WKE

SEPT 2014

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 = 194

PROJECT ID: 1090-33-60

COUNTY: MILWAUKEE

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

# ROCK FREEWAY

HALE INTERCHANGE B-40-300-305,322

## IH-43

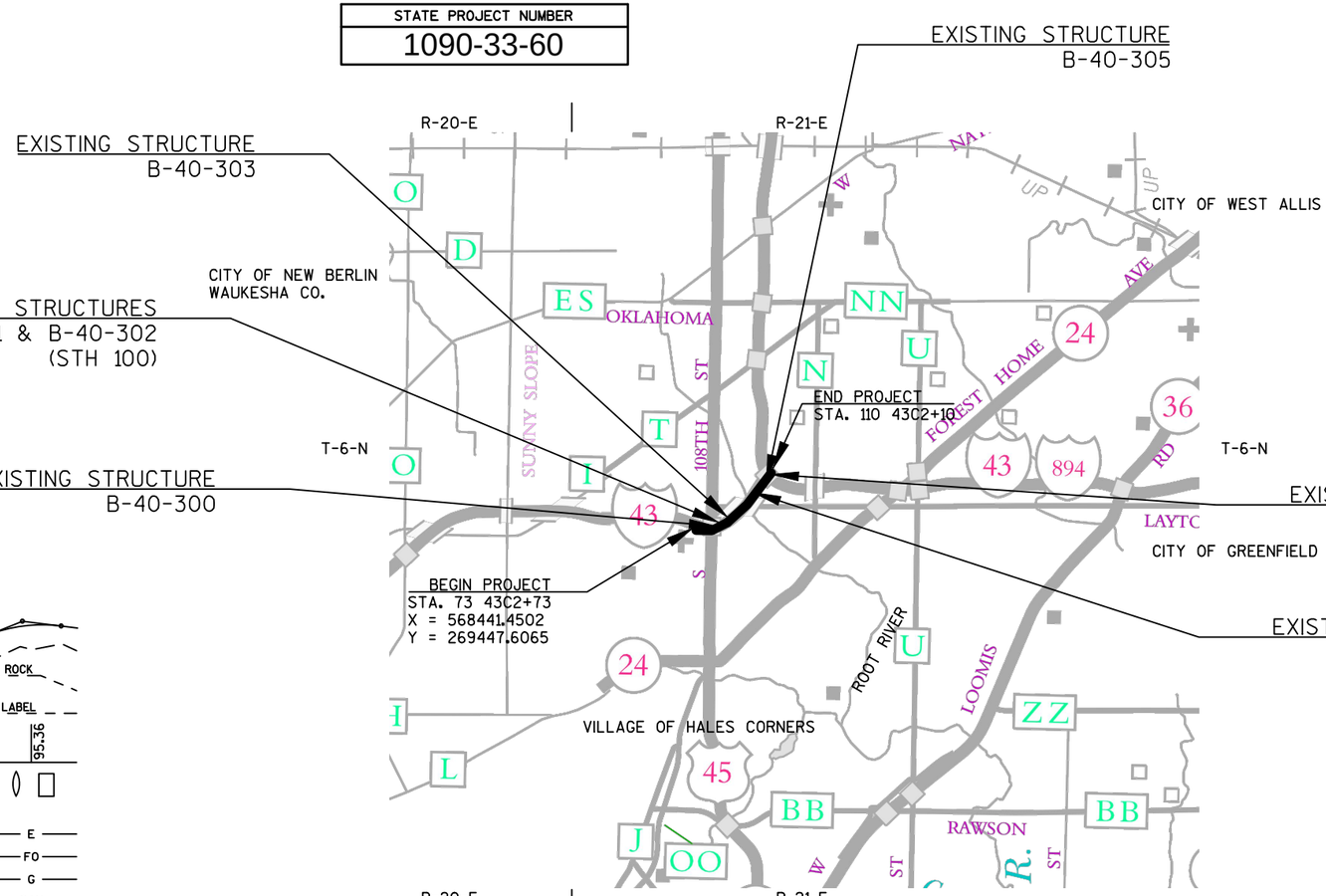
## MILWAUKEE COUNTY

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 1090-33-60 | WISC 2014264 | 1 |
| | | |
| | | |
| | | |

STATE PROJECT NUMBER
1090-33-60




N




DESIGN DESIGNATION

| | | | |
|---|---|---|---|
| A.A.D.T. | 2014 | = | 41,200 |
| A.A.D.T. | 2034 | = | 45,300 |
| D.H.V. | | = | 4167.6 |
| D.D. | | = | 56% NB / 44% SB |
| T. | | = | 10.3 |
| DESIGN SPEED | | = | 60 MPH |
| ESALS | | = | N/A |

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

R-20-E
LAYOUT
SCALE 0 2 MI.
R-21-E

TOTAL NET LENGTH OF CENTERLINE = 0.960 MI.

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFRENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD 88 (2007)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | WISDOT |
| Designer | WISDOT |
| Project Manager | CASEY WIERZCHOWSKI |
| Regional Examiner | WILLIAM ANDERSON |
| Regional Supervisor | WAFA ELQAQ |

APPROVED FOR THE DEPARTMENT

DATE: 7/18/14 Casey Wierzchowski, P.E. (Signature)

E

## GENERAL NOTES

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

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

ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES SHALL BE FILLED WITH GRANULAR BACKFILL.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

CONCRETE JOINTS SHALL MATCH ABUTTING PAVEMENT AND CURB AND GUTTER JOINTS UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

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

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

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

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

## OTHER CONTACTS

**WISDOT DESIGN**
MR. CASEY WIERZCHOWSKI, PROJECT MANAGER
141 NW BARSTOW ST.
WAUKESHA, WI 53187 0798
PHONE: (262 521-4427
casey.w ierzchow ski@dot.w i.gov

**WISCONSIN DNR**
MR. MICHAEL THOMPSON
2300 N. MARTIN LUTHER KING DR.
MILWAUKEE WI 53213
PHONE: (414) 263-8648
FAX: (414) 263-8483
MichaelC.Thompson@Wisconsin.gov

## UTILITY CONTACTS

**WE ENERGIES (ELECTRIC)**
MR. DAN SANDE, PROJECT MANAGER
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-4578
FAX: (414) 221-2336
dan.sande@w e-energies.com

**WISDOT STOC**
MR. JEFF MADSON
433 W ST. PAUL AVE., STE 300
MILWAUKEE, WI 53203 3007
PHONE: (414) 225-3723
jeffrey.madson@dot.w i.gov

**MILWAUKEE, CITY OF**
MR. JEFFREY POLENSKE, CITY ENGINEER
841 N BROADWAY RM 701
MILWAUKEE, WI 53202
PHONE: (414) 286-3701
FAX: (414) 286-5994
jeffrey.polenske@milw aukee.gov
MAJOR PROJECTS CONTACT
MR. SAMUEL MEDHIN
PHONE: 414-286-0474
samuel.medhin@milw aukee.gov

**MILWAUKEE WATER WORKS**
MS. CARRIE LEWIS, SUPERINTENDENT
841 N BROADWAY RM 409
MILWAUKEE, WI 53202
PHONE: (414) 286-2801
FAX: (414) 286-2672
carrie.lew is@milw aukee.gov

**CITY OF GREENFIELD**
MR. RICHARD SOKOL, DIR. OF NGHBRHD SVC.
7325 W. FOREST HOME AVE.
ROOM 203
GREENFIELD, WI 53220
PHONE: (414) 329-5325
FAX: (414) 543-9615
ricks@greenfieldw i.us

**WISDOT TRAFFIC LIGHTING**
MR. ERIC PEREA, SE REGION LIGHTING ENGR
141 NW BARSTOW ST.
WAUKESHA, WI 53187 0798
PHONE: (262) 574-5422
eric.perea@dot.w i.gov

**WISC. GAS CO. D/B/A WE ENERGIES**
MR. DAN SANDE, PROJECT MANAGER
333 W. EVERETT ST - A299
MILWAUKEE, WI 53203
PHONE: (414) 221-4578
FAX: (414) 221-2336
dan.sande@w e-energies.com

**ATC MANAGEMENT, INC.**
MR. MIKE OLSON
801 O'KEEFE ROAD
PO BOX 6113
DEPERE, WI 54115-6113
PHONE: (920) 338-6582
molson@atcllc.com

**WISDOT OVERHEAD SIGNING**
MR. DENNIS NEWTON
935 S. 60TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 266-1157
dennis.new ton@dot.w i.gov

**TDS METROCOM**
MR. MICHAEL JOHNSON, SR NETWORK SPECIALIST
20875 CROSSROADS CIRCLE
WAUKESHA, WI 53186
PHONE: (262) 754-3052
FAX: (262) 717-6002
michael.johnson@tdstelecom.com

**CITY OF GREENFIELD**
MR. DANIEL EWERT, SUP. OF PUBLIC WORKS
4551 S. 52ND ST.
GREENFIELD, WI 53220
PHONE: (414) 761-5374
dane@greenfieldw i.us

**TIME WARNER CABLE**
TW CABLE ENGINEERING
1320 N. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
PHONE: (414) 277-4045
w is.engineering@tw cable.com

**TW TELECOM**
MR. JOHN COTTRELL
OSP ENGINEERING DEPARTMENT
3235 INTERTECH DRIVE, SUITE 600
BROOKFIELD, WI 53045
PHONE: (414) 908-1011
john.cottrell@tw telecom.com

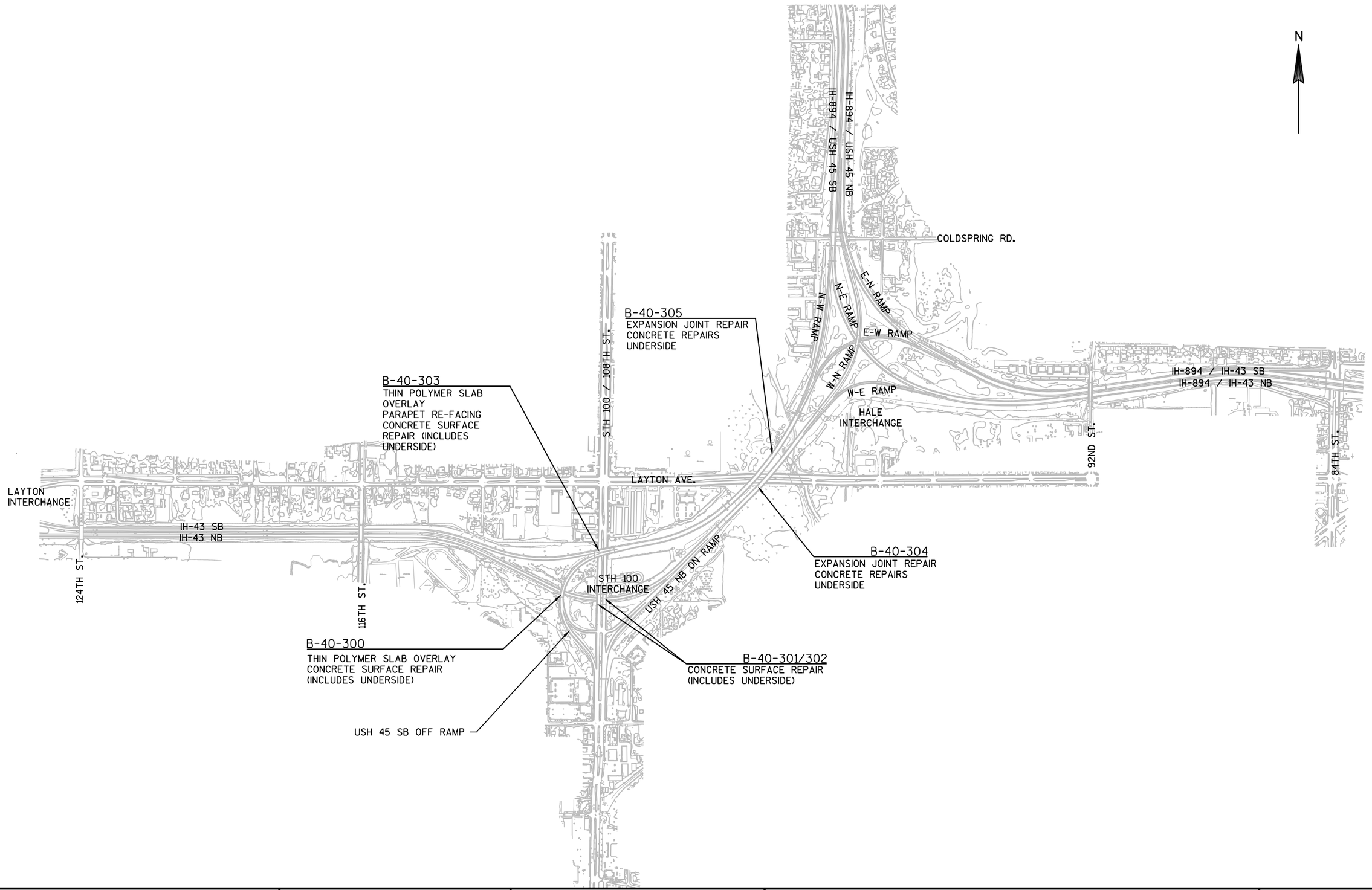
**AT&T WISCONSIN**
MS. KEVIN ANDERSON, AREA MANAGER
7721 W. FON DU LAC AVE.
MILWAUKEE, WI 53218
PHONE: (414) 536-2971
FAX: (262) 896-7435
ka8421@att.com

**MILWAUKEE METRO SEWERAGE DIST.**
MS. DEBRA JENSEN, PLANNING SVCS SUPERVISOR
260 W SEEBOTH ST
MILWAUKEE, WI 53204 1446
PHONE: (414) 225-2143
djensen@mmsd.com

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

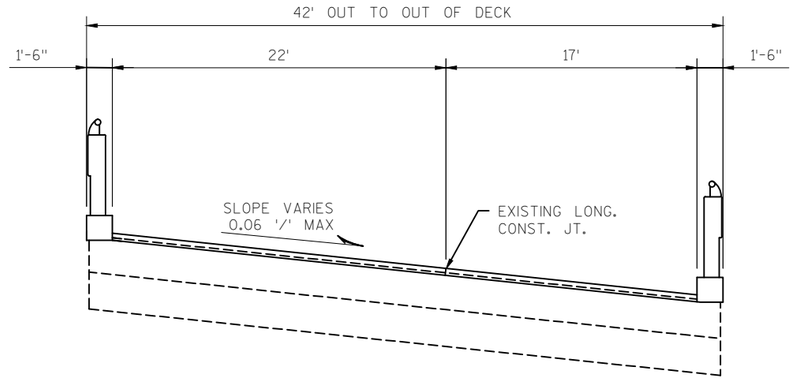
WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

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




| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | PROJECT OVERVIEW | SHEET 3 | E |
|---|---|---|---|---|---|

2

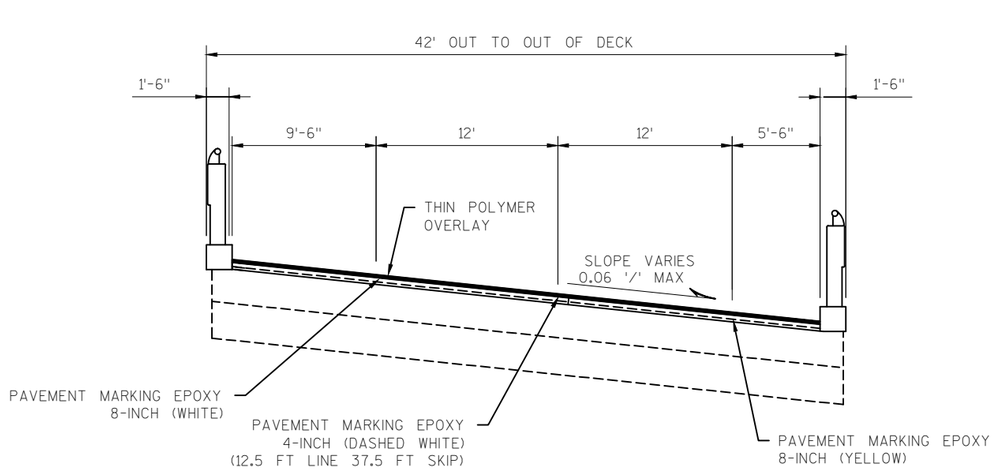



# TYPICAL EXISTING STRUCTURE DETAIL

## B-40-300

STA. 370 100C2+53 TO STA. 371 100C2+70

CLOSED TO TRAFFIC STAGE 3



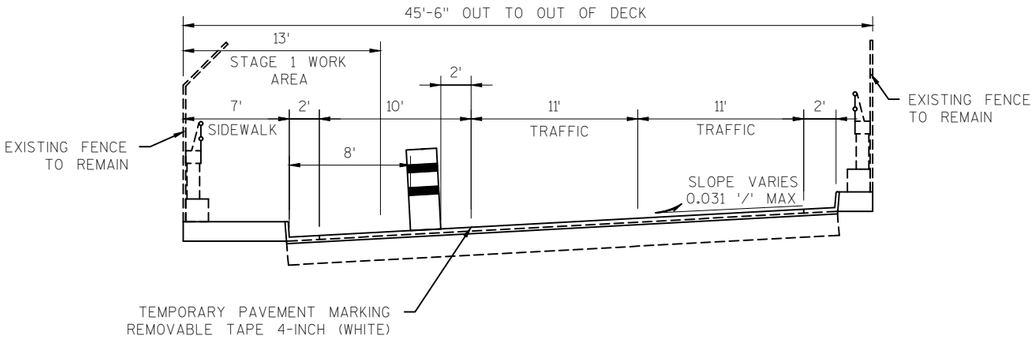

# TYPICAL PROPOSED STRUCTURE DETAIL

## B-40-300

STA. 370 100C2+53 TO STA. 371 100C2+70

CLOSED TO TRAFFIC STAGE 3

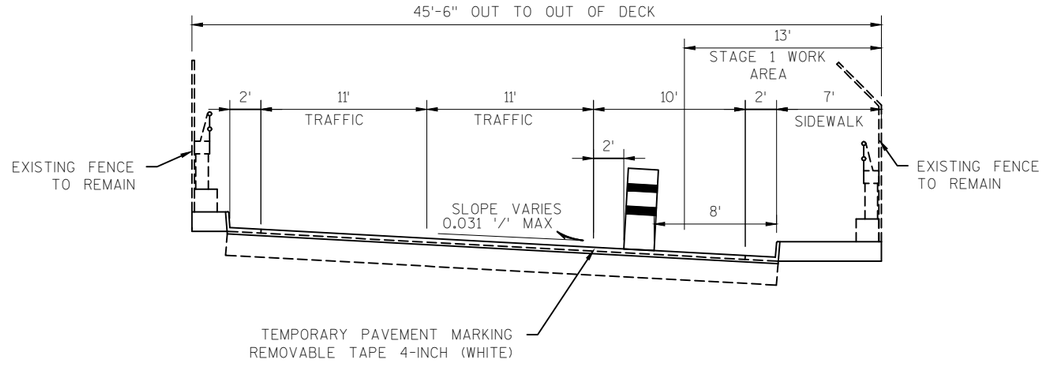
| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | PLAN: TRAFFIC CONTROL PLAN DETAIL | SHEET 4 | E |
|---|---|---|---|---|---|




## TYPICAL STAGE 1 TRAFFIC CONTROL PLAN DETAIL

B-40-301

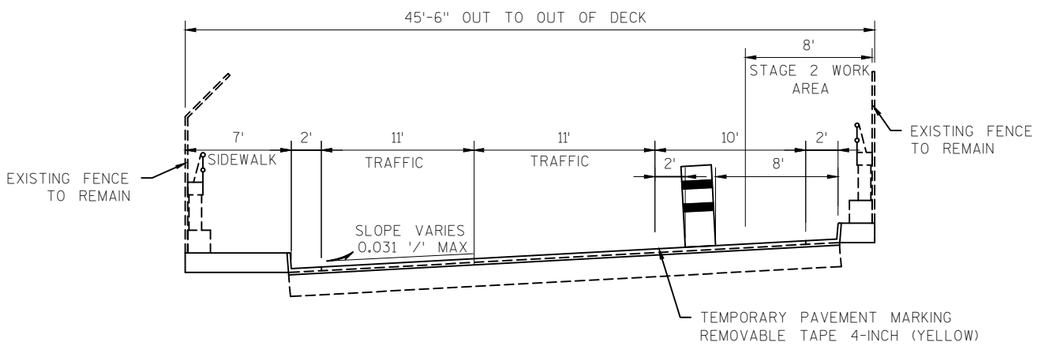
STA. 65 STH100+38 TO STA. 66 STH100+50




## TYPICAL STAGE 1 TRAFFIC CONTROL PLAN DETAIL

B-40-302

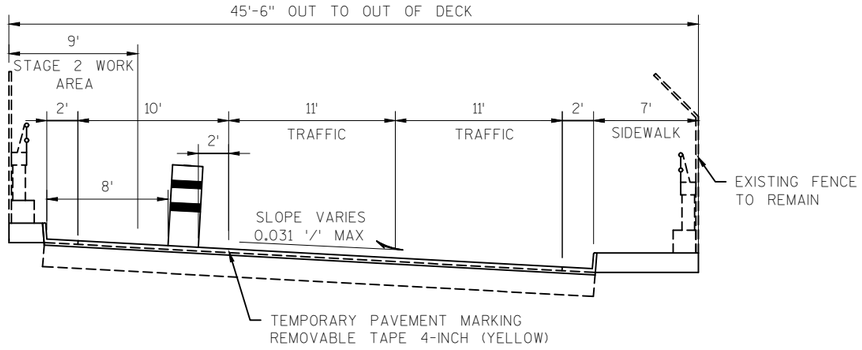
STA. 65 STH100+40 TO STA. 66 STH100+54




## TYPICAL STAGE 2 TRAFFIC CONTROL PLAN DETAIL

B-40-301

STA. 65 STH100+38 TO STA. 66 STH100+50

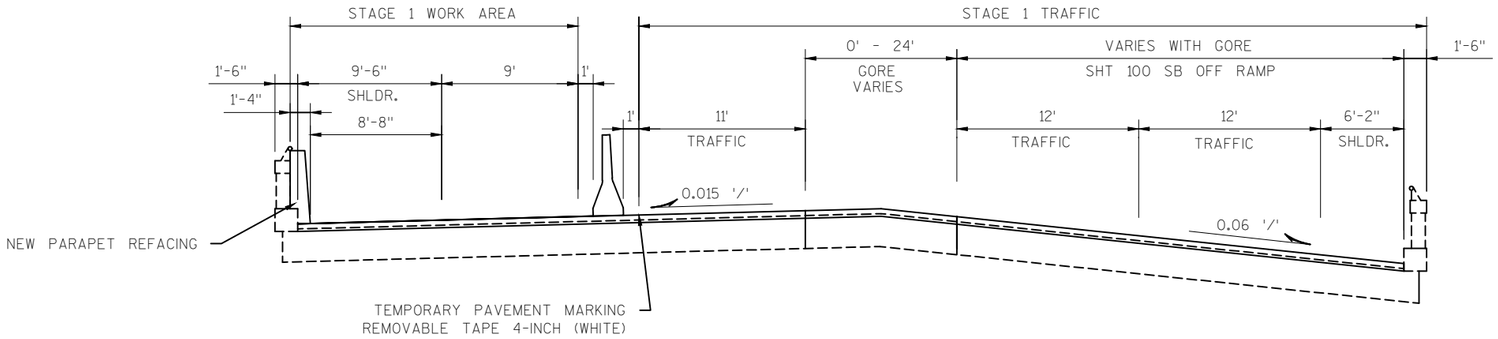



## TYPICAL STAGE 2 TRAFFIC CONTROL PLAN DETAIL

B-40-302

STA. 65 STH100+40 TO STA. 66 STH100+54

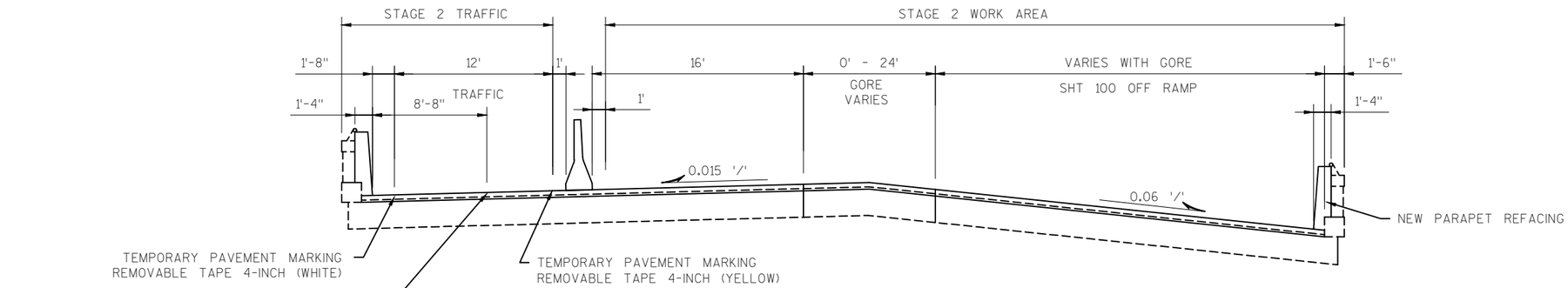
| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | PLAN: TRAFFIC CONTROL PLAN DETAIL | SHEET 5 | E |
|---|---|---|---|---|---|




# TYPICAL STAGE 1 TRAFFIC CONTROL PLAN DETAIL

## B-40-303

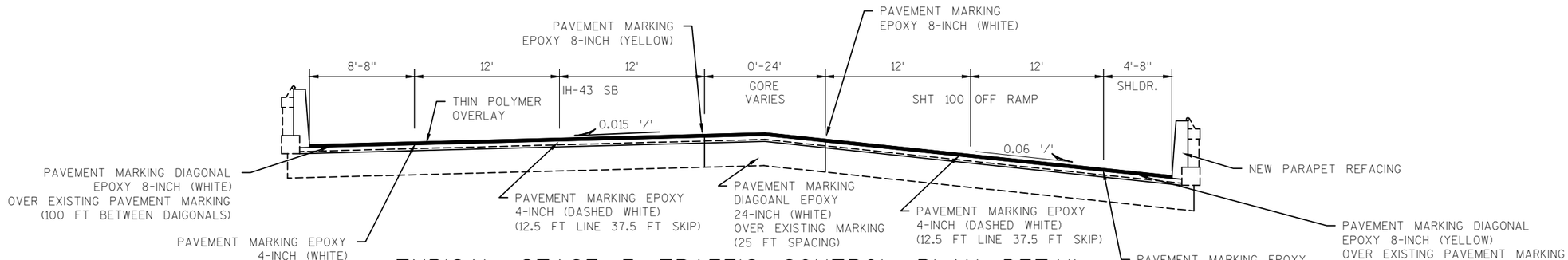
STA. 76 43C3+38 TO 78 43C3+29




# TYPICAL STAGE 2 TRAFFIC CONTROL PLAN DETAIL

## B-40-303

STA. 76 43C2+38 TO 78 43C2+29




# TYPICAL STAGE 3 TRAFFIC CONTROL PLAN DETAIL

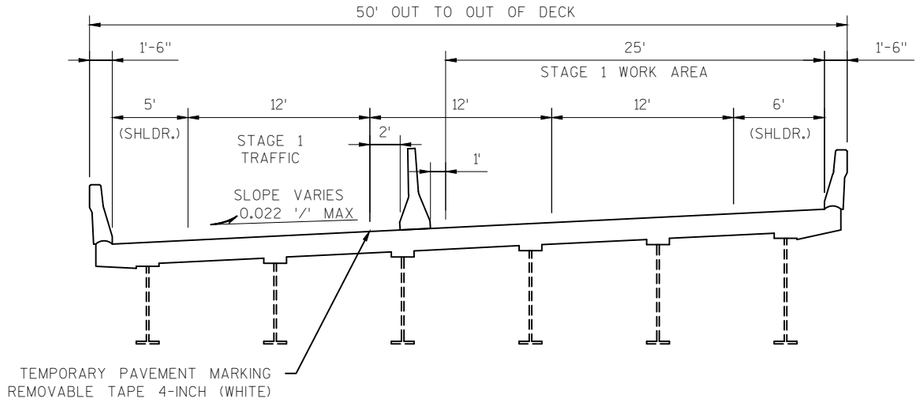
## B-40-303

STA. 76 43C2+38 TO 78 43C2+29

CLOSED TO TRAFFIC STAGE 3

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | PLAN: TRAFFIC CONTROL PLAN DETAIL | SHEET 6 | E |
|---|---|---|---|---|---|

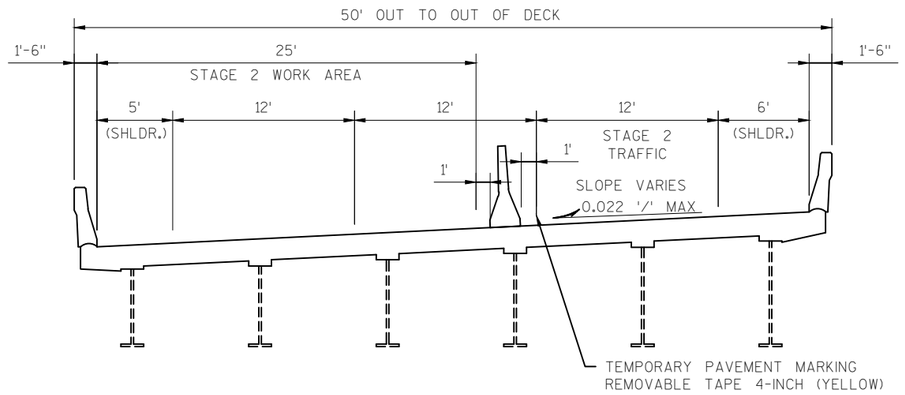
2




# TYPICAL STAGE 1 TRAFFIC CONTROL PLAN DETAIL

B-40-304

LOOKING EAST



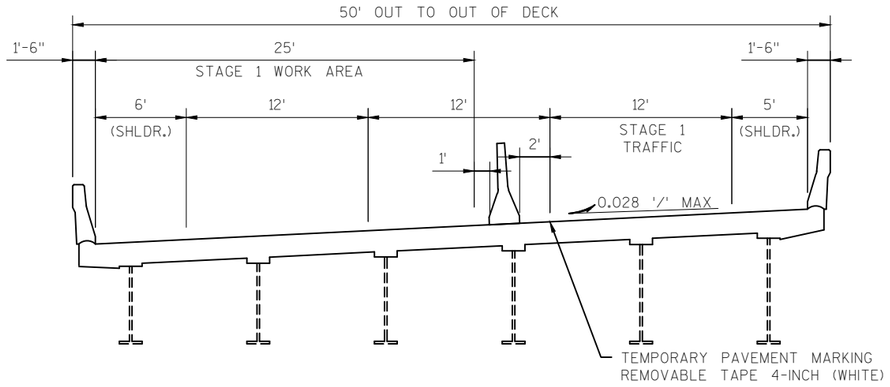

# TYPICAL STAGE 2 TRAFFIC CONTROL PLAN DETAIL

B-40-304

LOOKING EAST

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | PLAN: TRAFFIC CONTROL PLAN DETAIL | SHEET 7 | E |
|---|---|---|---|---|---|

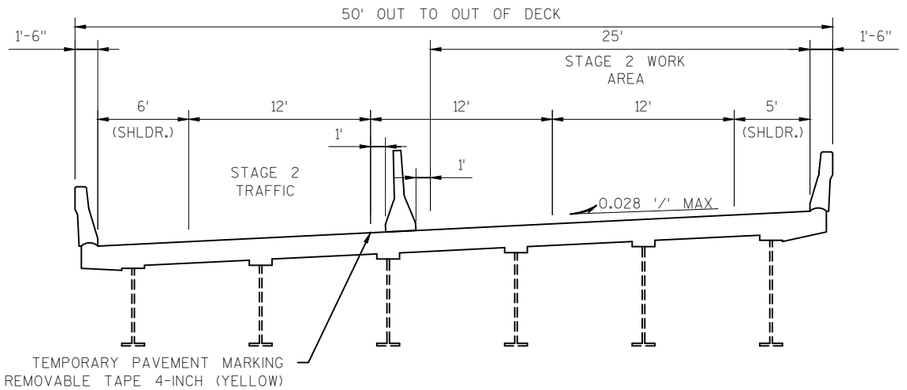
2




# TYPICAL STAGE 1 TRAFFIC CONTROL PLAN DETAIL

B-40-305

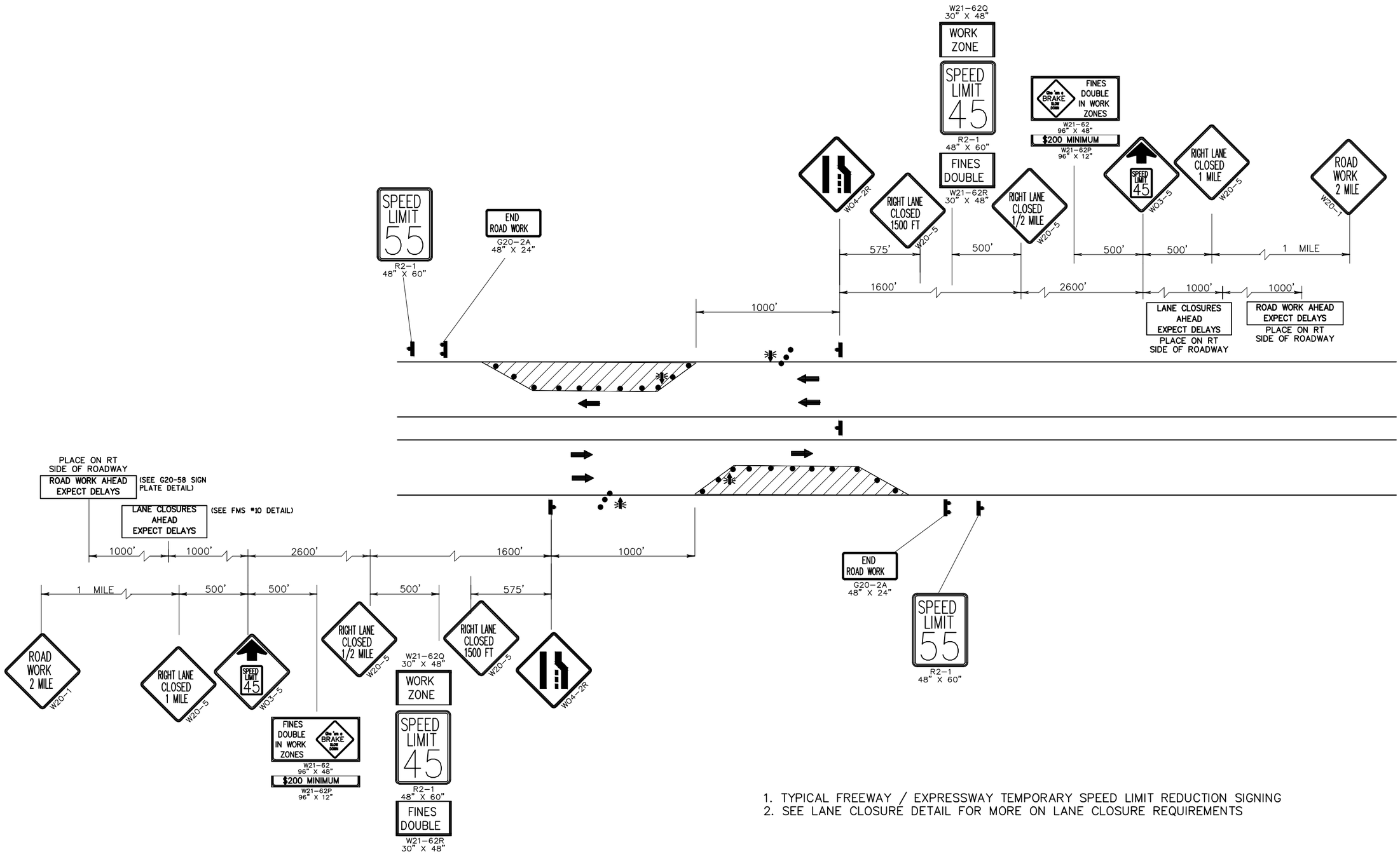
LOOKING EAST




# TYPICAL STAGE 2 TRAFFIC CONTROL PLAN DETAIL

B-40-305

LOOKING EAST




1. TYPICAL FREEWAY / EXPRESSWAY TEMPORARY SPEED LIMIT REDUCTION SIGNING
2. SEE LANE CLOSURE DETAIL FOR MORE ON LANE CLOSURE REQUIREMENTS

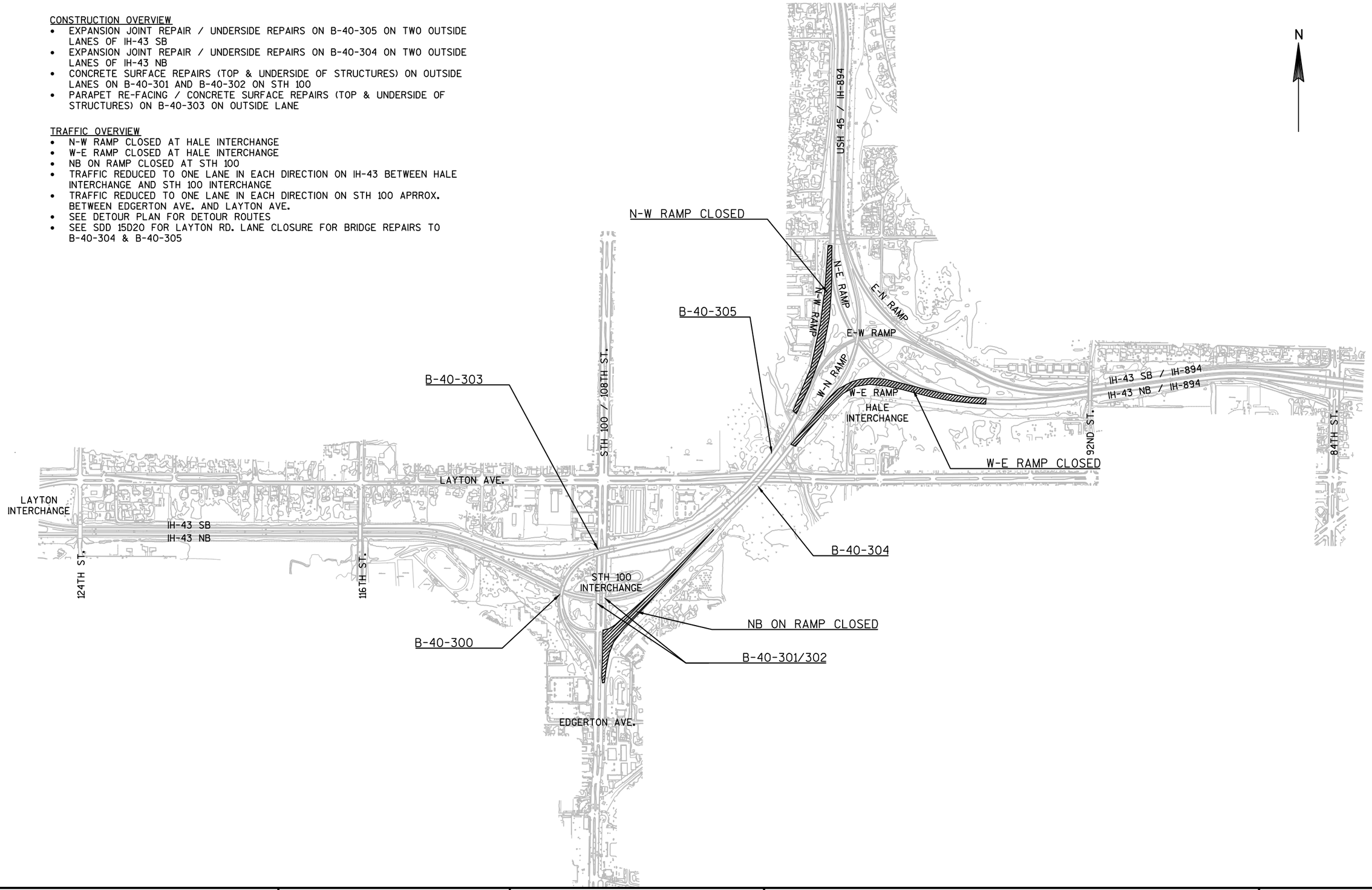
| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TYPICAL TEMPORARY SPEED LIMIT REDUCTION SIGNING DETAIL | SHEET 9 | E |
|---|---|---|---|---|---|

CONSTRUCTION OVERVIEW

- EXPANSION JOINT REPAIR / UNDERSIDE REPAIRS ON B-40-305 ON TWO OUTSIDE LANES OF IH-43 SB
- EXPANSION JOINT REPAIR / UNDERSIDE REPAIRS ON B-40-304 ON TWO OUTSIDE LANES OF IH-43 NB
- CONCRETE SURFACE REPAIRS (TOP & UNDERSIDE OF STRUCTURES) ON OUTSIDE LANES ON B-40-301 AND B-40-302 ON STH 100
- PARAPET RE-FACING / CONCRETE SURFACE REPAIRS (TOP & UNDERSIDE OF STRUCTURES) ON B-40-303 ON OUTSIDE LANE

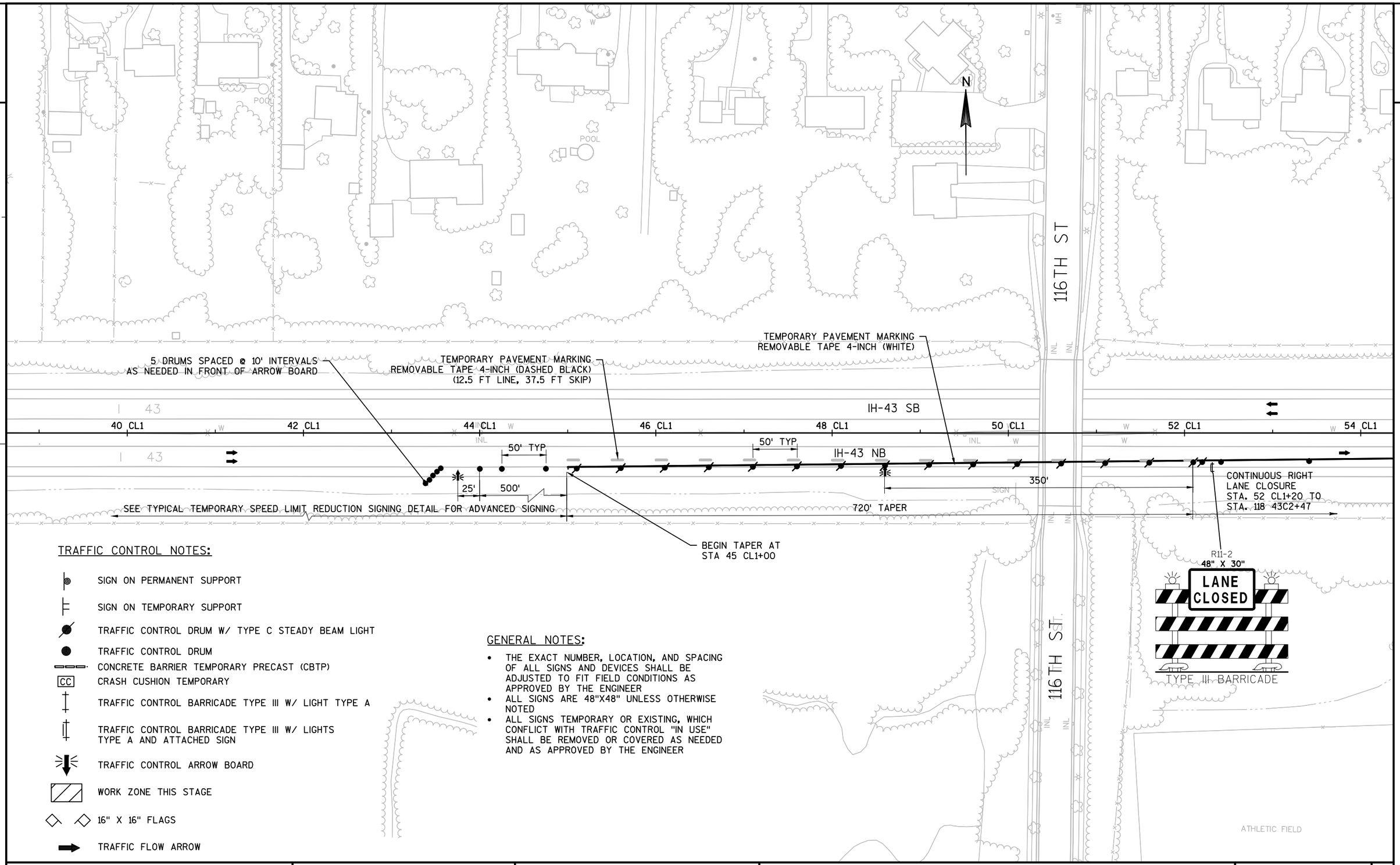
TRAFFIC OVERVIEW

- N-W RAMP CLOSED AT HALE INTERCHANGE
- W-E RAMP CLOSED AT HALE INTERCHANGE
- NB ON RAMP CLOSED AT STH 100
- TRAFFIC REDUCED TO ONE LANE IN EACH DIRECTION ON IH-43 BETWEEN HALE INTERCHANGE AND STH 100 INTERCHANGE
- TRAFFIC REDUCED TO ONE LANE IN EACH DIRECTION ON STH 100 APRROX. BETWEEN EDGERTON AVE. AND LAYTON AVE.
- SEE DETOUR PLAN FOR DETOUR ROUTES
- SEE SDD 15D20 FOR LAYTON RD. LANE CLOSURE FOR BRIDGE REPAIRS TO B-40-304 & B-40-305




| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | CONSTRUCTION/TRAFFIC OVERVIEW STAGE 1 | SHEET 10 | E |
|---|---|---|---|---|---|

2




## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC — CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 11 | E |
|---|---|---|---|---|---|

2

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

N

IH-43 SB

IH-43 NB

100' TYP

52 CL1

54 CL1

56 CL1

58 CL1

60 CL1

62 CL1

64 CL1

66 43C2

PC: 56+41.56 CL1

BP: 61+90.58 43C3

BP: 63+91.96 CL1

PC: 65+45.87 43C3

BP: 63+90.58 43C2

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

R11-2
48" X 30"

LANE CLOSED

TYPE III BARRICADE

ATHLETIC FIELD

BLEACHERS

INL

W

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 12 | E |
|---|---|---|---|---|---|

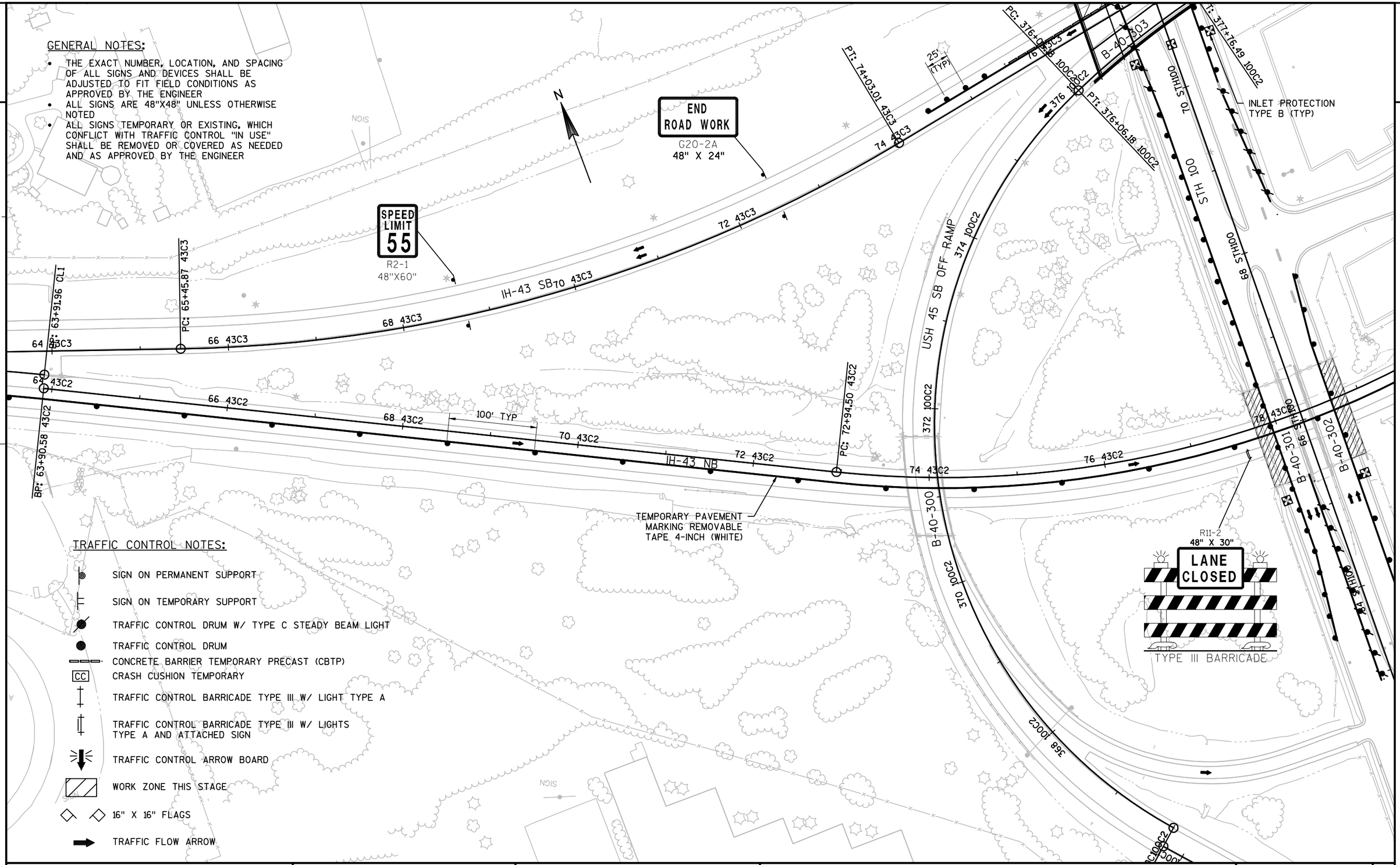
FILE NAME : W:\PDS\C3D\CAD\10903330\026002_S1.DWG PLOT DATE : 3/12/2014 9:19 AM PLOT BY : SARAUER, ADAM N PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

GENERAL NOTES:

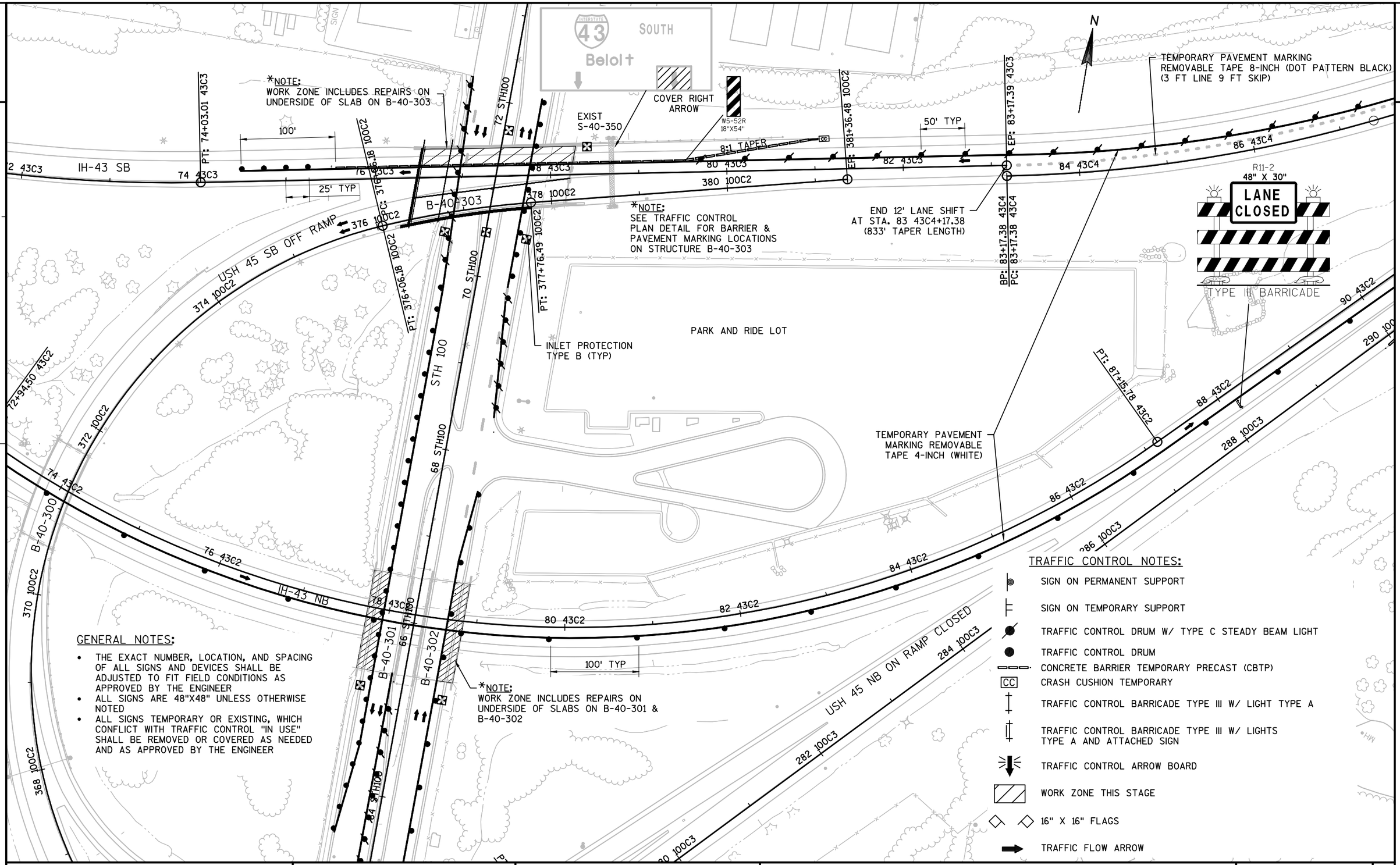
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER




TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 13 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 14 E |
|---|---|---|---|---|

2

SOUTH
INTERSTATE 43
USE RIGHT LANE

M3-3 36"X24"
M1-1 36"X36"
M4-20R 36"X36"

50' (TYP)

86 43C4
88 43C4
90 43C4
92 43C4
94 43C4
96 43C4
98 43C4
100 43C4
102 43C4
104 43C4

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH (DOT PATTERN BLACK)
(3 FT LINE 9 FT SKIP)

BEGIN 12' LANE SHIFT
AT STA. 91 43C4+50
(833' TAPER LENGTH)

PI: 94+00.00 43C2
SEE FMS #7 DETAIL
PC: 91+60.96 43C4
PT: 91+60.96 43C4
PC: 98+14.79 43C2
PT: 104+34.79 43C2

COVER SIGN BOARDS ON
EXISTING STRUCTURE S-40-21

LAYTON AVE

*NOTE:
WORK ZONE INCLUDES UNDERSIDE
OF STRUCTURE B-40-304

*NOTE:
WORK ZONE INCLUDES UNDERSIDE
OF STRUCTURE B-40-304

IH-43 SB
B-40-305
IH-43 NB
B-40-304

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

90 43C2
92 43C2
94 43C2
96 43C2
98 43C2
100 43C2
102 43C2
104 43C2

8:1 TAPER

290 100C3
292 100C3
294 100C3
296 100C3
298 100C3

EP: 298+15.77 100C3

W5-52R
18"X54"

INLET PROTECTION
TYPE B (TYP)

*NOTE:
SEE TRAFFIC CONTROL
PLAN DETAIL FOR BARRIER &
PAVEMENT MARKING LOCATIONS ON
STRUCTURES B-40-304 & B-40-305

ROOT R.
OAK LEAF TRAIL
ROOT RIVER

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC — CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 15 | E |
|---|---|---|---|---|---|

2

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

OAK LEAF TRAIL

INLET PROTECTION TYPE B (TYP)

RIGHT SHOULDER CLOSED
W21-5A

PLACE DRUMS AS NECESSARY PER FIELD ENGINEER IN FRONT OF ARROW BOARD

W5-52R 18"X54"

8:1 TAPER

N-W RAMP CLOSED

E-W RAMP

W-N RAMP

N-E RAMP

W-E RAMP CLOSED

50' TYP

PT: 49+54.87 894C2

EP: 49+54.87 894C2

PT: 105+55.72 43C4

PC: 109+52.54 43C4

PC: 113+53.52 43C2

PC: 202+10.98 43C5

EP: 108+00.97 43C5

B-40-305

B-40-304

*NOTE:
WORK ZONE INCLUDES UNDERSIDE OF STRUCTURE B-40-305

*NOTE:
WORK ZONE INCLUDES UNDERSIDE OF STRUCTURE B-40-304

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

S-40-120 (EXISTING)

LEFT EXIT 61
INTERSTATE 894
45
THIS LANE ENDS

NORTH INTERSTATE 43
EAST INTERSTATE 894
TO AIRPORT
CLOSED
SEE FMS SIGN DETAIL

*NOTE:
SEE TRAFFIC CONTROL PLAN DETAIL FOR BARRIER & PAVEMENT MARKING LOCATIONS ON STRUCTURES B-40-304 & B-40-305

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 16 E |
|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\CAD\10903330\026006_S1.DWG PLOT DATE : 3/12/2014 9:23 AM PLOT BY : SARAUER, ADAM N PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

RAMP CLOSED
R11-2
48" X 30"
TYPE III BARRICADE

N-W RAMP CLOSED

W21-62Q
30" X 48"
WORK ZONE

SPEED LIMIT 45
R2-1
48"X60"

FINES DOUBLE
W21-62R
30" X 48"

RIGHT SHOULDER CLOSED AHEAD
W21-5B

SPEED LIMIT 45
W03-5

FINES DOUBLE IN WORK ZONES
Give 'em BRAKE SLOW DOWN
W21-62
96" X 48"

$200 MINIMUM
W21-62P
96" X 12"

ROAD WORK AHEAD
W20-1

E-W RAMP

N-E RAMP

W-N RAMP

PC: 37+00.11 894C2

PC: 34+68.13 894C1

PT: 124+42.01 43C2

BP: 31+18.13 894C2

PC: 31+18.13 894C1

EP: 129+71.11 43C2

S-40-79

25' TYP

EP: TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

EXIT 4
43 894 EAST
CHICAGO
43 45 SOUTH
BELOIT
CLOSED
SEE FMS DETAIL

N

TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 17 | E |
|---|---|---|---|---|---|

2

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC — CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

S-40-805
EXISTING SIGN BRIDGE

EXIT 4
43 894 EAST CHICAGO
43 45 SOUTH BELOIT
EXIT ONLY

CLOSED
SEE FMS SIGN DETAIL

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH (DOT PATTERN BLACK)
(3 FT LINE 9 FT SKIP)

I-894/USH 45 NB
I-894 / U.S.H. 45
I-894/USH 45 SB

34 894N1 | 36 894N1 | 38 894N1 | 40 894N1 | 42 894N1 | 44 894N1

26 894C3 | 28 894C3
EP: 43+98.87 894C3
26 894C1 | 28 894C1
BP: 25+98.87 894C1

50' TYP
25' TYP
350'
275'
600' MERGING TAPER
800' BUFFER

5 DRUMS SPACED @ 10' INTERVALS
AS NEEDED IN FRONT OF ARROW BOARD

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE
4-INCH (WHITE)

1 MILE

ROAD WORK 2 MILES W20-1
ROAD WORK 1 MILE W20-1

500' | 1390' | 500' | 750'

RIGHT LANE CLOSED AHEAD W20-5
RAMP CLOSED AHEAD W20-3(MOD)
RIGHT LANE CLOSED 1500 FT W20-5
W4-2R 36"X36"

SOUTH M3-3 36"X24"
INTERSTATE 43 M1-1 36"X36"
45 M1-4 36"X36"

R11-2
48" X 30"
RAMP CLOSED
TYPE III BARRICADE

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : W:\PDS\C3D\CAD\10903330\026008_S1.DWG
PLOT DATE : 3/12/2014 9:31 AM
PLOT BY : SARAUER, ADAM N
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

R11-2
48" X 30"
LANE CLOSED
TYPE III BARRICADE

ROAD WORK AHEAD
W20-1

EDGERTON AVE

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

BP: 52+45.15 STH100

54 STH100

56 STH100

50' TYP

24'

BP: 272+46.90 STH100

USH 45 / STH 100

25' TYP

700'

750'

ROAD WORK AHEAD
W20-1

RIGHT LANE CLOSED AHEAD
W20-5

BEGIN RIGHT TURN LANE
R3-20-RR
24"X36"

FIELD ENGINEER TO FIT FIELD CONDITIONS FOR DRUM SPACING & LOCATION FOR RIGHT TURN LANE

SPACE @ 10' INTERVALS TO FIT FIELD CONDITIONS AS DIRECTED BY FIELD ENGINEER

R11-2
48" X 30"
LANE CLOSED
TYPE III BARRICADE

ROAD WORK AHEAD
W20-1

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 19 | E |
|---|---|---|---|---|---|

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER
- SEE TRAFFIC CONTROL PLAN DETAIL FOR DRUM & PAVEMENT MARKING LOCATIONS ON B-40-301 & B-40-302

N

USH 45 SB OFF RAMP

EP: 368+39.36 41BC1 100C2

PT: 364+20.89 100C1

BP: 360+98.21 100C1

362 100C1 | 364 100C1 | 366 100C2 | 368 100C2 | 370 100C2 | 372 100C2 | 374 100C2 | 376 100C2

74 43C2 | 76 43C2 | 78 43C2 | 82 43C2 | 74 43C3 | 76 43C3 | 78 43C3 | 80 43C3 | 82 43C3

34.50 43C2

PT: 74+03.01 43C3

376 100C2 | 378 100C2 | 380 100C2

76+96.18 100C2

R11-2
48" X 30"
LANE CLOSED
TYPE III BARRICADE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

R3-2
24"X24"

*NOTE:
WORK ZONE INCLUDES REPAIRS ON UNDERSIDE OF SLABS ON B-40-301 & B-40-302

100' TAPER | 100' BUFFER

25' TYP

W12-2
14'-6"

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

STH 100 / 108TH ST

58 STH100 | 60 STH100 | 62 STH100 | 64 STH100 | 66 STH100 | 68 STH100 | 70 STH100 | 72 STH100

B-40-301 | B-40-303

INLET PROTECTION TYPE B (TYP)

50' TYP

STH 100 / 108TH ST

B-40-302

BEGIN SHIFT
STA. 68 STH100+45

END SHIFT
STA. 69 STH100+85

25' (TYP)

140' SHIFT TAPER

(2) INLET PROTECTION TYPE B UNDER STRUCTURE

BP: 272+16.80 100C3

PC: 274+39.31 100C3

274 100C3 | 276 100C3 | 278 100C3 | 280 100C3 | 282 100C3

PT: 278+31.40 100C3

INLET PROTECTION TYPE B (TYP)

BEGIN RIGHT TURN LANE
R3-20R
24"X36"

R11-2
48" X 30"
RAMP CLOSED
TYPE III BARRICADE

R11-2
48" X 30"
LANE CLOSED
TYPE III BARRICADE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASHED BLACK) (12.5 FT LINE, 37.5 FT SKIP)

USH 45 NB ON RAMP CLOSED

SIGN | MH | INL | W

TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

| PROJECT NO:1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 20 | E |
|---|---|---|---|---|---|

2

N

*NOTE:
TEMPORARY TAPE ARROW, TYPE 2 AND WHITE LETTERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER

IH 43 SB

PT: 74+03.01 43C3

(2) INLET PROTECTION TYPE B (TYP) UNDER STRUCTURE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASHED BLACK) (12.5 FT LINE, 37.5 FT SKIP)

SIGN

W04-2R

RIGHT LANE CLOSED AHEAD W20-5

ROAD WORK AHEAD W20-1

RIGHT LANE MUST TURN RIGHT R3-7R 36"X36"

BEGIN 300 FT TEMPORARY PAVEMENT MARKING 8-INCH REMOVABLE TAPE (WHITE) FROM STOPLINE

ROAD WORK AHEAD W20-1

TEMPORARY TAPE WHITE LETTERS (TYP)

RIGHT LANE MUST TURN RIGHT R3-7R 36"X36"

PC: 376+86.18 100C2

376 43C3

100C2

PI:

B-40-303

STH 100 / 108TH ST

70 STH100 | 72 STH100 | 74 STH100 | 76 STH100 | 78 STH100 | PI: 78+82.68 STH100 | 80 STH100 | 82 STH100 | 84 STH100

25' TYP.

STH 100 / 108TH ST

TEMPORARY TAPE ARROW, TYPE 2 (WHITE) (TYP)

R11-2 48" X 30"

LANE CLOSED

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

TYPE III BARRICADE

PT: 377+76.49 100C2

378 100C2

378 43C3

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

INLET PROTECTION TYPE B (TYP)

APPLY 400 FT TEMPORARY PAVEMENT MARKING 8-INCH REMOVABLE TAPE (WHITE DROP LANE DASHED) 3' LINE 9' GAP -- AFTER -- TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASHED BLACK) (12.5 FT LINE, 37.5' SKIP)

PARK AND RIDE

380 100C2

80 43C3

81 TAPER

EP: 381+36.48 100C2

82 43C3

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

ROAD WORK AHEAD W20-1

LAYTON AVE

TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 1 | SHEET 21 | E |
|---|---|---|---|---|---|

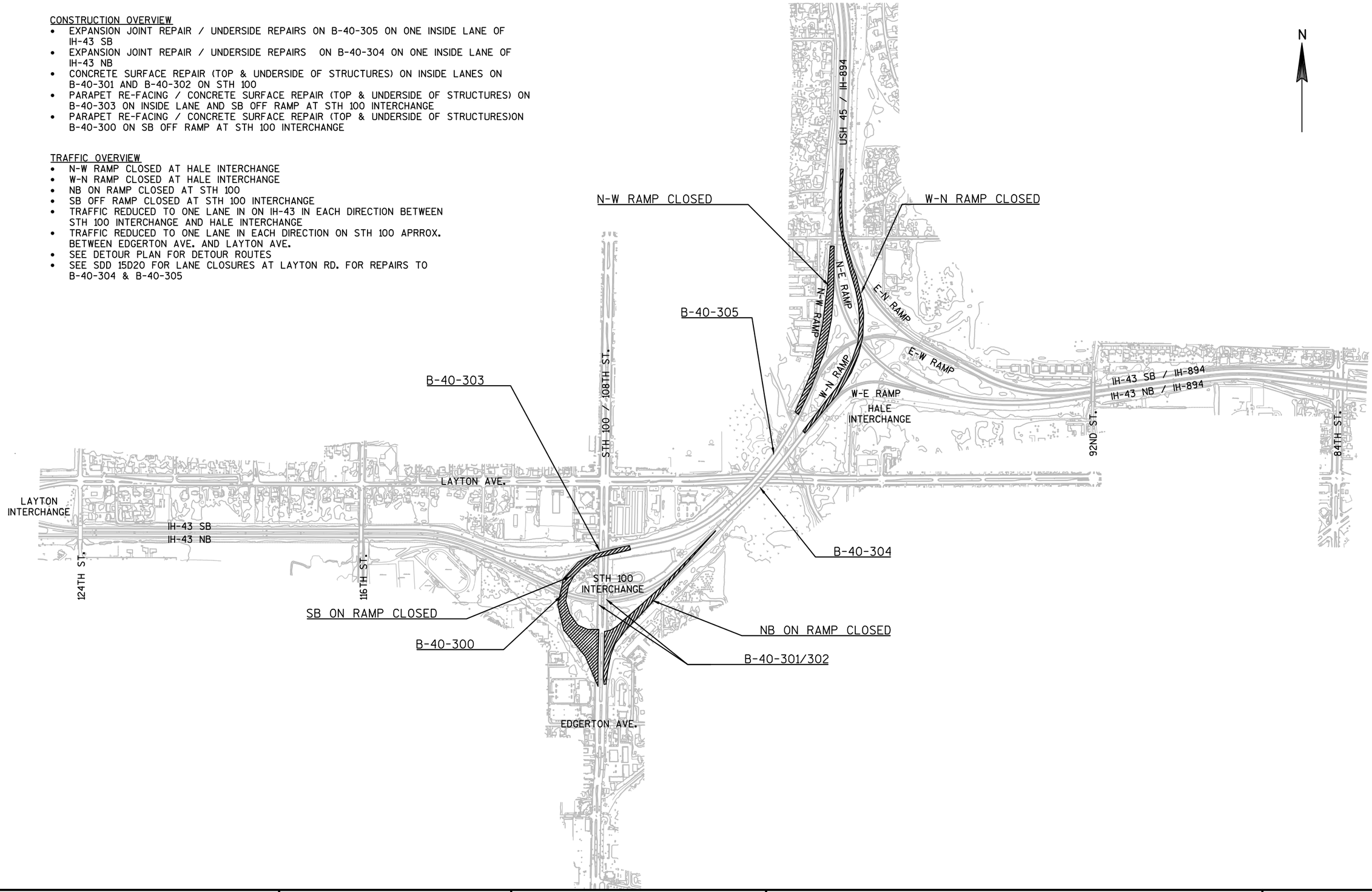
FILE NAME : W:\PDS\C3D\CAD\10903330\026011_S1.DWG PLOT DATE : 4/10/2014 10:30 AM PLOT BY : AUSEN, CRAIG D PLOT NAME : PLOT SCALE : 1 IN:100 FT

CONSTRUCTION OVERVIEW

- EXPANSION JOINT REPAIR / UNDERSIDE REPAIRS ON B-40-305 ON ONE INSIDE LANE OF IH-43 SB
- EXPANSION JOINT REPAIR / UNDERSIDE REPAIRS ON B-40-304 ON ONE INSIDE LANE OF IH-43 NB
- CONCRETE SURFACE REPAIR (TOP & UNDERSIDE OF STRUCTURES) ON INSIDE LANES ON B-40-301 AND B-40-302 ON STH 100
- PARAPET RE-FACING / CONCRETE SURFACE REPAIR (TOP & UNDERSIDE OF STRUCTURES) ON B-40-303 ON INSIDE LANE AND SB OFF RAMP AT STH 100 INTERCHANGE
- PARAPET RE-FACING / CONCRETE SURFACE REPAIR (TOP & UNDERSIDE OF STRUCTURES)ON B-40-300 ON SB OFF RAMP AT STH 100 INTERCHANGE

TRAFFIC OVERVIEW

- N-W RAMP CLOSED AT HALE INTERCHANGE
- W-N RAMP CLOSED AT HALE INTERCHANGE
- NB ON RAMP CLOSED AT STH 100
- SB OFF RAMP CLOSED AT STH 100 INTERCHANGE
- TRAFFIC REDUCED TO ONE LANE IN ON IH-43 IN EACH DIRECTION BETWEEN STH 100 INTERCHANGE AND HALE INTERCHANGE
- TRAFFIC REDUCED TO ONE LANE IN EACH DIRECTION ON STH 100 APRROX. BETWEEN EDGERTON AVE. AND LAYTON AVE.
- SEE DETOUR PLAN FOR DETOUR ROUTES
- SEE SDD 15D20 FOR LANE CLOSURES AT LAYTON RD. FOR REPAIRS TO B-40-304 & B-40-305




| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | CONSTRUCTION/TRAFFIC OVERVIEW STAGE 2 | SHEET 22 | E |
|---|---|---|---|---|---|

2

2

N

TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

BEGIN 12' TAPER AT STA 45 CL1+00

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (DASHED BLACK)
(12.5 FT LINE, 37.5 FT SKIP)
(REMAINS FROM STAGE 1)

SEE TYPICAL TEMPORARY SPEED LIMIT SIGNING DETAIL FOR ADVANCED SIGNING

720' TAPER

CONTINUOUS LEFT
LANE CLOSURE
STA. 52 CL1+20 TO STA. 129 CL+71

25' 500' 350'

50' (TYP)

I 43

40 CL1 42 CL1 44 CL1 46 CL1 48 CL1 50 CL1 52 CL1 54 CL1

IH-43 SB

IH-43 NB

50' TYP

100' TYP

5 DRUMS SPACED AT 10'
INTERVALS AS NEEDED IN
FRONT OF ARROW BOARD

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

SIGN

116TH ST.

116 TH ST.

R11-2
48" X 30"




TYPE III BARRICADE

ATHLETIC FIELD

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 23 | E |
|---|---|---|---|---|---|

2

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

N

IH-43 SB

IH-43 NB

PC: 56+41.56 CL1

56 CL1

58 CL1

60 CL1

62 43C3

62 CL1

BP: 61+90.58 43C3

64 43C3

BP: 63+91.96 CL1

PC: 65+45.87 43C3

66 43C3

66 43C2

BP: 63+90.58 43C2

54 CL1

52 CL1

100' TYP

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

R11-2
48" X 30"

LANE CLOSED

TYPE III BARRICADE

ATHLETIC FIELD

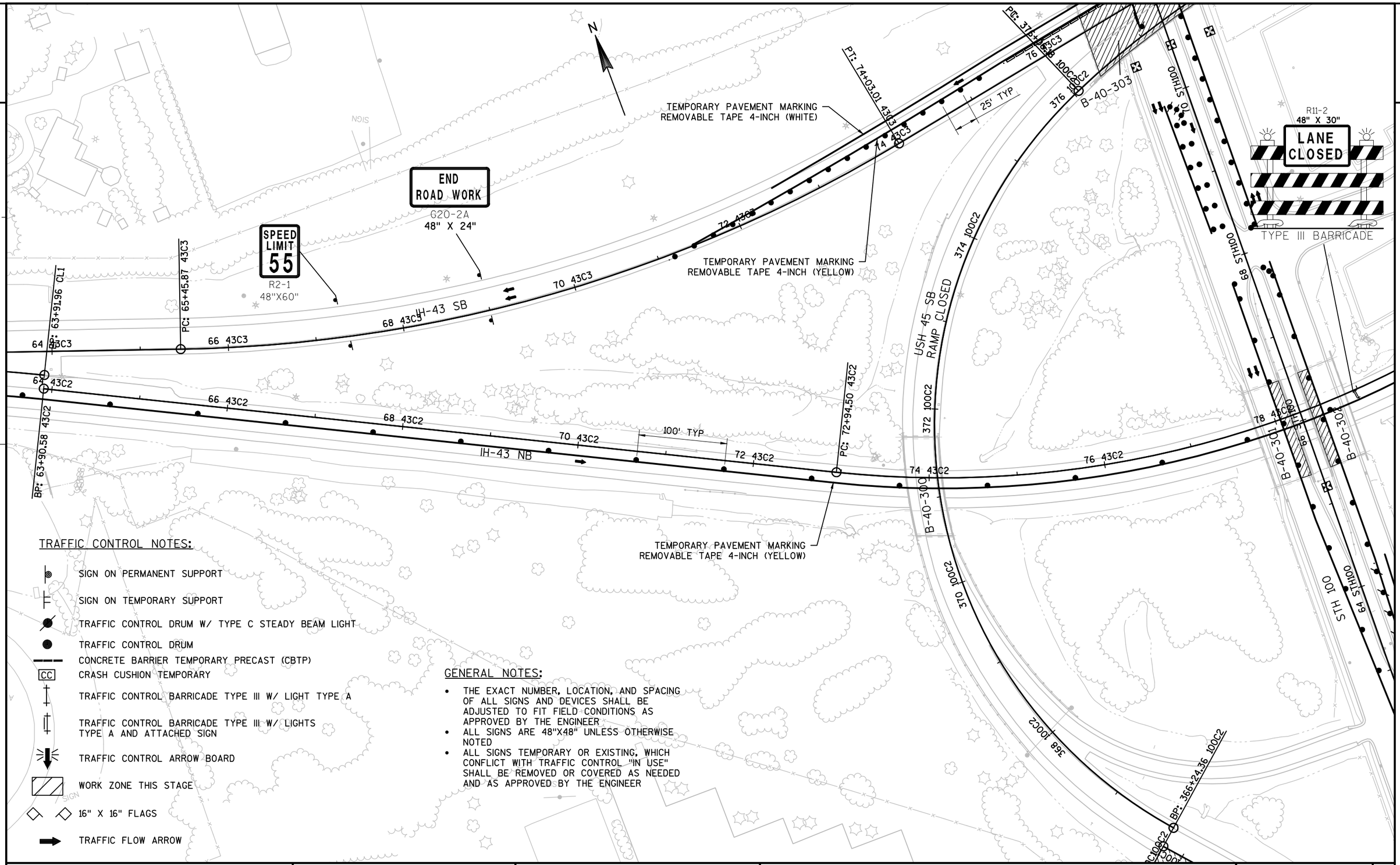
BLEACHERS

TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 24 | E |
|---|---|---|---|---|---|

2




## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC — CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 25 | E |
|---|---|---|---|---|---|

2

2

END TAPER TO EXIST SHOULDER PVMT MARKING STA. 72 43C3+51

BEGIN 7' TAPER TO EXIST SHOULDER PVMT MARKING STA. 75 43C3+51

P: 74+03.01 43C3

72 STH100

B-40-303

*NOTE:
SEE TRAFFIC CONTROL PLAN DETAIL FOR TC ON B-40-303

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

END 8'-4" SHIFT EP: 83+17.39 43C3

12' LANE

N

EP: 381+36.48 100C2

86 43C4

84 43C4

82 43C3

80 43C3

74 43C3

76 43C3

78 43C3

380 100C2

378 100C2

376 100C2

374 100C2

372 100C2

370 100C2

368 100C2

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (BLACK)

BP: 83+17.38 43C4
PC: 83+17.38 43C4

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

S-40-350 EXISTING

LEFT EXIT 60

45 100

108TH STREET EXIT ONLY

INTERSTATE 43 SOUTH

BELOIT

COVER ARROW

CLOSED
SEE FMS DETAIL

COVER COVER ARROW ARROW

INLET PROTECTION TYPE B (TYP)

70 STH100

68 STH100

66 STH100

64 STH100

PARK AND RIDE LOT

WD1-4R

PT: 87+15.78 43C2

88 43C2

90 43C2

290 100C3

288 100C3

286 100C3

284 100C3

282 100C3

100' TYP

72+94.50 43C2

74 43C2

76 43C2

78 43C2

80 43C2

82 43C2

84 43C2

86 43C2

B-40-300

B-40-301

B-40-302

*NOTE:
WORK ZONE INCLUDES REPAIRS ON UNDERSIDE OF SLABS ON B-40-301 & B-40-302

IH-43 NB

USH 45 NB ON RAMP CLOSED

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 26 | E |
|---|---|---|---|---|---|

2

2

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (BLACK)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

EXIT 60
45 100 INTERSTATE 43 SOUTH
108TH STREET BELOIT
EXIT ONLY
COVER ARROW
CLOSED
SEE FMS DETAIL

LAYTON AVE

*NOTE:
SEE TRAFFIC CONTROL PLAN DETAIL FOR BARRIER & PAVEMENT MARKING LOCATIONS ON STRUCTURES B-40-304 & B-40-305

*NOTE:
WORK ZONE INCLUDES REPAIRS ON UNDERSIDE OF STRUCTURE ON B-40-305

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

ROOT R.

