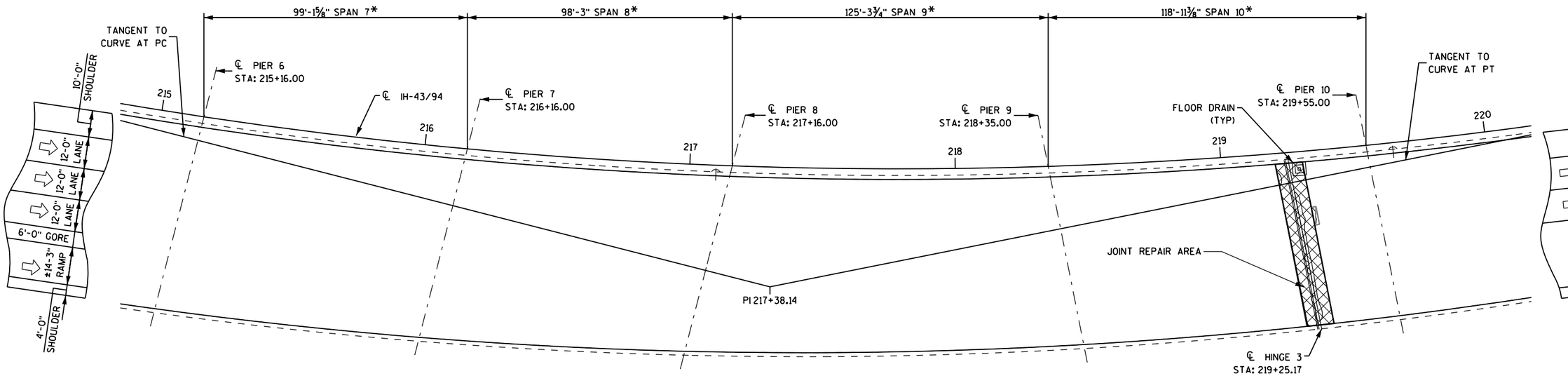
NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

LEGEND	
DECK PREPARATION AREA	DELAMINATION
	SPALL
	DEBOND
SHADE/DEBRIS	ASPHALT PATCH
	CONCRETE PATCH

SEE SHEET 1 OF 3 FOR REHAB QUANTITIES



* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

PLAN

(PIER 6 - PIER 10)

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE OVERLAY
INFRARED INSPECTION DATES: 5/8/12 & 5/16/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	VC	PLANS CK'D.	SJM

DECK REPAIR AREAS SPANS 7-10

SHEET 18 OF 25
606

8

8

FILE NAME :18.B-40-184.Deck Repair Areas-2.dgn
PLOT DATE :10/12/2012 15:05 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_7391.tbl PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

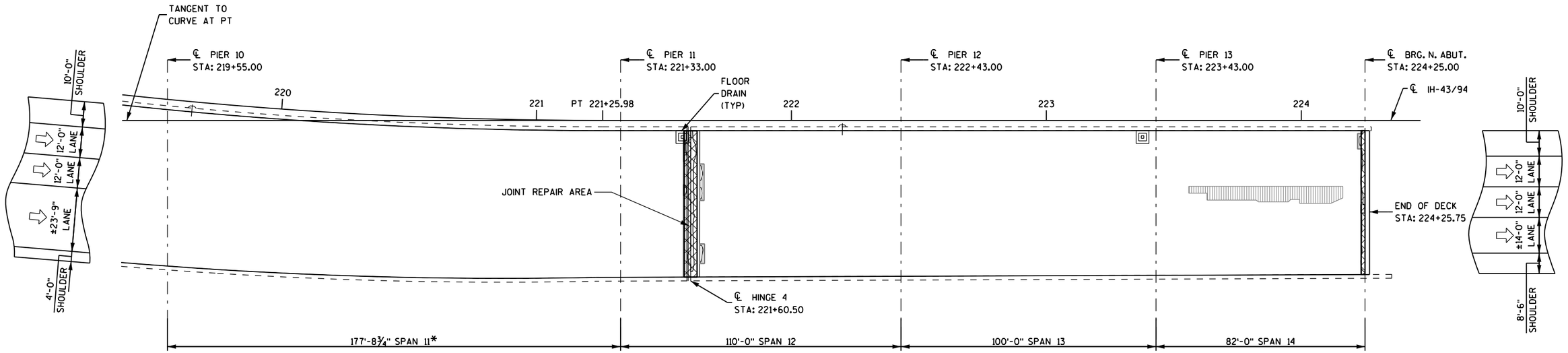
NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

LEGEND	
DECK PREPARATION AREA	DELAMINATION
	SPALL
	DEBOND
SHADE/DEBRIS	ASPHALT PATCH
	CONCRETE PATCH

SEE SHEET 1 OF 3 FOR REHAB QUANTITIES



* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

SCALE, FEET 0 10 20

PLAN

(PIER 10 - N. ABUT.)

SURFACE TYPE: CONCRETE OVERLAY
INFRARED INSPECTION DATES: 5/8/12 & 5/16/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY VC | PLANS CK'D. SJM

DECK REPAIR AREAS SPANS 11-14

SHEET 19 OF 25

607

8

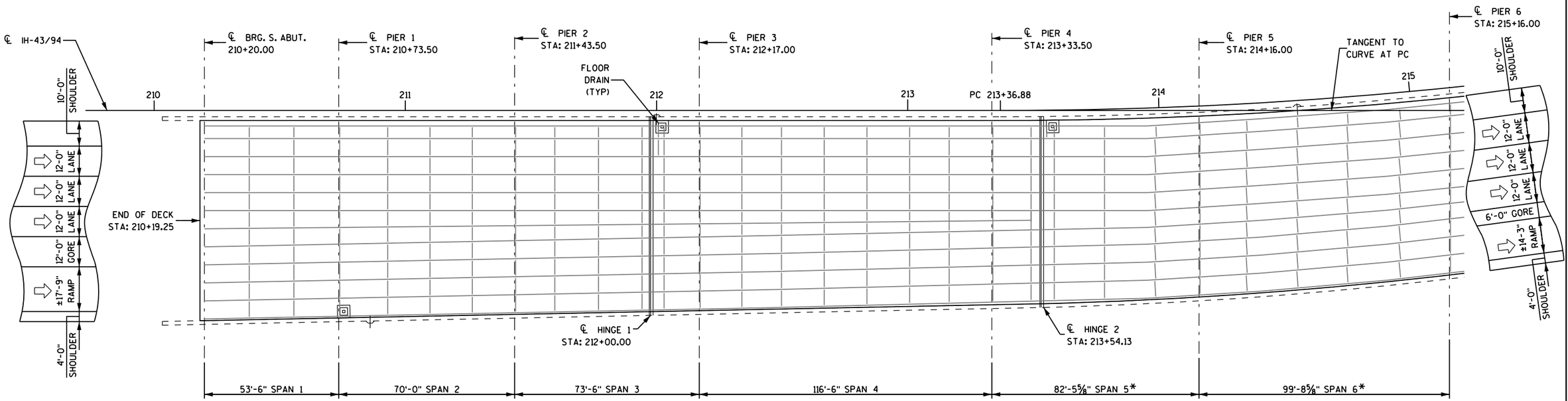
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FILE NAME :19.B-40-184.Deck Repair Areas-3.dgn
PLOT DATE :10/12/2012 15:05 PM PLOT BY : NicholasHornyak@t DRV :Pdf.bw.HS.7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-184		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	104,373	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



PLAN

(S. ABUT. - PIER 6)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

INSPECTION DATE: 3/8/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	CSH	PLANS CK'D.	SJM

UNDERDECK INSPECTION SPANS 1-6

SHEET 20 OF 25
608

8

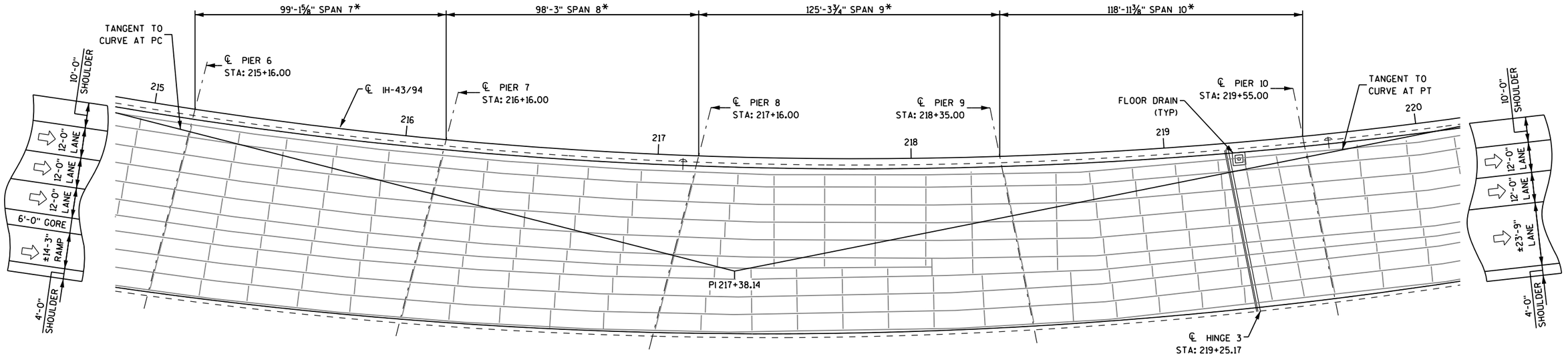
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FILE NAME :20_B-40-184_UnderDeck Inspection-Logn
PLOT DATE :10/12/2012 15806 PM PLOT BY : NicholasHornyakvBt DRV :Pdf_bw_NS_7391.pltt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-184		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	104,373	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



PLAN

(PIER 6 - PIER 10)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

INSPECTION DATE: 3/8/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	VC	PLANS CK'D.	SJM

UNDERDECK INSPECTION SPANS 7-10

SHEET 21 OF 25

609

8

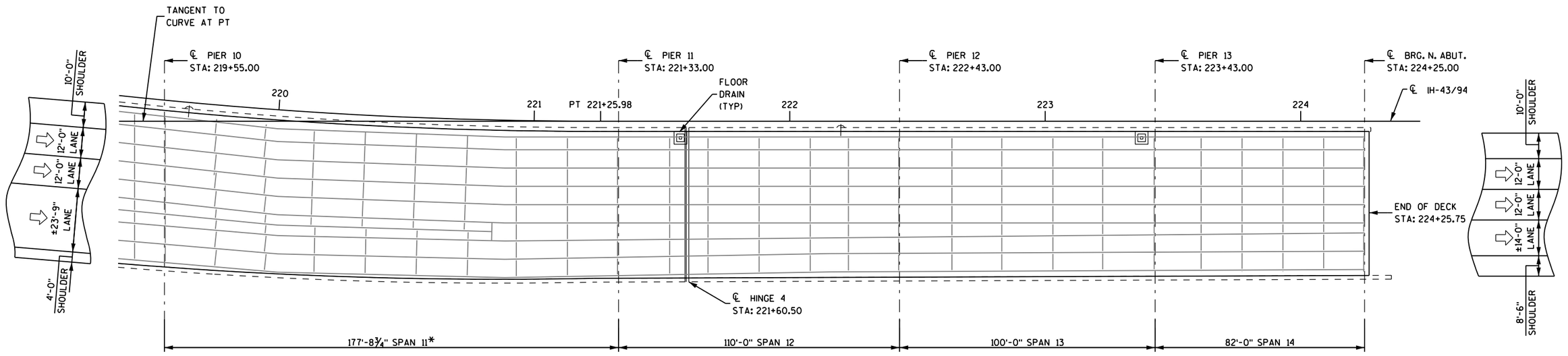
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FILE NAME :21.B-40-184_UnderDeck Inspection-2.dgn
PLOT DATE :10/12/2012 15:06 PM PLOT BY : NicholasHornyak@E DRV :Pdf_bw_HS_7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-184		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	104,373	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



PLAN

(PIER 10 - N. ABUT.)

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

INSPECTION DATE: 3/8/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	VC	PLANS CK'D.	SJM

UNDERDECK INSPECTION SPANS 11-14

SHEET 22 OF 25

610

8

8

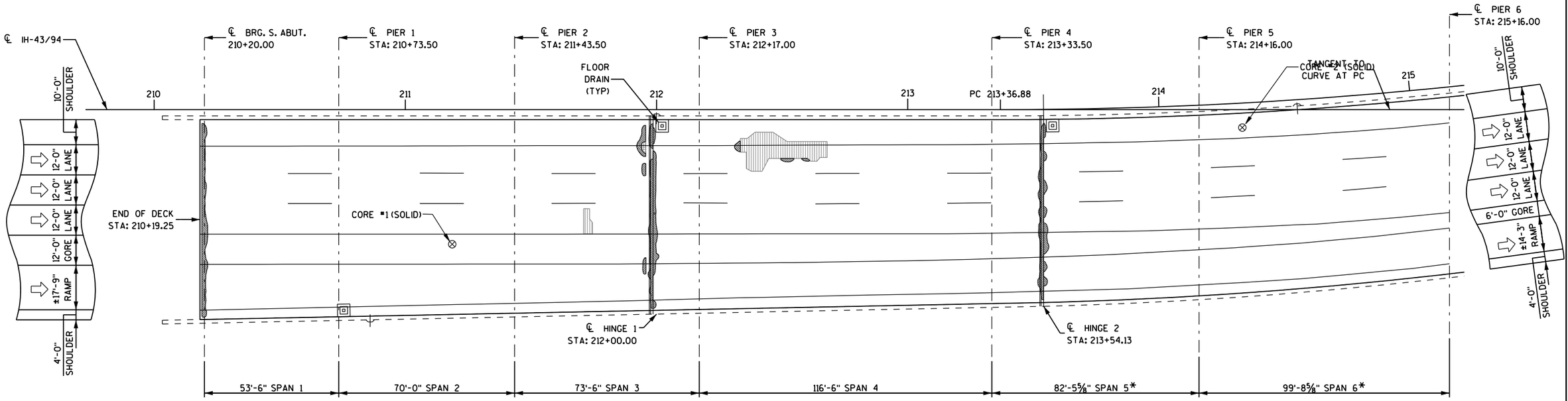
FILE NAME :22_B-40-184_UnderDeck Inspection-3.dgn
PLOT DATE :10/12/2012 15:06 PM PLOT BY : NicholasHornyak@8 DRV :Pdf_bw_HS_739Lclt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-184	
ITEM	UNIT	QUANT.	%
TOTAL AREA	ft.^{2}	94,410	
SHADE/DEBRIS	ft.^{2}	0	
DELAMINATION	ft.^{2}	738	0.8
SPALL	ft.^{2}	3	<0.1
DEBOND	ft.^{2}	0	0
ASPHALT PATCH	ft.^{2}	7	<0.1
CONCRETE PATCH	ft.^{2}	681	0.7

LEGEND	
DELAMINATION	
SPALL	
DEBOND	
ASPHALT PATCH	
CONCRETE PATCH	
SHADE/DEBRIS	



PLAN

(S. ABUT. - PIER 6)

SCALE, FEET 0 10 20

* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

SURFACE TYPE: CONCRETE OVERLAY
INFRARED INSPECTION DATES: 5/8/12 & 5/16/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY	CSH	PLANS CK'D.	SJM

INFRARED INSPECTION RESULTS SPANS 1-6

SHEET 23 OF 25

611

8

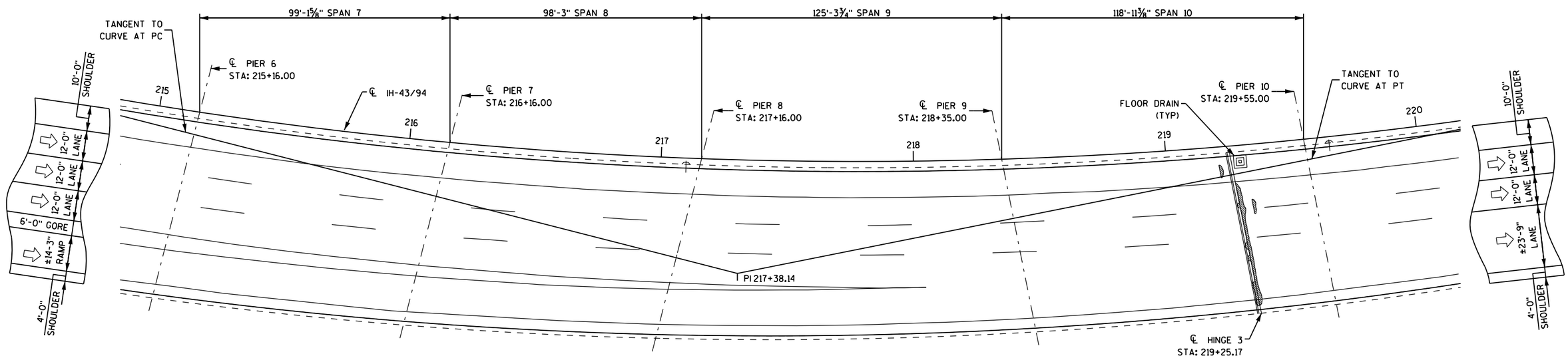
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FILE NAME :23_B-40-184_infared inspection-1.dgn
PLOT DATE :10/12/2012 15:07 PM PLOT BY : NicholasHornyak@AECOM DRV :Pdf_bw_HS_T391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

LEGEND	
DELAMINATION	
SPALL	
DEBOND	
ASPHALT PATCH	
CONCRETE PATCH	
SHADE/DEBRIS	

SEE SHEET 1 OF 3 FOR DEFECT QUANTITIES



* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

PLAN

(PIER 6 - PIER 10)

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE OVERLAY
INFRARED INSPECTION DATES: 5/8/12 & 5/16/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY VC | PLANS CK'D. SJM

INFRARED INSPECTION RESULTS SPANS 7-10

SHEET 24 OF 25 612

8

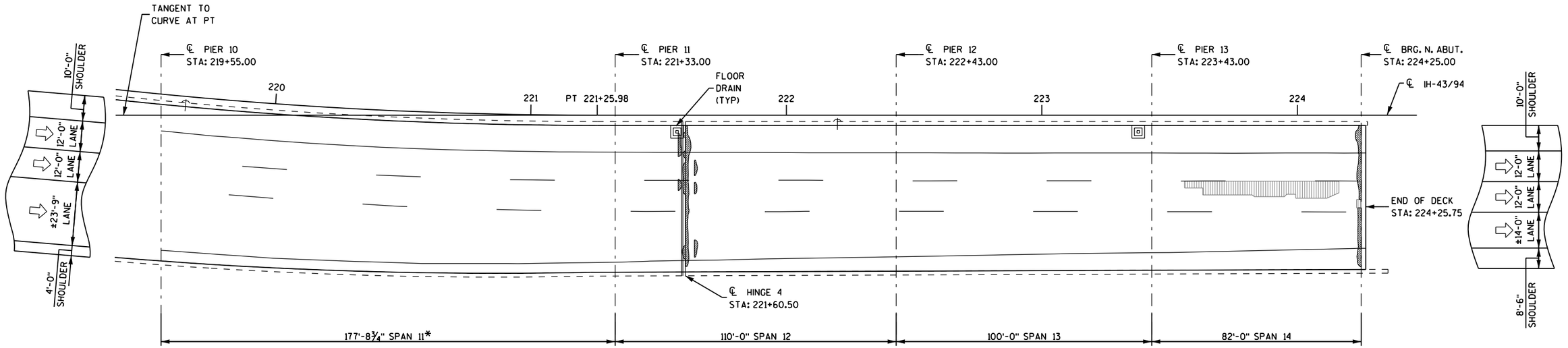
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FILE NAME :24_B-40-184_infared inspection-2.dgn
PLOT DATE :10/12/2012 15:07 PM PLOT BY : NicholasHornyak@8 DRV :Pdf_bw_HS_7391.dlt PEN :CEL TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-73

LEGEND	
DELAMINATION	
SPALL	
DEBOND	
ASPHALT PATCH	
CONCRETE PATCH	
SHADE/DEBRIS	

SEE SHEET 1 OF 3 FOR DEFECT QUANTITIES



* SPAN LENGTHS MEASURED ALONG TANGENT TO CURVE

SCALE. FEET 0 10 20

PLAN

(PIER 10 - N. ABUT.)

SURFACE TYPE: CONCRETE OVERLAY
INFRARED INSPECTION DATES: 5/8/12 & 5/16/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-184

DRAWN BY VC | PLANS CK'D. SJM

INFRARED INSPECTION RESULTS SPANS 11-14

SHEET 25 OF 25

613

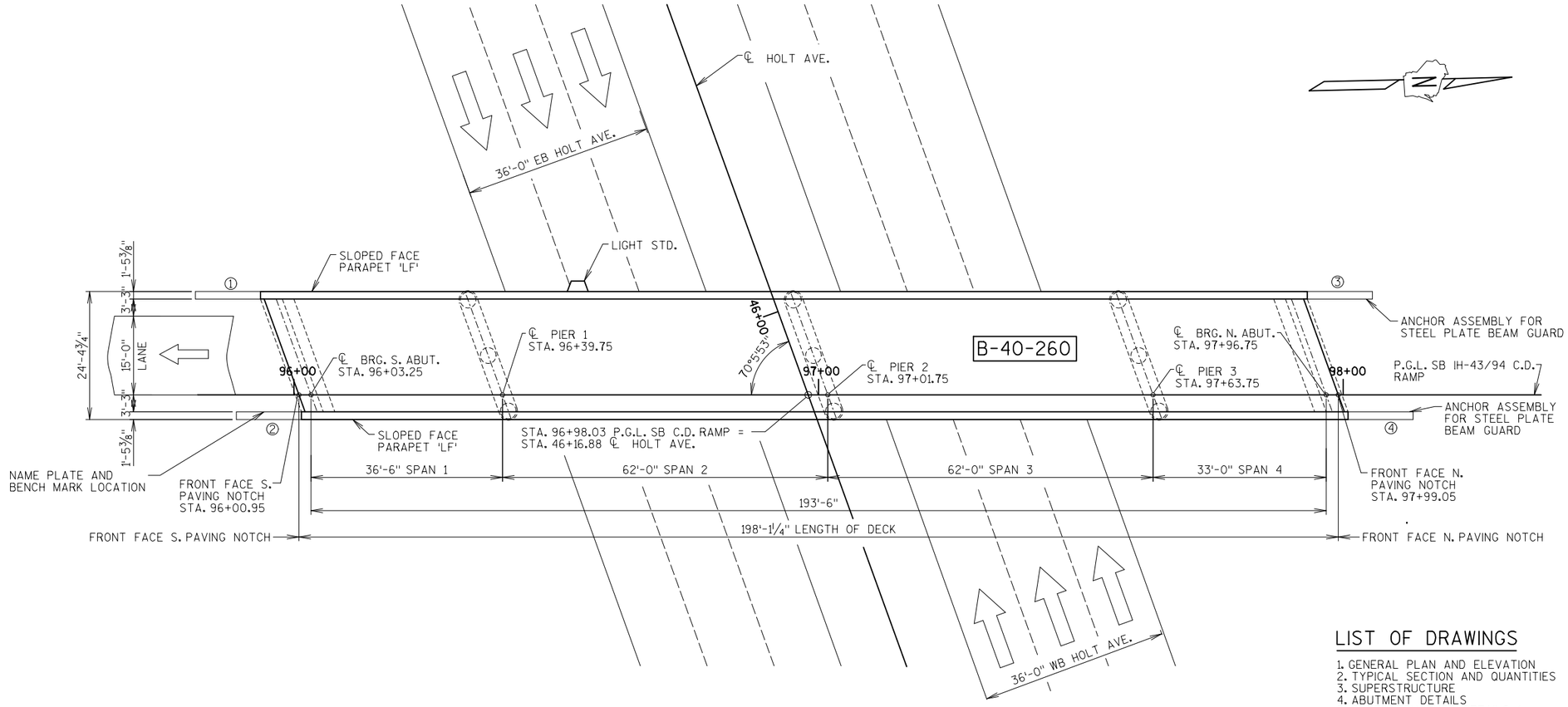
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FILE NAME :25_B-40-184_Infared Inspection-3.dgn
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STATE PROJECT NUMBER

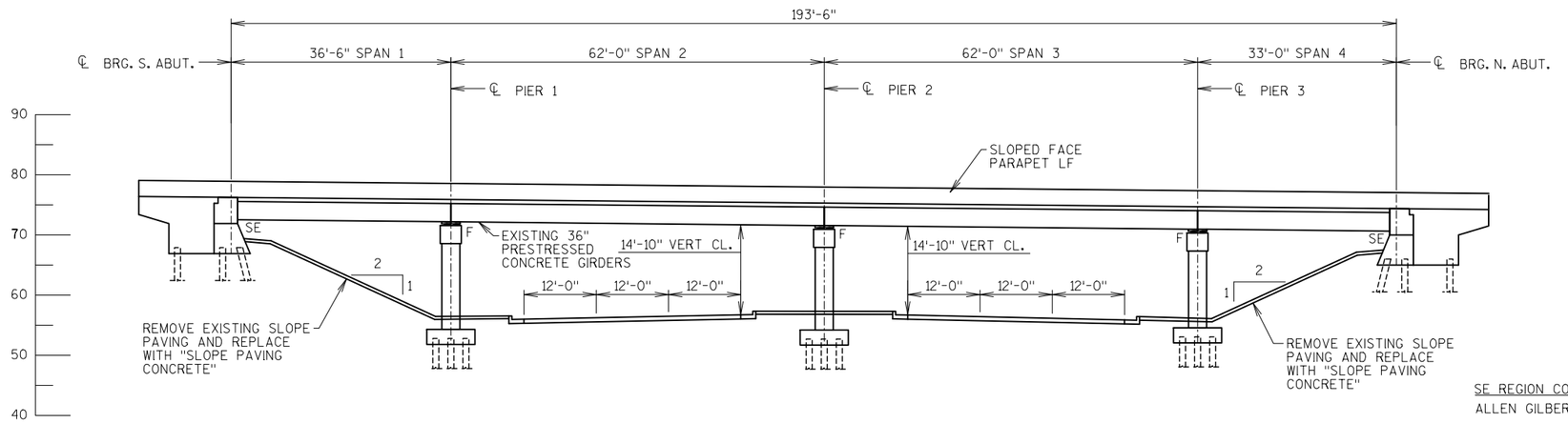
1228-26-70



PLAN B-40-260

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. TYPICAL SECTION AND QUANTITIES
3. SUPERSTRUCTURE
4. ABUTMENT DETAILS
5. SUPERSTRUCTURE DETAILS 1
6. SUPERSTRUCTURE DETAILS 2
7. STEEL DIAPHRAGM
8. SLOPED FACE PARAPET LF WINGS 1&2
9. SLOPED FACE PARAPET LF WINGS 3&4
10. PARAPET "LF" ELECTRICAL WORK
11. LIGHTING REMOVAL PLAN
12. LIGHTING INSTALLATION PLAN
13. CATHODIC PROTECTION DETAILS



ELEVATION

(LOOKING WEST)

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MICHAEL DELEMONT (414) 831-4157

STRUCTURAL DESIGN PREPARED BY:
(SHEETS 1 - 10, 13)

URS

WISCONSIN MICHAEL A. DELEMONT E-42155 CRYSTAL LAKE, IL PROFESSIONAL ENGINEER

ELECTIRCAL DESIGN PREPARED BY:
(SHEETS 11, 12)

URS

WISCONSIN MOHAMMED A. FISHER E-37874 ORLAND HILLS, IL PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY

URS
6737 West Washington Street
Suite 2265
Milwaukee, WI 53214
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-260

SOUTHBOUND IH-43/94 C.D. RAMP OVER HOLT AVE

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	MILWAUKEE

DESIGN SPEC.
AASHTO LRFD DESIGN SPEC. 5th EDITION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JDB	MAD	JDB	MAD

GENERAL PLAN AND ELEVATION

SHEET 1 OF 13
614

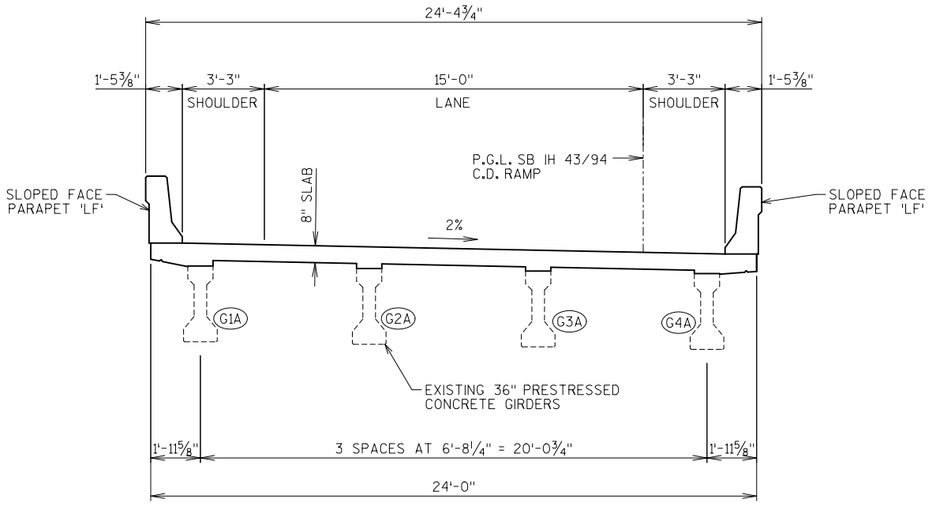
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DATE: 10/1/2012
I.D. justin_bohler

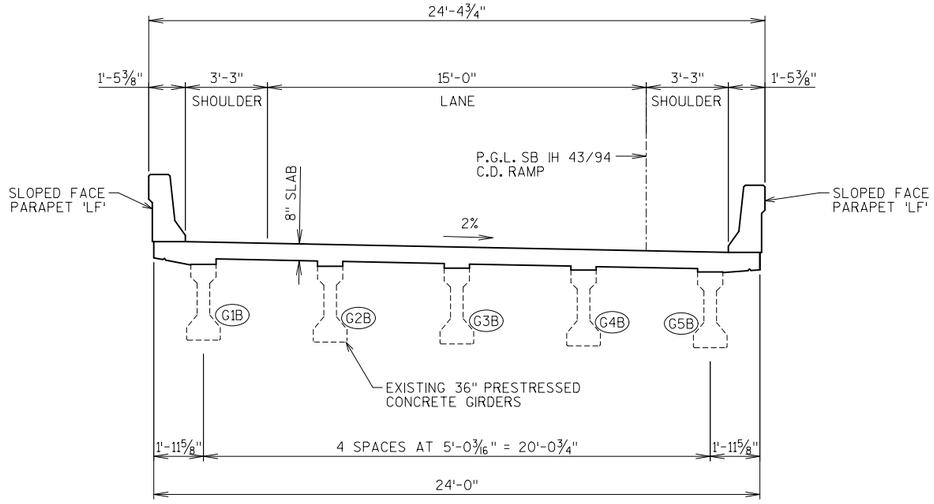
STATE PROJECT NUMBER

1228-26-70



TYPICAL SECTION

(SPANS 1 AND 4 - LOOKING NORTH)



TYPICAL SECTION

(SPANS 2 AND 3 - LOOKING NORTH)

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-20
OPERATIONAL RATING	HS-34
MAXIMUM STANDARD PERMIT VEHICLE LOAD	190 KIPS

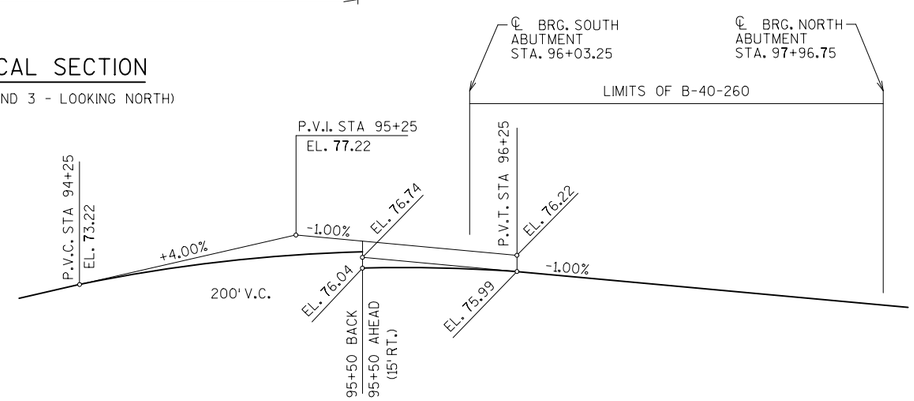
ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	F'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	F'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	Fy = 60,000 P.S.I.

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	SUPER-STRUCTURE	S. ABUT	PIER 1	PIER 2	PIER 3	N. ABUT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 96+98.03	LS	–	–	–	–	–	–	1
203.0210.S.01	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-40-260	LS	–	–	–	–	–	–	1
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	–	55	–	–	–	30	**85**
502.0100	CONCRETE MASONRY BRIDGES	CY	180	18	11	11	11	18	**249**
502.3200	PROTECTIVE SURFACE TREATMENT	SY	670	–	–	–	–	–	**670**
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EA	–	54	54	54	54	54	**270**
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EA	–	80	–	–	–	80	**160**
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	43,620	1,530	700	700	700	1,530	**48,780**
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EA	–	4	9	10	9	4	**36**
506.4000	STEEL DIAPHRAGMS B-40-260	EA	22	–	–	–	–	–	**22**
509.1500	CONCRETE SURFACE REPAIR	SF	–	9	5	14	5	5	**38**
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	–	13	–	–	–	13	**26**
604.0400	SLOPE PAVING CONCRETE	SY	–	55	–	–	–	30	**85**
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	–	55	–	–	–	55	**110**
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EA	2	–	–	–	–	–	**2**
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	166	–	–	–	–	–	**166**
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	184	–	–	–	–	–	**184**
653.0220	JUNCTION BOXES 18X6X6-INCH	EA	3	–	–	–	–	–	**3**
655.0128	CABLE IN DUCT 3-8 AWG	LF	350	–	–	–	–	–	**350**
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EA	1	–	–	–	–	–	1
SPV.0060.03	REMOVE AND REINSTALL LIGHT POLE	EA	1	–	–	–	–	–	1
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	–	–	6	6	6	–	**18**
SPV.0165.01	CATHODIC PROTECTION	SF	–	9	5	14	5	5	**38**

ALL ITEMS ARE CATEGORY 160



PROFILE GRADE LINE-
S.B. CD RAMP OVER HOLT AVE

TRAFFIC DATA

I.H. 43/94
A.D.T. (2008) - 2,300
R.D.S. 30 MPH

GENERAL NOTES

THE PROPOSED WORK INCLUDES CONCRETE DECK AND DIAPHRAGM REPLACEMENT, ABUTMENT AND PIER MODIFICATIONS, SUBSTRUCTURE CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SEMI-EXPANSION ABUTMENT CONVERSION.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

ELEVATIONS SHOWN ARE BASED ON MILWAUKEE CITY DATUM. TO CONVERT FROM MILWAUKEE CITY DATUM TO NGVD 29, ADD 580.603. TO CONVERT FROM NGVD 29 TO NAVD 88, ADD 0.31. CONVERSIONS ARE FOR REFERENCE ONLY, CONTRACTOR SHALL VERIFY.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE EXCEPT AS NOTED OTHERWISE.

COAT ENTIRE CONCRETE SURFACE OF ALL PIERS WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

ALL WORK ASSOCIATED WITH ROUGHENING EXISTING CONCRETE SURFACE IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".

CONCRETE SURFACE REPAIR/CATHODIC PROTECTION QUANTITIES ARE FOR INFORMATION ONLY, FIELD ENGINEER TO VERIFY.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY JDB | PLANS CK'D. MAD

TYPICAL SECTION AND QUANTITIES

SHEET 2 OF 13
615

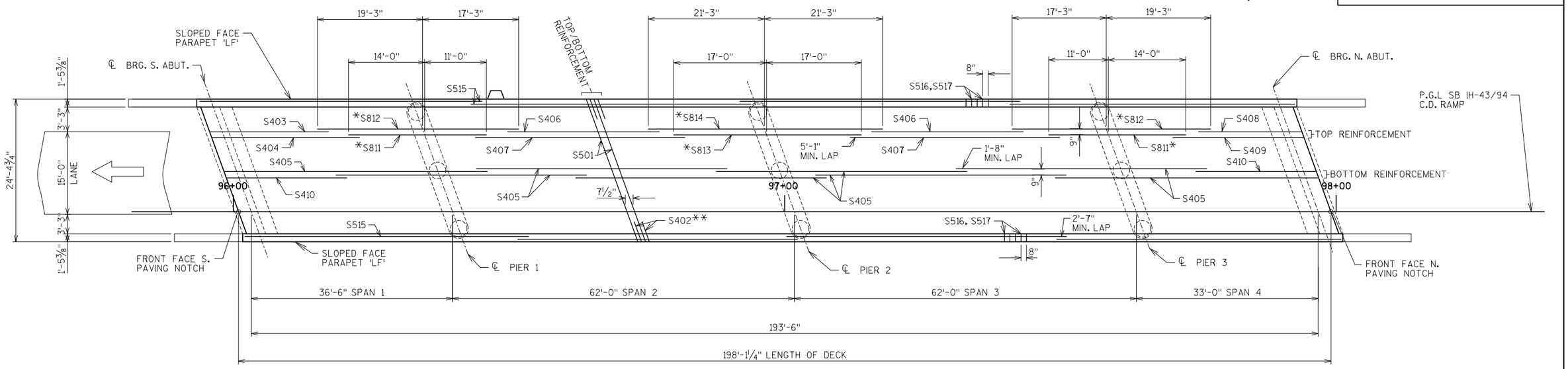
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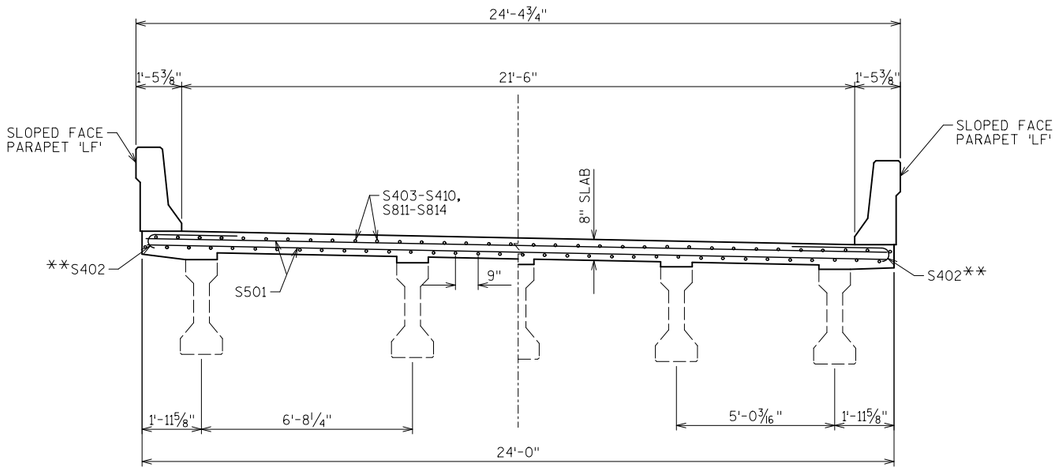
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DATE: 10/1/2012
I.D. justin.bohler

STATE PROJECT NUMBER
1228-26-70



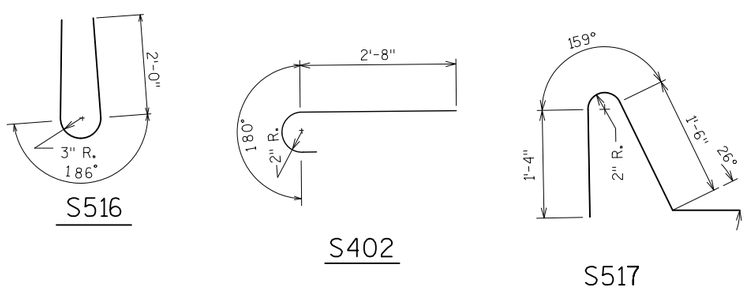
PLAN B-40-260



HALF SECTION AT SPANS 1& 4

HALF SECTION AT SPANS 2 & 3

(LOOKING NORTH)



BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
S501	634	25'-7"		TRANSVERSE T&B
S402	634	3'-4"	X	OVERHANG E&W
S403	17	24'-6"		LONGITUDINAL TOP
S404	16	29'-9"		LONGITUDINAL TOP
S405	128	45'-0"		LONGITUDINAL BOT
S406	34	33'-8"		LONGITUDINAL TOP
S407	32	44'-2"		LONGITUDINAL TOP
S408	17	21'-0"		LONGITUDINAL TOP
S409	16	26'-3"		LONGITUDINAL TOP
S410	33	24'-6"		LONGITUDINAL BOT
S811	32	25'-0"		CONTINUITY PIER 1/3
S812	34	36'-6"		CONTINUITY PIER 1/3
S813	16	34'-0"		CONTINUITY PIER 2
S814	17	42'-6"		CONTINUITY PIER 2
S515	40	51'-10"		BRIDGE PARAPETS HORIZ
S516	600	4'-10"	X	BRIDGE PARAPETS VERT.
S517	600	4'-2"	X	BRIDGE PARAPETS VERT.

NOTES

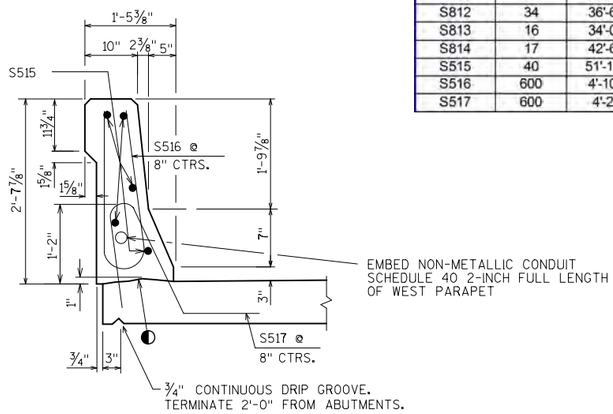
1. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF THE SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
2. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
3. LAP LONGITUDINAL SPLICES AT 1'-8" MIN. FOR #4 BARS, 2'-7" MIN. FOR #5 BARS AND 5'-1" MIN. FOR #8 BARS.
4. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED ALONG THE SKEW.

LEGEND

* EVERY OTHER LONGITUDINAL BAR IN THE TOP MAT OVER PIERS

** LAP ONTO EVERY TRANSVERSE BAR IN THE TOP MAT AS SHOWN

◐ CONST. JOINT - STRIKE OFF AS SHOWN.



SECTION THRU PARAPET ON BRIDGE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MRL | PLANS CK'D. JDB

SUPERSTRUCTURE

SHEET 3 OF 13
616

DATE: 10/1/2012
I.D. justin_bohler

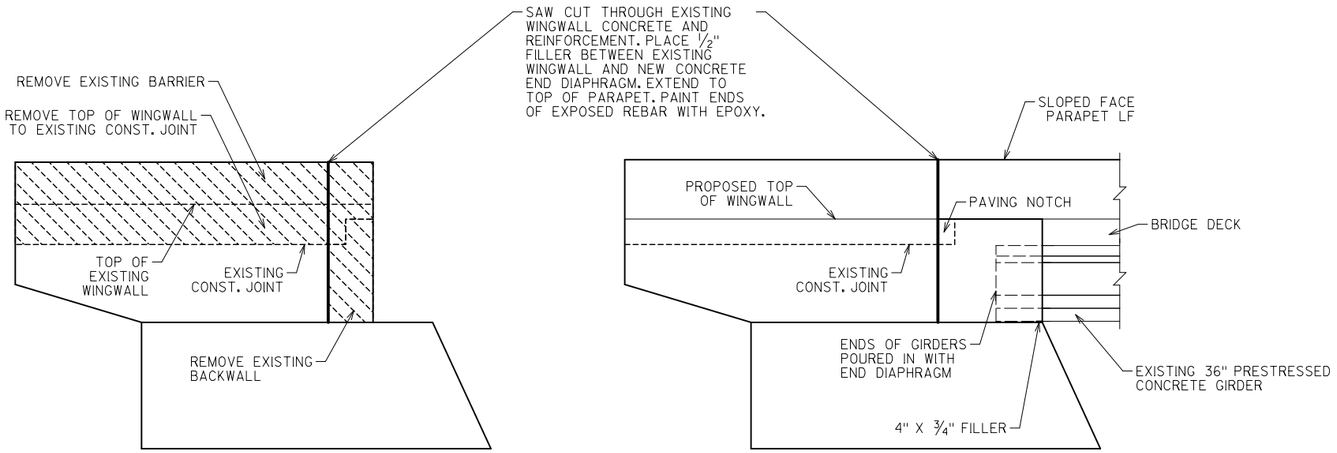
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STATE PROJECT NUMBER

1228-26-70

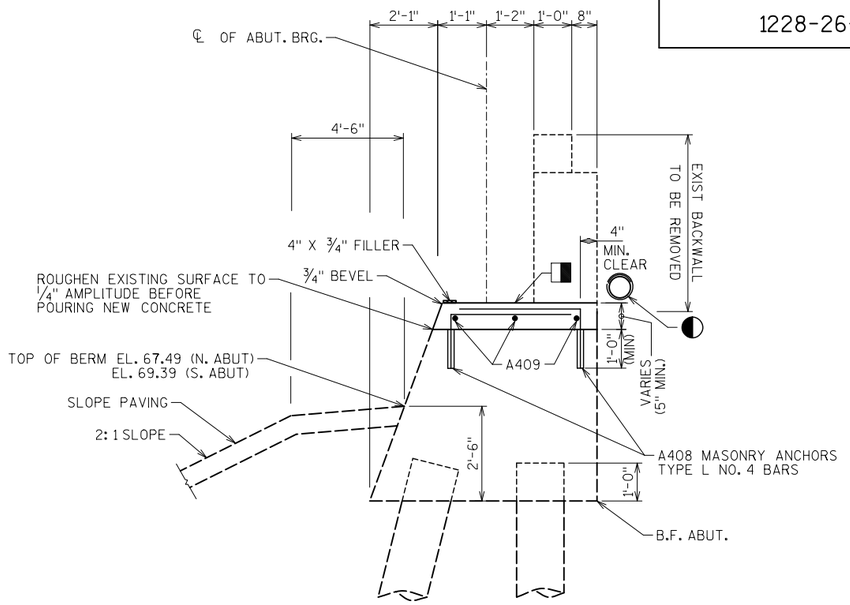


SECTION A-A

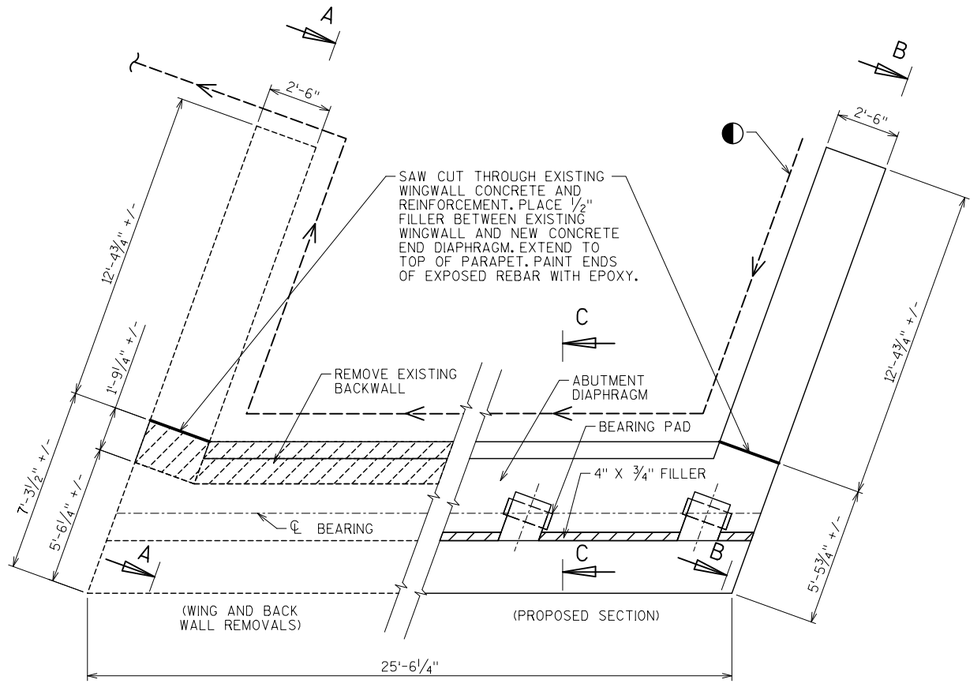
(WING AND BACK WALL REMOVALS)

SECTION B-B

(PROPOSED SECTION)

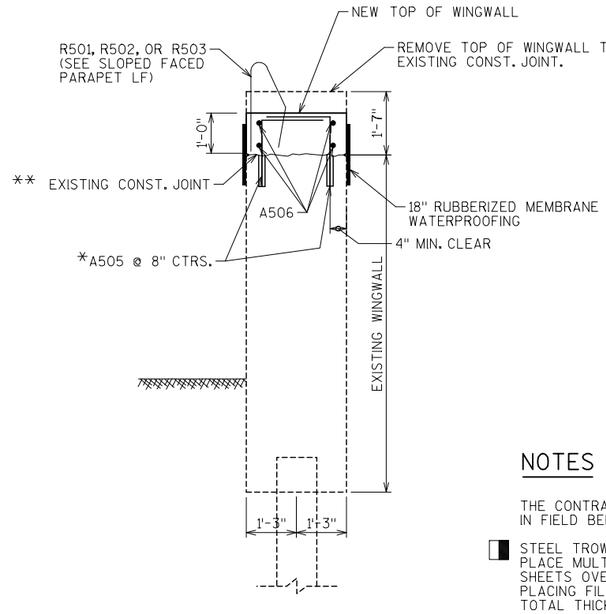


SECTION C-C

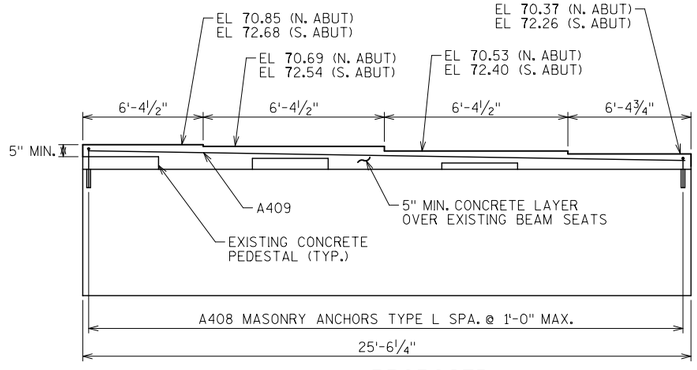


ABUTMENT DETAIL

(NORTH ABUTMENT SHOWN. SOUTH ABUTMENT SIMILAR)



WINGWALL DETAIL



PROPOSED ABUTMENT ELEVATION

(LOOKING NORTH @ F.F. OF ABUTMENT)
(NORTH ABUT. SHOWN, SOUTH ABUT. OPPOSITE)

NOTES

THE CONTRACTOR IS TO VERIFY DIMENSIONS IN FIELD BEFORE STARTING CONSTRUCTION.

◨ STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING FILLER AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

◐ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE, DRAIN TO THE WEST. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SDD "REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN".

* MASONRY ANCHORS TYPE S ⅝-INCH. MIN. PULLOUT CAPACITY OF 19 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 6" IN CONCRETE.

** SAW CUT ON BOTH SIDES OF WINGWALL AT THE EXISTING CONSTRUCTION JOINT TO GET A CLEAN CUT THROUGH ALL EXISTING VERTICAL REINFORCEMENT. ROUGHEN SURFACE TO ¼" AMPLITUDE BEFORE POURING NEW WINGWALL CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY	PLANS CK'D.
MRL	JDB

ABUTMENT DETAILS

SHEET 4 OF 13
617

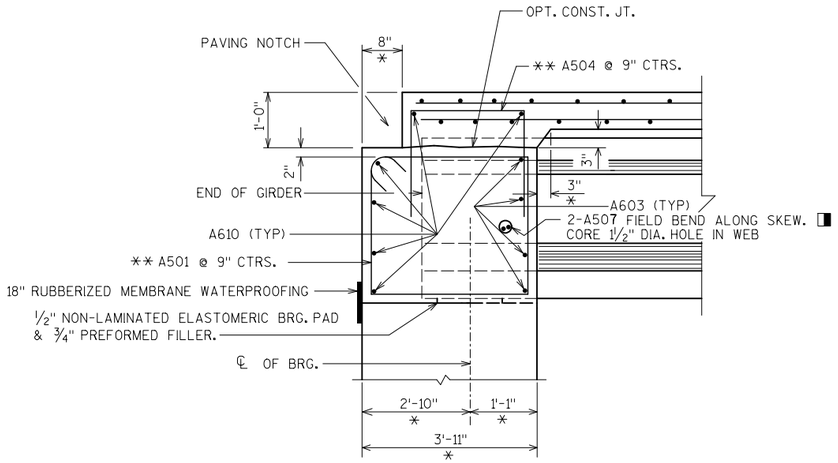
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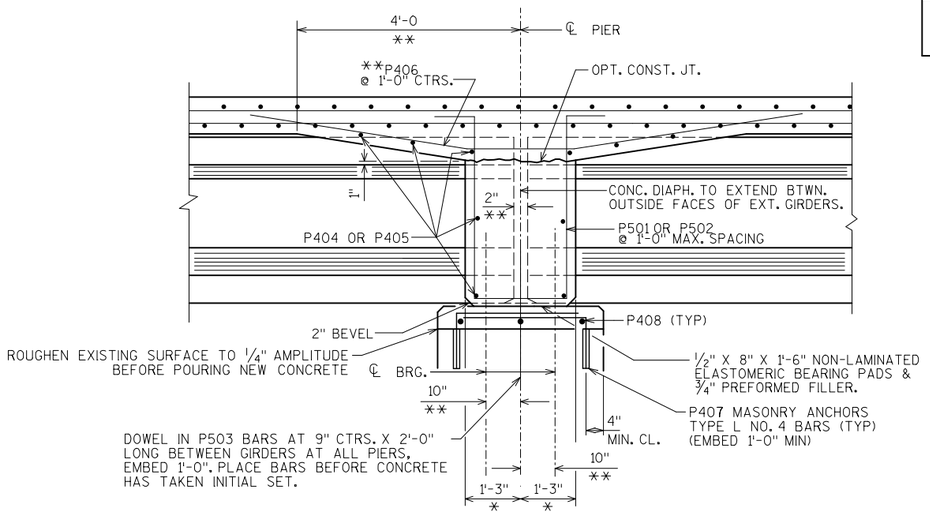
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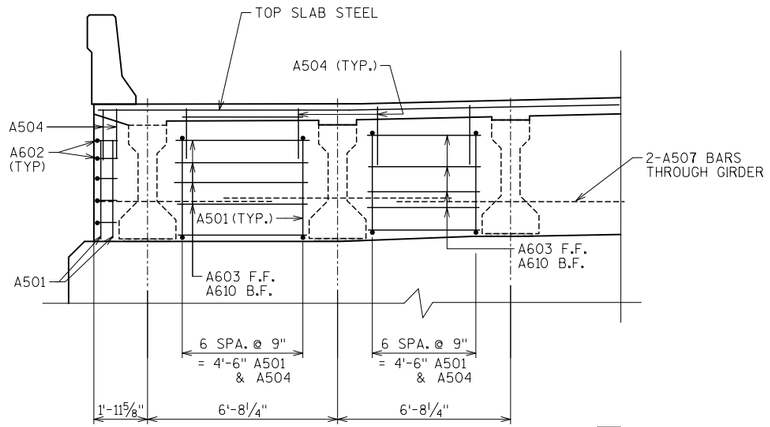
STATE PROJECT NUMBER
1228-26-70



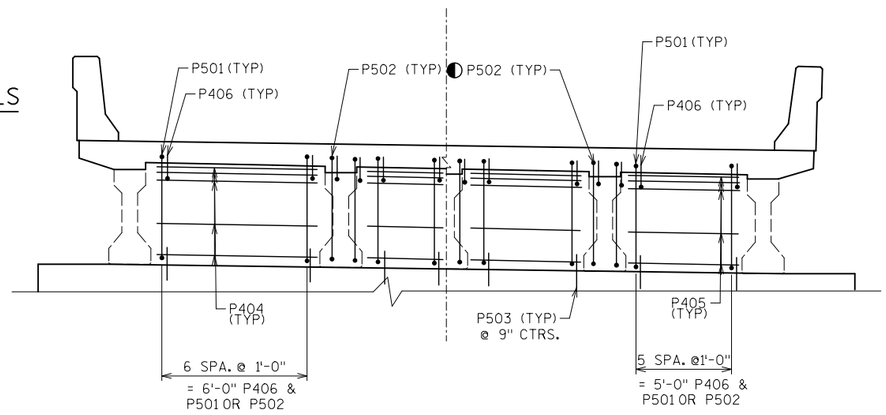
ABUTMENT DIAPHRAGM



PIER DIAPHRAGM



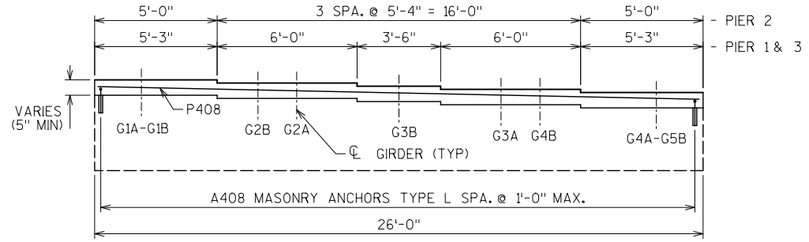
ABUTMENT DIAPHRAGM DETAILS



SPAN 1/4 SPAN 2/3

PIER DIAPHRAGM DETAILS

GIRDER NO.	BEAM SEAT ELEVATIONS AT PIERS					
	SPAN 1	SPAN 2		SPAN 3		SPAN 4
	C/L BRG. PIER 1	C/L BRG. PIER 1	C/L BRG. PIER 2	C/L BRG. PIER 2	C/L BRG. PIER 3	C/L BRG. PIER 3
G1	72.49	72.47	71.87	71.85	71.25	71.23
G2	72.33	72.35	71.75	71.73	71.13	71.07
G3	72.17	72.24	71.63	71.62	71.01	70.92
G4	72.02	72.12	71.51	71.50	70.89	70.76
G5	–	72.00	71.40	71.38	70.78	–



PROPOSED
PIER CAP ELEVATION
(LOOKING NORTH)

NOTES

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

◨ CORING HOLE THROUGH EXISTING GIRDERS IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES"

◐ PLACE TWO P502 BARS AT ENDS OF INTERIOR GIRDERS OVER PIERS 1&3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MRL | PLANS CK'D. JDB

SUPERSTRUCTURE DETAILS 1

SHEET 5 OF 13
618

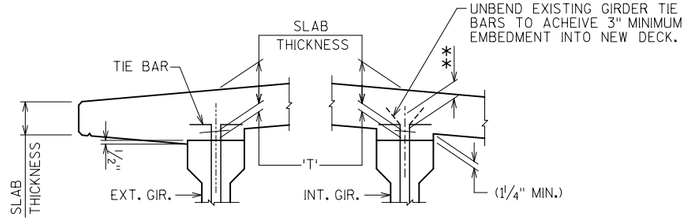
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DATE: 10/1/2012
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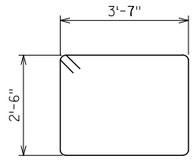
SLAB HAUNCH DETAIL

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 THE TIE BAR CANNOT BE OBTAINED.

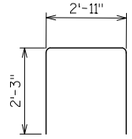
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

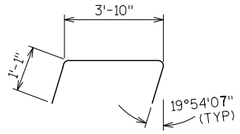
NOTE: AN AVERAGE HAUNCH ('T') OF 2¼" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



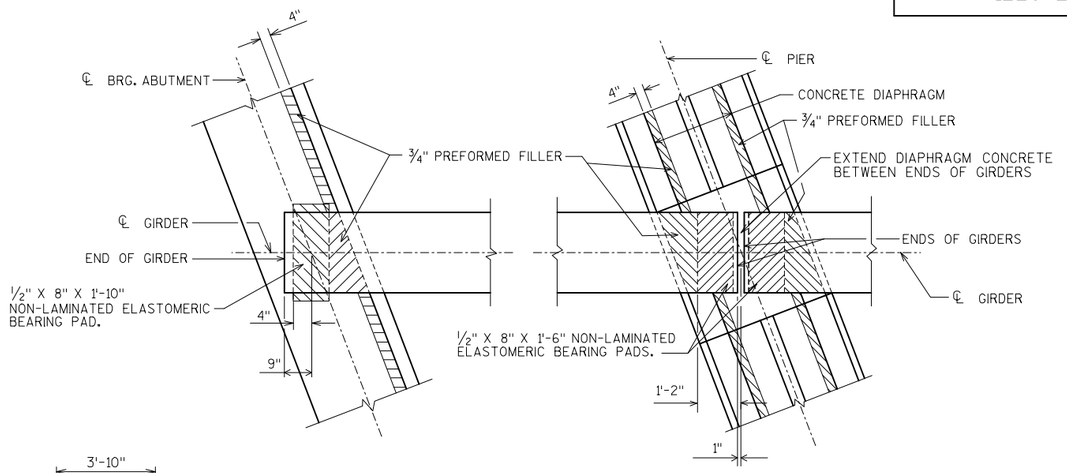
A501



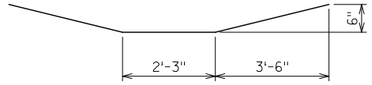
A504



A602



BEARING PAD DETAIL



P406



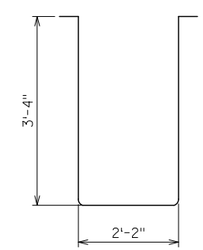
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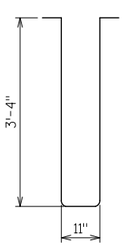
A408



P407



P501



P502

BILL OF BARS

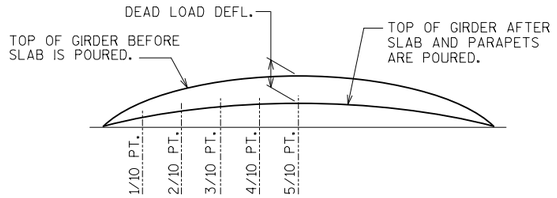
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
A501	50	12'-7"	X	ABUTMENT DIAPHRAGM - STIRRUPS
A602	20	5'-8"	X	ABUTMENT DIAPHRAGM - ENDS
A603	24	5'-5"		ABUTMENT DIAPHRAGM - HORIZ.
A504	50	7'-2"	X	ABUTMENT DIAPHRAGM - TOP
A505	160	3'-0"	X	ABUTMENT WINGWALL VERT.
A506	16	12'-0"		ABUTMENT WINGWALL HORIZ.
A507	16	6'-0"		ABUTMENT DIAPHRAGM - HORIZ.
A408	108	4'-2"	X	ABUTMENT BODY VERT.
A409	6	25'-2"		ABUTMENT BODY HORIZ.
A610	12	25'-2"		ABUTMENT DIAPHRAGM - HORIZ.

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
P501	52	9'-4"	X	PIER DIAPHRAGM VERT.
P502	20	8'-1"	X	PIER DIAPHRAGM VERT.
P503	64	2'-0"		PIER DIAPHRAGM VERT.
P404	30	5'-2"		PIER 1, 3 DIAPHRAGM HORIZ.
P405	80	3'-6"		PIER 1, 2, 3 DIAPHRAGM HORIZ.
P406	72	9'-3"	X	PIER DIAPHRAGM HORIZ.
P407	162	3'-7"	X	PIER CAP VERT.
P408	9	25'-2"		PIER CAP HORIZ.

GIRDER DATA					
SPAN	DEAD LOAD DEFL. (IN.)				
	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.
1	<1/16"	<1/16"	1/16"	1/16"	1/16"
2	3/16"	3/8"	1/2"	5/8"	5/8"
3	3/16"	3/8"	1/2"	5/8"	5/8"
4	<1/16"	<1/16"	<1/16"	<1/16"	1/16"

DEAD LOAD DEFLECTIONS



DEAD LOAD DEFLECTION DIAGRAM

TOP OF DECK ELEVATIONS

SPAN 1											
	C/L OF BRG. S. ABUT.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L OF BRG. PIER 1
W. Edge	76.68	76.67	76.66	76.64	76.62	76.59	76.57	76.54	76.50	76.47	76.43
Girder 1	76.64	76.63	76.62	76.60	76.58	76.55	76.52	76.49	76.46	76.42	76.38
Girder 2	76.50	76.49	76.47	76.45	76.42	76.40	76.37	76.33	76.30	76.26	76.23
Girder 3	76.36	76.34	76.32	76.30	76.27	76.24	76.21	76.18	76.14	76.10	76.07
PGL	76.27	76.25	76.23	76.21	76.18	76.15	76.11	76.08	76.04	76.01	75.97
Girder 4	76.21	76.19	76.17	76.15	76.12	76.09	76.05	76.02	75.98	75.95	75.91
E. Edge	76.17	76.15	76.13	76.10	76.07	76.04	76.01	75.97	75.94	75.90	75.86

SPAN 2											
	C/L OF BRG. PIER 1	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L OF BRG. PIER 2
W. Edge	76.42	76.35	76.29	76.23	76.17	76.11	76.05	75.99	75.93	75.87	75.81
Girder 1	76.37	76.31	76.25	76.19	76.13	76.07	76.01	75.95	75.89	75.83	75.77
Girder 2	76.25	76.19	76.13	76.07	76.01	75.95	75.89	75.83	75.77	75.71	75.65
Girder 3	76.13	76.07	76.01	75.95	75.89	75.83	75.77	75.71	75.65	75.59	75.53
Girder 4	76.01	75.95	75.89	75.83	75.77	75.71	75.65	75.59	75.53	75.47	75.41
PGL	75.95	75.89	75.83	75.77	75.71	75.65	75.59	75.53	75.47	75.41	75.35
Girder 5	75.89	75.83	75.77	75.71	75.65	75.59	75.53	75.47	75.41	75.35	75.29
E. Edge	75.85	75.79	75.73	75.67	75.61	75.55	75.49	75.43	75.37	75.31	75.24

SPAN 3											
	C/L OF BRG. PIER 2	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L OF BRG. PIER 3
W. Edge	75.80	75.73	75.67	75.61	75.55	75.49	75.43	75.37	75.31	75.25	75.19
Girder 1	75.75	75.69	75.63	75.57	75.51	75.45	75.39	75.33	75.27	75.21	75.15
Girder 2	75.63	75.57	75.51	75.45	75.39	75.33	75.27	75.21	75.15	75.09	75.03
Girder 3	75.51	75.45	75.39	75.33	75.27	75.21	75.15	75.09	75.03	74.97	74.91
Girder 4	75.39	75.33	75.27	75.21	75.15	75.09	75.03	74.97	74.91	74.85	74.79
PGL	75.33	75.27	75.21	75.15	75.09	75.03	74.97	74.91	74.85	74.79	74.73
Girder 5	75.27	75.21	75.15	75.09	75.03	74.97	74.91	74.85	74.79	74.73	74.67
E. Edge	75.23	75.17	75.11	75.05	74.99	74.93	74.87	74.81	74.75	74.69	74.62

SPAN 4											
	C/L OF BRG. PIER 3	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L OF BRG. N. ABUT.
W. Edge	75.18	75.14	75.11	75.08	75.05	75.01	74.98	74.95	74.92	74.89	74.85
Girder 1	75.13	75.10	75.06	75.03	75.00	74.97	74.94	74.90	74.87	74.84	74.81
Girder 2	74.97	74.94	74.91	74.87	74.84	74.81	74.78	74.75	74.71	74.68	74.65
Girder 3	74.81	74.78	74.75	74.72	74.68	74.65	74.62	74.59	74.56	74.52	74.49
PGL	74.71	74.68	74.65	74.62	74.59	74.55	74.52	74.49	74.46	74.42	74.39
Girder 4	74.65	74.62	74.59	74.56	74.53	74.49	74.46	74.43	74.40	74.37	74.33
E. Edge	74.61	74.58	74.54	74.51	74.48	74.45	74.42	74.38	74.35	74.32	74.29

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MRL | PLANS CK'D. JDB

SUPERSTRUCTURE DETAILS 2

SHEET 6 OF 13
619

DATE: 10/1/2012
I.D. justin_bohler

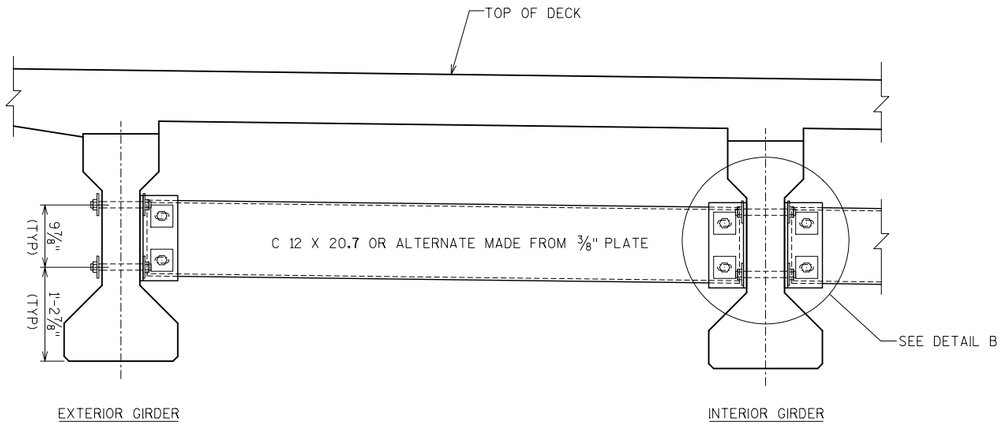
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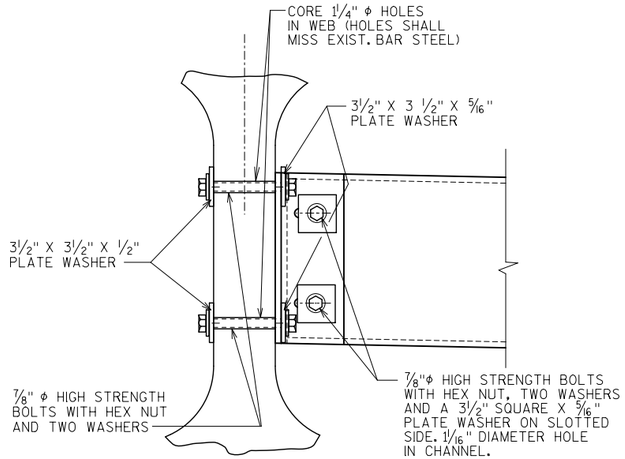
8

STATE PROJECT NUMBER

1228-26-70



PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL B

NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-40-260", EACH.

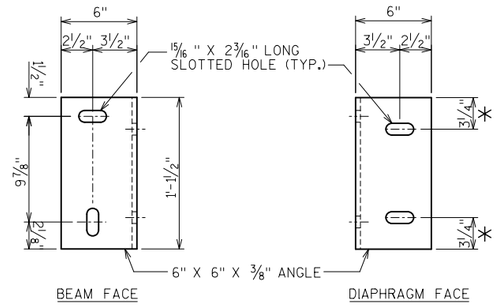
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

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 OVERSIZED 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.

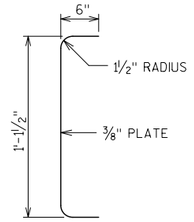
REMOVAL OF EXISTING INTERMEDIATE CONCRETE DIAPHRAGMS IS INCIDENTAL TO BID ITEM "REMOVING OLD STRUCTURE STA. 96+98.03"

ATTACHMENTS FOR STEEL DIAPHRAGMS WILL NEED TO BE CORED THROUGH EXISTING GIRDERS. OFFSET NEW STEEL DIAPHRAGMS TO AVOID INTERFERENCE WITH EXISTING SLEEVES FOR EXISTING INTERMEDIATE CONCRETE DIAPHRAGM.

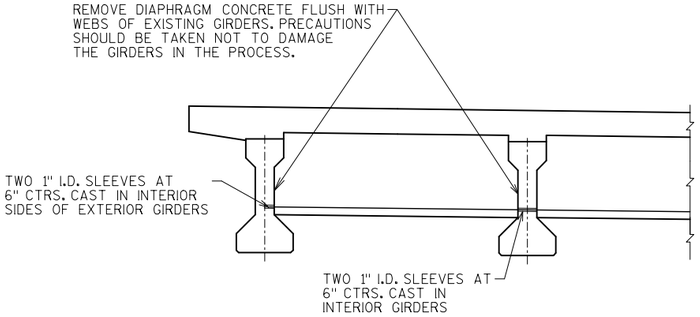


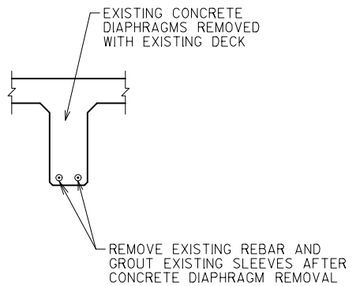
DIAPHRAGM SUPPORT

✳ 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM

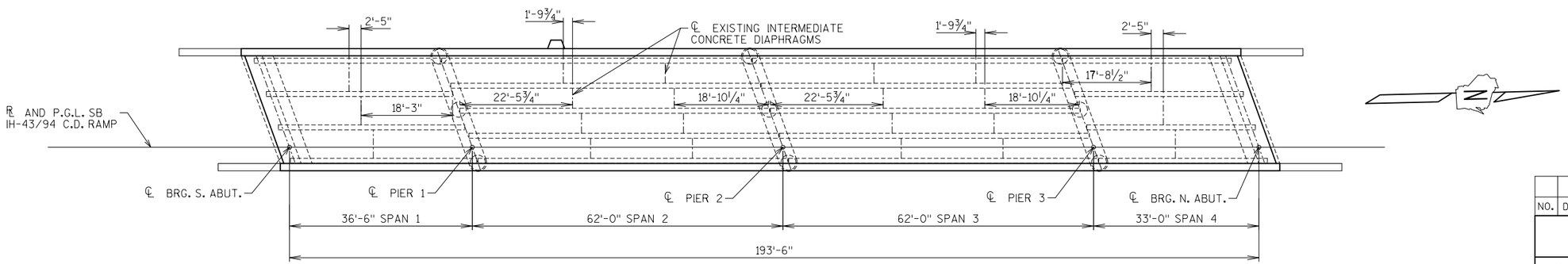


SECTION THRU ALTERNATE DIAPHRAGM





INTERMEDIATE CONCRETE DIAPHRAGM REMOVAL



PLAN - EXISTING INTERMEDIATE DIAPHRAGMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MRL | PLANS CK'D. JDB

STEEL DIAPHRAGM

SHEET 7 OF 13
620

DATE: 10/1/2012
I.D. justin_bohler

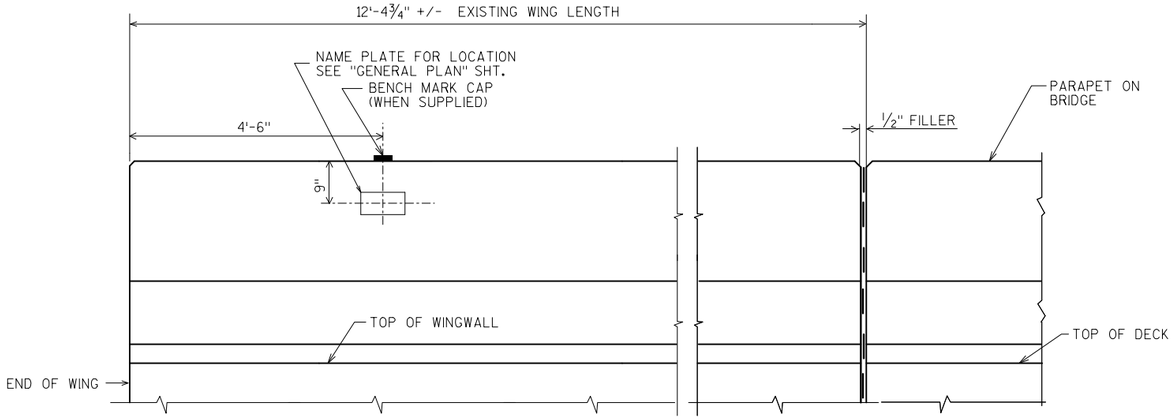
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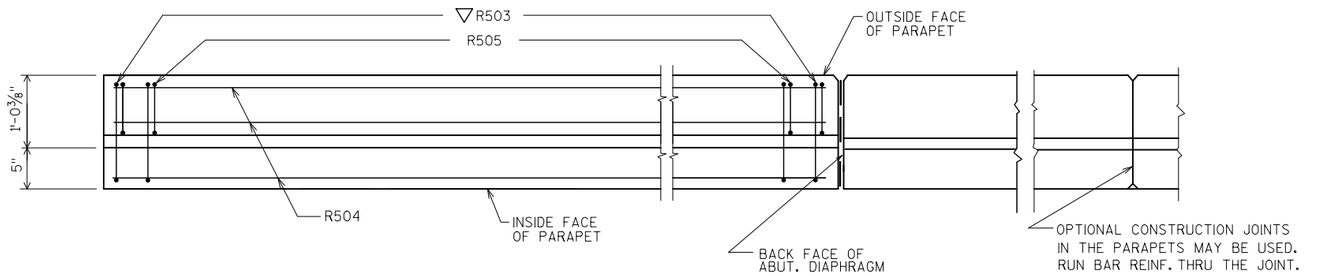
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STATE PROJECT NUMBER

1228-26-70



INSIDE ELEVATION



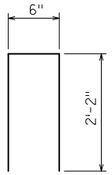
PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.

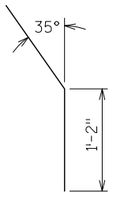
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

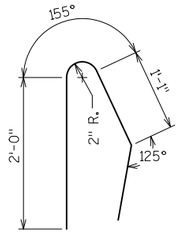
BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
R501	28	4'-7"	X	WING 3&4 PARAPETS VERT.
R502	16	2'-2"	X	WING 3&4 PARAPETS VERT.
R503	54	4'-7"	X	WING PARAPETS VERT.
R504	18	12'-0"		WING PARAPETS HORIZ.
R505	82	4'-10"	X	WING PARAPETS VERT.
R506	2	12'-0"	X	WING 3&4 PARAPETS HCRIZ.



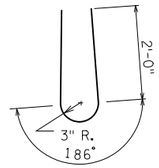
R501



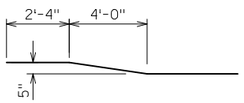
R502



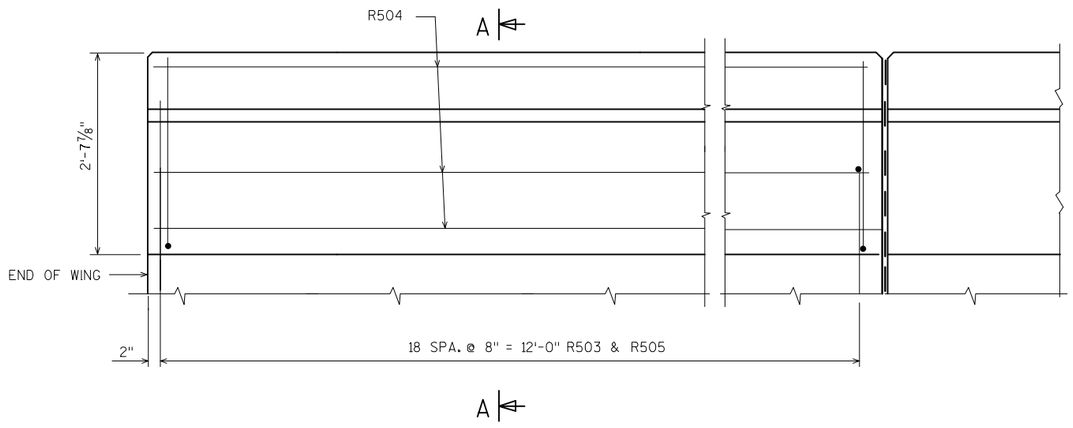
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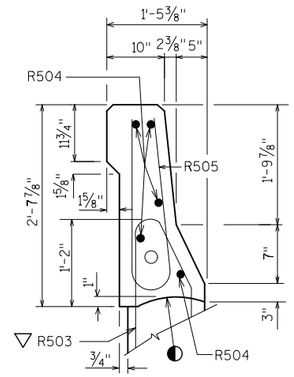
R505



R506



OUTSIDE ELEVATION



SECTION A

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ R503 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MRL | PLANS CK'D. JDB

SLOPED FACE PARAPET LF WINGS 1 & 2

SHEET 8 OF 13
621

DATE: 10/1/2012
I.D. justin.bohler

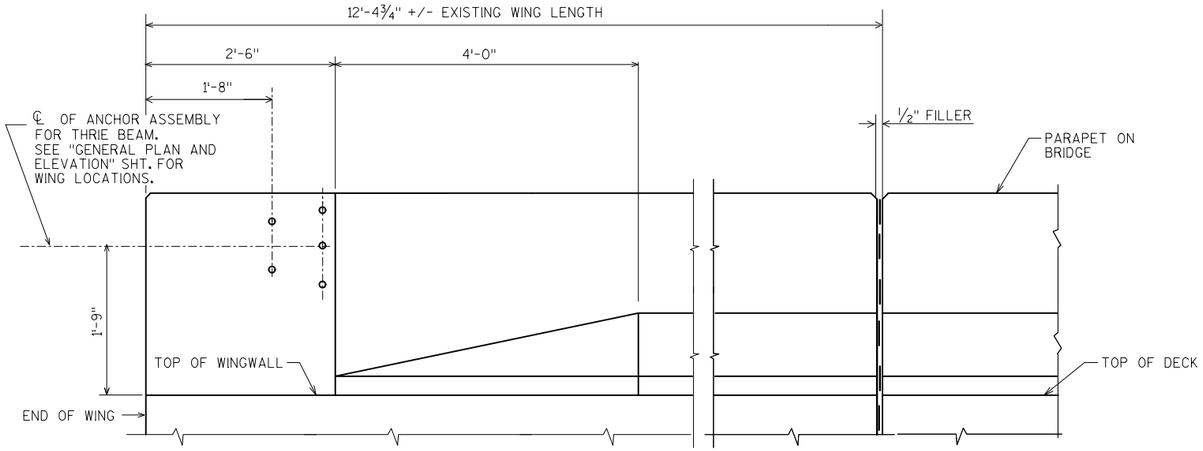
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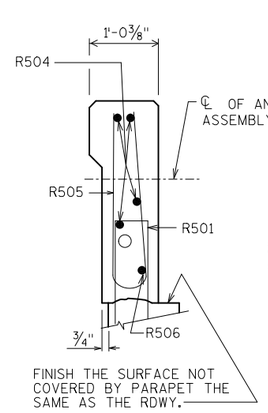
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STATE PROJECT NUMBER

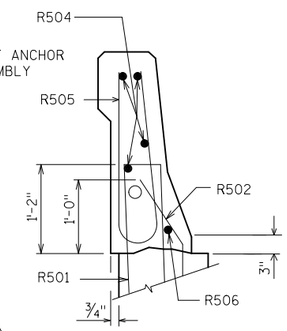
1228-26-70



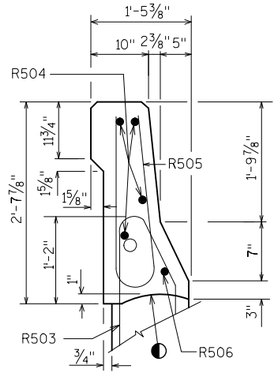
INSIDE ELEVATION



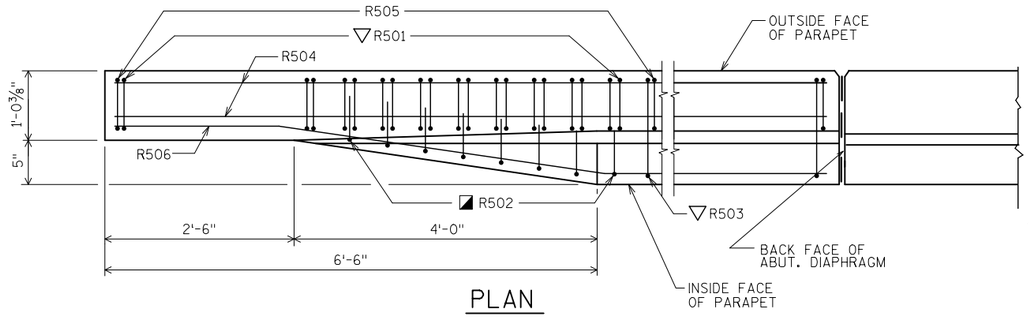
SECTION A



SECTION B

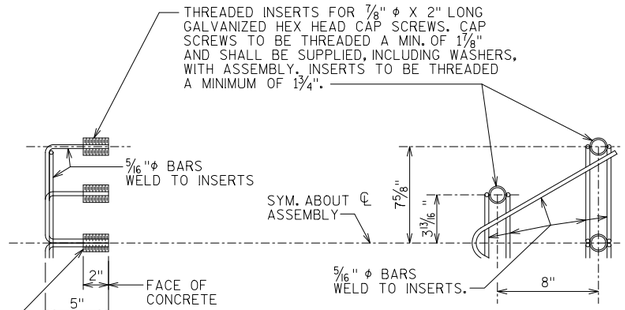


SECTION C



PLAN

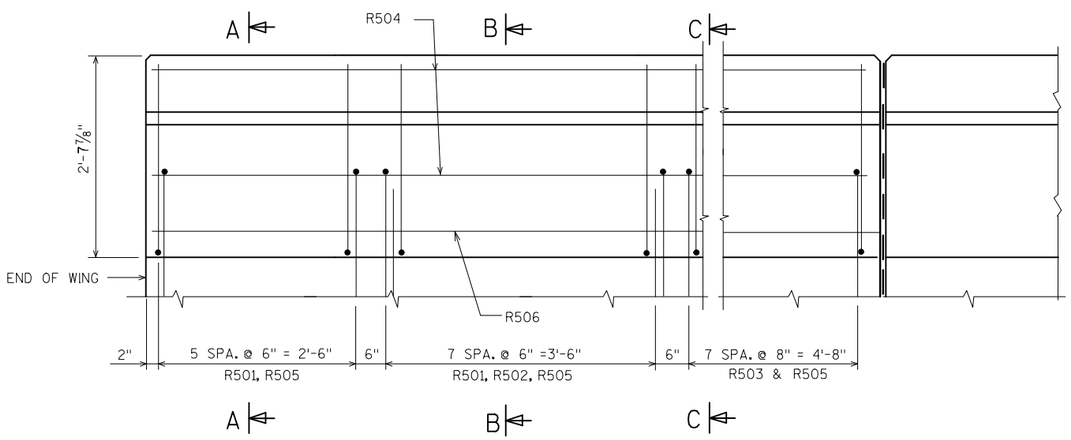
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" 'V' GROOVE.



DETAIL OF ANCHOR ASSEMBLY

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

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



OUTSIDE ELEVATION

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R502 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R503 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MRL | PLANS CK'D. JDB

SLOPED FACE PARAPET LF WINGS 3 & 4

SHEET 9 OF 13
622

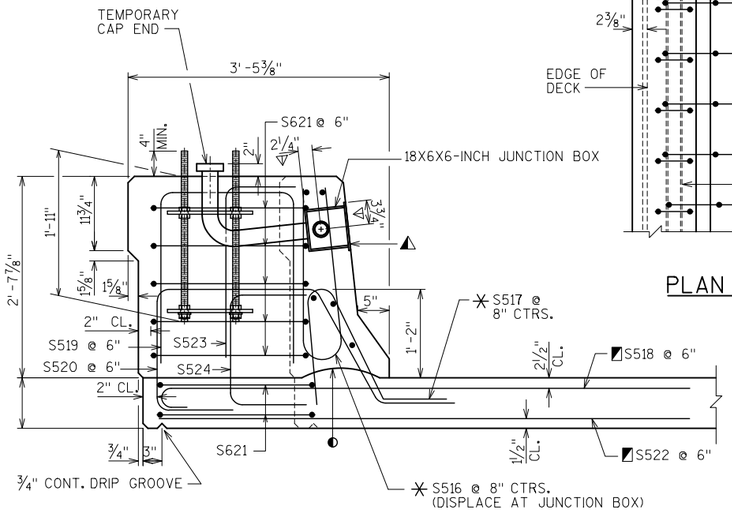
DATE: 10/1/2012
I.D. justin_bohler

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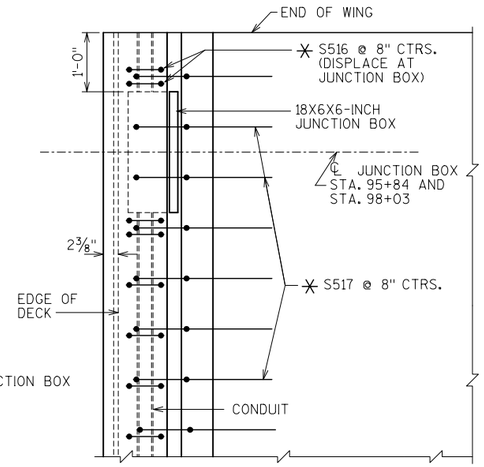
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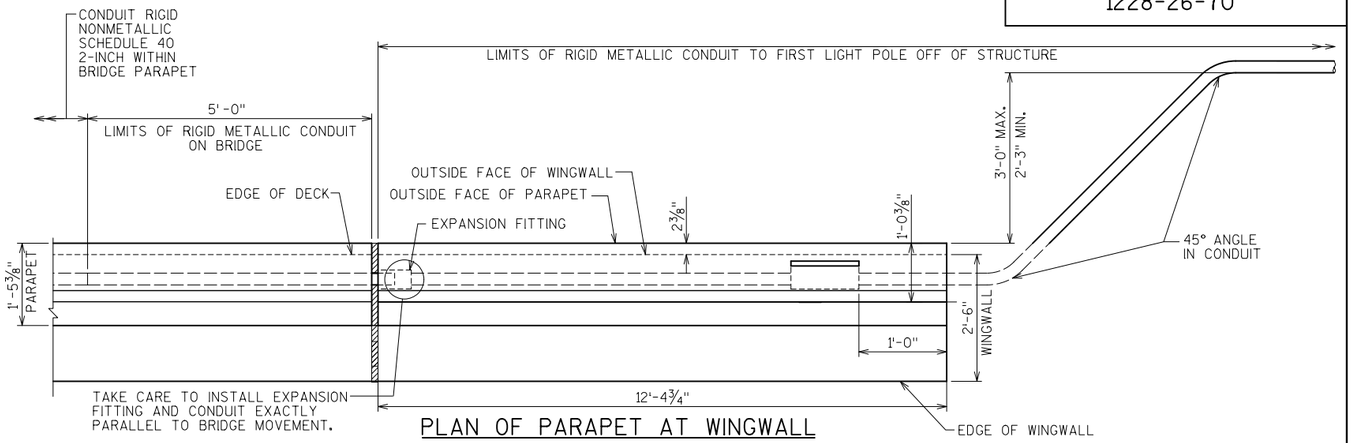
STATE PROJECT NUMBER
1228-26-70



SECTION A-A



PLAN AT JUNCTION BOX



PLAN OF PARAPET AT WINGWALL

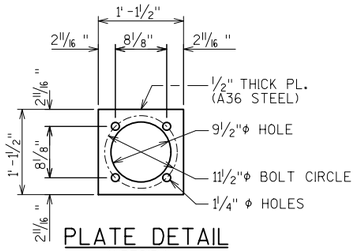
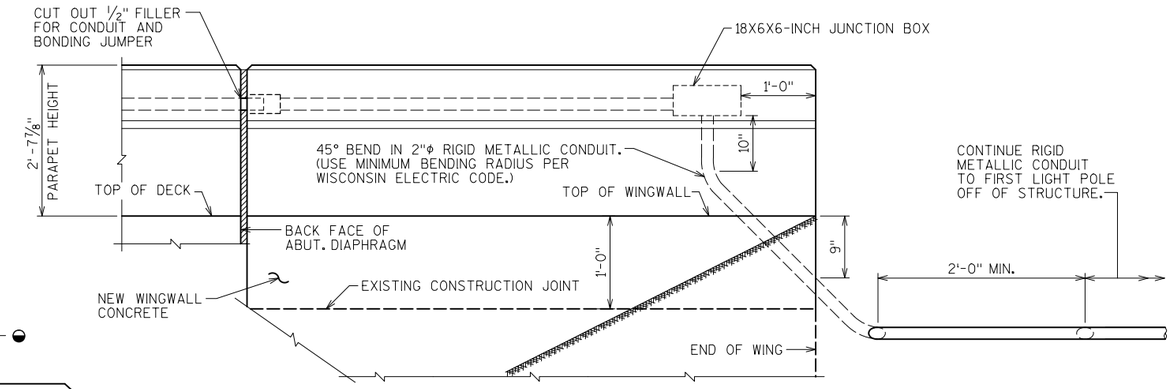
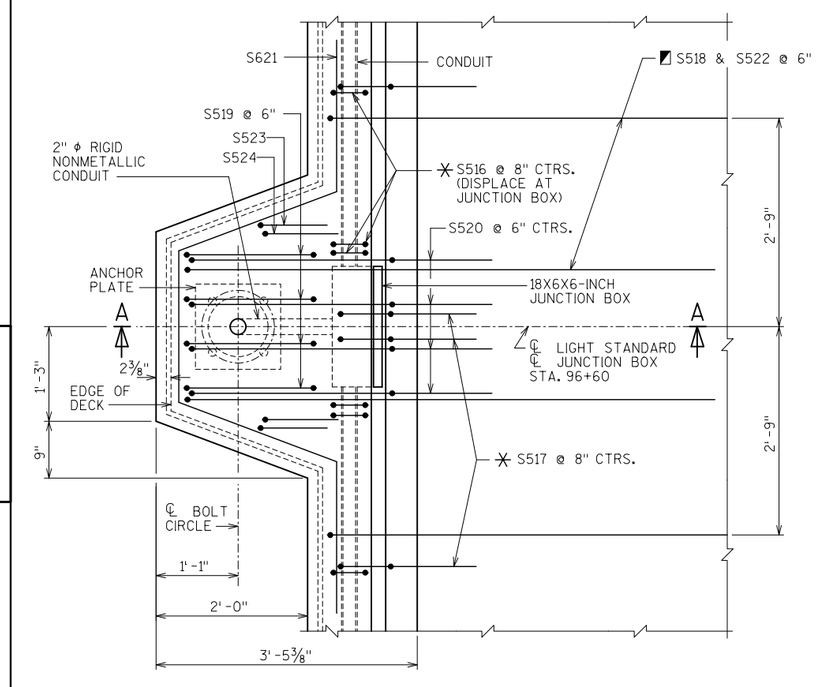


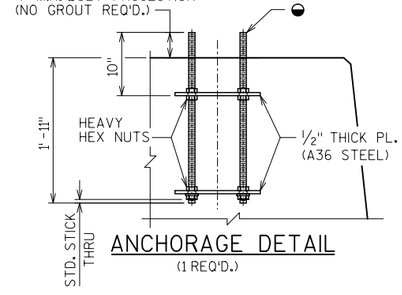
PLATE DETAIL
(1 REQ'D.)



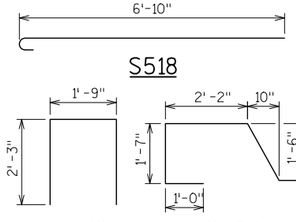
OUTSIDE ELEVATION OF PARAPET AT WINGWALL



PLAN AT LIGHT STANDARD

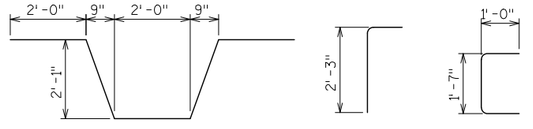


ANCHORAGE DETAIL
(1 REQ'D.)



S518

S519 S520



S621 S523 S524

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X6X6-INCH", EACH.
"REMOVE AND REINSTALL LIGHT POLE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH".

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - DEFLECTION/EXPANSION FITTING:
O-Z/GEDNEY TYPE AXDX.

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

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

◐ CONSTR. JT. STRIKE OFF AS SHOWN

◭ 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.

◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.

◒ 1"φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

✳ SEE SLOPED FACE PARAPET "LF" FOR ADDITIONAL BAR STEEL DETAILS.

BILL OF BARS

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
S518	12	7'-5"	X	LIGHT STD DECK TRANSV.
S519	4	6'-0"	X	LIGHT STD VERT.
S520	4	7'-0"	X	LIGHT STD VERT.
S621	7	10'-0"	X	LIGHT STD HORIZ.
S522	12	6'-10"		LIGHT STD DECK TRANSV.
S523	2	3'-2"	X	LIGHT STD VERT.
S524	2	3'-5"	X	LIGHT STD VERT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MRL | PLANS CK'D. JDB

PARAPET "LF" ELECTRICAL WORK

SHEET 10 OF 13
623

DATE: 10/1/2012
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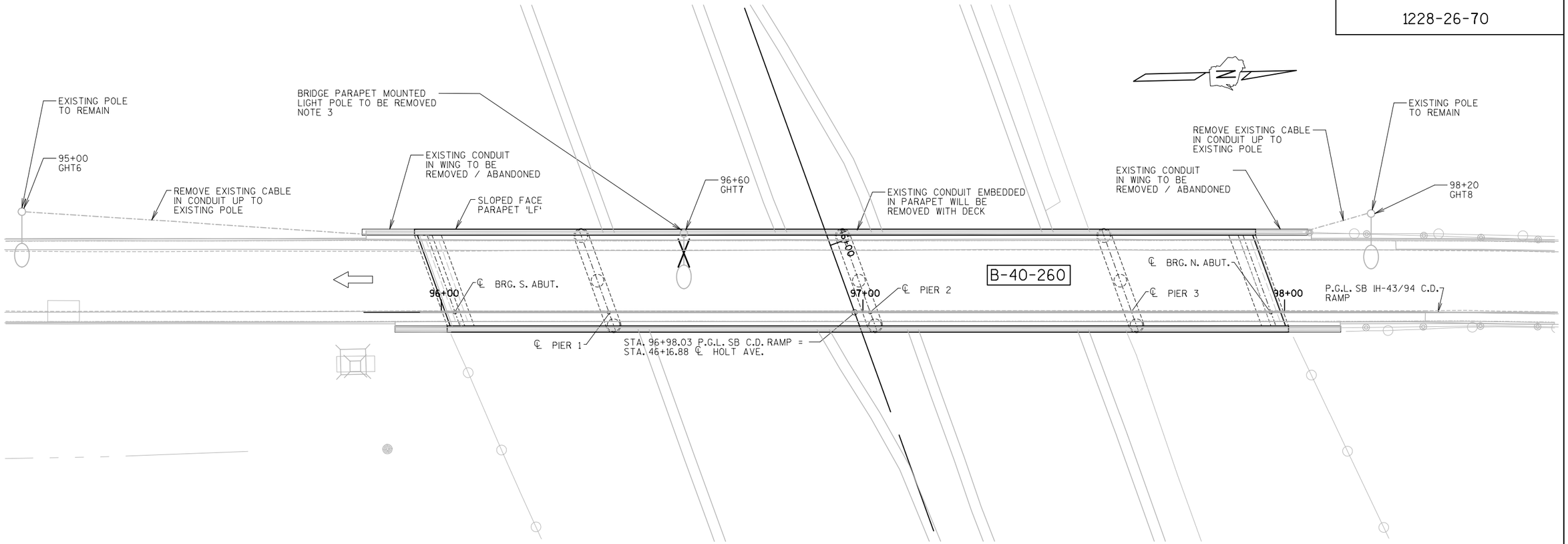
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STATE PROJECT NUMBER

1228-26-70



LIGHTING REMOVAL PLAN B-40-260

NOT TO SCALE

NOTES

1. VERIFY INFORMATION SHOWN ON THESE PLANS IN THE FIELD.
2. VERIFY THAT EXISTING LIGHT POLES ON HOLT AVE SOUTHBOUND RAMP ARE ALL CONNECTED TO CIRCUIT "G" AS SHOWN. DE-ENERGIZE CIRCUIT "G" ON DISTRIBUTION CENTER "HT" BEFORE PROCEEDING WITH THE REMOVAL OF THE LIGHT POLE.
3. REMOVE ENTIRE LIGHT POLE MOUNTED ON BRIDGE PARAPET AND SAFE KEEP FOR REINSTALLATION AT END OF CONSTRUCTION. REPLACE OR REPAIR IN KIND ANY DAMAGE SUSTAINED DURING REMOVAL OPERATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MAE | PLANS CK'D. DAD

LIGHTING REMOVAL PLAN

SHEET 11 OF 13
624

8

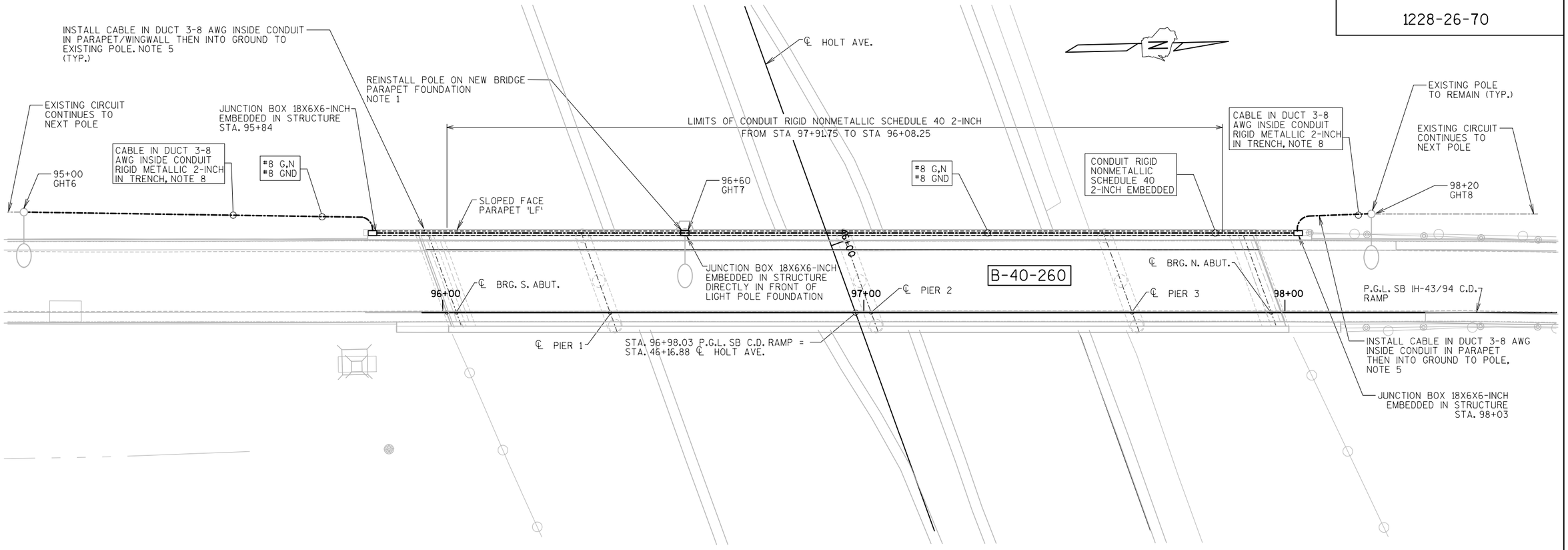
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DATE: 10/1/2012
I.D. justin.bohler

STATE PROJECT NUMBER

1228-26-70



LIGHTING INSTALLATION PLAN B-40-260

NOT TO SCALE

NOTES

1. REINSTALL LIGHT POLE ON BRIDGE PARAPET ON THE NEW FOUNDATION. WIRE AND MAKE LIGHT POLE OPERATIONAL BEFORE RAMP IS REOPENED TO TRAFFIC. PAID FOR UNDER BID ITEM "REMOVE AND REINSTALL LIGHT POLE".
2. FURNISH AND INSTALL NEW CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH EMBEDDED IN BRIDGE PARAPET FOR THE ENTIRE LENGTH OF THE NEW PARAPET EXCEPT WHERE CONDUIT RIGID METALLIC 2-INCH IS SPECIFIED.
3. FURNISH AND INSTALL A CABLE IN DUCT 3-8 AWG CONTAINING 2-1/C #8, 1/C #8G CONDUCTORS AND REWIRE THE LIGHT POLE BACK IN THE DESIGNATED CIRCUIT.
4. FURNISH AND INSTALL JUNCTION BOXES 18X6X6-INCH EMBEDDED IN THE NEW BRIDGE PARAPET AND/OR WINGWALL IN THE LOCATIONS SHOWN.
5. INSTALL CABLE IN DUCT 3-8 AWG FROM PARAPET EMBEDDED CONDUIT INTO GROUND TO ADJACENT LIGHT POLES AS SHOWN. FURNISH AND INSTALL ELBOWS, COUPLINGS, AND OTHER MATERIALS TO ALLOW FOR INSTALLATION AND FOR TRANSITION FROM CONCRETE BARRIER INSTALLATION TO UNDERGROUND INSTALLATION.
6. FURNISH AND INSTALL 304 STAINLESS STEEL OR GALVANIZED STEEL FOR ALL SUPPLIED HARDWARE, SUPPORTS, NUTS, BOLTS, AND WASHERS.
7. PERFORM ALL WORK ACCORDING TO LATEST WISDOT STANDARDS, SPECIFICATIONS, AND DETAILS.
8. VERIFY IF METALLIC CONDUITS ARE CURRENTLY INSTALLED UNDERGROUND FROM THE BRIDGE PARAPET/WINGWALL TO EXISTING GROUND MOUNTED LIGHT POLES. REMOVE ANY EXISTING METALLIC CONDUITS AND REPLACE WITH NEW RIGID METALLIC 2-INCH CONDUITS AS SHOWN ON THESE PLANS. IF METALLIC CONDUITS ARE NOT EXISTING UNDERGROUND, THEN ONLY INSTALL 5-FEET OF RIGID METALLIC 2-INCH CONDUIT EXITING THE WINGWALL.
9. SEE STRUCTURAL PLANS AND PARAPET "LF" ELECTRICAL WORK DETAIL FOR LIGHT POLE FOUNDATION DESIGN AND OTHER DETAILS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MAE | PLANS CK'D. DAD

LIGHTING INSTALLATION PLAN

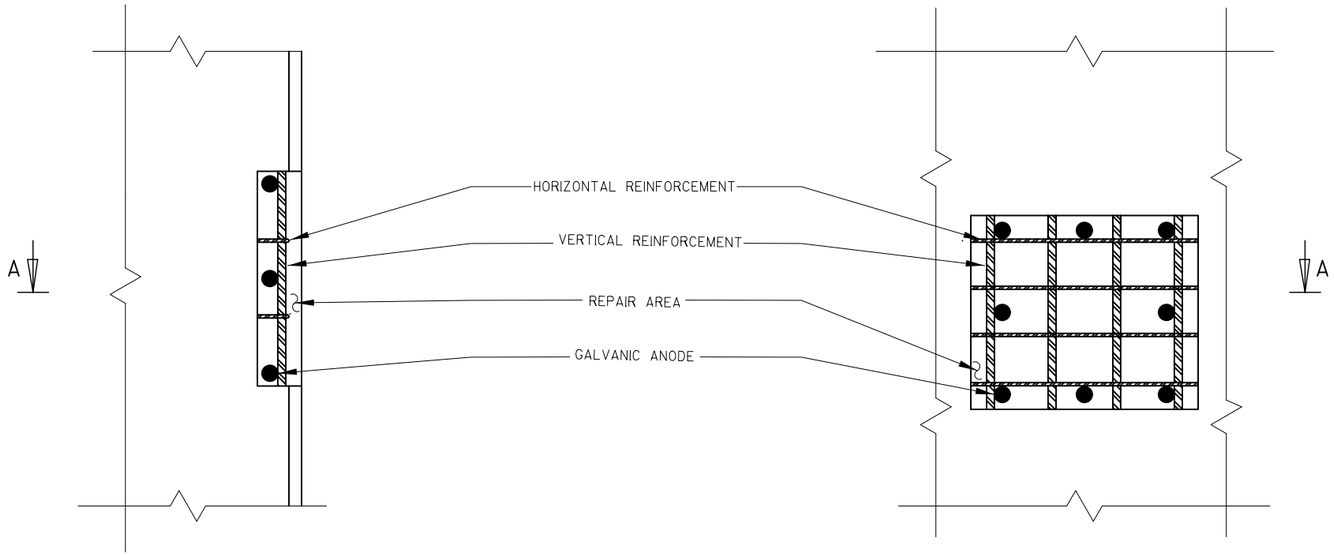
SHEET 12 OF 13

625

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DATE: 10/1/2012
I.D. justin_bohler

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1228-26-70

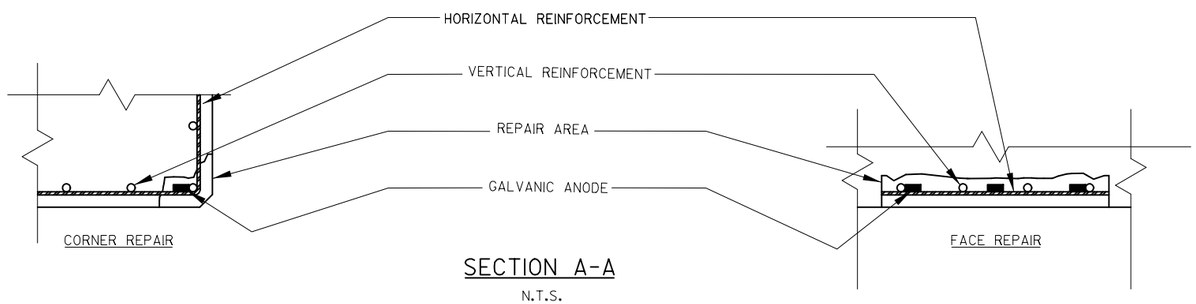


ELEVATION OF CORNER & FACE REPAIRS

N.T.S.