IH-43 SB B-40-305

86 43C4 88 43C4 90 43C4 92 43C4 94 43C4 96 43C4 98 43C4 100 43C4 102 43C2 104 43C2

PI: 94+00.02 43C2
BEGIN 8'-4" SHIFT
PC: 91+60.96 43C4
PC: 98+15.49 43C2
PT: 104+35.09 43C2

12'

S-40-143
(EXISTING)

50' TYP

8:1 TAPER

90 43C2 92 43C2 94 43C2 96 43C2 98 43C2 100 43C2

290 100C3 292 100C3 294 100C3 296 100C3 298 100C3

IH-43 NB B-40-304

*NOTE:
WORK ZONE INCLUDES REPAIRS ON UNDERSIDE OF STRUCTURE ON B-40-304

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

EP: 298+15.77 100C3

INLET PROTECTION
TYPE B (TYP)

295' TAPER

END SHIFT AT STA. 294 100C3+19

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH
(DASHED BLACK) (12.5 FT LINE,
37.5 FT SKIP) & 8 -INCH DOT
PATTERN BLACK) (3FT LINE,
9 FT. SKIP) TO AREA
AS NEEDED IN 295' TAPER

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

BEGIN SHIFT AND
MAINTAIN 12' LANE AT
STA. 291 100C3+24

S-40-144 (EXISTING)

EXIT 61
45 NORTH INTERSTATE 894 WEST
43 NORTH INTERSTATE 894 EAST
EXIT ONLY
COVER ARROWS
CLOSED
SEE FMS DETAIL

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 27 | E |
|---|---|---|---|---|---|

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

*NOTE:
WORK ZONE INCLUDES REPAIRS ON UNDERSIDE OF STRUCTURE ON B-40-304 & B-40-305

S-40-21 (EXISTING)
EXIT 60
45 100 108TH STREET EXIT ONLY
INTERSTATE 43 SOUTH BELOIT
CLOSED
SEE FMS DETAIL
COVER ARROW

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (WHITE)

ROOT RIVER

B-40-305

PT: 49+54.87 894C2

PC: 105+55.72 43C4

PC: 109+52.54 43C4

BEGIN 21' SHIFT AT STA 111 43C4+19 (535' TAPER LENGTH)

SEE DETAIL "A-A" BELOW FOR BARRIER AND PAVEMENT MARKING DETAIL

END 21' SHIFT TAPER AT STA 105 43C4+84 (535' TAPER LENGTH)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH (BLACK) AT EXISTING GORE AREA AND RAMP PAVEMENT MARKING IN SHIFT AREA

12' LANE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

E-W RAMP

N-W RAMP CLOSED

INLET PROTECTION TYPE B (TYP)

EP: 49+54.87 894C2

EP: 198+00.97 43C5

PC: 202+09.98 43C5

PC: 113+53.52 4

B-40-304

PAVEMENT MARKING ENDS AT GORE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW)

W-N RAMP CLOSED

W-E RAMP

N-E RAMP

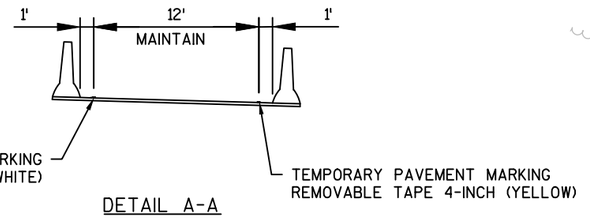
S-40-120 (EXISTING)
LEFT EXIT 61
WEST NORTH
894 45
CLOSED
SEE FMS DETAIL

THIS LANE ENDS

NORTH EAST
43 894
TO AIRPORT
35MPH 35MPH

TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW




DETAIL A-A
SHIFT FROM
STA. 111 43C4+19 TO STA. 105 43C4 +84

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 28 | E |
|---|---|---|---|---|---|

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : W:\PDS\C3D\CAD\10903330\026107_S2.DWG PLOT DATE : 3/20/2014 9:53 AM PLOT BY : SARAUER, ADAM N PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

S-40-805
EXISTING SIGN BRIDGE

EXIT 4
43 894 EAST CHICAGO
43 45 SOUTH BELOIT
EXIT ONLY

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 8-INCH
(DOT PATTERN BLACK)
(3 FT LINE 9 FT SKIP)
(REMAINS FROM STAGE 1)

CLOSED
SEE FMS SIGN DETAIL

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE
4-INCH (WHITE)

IH-894 / USH 45 NB
I-894 / U.S.H. 45
IH-894 / USH 45 SB
I-894 / U.S.H. 45

34 894N1 | 36 894N1 | 38 894N1 | 40 894N1 | 42 894N1 | 44 894N1
26 894C3 | 28 894C3
26 894C1 | 28 894C1
EP: 43+98.87 894C1
BP: 25+98.87 894C1

50' TYP.
25' TYP.
350'
275'
600' TRANSITION
800' BUFFER

5 DRUMS SPACED @ 10'
INTERVALS AS NEEDED
IN FRONT OF ARROW BOARD

1 MILE
500' | 1390' | 500' | 750'

ROAD WORK 2 MILES W20-1
ROAD WORK 1 MILE W20-1
RIGHT LANE CLOSED AHEAD W20-5
RAMP CLOSED AHEAD W20-3(MOD)
RIGHT LANE CLOSED 1500 FT W20-5
W4-2R

SOUTH
M3-3
36"X24"
INTERSTATE 43
M1-1
36"X36"
45
M1-4
36"X36"

R11-2
48" X 30"
RAMP CLOSED
TYPE III BARRICADE

| PROJECT NO:1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 30 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\CAD\10903330\026108_S2.DWG
PLOT DATE : 3/12/2014 9:49 AM
PLOT BY : SARAUER, ADAM N
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

N

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE, 4-INCH (WHITE)

ROAD WORK AHEAD W20-1

EDGERTON AVE.

R11-2 48" X 30"

LANE CLOSED

TYPE III BARRICADE

BP: 52+45.15 STH100

54 STH100

56 STH100

24'

USH 45 / STH 100 SB

USH 45 / STH 100 NB

25' TYP

700'

750'

ROAD WORK AHEAD W20-1

RIGHT LANE CLOSED AHEAD W20-5

BEGIN RIGHT TURN LANE R3-20-RR 24"X36"

FIELD ENGINEER TO FIT FIELD CONDITIONS FOR DRUM SPACING & LOCATION FOR RIGHT TURN LANE

SPACE @ 10' INTERVALS TO FIT FIELD CONDITIONS AS DIRECTED BY FIELD ENGINEER

W01-4B

LEFT LANE CLOSED AHEAD W20-5

ROAD WORK AHEAD W20-1

EDGERTON AVE.

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : W:\PDS\C3D\CAD\10903330\026109_S2.DWG PLOT DATE : 3/12/2014 9:50 AM PLOT BY : SARAUER, ADAM N PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

N

370 100C2

368 100C2

372 100C2

374 100C2

376 100C2

366 100C2

362 100C1

364 100C1

BP: 360+98.21 100C1

PT: 364+20.89 100C1

BP: 366+24.36 100C2

EP: 366+36.41 100C2

USH 45 SB RAMP CLOSED

IH-43 NB

74 43C2

76 43C2

78 43C2

80 43C2

82 43C2

34.50 43C2

74 43C3

PI: 74+03.01 43C3

76 43C3

PI: 376+09.18 100C2

B-40-303

B-40-301

B-40-302

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (WHITE)

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

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (DASHED BLACK)
(12.5 FT LINE, 37.5 FT SKIP)

BEGIN AT
STA. 64 STH100+88

250' TAPER

50' TYP

25' TYP

24'

SPACE BARRELS AS DIRECTED BY FIELD
ENGINEER TO FIT EXISTING FIELD CONDITIONS

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (YELLOW)

STH 100 SB

STH 100 NB

58 STH100

60 STH100

62 STH100

64 STH100

66 STH100

68 STH100

70 STH100

72 STH10

BP: 272+16.80 100C3

PC: 274+39.31 100C3

274 100C3

276 100C3

278 100C3

PT: 278+31.40 100C3

280 100C3

282 100C

NB ON RAMP CLOSED

50' TYP

310' TAPER LENGTH

120' BUFFER

FROM STA 61 STH100+00 TO STA 64 STH100+10

TEMPORARY PAVEMENT
MARKING REMOVABLE TAPE
4-INCH (WHITE)

*NOTE:
WORK ZONE INCLUDES REPAIRS
ON UNDERSIDE OF SLABS ON
B-40-301 & B-40-302

14'-6"
W12-2

25' TYP

INLET PROTECTION
TYPE B (TYP)

TEMPORARY PAVEMENT
MARKING REMOVABLE TAPE
4-INCH (WHITE)

(4) INLET PROTECTION
TYPE B UNDER STRUCTURE

6.49 100C2

378 43C3

PT: 378+06.49 100C2

380 100C2

82 43C3

EP: 380+

R11-2
48" X 30"
LANE
CLOSED
TYPE III BARRICADE

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 32 | E |
|---|---|---|---|---|---|

2

2

N

*NOTE:
TEMPORARY TAPE ARROW, TYPE 2 AND WHITE LETTERS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER

BEGIN 300 FT TEMPORARY PAVEMENT MARKING 8-INCH REMOVABLE TAPE (WHITE) FROM STOPLINE (REMAINS FROM STAGE 1)

LAYTON AVE

ROAD WORK AHEAD W20-1

LEFT LANE CLOSED AHEAD W20-5

W104-2L

USH 45 SB OFF RAMP CLOSED

BEGIN LEFT TURN LANE R3-20-LL 24"X36" (PUT BEHIND BARRELS)

(4) INLET PROTECTION TYPE B UNDER STRUCTURE

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" (YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASHED BLACK) (12.5 FT LINE, 37.5 FT SKIP)

BEGIN SHIFT AT STA. 73 STH100+36

STH 100 SB

STH 100 NB

70 STH100 | 72 STH100 | 74 STH100 | 76 STH100 | 78 STH100 | PI: 78+82.68 STH100 | 80 STH100 | 82 STH100 | 84 STH100

RIGHT LANE MUST TURN RIGHT R3-7R 36"X36"

TEMPORARY TAPE WHITE LETTERS (TYP)

RIGHT LANE MUST TURN RIGHT R3-7R 36"X36"

ROAD WORK AHEAD W20-1

TEMPORARY TAPE ARROW, TYPE 2 (WHITE) (TYP)

END SHIFT AT STA. 70 STH100+82

B-40-303

INLET PROTECTION TYPE B (TYP)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" (YELLOW)

TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4" (WHITE)

APPLY 400 FT TEMPORARY PAVEMENT MARKING 8-INCH REMOVABLE TAPE (WHITE DROP LANE DASHED) 3' LINE 9' GAP -- AFTER -- TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (DASHED BLACK) (12.5 FT LINE, 37.5 SKIP) (REMAINS FROM STAGE 1)

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

ROAD WORK AHEAD W20-1

IH 43 SB

EP: 381+36.48 100C2

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

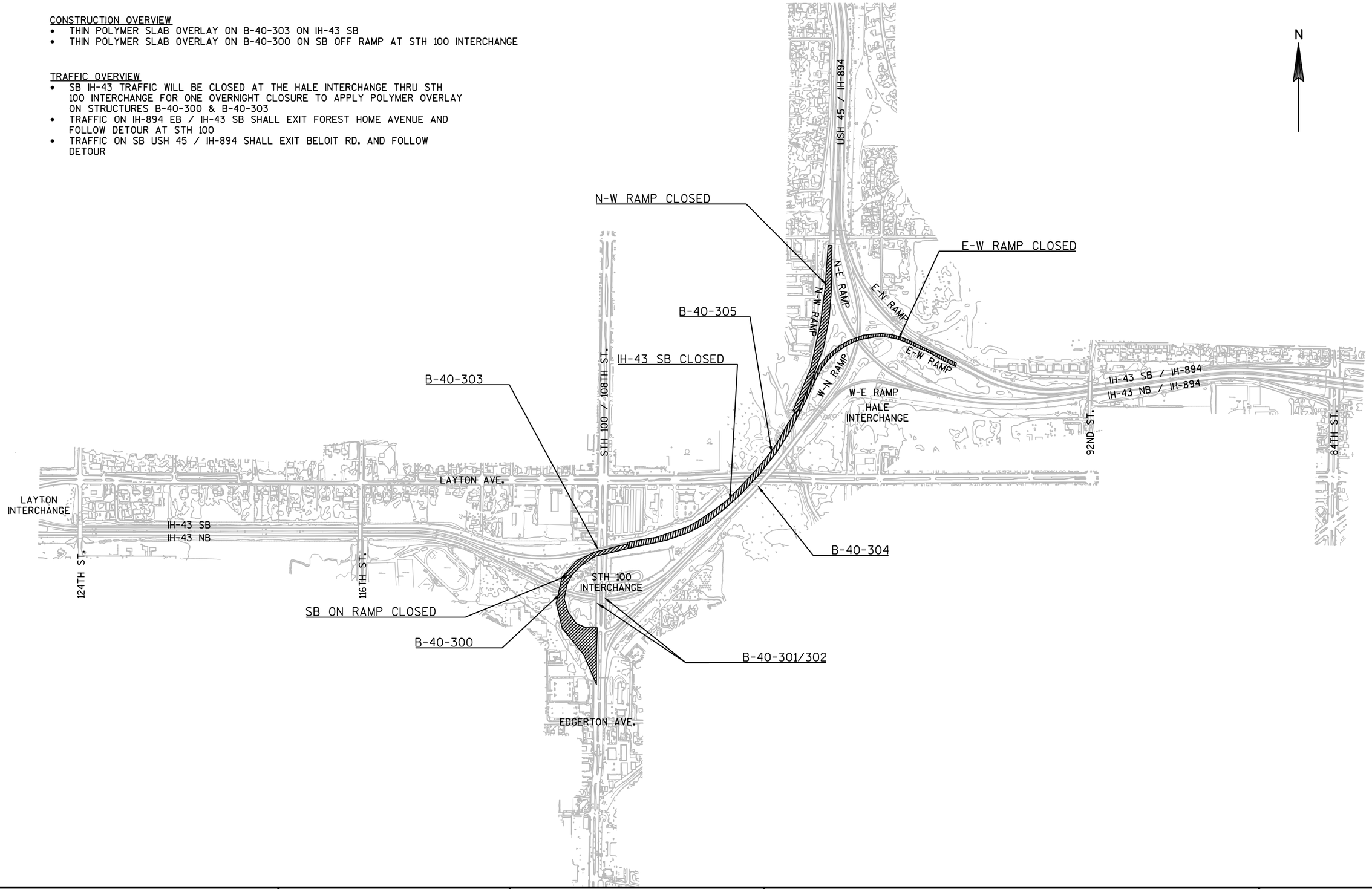
TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

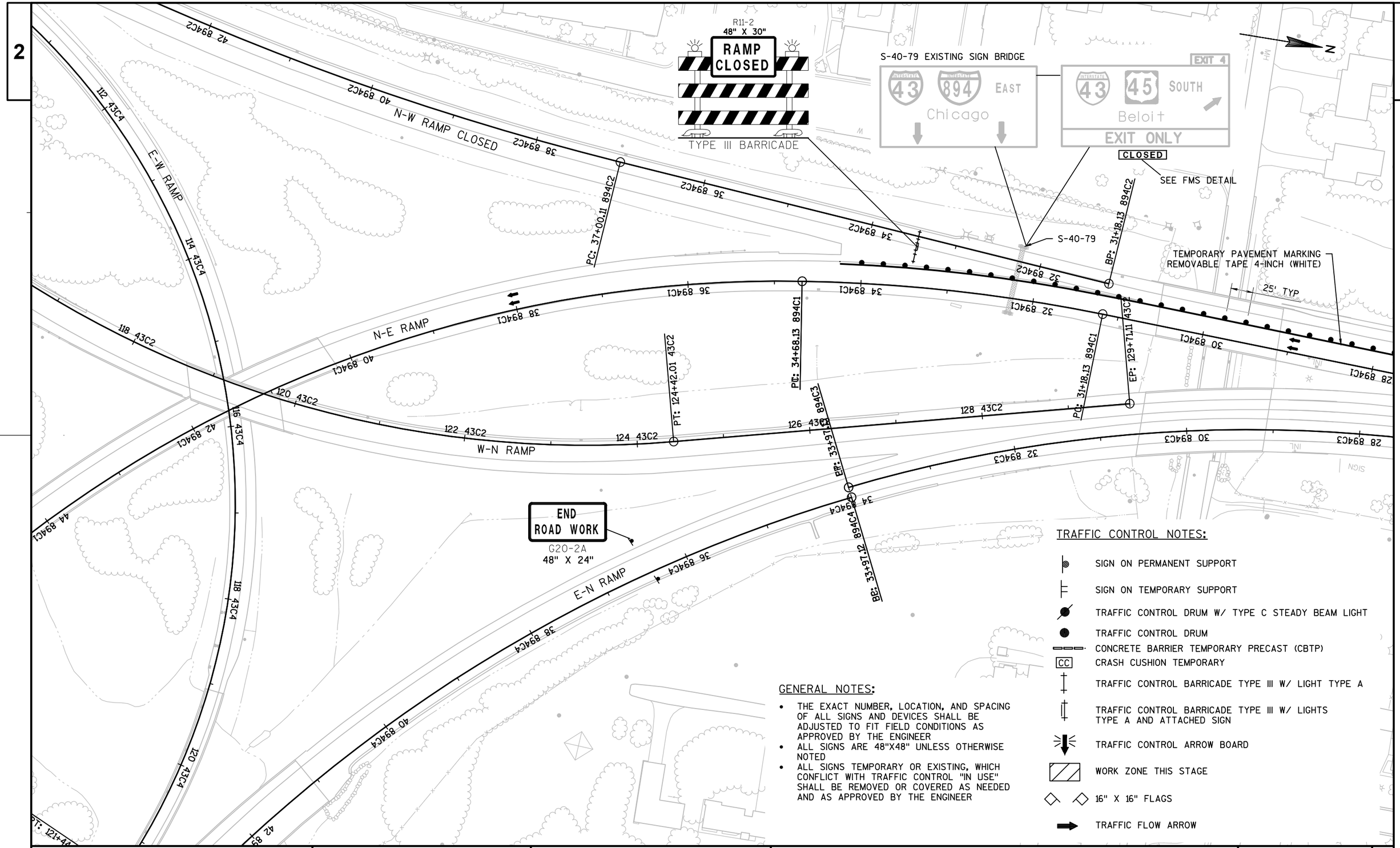
| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 2 | SHEET 33 | E |
|---|---|---|---|---|---|

CONSTRUCTION OVERVIEW
- THIN POLYMER SLAB OVERLAY ON B-40-303 ON IH-43 SB
- THIN POLYMER SLAB OVERLAY ON B-40-300 ON SB OFF RAMP AT STH 100 INTERCHANGE

TRAFFIC OVERVIEW
- SB IH-43 TRAFFIC WILL BE CLOSED AT THE HALE INTERCHANGE THRU STH 100 INTERCHANGE FOR ONE OVERNIGHT CLOSURE TO APPLY POLYMER OVERLAY ON STRUCTURES B-40-300 & B-40-303
- TRAFFIC ON IH-894 EB / IH-43 SB SHALL EXIT FOREST HOME AVENUE AND FOLLOW DETOUR AT STH 100
- TRAFFIC ON SB USH 45 / IH-894 SHALL EXIT BELOIT RD. AND FOLLOW DETOUR




| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | CONSTRUCTION/TRAFFIC OVERVIEW STAGE 3 | SHEET 34 | E |
|---|---|---|---|---|---|




TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC — CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 3 | SHEET 35 | E |
|---|---|---|---|---|---|

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC — CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

## 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
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

S-40-805 EXISTING SIGN BRIDGE

EXIT 4

43 894 EAST Chicago

43 45 SOUTH Beloit

EXIT ONLY

CLOSED
SEE FMS SIGN DETAIL

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE 4-INCH (DASHED BLACK)
(12.5 FT LINE, 37.5 FT SKIP)
(TO REMAIN FROM STAGE 1)

I-894/USH 45 NB

I-894/USH 45 SB

34 894N1 36 894N1 38 894N1 40 894N1 42 894N1 44 894N1

26 894C3 28 894C3

26 894C1 28 894C1

BBB: 25+98.87 894C3

EP: 45+98.87 894N1

BP: 25+98.87 894N1

50' TYP

25' TYP

350'

5 DRUMS SPACED @ 10' INTERVALS
AS NEEDED IN FRONT OF ARROW BOARD

TEMPORARY PAVEMENT MARKING
REMOVABLE TAPE
4-INCH (WHITE)

275'

600' TRANSITION

800' BUFFER

1 MILE

500' 1390' 500' 750'

ROAD WORK 2 MILES W20-1

ROAD WORK 1 MILE W20-1

RIGHT LANE CLOSED AHEAD W20-5

RAMP CLOSED AHEAD W20-3M(OD)

RIGHT LANE CLOSED 1500 FT W20-5

W04-2R 36"X36"

SOUTH M3-3 36"X24"

43 M1-1 36"X36"

45 M1-4 36"X36"

R11-2
48" X 30"
RAMP CLOSED

TYPE III BARRICADE

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 3 | SHEET 36 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\CAD\10903330\026202_S3.DWG PLOT DATE : 3/12/2014 9:57 AM PLOT BY : SARAUER, ADAM N PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

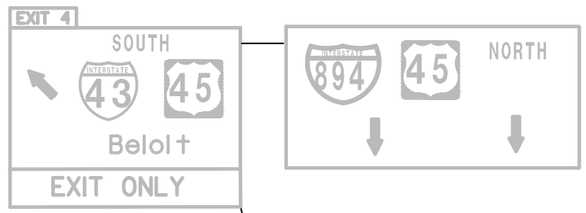
## GENERAL NOTES:

- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER

## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC — CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

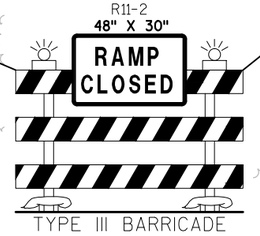
S-40-66 EXISTING SIGN BRIDGE




CLOSED

SEE FMS DETAIL

S-40-66



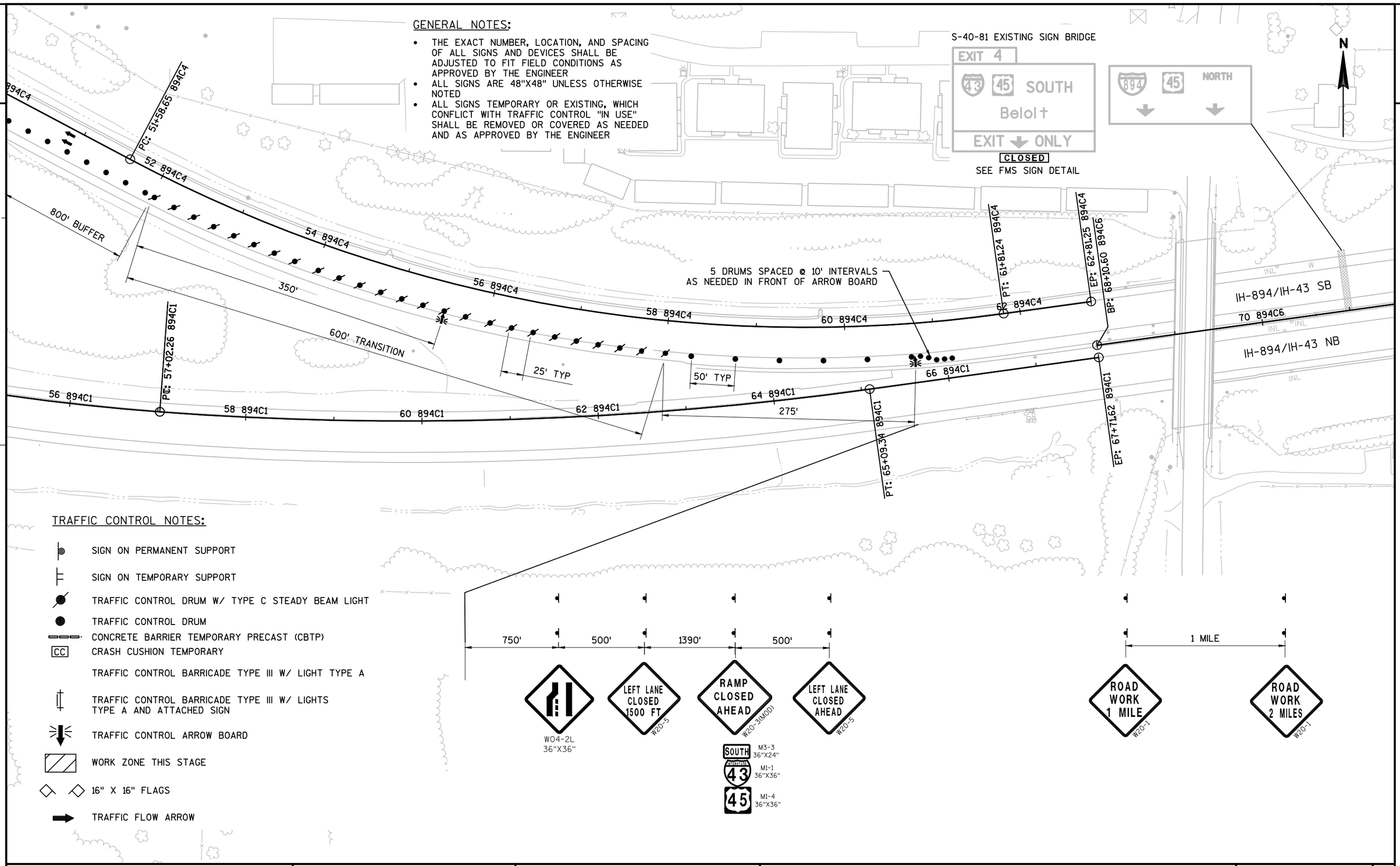

25' TYP

36 894C4
38 894C4
E-N RAMP
40 894C4
42 894C4
44 894C4
PT: 45+15.34 894C4
46 894C4
48 894C4
50 894C4
PC: 51+58.65 894C4
52 89
122 43C4
124 43C4
126 43C4
120 43C4
PT: 121+44.68 43C4
EP: 127+31.64 43C4
122 43C2
E-W RAMP
118 43C4
E-W RAMP CLOSED
40 894C1
120 43C2
116 43C4
42 894C1
W-N RAMP
44 894C1
114 43C4
118 43C2
46 894C1
48 894C1
50 894C1
PC: 50+22.30 894C1
52 894C1
216 43C5
214 43C5
212 43C5
209+26.63 43C5
216+62.18 43C5
EP: 54 894C1
56

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 3 | SHEET 37 | E |
|---|---|---|---|---|---|

## GENERAL NOTES:

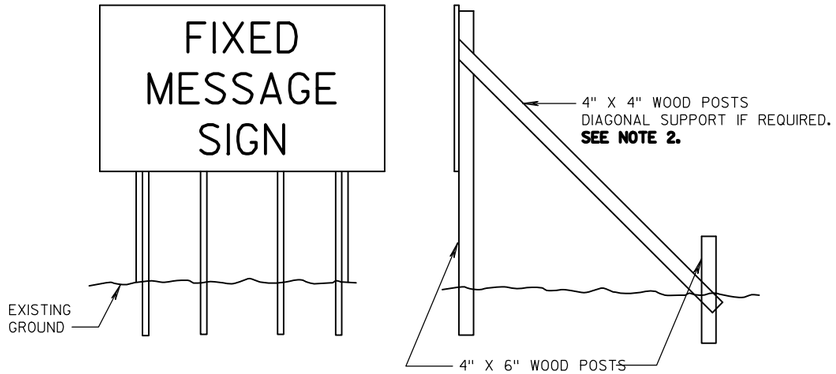
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER
- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED
- ALL SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER




## TRAFFIC CONTROL NOTES:

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM W/ TYPE C STEADY BEAM LIGHT
- TRAFFIC CONTROL DRUM
- CONCRETE BARRIER TEMPORARY PRECAST (CBTP)
- CC CRASH CUSHION TEMPORARY
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHT TYPE A
- TRAFFIC CONTROL BARRICADE TYPE III W/ LIGHTS TYPE A AND ATTACHED SIGN
- TRAFFIC CONTROL ARROW BOARD
- WORK ZONE THIS STAGE
- 16" X 16" FLAGS
- TRAFFIC FLOW ARROW

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | TRAFFIC CONTROL STAGE 3 | SHEET 38 | E |
|---|---|---|---|---|---|



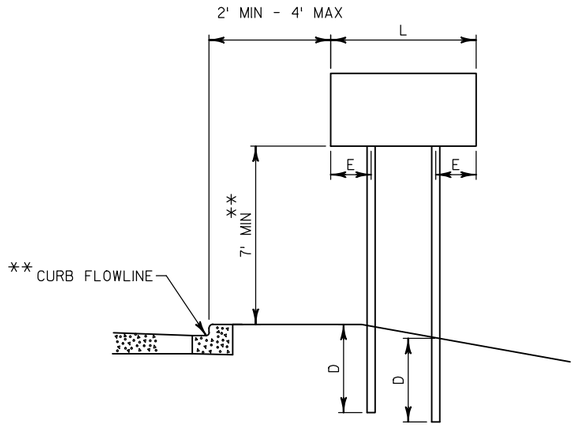

FRONT VIEW SIDE VIEW

NOTES

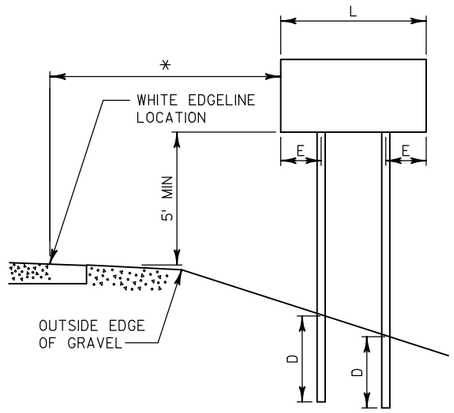
1. SEE TRAFFIC CONTROL SHEETS FOR SIGN LOCATIONS.
2. TWO DIAGONAL SUPPORTS TO BE INCLUDED FOR EACH SIGN OVER 12' LONG AND HIGHER THAN 8'. DIAGONAL SUPPORTS TO BE AFFIXED TO THE OUTSIDE SUPPORTS AND TO BE INCIDENTAL TO THE "TRAFFIC CONTROL FIXED MESSAGE SIGN" ITEM. IF DIAGONAL SUPPORTS ARE USED, SIGN TO BE SHIELDED BEHIND CONCRETE BARRIER OR PLACED OUTSIDE THE CLEAR ZONE.
3. SEE TABLES BELOW FOR REQUIRED NUMBER OF POSTS.

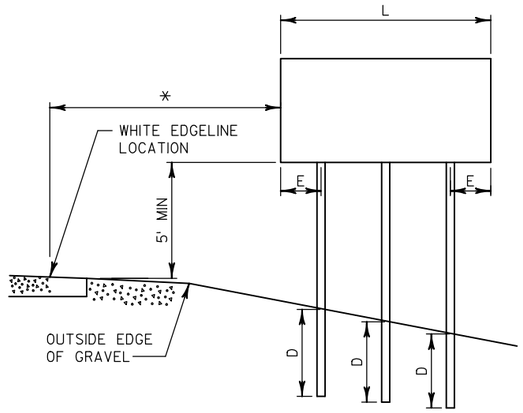
* 6' FROM EDGE OF A PAVED SHOULDER OR 12' FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) OR 2' FROM OUTSIDE EDGE OF GRAVEL, WHICHEVER IS GREATER UNLESS DIRECTED BY PROJECT ENGINEER. SEE NOTE 2 FOR OFFSET REQUIREMENTS WHERE DIAGONAL SUPPORTS ARE USED.

** THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5' MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.




URBAN AREA




RURAL AREA

| SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED) | |
|---|---|
| L | E |
| GREATER THAN 48" LESS THAN 60" | 12" |
| 60" TO 120" | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| GREATER THAN 120" LESS THAN 168" | 12" |

| SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED) | |
|---|---|
| L | E |
| 168" AND GREATER | 12" |

POST EMBEDMENT DEPTH

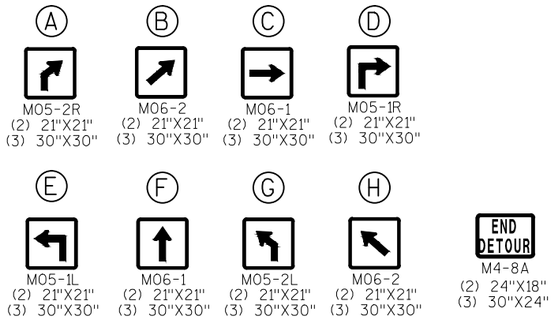
| AREA OF SIGN INSTALLATION (SQ. FT.) | D (MIN) |
|---|---|
| 20 OR LESS | 4' |
| GREATER THAN 20 | 5' |

## POST MOUNTING DETAIL FOR TRAFFIC CONTROL FIXED MESSAGE SIGNS

## GENERAL DETOUR NOTES:

1. ALL SIGN LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED NOT TO CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.
3. SIGNS SHALL BE IN PLACE 10 DAYS PRIOR TO CONSTRUCTION.
4. ALL SIGNS ARE SIZE (2) UNLESS NOTED AS SIZE (3).
5. ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. DETOUR SINGS SHALL BE COVERED OR REMOVED WHEN DETOUR IS NOT IN USE OR AS DIRECTED BY THE ENGINEER.
7. INSTALL PROPOSED DETOUR SIGNS ON OUTSIDE SHOULDER AND MEDIAN SIDE ON DIVIDED ROADWAY.
8. "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

## DETOUR LEGEND:




① DETOUR M04-8 (2) 24"X12" (3) 30"X15"
TO M4-5 (2) 24"X12" (3) 30"X15"
SOUTH M3-3 (2) 24"X12" (3) 30"X15"
100 M1-6 (2) 24"X24" (3) 36"X36"

② DETOUR M04-8 (2) 24"X12" (3) 30"X15"
SOUTH M3-3 (2) 24"X12" (3) 30"X15"
100 M1-6 (2) 24"X24" (3) 36"X36"

③ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
TO M4-5 (2) 24"X12" (3) 30"X15"
SOUTH M3-3 (2) 24"X12" (3) 30"X15"
45 M1-6 (2) 24"X24" (3) 36"X36"

④ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
SOUTH M3-3 (2) 24"X12" (3) 30"X15"
45 M1-6 (2) 24"X24" (3) 36"X36"

⑤ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
TO M4-5 (2) 24"X12" (3) 30"X15"
SOUTH M3-3 (2) 24"X12" (3) 30"X15"
INTERSTATE 43 M1-1 (2) 24"X24" (3) 36"X36"

⑥ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
SOUTH M3-3 (2) 24"X12" (3) 30"X15"
INTERSTATE 43 M1-1 (2) 24"X24" (3) 36"X36"

⑦ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
TO M4-5 (2) 24"X12" (3) 30"X15"
NORTH M3-1 (2) 24"X12" (3) 30"X15"
INTERSTATE 43 M1-1 (2) 24"X24" (3) 36"X36"

⑧ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
NORTH M3-1 (2) 24"X12" (3) 30"X15"
INTERSTATE 43 M1-1 (2) 24"X24" (3) 36"X36"

⑨ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
TO M4-5 (2) 24"X12" (3) 30"X15"
EAST M3-2 (2) 24"X12" (3) 30"X15"
INTERSTATE 894 M1-1A (2) 30"X24" (3) 36"X45"

⑩ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
EAST M3-2 (2) 24"X12" (3) 30"X15"
INTERSTATE 894 M1-1A (2) 30"X24" (3) 36"X45"

⑪ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
TO M4-5 (2) 24"X12" (3) 30"X15"
WEST M3-4 (2) 24"X12" (3) 30"X15"
INTERSTATE 894 M1-1A (2) 30"X24" (3) 36"X45"

⑫ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
WEST M3-4 (2) 24"X12" (3) 30"X15"
INTERSTATE 894 M1-1A (2) 30"X24" (3) 36"X45"

⑬ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
TO M4-5 (2) 24"X12" (3) 30"X15"
NORTH M3-1 (2) 24"X12" (3) 30"X15"
45 M1-6 (2) 24"X24" (3) 36"X36"

⑭ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
NORTH M3-1 (2) 24"X12" (3) 30"X15"
45 M1-6 (2) 24"X24" (3) 36"X36"

⑮ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
TO M4-5 (2) 24"X12" (3) 30"X15"
NORTH M3-1 (2) 24"X12" (3) 30"X15"
100 M1-6 (2) 24"X24" (3) 36"X36"

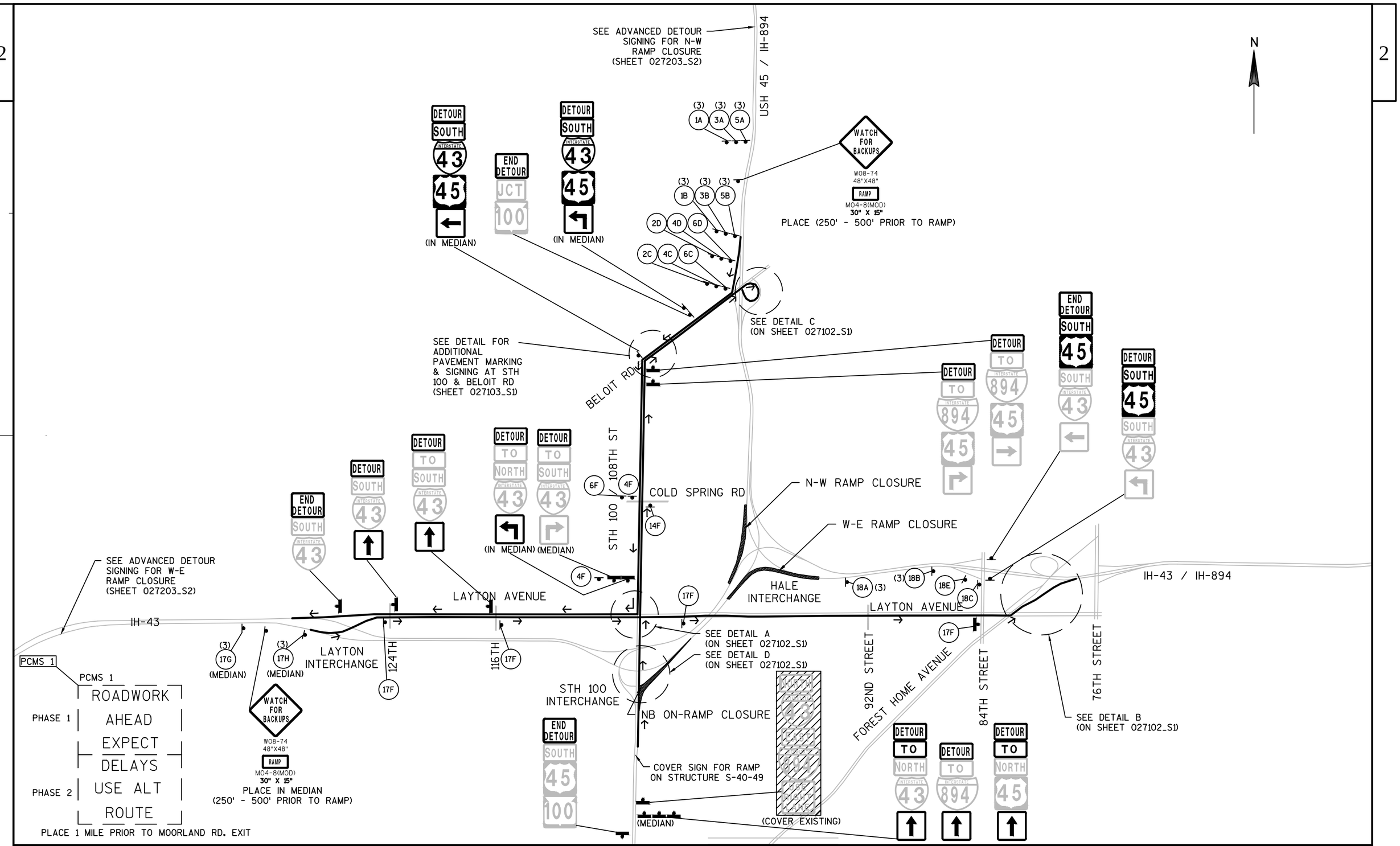
⑯ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
NORTH M3-1 (2) 24"X12" (3) 30"X15"
100 M1-6 (2) 24"X24" (3) 36"X36"

⑰ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
NORTH M3-1 (2) 24"X12" (3) 30"X15"
INTERSTATE 43 M1-1 (2) 24"X24" (3) 36"X36"
EAST M3-2 (2) 24"X12" (3) 30"X15"
INTERSTATE 894 M1-1A (2) 30"X24" (3) 36"X45"

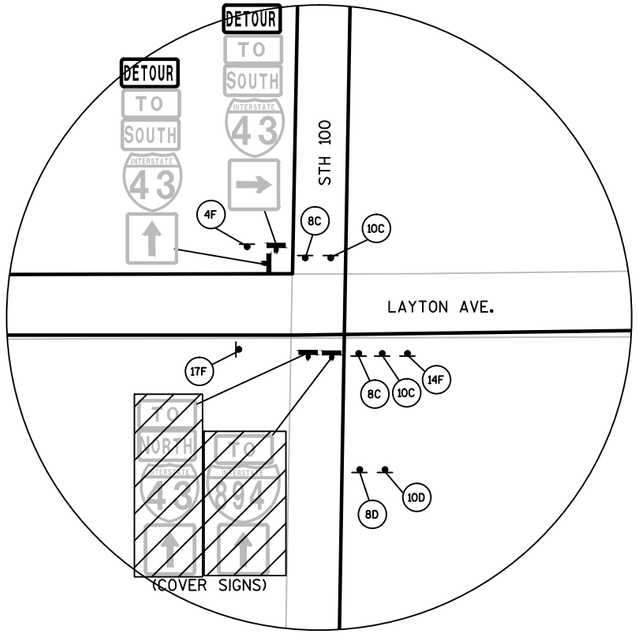
⑱ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
SOUTH M3-3 (2) 24"X12" (3) 30"X15"
INTERSTATE 43 M1-1 (2) 24"X24" (3) 36"X36"
45 M1-6 (2) 24"X24" (3) 36"X36"

⑲ DETOUR M04-8 (2) 24"X12" (3) 30"X15"
SOUTH M3-3 (2) 24"X12" (3) 30"X15"
45 M1-6 (2) 24"X24" (3) 36"X36"
100 M1-6 (2) 24"X24" (3) 36"X36"

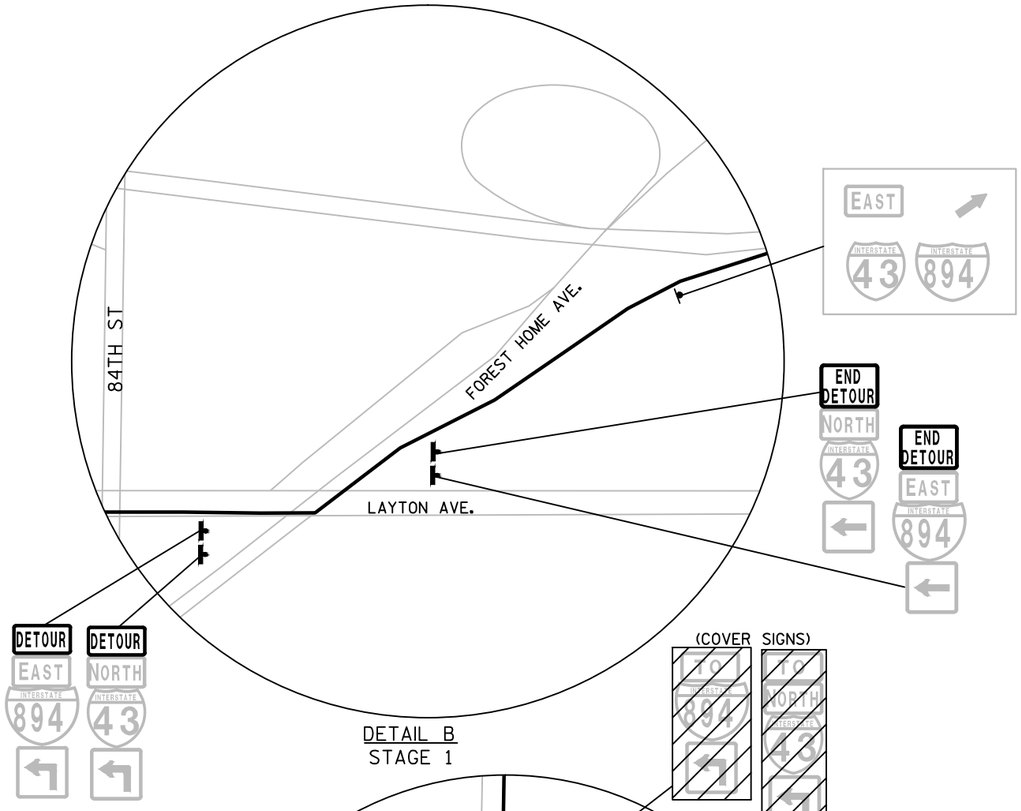
| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PLAN | SHEET 40 | E |
|---|---|---|---|---|---|



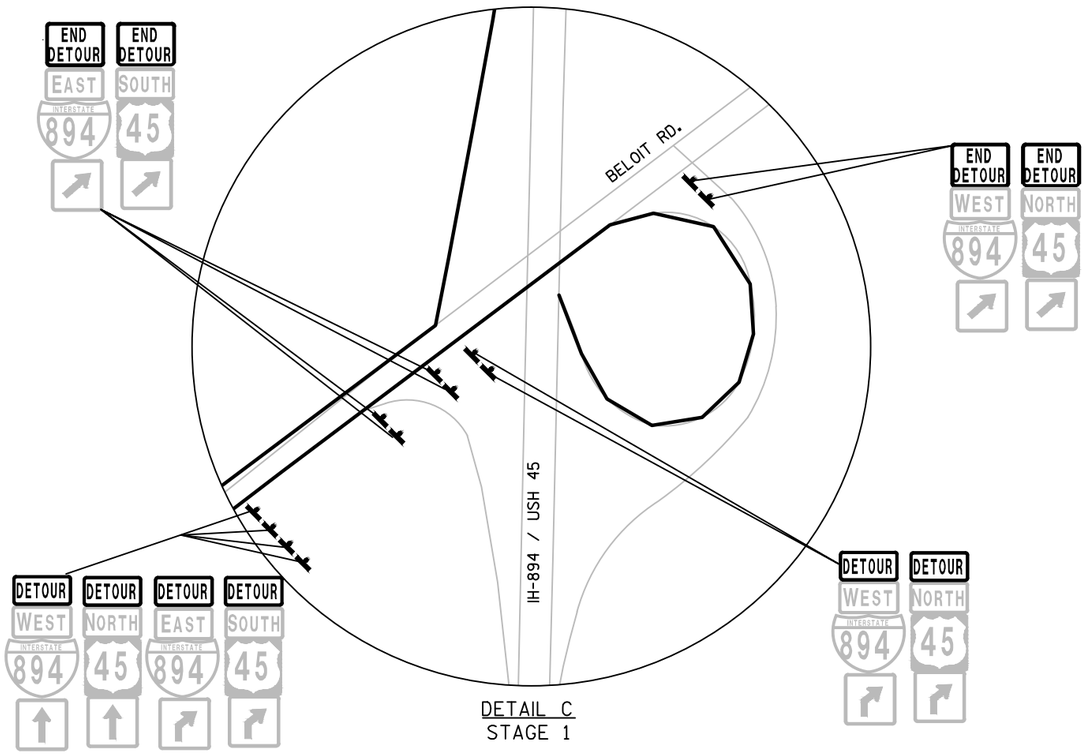

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PLAN STAGE 1 | SHEET 41 | E |
|---|---|---|---|---|---|



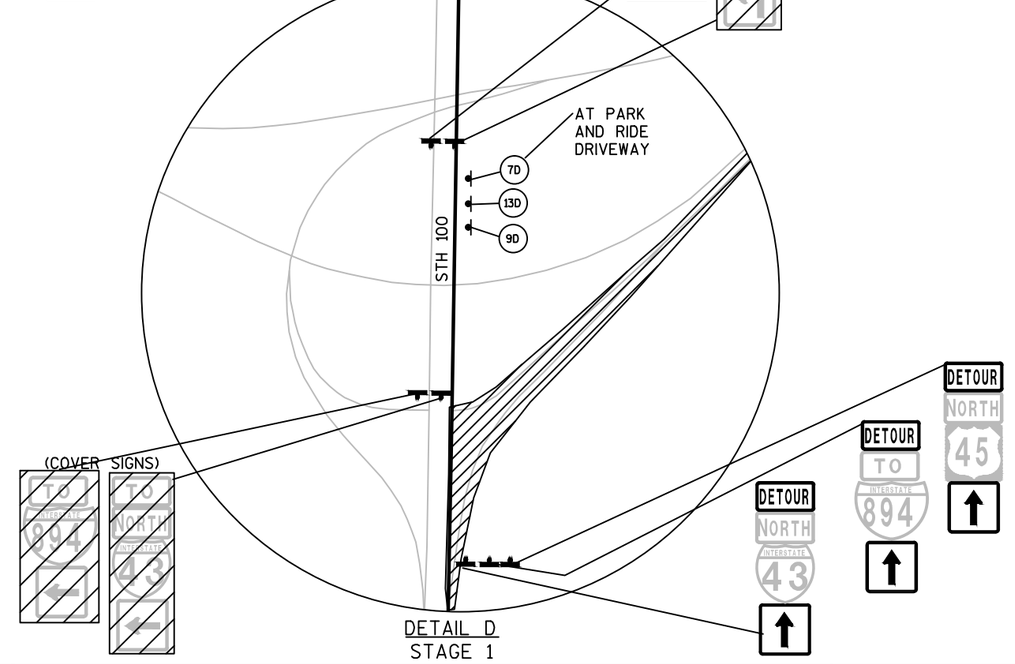

DETAIL A
STAGE 1




DETAIL B
STAGE 1




DETAIL C
STAGE 1




DETAIL D
STAGE 1

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PLAN STAGE 1 | SHEET 42 | E |
|---|---|---|---|---|---|

2

MOUNT ON EXIST POLE

ONLY

R3-8B
36"X30"

ONLY

R3-8B
36"X30"

BEGIN 100 FT TEMPORARY PAVEMENT MARKING
8-INCH REMOVABLE TAPE (WHITE) FROM STOPLINE

BELOIT RD.

TEMPORARY PAVEMENT MARKING
8-INCH REMOVABLE TAPE
(WHITE) 2' LINE 6' GAPS

BEGIN 200 FT TEMPORARY PAVEMENT MARKING
8-INCH REMOVABLE TAPE (WHITE) FROM STOPLINE

RIGHT LANE
MUST
TURN RIGHT

R3-7R
36"X36"

STH 100

334 FT TEMPORARY PAVEMENT MARKING 8-INCH
REMOVABLE TAPE (WHITE DROP LANE DASHED)
3' LINE 9' GAP

RIGHT LANE
MUST
TURN RIGHT

(PLACE 534' PRIOR TO BELOIT RD.)

R3-7R
36"X36"

N

## GENERAL NOTES

1. TEMPORARY TAPE ARROW, TYPE 3' (WHITE)
2. TEMPORARY TAPE ARROW, TYPE 2' (WHITE)
3. TEMPORARY TAPE WHITE LETTERS ONLY

* THE EXACT LOCATION OF ITEMS 1, 2, 3 SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PAVEMENT MARKING AT STH 100 & BELOIT RD | SHEET 43 | E |
|---|---|---|---|---|---|

FILE NAME : W:\PDS\C3D\CAD\10903330\027103_S1.DWG PLOT DATE : 4/4/2014 8:22 AM PLOT BY : SARAUER, ADAM N PLOT NAME : PLOT SCALE : 1:80

FMS 4

43 45 100 SOUTH

RAMP TO BELOIT CLOSED
USE BELOIT RD EXIT

FMS TO REMAIN FROM A PREVIOUS CONTRACT

FMS 1

43 NORTH RAMP

CLOSED AHEAD
USE LAYTON AVE

FMS TO REMAIN FROM A PREVIOUS CONTRACT

FMS 5

45 NORTH 894 EAST

RAMP CLOSED AHEAD
USE LAYTON EXIT
LEFT EXIT

SEE ADVANCED DETOUR SIGNING FOR N-W RAMP CLOSURE (SHEET 027203_S2)

FMS 4

USH 45 / IH-894

WATCH FOR BACKUPS
W08-74
48"X48"
RAMP
M04-8(MOD)
30" X 15"
PLACE (250' - 500' PRIOR TO RAMP)

(3) 1A (3) 3A
(3) 1B (3) 3B
2D 4D
2C 4C
(MEDIAN) 4E
(MEDIAN) 4C

END DETOUR JCT 100

SEE DETAIL B (ON SHEET 027202_S2)
18B (3)
18A (3)

SEE DETAIL FOR ADDITIONAL PAVEMENT MARKING & SIGNING AT STH 100 & BELOIT RD (SHEET 027103_S1)

BELOIT RD

DETOUR TO 894 45

DETOUR TO 894 45

FMS 6

45 100 SOUTH

RAMP CLOSED AHEAD
EXIT FOREST HOME
FOLLOW DETOUR

FMS 3

43 45 NORTH RAMP

CLOSED AHEAD
FOLLOW DETOUR

N

DETOUR TO NORTH 43

DETOUR TO SOUTH 43

DETOUR SOUTH 43

DETOUR TO SOUTH 43

END DETOUR SOUTH 43

(IN MEDIAN) (MEDIAN)

4F

108TH ST

STH 100

COLD SPRING RD

18F (3)

N-W RAMP CLOSURE
W-N RAMP CLOSURE

FMS 1 (MEDIAN)

HALE INTERCHANGE

1 MILE 2640'

(3) 18B (3) 18A

SEE DETAIL C (ON SHEET 027202_S2)

(3) 18F

FMS 6

IH-43 / IH-894

SEE ADVANCED DETOUR SIGNING FOR W-N RAMP CLOSURE (SHEET 027203_S2)

LAYTON AVENUE

LAYTON AVENUE

IH-43

FMS 3

11G (3) 13G (3)

(3) 11H (3) 13H

LAYTON INTERCHANGE

124TH

12F 14F

12F 14F

116TH

SEE DETAIL A (ON SHEET 027202_S2)
SEE DETAIL D (ON SHEET 027202_S2)

17F

92ND STREET

FOREST HOME AVENUE

84TH STREET

76TH STREET

19F

19F

SB OFF RAMP CLOSURE

STH 100 INTERCHANGE

NB ON-RAMP CLOSURE

WATCH FOR BACKUPS
W08-74
48"X48"
RAMP
M04-8(MOD)
30" X 15"
PLACE IN MEDIAN
(250' - 500' PRIOR TO RAMP)

WATCH FOR 43 NORTH 894 EAST RAMP

(COVER EXISTING)

DETOUR TO NORTH 43

DETOUR TO 894

DETOUR TO NORTH 45

END DETOUR SOUTH 45 100

14'-6"
W12-2
36"X36"
PLACE 500 FT PRIOR TO FOREST HOME AVE ON NB STH 100

(MEDIAN) FMS 3

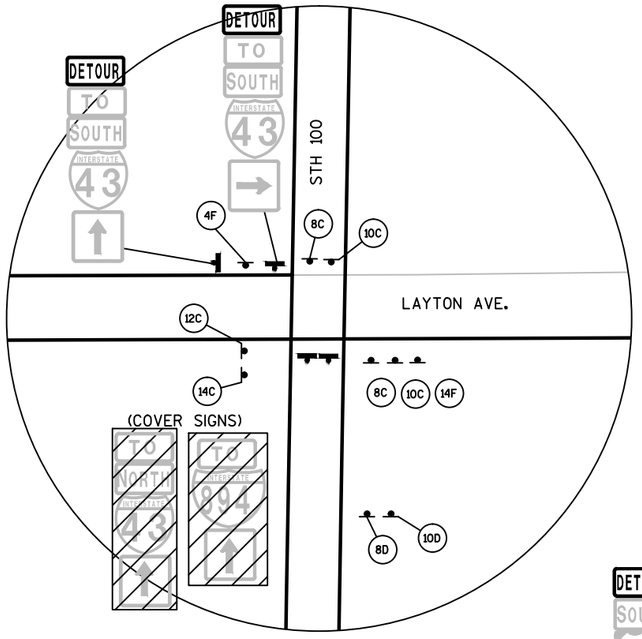
GRANGE AVENUE

DETOUR SOUTH 45 100

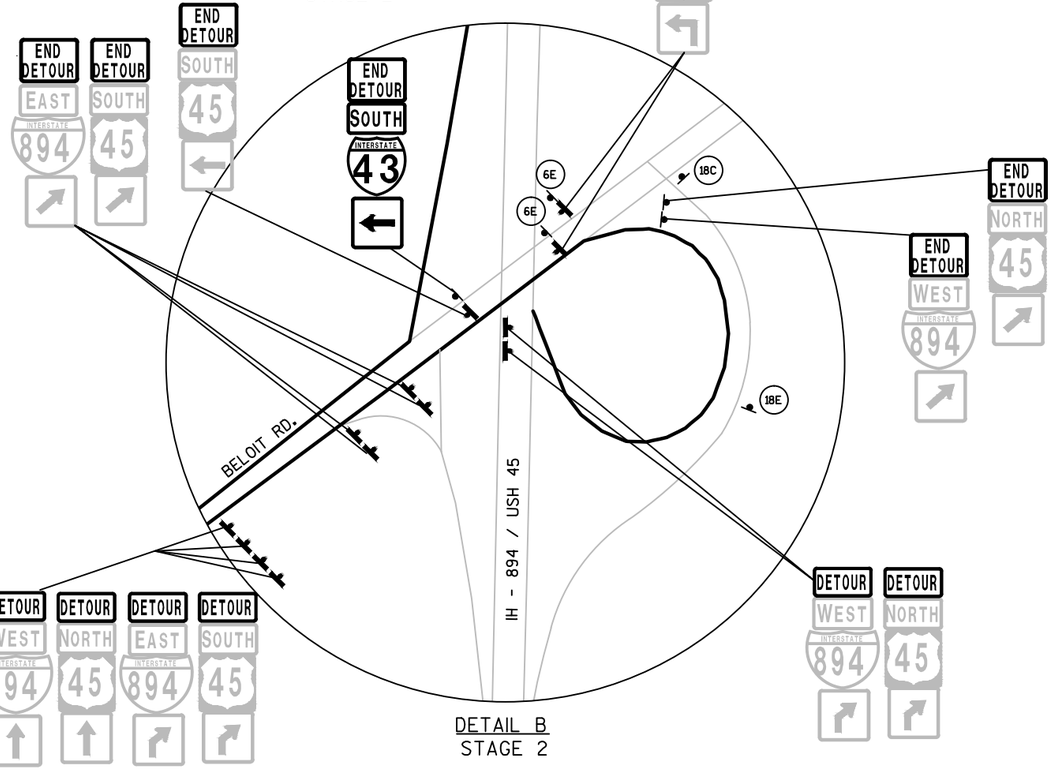
END DETOUR SOUTH 45 100

DETOUR TO NORTH 43 EAST 894

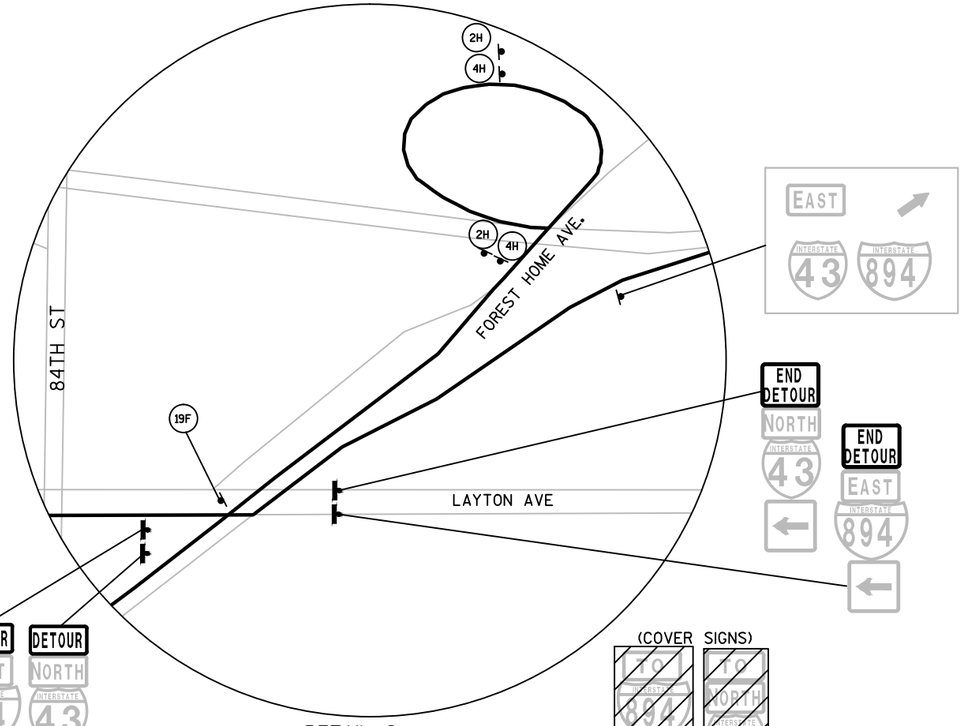
| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PLAN STAGE 2 | SHEET 44 | E |
|---|---|---|---|---|---|



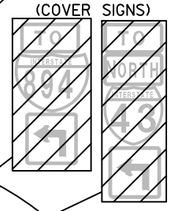

DETAIL A
STAGE 2

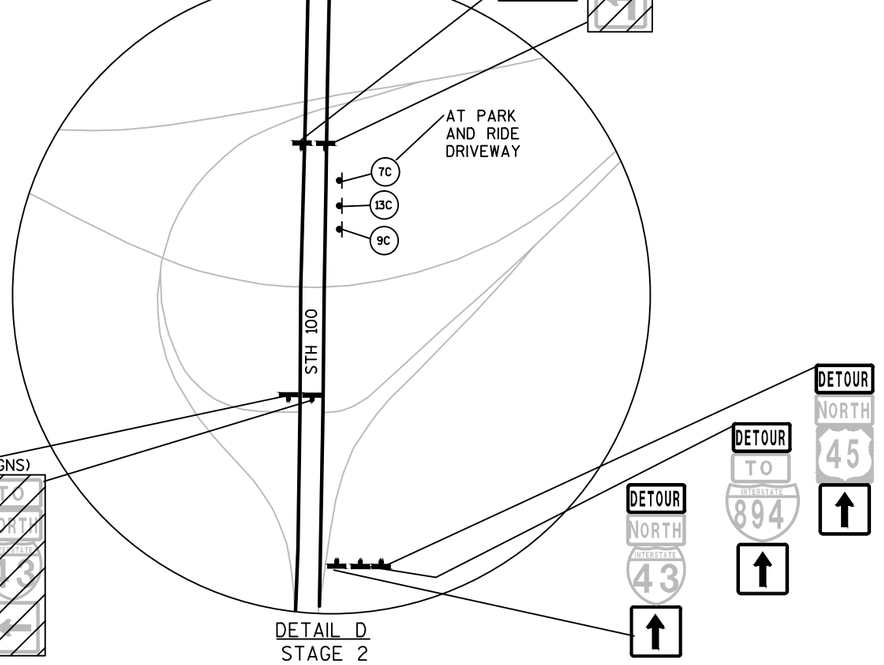



DETAIL B
STAGE 2




DETAIL C
STAGE 2



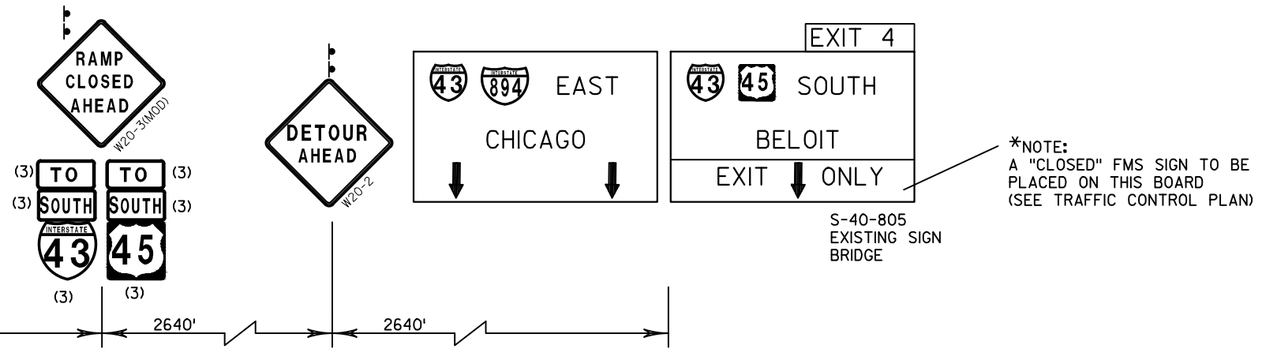




DETAIL D
STAGE 2

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PLAN STAGE 2 | SHEET 45 | E |
|---|---|---|---|---|---|

FMS TO REMAIN FROM A PREVIOUS CONTRACT

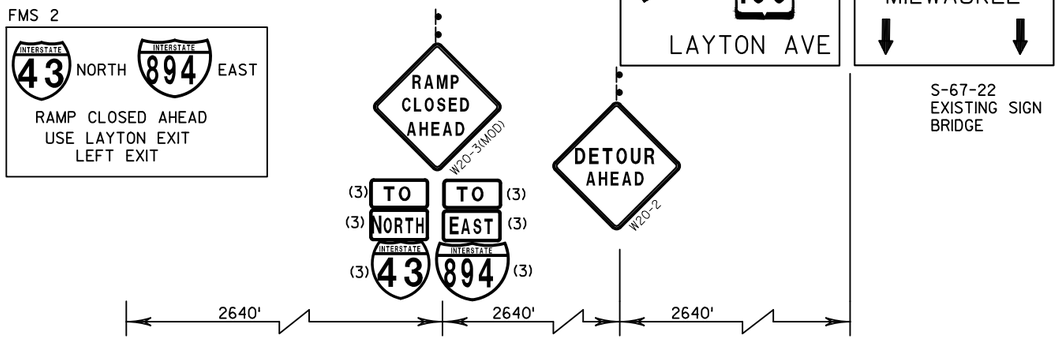



*NOTE:
A "CLOSED" FMS SIGN TO BE PLACED ON THIS BOARD (SEE TRAFFIC CONTROL PLAN)

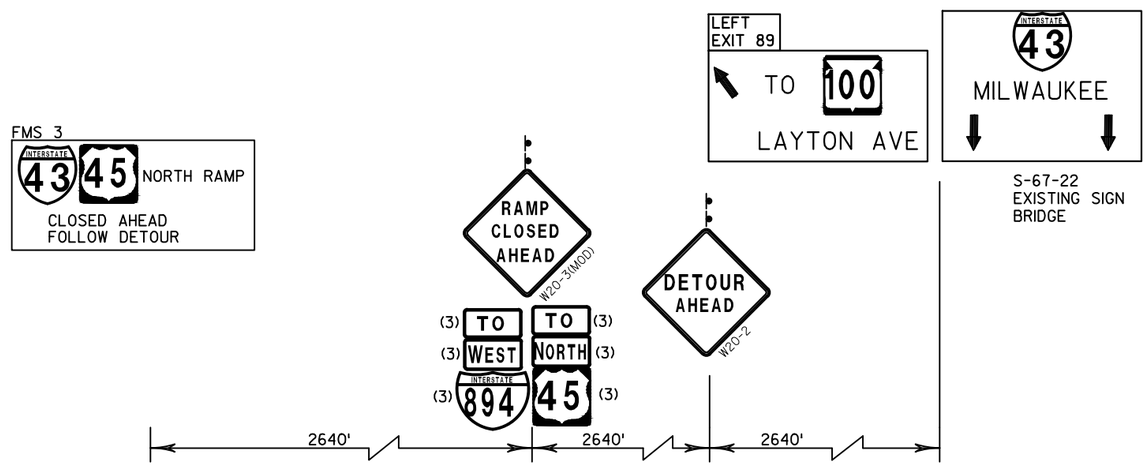
S-40-805
EXISTING SIGN BRIDGE

ADVANCED DETOUR SIGNING FOR N-W RAMP CLOSURE
(STAGE 1 & 2)




S-67-22
EXISTING SIGN BRIDGE

ADVANCED DETOUR SIGNING FOR W-E RAMP CLOSURE
(STAGE 1)




S-67-22
EXISTING SIGN BRIDGE

ADVANCED DETOUR SIGNING FOR W-N RAMP CLOSURE
(STAGE 2)

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PLAN | SHEET 46 | E |
|---|---|---|---|---|---|

FMS SIGN TO REMAIN FROM A PREVIOUS CONTRACT

FMS 4

43 45 100 SOUTH

RAMP TO BELOIT CLOSED
USE BELOIT RD EXIT

SEE ADVANCED DETOUR SIGNING FOR N-W RAMP CLOSURE (SHEET 027203_S2)

FMS 4

USH 45 / IH-894

WATCH FOR BACKUPS

W08-74
48"X48"

RAMP

M04-8(MOD)
30" X 15"

PLACE (250' - 500' PRIOR TO RAMP)

FMS 8

43 45 100 SOUTH

RAMP CLOSED AHEAD
EXIT FOREST HOME
FOLLOW DETOUR

END DETOUR JCT 100

(MEDIAN) 4E

(MEDIAN) 4C

SEE DETAIL FOR ADDITIONAL PAVEMENT MARKING & SIGNING AT STH 100 & BELOIT RD (SHEET 027103_S1)

BELOIT RD

19B 6B (3) (3)

19A 6A (3) (3)

(COVER EXISTING)

DETOUR TO SOUTH 43

DETOUR SOUTH 43

DETOUR TO SOUTH 43

108TH ST

STH 100

4F

COLD SPRING RD

19F (3) 6F (3)

N-W RAMP CLOSURE

E-W RAMP CLOSURE

IH-43 SB CLOSED

WEST 894

1 MILE 2640' 2640'

IH-43 SB OPEN

LAYTON AVENUE

(MEDIAN) 4F

(MEDIAN) 4E

HALE INTERCHANGE

19F 6F

19F 6F

IH-43 / IH-894

(3) 6B

SEE DETAIL B (ON SHEET 027202_S2)

FMS 8

PCMS 5

PCMS 5

PHASE 1 RAMP TO SB 45 CLOSED

PHASE 2 USE FOREST HOMEEXIT

IH-43

LAYTON INTERCHANGE

124TH

116TH

SEE DETAIL A (ON SHEET 027202_S2)

SB OFF RAMP CLOSURE

STH 100 INTERCHANGE

LAYTON AVENUE

END DETOUR JCT 100 (MEDIAN)

92ND STREET

FOREST HOME AVENUE

84TH STREET

76TH STREET

19F

19F

GRANGE AVENUE

DETOUR SOUTH 45 100

END DETOUR SOUTH 45 100

14'-6"

W12-2
36"X36"

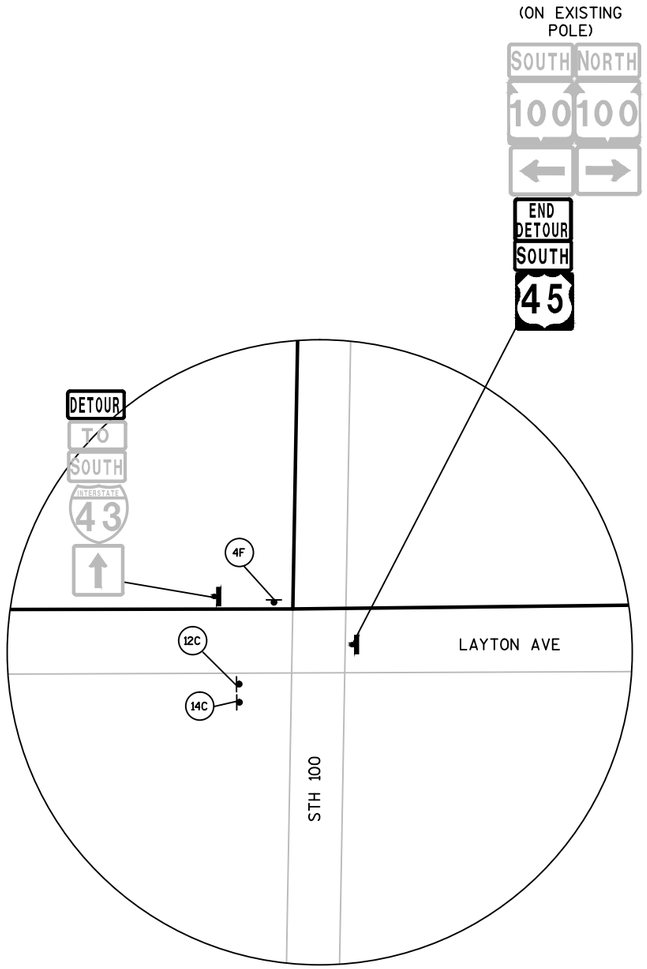
PLACE 500 FT PRIOR TO FOREST HOME AVE ON NB STH 100

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PLAN STAGE 3 | SHEET 47 | E |
|---|---|---|---|---|---|