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-260

DRAWN BY MS | PLANS CK'D. JDB

CATHODIC PROTECTION DETAILS

SHEET 13 OF 13

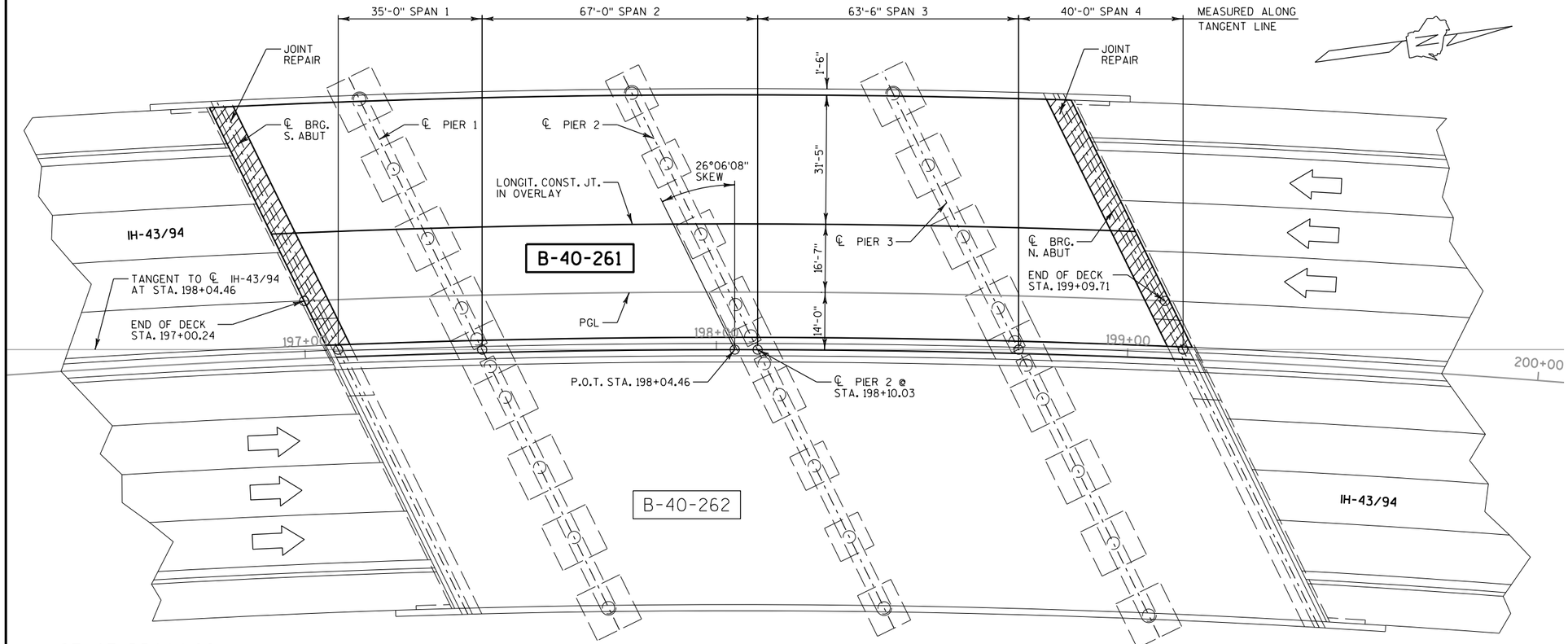
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DATE:10/1/2012
I.D. justin_bohler

STATE PROJECT NUMBER

1228-26-70



LIST OF DRAWINGS

1. GENERAL PLAN
2. STAGING & BEARING DETAILS & QUANTITIES
3. SOUTH ABUTMENT
4. NORTH ABUTMENT
5. UNDERDECK INSPECTION RESULTS
6. INFRARED INSPECTION RESULTS
7. DECK REPAIR AREAS
8. REPLACEMENT JOINT DETAILS
9. STRIP SEAL COVER PLATE DETAILS
10. COUPLER & CATHODIC PROTECTION DETAILS

EXISTING CURVE DATA

P.I. = 197+50.10
DELTA = 29° 21'36"
D = 2° 15'00"
T = 667.11'
L = 1304.89'
R = 2546.48'
P.C. = 190+82.99
P.T. = 203+87.88

PLAN B-40-261

TRAFFIC DATA

IH-43/94
A.D.T. (2040) = 127,000
D.H.V. (2040) = 12,446
R.D.S. - = 60 MPH

DESIGN DATA

LIVE LOAD:
INVENTORY RATING ——— HS - 16
OPERATIONAL RATING ——— HS - 26
WISCONSIN STANDARD
PERMIT VEHICLE (Wis-SPV) ——— 160 KIPS

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SLAB f'c ——— 4,000 PSI
ALL OTHER f'c ——— 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT (GRADE 60) fy ——— 60,000 PSI

GENERAL NOTES

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, JOINT REPAIR, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, SLOPE PAVING REPAIR, CLEANING AND PAINTING BEARINGS, REPLACEMENT OF THE ABUTMENT BEARINGS, AND EPOXY CRACK SEALING.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2", IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BIRDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOCITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," "CONCRETE SURFACE REPAIR," AND "EPOXY INJECTION CRACK REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

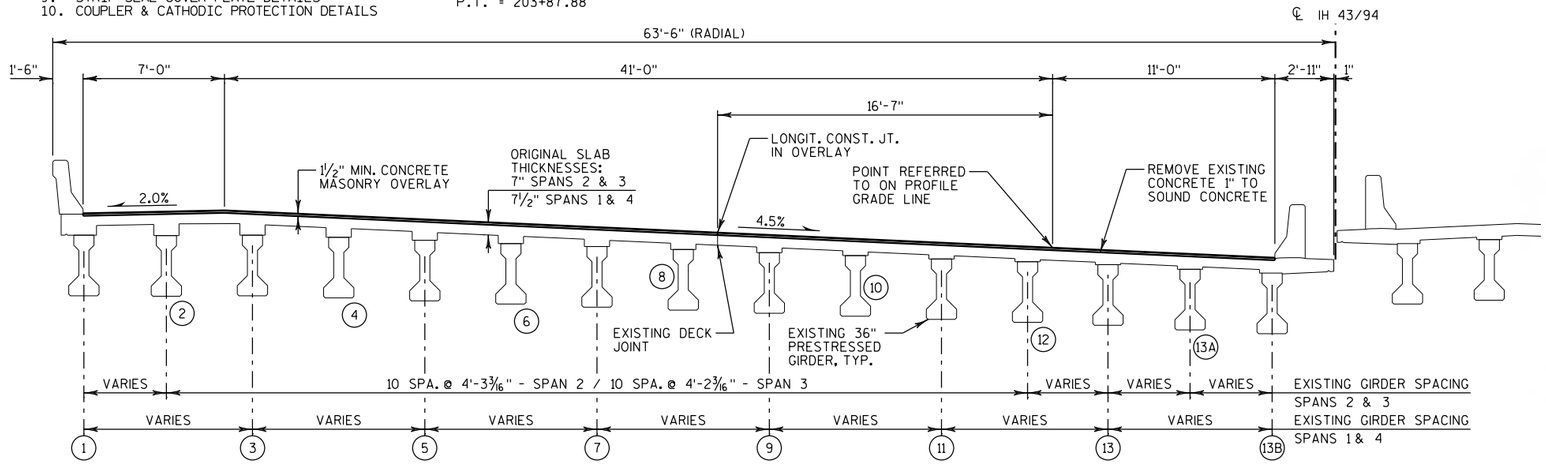
THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE. SEE EXISTING NAME PLATE FOR YEAR OF ORIGINAL CONSTRUCTION FOR NEW NAME PLATE.

COAT ENTIRE CONCRETE SURFACE OF ALL PIERS WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER AND DIAPHRAM CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.



SECTION THRU ROADWAY

(LOOKING NORTH)

WISCONSIN
WILLIAM A. HOVE
E-33600
MADISON, WI
PROFESSIONAL ENGINEER

10-15-2012

SE REGION CONTACT:
AL GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
BILL HOVE (262) 354-3014

NO.	DATE	REVISION	BY

CORRE
Structural Environmental Municipal Transportation
6510 GRAND TETON PLAZA, SUITE 334
MADISON, WI 53719
www.correngineering.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-261

IH 94 EB/IH 43 SB OVER HOLT AVENUE

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	MILWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	PJM	DESIGN CK'D.	BH	DRAWN BY	BSS	PLANS CK'D.	PJM

GENERAL PLAN

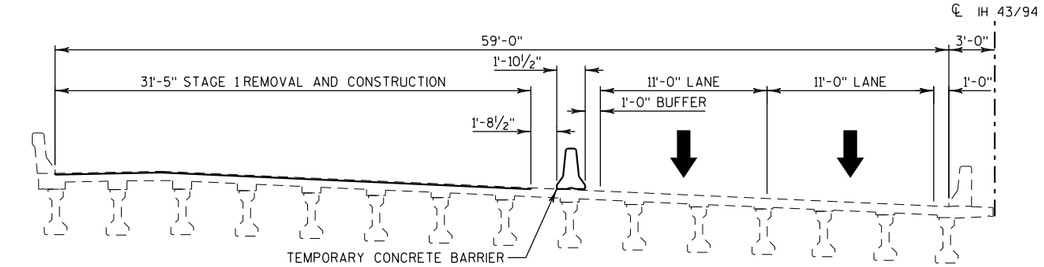
SHEET 1 OF 10

627

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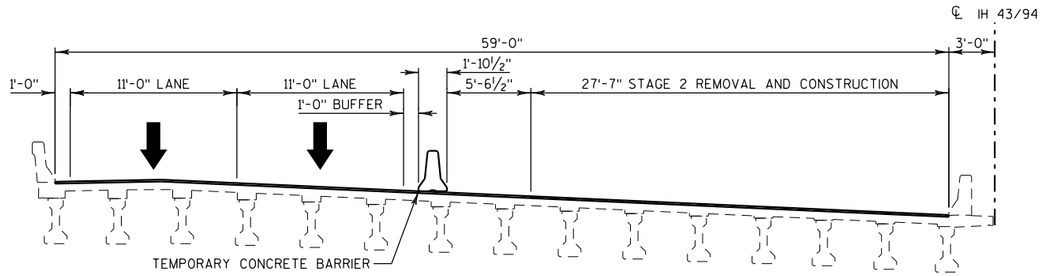
STATE PROJECT NUMBER

1228-26-70



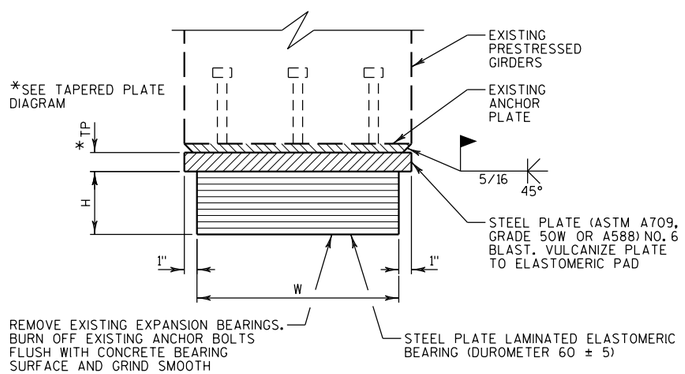
STAGE 1 CROSS SECTION THRU SB BRIDGE

(LOOKING NORTH)

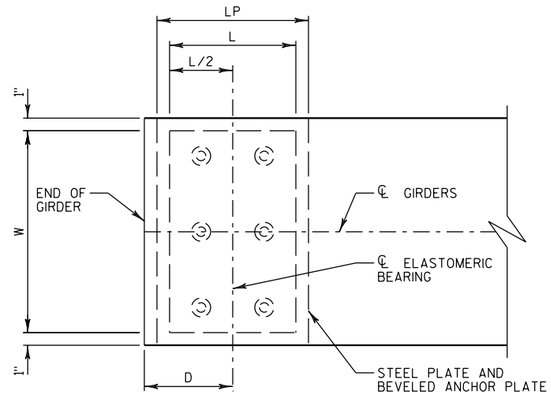


STAGE 2 CROSS SECTION THRU SB BRIDGE

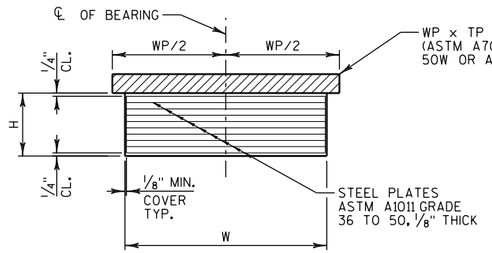
(LOOKING NORTH)



FRONT ELEVATION



PLAN VIEW



SECTION THRU ELASTOMERIC BEARING

NOTES:

EXISTING BEARING DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OF THE REPLACEMENT BEARINGS. REPLACEMENT BEARING HEIGHTS SHALL MATCH EXISTING.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "BEARING PADS ELASTOMERIC LAMINATED". REMOVAL OF THE EXISTING BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "REMOVING BEARINGS STRUCTURE B-40-261".

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

ON BEARING REPLACEMENTS, COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED WHERE BEARINGS ARE DETAILED TO MEET HEIGHT REQUIREMENTS.

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

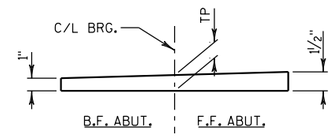
ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

GIRDERS	TOTAL BEARING HEIGHT H (INCHES)	TOTAL ELASTOMER THICKNESS (INCHES)	NO. OF PLATES REQ'D.	LONGITUDINAL LENGTH OF BEARING L (MIN.) (INCHES)	HORIZONTAL WIDTH OF BEARING W (INCHES)	LONGITUDINAL LENGTH OF PLATE LP (MIN.) (INCHES)	HORIZONTAL WIDTH OF PLATE WP (INCHES)	THICKNESS OF PLATE *TP (INCHES)	END OF GIRDER TO C/L BRG. D (INCHES)
1,3,5,7,9,11,13	2 ½	2	4	8	16	10	18	1 1/16	9
13B	2 ½	2	4	8	16	10	18	1 1/16	6

*SEE TAPERED PLATE DIAGRAM. NORTH ABUTMENT PLATES ARE NOT TAPERED.

EXPANSION BEARING REPLACEMENT

(REQUIRED AT SOUTH & NORTH ABUTMENTS)



TAPERED PLATE DIAGRAM

(REQUIRED AT SOUTH ABUTMENT ONLY)

TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	ITEM DESCRIPTION	ITEM UNIT	SOUTH ABUTMENT	PIER #1	PIER #2	PIER #3	NORTH ABUTMENT	SUPERSTRUCTURE	QUANTITY
	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	25	----	----	----	15	----	40
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	----	----	----	----	----	1,370	1,370
	502.5005	MASONRY ANCHORS TYPE L No. 5 BARS	EACH	50	----	----	----	52	----	102
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	650	----	----	----	680	4,390	5,720
	505.0904	BAR COUPLERS No. 4	EACH	----	----	----	----	----	4	4
	505.0906	BAR COUPLERS No. 6	EACH	----	----	----	----	----	18	18
	505.0907	BAR COUPLERS No. 7	EACH	----	----	----	----	----	12	12
	506.7050.S.01	REMOVING BEARINGS STRUCTURE B-40-261	EACH	8	----	----	----	8	----	16
	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	8	----	----	----	8	----	16
	509.0301	PREPARATION DECKS TYPE 1	SY	----	----	----	----	----	38	38
	509.0302	PREPARATION DECKS TYPE 2	SY	----	----	----	----	----	19	19
	509.0500	CLEANING DECKS	SY	----	----	----	----	----	1,370	1,370
◮	509.1000	JOINT REPAIR	SY	----	----	----	----	----	70	70
	509.1500	CONCRETE SURFACE REPAIR	SF	----	5	5	10	----	15	35
	509.2000	FULL-DEPTH DECK REPAIR	SY	----	----	----	----	----	1	1
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	----	----	----	----	----	97	97
*	509.9020.S	EPOXY CRACK SEALING	LF	----	5	2	3	----	50	60
	604.0400	SLOPE PAVING CONCRETE	SY	25	----	----	----	15	----	40
	SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	----	23	30	23	----	----	76
	SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	----	11	12	12	----	----	35
◪	SPV.0105.08	INSTALL EXPANSION DEVICE B-40-261	LS	----	----	----	----	----	----	1
	SPV.0165.01	CATHODIC PROTECTION	SF	----	----	----	10	----	----	10

ALL ITEMS ARE CATEGORY 170.

LEGEND

* EPOXY CRACK SEALING IN THE SUPERSTRUCTURE IS PROPOSED FOR THE CONCRETE DIAPHRAGMS & OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

◪ HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

◮ FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE "JOINT REPAIR" ITEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY BSS | PLANS CK'D. PJM

STAGING & BEARING DETAILS & QUANTITIES

SHEET 2 OF 10

628

8

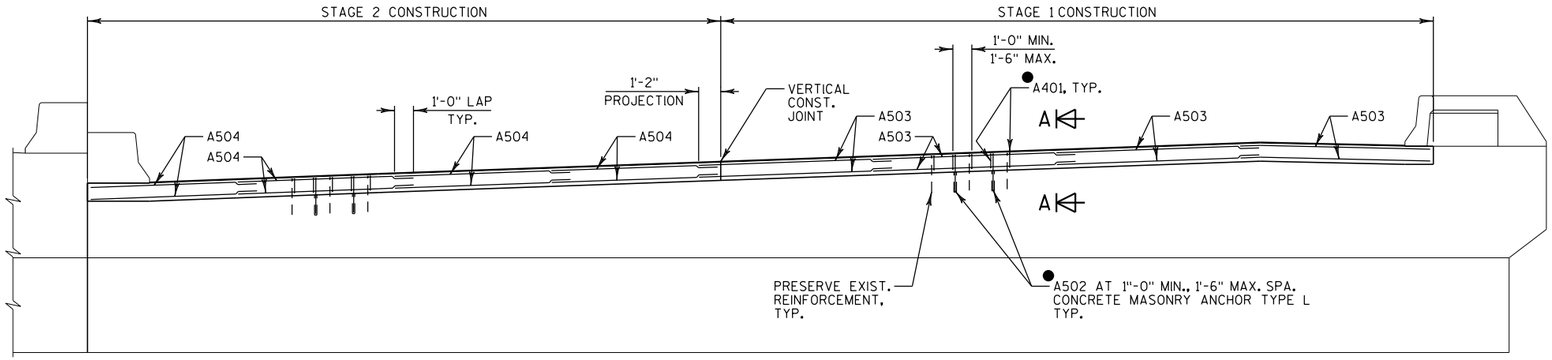
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STATE PROJECT NUMBER
1228-26-70

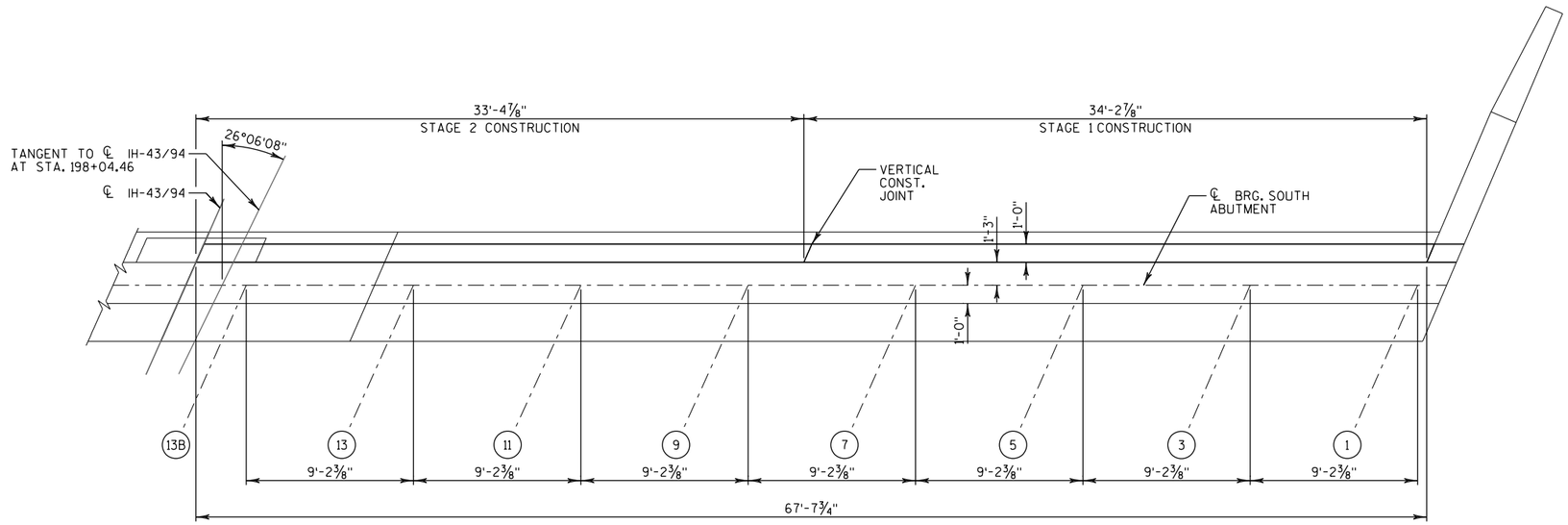
SOUTH ABUTMENT BILL OF BARS

MARK	# REQ'D. STAGE 1	# REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	COUPLER	LOCATION
A401	47	53	3'-2"	X			PAVING BLOCK - VERTICAL
A502	24	27	2'-3"	X			PAVING BLOCK - VERTICAL
A503	16	---	10'-0"				PAVING BLOCK - HORIZONTAL
A504	---	16	9'-1"				PAVING BLOCK - HORIZONTAL
TOTAL WEIGHT =							650 LBS.

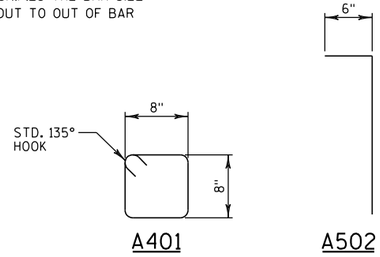
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR



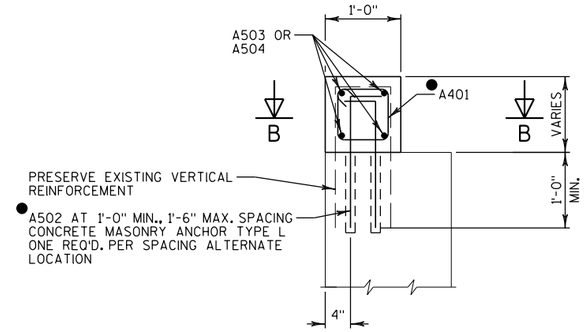
ELEVATION
(LOOKING SOUTH)



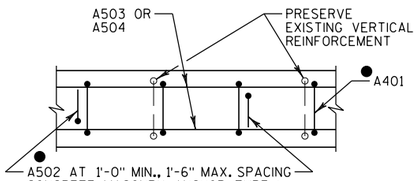
PLAN



A401 A502



SECTION A-A



SECTION B-B

LEGEND

- SPACING OF EXISTING VERTICAL REINFORCEMENT VARIES FROM 1'-0" TO 1'-6". PLACE A502 REINFORCEMENT MIDWAY BETWEEN EXISTING VERTICAL REINFORCEMENT. PLACE A401 AT EXISTING AND PROPOSED VERTICAL STEEL LOCATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY | PLANS CK'D.

SOUTH ABUTMENT

SHEET 3 OF 10

629

8

8

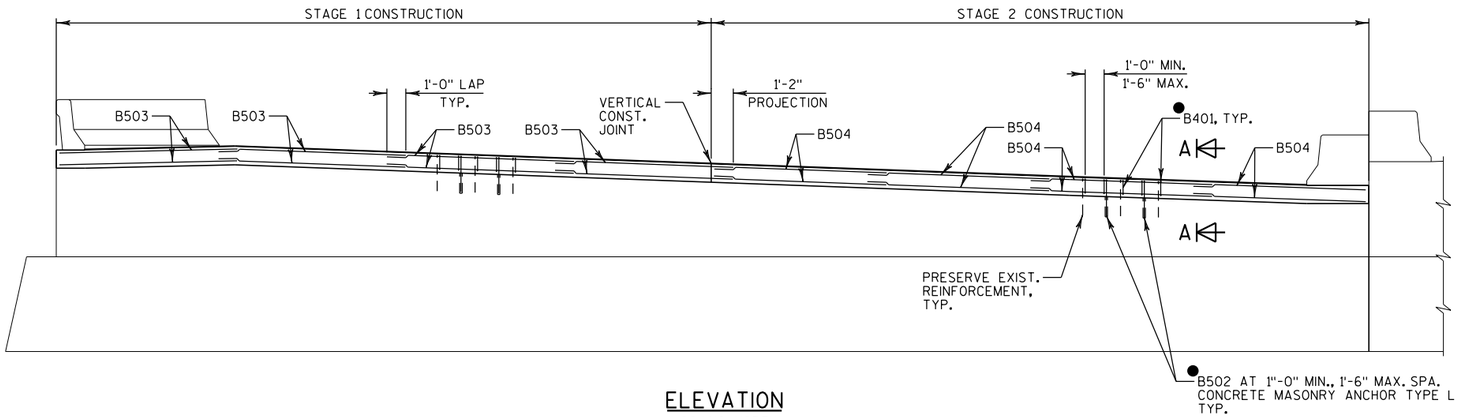
FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-261\70\080103-sabut.dgn PLOT DATE : 9/27/2012 PLOT SCALE : 8.00000 ' / in.

STATE PROJECT NUMBER
1228-26-70

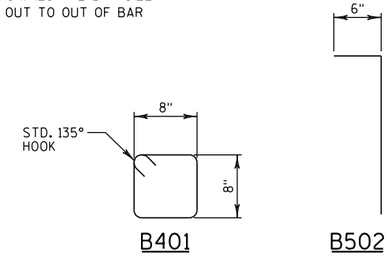
NORTH ABUTMENT BILL OF BARS

MARK	# REQ'D. STAGE 1	# REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	COUPLER	LOCATION
B401	48	55	3'-2"	X			PAVING BLOCK - VERTICAL
B502	24	28	2'-3"	X			PAVING BLOCK - VERTICAL
B503	16	---	10'-6"				PAVING BLOCK - HORIZONTAL
B504	---	16	9'-5"				PAVING BLOCK - HORIZONTAL
TOTAL WEIGHT =							680 LBS.

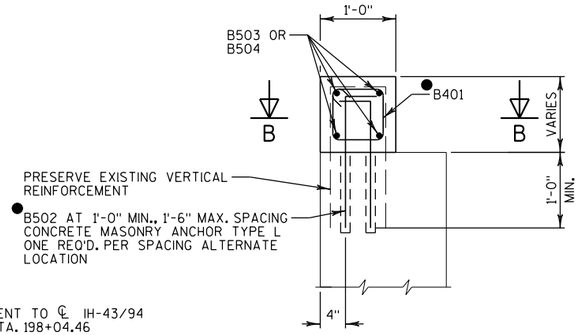
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR



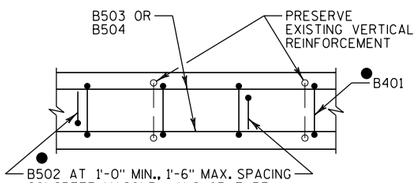
ELEVATION
(LOOKING NORTH)



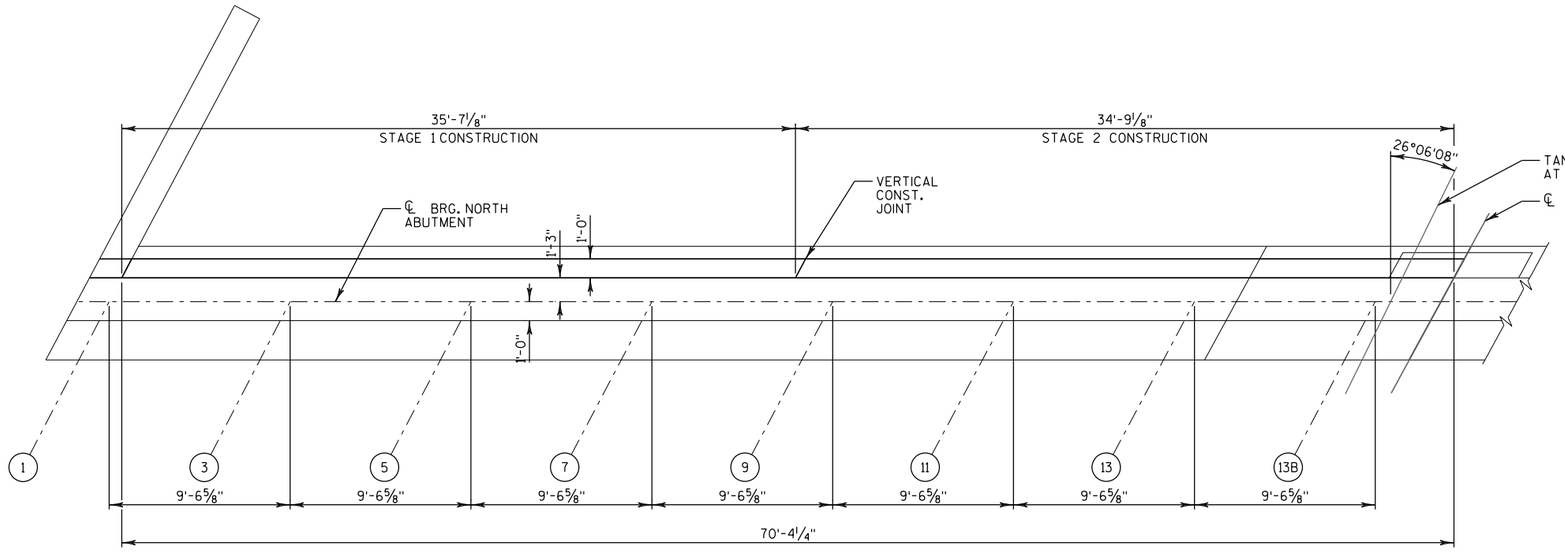
B401 B502



SECTION A-A



SECTION B-B



PLAN

LEGEND

- SPACING OF EXISTING VERTICAL REINFORCEMENT VARIES FROM 1'-0" TO 1'-6". PLACE B502 REINFORCEMENT MIDWAY BETWEEN EXISTING VERTICAL REINFORCEMENT. PLACE B401 AT EXISTING AND PROPOSED VERTICAL STEEL LOCATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY | PLANS CK'D.

NORTH ABUTMENT

SHEET 4 OF 10

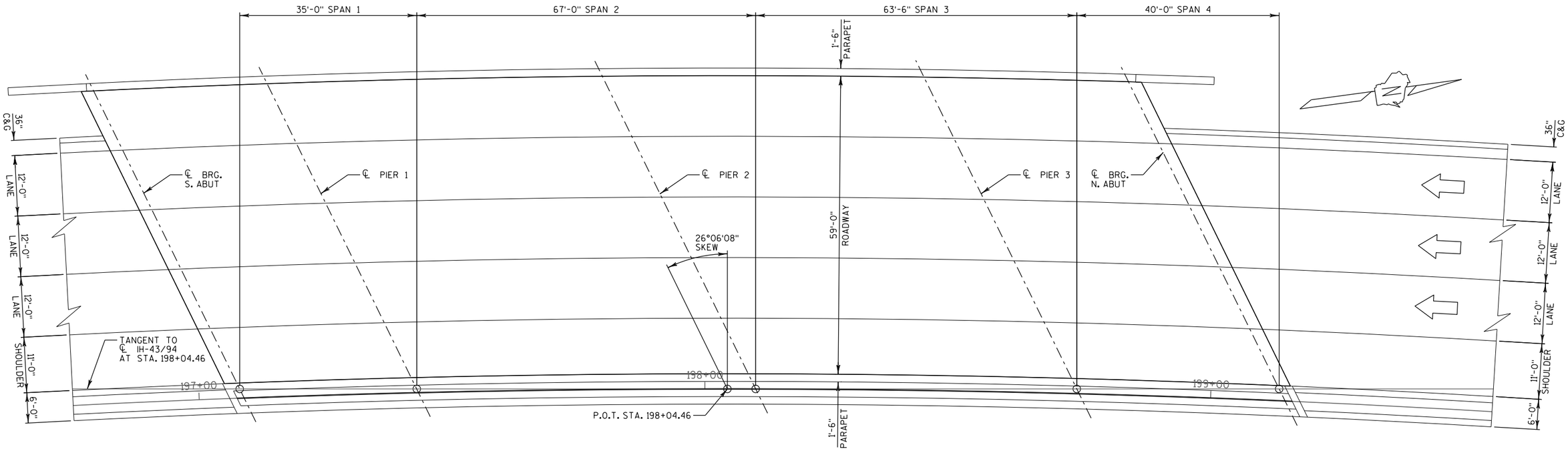
630

8

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FOR REFERENCE ONLY

STATE PROJECT NUMBER
1228-26-70



B-40-261

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-261		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	12,988	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	0	0	

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

SCALE, FEET 0 5 10

UNDERDECK INSPECTION PERFORMED BY CORRE, INC.
INSPECTION DATE: 3/21/2012

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY	PLANS CK'D.

UNDERDECK INSPECTION RESULTS

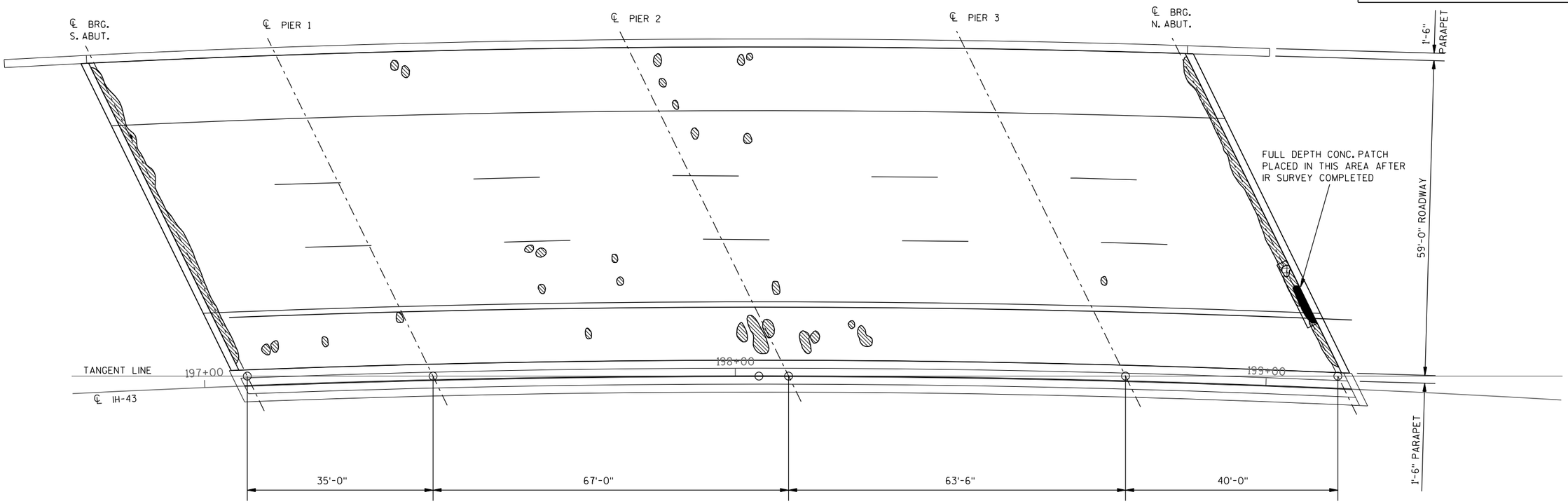
SHEET 5 OF 10

FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-261\70\080105-underdeck_results.dgn PLOT DATE : 9/27/2012

PLOT SCALE : 20.00000 ' / in.

FOR REFERENCE ONLY

STATE PROJECT NUMBER
1228-26-70



PLAN B-40-261

8

DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-261	
ITEM	UNIT	QUANT.	%
* TOTAL AREA	ft.^{2}	12988	
SHADE/DEBRIS	ft.^{2}	0	
DELAMINATION	ft.^{2}	260	2.1
SPALL	ft.^{2}	11	<0.1
DEBOND	ft.^{2}	N/A	N/A
ASPHALT PATCH	ft.^{2}	3	<0.1
CONCRETE PATCH	ft.^{2}	0	0

LEGEND
DELAMINATION
SPALL
DEBOND
ASPHALT PATCH
CONCRETE PATCH
SHADE/DEBRIS

*TOTAL ROADWAY AREA (BETWEEN PARAPETS)

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

SCALE, FEET 0 5 10

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY	PLANS CK'D.

INFRARED INSPECTION RESULTS

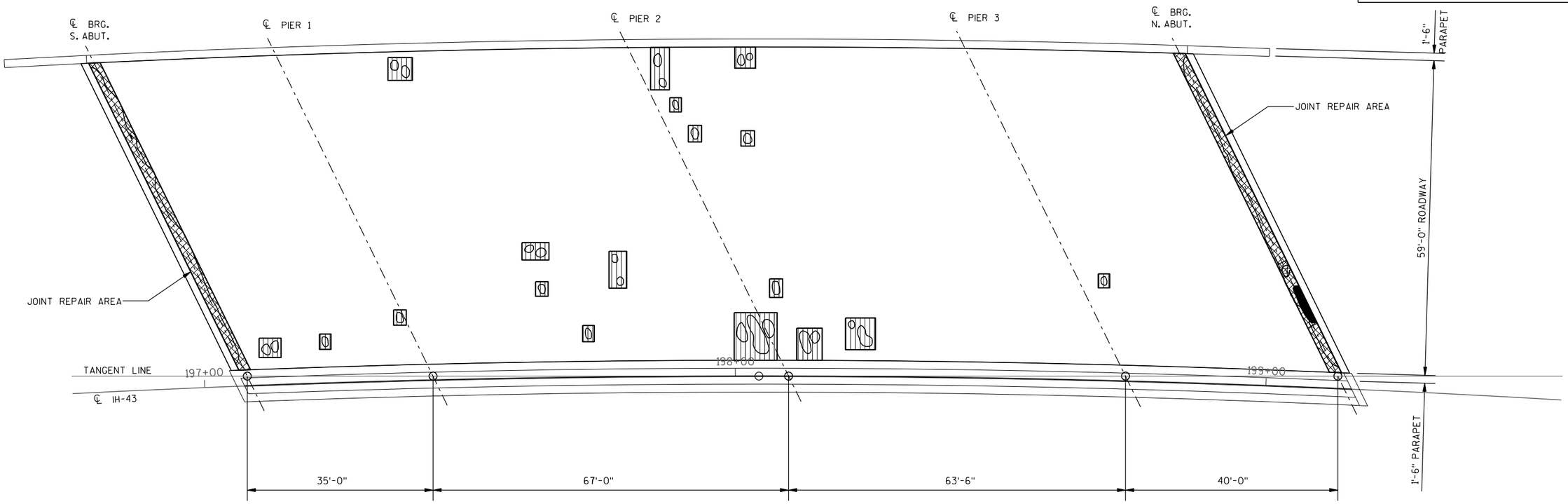
SHEET 6 OF 10

FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-261\70\080106-infrared_results.dgn PLOT DATE : 9/27/2012

PLOT SCALE : 20.00000 ' / in.

STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY



PLAN B-40-261

PROPOSED REHAB AREAS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-261		LEGEND	
ITEM	UNIT	QUANT.	%	DECK PREPARATION AREA	DELAMINATION
TOTAL AREA	$yd.^2$	1443			SPALL
SHADE/DEBRIS	$yd.^2$	0			DEBOND
● PREPARATION, DECKS, TYPE 1	$yd.^2$	35	2.4		ASPHALT PATCH
● PREPARATION, DECKS, TYPE 2 ✳	$yd.^2$	18	1.2	SHADE/DEBRIS	CONCRETE PATCH
FULL DEPTH DECK REPAIR ✳	$yd.^2$	1	<0.1		

✳ ESTIMATED

● QUANTITIES SHOWN ON SHEET 2 INCLUDE A 10% INCREASE TO ACCOUNT FOR ADDITIONAL DETERIORATION BETWEEN THE TIME OF INSPECTION AND THE TIME OF CONSTRUCTION.

NOTES:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

SCALE, FEET 0 5 10

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY	PLANS CK'D.

DECK REPAIR AREAS

SHEET 7 OF 10

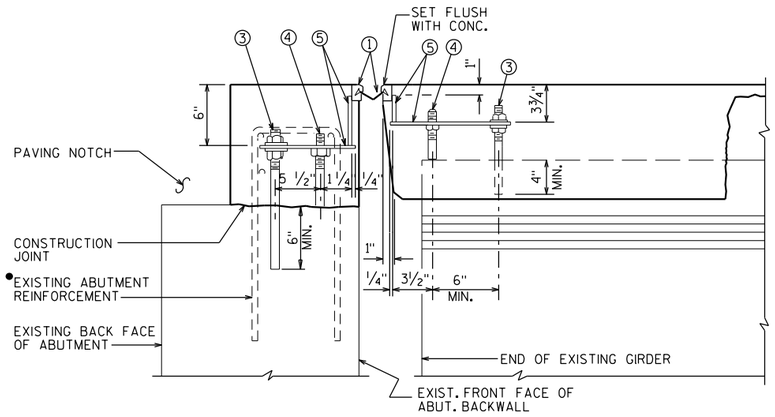
633

FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-261\70\080107-deck_repair_areas.dgn PLOT DATE : 9/27/2012

PLOT SCALE : 20.00000 ' / in.

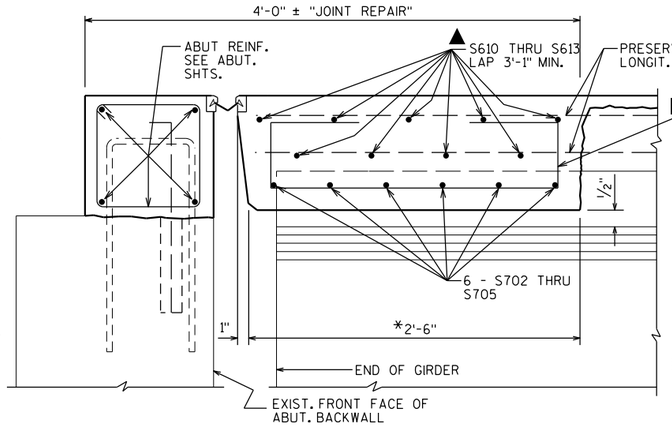
STATE PROJECT NUMBER

1228-26-70



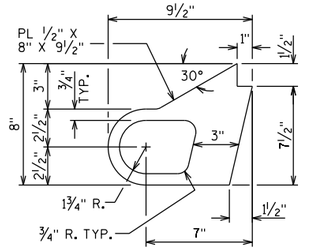
SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



LEGEND

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

② STUDS ⅝" ϕ x 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

②A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO #1 AT 1'-6" CTRS. BETWEEN GIRDERS.

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND WASHERS. FOR PRESTRESSED GIRDERS GROUT THEADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. FOR STEEL GIRDERS WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO #5.

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

⑥ GALVANIZED PLATE ⅜" x 1'-2½" x (2'-0" LONG FOR SKEWS TO 45° & 3'-0" LONG FOR SKEWS > 45°) WITH HOLES FOR #7. BEND AS SHOWN.

⑦ ¾" ϕ x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.

⑧ ¾" ϕ x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ x 2¼" GALVANIZED THREADED COUPLING.

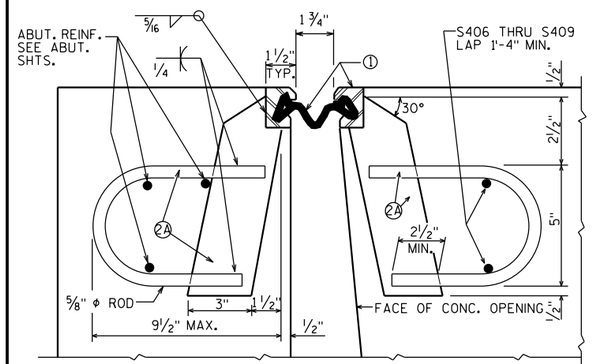
⑩ 1" x 5" SLOTTED CSK. HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

* DIMENSION IS NORMAL TO C/L OF SUBSTRUCTURE UNITS.

■ PLACE STEEL PARALLEL TO GIRDERS.

● LAP FOR S406 BARS ONLY.

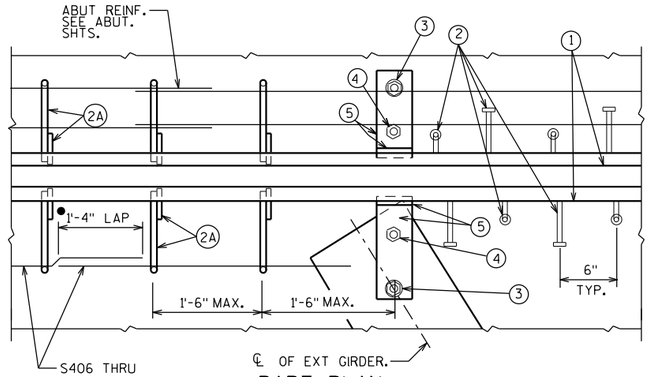
▲ SEE SHEET 9 FOR LAYOUT.



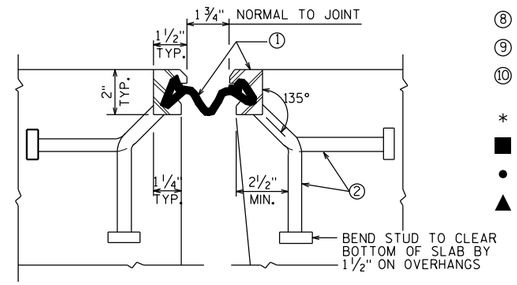
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED



PART PLAN



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS, MEDIANS & SIDEWALKS

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

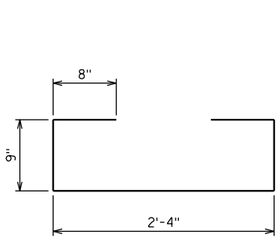
ANCHOR SYSTEM #8 & NO. #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

INSTALLATION OF THE STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-261."

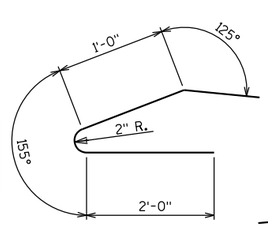
SUPERSTRUCTURE BILL OF BARS

MARK	# REQ'D. STAGE 1	# REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	COUPLER	LOCATION
S401	76	64	4'-10"	X			ABUTMENT DIAPHRAGM
S702	36	36	8'-0"				ABUTMENT DIAPHRAGM
S703	12	---	6'-3"			X	ABUTMENT DIAPHRAGM ADJACENT TO CONST. JOINT
S704	---	6	1'-7"			X	SOUTH ABUTMENT DIAPHRAGM ADJACENT TO CONST. JOINT
S705	---	6	1'-11"			X	NORTH ABUTMENT DIAPHRAGM ADJACENT TO CONST. JOINT
S406	24	24	5'-5"				EXPANSION JOINT
S407	4	---	6'-10"			X	EXPANSION JOINT ADJACENT TO CONST. JOINT
S408	---	2	2'-3"			X	SOUTH ABUTMENT DIAPHRAGM ADJACENT TO CONST. JOINT
S409	---	2	2'-8"			X	NORTH ABUTMENT DIAPHRAGM ADJACENT TO CONST. JOINT
S610	18	---	30'-0"			X	DECK AT JOINT REPLACEMENT
S611	18	---	10'-6"			X	DECK AT JOINT REPLACEMENT
S612	---	18	25'-0"			X	DECK AT JOINT REPLACEMENT
S613	---	18	13'-0"			X	DECK AT JOINT REPLACEMENT
S420	6	---	4'-7"	X			PARAPET AT JOINT REPLACEMENT - OUTSIDE EDGE
S421	10	---	4'-3"	X			PARAPET AT JOINT REPLACEMENT - OUTSIDE EDGE
S422	16	---	4'-10"	X			PARAPET AT JOINT REPLACEMENT - OUTSIDE EDGE
S423	---	10	4'-3"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
S424	---	10	5'-0"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
S625	---	4	4'-3"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
S626	---	4	4'-3"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
S627	---	4	5'-4"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
TOTAL WEIGHT =							4390 LBS.

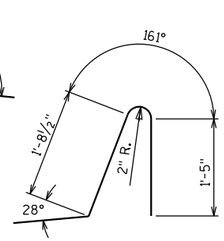
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR



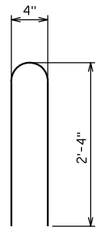
S401



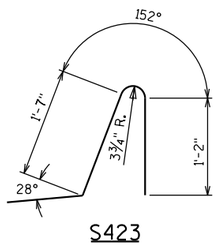
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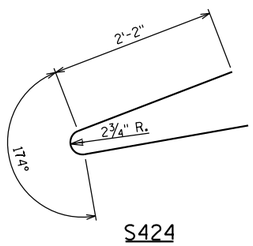
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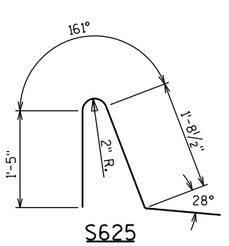
S422



S423



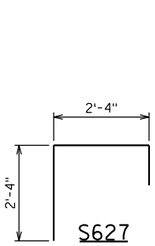
S424



S625



S626



S627

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY | PLANS CK'D.

REPLACEMENT JOINT DETAILS

SHEET 8 OF 10

634

8

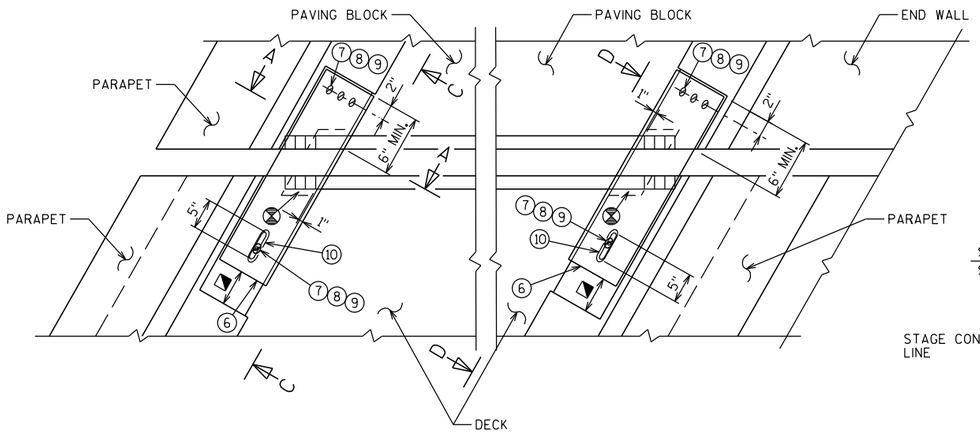
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FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-261\70\080108-jointdet.dgn PLOT DATE : 9/30/2012

PLOT SCALE : 8.00000 ' / in.

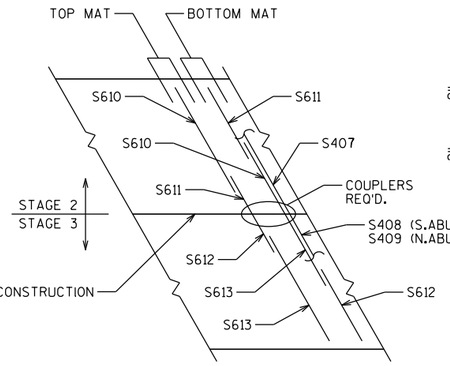
STATE PROJECT NUMBER

1228-26-70

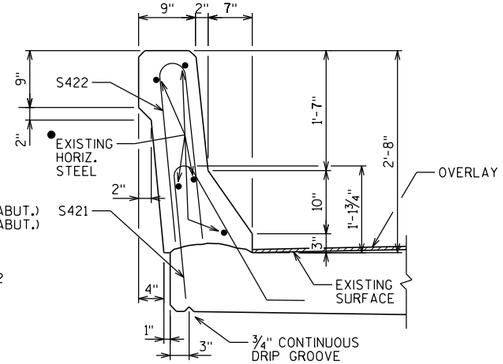


PLAN AT OUTSIDE EDGE

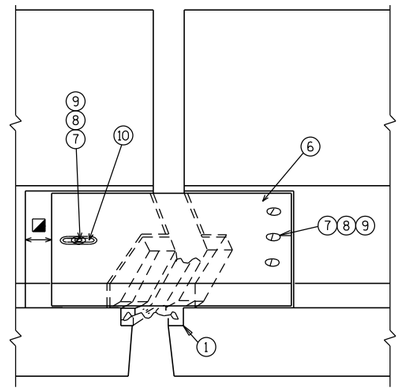
PLAN AT MEDIAN SIDE



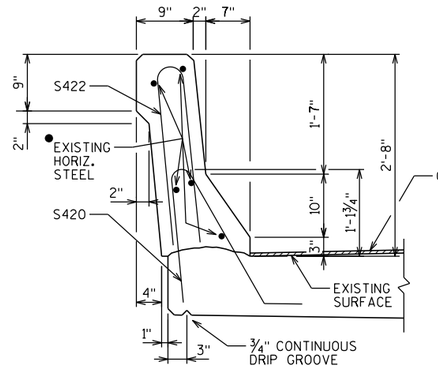
DECK REINFORCEMENT AT JOINT REPLACEMENT



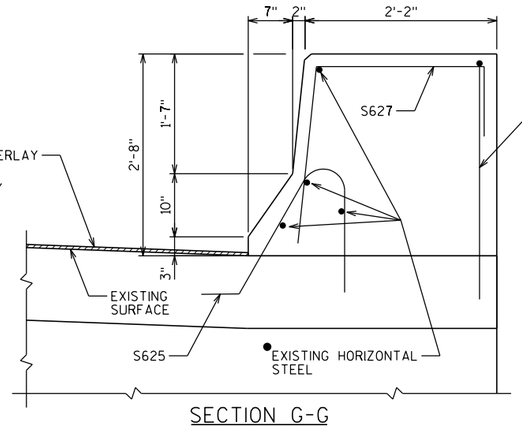
SECTION E-E
(COVER PLATE NOT SHOWN)



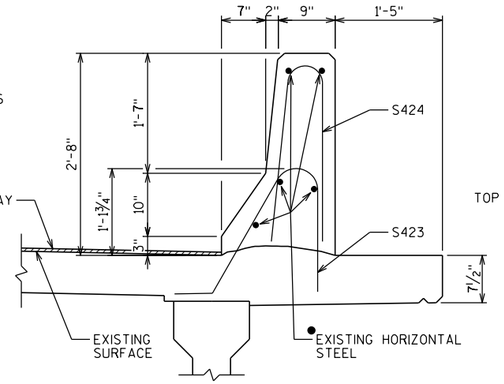
VIEW OF PARAPET PLATES FROM ROADWAY



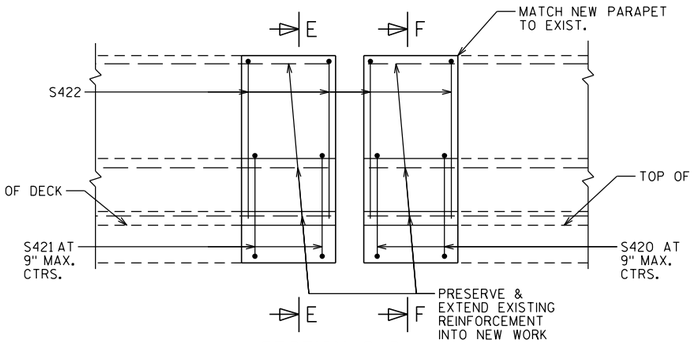
SECTION F-F
(COVER PLATE NOT SHOWN)



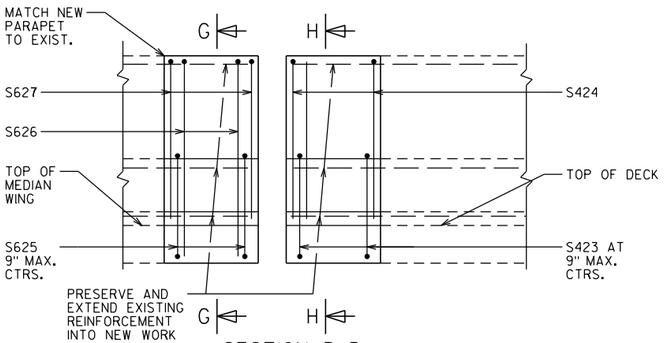
SECTION G-G
THRU MEDIAN END WALL
(COVER PLATE NOT SHOWN)



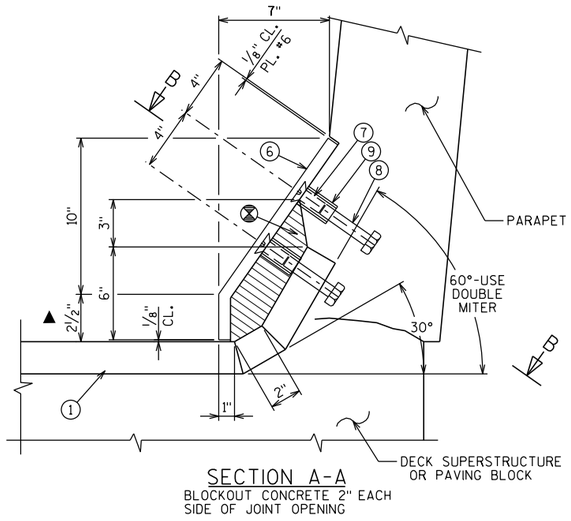
SECTION H-H
THRU MEDIAN PARAPET ON BRIDGE
(COVER PLATE NOT SHOWN)



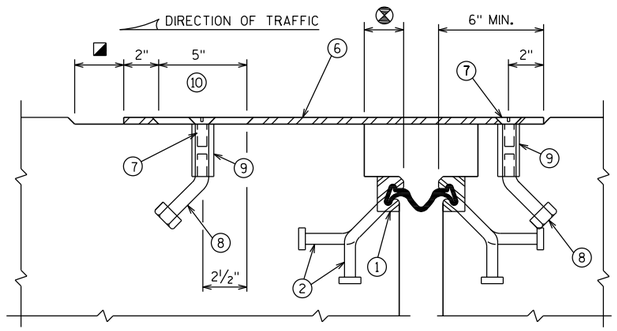
SECTION C-C
(OUTSIDE EDGE)



SECTION D-D
(MEDIAN SIDE)



SECTION A-A
BLOCKOUT CONCRETE 2" EACH SIDE OF JOINT OPENING



SECTION B-B

LEGEND
(SEE SHEET 8 FOR ADDITIONAL SYMBOLS)

- • CLEAN, STRAIGHTEN & INCORPORATE INTO NEW WORK.
- ⊗ BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING.
- ◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"
- ▲ 3" ORIGINAL HEIGHT. ASSUMES ½" ADDITIONAL DEPTH FROM OVERLAY. ADJUST BASED ON ACTUAL OVERLAY DEPTH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY | PLANS CK'D.

STRIP SEAL COVER PLATE DETAILS

SHEET 9 OF 10

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8

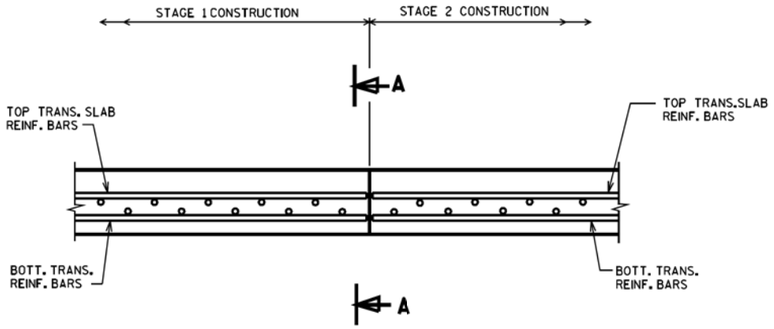
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FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-261\70\080109-stripseal.dgn PLOT DATE : 9/27/2012

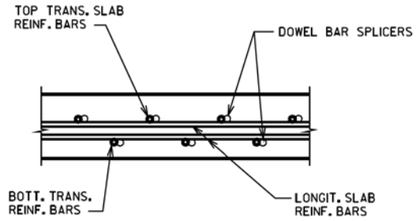
PLOT SCALE : 8.00000 ' / in.

STATE PROJECT NUMBER

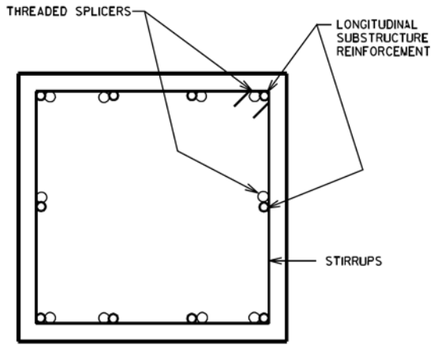
1228-26-70



SECTION THRU SLAB



SECTION A



SECTION B

DOWEL BAR SPLICER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

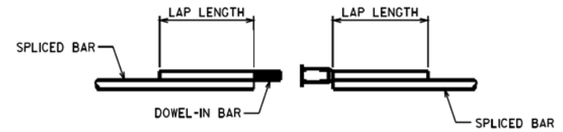
FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

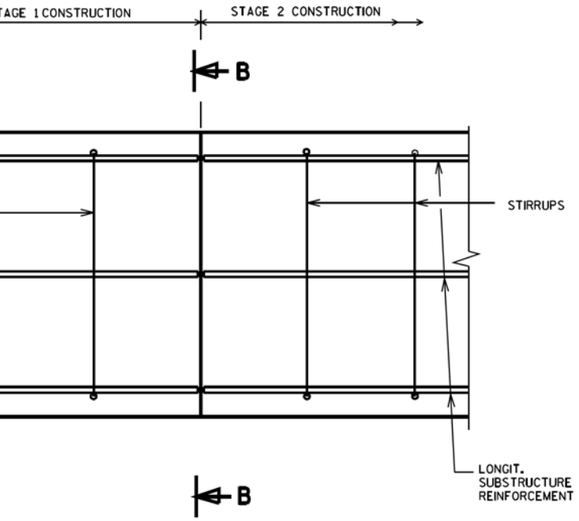


DOWEL BAR SPLICER

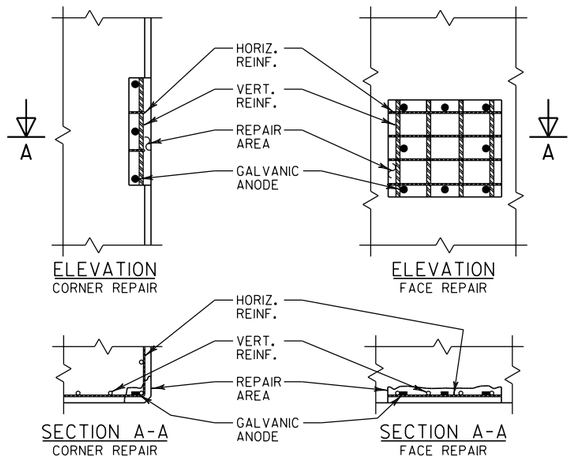


ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



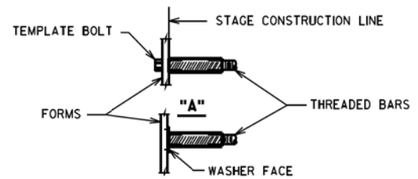
SECT. THRU SUBSTRUCTURE UNIT



CATHODIC PROTECTION DETAIL

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE/CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISIONS FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-261

DRAWN BY | PLANS CK'D.

COUPLER & CATHODIC PROTECTION DETAILS

SHEET 10 OF 10

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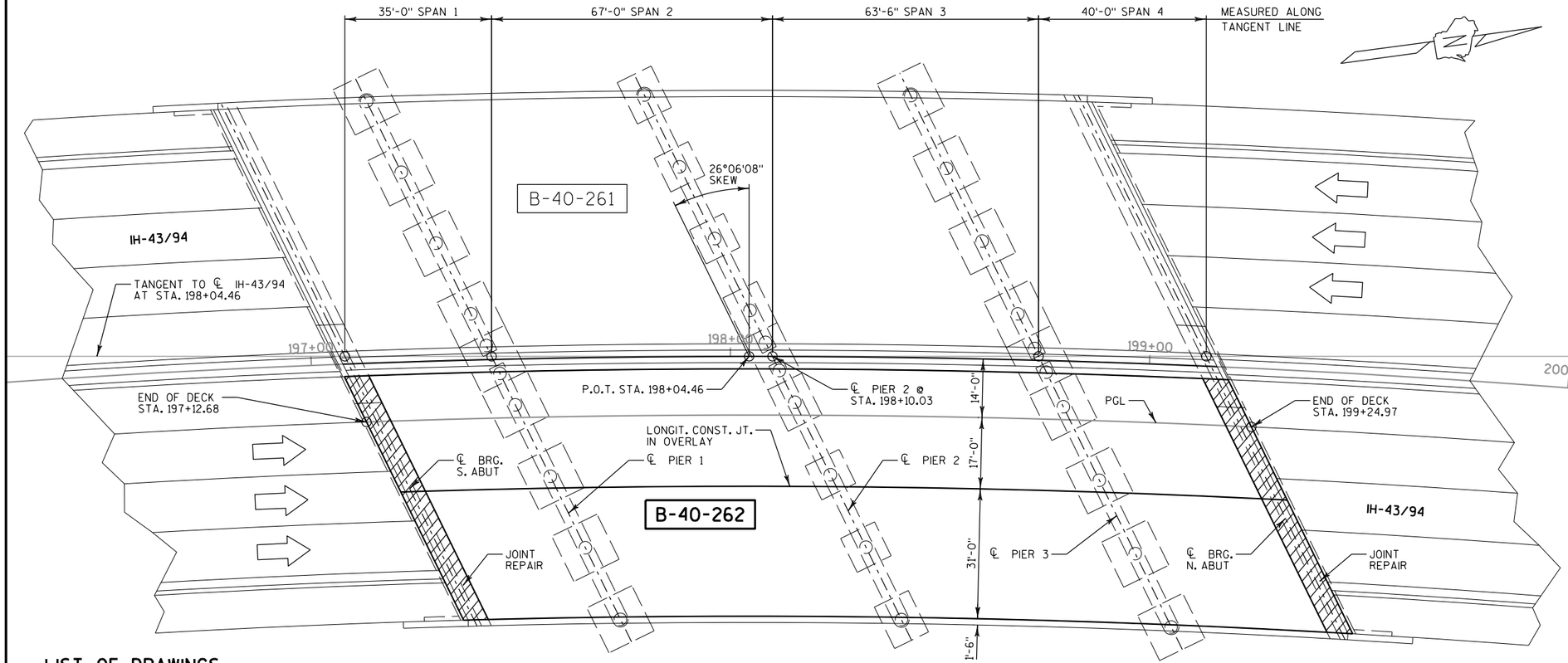
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8

FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-261\70\080110-couplerdet.dgn PLOT DATE : 9/27/2012

PLOT SCALE : 200.00000 ' / in.

STATE PROJECT NUMBER
1228-26-70



GENERAL NOTES

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, JOINT REPAIR, CONCRETE SURFACE REPAIR, SLOPE PAVING REPAIR, CLEANING AND PAINTING BEARINGS, REPLACEMENT OF THE ABUTMENT BEARINGS, AND EPOXY CRACK SEALING.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BIRDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOCITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," "CONCRETE SURFACE REPAIR," AND "EPOXY INJECTION CRACK REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE. SEE EXISTING NAME PLATE FOR YEAR OF ORIGINAL CONSTRUCTION FOR NEW NAME PLATE.

COAT ENTIRE CONCRETE SURFACE OF ALL PIERS WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER AND DIAPHRAM CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

LIST OF DRAWINGS

1. GENERAL PLAN
2. STAGING & BEARING DETAILS & QUANTITIES
3. SOUTH ABUTMENT
4. NORTH ABUTMENT
5. UNDERDECK INSPECTION RESULTS
6. INFRARED INSPECTION RESULTS
7. DECK REPAIR AREAS
8. REPLACEMENT JOINT DETAILS
9. STRIP SEAL COVER PLATE DETAILS
10. COUPLER DETAILS

EXISTING CURVE DATA

P.I. = 197+50.10
DELTA = 29° 21'36"
D = 2° 15'00"
T = 667.11'
L = 1304.89'
R = 2546.48'
P.C. = 190+82.99
P.T. = 203+87.88

PLAN B-40-262

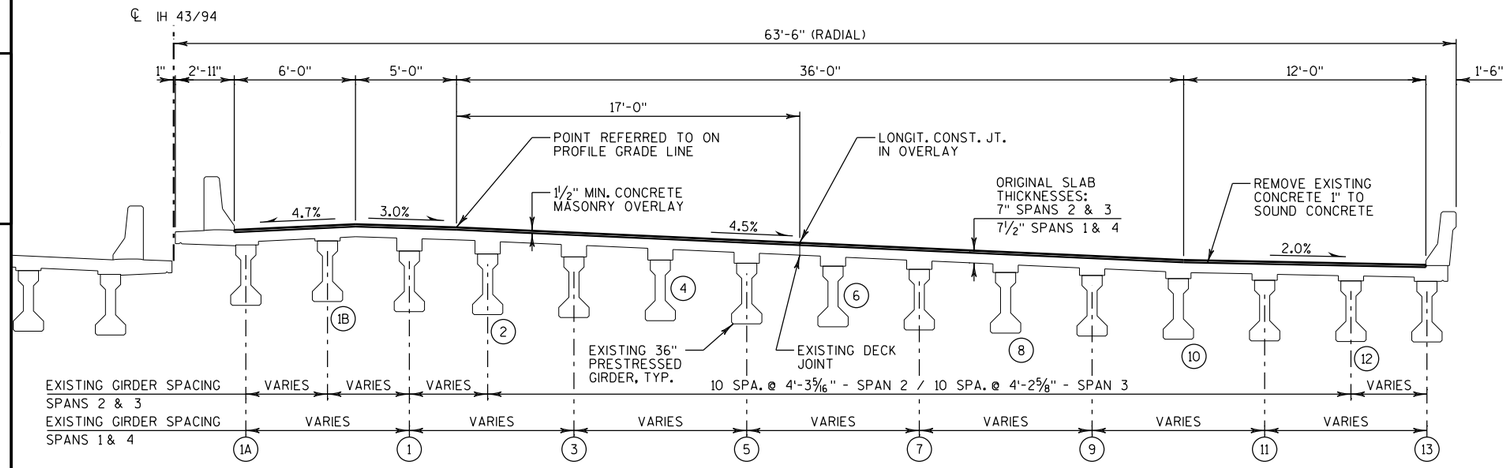
TRAFFIC DATA

IH-43/94
A.D.T. (2040) = 127,000
D.H.V. (2040) = 12,446
R.D.S. - = 60 MPH

DESIGN DATA

LIVE LOAD:
INVENTORY RATING ——— HS - 15
OPERATIONAL RATING ——— HS - 26
WISCONSIN STANDARD
PERMIT VEHICLE (Wis-SPV) ——— 160 KIPS

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SLAB f'c ——— 4,000 PSI
ALL OTHER f'c ——— 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT (GRADE 60) fy ——— 60,000 PSI



SECTION THRU ROADWAY

(LOOKING NORTH)

WISCONSIN
WILLIAM A. HOVE
E-33600
MADISON, WI
PROFESSIONAL ENGINEER

10-15-2012

SE REGION CONTACT:
AL GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
BILL HOVE (262) 354-3014

NO.	DATE	REVISION	BY

CORRE — Structural, Environmental, Municipal, Transportation
6510 GRAND TETON PLAZA, SUITE 334
MADISON, WI 53719
www.correengineering.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-262

IH 94 WB/IH 43 NB OVER HOLT AVENUE

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	MILWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
PJM	BH	BSS	PJM

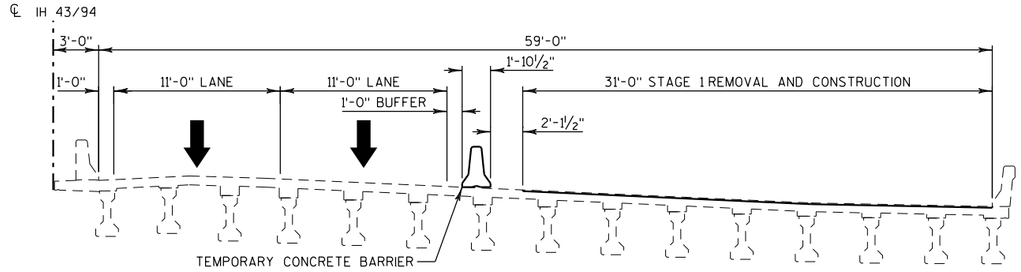
GENERAL PLAN

SHEET 1 OF 10

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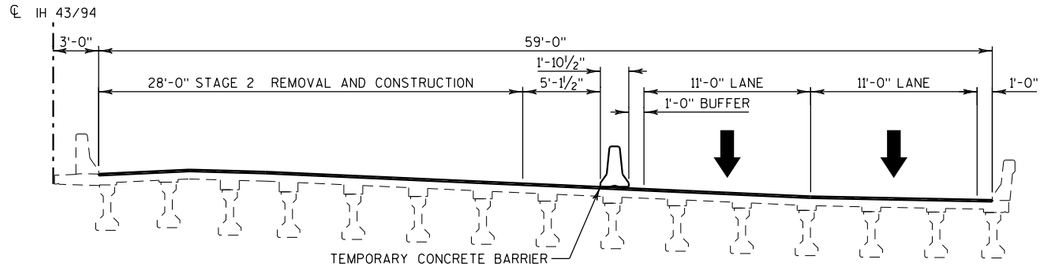
STATE PROJECT NUMBER

1228-26-70



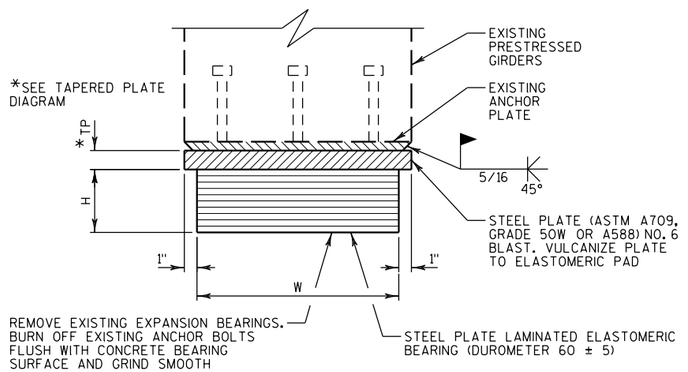
STAGE 1 CROSS SECTION THRU NB BRIDGE

(LOOKING NORTH)

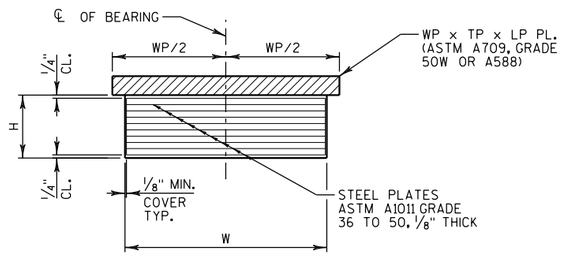


STAGE 2 CROSS SECTION THRU NB BRIDGE

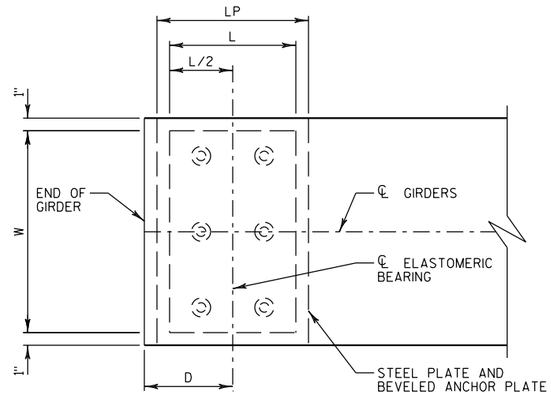
(LOOKING NORTH)



FRONT ELEVATION



SECTION THRU ELASTOMERIC BEARING



PLAN VIEW

NOTES:

EXISTING BEARING DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OF THE REPLACEMENT BEARINGS. REPLACEMENT BEARING HEIGHTS SHALL MATCH EXISTING.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "BEARING PADS ELASTOMERIC LAMINATED". REMOVAL OF THE EXISTING BEARINGS SHALL BE PAID AT THE UNIT BID PRICE FOR "REMOVING BEARINGS STRUCTURE B-40-262".

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

ON BEARING REPLACEMENTS, COMPRESSION LOAD AND ADHESION TESTS WILL BE WAIVED WHERE BEARINGS ARE DETAILED TO MEET HEIGHT REQUIREMENTS.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

GIRDERS	TOTAL BEARING HEIGHT H (INCHES)	TOTAL ELASTOMER THICKNESS (INCHES)	NO. OF PLATES REQ'D.	LONGITUDINAL LENGTH OF BEARING L (MIN.) (INCHES)	HORIZONTAL WIDTH OF BEARING W (INCHES)	LONGITUDINAL LENGTH OF PLATE LP (MIN.) (INCHES)	HORIZONTAL WIDTH OF PLATE WP (INCHES)	THICKNESS OF PLATE *TP (INCHES)	END OF GIRDER TO C/L BRG. D (INCHES)
1,3,5,7,9,11,13	2 ½	2	4	8	16	10	18	1 1/16	9
1A	2 ½	2	4	8	16	10	18	1 1/16	6

*SEE TAPERED PLATE DIAGRAM. NORTH ABUTMENT PLATES ARE NOT TAPERED.

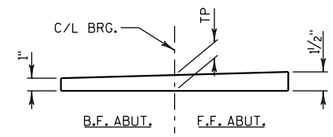
TOTAL ESTIMATED QUANTITIES

	ITEM NUMBER	ITEM DESCRIPTION	ITEM UNIT	SOUTH ABUTMENT	PIER #1	PIER #2	PIER #3	NORTH ABUTMENT	SUPERSTRUCTURE	QUANTITY
	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	40	----	----	----	25	----	65
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	----	----	----	----	----	1,370	1,370
	502.5005	MASONRY ANCHORS TYPE L No. 5 BARS	EACH	51	----	----	----	52	----	103
	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	660	----	----	----	680	4,410	5,750
	505.0904	BAR COUPLERS No. 4	EACH	----	----	----	----	----	4	4
	505.0906	BAR COUPLERS No. 6	EACH	----	----	----	----	----	18	18
	505.0907	BAR COUPLERS No. 7	EACH	----	----	----	----	----	12	12
	506.7050.S.02	REMOVING BEARINGS STRUCTURE B-40-262	EACH	8	----	----	----	8	----	16
	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	8	----	----	----	8	----	16
	509.0301	PREPARATION DECKS TYPE 1	SY	----	----	----	----	----	70	70
	509.0302	PREPARATION DECKS TYPE 2	SY	----	----	----	----	----	35	35
	509.0500	CLEANING DECKS	SY	----	----	----	----	----	1,370	1,370
◮	509.1000	JOINT REPAIR	SY	----	----	----	----	----	70	70
	509.1500	CONCRETE SURFACE REPAIR	SF	----	----	----	----	5	25	30
	509.2000	FULL-DEPTH DECK REPAIR	SY	----	----	----	----	----	1	1
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	----	----	----	----	----	98	98
*	509.9020.S	EPOXY CRACK SEALING	LF	----	----	----	----	----	50	50
	604.0400	SLOPE PAVING CONCRETE	SY	40	----	----	----	25	----	65
	SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	----	23	30	23	----	----	76
◪	SPV.0105.09	INSTALL EXPANSION DEVICE B-40-262	LS	----	----	----	----	----	----	1
	SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	----	12	11	12	----	----	35

ALL ITEMS ARE CATEGORY 180.

EXPANSION BEARING REPLACEMENT

(REQUIRED AT SOUTH & NORTH ABUTMENTS)



TAPERED PLATE DIAGRAM

(REQUIRED AT SOUTH ABUTMENT ONLY)

LEGEND

* EPOXY CRACK SEALING IN THE SUPERSTRUCTURE IS PROPOSED FOR THE CONCRETE DIAPHRAGMS & OTHER LOCATIONS AS DIRECTED BY THE ENGINEER.

◪ HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

◮ FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE "JOINT REPAIR" ITEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY BSS | PLANS CK'D. PJM

STAGING & BEARING DETAILS & QUANTITIES

SHEET 2 OF 10

638

8

8

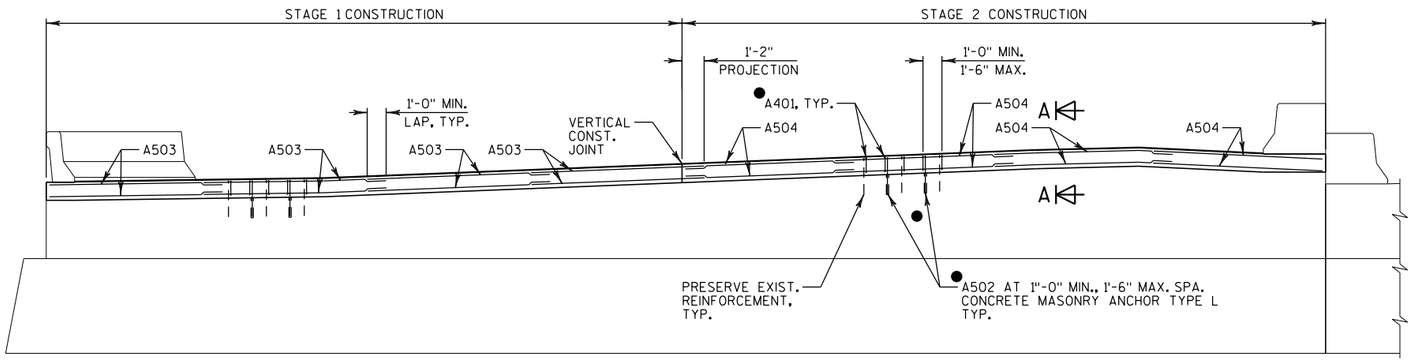
STATE PROJECT NUMBER

1228-26-70

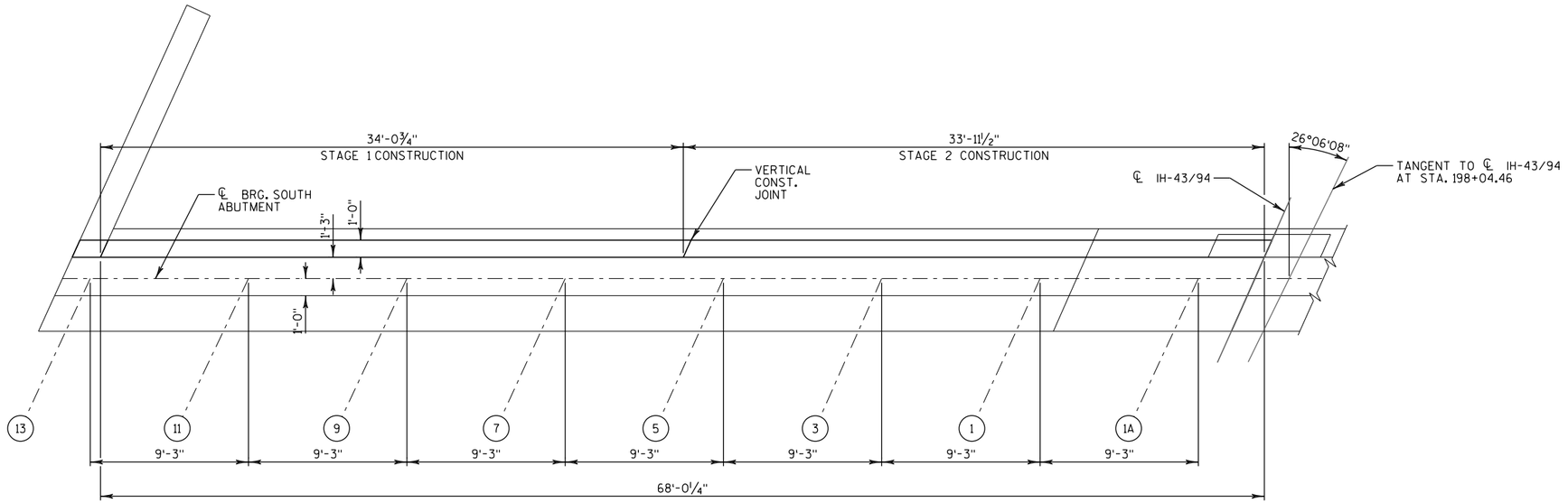
SOUTH ABUTMENT BILL OF BARS

MARK	# REQ'D. STAGE 1	# REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	COUPLER	LOCATION
A401	47	53	3'-2"	X			PAVING BLOCK - VERTICAL
A502	24	27	2'-3"	X			PAVING BLOCK - VERTICAL
A503	16	---	10'-0"				PAVING BLOCK - HORIZONTAL
A504	---	16	9'-3"				PAVING BLOCK - HORIZONTAL
TOTAL WEIGHT =							660 LBS.

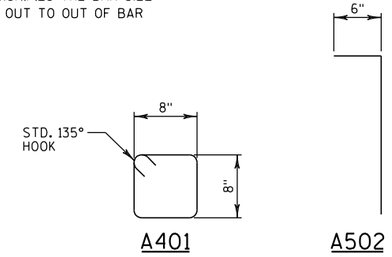
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR



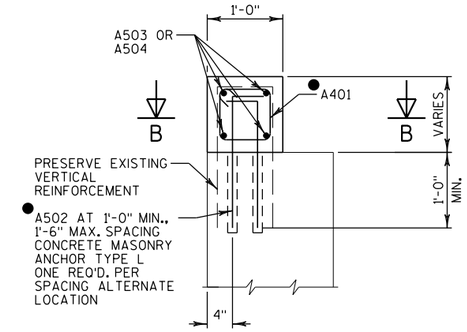
ELEVATION
(LOOKING SOUTH)



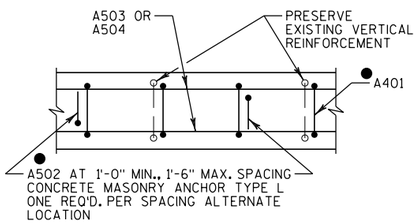
PLAN



A401 A502



SECTION A-A



SECTION B-B

LEGEND

- SPACING OF EXISTING VERTICAL REINFORCEMENT VARIES FROM 1'-0" TO 1'-6". PLACE A502 REINFORCEMENT MIDWAY BETWEEN EXISTING VERTICAL REINFORCEMENT. PLACE A401 AT EXISTING AND PROPOSED VERTICAL STEEL LOCATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY | PLANS CK'D.

SOUTH ABUTMENT

SHEET 3 OF 10

639

8

8

FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-262\70\080103-sabut.dgn

PLOT DATE : 9/27/2012

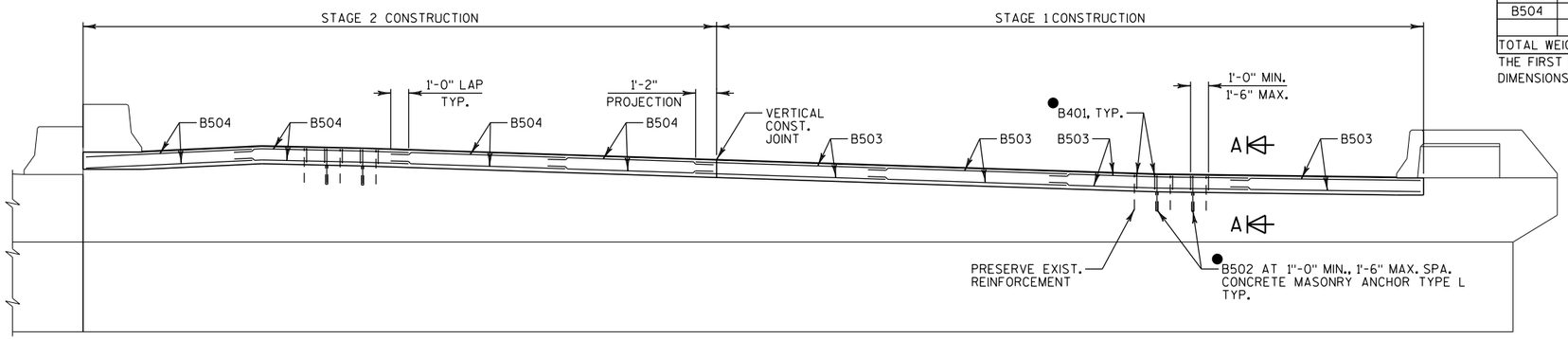
PLOT SCALE : 8.00000 ' / in.

STATE PROJECT NUMBER
1228-26-70

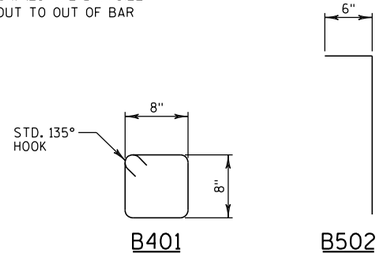
NORTH ABUTMENT BILL OF BARS

MARK	# REQ'D. STAGE 1	# REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	COUPLER	LOCATION
B401	48	55	3'-2"	X			PAVING BLOCK - VERTICAL
B502	24	28	2'-3"	X			PAVING BLOCK - VERTICAL
B503	16	---	10'-6"				PAVING BLOCK - HORIZONTAL
B504	---	16	9'-7"				PAVING BLOCK - HORIZONTAL
TOTAL WEIGHT =							680 LBS.

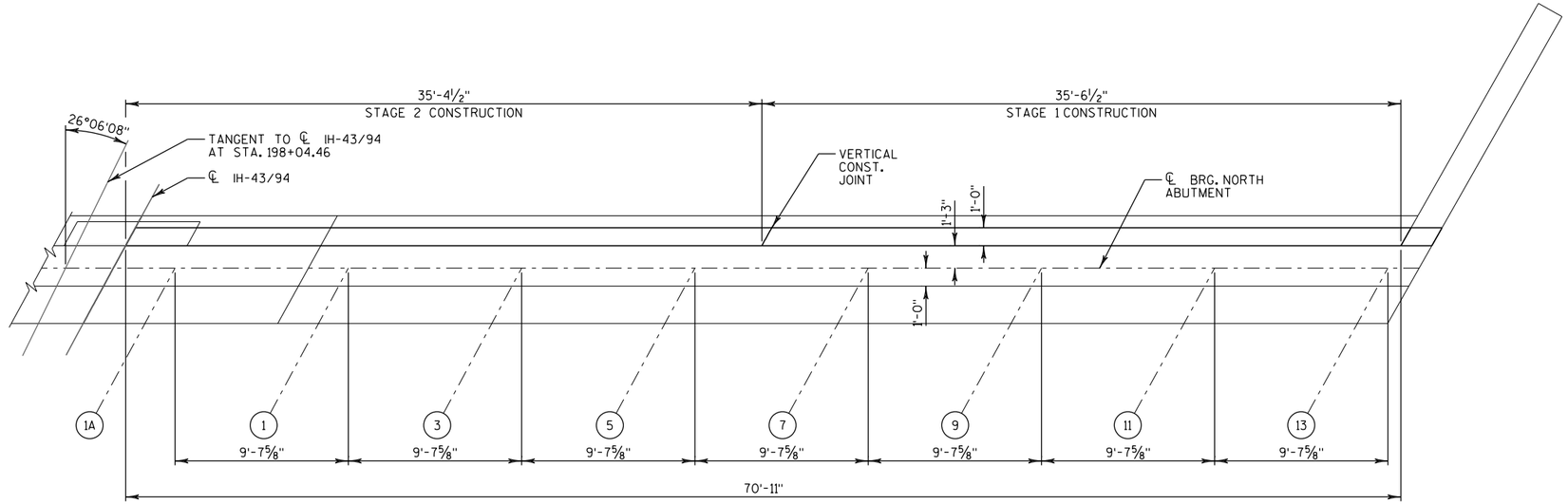
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR



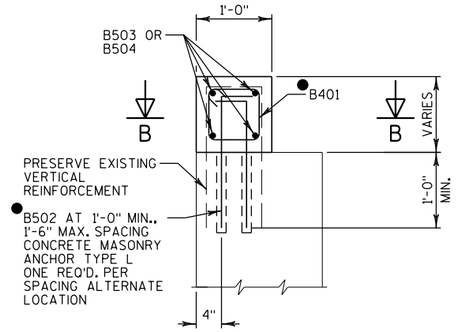
ELEVATION
(LOOKING NORTH)



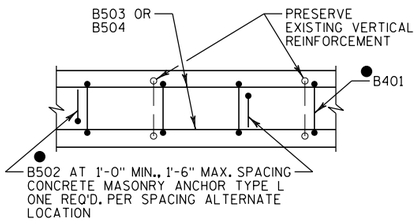
B401 B502



PLAN



SECTION A-A



SECTION B-B

LEGEND

- SPACING OF EXISTING VERTICAL REINFORCEMENT VARIES FROM 1'-0" TO 1'-6". PLACE B502 REINFORCEMENT MIDWAY BETWEEN EXISTING VERTICAL REINFORCEMENT. PLACE B401 AT EXISTING AND PROPOSED VERTICAL STEEL LOCATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY | PLANS CK'D.

NORTH ABUTMENT

SHEET 4 OF 10

640

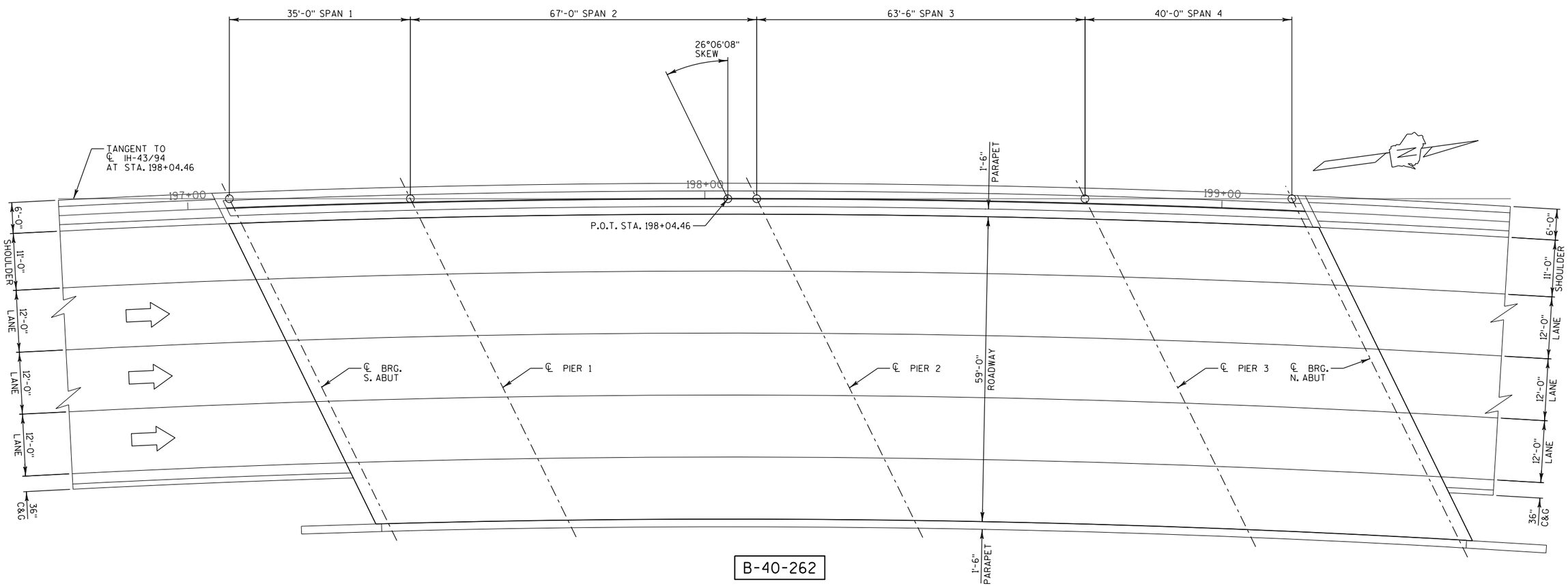
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8

FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-262\70\080104-nabut.dgn PLOT DATE : 9/27/2012 PLOT SCALE : 8.00000 ' / in.

FOR REFERENCE ONLY

STATE PROJECT NUMBER
1228-26-70



B-40-262

SCALE, FEET 0 5 10

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-262		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	12,988	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	0	0	

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION PERFORMED BY CORRE, INC.
INSPECTION DATE: 3/21/2012

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY | PLANS CK'D.

UNDERDECK INSPECTION RESULTS

SHEET 5 OF 10

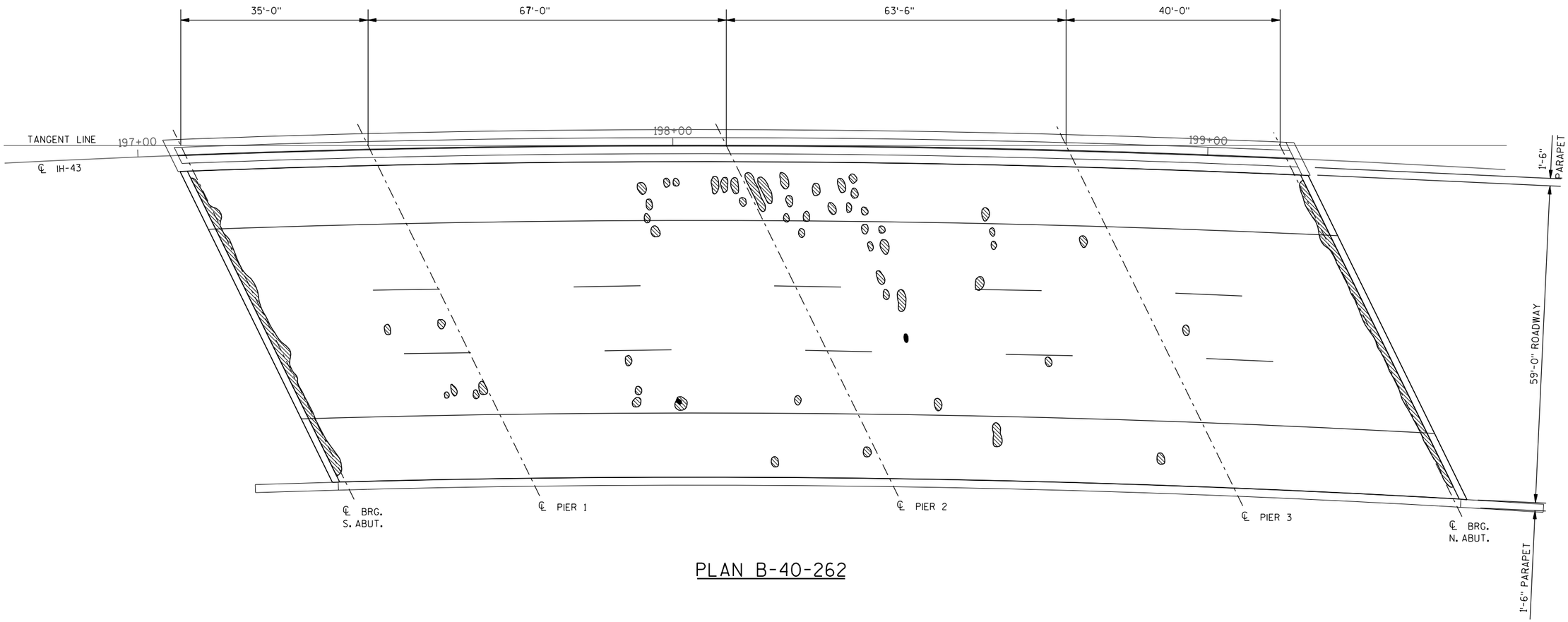
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PLOT SCALE : 20.00000 ' / in.

STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY



PLAN B-40-262

DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-262		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
* TOTAL AREA	ft.^{2}	12360		SPALL
SHADE/DEBRIS	ft.^{2}	0		DEBOND
DELAMINATION	ft.^{2}	297	2.4	ASPHALT PATCH
SPALL	ft.^{2}	2	<0.1	CONCRETE PATCH
DEBOND	ft.^{2}	N/A	N/A	SHADE/DEBRIS
ASPHALT PATCH	ft.^{2}	0	0	
CONCRETE PATCH	ft.^{2}	0	0	

*TOTAL ROADWAY AREA (BETWEEN PARAPETS)

SCALE, FEET 0 5 10

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY | PLANS CK'D.

INFRARED INSPECTION RESULTS

SHEET 6 OF 10

642

8

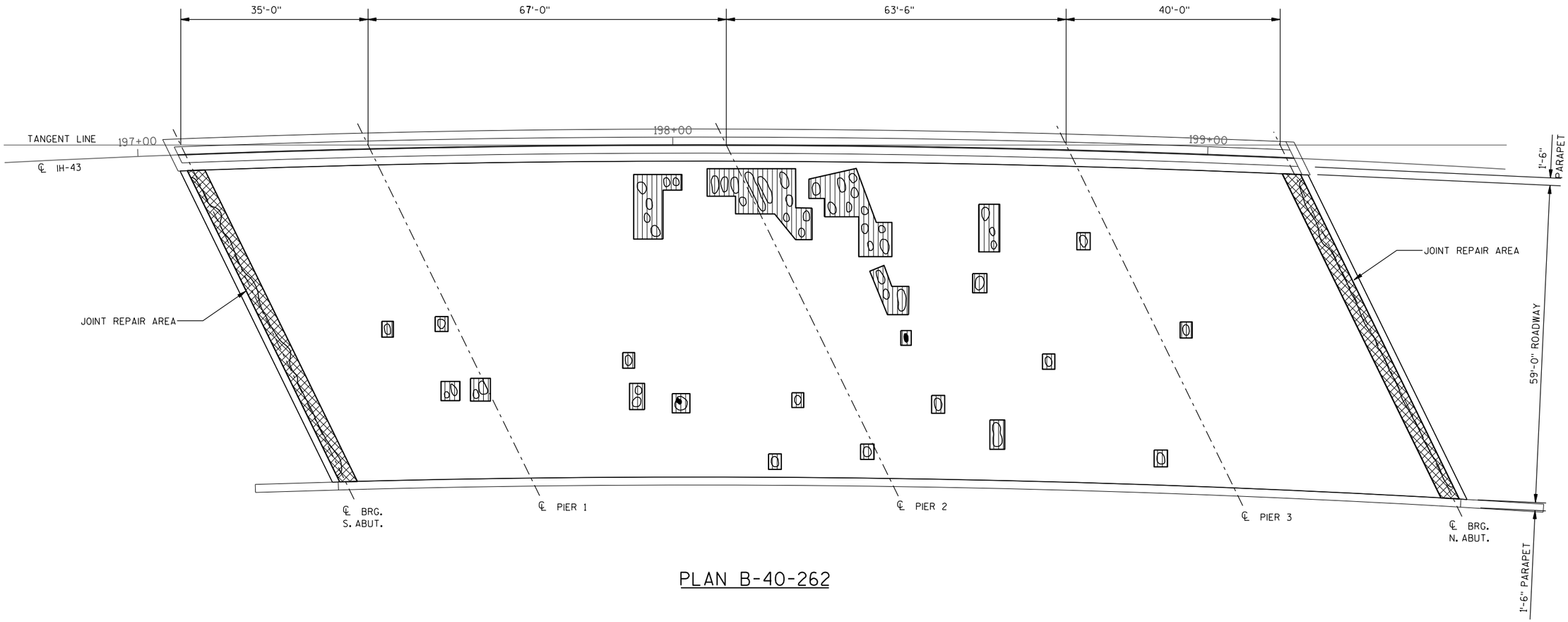
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FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-262\70\080106-infrared_results.dgnPLOT DATE : 9/27/2012

PLOT SCALE : 20.00000 ' / in.

FOR REFERENCE ONLY

STATE PROJECT NUMBER
1228-26-70



PLAN B-40-262

PROPOSED REHAB AREAS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-262	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$yd.^2$	1443	
SHADE/DEBRIS	$yd.^2$	0	
● PREPARATION, DECKS, TYPE 1	$yd.^2$	64	4.4
● PREPARATION, DECKS, TYPE 2 ⚹	$yd.^2$	32	2.2
FULL DEPTH DECK REPAIR ⚹	$yd.^2$	1	<0.1

LEGEND: DECK PREPARATION AREA; SHADE/DEBRIS; DELAMINATION; SPALL; DEBOND; ASPHALT PATCH; CONCRETE PATCH

⚹ ESTIMATED

● QUANTITIES SHOWN ON SHEET 2 INCLUDE A 10% INCREASE TO ACCOUNT FOR ADDITIONAL DETERIORATION BETWEEN THE TIME OF INSPECTION AND THE TIME OF CONSTRUCTION.

NOTES:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

SCALE, FEET 0 5 10

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATES: 4/27/12 & 5/8/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY | PLANS CK'D.

DECK REPAIR AREAS

SHEET 7 OF 10

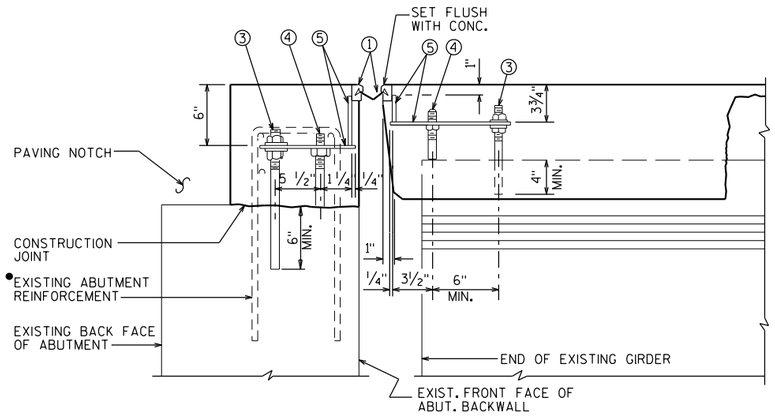
643

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PLOT SCALE : 20.00000 ' / in.

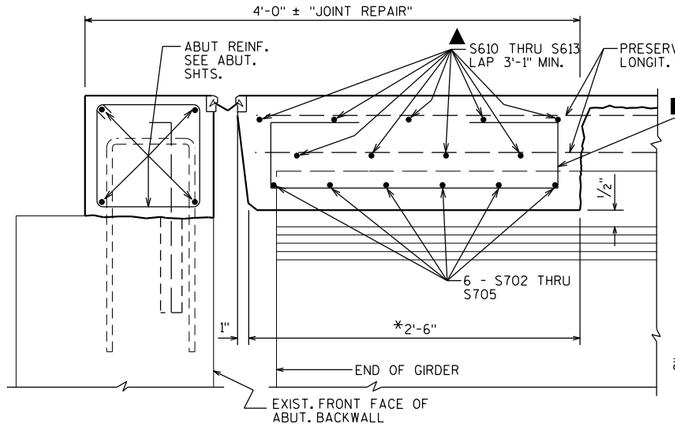
STATE PROJECT NUMBER

1228-26-70



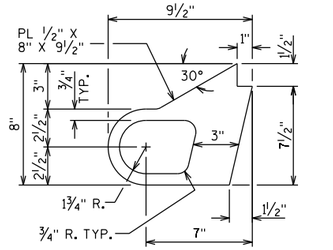
SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

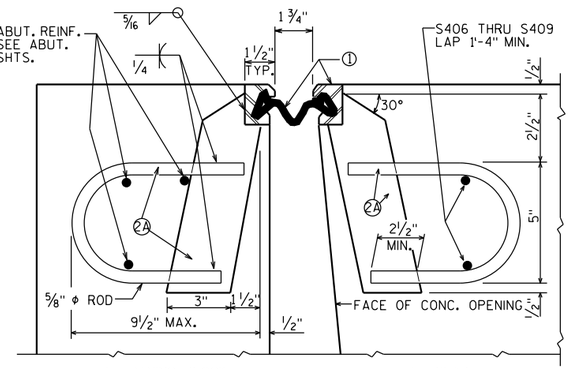


SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE



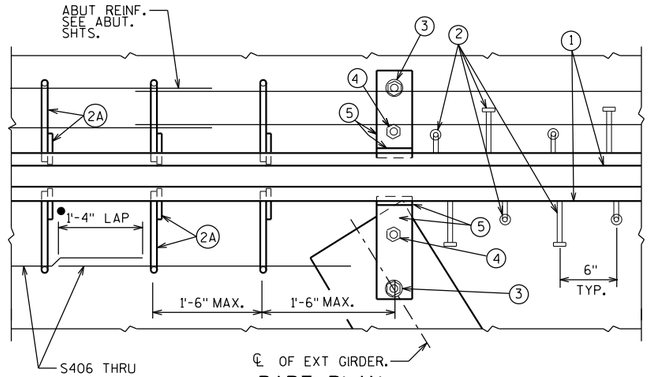
ALTERNATE STRIP SEAL ANCHOR



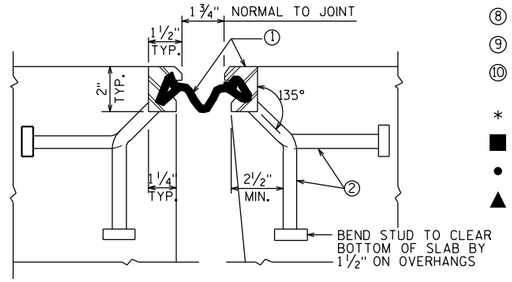
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED



PART PLAN



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS, MEDIANS & SIDEWALKS

LEGEND

① NEOPRENE STRIP SEAL (4-INCH) & STEEL EXTRUSIONS. SET JOINT OPENING AT 1 3/4".

② STUDS 5/8" ϕ x 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A 1/2" THICK ANCHOR PLATE WITH 5/8" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PL. TO #1 AT 1'-6" CTRS. BETWEEN GIRDERS.

③ 3/4" ϕ THREADED ROD WITH 2 NUTS AND WASHERS. FOR PRESTRESSED GIRDERS GROUT THEADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. FOR STEEL GIRDERS WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ 3/4" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO #5.

⑤ FABRICATE SUPPORT FROM 3" x 1/2" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" ϕ HOLE FOR #3 & 1" ϕ HOLE FOR #4.

⑥ GALVANIZED PLATE 3/8" x 1'-2 1/2" x (2'-0" LONG FOR SKEWS TO 45° & 3'-0" LONG FOR SKEWS > 45°) WITH HOLES FOR #7. BEND AS SHOWN.

⑦ 3/4" ϕ x 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.

⑧ 3/4" ϕ x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ 3/4" ϕ x 2 1/4" GALVANIZED THREADED COUPLING.

⑩ 1" x 5" SLOTTED CSK. HOLE FOR #7. SLOT PARALLEL TO DIRECTION OF MOVEMENT.

* DIMENSION IS NORMAL TO C/L OF SUBSTRUCTURE UNITS.

■ PLACE STEEL PARALLEL TO GIRDERS.

● LAP FOR S406 BARS ONLY.

▲ SEE SHEET 9 FOR LAYOUT.

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

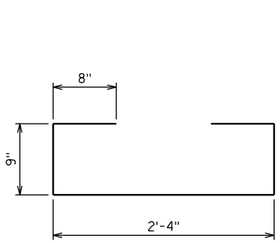
ANCHOR SYSTEM #8 & NO. #9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

INSTALLATION OF THE STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE, WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-262."

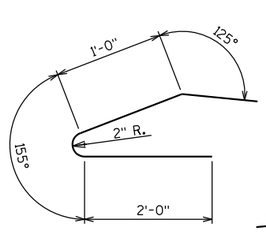
SUPERSTRUCTURE BILL OF BARS

MARK	# REQ'D. STAGE 1	# REQ'D. STAGE 2	LENGTH	BENT	BAR SERIES	COUPLER	LOCATION
S401	74	66	4'-10"	X			ABUTMENT DIAPHRAGM
S702	36	36	8'-0"				ABUTMENT DIAPHRAGM
S703	---	12	2'-3"			X	ABUTMENT DIAPHRAGM ADJACENT TO CONST. JOINT
S704	6	---	5'-7"			X	SOUTH ABUTMENT DIAPHRAGM ADJACENT TO CONST. JOINT
S705	6	---	5'-10"			X	NORTH ABUTMENT DIAPHRAGM ADJACENT TO CONST. JOINT
S406	24	24	5'-6"				EXPANSION JOINT
S407	---	4	3'-0"			X	EXPANSION JOINT ADJACENT TO CONST. JOINT
S408	2	---	6'-3"			X	SOUTH ABUTMENT EXP. JOINT ADJACENT TO CONST. JOINT
S409	2	---	6'-7"			X	NORTH ABUTMENT EXP. JOINT ADJACENT TO CONST. JOINT
S610	18	---	30'-0"			X	DECK AT JOINT REPLACEMENT
S611	18	---	10'-6"			X	DECK AT JOINT REPLACEMENT
S612	---	18	25'-0"			X	DECK AT JOINT REPLACEMENT
S613	---	18	13'-6"			X	DECK AT JOINT REPLACEMENT
S420	6	---	4'-7"	X			PARAPET AT JOINT REPLACEMENT - OUTSIDE EDGE
S421	10	---	4'-3"	X			PARAPET AT JOINT REPLACEMENT - OUTSIDE EDGE
S422	16	---	4'-10"	X			PARAPET AT JOINT REPLACEMENT - OUTSIDE EDGE
S423	---	10	4'-3"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
S424	---	10	5'-0"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
S625	---	4	4'-3"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
S626	---	4	4'-3"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
S627	---	4	5'-4"	X			PARAPET AT JOINT REPLACEMENT - MEDIAN SIDE
TOTAL WEIGHT =							4410 LBS.

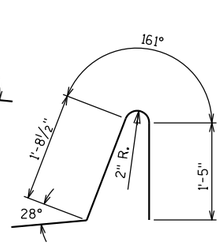
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR



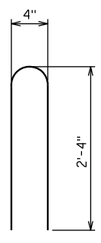
S401



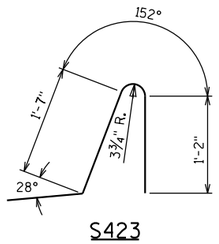
S420



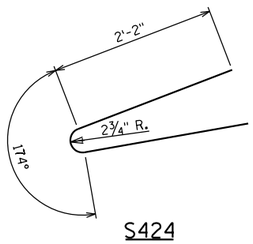
S421



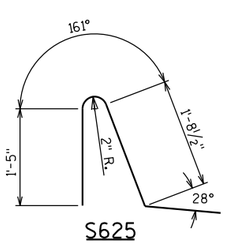
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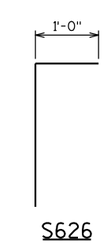
S423



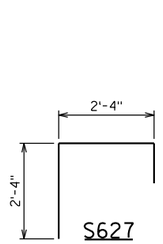
S424



S625



S626



S627

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY | PLANS CK'D.

REPLACEMENT JOINT DETAILS

SHEET 8 OF 10

644

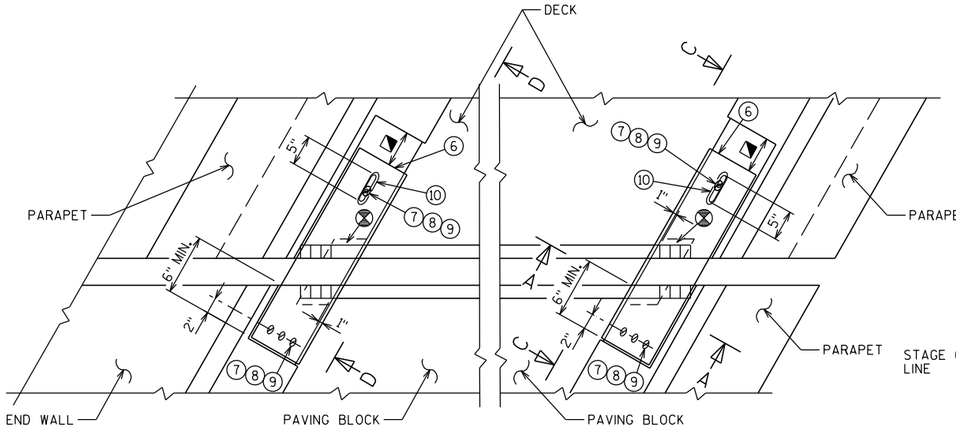
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FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-262\70\080108-jointdet.dgn PLOT DATE : 9/30/2012 PLOT SCALE : 8.00000 ' / in.

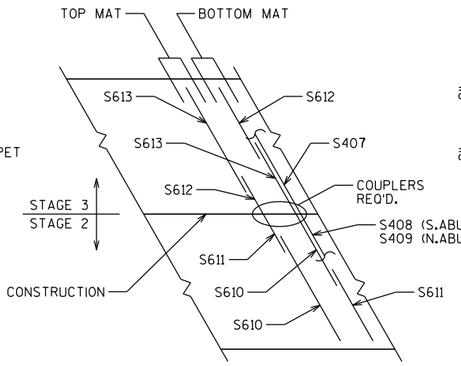
STATE PROJECT NUMBER

1228-26-70

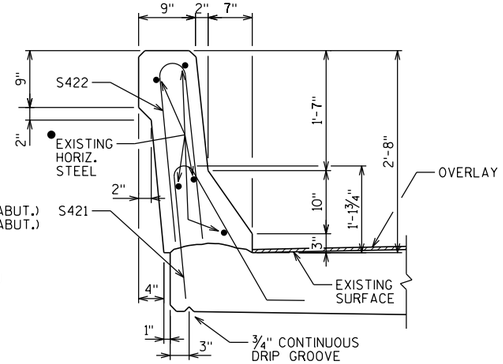


PLAN AT MEDIAN SIDE

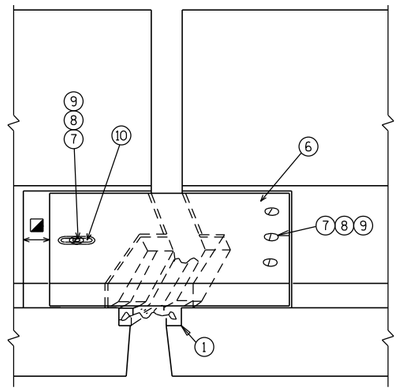
PLAN AT OUTSIDE EDGE



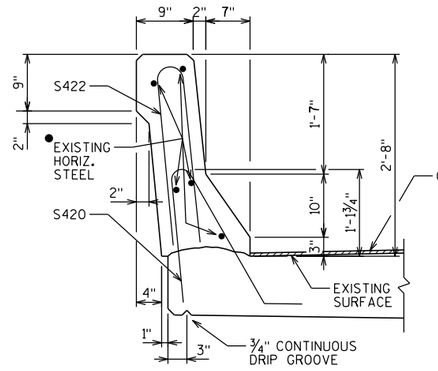
DECK REINFORCEMENT AT JOINT REPLACEMENT



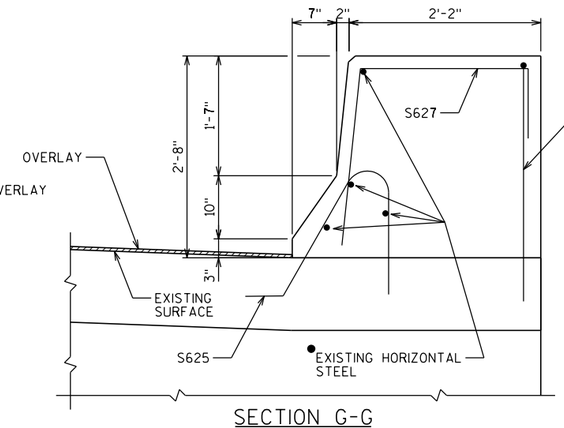
SECTION E-E
(COVER PLATE NOT SHOWN)



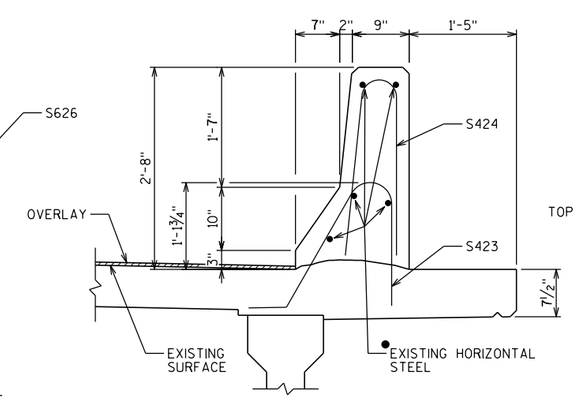
VIEW OF PARAPET PLATES FROM ROADWAY



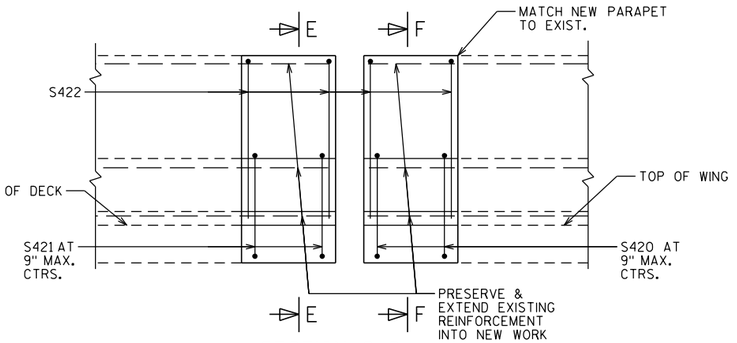
SECTION F-F
(COVER PLATE NOT SHOWN)



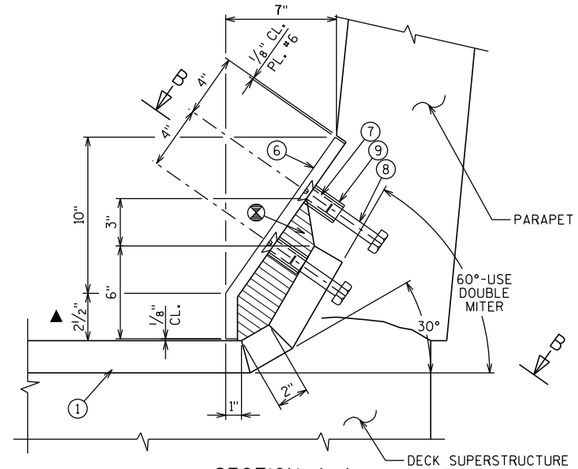
SECTION G-G
THRU MEDIAN END WALL
(COVER PLATE NOT SHOWN)



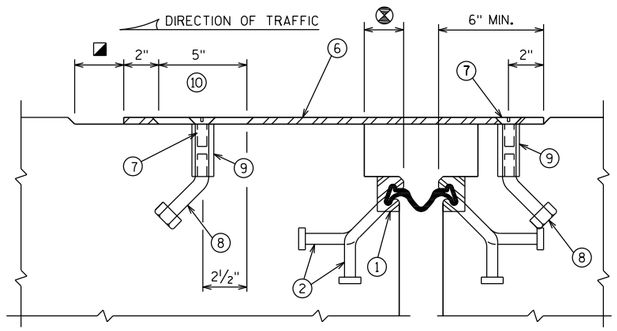
SECTION H-H
THRU MEDIAN PARAPET ON BRIDGE
(COVER PLATE NOT SHOWN)



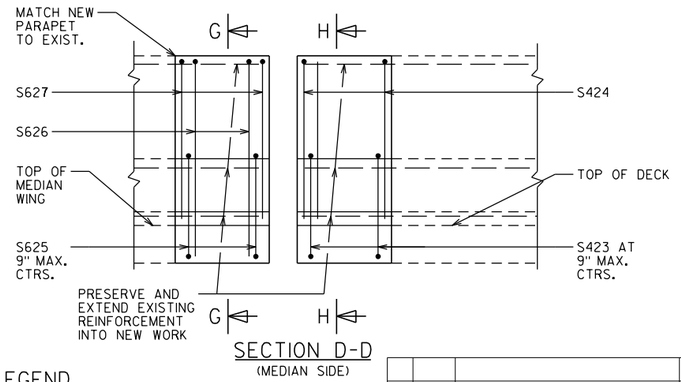
SECTION C-C
(OUTSIDE EDGE)



SECTION A-A
BLOCKOUT CONCRETE 2" EACH SIDE OF JOINT OPENING



SECTION B-B



SECTION D-D
(MEDIAN SIDE)

LEGEND
(SEE SHEET 8 FOR ADDITIONAL SYMBOLS)

- ● CLEAN, STRAIGHTEN & INCORPORATE INTO NEW WORK.
- ⊗ BLOCK OUT CONCRETE 2" EACH SIDE FOR JOINT OPENING.
- ◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"
- ▲ 3" ORIGINAL HEIGHT. ASSUMES ½" ADDITIONAL DEPTH FROM OVERLAY. ADJUST BASED ON ACTUAL OVERLAY DEPTH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY | PLANS CK'D.

STRIP SEAL COVER PLATE DETAILS

SHEET 9 OF 10

645

8

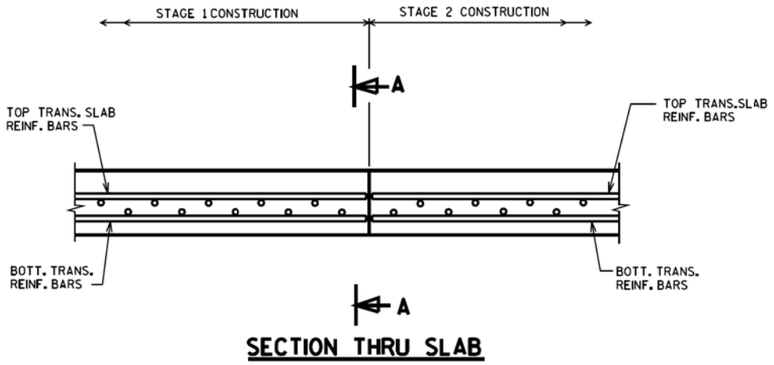
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FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-262\70\080109-stripseal.dgn PLOT DATE : 9/27/2012

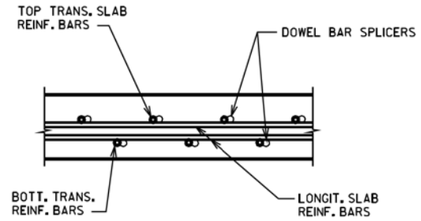
PLOT SCALE : 8.00000 ' / in.

STATE PROJECT NUMBER

1228-26-70



SECTION THRU SLAB



SECTION A

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

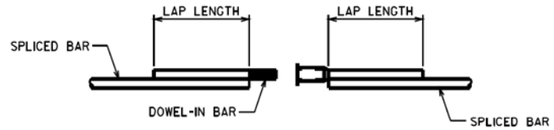
① MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

DOWEL BAR SPLICER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

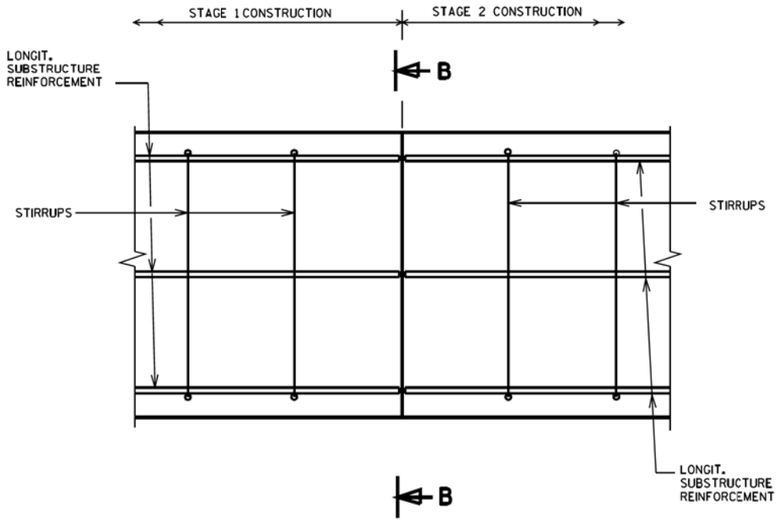
BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.



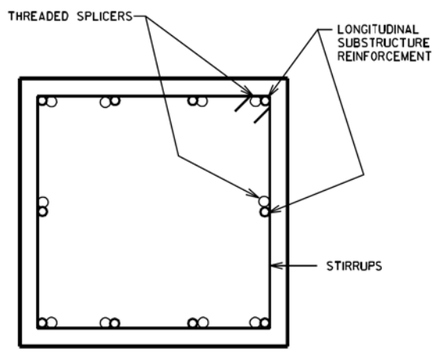
DOWEL BAR SPLICER

ONE PIECE THREADED SPLICER

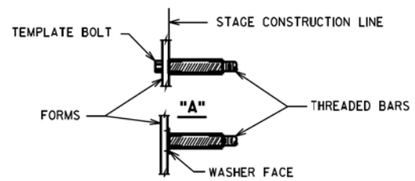
SPLICER ALTERNATIVES



SECT. THRU SUBSTRUCTURE UNIT



SECTION B



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-262

DRAWN BY | PLANS CK'D.

COUPLER DETAILS

SHEET 10 OF 10

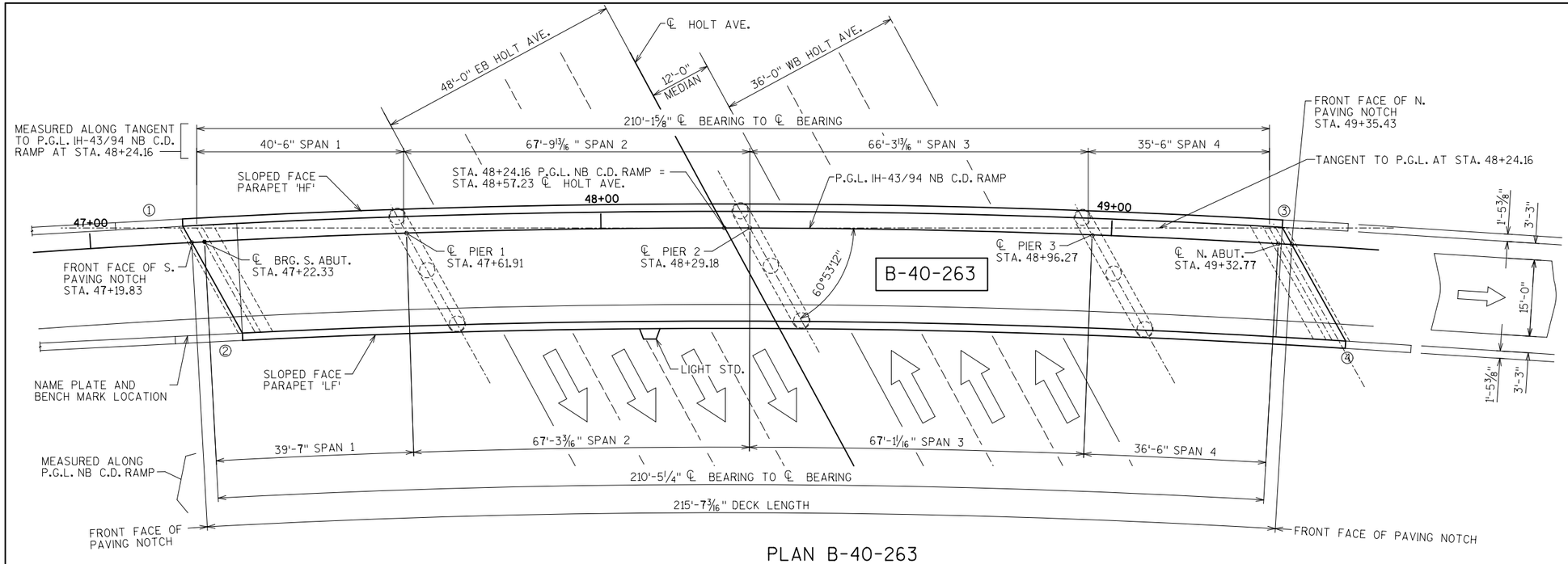
646

8

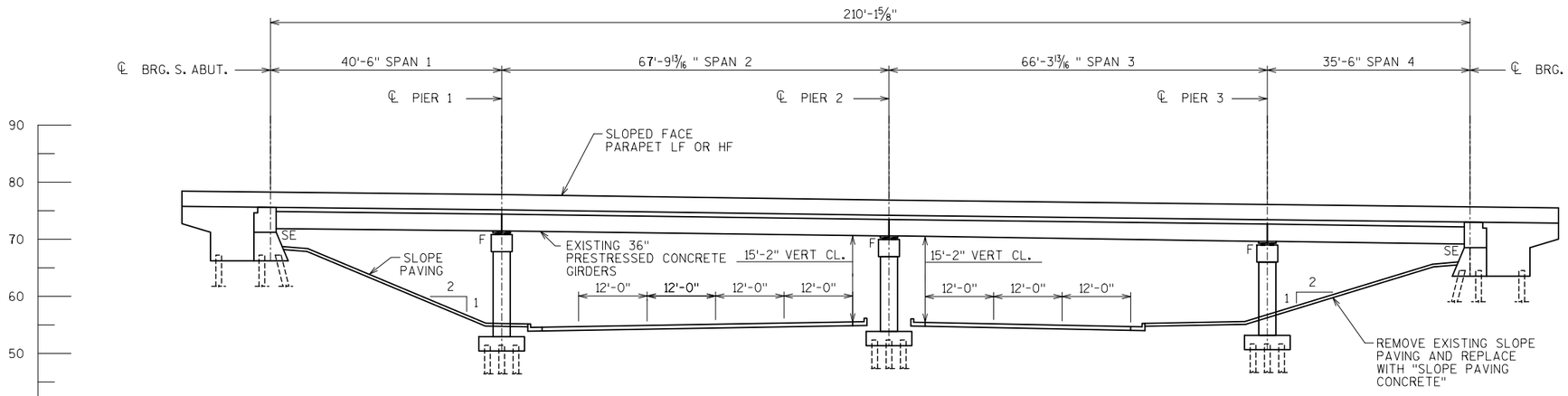
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FILE NAME : C:\Users\CORRE INC\Documents\DGN\1228-26-00 I-43 Milwaukee County\CAD\Plans\B-40-262\70\080110-couplerdet.dgn PLOT DATE : 9/27/2012

PLOT SCALE : 200.00000 ' / in.



PLAN B-40-263



ELEVATION

(NORMAL TO TANGENT TO P.G.L. NB IH-43/94 NB C.D. RAMP AT STA 48+24.16)
(LOOKING WEST)

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. TYPICAL SECTION AND QUANTITIES
3. SUPERSTRUCTURE
4. ABUTMENT DETAILS
5. SUPERSTRUCTURE DETAILS 1
6. SUPERSTRUCTURE DETAILS 2
7. STEEL DIAPHRAGM
8. SLOPED FACE PARAPET HF WINGS 1&3
9. SLOPED FACE PARAPET LF WINGS 2&4
10. PARAPET "LF" ELECTRICAL WORK
11. LIGHTING REMOVAL PLAN
12. LIGHTING INSTALLATION PLAN
13. CATHODIC PROTECTION DETAILS

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MICHAEL DELEMONT (414) 831-4157

STATE PROJECT NUMBER

1228-26-70

STRUCTURAL DESIGN PREPARED BY:
(SHEETS 1 - 10, 13)

URS

WISCONSIN MICHAEL A. DELEMONT E-42155 CRYSTAL LAKE, IL PROFESSIONAL ENGINEER

ELECTIRCAL DESIGN PREPARED BY:
(SHEETS 11, 12)

URS

WISCONSIN MOHAMMED A. REHMAN E-37074 ORLAND HILLS, IL PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY

URS
6737 West Washington Street
Suite 2265
Milwaukee, WI 53214
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-263

IH-43/94 NB. C.D. RAMP OVER HOLT AVE.

COUNTY	TOWN/CITY/~~VILLAGE~~
MILWAUKEE	MILWAUKEE

DESIGN SPEC.
AASHTO LRFD DESIGN SPEC. 5th EDITION

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JDB	MAD	JDB	MAD

GENERAL PLAN AND ELEVATION

SHEET 1 OF 13
647

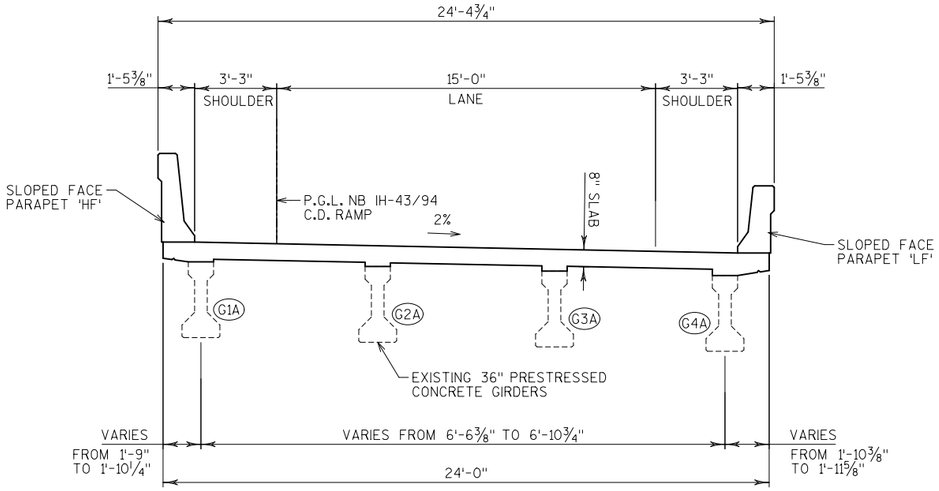
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DATE: 10/1/2012
I.D. justin_bohler

8

8

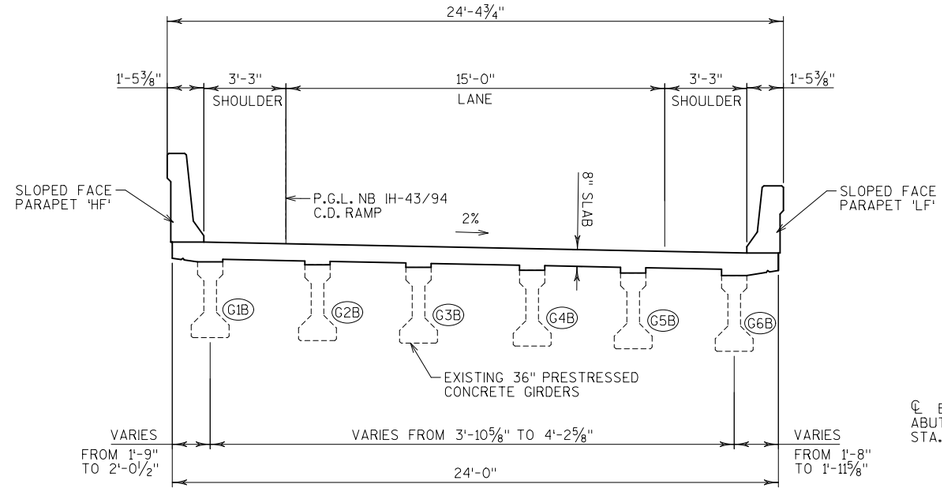
STATE PROJECT NUMBER

1228-26-70



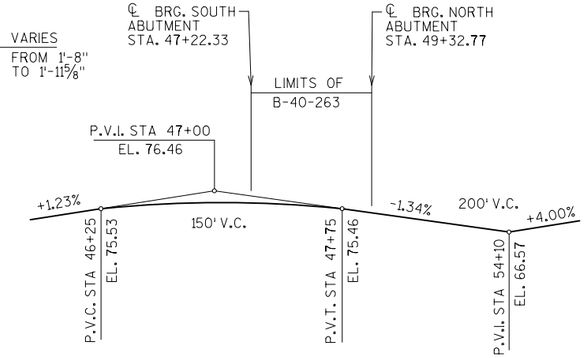
TYPICAL SECTION

(SPANS 1 AND 4 - LOOKING NORTH)



TYPICAL SECTION

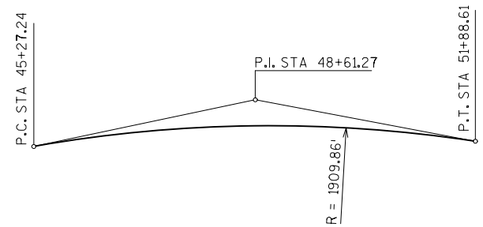
(SPANS 2 AND 3 - LOOKING NORTH)



PROFILE GRADE LINE-
N.B. CD RAMP OVER HOLT AVE

CURVE DATA - NB C.D. RAMP

PC = STA 45+27.24
PI = STA 48+61.27
PT = STA 51+88.61
DELTA = 19° 50' 28"
D = 3° 0' 0"
L = 661.37'
T = 334.03
R = 1909.86'
E = 28.99'



HORIZONTAL ALIGNMENT-
N.B. CD RAMP OVER HOLT AVE

TRAFFIC DATA

I.H. 43/94
A.D.T. (2008) - 5,100
R.D.S. 30 MPH

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-17
OPERATIONAL RATING	HS-28
MAXIMUM STANDARD PERMIT VEHICLE LOAD	210 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	F'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	F'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	Fy = 60,000 P.S.I.

GENERAL NOTES

THE PROPOSED WORK INCLUDES CONCRETE DECK REPLACEMENT, SUBSTRUCTURE CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SEMI-EXPANSION ABUTMENT CONVERSION.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS AND ELEVATIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

ELEVATIONS SHOWN ARE BASED ON MILWAUKEE CITY DATUM. TO CONVERT FROM MILWAUKEE CITY DATUM TO NGVD 29, ADD 580.603. TO CONVERT FROM NGVD 29 TO NAVD 88, ADD 0.31. CONVERSIONS ARE FOR REFERENCE ONLY, CONTRACTOR SHALL VERIFY.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE EXCEPT AS NOTED OTHERWISE.

COAT ENTIRE CONCRETE SURFACE OF ALL PIERS WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

ALL WORK ASSOCIATED WITH ROUGHENING EXISTING CONCRETE SURFACE IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".

CONCRETE SURFACE REPAIR/CATHODIC PROTECTION QUANTITIES ARE FOR INFORMATION ONLY, FIELD ENGINEER TO VERIFY.

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	SUPER-STRUCTURE	S. ABUT	PIER 1	PIER 2	PIER 3	N. ABUT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 46+18.88	LS	–	–	–	–	–	–	1
203.0210.S.02	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-40-263	LS	–	–	–	–	–	–	1
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	–	–	–	–	–	105	105
502.0100	CONCRETE MASONRY BRIDGES	CY	194	19	11	11	11	19	265
502.3200	PROTECTIVE SURFACE TREATMENT	SY	730	–	–	–	–	–	730
502.5002	MASONRY ANCHORS TYPE L NO. 4 BARS	EA	–	56	58	58	58	60	290
502.6105	MASONRY ANCHORS TYPE S 5/8-INCH	EA	–	34	–	–	–	84	168
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	52,920	1,660	800	800	800	1,660	58,640
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EA	–	4	10	12	10	4	40
506.4000	STEEL DIAPHRAGMS B-40-263	EA	26	–	–	–	–	–	26
509.1500	CONCRETE SURFACE REPAIR	SF	–	5	9	7	7	8	36
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	–	14	–	–	–	14	28
604.0400	SLOPE PAVING CONCRETE	SY	–	–	–	–	–	105	105
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	–	57	–	–	–	59	116
652.0125	CONDUIT RIGID METALLIC 2-INCH	LF	124	–	–	–	–	–	124
652.0225	CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH	LF	201	–	–	–	–	–	201
653.0220	JUNCTION BOXES 18X6X6-INCH	EA	3	–	–	–	–	–	3
655.0128	CABLE IN DUCT 3-8 AWG	LF	325	–	–	–	–	–	325
657.6005.S	ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES	EA	1	–	–	–	–	–	1
SPV.0060.03	REMOVE AND REINSTALL LIGHT POLE	EA	1	–	–	–	–	–	1
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	–	–	7	6	6	–	19
SPV.0165.01	CATHODIC PROTECTION	SF	–	5	9	7	7	8	36

ALL ITEMS ARE CATEGORY 190

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

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TYPICAL SECTION AND QUANTITIES

SHEET 2 OF 13
648

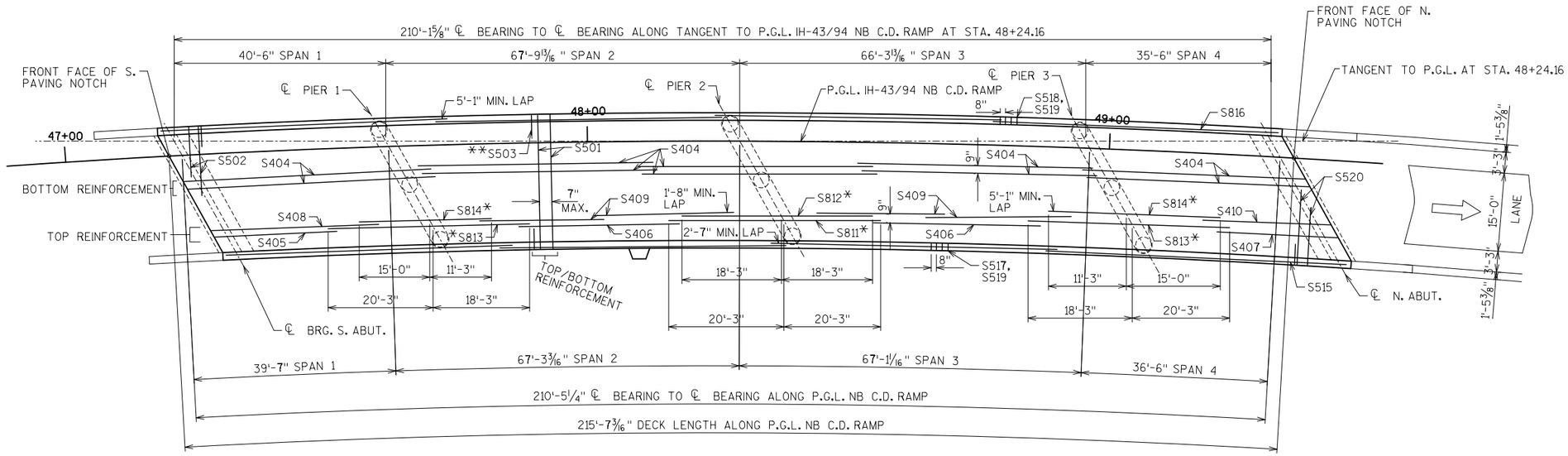
DATE: 10/1/2012
I.D. justin_bohler

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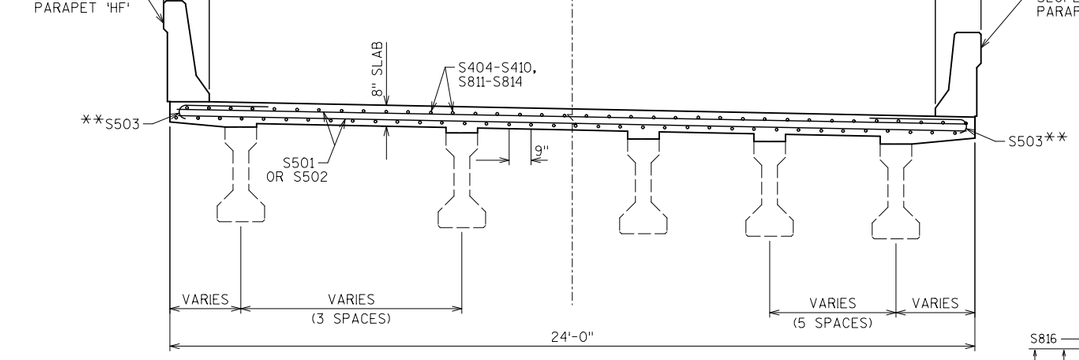
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STATE PROJECT NUMBER
1228-26-70

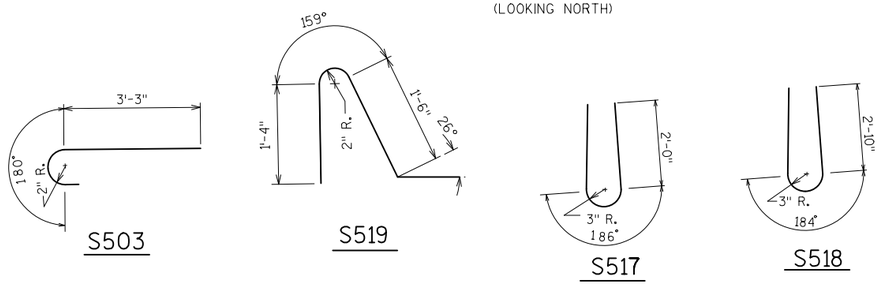


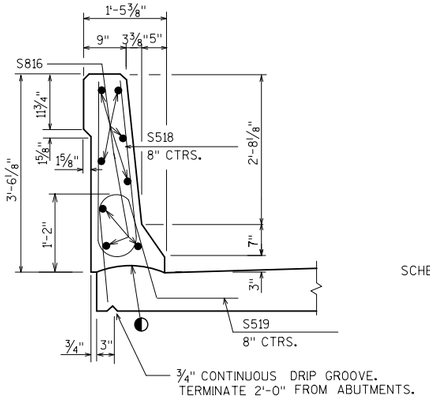
PLAN B-40-263



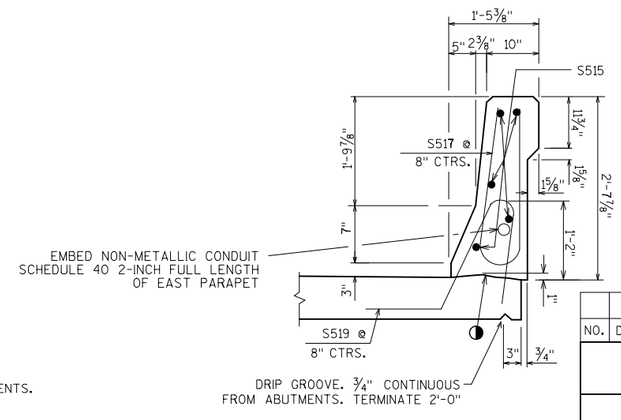
HALF SECTION AT SPANS 1& 4 HALF SECTION AT SPANS 2 & 3

(LOOKING NORTH)





SECTION THRU HF PARAPET ON BRIDGE



SECTION THRU LF PARAPET ON BRIDGE

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
S501	704	23'-8"			TRANSVERSE T&B
S502	40	12'-10"		X	TRANSVERSE @ S. END OF DECK
S503	375	4'-0"	X		OVERHANG E&W
S404	165	45'-0"			LONGITUDINAL EOT
S405	17	26'-10"			LONGITUDINAL TOP
S406	33	39'-2"			LONGITUDINAL TOP
S407	17	24'-0"			LONGITUDINAL TOP
S408	16	32'-2"			LONGITUDINAL TOP
S409	64	28'-5"			LONGITUDINAL TOP
S410	16	29'-3"			LONGITUDINAL TOP
S811	17	40'-6"			CONTINUITY PIER 2
S812	16	36'-6"			CONTINUITY PIER 2
S813	34	38'-6"			CONTINUITY PIER 1&3
S814	32	26'-3"			CONTINUITY PIER 1&3
S515	25	59'-1"			BRIDGE PARAPET LF HORIZ.
S816	32	58'-11"			BRIDGE PARAPET HF HORIZ.
S517	325	4'-10"	X		BRIDGE PARAPET LF VERT.
S518	325	6'-6"	X		BRIDGE PARAPET HF VERT.
S519	650	4'-7"	X		BRIDGE PARAPETS VERT.
S520	50	12'-10"		X	TRANSVERSE @ N. END OF DECK

NOTES

1. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF THE SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
2. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.
3. LAP LONGITUDINAL SPLICES AT 1'-8" MIN. FOR #4 BARS, 2'-7" MIN. FOR #5 BARS AND 5'-1" MIN. FOR #8 BARS.
4. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE GIRDERS.

LEGEND

* EVERY OTHER LONGITUDINAL BAR IN THE TOP MAT OVER PIERS

** LAP ONTO EVERY OTHER TRANSVERSE BAR IN THE TOP MAT AT OVERHANGS AS SHOWN

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

BAR SERIES	BAR MARK	NO. REQ'D	LENGTH
2	S502	20	Varies 2'-0" to 23'-8"
2	S520	25	Varies 2'-0" to 23'-8"

BAR SERIES

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

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SUPERSTRUCTURE

SHEET 3 OF 13
649

8

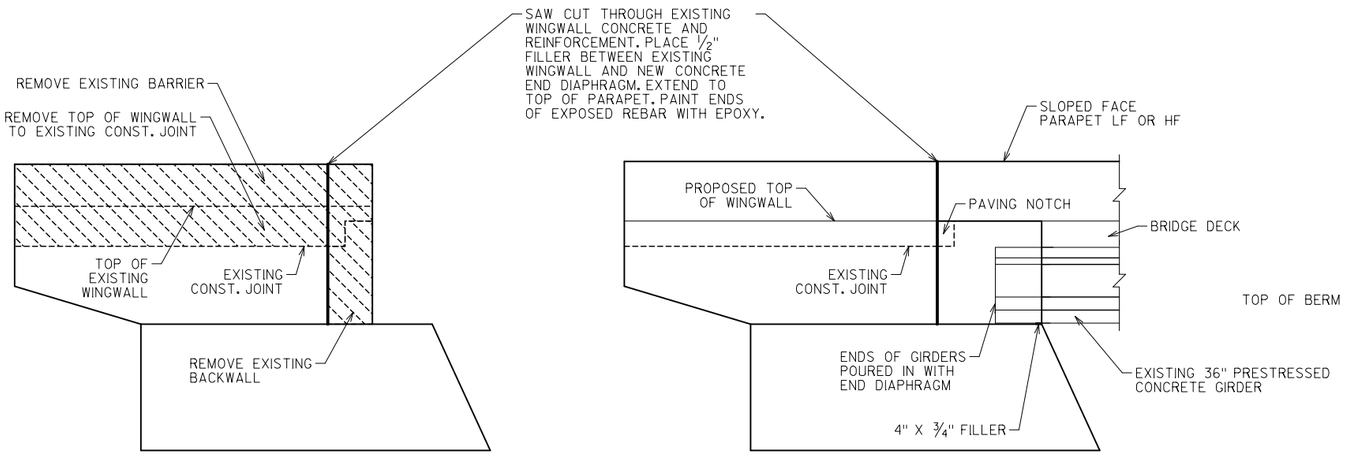
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DATE: 10/1/2012
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1228-26-70

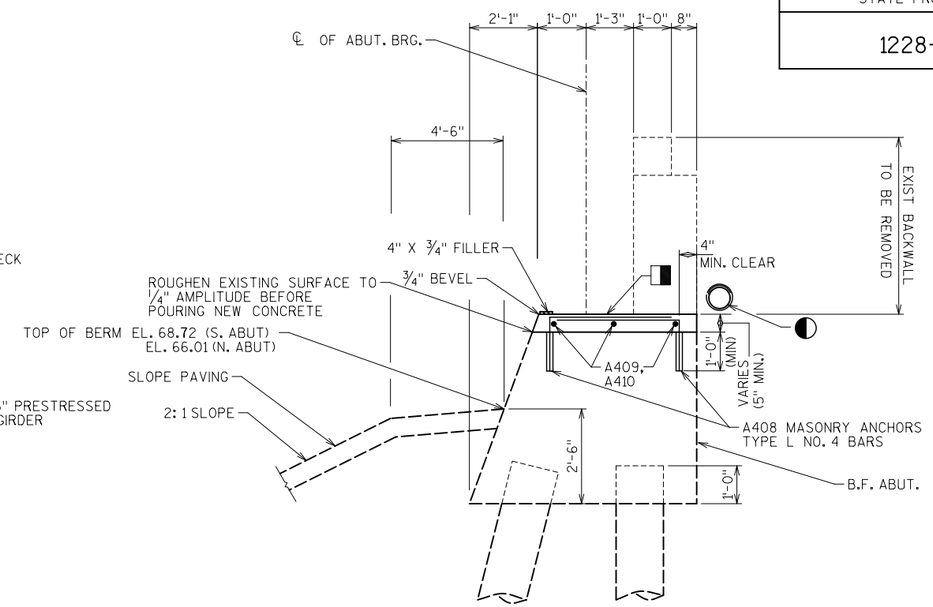


SECTION A-A

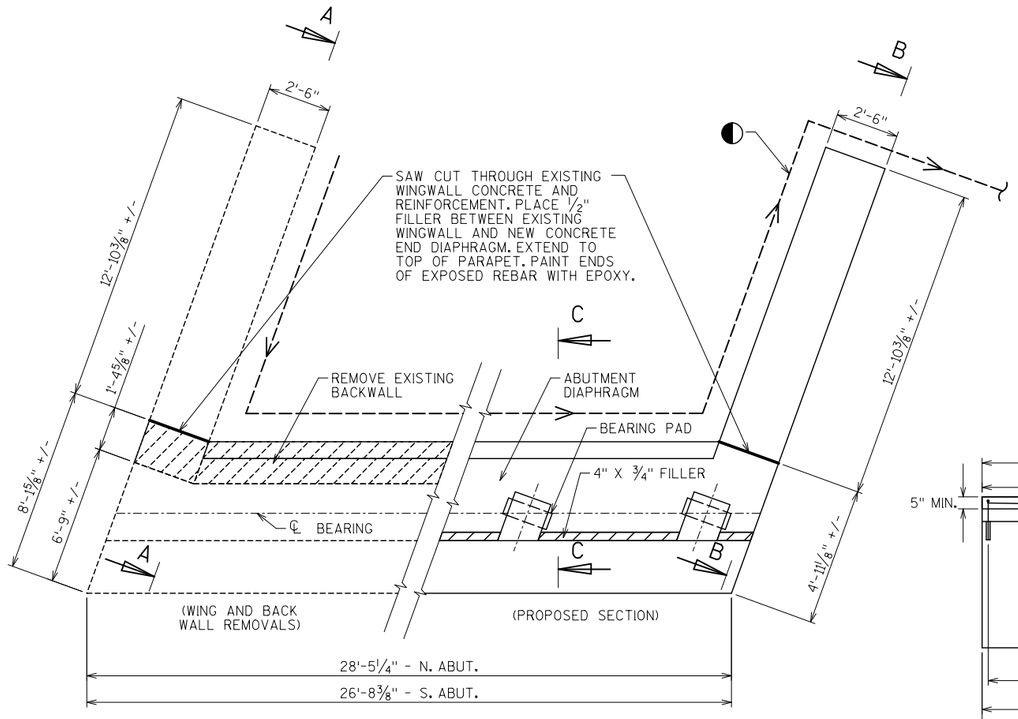
(WING AND BACK WALL REMOVALS)

SECTION B-B

(PROPOSED SECTION)

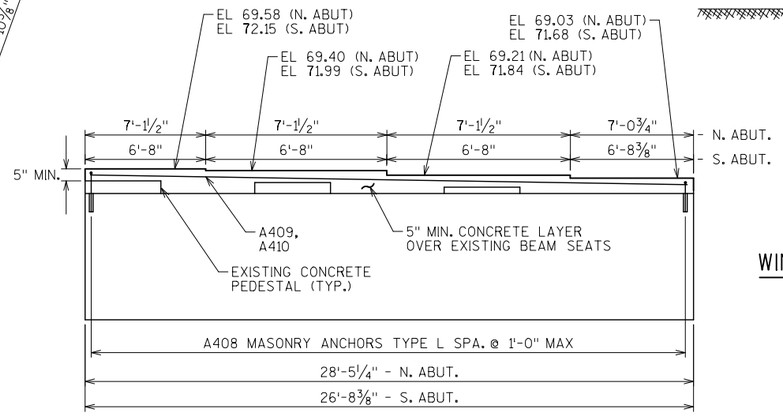


SECTION C-C



ABUTMENT DETAIL

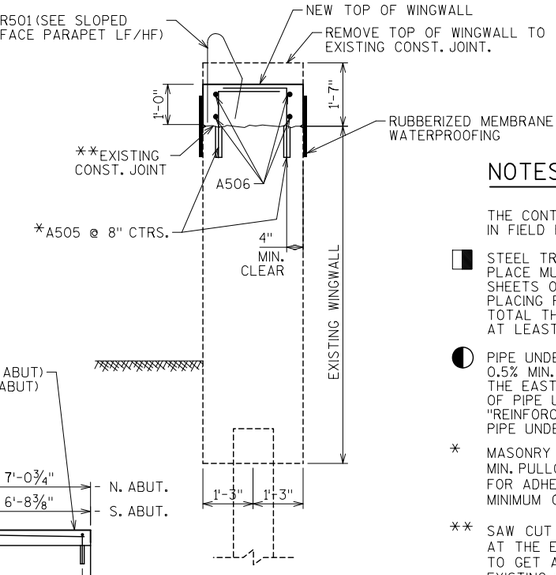
(NORTH ABUTMENT SHOWN. SOUTH ABUTMENT SIMILAR)



PROPOSED

ABUTMENT ELEVATION

(LOOKING NORTH @ F.F. OF ABUTMENT)
(NORTH ABUT. SHOWN, SOUTH ABUT. OPPOSITE)



WINGWALL DETAIL

NOTES

THE CONTRACTOR IS TO VERIFY DIMENSIONS IN FIELD BEFORE STARTING CONSTRUCTION.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING FILLER AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. DRAIN TO THE EAST. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SDD "REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN".

* MASONRY ANCHORS TYPE S 5/8-INCH. MIN. PULLOUT CAPACITY OF 19 KIPS. FOR ADHESIVE ANCHORS, EMBED A MINIMUM OF 6" IN CONCRETE.

** SAW CUT ON BOTH SIDES OF WINGWALL AT THE EXISTING CONSTRUCTION JOINT TO GET A CLEAN CUT THROUGH ALL EXISTING VERTICAL REINFORCEMENT. ROUGHEN SURFACE TO 1/4" AMPLITUDE BEFORE POURING NEW WINGWALL CONCRETE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

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ABUTMENT DETAILS

SHEET 4 OF 13

650

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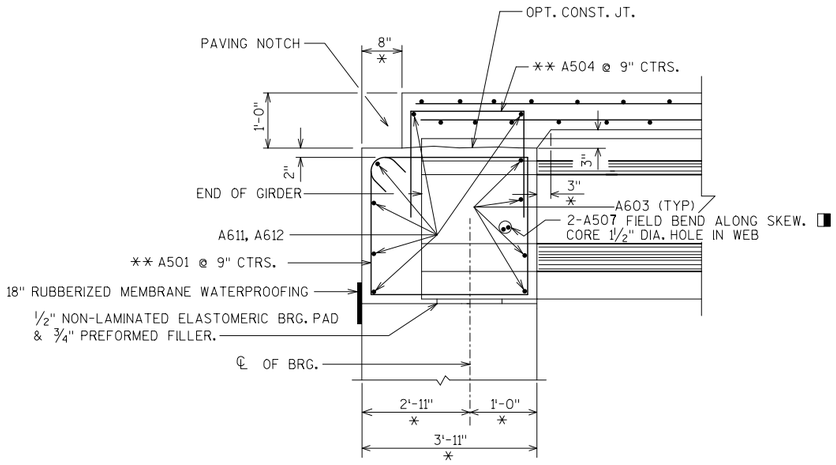
DATE: 10/1/2012
I.D. justin_bohler

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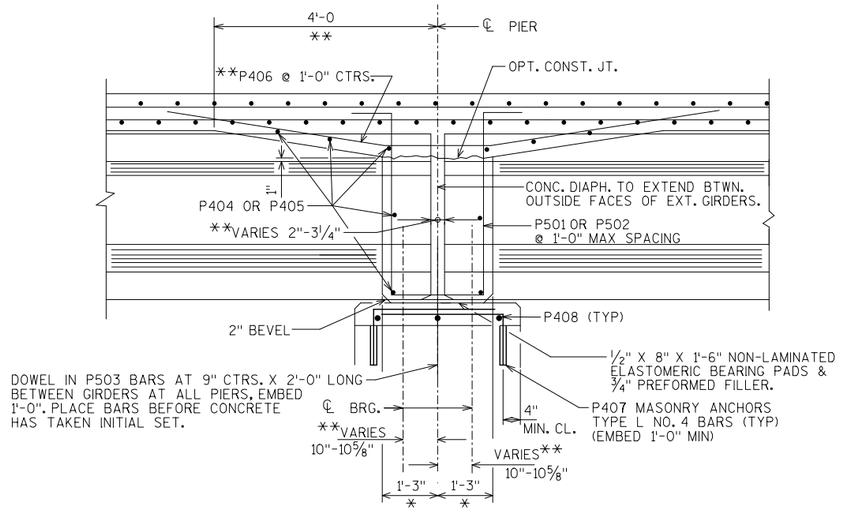
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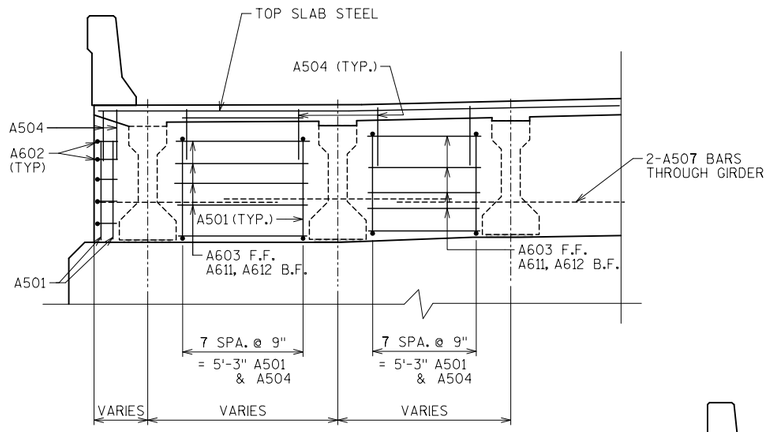


ABUTMENT DIAPHRAGM

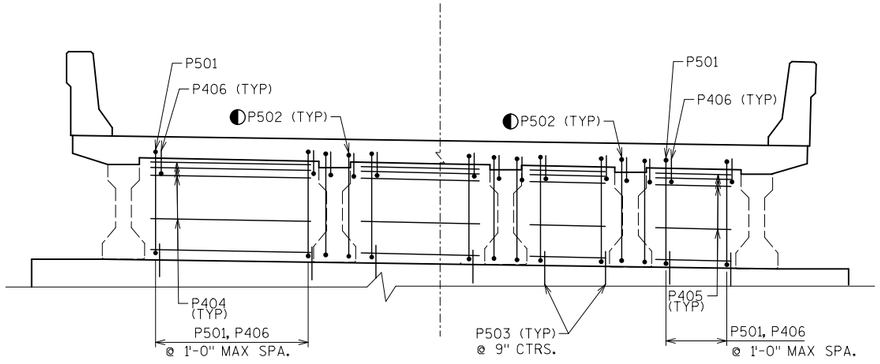


PIER DIAPHRAGM

GIRDER NO.	BEAM SEAT ELEVATIONS AT PIERS					
	SPAN 1	SPAN 2		SPAN 3		SPAN 4
	C/L BRG. PIER 1	C/L BRG. PIER 1	C/L BRG. PIER 2	C/L BRG. PIER 2	C/L BRG. PIER 3	C/L BRG. PIER 3
G1	71.91	71.89	71.03	71.01	70.14	70.11
G2	71.73	71.78	70.92	70.90	70.02	69.93
G3	71.55	71.68	70.81	70.79	69.91	69.74
G4	71.37	71.57	70.70	70.68	69.80	69.56
G5	–	71.46	70.59	70.57	69.69	–
G6	–	71.35	70.48	70.46	69.58	–

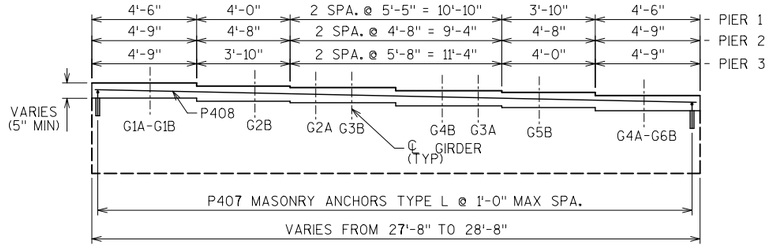


ABUTMENT DIAPHRAGM DETAILS



SPAN 1/4 SPAN 2/3

PIER DIAPHRAGM DETAILS



PROPOSED
PIER CAP ELEVATION
(LOOKING NORTH)

NOTES

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

◨ CORING HOLE THROUGH EXISTING GIRDERS IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES"

◐ PLACE TWO P502 BARS AT ENDS OF INTERIOR GIRDERS OVER PIERS 1&3

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

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SUPERSTRUCTURE DETAILS 1

SHEET 5 OF 13
651

8

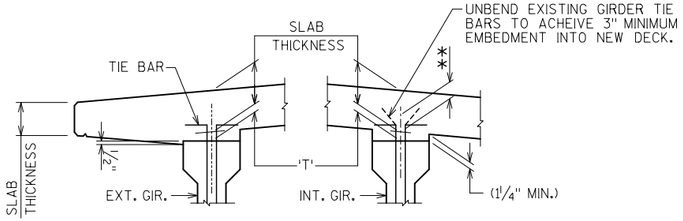
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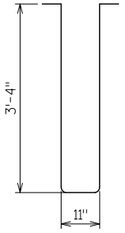
SLAB HAUNCH DETAIL

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 THE TIE BAR CANNOT BE OBTAINED.

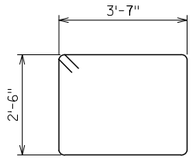
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

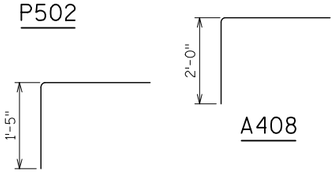
NOTE: AN AVERAGE HAUNCH ('T') OF 2⅜" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



P502

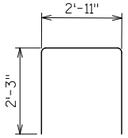


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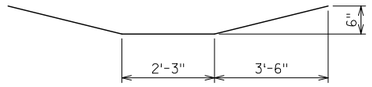


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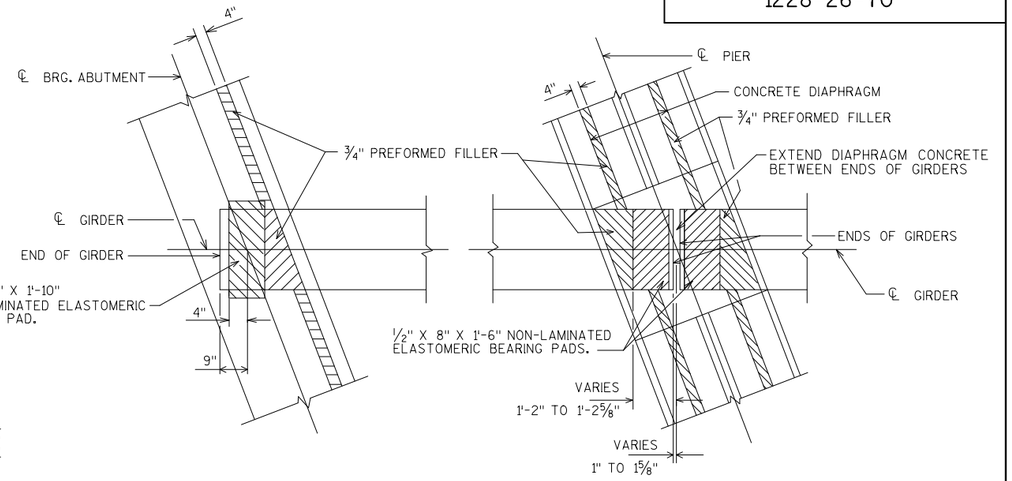
P407



A504



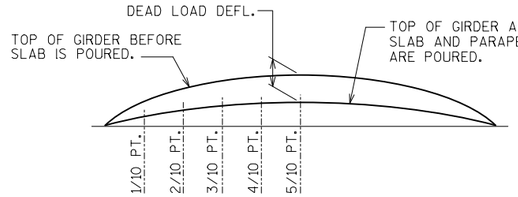
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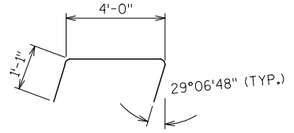
BEARING PAD DETAIL



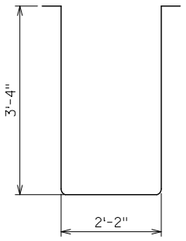
A505



DEAD LOAD DEFLECTION DIAGRAM



A602



P501

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
A501	56	12'-7"	X	ABUTMENT DIAPHRAGM - STIRRUPS
A602	20	5'-10"	X	ABUTMENT DIAPHRAGM - ENDS
A603	24	5'-8"		ABUTMENT DIAPHRAGM
A504	56	7'-2"	X	ABUTMENT DIAPHRAGM - TOP
A505	168	3'-0"	X	ABUTMENT WINGWALL VERT.
A506	16	12'-5"		ABUTMENT WINGWALL HORIZ.
A507	16	6'-0"		ABUTMENT DIAPHRAGM - HORIZ.
A408	116	4'-5"	X	ABUTMENT BODY VERT.
A409	3	26'-4"		S. ABUTMENT BODY HORIZ.
A410	3	28'-1"		N. ABUTMENT BODY HORIZ.
A611	6	26'-4"		S. ABUTMENT DIAPHRAGM HORIZ.
A612	6	28'-1"		N. ABUTMENT DIAPHRAGM HORIZ.

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
P501	60	9'-4"	X		PIER DIAPHRAGM VERT.
P502	24	8'-1"	X		PIER DIAPHRAGM VERT.
P503	73	2'-0"			PIER DIAPHRAGM VERT.
P404	30	6'-0"		X	PIER DIAPHRAGM HORIZ. -END SPANS
P405	100	3'-0"			PIER DIAPHRAGM HORIZ. -INT. SPANS
P406	87	9'-3"	X		PIER DIAPHRAGM HORIZ.
P407	174	3'-7"	X		PIER BODY VERT.
P408	9	27'-1"		X	PIER BODY HORIZ.

BAR MARK	NO. REQ'D	LENGTH
P404	30	5'-8" to 6'-4"
P408	9	26'-2" to 28'-0"

BAR SERIES

Girder Data					
Span	Dead Load Defl. (in.)				
	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.
1	< 1/16"	< 1/16"	1/16"	1/8"	1/8"
2	3/16"	7/16"	5/8"	11/16"	3/4"
3	3/16"	3/8"	9/16"	11/16"	11/16"
4	< 1/16"	< 1/16"	< 1/16"	< 1/16"	1/16"

DEAD LOAD DEFLECTIONS

TOP OF DECK ELEVATIONS

SPAN 1											
	C/L OF BRG. S. ABUT.	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L OF BRG. PIER 1
W. Edge	76.14	76.13	76.11	76.09	76.06	76.03	76.00	75.97	75.94	75.90	75.86
Girder 1	76.10	76.09	76.07	76.04	76.02	75.99	75.96	75.93	75.89	75.86	75.82
PGL	76.04	76.02	76.00	75.98	75.95	75.93	75.90	75.86	75.83	75.79	75.75
Girder 2	75.95	75.93	75.91	75.88	75.86	75.83	75.79	75.76	75.72	75.68	75.64
Girder 3	75.80	75.77	75.75	75.72	75.69	75.66	75.63	75.59	75.55	75.51	75.46
Girder 4	75.64	75.61	75.59	75.56	75.53	75.49	75.45	75.41	75.37	75.33	75.28
E. Edge	75.60	75.57	75.55	75.52	75.48	75.45	75.41	75.37	75.33	75.28	75.23

SPAN 2											
	C/L OF BRG. PIER 1	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L OF BRG. PIER 2
W. Edge	75.84	75.77	75.69	75.60	75.51	75.43	75.34	75.25	75.16	75.08	74.99
Girder 1	75.80	75.72	75.64	75.56	75.47	75.38	75.29	75.20	75.12	75.03	74.94
PGL	75.73	75.65	75.57	75.48	75.39	75.30	75.22	75.13	75.04	74.95	74.87
Girder 2	75.69	75.61	75.53	75.44	75.36	75.27	75.18	75.09	75.00	74.92	74.83
Girder 3	75.58	75.50	75.42	75.33	75.25	75.16	75.07	74.98	74.89	74.81	74.72
Girder 4	75.48	75.39	75.31	75.22	75.13	75.05	74.96	74.87	74.78	74.69	74.61
Girder 5	75.37	75.29	75.20	75.11	75.02	74.93	74.85	74.76	74.67	74.58	74.50
Girder 6	75.26	75.20	75.12	75.03	74.94	74.85	74.77	74.68	74.59	74.50	74.38
E. Edge	75.21	75.13	75.04	74.95	74.86	74.78	74.69	74.60	74.51	74.43	74.34

SPAN 3											
	C/L OF BRG. PIER 2	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L OF BRG. PIER 3
W. Edge	74.96	74.88	74.79	74.70	74.61	74.53	74.44	74.35	74.26	74.18	74.09
Girder 1	74.92	74.83	74.74	74.65	74.57	74.48	74.39	74.30	74.22	74.13	74.04
PGL	74.84	74.76	74.67	74.58	74.49	74.40	74.32	74.23	74.14	74.05	73.97
Girder 2	74.81	74.72	74.63	74.54	74.46	74.37	74.28	74.19	74.11	74.02	73.93
Girder 3	74.69	74.61	74.52	74.43	74.34	74.26	74.17	74.08	73.99	73.91	73.82
Girder 4	74.58	74.50	74.41	74.32	74.23	74.15	74.06	73.97	73.88	73.80	73.71
Girder 5	74.47	74.39	74.30	74.21	74.12	74.03	73.95	73.86	73.77	73.68	73.60
Girder 6	74.36	74.30	74.22	74.13	74.04	73.95	73.87	73.78	73.69	73.60	73.49
E. Edge	74.31	74.23	74.14	74.05	73.96	73.88	73.79	73.70	73.61	73.53	73.44

SPAN 4											
	C/L OF BRG. PIER 3	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L OF BRG. N. ABUT.
W. Edge	74.07	74.02	73.97	73.92	73.88	73.83	73.78	73.73	73.68	73.64	73.59
Girder 1	74.02	73.97	73.92	73.88	73.83	73.78	73.73	73.68	73.64	73.59	73.54
PGL	73.94	73.90	73.85	73.80	73.75	73.71	73.66	73.61	73.56	73.51	73.47
Girder 2	73.83	73.79	73.74	73.69	73.64	73.59	73.55	73.50	73.45	73.40	73.36
Girder 3	73.65	73.60	73.55	73.50	73.46	73.41	73.36	73.31	73.27	73.22	73.17
Girder 4	73.46	73.42	73.37	73.32	73.27	73.22	73.18	73.13	73.08	73.03	72.99
E. Edge	73.42	73.37	73.32	73.27	73.22	73.18	73.13	73.08	73.03	72.99	72.94

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

DRAWN BY MRL | PLANS CK'D. JDB

SUPERSTRUCTURE DETAILS 2

SHEET 6 OF 13
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DATE: 10/1/2012
I.D. justin_bohler

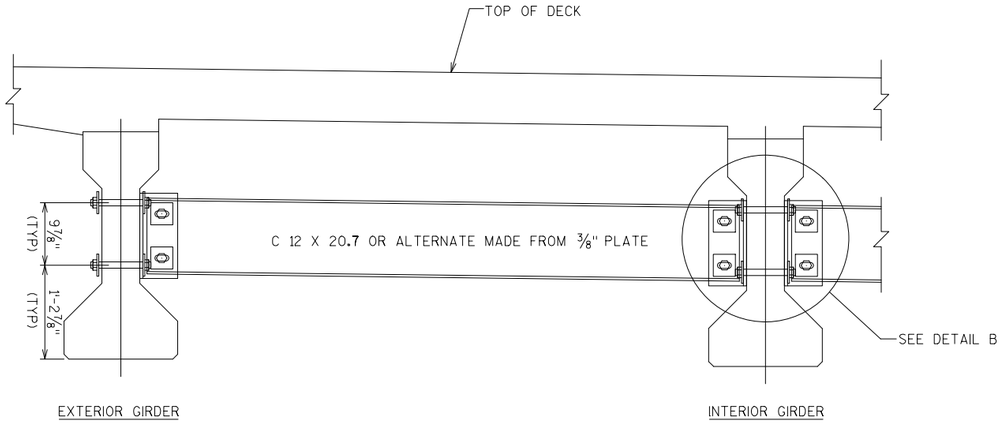
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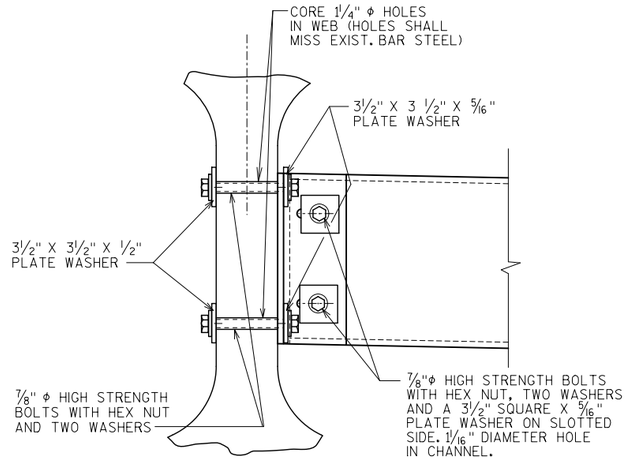
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STATE PROJECT NUMBER

1228-26-70



PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL B

NOTES

ALL DIAPHRAGM MATERIAL AND CORED HOLES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-40-263", EACH.

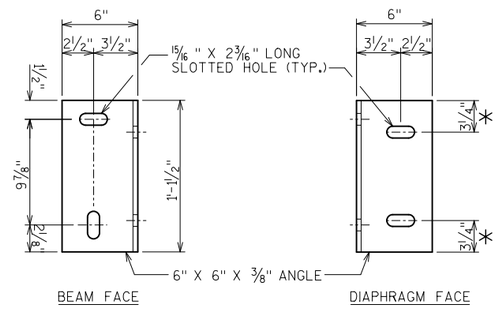
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

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 OVERSIZED 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.

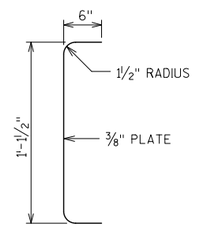
REMOVAL OF EXISTING INTERMEDIATE CONCRETE DIAPHRAGMS IS INCIDENTAL TO BID ITEM "REMOVING OLD STRUCTURE STA. 46+18.88"

ATTACHMENTS FOR STEEL DIAPHRAGMS WILL NEED TO BE CORED THROUGH EXISTING GIRDERS. OFFSET NEW STEEL DIAPHRAGMS TO AVOID INTERFERENCE WITH EXISTING SLEEVES FOR EXISTING INTERMEDIATE CONCRETE DIAPHRAGM.

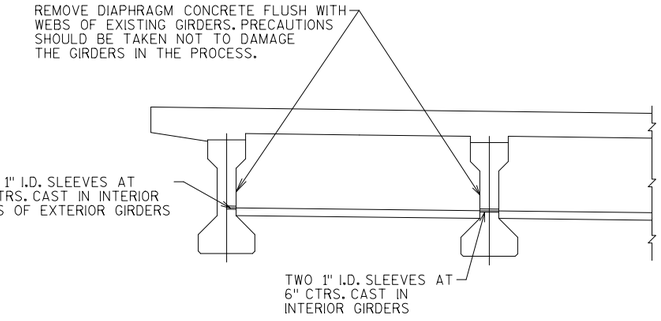


DIAPHRAGM SUPPORT

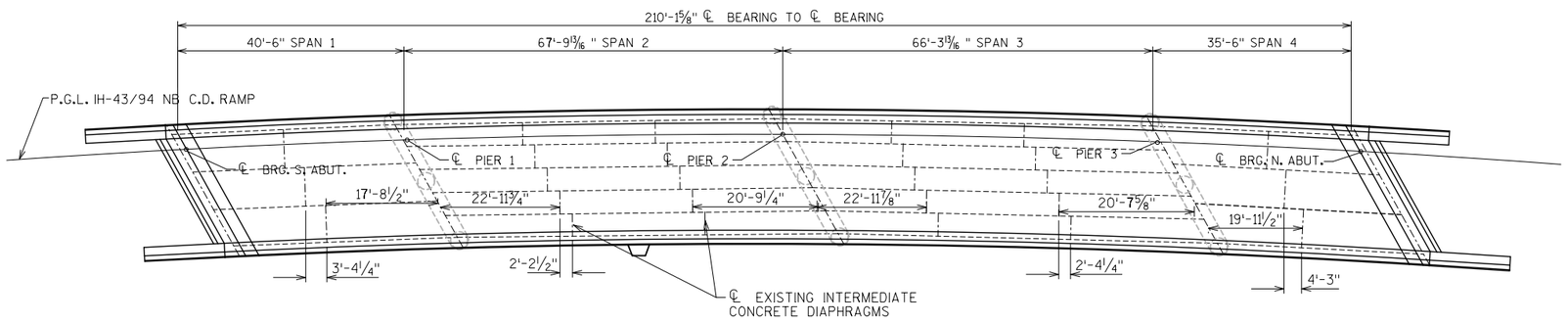
✳ 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM



SECTION THRU ALTERNATE DIAPHRAGM



INTERMEDIATE CONCRETE DIAPHRAGM REMOVAL



PLAN - EXISTING INTERMEDIATE DIAPHRAGMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

DRAWN BY	MRL	PLANS CK'D.	JDB

STEEL DIAPHRAGM

SHEET 7 OF 13
653

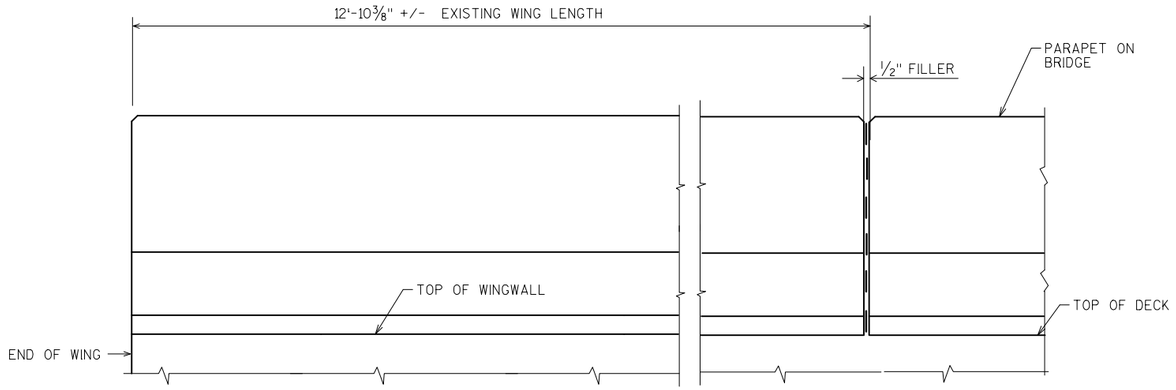
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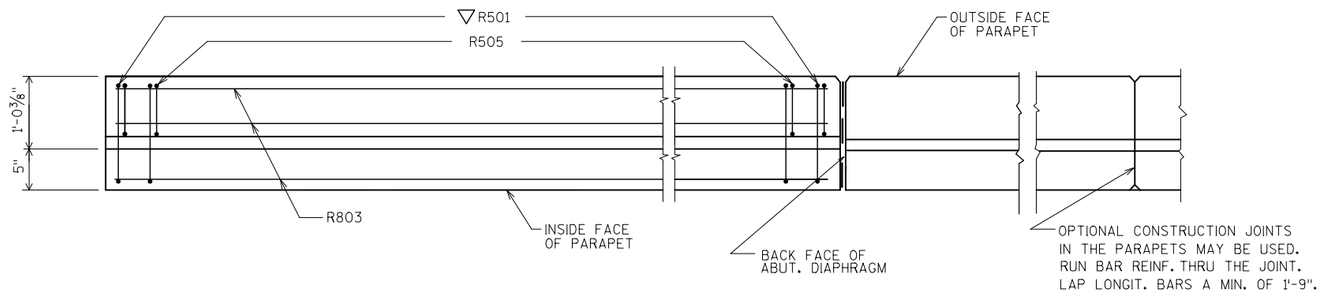
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DATE: 10/1/2012
I.D. justin_bohler

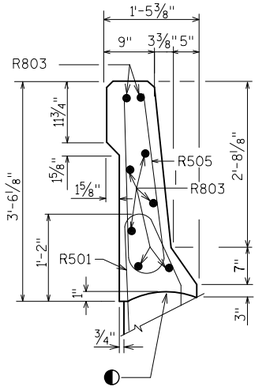
STATE PROJECT NUMBER
1228-26-70



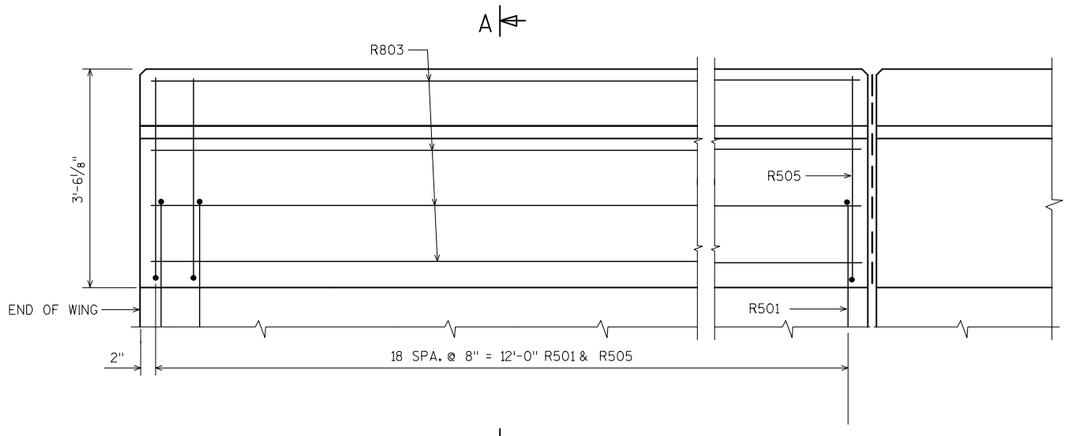
INSIDE ELEVATION



PLAN



SECTION A



OUTSIDE ELEVATION

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

DRAWN BY	MRL	PLANS CK'D.	JDB

SLOPED FACE PARAPET HF WINGS 1 & 3

SHEET 8 OF 13
654

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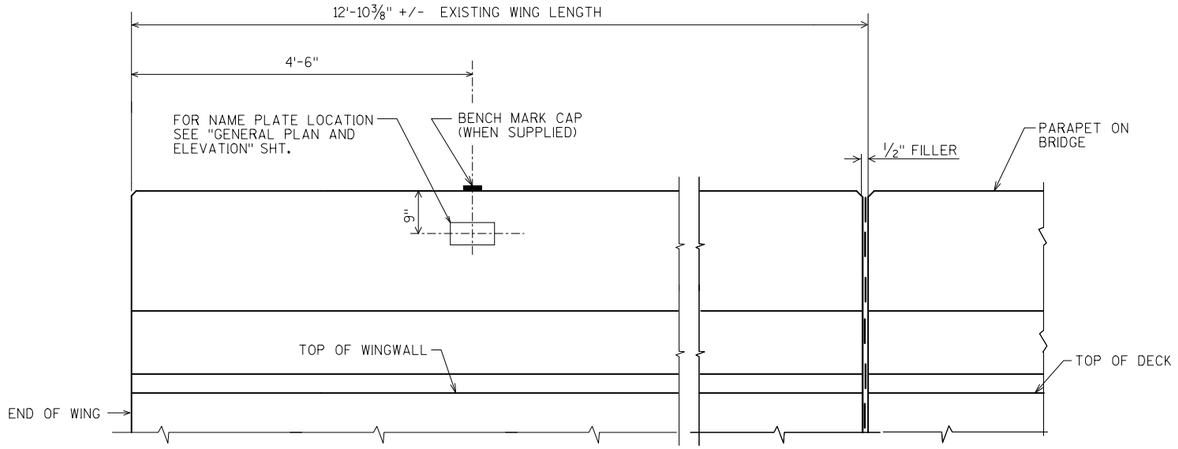
DATE: 10/1/2012
I.D. justin_bohler

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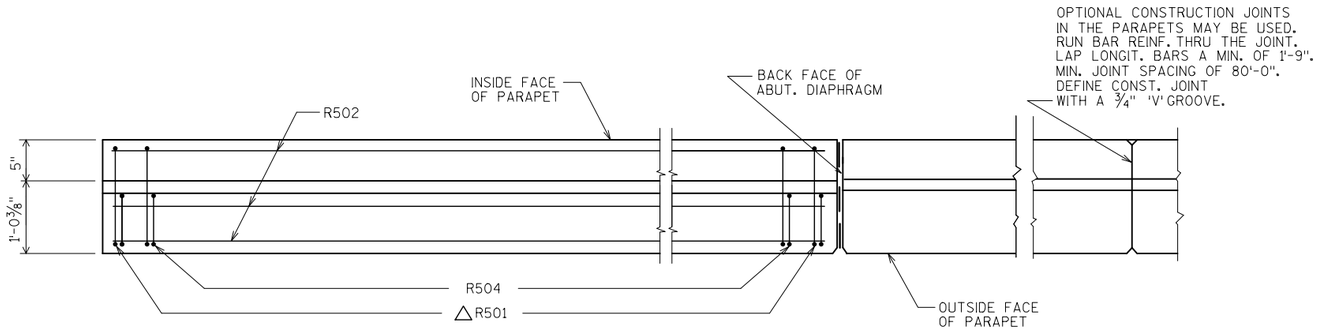
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STATE PROJECT NUMBER

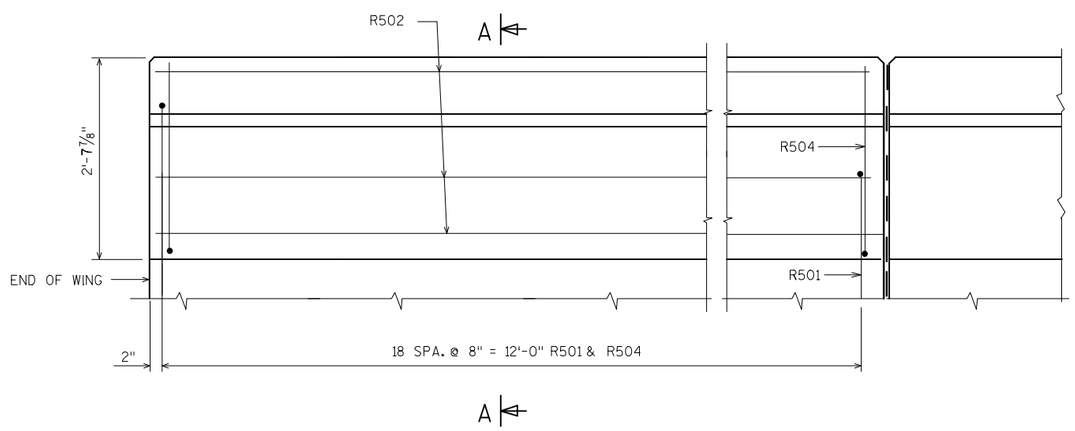
1228-26-70



INSIDE ELEVATION



PLAN

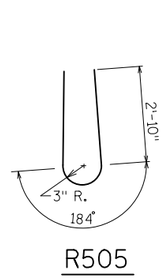


OUTSIDE ELEVATION

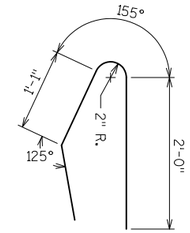
BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

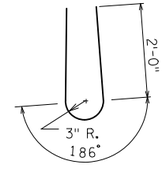
BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
R501	76	4'-7"	X	WING PARAPETS VERT.
R502	10	12'-6"		WING PARAPET LF HORIZ.
R803	16	12'-6"		WING PARAPET HF HORIZ.
R504	38	4'-10"	X	WING PARAPET LF VERT.
R505	38	6'-6"	X	WING PARAPET HF VERT.



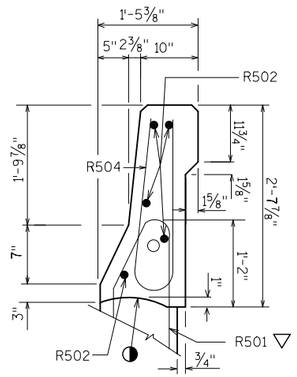
R505



R501



R504



SECTION A

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

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

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

DRAWN BY MRL | PLANS CK'D. JDB

SLOPED FACE PARAPET LF WINGS 2 & 4

SHEET 9 OF 13
655

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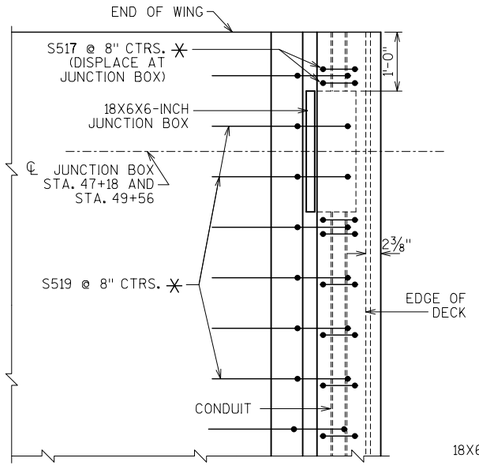
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DATE: 10/1/2012
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STATE PROJECT NUMBER

1228-26-70



PLAN AT JUNCTION BOX

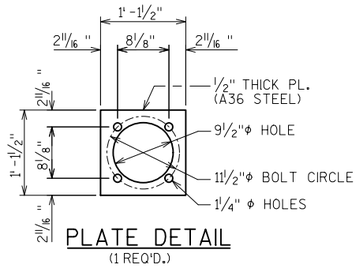
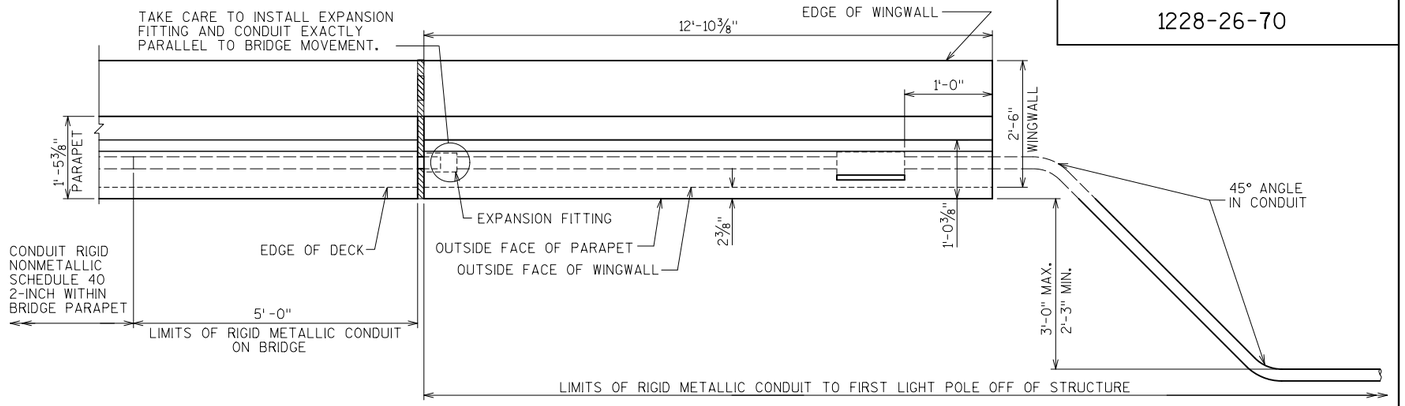
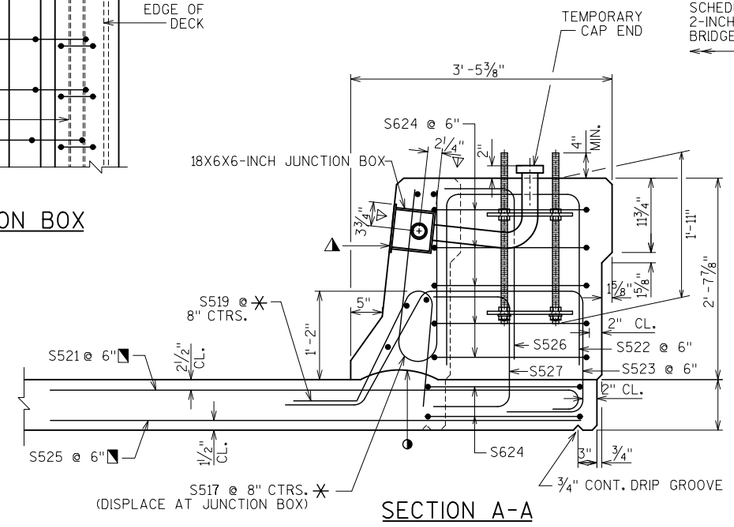


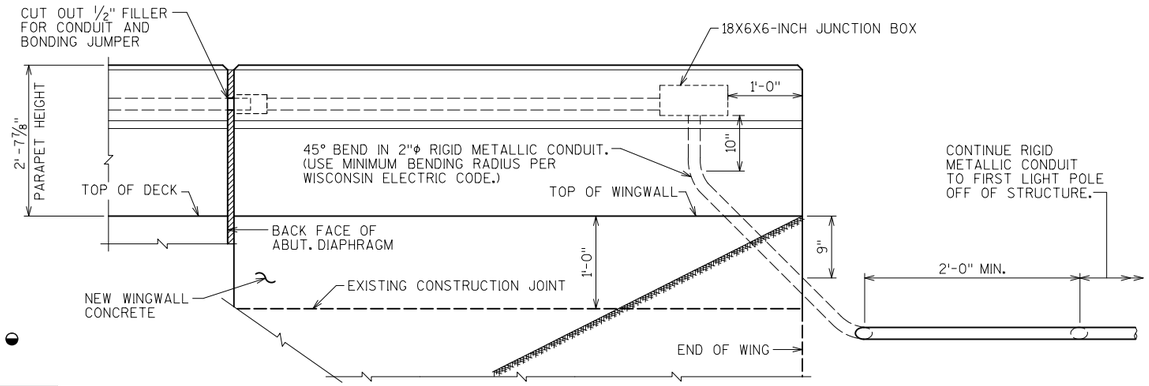
PLATE DETAIL
(1 REQ'D.)



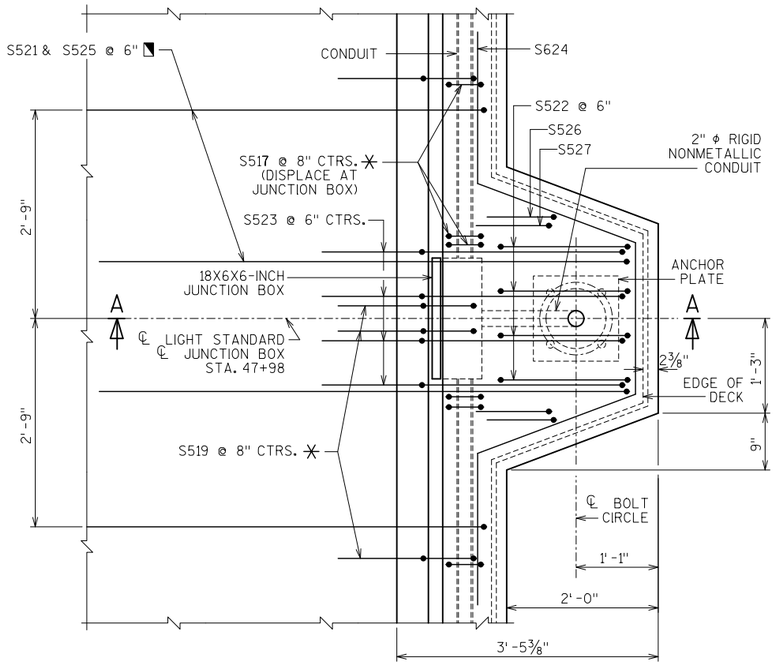
PLAN OF PARAPET AT WINGWALL



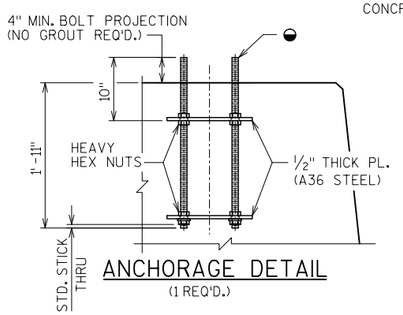
SECTION A-A



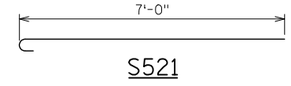
OUTSIDE ELEVATION OF PARAPET AT WINGWALL



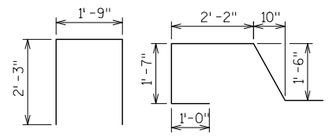
PLAN AT LIGHT STANDARD



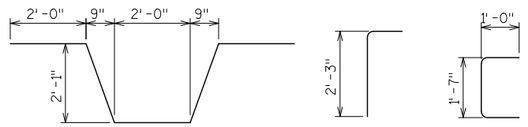
ANCHORAGE DETAIL
(1 REQ'D.)



S521



S522 S523



S624 S526 S527

- ◐ CONSTR. JT. STRIKE OFF AS SHOWN
- ◭ 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.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- ◒ 1"φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.
- ✳ SEE SLOPED FACE PARAPET "HF" & "LF" FOR ADDITIONAL BAR STEEL DETAILS.

NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X6X6-INCH", EACH.
"REMOVE AND REINSTALL LIGHT POLE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH".

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - DEFLECTION/EXPANSION FITTING:
O-Z/GEDNEY TYPE AXDX.