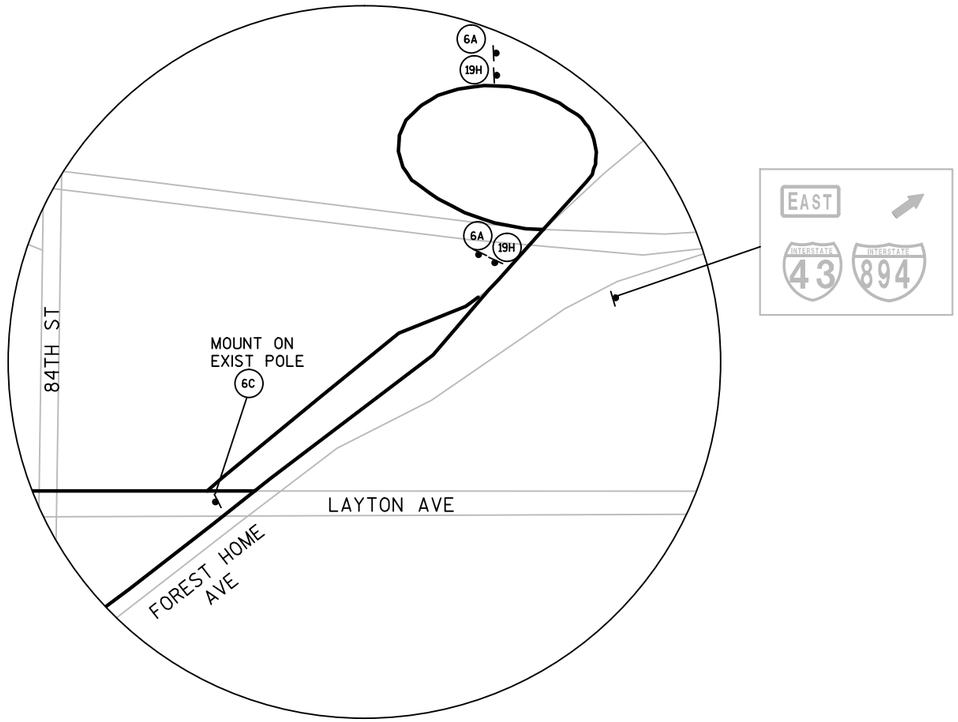
FILE NAME : W:\PDS\C3D\CAD\10903330\027301_S3.DWG PLOT DATE : 3/13/2014 2:39 PM PLOT BY : SARAUER, ADAM N PLOT NAME : PLOT SCALE : 1IN:2000FT

WISDOT/CADDS SHEET 42

2

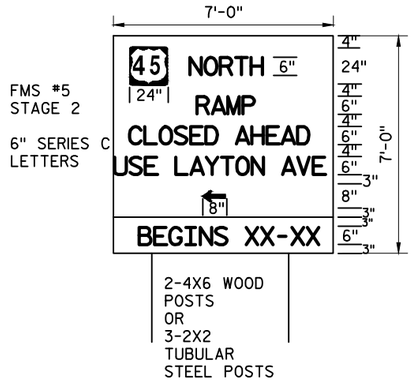



DETAIL A
STAGE 3



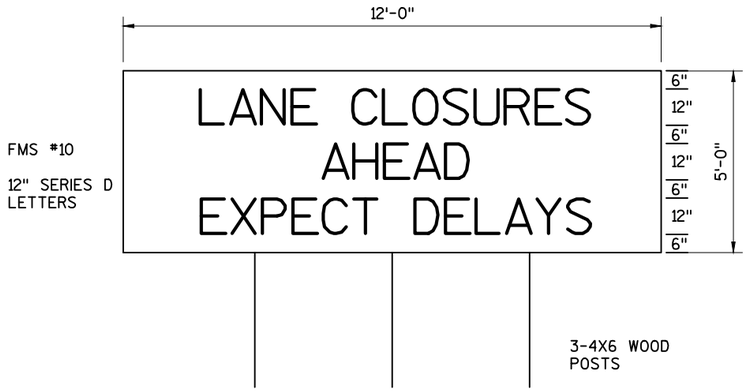

DETAIL B
STAGE 3

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | DETOUR PLAN STAGE 3 | SHEET 48 | E |
|---|---|---|---|---|---|



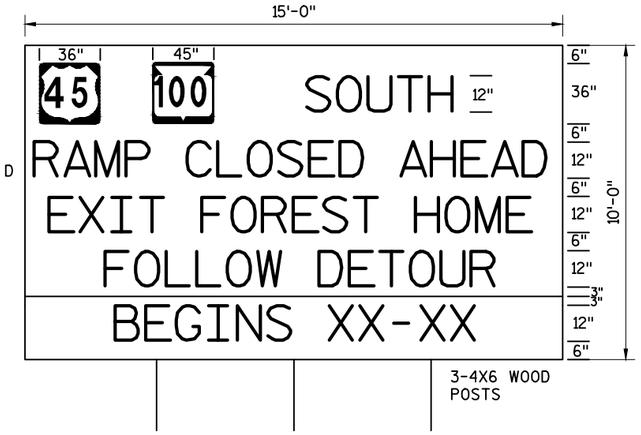

FMS #5
STAGE 2

6" SERIES C LETTERS



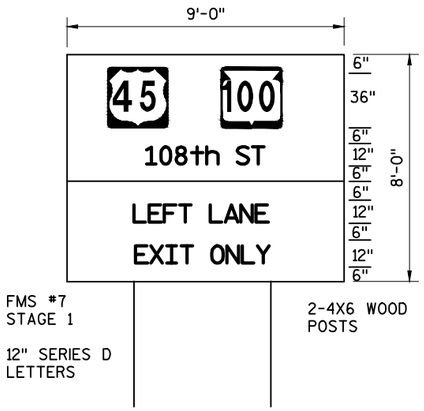

FMS #10

12" SERIES D LETTERS



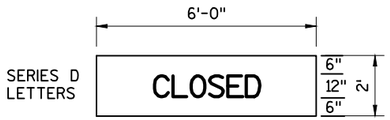

FMS #6

12" SERIES D LETTERS



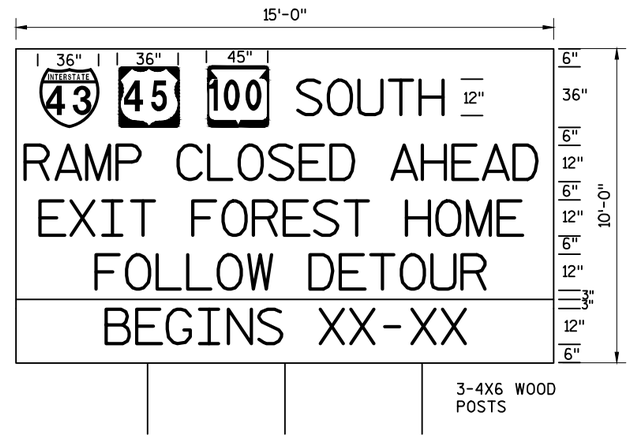

FMS #7
STAGE 1

12" SERIES D LETTERS




SERIES D LETTERS

S-40-79
STAGE 1 & 3
S-40-120
STAGE 1 & 2
S-40-350
STAGE 2
S-40-144
STAGE 2
S-40-143
STAGE 2
S-40-21
STAGE 2
S-40-81
STAGE 3
S-40-66
STAGE 3
S-40-805
STAGE 1, 2 & 3




FMS #8

12" SERIES D LETTERS

| PROJECT NO: 1090-33-60 | HWY: IH-43 | COUNTY: MILWAUKEE | SIGNING DETAIL - FIXED MESSAGE SIGNS | SCALE: 0 1/2" 1" | SHEET 49 | E |
|---|---|---|---|---|---|---|

DATE 31JUL14 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1090-33-60 QUANTITY |
|---|---|---|---|---|---|
| 0010 | 108.4400 | CPM PROGRESS SCHEDULE | EACH | 1.000 | 1.000 |
| 0020 | 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 0001. 102+50 | LS | 1.000 | 1.000 |
| 0030 | 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 0002. 98+68 | LS | 1.000 | 1.000 |
| 0040 | 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 0003. 207+00 | LS | 1.000 | 1.000 |
| 0050 | 204.0175 | REMOVING CONCRETE SLOPE PAVING | SY | 26.000 | 26.000 |
| 0060 | 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 343.000 | 343.000 |
| 0070 | 502.4200.S | RUPTURED VOID REPAIR | SY | 19.000 | 19.000 |
| 0080 | 502.5005 | MASONRY ANCHORS TYPE L NO. 5 BARS | EACH | 267.000 | 267.000 |
| 0090 | 505.0605 | BAR STEEL REINFORCEMENT HS COATED BRIDGES | LB | 25,750.000 | 25,750.000 |
| 0100 | 505.0906 | BAR COUPLERS NO. 6 | EACH | 20.000 | 20.000 |
| 0110 | 505.0907 | BAR COUPLERS NO. 7 | EACH | 42.000 | 42.000 |
| 0120 | 506.0105 | STRUCTURAL STEEL CARBON | LB | 82,830.000 | 82,830.000 |
| 0130 | 509.0301 | PREPARATION DECKS TYPE 1 | SY | 96.000 | 96.000 |
| 0140 | 509.0302 | PREPARATION DECKS TYPE 2 | SY | 39.000 | 39.000 |
| 0150 | 509.1000 | JOINT REPAIR | SY | 309.000 | 309.000 |
| 0160 | 509.1500 | CONCRETE SURFACE REPAIR | SF | 169.000 | 169.000 |
| 0170 | 509.2500 | CONCRETE MASONRY OVERLAY DECKS | CY | 127.000 | 127.000 |
| 0180 | 509.5100.S | POLYMER OVERLAY | SY | 1,933.000 | 1,933.000 |
| 0190 | 513.4055 | RAILING TUBULAR TYPE H (STRUCTURE) 0001. B-40-300 | LS | 1.000 | 1.000 |
| 0200 | 517.0600 | PAINTING EPOXY SYSTEM (STRUCTURE) 0002. B-40-304 | LS | 1.000 | 1.000 |
| 0210 | 517.0600 | PAINTING EPOXY SYSTEM (STRUCTURE) 0003. B-40-305 | LS | 1.000 | 1.000 |
| 0220 | 517.4000.S | CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 0002. B-40-304 | LS | 1.000 | 1.000 |
| 0230 | 517.4000.S | CONTAINMENT AND COLLECTION OF WASTE MATERIALS (STRUCTURE) 0003. B-40-305 | LS | 1.000 | 1.000 |
| 0240 | 603.8000 | CONCRETE BARRIER TEMPORARY PRECAST DELIVERED | LF | 6,222.000 | 6,222.000 |
| 0250 | 603.8125 | CONCRETE BARRIER TEMPORARY PRECAST INSTALLED | LF | 10,900.000 | 10,900.000 |
| 0260 | 604.0400 | SLOPE PAVING CONCRETE | SY | 26.000 | 26.000 |
| 0270 | 614.0905 | CRASH CUSHIONS TEMPORARY | EACH | 5.000 | 5.000 |
| 0280 | 619.1000 | MOBILIZATION | EACH | 1.000 | 1.000 |
| 0290 | 628.1910 | MOBILIZATIONS EMERGENCY EROSION CONTROL | EACH | 2.000 | 2.000 |
| 0300 | 628.7010 | INLET PROTECTION TYPE B | EACH | 57.000 | 57.000 |
| 0310 | 634.0418 | POSTS WOOD 4X4-INCH X 18-FT | EACH | 8.000 | 8.000 |
| 0320 | 634.0612 | POSTS WOOD 4X6-INCH X 12-FT | EACH | 8.000 | 8.000 |
| 0330 | 634.0616 | POSTS WOOD 4X6-INCH X 16-FT | EACH | 8.000 | 8.000 |
| 0340 | 634.0618 | POSTS WOOD 4X6-INCH X 18-FT | EACH | 4.000 | 4.000 |
| 0350 | 634.0620 | POSTS WOOD 4X6-INCH X 20-FT | EACH | 13.000 | 13.000 |
| 0360 | 642.5201 | FIELD OFFICE TYPE C | EACH | 1.000 | 1.000 |
| 0370 | 643.0200 | TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 0001. 1090-33-60 | DAY | 29.000 | 29.000 |
| 0380 | 643.0300 | TRAFFIC CONTROL DRUMS | DAY | 9,027.000 | 9,027.000 |
| 0390 | 643.0420 | TRAFFIC CONTROL BARRICADES TYPE III | DAY | 627.000 | 627.000 |
| 0400 | 643.0705 | TRAFFIC CONTROL WARNING LIGHTS TYPE A | DAY | 1,254.000 | 1,254.000 |
| 0410 | 643.0715 | TRAFFIC CONTROL WARNING LIGHTS TYPE C | DAY | 3,226.000 | 3,226.000 |

3

DATE 31JUL14 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1090-33-60 QUANTITY |
|---|---|---|---|---|---|
| 0420 | 643.0800 | TRAFFIC CONTROL ARROW BOARDS | DAY | 210.000 | 210.000 |
| 0430 | 643.0900 | TRAFFIC CONTROL SIGNS | DAY | 2,912.000 | 2,912.000 |
| 0440 | 643.0920 | TRAFFIC CONTROL COVERING SIGNS TYPE II | EACH | 65.000 | 65.000 |
| 0450 | 643.1000 | TRAFFIC CONTROL SIGNS FIXED MESSAGE | SF | 859.000 | 859.000 |
| 0460 | 643.1050 | TRAFFIC CONTROL SIGNS PCMS | DAY | 15.000 | 15.000 |
| 0470 | 643.2000 | TRAFFIC CONTROL DETOUR (PROJECT) 0001. 1090-33-60 | EACH | 1.000 | 1.000 |
| 0480 | 643.3000 | TRAFFIC CONTROL DETOUR SIGNS | DAY | 8,859.000 | 8,859.000 |
| 0490 | 646.0106 | PAVEMENT MARKING EPOXY 4-INCH | LF | 555.000 | 555.000 |
| 0500 | 646.0126 | PAVEMENT MARKING EPOXY 8-INCH | LF | 355.000 | 355.000 |
| 0510 | 647.0716 | PAVEMENT MARKING DIAGONAL EPOXY 8-INCH | LF | 30.000 | 30.000 |
| 0520 | 647.0746 | PAVEMENT MARKING DIAGONAL EPOXY 24-INCH | LF | 120.000 | 120.000 |
| 0530 | 649.0400 | TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH | LF | 34,119.000 | 34,119.000 |
| 0540 | 649.0801 | TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH | LF | 2,426.000 | 2,426.000 |
| 0550 | 649.1800 | TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE | EACH | 8.000 | 8.000 |
| 0560 | 649.2000 | TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE | EACH | 5.000 | 5.000 |
| 0570 | 652.0135 | CONDUIT RIGID METALLIC 3-INCH | LF | 153.000 | 153.000 |
| 0580 | ASP.1T0A | ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR | HRS | 600.000 | 600.000 |
| 0590 | ASP.1T0G | ON-THE-JOB TRAINING GRADUATE AT $5.00/HR | HRS | 650.000 | 650.000 |
| 0600 | SPV.0035 | SPECIAL 4001. CONCRETE MASONRY DECK PATCHING | CY | 8.000 | 8.000 |
| 0610 | SPV.0045 | SPECIAL 0001. PCMS REMOTE COMMUNICATIONS | DAY | 15.000 | 15.000 |
| 0620 | SPV.0060 | SPECIAL 4001. EMBEDDED GALVANIC ANODES | EACH | 1,677.000 | 1,677.000 |
| 0630 | SPV.0060 | SPECIAL 4002. GIRDER CRACK REPAIR | EACH | 35.000 | 35.000 |
| 0640 | SPV.0060 | SPECIAL 4003. JUNCTION BOX COVER PLATE REPAIR | EACH | 30.000 | 30.000 |
| 0650 | SPV.0090 | SPECIAL 4001. SAWING PAVEMENT DECK PREPARATION AREAS | LF | 960.000 | 960.000 |
| 0660 | SPV.0105 | SPECIAL 0001. PAVEMENT CLEANUP PROJECT 1090-33-60 | LS | 1.000 | 1.000 |
| 0670 | SPV.0105 | SPECIAL 0002. SURVEY PROJECT 1090-33-60 | LS | 1.000 | 1.000 |
| 0680 | SPV.0105 | SPECIAL 0003. TEMPORARY ACCESS | LS | 1.000 | 1.000 |
| 0690 | SPV.0105 | SPECIAL 4001. CLEANING PIN AND HANGER ASSEMBLIES B-40-304 | LS | 1.000 | 1.000 |
| 0700 | SPV.0105 | SPECIAL 4002. CLEANING PIN AND HANGER ASSEMBLIES B-40-305 | LS | 1.000 | 1.000 |
| 0710 | SPV.0105 | SPECIAL 4003. INSTALL EXPANSION DEVICE B-40-304 | LS | 1.000 | 1.000 |
| 0720 | SPV.0105 | SPECIAL 4004. INSTALL EXPANSION DEVICE B-40-305 | LS | 1.000 | 1.000 |
| 0730 | SPV.0105 | SPECIAL 4005. INSTALL EXPANSION DEVICE B-40-322 | LS | 1.000 | 1.000 |
| 0740 | SPV.0165 | SPECIAL 4001. SHOTCRETE SURFACE REPAIRS | SF | 2,128.000 | 2,128.000 |

3

## TRAFFIC CONTROL ITEMS

| 0010 CATEGORY | LOCATION | STAGE* DURATION DAYS | *PER DAY | 643.0300 DRUMS DAYS | *PER DAY | 643.0420 BARRICADES TYPE III DAYS | *PER DAY | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAYS | *PER DAY | 643.0715 WARNING LIGHTS TYPE C DAYS | *PER DAY | 643.0800 ARROW BOARDS DAYS | *PER DAY | 643.0900 SIGN DAYS | *PER DAY | 643.3000 DETOUR SIGNS DAYS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 1 | | 14 | 313 | 4382 | 24 | 336 | 48 | 672 | 79 | 1106 | 5 | 70 | 104 | 1456 | 274 | 3836 |
| SUBTOTAL STAGE 1 | | | 313 | 4382 | 24 | 336 | 48 | 672 | 79 | 1106 | 5 | 70 | 104 | 1456 | 274 | 3836 |
| STAGE 2 | | 14 | 326 | 4564 | 20 | 280 | 40 | 560 | 148 | 2072 | 5 | 70 | 102 | 1428 | 344 | 4816 |
| SUBTOTAL STAGE 2 | | | 326 | 4564 | 20 | 280 | 40 | 560 | 148 | 2072 | 5 | 70 | 102 | 1428 | 344 | 4816 |
| STAGE 3 | | 1 | 81 | 81 | 11 | 11 | 22 | 22 | 48 | 48 | 5 | 70 | 28 | 28 | 207 | 207 |
| SUBTOTAL STAGE 3 | | | 81 | 81 | 11 | 11 | 22 | 22 | 48 | 48 | 5 | 70 | 28 | 28 | 207 | 207 |
| TOTAL: | | | | 9027 | | 627 | | 1254 | | 3226 | | 210 | | 2912 | | 8859 |

* FOR INFORMATION ONLY

## TRAFFIC CONTROL MAINTENANCE

| CATEGORY | | 643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE 1090-33-60 DAYS |
|---|---|---|
| 0010 | STAGE 1 | 14 |
| | STAGE 2 | 14 |
| | STAGE 3 | 1 |
| | TOTAL | 29 |

## TRAFFIC CONTROL DETOUR

| CATEGORY | LOCATION | 643.2000 TRAFFIC CONTROL DETOUR (1090-33-60) EACH |
|---|---|---|
| 0010 | IH-43 | 1 |
| | TOTAL | 1 |

3

## TEMPORARY CONCRETE BARRIER

| CATEGORY | ALIGNMENT | STATION | TO STATION | LOCATION | 603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF | 603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLATION LF | 614.0905 CRASH CUSHION TEMPORARY EACH |
|---|---|---|---|---|---|---|---|
| 0010 | | | | | | | |
| STAGE 1 | 43C2 | 89+88 | 112+40 | IH-43 NB | 2258 | 2258 | -- |
| | 43C3 | 75+50 | 81+00 | IH-43 SB | 550 | 550 | 1 |
| | 43C4 | 91+50 | 110+25 | IH-43 SB | 1870 | 1870 | 1 |
| SUBTOTAL | | | | | 4678 | 4678 | 2 |
| STAGE 2 | 43C2 | 91+96 | 113+17 | IH-43 NB | 1292 | 3550 | 1 |
| | 43C3 | 75+51 | 111+22 | IH-43 SB | -- | -- | 1 |
| | 43C4 | 75+50 | 110+07 | IH-43 SB | 252 | 2672 | 1 |
| SUBTOTAL | | | | | 1544 | 6222 | 3 |
| | | | | TOTAL | 6222 | 10900 | 5 |

## TRAFFIC CONTROL COVERING SIGNS

| CATEGORY | STAGE | NUMBER OF CYCLES | NUMBER OF SIGNS | 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH |
|---|---|---|---|---|
| 0010 | 1 | 1 | 31 | 31 |
| | 2 | 1 | 34 | 34 |
| | TOTALS | | | 65 |

## TRAFFIC CONTROL PCMS SIGNS

| CATEGORY | LOCATION | SIGN NO. | 643.1050 TRAFFIC CONTROL SIGNS PCMS DAY | SPV.0045.0001 PCMS REMOTE COMMUNICATIONS DAY |
|---|---|---|---|---|
| 6100 | | | | |
| | IH-43 NB | 1 | 14 | 14 |
| | IH-43 SB / 894 | 2 | 1 | 1 |
| | TOTALS | | 15 | 15 |

## EROSION CONTROL ITEMS

| CATEGORY | ROADWAY | LOCATION | 628.7010 INLET PROTECTION TYPE B EACH |
|---|---|---|---|
| 0010 | STAGE 1 | | |
| | NB 43 | RT | 2 |
| | SB 43 | RT | 5 |
| | STH 100 | RT, LT | 10 |
| | LAYTON AVE | RT, LT | 12 |
| | SUBTOTAL | | 29 |
| | STAGE 2 | | |
| | NB 43 | LT | 5 |
| | SB 43 | LT | 2 |
| | STH 100 | RT, LT | 9 |
| | LAYTON AVE | LT, RT | 12 |
| | SUBTOTAL | | 28 |
| | TOTAL: | | 57 |

## TEMPORARY PAVEMENT MARKING ITEMS

### TEMPORARY PAVEMENT MARKING REMOVABLE TAPE

| CATEGORY | LOCATION | 649.0400 4-INCH YELLOW LF | 649.0400 4-INCH WHITE LF | 649.0400 4-INCH BLACK LF | 649.0400 (DASHED BLACK) (12.5 FT LINE, 37.5 FT GAP) 4-INCH BLACK LF | 649.0801 8-INCH WHITE LF | 649.0801 8-INCH BLACK LF | 649.0801 (DOT PATTERN WHITE) (3 FT LINE, 9 FT GAP) 8-INCH WHITE LF | 649.0801 (DOT PATTERN BLACK) (3 FT LINE, 9 FT GAP) 8-INCH BLACK LF | 649.1800 ARROWS WHITE EACH | 649.2000 WORDS WHITE EACH |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0010 | STAGE 1 | | | | | | | | | | |
| | IH-43 SB | -- | 3577 | -- | -- | -- | -- | -- | 210 | -- | -- |
| | IH-43 NB | -- | 7358 | -- | 188 | -- | -- | -- | -- | -- | -- |
| | USH 45/894 SB | -- | 799 | -- | -- | -- | -- | -- | 150 | -- | -- |
| | STH 100 NB | -- | 1809 | -- | 88 | 200 | -- | 334 | -- | 2 | 2 |
| | STH 100 SB | 248 | 1405 | -- | -- | 300 | -- | 400 | -- | 3 | 3 |
| | BELOIT RD | -- | -- | -- | -- | -- | -- | -- | -- | 3 | -- |
| | STAGE 2 | | | | | | | | | | |
| | IH-43 NB | 6227 | 295 | 1909 | 75 | -- | -- | -- | 75 | -- | -- |
| | IH-43 SB | 3951 | 2530 | -- | -- | -- | 757 | -- | -- | -- | -- |
| | STH 100 NB | -- | 2464 | -- | 176 | -- | -- | -- | -- | -- | -- |
| | STH 100 SB | 945 | -- | -- | 75 | -- | -- | -- | -- | -- | -- |
| | SUBTOTAL: | 11,371 | 20,237 | 1,909 | 602 | 500 | 757 | 734 | 435 | 8 | 5 |
| | TOTALS | | | 34,119 | | | | 2,426 | | 8 | 5 |

### CPM PROGRESS SCHEDULE

| CATEGORY | PROJECT | 108.4400 CPM PROGRESS SCHEDULE EACH |
|---|---|---|
| 0010 | 1090-33-60 | 1 |
| | TOTAL: | 1 |

### FIELD OFFICE

| CATEGORY | 642.5201 FIELD OFFICE TYPE C LS |
|---|---|
| 0010 | 1 |
| | 1 |

### MOBILIZATION

| CATEGORY | PROJECT | 619.1000 MOBILIZATION EACH |
|---|---|---|
| 0010 | 1090-33-30 | 1 |
| | TOTAL: | 1 |

## PERMANENT PAVEMENT MARKING ITEMS

| CATEGORY | LOCATION | 646.0106 PAVEMENT MARKING (EPOXY) 4-INCH YELLOW LF | 646.0106 PAVEMENT MARKING (EPOXY) 4-INCH WHITE LF | 647.0716 PAVEMENT MARKING DIAGONAL (EPOXY) 8-INCH WHITE LF | 647.0716 PAVEMENT MARKING DIAGONAL (EPOXY) 8-INCH YELLOW LF | 646.0126 PAVEMENT MARKING (EPOXY) 8-INCH WHITE LF | 647.0746 PAVEMENT MARKING DIAGONAL (EPOXY) 24-INCH WHITE LF |
|---|---|---|---|---|---|---|---|
| 0010 | STAGE 1 | | | | | | |
| | IH-43 SB | -- | 175 | 20 | -- | -- | -- |
| | STAGE 2 | | | | | | |
| | IH-43 SB | 180 | 200 | -- | 10 | 355 | 120 |
| | SUBTOTAL: | 180 | 375 | 20 | 10 | 355 | 120 |
| | TOTAL | 555 | | 30 | | 355 | 120 |

## TRAFFIC CONTROL FIXED MESSAGE SIGNS

| CATEGORY 0010 | LOCATION | SIGN NO. | SIGN SIZE W X H FT X FT | EACH | 643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF | 634.0418 POSTS WOOD 4 X 4-INCH X 18-FT EACH | 634.0612 POSTS WOOD 4 X 6-INCH X 12-FT EACH | 634.0616 POSTS WOOD 4 X 6-INCH X 16-FT EACH | 634.0618 POSTS WOOD 4 X 6-INCH X 18-FT EACH | 634.0620 POSTS WOOD 4 X 6-INCH X 20-FT EACH |
|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 1 | STH 100 SB | 1 | 7X7 | 1 | 42.0 | -- | -- | -- | 2 | -- |
| | IH-43 NB | 2 | 15X10 | 1 | 150.0 | 2 | 2 | -- | -- | 3 |
| | STH 100 NB | 3 | 6X6 | 1 | 36.0 | -- | -- | 2 | -- | -- |
| | USH 45/894 SB | 4 | 14X8 | 1 | 112.0 | 2 | 2 | -- | -- | 3 |
| | IH-43 SB | 7 | 9X8 | 1 | 72.0 | -- | -- | -- | -- | 2 |
| | IH-43 NB | 10 | 12X5 | 1 | 60.0 | -- | -- | 3 | -- | -- |
| | SIGN BRIDGE(S) | 9 | 6X2 | 3 | 12.0 | -- | -- | -- | -- | -- |
| STAGE 2 | IH-43 NB | 5 | 7x7 | 1 | 36.0 | -- | -- | -- | 2 | -- |
| | IH-43/894 SB | 6 | 15X10 | 1 | 127.5 | 2 | 2 | -- | -- | 3 |
| | IH-43 NB | 10 | 12X5 | 1 | 60.0 | -- | -- | 3 | -- | -- |
| | SIGN BRIDGE(S) | 9 | 6X2 | 1 | 12.0 | -- | -- | -- | -- | -- |
| STAGE 3 | IH-43/894 SB | 8 | 15X8.5 | 1 | 127.5 | 2 | 2 | -- | -- | 2 |
| | SIGN BRIDGE(S) | 9 | 6X2 | 1 | 12.0 | -- | -- | | | -- |
| | TOTAL | | | | 859.0 | 8 | 8 | 8 | 4 | 13 |

3

TRAFFIC CONTROL SIGNING - STAGE 1

| CATEGORY | SIGN MESSAGE | SIGN CODE | SIGN SIZE 2 QTY [EA] | SIGN SIZE 3 QTY [EA] | TOTAL QTY [EA] | [DAYS] (FOR INFORMATION ONLY) | 643.0900 TRAFFIC CONTROL SIGNS [DAYS] |
|---|---|---|---|---|---|---|---|
| 0010 | | | | | | | |
| | ROAD WORK 1 MILE | W20-1 | -- | 2 | 2 | 14 | 28 |
| | RIGHT LANE CLOSED 1/2 MILE | W20-5 | -- | 2 | 2 | 14 | 28 |
| | RIGHT LANE CLOSED 1500 FT | W20-5 | -- | 4 | 4 | 14 | 56 |
| | RIGHT LANE ENDING | WO4-2R | -- | 6 | 6 | 14 | 84 |
| | LANE CLOSED | R11-2 | -- | 11 | 11 | 14 | 154 |
| | RAMP CLOSED | R11-2 | -- | 6 | 6 | 14 | 84 |
| | END ROAD WORK | G20-2A | -- | 6 | 6 | 14 | 84 |
| | DIAGONAL HATCH | W5-52R | -- | 2 | 2 | 14 | 28 |
| | RIGHT SHOULDER CLOSED AHEAD | W21-5B | -- | 1 | 1 | 14 | 14 |
| | RIGHT SHOULDER CLOSED | W21-5A | -- | 1 | 1 | 14 | 14 |
| | RAMP CLOSED AHEAD | W20-3 | -- | 2 | 2 | 14 | 28 |
| | ROAD WORK AHEAD | W20-1 | -- | 11 | 11 | 14 | 154 |
| | RIGHT LANE CLOSED AHEAD | W20-5 | -- | 4 | 4 | 14 | 56 |
| | ROAD WORK 2 MILES | W20-1 | -- | 4 | 4 | 14 | 56 |
| | 14'-6" HEIGHT LIMIT | W12-2 | -- | 2 | 2 | 14 | 28 |
| | NO LEFT TURN SYMBOL | R3-2 | -- | 1 | 1 | 14 | 14 |
| | BEGIN RIGHT TURN LANE | R3-20R | -- | 2 | 2 | 14 | 28 |
| | LEFT ONLY/THRU-LEFT | R3-8B | 2 | -- | 2 | 14 | 28 |
| | INTERSTATE 43 | M1-1 | -- | 6 | 6 | 14 | 84 |
| | SOUTH | M3-3 | -- | 6 | 6 | 14 | 84 |
| | USE RIGHT LANE | M4-204 | -- | 2 | 2 | 14 | 28 |
| | 45 MPH AHEAD | WO3-5 | -- | 3 | 3 | 14 | 42 |
| | 45 MPH POSTED SPEED | W13-1 | -- | 3 | 3 | 14 | 42 |
| | RIGHT LANE MUST TURN RIGHT | R3-7R | 3 | -- | 3 | 14 | 42 |
| | FINES DOUBLE IN WORKZONE | W21-62 | -- | 3 | 3 | 14 | 42 |
| | $200 MINIMUM | W21-62P | -- | 3 | 3 | 14 | 42 |
| | WORK ZONE | W21-62Q | -- | 3 | 3 | 14 | 42 |
| | FINES DOUBLE | W21-62R | -- | 3 | 3 | 14 | 42 |
| | | SUBTOTAL | 5 | 99 | 104 | | 1456 |

FOR INFORMATION ONLY

TRAFFIC CONTROL SIGNING - STAGE 2

| CATEGORY | SIGN MESSAGE | SIGN CODE | SIGN SIZE 2 QTY [EA] | SIGN SIZE 3 QTY [EA] | TOTAL QTY [EA] | [DAYS] (FOR INFORMATION ONLY) | 643.0900 TRAFFIC CONTROL SIGNS [DAYS] |
|---|---|---|---|---|---|---|---|
| 0010 | | | | | | | |
| | ROAD WORK 1 MILE | W20-1 | -- | 2 | 2 | 14 | 28 |
| | LEFT LANE CLOSED 1 MILE | W20-5 | -- | 2 | 2 | 14 | 28 |
| | LEFT LANE CLOSED 1/2 MILE | W20-5 | -- | 2 | 2 | 14 | 28 |
| | LEFT LANE CLOSED 1500 FT | W20-5 | -- | 2 | 2 | 14 | 28 |
| | LEFT LANE ENDING | WO4-2L | -- | 4 | 4 | 14 | 56 |
| | LANE CLOSED | R11-2 | -- | 9 | 9 | 14 | 126 |
| | END ROAD WORK | G20-2A | -- | 10 | 10 | 14 | 140 |
| | RIGHT LANE CLOSED 1500 FT | W20-5 | -- | 2 | 2 | 14 | 28 |
| | RIGHT LANE ENDING | WO4-2R | -- | 2 | 2 | 14 | 28 |
| | SHIFT DOUBLE RIGHT ARROWS | W1-4B | -- | 2 | 2 | 14 | 28 |
| | SHIFT RIGHT ARROW | WO1-4R | -- | 1 | 1 | 14 | 14 |
| | SHIFT LEFT ARROW | WO1-4L | -- | 1 | 1 | 14 | 14 |
| | LEFT TURN LANE | R3-55L | -- | 1 | 1 | 14 | 14 |
| | 45 MPH POSTED SPEED | W13-1 | -- | 3 | 3 | 14 | 42 |
| | 55 MPH POSTED SPEED | R2-1 | -- | 4 | 4 | 14 | 56 |
| | 45 MPH AHEAD | WO3-5 | -- | 3 | 3 | 14 | 42 |
| | LEFT LANE CLOSED AHEAD | W20-5 | -- | 4 | 4 | 14 | 56 |
| | RAMP CLOSED | R11-2 | -- | 3 | 3 | 14 | 42 |
| | ROAD WORK AHEAD | W20-1 | -- | 11 | 11 | 14 | 154 |
| | RIGHT LANE CLOSED AHEAD | W20-5 | -- | 2 | 2 | 14 | 28 |
| | RIGHT LANE MUST TURN RIGHT | W04-2R | 5 | -- | 5 | 14 | 70 |
| | LEFT/LEFT-THRU LANE | R3-8B | 2 | -- | 2 | 14 | 28 |
| | 14'-6" HEIGHT LIMIT | W12-2 | -- | 2 | 2 | 14 | 28 |
| | RIGHT SHOULDER CLOSED AHEAD | W21-5B | -- | 1 | 1 | 14 | 14 |
| | RAMP CLOSED AHEAD | W20-3 | -- | 2 | 2 | 14 | 28 |
| | ROAD WORK 2 MILES | W2O-1 | -- | 4 | 4 | 14 | 56 |
| | BEGIN RIGHT TURN LANE | R3-20R | -- | 1 | 1 | 14 | 14 |
| | RIGHT SHOULDER CLOSED | W21-5A | -- | 1 | 1 | 14 | 14 |
| | FINES DOUBLE IN WORKZONE | W21-62 | -- | 3 | 3 | 14 | 42 |
| | $200 MINIMUM FINE | W21-62P | -- | 3 | 3 | 14 | 42 |
| | WORK ZONE | W21-62Q | -- | 3 | 3 | 14 | 42 |
| | MAX 14' WIDTH | W12-52 | -- | 1 | 1 | 14 | 14 |
| | FINES DOUBLE | W21-62R | -- | 3 | 3 | 14 | 42 |
| | BEGIN LEFT TURN LANE | R3-20-LL | -- | 1 | 1 | 14 | 14 |
| | | SUBTOTAL | 7 | 95 | 102 | | 1428 |

FOR INFORMATION ONLY

3

TRAFFIC CONTROL SIGNING - STAGE 3

| CATEGORY | SIGN MESSAGE | SIGN CODE | SIGN SIZE 3 QTY [EA] | TOTAL QTY [EA] | [DAYS] (FOR INFORMATION ONLY) | 643.0900 TRAFFIC CONTROL SIGNS [DAYS] |
|---|---|---|---|---|---|---|
| 0010 | | | | | | |
| | RAMP CLOSED | R11-2 | 4 | 4 | 1 | 4 |
| | LEFT LANE ENDING | WO4-2L | 2 | 2 | 1 | 2 |
| | LEFT LANE CLOSED 1500 FT | W20-5 | 2 | 2 | 1 | 2 |
| | LEFT LANE CLOSED AHEAD | W20-5 | 2 | 2 | 1 | 2 |
| | RIGHT LANE ENDING | WO4-2R | 2 | 2 | 1 | 2 |
| | RIGHT LANE CLOSED 1500 FT | W20-5 | 2 | 2 | 1 | 2 |
| | RAMP CLOSED AHEAD | W20-3 | 4 | 4 | 1 | 4 |
| | RIGHT LANE CLOSED AHEAD | W20-5 | 2 | 2 | 1 | 2 |
| | ROAD WORK 1 MILE | W20-1 | 2 | 2 | 1 | 2 |
| | END ROAD WORK | G20-2A | 2 | 2 | 1 | 2 |
| | ROAD WORK 2 MILES | W20-1 | 4 | 4 | 1 | 4 |
| | | SUBTOTAL | 28 | 28 | | 28 |

FOR INFORMATION ONLY

3

DETOUR SIGNING - STAGE 1

| CATEGORY | SIGN MESSAGE | SIGN CODE | SIGN SIZE 2 QTY [EA] | SIGN SIZE 3 QTY [EA] | TOTAL QTY [EA] | [DAYS] | 643.3000 DETOUR SIGNS [DAYS] |
|---|---|---|---|---|---|---|---|
| 0010 | | | | | | | |
| | WATCH FOR BACKUPS | WO8-74 | -- | 2 | 2 | 14 | 28 |
| | RAMP | MO4-8(MOD) | -- | 2 | 2 | 14 | 28 |
| | RAMP CLOSED AHEAD | W20-3 | -- | 4 | 4 | 14 | 56 |
| | TO | M4-5 | 9 | 10 | 19 | 14 | 266 |
| | SOUTH | M3-3 | 19 | 8 | 27 | 14 | 378 |
| | INTERSTATE 43 | M1-1 | 18 | 10 | 28 | 14 | 392 |
| | USH 45 | M1-6 | 16 | 6 | 22 | 14 | 308 |
| | STH 100 | M1-6 | 2 | 2 | 4 | 14 | 56 |
| | DETOUR AHEAD | W20-2 | -- | 4 | 4 | 14 | 56 |
| | DETOUR | MO4-8 | 51 | 10 | 61 | 14 | 854 |
| | EXIT RIGHT ARROW | MO5-2R | -- | 4 | 4 | 14 | 56 |
| | DIAGONAL RIGHT ARROW | MO6-2 | -- | 4 | 4 | 14 | 56 |
| | RIGHT ARROW | MO6-1 | 9 | -- | 9 | 14 | 126 |
| | RIGHT TURN AHEAD ARROW | MO5-1R | 9 | -- | 9 | 14 | 126 |
| | LEFT TURN AHEAD ARROW | MO5-1L | 3 | -- | 3 | 14 | 42 |
| | STRAIGHT ARROW | MO6-1 | 17 | -- | 17 | 14 | 238 |
| | EXIT LEFT ARROW | MO5-2L | -- | 1 | 1 | 14 | 14 |
| | LEFT DIAGONAL ARROW | MO6-2 | -- | 1 | 1 | 14 | 14 |
| | NORTH | M3-1 | 14 | 4 | 18 | 14 | 252 |
| | EAST | M3-2 | 9 | 4 | 13 | 14 | 182 |
| | END DETOUR | M4-8A | 9 | -- | 9 | 14 | 126 |
| | INTERSTATE 894 | M1-1A | 11 | 2 | 13 | 14 | 182 |
| | TOTAL | | 196 | 78 | 274 | | 3836 |

FOR INFORMATION ONLY

3

DETOUR SIGNING - STAGE 2

| CATEGORY | SIGN MESSAGE | SIGN CODE | SIGN SIZE -2 QTY [EA] | SIGN SIZE -3 QTY [EA] | TOTAL QTY [EA] | [DAYS] | 643.0900 TRAFFIC CONTROL SIGNS [DAYS] |
|---|---|---|---|---|---|---|---|
| 0010 | | | | | | | |
| | RAMP CLOSED AHEAD | W20-3 | -- | 4 | 4 | 14 | 56 |
| | WATCH FOR BACKUPS | WO8-74 | -- | 2 | 2 | 14 | 28 |
| | RAMP | 1O4-8(MOI | -- | 2 | 2 | 14 | 28 |
| | TO | M4-5 | 5 | 16 | 21 | 14 | 294 |
| | SOUTH | M3-3 | 20 | 14 | 34 | 14 | 476 |
| | INTERSTATE 43 | M1-1 | 10 | 8 | 18 | 14 | 252 |
| | USH 45 | M1-6 | 19 | 14 | 33 | 14 | 462 |
| | STH 100 | M1-6 | 7 | 2 | 9 | 14 | 126 |
| | DETOUR AHEAD | W20-2 | -- | 4 | 4 | 14 | 56 |
| | DETOUR | M4-8 | 62 | 15 | 77 | 14 | 1078 |
| | EXIT RIGHT ARROW | M5-2R | -- | 14 | 14 | 14 | 196 |
| | DIAGONAL RIGHT ARROW | M6-2 | -- | 14 | 14 | 14 | 196 |
| | RIGHT/LEFT ARROW | M6-1 | 11 | -- | 11 | 14 | 154 |
| | RIGHT TURN AHEAD ARROW | M5-1R | 6 | -- | 6 | 14 | 84 |
| | LEFT TURN AHEAD ARROW | M5-1L | 5 | -- | 5 | 14 | 70 |
| | STRAIGHT ARROW | M6-1 | 30 | 2 | 32 | 14 | 448 |
| | EXIT LEFT ARROW | M5-2L | -- | 2 | 2 | 14 | 28 |
| | LEFT DIAGONAL ARROW | M6-2 | 4 | 2 | 6 | 14 | 84 |
| | NORTH | M3-1 | 10 | 4 | 14 | 14 | 196 |
| | EAST | M3-2 | 5 | -- | 5 | 14 | 70 |
| | WEST | M3-4 | 3 | 4 | 7 | 14 | 98 |
| | END DETOUR | M4-8A | 12 | -- | 12 | 14 | 168 |
| | INTERSTATE 894 | M1-1A | 8 | 4 | 12 | 14 | 168 |
| | | TOTAL | 217 | 127 | 344 | | 4816 |

FOR INFORMATION ONLY

3

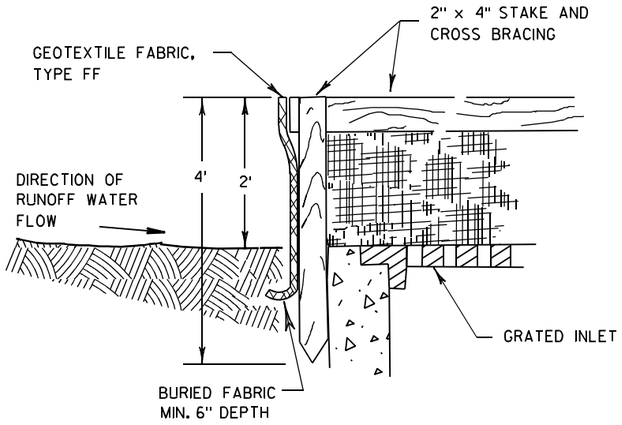
DETOUR SIGNING - STAGE 3

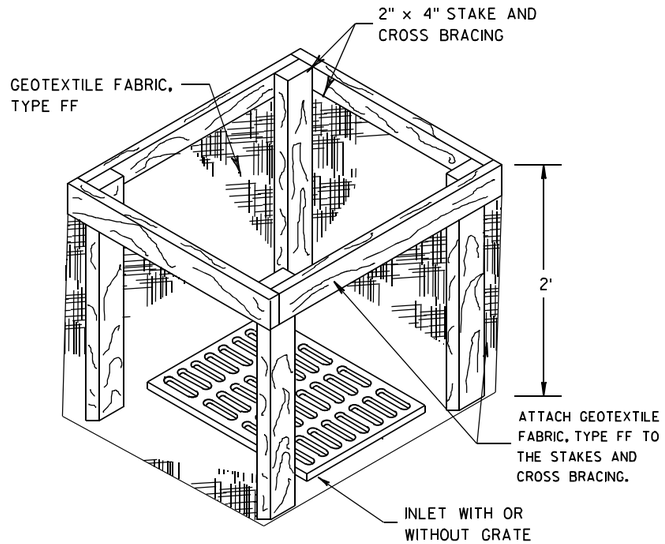
| CATEGORY | SIGN MESSAGE | SIGN CODE | SIGN SIZE -2 QTY [EA] | SIGN SIZE -3 QTY [EA] | TOTAL QTY [EA] | [DAYS] | 643.0900 TRAFFIC CONTROL SIGNS [DAYS] |
|---|---|---|---|---|---|---|---|
| 0010 | | | | | | | |
| | RAMP CLOSED AHEAD | W20-3 | -- | 2 | 2 | 1 | 2 |
| | WATCH FOR BACKUPS | WO8-74 | -- | 2 | 2 | 1 | 2 |
| | RAMP | MO4-8 | -- | 2 | 2 | 1 | 2 |
| | TO | M4-5 | 6 | 6 | 12 | 1 | 12 |
| | SOUTH | M3-3 | 22 | 18 | 40 | 1 | 40 |
| | INTERSTATE 43 | M1-1 | 5 | 7 | 12 | 1 | 12 |
| | HWY 45 | M1-6 | 16 | 9 | 25 | 1 | 25 |
| | HWY 100 | M1-6 | 8 | 8 | 16 | 1 | 16 |
| | DETOUR AHEAD | W20-2 | -- | 2 | 2 | 1 | 2 |
| | DETOUR | M4-8 | 28 | 16 | 44 | 1 | 44 |
| | EXIT RIGHT ARROW | M5-2R | 2 | 6 | 8 | 1 | 8 |
| | DIAGONAL RIGHT ARROW | M6-2 | -- | 6 | 6 | 1 | 6 |
| | RIGHT/LEFT ARROW | M6-1 | 6 | -- | 6 | 1 | 6 |
| | RIGHT TURN AHEAD ARROW | M5-1R | 2 | -- | 2 | 1 | 2 |
| | LEFT TURN AHEAD ARROW | M5-1L | 2 | -- | 2 | 1 | 2 |
| | STRAIGHT ARROW | M6-1 | 11 | 4 | 15 | 1 | 15 |
| | 14'-6" HEIGHT | W12-2 | -- | 1 | 1 | 1 | 1 |
| | LEFT DIAGONAL ARROW | M6-2 | 2 | -- | 2 | 1 | 2 |
| | NORTH | M3-1 | 1 | -- | 1 | 1 | 1 |
| | WEST | M3-4 | 1 | -- | 1 | 1 | 1 |
| | END DETOUR | M4-8A | 5 | -- | 5 | 1 | 5 |
| | INTERSTATE 894 | M1-1A | 1 | -- | 1 | 1 | 1 |
| | TOTAL | | 118 | 89 | 207 | | 207 |

FOR INFORMATION ONLY

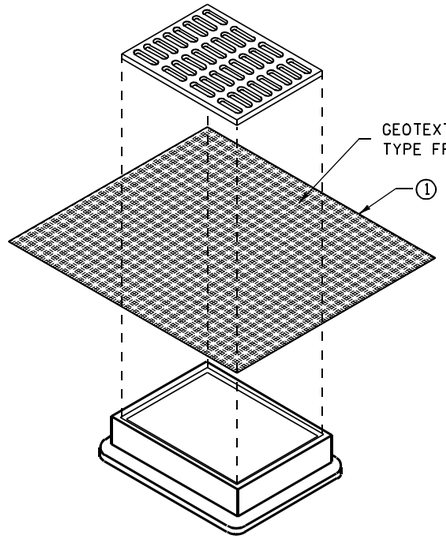
# Standard Detail Drawing List

| | |
|---|---|
| 08E10-02 | INLET PROTECTION TYPE A, B, C AND D |
| 09B02-07 | CONDUIT |
| 14B07-13A | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-13B | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-13C | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-13D | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-13E | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-13F | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-13G | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-13H | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B08-01A | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-01B | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-01C | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-01D | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-01E | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 15C02-05A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-05B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-05C | DETOUR SIGNING FOR MAINLINE CLOSURES |
| 15C03-02 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C04-02 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C05-02 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS |
| 15C07-12B | PAVEMENT MARKING WORDS |
| 15C07-12C | PAVEMENT MARKING ARROWS |
| 15C08-16A | PAVEMENT MARKING (MAINLINE) |
| 15C31-01A | PAVEMENT MARKING (RAMPS AND GORES) |
| 15C31-01C | PAVEMENT MARKING MAJOR SPLIT FREEWAY TO FREEWAY |
| 15D03-02 | TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER |
| 15D12-03 | TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. |
| 15D12-04 | TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION |
| 15D14-02 | 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 |
| 15D16-02 | TRAFFIC CONTROL, EXIT RAMP CLOSURE |
| 15D20-02 | TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY |
| 15D21-02 | TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE |
| 15D22-02 | TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY |
| 15D23-02 | TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE |
| 15D27-02 | TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY,  SPEEDS GREATER THAN 40 MPH |
| 15D28-02 | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED  ROADWAY |
| 15D30-01 | TRAFFIC CONTROL, SIDEWALK CLOSURE |



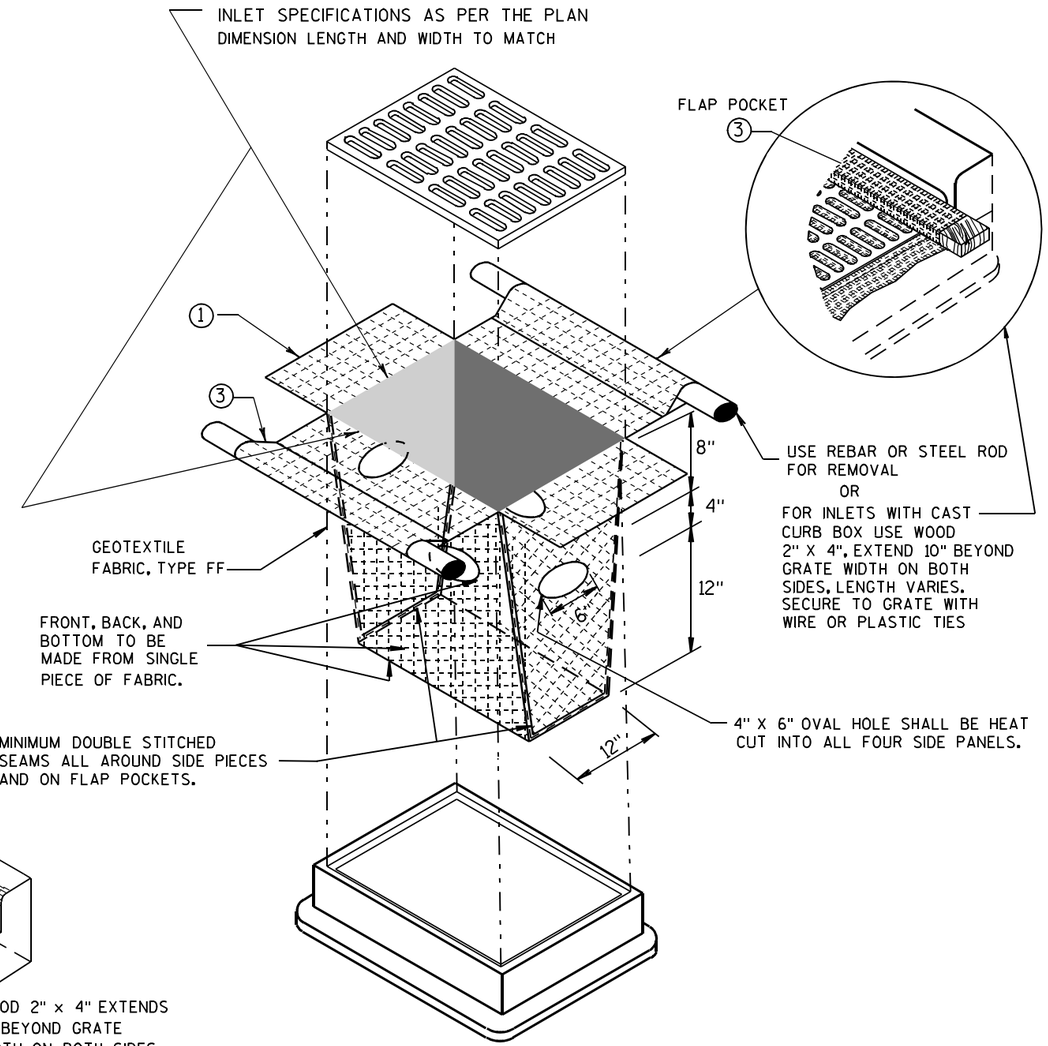




## INLET PROTECTION, TYPE A



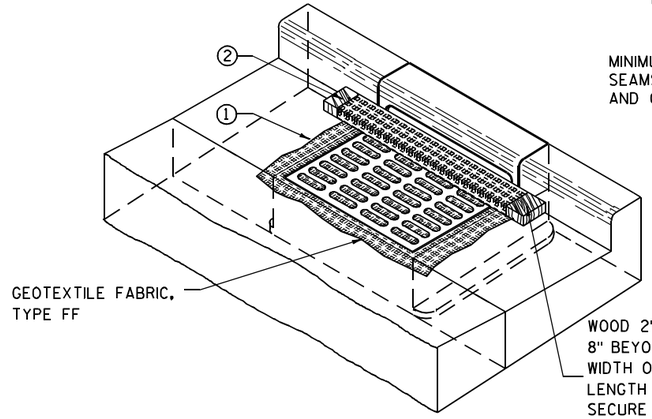

## INLET PROTECTION, TYPE B
## (WITHOUT CURB BOX)

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




## INLET PROTECTION, TYPE D

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




## INLET PROTECTION, TYPE C (WITH CURB BOX)

## GENERAL NOTES

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

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

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

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

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

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

## INSTALLATION NOTES

### TYPE B & C

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

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

### TYPE D

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

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

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

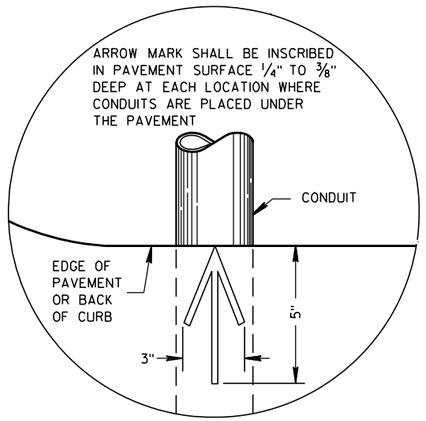
**INLET PROTECTION**
**TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

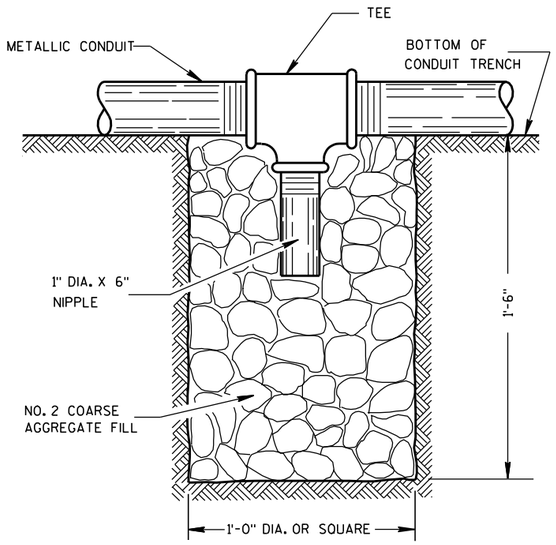



6
S.D.D. 8 E 10-2



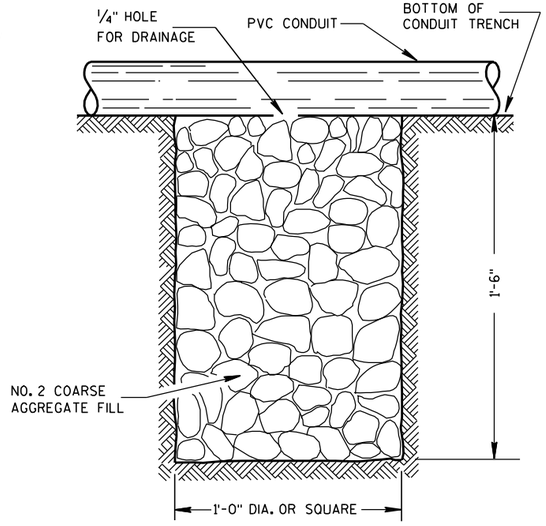

PLAN VIEW

**ARROW MARK**




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

**DRAIN SUMP FOR METALLIC CONDUIT**




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

**DRAIN SUMP FOR PVC CONDUIT**

## GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

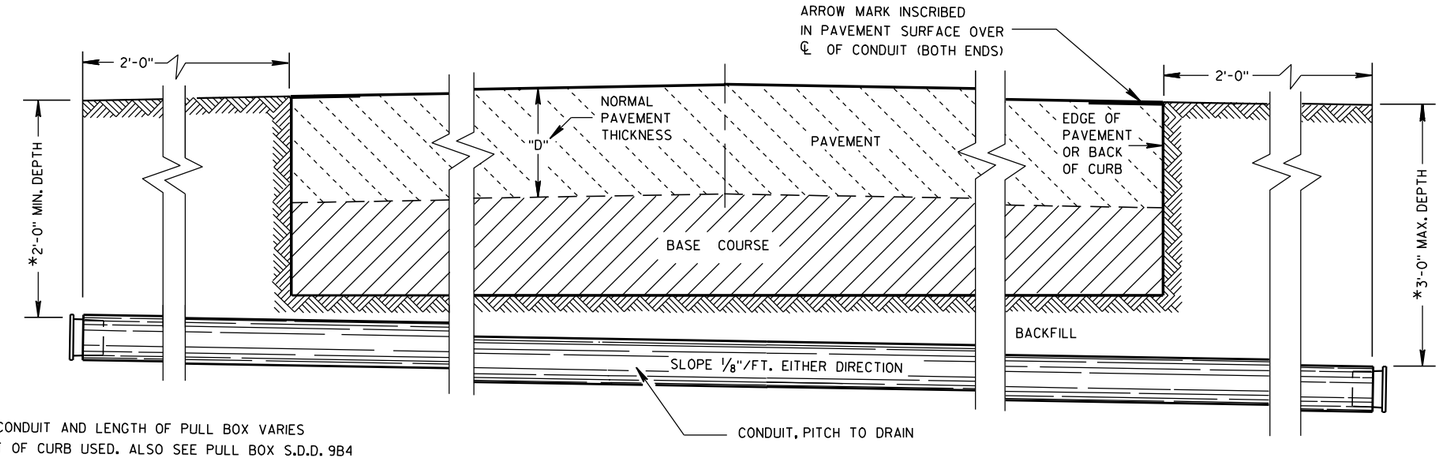
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

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

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




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

SIDE ELEVATION

**DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

**CONDUIT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/23/03 — DATE

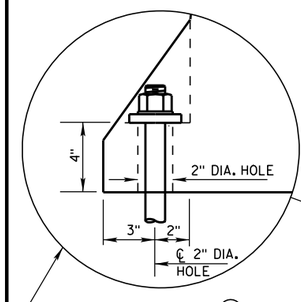
/S/ Balu Ananthanarayanan — STATE ELECTRICAL ENGI — HWYS

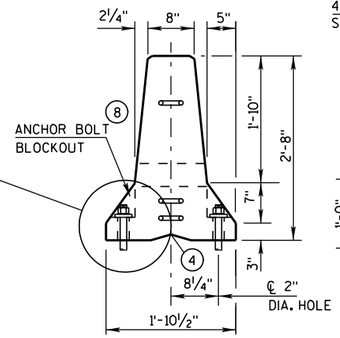
FHWA



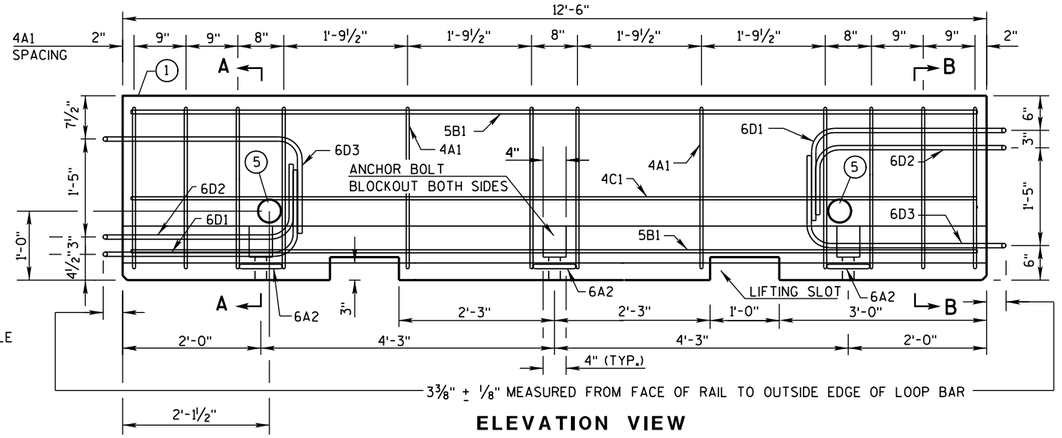


6
S.D.D. 9 B 2-7

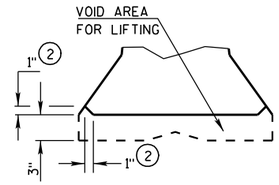


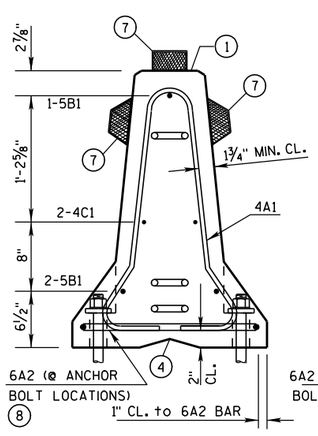

**END VIEW**



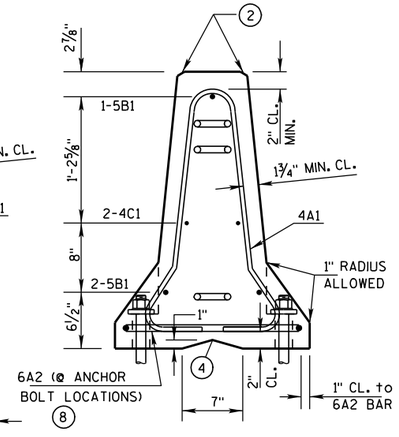

**ELEVATION VIEW**




**DETAIL "B"**
**LIFTING SLOT DETAIL**




**SECTION A-A**
(STIRRUP PLACEMENT)

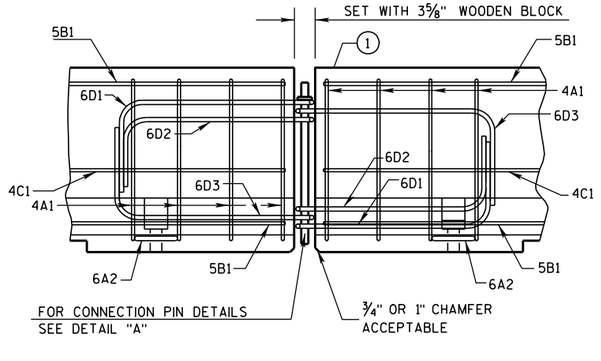



**SECTION B-B**
(STIRRUP PLACEMENT)

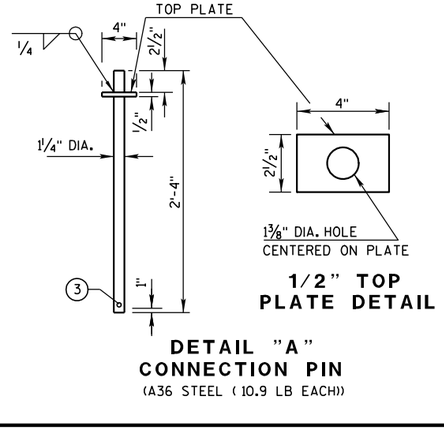



**PLAN VIEW**

## DETAILS OF BARRIER SECTION

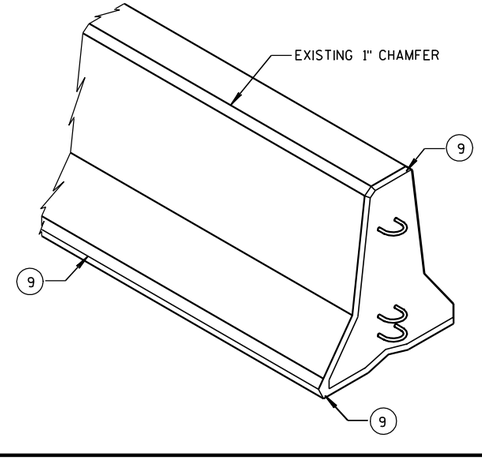



## DETAILS OF BARRIER CONNECTION




**1/2" TOP PLATE DETAIL**

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




## GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

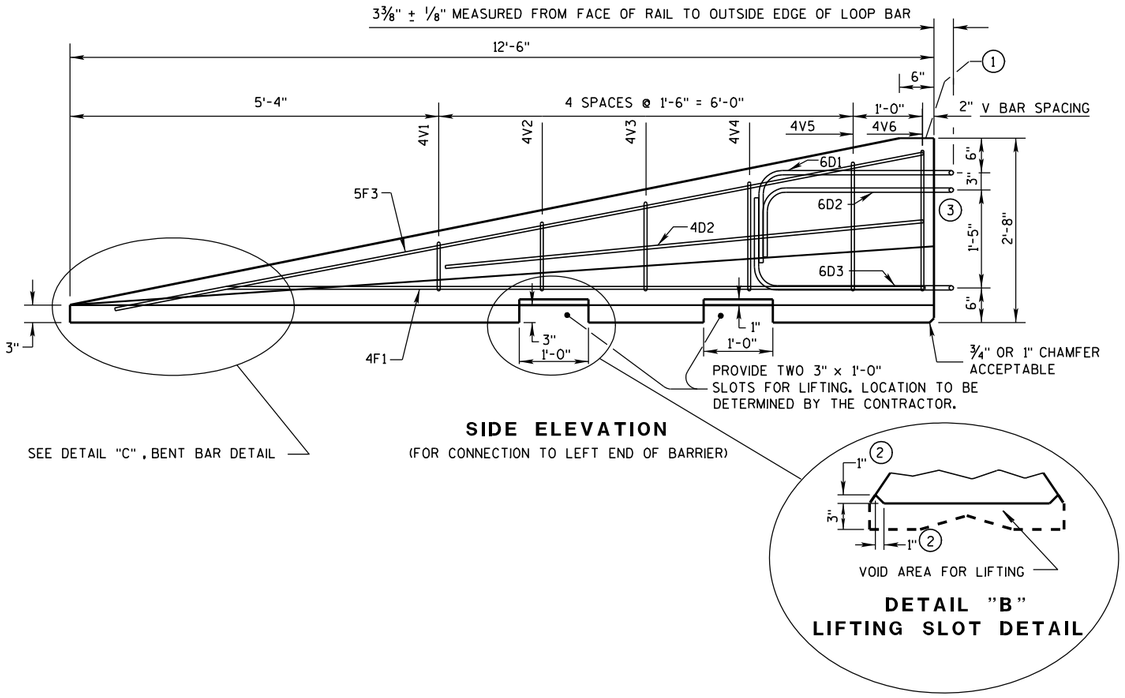
**CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...





6
S.D.D. 14 B 7-13a

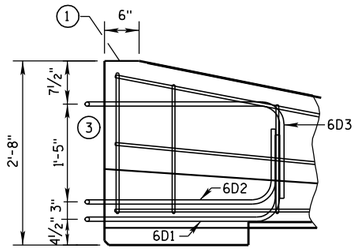



**SIDE ELEVATION**

(FOR CONNECTION TO LEFT END OF BARRIER)




**DETAIL "B"**
**LIFTING SLOT DETAIL**



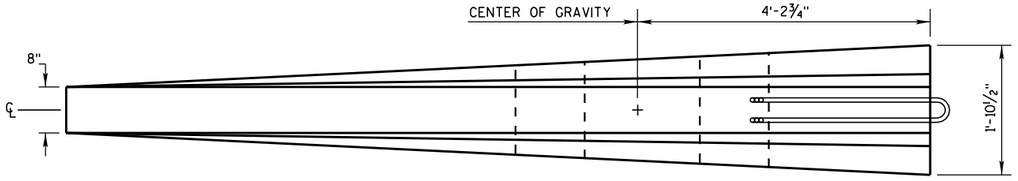

**SIDE ELEVATION**

LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END.