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

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

BILL OF BARS

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
S521	12	7'-7"	X	LIGHT STD DECK TRANSV.
S522	4	6'-0"	X	LIGHT STD VERT.
S523	4	7'-0"	X	LIGHT STD VERT.
S624	7	10'-0"	X	LIGHT STD HORIZ.
S525	12	6'-10"		LIGHT STD DECK TRANSV.
S526	2	3'-2"	X	LIGHT STD VERT.
S527	2	3'-5"	X	LIGHT STD VERT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

DRAWN BY MRL | PLANS CK'D. JDB

PARAPET "LF" ELECTRICAL WORK

SHEET 10 OF 13
656

FILE= P:\Transportation\I43 Valley Bridge\CADD\sheets\Structures\B-40-263\10-263_light standard.dgn

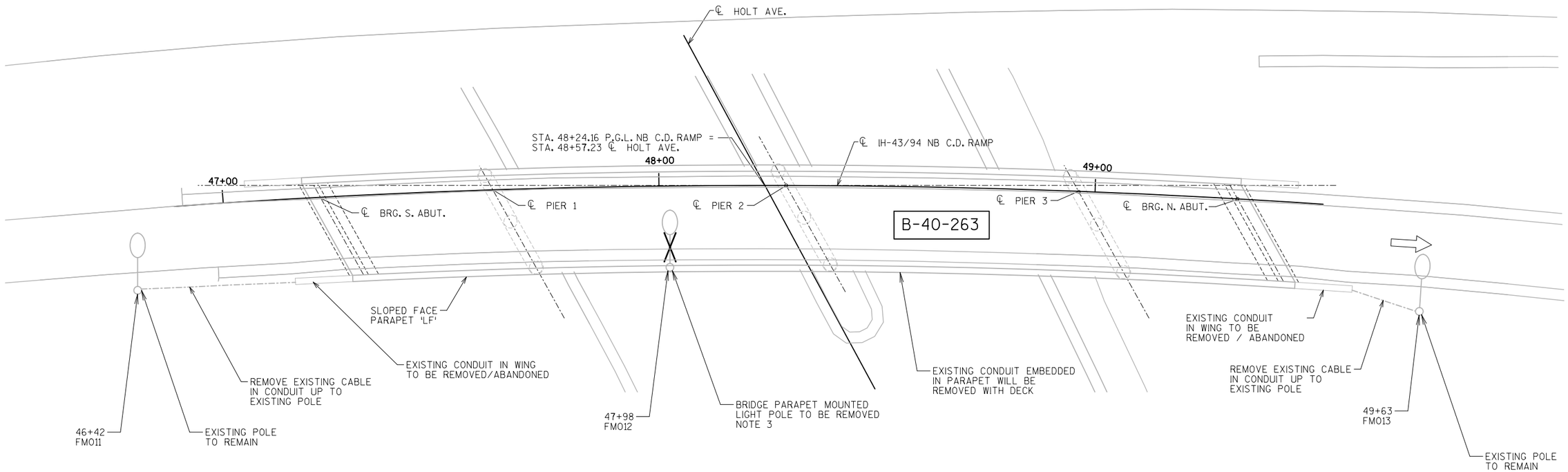
DATE: 10/1/2012
I.D. justin.bohler

8

8

STATE PROJECT NUMBER

1228-26-70



LIGHTING REMOVAL PLAN B-40-263

NOT TO SCALE

NOTES

1. VERIFY INFORMATION SHOWN ON THESE PLANS IN THE FIELD.
2. VERIFY THAT EXISTING LIGHT POLES ON HOLT AVE NORTHBOUND RAMP ARE ALL CONNECTED TO CIRCUIT "F" AS SHOWN. DE-ENERGIZE CIRCUIT "F" ON DISTRIBUTION CENTER "MO" BEFORE PROCEEDING WITH THE REMOVAL OF THE LIGHT POLE.
3. REMOVE ENTIRE LIGHT POLE MOUNTED ON BRIDGE PARAPET AND SAFE KEEP FOR REINSTALLATION AT END OF CONSTRUCTION. REPLACE OR REPAIR IN KIND ANY DAMAGE SUSTAINED DURING REMOVAL OPERATIONS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

DRAWN BY MAE | PLANS CK'D. DAD

LIGHTING REMOVAL PLAN

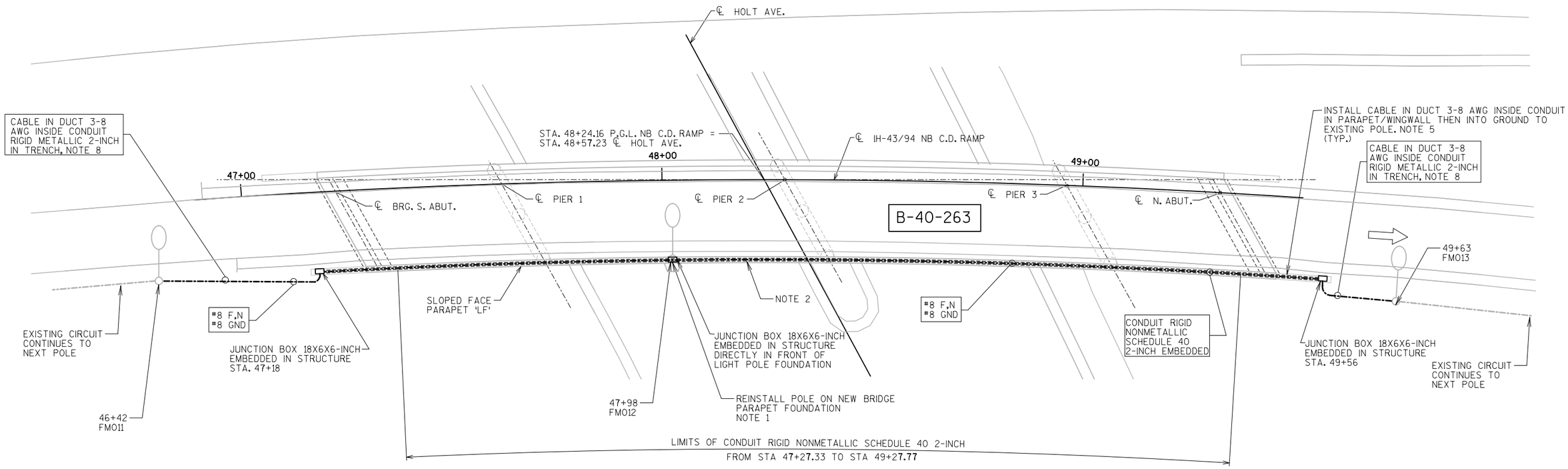
SHEET 11 OF 13

657

FILE= P:\Transportation\I43 Valley Bridge\Bridge\CADD\sheets\Structures\B-40-263\11-263_Lighting Removal Plan.dgn

DATE: 10/1/2012
I.D. justin_bohler

STATE PROJECT NUMBER
1228-26-70



LIGHTING INSTALLATION PLAN B-40-263

NOT TO SCALE

NOTES

1. REINSTALL LIGHT POLE ON BRIDGE PARAPET ON THE NEW FOUNDATION. WIRE AND MAKE LIGHT POLE OPERATIONAL BEFORE RAMP IS REOPENED TO TRAFFIC. PAID FOR UNDER BID ITEM "REMOVE AND REINSTALL LIGHT POLE".
2. FURNISH AND INSTALL NEW CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH EMBEDDED IN BRIDGE PARAPET FOR THE ENTIRE LENGTH OF THE NEW PARAPET EXCEPT WHERE CONDUIT RIGID METALLIC 2-INCH IS SPECIFIED.
3. FURNISH AND INSTALL A CABLE IN DUCT 3-8 AWG CONTAINING 2-1/C #8, 1/C #8G CONDUCTORS AND REWIRE THE LIGHT POLE BACK IN THE DESIGNATED CIRCUIT.
4. FURNISH AND INSTALL JUNCTION BOXES 18X6X6-INCH EMBEDDED IN THE NEW BRIDGE PARAPET AND/OR WINGWALL IN THE LOCATIONS SHOWN.
5. INSTALL CABLE IN DUCT 3-8 AWG FROM PARAPET EMBEDDED CONDUIT INTO GROUND TO ADJACENT LIGHT POLES AS SHOWN. FURNISH AND INSTALL ELBOWS, COUPLINGS, AND OTHER MATERIALS TO ALLOW FOR INSTALLATION AND FOR TRANSITION FROM CONCRETE BARRIER INSTALLATION TO UNDERGROUND INSTALLATION.
6. FURNISH AND INSTALL 304 STAINLESS STEEL OR GALVANIZED STEEL FOR ALL SUPPLIED HARDWARE, SUPPORTS, NUTS, BOLTS, AND WASHERS.
7. PERFORM ALL WORK ACCORDING TO LATEST WISDOT STANDARDS, SPECIFICATIONS, AND DETAILS.
8. VERIFY IF METALLIC CONDUITS ARE CURRENTLY INSTALLED UNDERGROUND FROM THE BRIDGE PARAPET/WINGWALL TO EXISTING GROUND MOUNTED LIGHT POLES. REMOVE ANY EXISTING METALLIC CONDUITS AND REPLACE WITH NEW RIGID METALLIC 2-INCH CONDUITS AS SHOWN ON THESE PLANS. IF METALLIC CONDUITS ARE NOT EXISTING UNDERGROUND, THEN ONLY INSTALL 5-FEET OF RIGID METALLIC 2-INCH CONDUIT EXITING THE WINGWALL.
9. SEE STRUCTURAL PLANS AND PARAPET "LF" ELECTRICAL WORK DETAIL FOR LIGHT POLE FOUNDATION DESIGN AND OTHER DETAILS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

DRAWN BY	PLANS CK'D.
MAE	DAD

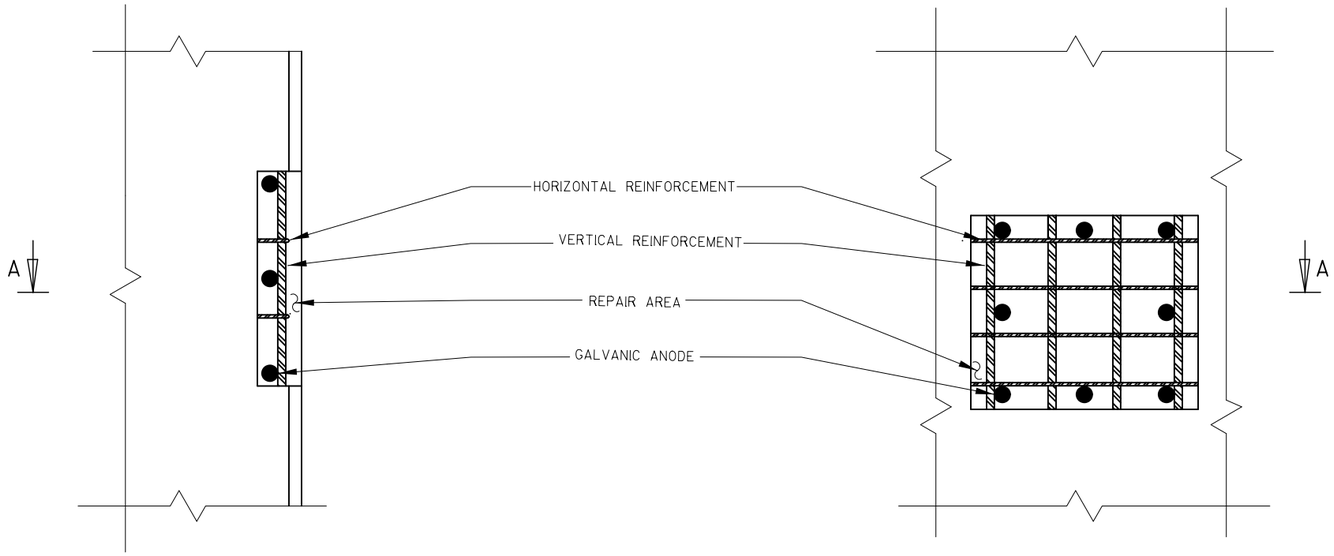
LIGHTING INSTALLATION PLAN

SHEET 12 OF 13
658

DATE: 10/1/2012
I.D. justin_bohler

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STATE PROJECT NUMBER
1228-26-70

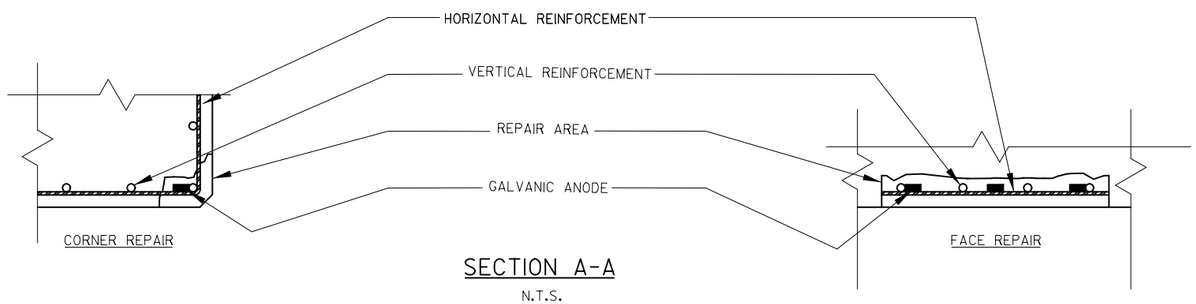


ELEVATION OF CORNER & FACE REPAIRS

N.T.S.

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-263

DRAWN BY MS | PLANS CK'D. JDB

CATHODIC PROTECTION DETAILS

SHEET 13 OF 13

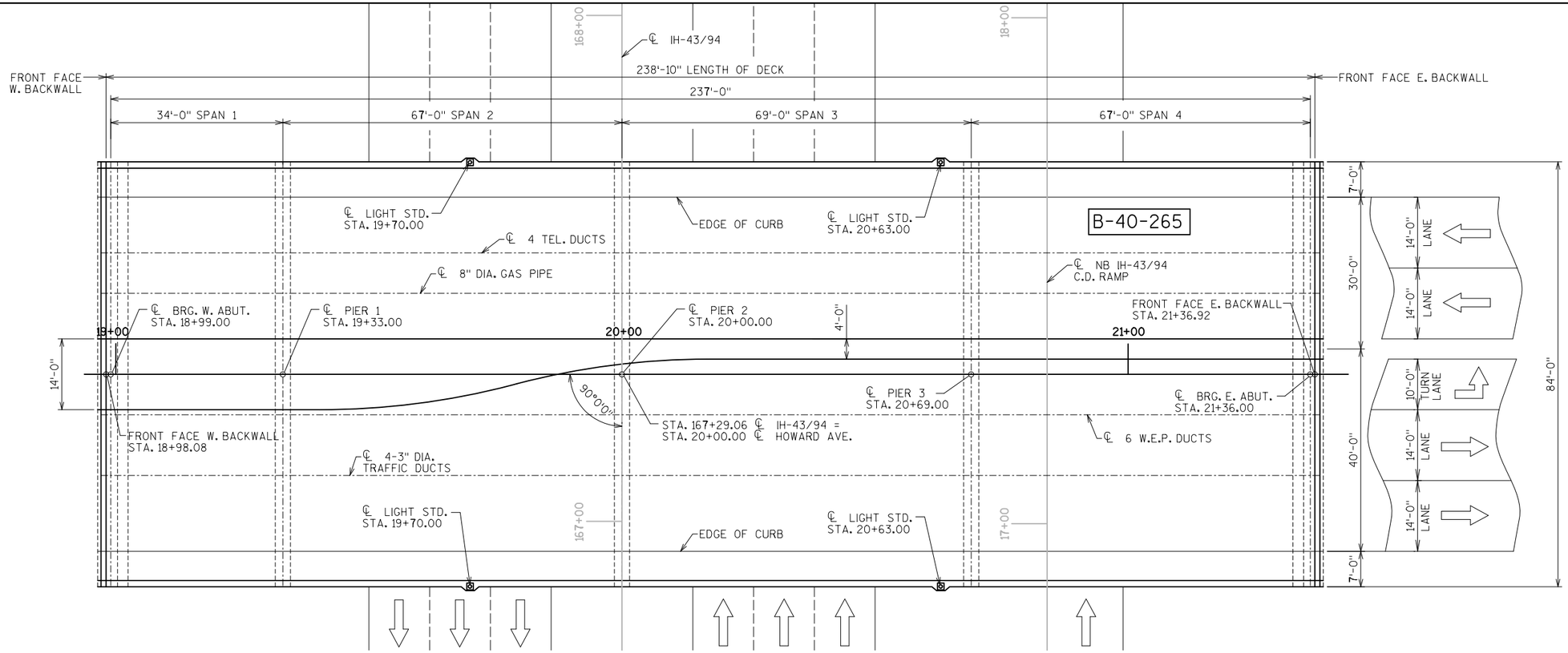
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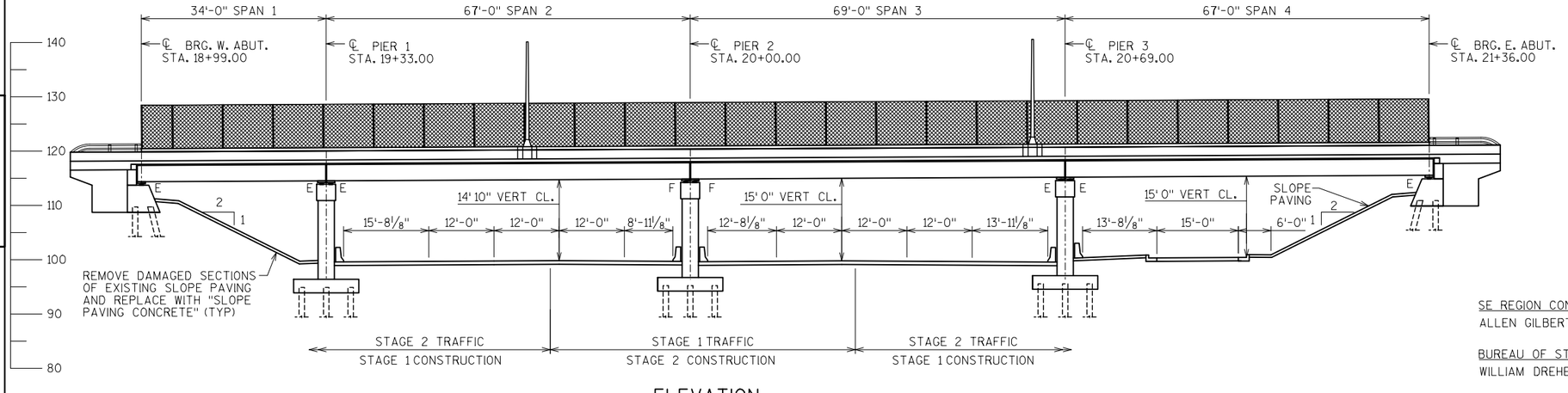
DATE:10/1/2012
I.D. justin_bohler

STATE PROJECT NUMBER

1228-26-70



PLAN B-40-265



ELEVATION

(LOOKING NORTH)

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MICHAEL DELEMONT (414) 831-4157

WISCONSIN
MICHAEL A. DELEMONT
E-42155
CRYSTAL LAKE, IL
PROFESSIONAL ENGINEER

LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. TYPICAL SECTION AND QUANTITIES
3. CATHODIC PROTECTION DETAILS

NO.	DATE	REVISION	BY

URS
6737 West Washington Street
Suite 2265
Milwaukee, WI 53214
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-265

HOWARD AVENUE OVER IH-43/94

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	MILWAUKEE

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JDB	MAD	JDB	MAD

GENERAL PLAN AND ELEVATION

SHEET 1 OF 3

660

8

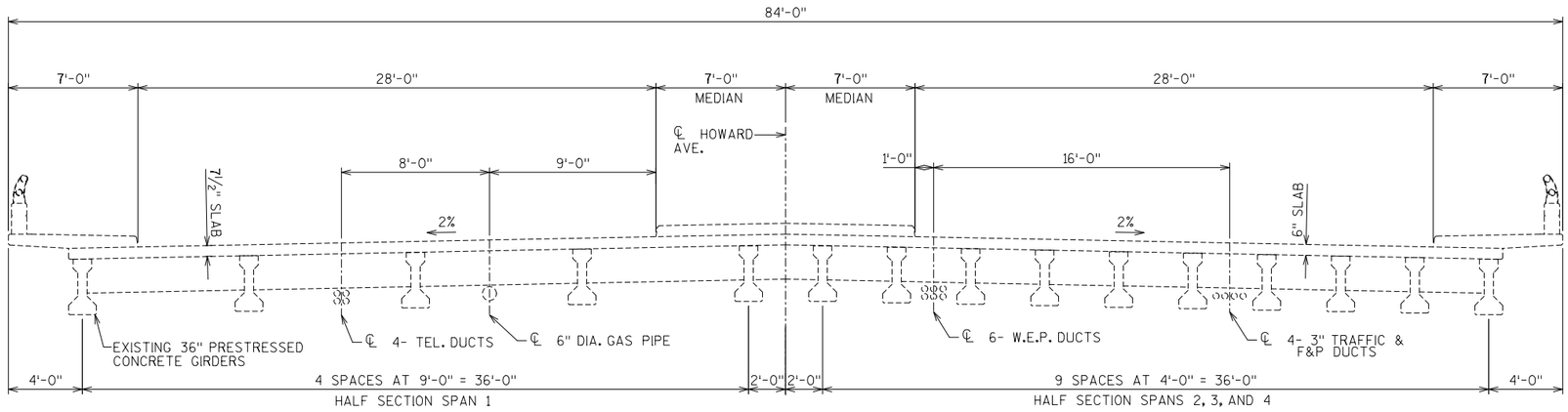
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FILE= P:\Transportation\143 Valley Bridge\CADD\sheets\Structures\B-40-265\01-265_general plan and elevation.dgn

DATE: 10/1/2012
I.D.

STATE PROJECT NUMBER

1228-26-70



TYPICAL SECTION

LOOKING UPSTATION

EXISTING DESIGN DATA

LIVE LOAD:

EXISTING INVENTORY RATING	HS-20
EXISTING OPERATIONAL RATING	HS-46
EXISTING MAXIMUM STANDARD PERMIT VEHICLE LOAD	250 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, GRADE "AA"	F'c = 1,400 P.S.I.
BAR STEEL REINFORCEMENT	Fs = 20,000 P.S.I.
36-INCH PRESTRESSED GIRDERS	
SPAN 1	F'ci = 4,000 P.S.I.
SPANS 2,3,4	F'ci = 4,600 P.S.I.
7/16" PRESTRESSING STRANDS WITH ULTIMATE STRENGTH OF	31,000 P.S.I.

TRAFFIC DATA

IH-43/94
A.D.T. (2040) - 127,000
D.H.V. (2040) - 12,446
R.D.S. 60 MPH

HOWARD AVE.
A.D.T. (2035) - 23,862
D.H.V. (2035) - 2,062
R.D.S. 35 MPH

EXISTING FOUNDATION DATA

EXISTING TREATED TIMBER PILING IS DRIVEN TO A MINIMUM BEARING VALUE OF 24 TONS PER PILE AT ABUTMENTS AND PIERS.

GENERAL NOTES

THE PROPOSED WORK INCLUDES SUBSTRUCTURE CONCRETE SURFACE REPAIR AND CATHODIC PROTECTION.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

DIMENSIONS SHOWN ARE BASED ON ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

COAT ENTIRE CONCRETE SURFACE OF ALL PIERS WITH CORROSION INHIBITING PROTECTIVE COATING. SEE SPECIAL PROVISIONS FOR DETAILS.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	W ABUT	PIER 1	PIER 2	PIER 3	E. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	44	0	0	0	0	**44**
509.1500	CONCRETE SURFACE REPAIR	SF	36	37	30	0	5	**108**
604.0400	SLOPE PAVING CONCRETE	SY	44	0	0	0	0	**44**
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	0	15	15	15	0	**45**
SPV.0165.01	CATHODIC PROTECTION	SF	36	37	30	0	5	**108**

ALL ITEMS ARE CATEGORY 200

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-265

DRAWN BY JDB | PLANS CK'D. MAD

TYPICAL SECTION AND QUANTITIES | SHEET 2 OF 3

661

8

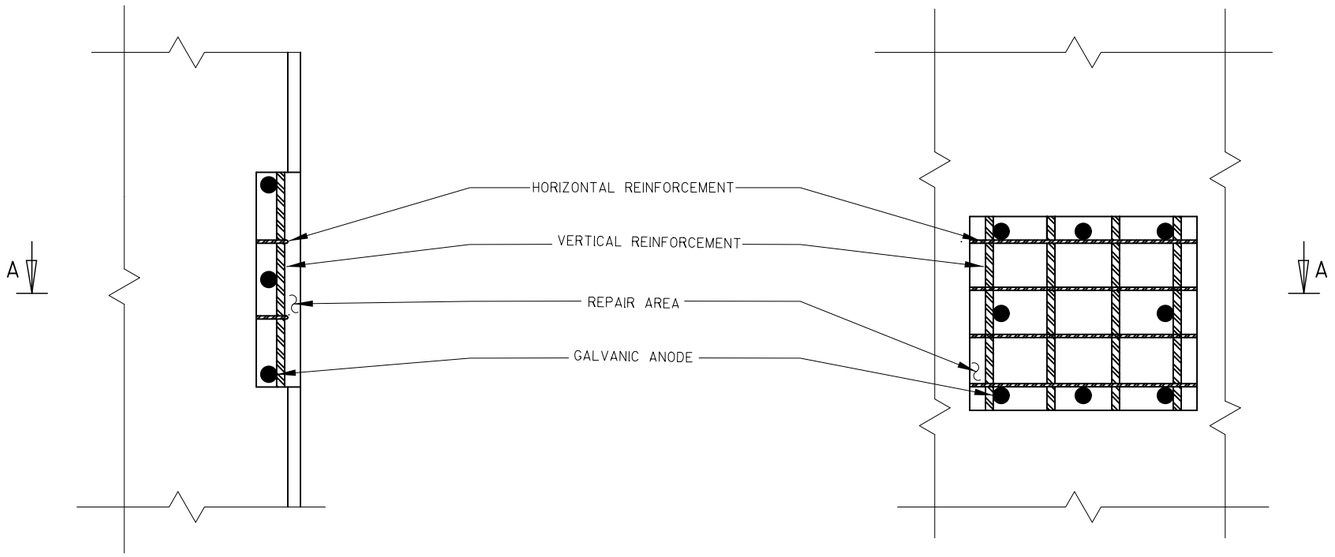
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DATE: 10/1/2012

I.D.

STATE PROJECT NUMBER
1228-26-70

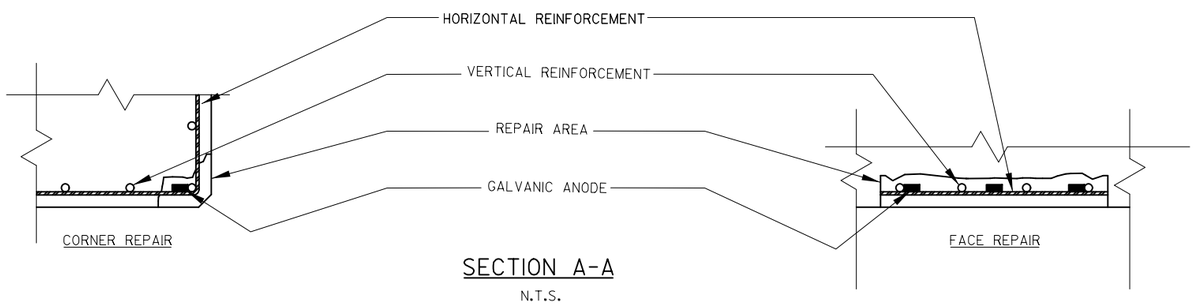


ELEVATION OF CORNER & FACE REPAIRS

N.T.S.

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-265

DRAWN BY MS | PLANS CK'D. MAD

CATHODIC PROTECTION DETAILS

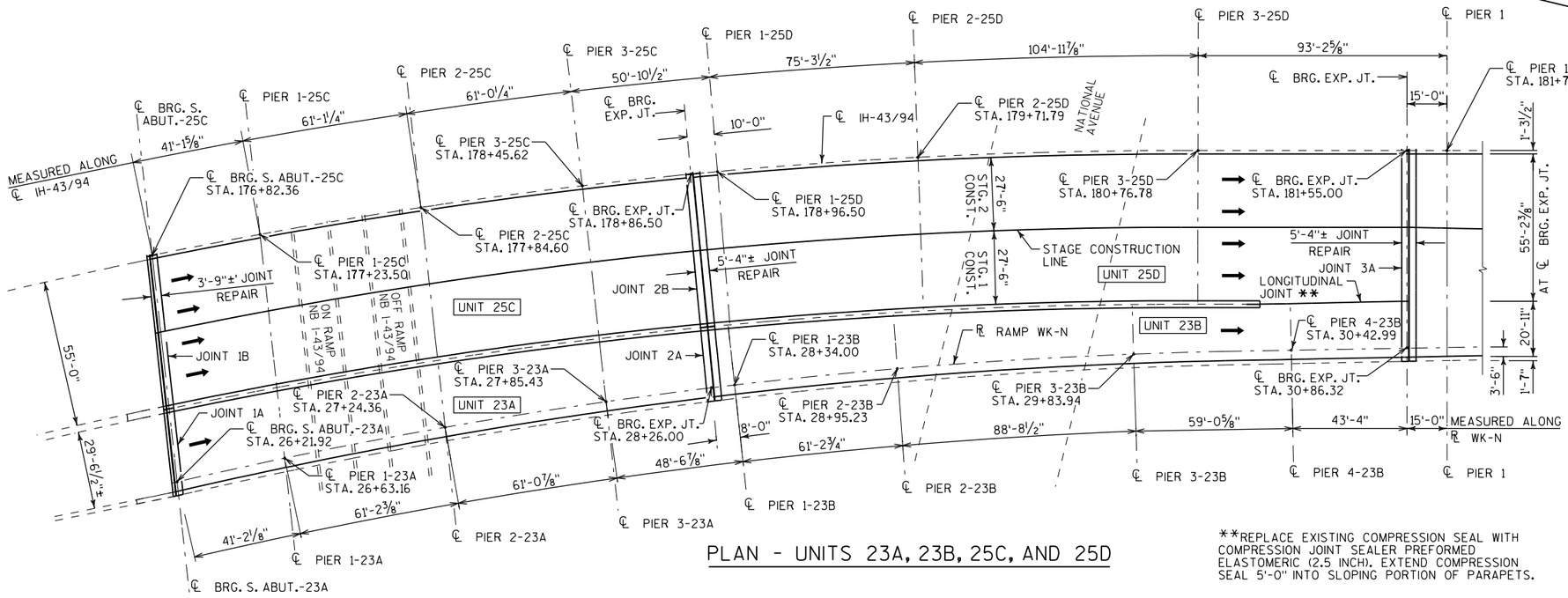
SHEET 3 OF 3

662

DATE: 10/1/2012
I.D.

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STATE PROJECT NUMBER
1228-26-70

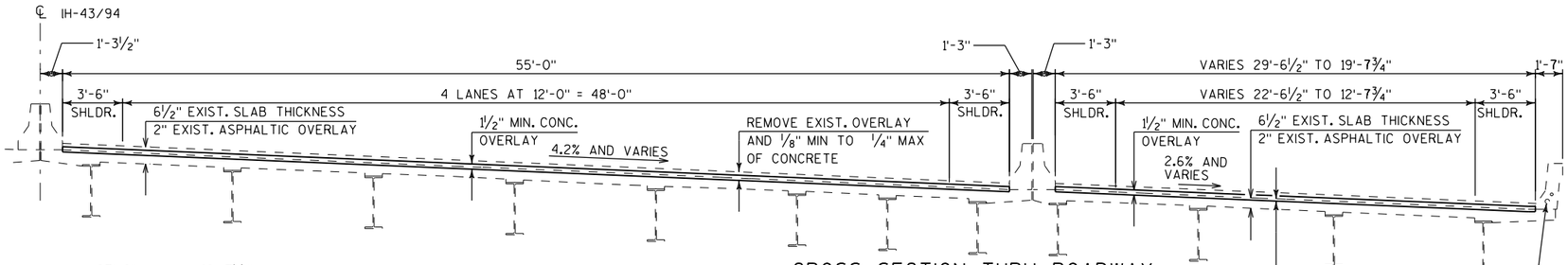


PLAN - UNITS 23A, 23B, 25C, AND 25D

**REPLACE EXISTING COMPRESSION SEAL WITH COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC (2.5 INCH). EXTEND COMPRESSION SEAL 5'-0" INTO SLOPING PORTION OF PARAPETS.

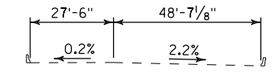
LIST OF DRAWINGS

1. CONCRETE OVERLAY 1
2. GENERAL NOTES AND QUANTITIES
3. CONCRETE OVERLAY 2
4. CONCRETE OVERLAY 3
5. CONCRETE OVERLAY 4
6. CONCRETE OVERLAY 5
7. CONCRETE OVERLAY 6
8. CONSTRUCTION STAGING - STAGE 1
9. CONSTRUCTION STAGING - STAGE 2
10. UNDERDECK INSPECTION RESULTS 1
11. UNDERDECK INSPECTION RESULTS 2
12. UNDERDECK INSPECTION RESULTS 3
13. UNDERDECK INSPECTION RESULTS 4
14. INFRARED INSPECTION RESULTS 1
15. INFRARED INSPECTION RESULTS 2
16. INFRARED INSPECTION RESULTS 3
17. INFRARED INSPECTION RESULTS 4
18. DECK REPAIR AREAS 1
19. DECK REPAIR AREAS 2
20. DECK REPAIR AREAS 3
21. DECK REPAIR AREAS 4
22. STRIP SEAL EXPANSION DEVICE
23. STRIP SEAL EXPANSION DEVICE COVER PLATES
24. MODULAR JOINT EXPANSION DEVICE
25. MODULAR EXPANSION DEVICE COVER PLATES
26. JOINT REPAIR REINFORCEMENT DETAILS 1
27. JOINT REPAIR REINFORCEMENT DETAILS 2
28. JOINT REPAIR REINFORCEMENT DETAILS 3
29. SPLICER AND COUPLER DETAIL

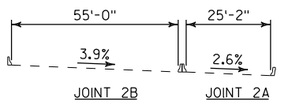


CROSS SECTION THRU ROADWAY

UNITS 23A, 23B, 25C, & 25D (LOOKING NORTH)



JOINT 3A



JOINT SLOPES AND DIMENSIONS

TAKEN ALONG CENTERLINE OF JOINT FROM FACE TO FACE OF PARAPETS

DESIGN DATA:

LIVE LOAD:

INVENTORY RATING (HS)	16.0
OPERATING RATING (HS)	26.6
MAXIMUM STANDARD PERMIT VEHICLE LOAD (KIPS)	190

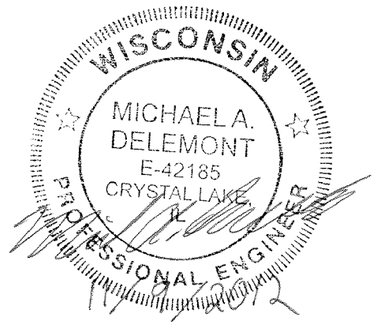
ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SUPERSTRUCTURE f'c = 4,000 psi

BAR STEEL REINFORCEMENT, GRADE 60 fy = 60,000 psi

TRAFFIC DATA:

I.H. 43/94
A.D.T. (2040) = 137,000
D.H.V. (2040) = 13,426
R.D.S. - 55 MPH



NO.	DATE	REVISION	BY

URS
342 North Water Street
Seventh Floor
Milwaukee, WI 53202
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 11/12/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-285

IH-43/94 OVER MENOMONEE RIVER VALLEY

COUNTY MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~ MILWAUKEE
DESIGN SPEC. REHABILITATION	N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
AMK	MAD	MRF	AMK

CONCRETE OVERLAY 1

SHEET 1 OF 29
663

SE REGION CONTACT:
AL GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
MICHAEL DELEMONT (414) 831-4157

8

8

STATE PROJECT NUMBER

1228-26-70

TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEM	UNIT	22A	22B	23A	23B	25A	25B	25C	25D	27A	27B	27C	27D	27E1	27E2	27F1	27F2	TOTAL
502.0100	CONCRETE MASONRY BRIDGES	CY	2.6	0.9	1.9	0.9	2.7	0.9	2.9	0.9	0.9	1.8	0.7	0.7	0.7	0.7	0.7	0.7	20.6
502.2000	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC (2.5 INCH)	LF	0	0	0	31	0	0	0	31	0	0	0	0	0	0	0	0	62
502.3200	PROTECTIVE SURFACE TREATMENT	SY	896	957	625	646	1,130	1,522	1,522	1,634	3,447	4,100	3,583	3,502	3,897	935	4,068	938	33,402
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	20	0	20	0	20	0	20	0	0	0	60	60	52	52	52	52	408
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,811	1,230	1,045	1,094	1,892	2,025	1,730	1,730	3,569	3,679	2,025	2,144	1,734	1,734	1,734	1,734	30,910
505.0904	BAR COUPLERS NO. 4	EACH	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	4
505.0905	BAR COUPLERS NO. 5	EACH	0	0	0	0	13	18	13	18	18	18	6	6	6	6	6	6	134
505.0906	BAR COUPLERS NO. 6	EACH	0	0	0	0	5	10	0	0	0	0	14	14	14	14	14	14	99
509.0301	PREPARATION DECKS TYPE 1	SY	7	0	1	0	0	0	0	0	1	0	0	0	0	0	6	0	15
509.0302	PREPARATION DECKS TYPE 2	SY	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	7
509.0500	CLEANING DECKS	SY	871	935	609	626	1,106	1,489	1,496	1,597	3,395	4,044	3,548	3,470	3,865	903	4,036	906	32,896
509.1000	JOINT REPAIR	SY	24	21	14	17	22	32	25	35	47	54	33	37	30	30	30	30	481
509.2000	FULL-DEPTH DECK REPAIR	SY	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	49	53	33	36	59	83	79	89	181	214	188	183	202	58	211	58	1,776
514.0900	ADJUSTING FLOOR DRAINS	EACH	0	1	0	1	0	1	0	1	4	5	4	4	6	1	6	1	35
652.0325	CONDUIT RIGID NONMETALLIC SCHEDULE 80 2-INCH	LF	4	6	4	6	0	0	0	0	6	6	5	5	5	5	5	5	62
652.0335	CONDUIT RIGID NONMETALLIC SCHEDULE 80 3-INCH	LF	0	0	4	6	0	0	0	0	6	0	5	0	5	5	0	0	31
652.0340	CONDUIT RIGID NONMETALLIC SCHEDULE 80 4-INCH	LF	4	6	0	0	0	0	0	0	0	6	0	5	0	0	5	5	31
SPV.0105.10	INSTALL EXPANSION DEVICE B-40-285-22A	LS	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SPV.0105.26	INSTALL EXPANSION DEVICE B-40-285-22B	LS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SPV.0105.27	INSTALL EXPANSION DEVICE B-40-285-23A	LS	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
SPV.0105.28	INSTALL EXPANSION DEVICE B-40-285-23B	LS	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
SPV.0105.29	INSTALL EXPANSION DEVICE B-40-285-25A	LS	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
SPV.0105.30	INSTALL EXPANSION DEVICE B-40-285-25B	LS	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
SPV.0105.31	INSTALL EXPANSION DEVICE B-40-285-25C	LS	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
SPV.0105.32	INSTALL EXPANSION DEVICE B-40-285-25D	LS	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
SPV.0105.33	INSTALL EXPANSION DEVICE B-40-285-27A	LS	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
SPV.0105.34	INSTALL EXPANSION DEVICE B-40-285-27B	LS	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
SPV.0105.20	INSTALL EXPANSION DEVICE MODULAR B-40-285-27C	LS	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
SPV.0105.21	INSTALL EXPANSION DEVICE MODULAR B-40-285-27D	LS	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
SPV.0105.22	INSTALL EXPANSION DEVICE MODULAR B-40-285-27E1	LS	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
SPV.0105.23	INSTALL EXPANSION DEVICE MODULAR B-40-285-27E2	LS	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
SPV.0105.24	INSTALL EXPANSION DEVICE MODULAR B-40-285-27F1	LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
SPV.0105.25	INSTALL EXPANSION DEVICE MODULAR B-40-285-27F2	LS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
	CATEGORY:		210	230	240	250	270	280	290	300	310	320	330	340	350	360	370	380	

* MASONRY ANCHOR QUANTITY BASED ON A 20% REPLACEMENT ESTIMATE.

GENERAL NOTES

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY AND JOINT REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 1¾". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

THE EXISTING ASPHALTIC OVERLAY AND A MINIMUM OF ⅛" TO A MAXIMUM OF ¼" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOSITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

INSTALLATION OF EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID AS "INSTALL EXPANSION DEVICE B-40-285" OR "INSTALL EXPANSION DEVICE MODULAR B-40-285."

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN, AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2."

DECK DIMENSIONS AND CROSS-SLOPES ARE TAKEN FROM EXISTING PLANS. THE CONTRACTOR MUST VERIFY DECK DIMENSIONS AND CROSS-SLOPES IN THE FIELD PRIOR TO JOINT FABRICATION.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER

SEE "CONSTRUCTION STAGING - STAGE 2" DRAWING FOR TABLE OF JOINT TYPES AND LENGTHS.

NAME PLATES IN JOINT REMOVAL AREAS SHALL BE REMOVED, STORED AND REINSTALLED INTO NEW CONCRETE. COST INCLUDED WITH CONCRETE MASONRY BRIDGES.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER. EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES AND MODULAR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES AND MODULAR EXPANSION DEVICES ARE INCIDENTAL TO THE JOINT REPAIR ITEM.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

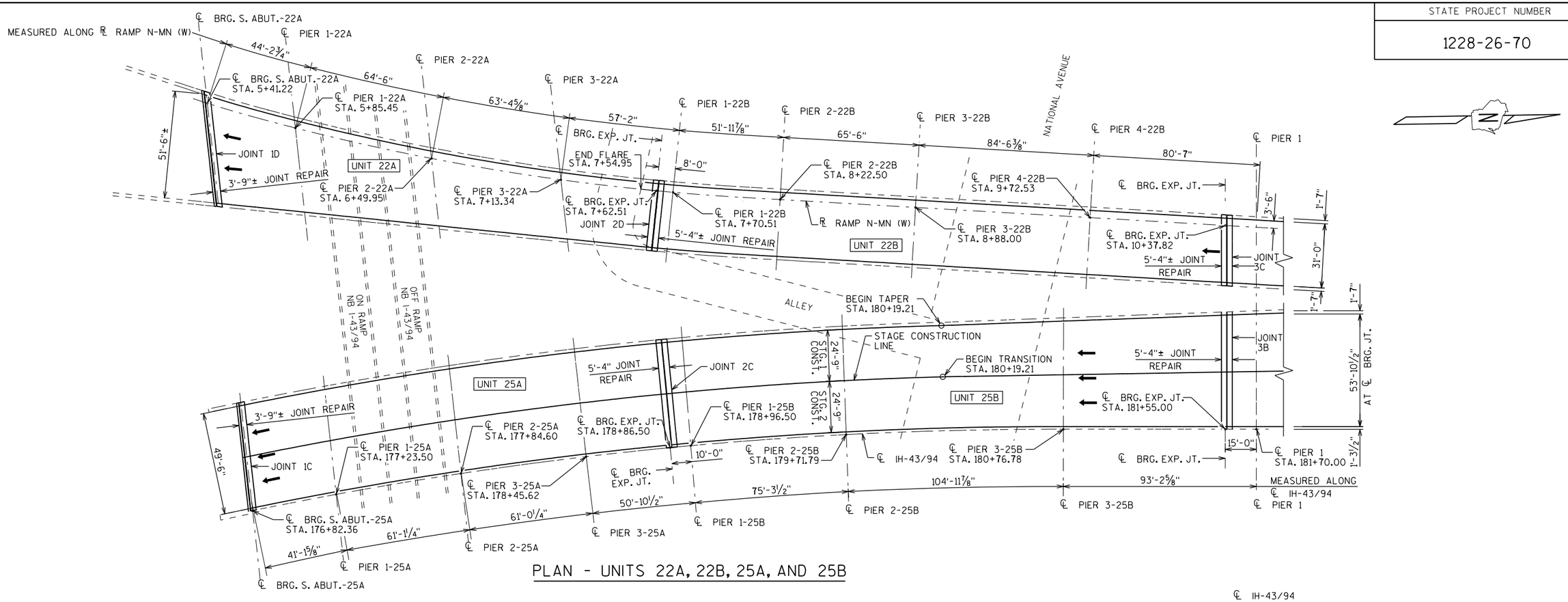
STRUCTURE B-40-0285

DRAWN BY MRF | PLANS CK'D. AMK

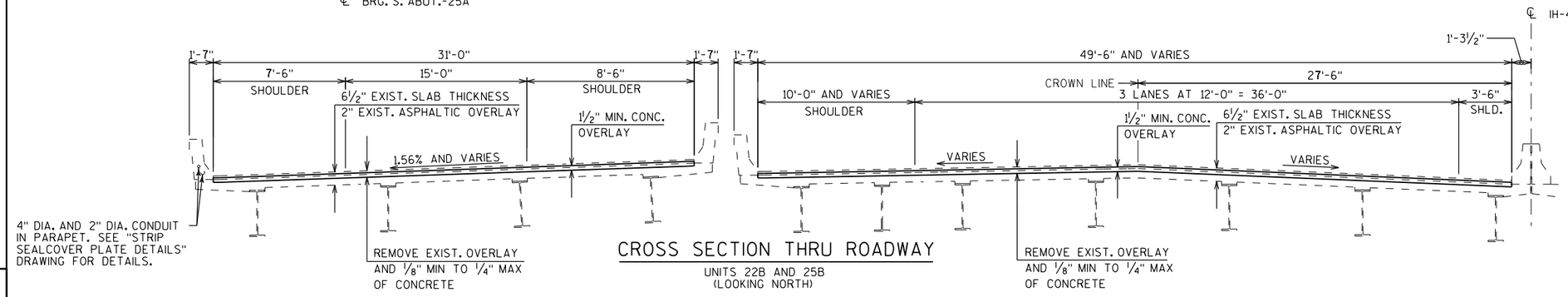
GENERAL NOTES AND QUANTITIES

SHEET 2 OF 29
664

STATE PROJECT NUMBER
1228-26-70

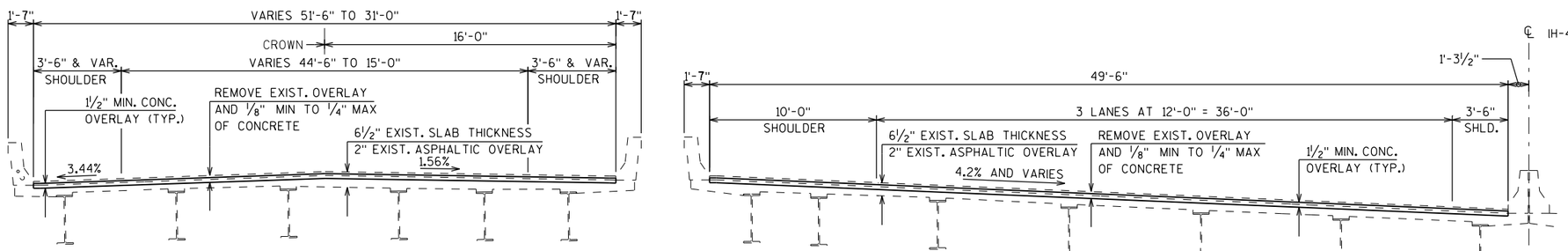


PLAN - UNITS 22A, 22B, 25A, AND 25B



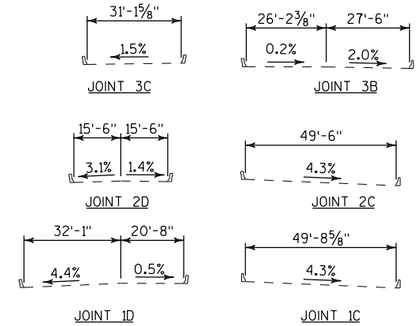
CROSS SECTION THRU ROADWAY

UNITS 22B AND 25B
(LOOKING NORTH)



CROSS SECTION THRU ROADWAY

UNITS 22A AND 25A
(LOOKING NORTH)



JOINT SLOPES AND DIMENSIONS

TAKEN ALONG CENTERLINE OF JOINT FROM FACE TO FACE OF PARAPETS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

DRAWN BY	MRF	PLANS CK'D.	AMK

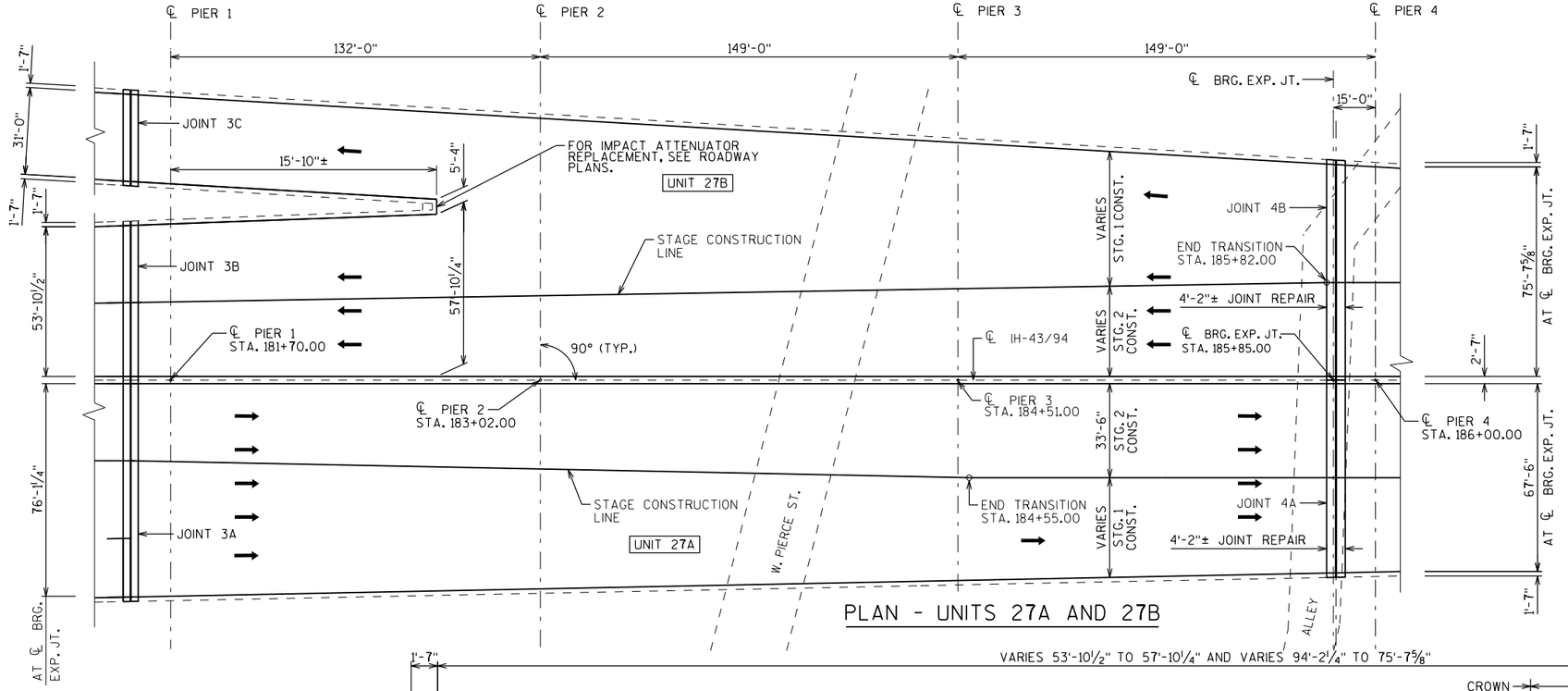
CONCRETE OVERLAY 2

SHEET 3 OF 29
665

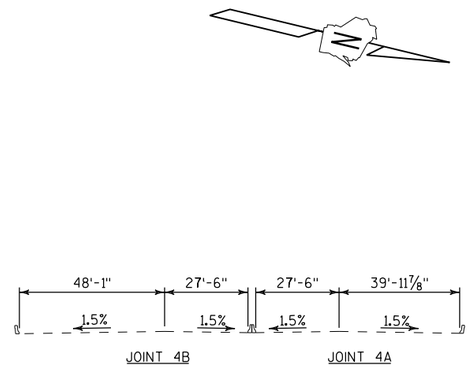
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8

STATE PROJECT NUMBER
1228-26-70

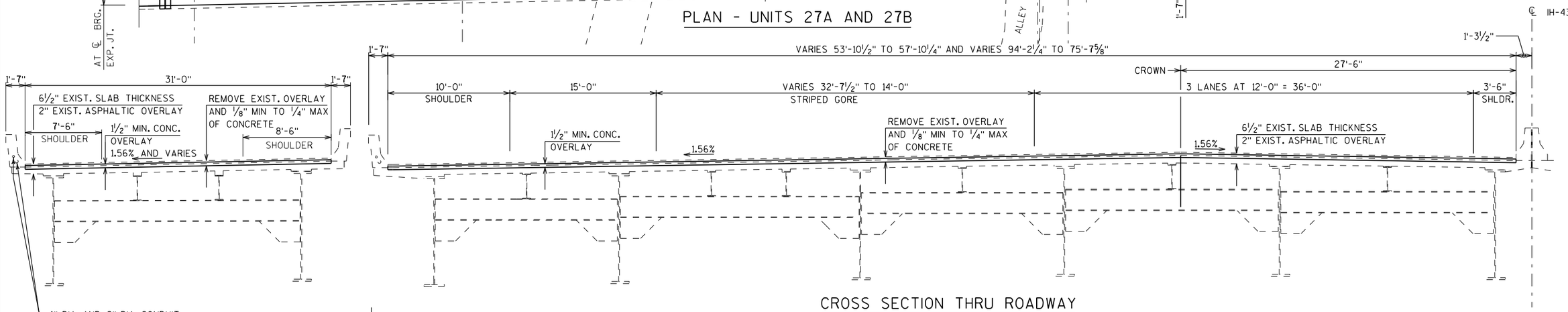


PLAN - UNITS 27A AND 27B



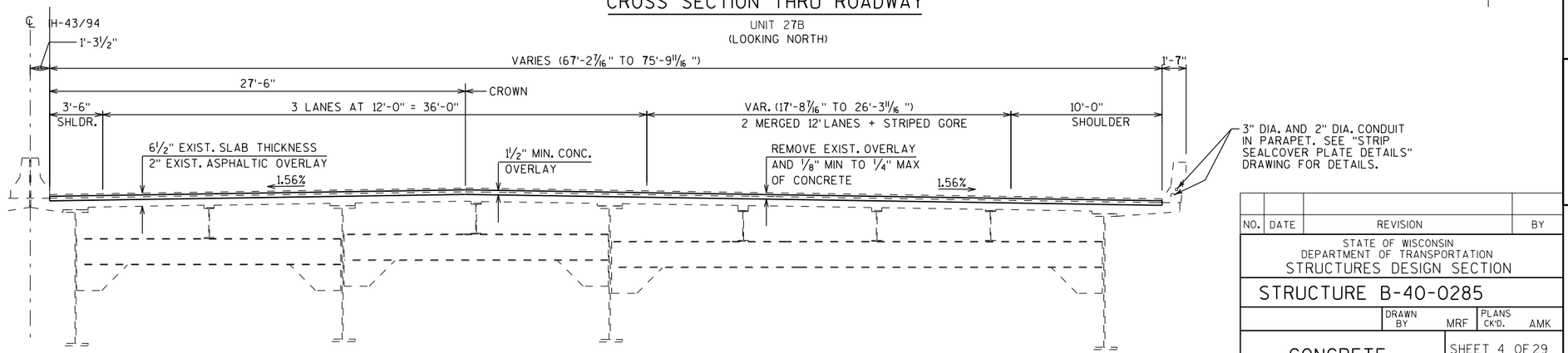
JOINT SLOPES AND DIMENSIONS

TAKEN ALONG CENTERLINE OF JOINT FROM FACE TO FACE OF PARAPETS



CROSS SECTION THRU ROADWAY

UNIT 27B
(LOOKING NORTH)



CROSS SECTION THRU ROADWAY

UNIT 27A
(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

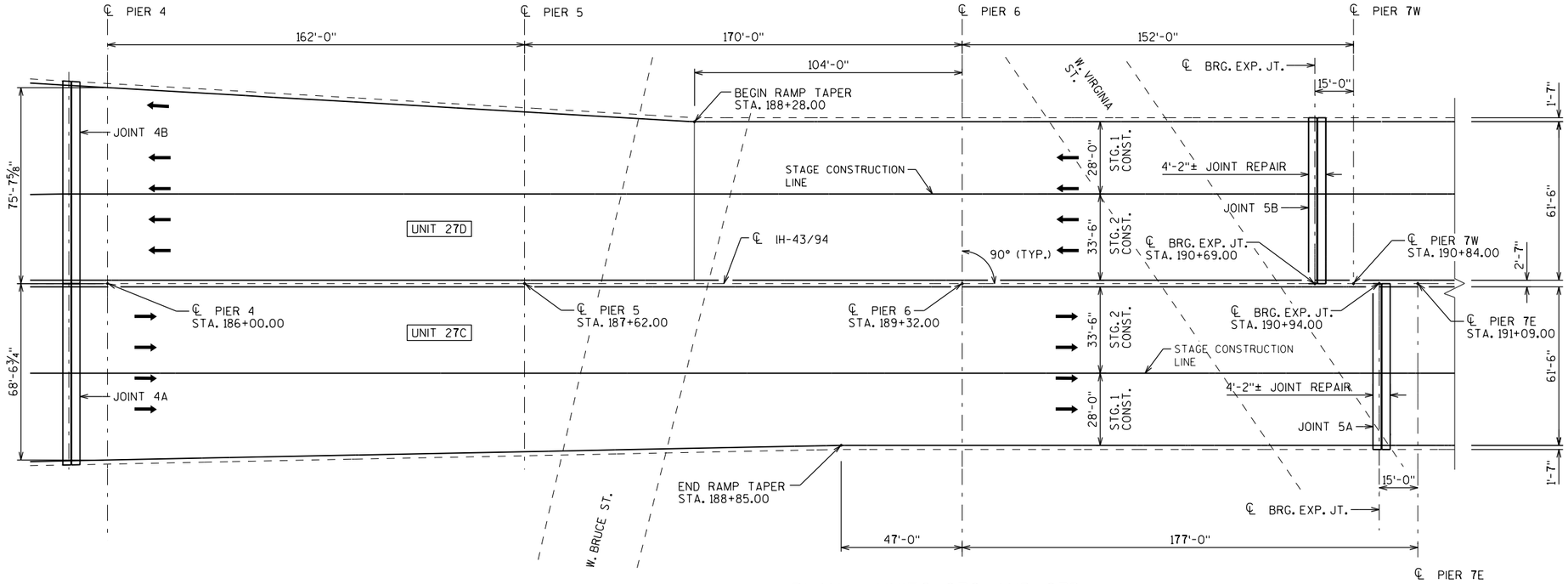
DRAWN BY MRF | PLANS CK'D. AMK

CONCRETE OVERLAY 3

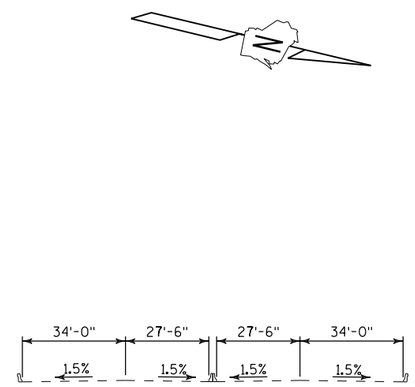
SHEET 4 OF 29
666

STATE PROJECT NUMBER

1228-26-70

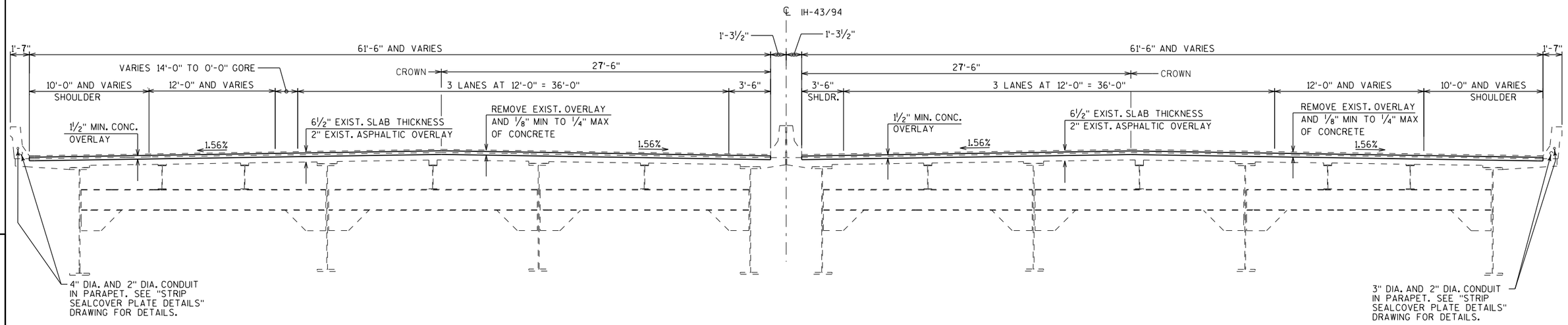


PLAN - UNITS 27C AND 27D



JOINT SLOPES AND DIMENSIONS

TAKEN ALONG CENTERLINE OF JOINT FROM FACE TO FACE OF PARAPETS



CROSS SECTION THRU ROADWAY

UNITS 27C AND 27D
(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

DRAWN BY MRF | PLANS CK'D. AMK

CONCRETE OVERLAY 4

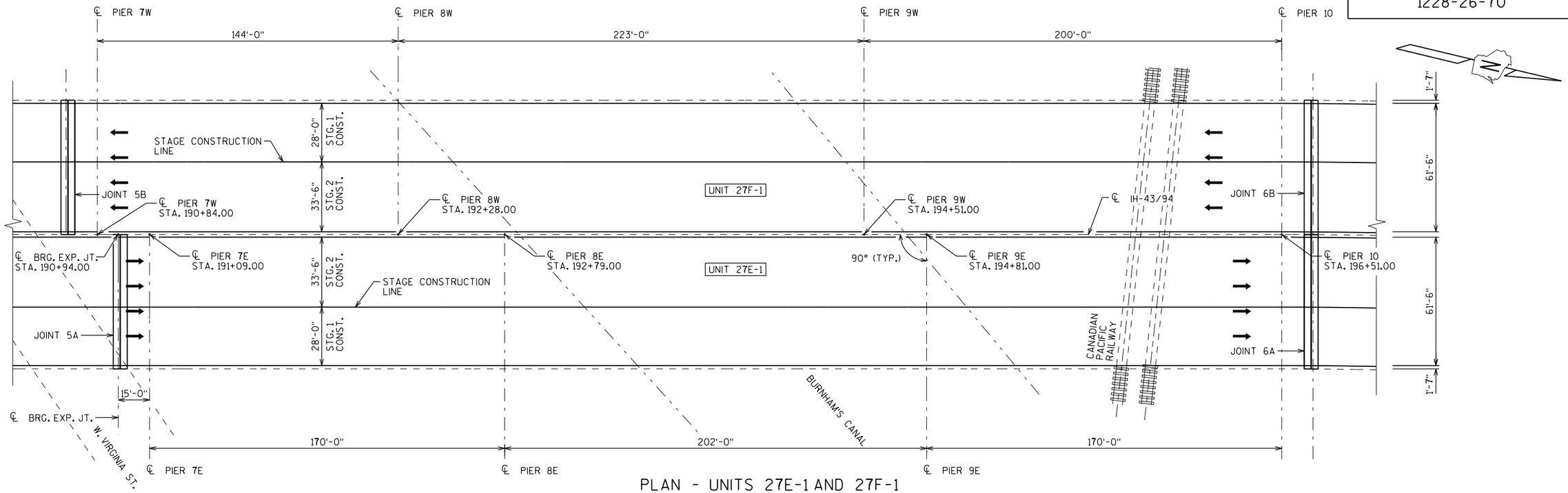
SHEET 5 OF 29
667

8

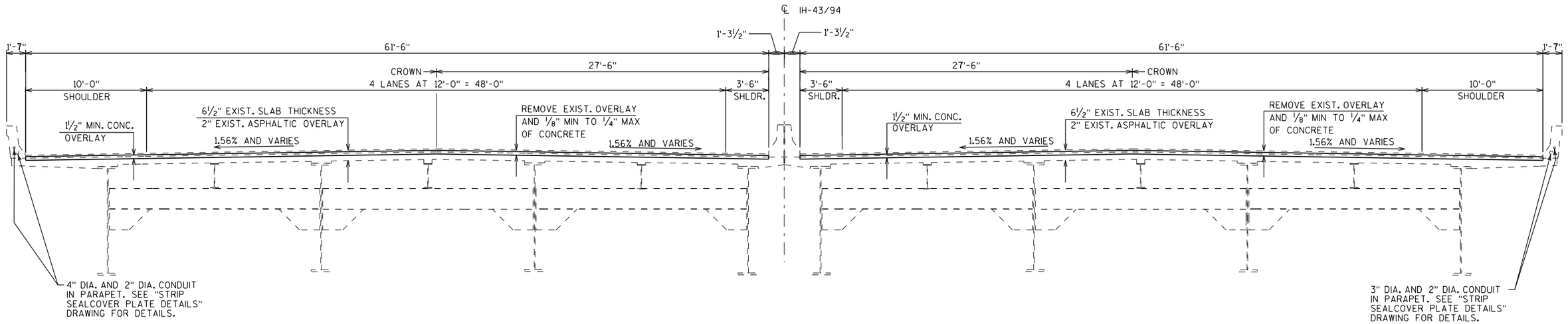
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STATE PROJECT NUMBER

1228-26-70

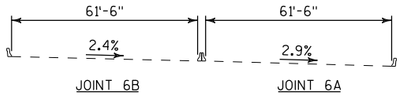


PLAN - UNITS 27E-1 AND 27F-1



CROSS SECTION THRU ROADWAY

UNITS 27E-1 AND 27F-1
(LOOKING NORTH)



JOINT SLOPES AND DIMENSIONS

TAKEN ALONG CENTERLINE OF JOINT FROM FACE TO FACE OF PARAPETS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

DRAWN BY	MRF	PLANS CK'D.	AMK

CONCRETE OVERLAY 5

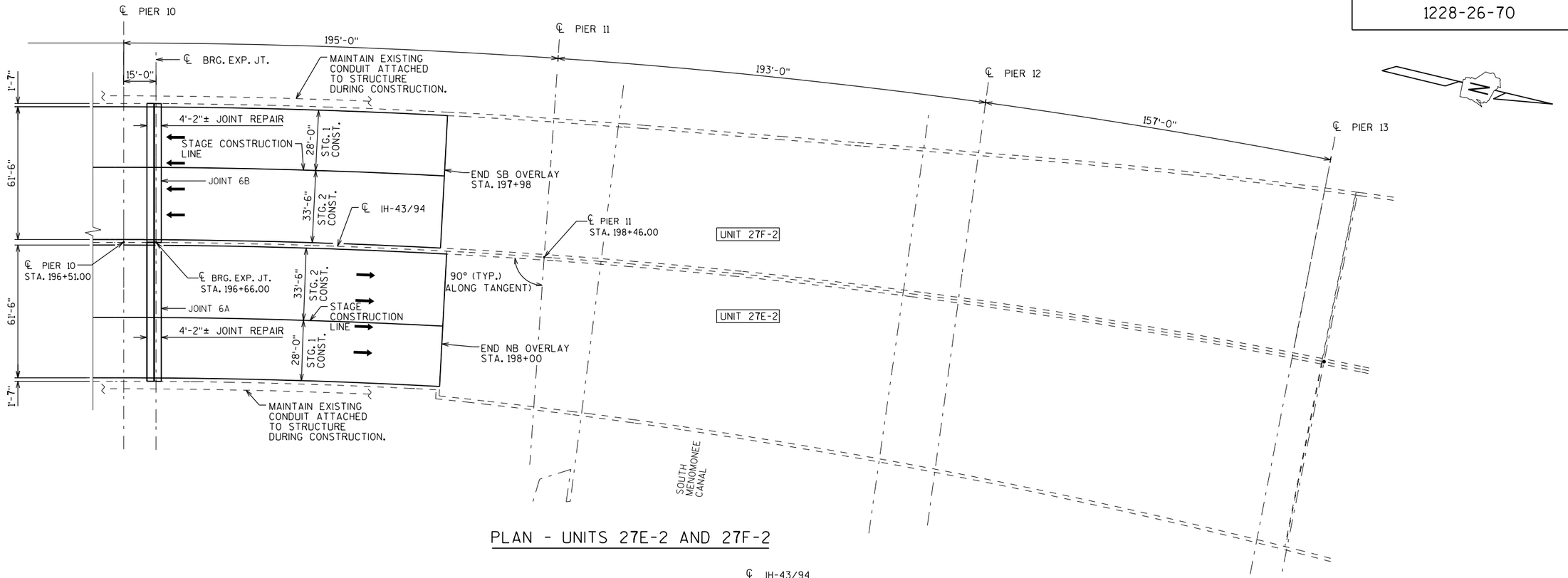
SHEET 6 OF 29
668

8

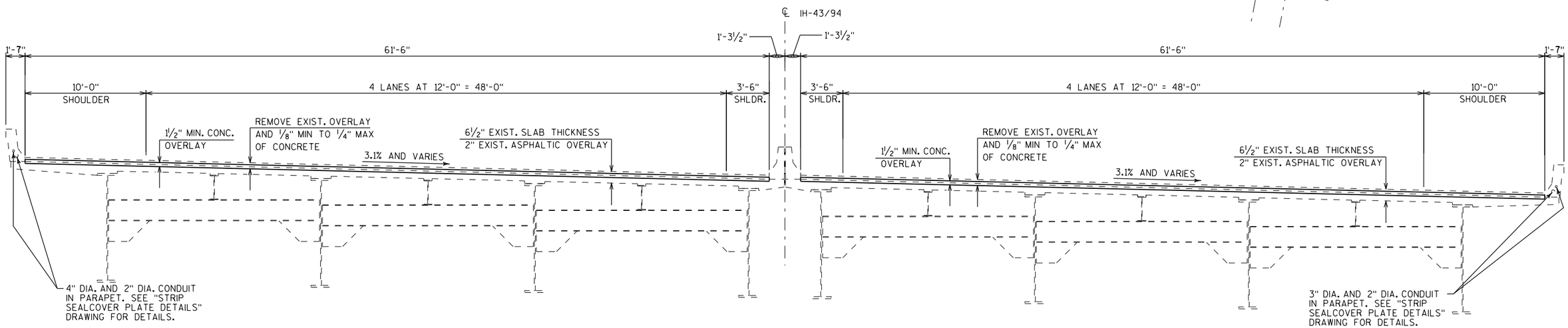
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STATE PROJECT NUMBER

1228-26-70



PLAN - UNITS 27E-2 AND 27F-2



CROSS SECTION THRU ROADWAY

UNITS 27E-1 AND 27F-2
(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

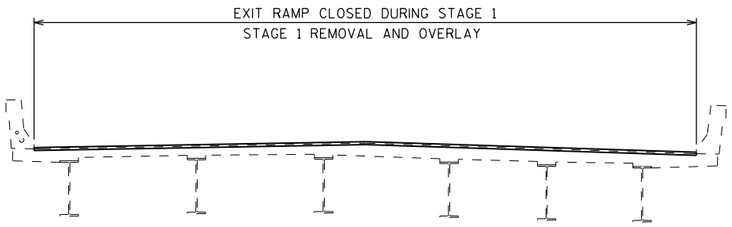
STRUCTURE B-40-0285

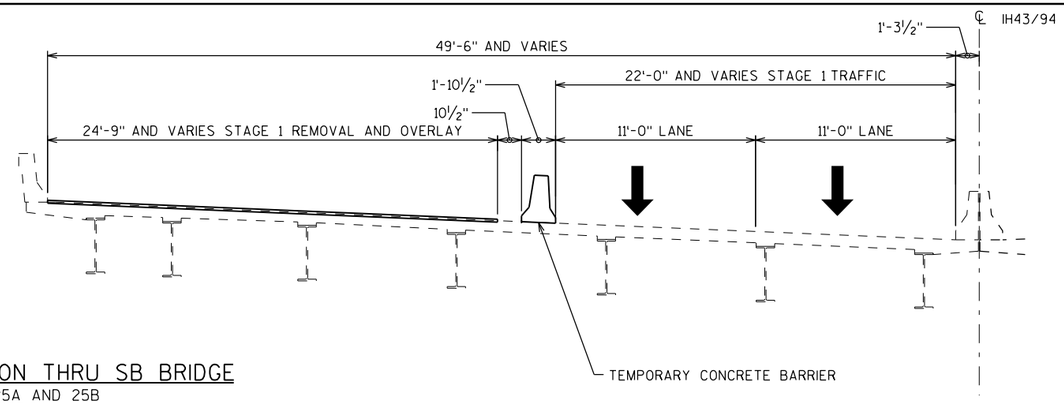
DRAWN BY MRF | PLANS CK'D. AMK

CONCRETE OVERLAY 6

SHEET 7 OF 29
669

STATE PROJECT NUMBER
1228-26-70





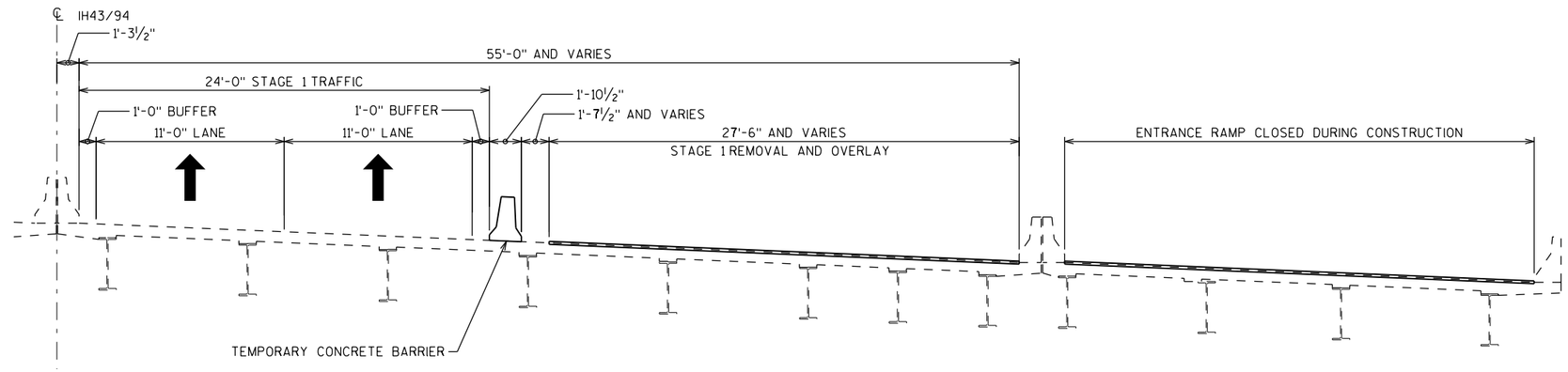
EXPANSION JOINT TYPES AND LENGTHS

JOINT	TYPE	STAGE 1 LENGTH	STAGE 2 LENGTH	TOTAL LENGTH
1A	STRIP SEAL	29'-9"	--	29'-9"
1B	STRIP SEAL	27'-7½"	27'-7½"	55'-3"
1C	STRIP SEAL	24'-10¼"	24'-10⅜"	49'-8⅝"
1D	STRIP SEAL	52'-9"	--	52'-9"
2A	STRIP SEAL	25'-2"	--	25'-2"
2B	STRIP SEAL	27'-6"	27'-6"	55'-0"
2C	STRIP SEAL	24'-9"	24'-9"	49'-6"
2D	STRIP SEAL	31'-0"	--	31'-0"
3A	STRIP SEAL	48'-7⅛"	27'-6"	76'-1⅛"
3B	STRIP SEAL	27'-6"	26'-2⅜"	53'-8⅜"
3C	STRIP SEAL	31'-1⅝"	--	31'-1⅝"
4A	MODULAR	33'-11⅞"	33'-6"	67'-5⅞"
4B	MODULAR	42'-1"	33'-6"	75'-7"
5A	MODULAR	28'-0"	33'-6"	61'-6"
5B	MODULAR	28'-0"	33'-6"	61'-6"
6A	MODULAR	28'-0"	33'-6"	61'-6"
6B	MODULAR	28'-0"	33'-6"	61'-6"

ALL LENGTHS ARE TAKEN TO THE FACE OF PARAPET

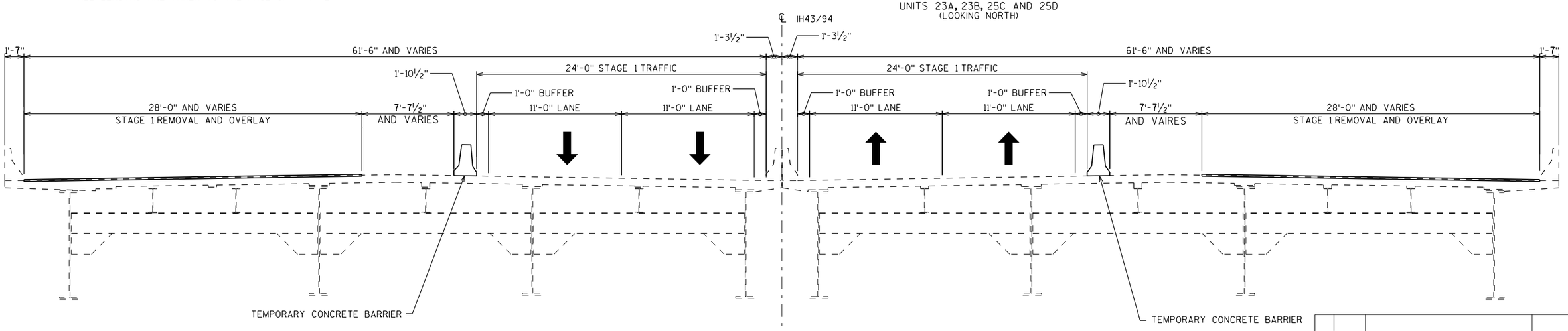
STAGE 1 - CROSS SECTION THRU SB BRIDGE

UNITS 22A, 22B, 25A AND 25B
(LOOKING NORTH)



STAGE 1 - CROSS SECTION THRU NB BRIDGE

UNITS 23A, 23B, 25C AND 25D
(LOOKING NORTH)



STAGE 1 - CROSS SECTION THRU FULL BRIDGE

UNITS 27A, 27B, 27C, 27D, 27E-1, 27E-2, 27F-1 AND 27F-2
(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

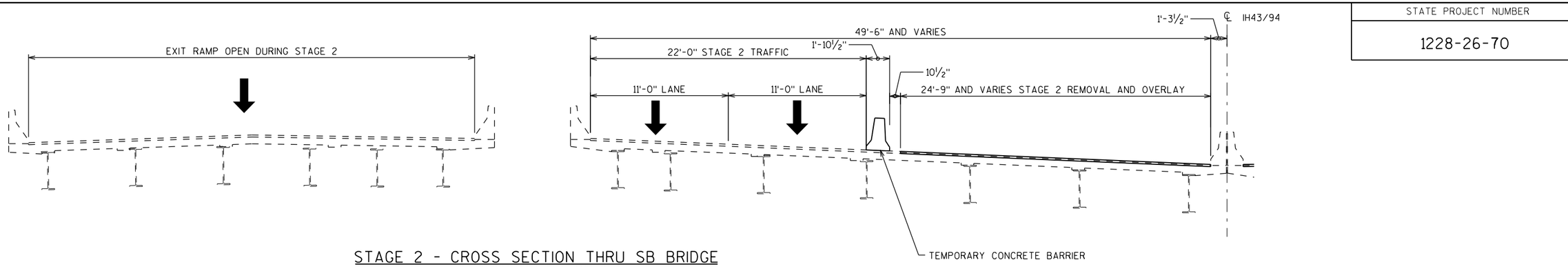
STRUCTURE B-40-0285

DRAWN BY MRF | PLANS CK'D. AMK

CONSTRUCTION STAGING - STAGE 1

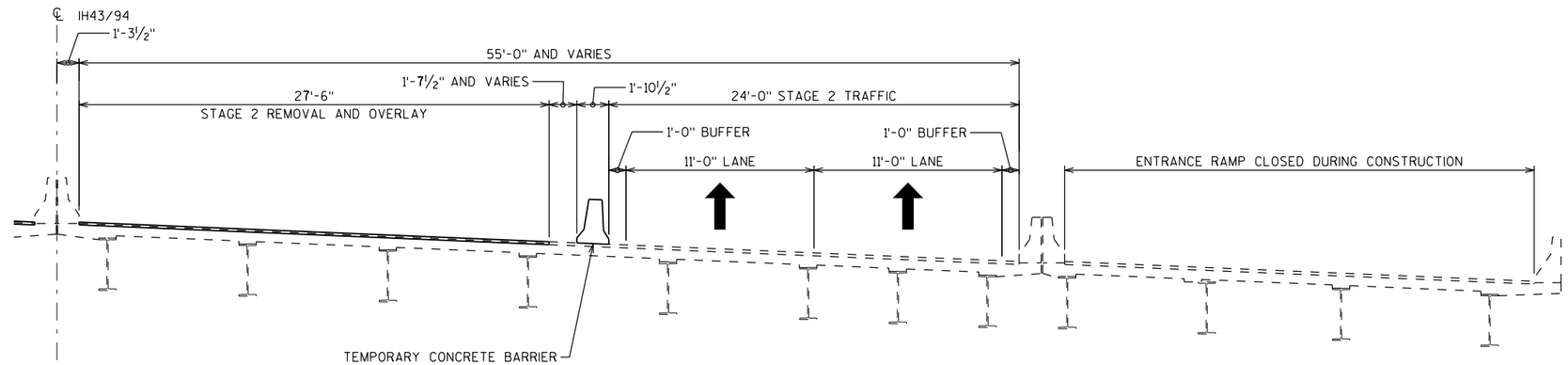
SHEET 8 OF 29
670

STATE PROJECT NUMBER
1228-26-70



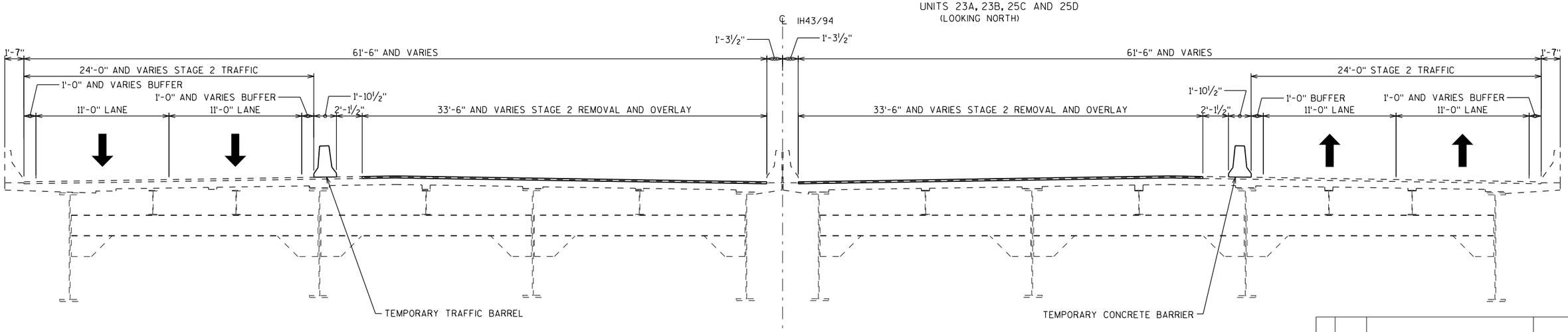
STAGE 2 - CROSS SECTION THRU SB BRIDGE

UNITS 22A, 22B, 25A AND 25B
(LOOKING NORTH)



STAGE 2 - CROSS SECTION THRU NB BRIDGE

UNITS 23A, 23B, 25C AND 25D
(LOOKING NORTH)



STAGE 2 - CROSS SECTION THRU FULL BRIDGE

UNITS 27A, 27B, 27C, 27D, 27E-1, 27E-2, 27F-1 AND 27F-2
(LOOKING NORTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

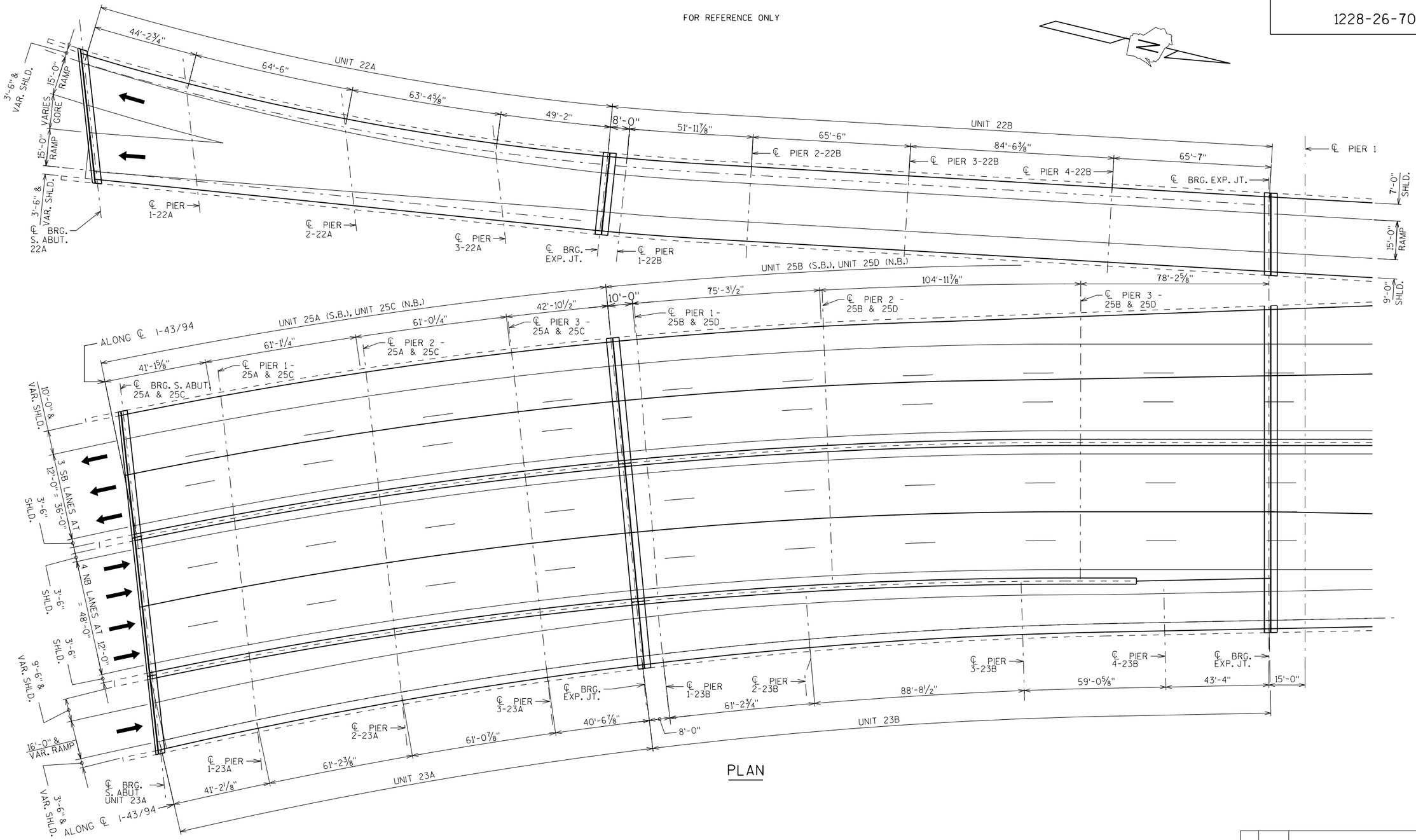
DRAWN BY MRF | PLANS CK'D. AMK

CONSTRUCTION STAGING - STAGE 2

SHEET 9 OF 29
671

STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY



PLAN

DECK INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	356,329	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	50	< 0.1%	

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENSE BUT WERE TIGHT AND/OR HAIRLINE CRACKS.
NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

INSPECTION DATE: 3/13/2012
INSPECTED BY: URS CORPORATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

DRAWN BY MRF | PLANS CK'D. AMK

UNDERDECK INSPECTION RESULTS 1

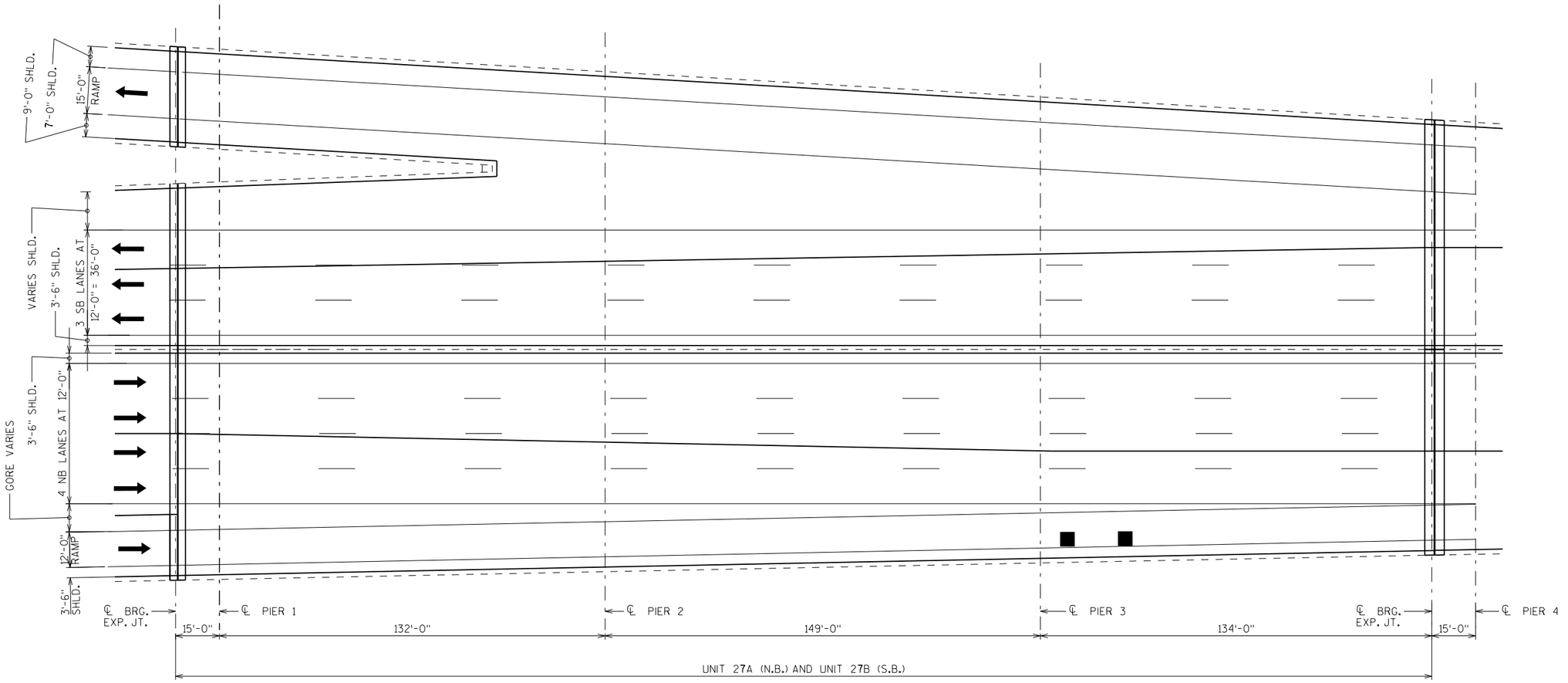
SHEET 10 OF 29
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8

8

FOR REFERENCE ONLY

STATE PROJECT NUMBER
1228-26-70



PLAN

NOTES:

1. RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENSE BUT WERE TIGHT AND/OR HAIRLINE CRACKS.

2. SEE "UNDERDECK INSPECTION RESULTS 1" SHEET FOR LEGEND AND QUANTITIES.

INSPECTION DATE: 3/13/2012
INSPECTED BY: URS CORPORATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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UNDERDECK INSPECTION RESULTS 2

SHEET 11 OF 29
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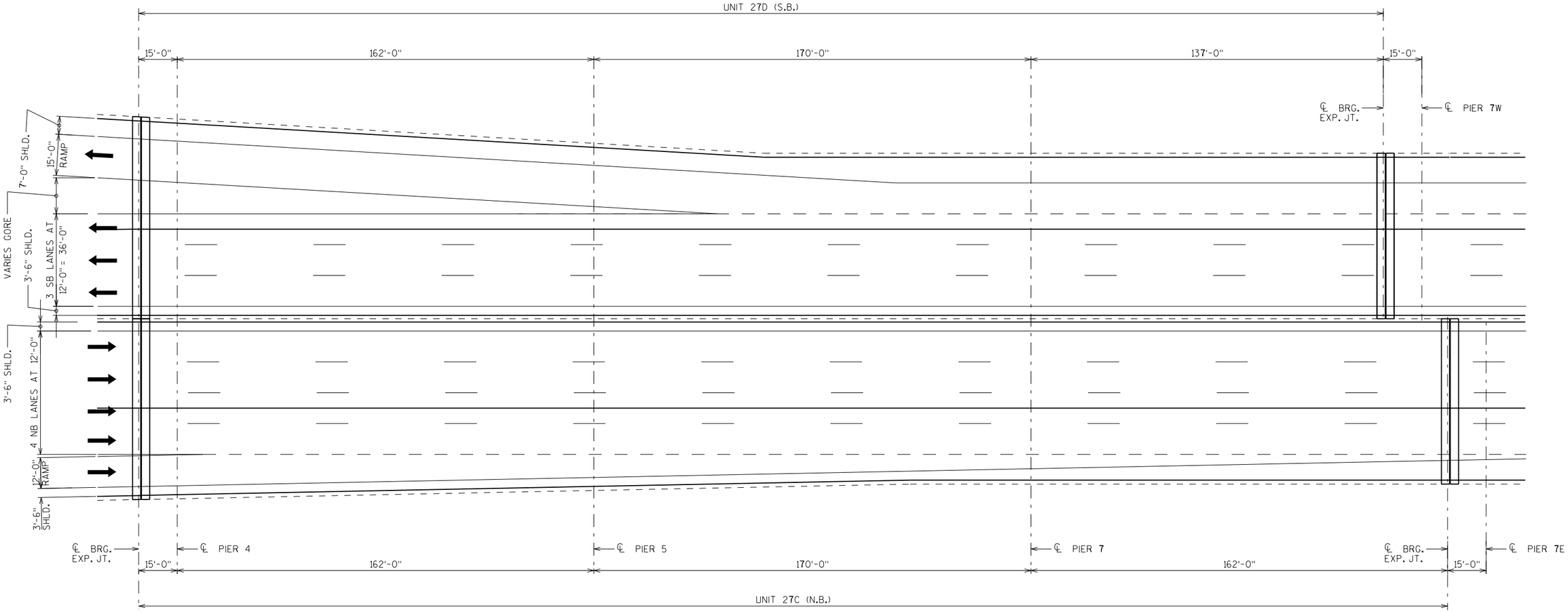
8

8

STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY





PLAN

8

8

NOTES:

1. RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENSE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.
2. SEE "UNDERDECK INSPECTION RESULTS 1" SHEET FOR LEGEND AND QUANTITIES.