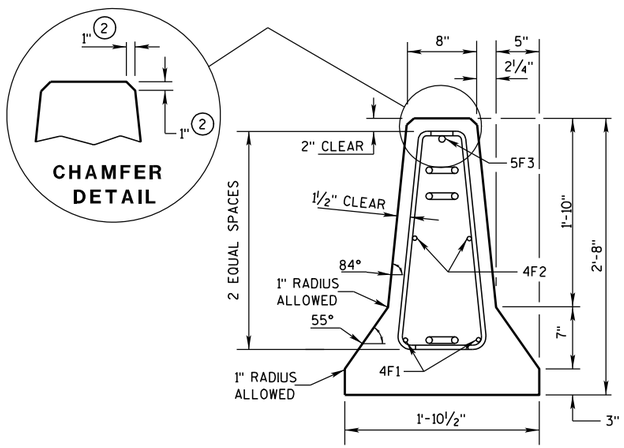
(FOR CONNECTION TO RIGHT END OF BARRIER)

## GENERAL NOTES

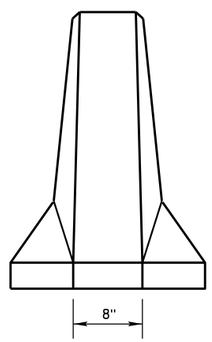
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



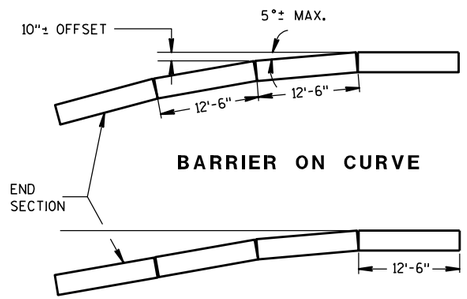

**PLAN VIEW**




**END SECTION**




**FRONT ELEVATION**




**BARRIER ON CURVE**

**FLARE AT BARRIER END**

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

# DETAILS OF BARRIER TAPER SECTION

**CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



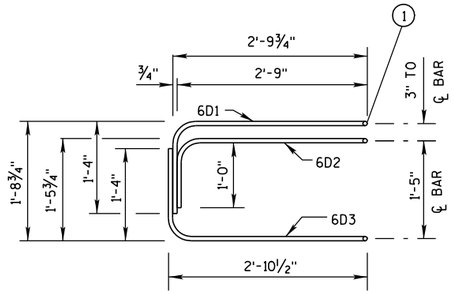

6


S.D.D. 14 B 7-13b

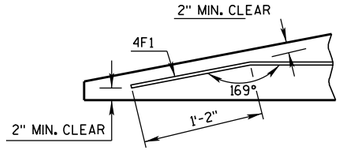
## BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

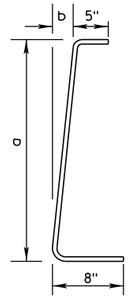
| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---|---|---|---|
| 4V1 | 4 | 2 | 1'-11" |
| 4V2 | 4 | 2 | 2'-2" |
| 4V3 | 4 | 2 | 2'-6" |
| 4V4 | 4 | 2 | 2'-9" |
| 4V5 | 4 | 2 | 3'-2" |
| 4V6 | 4 | 2 | 3'-4" |
| 4F1 | 4 | 2 | 12'-0" |
| 4F2 | 4 | 2 | 7'-6" |
| 5F3 | 5 | 1 | 11'-9" |
| **LOOP ASSEMBLY**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




ELEVATION
LOOP BAR ASSEMBLY




DETAIL "C"
BENT BAR DETAIL




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

**4V BARS**
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

## TAPER BARRIER SECTION

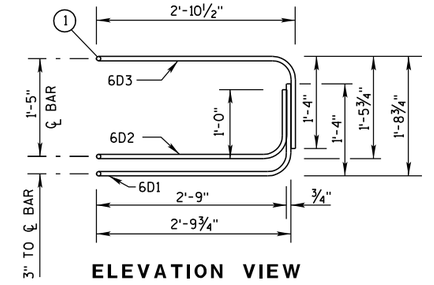
## GENERAL NOTES

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

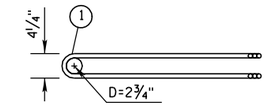
## BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

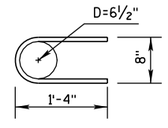
| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---|---|---|---|
| 4A1 | 4 | 12 | 6'-0" |
| 6A2 | 6 | 6 | 2'-11" |
| 5B1 | 5 | 3 | 12'-2" |
| 4C1 | 4 | 2 | 12'-2" |
| **LOOP ASSEMBLY** | | | |
| 6D1 | 6 | 2 | 8'-5" |
| 6D2 | 6 | 2 | 7'-7" |
| 6D3 | 6 | 2 | 8'-6" |



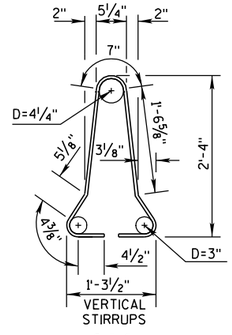

ELEVATION VIEW




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




6A2




4A1

## BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

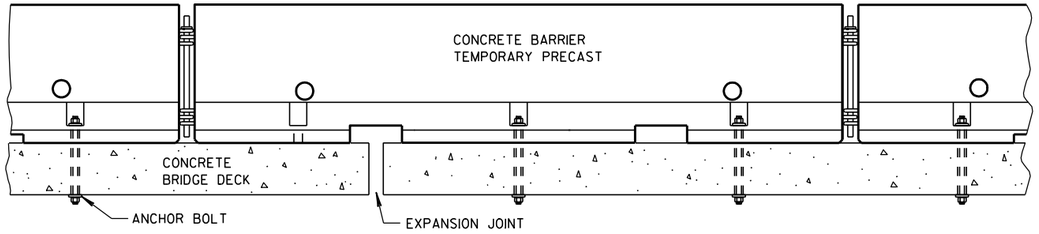






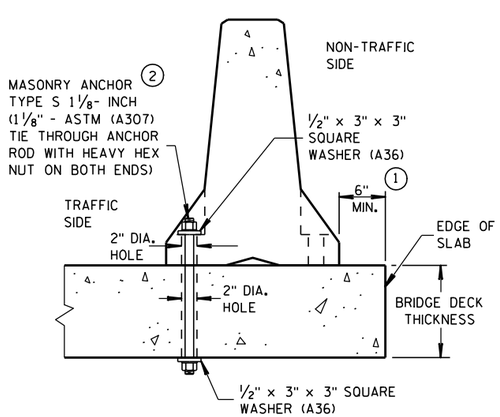
6

S.D.D. 14 B 7-13c



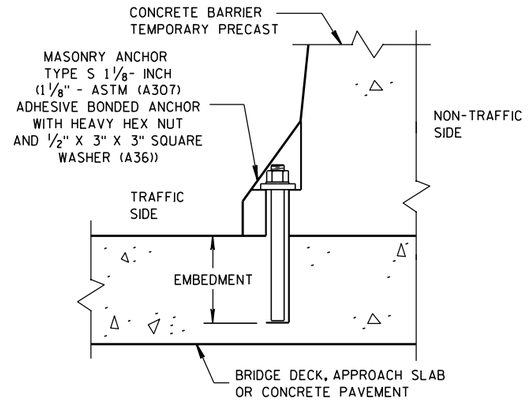

## TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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

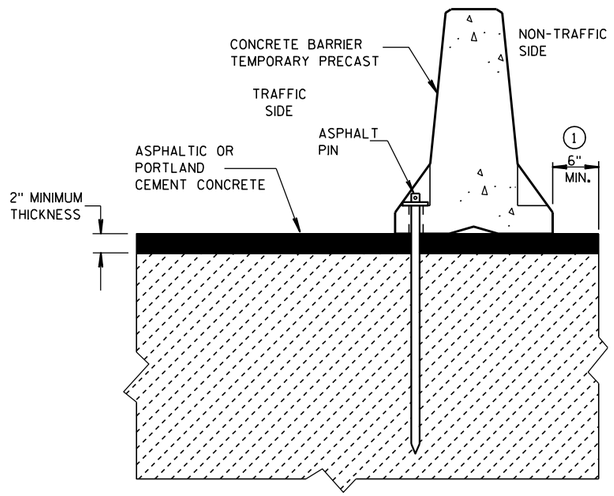
(1) CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED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

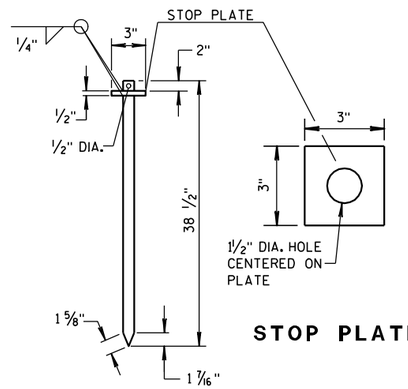
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE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

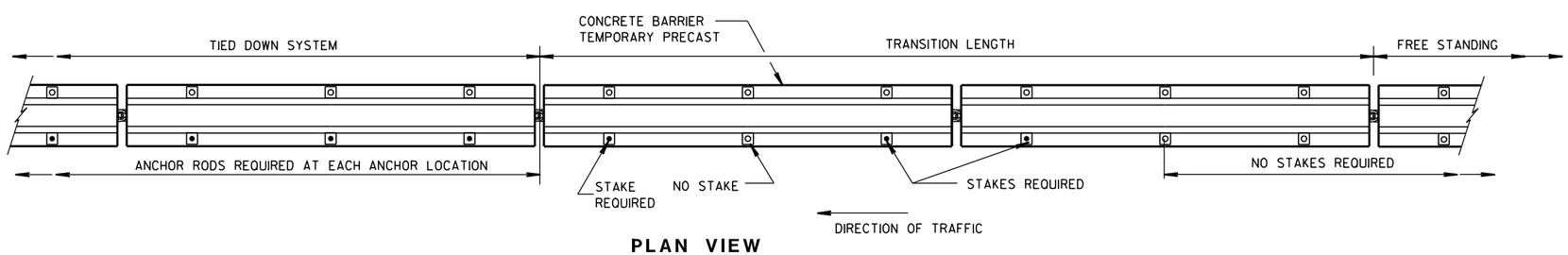
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)




## STOP PLATE

## ASPHALT PIN

(ASTM A36 STEEL)




PLAN VIEW

## FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

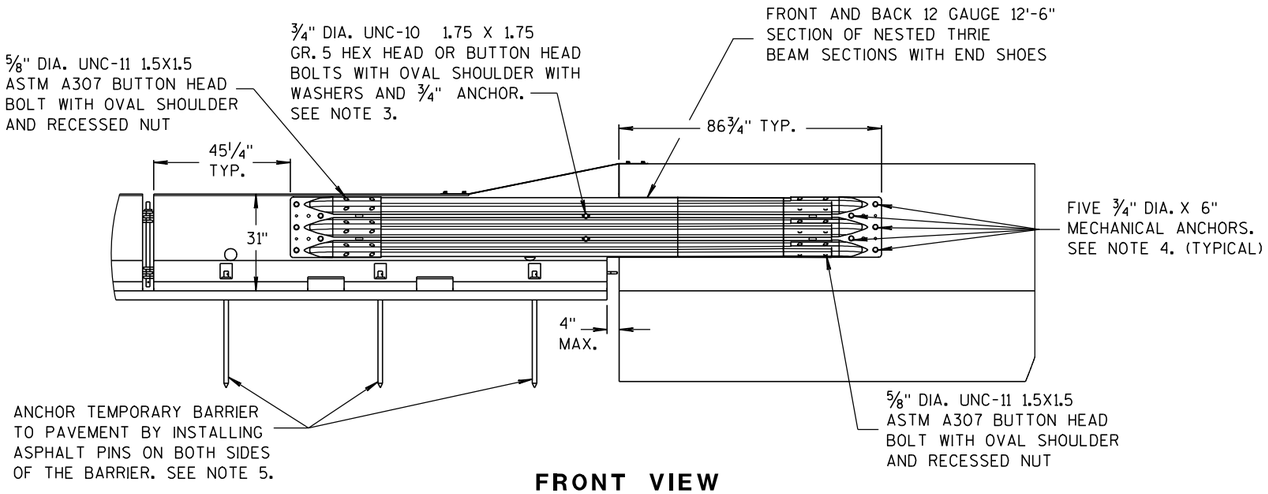
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

**CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...



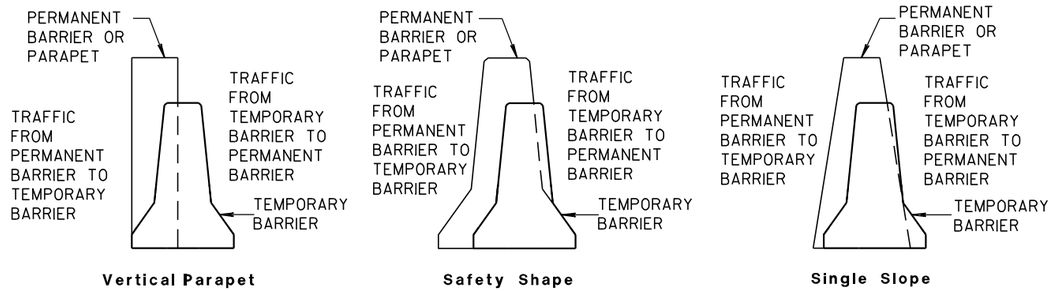

6
S.D.D. 14 B 7-13d

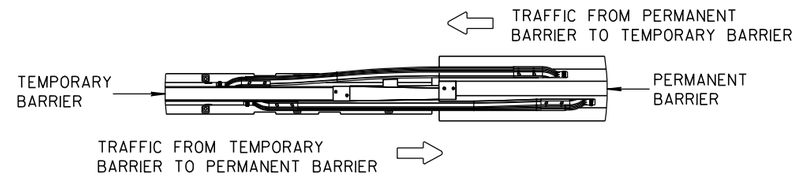



**FRONT VIEW**

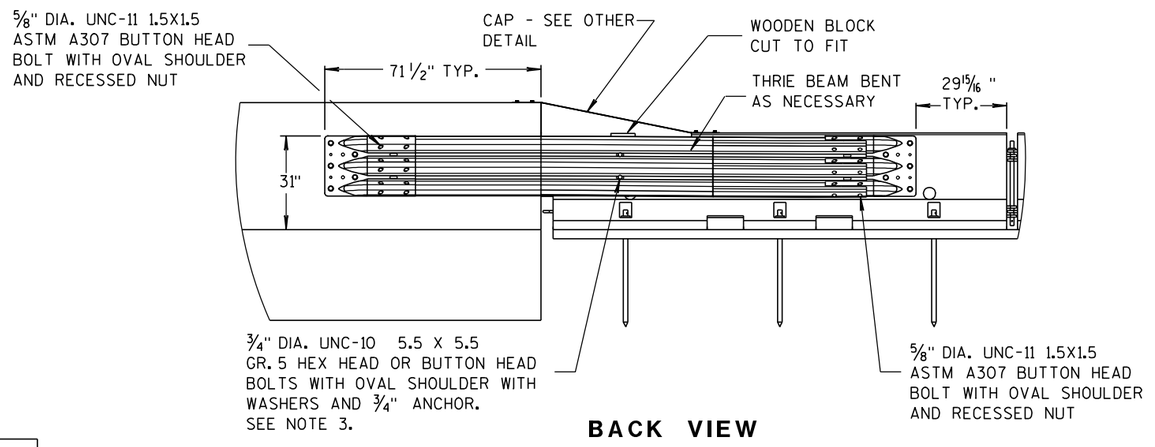
## NOTES

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

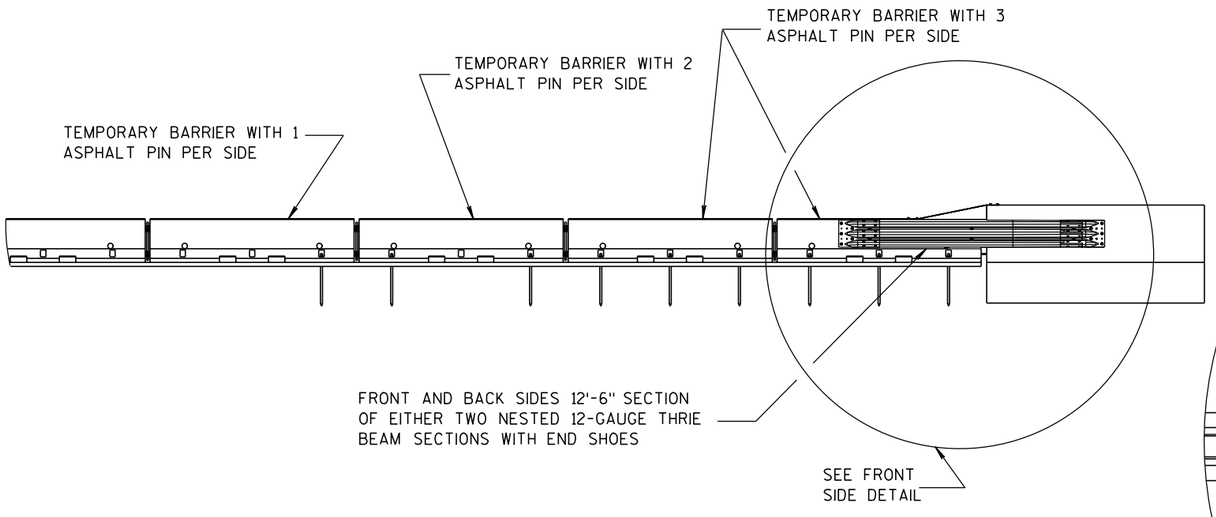


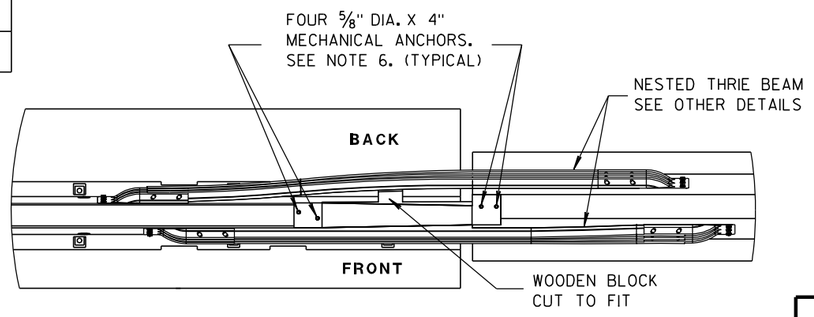

## TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM




**BACK VIEW**




**FRONT VIEW**




**PLAN VIEW**

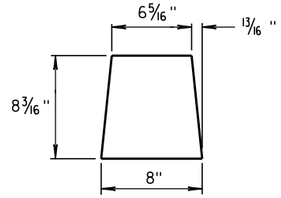
## BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

**CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"**

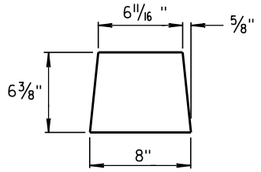
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



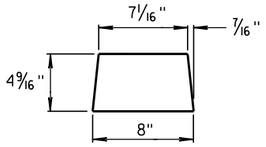

6
S.D.D. 14 B 7-13e



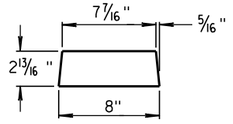

GUSSET 1




GUSSET 2

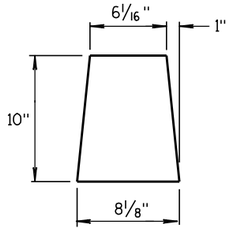



GUSSET 3

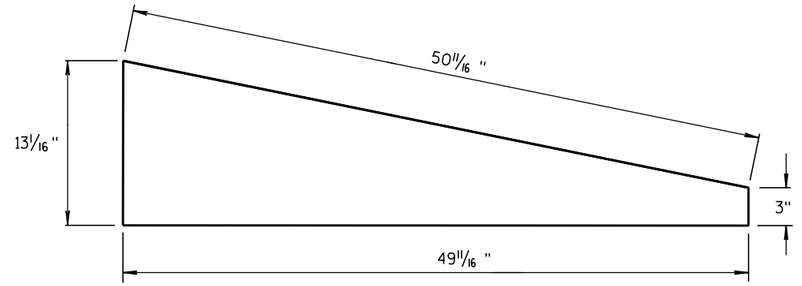



GUSSET 4

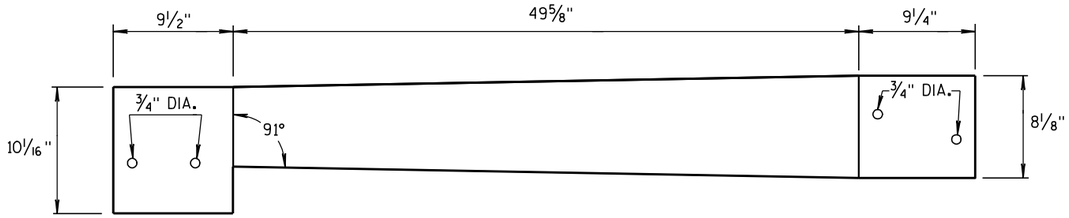
GUSSETS

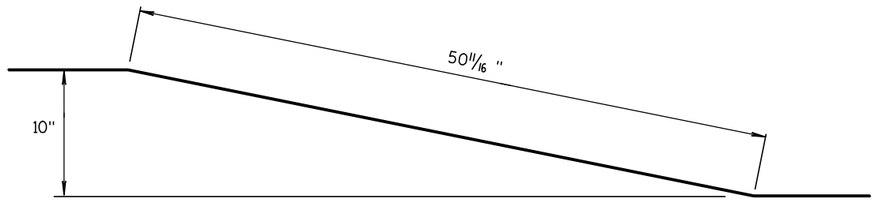



END PLATE

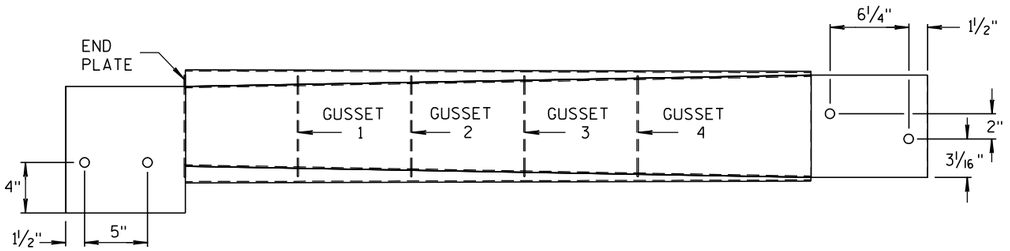


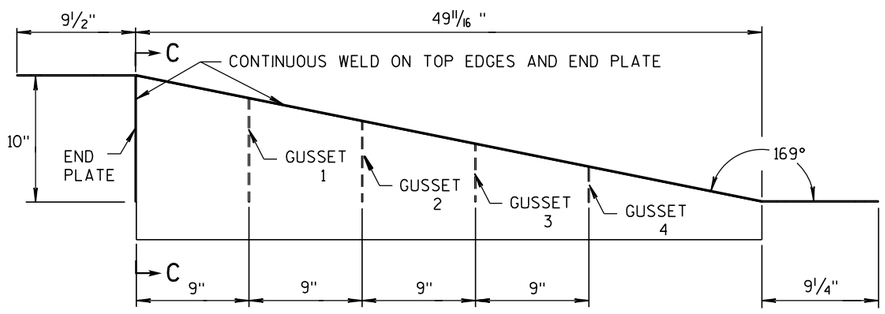

SIDE PLATE

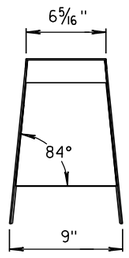



TOP PLATE




SECTION C-C

NOTES

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

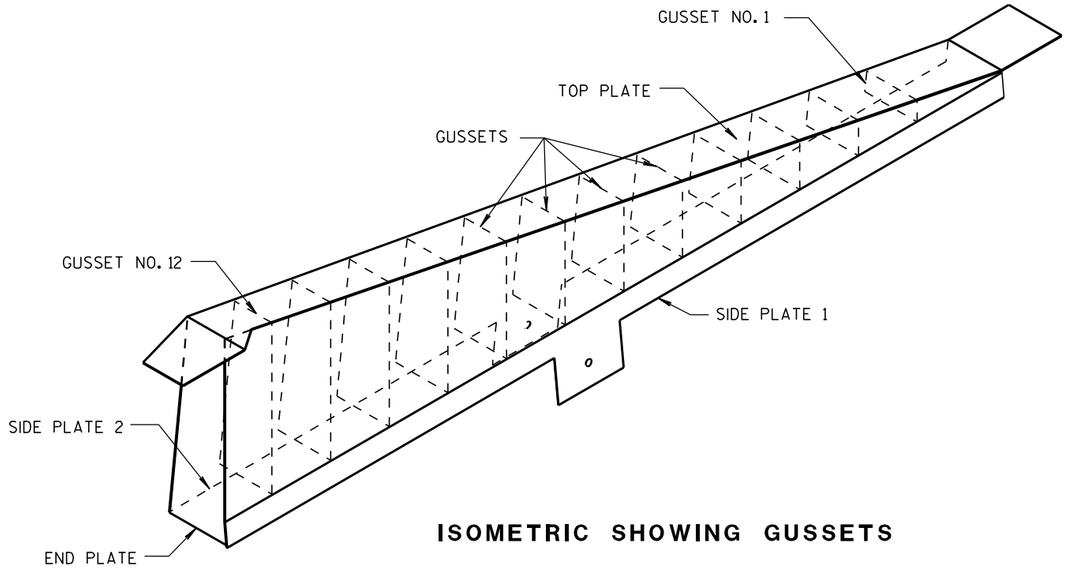
## CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

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

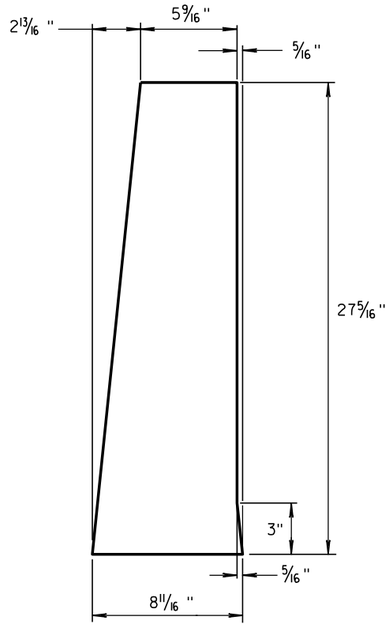
SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

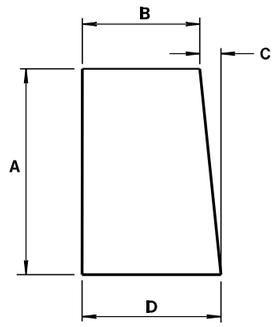



**ISOMETRIC SHOWING GUSSETS**




**END PLATE**

1/8" STEEL PLATE



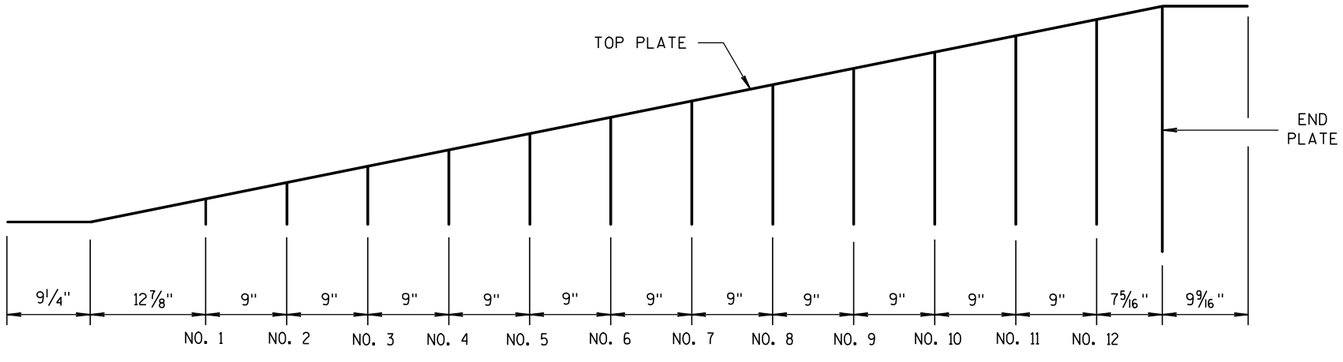

**GUSSETS 1 - 12**

ALL GUSSETS 1/8" STEEL PLATE

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

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

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




**GUSSET LOCATION**

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

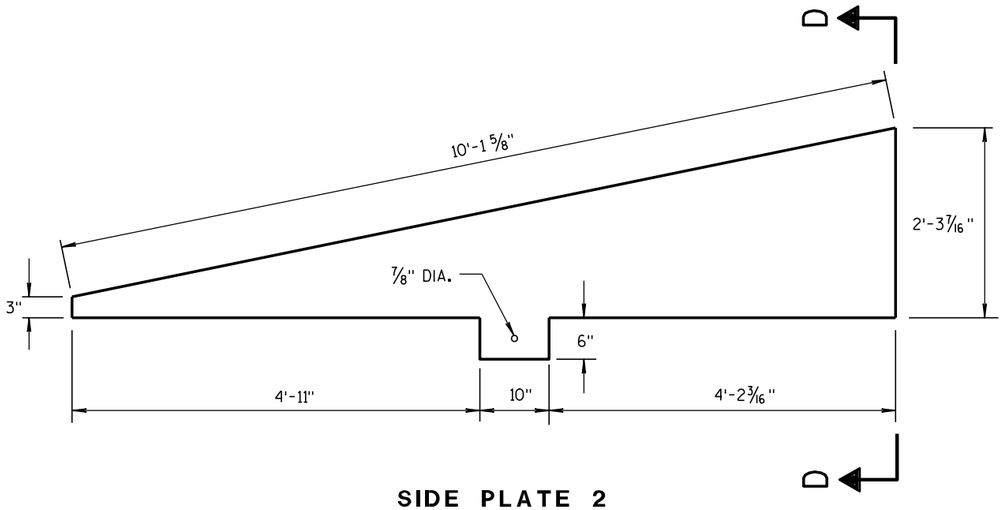
**CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

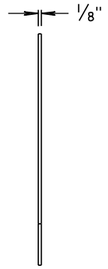



6

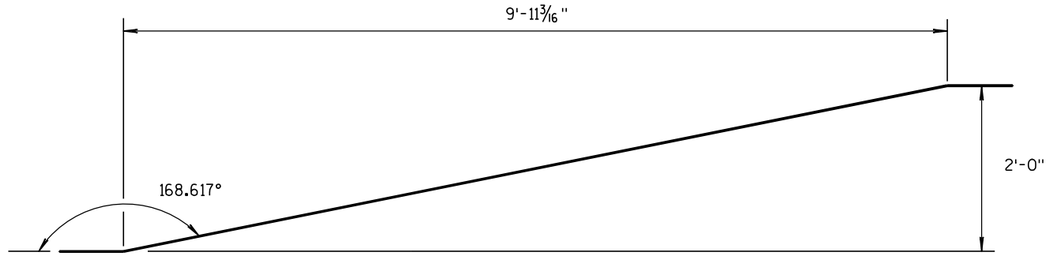
S.D.D. 14 B 7-13g




SIDE PLATE 2

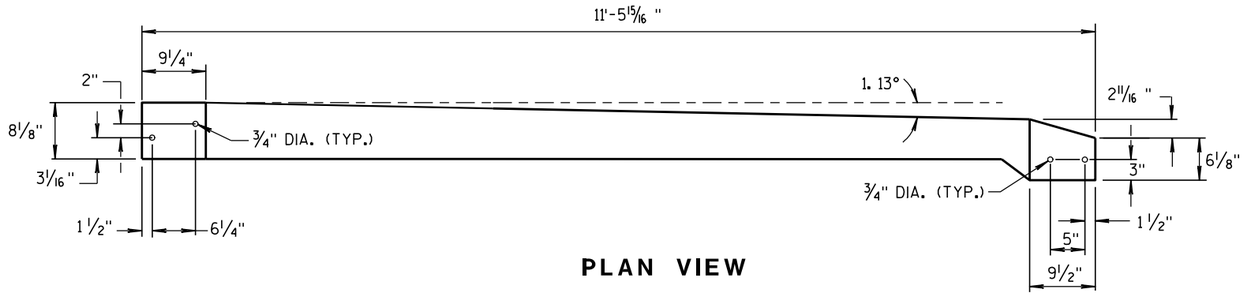



END VIEW



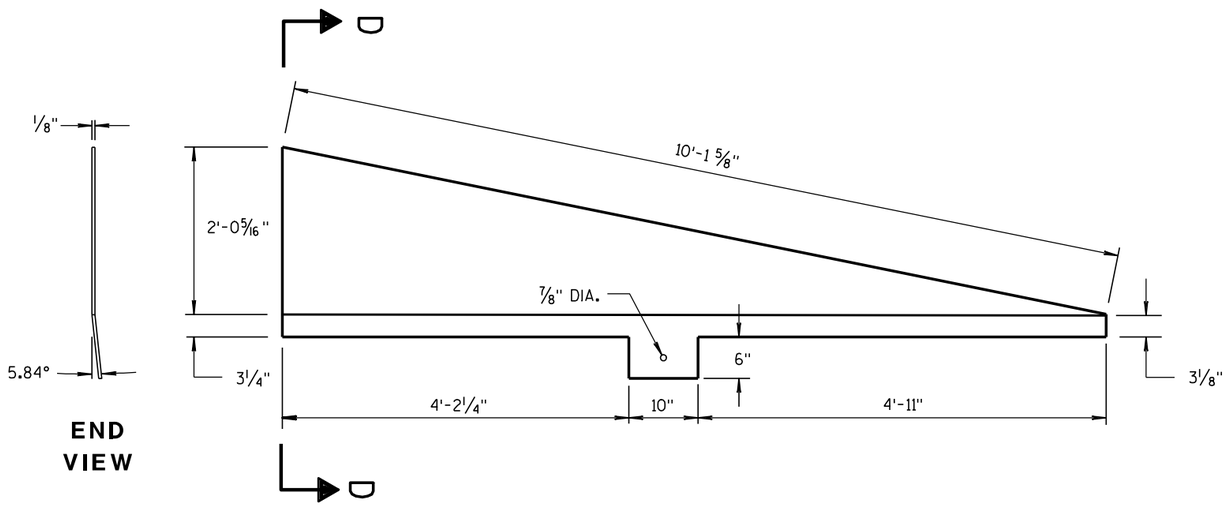

SIDE VIEW

TOP PLATE



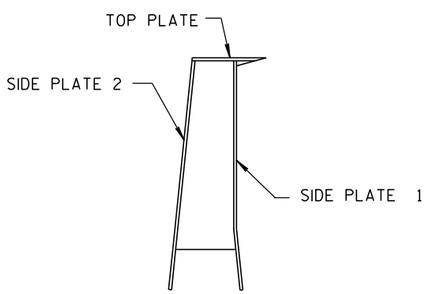

PLAN VIEW

TOP PLATE




END VIEW

SIDE PLATE 1




SECTION D-D

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

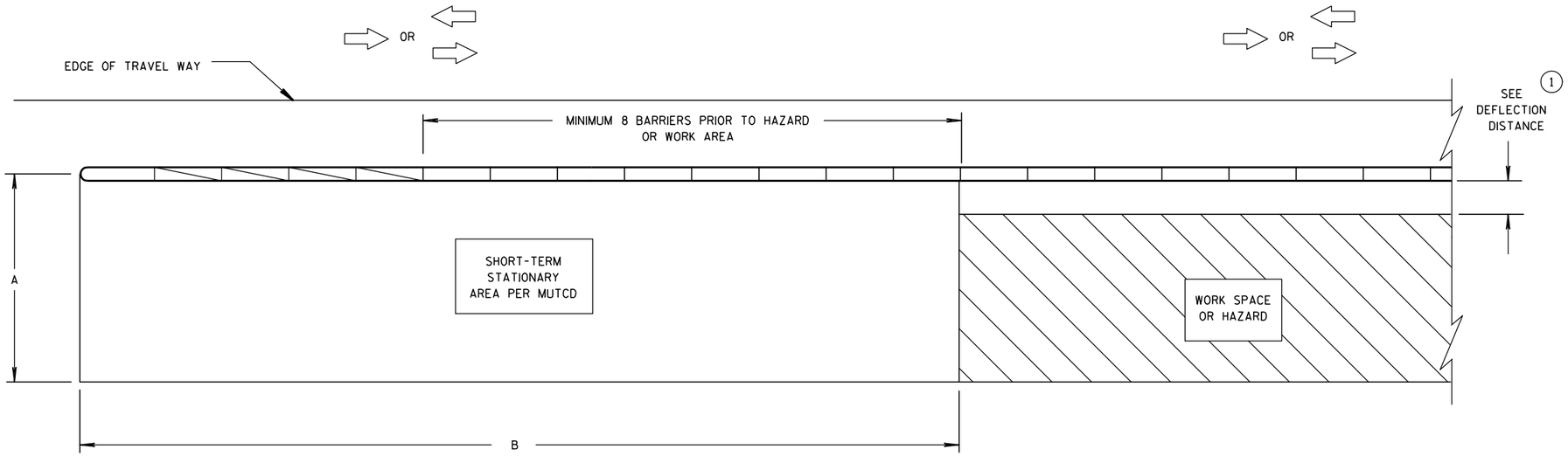
| | |
|---|---|
| CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| 8/31/2012 DATE | /S/ Jerry H. 7---- ROADWAY STANDARDS ENGINEER |
| FHWA | 72 ENT |

6

S.D.D. 14 B 7-13h

6

S.D.D. 14 B 7-13h



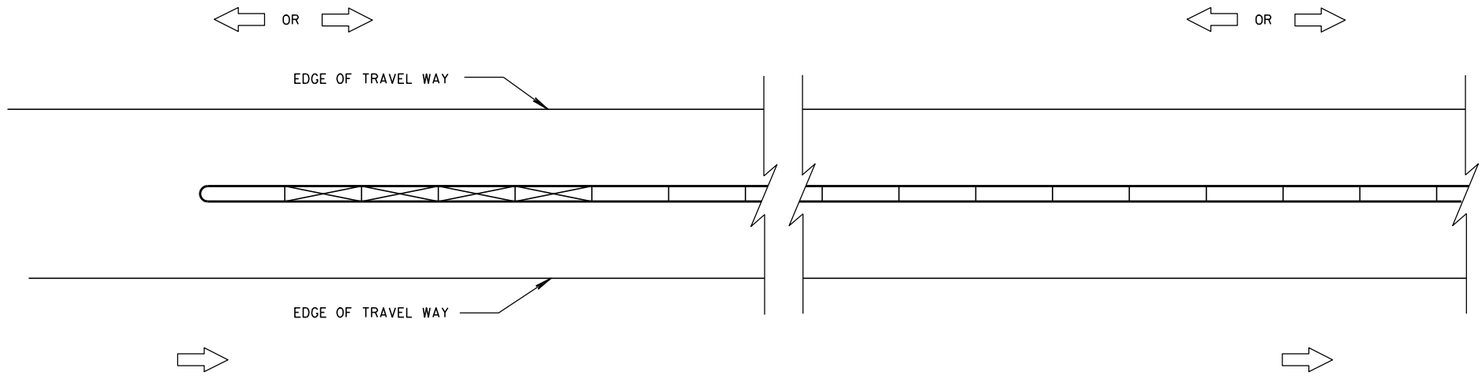

## CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

### DIMENSION A TABLE (2)

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

### DIMENSION B TABLE (2)

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




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

### LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

### GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

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

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

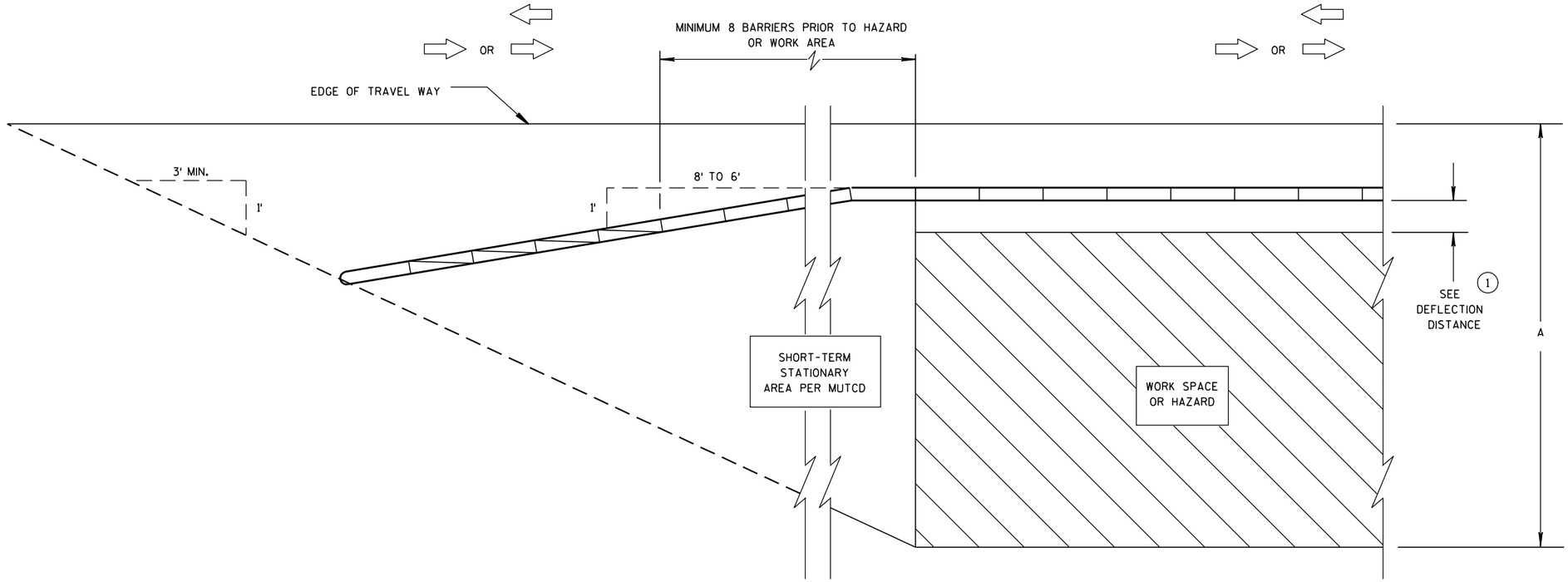
**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

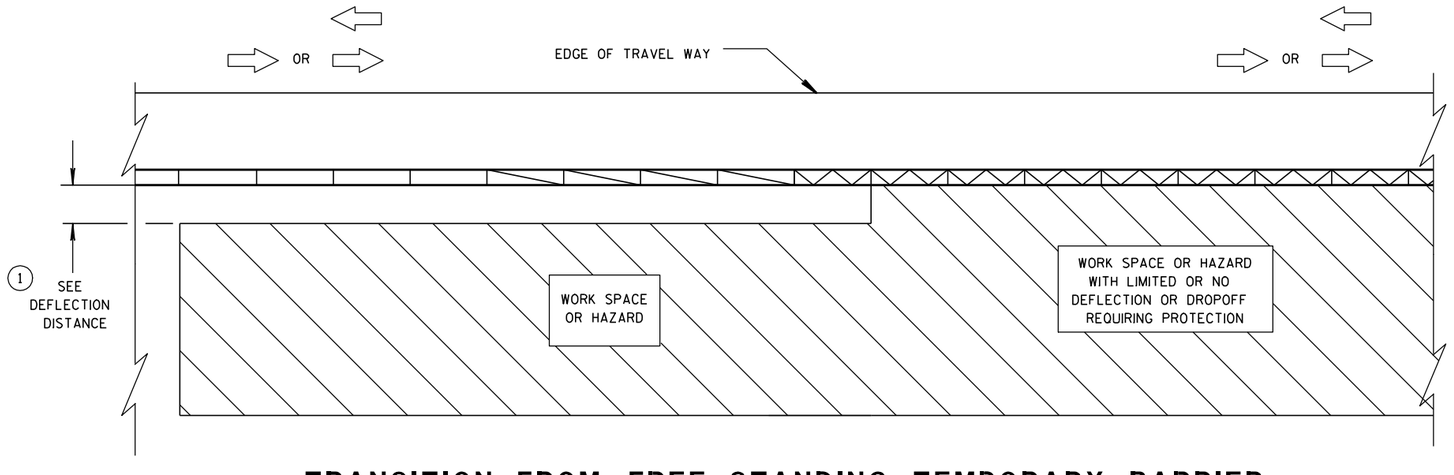



6

S.D.D. 14 B 8-1a




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




## TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

**LEGEND**

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

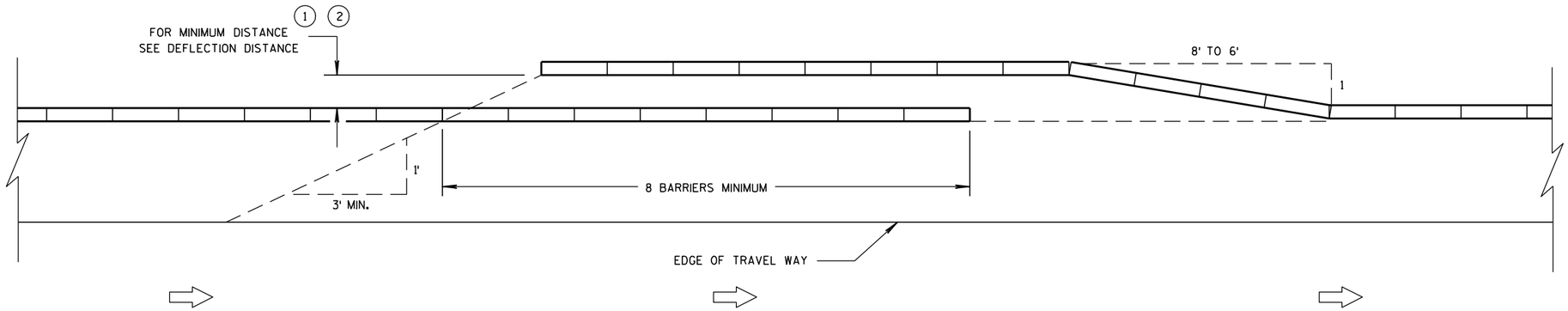
**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

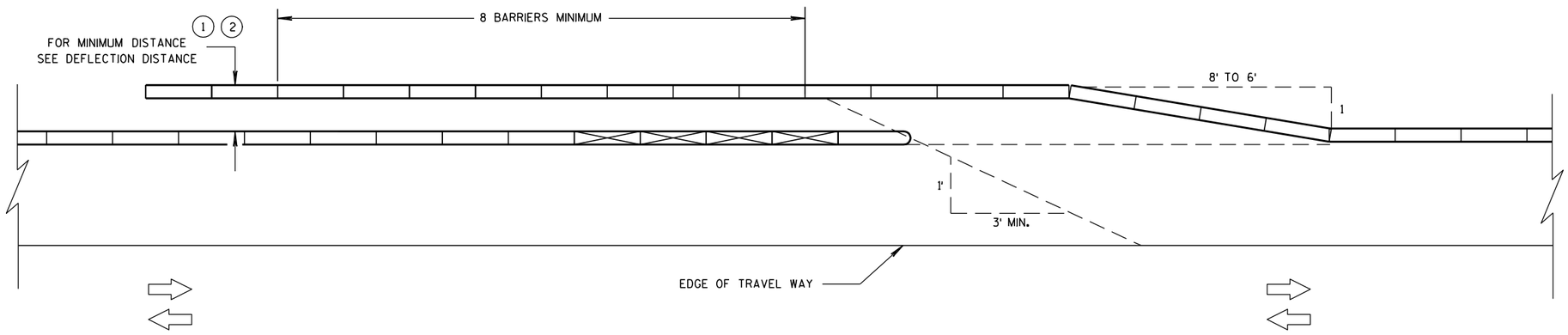



6

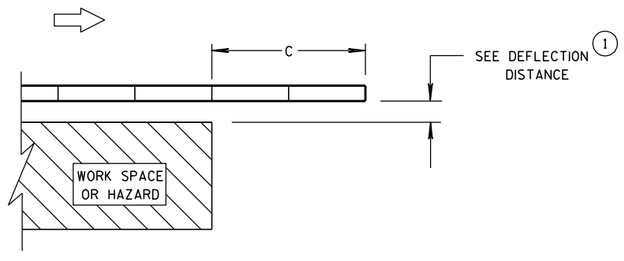
S.D.D. 14 B 8-1b



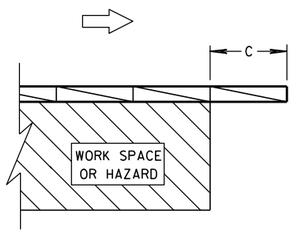

## TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC




## TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC




## ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED




## ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

### LEGEND

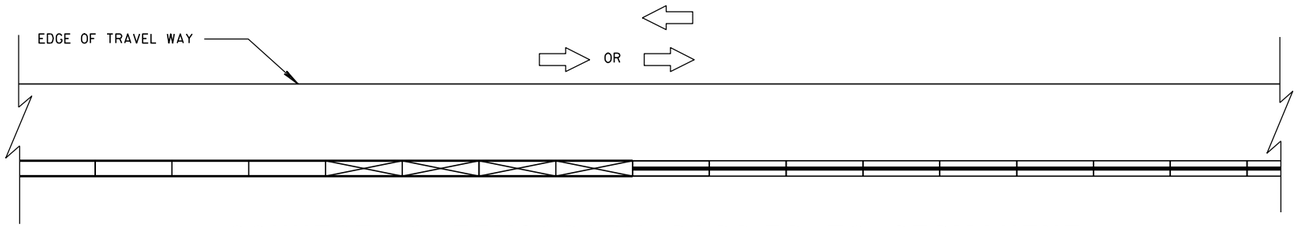
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

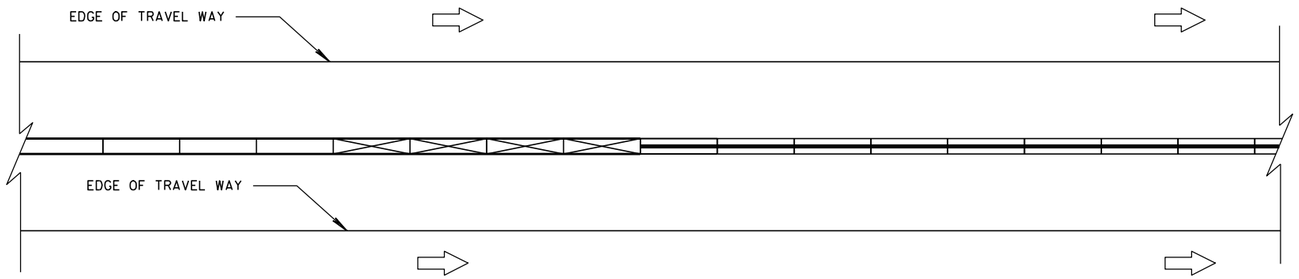
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6
S.D.D. 14 B 8-1c




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




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

**LEGEND**

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

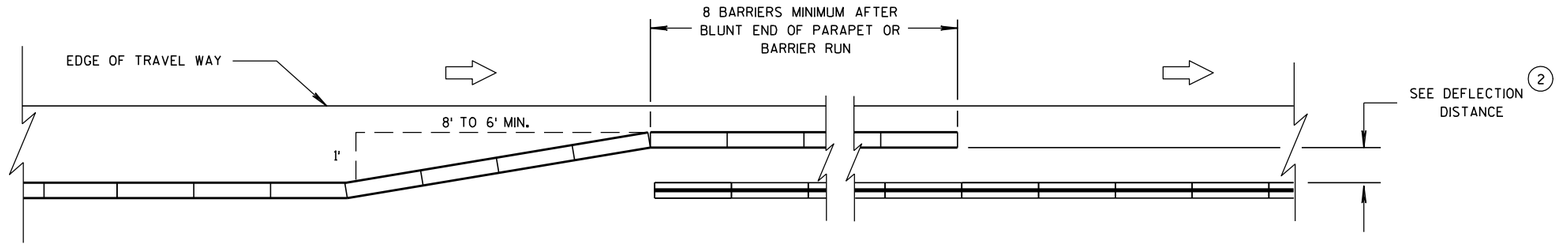
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

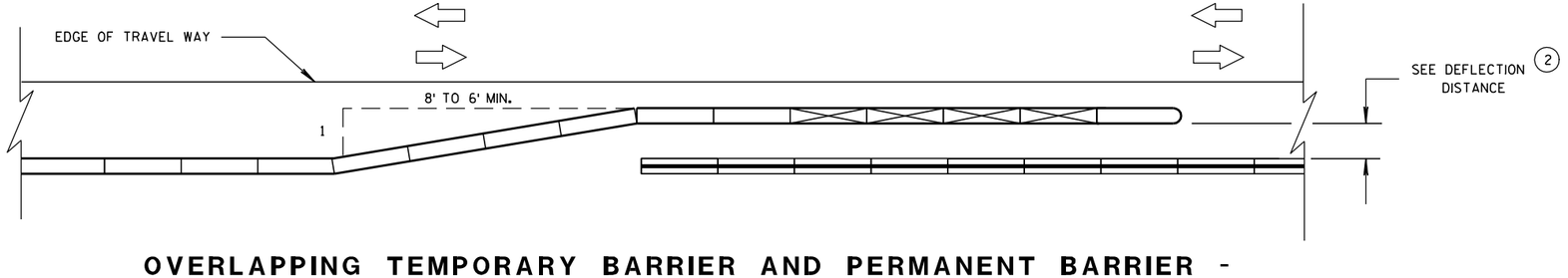
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER




OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC




OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...




6

S.D.D. 14 B 8-1d

## LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

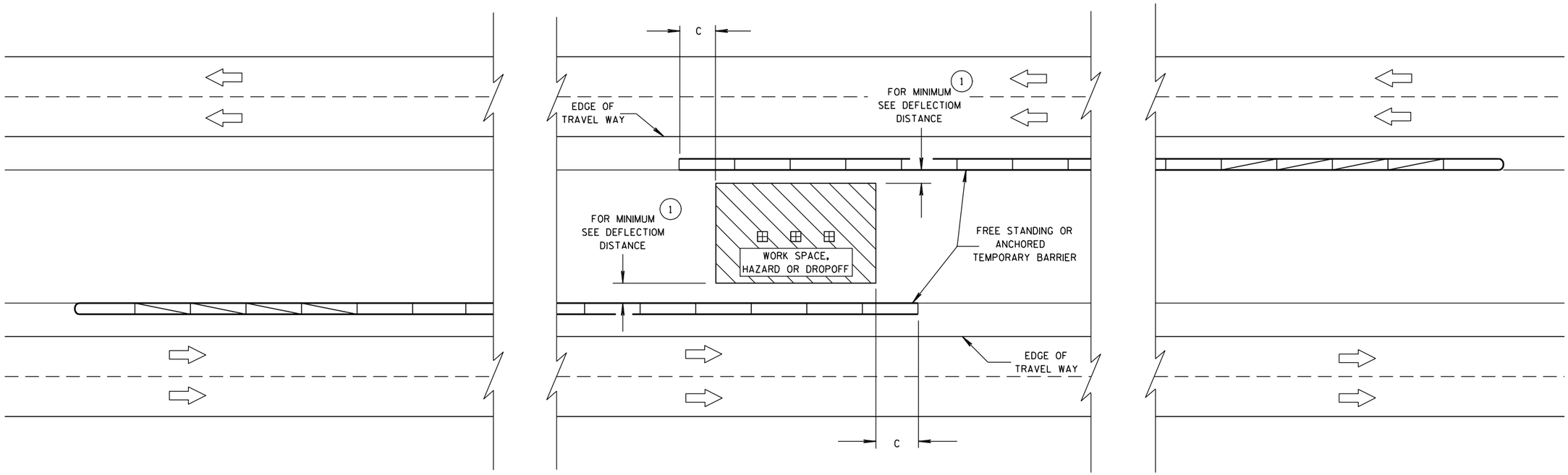
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

## DIMENSION C TABLE (2)

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




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

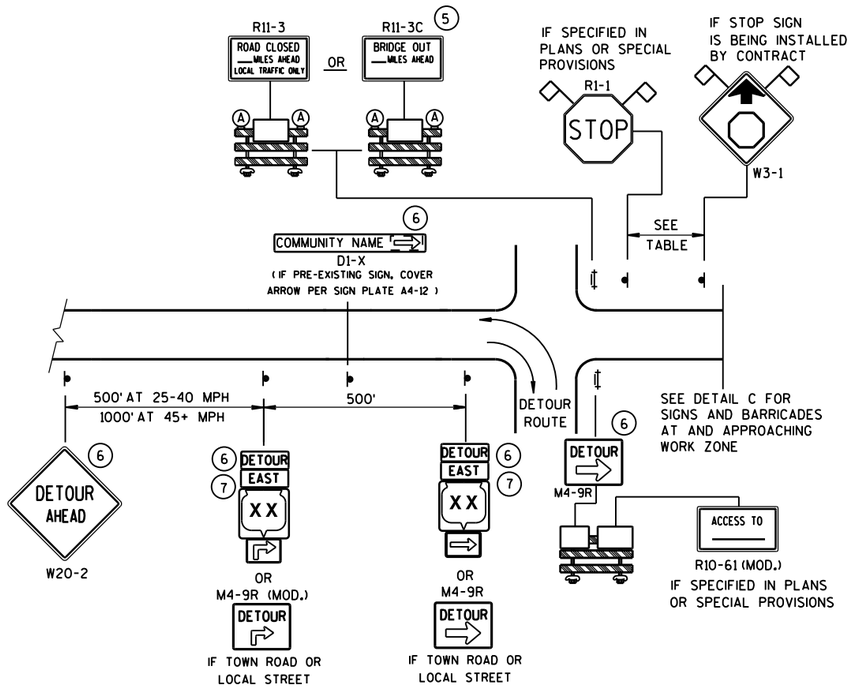
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER

77

FHWA

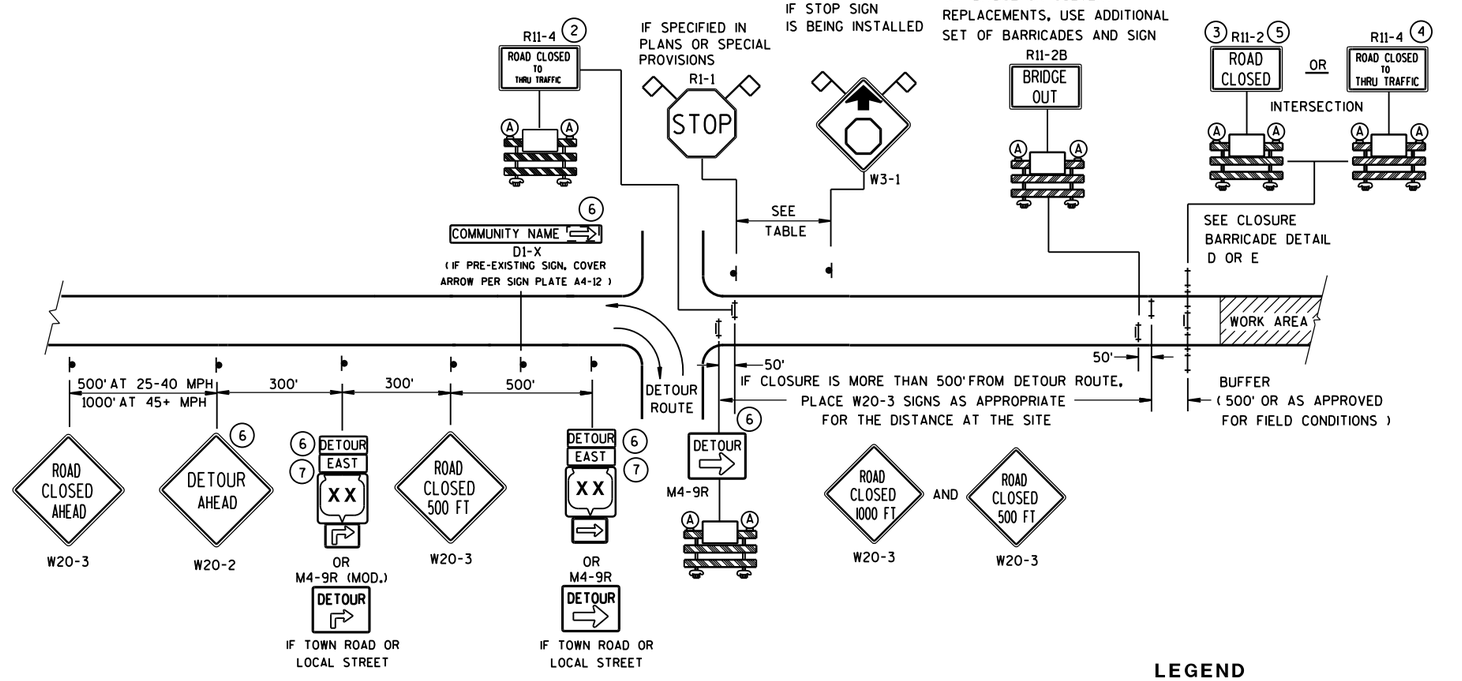


6
S.D.D. 14 B 8-1e



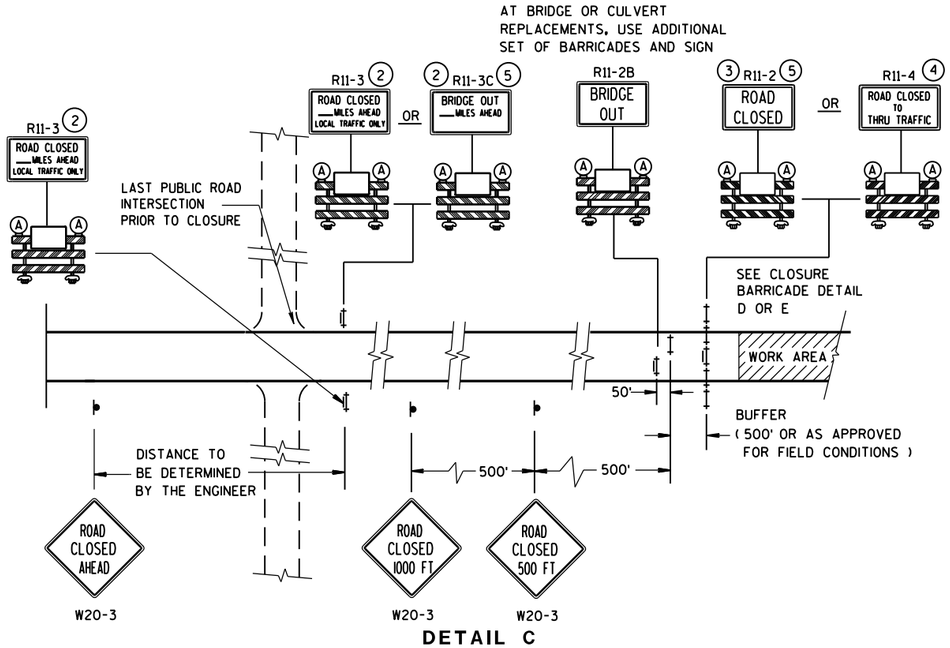

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL C
## MAINLINE CLOSURE, NO POSTED DETOUR

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

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

### LEGEND

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

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE

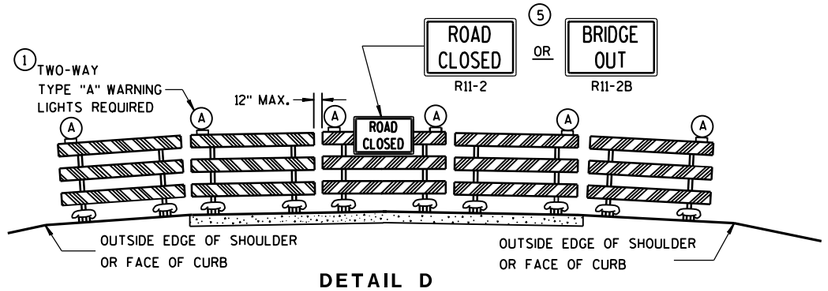
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA




6

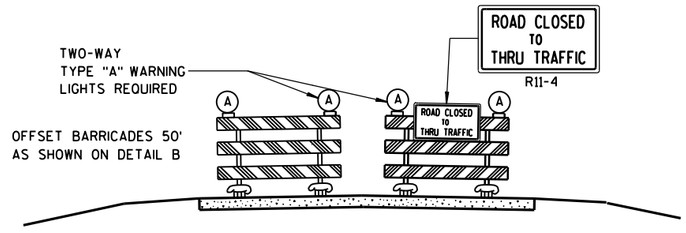
S.D.D. 15 C 2-5a




**DETAIL D**

## ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW




**DETAIL E**

## LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA







6

S.D.D. 15 C 2-5b

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

## GENERAL NOTES

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

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

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

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

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

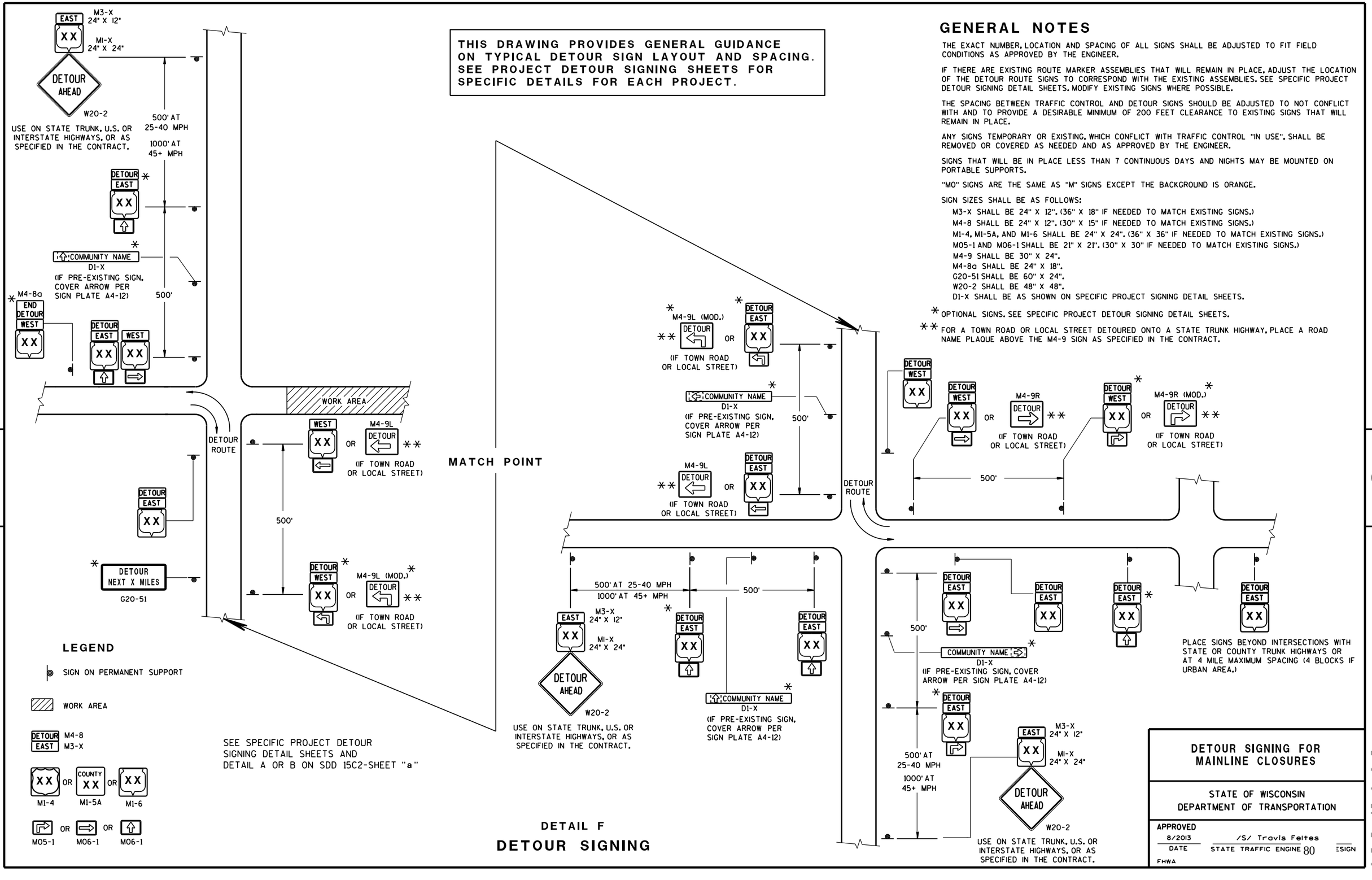
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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

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

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




### LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8, M3-X
- XX OR COUNTY XX OR XX — M1-4, M1-5A, M1-6
- MO5-1 OR MO6-1 OR MO6-1

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

**DETAIL F**

**DETOUR SIGNING**

**DETOUR SIGNING FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

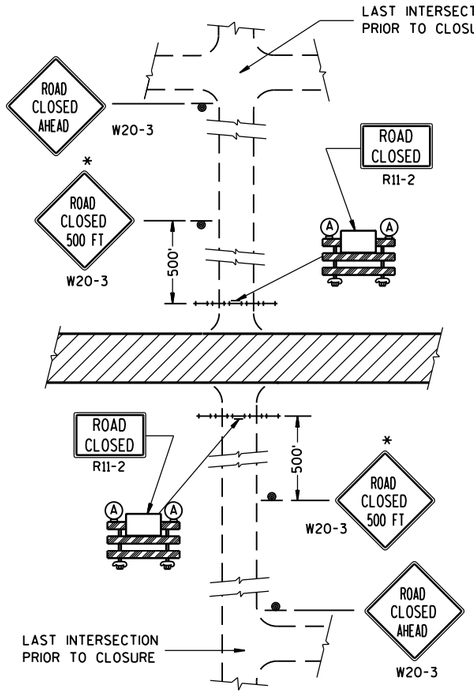
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA



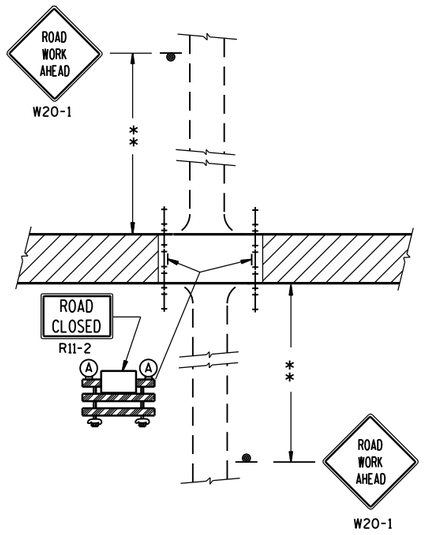
6

S.D.D. 15 C 2-5c



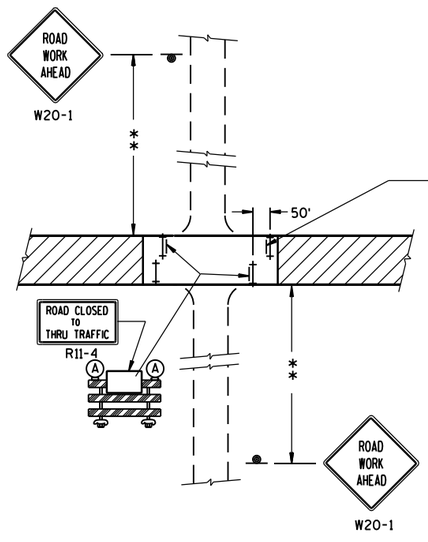

**DETAIL 1**

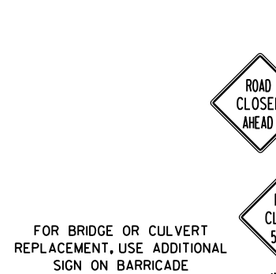
(NO ACCESS TO PROJECT)




**DETAIL 2**

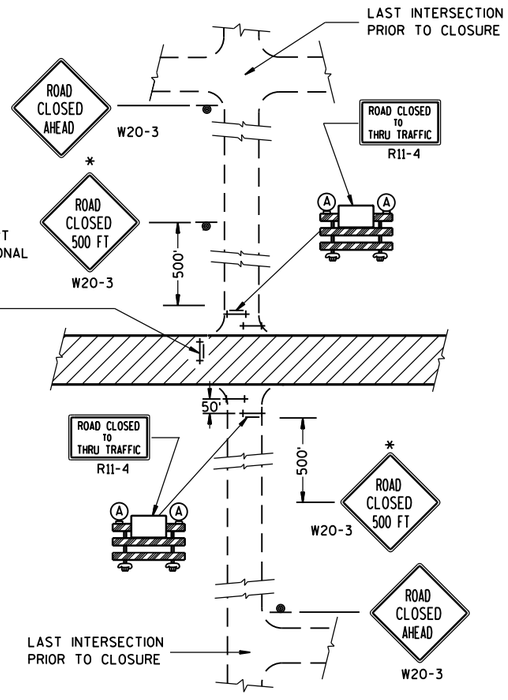
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).




**DETAIL 3**

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




**DETAIL 4**

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

**BARRICADES AND SIGNS FOR SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

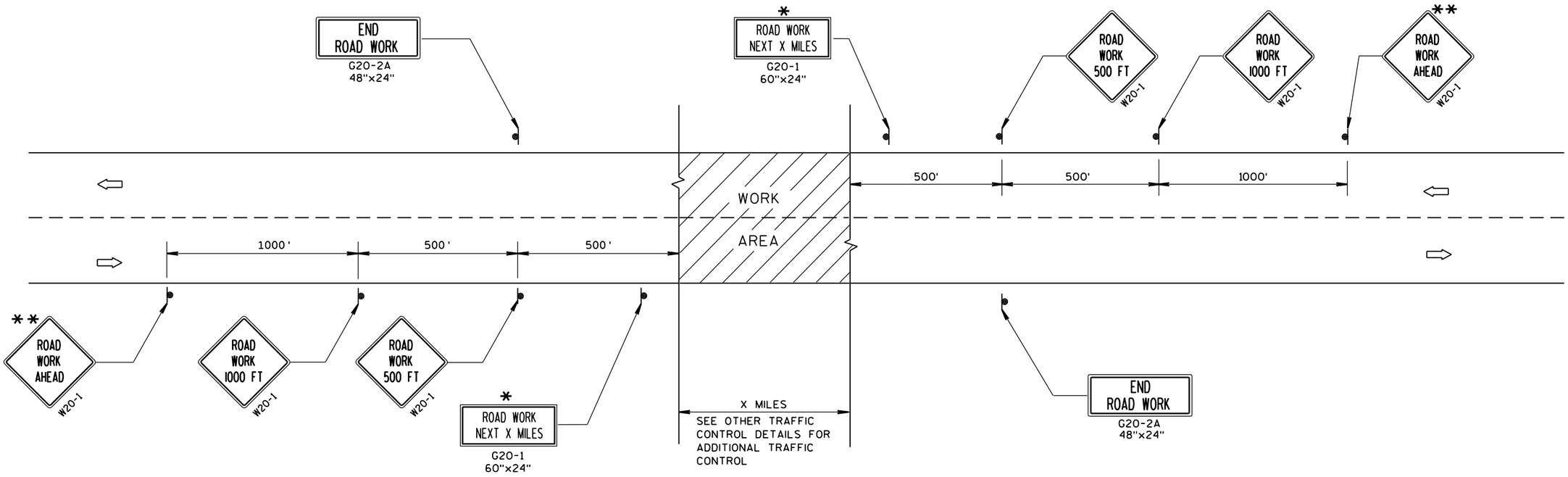


6

S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2






# TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

## 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 MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

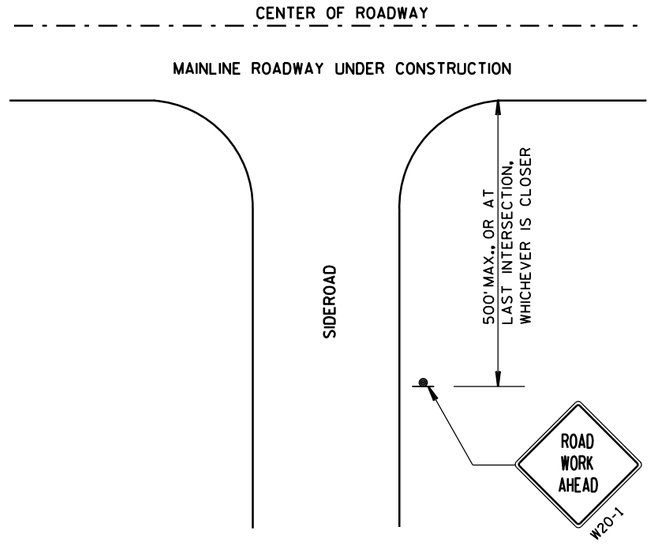
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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.

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

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.




### LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

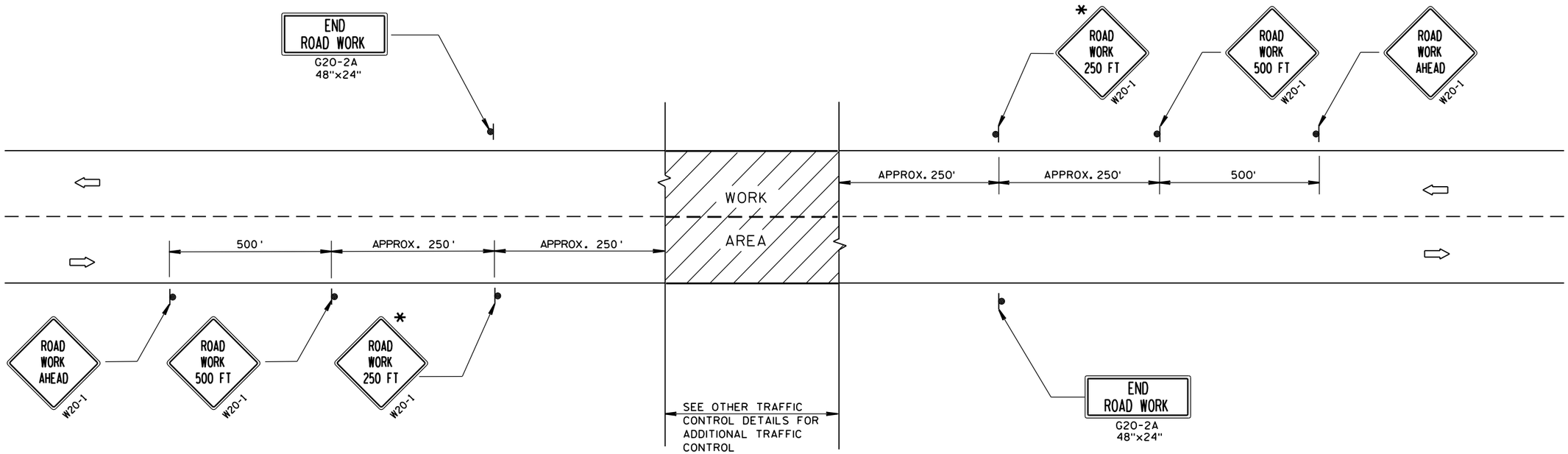
FHWA



S.D.D. 15 C 4-2

6

S.D.D. 15 C 4-2




# TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

## GENERAL NOTES

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

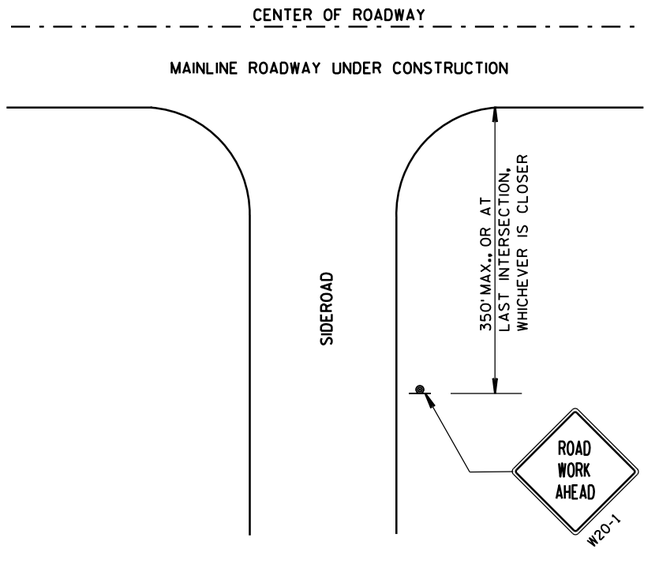
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.

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.




**LEGEND**

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

**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

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA



SIGN

S.D.D. 15 C 5-2

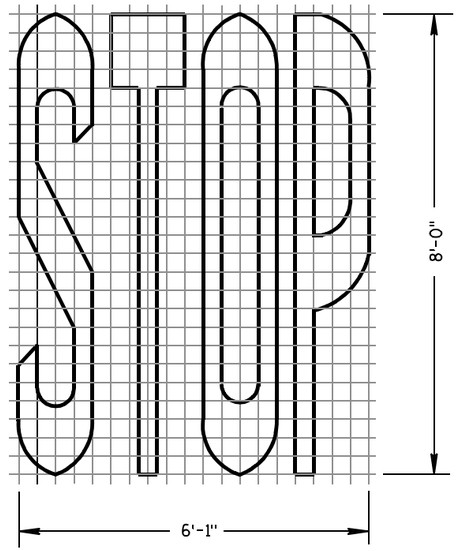
6

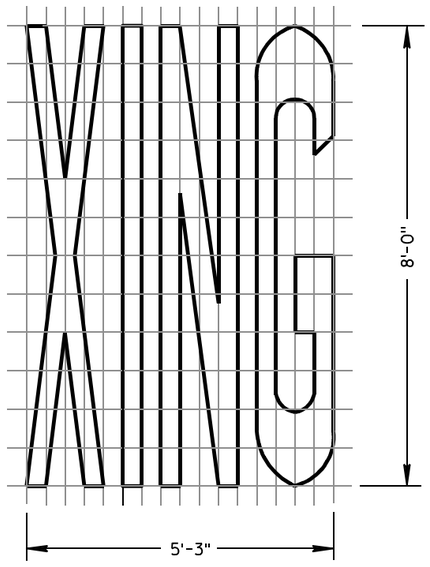
S.D.D. 15 C 5-2

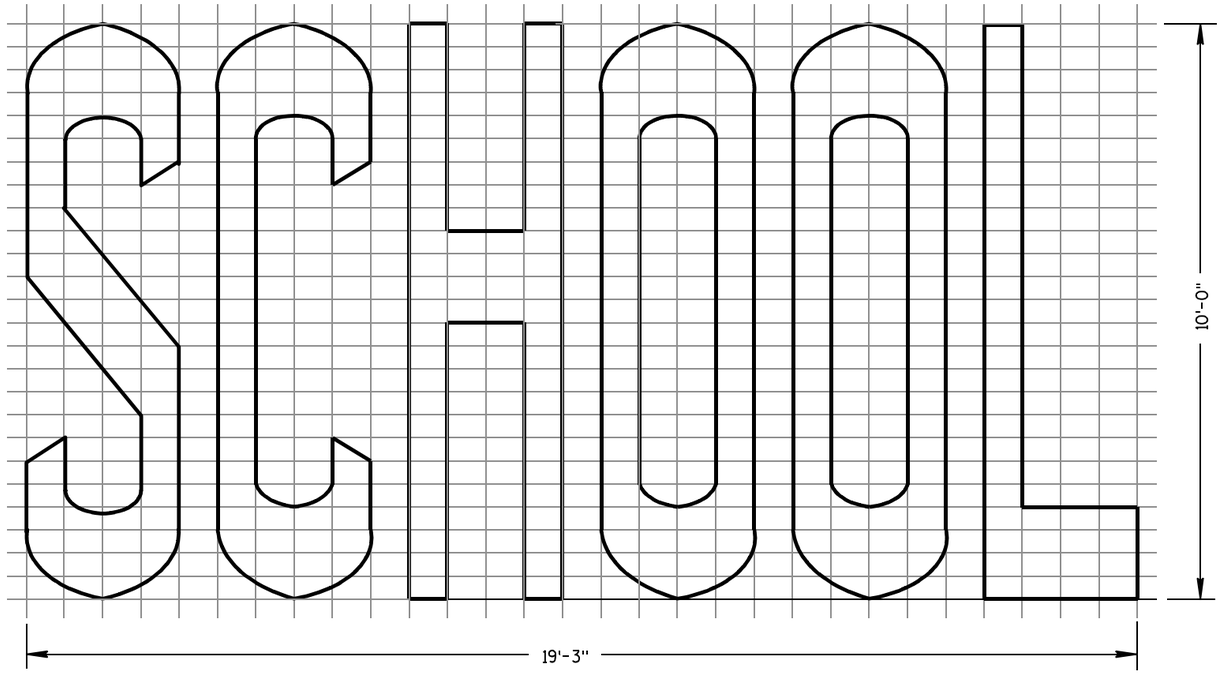
## GENERAL NOTES

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.

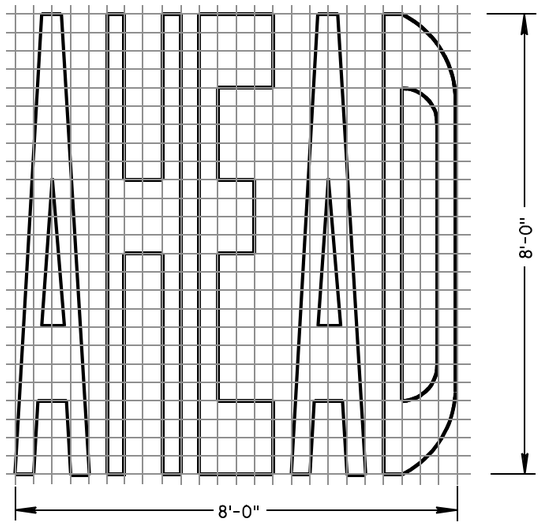
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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

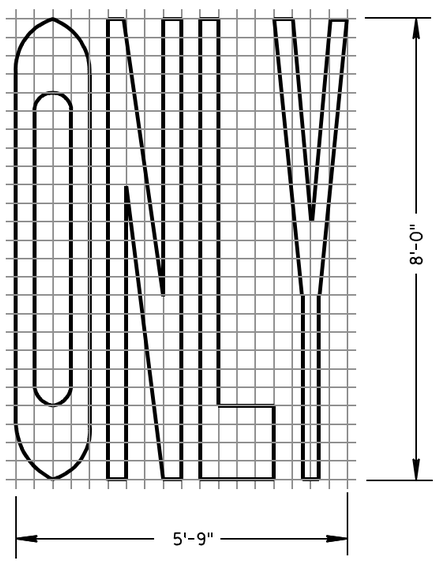


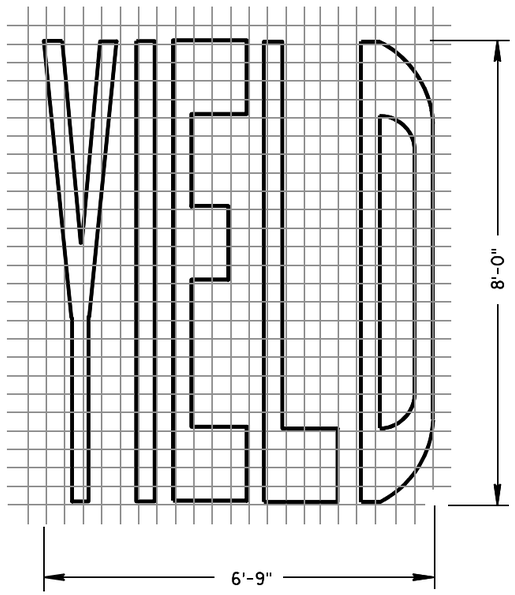



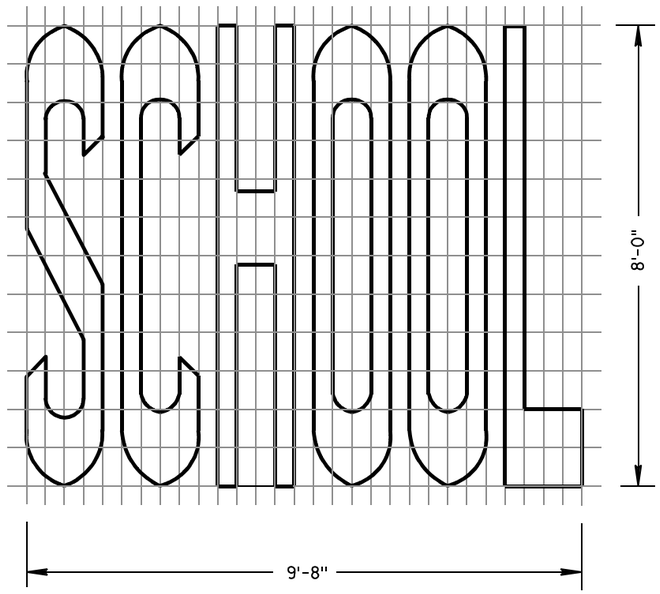




**TWO-LANE**




**SINGLE-LANE**

**PAVEMENT MARKING WORDS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7-1-11 DATE — /S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER

FHWA



6

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

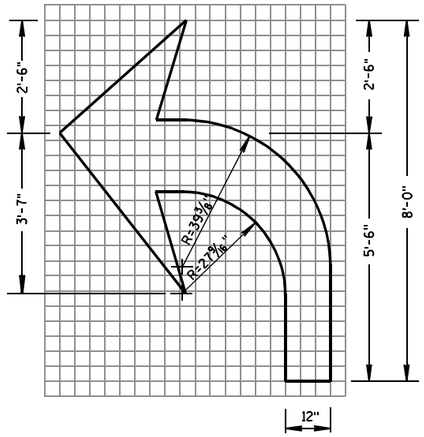
6

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

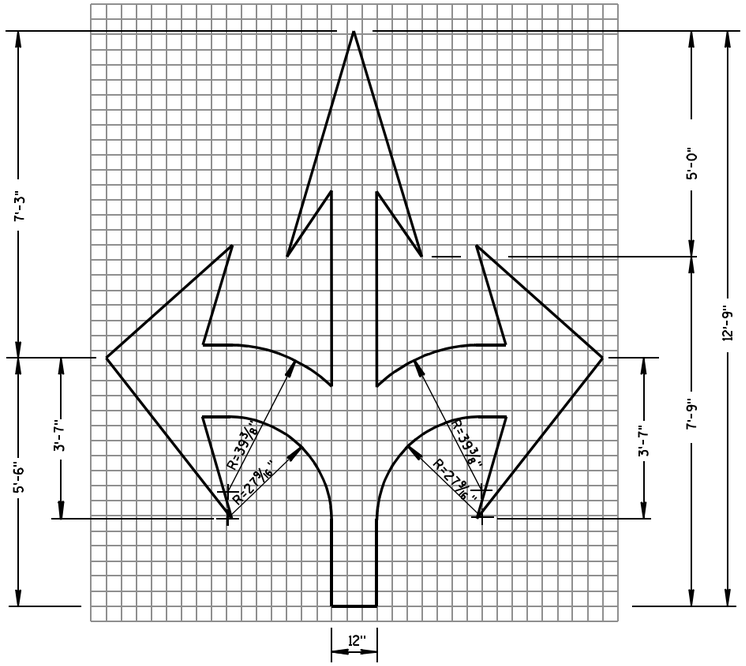
## GENERAL NOTES

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.

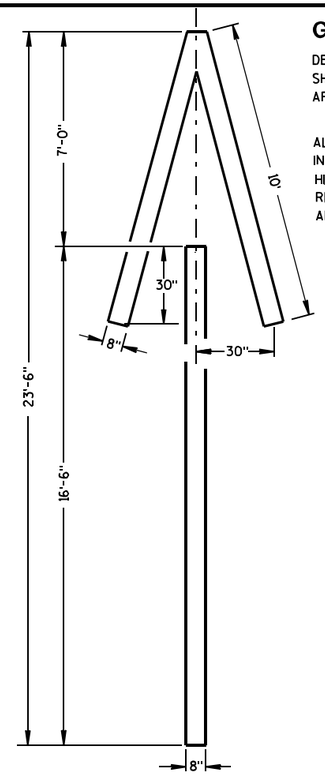
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



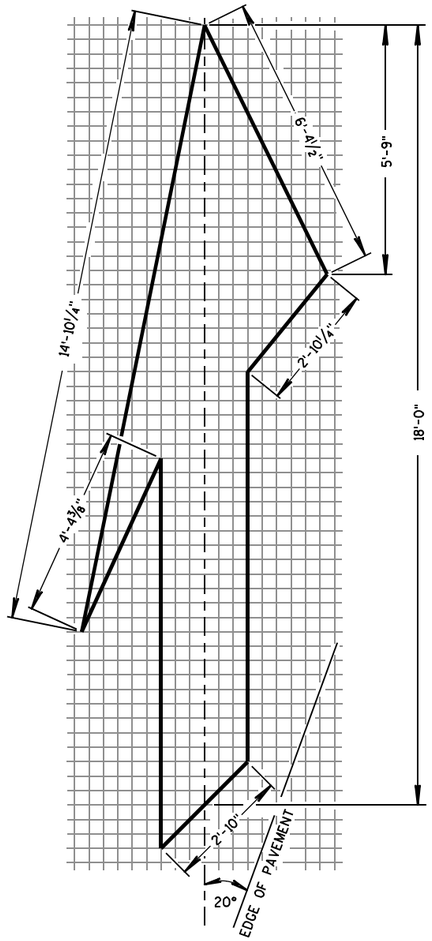

TYPE 2



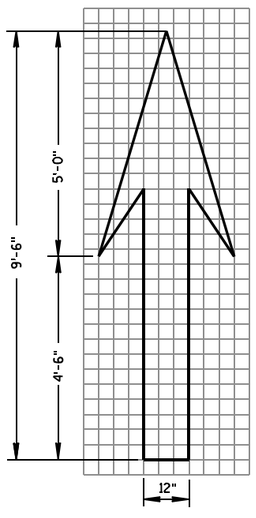

TYPE 6



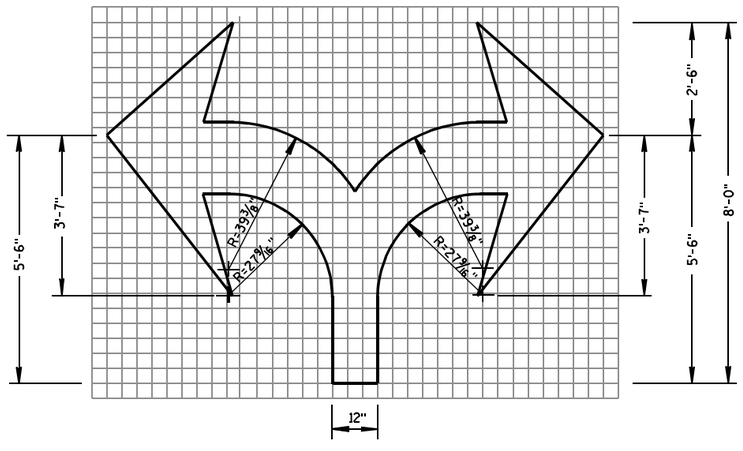

TYPE 4



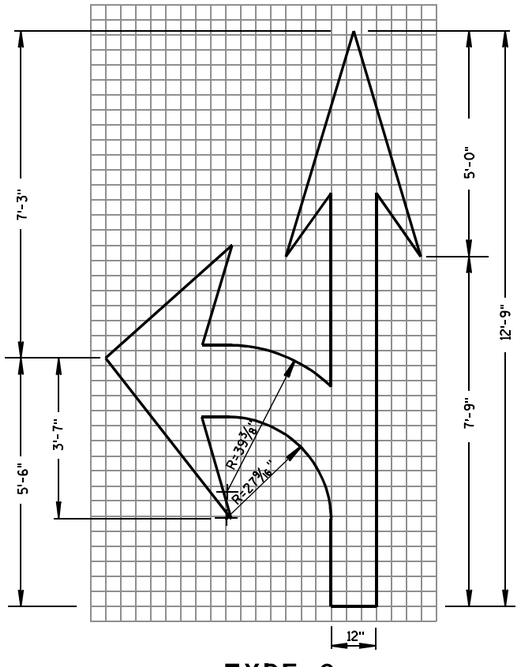

TYPE 5 LANE DROP ARROW




TYPE 1




TYPE 7




TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nathaam — STATE TRAFFIC ENGINEER

FHWA

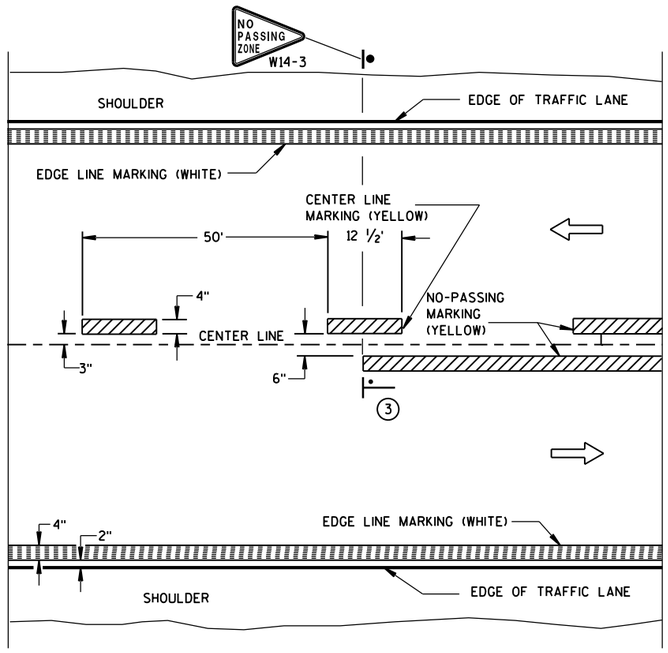


6

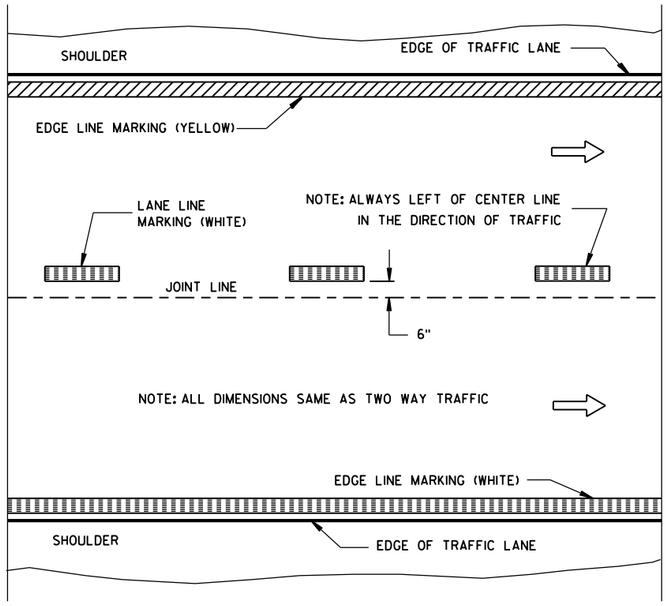
S.D.D. 15 C 7-12c

6

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

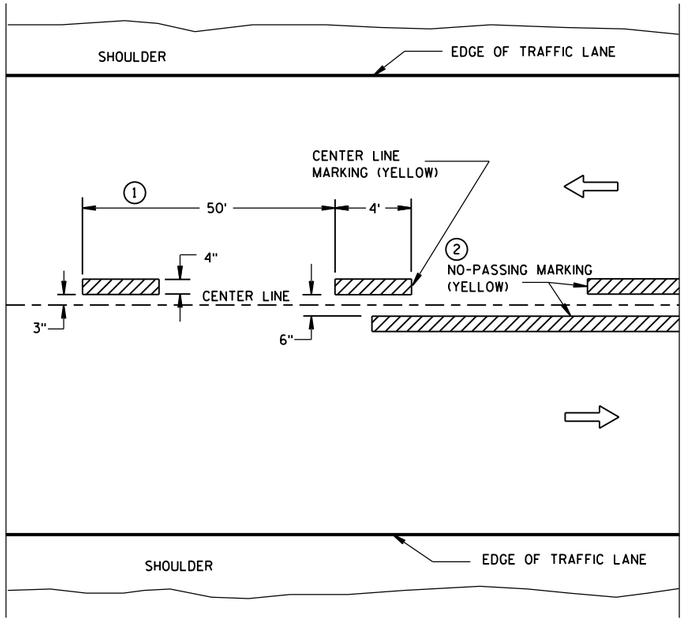



TWO WAY TRAFFIC

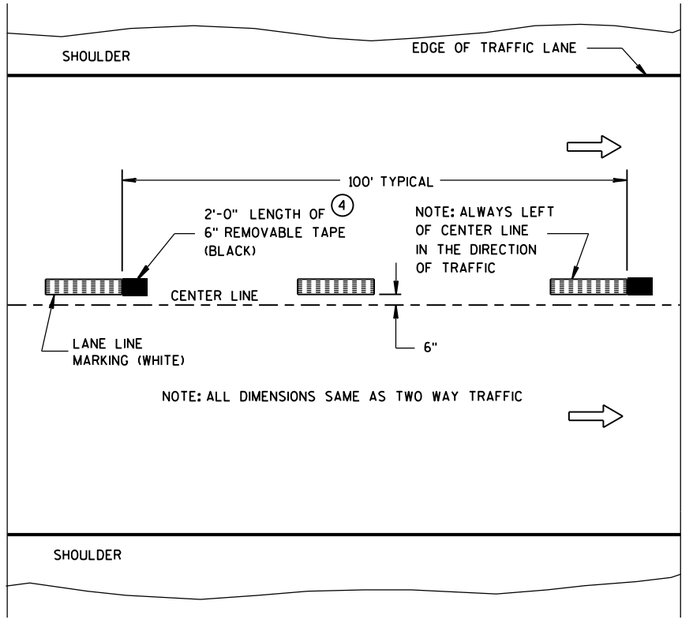



ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING




TWO WAY TRAFFIC




ONE WAY TRAFFIC

## TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

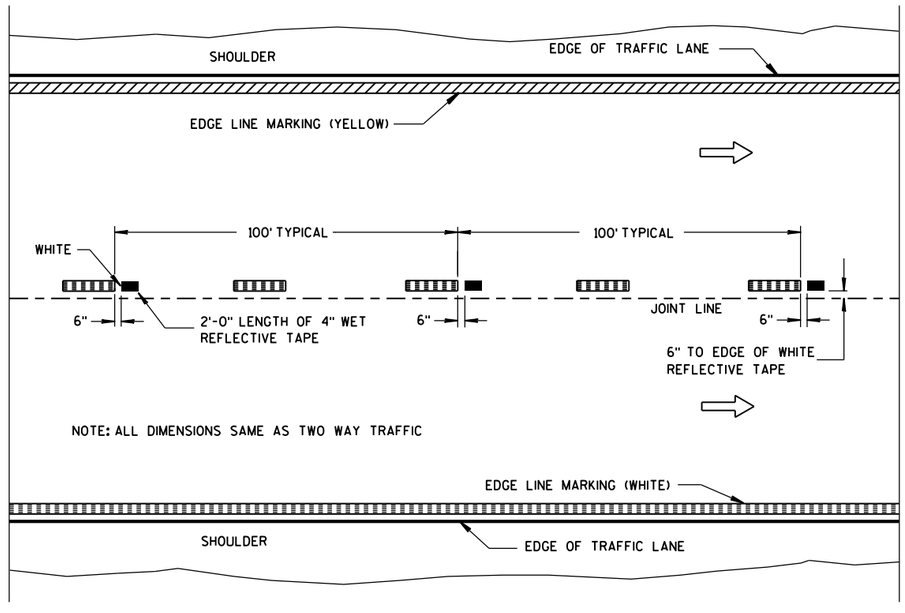
## GENERAL NOTES

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

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

## NOTE

ARROW SYMBOL ( ⇨ ) SHOWS DIRECTION OF TRAVEL




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

**LEGEND**

"T" MARKING

POST MOUNTED SIGN

**PAVEMENT MARKING (MAINLINE)**

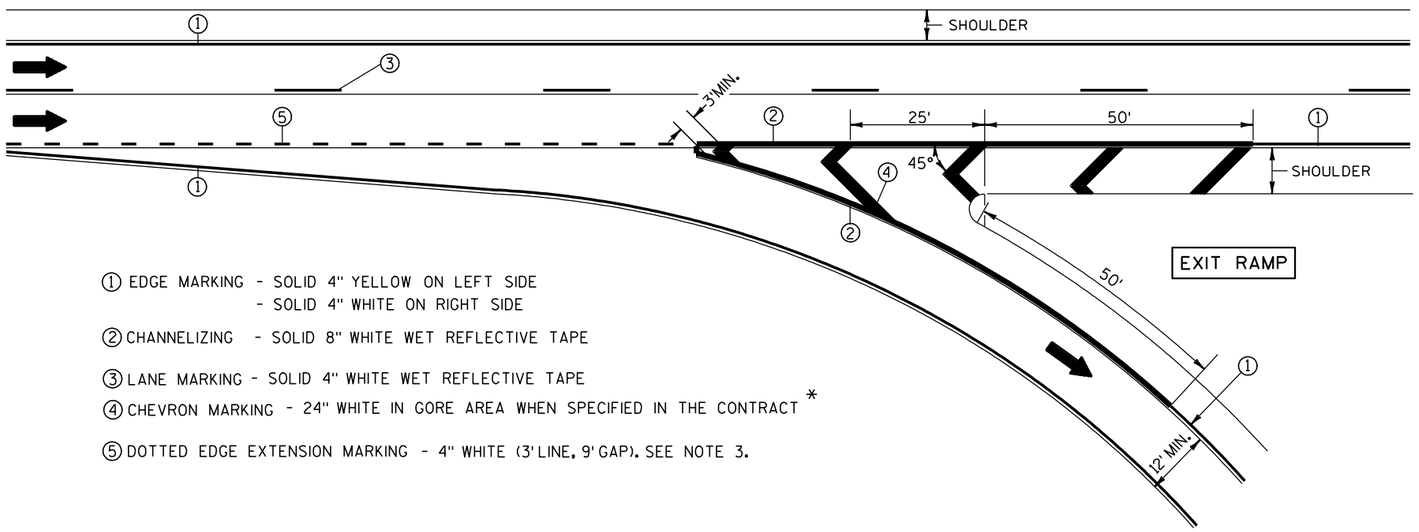
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



6

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




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:

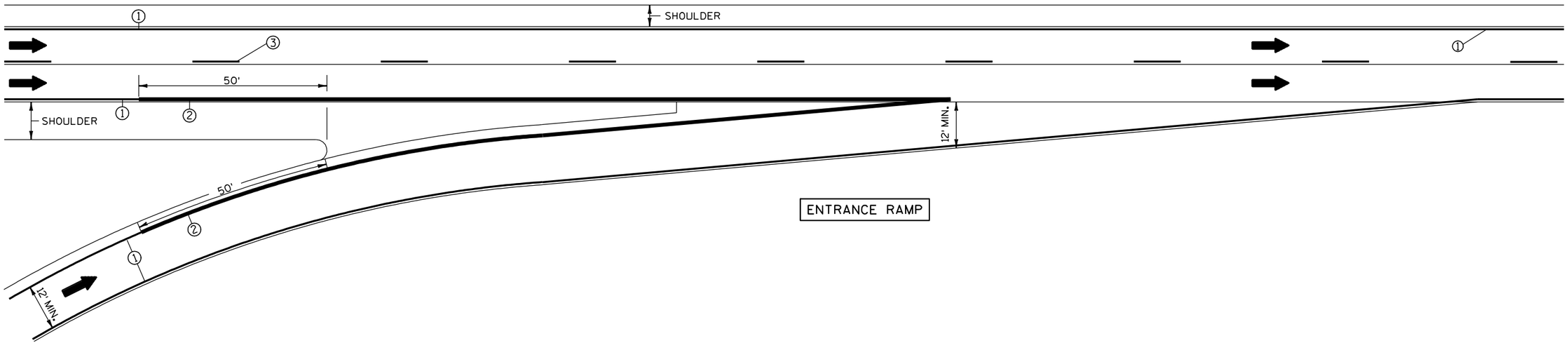
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

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.




6

6

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:

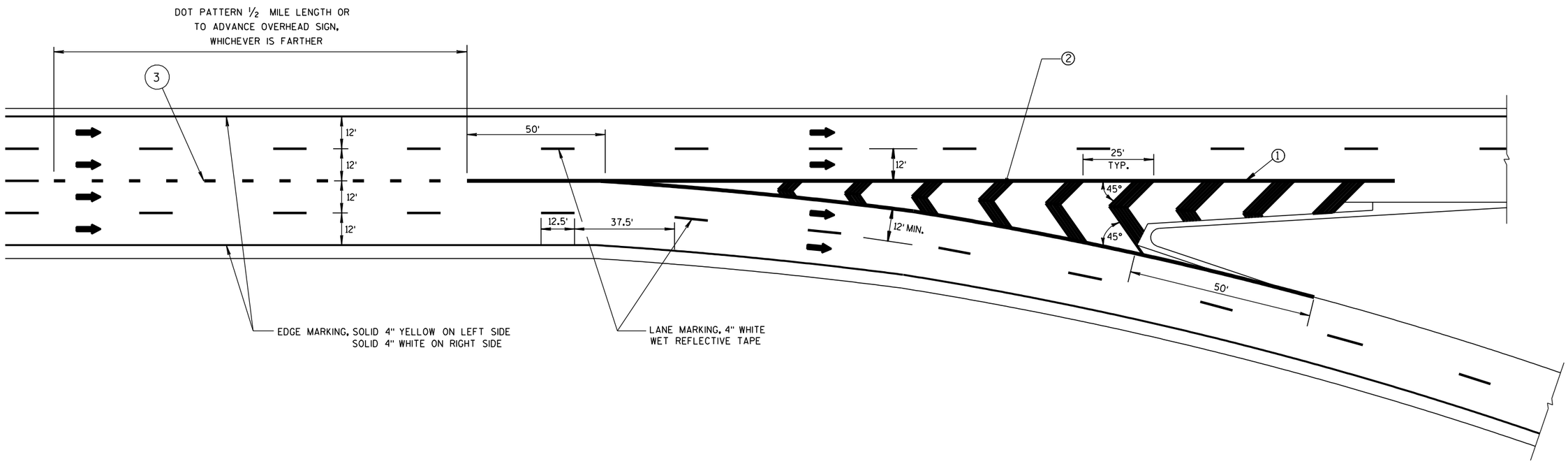
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

① CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE.

② CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT.

③ 3' LINE, 9' GAP SOLID 8" WHITE WET REFLECTIVE TAPE.




6

6

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

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

**PAVEMENT MARKING**
**MAJOR SPLIT**
**FREEWAY TO FREEWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

## LEGEND

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




W057-52
36"x24"

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




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




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

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

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

## GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

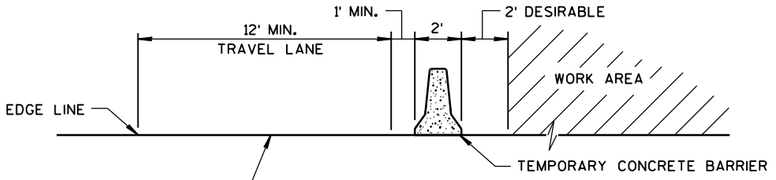
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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

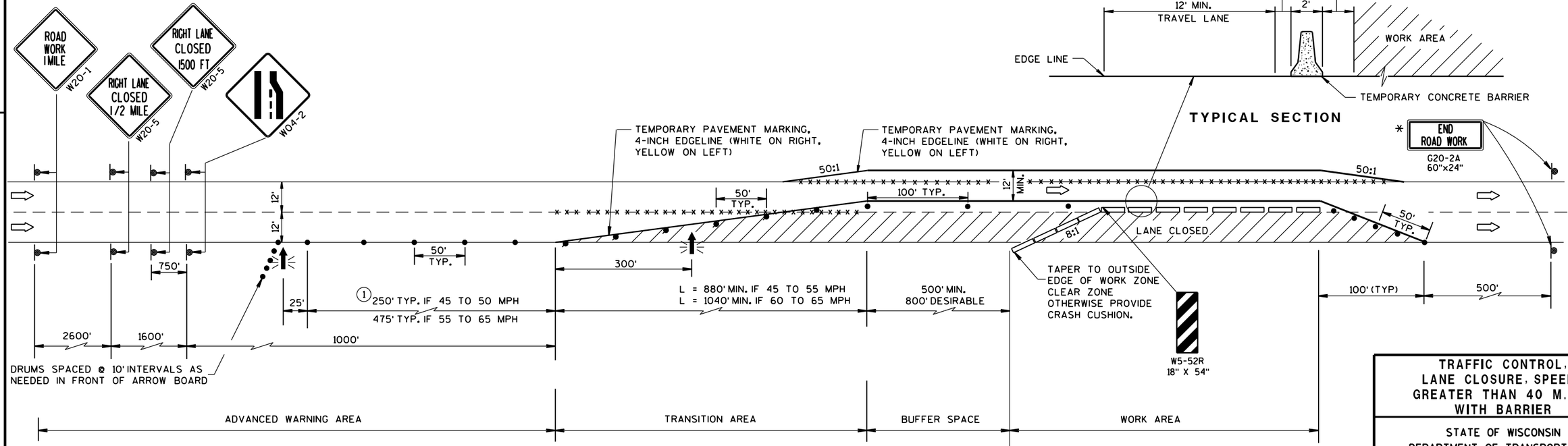
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.




TYPICAL SECTION




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



6

S.D.D. 15 D 3-2

6

S.D.D. 15 D 3-2

## LEGEND

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

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

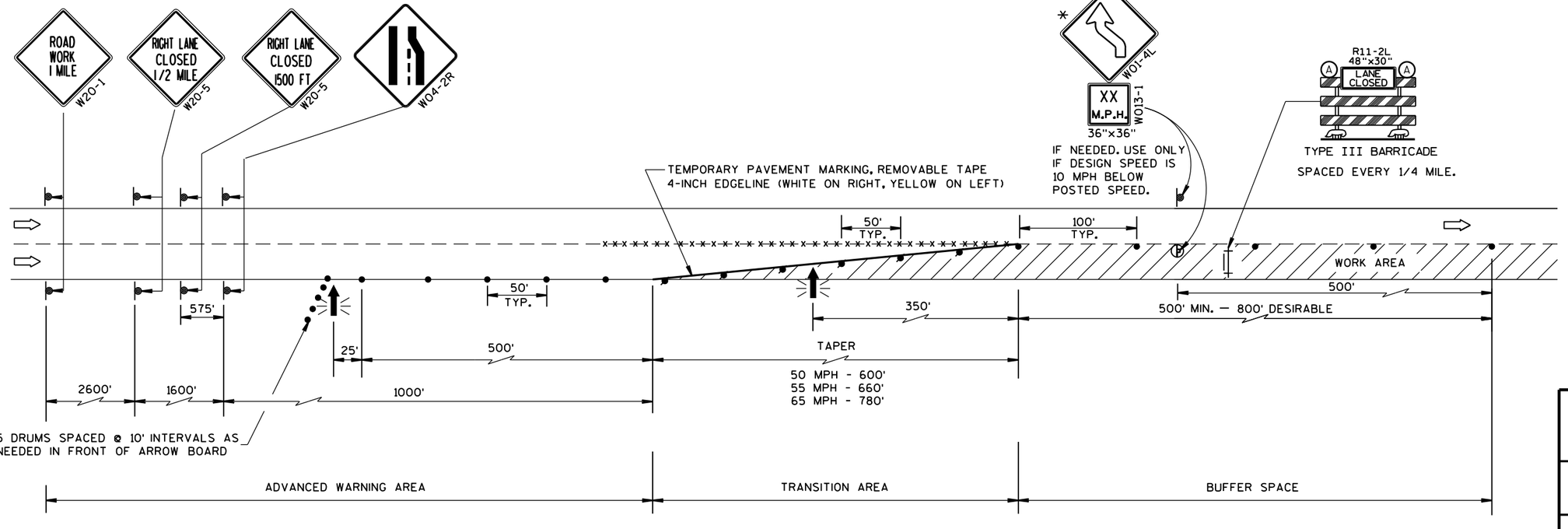



LOCATED 500 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.




R2-1
48"×60"
(BLACK AND WHITE)

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




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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




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

## LEGEND

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

# GENERAL NOTES

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

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

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

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

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

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

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

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

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

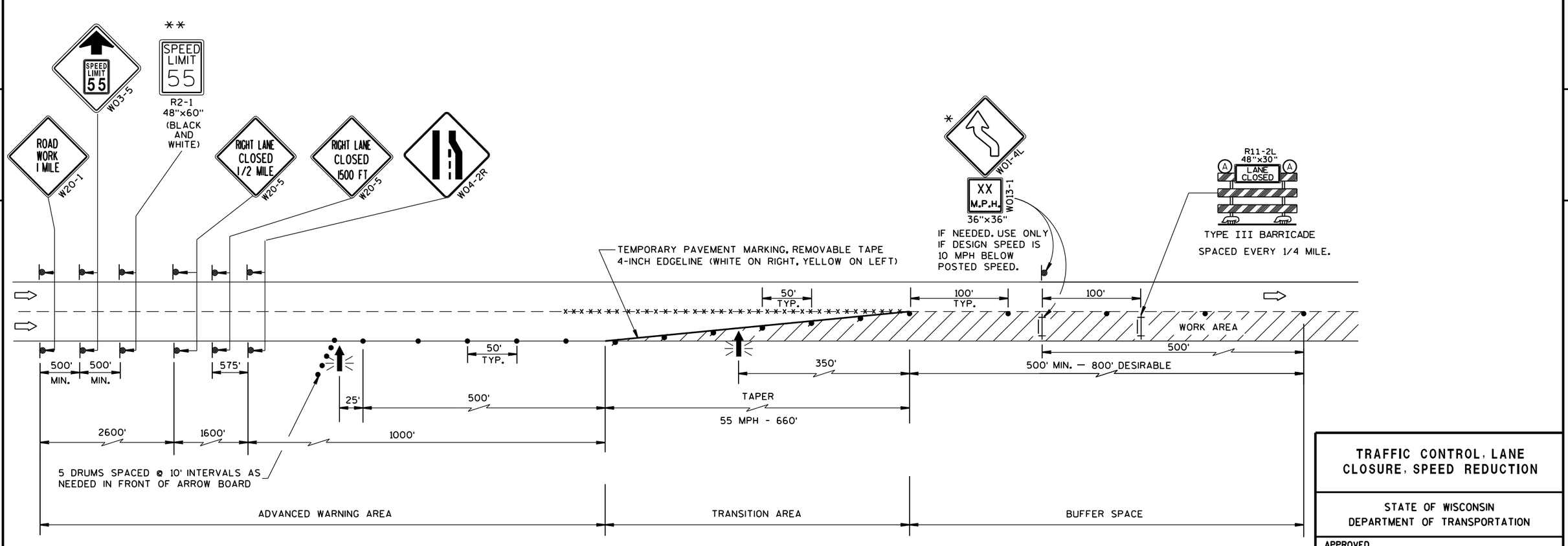
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

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

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.




# TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

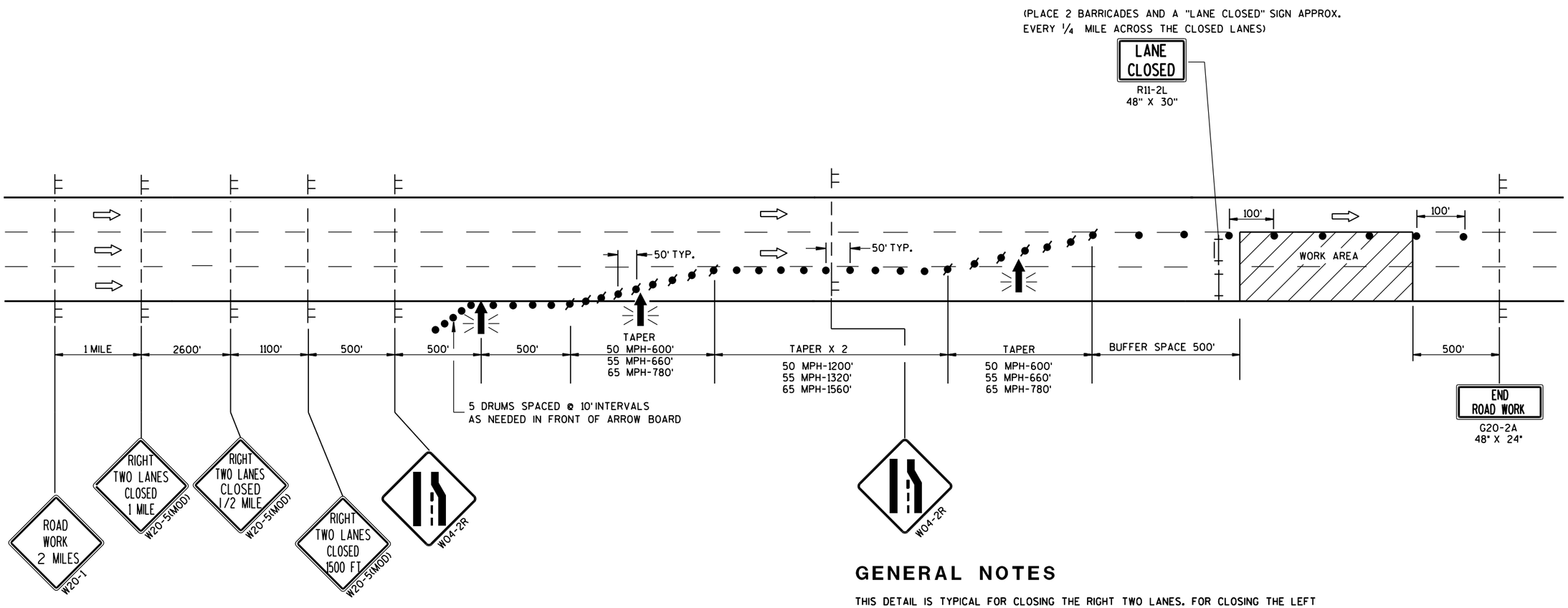
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3-2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA




6

S.D.D. 15 D 12-4




## LEGEND

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

## GENERAL NOTES

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

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

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

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

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

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

W20-1 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

8/2013
DATE

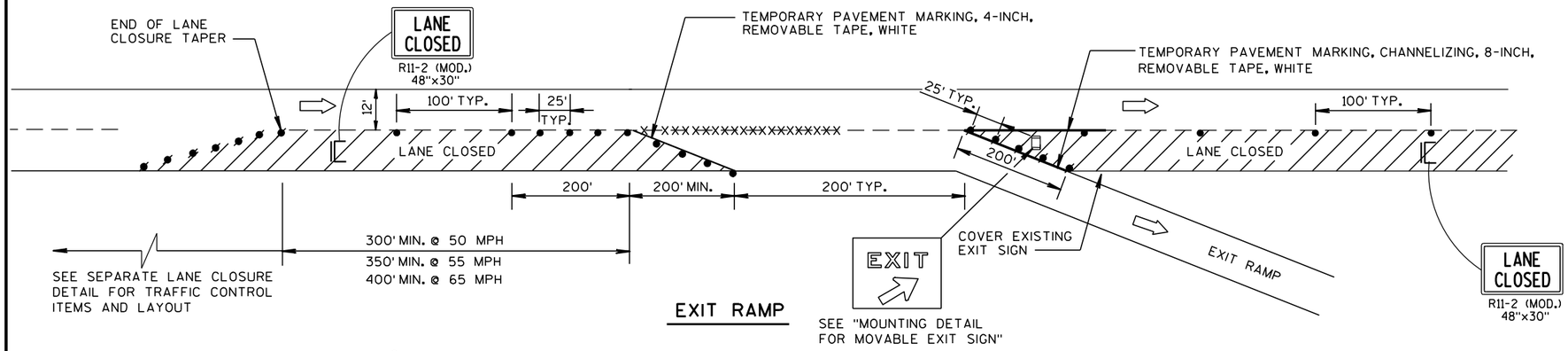
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

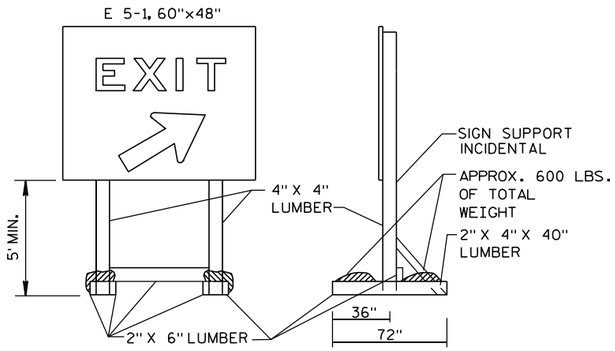



6


S.D.D. 15 D 14-2

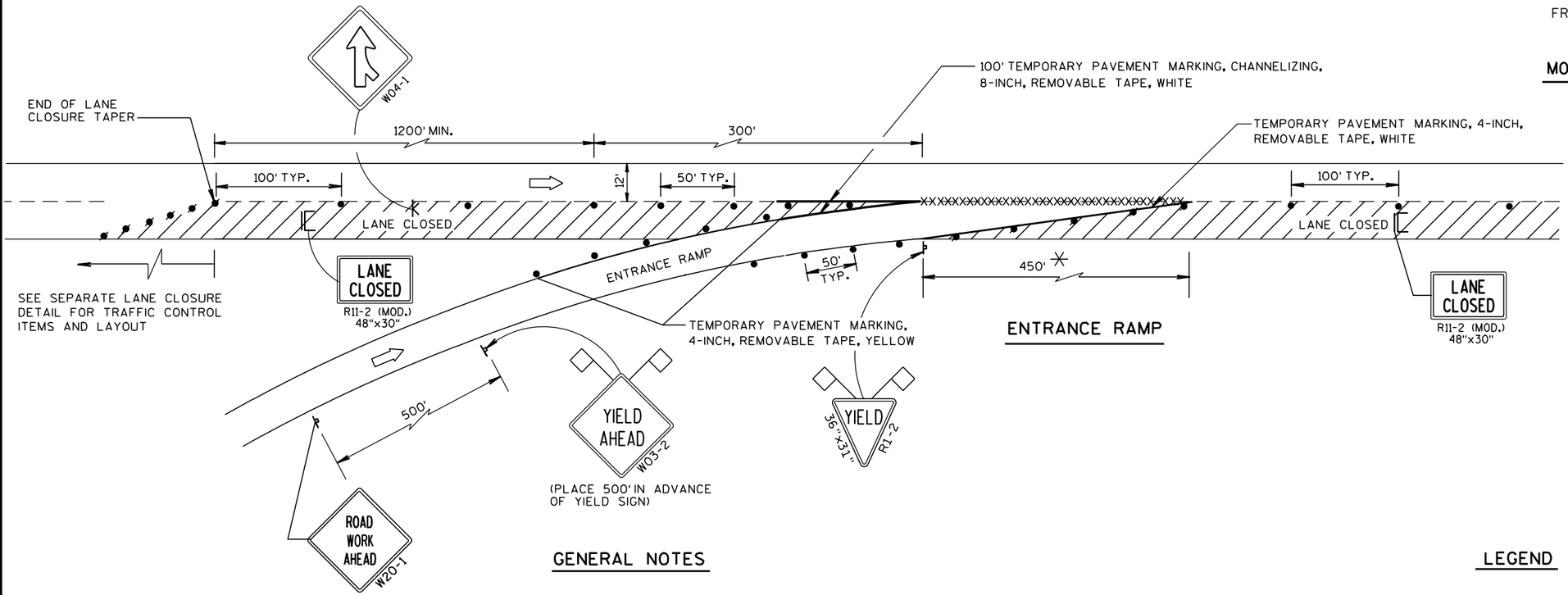



## EXIT RAMP




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

## LEGEND

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM

SIGN ON PERMANENT SUPPORT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

## GENERAL NOTES

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

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

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

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

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

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

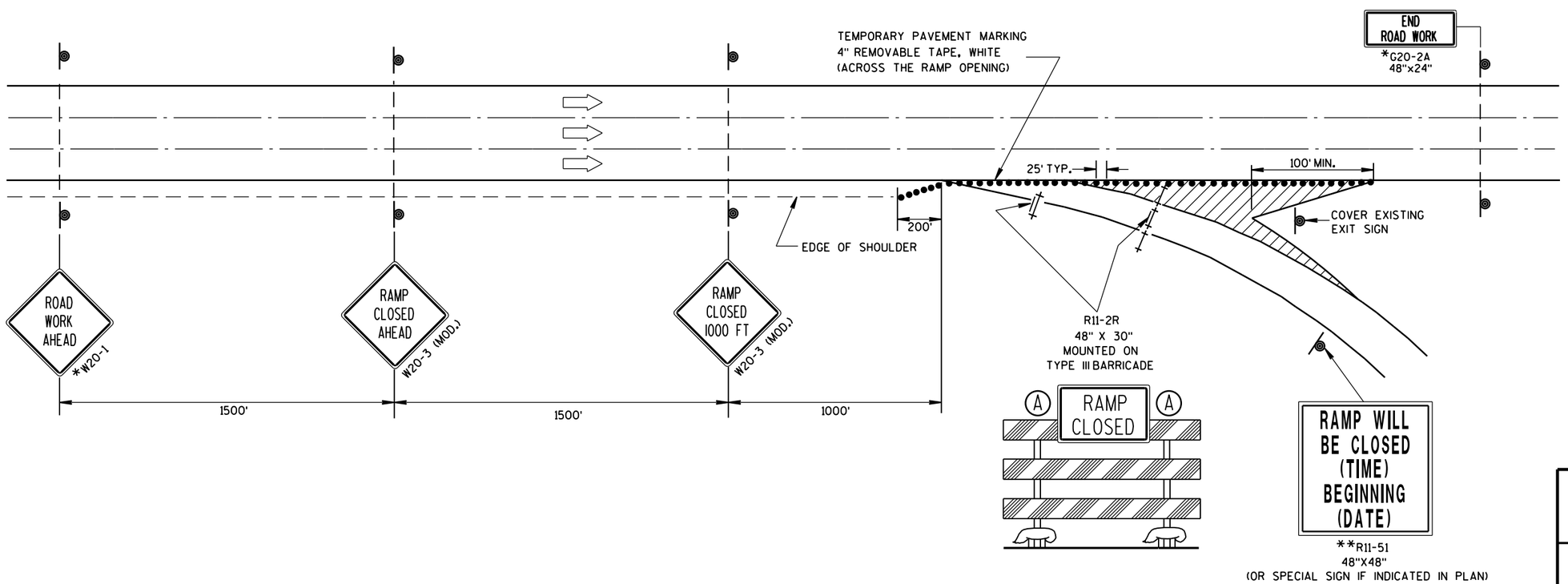
PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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

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

** PLACE "RAMP WILL BE CLOSED" SIGN 10 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.




TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

DESIGN

FHWA

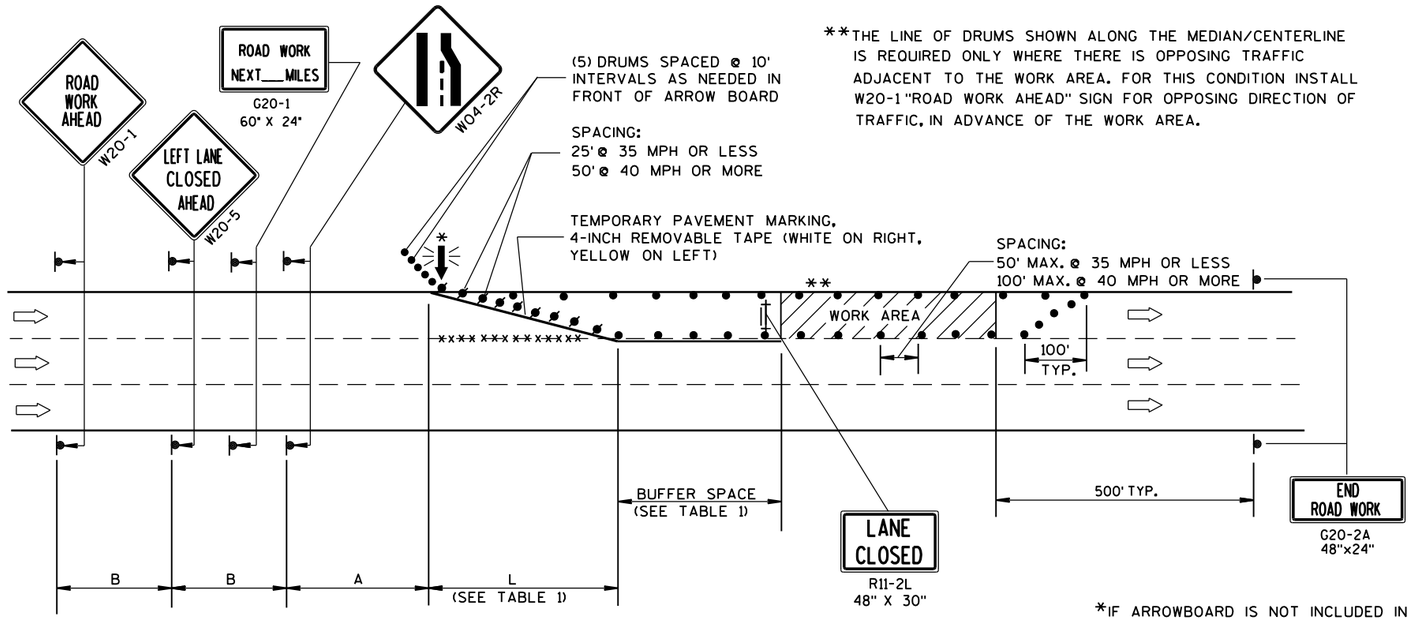


6

S.D.D. 15 D 16-2

6

S.D.D. 15 D 16-2




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

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

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

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

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

W01-6
48"x24"

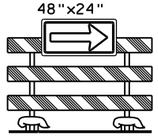


TABLE 1
TAPER AND BUFFER SPACE FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

## LEGEND

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

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

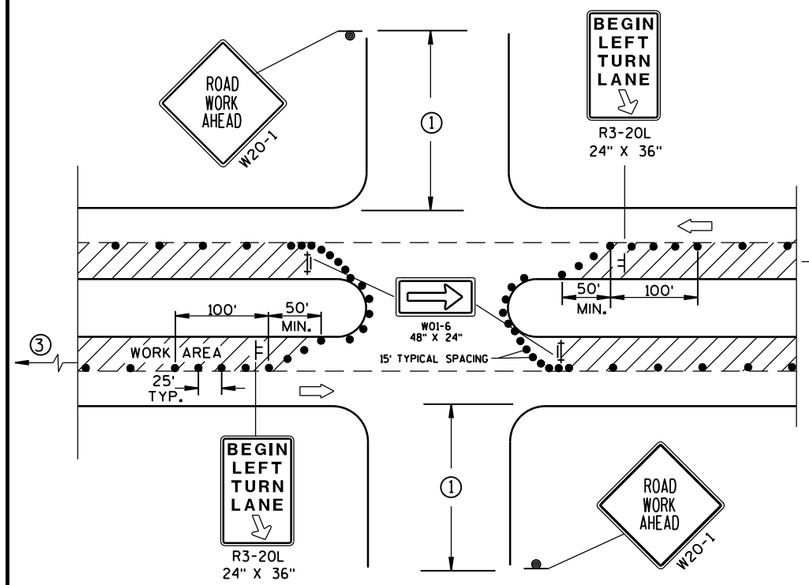
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



S.D.D. 15 D 20-2

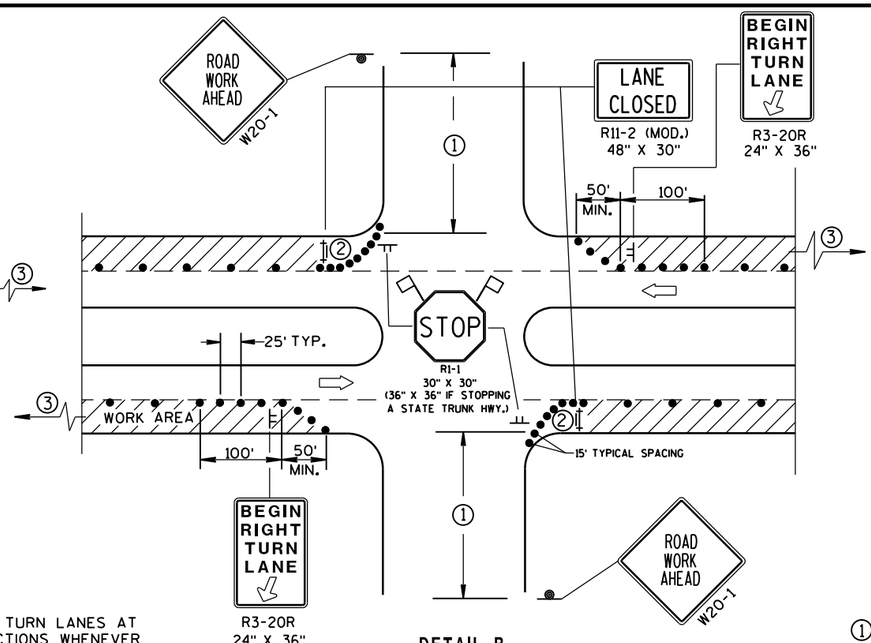
S.D.D. 15 D 20-2




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"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.

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.

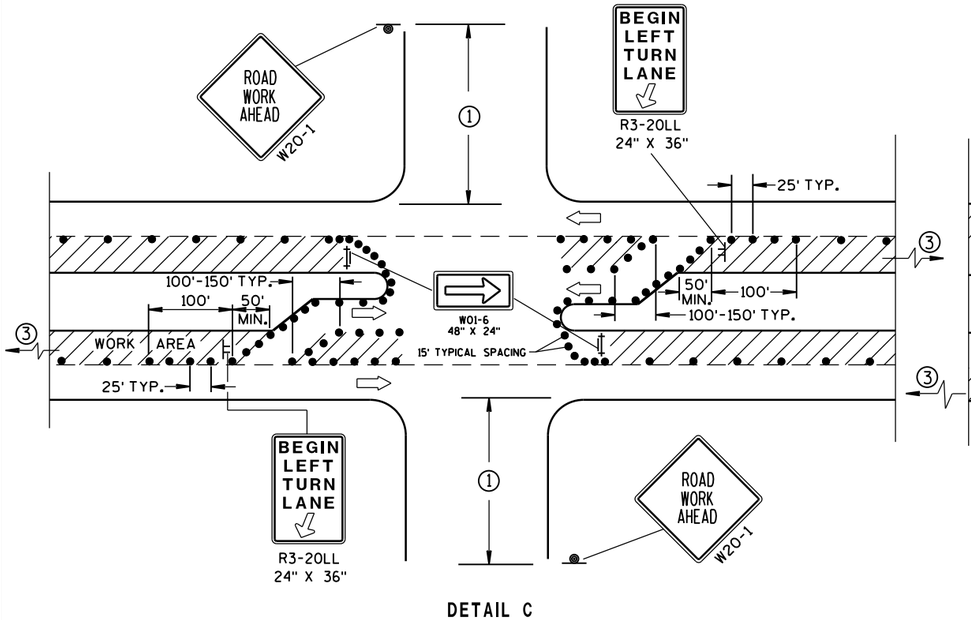
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

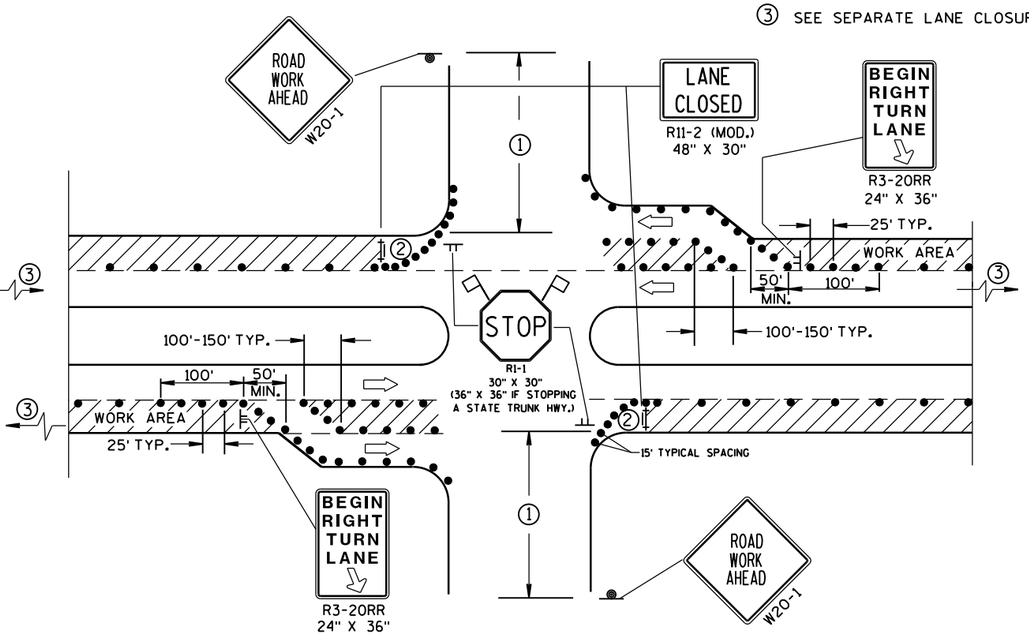
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

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

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

**TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA





6



S.D.D. 15 D 21-2

TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

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

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

## LEGEND

TYPE III BARRICADE

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

SIGN ON TEMPORARY SUPPORT

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TRAFFIC CONTROL DRUM

FLASHING ARROW BOARD

DIRECTION OF TRAFFIC

REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)

WORK AREA

## GENERAL NOTES

THIS 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 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 THE DISTRICT TRAFFIC UNIT.

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

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

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

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

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.

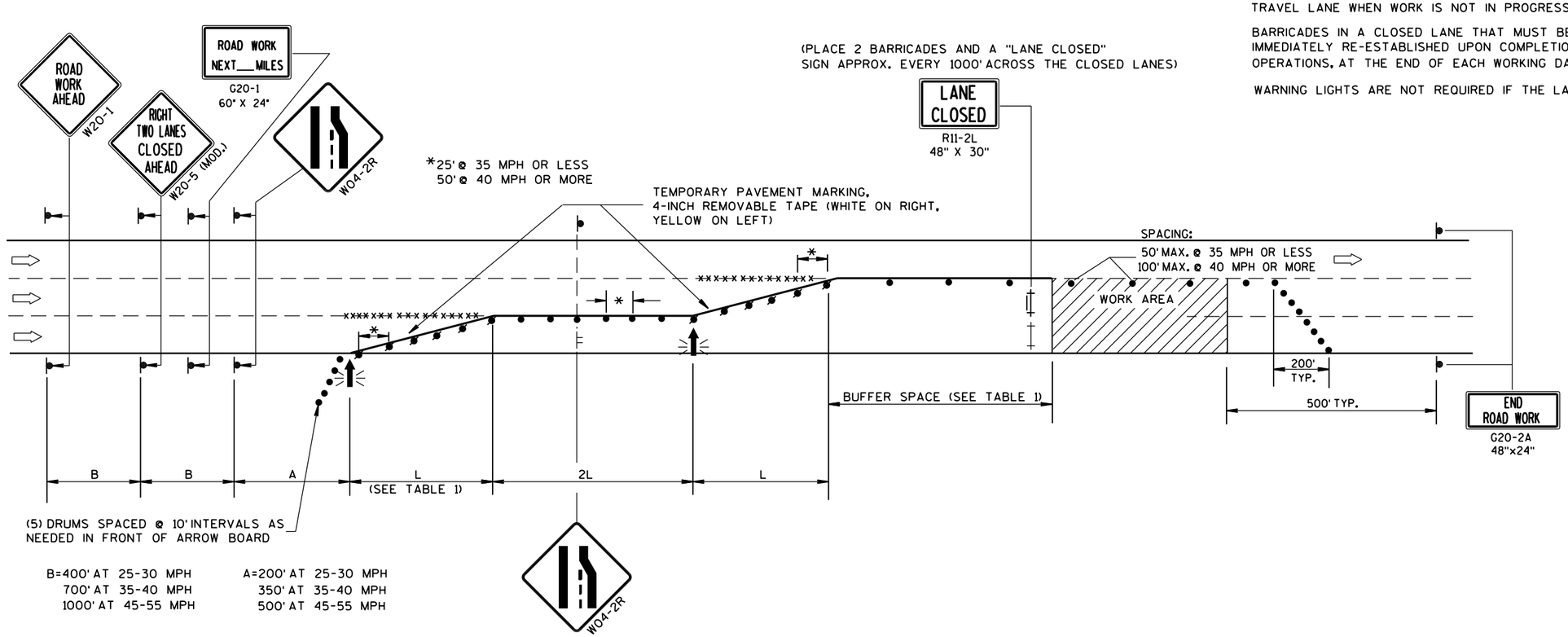
CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

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

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.




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

**TRAFFIC CONTROL, TWO LANE CLOSURE, NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

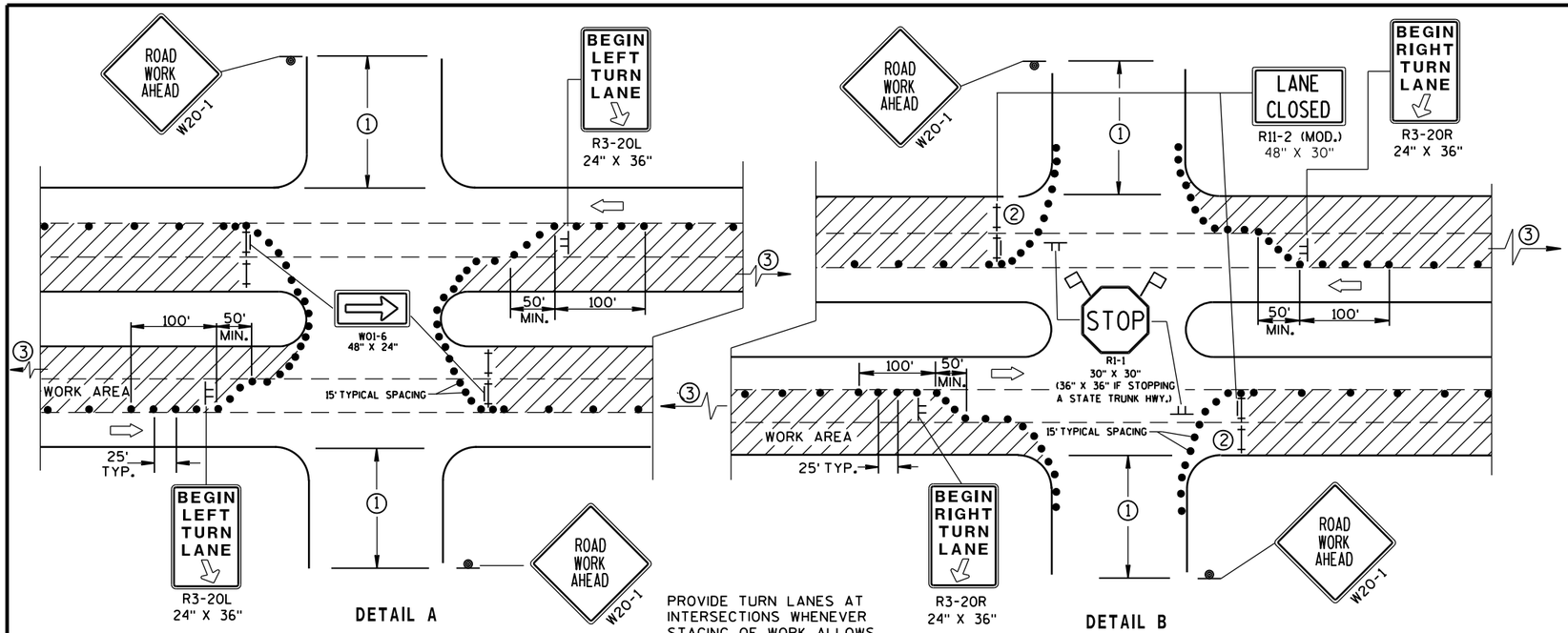
APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

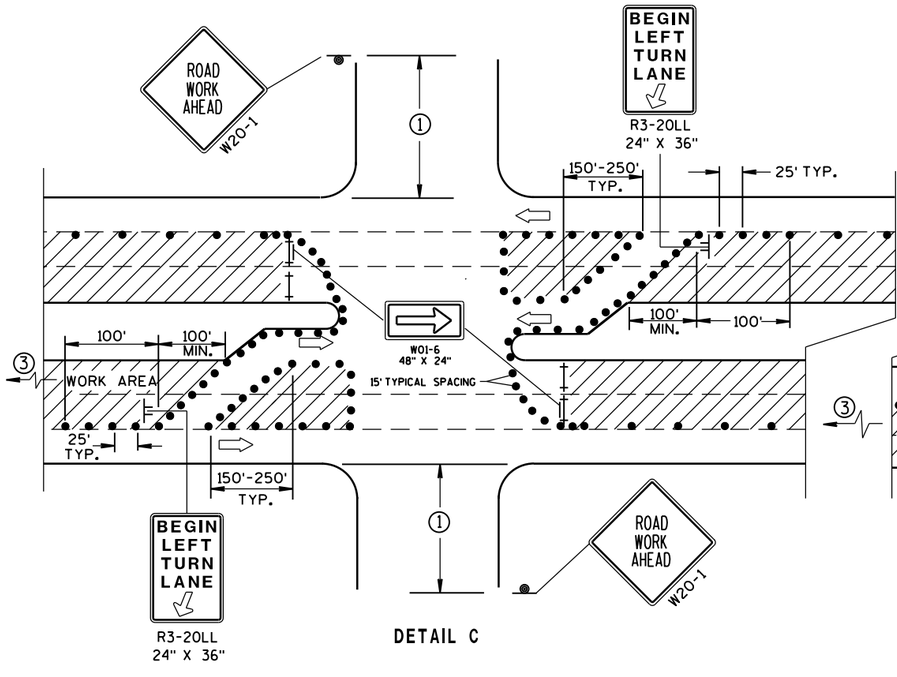

6
S.D.D. 15 D 22-2



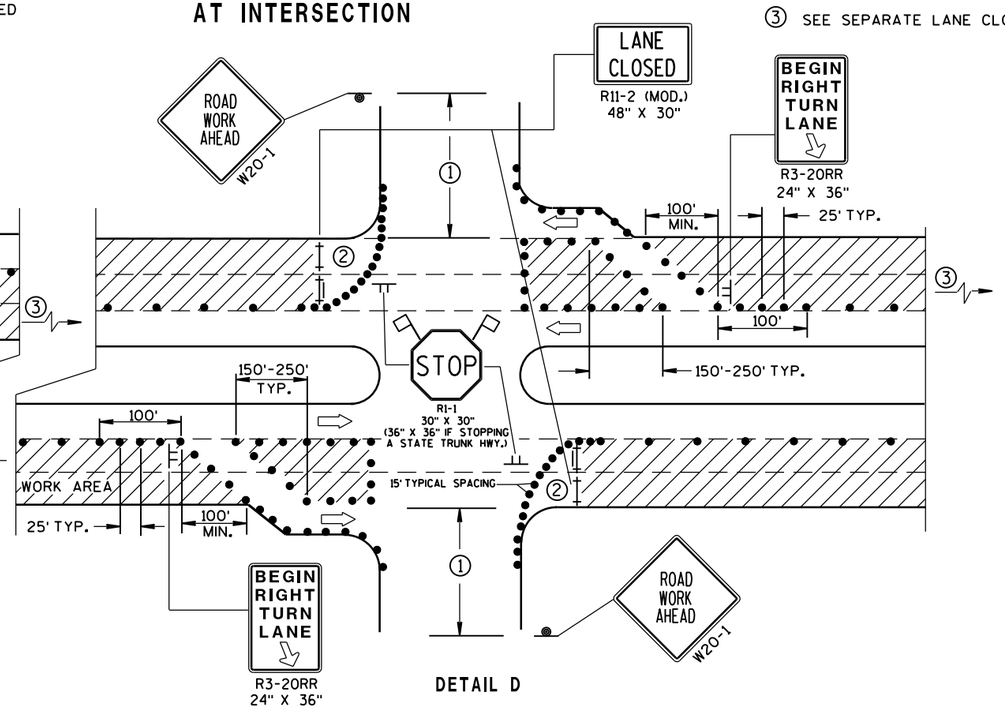

## FOR LEFT TWO LANES CLOSED AT INTERSECTION OR MEDIAN BREAK

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

## FOR RIGHT TWO LANES CLOSED AT INTERSECTION




## FOR LEFT TWO LANES CLOSED AT INTERSECTION OR MEDIAN BREAK (WITH LEFT TURN BAY OPEN)




## FOR RIGHT TWO LANES CLOSED AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

## 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"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.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD 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 FEET TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350 FEET IF 35-40 MPH.
200 FEET IF 25-30 MPH.

② ALSO USE BARRICADES AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

## LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

**TRAFFIC CONTROL, INTERSECTION WITHIN TWO LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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




6

S.D.D. 15 D 23-2

## LEGEND

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

## GENERAL NOTES

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

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

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

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

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

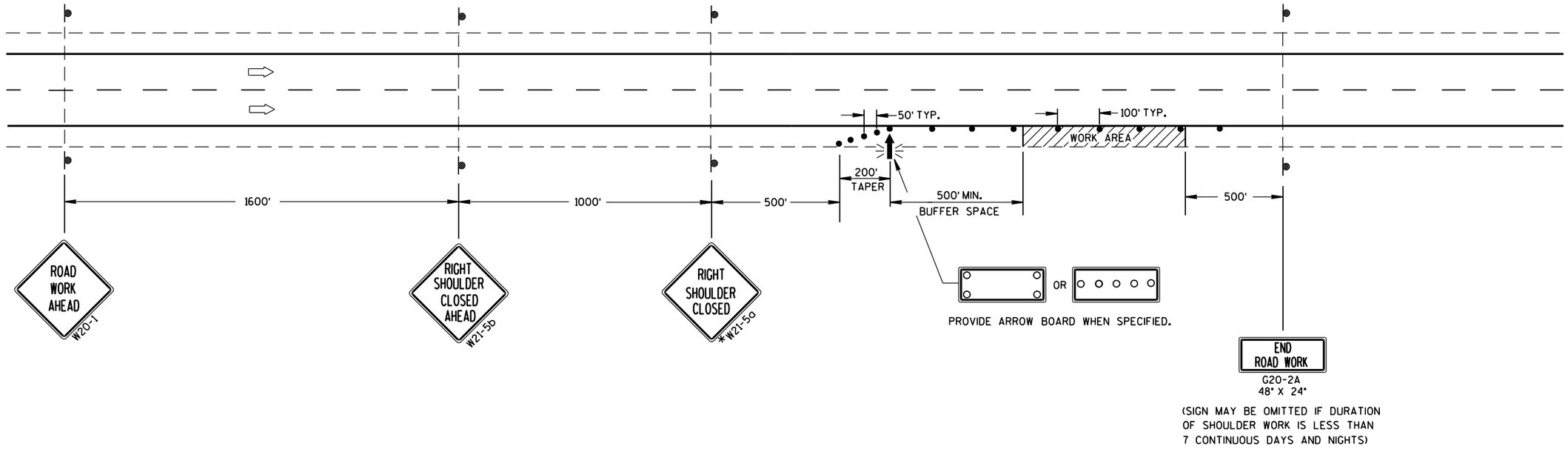
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA




6


S.D.D. 15 D 27-2

## 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.

ALL SIGNS ARE 48" X 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.

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.