INSPECTION DATE: 3/13/2012
INSPECTED BY: URS CORPORATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

DRAWN BY	MRF	PLANS CK'D.	AMK

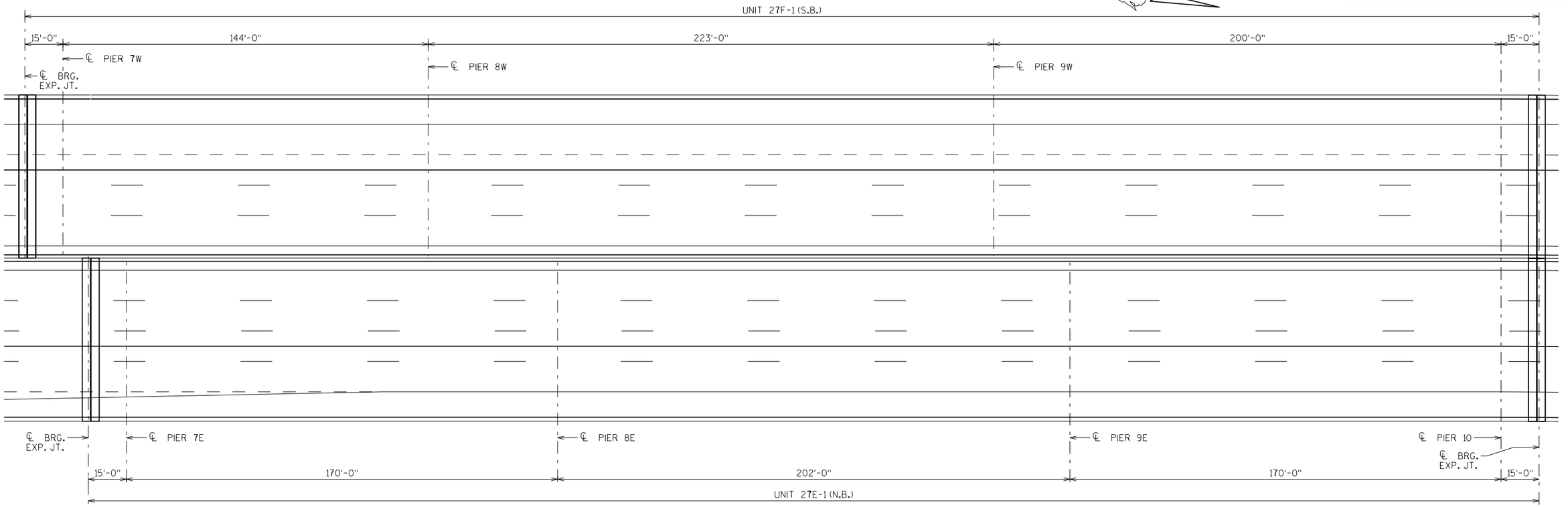
UNDERDECK INSPECTION RESULTS 3

SHEET 12 OF 29
674

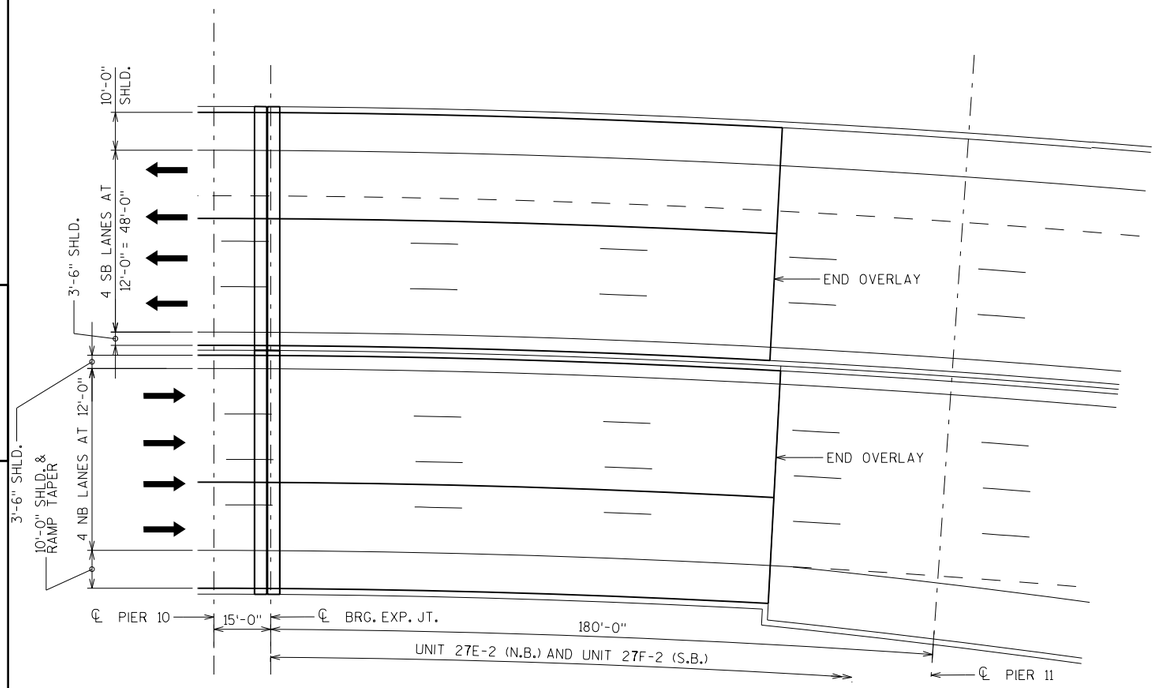
STATE PROJECT NUMBER

1228-26-70

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PLAN



NOTES:

1. RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENSE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.
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INSPECTION DATE: 3/13/2012
INSPECTED BY: URS CORPORATION

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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UNDERDECK INSPECTION RESULTS 4

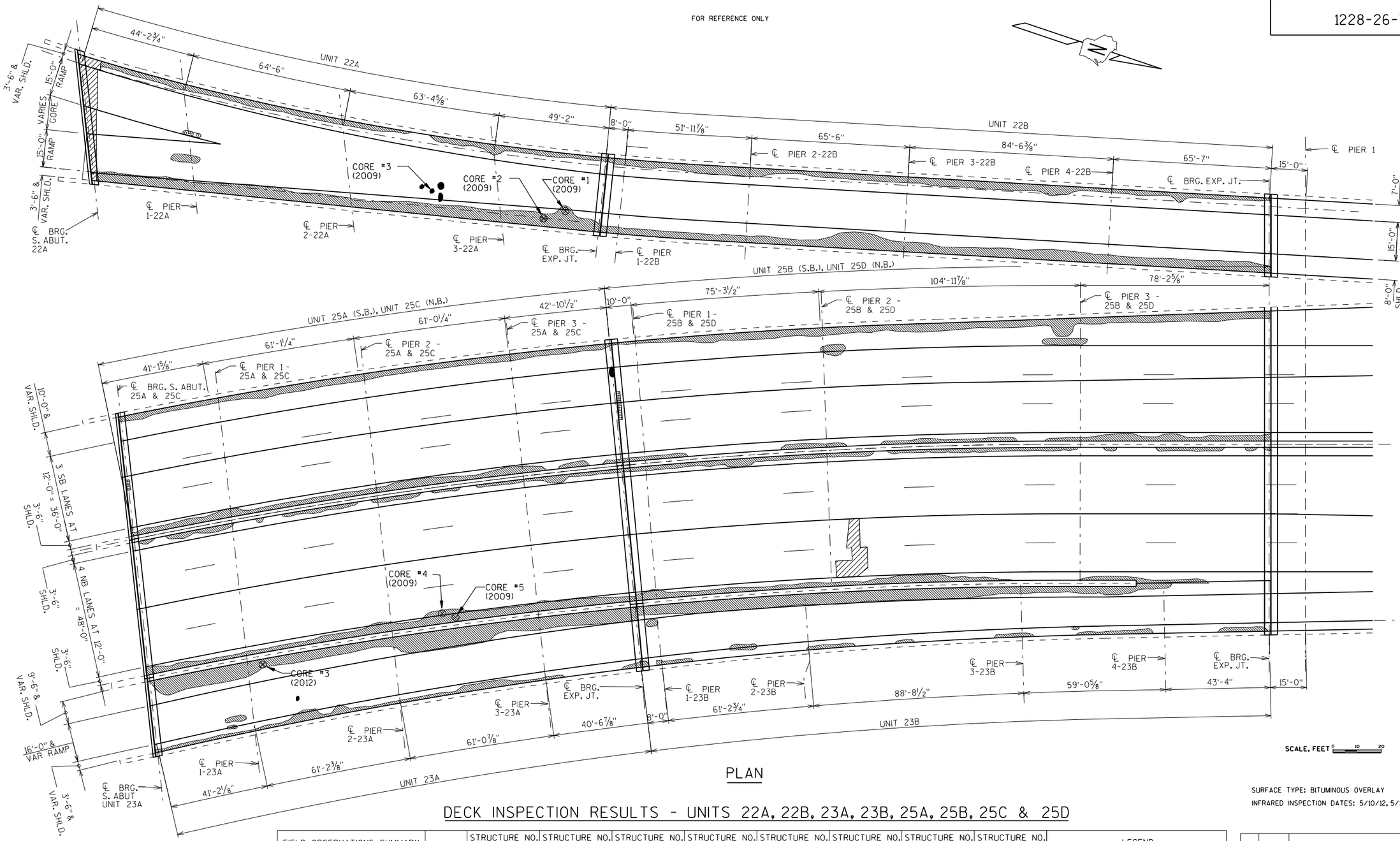
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STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY



PLAN

SURFACE TYPE: BITUMINOUS OVERLAY

INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

DECK INSPECTION RESULTS - UNITS 22A, 22B, 23A, 23B, 25A, 25B, 25C & 25D

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285-22A		STRUCTURE NO. B-40-285-22B		STRUCTURE NO. B-40-285-23A		STRUCTURE NO. B-40-285-23B		STRUCTURE NO. B-40-285-25A		STRUCTURE NO. B-40-285-25B		STRUCTURE NO. B-40-285-25C		STRUCTURE NO. B-40-285-25D	
ITEM	UNIT	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%
TOTAL AREA	ft.²	8055		8570		5615		5719		10197		13672		11287		14675	
SHADE/DEBRIS	ft.²	255		0		0		0		0		0		0		174	
DELAMINATION	ft.²	21	0.3	0	0	3	<0.1	0	0	7	<0.1	0	0	0	0	0	0
OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING	ft.²	1397	17.9	1655	19.3	1397	24.9	1055	18.4	909	8.9	1222	8.9	809	7.2	741	5.1
BLISTERING OF OVERLAY	ft.²	3	<0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ASPHALT PATCH	ft.²	0	0	0	0	0	0	0	0	6	<0.1	17	0.1	0	0	0	0
CONCRETE PATCH	ft.²	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

SEE "INFRARED INSPECTION RESULTS 4" SHEET FOR TOTAL DEFECT QUANTITIES FOR B-40-285 PROJECT AREA

LEGEND

- DELAMINATION
- OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING
- BLISTERING OF OVERLAY
- ASPHALT PATCH
- CONCRETE PATCH
- SHADE/DEBRIS

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

DRAWN BY DS | PLANS CK'D. DU

INFRARED INSPECTION RESULTS 1

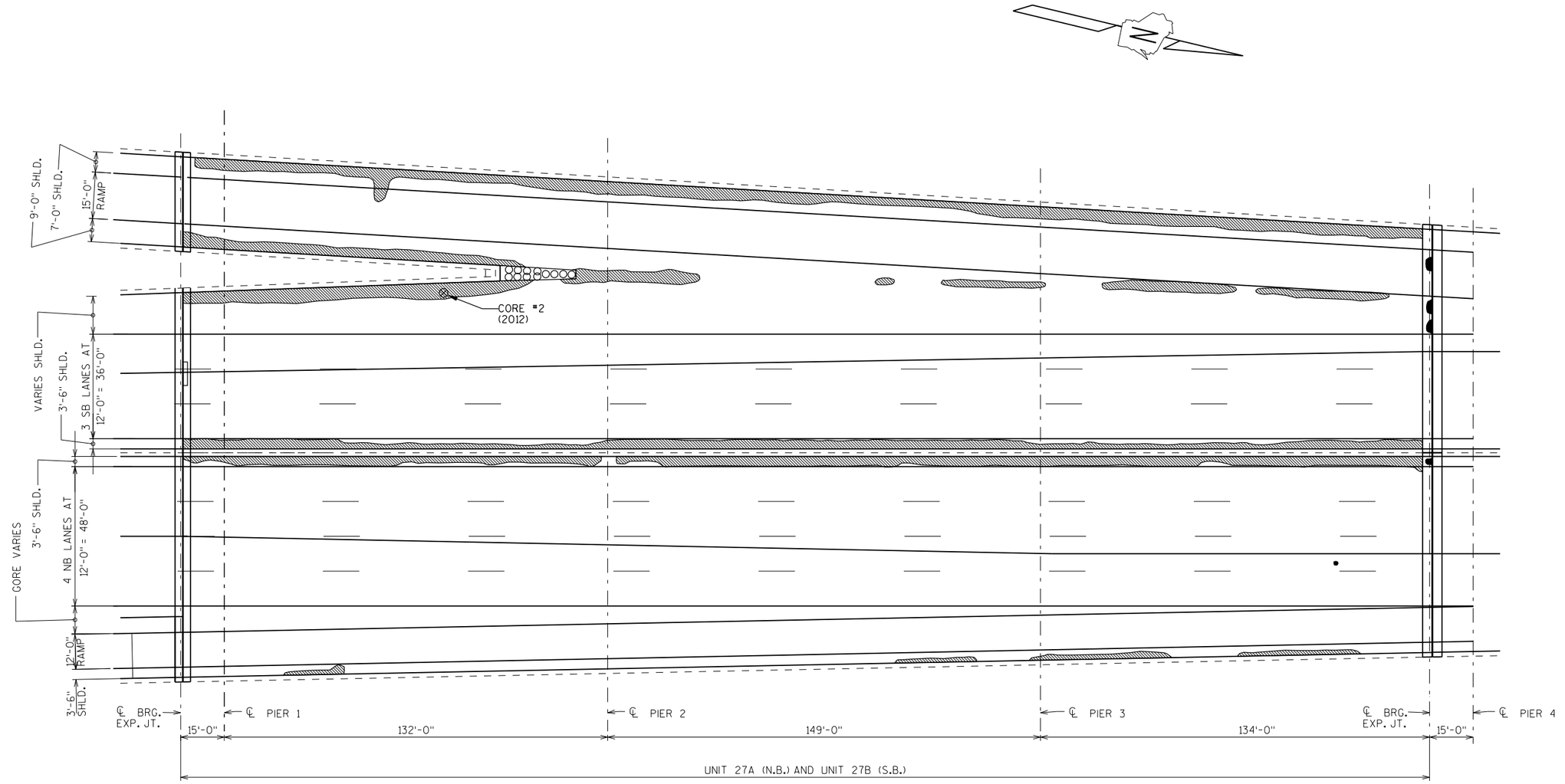
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FOR REFERENCE ONLY

STATE PROJECT NUMBER
1228-26-70



PLAN

SCALE, FEET 0 10 20

DECK INSPECTION RESULTS - UNITS 27A & 27B

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285-27A		STRUCTURE NO. B-40-285-27B	
ITEM	UNIT	QUANT.	%	QUANT.	%
TOTAL AREA	ft.^{2}	30866		36618	
SHADE/DEBRIS	ft.^{2}	0		0	
DELAMINATION	ft.^{2}	7	<0.1	26	<0.1
OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING	ft.^{2}	1446	4.7	4028	11.0
BLISTERING OF OVERLAY	ft.^{2}	0	0	0	0
ASPHALT PATCH	ft.^{2}	0	0	12	<0.1
CONCRETE PATCH	ft.^{2}	0	0	0	0

LEGEND

- DELAMINATION
- OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING
- BLISTERING OF OVERLAY
- ASPHALT PATCH
- CONCRETE PATCH
- SHADE/DEBRIS

SEE "INFRARED INSPECTION RESULTS 4" SHEET FOR TOTAL DEFECT QUANTITIES FOR B-40-285 PROJECT AREA

SURFACE TYPE: BITUMINOUS OVERLAY

INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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INFRARED INSPECTION RESULTS 2

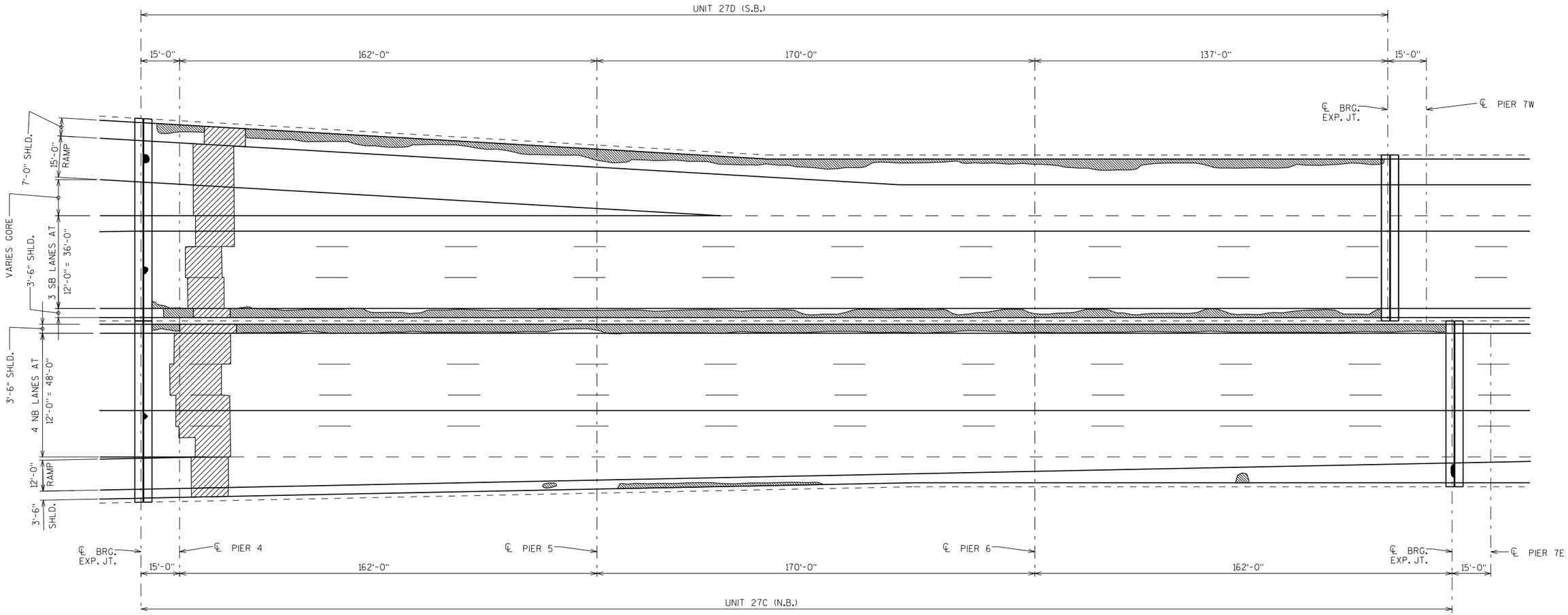
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STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY



PLAN

SCALE, FEET 0 10 20

DECK INSPECTION RESULTS - UNITS 27C & 27D

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285-27C		STRUCTURE NO. B-40-285-27D	
ITEM	UNIT	QUANT.	%	QUANT.	%
TOTAL AREA	ft.^{2}	32182		31452	
SHADE/DEBRIS	ft.^{2}	1247		1116	
DELAMINATION	ft.^{2}	9	<0.1	11	<0.1
OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING	ft.^{2}	1583	5.1	2430	8.0
BLISTERING OF OVERLAY	ft.^{2}	0	0	0	0
ASPHALT PATCH	ft.^{2}	0	0	0	0
CONCRETE PATCH	ft.^{2}	0	0	0	0

LEGEND

- DELAMINATION
- OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING
- BLISTERING OF OVERLAY
- ASPHALT PATCH
- CONCRETE PATCH
- SHADE/DEBRIS

SEE "INFRARED INSPECTION RESULTS 4" SHEET FOR TOTAL DEFECT QUANTITIES FOR B-40-285 PROJECT AREA

SURFACE TYPE: BITUMINOUS OVERLAY

INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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INFRARED INSPECTION RESULTS 3

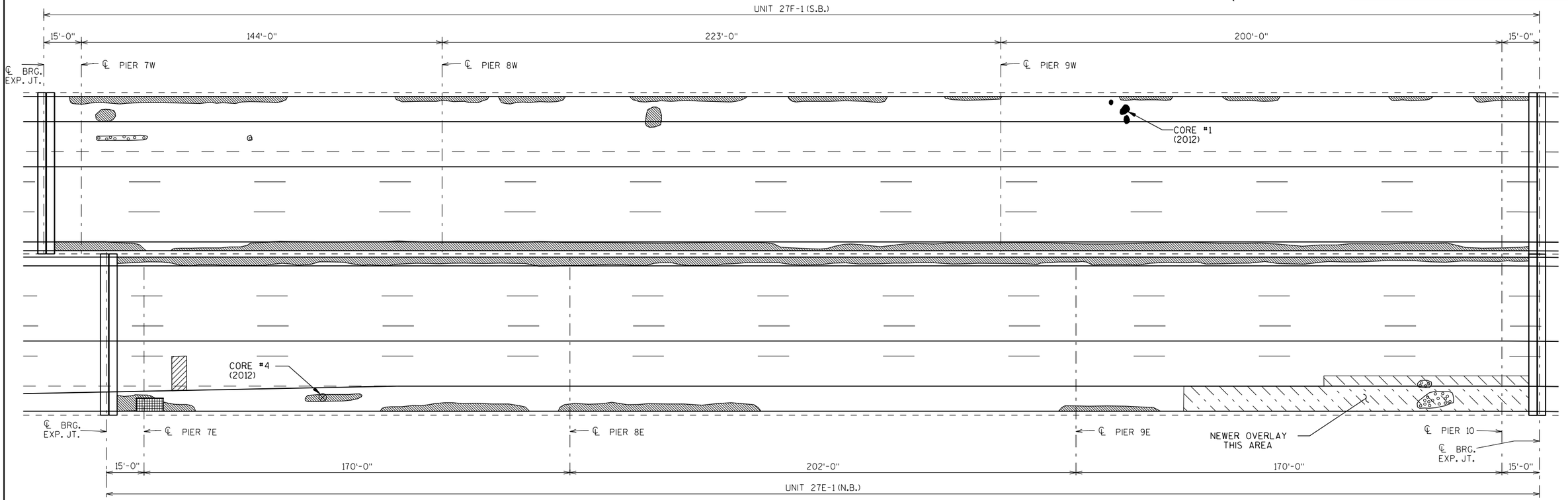
SHEET 16 OF 29
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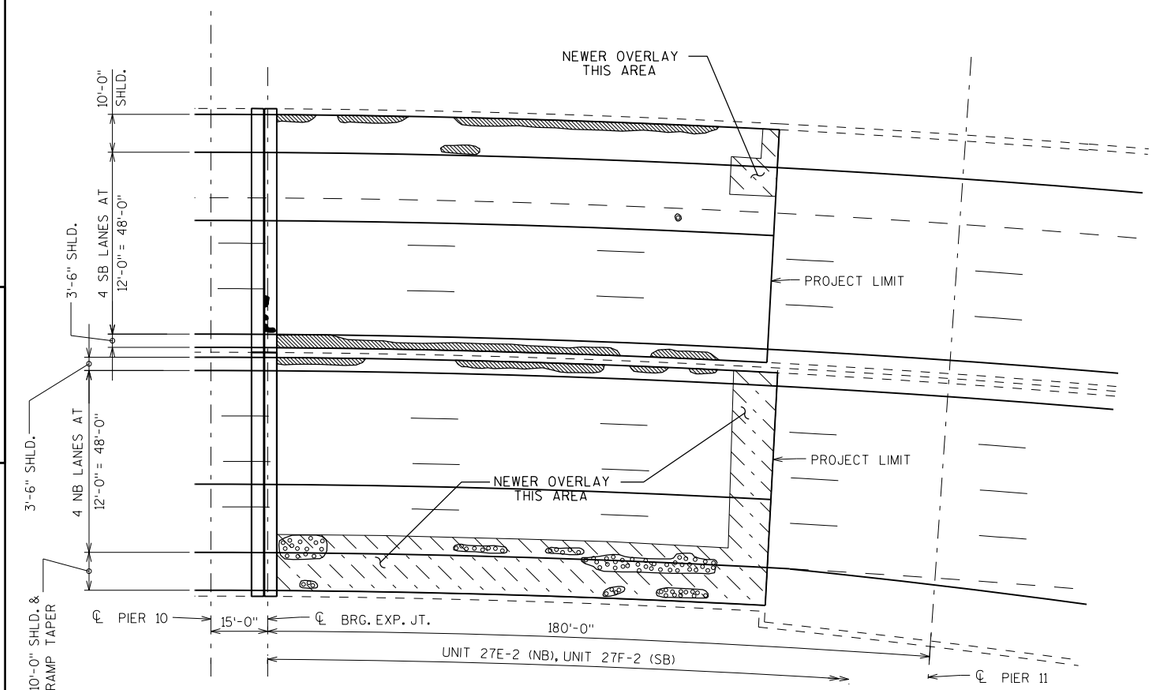
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STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY



PLAN



DECK INSPECTION RESULTS - UNITS 27E1, 27F1, 27E2 & 27F2

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285-27E1		STRUCTURE NO. B-40-285-27F1		STRUCTURE NO. B-40-285-27E2		STRUCTURE NO. B-40-285-27F2	
ITEM	UNIT	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%
TOTAL AREA	ft.^{2}	35034		36589		* 8232		* 8259	
SHADE/DEBRIS	ft.^{2}	81		0		0		0	
DELAMINATION	ft.^{2}	0	0	22	<0.1	0	0	10	0.1
OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING	ft.^{2}	2005	5.7	2350	6.4	134	1.6	437	5.3
BLISTERING OF OVERLAY	ft.^{2}	19	<0.1	9	<0.1	74	0.9	1	<0.1
ASPHALT PATCH	ft.^{2}	57	0.2	0	0	0	0	0	0
CONCRETE PATCH	ft.^{2}	0	0	0	0	0	0	0	0

LEGEND	
DELAMINATION	
OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING	
BLISTERING OF OVERLAY	
ASPHALT PATCH	
CONCRETE PATCH	
SHADE/DEBRIS	

* TO PROJECT LIMITS

DECK INSPECTION RESULTS

B-40-285 - ALL UNITS IN PROJECT AREA

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285	
ITEM	UNIT	QUANT.	%
TOTAL PROJECT AREA	ft.^{2}	297022	
SHADE/DEBRIS	ft.^{2}	2873	
DELAMINATION	ft.^{2}	138	<0.1
OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING	ft.^{2}	23598	8.0
BLISTERING OF OVERLAY	ft.^{2}	106	<0.1
ASPHALT PATCH	ft.^{2}	92	<0.1
CONCRETE PATCH	ft.^{2}	0	0

SCALE, FEET 0 10 20

SURFACE TYPE: BITUMINOUS OVERLAY

INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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INFRARED INSPECTION RESULTS 4

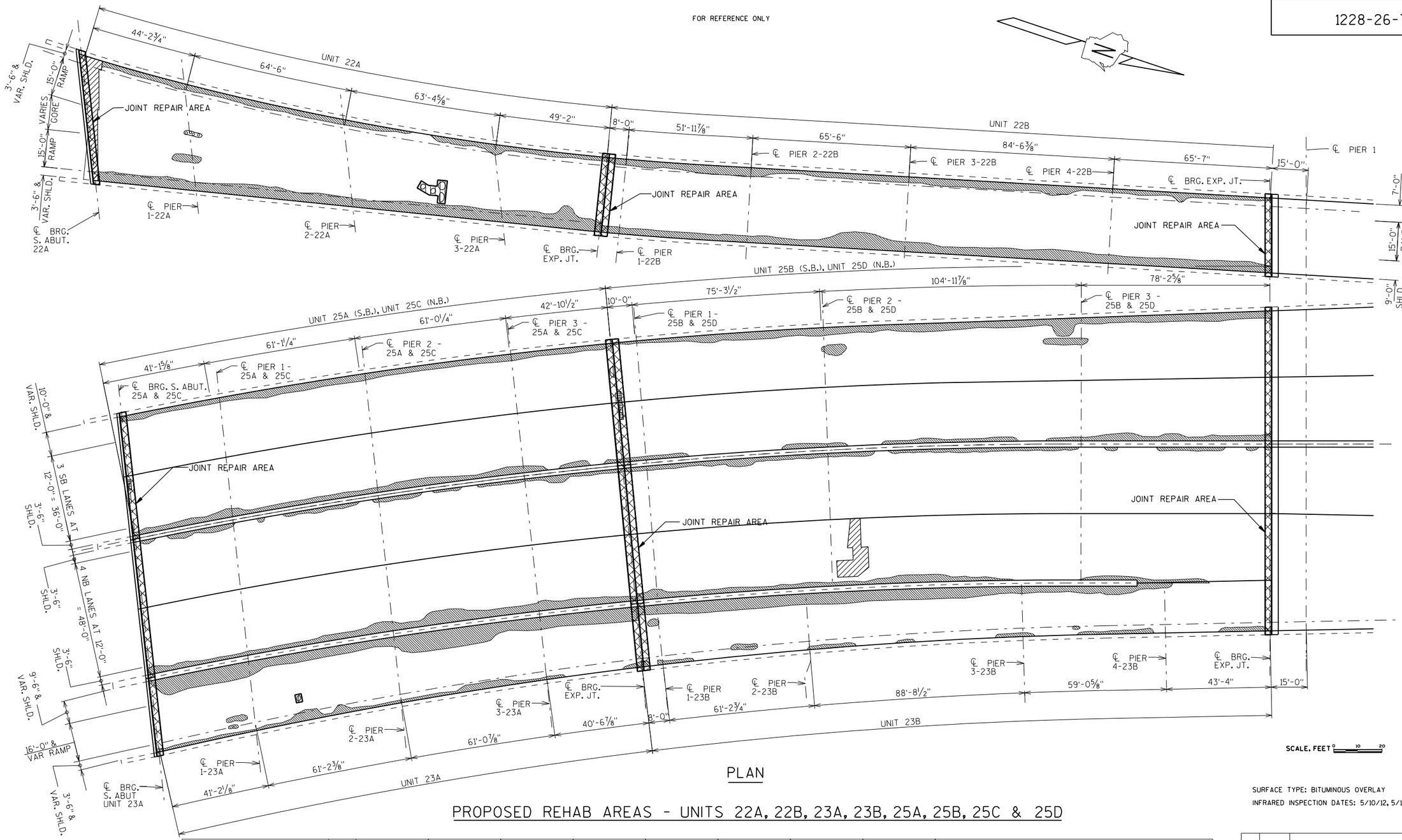
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STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY



PLAN

PROPOSED REHAB AREAS - UNITS 22A, 22B, 23A, 23B, 25A, 25B, 25C & 25D

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285-22A		STRUCTURE NO. B-40-285-22B		STRUCTURE NO. B-40-285-23A		STRUCTURE NO. B-40-285-23B		STRUCTURE NO. B-40-285-25A		STRUCTURE NO. B-40-285-25B		STRUCTURE NO. B-40-285-25C		STRUCTURE NO. B-40-285-25D	
ITEM	UNIT	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%
TOTAL AREA	yd.²	972		1050		688		711		1198		1606		1313		1700	
SHADE/DEBRIS	yd.²	28		0		0		0		0		0		0		19	
PREPARATION, DECKS, TYPE 1	yd.²	7	0.7	0	0	1	0.1	0	0	0	0	0	0	0	0	0	0
PREPARATION, DECKS, TYPE 2 ✳	yd.²	4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FULL DEPTH DECK REPAIR ✳	yd.²	1	0.1	1	0.1	1	0.1	1	0.1	1	<0.1	1	<0.1	1	<0.1	1	<0.1

LEGEND

DECK PREPARATION AREA
SHADE/DEBRIS
DELAMINATION
OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING
BLISTERING OF OVERLAY
ASPHALT PATCH
CONCRETE PATCH

✳ ESTIMATED

SEE "DECK REPAIR AREAS 4" SHEET FOR TOTAL REHAB QUANTITIES FOR B-40-285 PROJECT AREA

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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DECK REPAIR AREAS 1

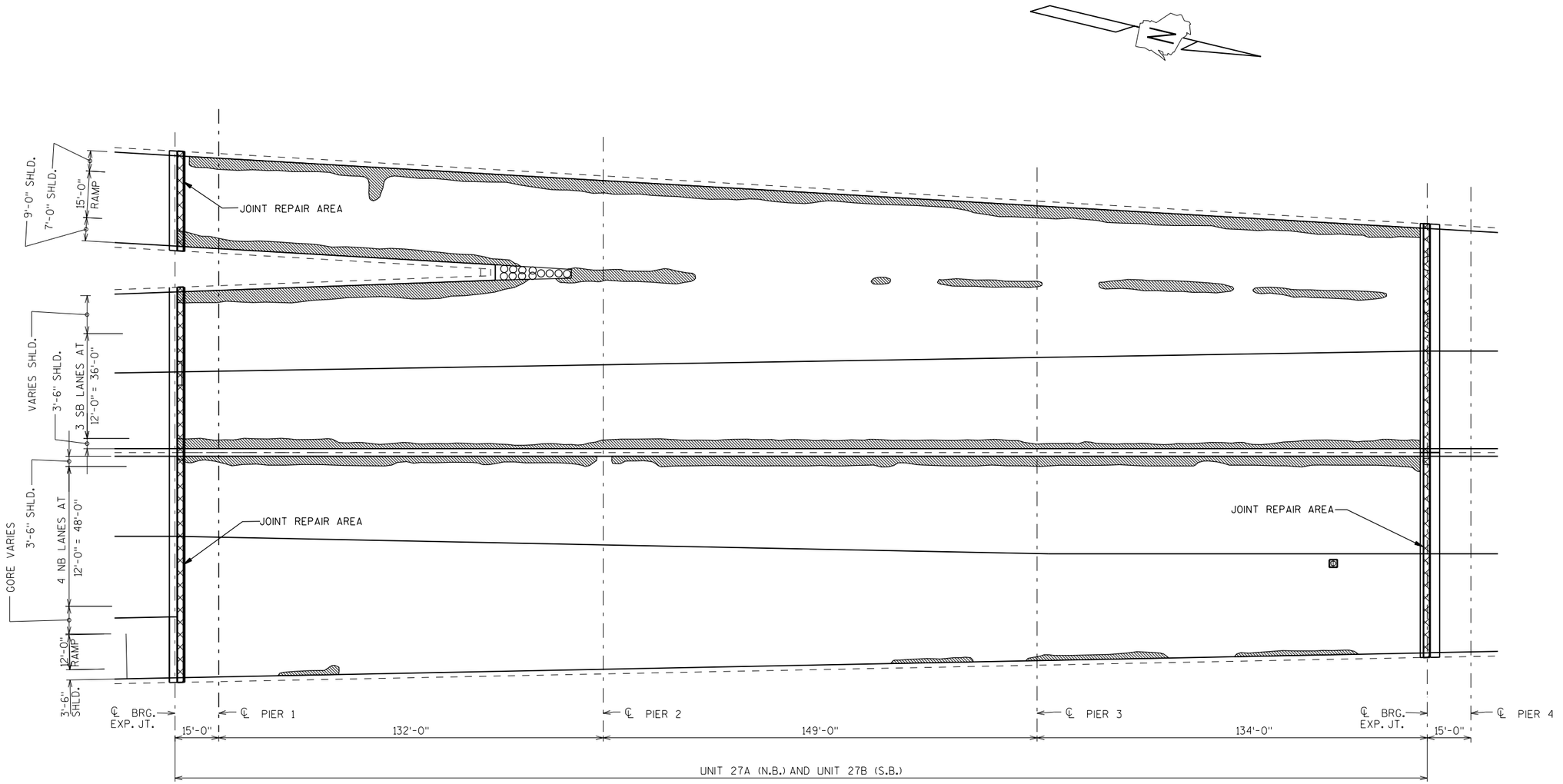
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FOR REFERENCE ONLY

STATE PROJECT NUMBER
1228-26-70



PLAN

PROPOSED REHAB AREAS - UNITS 27A & 27B

SCALE, FEET 0 10 20

SURFACE TYPE: BITUMINOUS OVERLAY
INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285-27A		STRUCTURE NO. B-40-285-27B	
ITEM	UNIT	QUANT.	%	QUANT.	%
TOTAL AREA	yd.^{2}	3567		4257	
SHADE/DEBRIS	yd.^{2}	0		0	
PREPARATION, DECKS, TYPE 1	yd.^{2}	1	<0.1	0	0
PREPARATION, DECKS, TYPE 2 ✳	yd.^{2}	0	0	0	0
FULL DEPTH DECK REPAIR ✳	yd.^{2}	1	<0.1	1	<0.1

LEGEND: DECK PREPARATION AREA; SHADE/DEBRIS; DELAMINATION; OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING; BLISTERING OF OVERLAY; ASPHALT PATCH; CONCRETE PATCH

✳ ESTIMATED

SEE "DECK REPAIR AREAS 4" SHEET FOR TOTAL REHAB QUANTITIES FOR B-40-285 PROJECT AREA

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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DECK REPAIR AREAS 2

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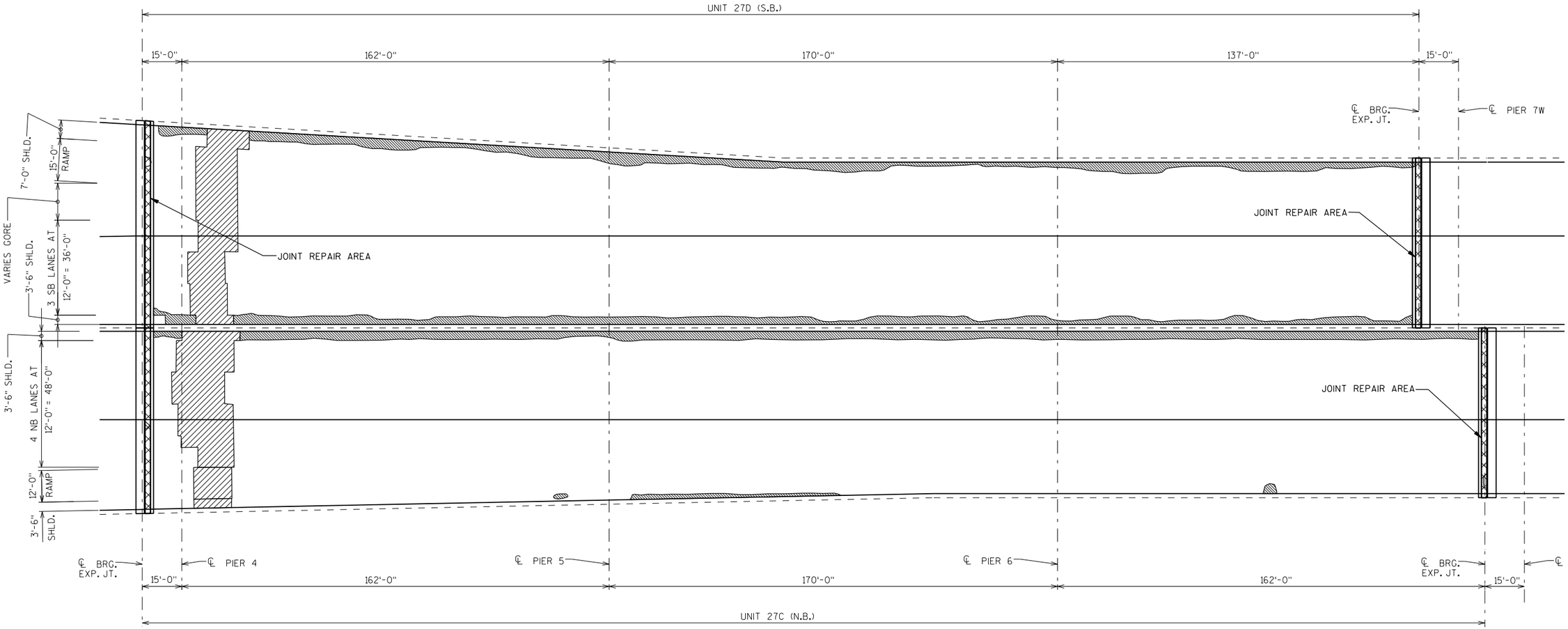
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STATE PROJECT NUMBER
1228-26-70

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PLAN

PROPOSED REHAB AREAS - UNITS 27C & 27D

SCALE, FEET 0 10 20

SURFACE TYPE: BITUMINOUS OVERLAY

INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285-27C		STRUCTURE NO. B-40-285-27D	
ITEM	UNIT	QUANT.	%	QUANT.	%
TOTAL AREA	yd.^{2}	3738		3650	
SHADE/DEBRIS	yd.^{2}	139		124	
PREPARATION, DECKS, TYPE 1	yd.^{2}	0	0	0	0
PREPARATION, DECKS, TYPE 2 ✳	yd.^{2}	0	0	0	0
FULL DEPTH DECK REPAIR ✳	yd.^{2}	1	<0.1	1	<0.1

✳ ESTIMATED

SEE "DECK REPAIR AREAS 4" SHEET FOR TOTAL REHAB QUANTITIES FOR B-40-285 PROJECT AREA

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING

BLISTERING OF OVERLAY

ASPHALT PATCH

CONCRETE PATCH

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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DECK REPAIR AREAS 3

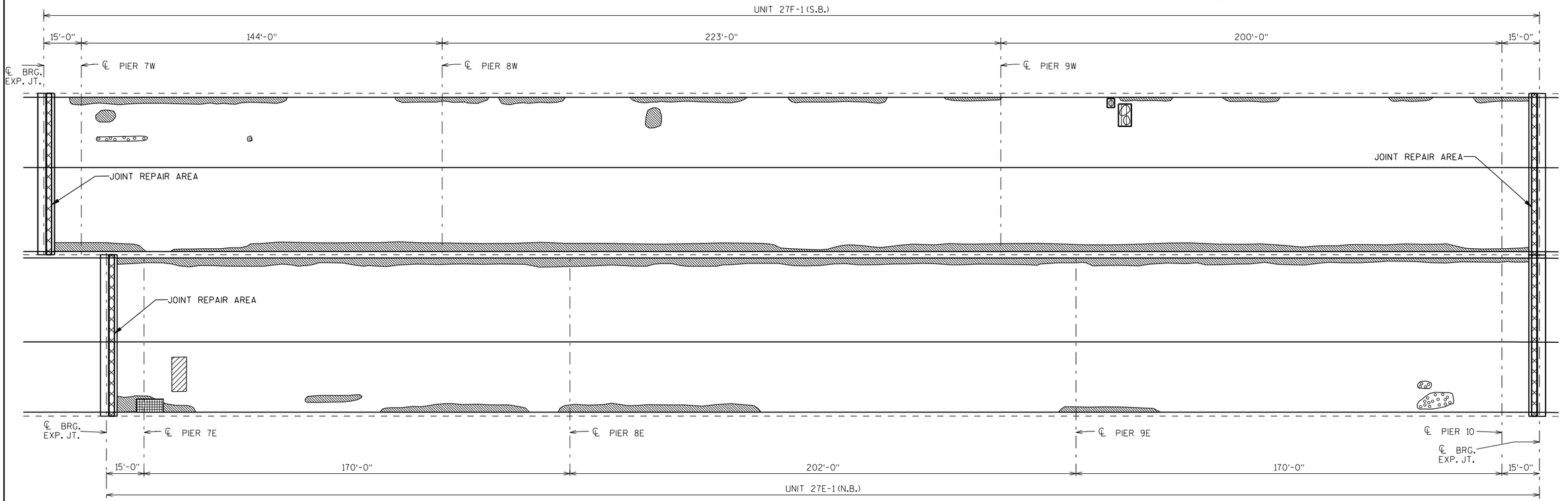
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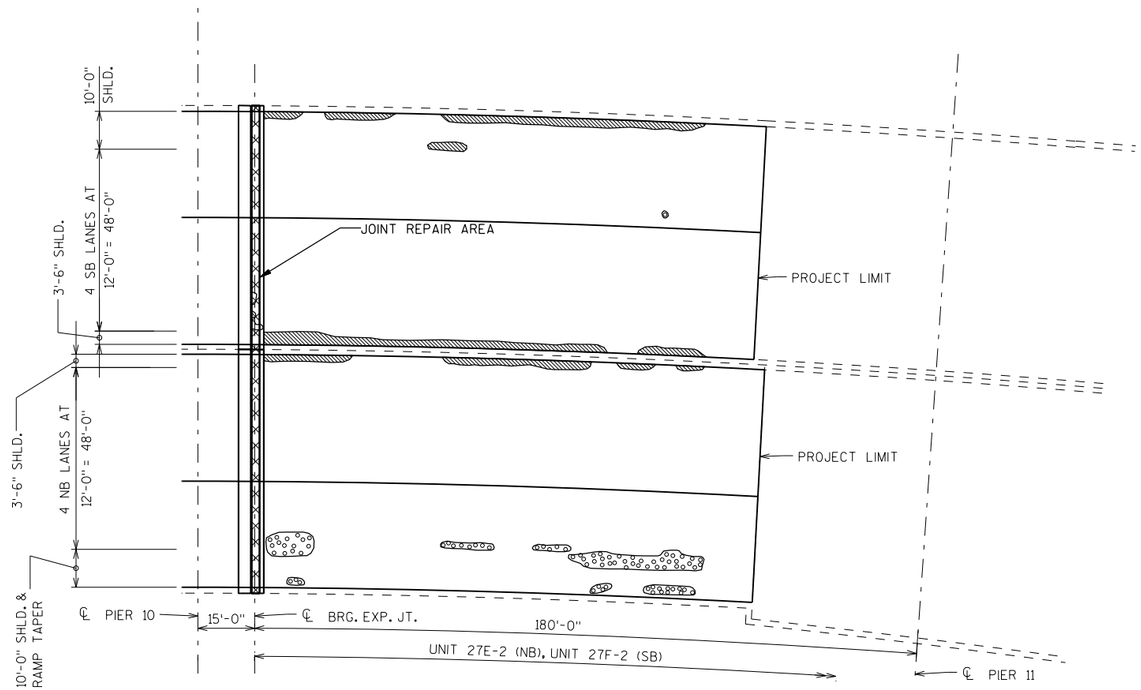
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STATE PROJECT NUMBER
1228-26-70

FOR REFERENCE ONLY



PLAN



PROPOSED REHAB AREAS - UNITS 27E1, 27F1, 27E2 & 27F2

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285-27E1		STRUCTURE NO. B-40-285-27F1		STRUCTURE NO. B-40-285-27E2		STRUCTURE NO. B-40-285-27F2	
ITEM	UNIT	QUANT.	%	QUANT.	%	QUANT.	%	QUANT.	%
TOTAL AREA	yd.^{2}	4080		4259		+ 958		+ 960	
SHADE/DEBRIS	yd.^{2}	9		0		0		0	
PREPARATION, DECKS, TYPE 1	yd.^{2}	0	0	6	0.1	0	0	0	0
PREPARATION, DECKS, TYPE 2 ✳	yd.^{2}	0	0	3	<0.1	0	0	0	0
FULL DEPTH DECK REPAIR ✳	yd.^{2}	1	<0.1	1	<0.1	1	0.1	1	0.1

✳ ESTIMATED

+ TO PROJECT LIMITS

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

OVERLAY DEBOND WITH LIGHT TO MEDIUM SCALING

BLISTERING OF OVERLAY

ASPHALT PATCH

CONCRETE PATCH

SCALE, FEET 0 10 20

SURFACE TYPE: BITUMINOUS OVERLAY

INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

PROPOSED REHAB AREAS

B-40-285 - ALL UNITS IN PROJECT AREA

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-285	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd.^{2}	34708	
SHADE/DEBRIS	yd.^{2}	319	
PREPARATION, DECKS, TYPE 1	yd.^{2}	15	<0.1
PREPARATION, DECKS, TYPE 2 ✳	yd.^{2}	7	<0.1
FULL DEPTH DECK REPAIR ✳	yd.^{2}	16	<0.1

✳ ESTIMATED

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

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DECK REPAIR AREAS 4

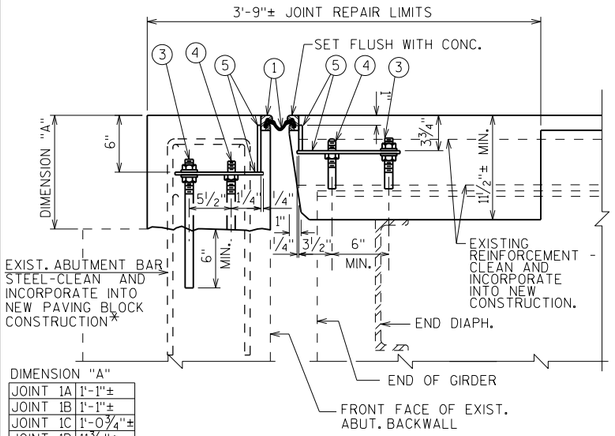
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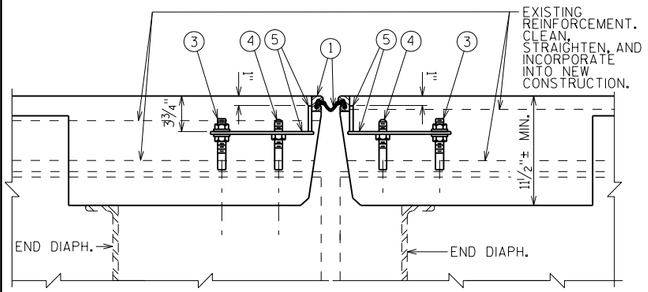


DIMENSION "A"

JOINT 1A	1'-1"±
JOINT 1B	1'-1"±
JOINT 1C	1'-0¾"±
JOINT 1D	11¾"±

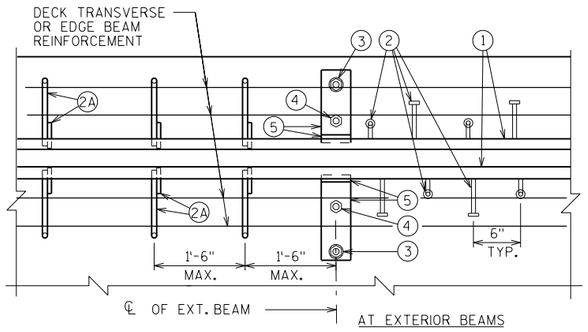
SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

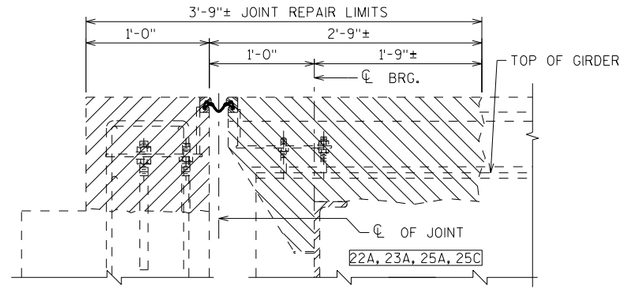


SECTION THRU JOINT AT DECK

NORMAL TO ℄ SUBSTRUCTURE. SEE SECTION THRU JOINT AT ABUTMENT FOR DIMENSIONS NOT SHOWN.

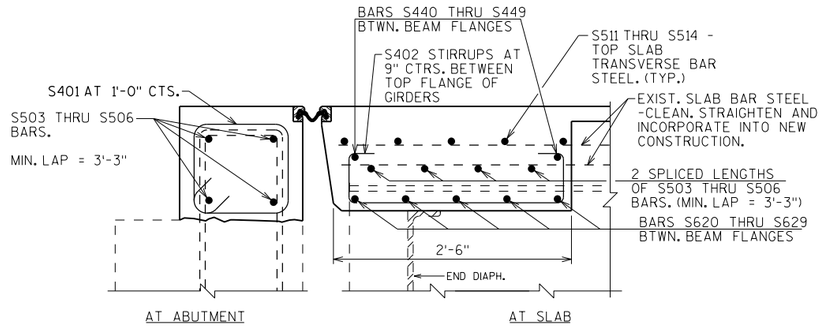


PART PLAN



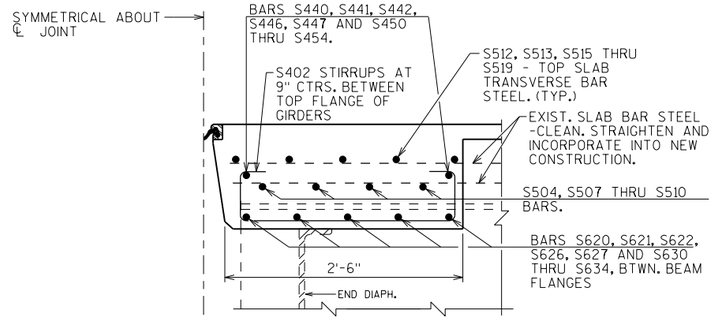
JOINT REPAIR AT ABUTMENT STRIP SEAL JOINTS

NORMAL TO ℄ SUBSTRUCTURE

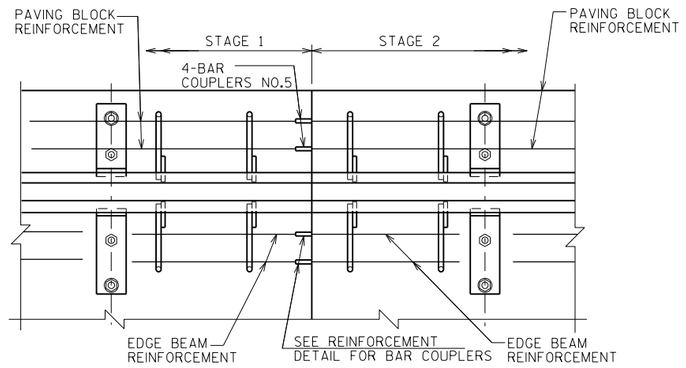


PAVING BLOCK AND EDGE BEAM REINFORCEMENT DETAILS AT ABUTMENT

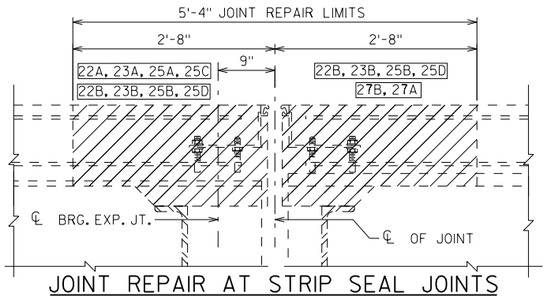
NORMAL TO ℄ SUBSTRUCTURE



PAVING BLOCK AND DIAPHRAGM REINFORCEMENT DETAILS AT DECK

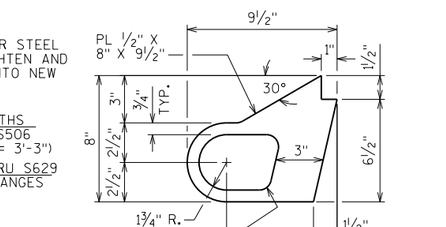


PART PLAN

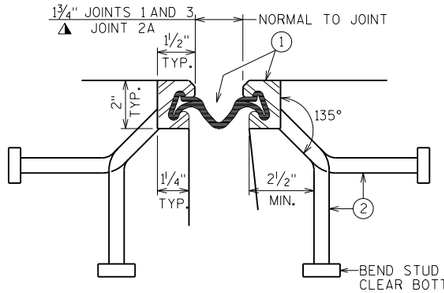


JOINT REPAIR AT STRIP SEAL JOINTS

NORMAL TO ℄ SUBSTRUCTURE

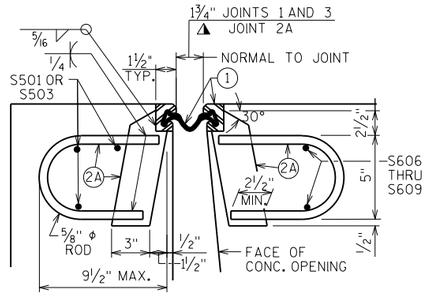


ALTERNATE STRIP SEAL ANCHOR



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS.



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

▲ TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING (NORMAL TO JT.)
85°	1½"
75°	1⅝"
65°	1⅞"
55°	2"
45°	2¼"
35°	2½"
25°	2⅝"
15°	2⅞"
5°	3"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
2. STUDS ⅝"ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO.1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO.1 IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO.3 AND 1" ϕ HOLE FOR NO.4.
6. GALVANIZED PLATE ⅜" X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾"ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾"ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾"ϕ X 2¼" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

GENERAL NOTES

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

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

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

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

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-285".

SEE "JOINT REPAIR REINFORCMENT DETAILS" DRAWINGS FOR REINFORCEMENT DETAILS.

MINIMUM LAP LENGTH FOR LAP SPLICES IS 3'-3"

* IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH "MASONRY ANCHORS TYPE L NO.5 BARS" EMBEDDED 1'-3" MIN. PULLOUT LOAD = 18 KIPS. PLACE 4" MIN. FROM EXISTING CONC FACE. USE L-SHAPED #5 COATED BARS. REPLACEMENT ANCHORS REQUIRED FOR BARS DAMAGED DUE TO THE CONTRACTOR'S NEGLIGENCE WILL BE AT THE CONTRACTOR'S EXPENSE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

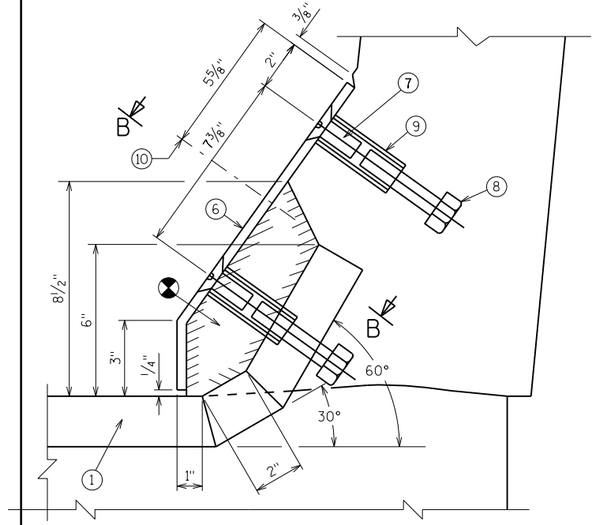
DRAWN BY MA | PLANS CK'D. AMK

STRIP SEAL EXPANSION DEVICE

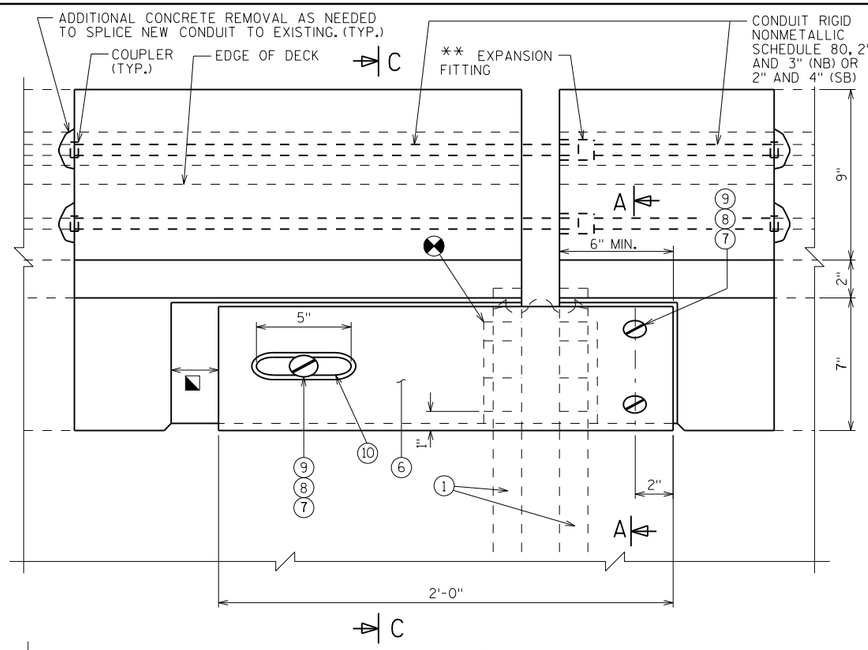
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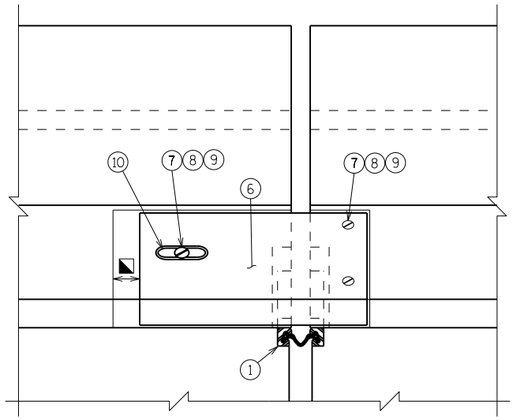
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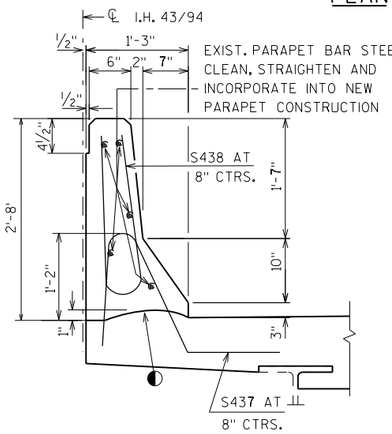
SECTION A-A



PLAN

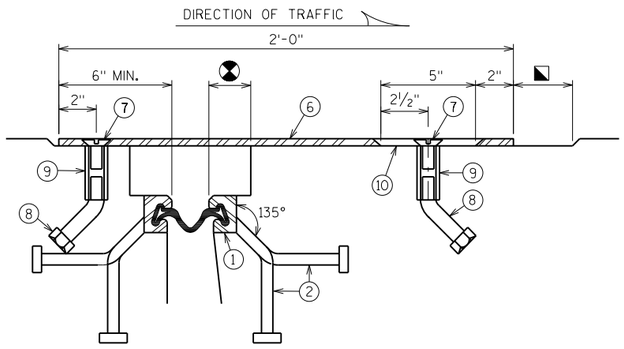


VIEW OF PARAPET PLATE FROM ROADWAY

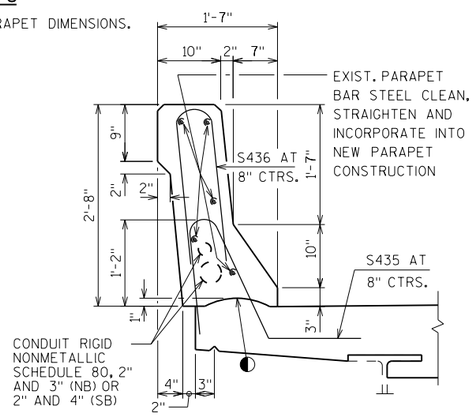


SECTION C-C

AT MEDIAN. MATCH EXISTING PARAPET DIMENSIONS.



SECTION B-B

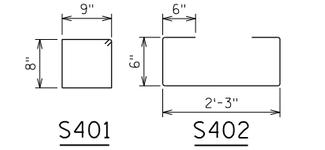


SECTION C-C

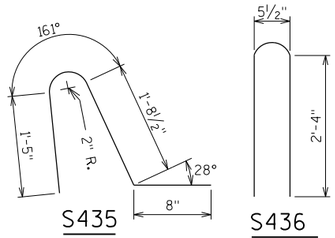
AT OUTSIDE. MATCH EXISTING PARAPET DIMENSIONS.

BILL OF BARS

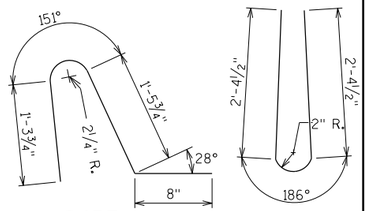
BAR MARK	COAT	NO. REQ'D. STG. 1	NO. REQ'D. STG. 2	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	145	57	3'-4"	X		PAVING BLOCK
S402	X	590	296	3'-11"	X		EDGE BEAMS
S503	X	16		17'-7"			1A
S504	X	48	48	16'-0"			1B, 2B, 3A, 3B
S505	X	32	32	14'-7"			1C, 2C
S506	X	24		20'-5"			1D
S507	X	24	16	15'-4"			2A, 3A, 3B
S508	X	32		18'-1"			2D, 3C
S509	X	8		12'-2"			3A
S510	X	12		18'-8"			3A
S511	X	5		31'-11"			1A
S512	X	15	25	28'-6"			1B, 2B, 3A
S513	X	15	15	25'-7"			1C, 2C
S514	X	10		29'-0"			1D
S515	X	15	10	27'-1"			2A, 3A, 3B
S516	X	20		32'-10"			2D, 3C
S517	X	5		21'-7"			3A
S518	X	10		26'-4"			3A
S519	X	10		28'-3"			3B
S620	X	75		8'-4"			1A, 2A, 2D, 3A, 3C
S621	X	40	60	7'-10"			1B, 2B, 3A
S622	X	40	10	4'-10"			1B, 2B, 2C, 3A
S623	X	5		3'-10"			1C
S624	X	10		7'-0"			1C
S625	X	5		3'-8"			1C
S626	X	10	5	4'-6"			1C, 2A
S627	X	55	75	8'-6"			1C, 1D, 2C, 3A, 3B
S628	X	10		9'-3"			1D
S629	X	5		8'-10"			1D
S630	X	10		4'-8"			2C
S631	X	5		2'-1"			2C
S632	X	20		7'-3"			2C, 3A, 3C
S633	X	10		3'-4"			2C
S634	X	35		7'-6"			3C, 3B
S435	X	108		4'-3"	X		OUTSIDE PARAPET
S436	X	108		5'-4"	X		OUTSIDE PARAPET
S437	X	34	54	4'-0"	X		INSIDE PARAPET
S438	X	34	54	5'-3"	X		INSIDE PARAPET
S440	X	30		8'-4"			1A, 2A, 2D, 3A, 3C
S441	X	16	24	7'-10"			1B, 2B, 3A
S442	X	16	4	4'-10"			1B, 2B, 2C, 3A
S443	X	2		3'-10"			1C
S444	X	4		7'-0"			1C
S445	X	2		3'-8"			1C
S446	X	4	2	4'-6"			1C, 2A
S447	X	22	30	8'-6"			1C, 1D, 2C, 3A, 3B
S448	X	4		9'-3"			1D
S449	X	2		8'-10"			1D
S450	X	4		4'-8"			2C
S451	X	2		2'-1"			2C
S452	X	8		7'-3"			2C, 3A, 3C
S453	X	4		3'-4"			2C
S454	X	14		7'-6"			3C, 3B



S401 S402



S435 S436



S437 S438

PARAPET AREA = 2.25 FT²

PARAPET WEIGHT = 338 LBS./FT.

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIMENSION ALONG SKEW PLUS 1/2".

** EXPANSION FITTING REQUIREMENTS: USE AN APPROVED EXPANSION FITTING AT EACH EXPANSION JOINT.

STATE PROJECT NUMBER

1228-26-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-0285

DRAWN BY MA | PLANS CK'D. AMK

STRIP SEAL COVER PLATE DETAILS

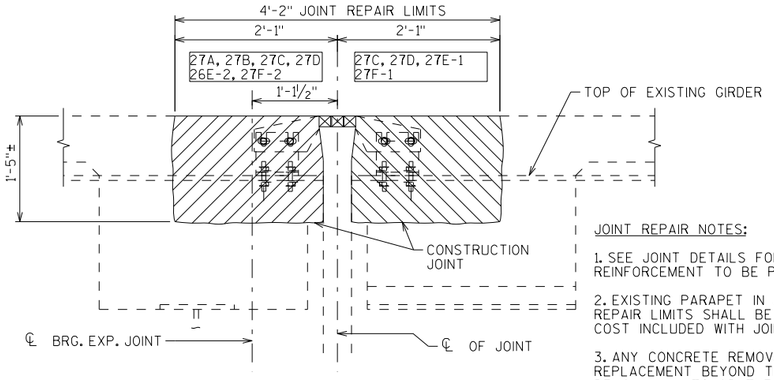
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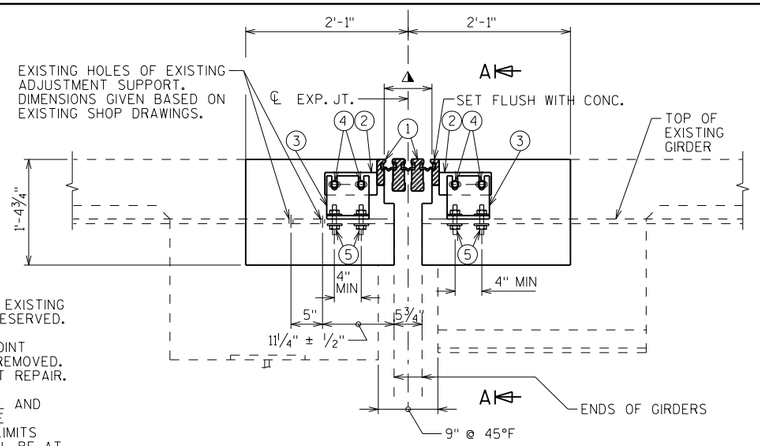
STATE PROJECT NUMBER
1228-26-70



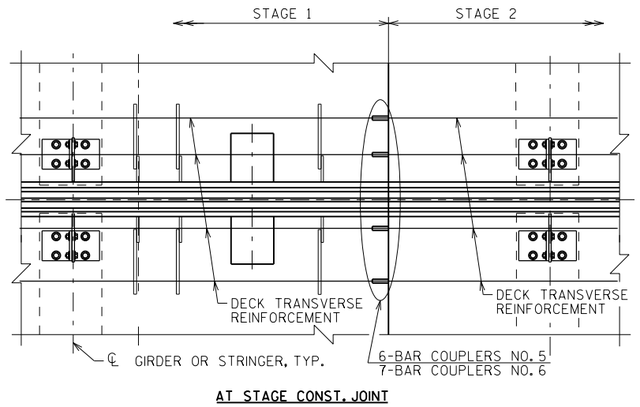
JOINT REPAIR AT MODULAR JOINTS

JOINT REPAIR NOTES:

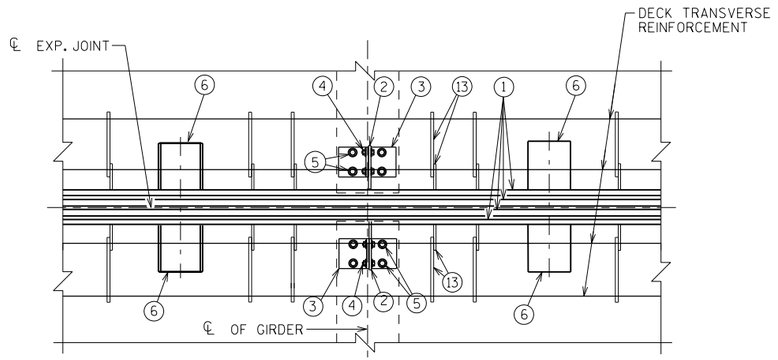
1. SEE JOINT DETAILS FOR EXISTING REINFORCEMENT TO BE PRESERVED.
2. EXISTING PARAPET IN JOINT REPAIR LIMITS SHALL BE REMOVED. COST INCLUDED WITH JOINT REPAIR.
3. ANY CONCRETE REMOVAL AND REPLACEMENT BEYOND THE REMOVAL LIMITS OR THE LIMITS SET BY THE ENGINEER WILL BE AT THE CONTRACTOR'S EXPENSE.



SECTION THRU JOINT



AT STAGE CONST. JOINT

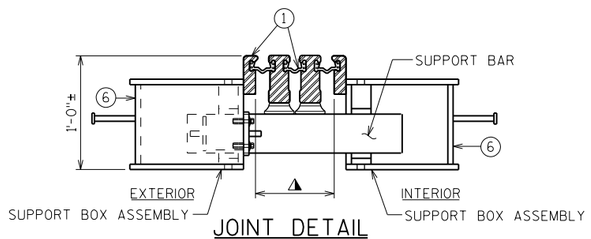


AT INTERIOR BEAM

PART PLAN

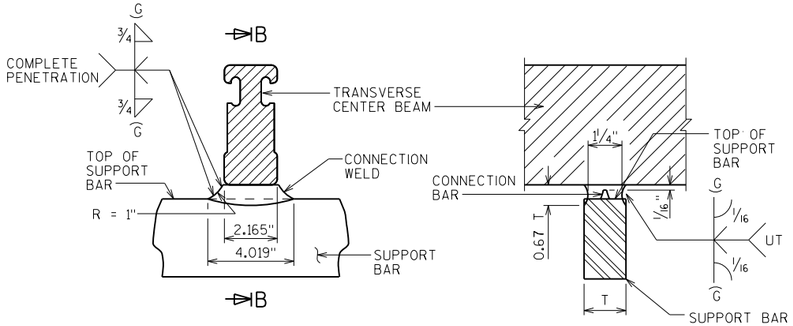
NOTE:
MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OF STRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.



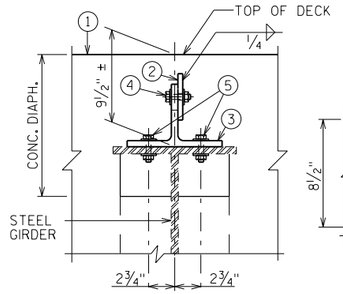
JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

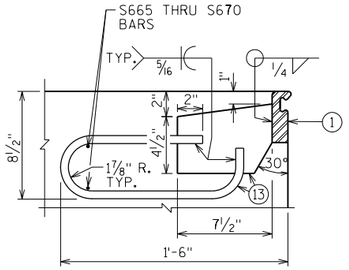


MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION

SECTION B-B



SECTION A-A



ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES DECK ⊗ CONC. DIAPH.

LEGEND

1. MODULAR EXPANSION JOINT DEVICE, 3 CELLS.
2. ½" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
3. WT 6 X 29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.
4. ¾" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
5. ¾" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)
6. SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM ½" PLATES.
7. ⅜" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO. 14. WHEN CONDUIT IS PRESENT IN PARAPET OR SIDEWALK, ACCOMMODATE FOR BY PROVIDING OPENING IN NO. 7.
8. INSIDE PLATE. FABRICATE FROM ⅜" PLATE.
9. OUTSIDE PLATE. FABRICATE FROM ⅝" PLATE.
10. ⅞" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
11. ¾" Φ X 4" LONG STUDS. WELD TO NO. 8 , NO. 7 & NO. 14 AS SHOWN.
12. ¾" Φ X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
13. ½" PLATE WITH ⅝" Φ LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.
14. INSIDE PLATE. FABRICATE FROM ⅝" PLATE.
15. ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.

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

NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE, ON PARAPET ROADWAY FACE OR ABOVE SIDEWALK SURFACE (FOR RAISED SIDEWALK).

THE EXPANSION JOINT SEALS SHALL BE PLACED, BONDED & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.

EXPANSION JOINT EXTRUSIONS SHALL BE FABRICATED TO CONFORM TO ROADWAY CROWN & GRADE. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST BARS, PLATES, WT-SECTION, ANCHORAGE LOOP, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERICAL BLAST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

INSTALLATION OF THE EXPANSION JOINTS COMPLETE WITH PARAPET PLATES & SIDEWALK PLATES SHALL BE PAID FOR UNDER THE PRICEBID FOR "INSTALL EXPANSION DEVICE MODULAR B-40-285".

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

⚠ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN ①.

TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. ⅜" OF MOVEMENT PER 10°F @ JOINT. 4A & JOINT 4B
2. 1/16" OF MOVEMENT PER 10°C @ JOINT 5A, JOINT 5B, JOINT 6A, AND JOINT 6B.
3. MEDIAN TEMPERATURE OF 45°F
4. TEMP. RANGE IN TABLE FROM (-5°F TO 95°F)

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

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STRUCTURE B-40-0285

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MODULAR EXPANSION DEVICE

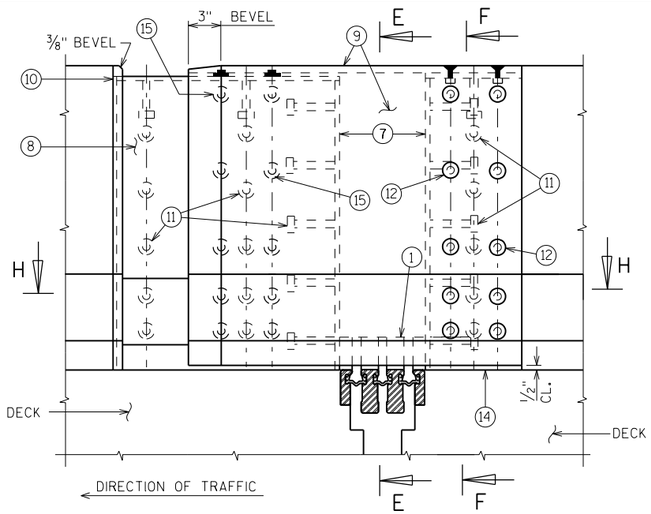
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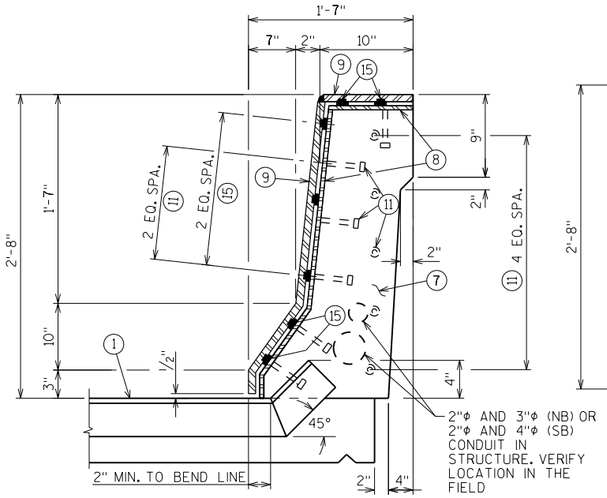
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STATE PROJECT NUMBER

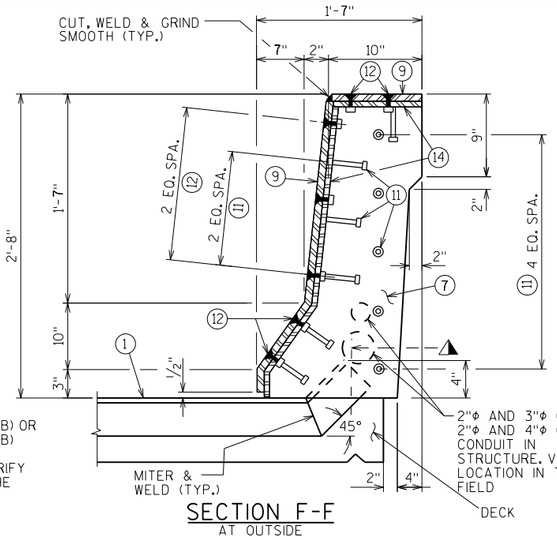
1228-26-70



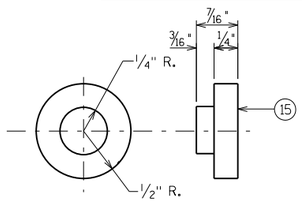
ELEVATION OF PARAPET



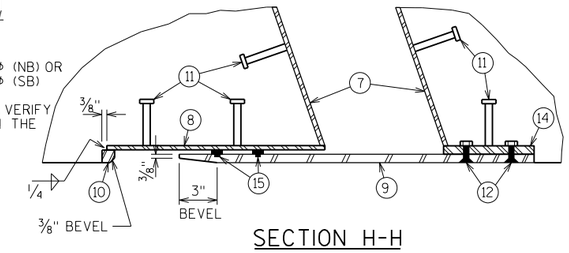
SECTION E-E
AT OUTSIDE



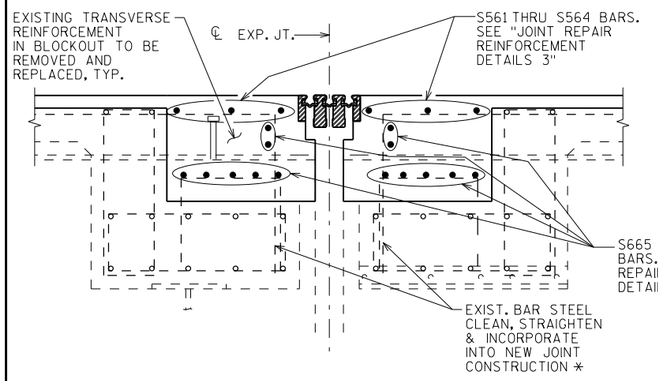
SECTION F-F
AT OUTSIDE



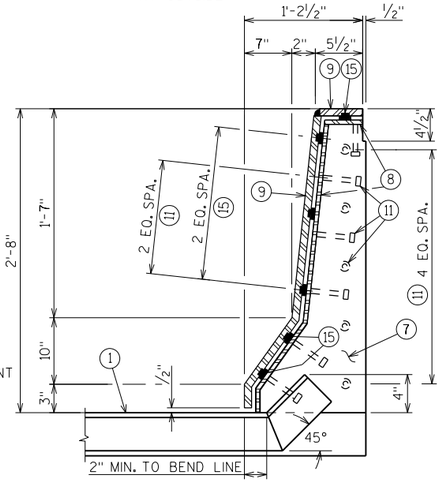
ADIPRENE BUTTON DETAIL



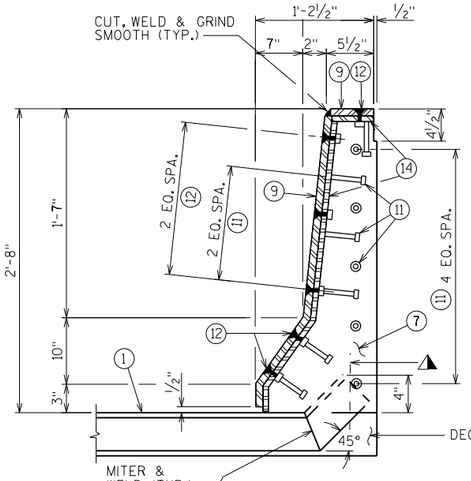
SECTION H-H



SECTION THRU JOINT



SECTION E-E
AT MEDIAN



SECTION F-F
AT MEDIAN

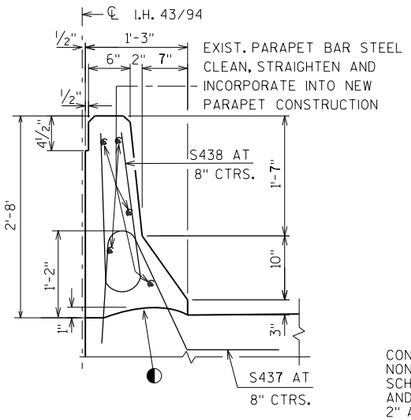
◐ CONST. JOINT - STRIKE OFF AS SHOWN

◭ MITER EXTRUSION ENDS AS REQ'D TO PROVIDE CLEARANCE

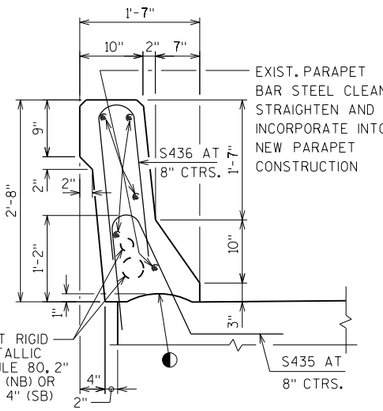
BILL OF BARS

BAR MARK	COAT	NO. REQ'D. STG. 1	NO. REQ'D. STG. 2	LENGTH	BENT	BAR SERIES	LOCATION
S435	X	48		4'-3"	X		OUTSIDE PARAPET
S436	X	48		5'-4"	X		OUTSIDE PARAPET
S437	X		48	4'-0"	X		INSIDE PARAPET
S438	X		48	5'-3"	X		INSIDE PARAPET
S561	X		36	34'-5"			JOINTS 4, 5 AND 6
S562	X	24		28'-9"			JOINTS 5 AND 6
S563	X	6		35'-9"			JOINT 4A
S564	X	3		42'-9"			JOINT 4B NORTH
S665	X	154	252	8'-5"			JOINTS 4, 5 AND 6
S566	X	3		42'-11"			JOINT 4B SOUTH
S667	X	84		3'-2"			AT STAGE LINE
S668	X		84	4'-11"			AT STAGE LINE
S669	X	56		7'-6"			JOINTS 5 &6 OVERHANG
S670	X	42		4'-3"			JOINT 4
S671	X	28		6'-4"			JOINT 4B
S672	X	7		7'-6"			JOINT 4B
S673	X	21		8'-7"			JOINT 4A
S675	X		84	2'-7"			INSIDE OVERHANGS

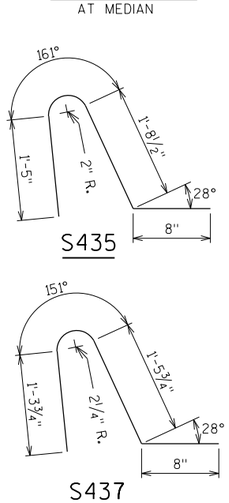
* IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH "MASONRY ANCHORS TYPE L NO.5 BARS" EMBEDDED 8" MIN. PULLOUT LOAD = 18 KIPS. PLACE 4" MIN. FROM EXISTING CONC FACE. USE L-SHAPED #5 COATED BARS. REPLACEMENT ANCHORS REQUIRED FOR BARS DAMAGED DUE TO THE CONTRACTOR'S NEGLIGENCE WILL BE AT THE CONTRACTOR'S EXPENSE.

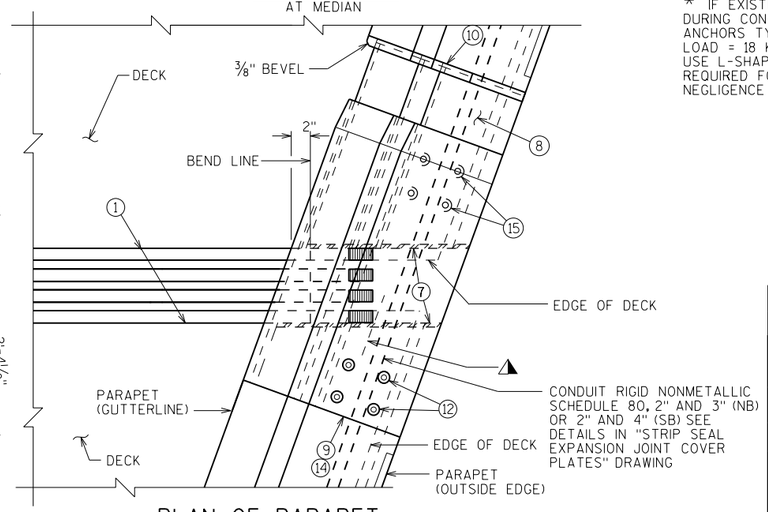


SECTION THRU PARAPET
AT MEDIAN. MATCH EXISTING PARAPET DIMENSIONS.



SECTION THRU PARAPET
AT OUTSIDE. MATCH EXISTING PARAPET DIMENSIONS.





PLAN OF PARAPET

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MODULAR EXPANSION JOINT COVER PLATES

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DATE: 11/9/2012
I.D. _____

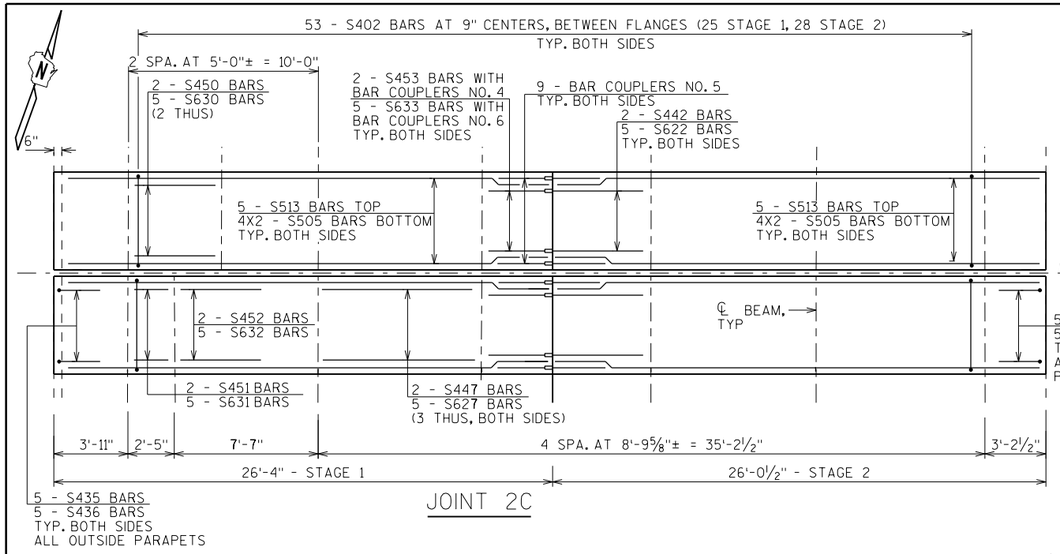
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8

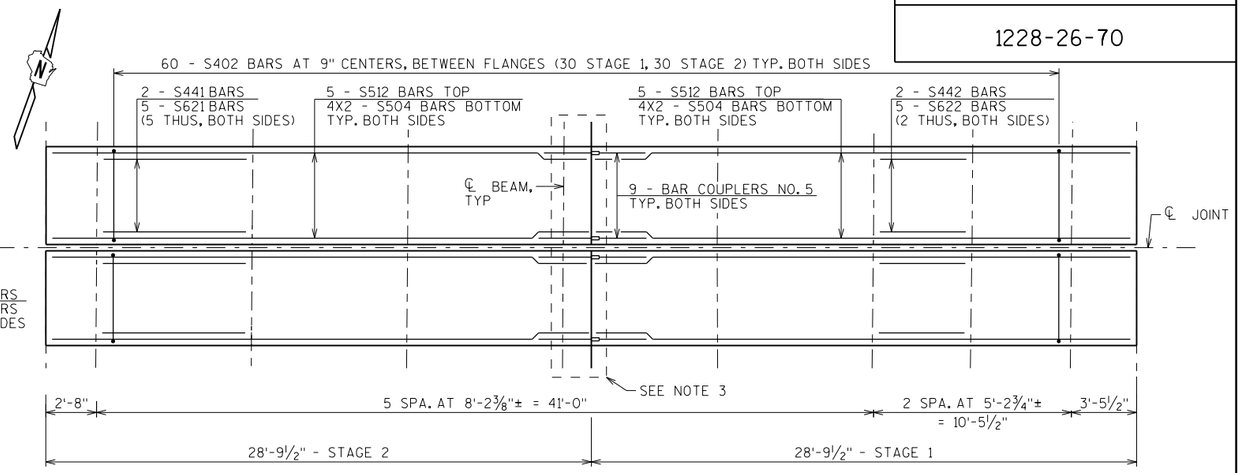
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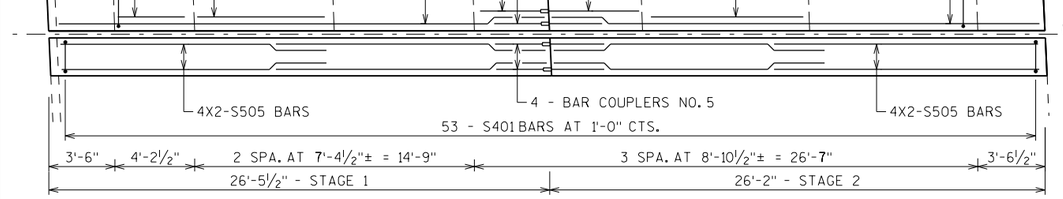
1228-26-70



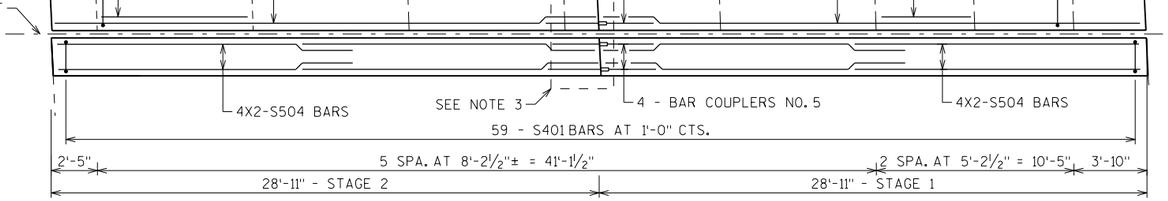
JOINT 2C



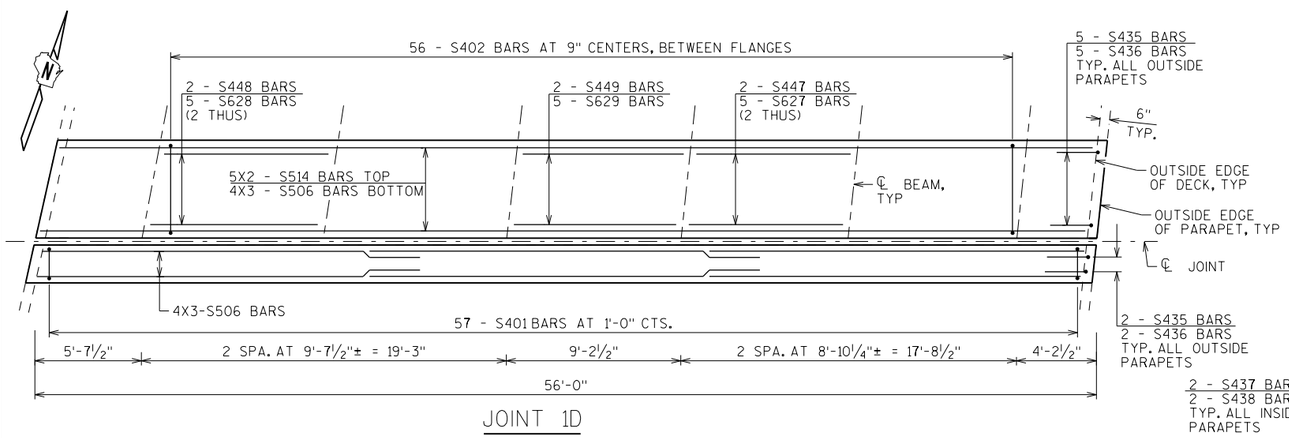
JOINT 2B



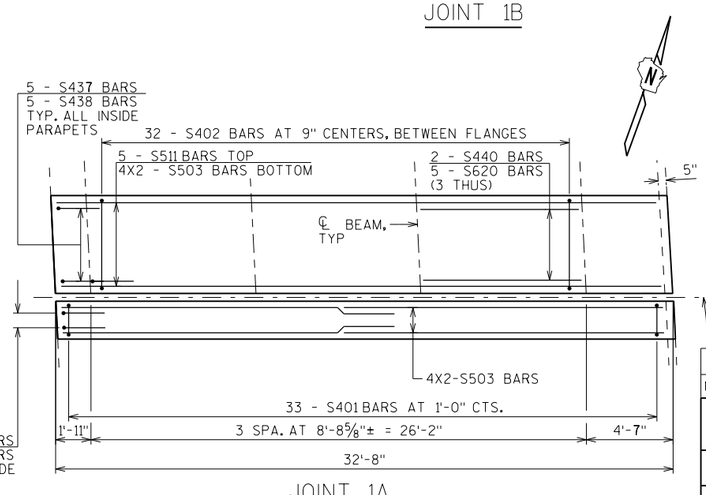
JOINT 1C



JOINT 1B



JOINT 1D



JOINT 1A

NOTES

1. ALL REINFORCEMENT FOR RAMP JOINTS IS SHOWN IN STAGE 1.
2. BEAM SPACING AND STAGE DIMENSIONS ARE TAKEN ALONG CENTERLINE OF JOINT.
3. ADDITIONAL CONCRETE REMOVAL REQUIRED DURING STAGE 1, UP TO BEAM WEB TO FIT EDGE BEAM REINFORCEMENT.
4. BARS INDICATED 4X3-ETC. INDICATE 4 LINES OF BARS WITH 3 LENGTHS PER LINE.

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STRUCTURE B-40-0285

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JOINT REPAIR REINFORCEMENT DETAILS 1

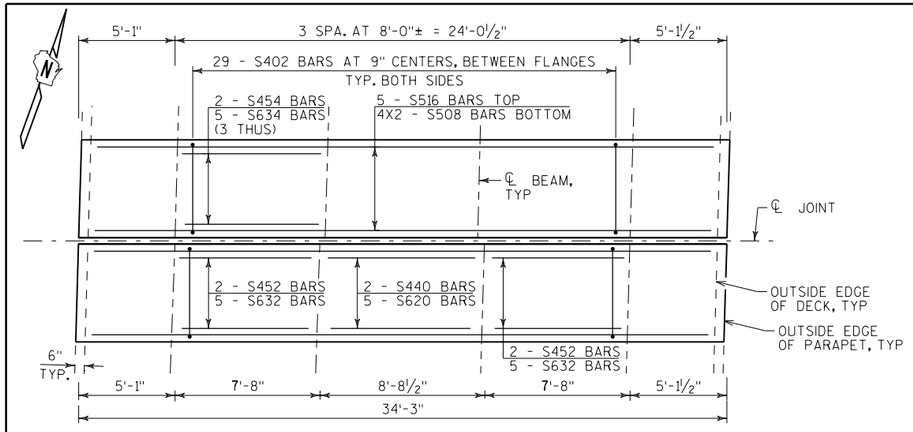
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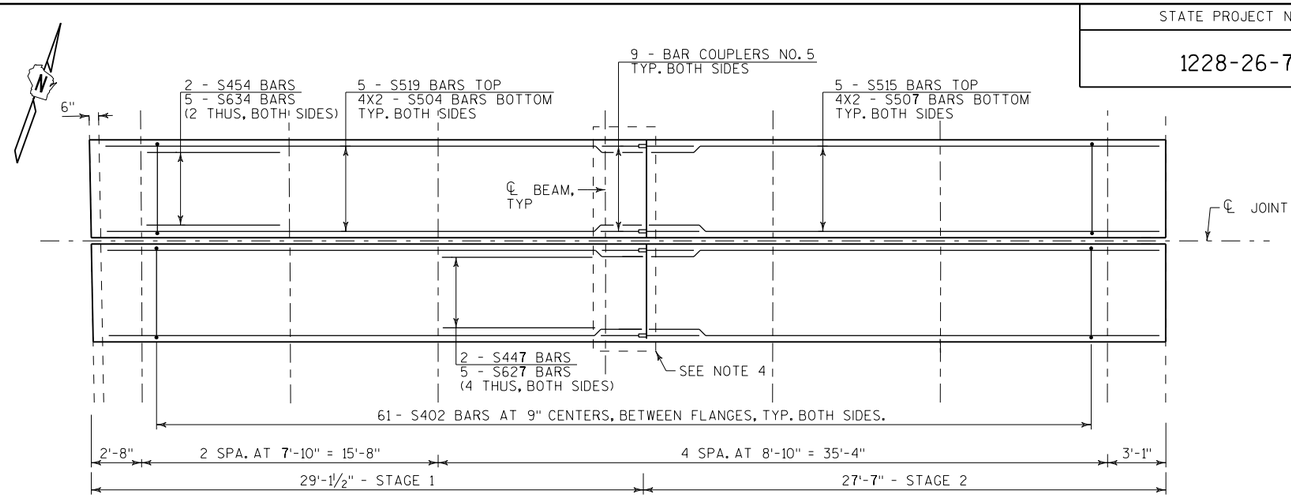
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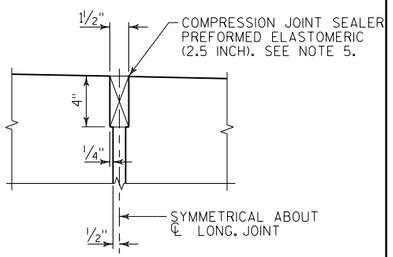
1228-26-70



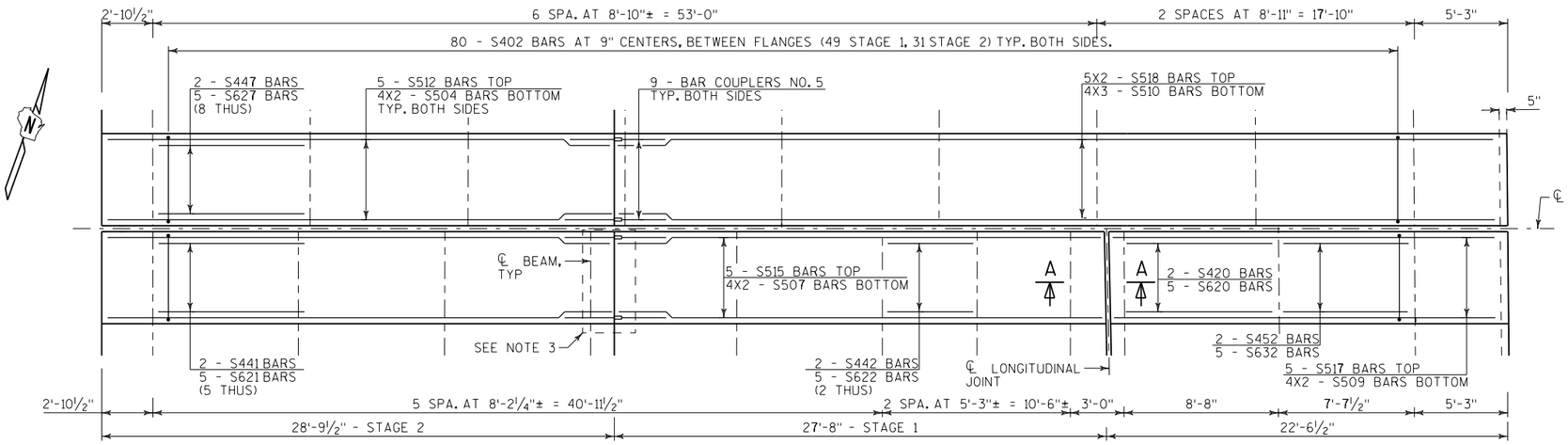
JOINT 3C



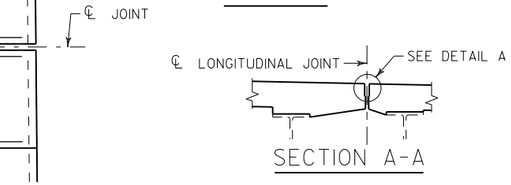
JOINT 3B



DETAIL A



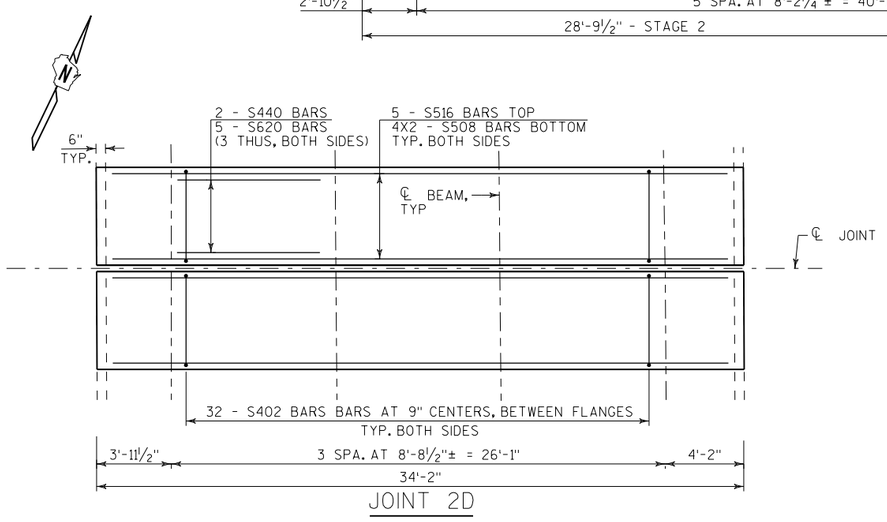
JOINT 3A



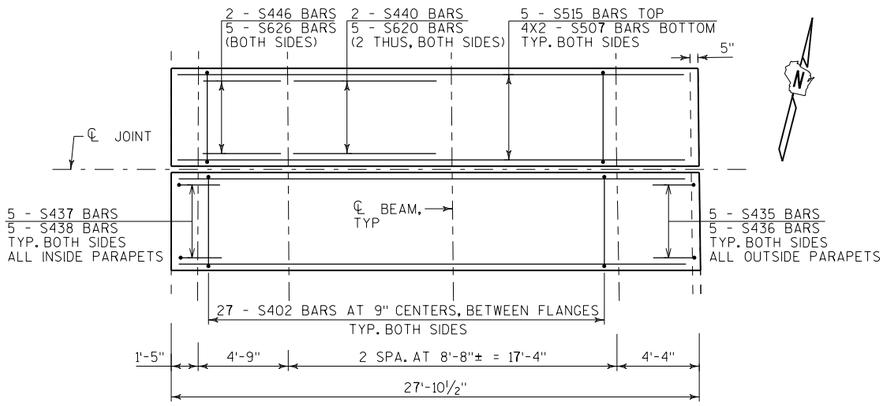
SECTION A-A

NOTES

1. ALL REINFORCEMENT FOR RAMP JOINTS IS SHOWN IN STAGE 1.
2. BEAM SPACING AND STAGE DIMENSIONS ARE TAKEN ALONG CENTERLINE OF JOINT.
3. ADDITIONAL CONCRETE REMOVAL REQUIRED DURING STAGE 1, UP TO BEAM WEB TO FIT EDGE BEAM REINFORCEMENT.
4. BLOCK-OUT CONCRETE DURING STAGE 1 AS REQUIRED TO FIT EDGE BEAM REINFORCEMENT.
5. ENTIRE EXISTING COMPRESSION SEAL IN LONGITUDINAL JOINT TO BE REPLACED.



JOINT 2D



JOINT 2A

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JOINT REPAIR REINFORCEMENT DETAILS 2

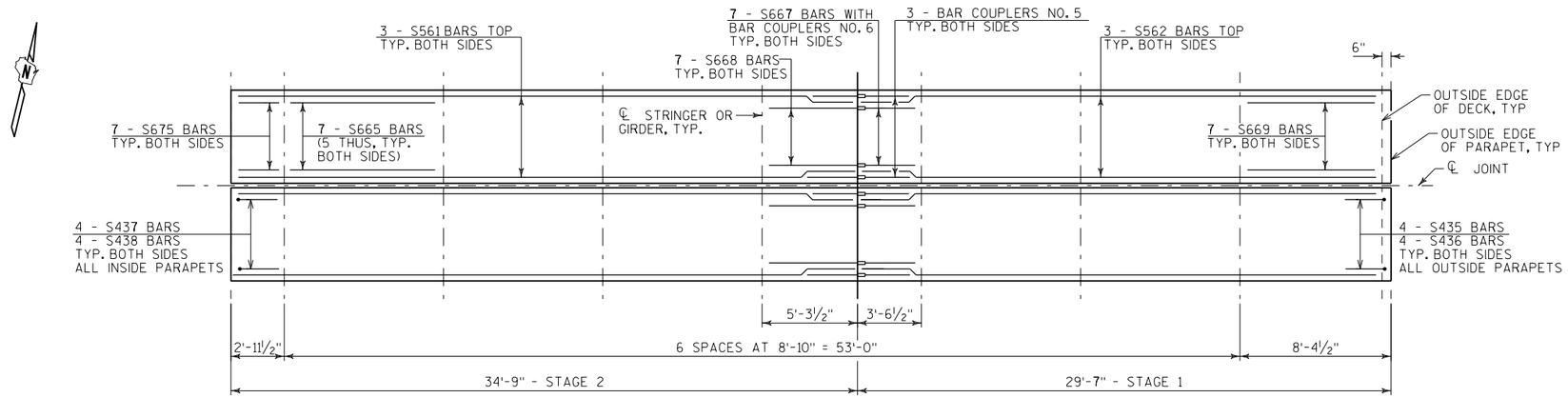
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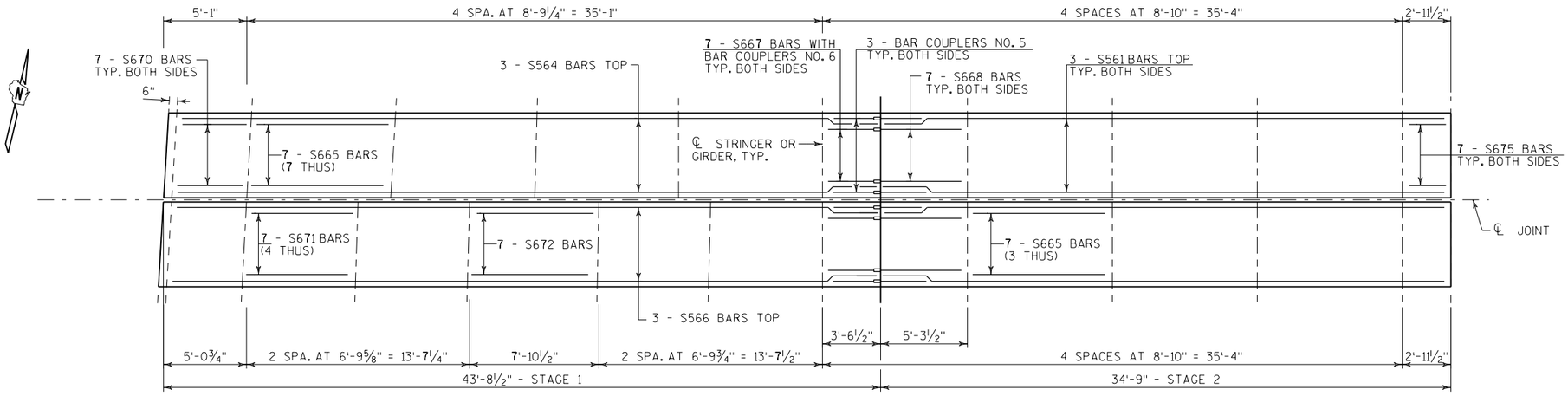
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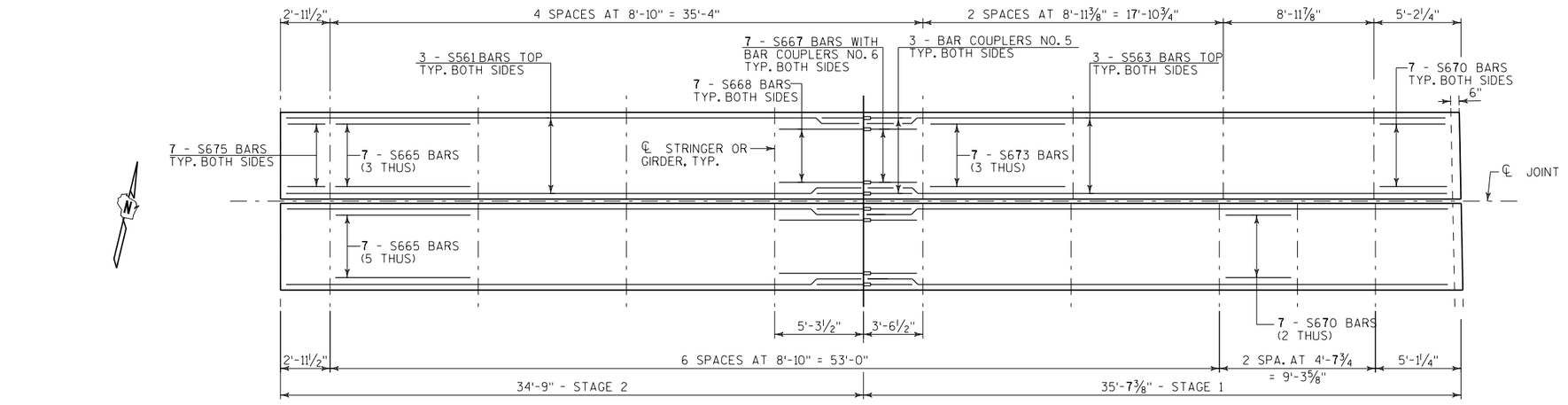


JOINTS 5A AND 6A

JOINTS 5B AND 6B SYMMETRICAL ABOUT ℄ I-43/94



JOINT 4B



JOINT 4A

NOTE:
BEAM SPACING AND STAGE DIMENSIONS ARE TAKEN ALONG CENTERLINE OF JOINT.

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JOINT REPAIR REINFORCEMENT DETAILS 3

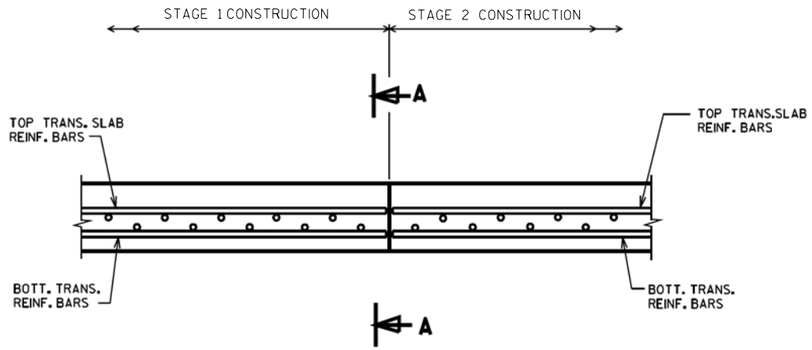
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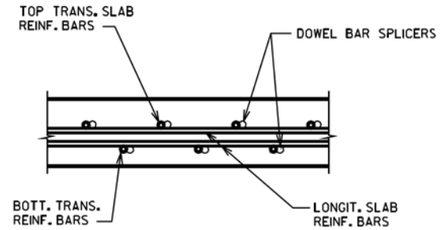
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SECTION THRU SLAB



SECTION A

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT BARS SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

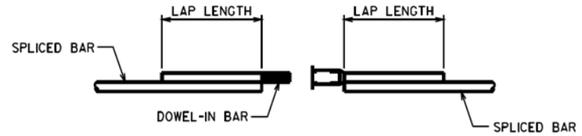
① MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS

DOWEL BAR SPLICER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

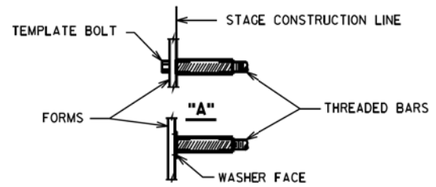
BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.



DOWEL BAR SPLICER

ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS.

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STRUCTURE B-40-0285

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BAR SPLICER AND COUPLER DETAILS

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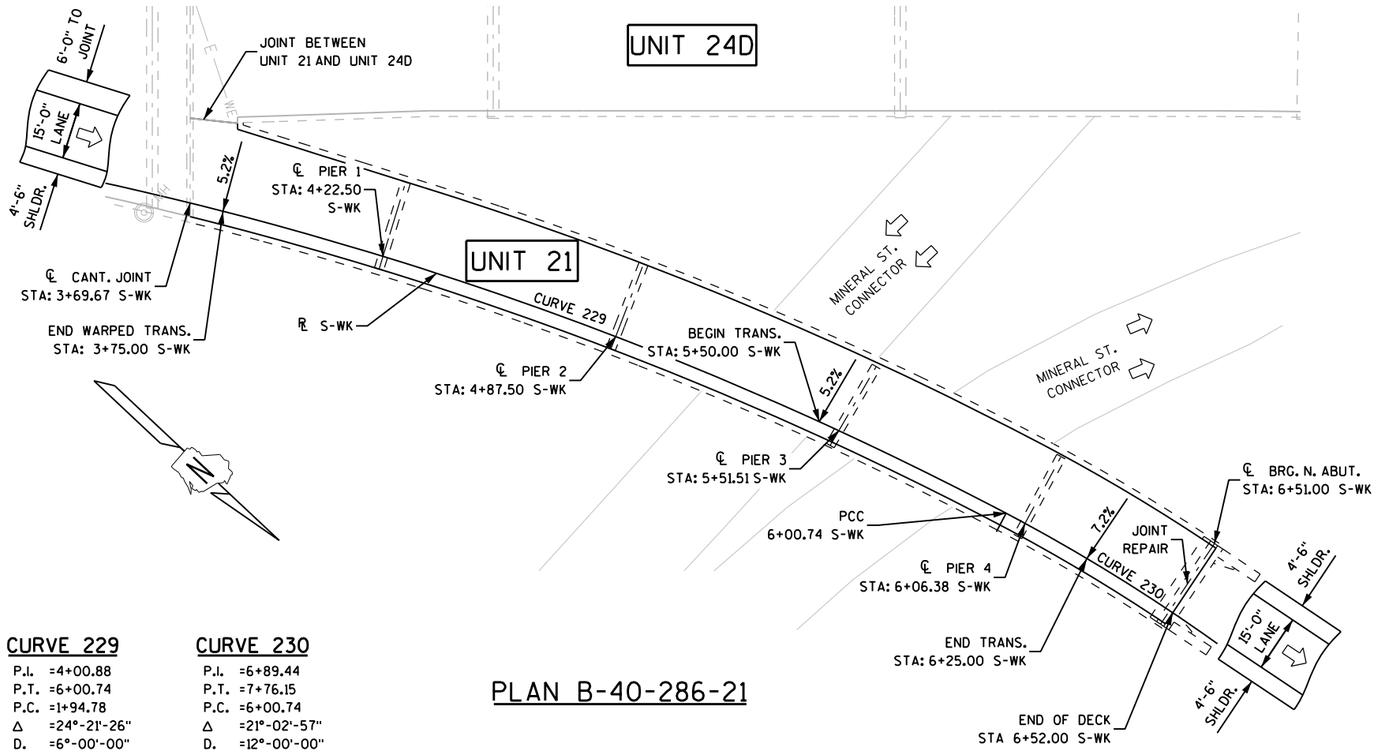
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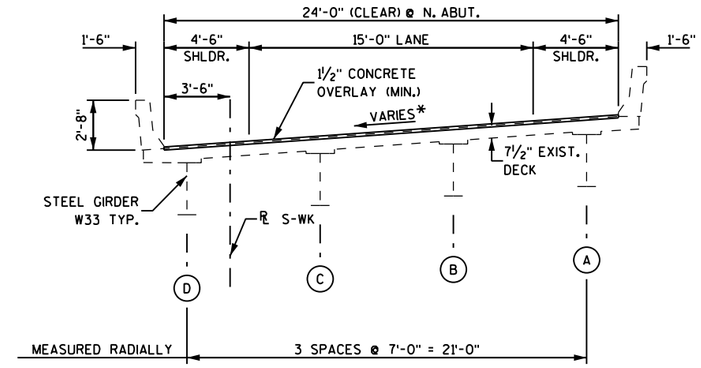
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STATE PROJECT NUMBER

1228-26-70



PLAN B-40-286-21



CROSS SECTION THRU ROADWAY

(LOOKING SOUTH ℄ N. ABUT.)