W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

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

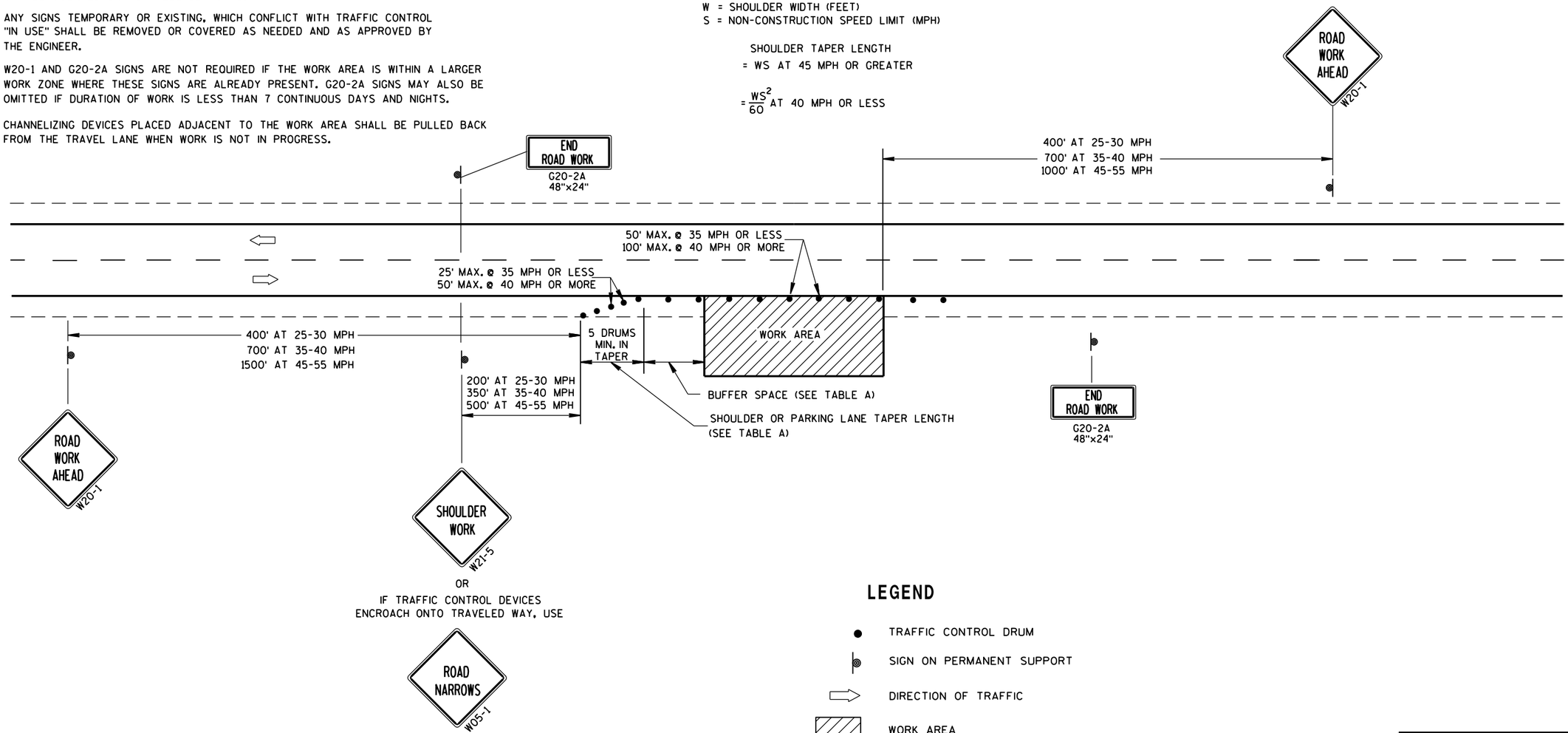
## TABLE A

| S \ W | SHOULDER TAPER LENGTH (FEET) 4 | 6 | 8 | 10 | BUFFER SPACE (FEET) |
|---|---|---|---|---|---|
| 30 | 20 | 30 | 40 | 50 | 85 |
| 35 | 30 | 45 | 55 | 70 | 120 |
| 40 | 40 | 55 | 75 | 90 | 170 |
| 45 | 60 | 90 | 120 | 150 | 220 |
| 50 | 70 | 100 | 135 | 170 | 280 |
| 55 | 75 | 110 | 150 | 185 | 335 |

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

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




## LEGEND

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

**TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINE ESIGN

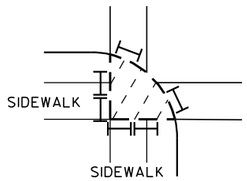
FHWA

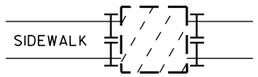


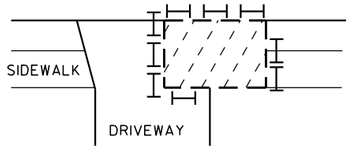

6

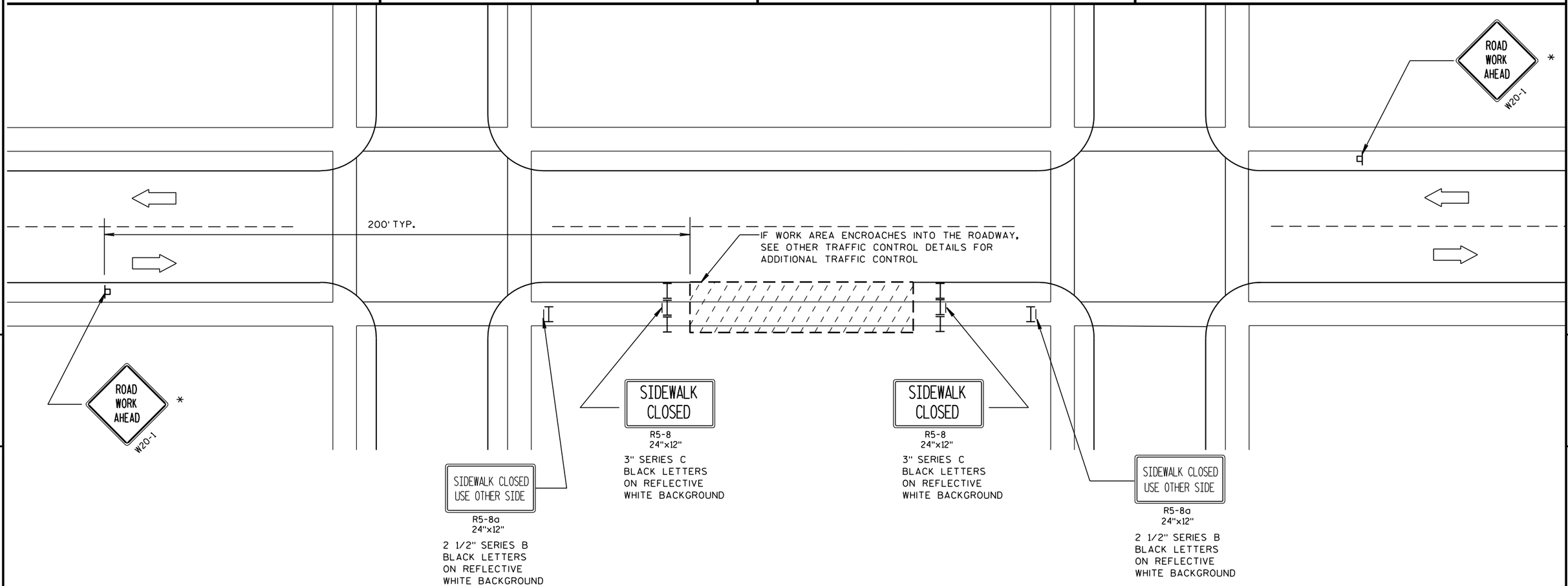

S.D.D. 15 D 28-2

## 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**

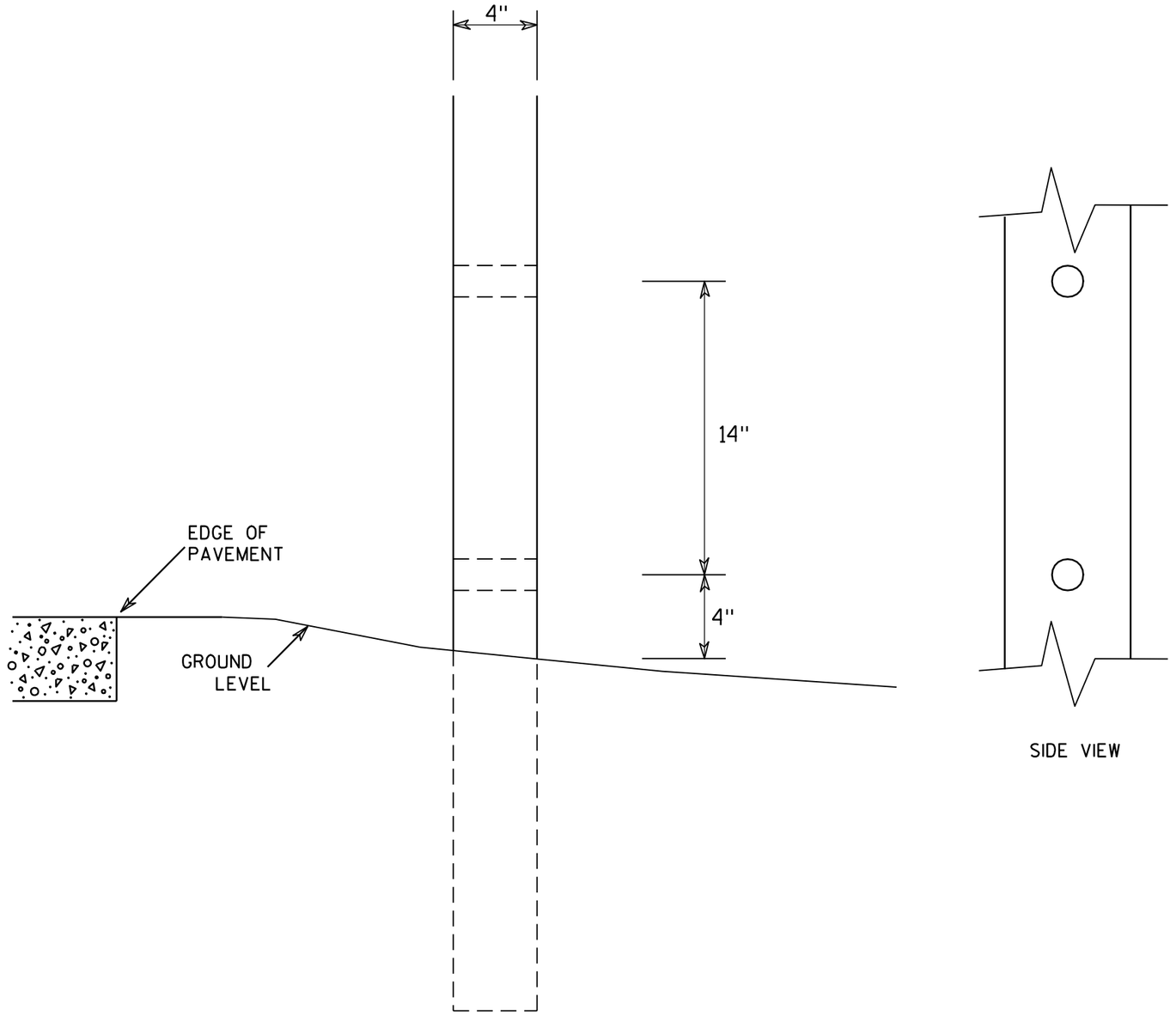
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible]NEER
FHWA



6

S.D.D. 15 D 30-1






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

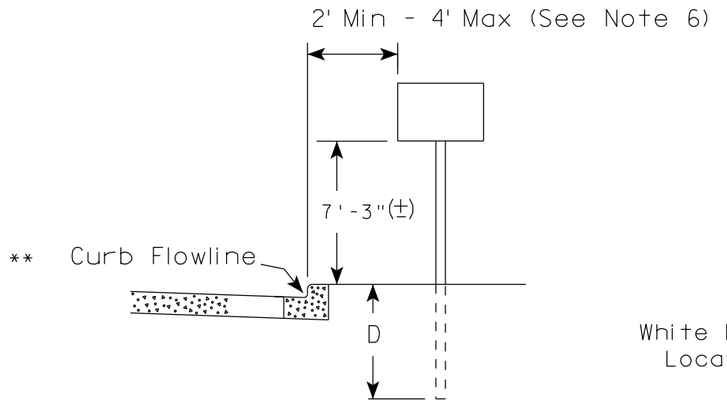
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

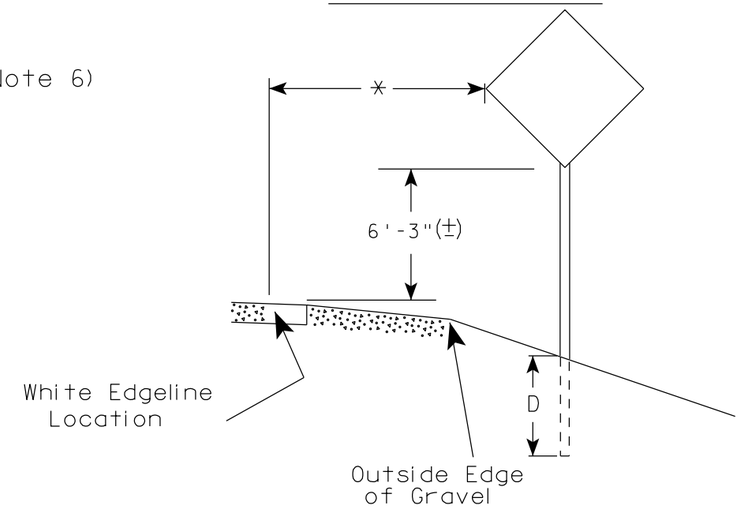
DATE 3/27/97 PLATE NO. A4-11.2

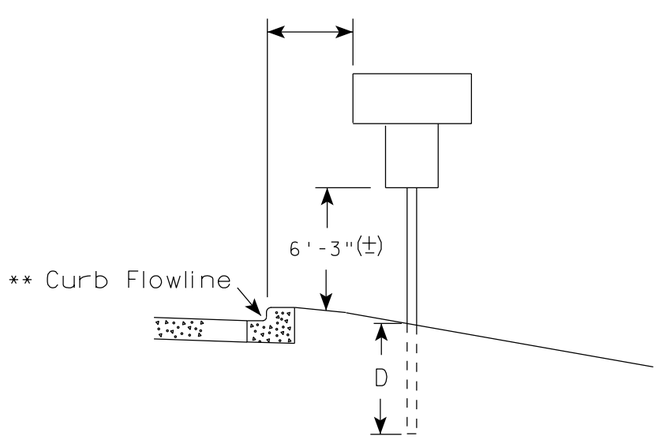
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 102 | E |
|---|---|---|---|---|---|

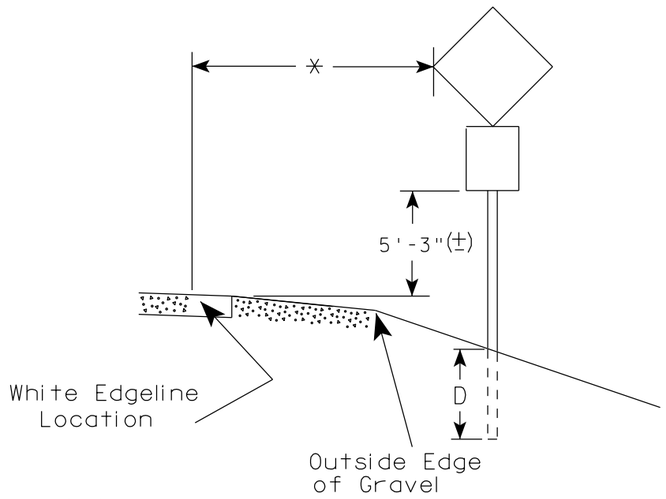
## URBAN AREA




## 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, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (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), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod 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

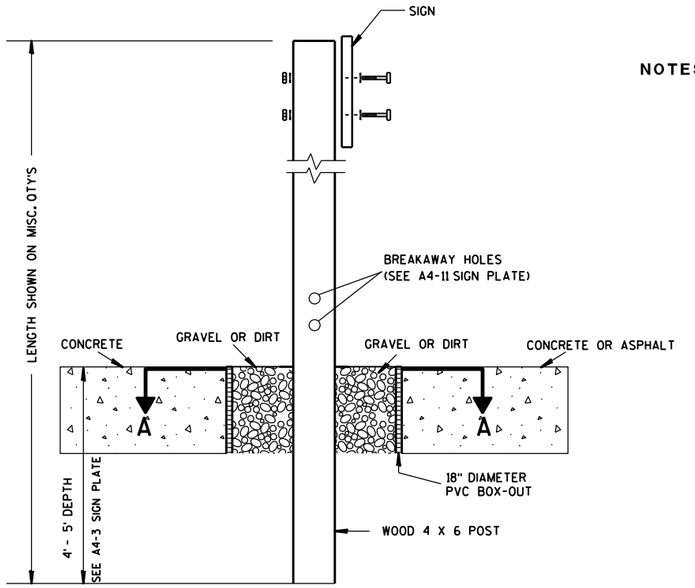
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18



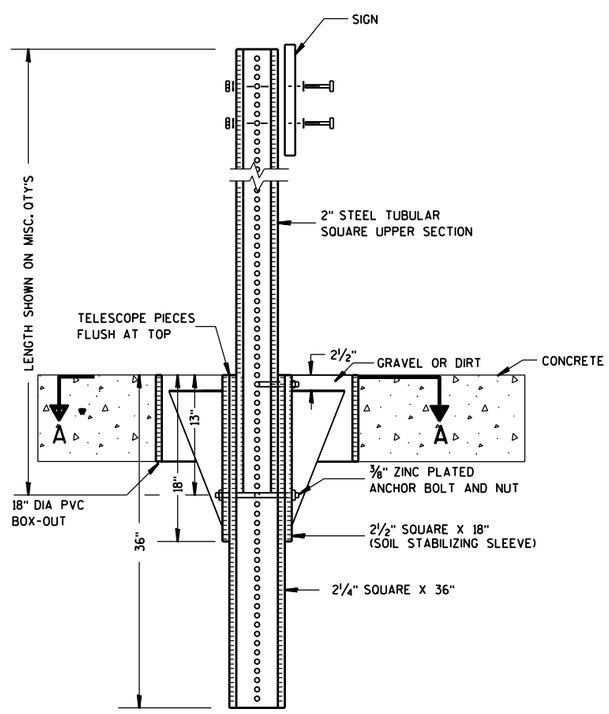
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

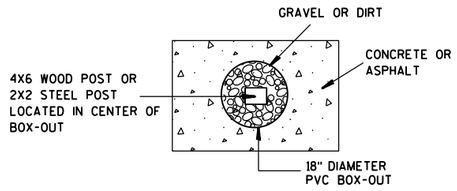
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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




**ELEVATION VIEW**

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




**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

# SIGN POST BOX-OUTS A4-3B

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

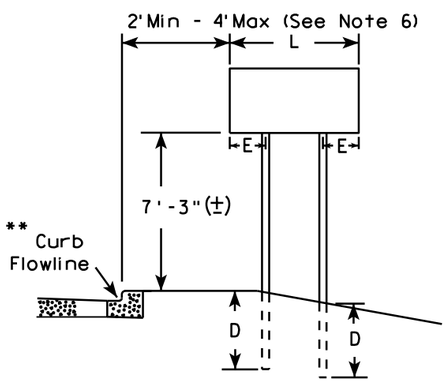
DATE 1/27/14 PLATE NO. A4-3B.1

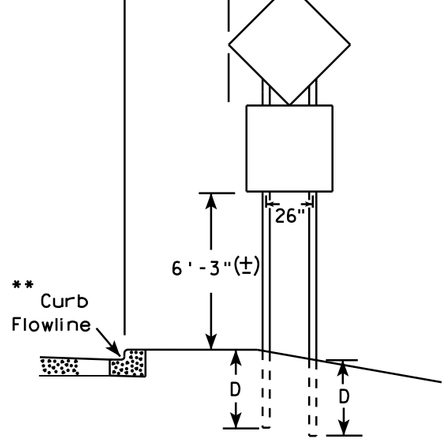
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



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

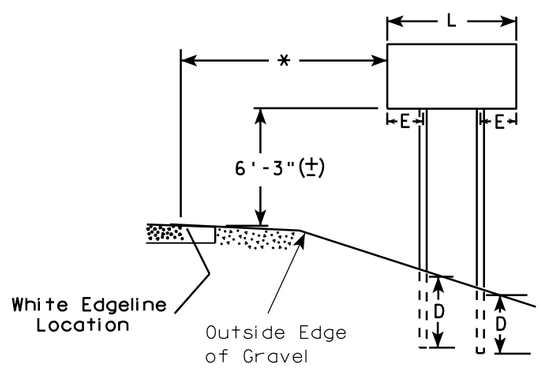
## URBAN AREA

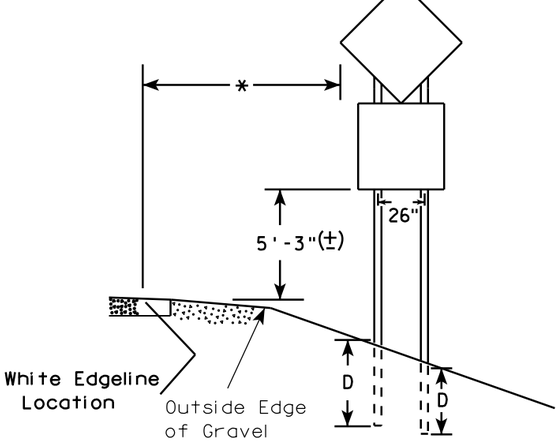


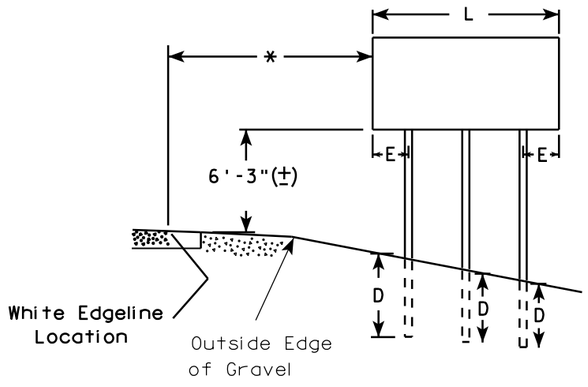

48" DIAMOND WARNING SIGN

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




### GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (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.

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

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

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

### POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

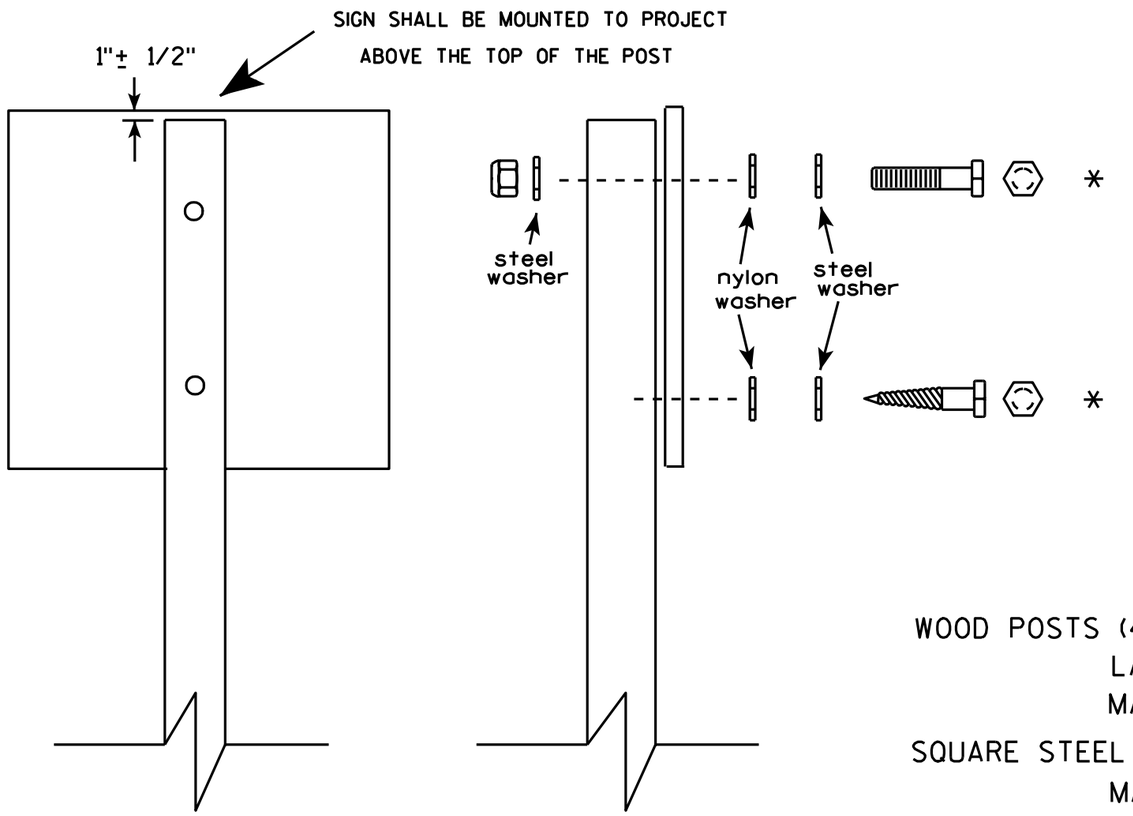
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-4 12



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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-SEP-2013 13:27 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42




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

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

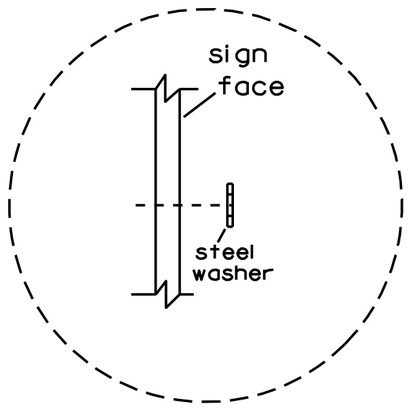
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.




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

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

# ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

7

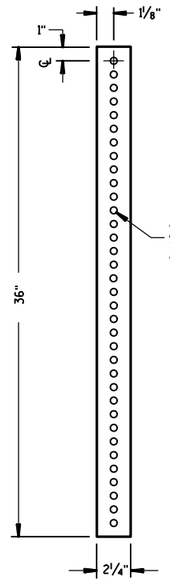
7

PROJECT NO:

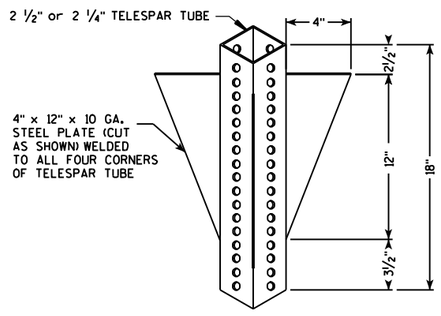
SHEET NO: 106 E

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

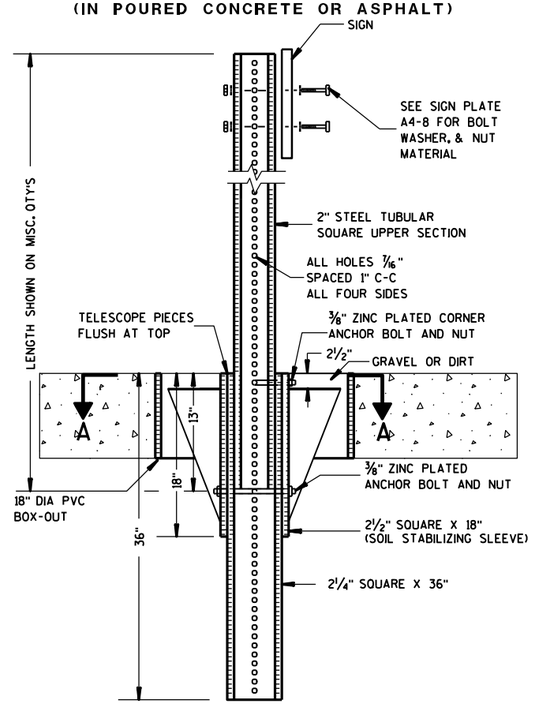
**2 1/4 " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



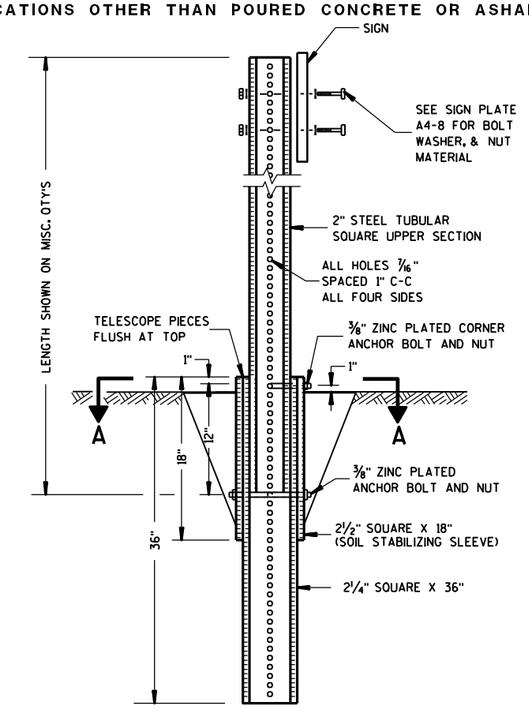

**2 1/2 " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

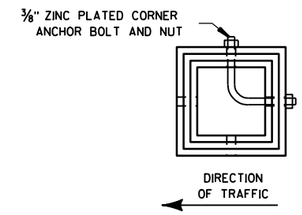



## DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)




## 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

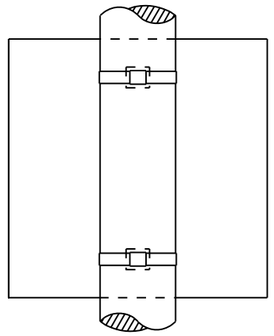
APPROVED Matthew R Rauch
for State Traffic Engineer

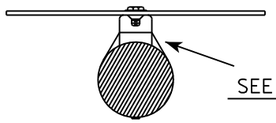
DATE 5/30/12 PLATE NO. A4-9.7

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 107 | E |
|---|---|---|---|---|---|

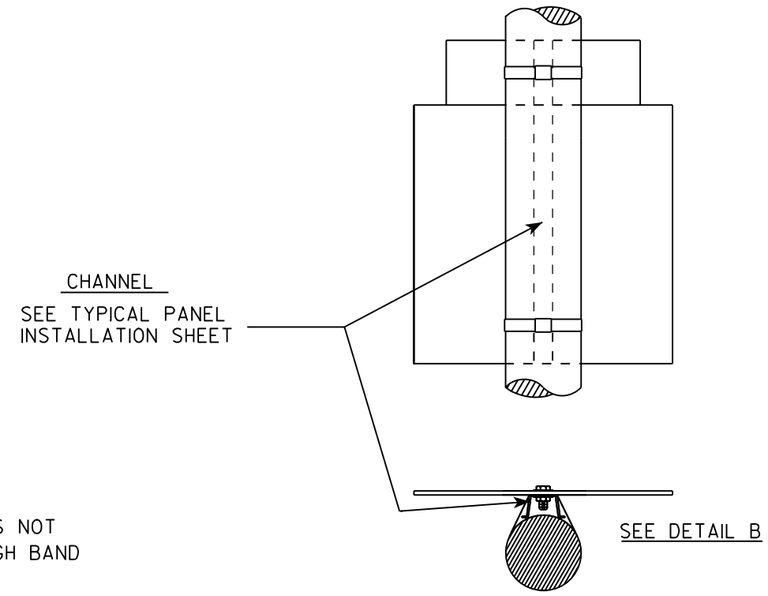
# BANDING

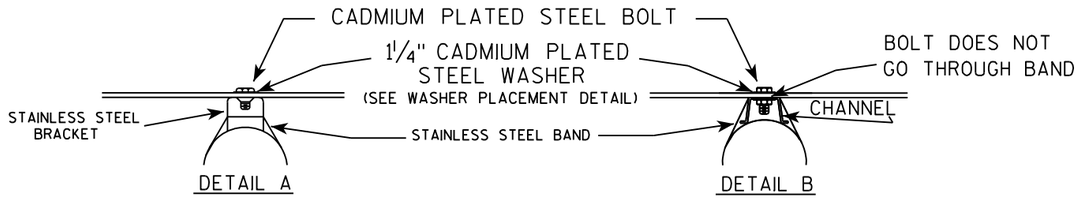
SINGLE SIGN



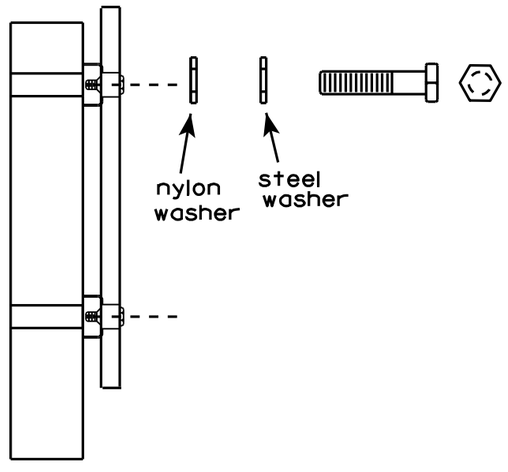



"J" ASSEMBLY




WASHER PLACEMENT




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

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.

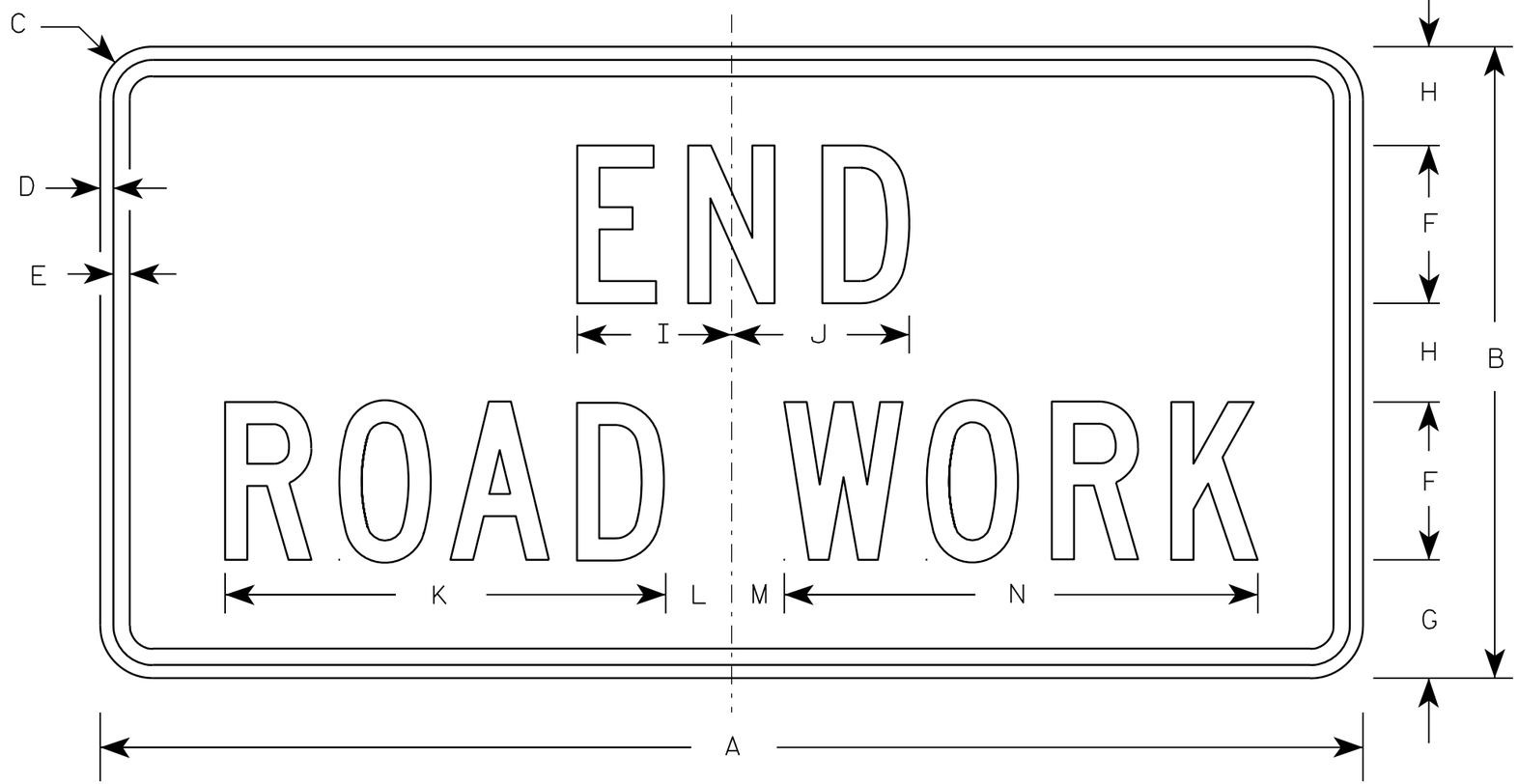
STANDARD SIGN
SIGN BANDING DETAILS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 108 | E |
|---|---|---|---|---|---|




G20-2A

NOTES

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

Metric equivalent for this sign is:

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

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

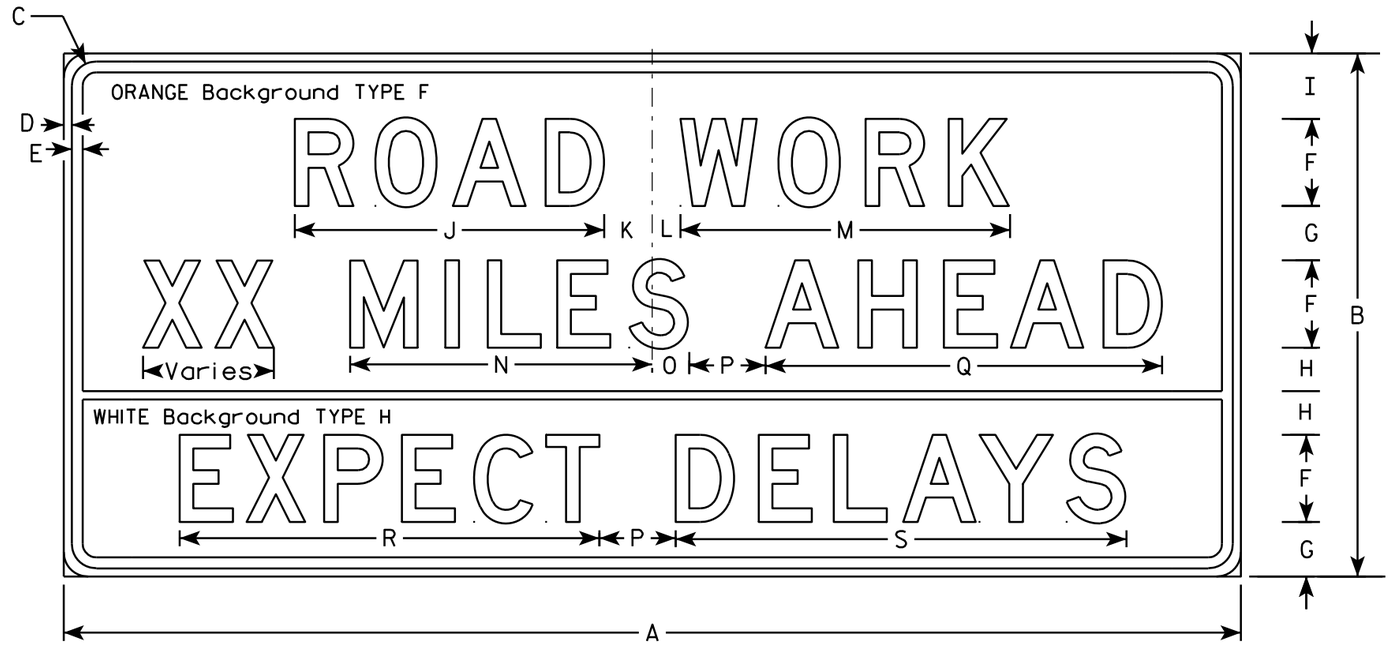
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 109 | E |
|---|---|---|---|---|---|




G20-58

NOTES

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

Metric equivalent for this sign is:

| SIZE | |
|---|---|
| 1 | |
| 2 | 2700 mm X 1200 mm |
| 3 | |
| 4 | |
| 5 | |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. | Area m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 108 | 48 | 2 1/4 | 3/4 | 1 | 8 | 5 | 4 | 6 | 28 3/8 | 4 1/2 | 2 1/2 | 30 1/4 | 27 3/4 | 3 3/8 | 7 | 36 3/8 | 38 1/2 | 41 3/8 | | | | | | | | 36.0 | 3.24 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

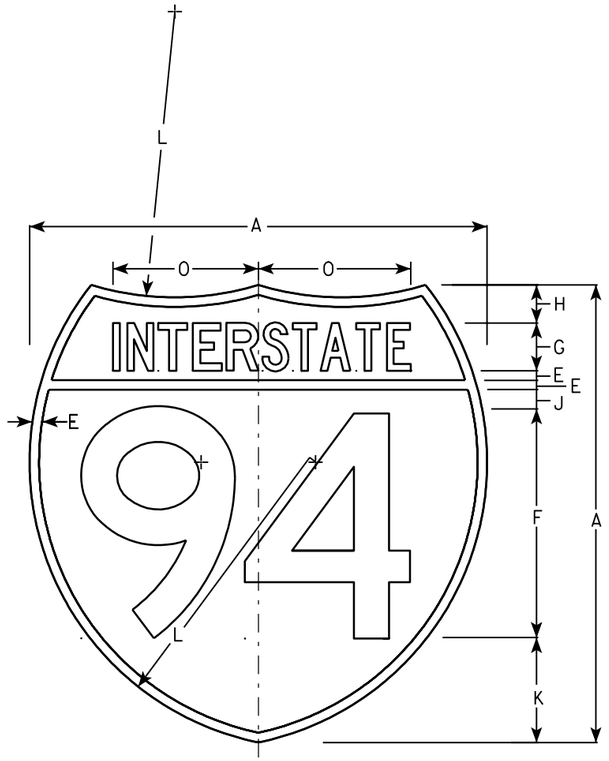
STANDARD SIGN
G20-58

WISCONSIN DEPT OF TRANSPORTATION

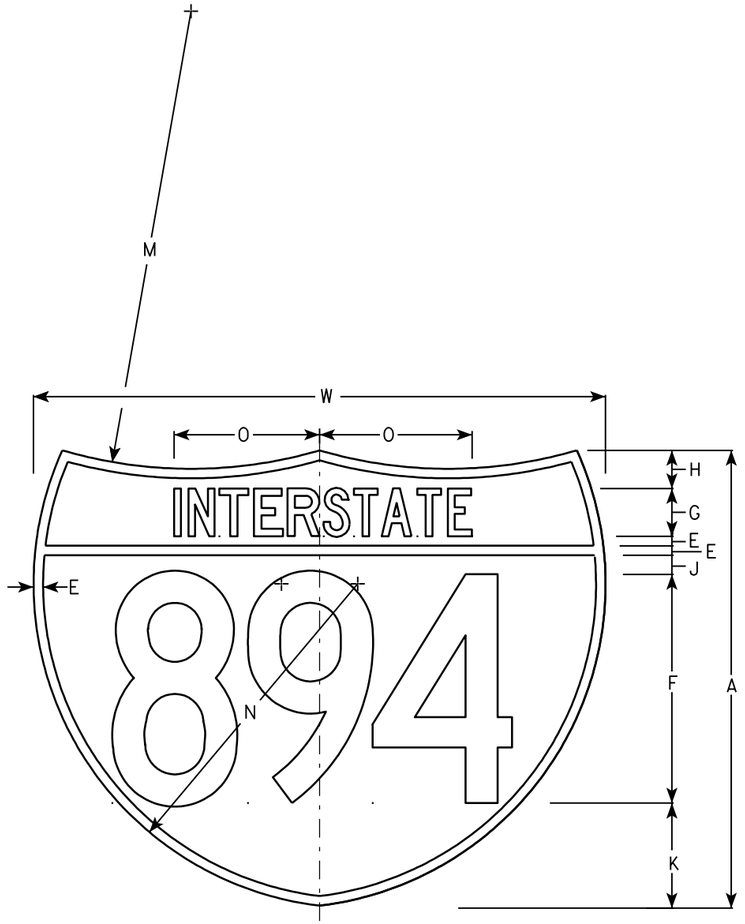
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/13/2009 PLATE NO. G20-58.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 110 | 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

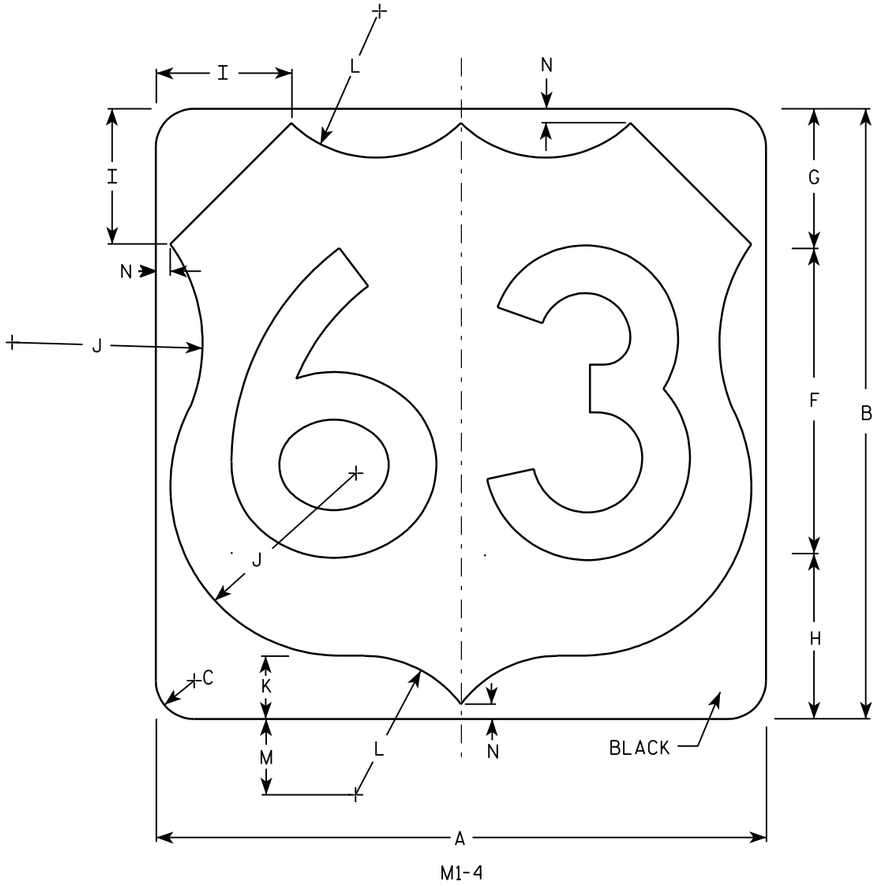
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

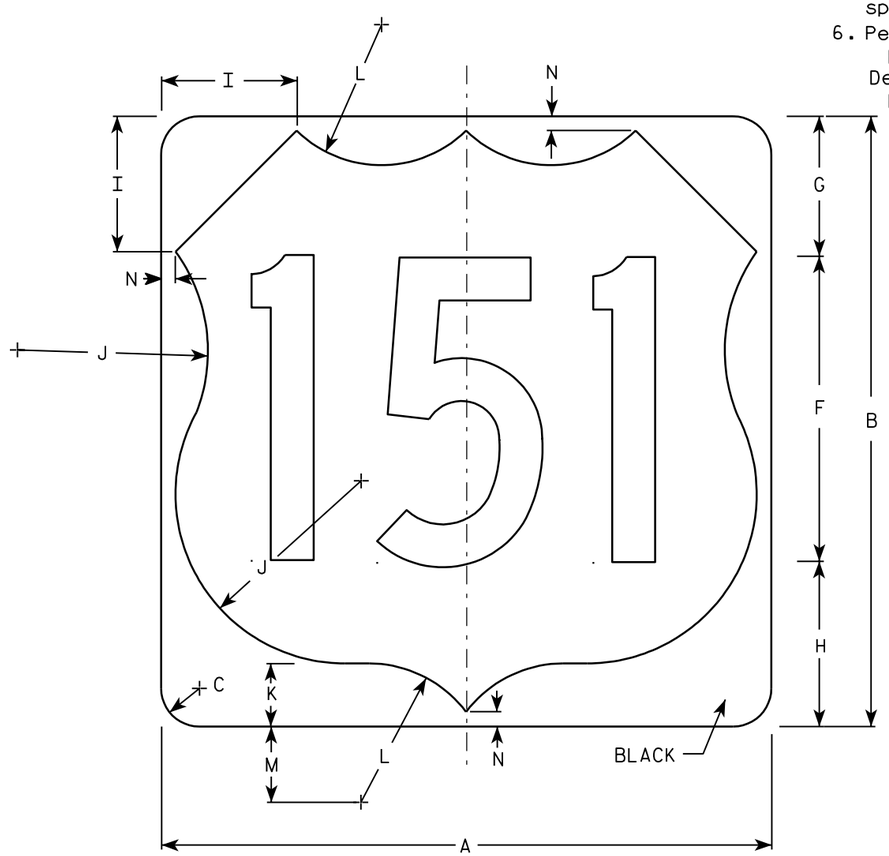
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 111 | E |
|---|---|---|---|---|---|

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

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 |

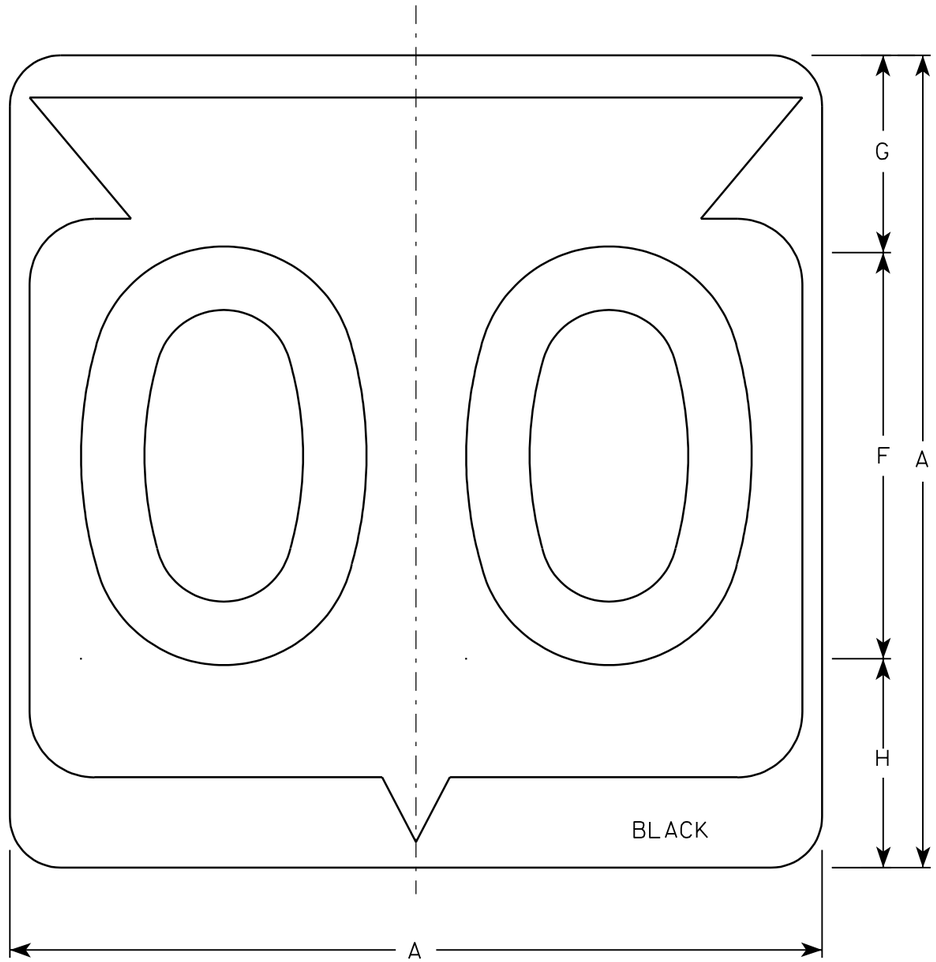
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

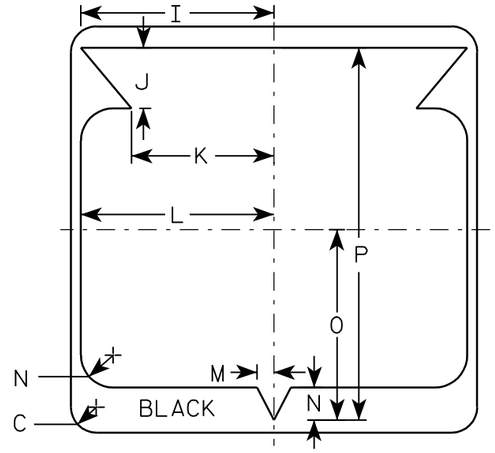
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 112 | E




M1-6

## 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 Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective




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 | | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8 | 11 1/2 | 1 | 1 7/8 | 11 1/4 | 21 7/8 | | | | | | | | | | | 4.0 | .36 |
| 3 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |
| 4 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |
| 5 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |

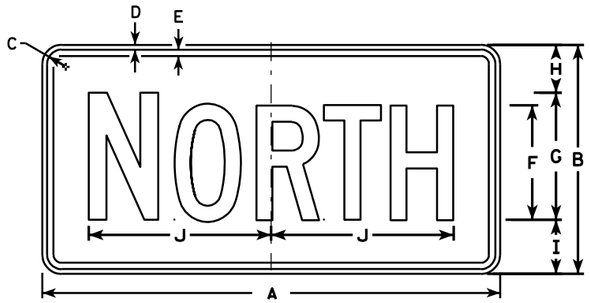
# STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

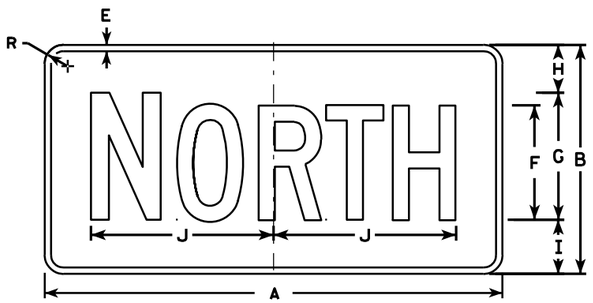
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 113 | E |
|---|---|---|---|---|---|



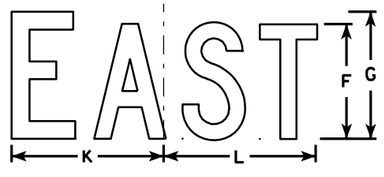

M3-1
MK3-1
MO3-1



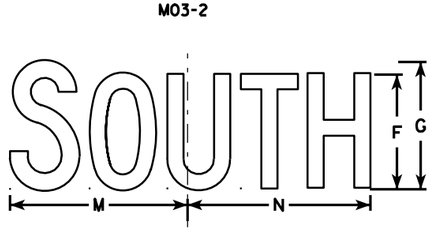

MB3-1
MG3-1
MM3-1
MN3-1



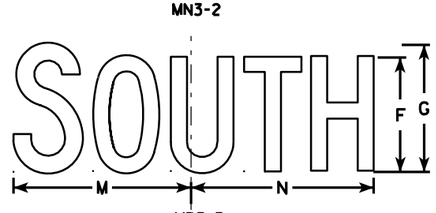

M3-2
MK3-2
MO3-2



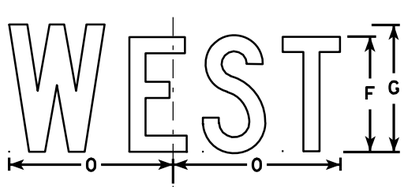

MB3-2
MG3-2
MM3-2
MN3-2



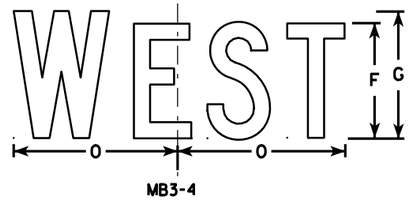

M3-3
MK3-3
MO3-3




MB3-3
MG3-3
MM3-3
MN3-3




M3-4
MK3-4
MO3-4




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 |

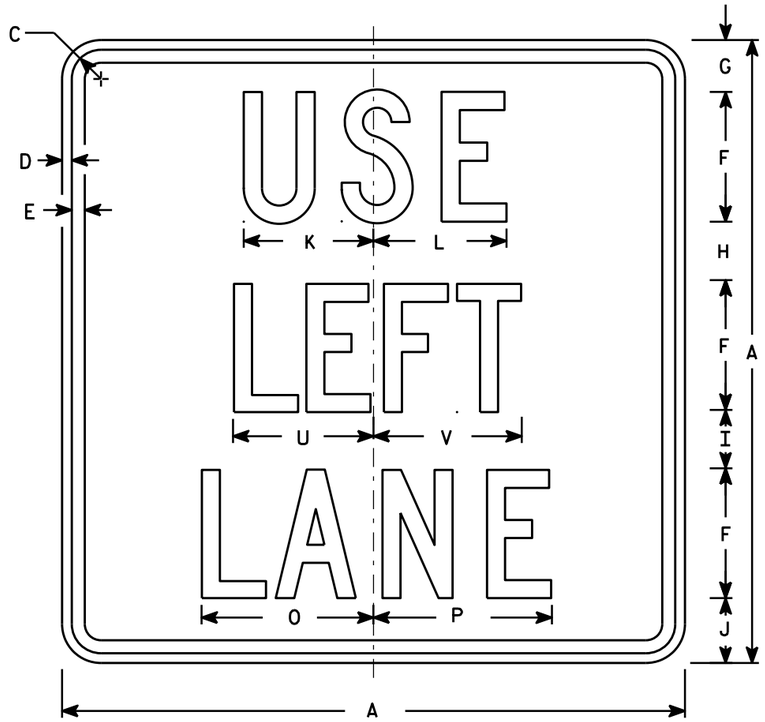
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

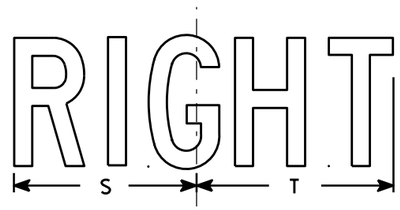
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/10/10 PLATE NO. M3-1.12

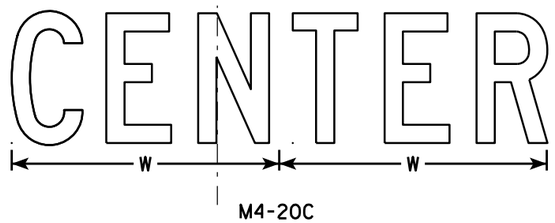
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 114 | E |
|---|---|---|---|---|---|




M4-20L
MB4-20L
MG4-20L
MK4-20L
MM4-20L
MN4-20L
M04-20L
MP4-20L
MR4-20L




M4-20R
MB4-20R
MG4-20R
MK4-20R
MM4-20R
MN4-20R
M04-20R
MP4-20R
MR4-20R




M4-20C
MB4-20C
MG4-20C
MK4-20C
MM4-20C
MN4-20C
M04-20C
MP4-20C
MR4-20C

## NOTES

1. Sign is Type II - see Note 5
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. M4-20 Background - White - Type H Reflective
   Message - Black
   MB4-20 Background - Blue - Type H Reflective
   Message - White Type H Reflective
   MG4-20 Background - Green - Type H Reflective
   Message - White Type H Reflective
   MK4-20 Background - Green - Type H Reflective
   Message - White Type H Reflective
   MM4-20 Background - White - Type H Reflective
   Message - Green
   MN4-20 Background - Brown
   Message - White Type H Reflective
   M04-20 Background - Orange - Type F Reflective
   Message - Black
   MP4-20 Background - White - Type H Reflective
   Message - Blue
   MR4-20 Background - Brown
   Message - Yellow - 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 | | 1 1/8 | 3/8 | 1/2 | 5 | 2 | 2 1/4 | 2 1/4 | 2 1/2 | 5 | 5 1/8 | | | 6 5/8 | 6 7/8 | | | 7 | 7 5/8 | 5 3/8 | 5 3/4 | 10 1/4 | | | | 4.0 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | 7 | 4 | 3 | 3 1/2 | 4 1/2 | 7 1/2 | 7 3/4 | | | 9 7/8 | 10 1/4 | | | 10 3/8 | 11 3/8 | 8 | 8 5/8 | 14 3/8 | | | | 9.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
M4-20

WISCONSIN DEPT OF TRANSPORTATION

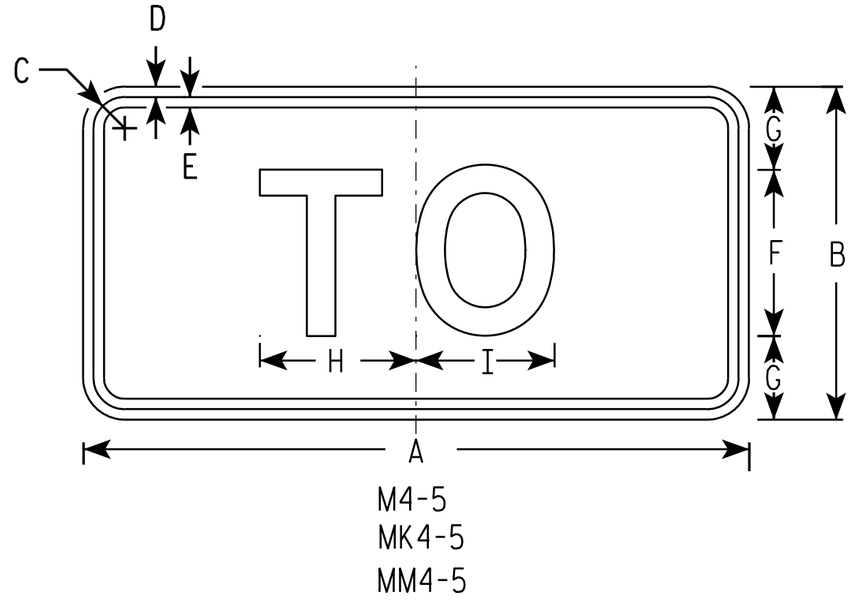
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/20/14 PLATE NO M4-20.3

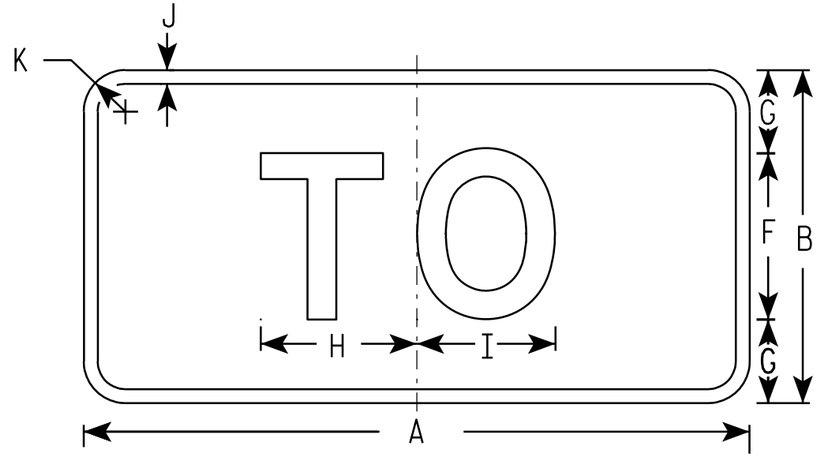
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M420.DGN PLOT DATE : 20-FEB-2014 12:57 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42




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

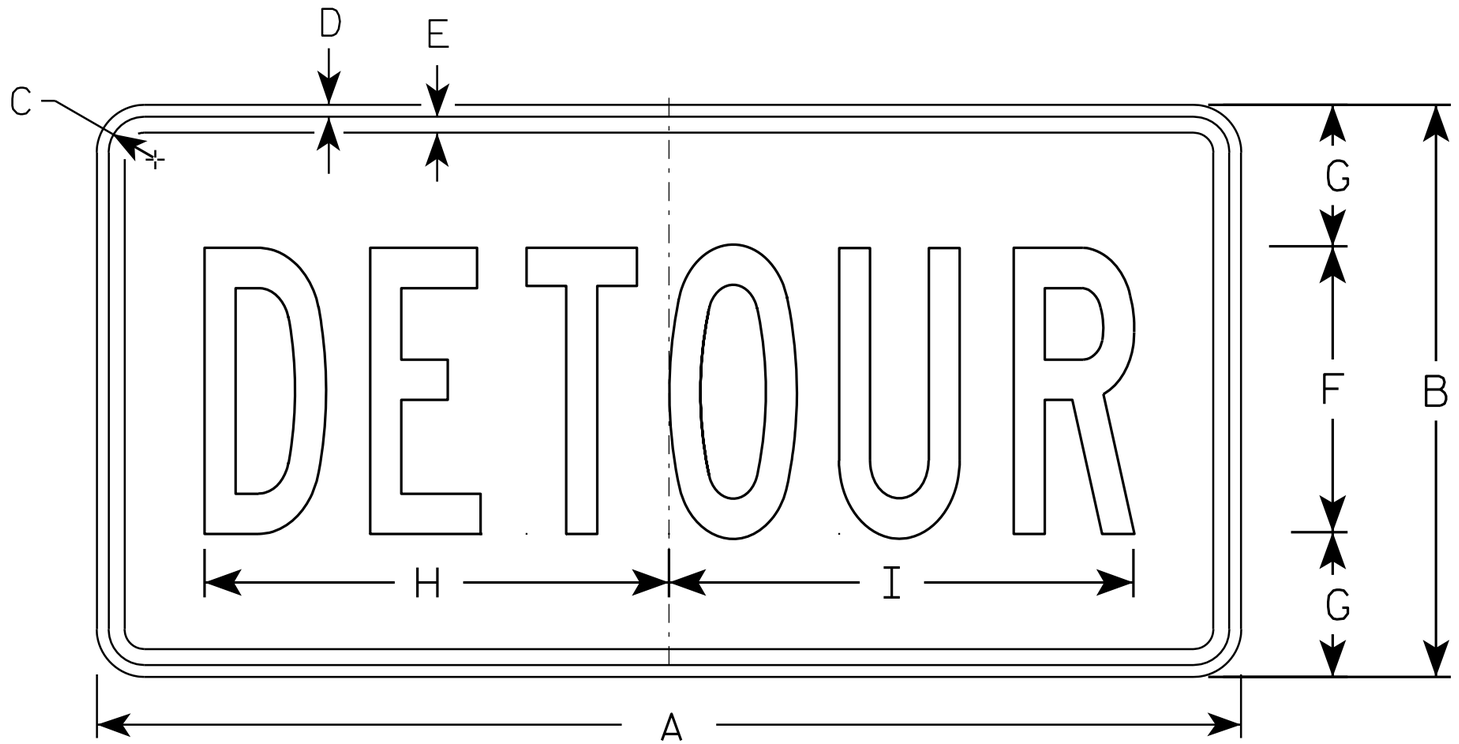
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-5.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 116 | E



FILE NAME : C:\Users\PROJECTS\tr_stdplate\M45.DGN PLOT DATE : 10-NOV-2010 12:48 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 5.462457:1.000000
WISDOT/CADDS SHEET 42




M4-8

NOTES

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

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 6 | 3 | 10 | 10 1/4 | | | | | | | | | | | | | | | | | | 2.0 |
| 3 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

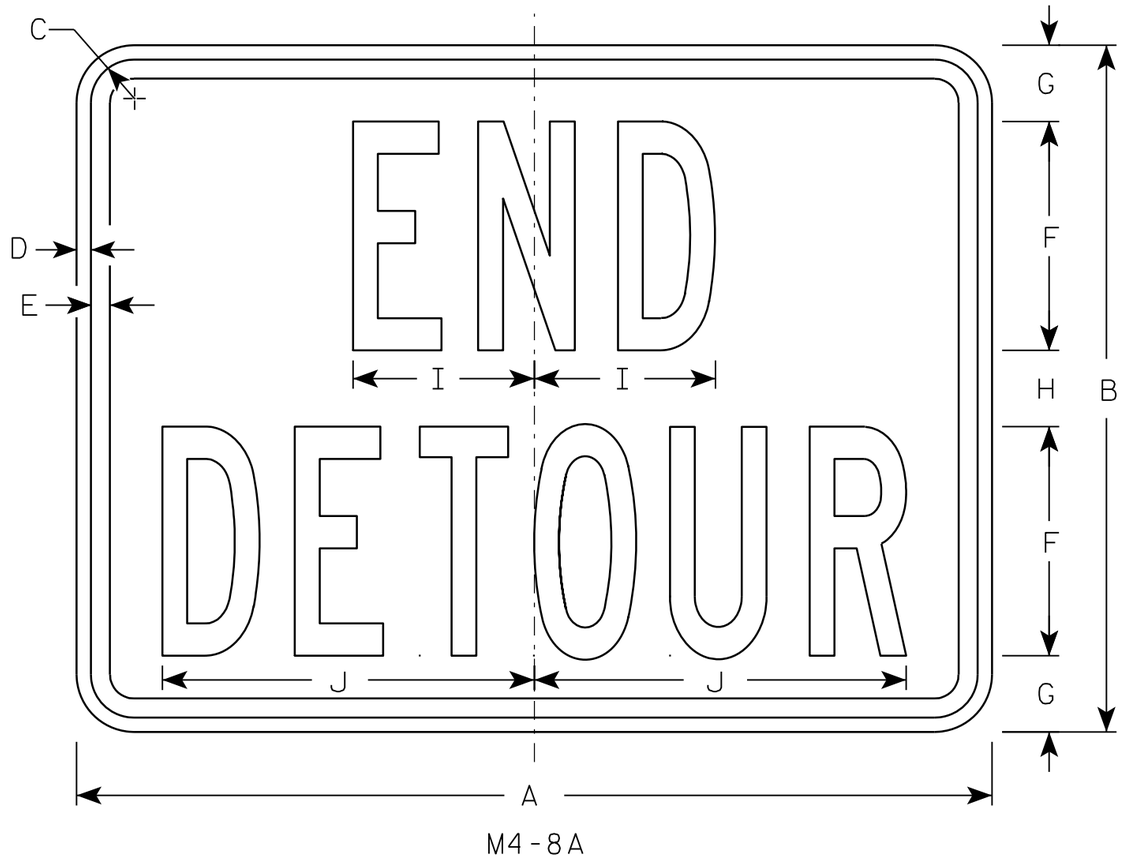
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 117 | E |
|---|---|---|---|---|---|




M4-8A

NOTES

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

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 18 | 1 1/8 | 3/8 | 1/2 | 6 | 2 | 2 | 4 3/4 | 9 3/4 | | | | | | | | | | | | | | | | | 3.0 |
| 3 | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 8 | 2 1/2 | 3 | 6 3/4 | 13 | | | | | | | | | | | | | | | | | 5.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

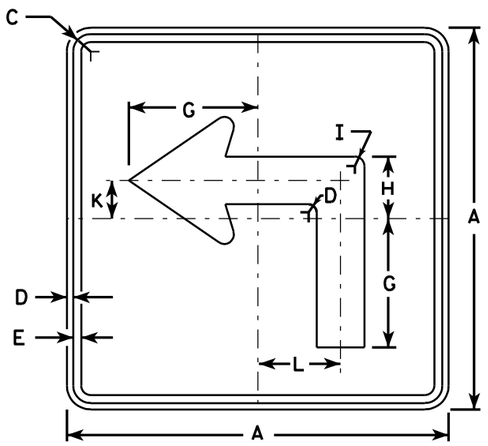
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

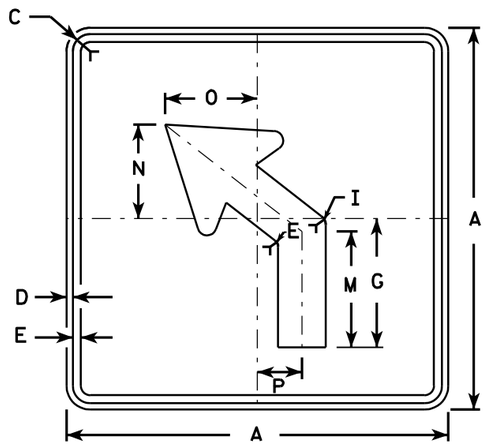
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

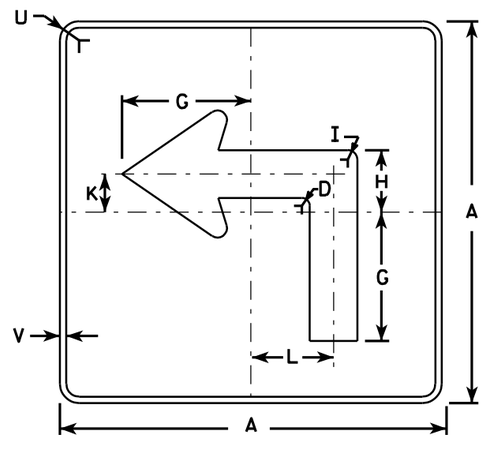
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 118 | E |
|---|---|---|---|---|---|



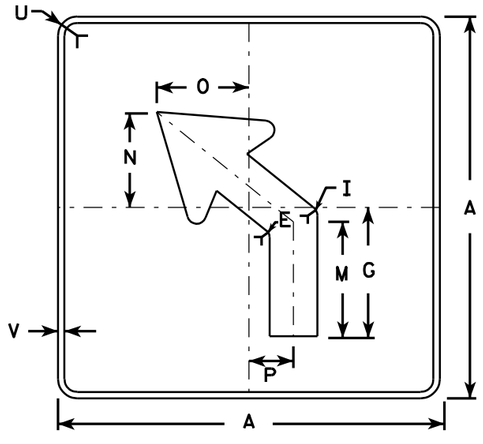

M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



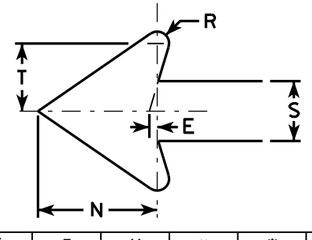

M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L




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
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H 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 - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   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.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 21 | | 1 1/8 | 3/8 | 3/8 | | 7 | 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 |
| 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 |
| 4 | 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 |
| 5 | 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 |

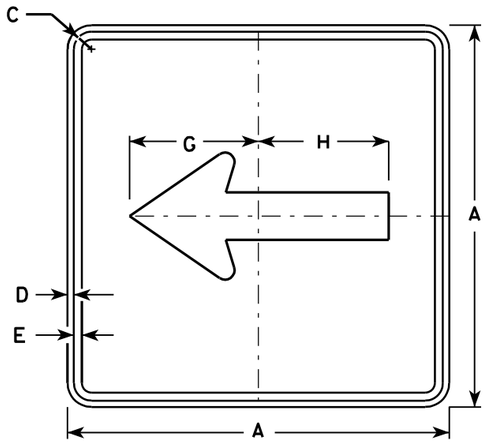
# STANDARD SIGN
# M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

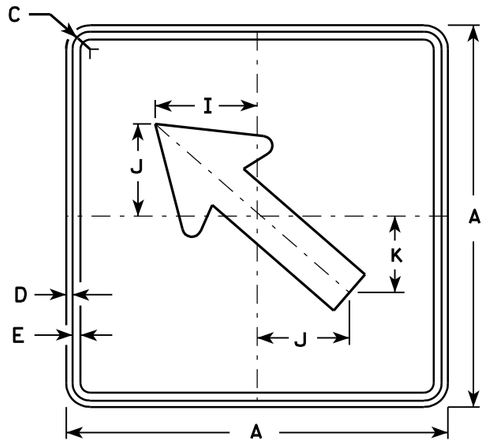
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

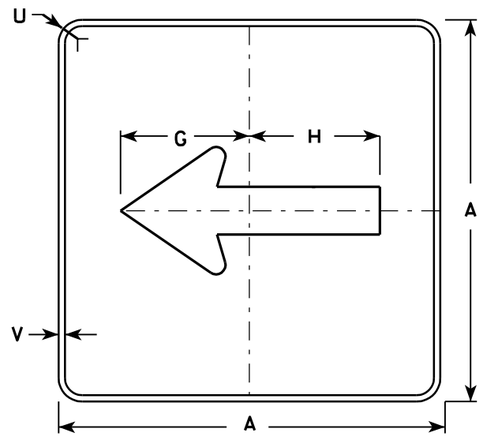
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 119 | E |
|---|---|---|---|---|---|



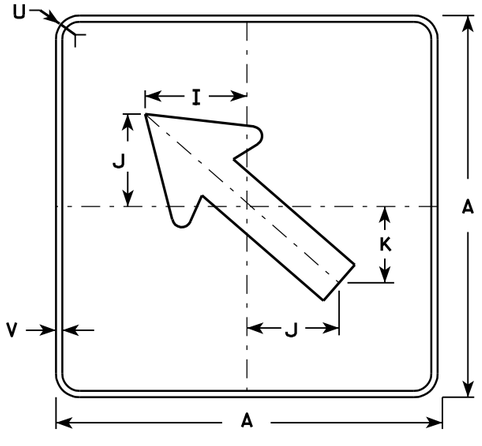

M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1




M6-2
MK6-2
MM6-2
MO6-2
MP6-2
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
   Message - Black

   MB6-1 and MB6-2 Background - Blue
   Message - White - Type H 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

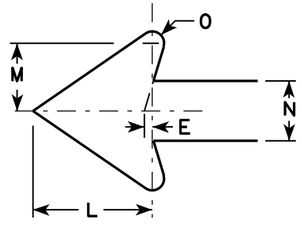
   MM6-1 and MM6-2 Background - White - Type H Reflective
   Message - Green

   MN6-1 and MN6-2 Background - Brown
   Message - White - Type H Reflective

   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black

   MP6-1 and MP6-2 Background - White - Type H Reflective
   Message - Blue

   MR6-1 and MR6-2 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 | 21 | | 1 1/8 | 3/8 | 3/8 | | 7 1/2 | 7 1/8 | 5 5/8 | 5 | 4 1/4 | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | 1 1/2 | 1/2 | | | | | | 3.06 |
| 3 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | | 6.25 |
| 4 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | | 6.25 |
| 5 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | | 6.25 |

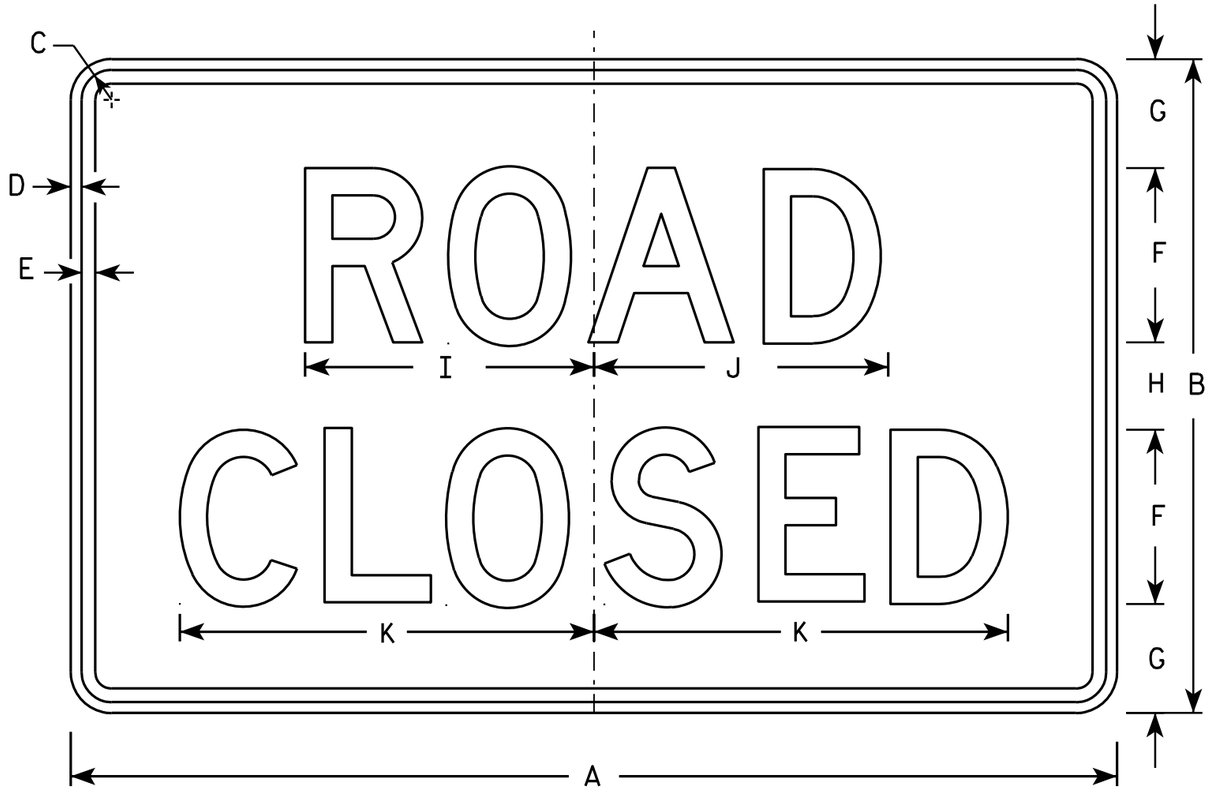
# STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