* WARP TRANS. TO 3+75 S-WK
5.2% SLOPE FROM 3+75 TO 5+50 S-WK
SLOPE VARIES FROM 5+50 TO 6+25 S-WK
7.2% SLOPE FROM 6+25 S-WK TO END OF DECK.

CURVE 229

P.I.	=4+00.88
P.T.	=6+00.74
P.C.	=1+94.78
Δ	=24°-21'-26"
D.	=6°-00'-00"
T.	=206.09'
L.	=405.95'
R.	=954.93'

CURVE 230

P.I.	=6+89.44
P.T.	=7+76.15
P.C.	=6+00.74
Δ	=21°-02'-57"
D.	=12°-00'-00"
T.	=88.70'
L.	=175.41'
R.	=477.46'

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	PIER 1	PIER 2	PIER 3	PIER 4	N. ABUT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	1005	-	-	-	-	-	1,005
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS ☆	EACH	-	-	-	-	-	6	6
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	-	-	-	-	-	530	530
509.0301	PREPARATION DECKS TYPE 1	SY	6	-	-	-	-	-	6
509.0302	PREPARATION DECKS TYPE 2	SY	3	-	-	-	-	-	3
509.0500	CLEANING DECKS	SY	773	-	-	-	-	-	773
509.1000	JOINT REPAIR	SY	7	-	-	-	-	-	7
509.1500	CONCRETE SURFACE REPAIR	SF	-	4	17	3	-	-	24
509.2000	FULL DEPTH DECK REPAIR	SY	1	-	-	-	-	-	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	46	-	-	-	-	-	46
517.1800.S.18	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-286-21	LS	1	-	-	-	-	-	1
517.4500.S.18	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-40-286-21	LS	1	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	-	-	-	-	1
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	-	-	-	-	4	4
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	-	-	7	6	-	13
SPV.0105.11	INSTALL EXPANSION DEVICE B-40-286-21	LS	1	-	-	-	-	-	1
SPV.0165.01	CATHODIC PROTECTION	SF	-	-	16	-	-	-	16

☆ MASONRY ANCHOR QUANTITY BASED ON 20% REPLACEMENT ESTIMATE.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-18
OPERATIONAL RATING	HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD	168 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

TRAFFIC DATA

IH-43/94 OFF-RAMP
A.D.T. (2009) = 7,100



SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

LIST OF DRAWINGS

1. GENERAL PLAN
2. CONSTRUCTION STAGING
3. JOINT REPAIR DETAILS AT ABUTMENT
4. JOINT REPAIR DETAILS AT PARAPET
5. CATHODIC PROTECTION DETAILS
6. DECK REPAIR AREAS
7. UNDERDECK INSPECTION
8. INFRARED INSPECTION RESULTS

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-286-21

IH-43/94 NB/WB EXIT RAMP OVER MINERAL ST.

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D.	NJH
DRAWN BY	MJH	PLANS CK'D.	SJM

GENERAL PLAN

SHEET 1 OF 8

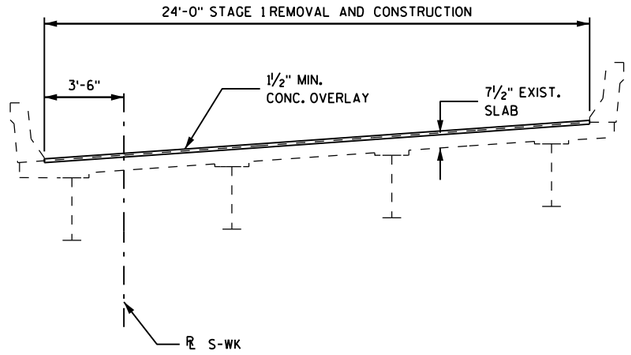
692

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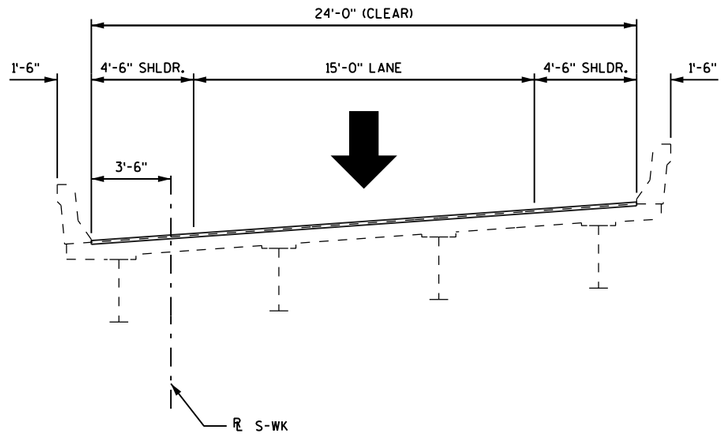
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PLOT DATE :10/24/2012 11:31:03 AM PLOT BY : Nicholas Hornyak@B DRV :Pdf,bw,HS,739Lolt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



STAGE 1 - CROSS SECTION

(LOOKING SOUTH @ N. ABUT.)



STAGE 2 - CROSS SECTION

(LOOKING SOUTH @ N. ABUT.)

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, PLACEMENT OF A CONCRETE OVERLAY, CONCRETE SURFACE REPAIR, AND CATHODIC PROTECTION.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER MILLING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOCITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS 3 AND 4.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE 'INSTALL EXPANSION DEVICE B-40-286-21' ITEM.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-21

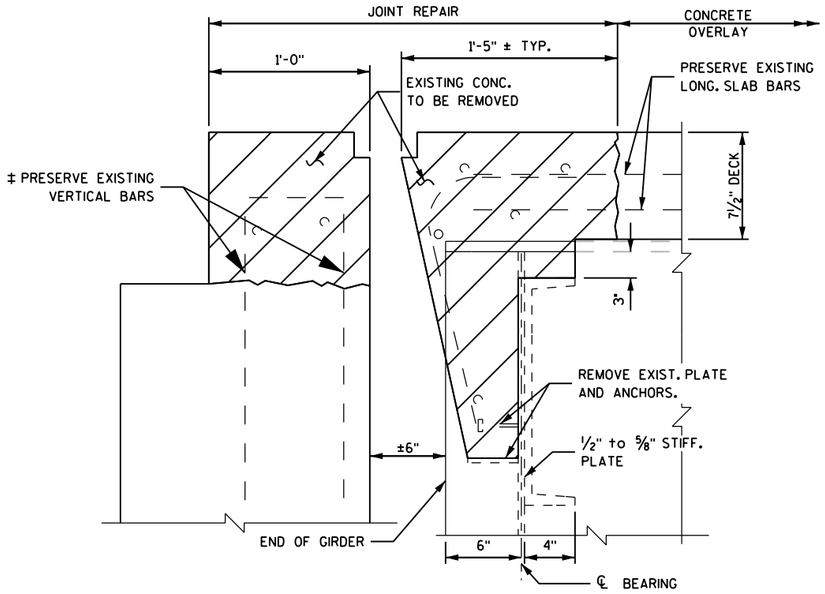
DRAWN BY	MJH	PLANS CK'D.	SJM

CONSTRUCTION STAGING

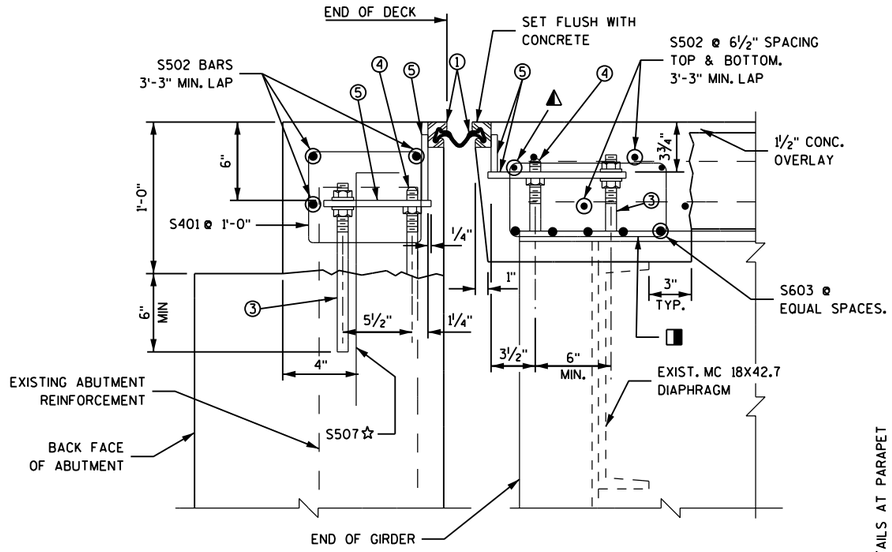
SHEET 2 OF 8

693

FILE NAME :02_B-40-286-21_Traffic Staging.dgn
PLOT DATE :9/28/2012 9:58:08 AM PLOT BY : Nicholas Hornyak WI DRV :Pdf_bw_HS_7391.tbl PEN :CELTEXTSUB.TBL



JOINT REPAIR-REMOVAL
AT ABUTMENTS



SECTION THRU JOINT
AT ABUTMENTS

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

②A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

REFER TO JOINT REPAIR DETAILS AT PARAPET

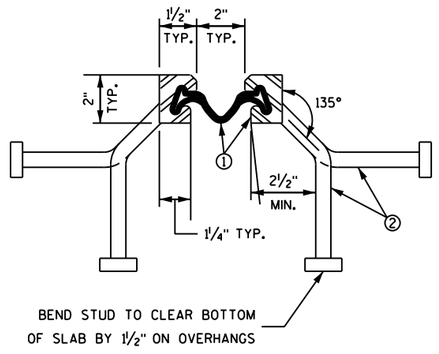
⑥ GALVANIZED PLATE ⅜" X 10½" X 2'-0" LONG WITH HOLES FOR ⑦. BEND AS SHOWN.

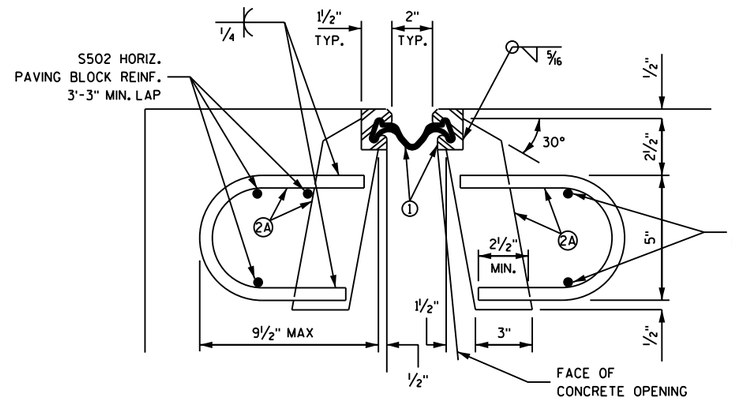
⑦ ¾" ϕ X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.



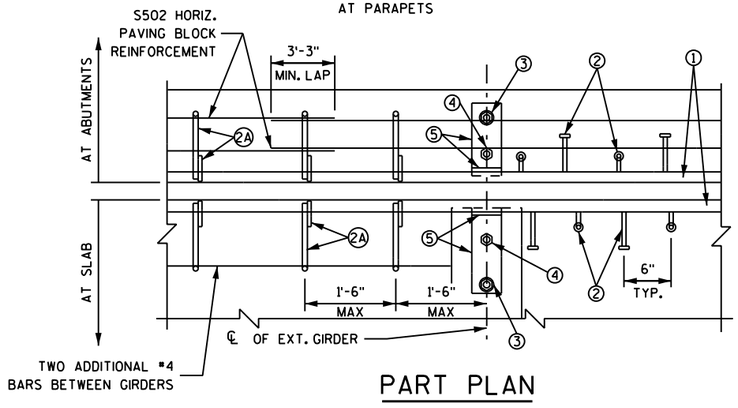


AT ABUTMENTS AT SLAB

▲ S404, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM.

◨ S405 @ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS.

SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS

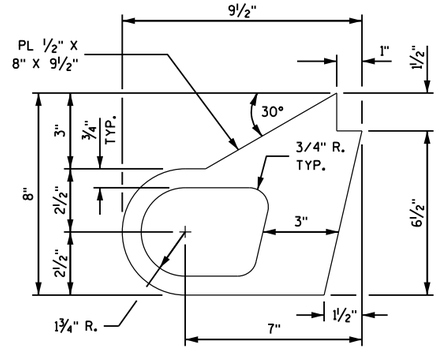


PART PLAN

SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

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

☆ MASONRY ANCHORS TYPE L NO.5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.



ALTERNATE STRIP SEAL ANCHOR

EXPANSION JOINT NOTES

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

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

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

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

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-286-21".

STATE PROJECT NUMBER
1228-26-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-21

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT ABUTMENTS

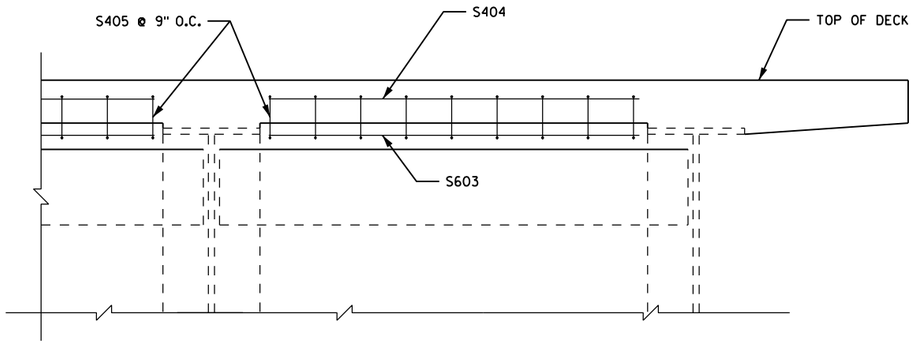
SHEET 3 OF 8
694

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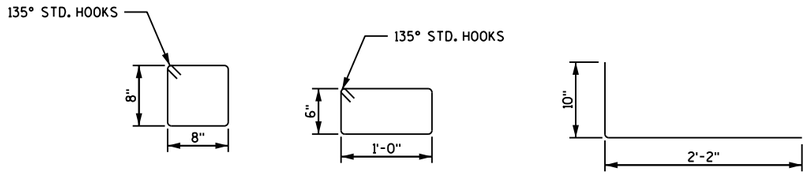
STATE PROJECT NUMBER
1228-26-70

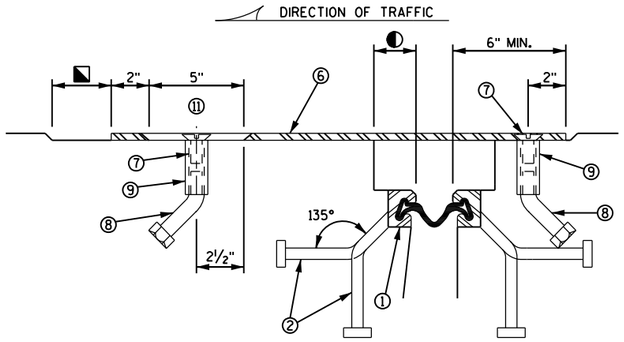


PART TRANSVERSE SECTION AT DIAPHRAGM EXPANSION END

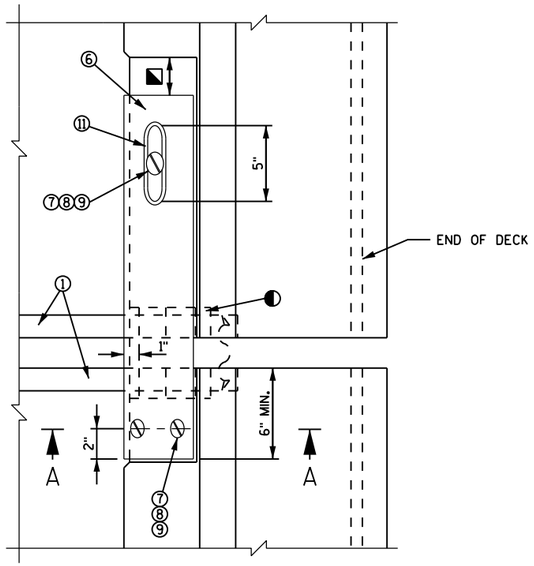
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	COUPLER	LOCATION
S401	X	27	3'-2"	▲		N ABUT PAVING BLOCK STIRRUPS
S502	X	14	14'-7"			N ABUT PAV BLOCK & DECK HORIZ STAGE 2 & 3
S603	X	15	5'-9"			N ABUT DIAPH. BOTT. HORIZ. BTWN. GIRDERS
S404	X	6	5'-9"			N ABUT DIAPH. TOP HORIZ. BTWN. GIRDERS
S405	X	24	3'-6"	▲		N ABUT DIAPH. STIRRUPS
S406	X	6	6'-7"			N ABUT DECK EXP DEVICE HORIZ. ALL GIRDERS
S507	X	6	2'-11"	▲		MASONRY ANCHORS



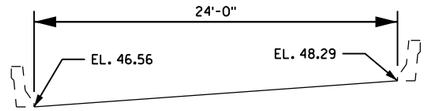


SECTION B-B



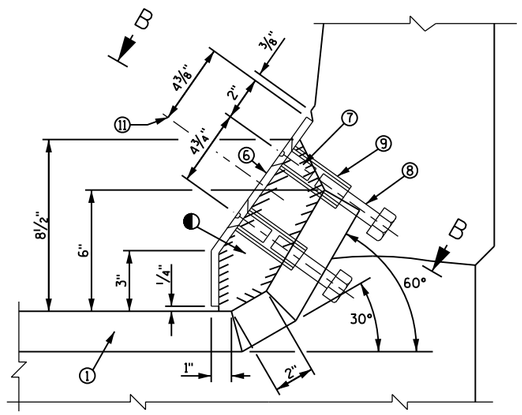
PLAN AT PARAPET

SLOPED FACE PARAPET



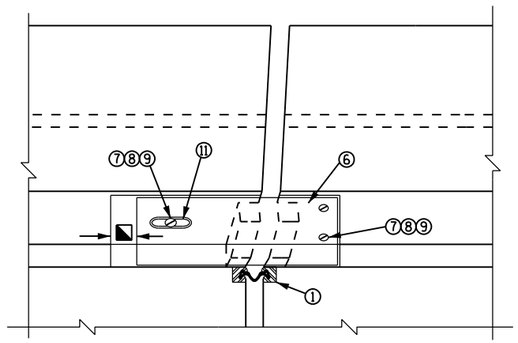
ELEV. AT N. ABUT.

(LOOKING SOUTH)



SECTION A-A

SLOPED FACE PARAPET



VIEW OF PARAPET PLATES FROM ROADWAY

SLOPED FACE PARAPET

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-21

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT PARAPET

SHEET 4 OF 8

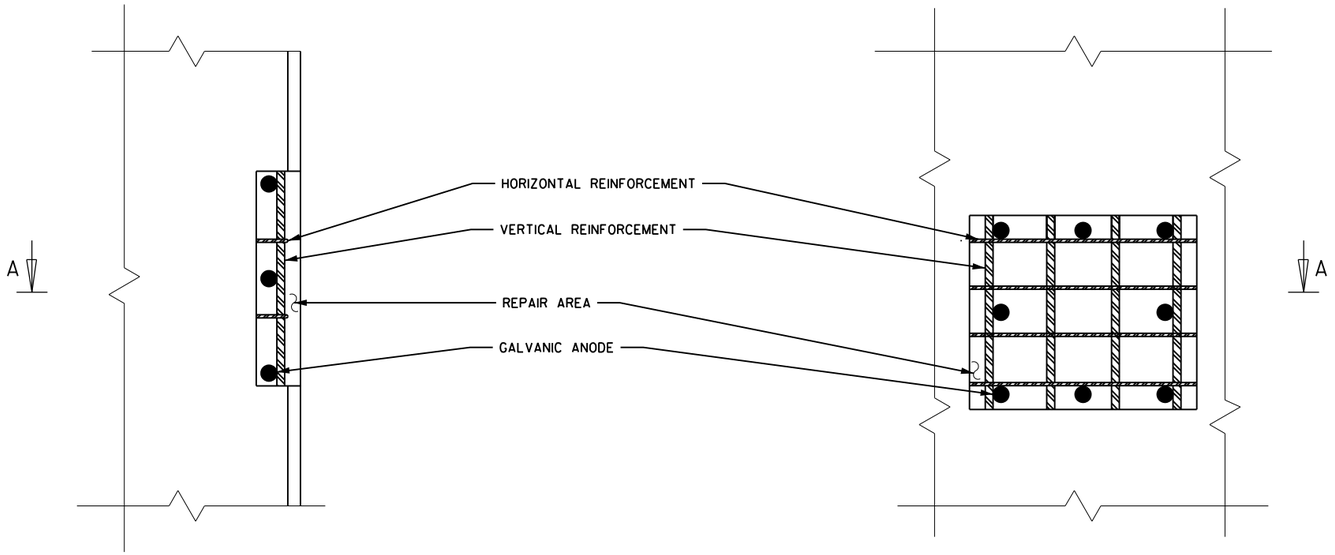
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PLOT DATE :9/28/2012 9:58:09 AM PLOT BY : Nicholas Hornyak@ DRV :PDF.bw.HS.7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

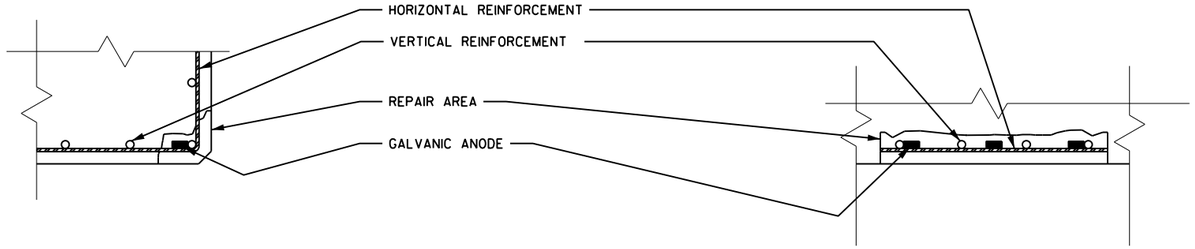


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-21

DRAWN BY	MJH	PLANS CK'D.	SJM

CATHODIC PROTECTION DETAILS

SHEET 5 OF 8

696

FILE NAME :05.B-40-286-21.Cathodic Protection Details.dgn
PLOT DATE :9/28/2012 9:58:25 AM PLOT BY : NicholasHornyak@1 DRV :Pdf.bw.HS.7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

PROPOSED REHAB AREAS - UNIT 21

NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-21	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd.^{2}	773.2	
SHADE/DEBRIS	yd.^{2}	0	
PREPARATION, DECKS, TYPE 1	yd.^{2}	6	0.8
PREPARATION, DECKS, TYPE 2 ✳	yd.^{2}	4	0.5
FULL DEPTH DECK REPAIR ✳	yd.^{2}	1	0.1

✳ ESTIMATED

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

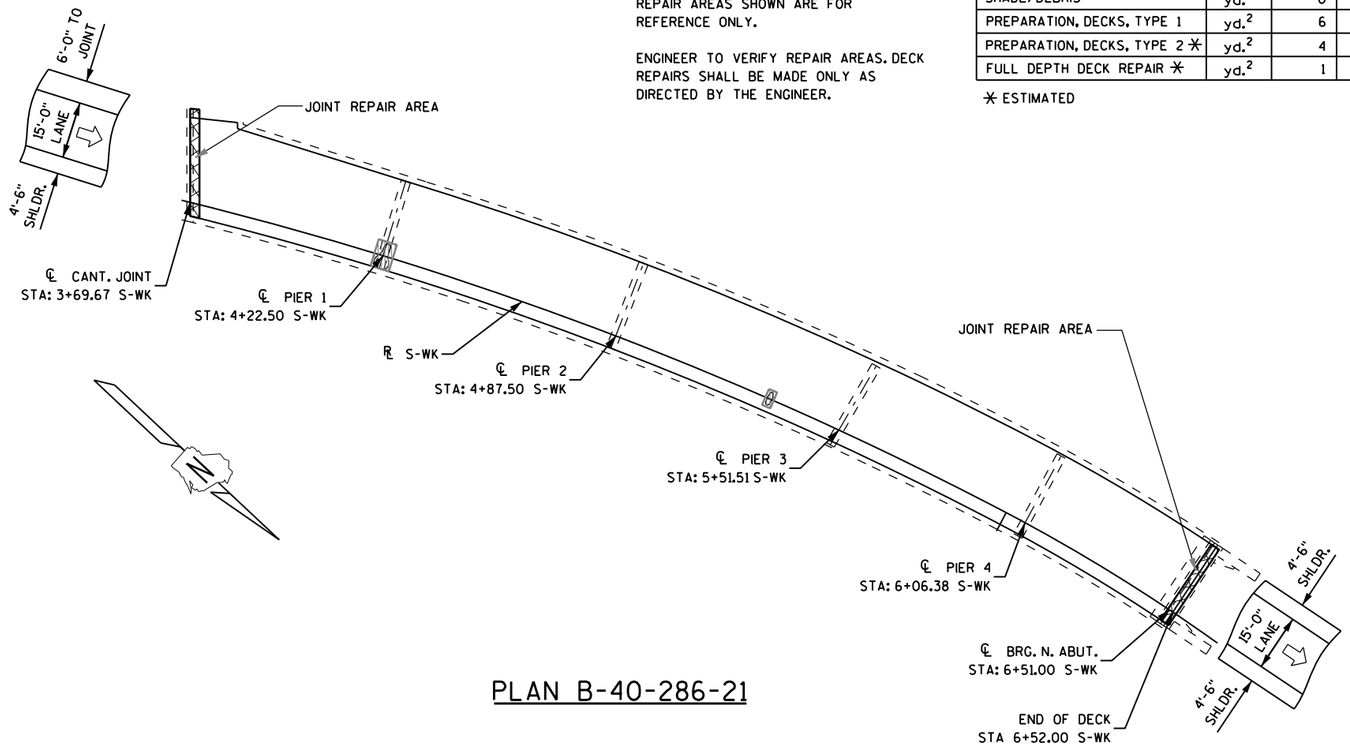
DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH



PLAN B-40-286-21

SCALE, FEET 0 10 20
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-21

DRAWN BY MJH | PLANS CK'D. SJM

DECK REPAIR AREAS

SHEET 6 OF 8
697

8

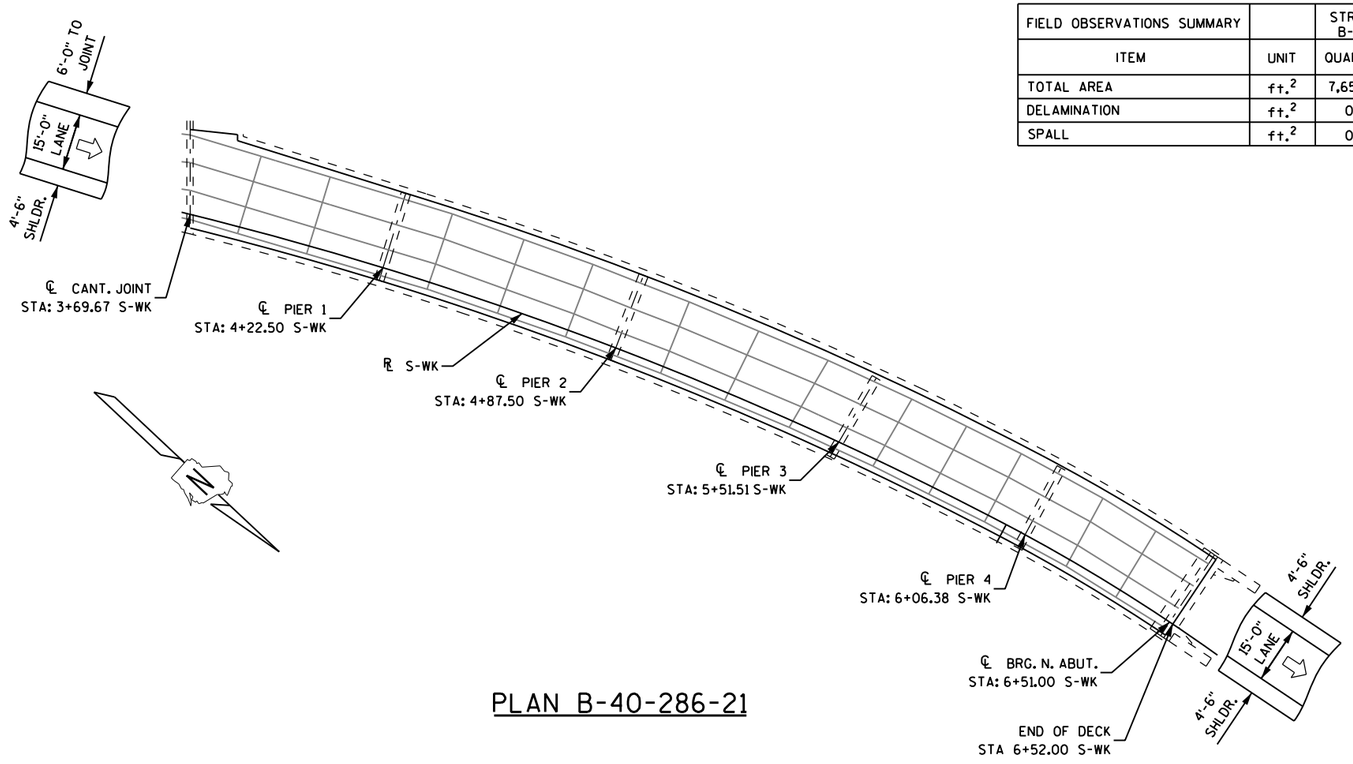
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FILE NAME :06_B-40-286-21_Deck Repair Areas.dgn
PLOT DATE :10/24/2012 11:33:17 AM PLOT BY : NicholasHornyak:v8i DRV :Pdf_bw_HS_7391.drv PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-21		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	7,650	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



PLAN B-40-286-21

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/6/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-21

DRAWN BY	MJH	PLANS CK'D.	SJM

UNDERDECK INSPECTION

SHEET 7 OF 8

698

8

8

FILE NAME :DT.B-40-286-21.UnderDeck Repair Areas.dgn
PLOT DATE :10/24/2012 11:33:17 AM PLOT BY : NicholasHornyak@R DRV :Pdf.bw.HS.7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

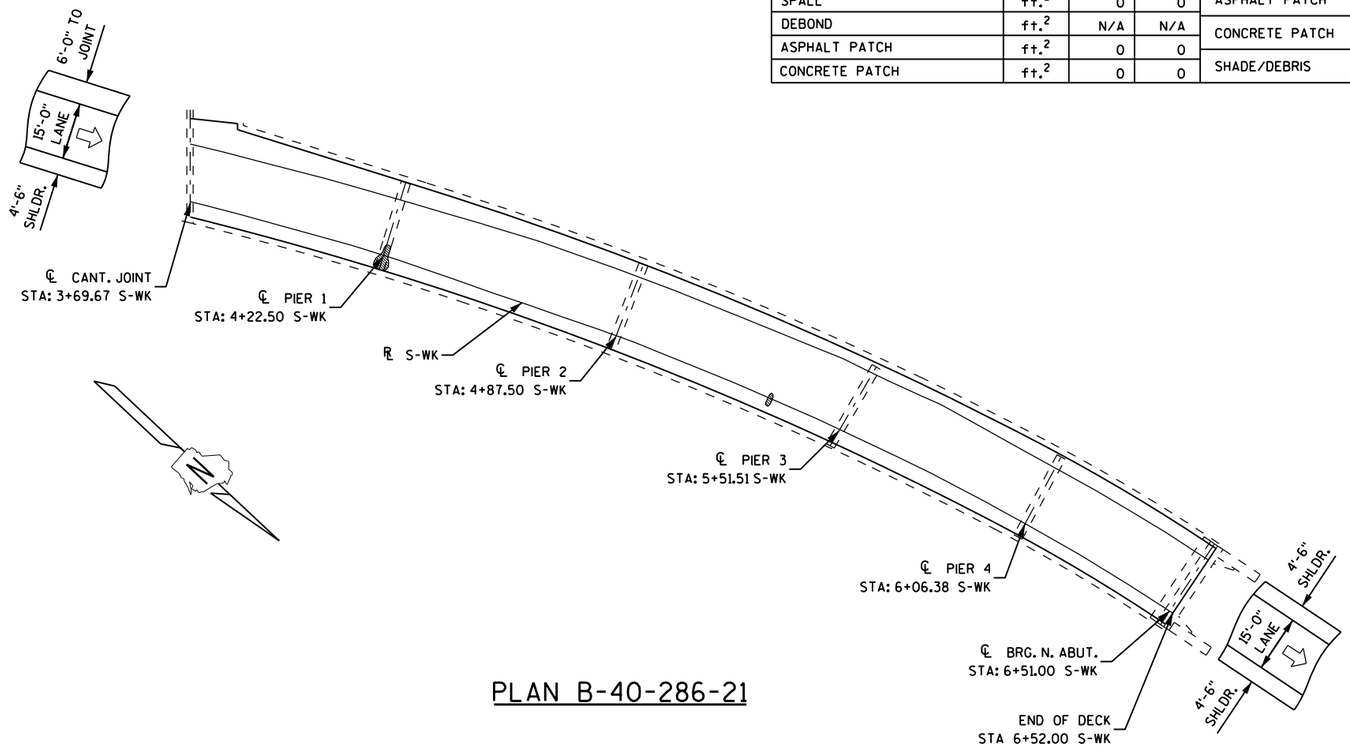
ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS - UNIT 21

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-21	
ITEM	UNIT	QUANT.	%
TOTAL AREA	ft.^{2}	6,959	
SHADE/DEBRIS	ft.^{2}	0	
DELAMINATION	ft.^{2}	22	0.3
SPALL	ft.^{2}	0	0
DEBOND	ft.^{2}	N/A	N/A
ASPHALT PATCH	ft.^{2}	0	0
CONCRETE PATCH	ft.^{2}	0	0

LEGEND

- DELAMINATION
- SPALL
- DEBOND
- ASPHALT PATCH
- CONCRETE PATCH
- SHADE/DEBRIS



PLAN B-40-286-21

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-21

DRAWN BY	MJH	PLANS CK'D.	SJM

INFRARED INSPECTION RESULTS

SHEET 8 OF 8

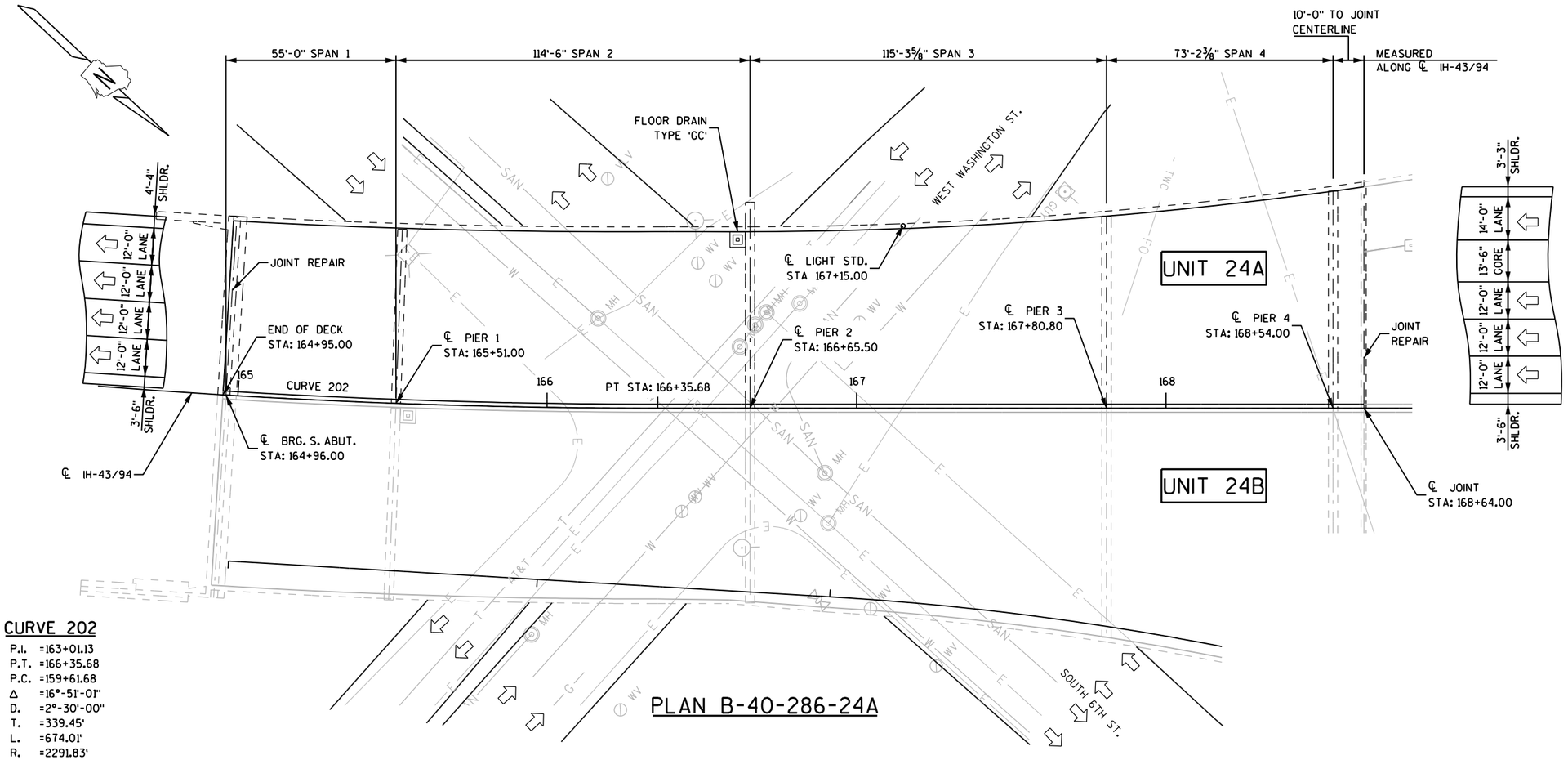
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FILE NAME :08.B-40-286-21.infared.inspection.dgn
PLOT DATE :10/24/2012 113217 AM PLOT BY : NicholasHornyak.vBl DRV :Pdf.bw.HS.7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



PLAN B-40-286-24A

CURVE 202

P.I. =163+01.13
P.T. =166+35.68
P.C. =159+61.68
Δ =16°-51'-01"
D. =2°-30'-00"
T. =339.45'
L. =674.01'
R. =2291.83'

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	S. ABUT	PIER 1	PIER 2	PIER 3	PIER 4	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	5	-	-	-	-	5
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2660	-	-	-	-	-	2,660
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS ☆	EACH	-	12	-	-	-	-	12
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	4470	-	-	-	-	-	4,470
505.0905	BAR COUPLERS NO. 5	EACH	3	-	-	-	-	-	3
505.0906	BAR COUPLERS NO. 6	EACH	18	-	-	-	-	-	18
509.0301	PREPARATION DECKS TYPE 1	SY	10	-	-	-	-	-	10
509.0302	PREPARATION DECKS TYPE 2	SY	6	-	-	-	-	-	6
509.0500	CLEANING DECKS	SY	2378	-	-	-	-	-	2,378
509.1000	JOINT REPAIR	SY	54	-	-	-	-	-	54
509.1500	CONCRETE SURFACE REPAIR	SF	-	31	3	-	-	12	46
509.2000	FULL DEPTH DECK REPAIR	SY	1	-	-	-	-	-	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	148	-	-	-	-	-	148
514.0900	ADJUSTING FLOOR DRAINS	EACH	1	-	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	5	-	-	-	-	5
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	-	13	3	-	-	16
SPV.0105.12	INSTALL EXPANSION DEVICE B-40-286-24A	LS	1	-	-	-	-	-	1
SPV.0165.01	CATHODIC PROTECTION	SF	-	31	-	-	-	-	31

☆MASONRY ANCHOR QUANTITY BASED ON 20% REPLACEMENT ESTIMATE.

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-18
OPERATIONAL RATING	HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD	168 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

TRAFFIC DATA

IH-43/94 SB
A.D.T. (2009) = 59,300

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
11/1/12

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION
3. CONSTRUCTION STAGING
4. JOINT REPAIR DETAILS AT ABUTMENT
5. JOINT REPAIR DETAILS AT CANTILEVER
6. JOINT REPAIR DETAILS AT PARAPET
7. JOINT REPAIR REBAR DETAILS
8. CATHODIC PROTECTION DETAILS
9. DECK REPAIR AREAS
10. UNDERDECK INSPECTION
11. INFRARED INSPECTION RESULTS

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-286-24A

IH-43/94 SB/EB OVER WASHINGTON ST.

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D.	NJH
DRAWN BY	MJH	PLANS CK'D.	SJM

GENERAL PLAN

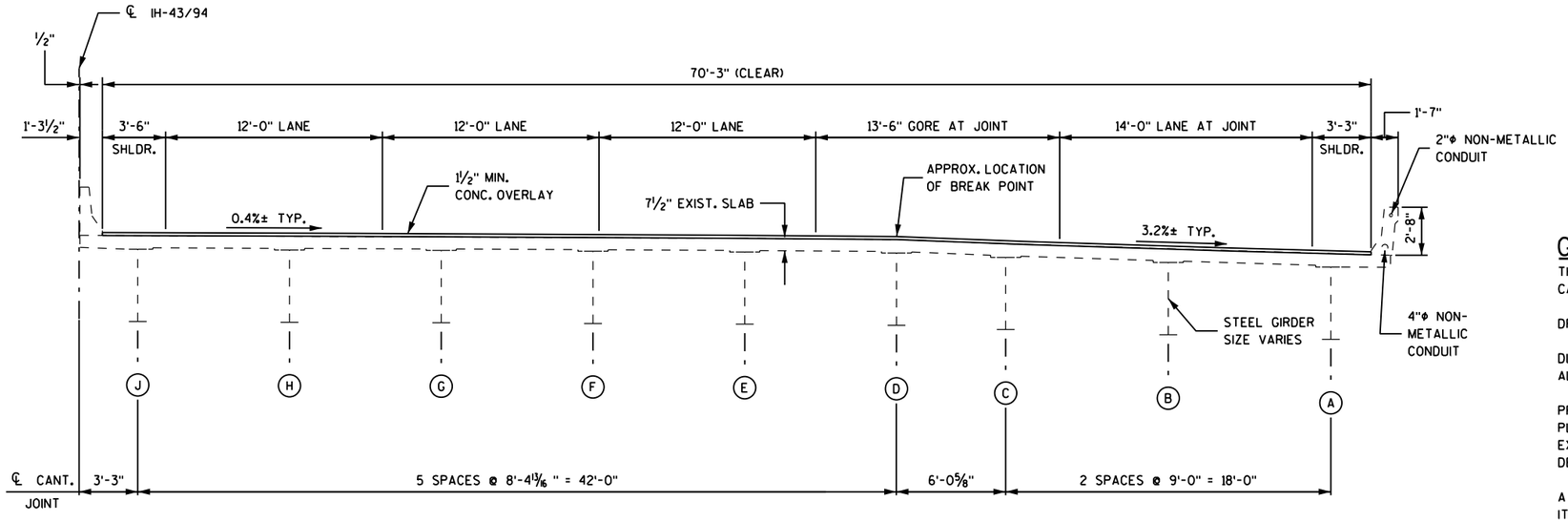
SHEET 1 OF 11
700

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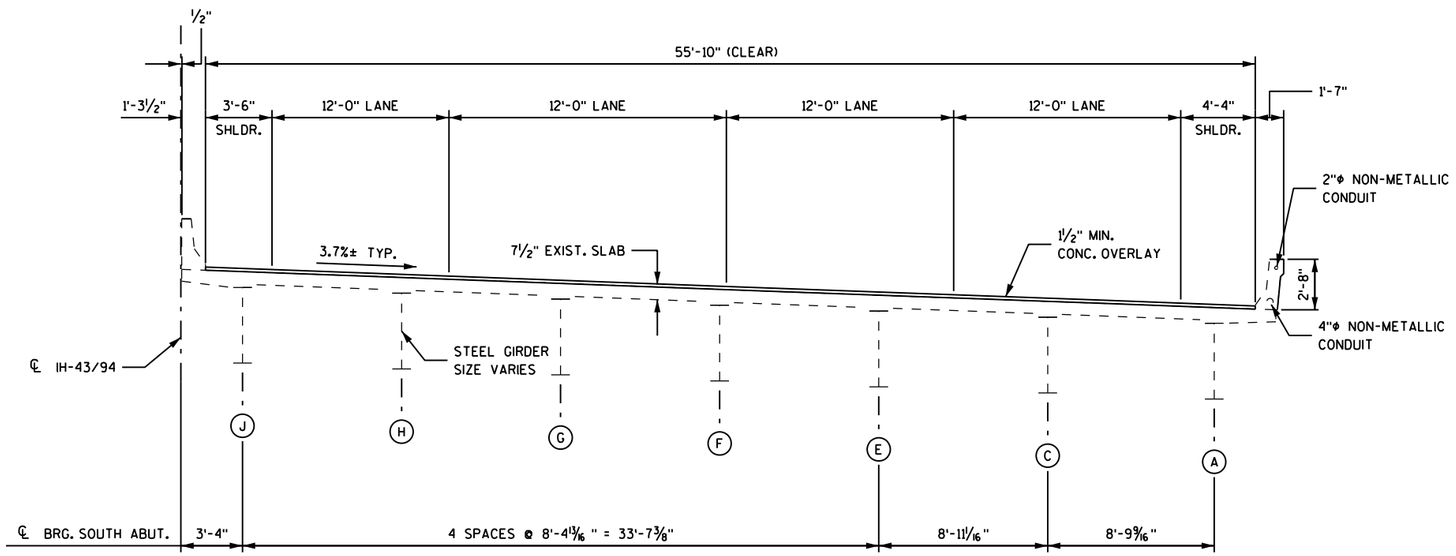
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STATE PROJECT NUMBER
1228-26-70



CROSS SECTION THRU ROADWAY

(LOOKING SOUTH AT CANT. JOINT STA: 168+64.0)



CROSS SECTION THRU ROADWAY

(LOOKING SOUTH AT S. ABUT. STA 164+96.0)

GENERAL NOTES

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK AFTER MILLING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS." ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOCITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS 1 AND 2.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE "INSTALL EXPANSION DEVICE B-40-286-24" ITEM.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY MJH | PLANS CK'D. SJM

CROSS SECTION

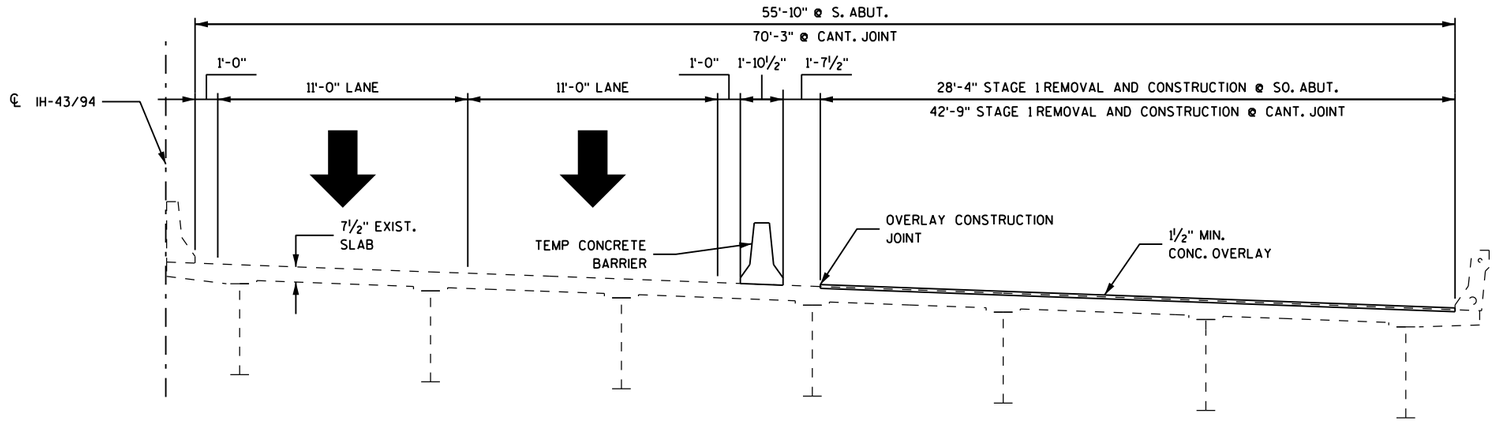
SHEET 2 OF 11
701

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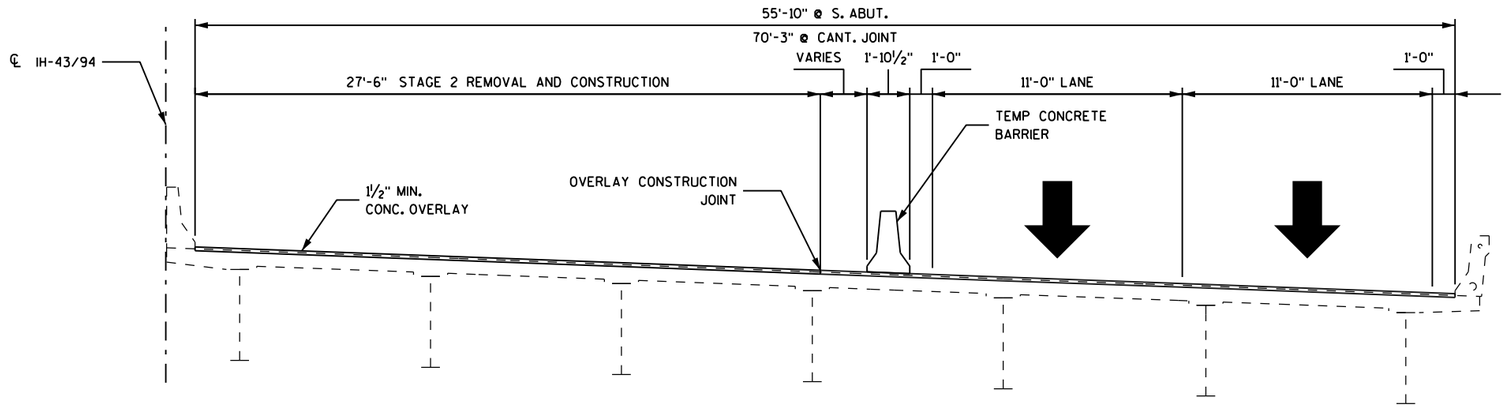
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STATE PROJECT NUMBER
1228-26-70



STAGE 1 - CROSS SECTION

(LOOKING SOUTH)



STAGE 2 - CROSS SECTION

(LOOKING SOUTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY MJH | PLANS CK'D. SJM

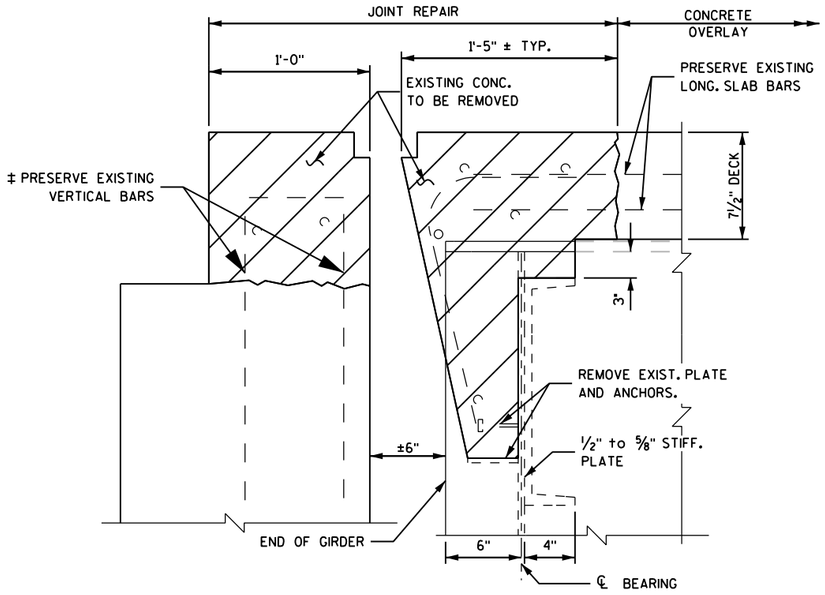
CONSTRUCTION STAGING

SHEET 3 OF 11
702

FILE NAME :03.B.40.286-24A.Traffic Staging.dgn
PLOT DATE :10/24/2012 2:45:48 PM PLOT BY : Nicholas Hornyak\vBt DRV :Pdf.bw.HS.739Lblt PEN :CELTEXTSUB.TBL

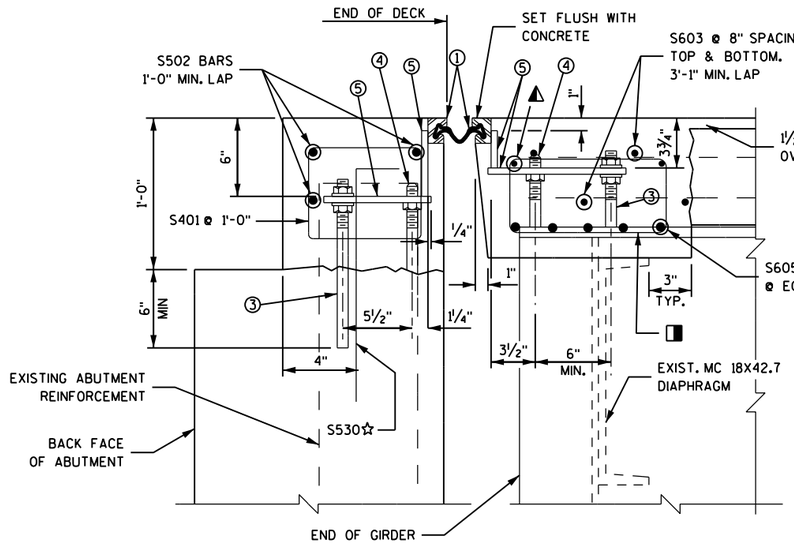
STATE PROJECT NUMBER

1228-26-70



JOINT REPAIR-REMOVAL

AT ABUTMENTS



SECTION THRU JOINT

AT ABUTMENTS

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

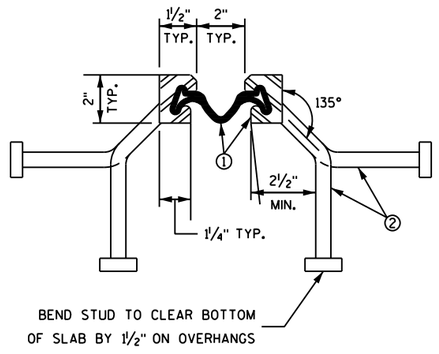
③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

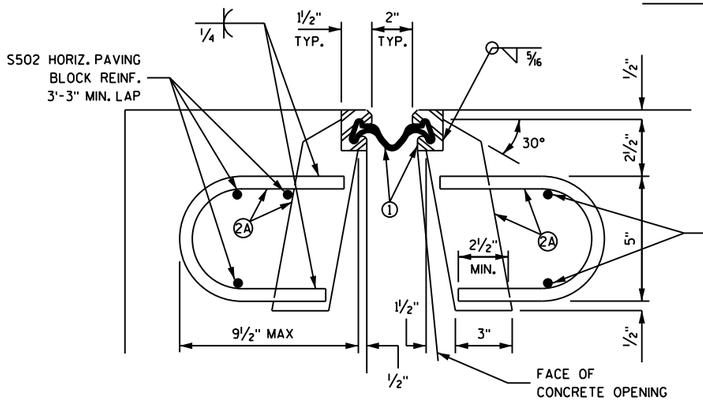
④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

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

☆ MASONRY ANCHORS TYPE L NO.5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.





AT ABUTMENTS AT SLAB

EXPANSION JOINT NOTES

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

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

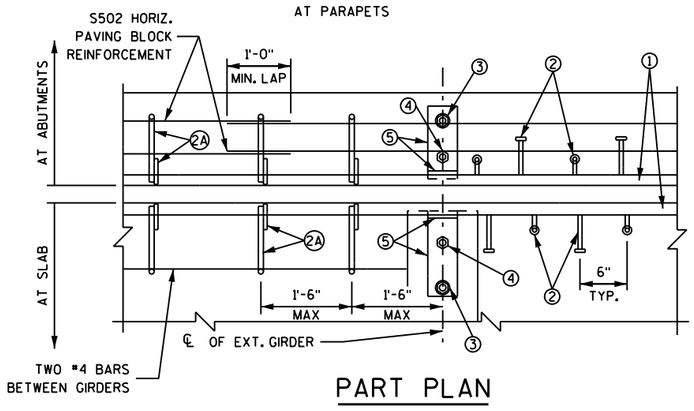
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-286-24A".

SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



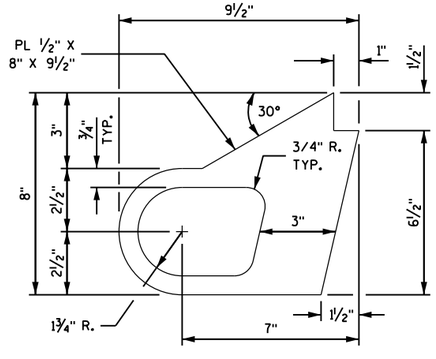
PART PLAN

SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

▲ S408, S409, S410, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM.

◨ S404 @ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS.



ALTERNATE STRIP SEAL ANCHOR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT ABUTMENT

SHEET 4 OF 11

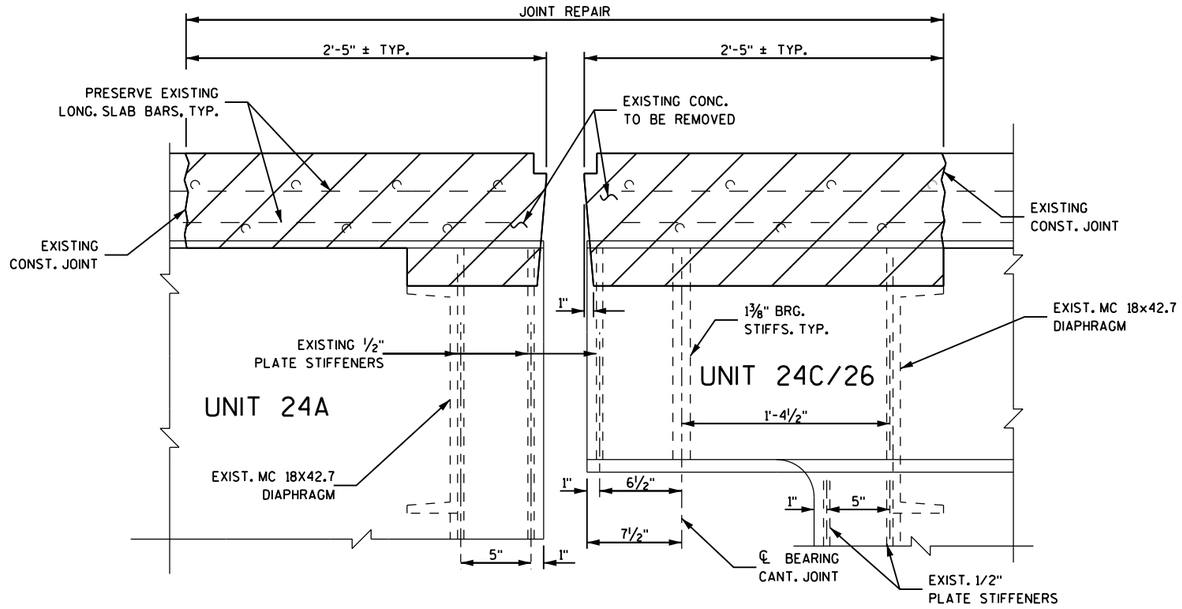
703

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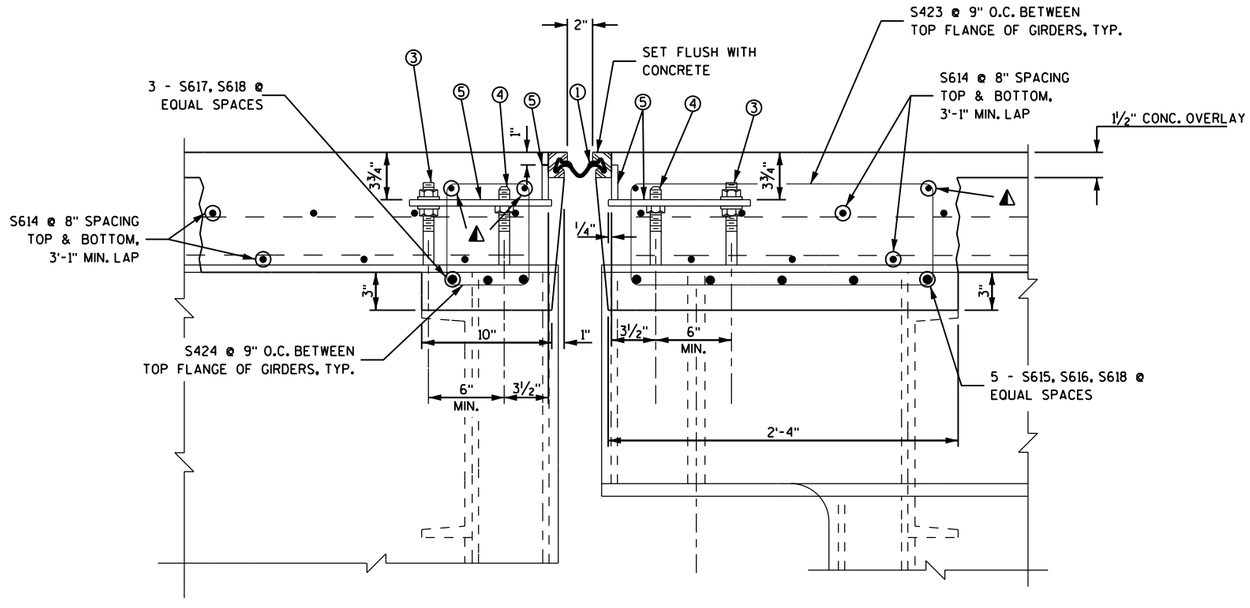
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PLOT DATE :10/24/2012 2:45:48 PM PLOT BY : Nicholas Hornyak\BR DRV :PDF.bw,HS.T39Lblt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



CANTILEVER JOINT REPAIR-REMOVAL



SECTION THRU CANTILEVER JOINT

NOTE: ALL JOINT REPAIR ITEMS AT THE CANTILEVER JOINT, INCLUDING EXPANSION DEVICE, HARDWARE, AND REINFORCING BARS TO BE INCLUDED AND PAID FOR IN BID ITEMS FOR B-40-286-24A.

⚠ S419, S420, S421, S422, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM, TYP.

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

②A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

EXPANSION JOINT NOTES

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

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

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

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-286-24A".

SEE SHEET 4 FOR STRIP SEAL SECTION DETAILS SHOWING THE SECTION THRU JOINT AT THE EXTERIOR GIRDER TO EDGE OF SLAB, THE SECTION THRU JOINT AT THE ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS, A PARTIAL PLAN VIEW, AND THE ALTERNATE STRIP SEAL ANCHOR.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY	MJH	PLANS CK'D.	SJM

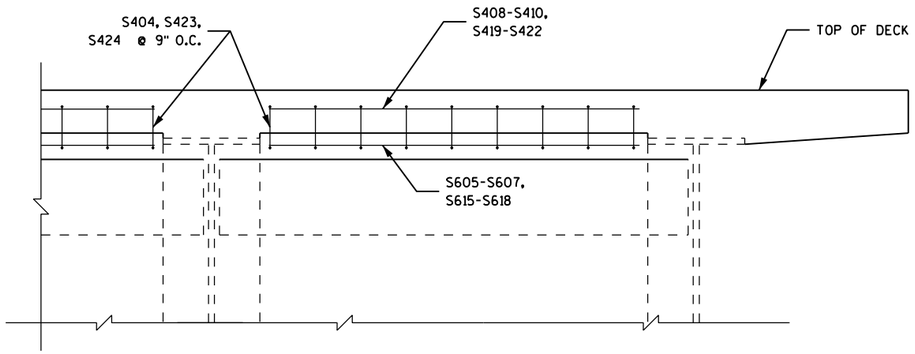
JOINT REPAIR DETAILS AT CANTILEVER

SHEET 5 OF 11
704

FILE NAME :05.B-40-286-24A_Strip SealDetails - At Hinges.dgn
PLOT DATE :10/24/2012 2:45:48 PM PLOT BY : Nicholas Hornyak WI DRV :Pdf_bw_HS_T39Lclt PEN :CELTEXTSUB.TBL

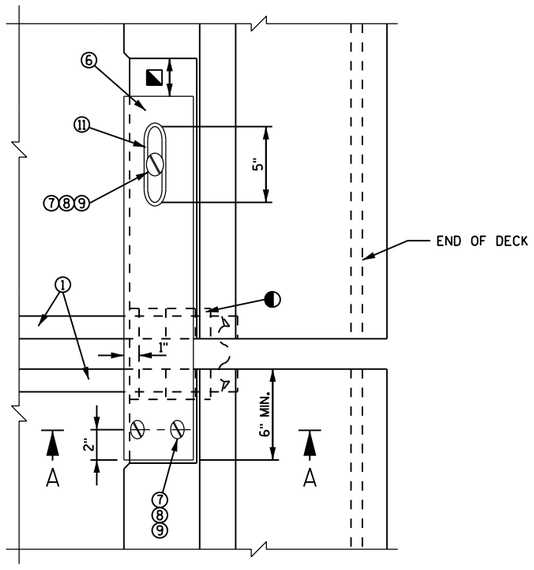
STATE PROJECT NUMBER

1228-26-70



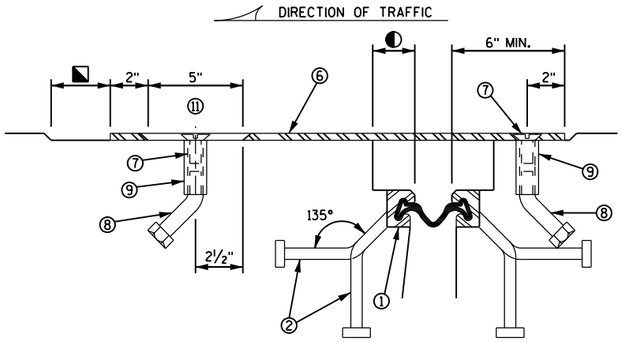
PART TRANSVERSE SECTION AT DIAPHRAGM

EXPANSION END

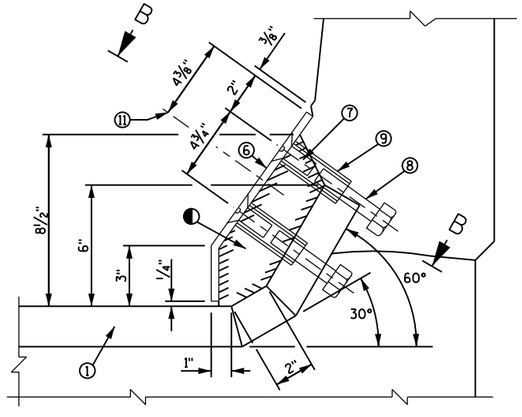


PLAN AT PARAPET

SLOPED FACE PARAPET

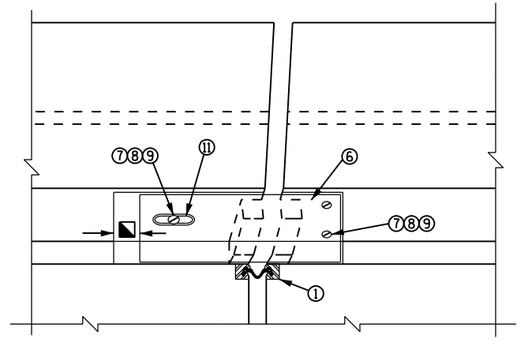


SECTION B-B



SECTION A-A

SLOPED FACE PARAPET



VIEW OF PARAPET PLATES

FROM ROADWAY

SLOPED FACE PARAPET

LEGEND

⑥ GALVANIZED PLATE ⅜" X 10½" X 2'-0" LONG WITH HOLES FOR ⑦. BEND AS SHOWN.

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

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

EXPANSION JOINT NOTES

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

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

INSTALLATION OF ALL MATERIAL AND HARDWARE INCLUDED IN THE EXPANSION JOINT ASSEMBLIES AT THE PARAPET WILL BE INCLUDED IN THE BID ITEM "INSTALL EXPANSION DEVICE B-40-286-24A".

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT REPAIR DETAILS AT PARAPET

SHEET 6 OF 11

705

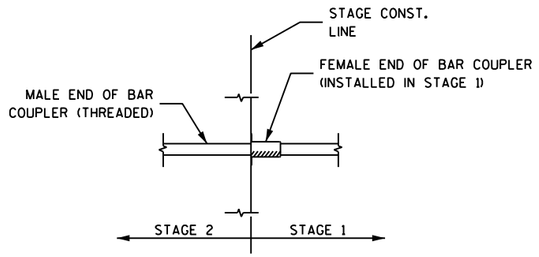
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8

FILE NAME :06.B-40-286-24A.Strip SealDetails - At Parapets.dgn
PLOT DATE :10/24/2012 2:45:49 PM PLOT BY : Nicholas Hornyak v8i DRV :Pdf_bw_HS_T39Ldit PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70



BAR COUPLER ASSEMBLY

NOTES

BAR COUPLER ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT.

BAR COUPLER ASSEMBLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCING BARS.

CONTRACTOR SHALL TAKE NECESSARY PRECAUTION WHEN INSTALLING THREADED BARS AND BAR COUPLER ASSEMBLY TO PREVENT DAMAGE TO BARS AND COUPLERS BETWEEN CONSTRUCTION STAGES.

BAR COUPLERS TO BE FURNISHED AND INSTALLED UNDER BID ITEMS "BAR COUPLERS (SIZE)".

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LAB THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X BAR AREA.

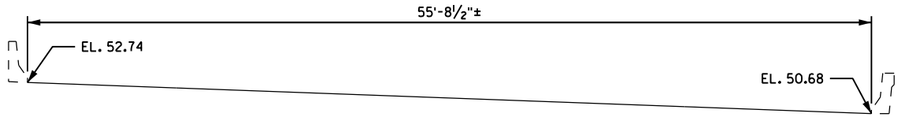
WHERE fy = YIELD STREGHT OF SPLICED BARS.

BILL OF BARS

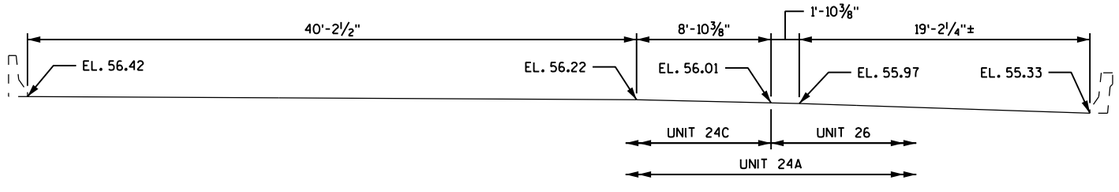
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	COUPLER	LOCATION
S401	X	58	3'-2"	▲		S ABUT. PAVING BLOCK STIRRUPS
S502	X	24	8'-2"		X	S ABUT. PAVING BLOCK HOR. STAGE 2 & 3
S603	X	16	16'-3"		X	S ABUT. DECK HOR. STAGE 2 & 3
S404	X	60	3'-6"	▲		S ABUT. DIAPH. STIRRUPS
S605	X	5	7'-3"			S ABUT. DIAPH. BOT. HOR. BTWN. GIRDERS A - C
S606	X	5	7'-5"			S ABUT. DIAPH. BOT. HOR. BTWN. GIRDERS C - E
S607	X	20	6'-10"			S ABUT. DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S408	X	2	7'-3"			S ABUT. DIAPH. TOP HOR. BTWN. GIRDERS A - C
S409	X	2	7'-5"			S ABUT. DIAPH. TOP HOR. BTWN. GIRDERS C - E
S410	X	8	6'-10"			S ABUT. DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S411	X	2	8'-4"			S ABUT. DECK EXP. DEVICE HOR. GIRDERS A - C
S412	X	2	8'-6"			S ABUT. DECK EXP. DEVICE HOR. GIRDERS C - E
S413	X	8	4'-11"			S ABUT. DECK EXP. DEVICE HOR. ALL OTHER GIRDERS
S614	X	70	16'-8"		X	CANT. JT. DECK HOR. STAGE 2 & 3
S615	X	16	7'-6"			N CANT. JT. DIAPH. BOT. HOR. BTWN. GIRDERS 26A - 26C, S CANT. JT. GIRDERS A - C
S616	X	5	2'-6"			N CANT. JT. DIAPH. BOT. HOR. BTWN. GIRDERS AA - A
S617	X	3	4'-6"			S CANT. JT. DIAPH. BOT. HOR. BTWN. GIRDERS C -D
S618	X	40	6'-10"			N & S CANT JT. DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS
S419	X	8	7'-6"			N CANT. JT. DIAPH. TOP HOR. BTWN. GIRDERS 26A - 26C, S CANT. JT. GIRDERS A - C
S420	X	2	2'-6"			N CANT. JT. DIAPH. TOP HOR. BTWN. GIRDERS AA - A
S421	X	2	4'-6"			S CANT. JT. DIAPH. TOP HOR. BTWN. GIRDERS C -D
S422	X	20	6'-10"			N & S CANT. JT. DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS
S423	X	76	6'-0"	▲		N CANT. JT. DIAPH. STIRRUPS
S424	X	79	3'-0"	▲		S CANT. JT. DIAPH. STIRRUPS
S425	X	8	8'-7"			N CANT. JT. DECK EXP. DEVICE HOR. GIRDERS 26A - 26C, S CANT. JT. GIRDERS A - C
S426	X	2	1'-7"			N CANT. JT. DECK EXP. DEVICE HOR. GIRDERS 26C - AA
S427	X	2	3'-7"			N CANT. JT. DECK EXP. DEVICE HOR. GIRDERS AA-A
S428	X	20	7'-11"			N & S CANT. JT. DECK EXP. DEVICE HOR. ALL OTHER GIRDERS
S429	X	2	5'-7"			S CANT. JT. DECK EXP. DEVICE HOR. GIRDERS C - D
S530	X	12	2'-11"	▲		MASONRY ANCHORS

NOTE:

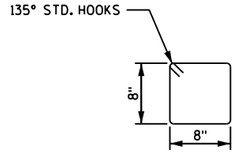
ELEVATIONS SHOWN ARE TOP OF DECK TAKEN FROM EXISTING PLANS. CONTRACTOR SHALL VERIFY AS NECESSARY PRIOR TO CONSTRUCTION.



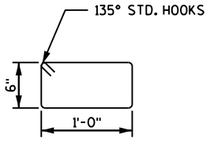
ELEV. AT S. ABUT.
(LOOKING SOUTH)



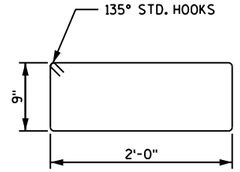
ELEV. AT CANTILEVER JOINT
(LOOKING SOUTH)



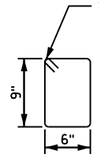
S401



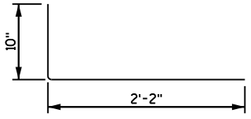
S404



S423



S424



S530

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR REBAR DETAILS

SHEET 7 OF 11

706

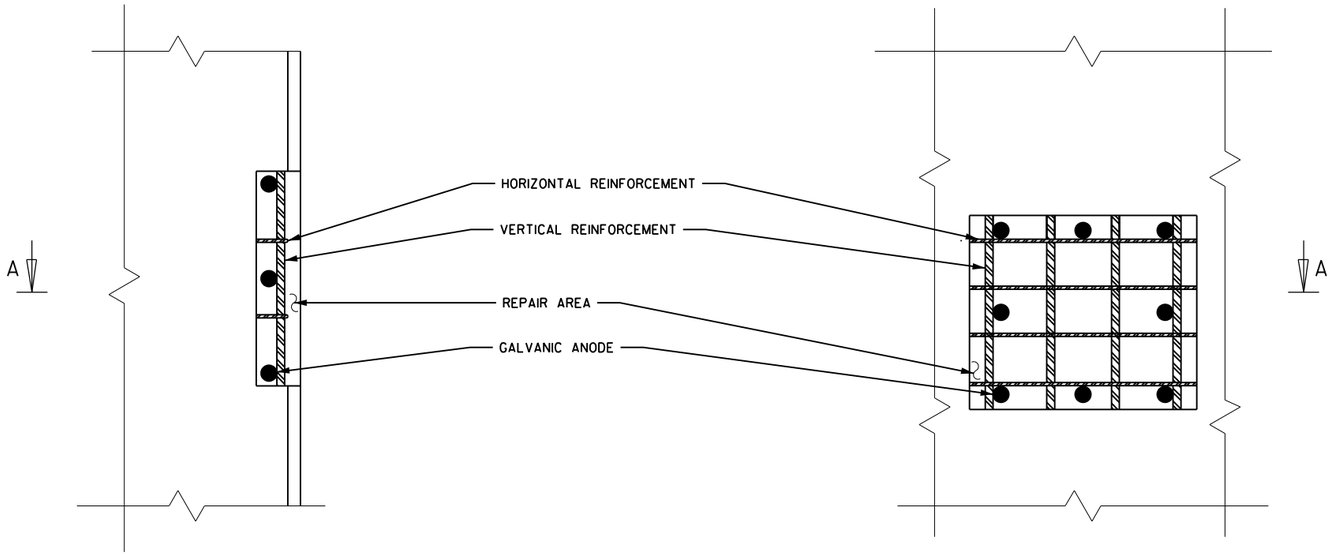
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8

FILE NAME :07_B-40-286-24A_Rebar Details.dgn
PLOT DATE :10/24/2012 2:45:50 PM PLOT BY : Nicholas Hornyak\vBt DRV :Pdf_bw_HS_T391.tbl PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70

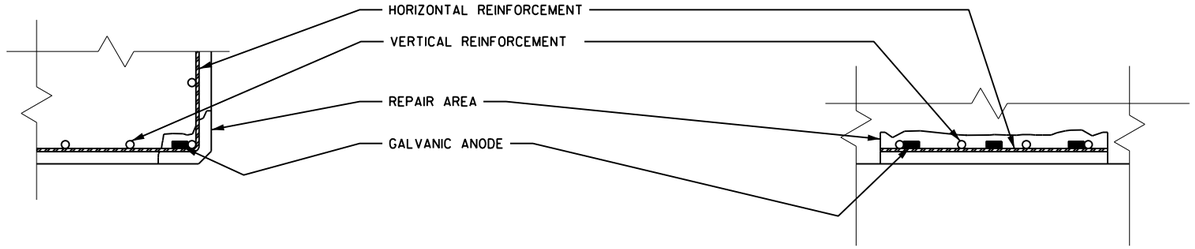


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY MJH | PLANS CK'D. SJM

CATHODIC PROTECTION DETAILS

SHEET 8 OF 11

707

FILE NAME :08.B-40-286-24A.Cathodic Protection Details.dgn
PLOT DATE :10/24/2012 2:45:56 PM PLOT BY : NicholasHornyakvBI DRV :Pdf.bw.HS.7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

PROPOSED REHAB AREAS - UNIT 24A

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24A	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$yd.^2$	2,378	
SHADE/DEBRIS	$yd.^2$	0	
PREPARATION, DECKS, TYPE 1	$yd.^2$	10	0.4
PREPARATION, DECKS, TYPE 2 ✳	$yd.^2$	6	0.2
FULL DEPTH DECK REPAIR ✳	$yd.^2$	1	<0.1

✳ ESTIMATED

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

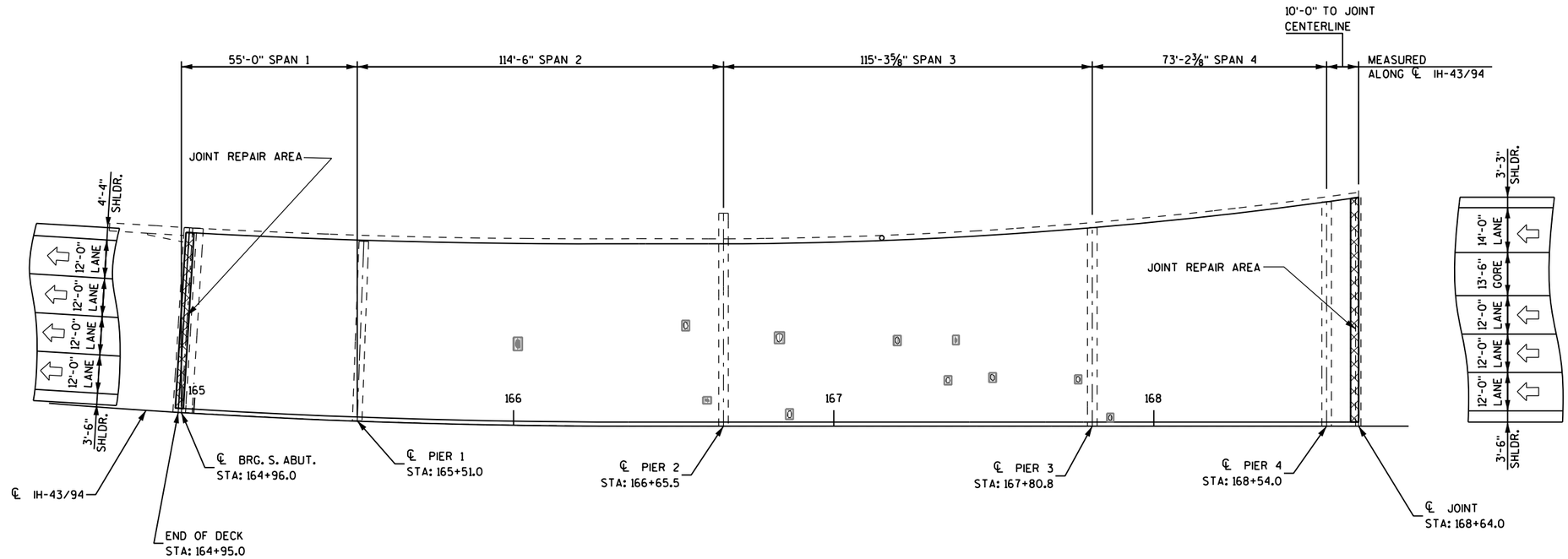
CONCRETE PATCH

NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.



PLAN B-40-286-24A

SCALE, FEET 0 10 20
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY MJH | PLANS CK'D. SJM

DECK REPAIR AREAS

SHEET 9 OF 11
708

8

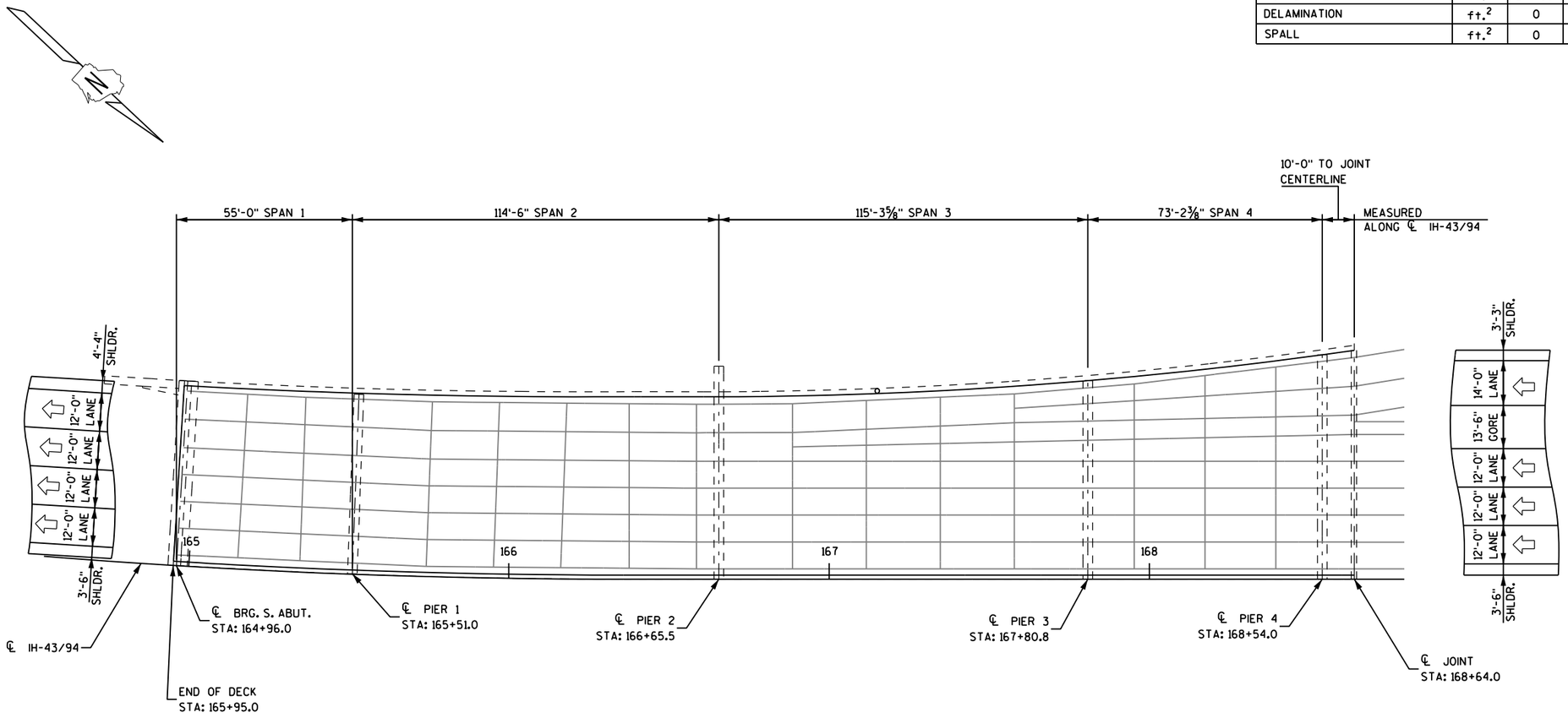
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FILE NAME :09.B-40-286-24A_Deck Repair Areas.dgn
PLOT DATE :10/24/2012 2:45:56 PM PLOT BY : NicholasHornyak-v8i DRV :Pdf_bw_HS_T391.tbl PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24A		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	24,498	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



PLAN B-40-286-24A

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/7/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY MJH | PLANS CK'D. SJM

UNDERDECK INSPECTION

SHEET 10 OF 11

709

8

8

FILE NAME :\10_B-40-286-24A_UnderDeck Repair Areas.dgn
PLOT DATE :10/24/2012 2:45:56 PM PLOT BY : NicholasHornyak.vBt DRV :Pdf_bw_HS_7391.pltt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

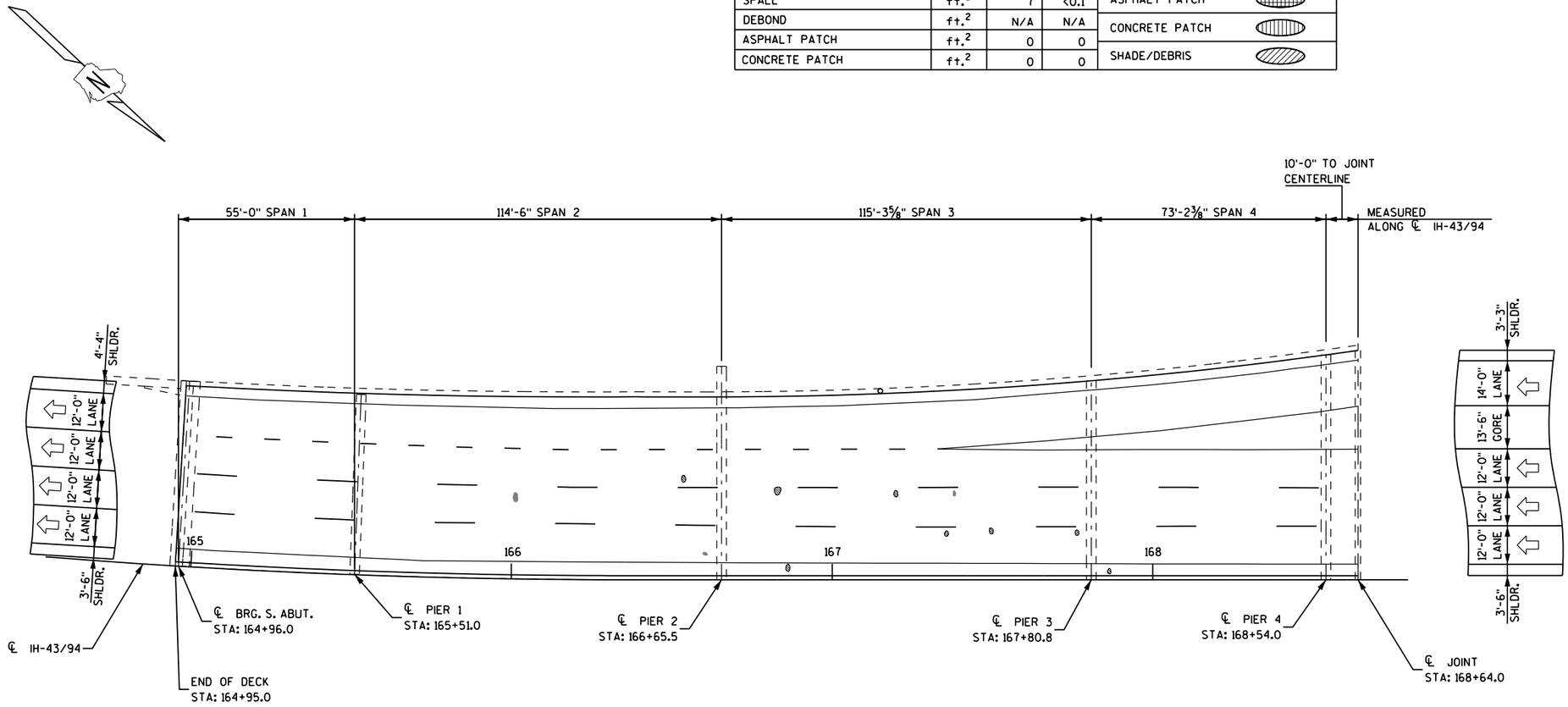
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS - UNIT 24A

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24A	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$ft.^2$	21,404	
SHADE/DEBRIS	$ft.^2$	0	
DELAMINATION	$ft.^2$	17	<0.1
SPALL	$ft.^2$	7	<0.1
DEBOND	$ft.^2$	N/A	N/A
ASPHALT PATCH	$ft.^2$	0	0
CONCRETE PATCH	$ft.^2$	0	0

LEGEND: DELAMINATION, SPALL, DEBOND, ASPHALT PATCH, CONCRETE PATCH, SHADE/DEBRIS



PLAN B-40-286-24A

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24A

DRAWN BY MJH | PLANS CK'D. SJM

INFRARED INSPECTION RESULTS

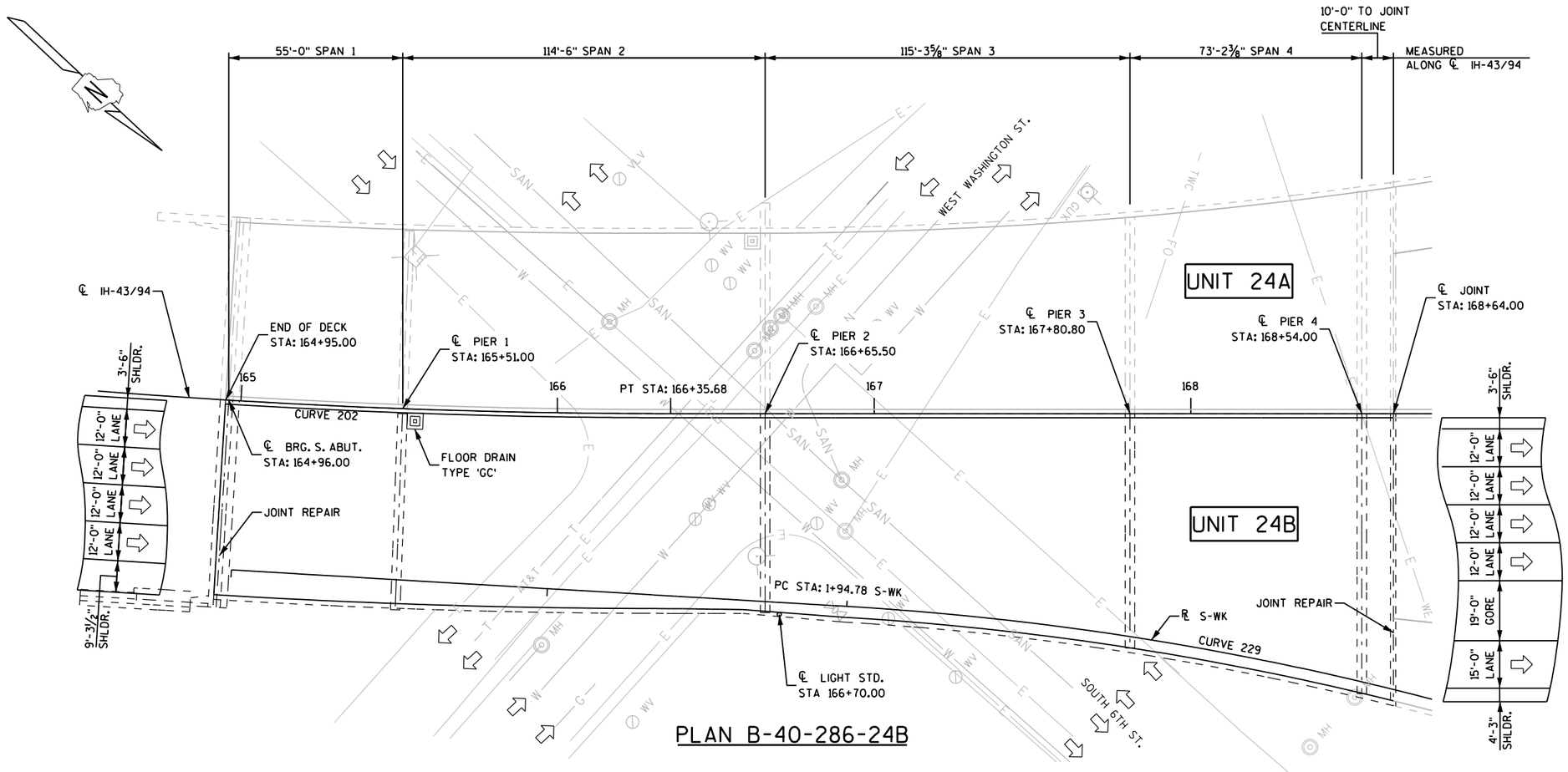
SHEET 11 OF 11
710

8

8

FILE NAME :11.B-40-286-24A.infrared.inspection.dgn
PLOT DATE :10/24/2012 2:45:57 PM PLOT BY : NicholasHornyak@t DRV :Pdf.bw.HS.7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



PLAN B-40-286-24B

CURVE 202		CURVE 229	
P.I.	=163+01.13	P.I.	=4+00.88
P.T.	=166+35.68	P.T.	=6+00.74
P.C.	=159+61.68	P.C.	=1+94.78
Δ	=16°-51'-01"	Δ	=24°-21'-26"
D.	=2°-30'-00"	D.	=6°-00'-00"
T.	=339.45'	T.	=206.09'
L.	=674.01'	L.	=405.95'
R.	=2291.83'	R.	=954.93'

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION
3. CONSTRUCTION STAGING
4. JOINT REPAIR DETAILS AT ABUTMENT
5. JOINT REPAIR DETAILS AT CANTILEVER
6. JOINT REPAIR DETAILS AT PARAPET
7. JOINT REPAIR REBAR DETAILS
8. CATHODIC PROTECTION DETAILS
9. DECK REPAIR AREAS
10. UNDERDECK INSPECTION
11. INFRARED INSPECTION RESULTS

TRAFFIC DATA

IH-43/94 NB
A.D.T. (2009) = 58,600

GENERAL NOTES

THE PROPOSED WORK INCLUDES PLACEMENT OF A CONCRETE OVERLAY, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER MILLING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOCITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE "INSTALL EXPANSION DEVICE B-40-286-24B" ITEM.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS 1 AND 2.

DESIGN DATA

LIVE LOAD:	
INVENTORY RATING	HS-18
OPERATIONAL RATING	HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD	168 KIPS
ULTIMATE DESIGN STRESSES:	
CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
11/1/12

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-286-24B

IH-43/94 NB/WB OVER WASHINGTON ST.

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D. NJH	DRAWN BY MJH	PLANS CK'D. SJM

GENERAL PLAN

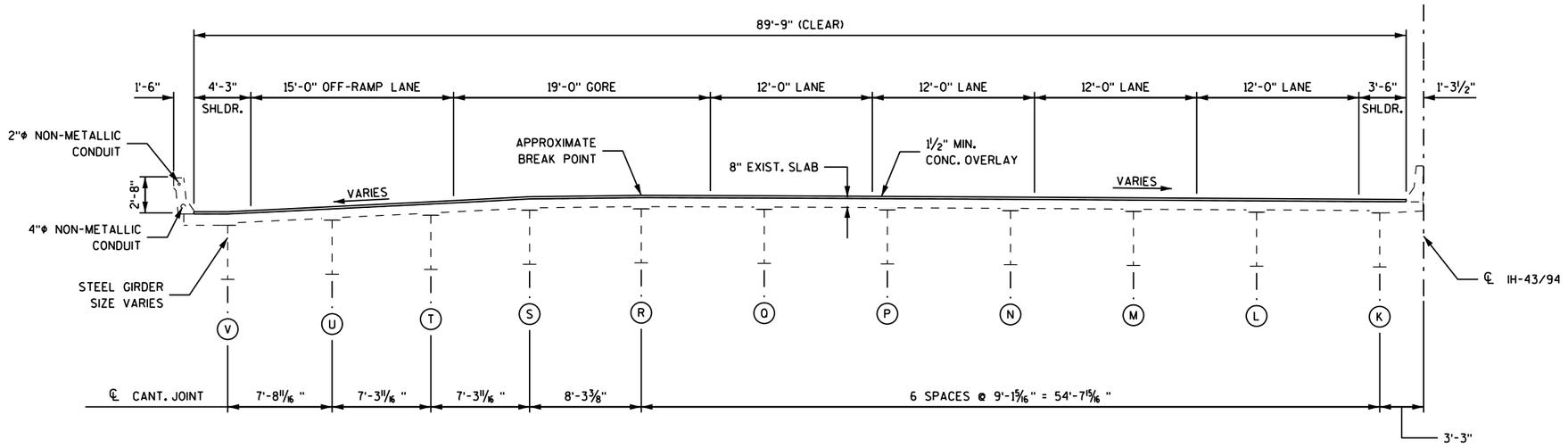
SHEET 1 OF 11
711

8

8

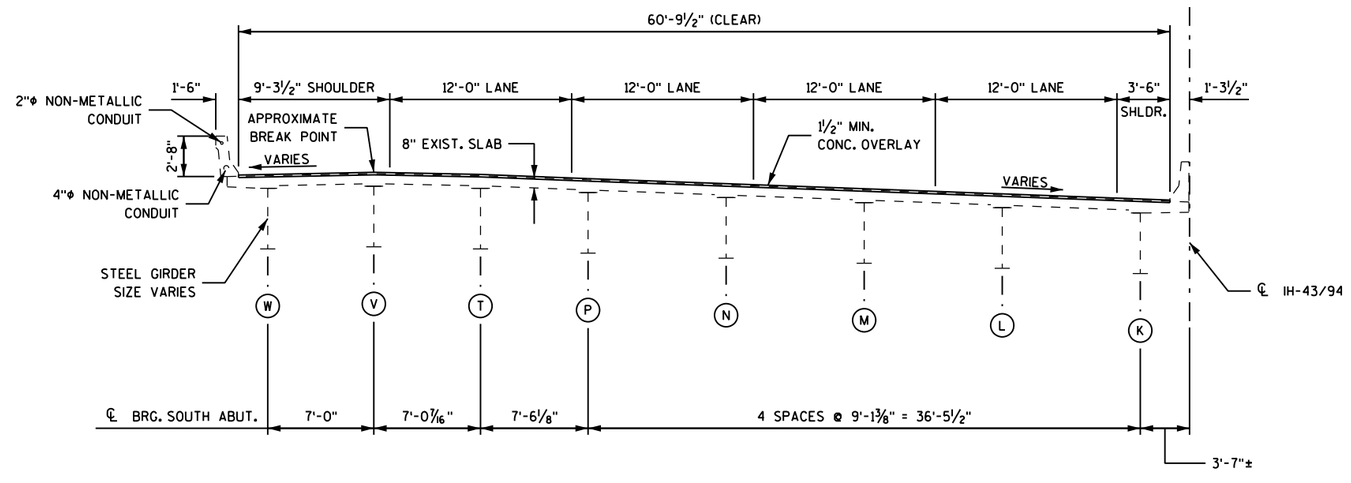
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STATE PROJECT NUMBER
1228-26-70



CROSS SECTION THRU ROADWAY

(LOOKING SOUTH AT CANT. JOINT STA: 168+64.0)



CROSS SECTION THRU ROADWAY

(LOOKING SOUTH AT S. ABUT. STA: 164+96.0)

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	S. ABUT	PIER 1	PIER 2	PIER 3	PIER 4	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	5	-	-	-	-	5
502.3200	PROTECTIVE SURFACE TREATMENT	SY	3031	-	-	-	-	-	3,031
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS ☆	EACH	-	13	-	-	-	-	13
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	5610	-	-	-	-	-	5,610
505.0905	BAR COUPLERS NO. 5	EACH	3	-	-	-	-	-	3
505.0906	BAR COUPLERS NO. 6	EACH	18	-	-	-	-	-	18
509.0301	PREPARATION DECKS TYPE 1	SY	23	-	-	-	-	-	23
509.0302	PREPARATION DECKS TYPE 2	SY	12	-	-	-	-	-	12
509.0500	CLEANING DECKS	SY	2747	-	-	-	-	-	2,747
509.1000	JOINT REPAIR	SY	67	-	-	-	-	-	67
509.1500	CONCRETE SURFACE REPAIR	SF	-	18	3	5	-	11	37
509.2000	FULL DEPTH DECK REPAIR	SY	1	-	-	-	-	-	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	174	-	-	-	-	-	174
514.0900	ADJUSTING FLOOR DRAINS	EACH	1	-	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	5	-	-	-	-	5
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	-	14	3	-	-	17
SPV.0105.13	INSTALL EXPANSION DEVICE B-40-286-24B	LS	1	-	-	-	-	-	1
SPV.0165.01	CATHODIC PROTECTION	SF	-	4	-	-	-	-	4

☆ MASONRY ANCHOR QUANTITY BASED ON 20% REPLACEMENT ESTIMATE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY MJH | PLANS CK'D. SJM

CROSS SECTION

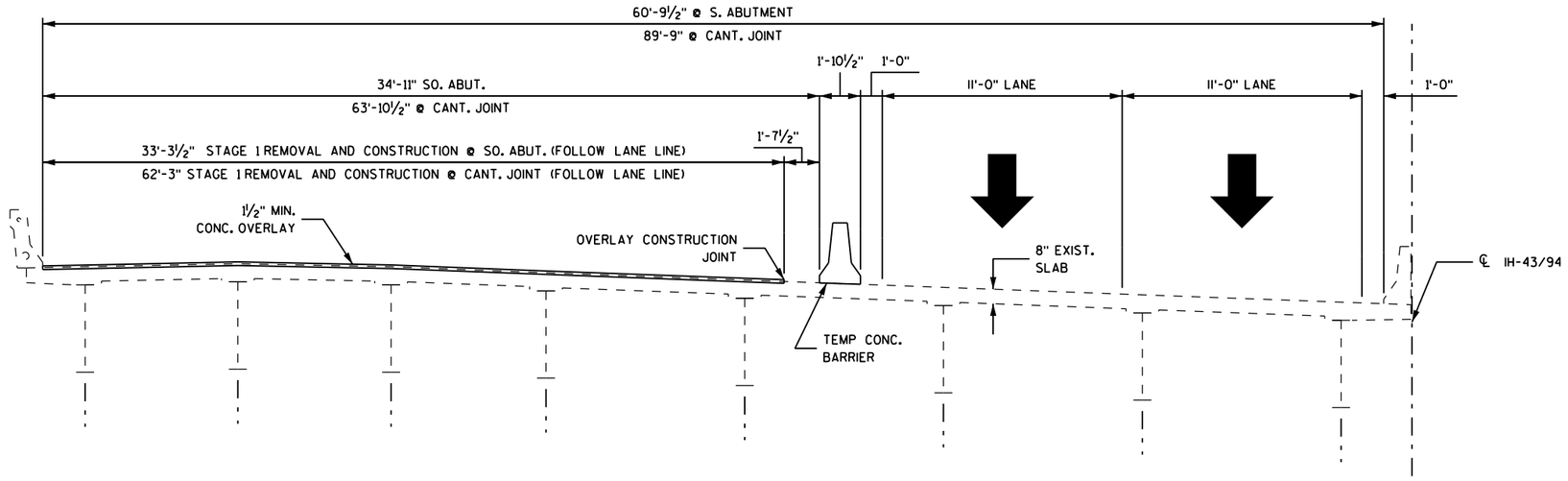
SHEET 2 OF 11
712

8

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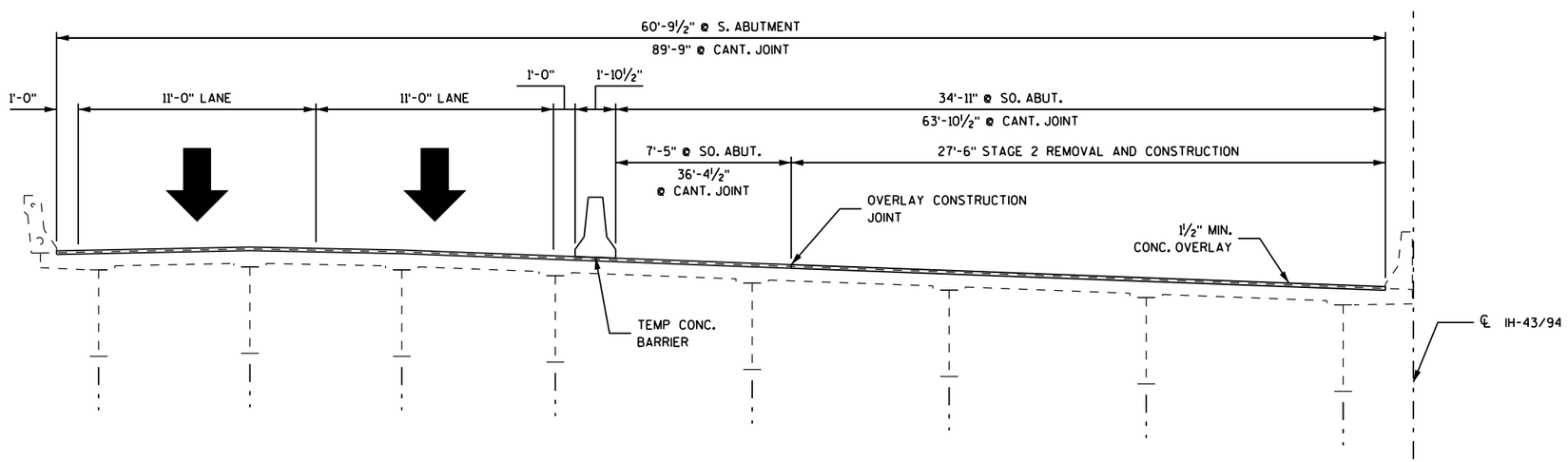
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STATE PROJECT NUMBER
1228-26-70



STAGE 1 - CROSS SECTION

(LOOKING SOUTH)



STAGE 2 - CROSS SECTION

(LOOKING SOUTH)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY MJH | PLANS CK'D. SJM

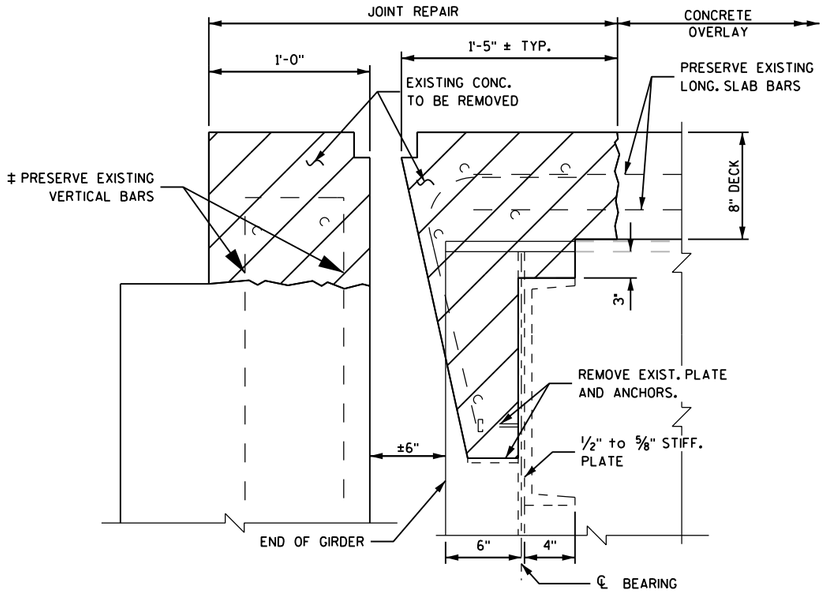
CONSTRUCTION STAGING

SHEET 3 OF 11
713

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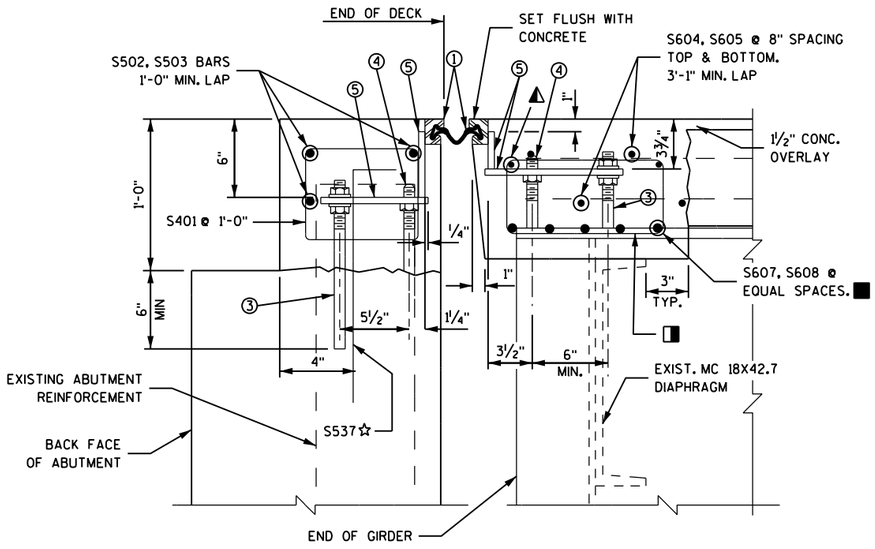
STATE PROJECT NUMBER

1228-26-70



JOINT REPAIR-REMOVAL

AT ABUTMENTS



SECTION THRU JOINT

AT ABUTMENTS

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" Φ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

②A ½" THICK ANCHOR PLATE WITH ⅝" Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

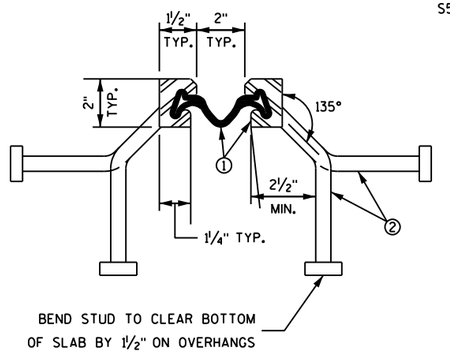
③ ¾" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

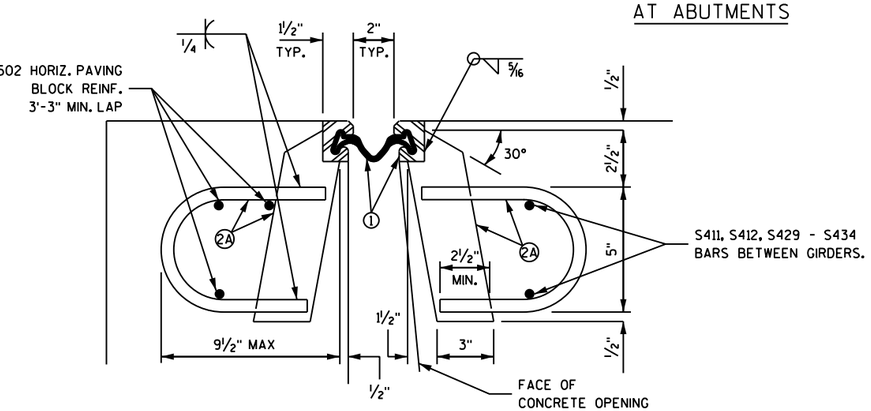
④ ¾" Φ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" Φ HOLE FOR ③ & 1" Φ HOLE FOR ④.

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

☆ MASONRY ANCHORS TYPE L NO.5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

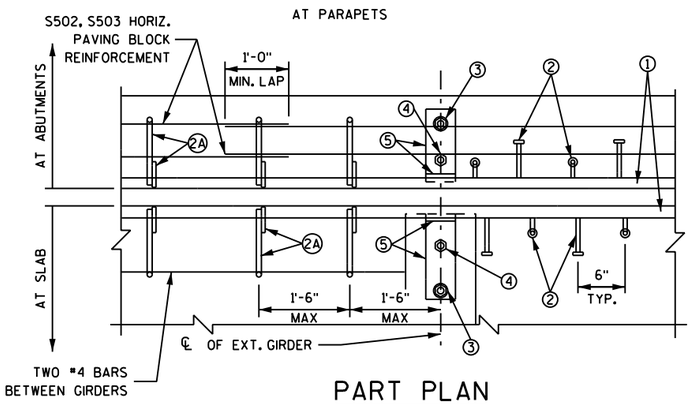




AT ABUTMENTS AT SLAB

SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



PART PLAN

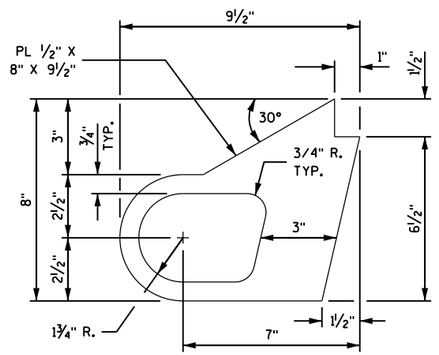
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

■ BETWEEN GIRDERS N-M, INSTALL S635 BARS AS PART OF STAGE 2. NO BOTTOM DIAPH. BARS TO BE INSTALLED AS PART OF STAGE 1.

◭ S409, S410, S436 SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM. INSTALL S436 BARS AS PART OF STAGE 2. NO TOP DIAPH. BARS TO BE INSTALLED AS PART OF STAGE 1.

◨ S406 @ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS.



ALTERNATE STRIP SEAL ANCHOR

EXPANSION JOINT NOTES

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

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

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

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-286-24B".

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT ABUTMENT

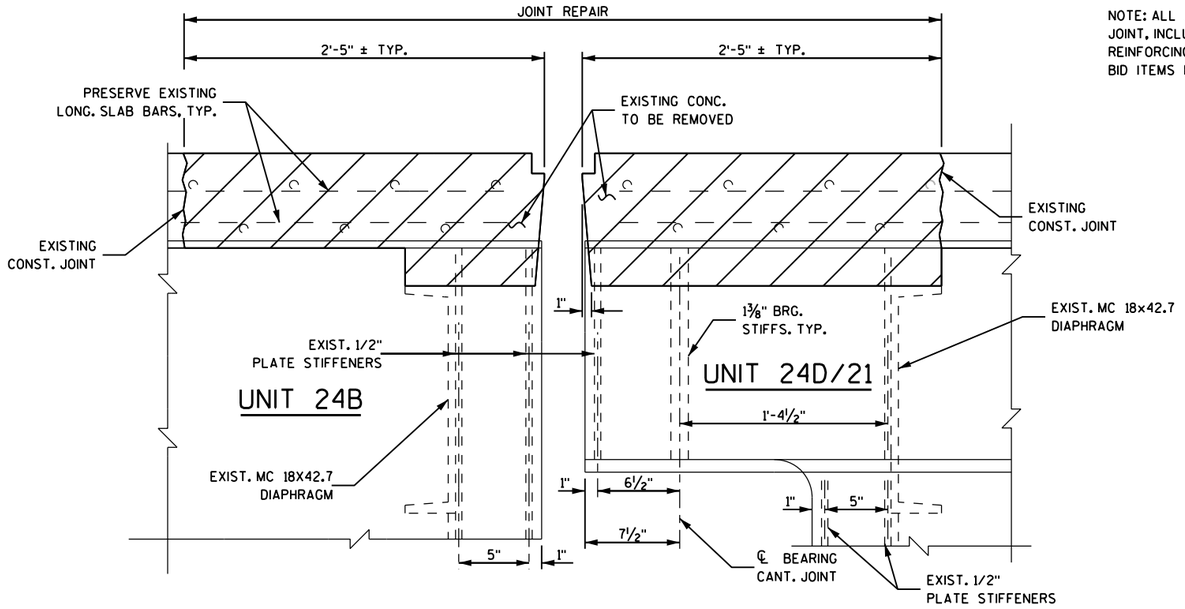
SHEET 4 OF 11

714

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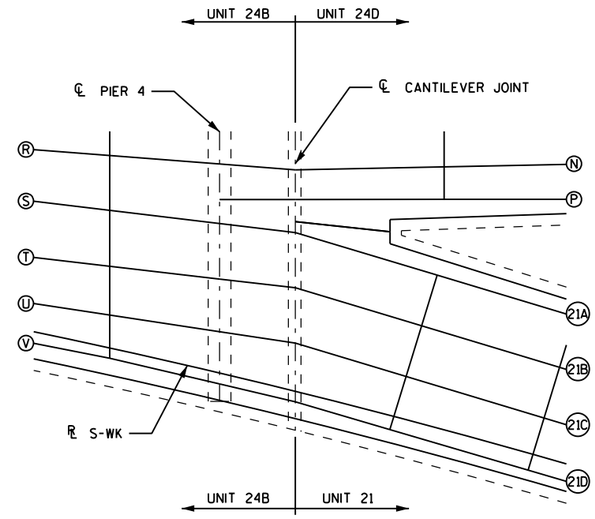
STATE PROJECT NUMBER

1228-26-70

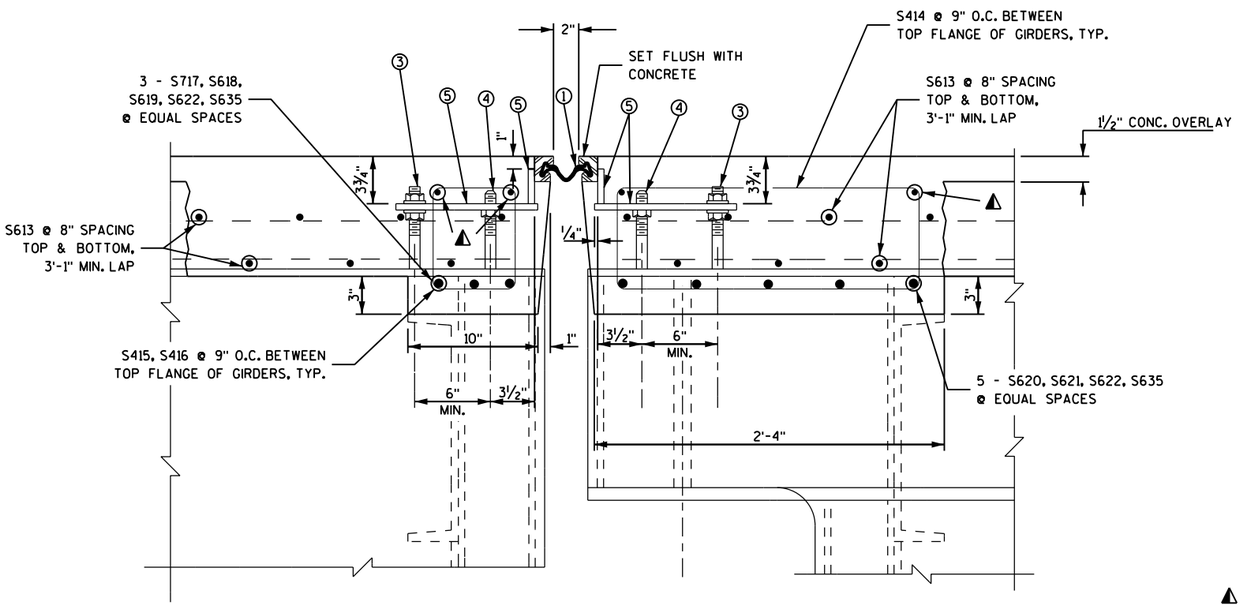


CANTILEVER JOINT REPAIR-REMOVAL

NOTE: ALL JOINT REPAIR ITEMS AT THE CANTILEVER JOINT, INCLUDING EXPANSION DEVICE, HARDWARE, AND REINFORCING BARS TO BE INCLUDED AND PAID FOR IN BID ITEMS FOR B-40-286-24B.



PARTIAL PLAN AT CANTILEVER JOINT



SECTION THRU CANTILEVER JOINT

EXPANSION JOINT NOTES

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

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

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

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-286-24B".

SEE SHEET 4 FOR STRIP SEAL SECTION DETAILS SHOWING THE SECTION THRU JOINT AT THE EXTERIOR GIRDER TO EDGE OF SLAB, THE SECTION THRU JOINT AT THE ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS, A PARTIAL PLAN VIEW, AND THE ALTERNATE STRIP SEAL ANCHOR.

⚠ S423 - S428, S436 SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM, TYP.

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT CANTILEVER

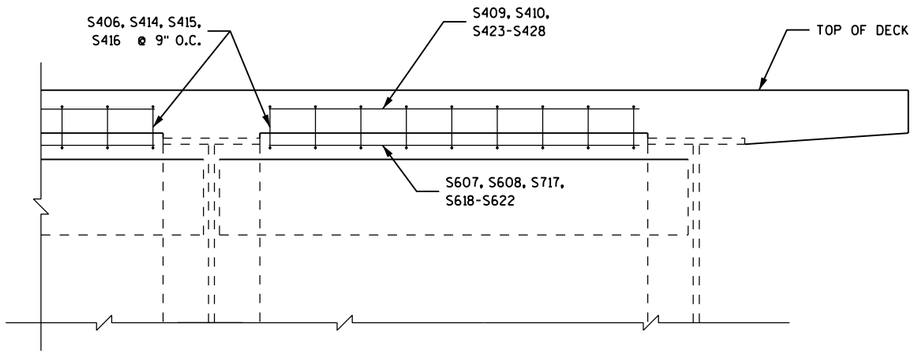
SHEET 5 OF 11

715

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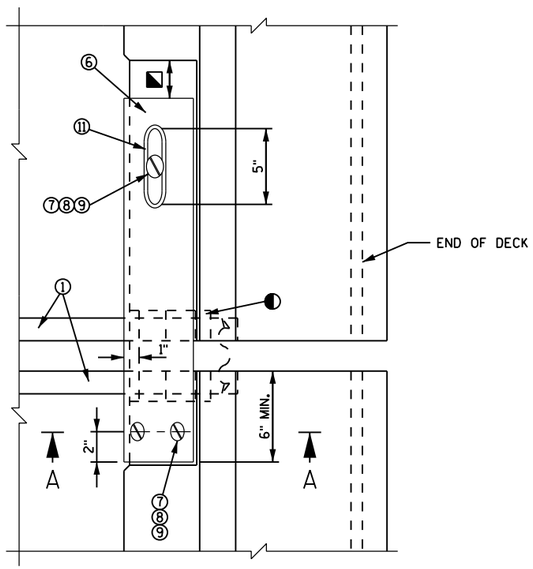
STATE PROJECT NUMBER

1228-26-70



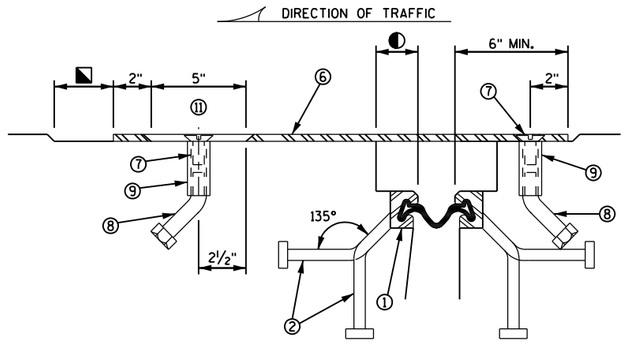
PART TRANSVERSE SECTION AT DIAPHRAGM

EXPANSION END

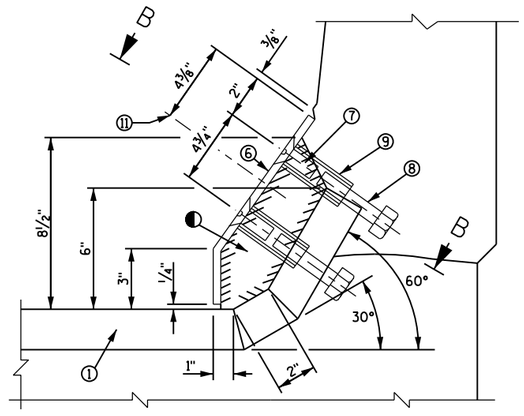


PLAN AT PARAPET

SLOPED FACE PARAPET

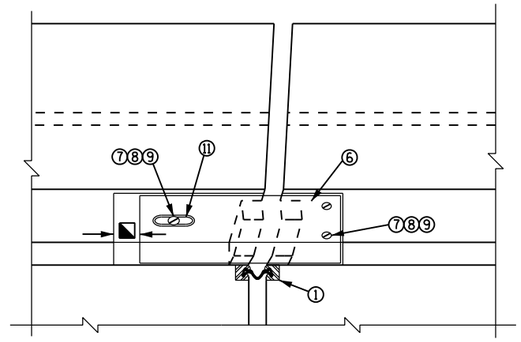


SECTION B-B



SECTION A-A

SLOPED FACE PARAPET



VIEW OF PARAPET PLATES

FROM ROADWAY

SLOPED FACE PARAPET

LEGEND

⑥ GALVANIZED PLATE ⅜" X 10½" X 2'-0" LONG WITH HOLES FOR ⑦. BEND AS SHOWN.

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

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

EXPANSION JOINT NOTES

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

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

INSTALLATION OF ALL MATERIAL AND HARDWARE INCLUDED IN THE EXPANSION JOINT ASSEMBLIES AT THE PARAPET WILL BE INCLUDED IN THE BID ITEM "INSTALL EXPANSION DEVICE B-40-286-24B".

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT PARAPET

SHEET 6 OF 11

716

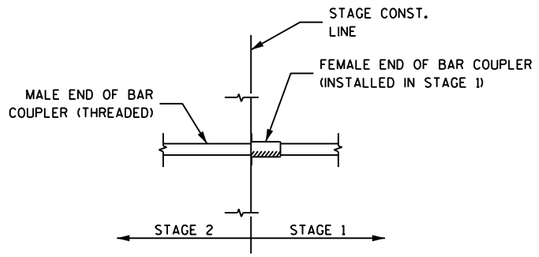
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FILE NAME :06_B-40-286-24B_Strip SealDetails - At Parapets.dgn
PLOT DATE :10/24/2012 2:47:48 PM PLOT BY : Nicholas Hornyak vB DRV :Pdf_bw_HS_7391.pltt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70



BAR COUPLER ASSEMBLY

NOTES

BAR COUPLER ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT.

BAR COUPLER ASSEMBLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCING BARS.

CONTRACTOR SHALL TAKE NECESSARY PRECAUTION WHEN INSTALLING THREADED BARS AND BAR COUPLER ASSEMBLY TO PREVENT DAMAGE TO BARS AND COUPLERS BETWEEN CONSTRUCTION STAGES.

BAR COUPLERS TO BE FURNISHED AND INSTALLED UNDER BID ITEMS "BAR COUPLERS (SIZE)".

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LAB THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X BAR AREA.

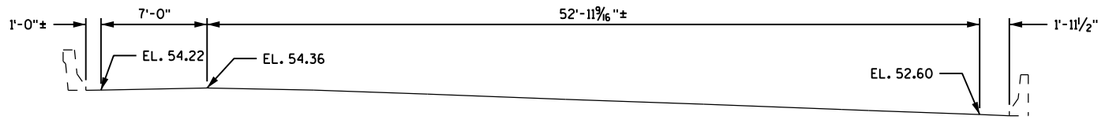
WHERE fy = YIELD STREGHT OF SPLICED BARS.

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	COUPLER	LOCATION
S401	X	63	3'-2"	▲		S ABUT PAVING BLOCK STIRRUPS
S502	X	15	7'-9"		X	S ABUT PAVING BLOCK HOR. STAGE 2
S503	X	12	8'-0"			S ABUT PAVING BLOCK HOR. STAGE 3
S604	X	12	13'-6"		X	S ABUT DECK HOR. STAGE 2
S605	X	8	15'-10"			S ABUT DECK HOR. STAGE 3
S406	X	68	3'-6"	▲		S ABUT DIAPH. STIRRUPS
S607	X	15	5'-6"			S ABUT DIAPH. BOT. HOR. BTWN. GIRDERS P-W
S608	X	15	7'-7"			S ABUT DIAPH. BOT. HOR. ALL OTHER GIRDERS EXCEPT M-N
S409	X	6	5'-6"			S ABUT DIAPH. TOP HOR. BTWN. GIRDERS P-W
S410	X	6	7'-7"			S ABUT DIAPH. TOP HOR. ALL OTHER GIRDERS EXCEPT M-N
S411	X	6	6'-7"			S ABUT DECK EXP. DEVICE HOR. GIRDERS P-W
S412	X	8	8'-8"			S ABUT DECK EXP. DEVICE HOR. ALL OTHER GIRDERS
S613	X	98	15'-9"		X	CANT JT DECK HOR. STAGE 2 & 3
S414	X	99	6'-0"	▲		N CANT JT DIAPH. STIRRUPS
S415	X	10	4'-6"	▲		S CANT JT DIAPH. STIRRUPS GIRDERS R-S
S416	X	91	3'-0"	▲		S CANT JT DIAPH. STIRRUPS, ALL OTHER GIRDERS
S717	X	3	6'-8"			S CANT JT DIAPH. BOT. HOR. BTWN. GIRDERS R-S
S618	X	16	5'-8"			S CANT JT DIAPH. BOT. HOR. BTWN. GIRDERS S-U; N CANT JT GIRDERS 21A-21C
S619	X	8	6'-1"			S CANT JT DIAPH. BOT. HOR. BTWN. GIRDERS U-V; N CANT JT GIRDERS 21C-21D
S620	X	5	2'-4"			N CANT JT DIAPH. BOT. HOR. BTWN. GIRDERS N-P
S621	X	5	2'-9"			N CANT JT DIAPH. BOT. HOR. BTWN. GIRDERS P-21A
S622	X	40	7'-6"			S & N CANT JT DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS EXCEPT M-N
S423	X	2	6'-8"			S CANT JT DIAPH. TOP HOR. BTWN. GIRDERS R-S
S424	X	8	5'-8"			S CANT JT DIAPH. TOP HOR. BTWN. GIRDERS S-U; N CANT JT GIRDERS 21A-21C
S425	X	4	6'-1"			S CANT JT DIAPH. TOP HOR. BTWN. GIRDERS U-V; N CANT JT GIRDERS 21C-21D
S426	X	2	2'-4"			N CANT JT DIAPH. TOP HOR. BTWN. GIRDERS N-P
S427	X	2	2'-9"			N CANT JT DIAPH. TOP HOR. BTWN. GIRDERS P-21A
S428	X	20	7'-6"			S & N CANT JT DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS EXCEPT M-N
S429	X	2	7'-10"			S CANT JT DECK EXP. DEVICE HOR. BTWN. GIRDERS R-S
S430	X	8	6'-10"			S CANT JT DECK EXP. DEVICE HOR. BTWN. GIRDERS S-U; N CANT JT GIRDERS 21A-21C
S431	X	4	7'-3"			S CANT JT DECK EXP. DEVICE HOR. BTWN. GIRDERS U-V; N CANT JT GIRDERS 21C-21D
S432	X	2	3'-6"			N CANT JT DECK EXP. DEVICE HOR. BTWN. GIRDERS N-P
S433	X	2	3'-11"			N CANT JT DECK EXP. DEVICE HOR. BTWN. GIRDERS P-21A
S434	X	24	8'-8"			S & N CANT JT DECK EXP. DEVICE HOR. BTWN. ALL OTHER GIRDERS
S635	X	13	6'-6"			S & N CANT JT & S ABUT DIAPH. BOT. HOR. BTWN. GIRDERS M-N STAGE 3
S436	X	6	6'-6"			S & N CANT JT & S ABUT DIAPH. TOP HOR. BTWN. GIRDERS M-N STAGE 3
S537	X	13	2'-11"	▲		MASONRY ANCHORS

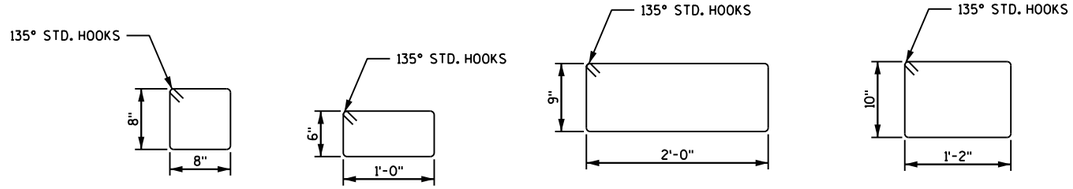
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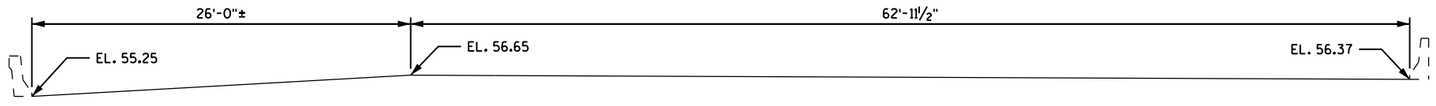
ELEVATIONS SHOWN ARE TOP OF DECK TAKEN FROM EXISTING PLANS. CONTRACTOR SHALL VERIFY AS NECESSARY PRIOR TO CONSTRUCTION.



ELEV. AT S. ABUT.

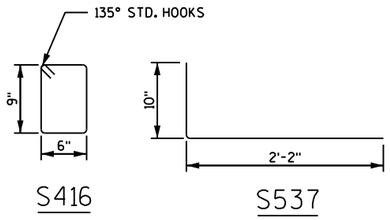
(LOOKING SOUTH)





ELEV. AT CANTILEVER JOINT

(LOOKING SOUTH)



NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT REPAIR REBAR DETAILS

SHEET 7 OF 11

717

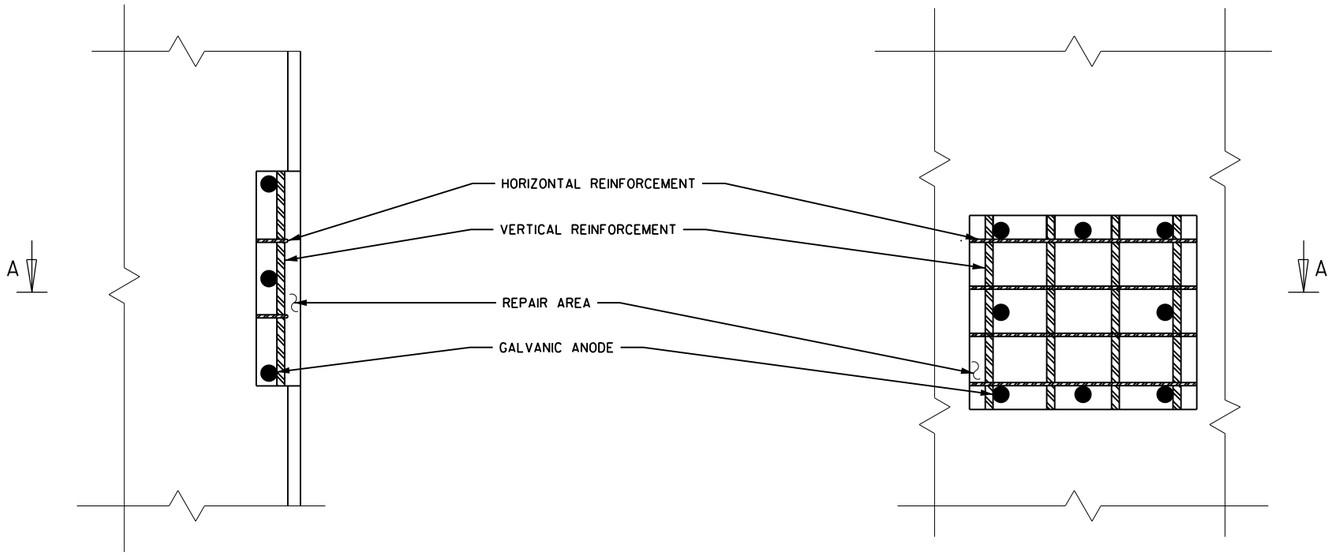
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FILE NAME :DT,B-40-286-24B,Rebar Details.dgn
PLOT DATE :10/24/2012 2:47:49 PM PLOT BY : Nicholas Hornyak,v8i DRV :Pdf,bw,HS,7391,bit PEN :CEL,TEXTSUB,TBL

STATE PROJECT NUMBER

1228-26-70

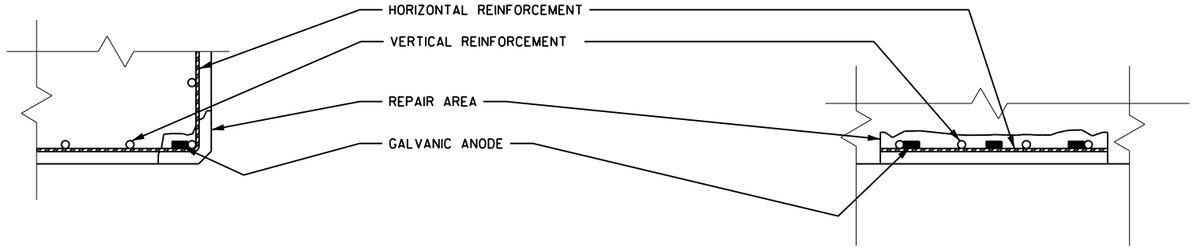


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY MJH | PLANS CK'D. SJM

CATHODIC PROTECTION DETAILS

SHEET 8 OF 11

718

FILE NAME :08.B-40-286-24B.Cathodic Protection Details.dgn
PLOT DATE :10/24/2012 2:47:56 PM PLOT BY : NicholasHornyakv8i DRV :Pdf.bw.MS.7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

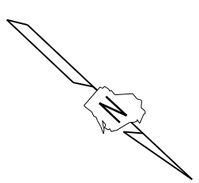
ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

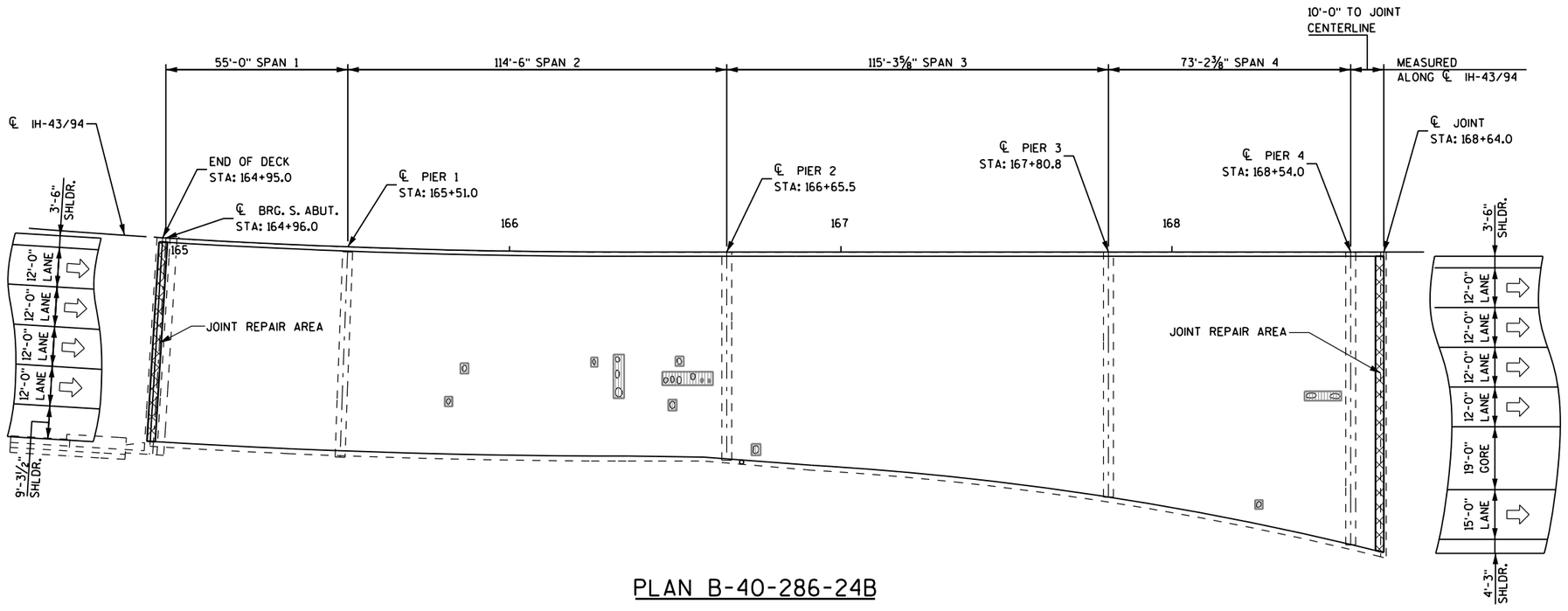
PROPOSED REHAB AREAS - UNIT 24B

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24B	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd.^{2}	2,746	
SHADE/DEBRIS	yd.^{2}	0	
PREPARATION, DECKS, TYPE 1	yd.^{2}	23	0.8
PREPARATION, DECKS, TYPE 2 ✳	yd.^{2}	12	0.4
FULL DEPTH DECK REPAIR ✳	yd.^{2}	1	<0.1

✳ ESTIMATED

LEGEND: DECK PREPARATION AREA; SHADE/DEBRIS; DELAMINATION; SPALL; DEBOND; ASPHALT PATCH; CONCRETE PATCH





PLAN B-40-286-24B

SCALE, FEET 0 10 20 (ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY MJH | PLANS CK'D. SJM

DECK REPAIR AREAS

SHEET 9 OF 11

719

8

8

FILE NAME :09_B-40-286-24B_Deck Repair Areas.dgn
PLOT DATE :10/24/2012 2:47:56 PM PLOT BY : NicholasHornyak:v8i DRV :PDF.bw.HS.739Lblt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

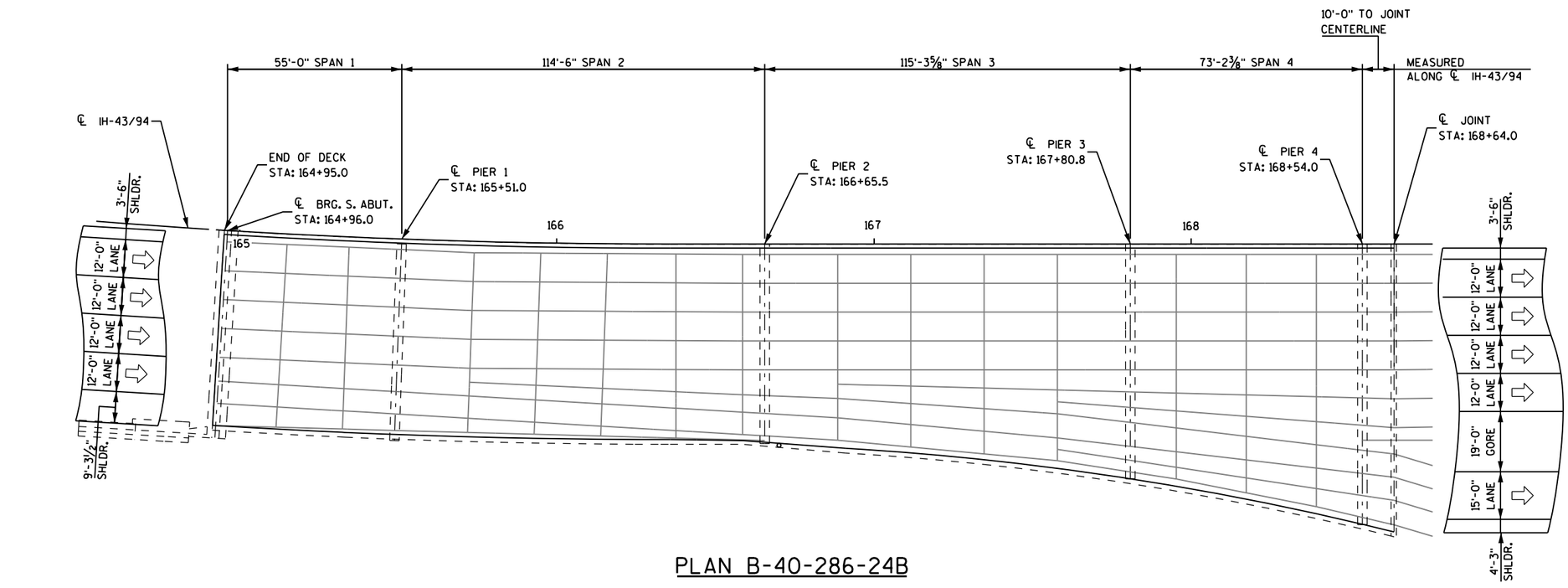
NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INLCUDED FOR REFERENCE ONLY.

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24B		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	$ft.^2$	27,306	100	SPALL
DELAMINATION	$ft.^2$	0	0	
SPALL	$ft.^2$	0	0	



PLAN B-40-286-24B

8

8

INSPECTION DATE: 3/12/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY MJH | PLANS CK'D. SJM

UNDERDECK INSPECTION

SHEET 10 OF 11
720

FILE NAME :10_B-40-286-24B_UnderDeck Repair Areas.dgn
PLOT DATE :10/24/2012 2:47:57 PM PLOT BY : NicholasHornyak@t DRV :Pdf_bw_HS_739Lblt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

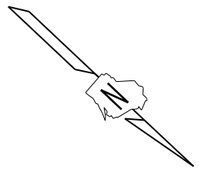
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

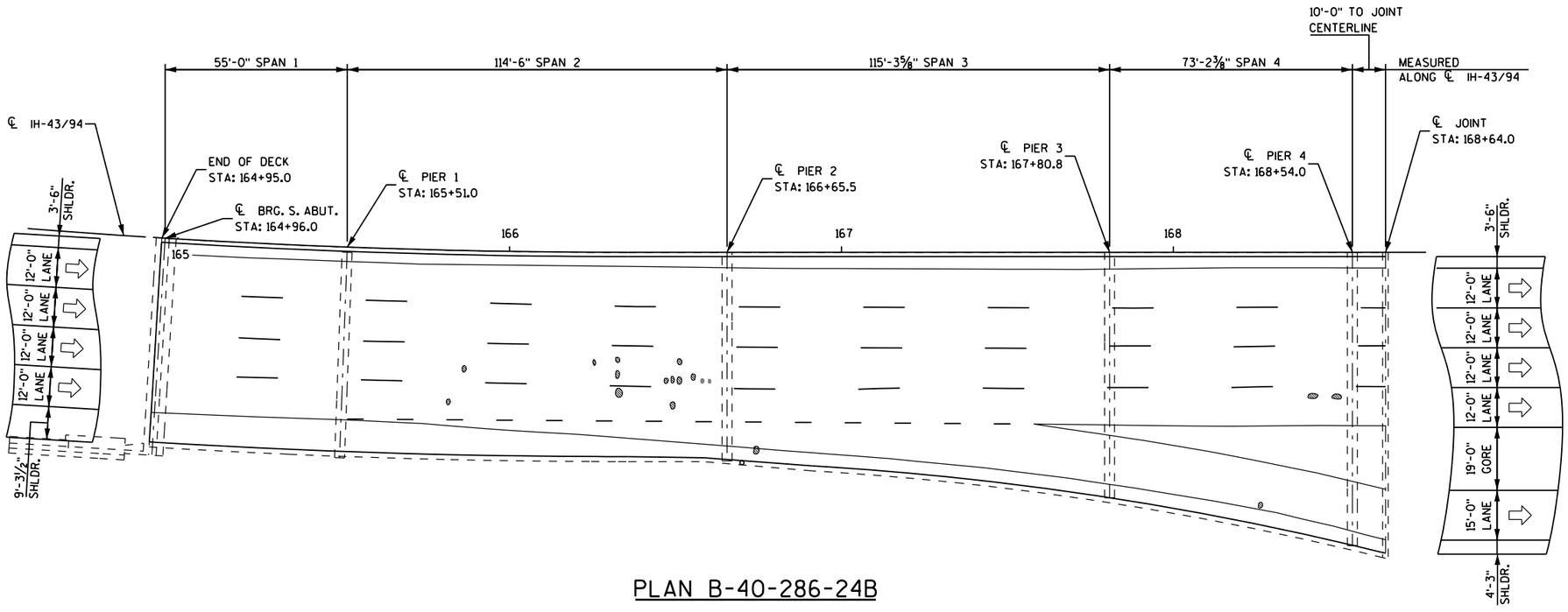
ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS - UNIT 24B

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24B	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$ft.^2$	24,713	
SHADE/DEBRIS	$ft.^2$	0	
DELAMINATION	$ft.^2$	37	0.1
SPALL	$ft.^2$	3	<0.1
DEBOND	$ft.^2$	N/A	N/A
ASPHALT PATCH	$ft.^2$	0	0
CONCRETE PATCH	$ft.^2$	0	0

LEGEND: DELAMINATION, SPALL, DEBOND, ASPHALT PATCH, CONCRETE PATCH, SHADE/DEBRIS





PLAN B-40-286-24B

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24B

DRAWN BY	MJH	PLANS CK'D.	SJM

INFRARED INSPECTION RESULTS

SHEET 11 OF 11
721

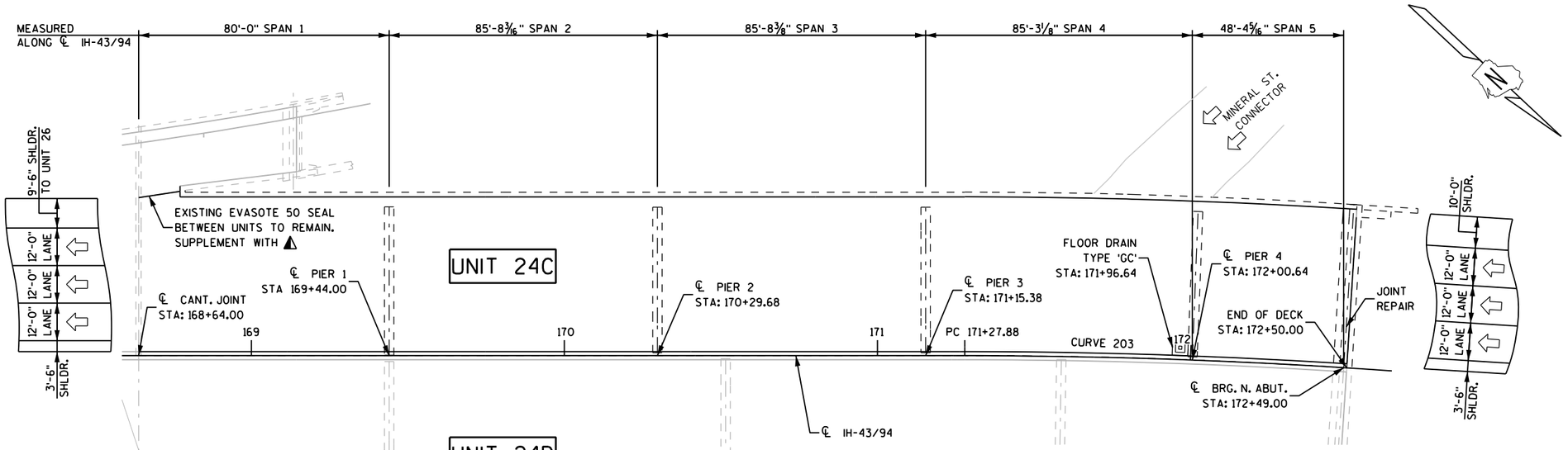
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FILE NAME :11.B-40-286-24B.infored.inspection.dgn
PLOT DATE :10/24/2012 2:47:57 PM PLOT BY : NicholasHornyak@R DRV :Pdf.bw.HS.7391.drt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70

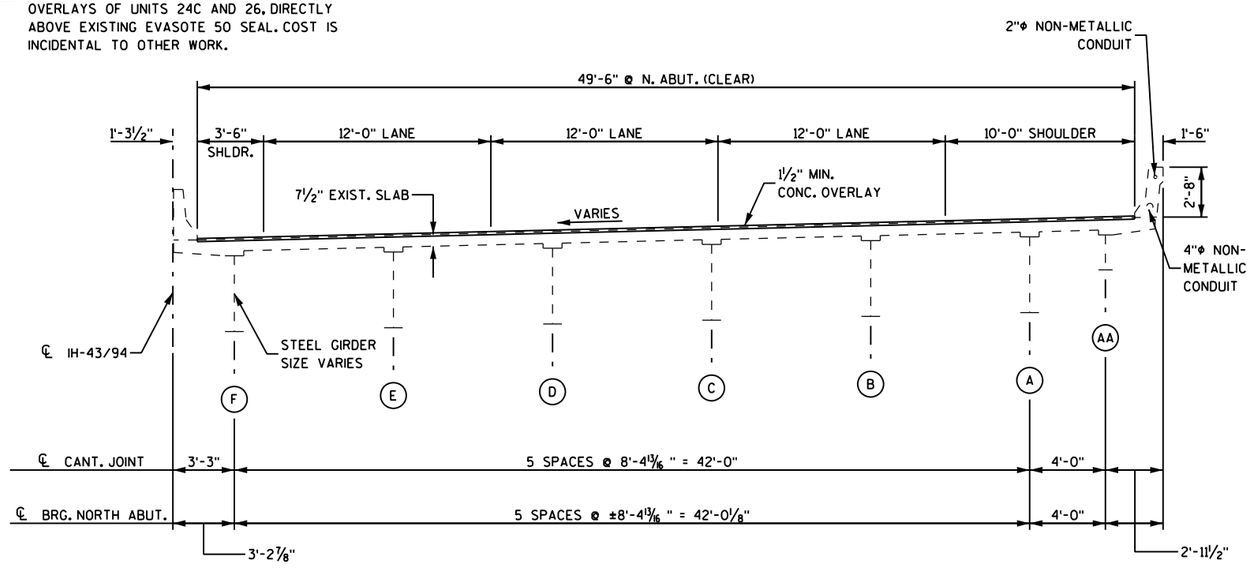


PLAN B-40-286-24C

CURVE 203

P.I. =176+08.93
P.T. =180+70.37
P.C. =171+27.88
Δ =28°16'28"
D. =3°-00'-00"
T. =481.04'
L. =942.28'
R. =1909.86'

⚠ 1" PREFORMED JOINT FILLER. INSTALL BETWEEN OVERLAYS OF UNITS 24C AND 26, DIRECTLY ABOVE EXISTING EVASOTE 50 SEAL. COST IS INCIDENTAL TO OTHER WORK.



CROSS SECTION THRU ROADWAY

(LOOKING SOUTH)

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CONSTRUCTION STAGING
3. JOINT REPAIR DETAILS AT ABUTMENT
4. JOINT REPAIR DETAILS AT PARAPET
5. JOINT REPAIR REBAR DETAILS
6. CATHODIC PROTECTION DETAILS
7. DECK REPAIR AREAS
8. UNDERDECK INSPECTION
9. INFRARED INSPECTION RESULTS

TRAFFIC DATA

IH-43/94 SB
A.D.T. (2009) = 55,800

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	PIER 1	PIER 2	PIER 3	PIER 4	N. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	-	-	-	-	3	3
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2415	-	-	-	-	-	2,415
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS ☆	EACH	-	-	-	-	-	10	10
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1190	-	-	-	-	-	1,190
505.0904	BAR COUPLERS NO. 4	EACH	2	-	-	-	-	-	2
505.0905	BAR COUPLERS NO. 5	EACH	3	-	-	-	-	-	3
505.0906	BAR COUPLERS NO. 6	EACH	9	-	-	-	-	-	9
509.0301	PREPARATION DECKS TYPE 1	SY	17	-	-	-	-	-	17
509.0302	PREPARATION DECKS TYPE 2	SY	9	-	-	-	-	-	9
509.0500	CLEANING DECKS	SY	2134	-	-	-	-	-	2,134
509.1000	JOINT REPAIR	SY	14	-	-	-	-	-	14
509.1500	CONCRETE SURFACE REPAIR	SF	-	1	2	1	-	16	20
509.2000	FULL DEPTH DECK REPAIR	SY	1	-	-	-	-	-	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	125	-	-	-	-	-	125
514.0900	ADJUSTING FLOOR DRAINS	EACH	1	-	-	-	-	-	1
517.1800.S.16	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-286-24C	LS	1	-	-	-	-	-	1
517.4500.S.16	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-40-286-24C	LS	1	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	-	-	-	-	3	3
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	6	6	6	6	6	30
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	-	-	13	13	-	26
SPV.0105.14	INSTALL EXPANSION DEVICE B-40-286-24C	LS	1	-	-	-	-	-	1
SPV.0165.01	CATHODIC PROTECTION	SF	-	-	-	-	-	7	7

☆ MASONRY ANCHOR QUANTITY BASED ON 20% REPLACEMENT ESTIMATE.

DESIGN DATA

LIVE LOAD;

INVENTORY RATING	HS-18
OPERATIONAL RATING	HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD	168 KIPS

ULTIMATE DESIGN STRESSES;

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

WISCONSIN ☆ STEVEN J. MILLER 36937 MILWAUKEE, WI ☆ PROFESSIONAL ENGINEER
Steven J. Miller
11/1/2012

SE REGION CONTACT;
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT;
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT;
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-286-24C

IH-43/94 SB/EB OVER WASHINGTON ST.

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D.	NJH
DRAWN BY	MJH	PLANS CK'D.	SJM

GENERAL PLAN

SHEET 1 OF 9

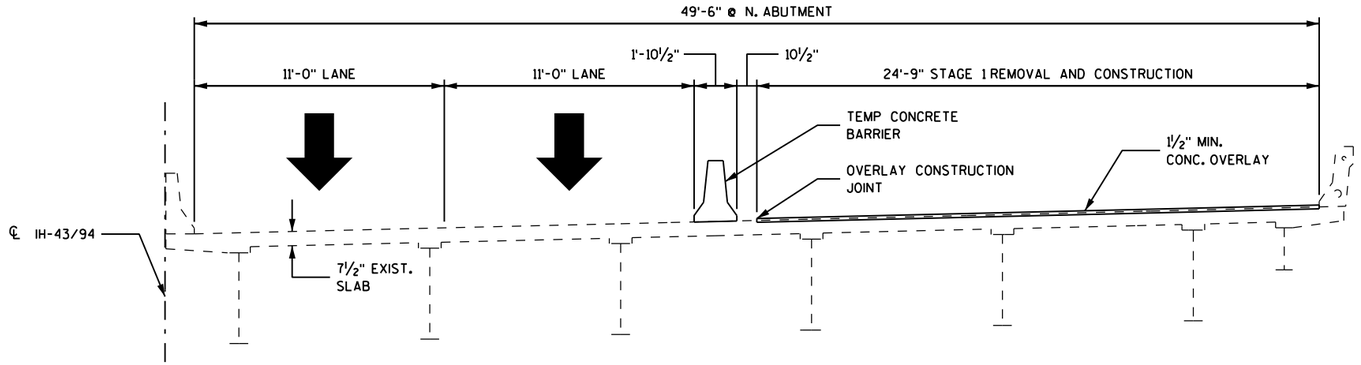
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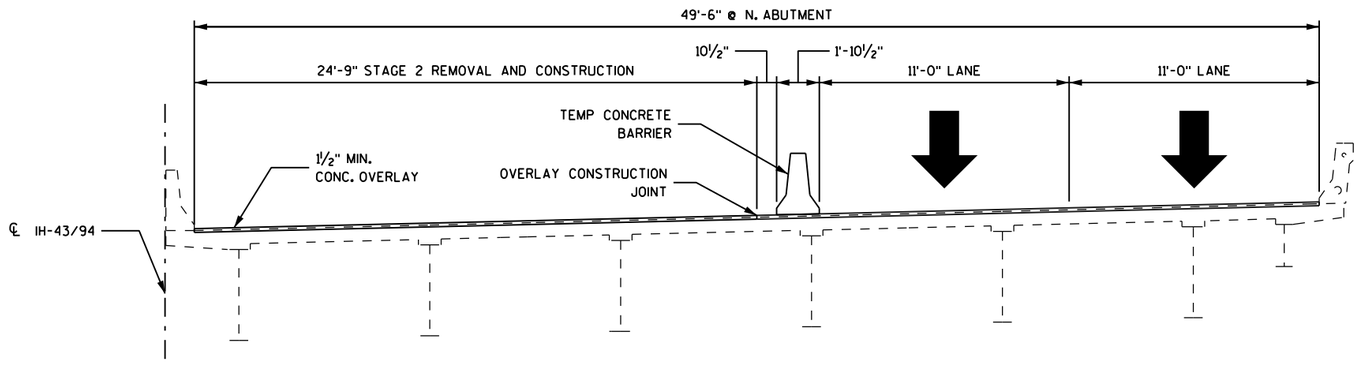
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PLOT DATE :10/24/2012 12:44:10 AM PLOT BY : Nicholas Hornyak-VBI DRV :Pdf_bw_HS_739Lblt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



STAGE 1 - CROSS SECTION

(LOOKING SOUTH)



STAGE 2 - CROSS SECTION

(LOOKING SOUTH)

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, PLACEMENT OF A CONCRETE OVERLAY, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER MILLING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOCITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE 'INSTALL EXPANSION DEVICE B-40-286-24C' ITEM.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS 3 AND 4.

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

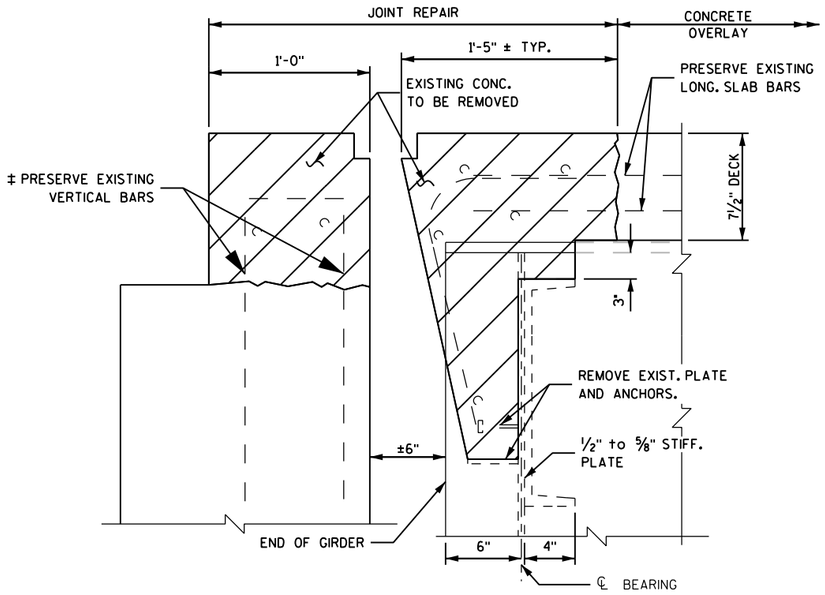
STRUCTURE B-40-286-24C

DRAWN BY MJH | PLANS CK'D. SJM

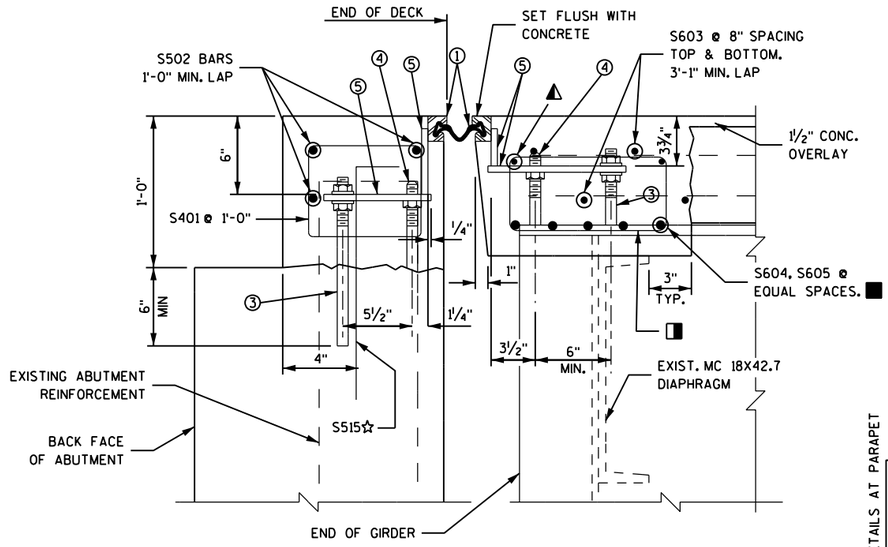
CONSTRUCTION STAGING

SHEET 2 OF 9
723

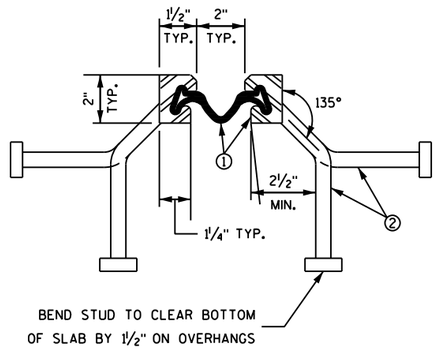
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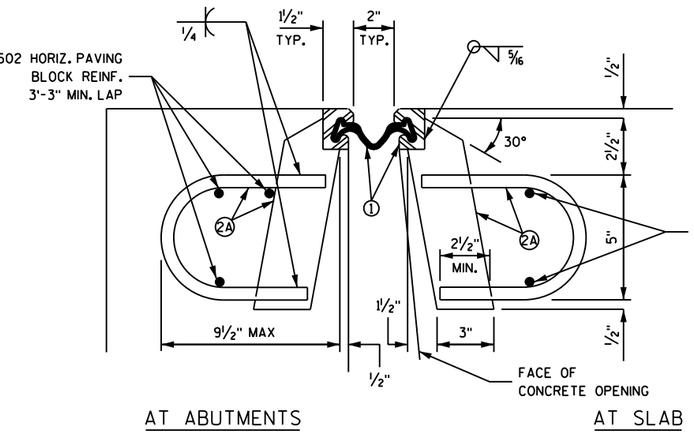


JOINT REPAIR-REMOVAL
AT ABUTMENTS



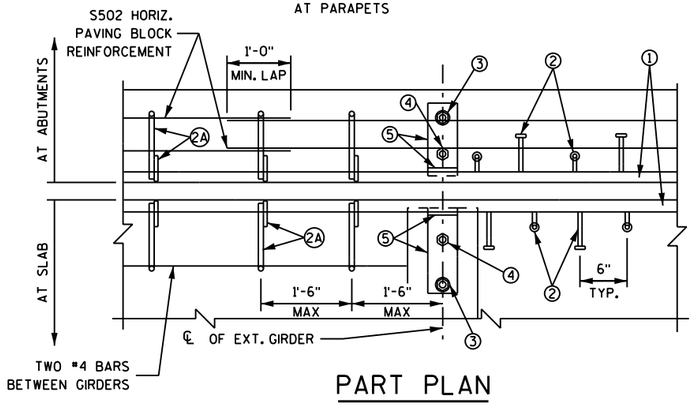
SECTION THRU JOINT
AT ABUTMENTS





AT ABUTMENTS AT SLAB

SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



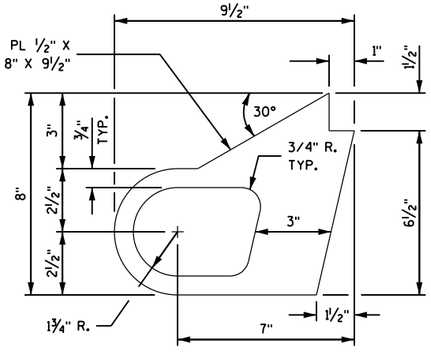
PART PLAN

SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

■ BETWEEN GIRDERS C-D, INSTALL COUPLERS WITH S611 BARS AS PART OF STAGE 2 AND S613 BARS AS PART OF STAGE 3.

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

☆ MASONRY ANCHORS TYPE L NO.5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.



ALTERNATE STRIP SEAL ANCHOR

▲ S406, S407, SAME LENGTH AS HOR. DIAPH. BARS AT BOTTOM OF DIAPHRAGM. BETWEEN GIRDERS C-D INSTALL COUPLERS WITH S412 BARS FOR STAGE 2 AND S414 BARS FOR STAGE 3.

◨ S408 @ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS.

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

⑥ GALVANIZED PLATE ¾" X 10½" X 2'-0" LONG WITH HOLES FOR ⑦. BEND AS SHOWN.

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

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

REFER TO JOINT REPAIR DETAILS AT PARAPET

EXPANSION JOINT NOTES

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

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

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

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

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-286-24C".

STATE PROJECT NUMBER
1228-26-70

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24C

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT REPAIR DETAILS AT ABUTMENT

SHEET 3 OF 9
724

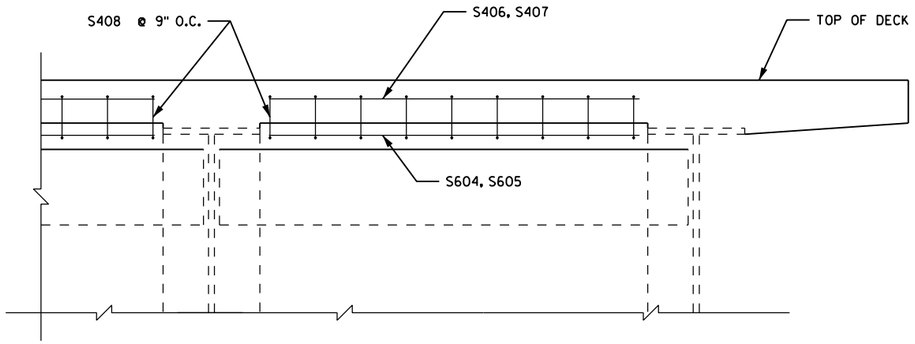
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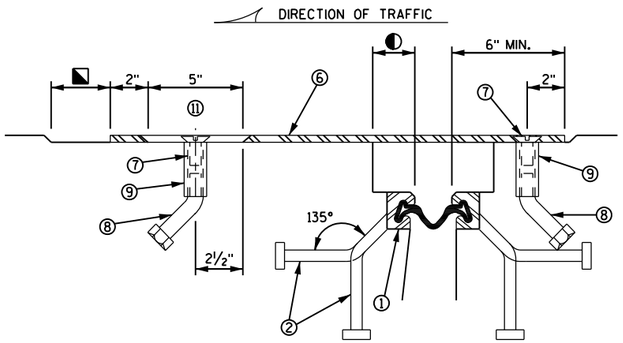
STATE PROJECT NUMBER

1228-26-70

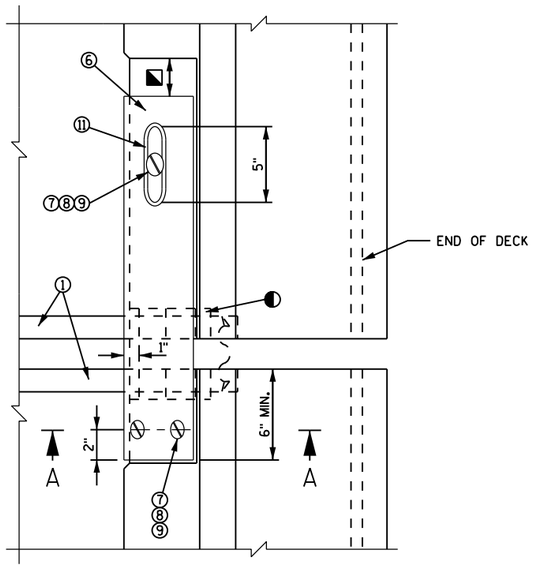


PART TRANSVERSE SECTION AT DIAPHRAGM

EXPANSION END

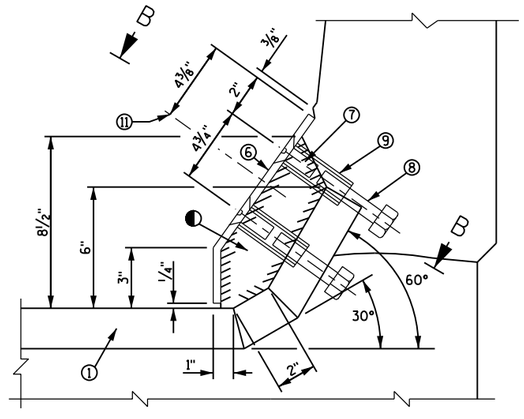


SECTION B-B



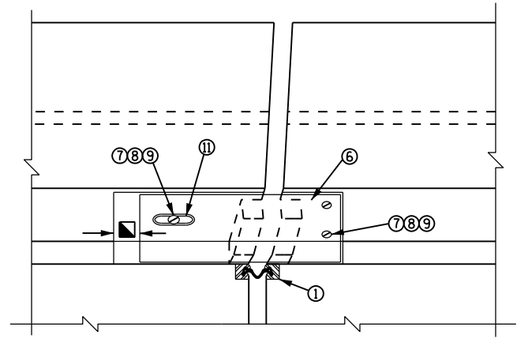
PLAN AT PARAPET

SLOPED FACE PARAPET



SECTION A-A

SLOPED FACE PARAPET



VIEW OF PARAPET PLATES

FROM ROADWAY

SLOPED FACE PARAPET

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24C

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT REPAIR DETAILS AT PARAPET

SHEET 4 OF 9

725

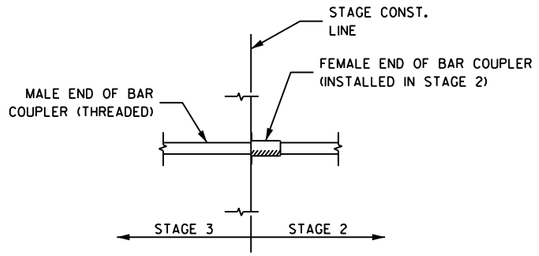
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PLOT DATE :10/1/2012 2:58:30 PM PLOT BY : Nicholas Hornyak WI DRV :Pdf_bw_HS_T39Lclt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70



BAR COUPLER ASSEMBLY

NOTES

BAR COUPLER ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT.

BAR COUPLER ASSEMBLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCING BARS.

CONTRACTOR SHALL TAKE NECESSARY PRECAUTION WHEN INSTALLING THREADED BARS AND BAR COUPLER ASSEMBLY TO PREVENT DAMAGE TO BARS AND COUPLERS BETWEEN CONSTRUCTION STAGES.

BAR COUPLERS TO BE FURNISHED AND INSTALLED UNDER BID ITEMS "BAR COUPLERS (SIZE)".

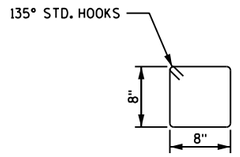
OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LAB THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X BAR AREA.

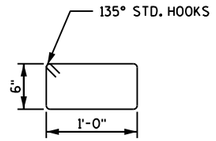
WHERE fy = YIELD STREGHT OF SPLICED BARS.

BILL OF BARS

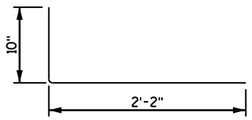
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	COUPLER	LOCATION
S401	X	52	3'-2"	▲		N ABUT PAVING BLOCK STIRRUPS
S502	X	24	7'-3"		X	N ABUT PAVING BLOCK HOR. STAGE 2 & 3
S603	X	16	14'-6"		X	N ABUT DECK HOR. STAGE 2 & 3
S604	X	5	2'-8"			N ABUT DIAPH. BOT. HOR. BTWN. GIRDERS AA - A
S605	X	20	7'-0"			N ABUT DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS EXCEPT C-D
S406	X	2	2'-8"			N ABUT DIAPH. TOP HOR. BTWN. GIRDERS AA - A
S407	X	8	7'-0"			N ABUT DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS EXCEPT C-D
S408	X	54	3'-6"	▲		N ABUT DIAPH. STIRRUPS
S409	X	2	3'-7"			N ABUT DECK EXP DEVICE HOR. GIRDERS AA - A
S410	X	10	7'-11"			N ABUT DECK EXP DEVICE HOR. ALL OTHER GIRDERS
S611	X	5	1'-8"		X	N ABUT DIAPH. BOT. HOR. BTWN. GIRDERS C-D STAGE 2
S412	X	2	1'-8"		X	N ABUT DIAPH. TOP HOR. BTWN. GIRDERS C-D STAGE 2
S613	X	5	5'-3"			N ABUT DIAPH. BOT. HOR. BTWN. GIRDERS C-D STAGE 3
S414	X	2	5'-3"			N ABUT DIAPH. TOP HOR. BTWN. GIRDERS C-D STAGE 3
S515	X	10	2'-11"	▲		MASONRY ANCHORS



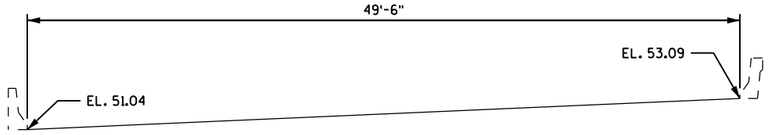
S401



S408



S515



ELEV. AT N. ABUT.

(LOOKING SOUTH)

NOTE:

ELEVATIONS SHOWN ARE TOP OF DECK TAKEN FROM EXISTING PLANS. CONTRACTOR SHALL VERIFY AS NECESSARY PRIOR TO CONSTRUCTION.

8

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24C

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR REBAR DETAILS

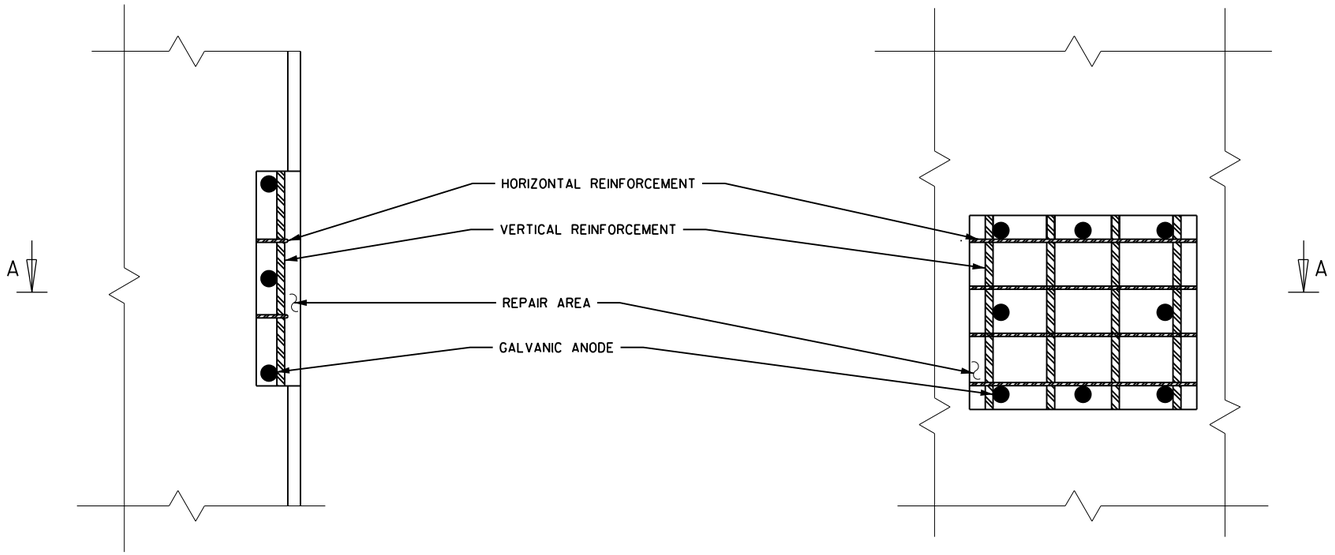
SHEET 5 OF 9

726

FILE NAME :05.B-40-286-24C_Rebar Details.dgn
PLOT DATE :10/1/2012 1:58:30 PM PLOT BY : Nicholas Hornyak v8i DRV :Pdf_bw_M5_7391.plt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70

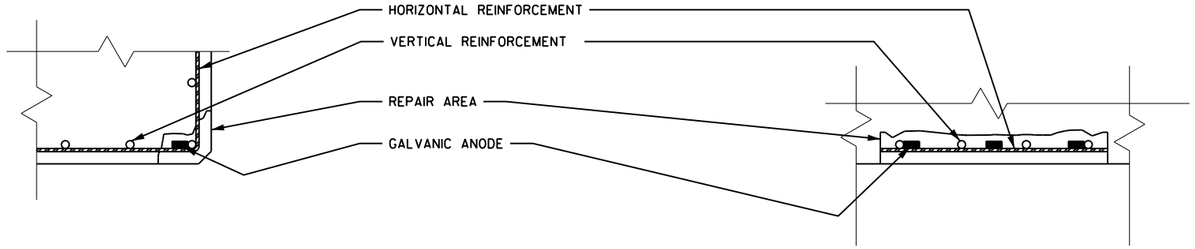


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24C

DRAWN BY MJH | PLANS CK'D. SJM

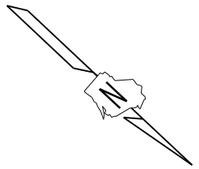
CATHODIC PROTECTION DETAILS

SHEET 6 OF 9

727

FILE NAME :06.B-40-286-24C.Cathodic Protection Details.dgn
PLOT DATE :10/1/2012 1:58:36 PM PLOT BY : NicholasHornyakv8i DRV :Pdf.bw.MS.7391.bit PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

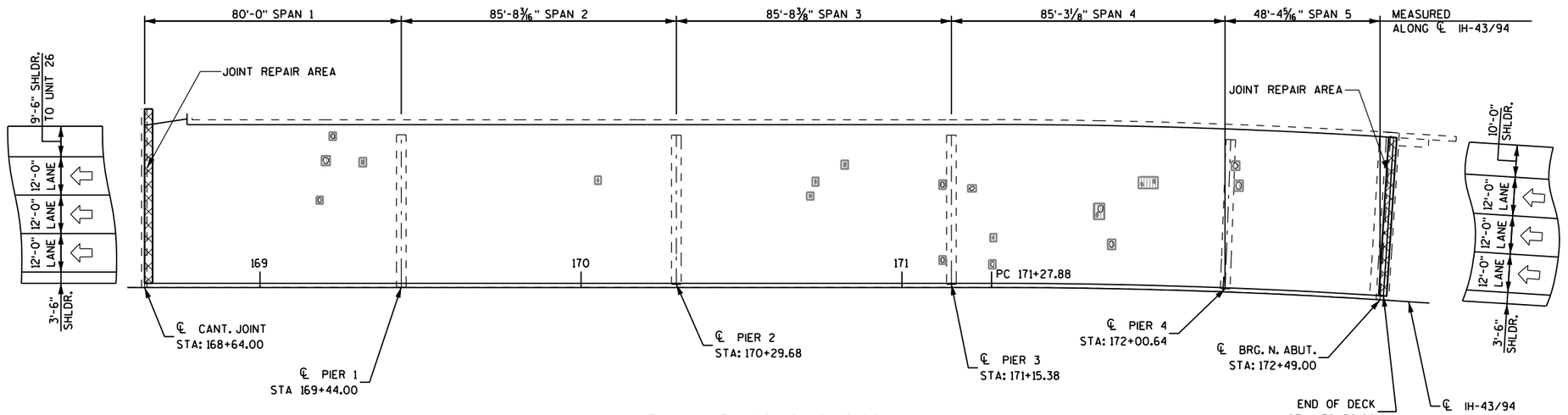
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

PROPOSED REHAB AREAS - UNIT 24C

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24C		LEGEND	
ITEM	UNIT	QUANT.	%	DECK PREPARATION AREA	DELAMINATION
TOTAL AREA	yd.^{2}	2,118			SPALL
SHADE/DEBRIS	yd.^{2}	0			DEBOND
PREPARATION, DECKS, TYPE 1	yd.^{2}	17	0.8		ASPHALT PATCH
PREPARATION, DECKS, TYPE 2 ✳	yd.^{2}	9	0.4	SHADE/DEBRIS	CONCRETE PATCH
FULL DEPTH DECK REPAIR ✳	yd.^{2}	1	<0.1		

✳ ESTIMATED



PLAN B-40-286-24C

SCALE, FEET 0 10 20 (ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24C

DRAWN BY	MJH	PLANS CK'D.	SJM

DECK REPAIR AREAS

SHEET 7 OF 9
728

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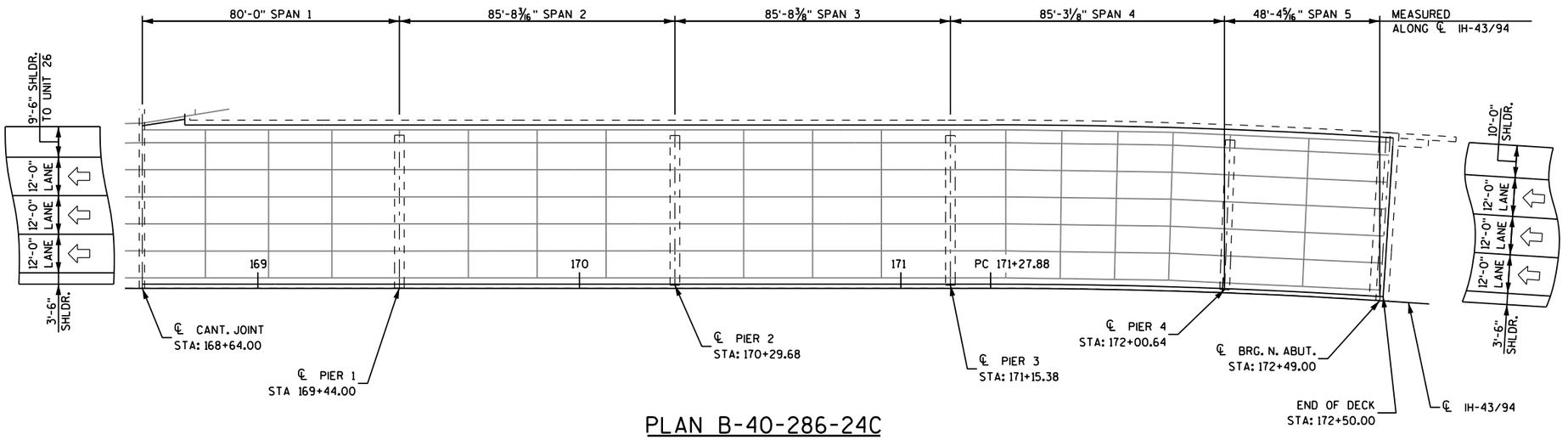
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PLOT DATE :10/24/2012 12:44:50 AM PLOT BY : NicholasHornyak@8 DRV :Pdf.bw.HS.T391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24C		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	ft.^{2}	20,250	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	0	0	



PLAN B-40-286-24C

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/7/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24C

DRAWN BY	MJH	PLANS CK'D.	SJM

UNDERDECK INSPECTION

SHEET 8 OF 9
729

8

8

FILE NAME :08.B-40-286-24C.UnderDeck Repair Areas.dgn
PLOT DATE :10/24/2012 12:44:50 AM PLOT BY : NicholasHornyak@1 DRV :Pdf.bw.MS.T391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

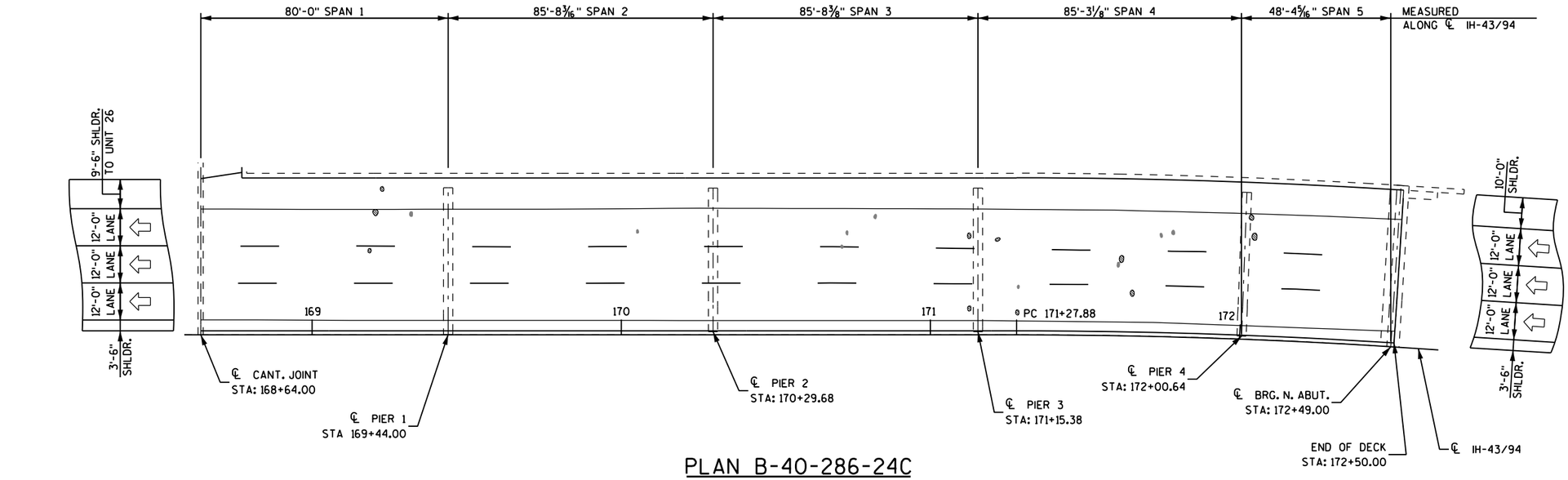
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS - UNIT 24C

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24C	
ITEM	UNIT	QUANT.	%
TOTAL AREA	$ft.^2$	19,058	
SHADE/DEBRIS	$ft.^2$	0	
DELAMINATION	$ft.^2$	21	0.1
SPALL	$ft.^2$	13	<0.1
DEBOND	$ft.^2$	N/A	N/A
ASPHALT PATCH	$ft.^2$	0	0
CONCRETE PATCH	$ft.^2$	0	0

LEGEND: DELAMINATION, SPALL, DEBOND, ASPHALT PATCH, CONCRETE PATCH, SHADE/DEBRIS



PLAN B-40-286-24C

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24C

DRAWN BY MJH | PLANS CK'D. SJM

INFRARED INSPECTION REPORT

SHEET 9 OF 9

730

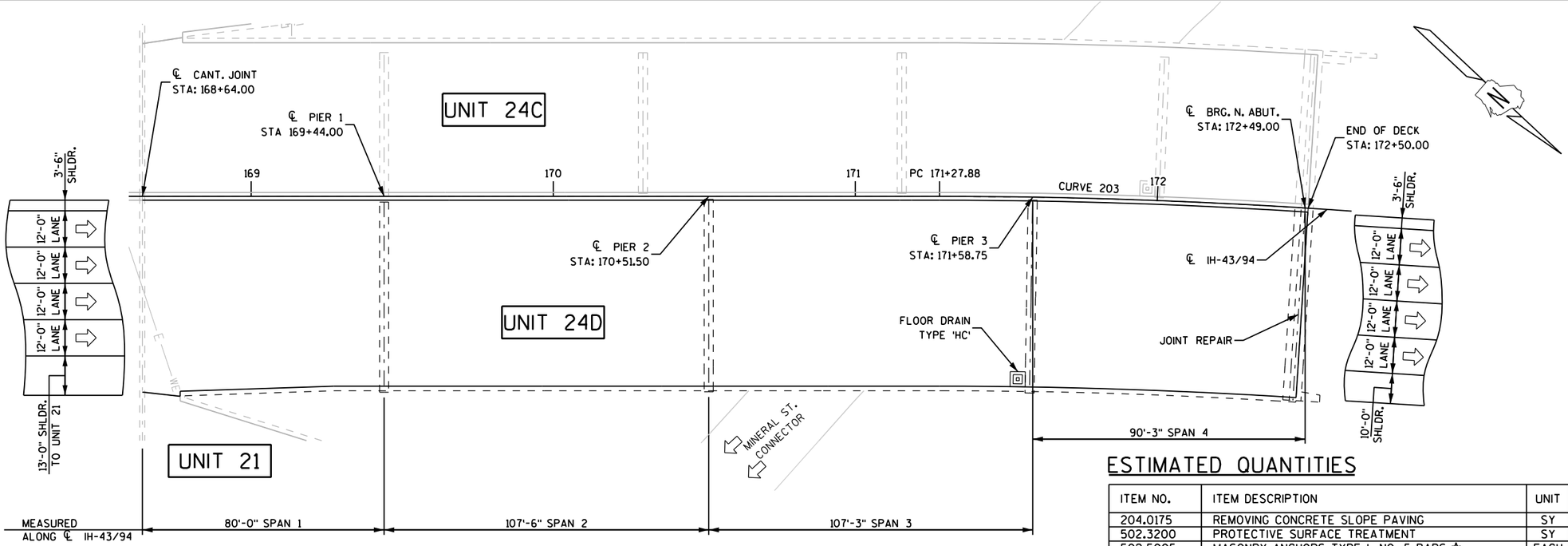
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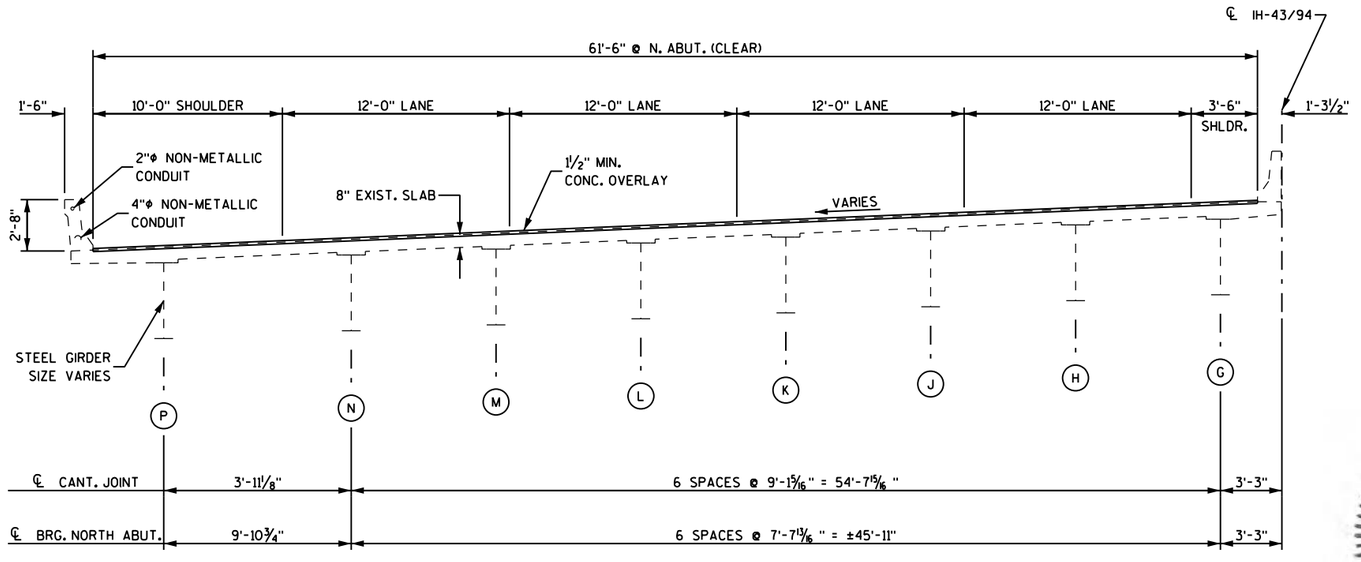
1228-26-70



CURVE 203

P.I. =176+08.93
P.T. =180+70.37
P.C. =171+27.88
Δ =28°-16'-28"
D. =3°-00'-00"
T. =481.04'
L. =942.48'
R. =1909.86'

PLAN B-40-286-24D



CROSS SECTION THRU ROADWAY

(LOOKING SOUTH @ N. ABUT. STA: 172+49.0)

TRAFFIC DATA

IH-43/94 NB
A.D.T. (2009) = 58,600

GENERAL NOTES

SEE SHEET 2 FOR GENERAL NOTES.

LIST OF DRAWINGS

1. GENERAL PLAN
2. CONSTRUCTION STAGING
3. JOINT REPAIR DETAILS AT ABUTMENT
4. JOINT REPAIR DETAILS AT PARAPET
5. JOINT REPAIR REBAR DETAILS
6. CATHODIC PROTECTION DETAILS
7. DECK REPAIR AREAS
8. UNDERDECK INSPECTION
9. INFRARED INSPECTION RESULTS

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	PIER 1	PIER 2	PIER 3	N. ABUT	TOTAL
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	3	-	-	-	-	3
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2925	-	-	-	-	2,925
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS ☆	EACH	-	-	-	-	13	13
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1530	-	-	-	-	1,530
505.0904	BAR COUPLERS NO. 4	EACH	2	-	-	-	-	2
505.0905	BAR COUPLERS NO. 5	EACH	3	-	-	-	-	3
505.0906	BAR COUPLERS NO. 6	EACH	9	-	-	-	-	9
509.0301	PREPARATION DECKS TYPE 1	SY	3	-	-	-	-	3
509.0302	PREPARATION DECKS TYPE 2	SY	2	-	-	-	-	2
509.0500	CLEANING DECKS	SY	2631	-	-	-	-	2,631
509.1000	JOINT REPAIR	SY	17	-	-	-	-	17
509.1500	CONCRETE SURFACE REPAIR	SF	-	5	4	5	-	14
509.2000	FULL DEPTH DECK REPAIR	SY	1	-	-	-	-	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	153	-	-	-	-	153
514.0900	ADJUSTING FLOOR DRAINS	EACH	1	-	-	-	-	1
517.1800.S.17	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-286-24D	LS	1	-	-	-	-	1
517.4500.S.17	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-40-286-24D	LS	1	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	-	-	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	-	-	-	3	3
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	8	8	8	-	32
SPV.0070.01	CORROSION INHIBITING PROTECTIVE COATING	GAL	-	-	17	16	-	33
SPV.0105.15	INSTALL EXPANSION DEVICE B-40-286-24D	LS	1	-	-	-	-	1
SPV.0165.01	CATHODIC PROTECTION	SF	-	-	-	4	-	4

☆ MASONRY ANCHOR QUANTITY BASED ON 20% REPLACEMENT ESTIMATE.

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-18
OPERATIONAL RATING	HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD	168 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
11/1/12

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-286-24D

IH-43/94 NB/WB OVER WASHINGTON ST.

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D.	NJH
DRAWN BY	MJH	PLANS CK'D.	SJM

GENERAL PLAN

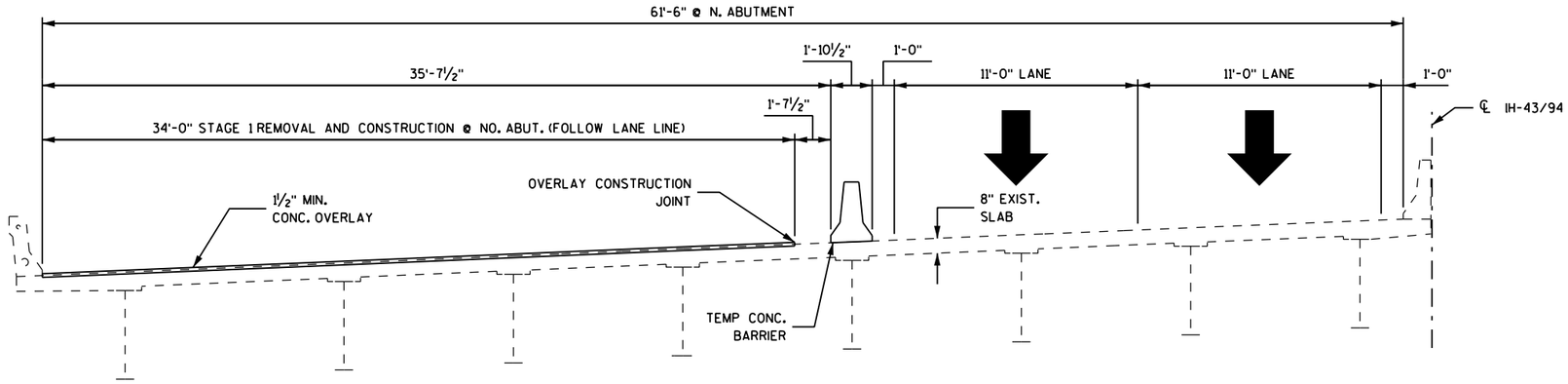
SHEET 1 OF 9
731

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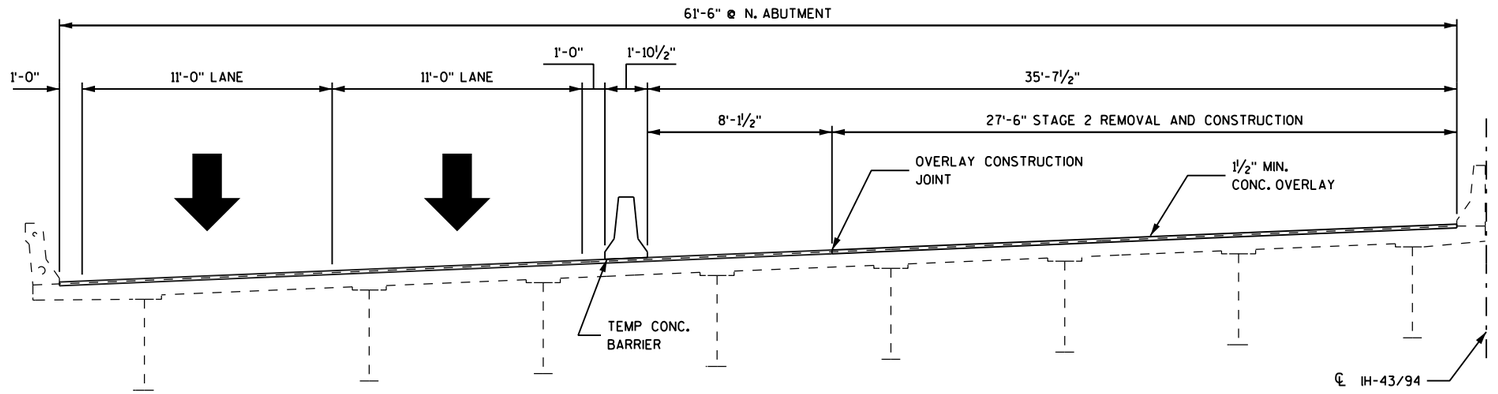
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STATE PROJECT NUMBER
1228-26-70



STAGE 1 - CROSS SECTION

(LOOKING SOUTH)



STAGE 2 - CROSS SECTION

(LOOKING SOUTH)

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, PLACEMENT OF A CONCRETE OVERLAY, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER MILLING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOCITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE 'INSTALL EXPANSION DEVICE B-40-286-24D' ITEM.

CORROSION INHIBITING PROTECTIVE COATING TO BE APPLIED TO ALL EXPOSED SURFACES ON PIERS 2 AND 3.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24D

DRAWN BY MJH | PLANS CK'D. SJM

CONSTRUCTION STAGING

SHEET 2 OF 9
732

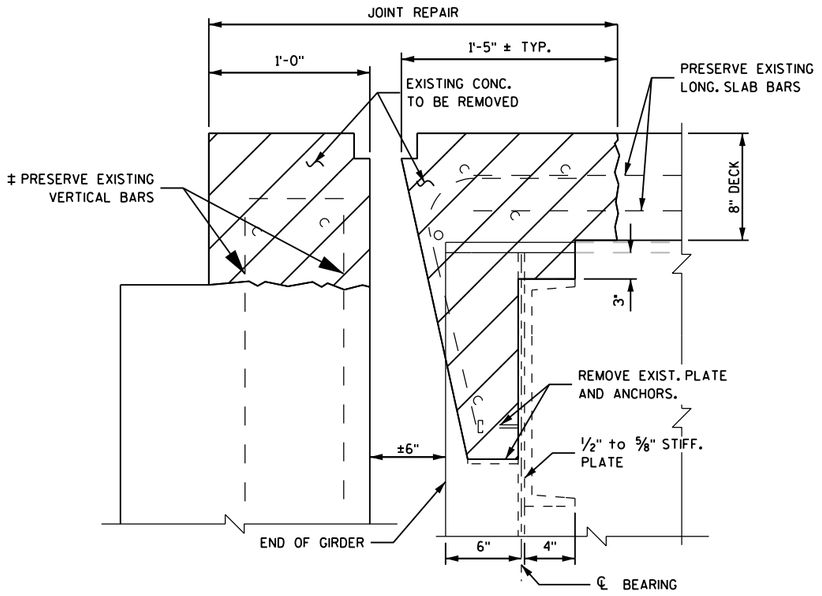
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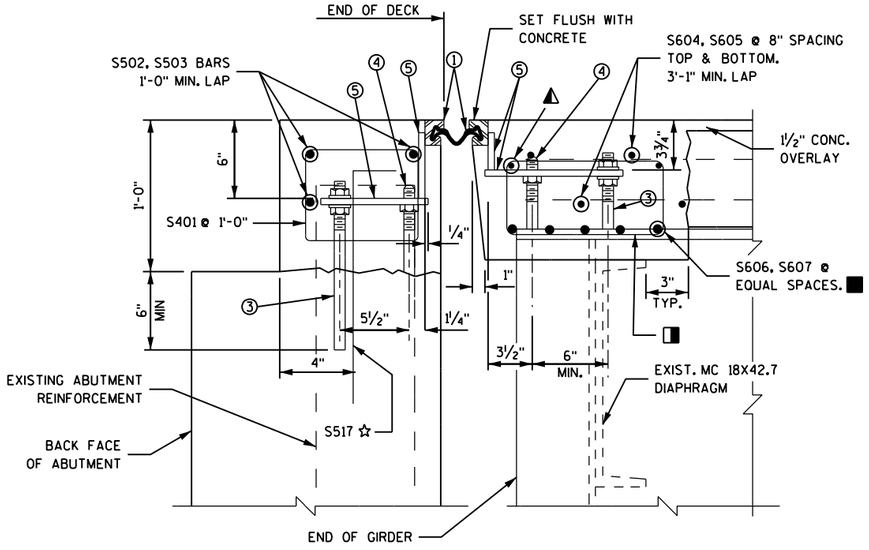
STATE PROJECT NUMBER

1228-26-70



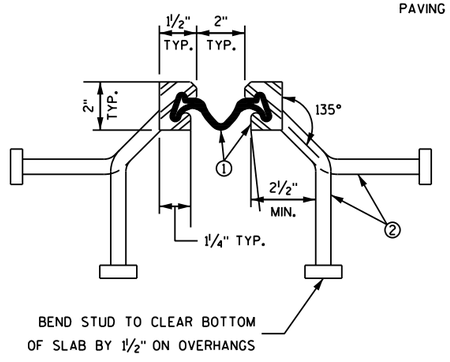
JOINT REPAIR-REMOVAL

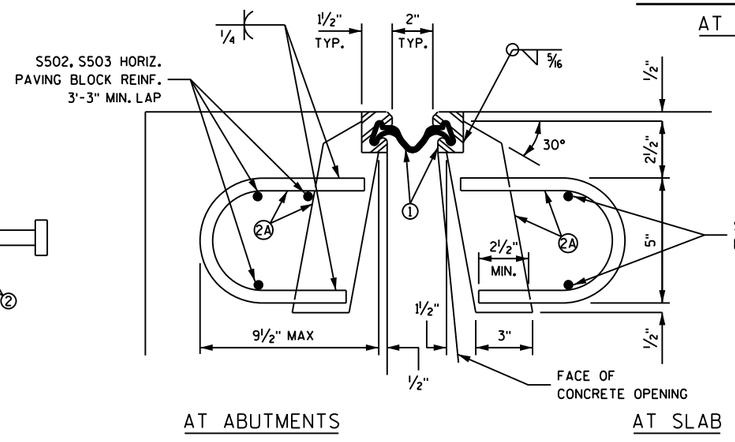
AT ABUTMENTS



SECTION THRU JOINT

AT ABUTMENTS

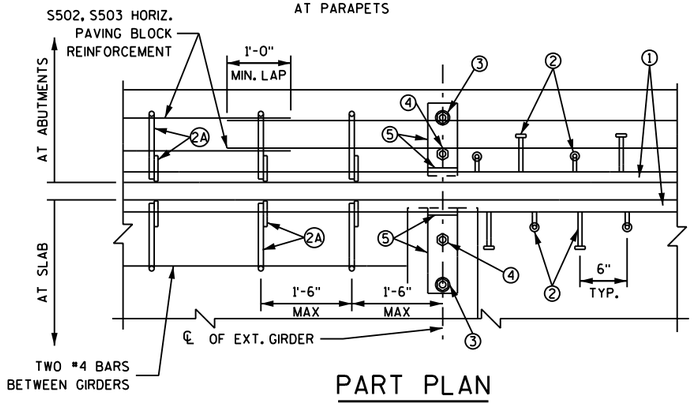




AT ABUTMENTS AT SLAB

SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS



PART PLAN

SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

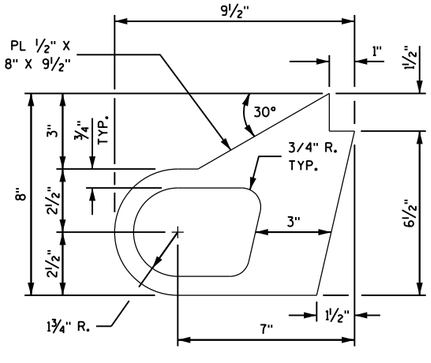
■ BETWEEN GIRDERS L-K, INSTALL COUPLERS WITH S613 BARS AS PART OF STAGE 2 AND S615 BARS AS PART OF STAGE 3.

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

☆ MASONRY ANCHORS TYPE L NO.5 BARS. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

▲ S408, S409, SAME LENGTH AS HOR. DIAPH. BARS AT BOTTOM OF DIAPHRAGM. BETWEEN GIRDERS L-K INSTALL COUPLERS WITH S414 BARS FOR STAGE 2 AND S416 BARS FOR STAGE 3.