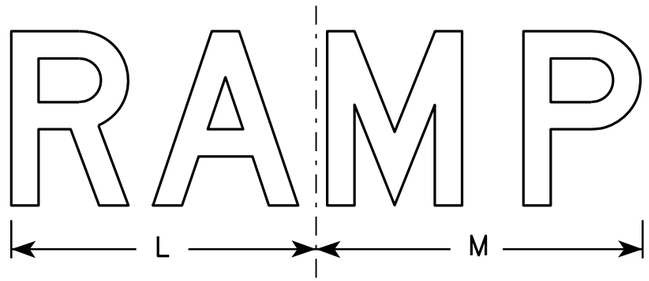
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 120 | E |
|---|---|---|---|---|---|



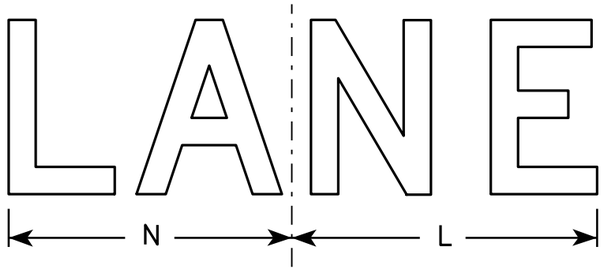

R11-2

NOTES

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




R11-2R




R11-2L

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

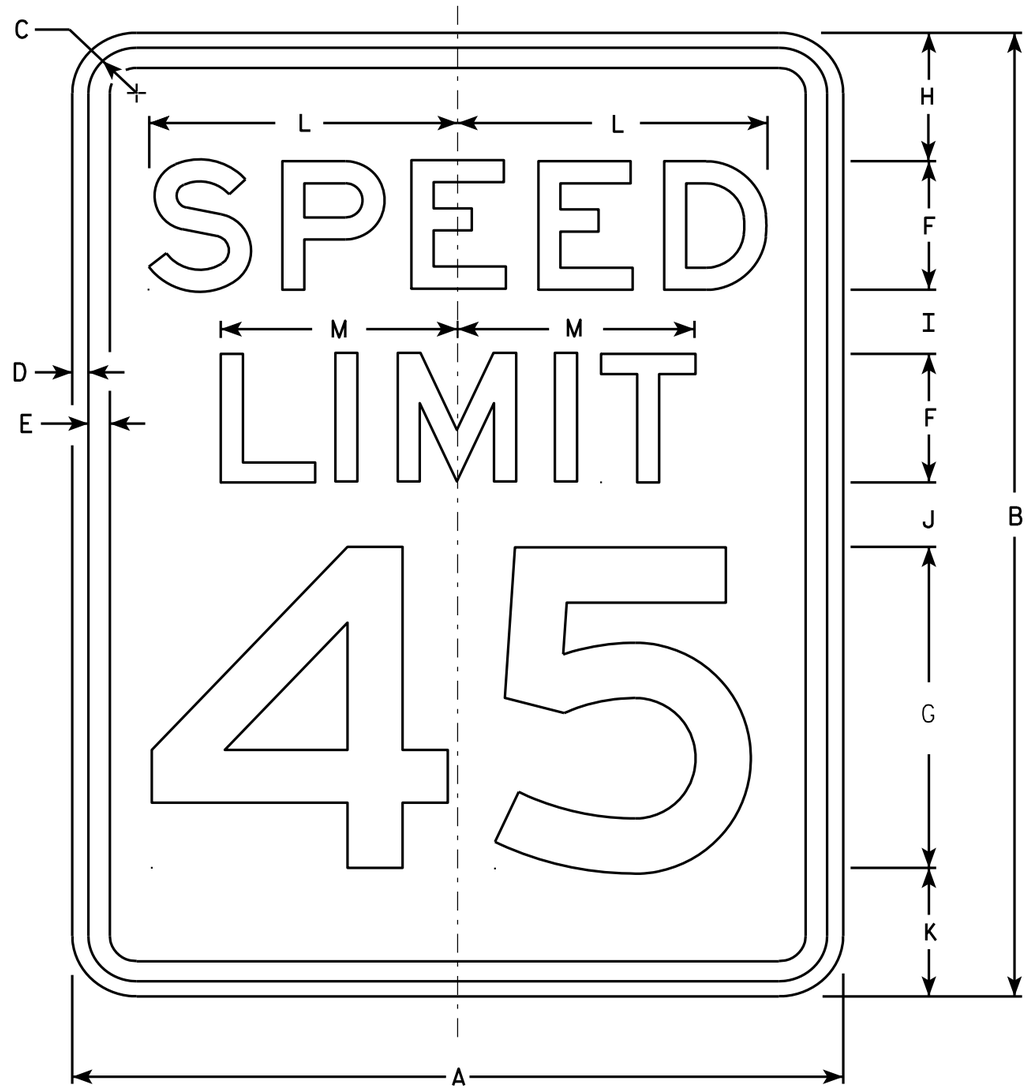
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 121 | E




R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 3 | 8 | 3 | 2 | 2 | 3 | 7 1/4 | 5 1/2 | | | | | | | | | | | | | | 3.0 |
| 2S | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 4 | 10 | 3 | 2 1/4 | 3 3/8 | 3 3/8 | 9 5/8 | 7 3/8 | | | | | | | | | | | | | | 5.0 |
| 2M | 30 | 36 | 1 3/8 | 1/2 | 5/8 | 5 | 12 | 5 | 2 1/2 | 2 1/2 | 4 | 12 | 9 1/4 | | | | | | | | | | | | | | 7.5 |
| 3 | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5 | 5 | 6 | 14 3/8 | 11 | | | | | | | | | | | | | | 12.0 |
| 4 | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5 | 5 | 6 | 14 3/8 | 11 | | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 60 | 2 1/4 | 3/4 | 1 | 8 | 20 | 6 | 4 1/2 | 6 3/4 | 6 3/4 | 19 1/4 | 14 5/8 | | | | | | | | | | | | | | 20.0 |

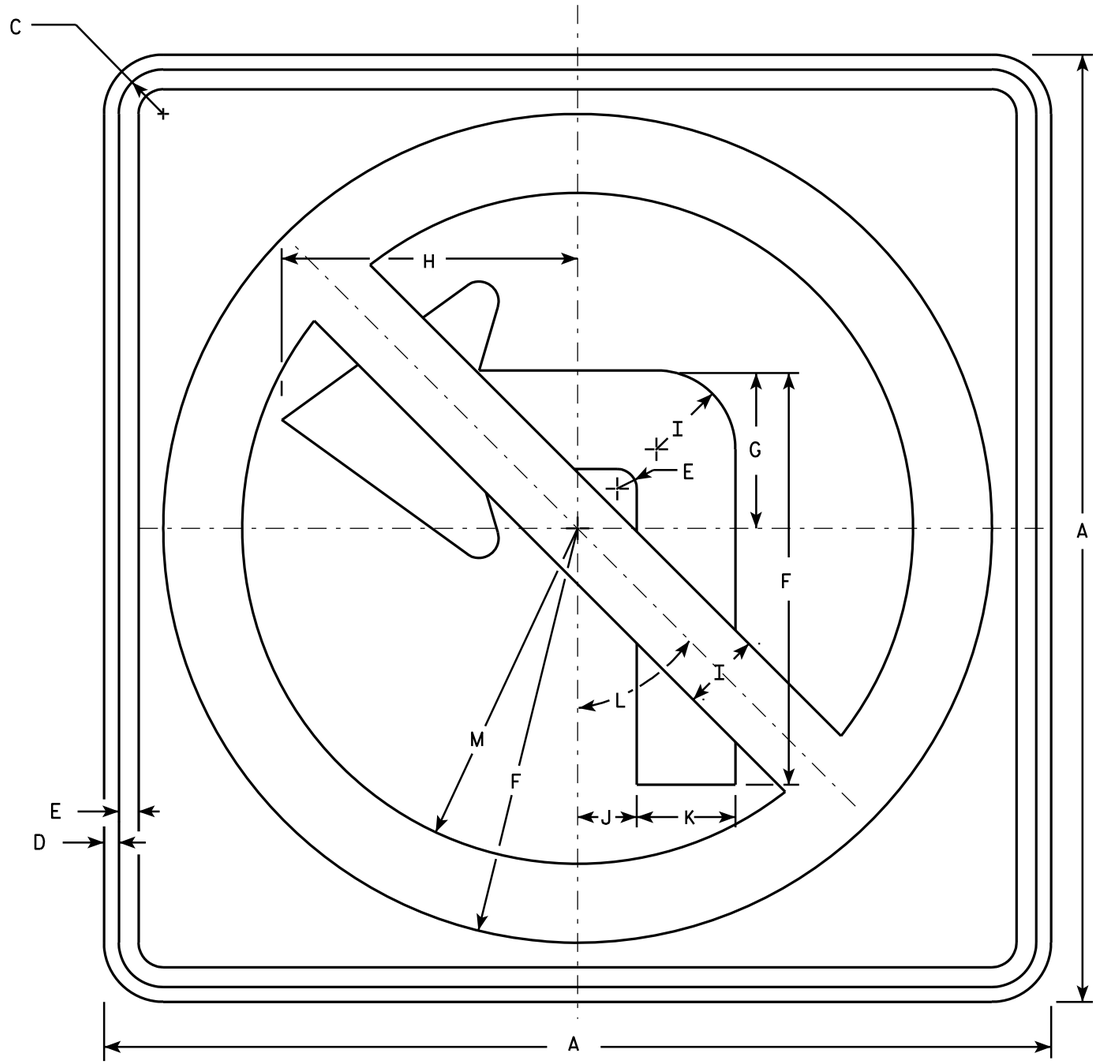
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

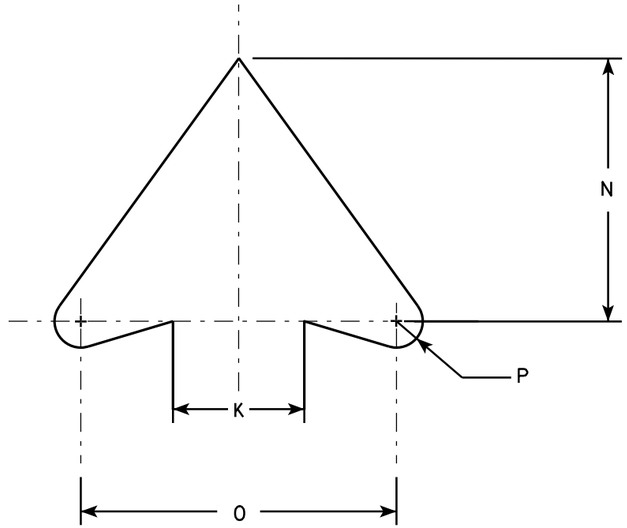
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 122 | E




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 |

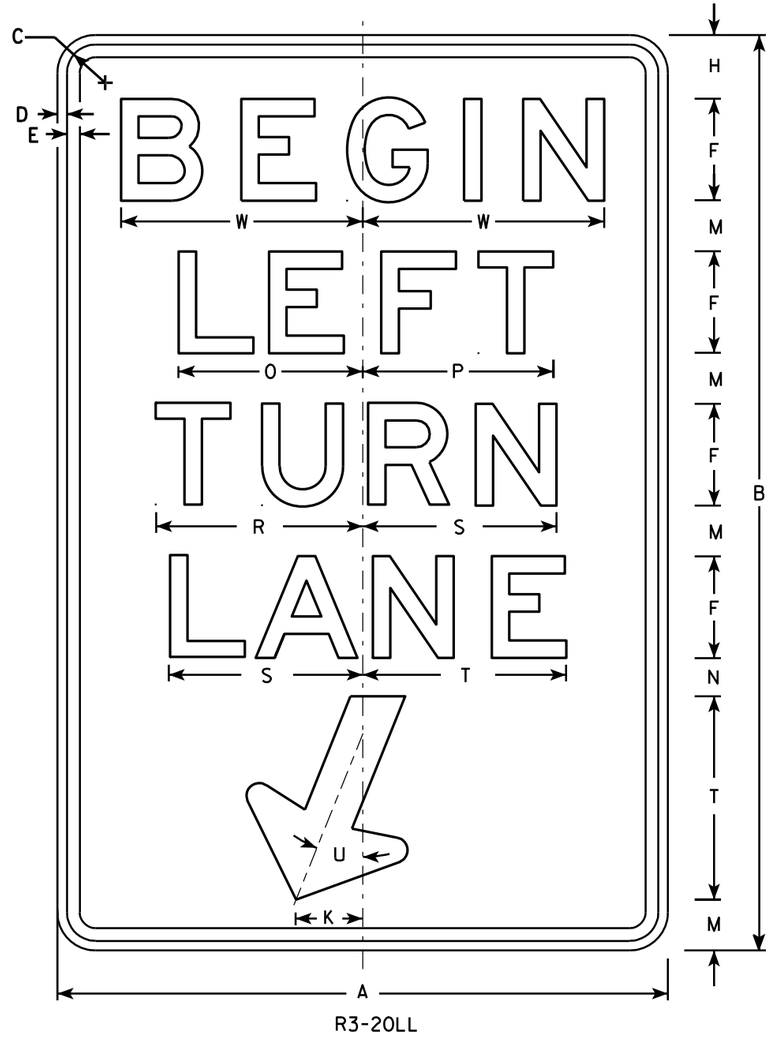
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

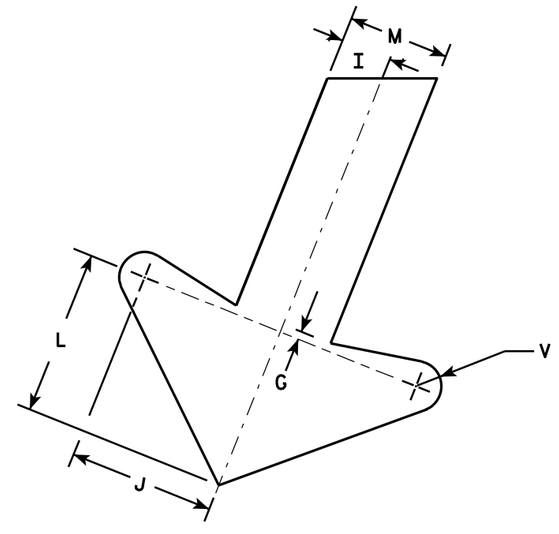
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 123 | E |
|---|---|---|---|---|---|




R3-20LL

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
R3-20LL

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

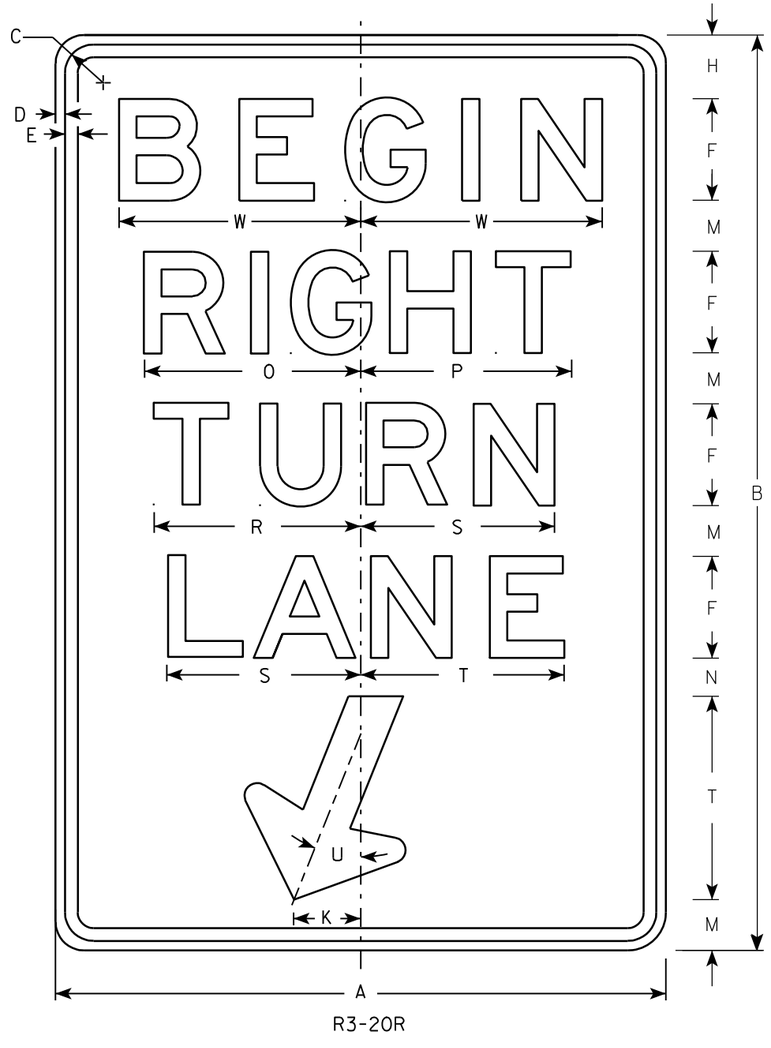
DATE 10/18/10 PLATE NO. R3-20LL.1

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 124 | E |
|---|---|---|---|---|---|




FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320LL.DGN PLOT DATE : 15-OCT-2010 14:38 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

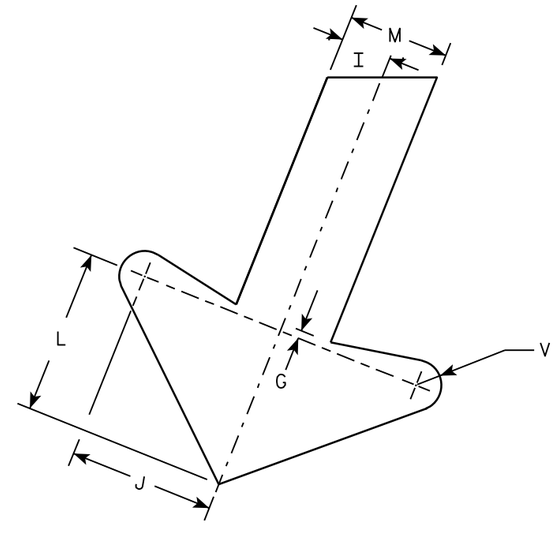
WISDOT/CADDS SHEET 42




R3-20R

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 | 8 1/2 | 8 1/4 | | 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 | 8 1/2 | 8 1/4 | | 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 | 12 3/4 | 12 1/2 | | 12 1/4 | 11 1/2 | 12 | 22° | 3/4 | 13 1/4 | | | | 13.5 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

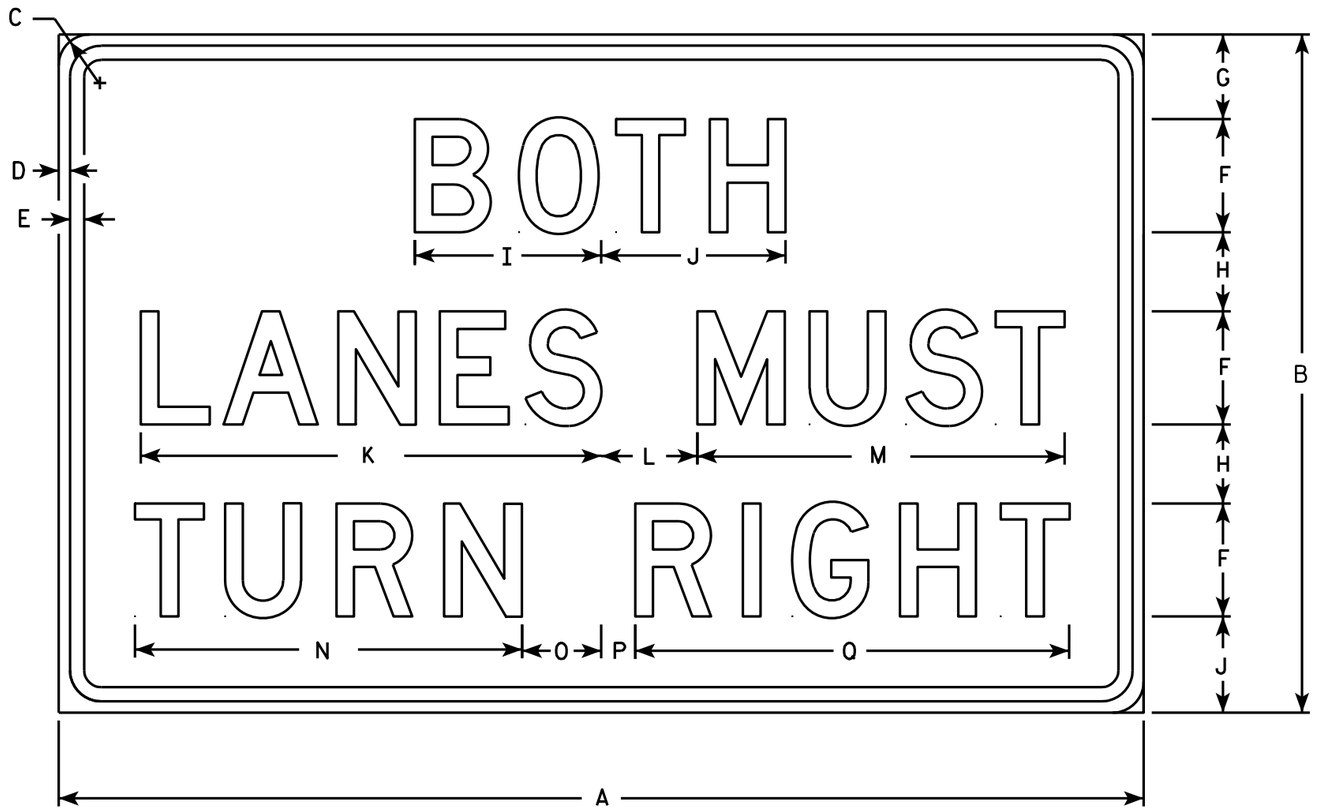
STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 125 | E




R3-7B

NOTES

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

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 5 | 3 3/4 | 3 1/2 | 8 1/4 | 8 1/8 | 20 3/8 | 4 1/4 | 16 1/4 | 17 1/8 | 3 1/2 | 1 1/2 | 19 1/4 | | | | | | | | | | 10.0 |
| 2M | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 5 | 3 3/4 | 3 1/2 | 8 1/4 | 8 1/8 | 20 3/8 | 4 1/4 | 16 1/4 | 17 1/8 | 3 1/2 | 1 1/2 | 19 1/4 | | | | | | | | | | 10.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

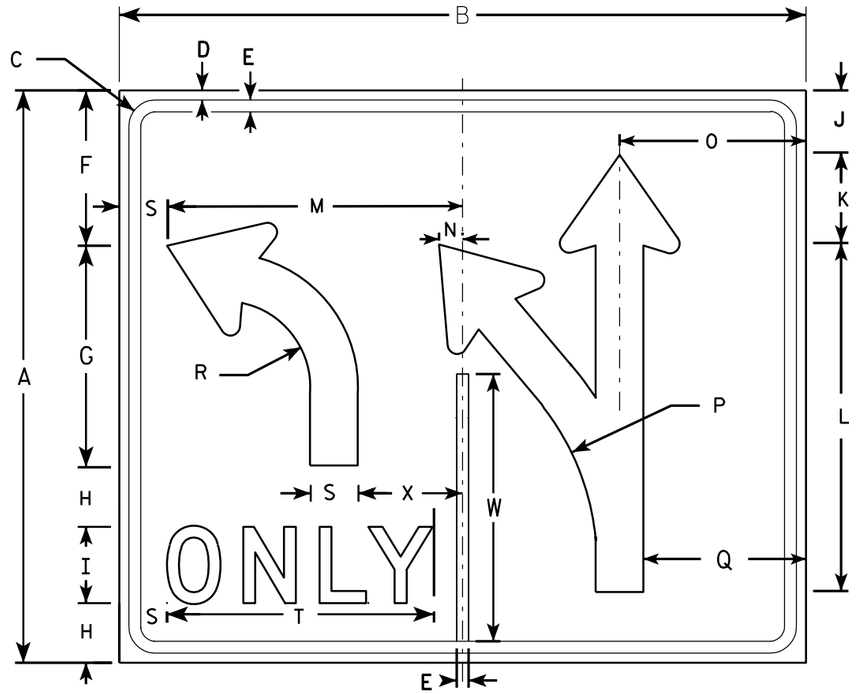
STANDARD SIGN
R3-7B

WISCONSIN DEPT OF TRANSPORTATION

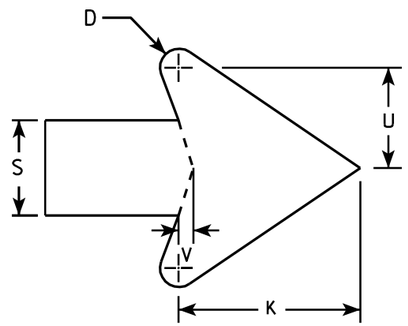
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7B.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 126 | E |
|---|---|---|---|---|---|



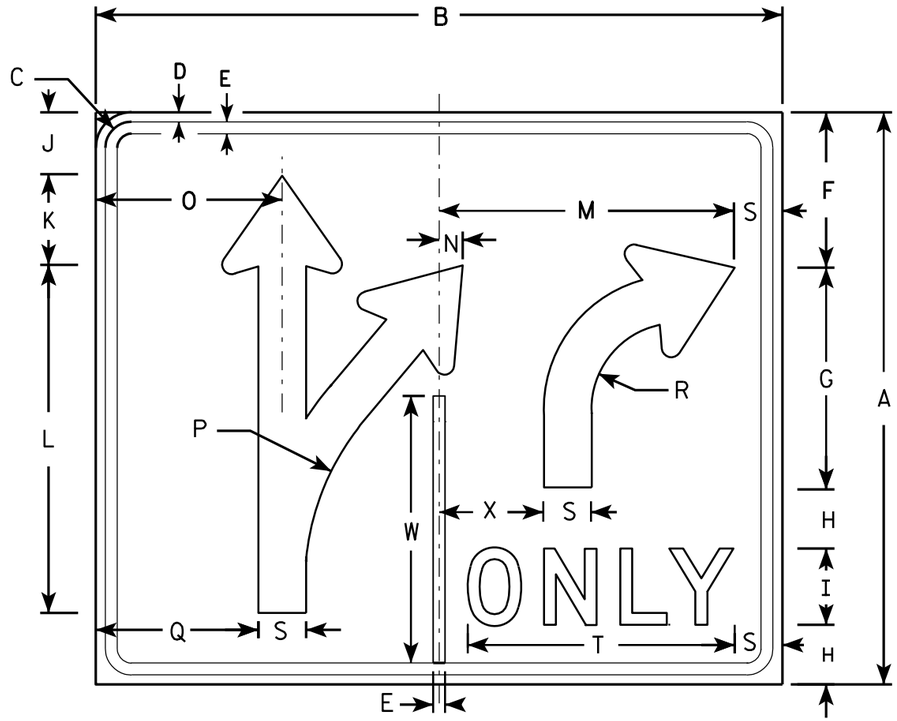

R3-8B




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 |

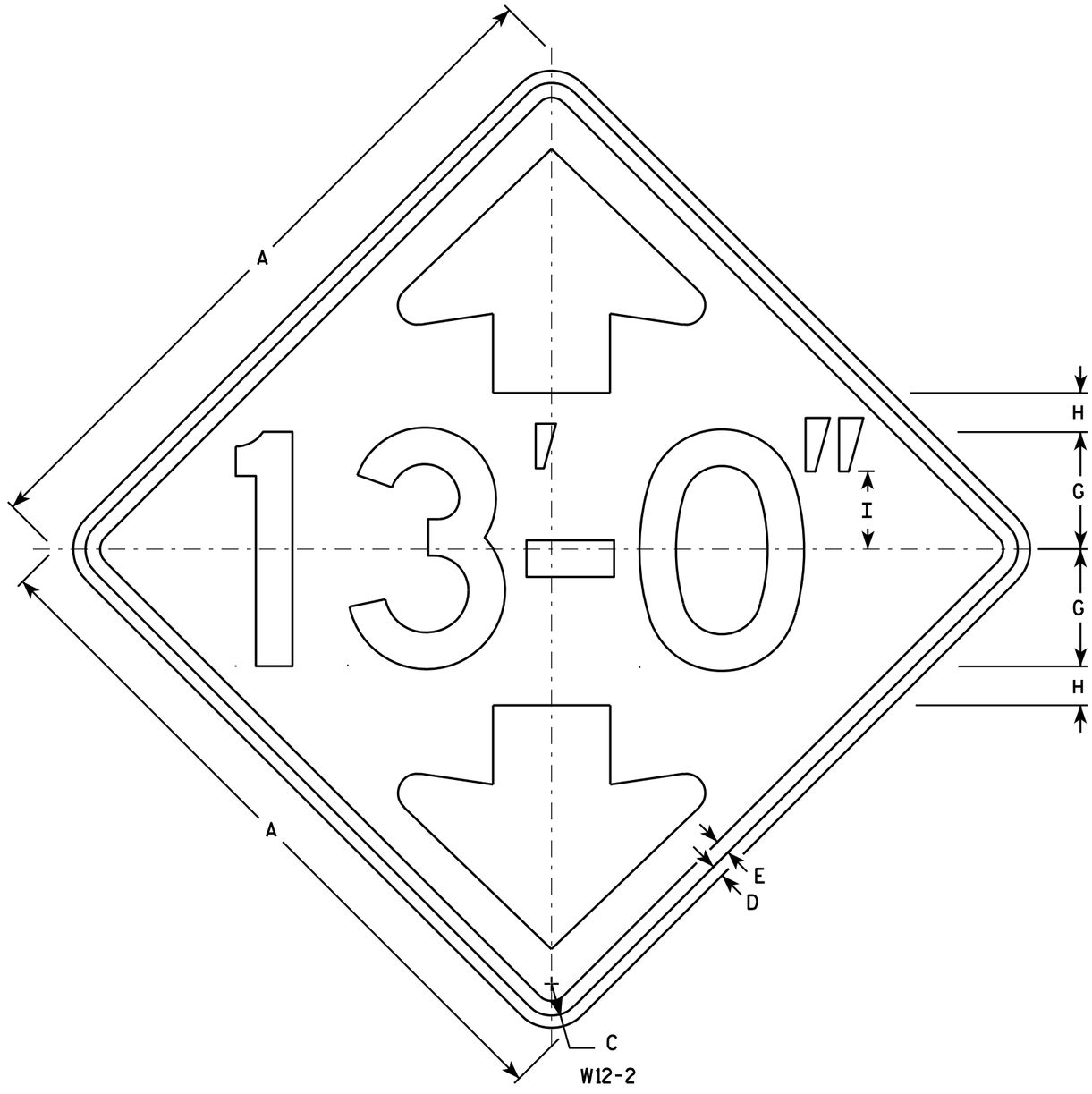
# STANDARD SIGN
# R3-8B & R3-8C

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

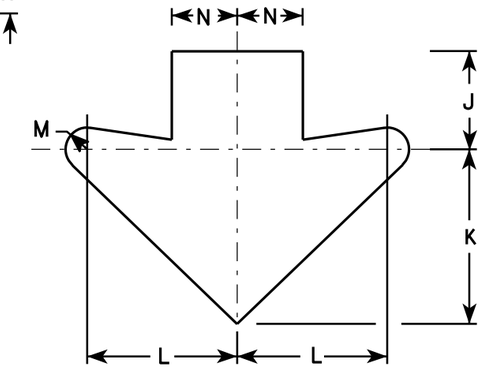
DATE 3/18/2011 PLATE NO. R3-8B.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 127 | E |
|---|---|---|---|---|---|

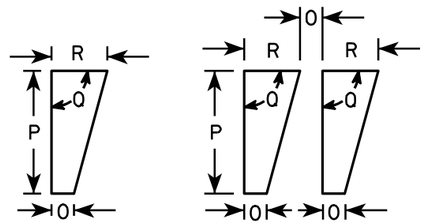



NOTES

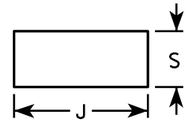
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing of numerals, hyphen, foot & inch marks to achieve proper balance.




Arrow Detail




Foot Mark & Inch Mark Detail




Hyphen Detail

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | | 1 3/8 | 1/2 | 5/8 | | 5 | 1 5/8 | 3 3/8 | 3 3/4 | 6 5/8 | 5 3/4 | 3/4 | 2 1/2 | 1/2 | 2 1/4 | 90° | 1 | 1 5/8 | | | | | | | | 6.25 |
| 2S | 36 | | 1 5/8 | 5/8 | 3/4 | | 6 | 2 | 4 | 4 1/2 | 8 | 6 7/8 | 1 | 3 | 1/2 | 2 3/4 | 90° | 1 1/4 | 1 7/8 | | | | | | | | 9.00 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | | 6 | 2 | 4 | 4 1/2 | 8 | 6 7/8 | 1 | 3 | 1/2 | 2 3/4 | 90° | 1 1/4 | 1 7/8 | | | | | | | | 9.00 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | | 6 | 2 | 4 | 4 1/2 | 8 | 6 7/8 | 1 | 3 | 1/2 | 2 3/4 | 90° | 1 1/4 | 1 7/8 | | | | | | | | 9.00 |
| 4 | 36 | | 1 5/8 | 5/8 | 3/4 | | 6 | 2 | 4 | 4 1/2 | 8 | 6 7/8 | 1 | 3 | 1/2 | 2 3/4 | 90° | 1 1/4 | 1 7/8 | | | | | | | | 9.00 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 8 | 2 5/8 | 5 1/2 | 5 7/8 | 10 5/8 | 9 1/4 | 1 3/8 | 4 | 5/8 | 3 5/8 | 90° | 1 5/8 | 2 1/2 | | | | | | | | 16.00 |

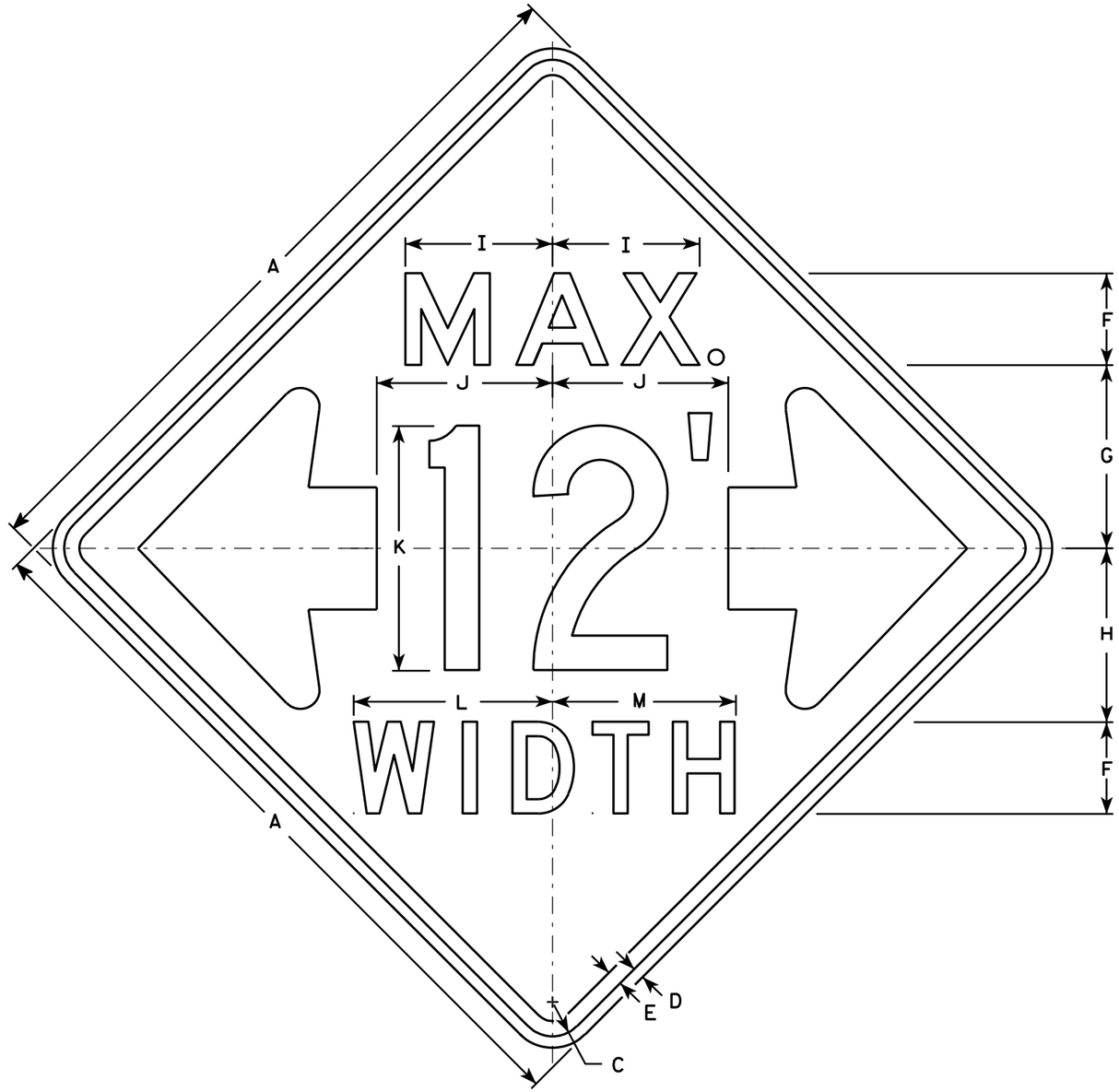
STANDARD SIGN
W12-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-2.9

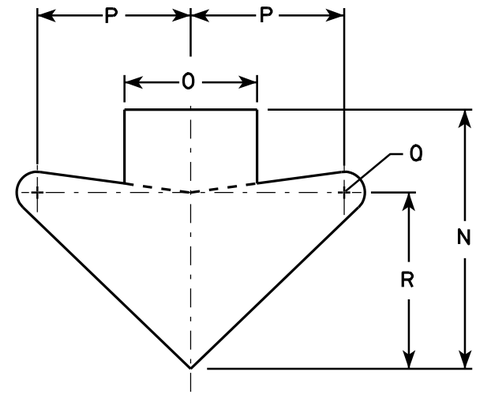
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 128 | E |
|---|---|---|---|---|---|




W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.




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 | 48 | | 2 1/4 | 3/4 | 1 | 6 | 12 | 11 3/8 | 9 5/8 | 11 1/2 | 16 | 13 | 12 | 15 5/8 | 8 | 9 1/4 | 1 1/4 | 10 5/8 | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 6 | 12 | 11 3/8 | 9 5/8 | 11 1/2 | 16 | 13 | 12 | 15 5/8 | 8 | 9 1/4 | 1 1/4 | 10 5/8 | | | | | | | | | 16.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

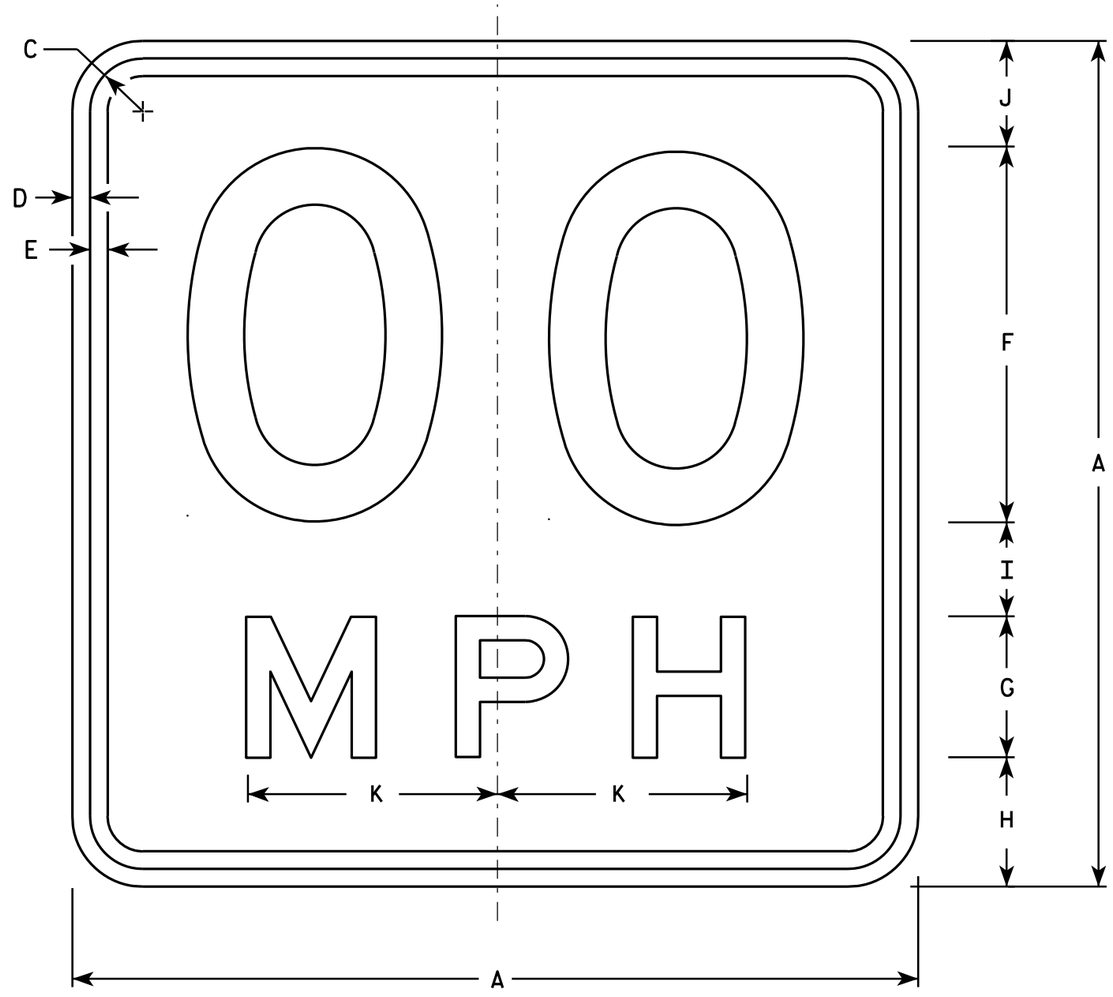
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 129 | E



FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42




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 |

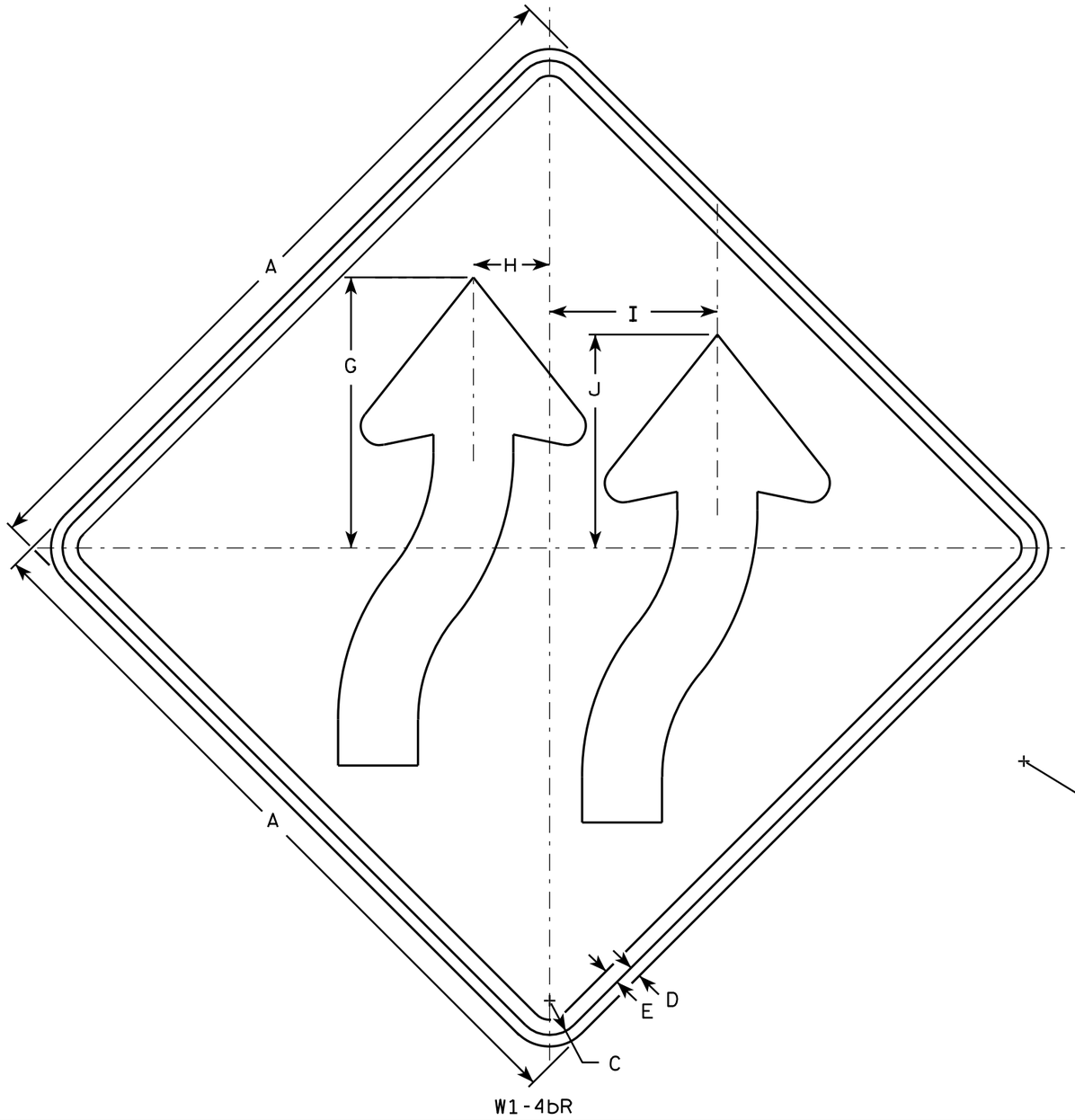
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

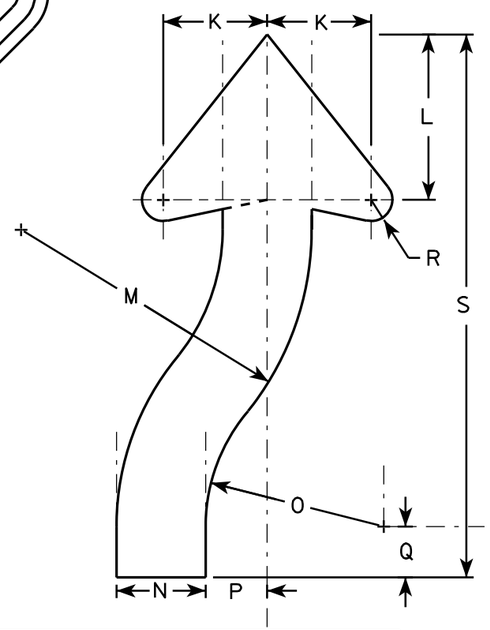
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 130 | E




W1-4bR




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. W1-4bL is the same as W14-bR exept arrows are reversed along the vertical centerline

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 36 | | 1 5/8 | 5/8 | 3/4 | | 13 3/8 | 3 3/4 | 8 1/4 | 10 1/2 | 4 5/8 | 7 3/8 | 12 7/8 | 3 7/8 | 7 7/8 | 2 3/4 | 2 1/4 | 7/8 | 24 | | | | | | | | 9.0 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | | 13 3/8 | 3 3/4 | 8 1/4 | 10 1/2 | 4 5/8 | 7 3/8 | 12 7/8 | 3 7/8 | 7 7/8 | 2 3/4 | 2 1/4 | 7/8 | 24 | | | | | | | | 9.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | | 17 3/4 | 5 | 11 | 14 | 6 1/8 | 9 3/4 | 17 1/8 | 5 1/4 | 10 1/2 | 3 5/8 | 3 | 1 1/4 | 32 | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | | 17 3/4 | 5 | 11 | 14 | 6 1/8 | 9 3/4 | 17 1/8 | 5 1/4 | 10 1/2 | 3 5/8 | 3 | 1 1/4 | 32 | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 17 3/4 | 5 | 11 | 14 | 6 1/8 | 9 3/4 | 17 1/8 | 5 1/4 | 10 1/2 | 3 5/8 | 3 | 1 1/4 | 32 | | | | | | | | 16.0 |

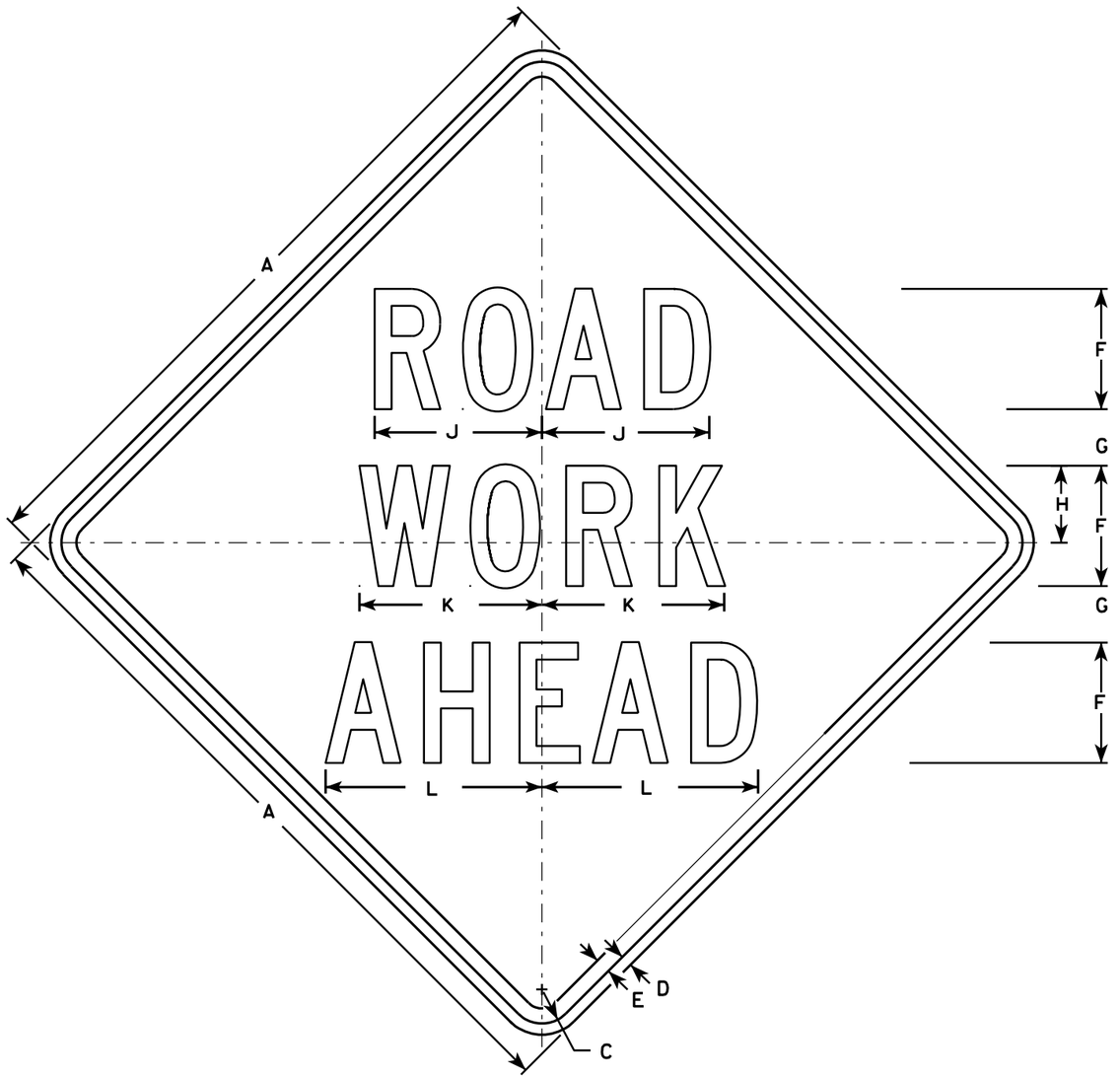
# STANDARD SIGN
# W1-4b

WISCONSIN DEPT OF TRANSPORTATION

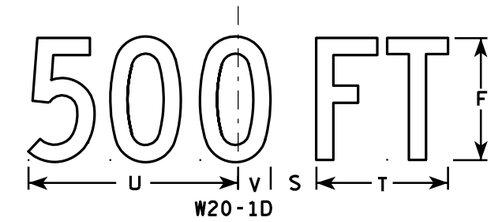
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/12 PLATE NO. W1-4B.8

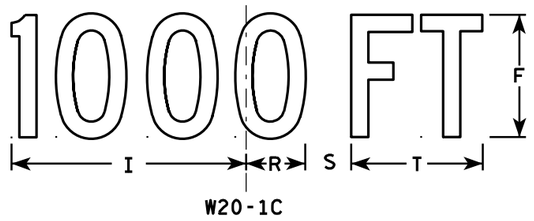
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 131 | E |
|---|---|---|---|---|---|



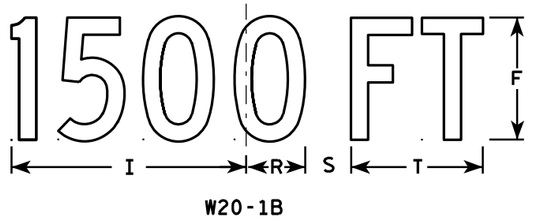

W20-1A




W20-1D



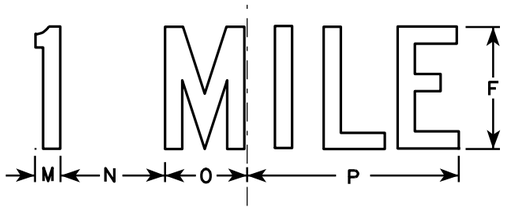

W20-1C




W20-1B




W20-1G




W20-1F

## NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

SHEET NO: 132 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

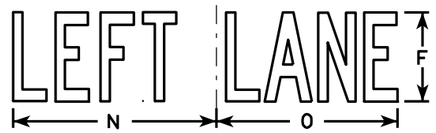
WISDOT/CADDS SHEET 42

7

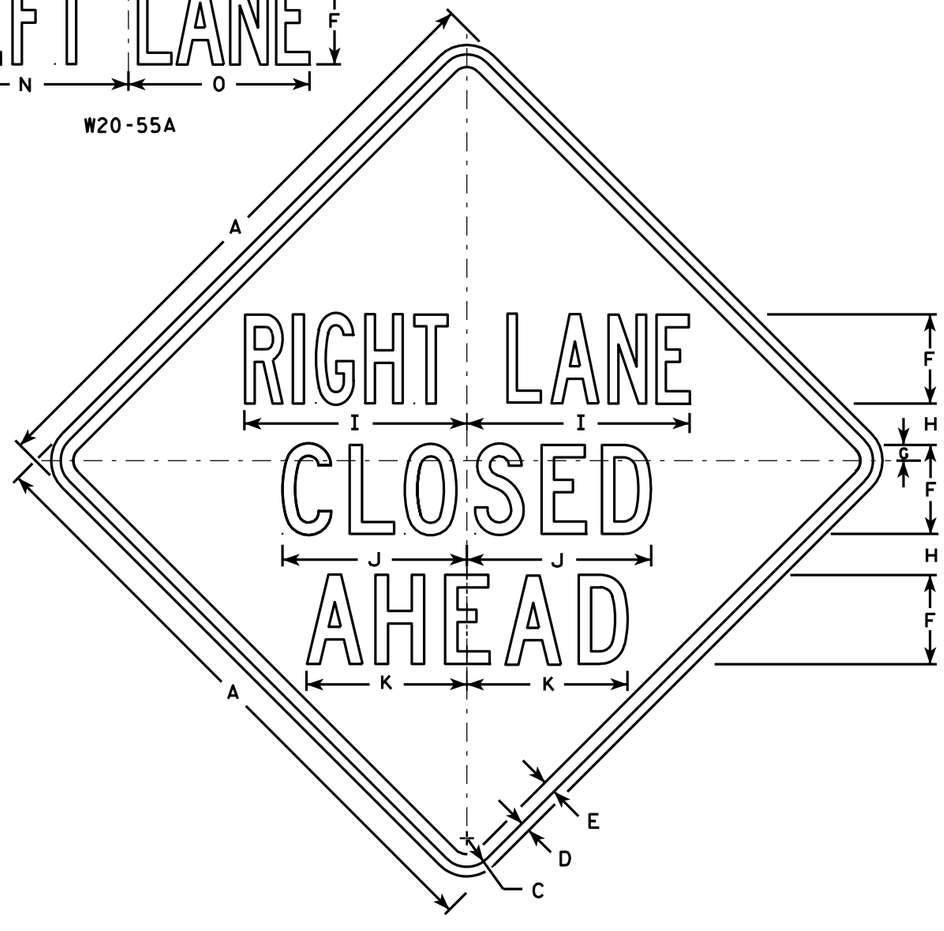
7



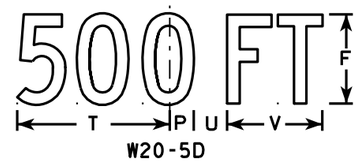

W20-56A



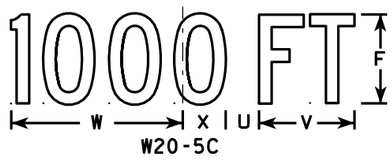

W20-55A



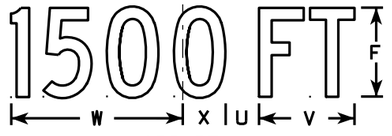

W20-5A




W20-5D




W20-5C




W20-5B




W20-5G




W20-5F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. " _____ LANE" is Series B.
   All other copy is Series C.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 6 | 1 5/8 | 5/8 | 3/4 | 5 | 1/8 | 2 1/2 | 13 1/8 | 10 3/4 | 9 1/2 | 14 1/4 | 13 5/8 | 12 | 12 | 1 3/8 | 1 1/8 | 4 1/2 | 3 1/2 | 9 | 1 1/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 3/4 | 8 | 9.0 |
| 2S | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 2M | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 3 | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 4 | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |
| 5 | 48 | 8 | 2 1/4 | 3/4 | 1 | 7 | 1 1/4 | 3 1/4 | 17 1/2 | 14 3/8 | 12 5/8 | 19 | 18 3/8 | 16 | 14 1/4 | 1 7/8 | 1 1/2 | 6 | 4 5/8 | 12 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 2 3/8 | 10 5/8 | 16.0 |

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

WISCONSIN DEPT OF TRANSPORTATION

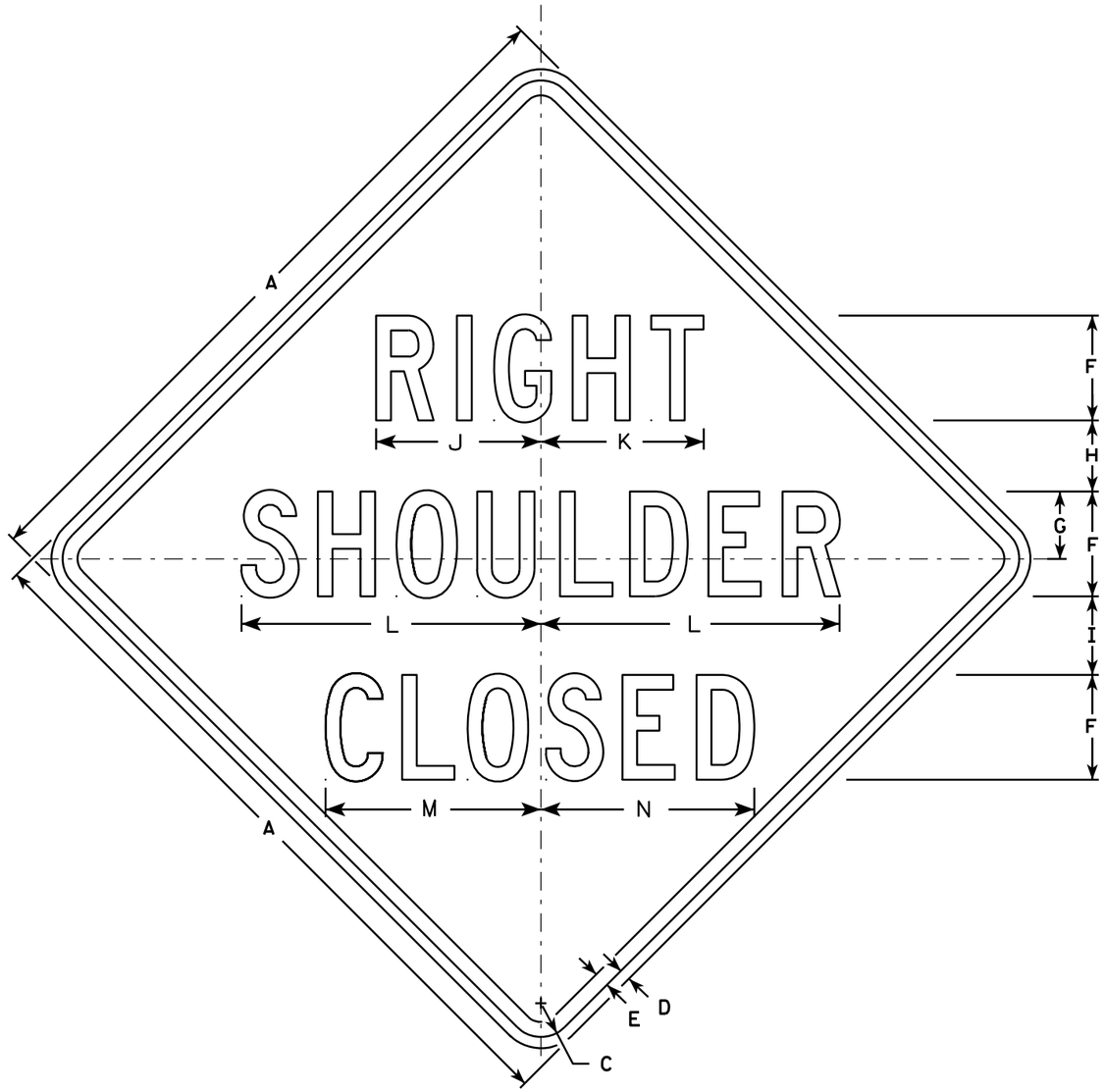
APPROVED Matthew R Rauch
for State Traffic Engineer

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

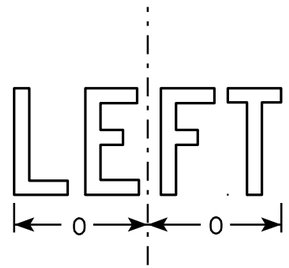
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 133 | E



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




W21-5A




W21-5AL

NOTES

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

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

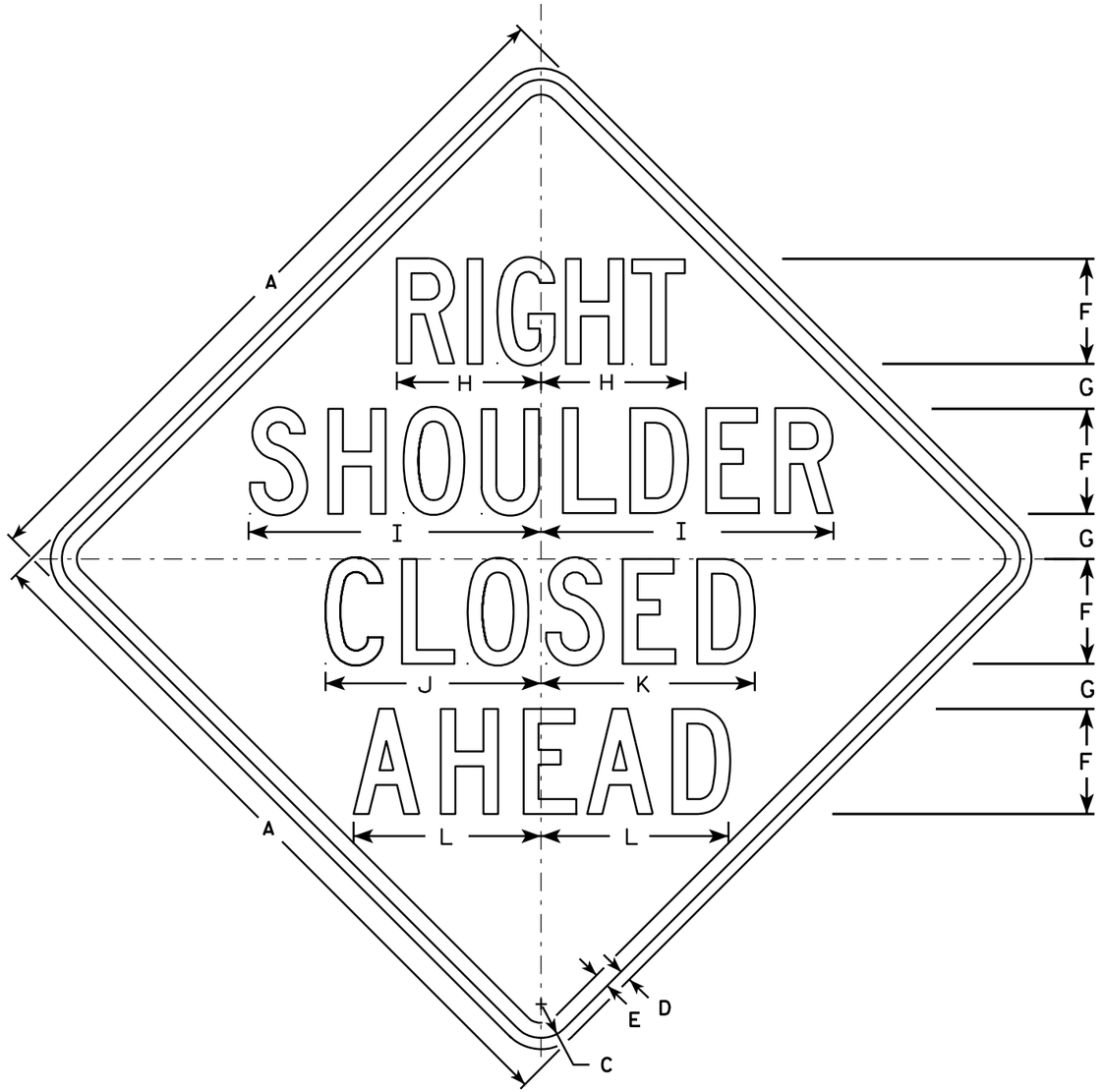
STANDARD SIGN
W21-5A

WISCONSIN DEPT OF TRANSPORTATION

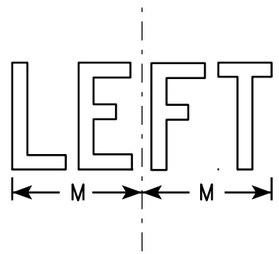
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5A.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 134 | E




W21-5B




W21-5BL

NOTES

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

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

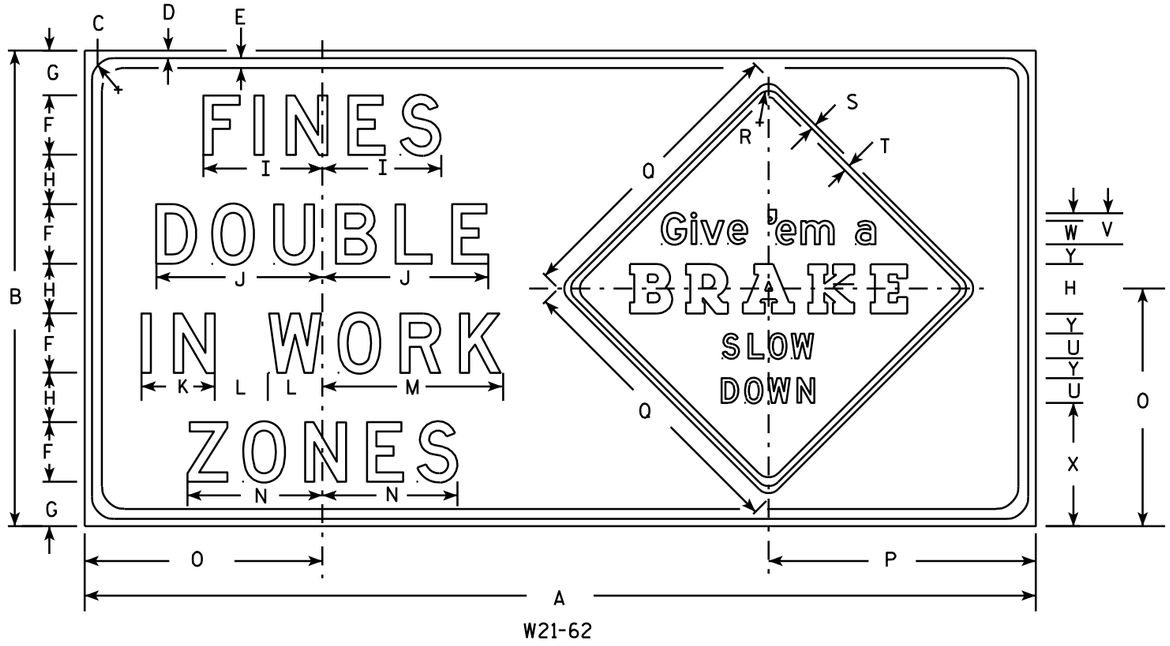
STANDARD SIGN
W21-5B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5B.3

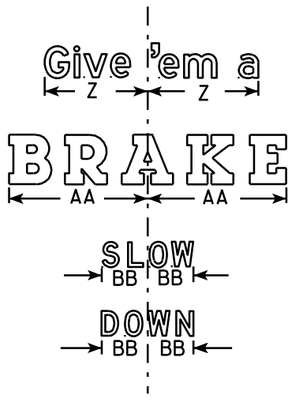
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 135 | E |
|---|---|---|---|---|---|




W21-62

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 - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.







W21-62P

| 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 | AA | BB | CC | DD | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2M | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 96 | 48 | 2 1/4 | 3/4 | 1 | 6 | 4 1/2 | 5 | 12 | 16 3/4 | 7 3/8 | 5 1/2 | 18 1/4 | 13 5/8 | 24 | 27 | 30 | 1 3/8 | 1/2 | 5/8 | 2 1/2 | 3 1/8 | 2 3/8 | 12 1/2 | 2 | 10 3/4 | 14 | 4 5/8 | 34 1/2 | 4 | 32.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-62.5

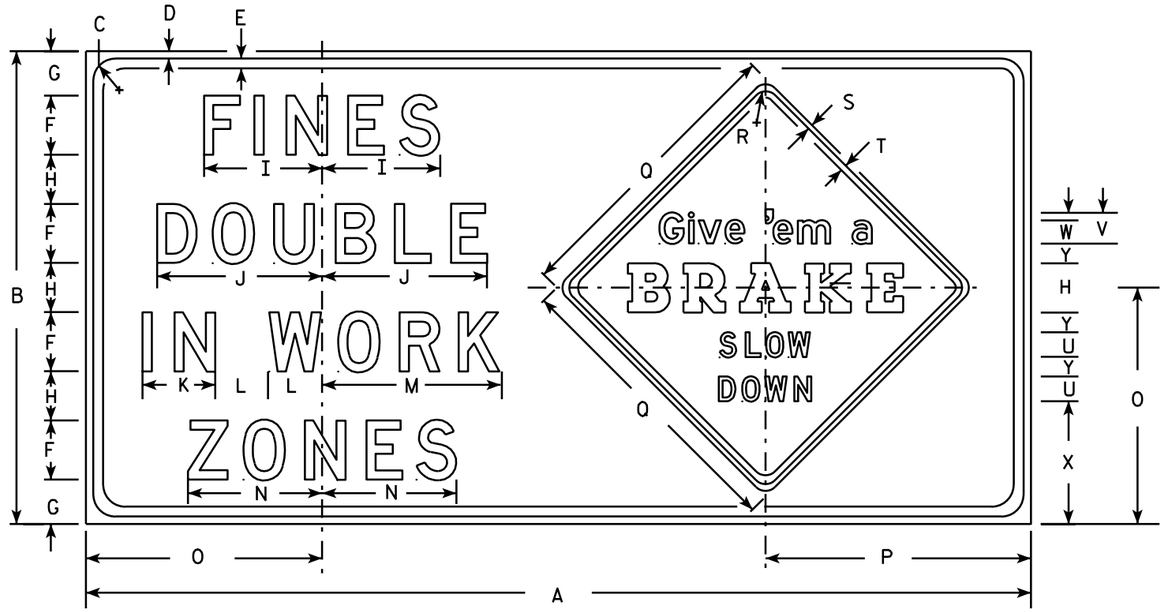
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 136 | E



7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W2162.DGN PLOT DATE : 21-MAR-2011 10:25 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 15.294877:1.000000

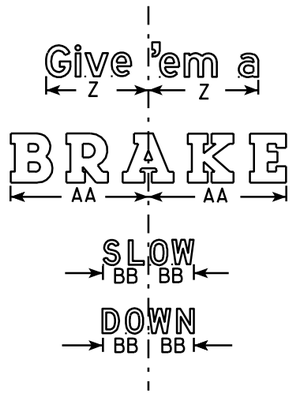
WISDOT/CADDS SHEET 42

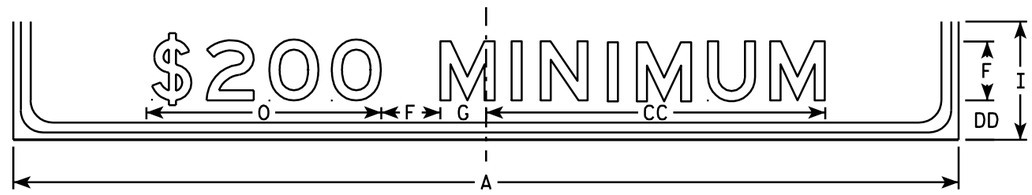



W21-62

## 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 - (See Note 5)
   Message - Black
3. Message Series -
   Fines Double Message - All lines are Series D
   Give 'em a Brake -
   Line one is Series E, line two is a Special Graphic Series and lines three and four are Series D.
4. The base material shall be plywood. Corners may be square or rounded, but borders shall be rounded as shown. The base material for Give 'em a Brake sign can be a seperate sheet of aluminum with the corners and borders rounded as shown. This seperate panel shall then be attached to the plywood with aluminum or stainless steel sheet metal screws.
5. Background for the Give 'em a Brake sign shall be Type F reflective orange.