◨ S410 @ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS.



ALTERNATE STRIP SEAL ANCHOR

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

②A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

REFER TO JOINT REPAIR DETAILS AT PARAPET

⑥ GALVANIZED PLATE ¾" X 10½" X 2'-0" LONG WITH HOLES FOR ⑦. BEND AS SHOWN.

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

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

EXPANSION JOINT NOTES

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

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

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

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

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-286-24D".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24D

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT ABUTMENT

SHEET 3 OF 9

733

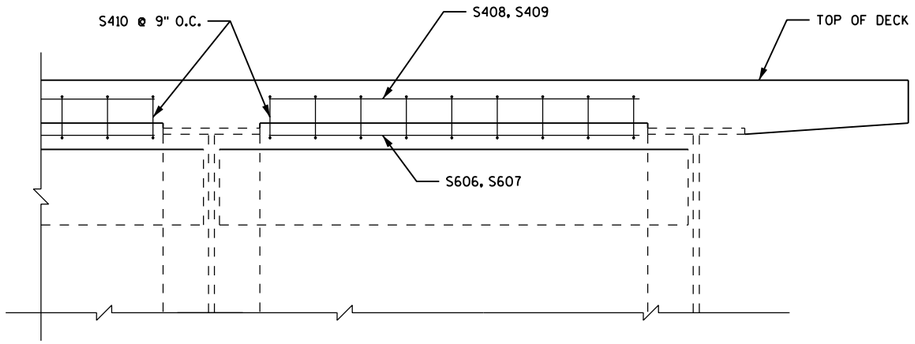
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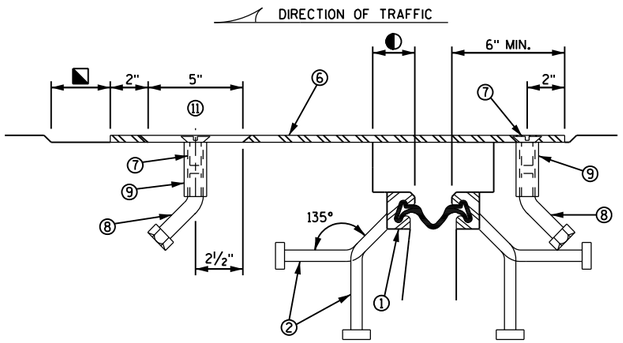
STATE PROJECT NUMBER

1228-26-70

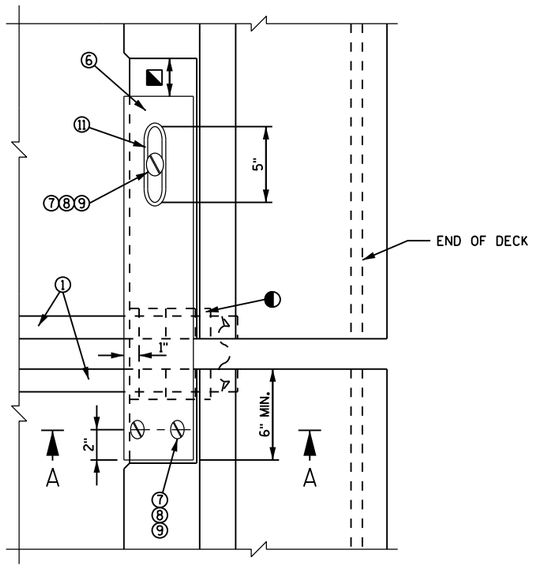


PART TRANSVERSE SECTION AT DIAPHRAGM

EXPANSION END

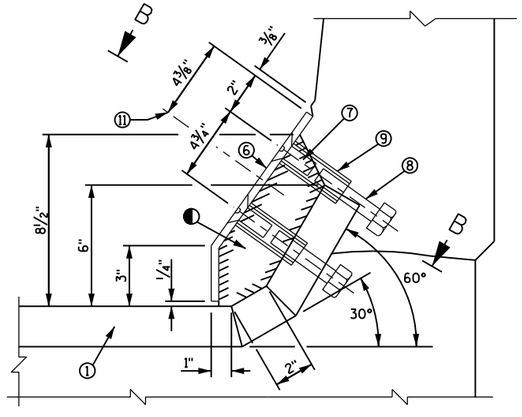


SECTION B-B



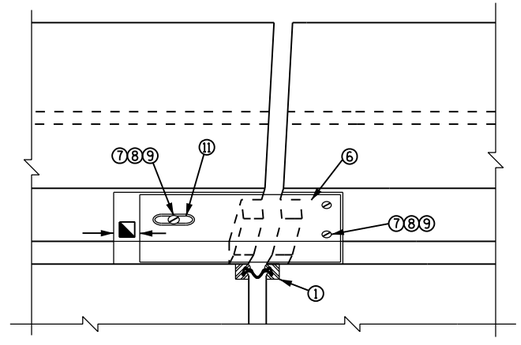
PLAN AT PARAPET

SLOPED FACE PARAPET



SECTION A-A

SLOPED FACE PARAPET



VIEW OF PARAPET PLATES

FROM ROADWAY

SLOPED FACE PARAPET

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24D

DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR DETAILS AT PARAPET

SHEET 4 OF 9

734

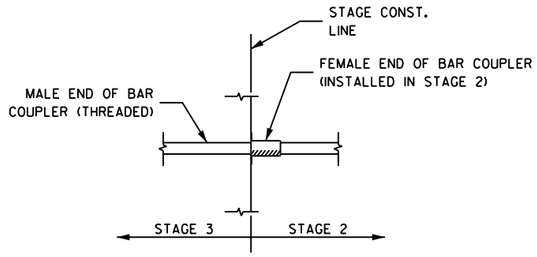
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FILE NAME :04_B-40-286-24D_Strip SealDetails - At Parapets.dgn
PLOT DATE :10/1/2012 1:48:20 PM PLOT BY : Nicholas Hornyak WR DRV :Pdf_bw_HS_T39Lblt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70



BAR COUPLER ASSEMBLY

NOTES

BAR COUPLER ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT.

BAR COUPLER ASSEMBLY SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCING BARS.

CONTRACTOR SHALL TAKE NECESSARY PRECAUTION WHEN INSTALLING THREADED BARS AND BAR COUPLER ASSEMBLY TO PREVENT DAMAGE TO BARS AND COUPLERS BETWEEN CONSTRUCTION STAGES.

BAR COUPLERS TO BE FURNISHED AND INSTALLED UNDER BID ITEMS "BAR COUPLERS (SIZE)".

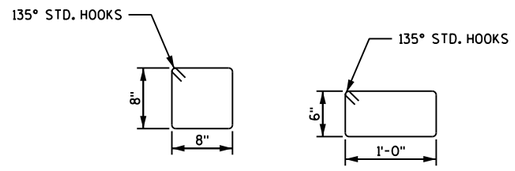
OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LAB THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

① MINIMUM CAPACITY = 1.25 X fy X BAR AREA.

WHERE fy = YIELD STREGHT OF SPLICED BARS.

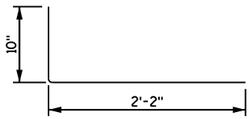
BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	COUPLER	LOCATION
S401	X	64	3'-2"	▲		N ABUT PAVING BLOCK STIRRUPS
S502	X	15	7'-10"		X	N ABUT PAVING BLOCK HOR. STAGE 2
S503	X	12	8'-0"			N ABUT PAVING BLOCK HOR. STAGE 3
S604	X	12	13'-9"		X	N ABUT DECK HOR. STAGE 2
S605	X	8	15'-10"			N ABUT DECK HOR. STAGE 3
S606	X	5	8'-6"			N ABUT DIAPH. BOT. HOR. BTWN. GIRDERS N - P
S607	X	30	6'-4"			N ABUT DIAPH. BOT. HOR. BTWN. ALL OTHER GIRDERS EXCEPT L-K
S408	X	2	8'-6"			N ABUT DIAPH. TOP HOR. BTWN. GIRDERS N - P
S409	X	12	6'-4"			N ABUT DIAPH. TOP HOR. BTWN. ALL OTHER GIRDERS EXCEPT L-K
S410	X	66	3'-6"	▲		N ABUT DIAPH. STIRRUPS
S411	X	2	9'-5"			N ABUT DECK EXP. DEVICE HOR. GIRDERS N - P
S412	X	12	7'-2"			N ABUT DECK EXP. DEVICE HOR. ALL OTHER GIRDERS
S613	X	5	4'-4"		X	N ABUT DIAPH. BOT. HOR. BTWN. GIRDERS L - K STAGE 2
S414	X	2	4'-4"		X	N ABUT DIAPH. TOP HOR. BTWN. GIRDERS L - K STAGE 2
S615	X	5	1'-11"			N ABUT DIAPH. BOT. HOR. BTWN. GIRDERS L - K STAGE 3
S416	X	2	1'-11"			N ABUT DIAPH. TOP HOR. BTWN. GIRDERS L - K STAGE 3
S517	X	13	2'-11"	▲		MASONRY ANCHORS

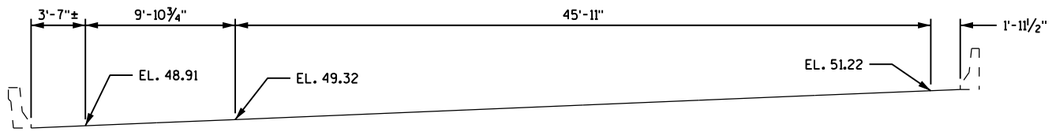


S401

S410



S517



ELEV. AT N. ABUT.
(LOOKING SOUTH)

NOTE:

ELEVATIONS SHOWN ARE TOP OF DECK TAKEN FROM EXISTING PLANS. CONTRACTOR SHALL VERIFY AS NECESSARY PRIOR TO CONSTRUCTION.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24D

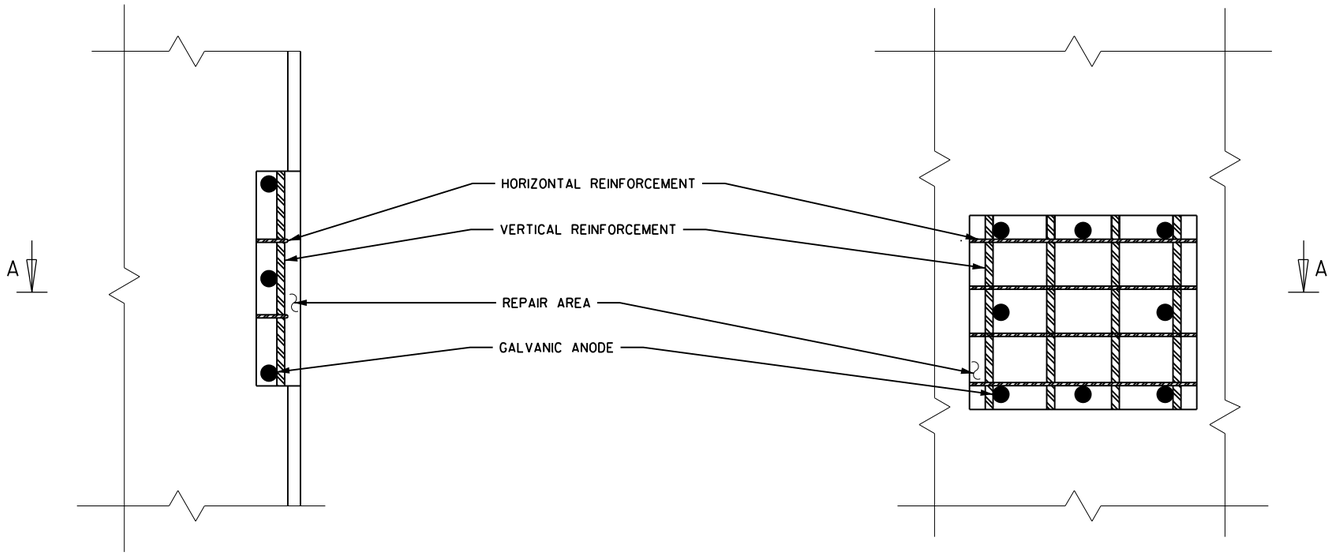
DRAWN BY MJH | PLANS CK'D. SJM

JOINT REPAIR REBAR DETAILS

SHEET 5 OF 9
735

FILE NAME :05.B-40-286-24D.Rebar Details.dgn
PLOT DATE :10/1/2012 1:48:21 PM PLOT BY : Nicholas Hornyak.vBt DRV :Pdf.bw.HS.7391.txt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

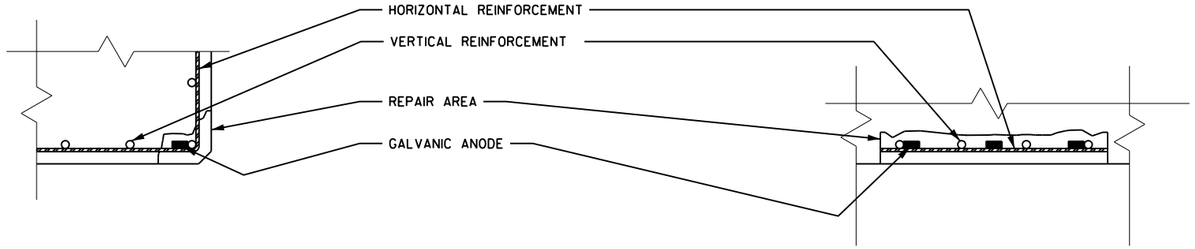


ELEVATION OF CORNER & FACE REPAIRS

N.T.S

NOTES

1. REMOVE DAMAGED CONCRETE PER CONTRACT SPECIFICATION.
2. REPLACE / CLEAN CORRODED REINFORCING STEEL.
3. ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.
4. ATTACH ANODES TO CLEAN REINFORCING STEEL. REFER TO SPECIAL PROVISION FOR MAXIMUM SPACING GUIDELINES.
5. POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.



SECTION A-A

N.T.S

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24D

DRAWN BY	MJH	PLANS CK'D.	SJM

CATHODIC PROTECTION DETAILS

SHEET 6 OF 9

736

FILE NAME :06.B-40-286-24D.Cathodic Protection Details.dgn
PLOT DATE :10/1/2012 1:48:28 PM PLOT BY : NicholasHornyakv8i DRV :Pdf.bw.MS.7391.bit PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

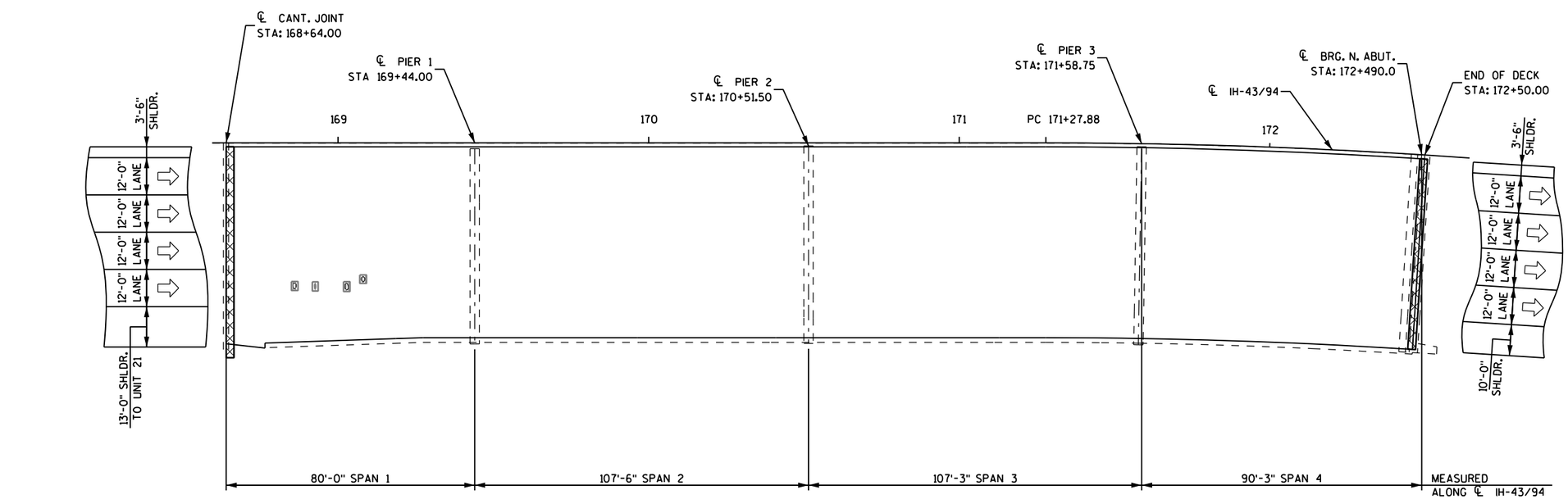
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

PROPOSED REHAB AREAS - UNIT 24D

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24D		LEGEND	
ITEM	UNIT	QUANT.	%	DECK PREPARATION AREA	DELAMINATION
TOTAL AREA	yd.^{2}	2,631			SPALL
SHADE/DEBRIS	yd.^{2}	0			DEBOND
PREPARATION, DECKS, TYPE 1	yd.^{2}	3	0.1		ASPHALT PATCH
PREPARATION, DECKS, TYPE 2 *	yd.^{2}	2	<0.1	SHADE/DEBRIS	CONCRETE PATCH
FULL DEPTH DECK REPAIR *	yd.^{2}	1	<0.1		

* ESTIMATED



PLAN B-40-286-24D

SCALE, FEET 0 10 20
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24D

DRAWN BY MJH | PLANS CK'D. SJM

DECK REPAIR AREAS

SHEET 7 OF 9
737

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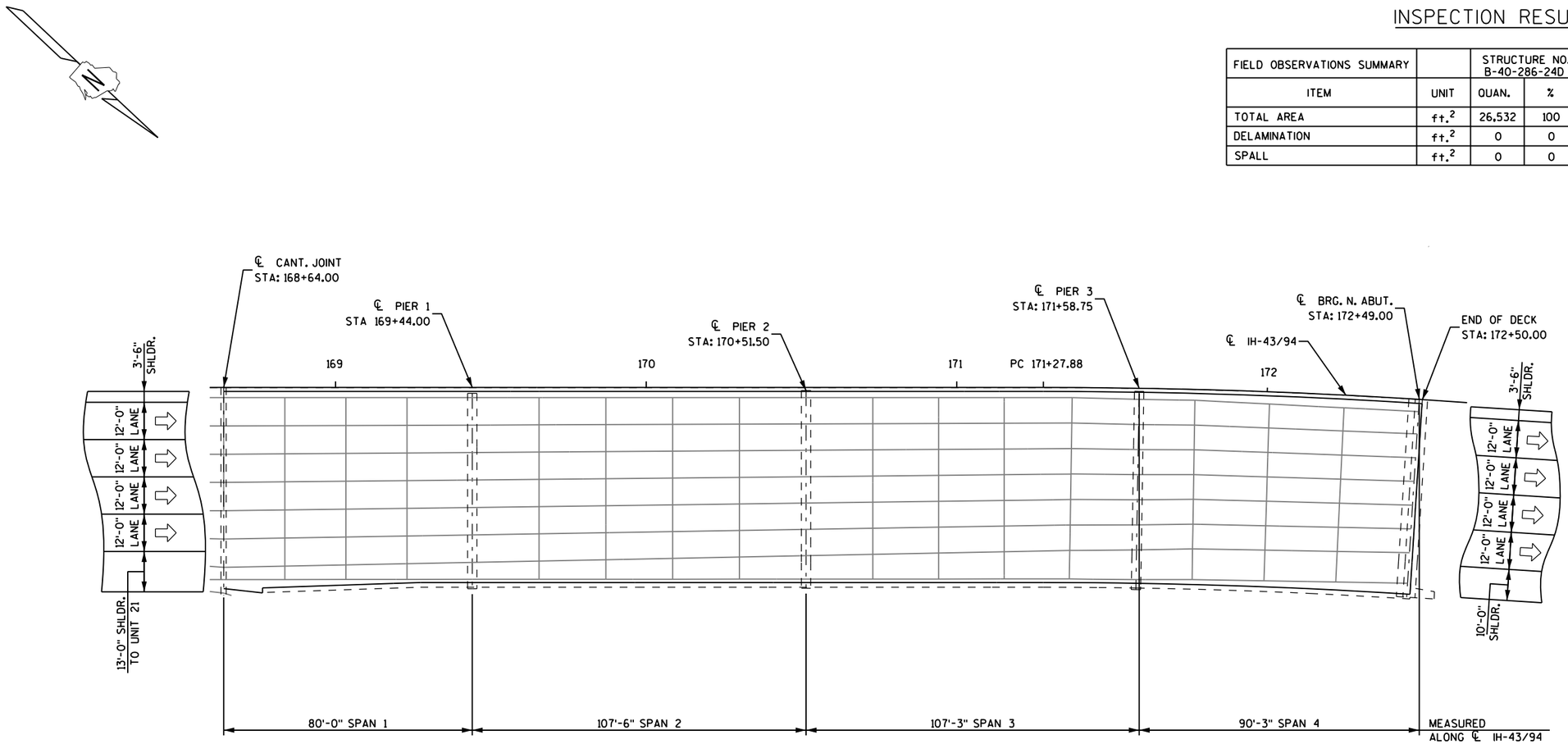
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FILE NAME :\07_B-40-286-24D_Deck Repair Areas.dgn
PLOT DATE :10/24/2012 12:57:07 PM PLOT BY : NicholasHornyak@t DRV :PDF_bw_HS_7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24D		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION
TOTAL AREA	ft.^{2}	26,532	100	SPALL
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	0	0	



PLAN B-40-286-24D

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/7/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24D

DRAWN BY	MJH	PLANS CK'D.	SJM

UNDERDECK INSPECTION

SHEET 8 OF 9
738

8

8

FILE NAME :08_B-40-286-24D_UnderDeck Repair Areas.dgn
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STATE PROJECT NUMBER
1228-26-70

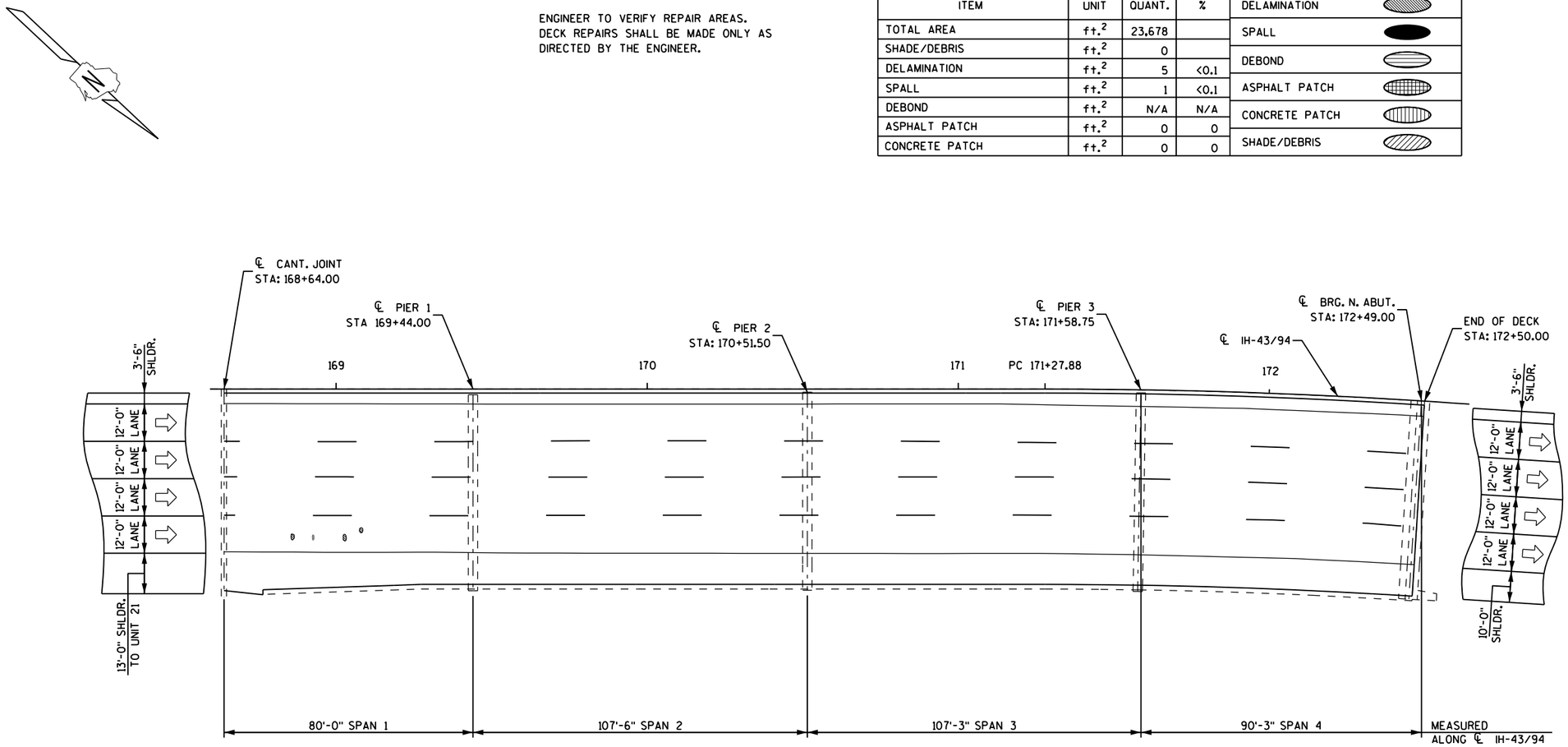
NOTE:

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS - UNIT 24D

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-24D		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	23,678		SPALL
SHADE/DEBRIS	ft.^{2}	0		DEBOND
DELAMINATION	ft.^{2}	5	<0.1	ASPHALT PATCH
SPALL	ft.^{2}	1	<0.1	CONCRETE PATCH
DEBOND	ft.^{2}	N/A	N/A	SHADE/DEBRIS
ASPHALT PATCH	ft.^{2}	0	0	
CONCRETE PATCH	ft.^{2}	0	0	



PLAN B-40-286-24D

SCALE, FEET 0 10 20

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-24D

DRAWN BY MJH | PLANS CK'D. SJM

INFRARED INSPECTION RESULTS

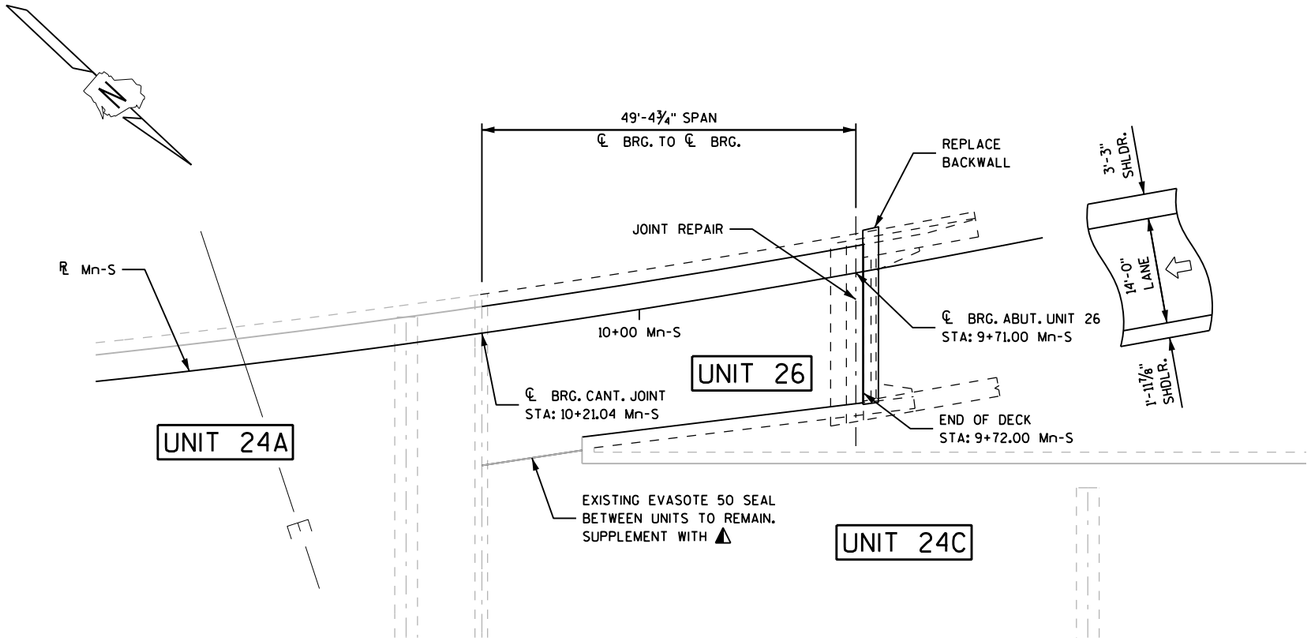
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739

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STATE PROJECT NUMBER
1228-26-70



PLAN B-40-286-26

DESIGN DATA

LIVE LOAD:

INVENTORY RATING	HS-18
OPERATIONAL RATING	HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD	168 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE SUPERSTRUCTURE	f'c = 4,000 P.S.I.
CONCRETE SUBSTRUCTURE	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

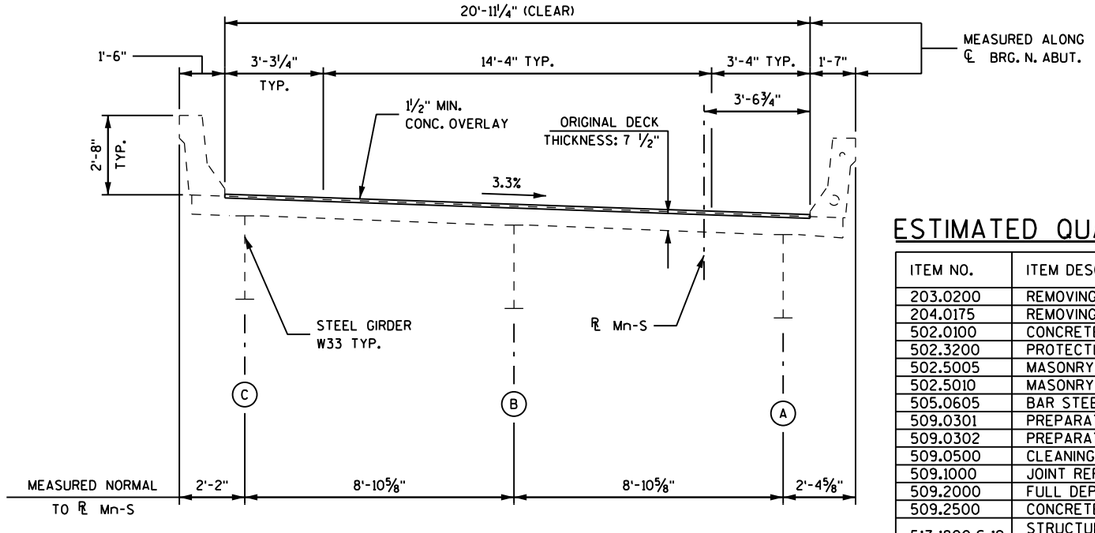
TRAFFIC DATA

IH-43/94 ON-RAMP
A.D.T. (2009) = 3,500

LIST OF DRAWINGS

1. GENERAL PLAN
2. CONSTRUCTION STAGING
3. ABUTMENT REPAIR
4. ABUTMENT REPAIR WINGWALL DETAILS
5. ABUTMENT REPAIR PARAPET DETAILS
6. JOINT DETAILS AT ABUTMENT
7. JOINT DETAILS AT PARAPET
8. DECK REPAIR AREAS
9. UNDERDECK INSPECTION
10. INFRARED INSPECTION RESULTS

⚠ 1" PREFORMED JOINT FILLER. INSTALL BETWEEN OVERLAYS OF UNITS 24C AND 26, DIRECTLY ABOVE EXISTING EVASOTE 50 SEAL. COST IS INCIDENTAL TO OTHER WORK.



CROSS SECTION THRU ROADWAY

(LOOKING SOUTH)

ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	SUPER	N. ABUT	TOTAL
203.0200	REMOVING OLD STRUCTURE, STATION 9+71 Mn-S	LS	-	1	1
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	20	20
502.0100	CONCRETE MASONRY BRIDGES	CY	2	11	13
502.3200	PROTECTIVE SURFACE TREATMENT	SY	153	-	153
502.5005	MASONRY ANCHORS TYPE L NO. 5 BARS	EACH	-	16	16
502.5010	MASONRY ANCHORS TYPE L NO. 6 BARS	EACH	-	2	2
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	895	465	1,360
509.0301	PREPARATION DECKS TYPE 1	SY	1	-	1
509.0302	PREPARATION DECKS TYPE 2	SY	1	-	1
509.0500	CLEANING DECKS	SY	110	-	110
509.1000	JOINT REPAIR	SY	5	-	5
509.2000	FULL DEPTH DECK REPAIR	SY	1	-	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	8	-	8
517.1800.S.19	STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-40-286-26	LS	1	-	1
517.4500.S.19	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS, STRUCTURE B-40-286-26	LS	1	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	1	-	1
604.0400	SLOPE PAVING CONCRETE	SY	-	20	20
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	3	3
SPV.0105.16	INSTALLING EXPANSION DEVICE B-40-286-26	LS	1	-	1

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
11/1/12

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher NK 11/02/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-286-26

IH-43/94 SB/EB ON-RAMP FROM MINERAL ST.

COUNTY	MILWAUKEE	~~TOWN~~/CITY/~~VILLAGE~~	MILWAUKEE
DESIGN SPEC.	AASHTO STD. SPECS - 17TH EDITION		
DESIGNED BY	CES	DESIGN CK'D.	NJH
DRAWN BY	MJH	PLANS CK'D.	SJM

GENERAL PLAN

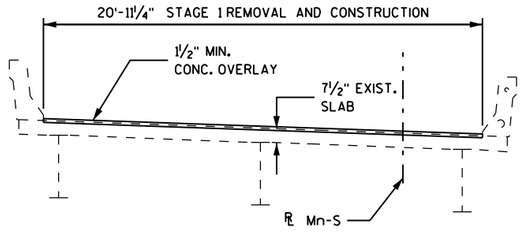
SHEET 1 OF 10
740

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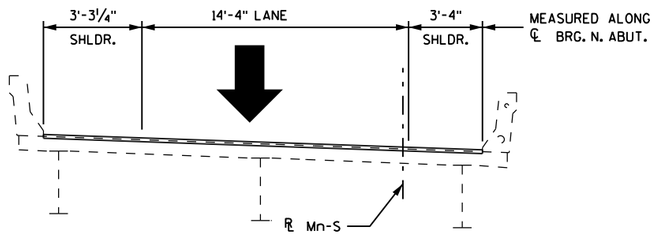
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STATE PROJECT NUMBER
1228-26-70



STAGE 1 - CROSS SECTION

(LOOKING SOUTH)



STAGE 2 - CROSS SECTION

(LOOKING SOUTH)

GENERAL NOTES

THE PROPOSED WORK INCLUDES CLEANING AND PAINTING OF STRUCTURAL STEEL, PLACEMENT OF A CONCRETE OVERLAY, CONCRETE SURFACE REPAIR, CATHODIC PROTECTION, ABUTMENT BACKWALL REPAIR, AND SLOPE PAVING REPAIR.

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION AND CONSTRUCTION.

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK AFTER MILLING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURE DESIGN SECTION.

A MIN. OF 1 INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS."

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE PAVING BLOCKS AT THE ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CRACKS IN THE OVERLAY SHALL BE SEALED WITH A LOW-VISCOCITY CRACK SEALER (SEE STANDARD SPECIFICATIONS SECTION 502.2.11 CRACK SEALER). COST IS INCLUDED IN THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS."

THE FIRST DIGIT OF A THREE DIGIT BAR AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW CONSTRUCTION WHERE APPLICABLE.

"PREPARATION DECKS TYPE 1," "PREPARATION DECKS TYPE 2," "FULL-DEPTH DECK REPAIR," AND "CONCRETE SURFACE REPAIR" QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL REPAIR LOCATIONS WITH THE ENGINEER.

ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM FOR "PREPARATION DECKS TYPE 1" AND "PREPARATION DECKS TYPE 2".

ALL EXPOSED STEEL TO BE CLEANED AND PAINTED.

ENGINEER TO VERIFY CONCRETE SURFACE REPAIR AREAS. CONCRETE SURFACE REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

EPOXY CRACK SEALING IS TO BE PERFORMED ON ALL MEASURABLE CRACKS (OVER 0.01" IN WIDTH) IN PIER CONCRETE. ENGINEER TO VERIFY CRACKS TO BE SEALED. CRACK SEALING SHALL BE PERFORMED ONLY AS DIRECTED BY THE ENGINEER.

MATERIALS, EQUIPMENT, ETC. SHALL NOT BE STOCKPILED/STORED ON THE BRIDGE DECK WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE STRIP SEALS, AND COVER PLATES. CONTRACTOR MUST NOTIFY THE DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE FOR DELIVERY.

FIELD ADJUSTMENTS AND MODIFICATIONS FOR PROPER FIT OF THE DEPARTMENT-SUPPLIED EXPANSION DEVICES ARE INCIDENTAL TO THE 'INSTALL EXPANSION DEVICE B-40-286-26' ITEM.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

DRAWN BY	MJH	PLANS CK'D.	SJM

CONSTRUCTION STAGING

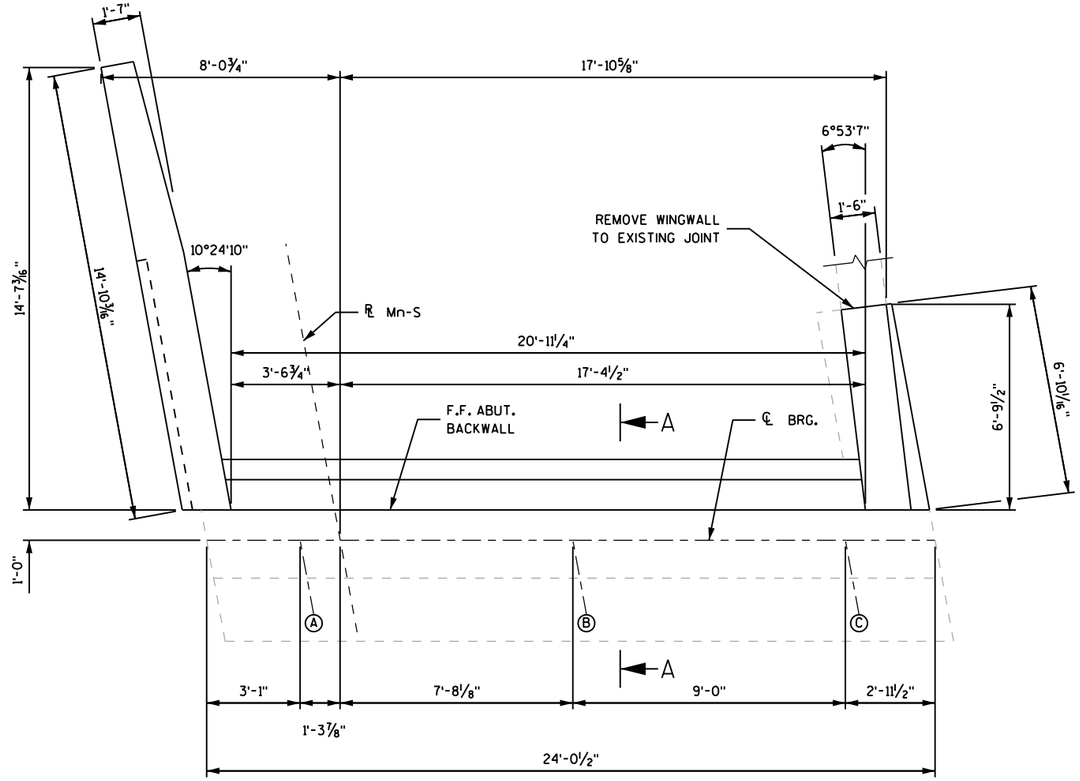
SHEET 2 OF 10

741

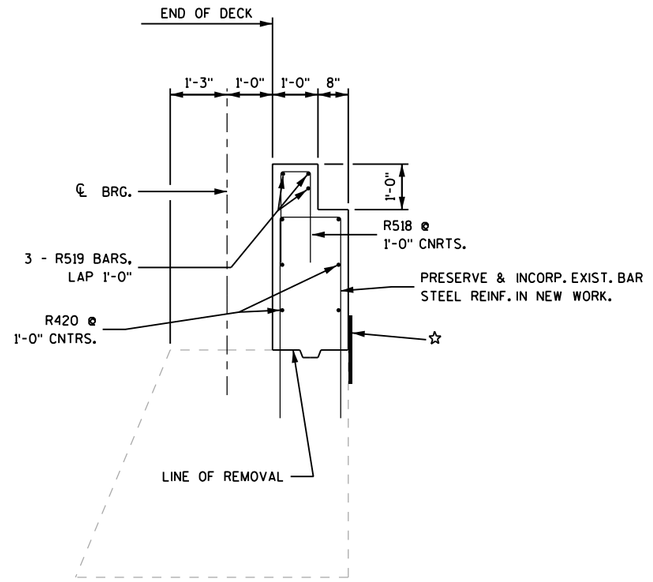
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STATE PROJECT NUMBER
1228-26-70





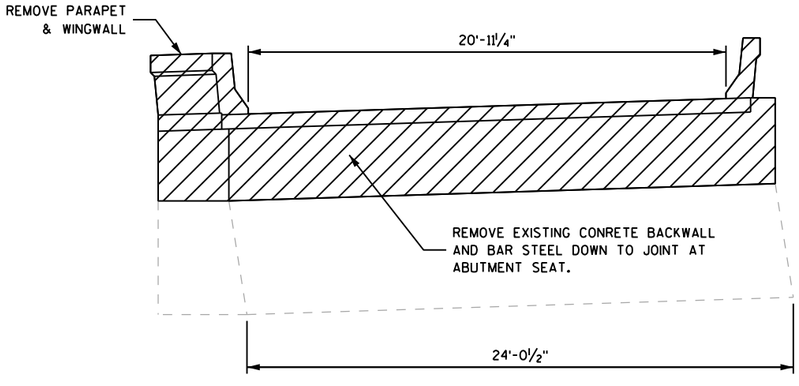
PLAN N. ABUT.



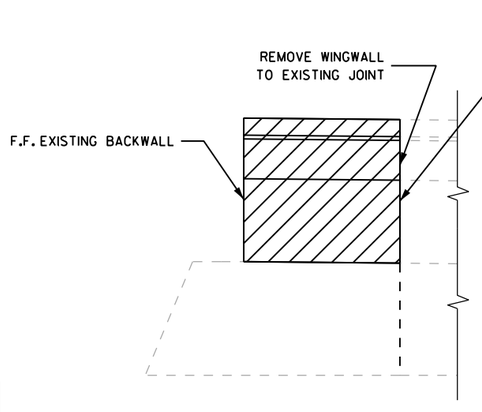
SECTION A-A

☆ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.

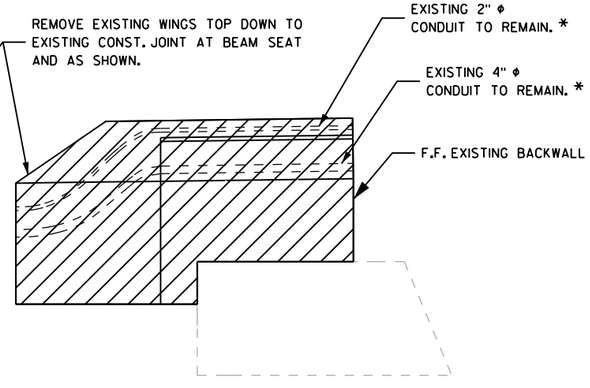
* PRESERVE AND INCORPORATE EXISTING CONDUIT IN NEW WORK.



ELEVATION (LOOKING NORTH)



ELEVATION - EAST WING



ELEVATION - WEST WING

NOTE:

ABUTMENT AND WINGWALL REMOVALS TO BE PAID FOR AT THE LUMP SUM PRICE FOR REMOVING OLD STRUCTURE STATION 9+71 Mn-S.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

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ABUTMENT REPAIR

SHEET 3 OF 10

742

EXISTING ABUTMENT REMOVAL LIMITS

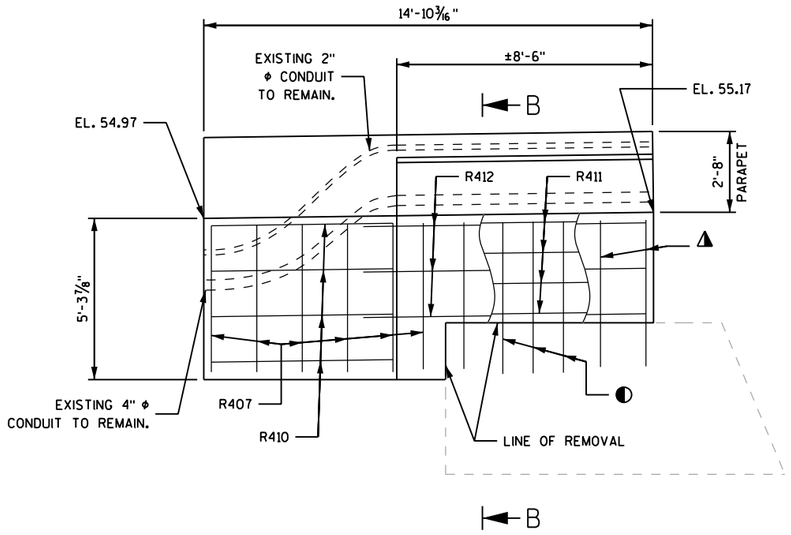
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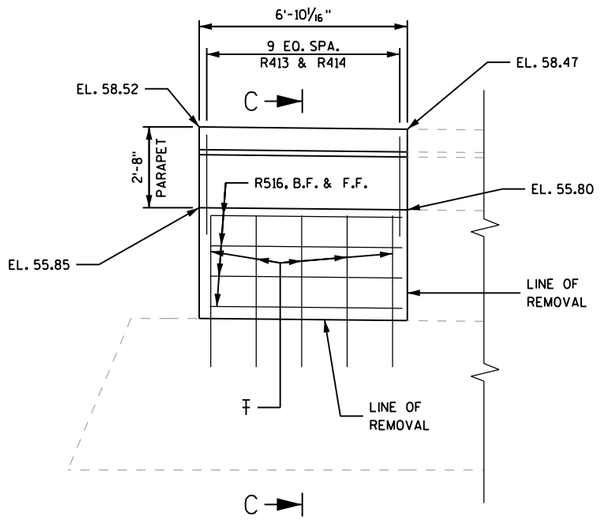
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STATE PROJECT NUMBER

1228-26-70



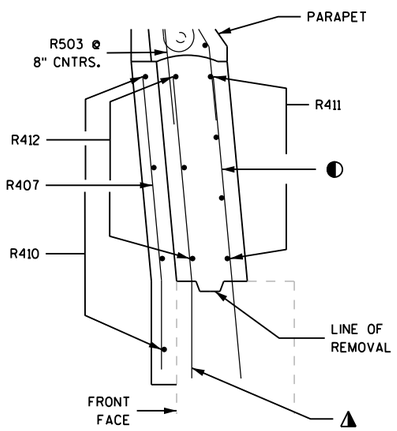
WEST WINGWALL ELEVATION



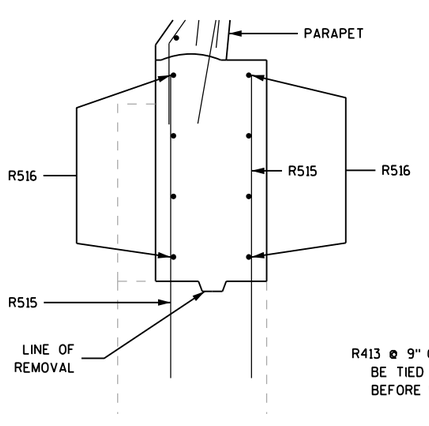
EAST WINGWALL ELEVATION

WEST WINGWALL PLAN

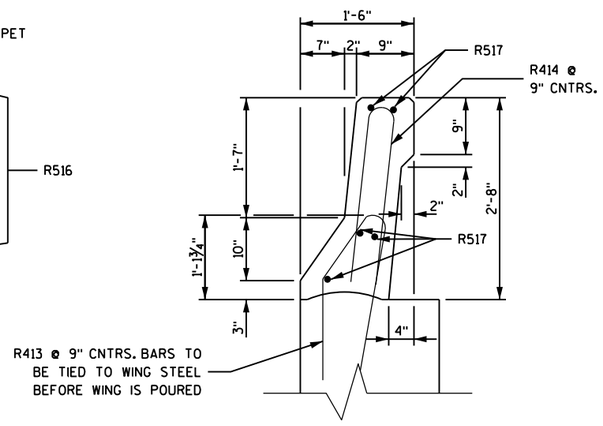
EAST WINGWALL PLAN



SECTION B-B



SECTION C-C



PARAPET AT EAST WINGWALL

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
R501	X	14	4'-7"	▲	WEST WINGWALL PARAPET VERTICAL
R502	X	8	2'-4"	▲	WEST WINGWALL PARAPET VERTICAL
R503	X	12	4'-7"	▲	WEST WINGWALL PARAPET VERTICAL
R504	X	4	14'-6"		WEST WINGWALL PARAPET HORIZONTAL
R505	X	26	4'-10"	▲	WEST WINGWALL PARAPET VERTICAL
R506	X	1	14'-6"	▲	WEST WINGWALL PARAPET HORIZONTAL
R407	X	12	4'-10"		WEST WINGWALL VERTICAL B.F & F.F.
R608	X	2	5'-4"		WEST WINGWALL VERTICAL B.F. MASONRY ANCHORS
R509	X	2	5'-0"		WEST WINGWALL VERTICAL F.F. MASONRY ANCHORS
R410	X	4	7'-1"	▲	WEST WINGWALL HORIZONTAL F.F.
R411	X	4	13'-6"	▲	WEST WINGWALL HORIZONTAL B.F.
R412	X	3	10'-2"	▲	WEST WINGWALL HORIZONTAL F.F.
R413	X	10	4'-7"	▲	EAST WINGWALL PARAPET VERTICAL
R414	X	10	4'-10"	▲	EAST WINGWALL PARAPET VERTICAL
R515	X	14	5'-0"		EAST WINGWALL VERTICAL B.F. & F.F. MASONRY ANCHORS
R516	X	8	6'-6"		EAST WINGWALL HORIZONTAL B.F. & F.F.
R517	X	5	6'-6"		EAST WINGWALL PARAPET HORIZONTAL
R518	X	25	4'-5"	▲	PAVING BLOCK VERTICAL
R519	X	9	8'-7"		PAVING BLOCK HORIZONTAL
R420	X	6	23'-6"		ABUTMENT HORIZONTAL B.F. & F.F.
R421	X	22	3'-6"	▲	ABUTMENT DIAPH. STIRRUPS
R622	X	10	7'-8"		ABUTMENT DIAPH. BOT. HORIZ.
R423	X	4	7'-8"		ABUTMENT DIAPH. TOP HORIZ.
R624	X	4	23'-6"		ABUTMENT DECK HORIZ.
R425	X	4	8'-7"		ABUTMENT DECK EXP DEVICE HORIZ.

NOTE: FOR REBAR BEND DETAILS SEE SHEET 5.

∓ REMOVE EXISTING NO. 5 STIRRUPS AND REPLACE WITH R515 MASONRY ANCHORS TYPE L. AT THE B.F. AND F.F. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-6".

▲ PRESERVE & INCORP. EXISTING NO.5 BAR STEEL REINFORCEMENT IN NEW WORK. EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH R509 MASONRY ANCHORS TYPE L. MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED A MINMIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-6". QUANTITY BASED ON 30% REPLACEMENT.

◐ PRESERVE & INCORP. EXISTING NO.6 BAR STEEL REINFORCEMENT IN NEW WORK. EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH R608 MASONRY ANCHORS TYPE L. MIN. PULLOUT CAPACITY OF 26 KIPS. EMBED A MINIMUM OF 1'-10" INTO CONCRETE. SPACE AT 1'-0". QUANTITY BASED ON 30% REPLACEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

DRAWN BY MJH | PLANS CK'D. SJM

ABUTMENT REPAIR WINGWALL DETAILS

SHEET 4 OF 10

743

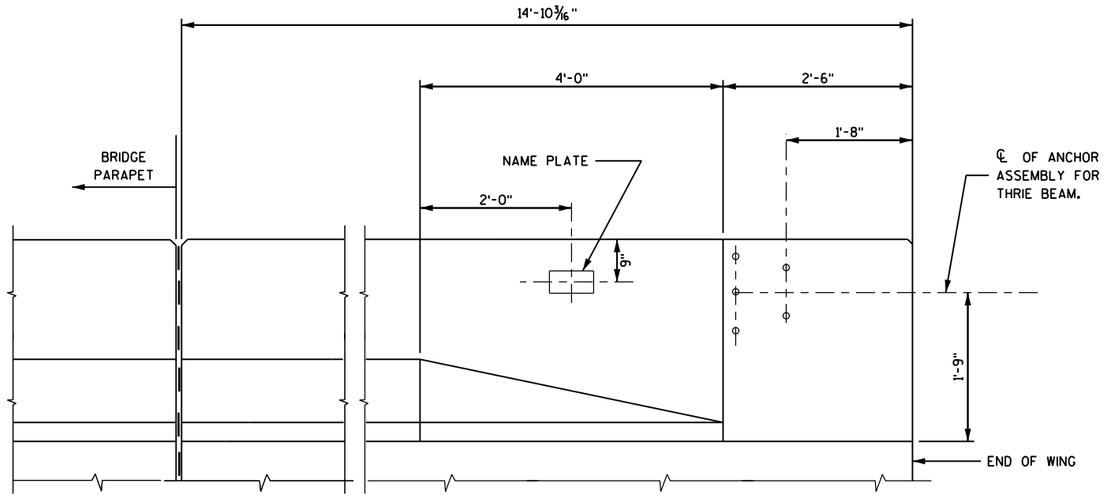
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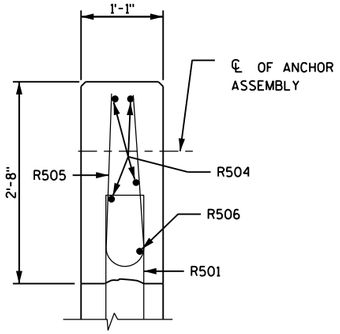
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STATE PROJECT NUMBER

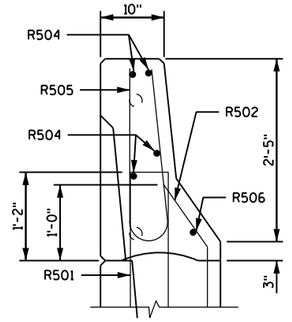
1228-26-70



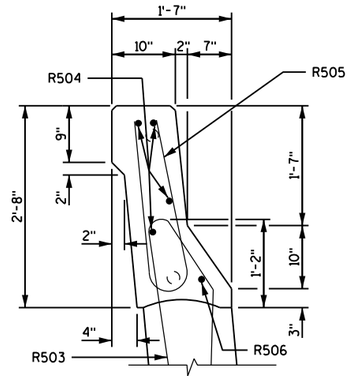
WEST WINGWALL INSIDE PARAPET ELEVATION



SECTION A



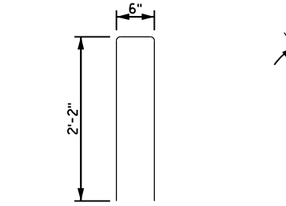
SECTION B



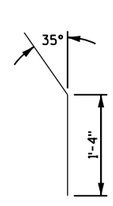
SECTION C

WEST WINGWALL PARAPET PLAN

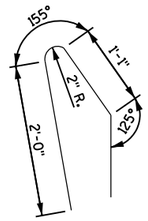
WEST WINGWALL OUTSIDE PARAPET ELEVATION



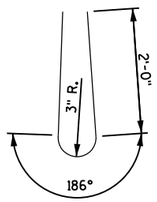
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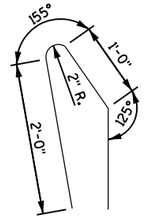
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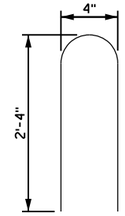
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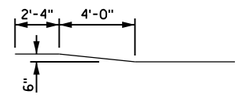
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R413



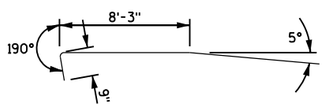
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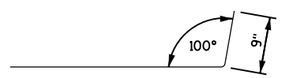
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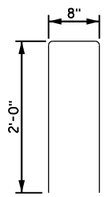
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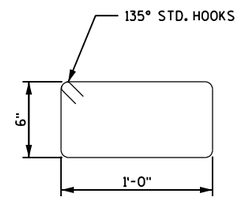
R411



R412



R518



R421

■ R502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R502 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

△ R501 AND R503 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

DRAWN BY MJH | PLANS CK'D. SJM

ABUTMENT REPAIR PARAPET DETAILS

SHEET 5 OF 10

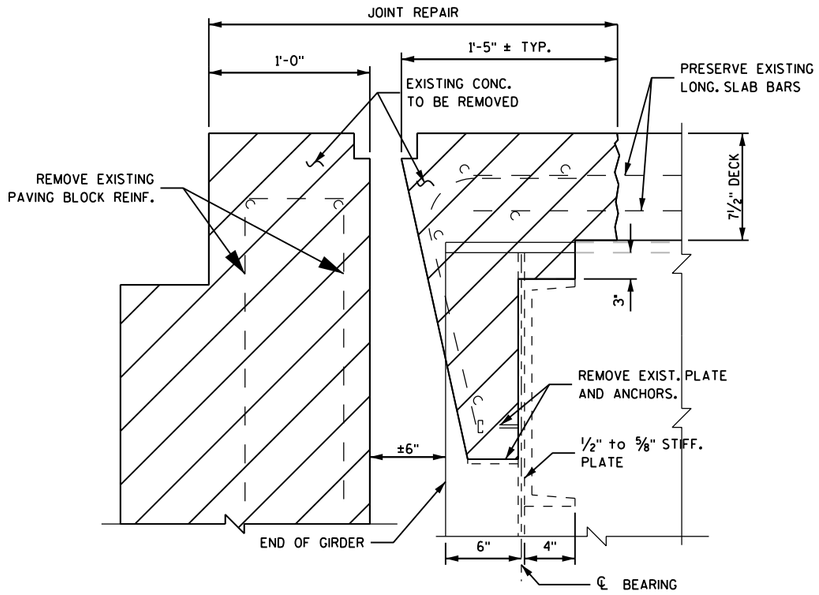
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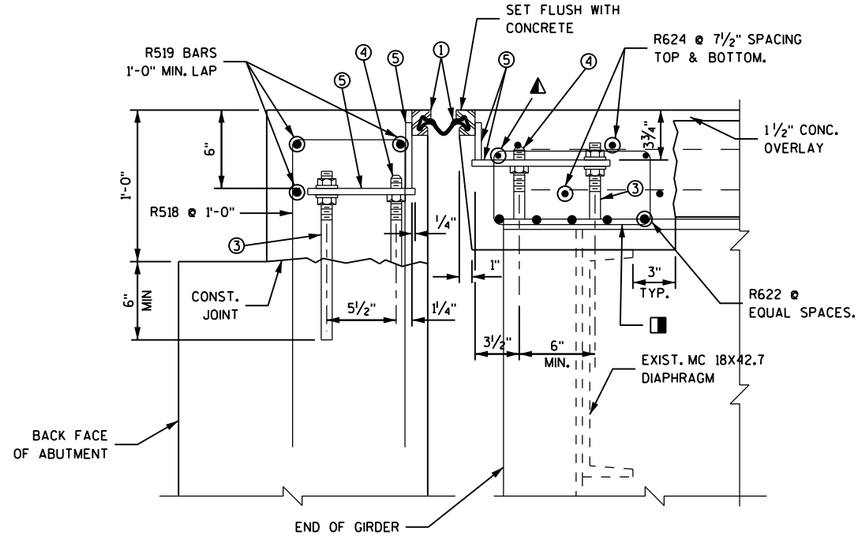
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FILE NAME :05.8-40-286-26.Abut Repair - Parapet.dgn
PLOT DATE :9/27/2012 4:47:25 PM PLOT BY : Nicholas Hornyak WI DRV :Pdf.bw.HS.7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70



JOINT REPAIR-REMOVAL
AT ABUTMENTS



SECTION THRU JOINT
AT ABUTMENTS

LEGEND

① NEOPRENE STRIP SEAL (4 - INCH) & STEEL EXTRUSIONS.

② STUDS ⅝" ϕ X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS & BEND AS SHOWN AFTER WELDING.

2A ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO ① AT 1'-6" CENTERS BETWEEN GIRDERS

③ ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

④ ¾" ϕ THREADED ROD WITH NUT. TACK WELD NUT TO ⑤.

⑤ FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. FIELD OR SHOP WELD TO ①. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR ③ & 1" ϕ HOLE FOR ④.

EXPANSION JOINT NOTES

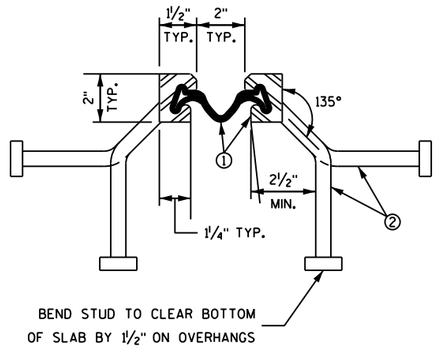
ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

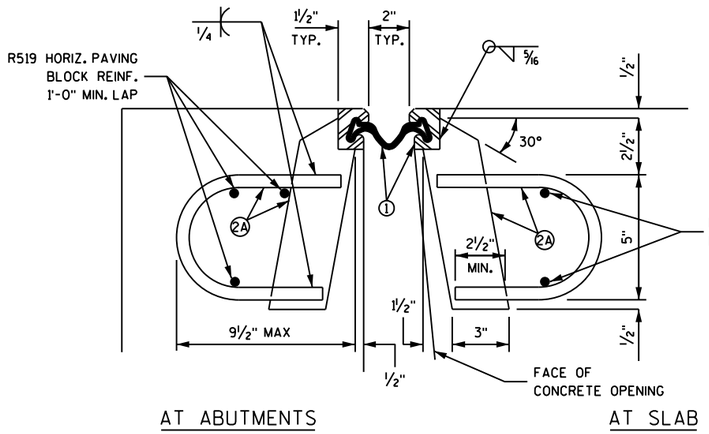
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

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

INSTALLATION OF STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-286-26".



SECTION THRU JOINT
EXTERIOR GIRDER TO EDGE OF SLAB & AT PARAPETS

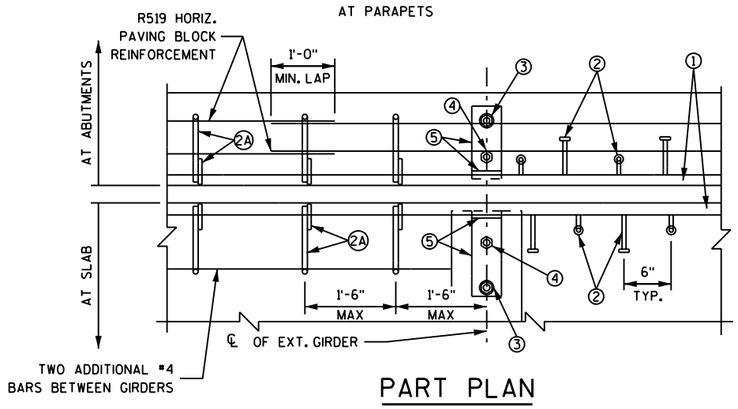


AT ABUTMENTS AT SLAB

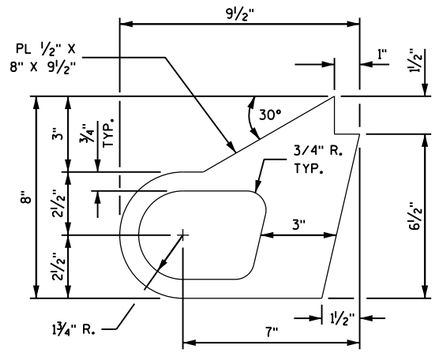
SECTION THRU JOINT
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

▲ R423, SAME LENGTH AS HORIZ. DIAPH. BARS AT BOTTOM OF DIAPHRAGM.

◨ R421 @ 9" O.C. BETWEEN TOP FLANGE OF GIRDERS.



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

DRAWN BY MJH | PLANS CK'D. SJM

JOINT DETAILS AT ABUTMENT

SHEET 6 OF 10
745

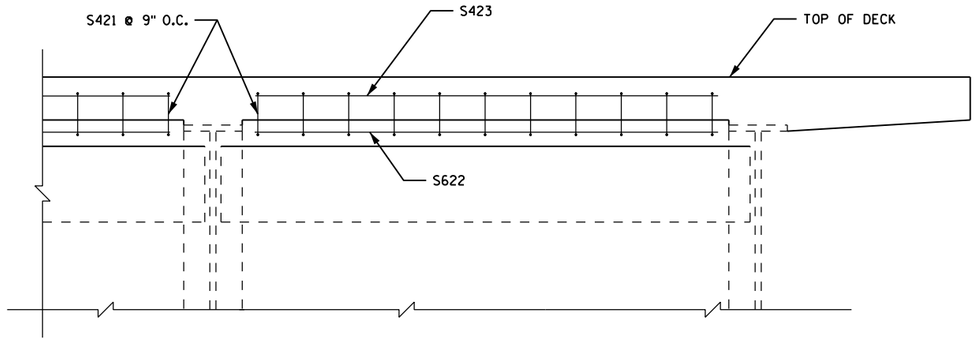
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STATE PROJECT NUMBER

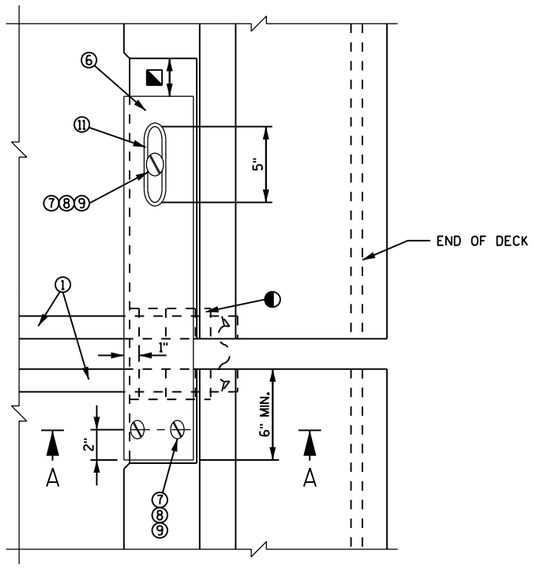
1228-26-70



PART TRANSVERSE SECTION AT DIAPHRAGM

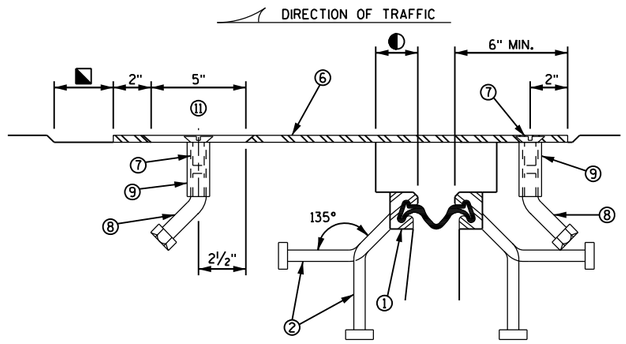
EXPANSION END

SLOPED FACE PARAPET

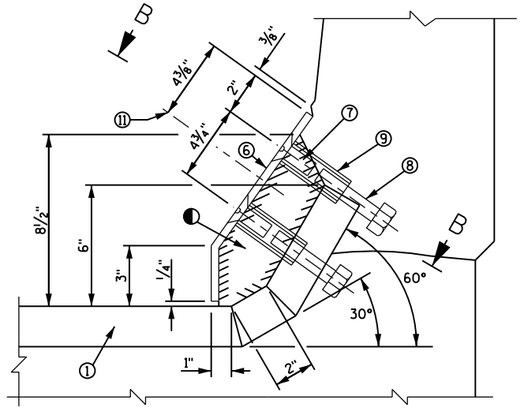


PLAN AT PARAPET

SLOPED FACE PARAPET

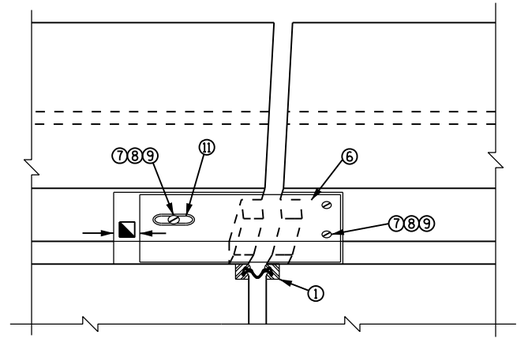


SECTION B-B



SECTION A-A

SLOPED FACE PARAPET



VIEW OF PARAPET PLATES FROM ROADWAY

SLOPED FACE PARAPET

LEGEND

⑥ GALVANIZED PLATE ⅜" X 10½" X 2'-0" LONG WITH HOLES FOR ⑦. BEND AS SHOWN.

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

⑧ ¾" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

⑨ ¾" ϕ X 2¼" GALVANIZED THREADED COUPLING.

⑪ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR ⑦ SLOT PARALLEL TO DIRECTION OF MOVEMENT.

EXPANSION JOINT NOTES

ANCHOR SYSTEM ⑧ AND ⑨ SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

◐ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING

◪ JOINT OPENING DIM. PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

DRAWN BY	MJH	PLANS CK'D.	SJM

JOINT DETAILS AT PARAPET

SHEET 7 OF 10

746

8

8

FILE NAME :DT,B-40-286-26,Strip Seal Details - At Parapets.dgn
PLOT DATE :9/27/2012 4:47:26 PM PLOT BY : Nicholas Hornyak v8i DRV :Pdf_bw_HS_T39Lclt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

NOTE:

JOINT REPAIR AREAS ARE NOT INCLUDED IN PROPOSED REHAB AREA QUANTITIES.

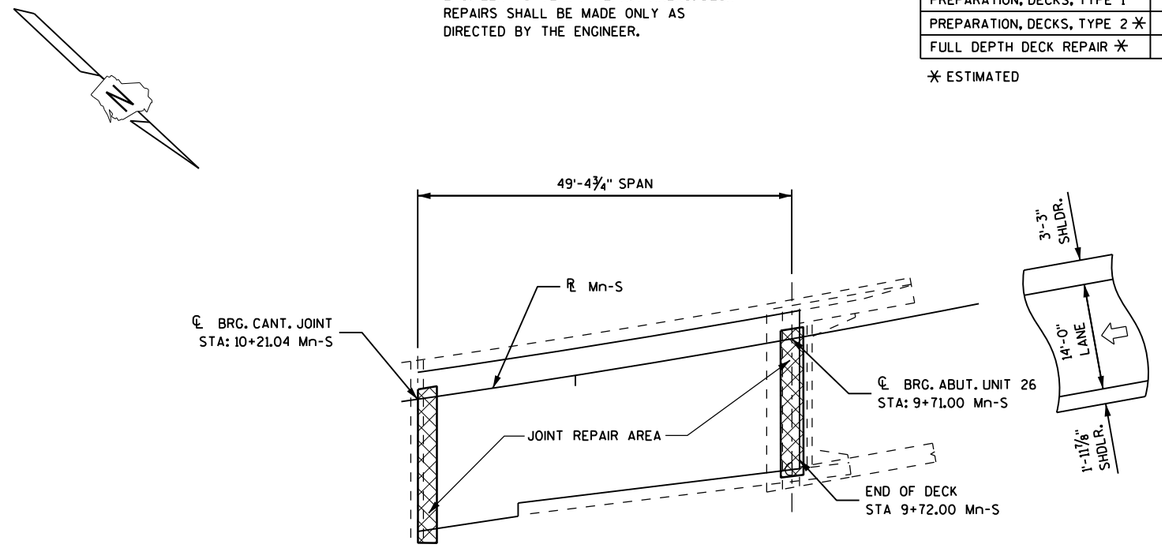
DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

PROPOSED REHAB AREAS - UNIT 26

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-26		LEGEND
ITEM	UNIT	QUANT.	%	DECK PREPARATION AREA; SHADE/DEBRIS; DELAMINATION; SPALL; DEBOND; ASPHALT PATCH; CONCRETE PATCH
TOTAL AREA	$yd.^2$	117		
SHADE/DEBRIS	$yd.^2$	0		
PREPARATION, DECKS, TYPE 1	$yd.^2$	0	0	
PREPARATION, DECKS, TYPE 2 ✳	$yd.^2$	0	0	
FULL DEPTH DECK REPAIR ✳	$yd.^2$	1	0.9	

✳ ESTIMATED



PLAN B-40-286-26

SCALE, FEET 0 5 10
(ALL VIEWS)

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 4/17/12 & 4/27/12

PROPOSED REHABILITATION AREAS BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

DRAWN BY MJH | PLANS CK'D. SJM

DECK REPAIR AREAS

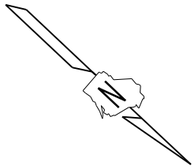
SHEET 8 OF 10
747

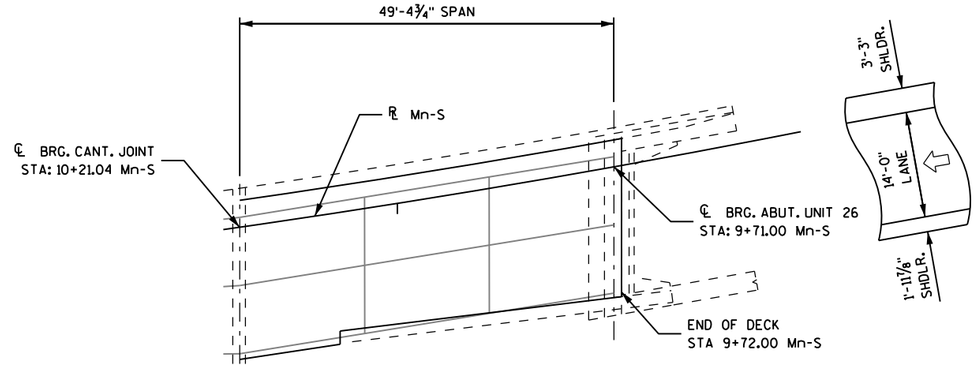
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FILE NAME :08.B-40-286-26.Deck Repair Areas.dgn
PLOT DATE :10/24/2012 1:00:21 PM PLOT BY : Nicholas Hornyak v8i DRV :Pdf.bw.MS.T391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70





PLAN B-40-286-26

INSPECTION RESULTS

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-26		LEGEND
ITEM	UNIT	QUAN.	%	DELAMINATION / SPALL
TOTAL AREA	ft.^{2}	1,215	100	
DELAMINATION	ft.^{2}	0	0	
SPALL	ft.^{2}	0	0	

NOTES:

RANDOM TRANSVERSE CRACKING WAS OBSERVED IN ALL SPANS. CRACKS HAD EFFLORESCENCE BUT WERE TIGHT AND/OR HAIRLINE CRACKS. HANDS ON ACCESS TO THE DECK WAS NOT AVAILABLE. HOWEVER, NO EVIDENCE OF SPALLS OR DELAMINATIONS WAS OBSERVED.

UNDERDECK INSPECTION RESULTS ARE INCLUDED FOR REFERENCE ONLY.

INSPECTION DATE: 3/8/2012
INSPECTED BY: COLLINS ENGINEERS, INC.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

DRAWN BY MJH | PLANS CK'D. SJM

UNDERDECK INSPECTION

SHEET 9 OF 10
748

8

8

FILE NAME :\09_B-40-286-26_UnderDeck Repair Areas.dgn
PLOT DATE :10/24/2012 10:00:21 PM PLOT BY : Nicholas Hornyak WB DRV :PDF.bw_HS_7391.plt PEN :CEL.TEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

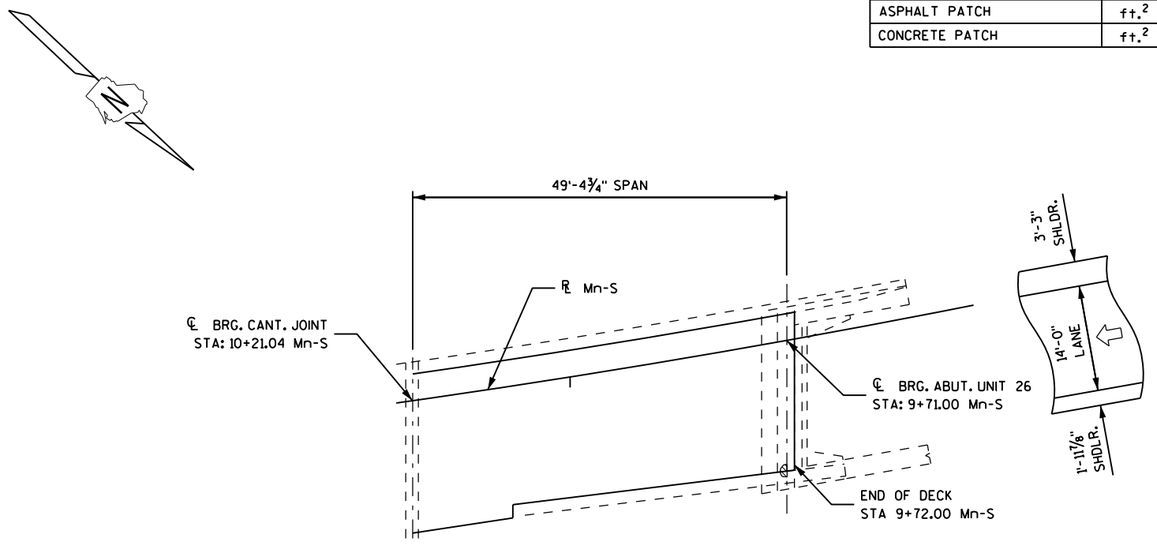
NOTE:

DECK INSPECTION RESULTS AND DECK REPAIR AREAS SHOWN ARE FOR REFERENCE ONLY.

ENGINEER TO VERIFY REPAIR AREAS. DECK REPAIRS SHALL BE MADE ONLY AS DIRECTED BY THE ENGINEER.

DECK INSPECTION RESULTS - UNIT 26

FIELD OBSERVATIONS SUMMARY		STRUCTURE NO. B-40-286-26		LEGEND
ITEM	UNIT	QUANT.	%	DELAMINATION
TOTAL AREA	ft.^{2}	1053		SPALL
SHADE/DEBRIS	ft.^{2}	0		DEBOND
DELAMINATION	ft.^{2}	1	<0.1	ASPHALT PATCH
SPALL	ft.^{2}	0	0	CONCRETE PATCH
DEBOND	ft.^{2}	N/A	N/A	SHADE/DEBRIS
ASPHALT PATCH	ft.^{2}	0	0	
CONCRETE PATCH	ft.^{2}	0	0	



PLAN B-40-286-26

SCALE, FEET 0 5 10

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATES: 5/10/12, 5/11/12 & 5/15/12

INFRARED THERMOGRAPHIC SURVEY PERFORMED BY

AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-286-26

DRAWN BY MJH | PLANS CK'D. SJM

INFRARED INSPECTION RESULTS

SHEET 10 OF 10

749

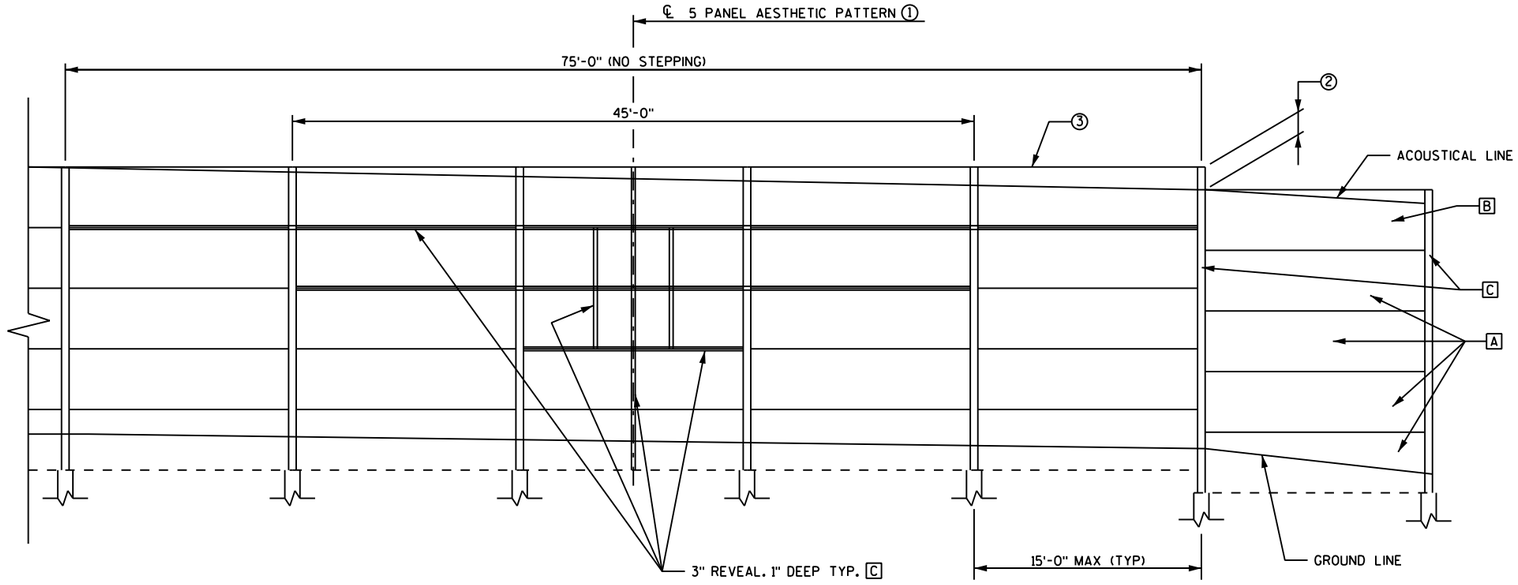
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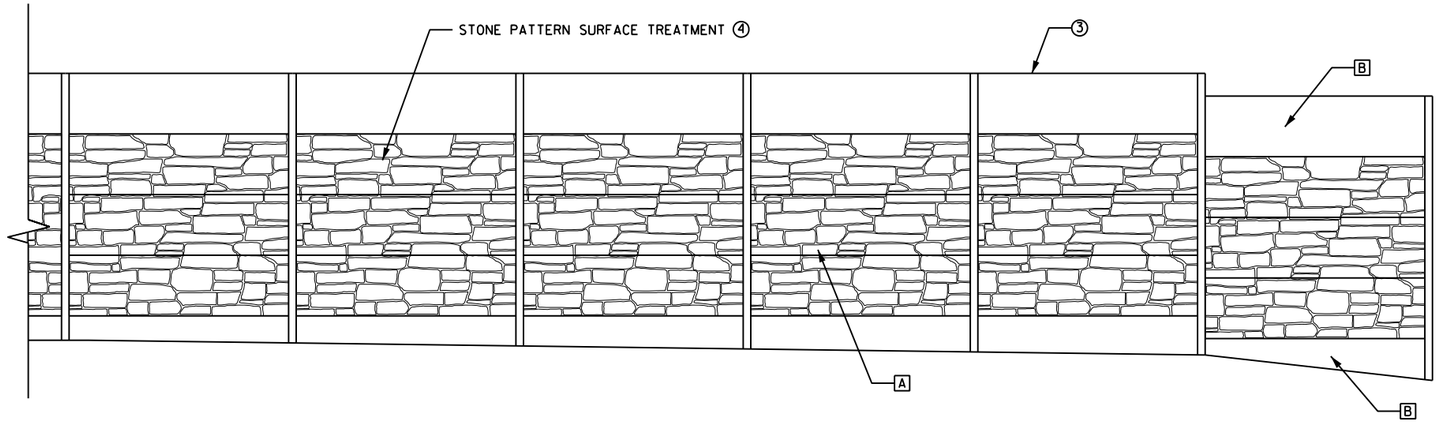
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PLOT DATE :10/24/2012 1:00:22 PM PLOT BY : Nicholas Hornyak-v8i DRV :Pdf_bw_HS_T391.dri PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER

1228-26-70



NOISE BARRIERS - FACING HIGHWAY



NOISE BARRIERS - FACING RESIDENCES

GENERAL NOTES

THE PROPOSED WORK INCLUDES REMOVAL AND REPLACEMENT OF THE EXISTING NOISE BARRIER.

DRAWINGS SHALL NOT BE SCALED.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE NOISE BARRIER IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE NOISE BARRIER MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "NOISE BARRIER DOUBLE-SIDED SOUND ABSORPTIVE (STRUCTURE)".

PLANS, ELEVATIONS, AND DETAILS SHOWN ARE INTENDED TO INDICATE LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

SOIL BORING LOGS AND LAB DATA IN THE VICINITY OF THE PROPOSED NOISE BARRIER HAVE BEEN COMPILED IN THE DOCUMENT "GEOTECHNICAL ENGINEERING SERVICES REPORT FOR THE PROPOSED NOISE BARRIER FOUNDATION N-40-7". CONTACT ALLEN GILBERTSON, SE REGION PROJECT MANAGER, (262) 548-8817, 141 NW BARSTOW STREET, P.O. BOX 798, WAUKESHA, WI 53187 TO OBTAIN A COPY. THE CONTRACTORS ARE RESPONSIBLE TO REVIEW THE DATA IN THIS REPORT TO HELP ASSESS FIELD DRILLING CONDITIONS AND TO SUPPORT DEVELOPMENT OF SOIL DESIGN PARAMETERS FOR THE NOISE BARRIER FOUNDATION DESIGN.

THE CONTRACTOR SHALL COORDINATE NEW NOISE BARRIER FOUNDATION LOCATIONS WITH EXISTING FOUNDATIONS. WHERE FOUNDATIONS ARE FOUND TO CONFLICT, THE EXISTING FOUNDATION SHALL BE REMOVED AS NEEDED. COST OF THAT REMOVAL BEYOND 2 FEET BELOW GRADE IS INCIDENTAL TO THE NOISE BARRIER ITEM.

THE NOISE BARRIER IS TO BE DESIGNED USING THE GROUND LINE AND ACOUSTIC LINE SHOWN ON THE SHEETS IN SECTION 5.

ALL NOISE BARRIERS SHALL BE DESIGNED IN ACCORDANCE WITH THE 1989 GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS, INCLUDING THE 1992 AND 2002 INTERIMS BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

THE FOLLOWING WIND DESIGN PRESSURES SHALL BE USED IN ACCORDANCE WITH THE SPECIAL PROVISIONS:
W = 28.5 P.S.F. FOR GROUND MOUNTED BARRIERS

INCLUDE THE COST OF THE STONE PATTERN SURFACE TREATMENT, REVEALS, COATING OF STEEL POSTS AND CONNECTIONS, AND COLORING/STAINING THE PANELS, UNDER THE BID ITEMS "NOISE BARRIER DOUBLE-SIDED SOUND ABSORPTIVE N-40-07".

PLACE HYDRANT ACCESS HOLE SIGNS PER SIGNING PLAN SHEETS.

LEGEND

STAIN COLORS PER SPECIAL PROVISIONS

- A BASE COLOR
- B ACCENT COLOR NO. 1
- C ACCENT COLOR NO. 2
- ① SPACE AT 200' INTERVALS.
- ② STEP PANELS A MINIMUM OF 1' AND A MAXIMUM OF 3'. WHEN MORE THAN ONE PANEL MUST STEP, KEEP THE STEP INCREMENT THE SAME FOR EACH SEGMENT OF STEPPING PANELS.
- ③ ADJUST VERTICAL PLACEMENT OF PANELS TO MAXIMIZE HORIZONTAL RUNS, KEEPING THE TOP OF PANELS AT THE SAME ELEVATION.
- ④ THE DECORATIVE STONE SHALL BE A DRYSTACK CUT ROCK PATTERN OF VARYING SIZES. SEE SPECIAL PROVISIONS.

LIST OF DRAWINGS

1. GENERAL PLANS
2. CONNECTION DETAILS
3. EXISTING WALL DETAILS
4. HYDRANT SIGN MOUNTING DETAIL

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL
531.0300.S	NOISE BARRIERS DOUBLE-SIDED SOUND ABSORPTIVE STRUCTURE N-40-7	SF	47,570
SPV.0060.06	FIRE HYDRANT SIGN MOUNTING	EACH	4

*SEE MISCELLANEOUS QUANTITIES FOR REMOVAL ITEMS.

SE REGION CONTACT:
ALLEN GILBERTSON (262) 548-8817

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER (608) 266-8489

CONSULTANT CONTACT:
STEVE MILLER (414) 282-6905

WISCONSIN
STEVEN J. MILLER
36937
MILWAUKEE, WI
PROFESSIONAL ENGINEER
Steven J. Miller
11/7/2012

NO.	DATE	REVISION	BY

COLLINS ENGINEERS INC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 11/08/12
CHIEF STRUCTURES DESIGN ENGINEER DATE

N-40-7

IH 43/94

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	MILWAUKEE

DESIGN SPEC. AASHTO STD. SPECS - 17TH EDITION

DESIGNED BY	CES	DESIGN CK'D.	NJH	DRAWN BY	MJH	PLANS CK'D.	SJM

GENERAL PLAN

SHEET 1 OF 4

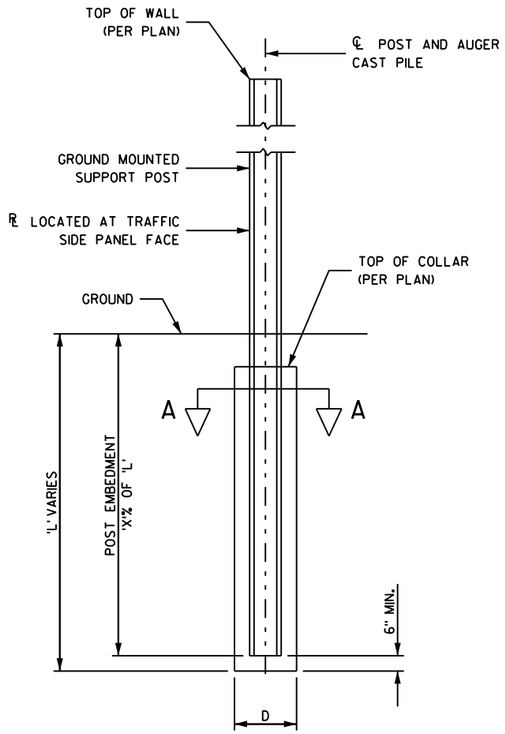
750

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FILE NAME : 01_GENERAL PLAN.dgn
PLOT DATE : 11/7/2012 10:50:36 AM PLOT BY : NicholasHornyak-v8i DRV : Pdf_bw_HS_739Lblt PEN : CEL.TEXTSUB.TBL

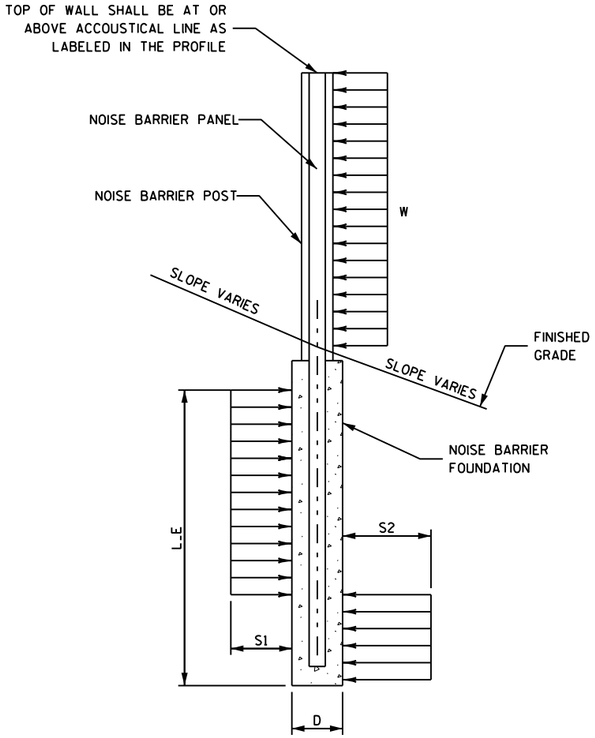
STATE PROJECT NUMBER
1228-26-70



SECTION THRU GROUND MOUNTED VERTICAL SUPPORT POST & AUGER CAST PILE

(NOT TO SCALE)

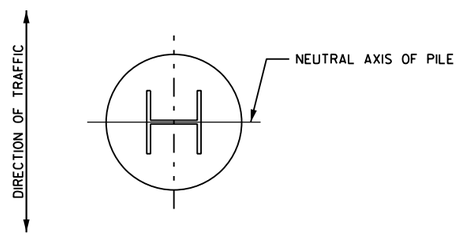
TYPICAL AT EACH POST LOCATION
('D', 'L' AND 'X' TO BE DETERMINED BY SUPPLIER)



W = DESIGN WIND LOAD (SEE SHEET 1)
L_E = NOISE BARRIER FOUNDATION DEPTH BELOW EXISTING GROUND
D = NOISE BARRIER FOUNDATION DIAMETER
S = ALLOWABLE SOIL PRESSURE

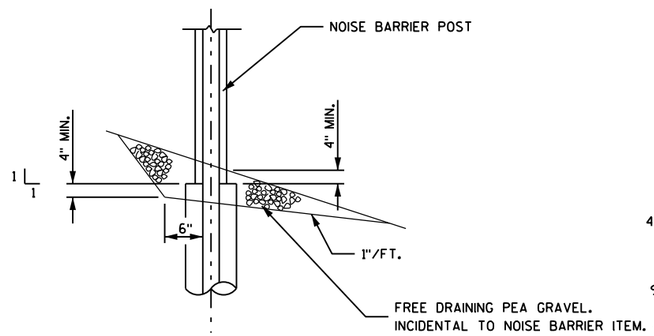
GROUND MOUNTED NOISE BARRIER LOADING

(NOT TO SCALE)



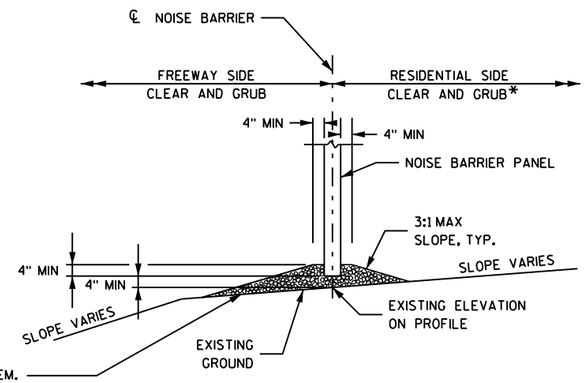
SECTION A - A

(NOT TO SCALE)



POST DRAINAGE BACKFILL DETAIL (SLOPED GRADE)

(NOT TO SCALE)



CLEARING/GRUBBING AND FINISHING SLOPE

(NOT TO SCALE)

*CLEAR AND GRUB TO EXISTING R.O.W. FENCE OR PER ROADWAY PLANS. TREES 12-INCH DIA. AND LARGER SHALL REMAIN UNLESS OTHERWISE DIRECTED BY ENGINEER.

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DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

N-40-7

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CONNECTION DETAILS

SHEET 2 OF 4
751

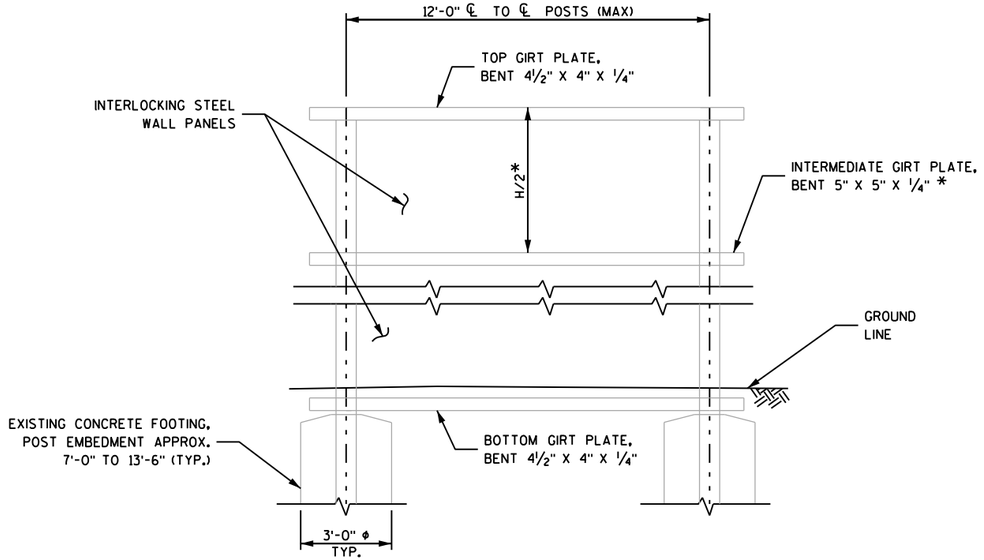
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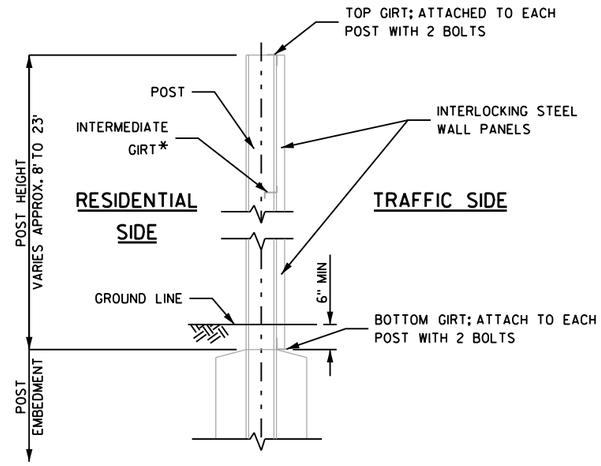
STATE PROJECT NUMBER

1228-26-70

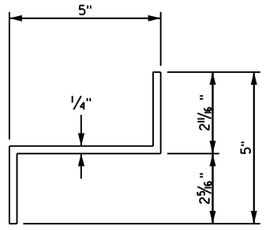


EXISTING WALL ELEVATION

* FOR POST HEIGHTS GREATER THAN 10'-0"

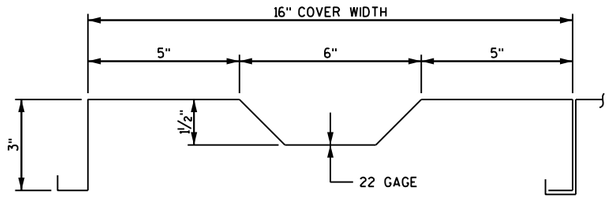


EXISTING WALL TYPICAL SECTION



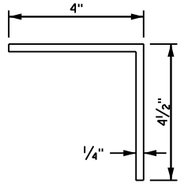
INTERMEDIATE GIRT DETAIL

(ASTM A588 STEEL)



WALL PANEL DETAIL

(ASTM A446 GRADE B STEEL, GALVANIZED & COATED)



TOP AND BOTTOM GIRT DETAIL

(ASTM A588 OR A36 STEEL)

8

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

N-40-7

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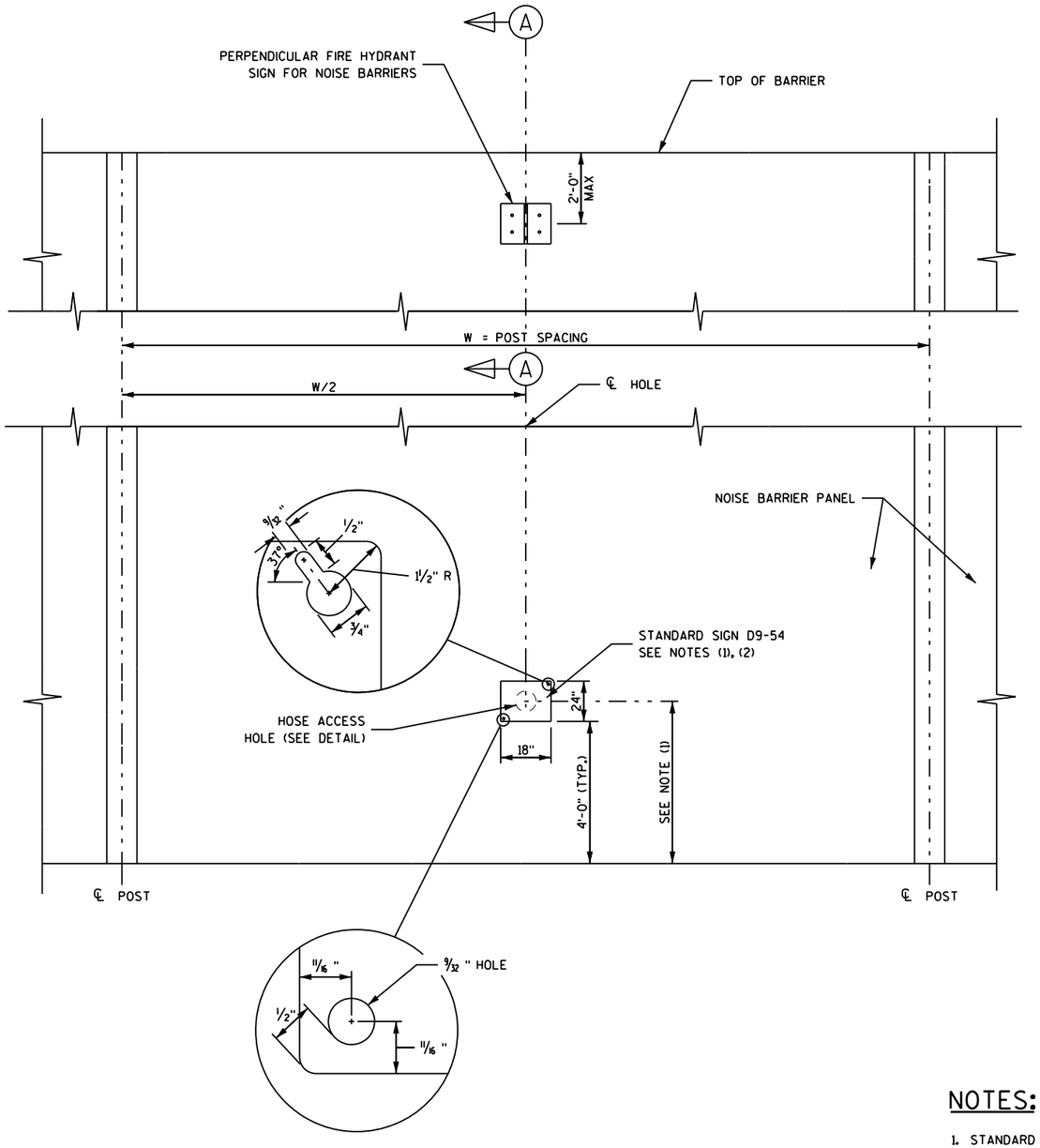
EXISTING WALL DETAILS

SHEET 3 OF 4

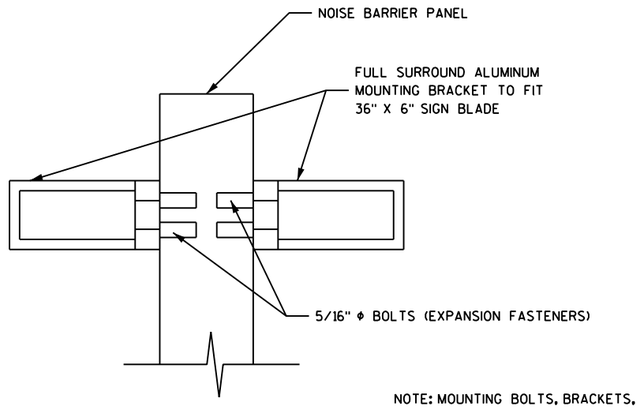
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PLOT DATE :11/7/2012 10:50:18 AM PLOT BY : NicholasHornyakv8i DRV :Pdf_bw_HS_739Lblt PEN :CELTEXTSUB.TBL

STATE PROJECT NUMBER
1228-26-70

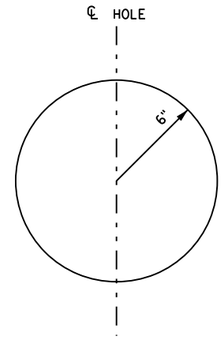


FIRE HYDRANT LOCATION/HOSE ACCESS DETAIL



NOTE: MOUNTING BOLTS, BRACKETS, ARE INCIDENTAL TO SIGN

SECTION A-A



HOSE ACCESS HOLE DETAIL

NOTES:

1. STANDARD SIGNS D9-54 WILL BE FURNISHED BY THE CONTRACTOR. SEE PLAN.
2. TWO STANDARD SIGNS D9-54 TO BE FURNISHED PER STATION. ONE SIGN SHALL BE INSTALLED ON EACH SIDE OF THE BARRIER.
3. FIRE HYDRANT SIGN BLADE SHALL BE ATTACHED TO THE NOISE BARRIER PANEL OR RETAINING WALL NEAR THE TOP OF THE BARRIER. PAID FOR UNDER FIRE HYDRANT SIGN MOUNTING. SEE SPECIALPROVISIONS.
4. EXPANSION FASTENERS FOR SIGN (D9-54) SIGN IS INCIDENTAL TO SIGN.
5. SEE PLAN AND PROFILE SHEETS FOR HYRDRANT ACCESS HOLE LOCATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

N-40-7

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HYDRANT SIGN MOUNTING DETAIL

SHEET 4 OF 4

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8

8

FILE NAME :04_HYDRANT SIGN MOUNTING DETAIL.dgn
PLOT DATE :11/7/2012 10:55:18 AM PLOT BY : NicholasHornyakvBt DRV :PDF.bw_HS_7391.plt PEN :CEL.TEXTSUB.TBL

Wisconsin Department of Transportation

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