W21-62P

Metric equivalent for this sign is:

| SIZE | |
|---|---|
| 1 | |
| 2 | |
| 3 | 2400 mm X 1200 mm |
| 4 | |
| 5 | |

| 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 | AA | BB | CC | DD | Area sq. ft. | Area m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 96 | 48 | 2 1/4 | 3/4 | 1 | 6 | 4 1/2 | 5 | 12 | 16 3/4 | 7 3/8 | 5 1/2 | 18 1/4 | 13 5/8 | 24 | 27 | 30 | 1 3/8 | 1/2 | 5/8 | 2 1/2 | 3 1/8 | 2 3/8 | 12 1/2 | 2 | 10 3/4 | 14 | 4 5/8 | 34 1/2 | 4 | 32.0 | 2.88 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

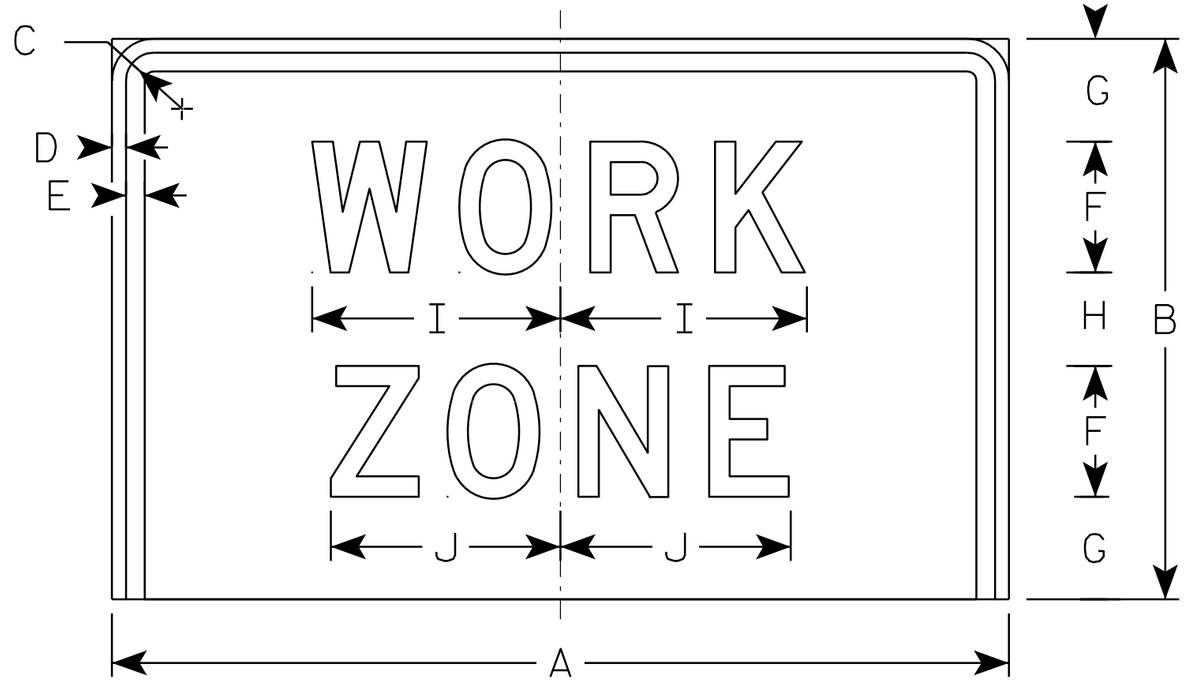
STANDARD SIGN
W21-62

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/16/07 PLATE NO. W21-62.4

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 137 | E |
|---|---|---|---|---|---|




W21-620

NOTES

1. Sign is Type II - Type F - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 30 | 2 1/4 | 3/4 | 1 | 7 | 5 1/2 | 5 | 13 1/4 | 12 1/4 | | | | | | | | | | | | | | | | | 10.0 |
| 2M | 48 | 30 | 2 1/4 | 3/4 | 1 | 7 | 5 1/2 | 5 | 13 1/4 | 12 1/4 | | | | | | | | | | | | | | | | | 10.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

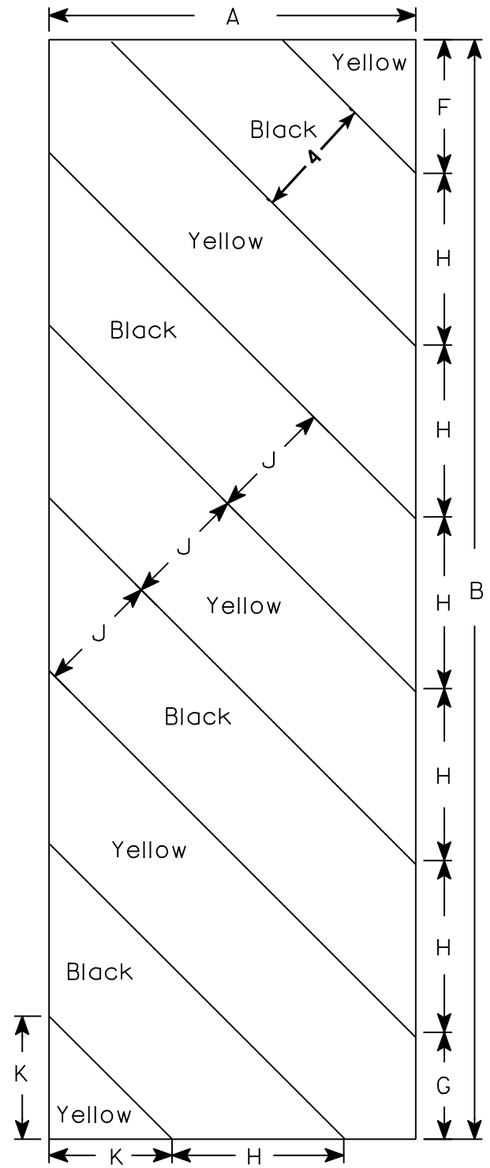
STANDARD SIGN
W21-620

WISCONSIN DEPT OF TRANSPORTATION

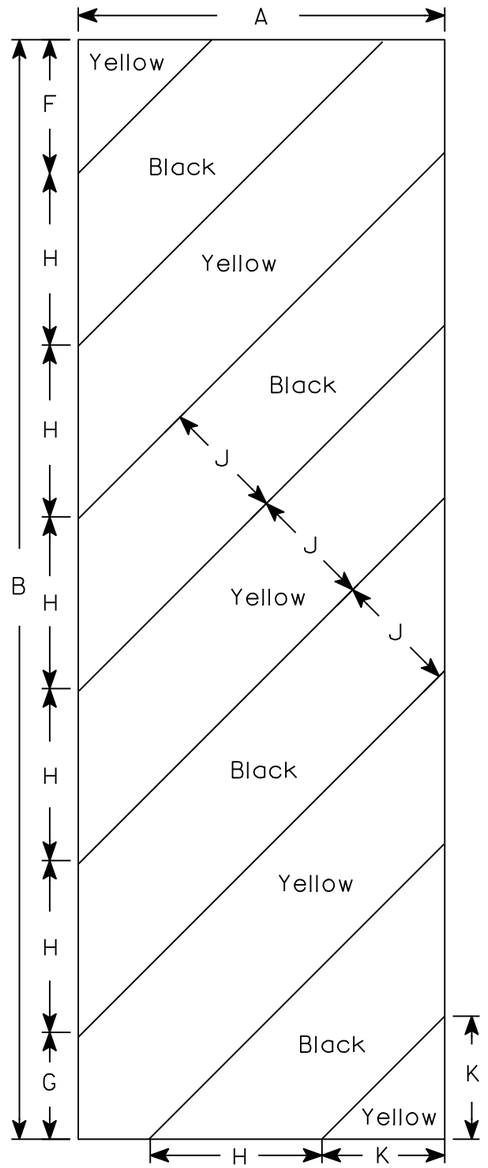
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-620.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 138 | 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

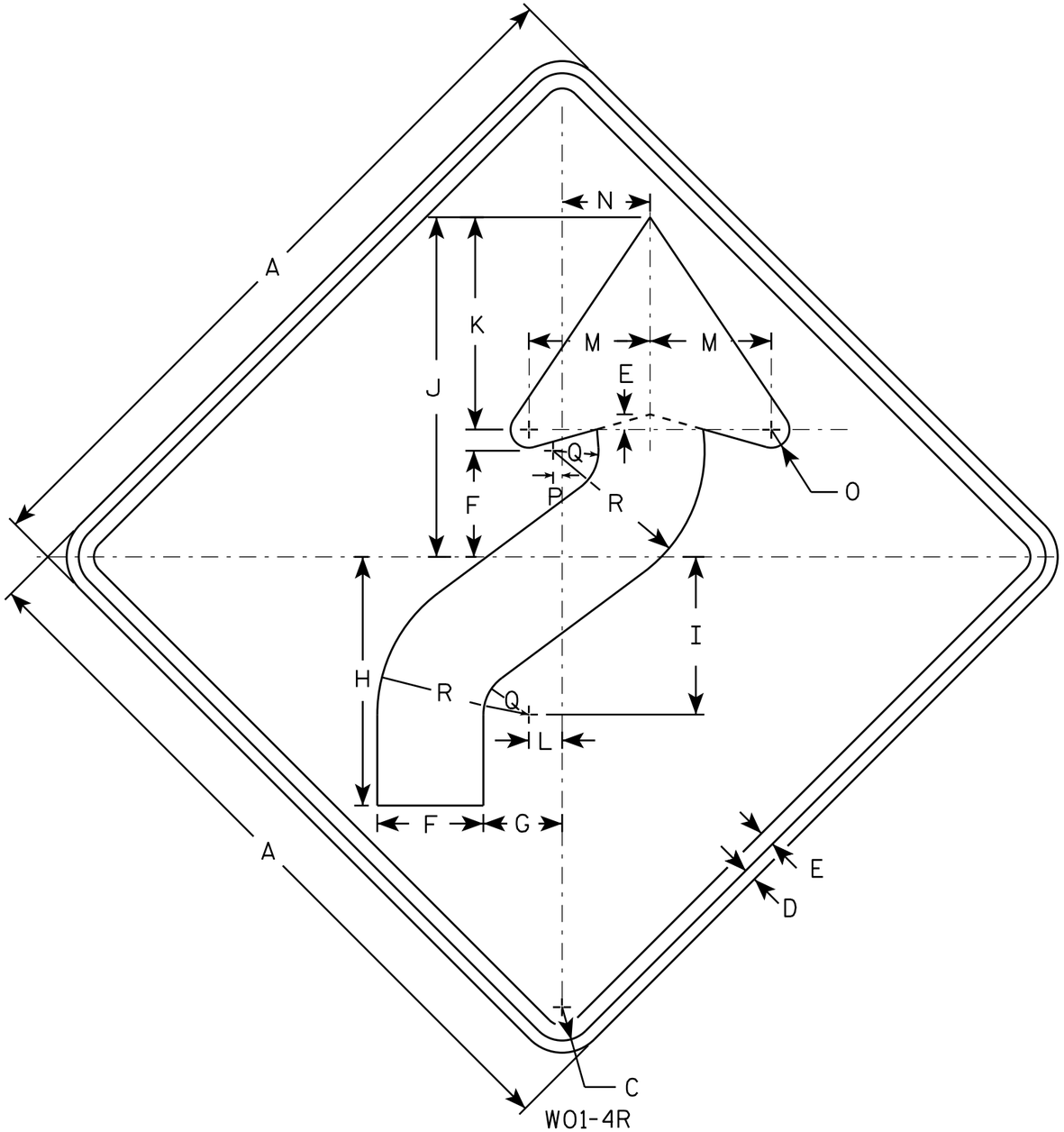
W5-52L & W5-52R

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: 139 | E |
|---|---|---|---|---|---|




W01-4R

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R 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 | 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 |
| 2S | 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 |
| 2M | 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 |
| 3 | 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 |
| 4 | 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 |
| 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
# W01-4

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

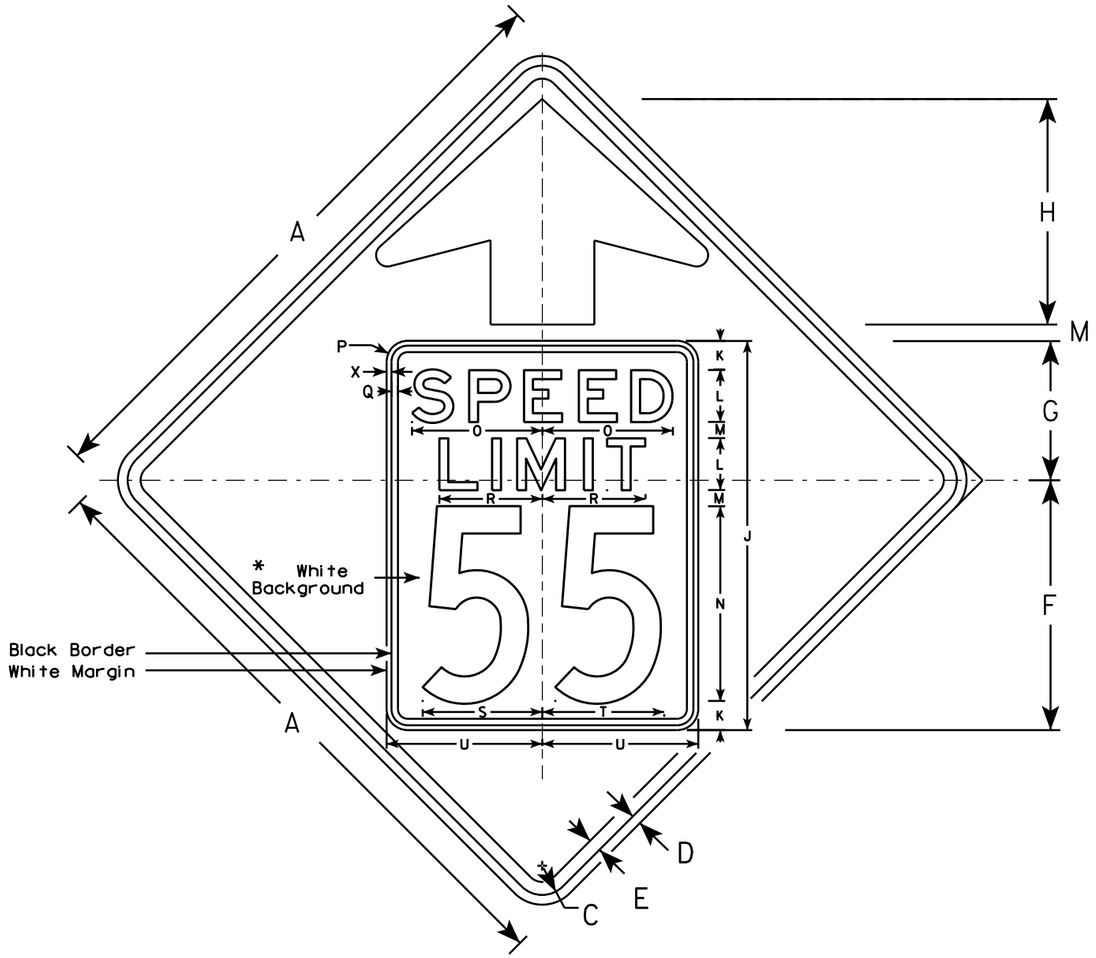
DATE 11/18/13 PLATE NO W01-4.1



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



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000
WISDOT/CADDS SHEET 42

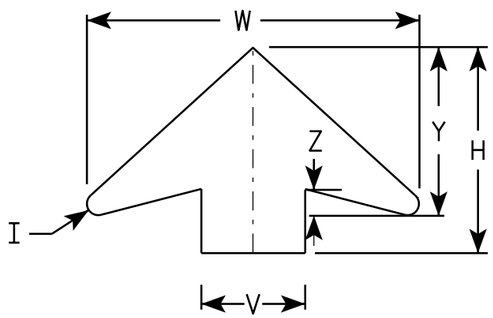



W03-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - ORANGE*
   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 | 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 |
| 2S | 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 |
| 2M | 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 |
| 3 | 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 |
| 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
W03-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-5.1

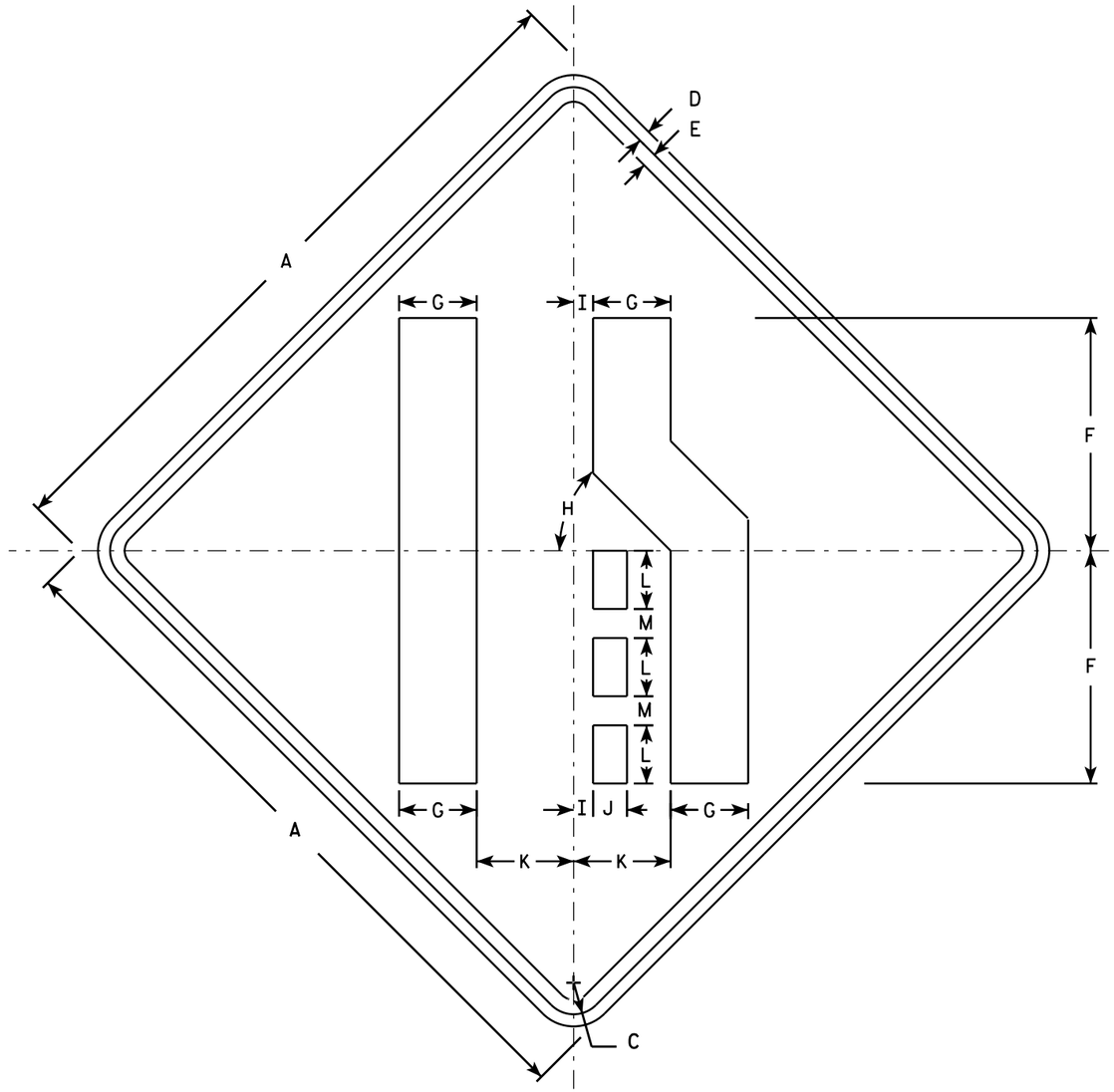


PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 20-NOV-2013 11:32 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7 7




W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 12 | 4 | 45° | 1 | 1 3/4 | 5 | 3 | 1 1/2 | | | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |

STANDARD SIGN
W04-2

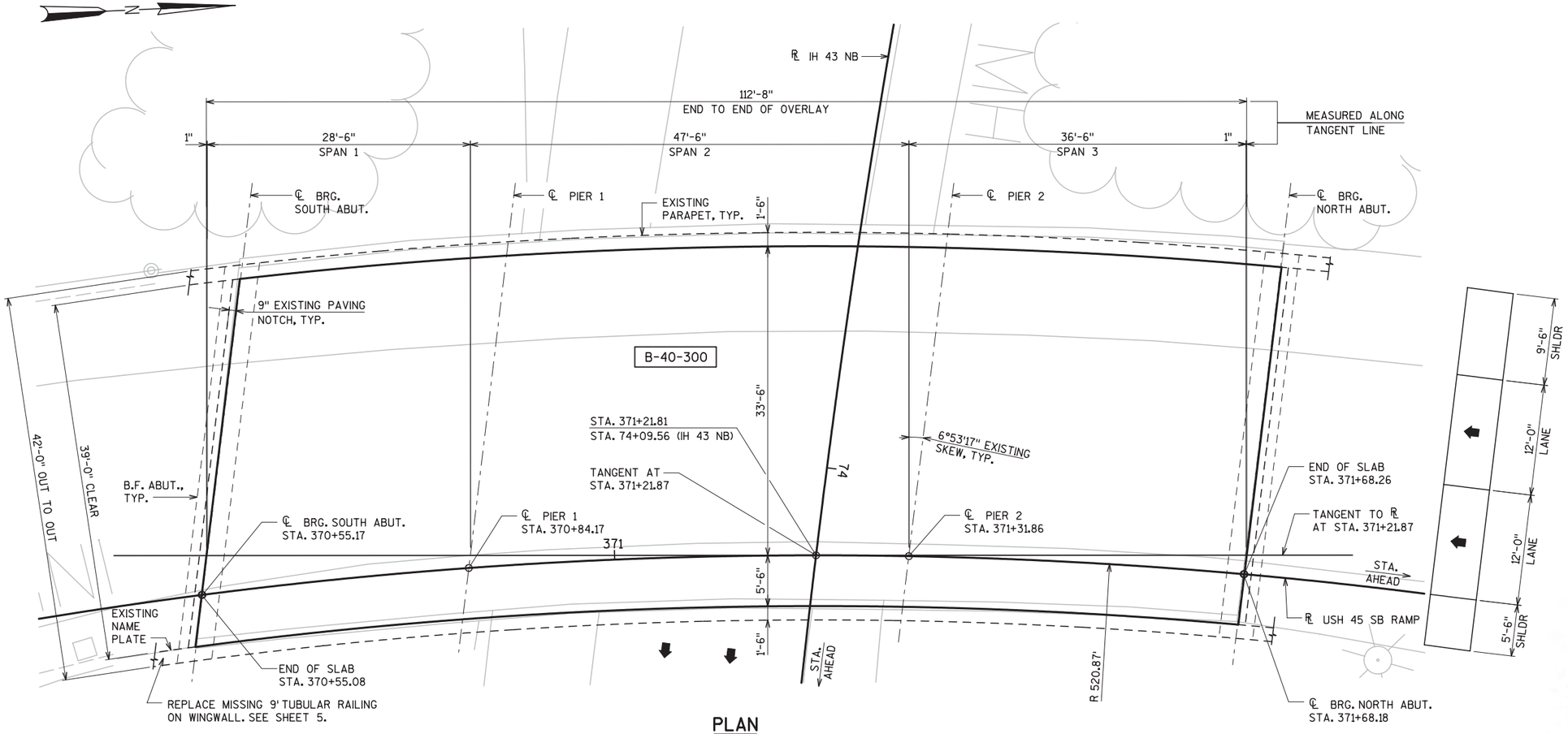
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 142 W04-2.1

PROJECT NO:

SHEET NO: E

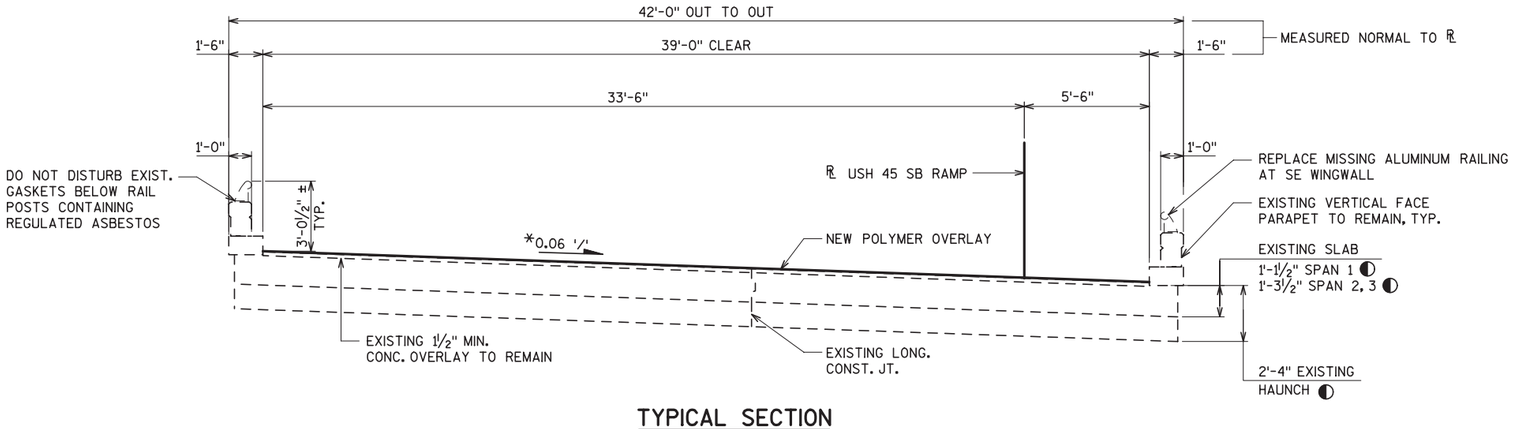



PLAN

## LEGEND

* - MATCH EXISTING CROSS SLOPE

◐ - ORIGINAL SLAB THICKNESS IS ASSUMED TO BE REDUCED BY 1" DURING PLACEMENT OF THE PREVIOUS CONCRETE OVERLAY




TYPICAL SECTION

(LOOKING NORTH)

STATE PROJECT NUMBER

1090-33-60

## DESIGN DATA

### LIVE LOAD

DESIGN LOAD: HS-20
INVENTORY RATING: HS-18
OPERATIONAL RATING: HS-31
WISCONSIN STANDARD PERMIT VEHICLE LOAD (WIS-SPV): 250 KIPS

### ULTIMATE DESIGN STRESSES

CONCRETE MASONRY DECK PATCHING,
f'c = 3,500 psi (AT 3 DAYS)

## TRAFFIC DATA

### USH 45 SB RAMP

A.D.T. = 17,400 (2014)
A.D.T. = 24,500 (2034)
R.D.S. = 60 MPH

## LIST OF DRAWINGS

1. POLYMER OVERLAY
2. QUANTITIES AND GENERAL NOTES
3. SLAB SURFACE REPAIRS
4. PIER SURFACE REPAIRS
5. TUBULAR RAILING

## STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
JASON SADOWSKI
(414) 292-4508

WISCONSIN
JASON R. SADOWSKI
E-38660
BROOKFIELD, WI
PROFESSIONAL ENGINEER
2/18/2014

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |


BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
10501 W. Research Drive • Milwaukee, WI 53226
Phone: (414) 771-3390 Fax: (414) 771-4490


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher DVB 2/25/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

# STRUCTURE B-40-300

USH 45 SB RAMP OVER IH 43 NB

| COUNTY | CITY |
|---|---|
| MILWAUKEE | GREENFIELD |

DESIGN SPEC.
REHABILITATION N/A

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JRS | BDT | TB | JRS |

POLYMER OVERLAY

SHEET 1 OF 5
143


FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dsn\Final Plans\B-40-300\B40300_qp.dgn
DATE: 2/18/2014 11:00:44 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL


8

8

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

## TOTAL ESTIMATED QUANTITIES

| | ITEM NUMBER | BID ITEMS | UNIT | SOUTH ABUT. | PIER 1 | PIER 2 | NORTH ABUT. | SUPER. | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| ▲ | 509.0301 | PREPARATION DECKS TYPE 1 | SY | - | - | - | - | 24 | 24 |
| ▲ | 509.0302 | PREPARATION DECKS TYPE 2 | SY | - | - | - | - | 10 | 10 |
| | 509.5100.S | POLYMER OVERLAY | SY | - | - | - | - | 488 | 488 |
| | 513.4055 | RAILING TUBULAR TYPE H B-40-300 | LS | - | - | - | - | - | 1 |
| | SPV.0035.4001 | CONCRETE MASONRY DECK PATCHING | CY | - | - | - | - | 2 | 2 |
| | SPV.0060.4001 | EMBEDDED GALVANIC ANODES | EACH | - | 4 | 10 | - | 255 | 269 |
| ▲ | SPV.0090.4001 | SAWING PAVEMENT DECK PREPARATION AREAS | LF | - | - | - | - | 240 | 240 |
| ▲ | SPV.0165.4001 | SHOTCRETE SURFACE REPAIR | SF | - | 1 | 6 | - | 290 | 297 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | NON-BID ITEMS | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

ALL BID ITEMS ARE CATEGORY 0020

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ROADWAY ALIGNMENTS, STATIONING AND BASE MAPPING ARE BASED ON AERIAL SURVEY AND ARE TO BE USED FOR INFORMATIONAL PURPOSES ONLY.

ALL CONCRETE REMOVAL IN SHOTCRETE REPAIR AREAS SHALL BE DEFINED BY A 1-INCH DEEP SAWCUT.

THE EXISTING STRUCTURE B-40-300 IS A THREE SPAN HAUNCHED SLAB BRIDGE WITH AN OVERALL LENGTH OF 113'-0" AND WIDTH OF 42'-0".

DO NOT EXPOSE MORE THAN 1/3 OF SLAB TOP BAR STEEL OVER THE PIER IF THE ENDS ARE NOT FULLY ANCHORED.

▲ LOCATIONS FOR THE FOLLOWING BID ITEMS WILL BE DETERMINED BY THE FIELD ENGINEER:
- "SHOTCRETE SURFACE REPAIR"
- "PREPARATION DECKS TYPE 1"
- "PREPARATION DECKS TYPE 2"
- "SAWING PAVEMENT DECK PREPARATION AREAS"

QUANTITIES SHOWN ON THE PLANS FOR THE ABOVE ITEMS ARE APPROXIMATE.

DECK PATCHING WORK WILL BE COMPLETED IN STAGE 2. POLYMER OVERLAY WILL BE COMPLETED IN A SUBSEQUENT OVERNIGHT CLOSURE. BRIDGE WILL BE COMPLETELY CLOSED TO TRAFFIC FOR OVERLAY AND DECK PATCHING OPERATIONS. SEE TRAFFIC CONTROL PLANS.

SEE SPECIAL PROVISIONS FOR DECK PATCH CURE TIME REQUIRED PRIOR TO OVERLAY.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-300

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

QUANTITIES AND GENERAL NOTES

SHEET 2 OF 5

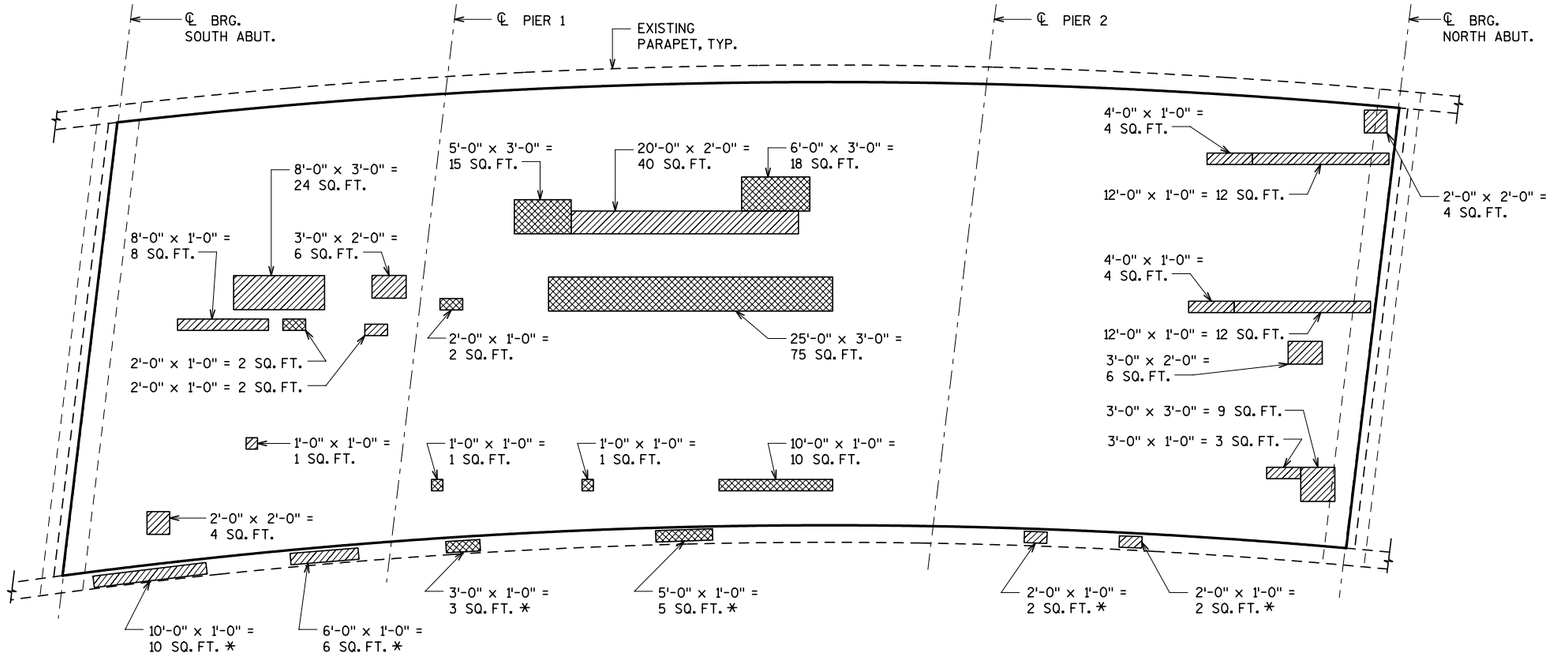
144

8

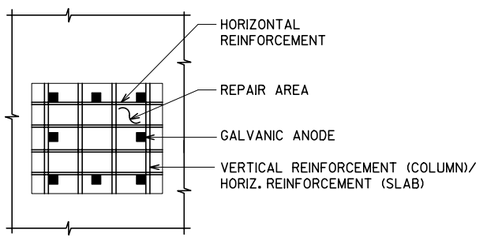
8

FILE NAME: F:\BMI-3360E Hale Interchange Bridges\structures\cds\Final Plans\B-40-300\02840300_qu.dgn
DATE: 2/18/2014 11:10:21 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

STATE PROJECT NUMBER
1090-33-60




## UNDERSIDE OF SLAB PLAN




## ELEVATION OF EMBEDDED ANODE REPAIR

## EMBEDDED ANODE NOTES

REMOVE UNSOUND CONCRETE PER CONTRACT SPECIFICATION.

REPLACE / CLEAN CORRODED REINFORCING STEEL.

ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.

ATTACH ANODES TO CLEAN REINFORCING STEEL. ANODE QUANTITY ON PLANS IS BASED ON A MAXIMUM SPACING OF 24 INCHES AROUND THE PERIMETER OF THE REPAIR. SEE SPECIAL PROVISIONS.

POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.

## LEGEND

DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR

SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR

* LOCATION IS AT VERTICAL EDGE OF SLAB

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

LOCATIONS SHOWN FOR DELAMINATED AREAS ON THE SLAB INCLUDE EXISTING CONCRETE PATCHES THAT SHALL BE INVESTIGATED TO DETERMINE IF REPAIRS ARE REQUIRED.

EXISTING REINFORCING BARS MAY BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE EXISTING REINFORCEMENT AND SUPPLEMENT AS REQUIRED IN THE SPECIAL PROVISIONS.

THE FINISHED CONCRETE SURFACE SHALL MATCH THE SHAPE AND FINISH OF THE ORIGINAL CONCRETE SURFACE, UNLESS THE ENGINEER DIRECTS TO PROVIDE ADDITIONAL CONCRETE THICKNESS.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-300

DRAWN BY TB | PLANS CK'D.3 JRS

SLAB SURFACE REPAIRS

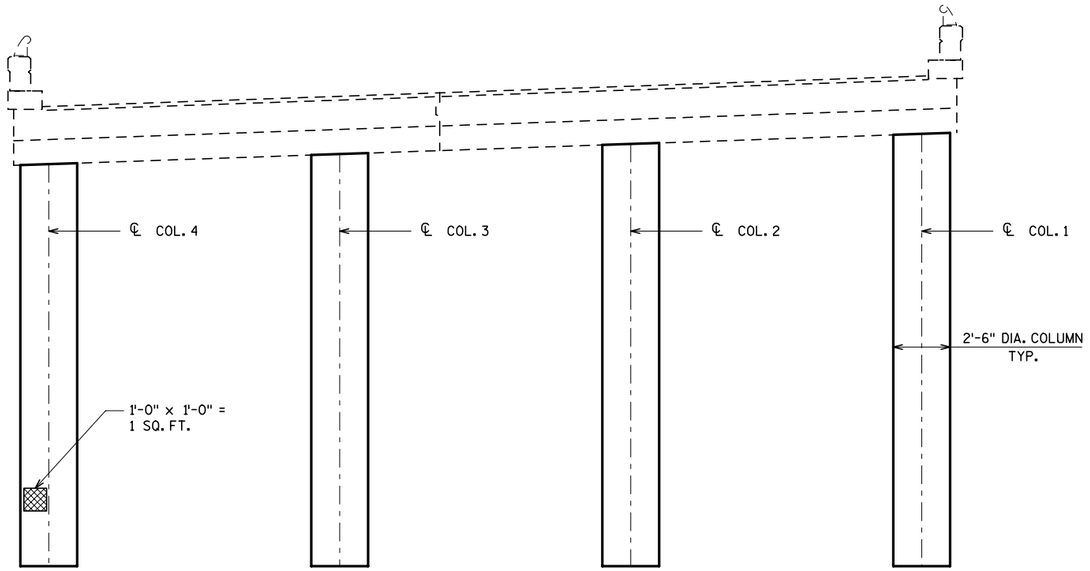
SHEET 3 OF 5
145

8

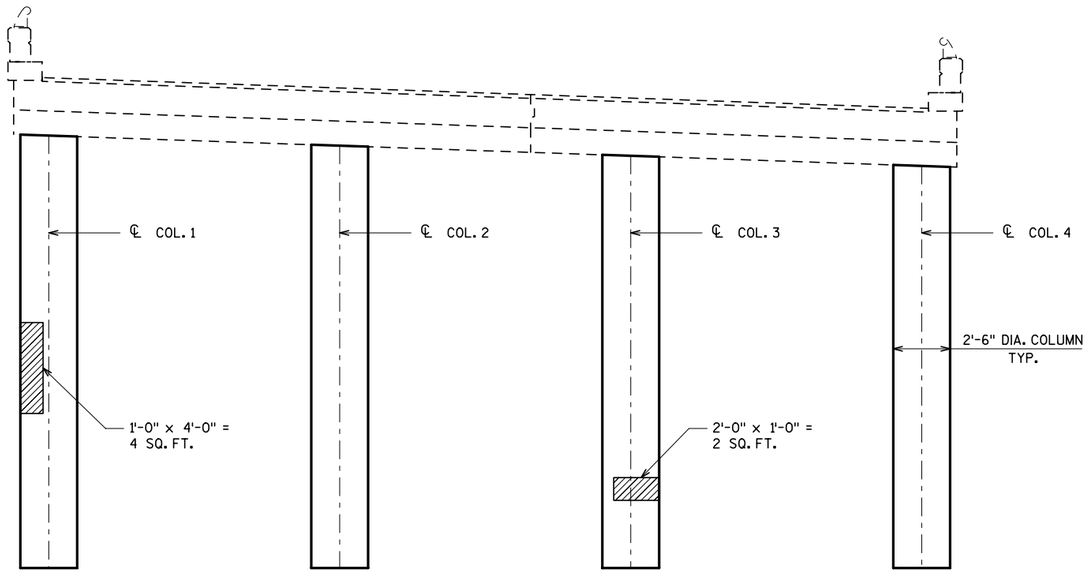
8

FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\ds\Final Plans\B-40-300\03840300_slab repair.dgn
DATE: 2/18/2014 11:10:59 AM Plotted by: tbravermon PEN TABLE: V8_STRUCTURAL_REV.TBL

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## PIER 1 - ELEVATION
(LOOKING SOUTH)




## PIER 2 - ELEVATION
(LOOKING NORTH)

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

SEE SHEET 3 FOR EMBEDDED ANODE DETAILS AND NOTES FOR SURFACE REPAIRS.

REPAIRS APPLY ONLY TO FACE OF CONCRETE SHOWN IN THE DETAILS.

## LEGEND

- DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR
- SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-300

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

PIER SURFACE REPAIRS

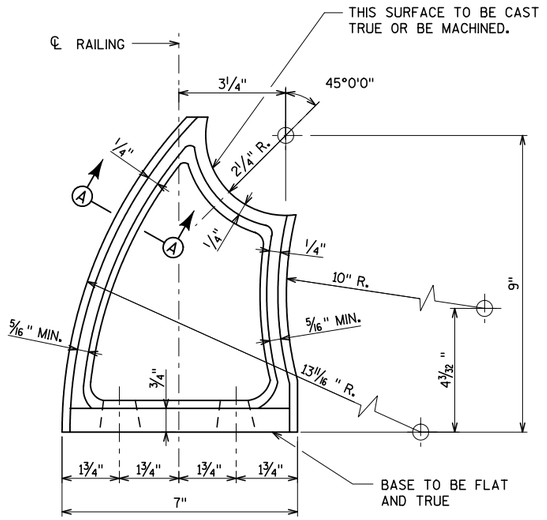
SHEET 4 OF 5
146

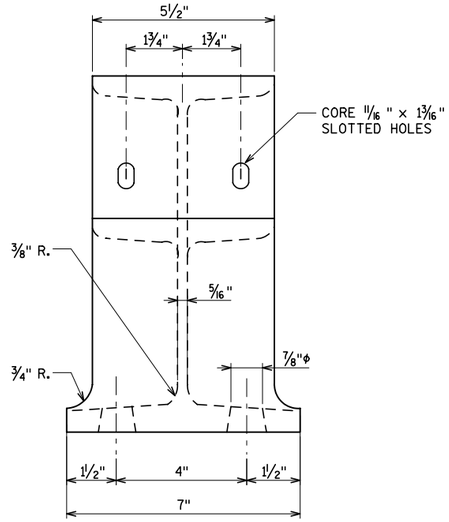
8

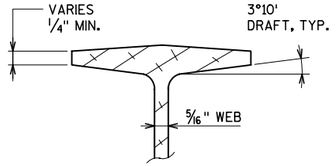
8

FILE NAME: F:\BMI-3360E Hale Interchange Bridges\structures\sds\Final Plans\B-40-300\040840300_pier repair.dgn
DATE: 2/18/2014 11:11:30 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

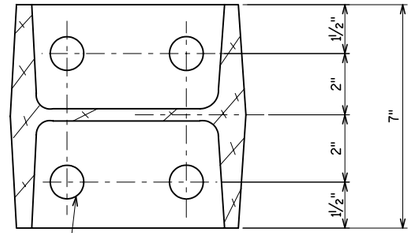
STATE PROJECT NUMBER
1090-33-60



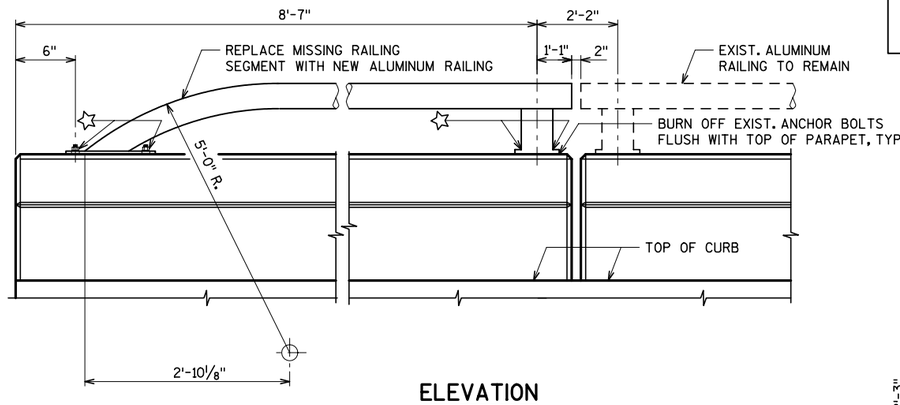



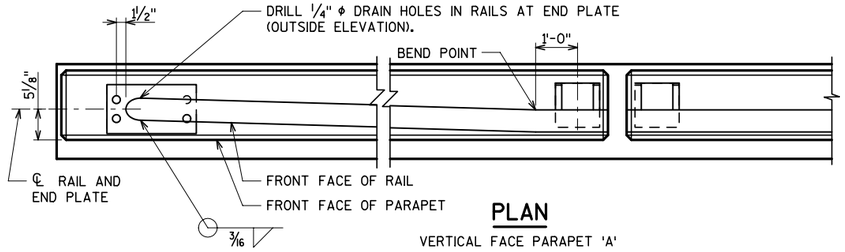

SECTION A-A




ALUMINUM POST CASTING

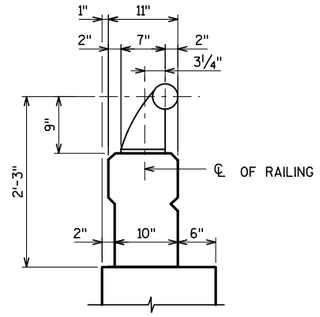



ELEVATION

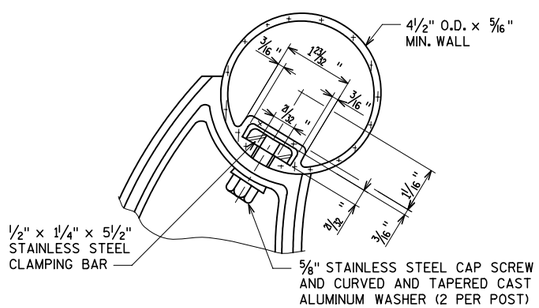



PLAN
VERTICAL FACE PARAPET 'A'

DETAIL OF RAIL BEND AT SE WINGWALL

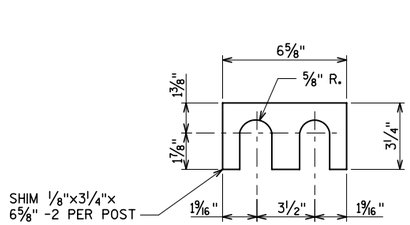


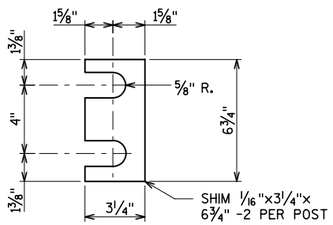

SECTION THRU CURB ON BRIDGE



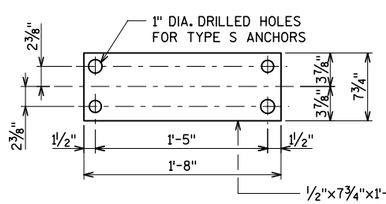

DETAIL OF RAIL ATTACHMENT TO POST

NOTES: MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3% WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3⁄16".

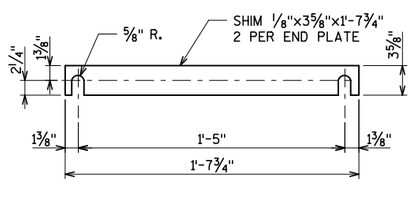


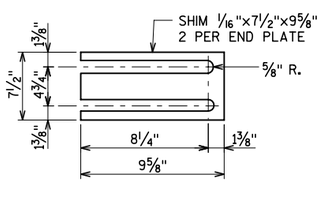




POST SHIM DETAILS




END PLATE




END PLATE SHIM DETAILS

## NOTES

FURNISH ALUMINUM RAILING TO MATCH EXISTING ALUMINUM RAILING ON BRIDGE.

BID ITEM SHALL BE "RAILING TUBULAR TYPE H B-40-300" WHICH INCLUDES ALL ITEMS SHOWN.

THE SHANK AND ROOT DIAMETER OF THREAD FOR ANCHOR BOLTS SHALL BE A MIN. OF ⅝".

SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.

RAILING POSTS SHALL BE SET NORMAL TO GRADE LINE.

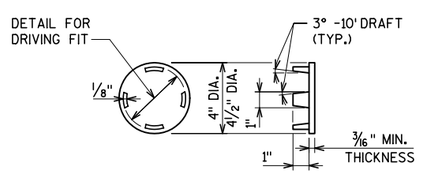
ALL POST SPACINGS ARE MEASURED HORIZONTALLY ALONG CENTERLINE OF THE POST BASE.

SHIMS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D. FOR ALIGNMENT.

FILL ALL EXPOSED OPENINGS BETWEEN SHIMS AND POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

REPLACEMENT RAIL SECTION MAY BE FABRICATED STRAIGHT, WITH BEND AS SHOWN ON PLANS.

☆ FULLY THREADED CONCRETE MASONRY ANCHOR TYPE S, ⅝", WITH 7½" EMBED, ANCHOR NUT AND WASHER TO BE STAINLESS STEEL.




RAIL CLOSURE CAP DETAIL

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-300

DRAWN BY TB | PLANS CK'D. JRS

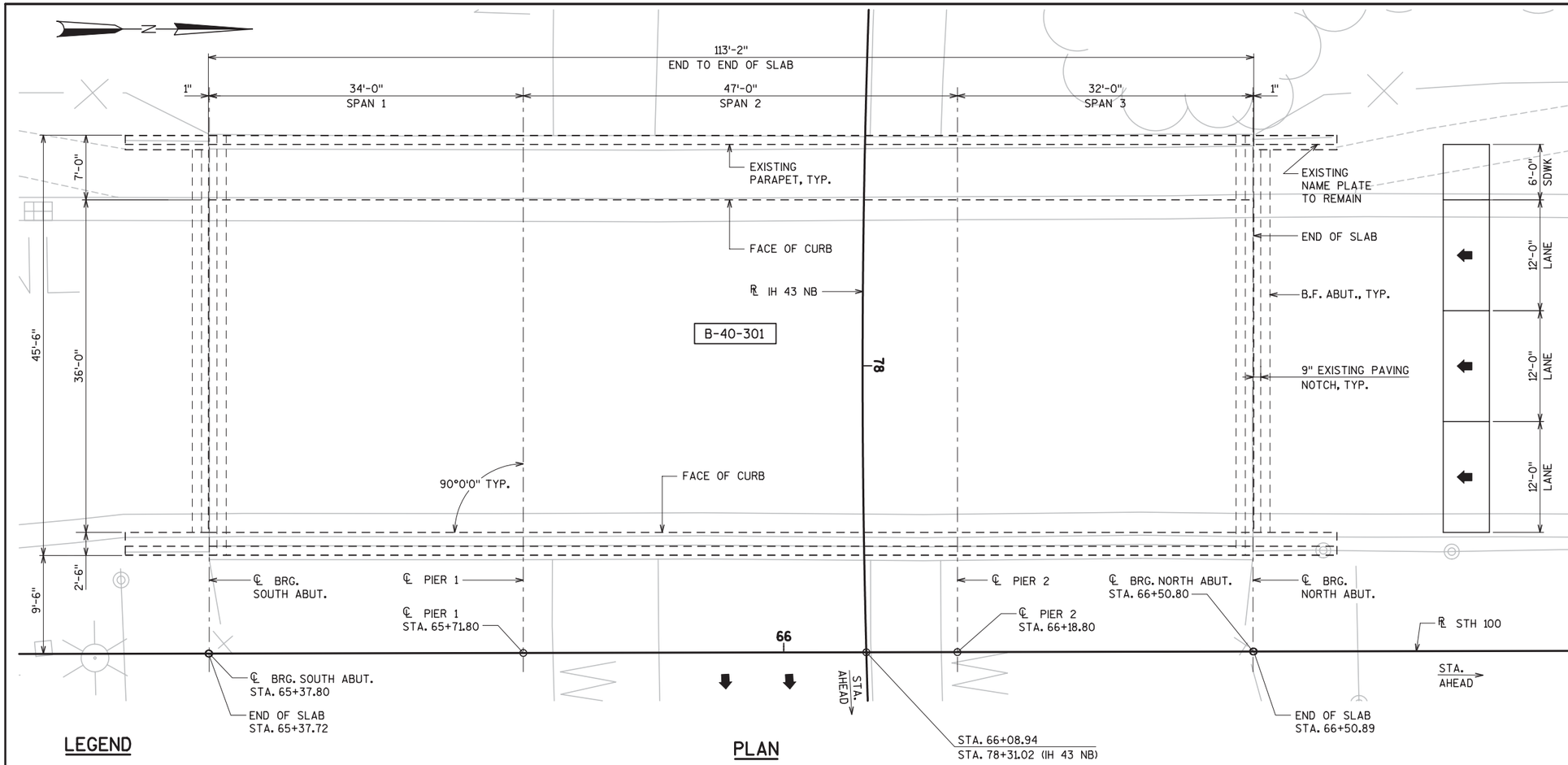
TUBULAR RAILING

SHEET 5 OF 5
147

FILE NAME: F:\BMI-3860E Hole Interchange Bridges\structures\cds\Final Plans\B-40-300\05B40300_rail.dgn
DATE: 2/18/2014 11:02:10 AM Plotted by: tbroverman PEN TABLE: V8_STRUCTURAL_REV.TBL

8

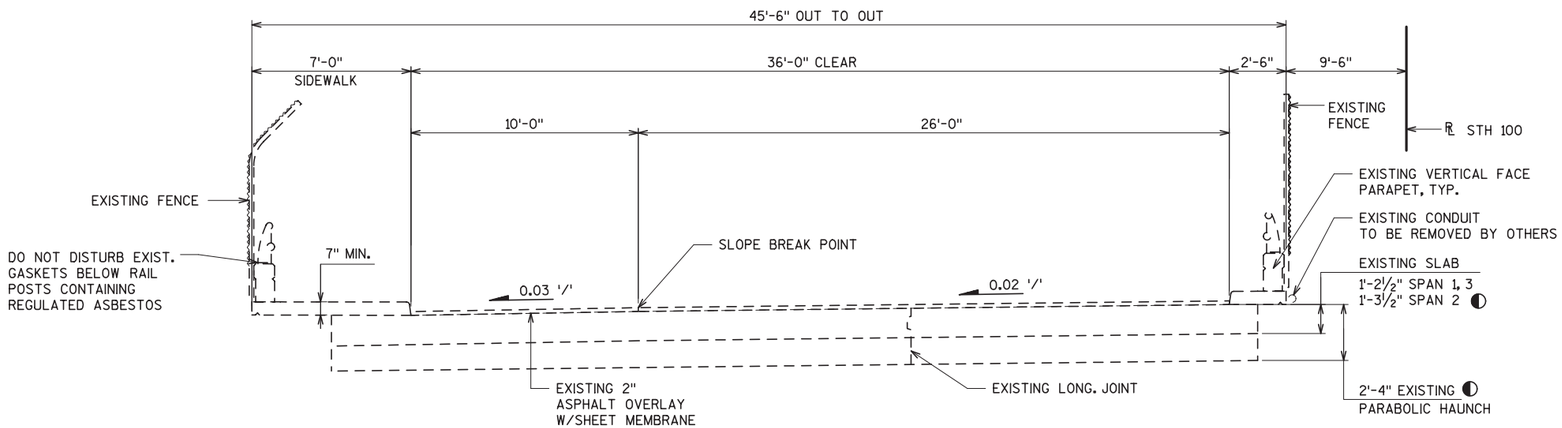
8




PLAN

## LEGEND

◐ - ORIGINAL SLAB THICKNESS IS ASSUMED TO BE REDUCED BY 1" DURING PLACEMENT OF THE PREVIOUS OVERLAY




TYPICAL SECTION

(LOOKING NORTH)

## STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
JASON SADOWSKI
(414) 292-4508

STATE PROJECT NUMBER

1090-33-60

## DESIGN DATA

### LIVE LOAD

DESIGN LOAD: HS-20*
INVENTORY RATING: HS-17*
OPERATIONAL RATING: HS-28*
WISCONSIN STANDARD PERMIT VEHICLE LOAD (WIS-SPV): 180 KIPS*

* TAKEN FROM HSI 11/13/2013

## TRAFFIC DATA

### STH 100 SB

A.D.T. = 16,500 (2014)
A.D.T. = 19,400 (2034)
R.D.S. = 40 MPH

WISCONSIN
JASON R. SADOWSKI
E-38660
BROOKFIELD, WI
PROFESSIONAL ENGINEER
2/18/2014

## LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND GENERAL NOTES
3. SLAB SURFACE REPAIRS
4. PIER SURFACE REPAIRS

| NO. | DATE | REVISION | BY |
|---|---|---|---|

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
10501 W. Research Drive • Milwaukee, WI 53226
Phone: (414) 771-3390 Fax: (414) 771-4490

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/25/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-40-301

STH 100 SB OVER IH 43 NB

| COUNTY | CITY |
|---|---|
| MILWAUKEE | GREENFIELD |

DESIGN SPEC. REHABILITATION N/A

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JRS | BDT | TB | JRS |

GENERAL PLAN

SHEET 1 OF 4
148



8

FILE NAME: F:\BMI-3360E Hale Interchange Bridges\structures\dsetFinal Plans\B-40-301\B40301_gp.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL
DATE: 2/18/2014 11:13:41 AM Plotted by: tbraverman

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

## TOTAL ESTIMATED QUANTITIES

| ITEM NUMBER | BID ITEMS | UNIT | SOUTH ABUT. | PIER 1 | PIER 2 | NORTH ABUT. | SUPER. | TOTAL |
|---|---|---|---|---|---|---|---|---|
| SPV.0060.4001 | EMBEDDED GALVANIC ANODES | EACH | - | 32 | 16 | - | 172 | 220 |
| ▲ SPV.0165.4001 | SHOTCRETE SURFACE REPAIR | SF | - | 26 | 11 | - | 150 | 187 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | NON-BID ITEMS | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

ALL BID ITEMS ARE CATEGORY 0030

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ROADWAY ALIGNMENTS, STATIONING AND BASE MAPPING ARE BASED ON AERIAL SURVEY AND ARE TO BE USED FOR INFORMATIONAL PURPOSES ONLY.

ALL CONCRETE REMOVAL IN SHOTCRETE REPAIR AREAS SHALL BE DEFINED BY A 1-INCH DEEP SAWCUT.

THE EXISTING STRUCTURE B-40-301 IS A THREE SPAN HAUNCHED SLAB BRIDGE WITH AN OVERALL LENGTH OF 114'-8" AND WIDTH OF 45'-6".

▲ LOCATIONS FOR THE FOLLOWING BID ITEMS WILL BE DETERMINED BY THE FIELD ENGINEER:
"SHOTCRETE SURFACE REPAIR"
QUANTITIES SHOWN ON THE PLANS FOR THE ABOVE ITEMS ARE APPROXIMATE.

FILE NAME: F:\BMI-3360E Hale Interchange Bridges\structures\cds\Final Plans\B-40-301+02B40301_qu.dgn
DATE: 2/18/2014 11:42:28 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-301

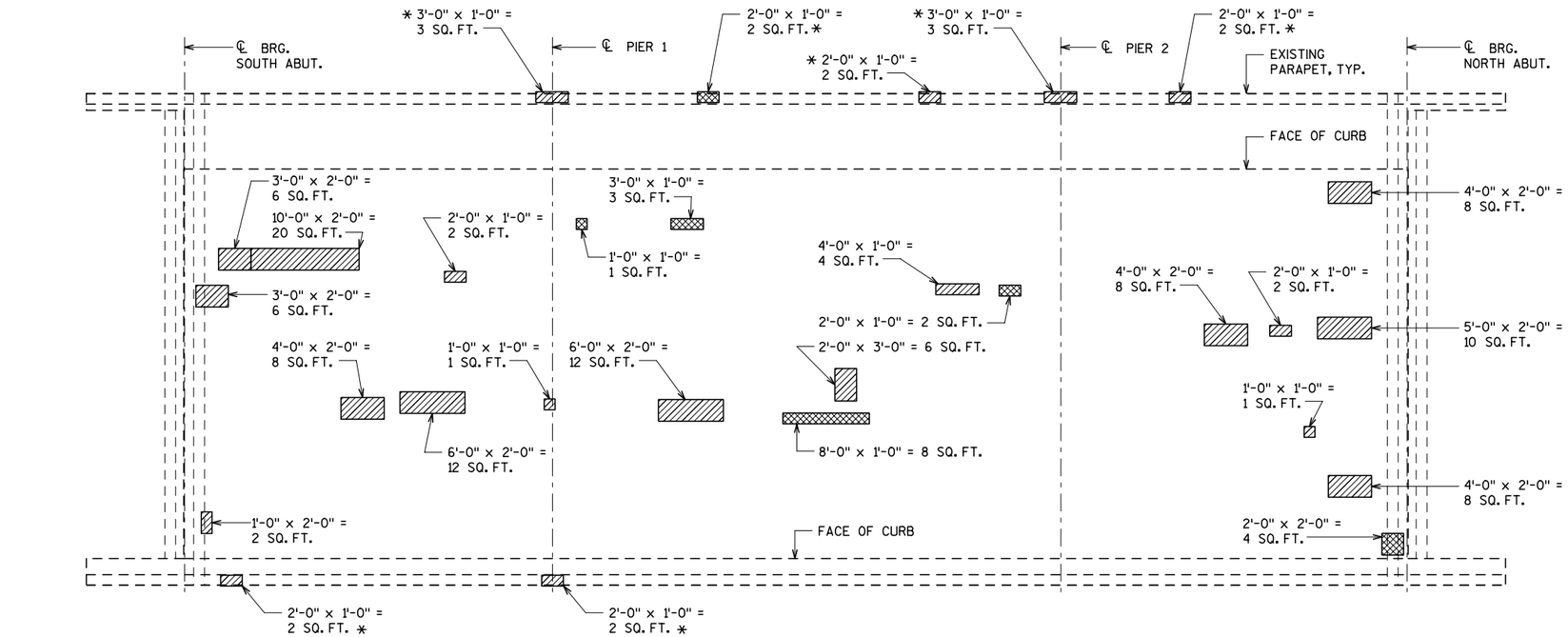
| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

QUANTITIES AND GENERAL NOTES

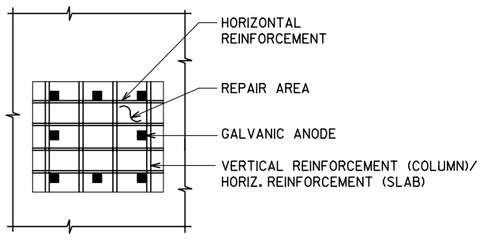


8

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## UNDERSIDE OF SLAB PLAN




## ELEVATION OF EMBEDDED ANODE REPAIR

## EMBEDDED ANODE NOTES

REMOVE UNSOUND CONCRETE PER CONTRACT SPECIFICATION.

REPLACE / CLEAN CORRODED REINFORCING STEEL.

ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.

ATTACH ANODES TO CLEAN REINFORCING STEEL. ANODE QUANTITY ON PLANS IS BASED ON A MAXIMUM SPACING OF 24 INCHES AROUND THE PERIMETER OF THE REPAIR. SEE SPECIAL PROVISIONS.

POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.

## LEGEND

DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR

SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR

∗ LOCATION IS AT VERTICAL EDGE OF SLAB

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

LOCATIONS SHOWN FOR DELAMINATED AREAS ON THE SLAB INCLUDE EXISTING CONCRETE PATCHES THAT SHALL BE INVESTIGATED TO DETERMINE IF REPAIRS ARE REQUIRED.

EXISTING REINFORCING BARS MAY BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE EXISTING REINFORCEMENT AND SUPPLEMENT AS REQUIRED IN THE SPECIAL PROVISIONS.

THE FINISHED CONCRETE SURFACE SHALL MATCH THE SHAPE AND FINISH OF THE ORIGINAL CONCRETE SURFACE, UNLESS THE ENGINEER DIRECTS TO PROVIDE ADDITIONAL CONCRETE THICKNESS.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-301

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

SLAB SURFACE REPAIRS

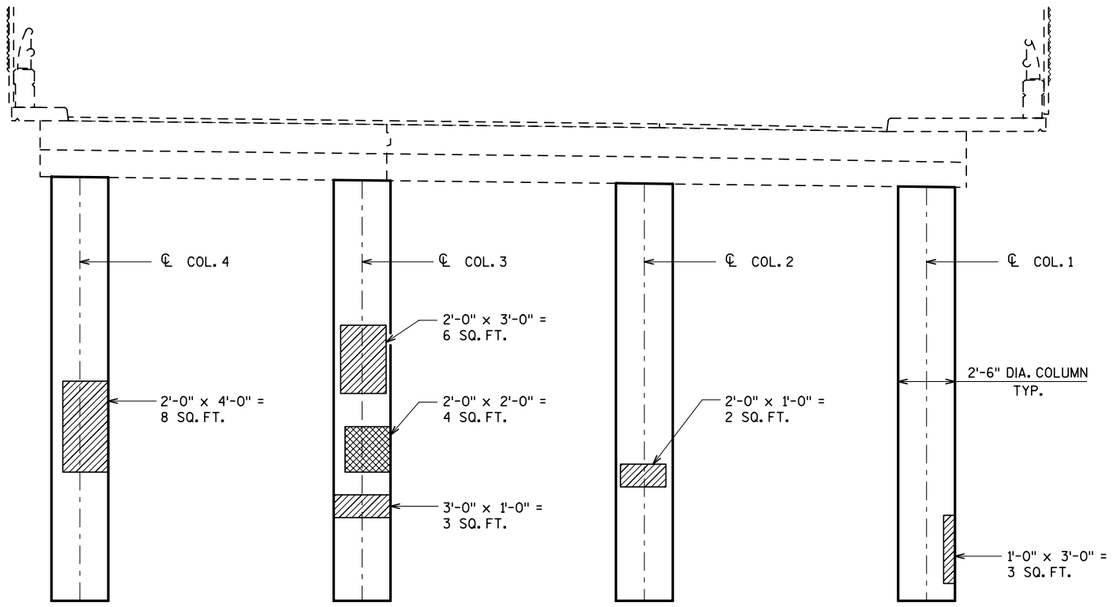
SHEET 3 OF 4
150

8

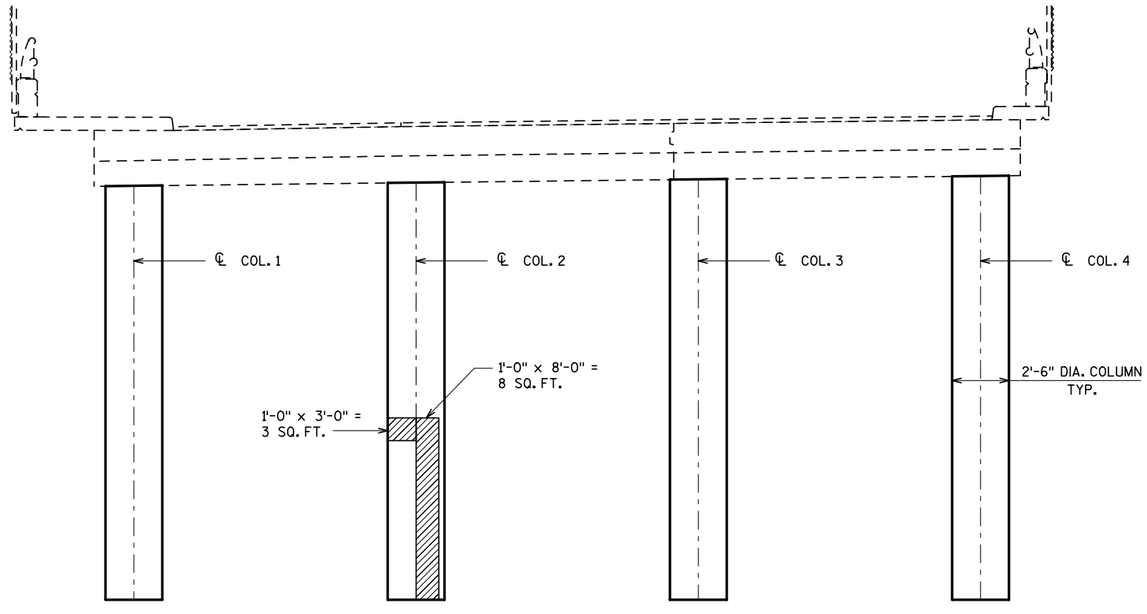
8

FILE NAME: F:\BMI-3860E Hide Interchange Bridges\structures\cds\Final Plans\B-40-301\b3840301_slab repair.dgn
DATE: 2/18/2014 11:50:02 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## PIER 1 - ELEVATION
(LOOKING SOUTH)




## PIER 2 - ELEVATION
(LOOKING NORTH)

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

SEE SHEET 3 FOR EMBEDDED ANODE DETAILS AND NOTES FOR SURFACE REPAIRS.

REPAIRS APPLY ONLY TO FACE OF CONCRETE SHOWN IN THE DETAILS.

## LEGEND

- DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR
- SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-301**

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

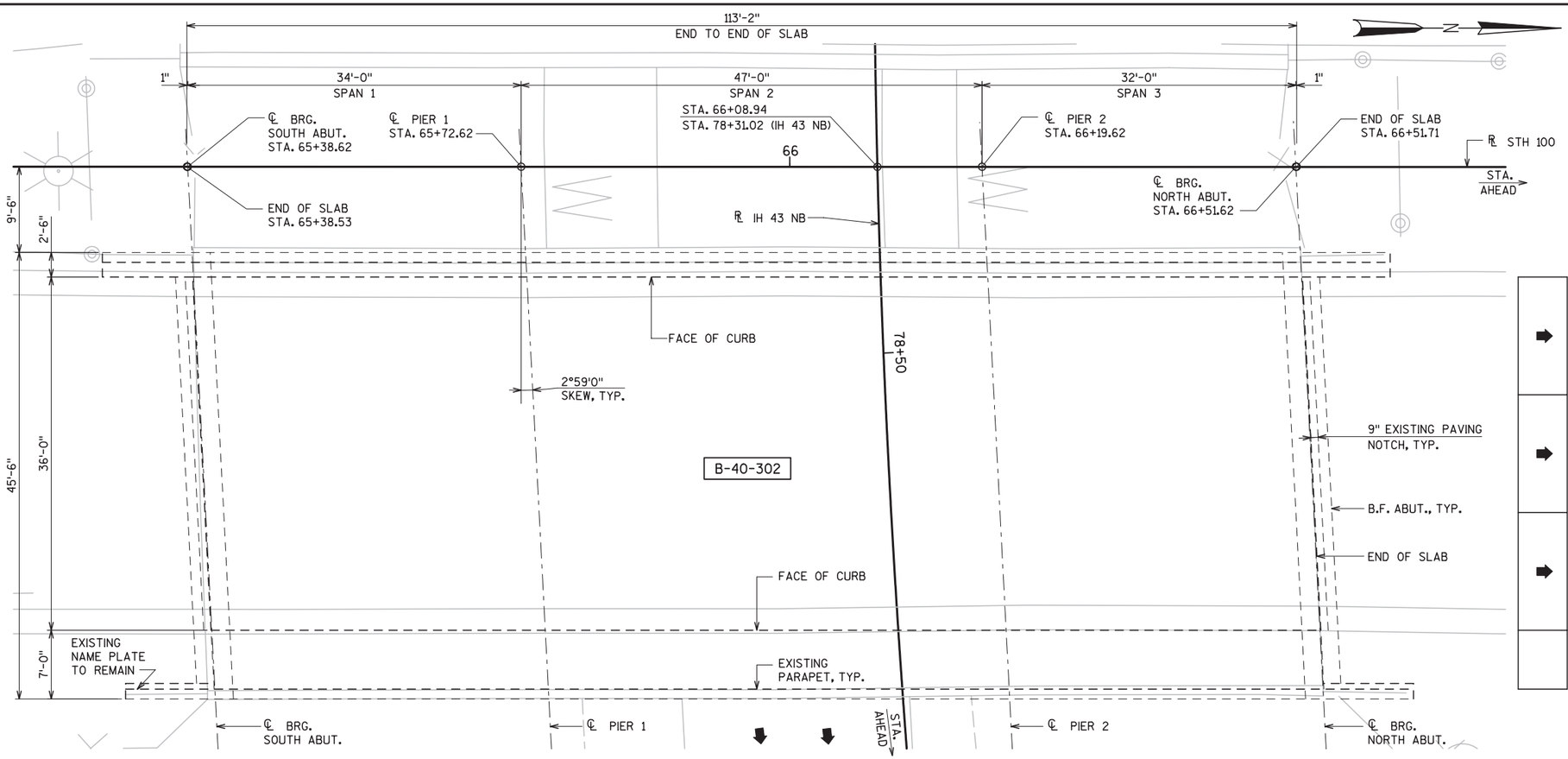
**PIER SURFACE REPAIRS**

SHEET 4 OF 4
151

8

8

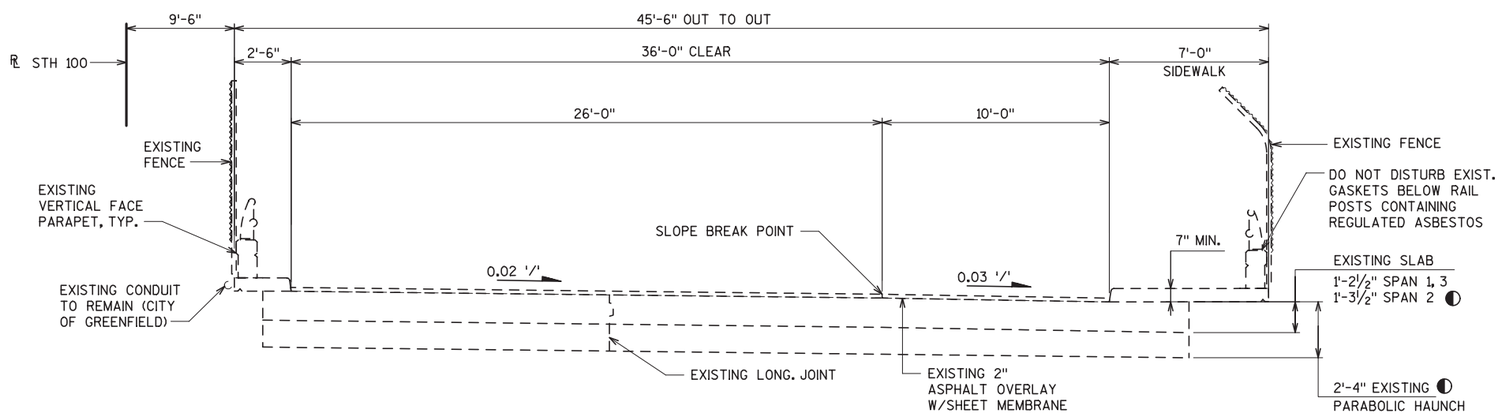
FILE NAME: F:\BMI-3360E Hale Interchange Bridges\structures\sds\Final Plans\B-40-301\b40301_pier repair.dgn
DATE: 2/18/2014 11:15:36 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL




PLAN

## LEGEND

◐ - ORIGINAL SLAB THICKNESS IS ASSUMED TO BE REDUCED BY 1" DURING PLACEMENT OF THE PREVIOUS OVERLAY




TYPICAL SECTION

(LOOKING NORTH)

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

## DESIGN DATA

### LIVE LOAD

DESIGN LOAD: HS-20*
INVENTORY RATING: HS-17*
OPERATIONAL RATING: HS-28*
WISCONSIN STANDARD PERMIT VEHICLE LOAD (WIS-SPV): 180 KIPS*

* TAKEN FROM HSI 11/13/2013

## TRAFFIC DATA

### STH 100 NB

A.D.T. = 18,500 (2014)
A.D.T. = 21,800 (2034)
R.D.S. = 40 MPH

WISCONSIN
JASON R. SADOWSKI
E-38660
BROOKFIELD, WI
PROFESSIONAL ENGINEER
2/18/2014

## LIST OF DRAWINGS

1. GENERAL PLAN
2. QUANTITIES AND GENERAL NOTES
3. SLAB SURFACE REPAIRS
4. PIER SURFACE REPAIRS

| NO. | DATE | REVISION | BY |
|---|---|---|---|

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
10501 W. Research Drive • Milwaukee, WI 53226
Phone: (414) 771-3390 Fax: (414) 771-4490

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/25/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-40-302

STH 100 NB OVER IH 43 NB

| COUNTY | MILWAUKEE | CITY | GREENFIELD |
|---|---|---|---|
| DESIGN SPEC. | REHABILITATION N/A | | |

| DESIGNED BY | JRS | DESIGN CK'D. | BDT | DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|---|---|---|---|

GENERAL PLAN

SHEET 1 OF 4
152

## STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
JASON SADOWSKI
(414) 292-4508

FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dsn\Final Plans\B-40-302\40B40302_gp.dgn PEN TABLE: V8_STRUCTURAL_REV.TBL
DATE: 2/18/2014 11:16:22 AM Plotted by: tbraverman


8

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

## TOTAL ESTIMATED QUANTITIES

| ITEM NUMBER | BID ITEMS | UNIT | SOUTH ABUT. | PIER 1 | PIER 2 | NORTH ABUT. | SUPER. | TOTAL |
|---|---|---|---|---|---|---|---|---|
| SPV.0060.4001 | EMBEDDED GALVANIC ANODES | EACH | 4 | 19 | 29 | 6 | 108 | 166 |
| ▲ SPV.0165.4001 | SHOTCRETE SURFACE REPAIR | SF | 1 | 28 | 18 | 8 | 100 | 155 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | NON-BID ITEMS | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

ALL BID ITEMS ARE CATEGORY 0040

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ROADWAY ALIGNMENTS, STATIONING AND BASE MAPPING ARE BASED ON AERIAL SURVEY AND ARE TO BE USED FOR INFORMATIONAL PURPOSES ONLY.

ALL CONCRETE REMOVAL IN SHOTCRETE REPAIR AREAS SHALL BE DEFINED BY A 1-INCH DEEP SAWCUT.

THE EXISTING STRUCTURE B-40-302 IS A THREE SPAN HAUNCHED SLAB BRIDGE WITH AN OVERALL LENGTH OF 114'-8" AND WIDTH OF 45'-6".

▲ LOCATIONS FOR THE FOLLOWING BID ITEMS WILL BE DETERMINED BY THE FIELD ENGINEER:
"SHOTCRETE SURFACE REPAIR"
QUANTITIES SHOWN ON THE PLANS FOR THE ABOVE ITEMS ARE APPROXIMATE.

FILE NAME: F:\BMI-3360E Hale Interchange Bridges\structures\cds\Final Plans\B-40-302+02840302_qu.dgn
DATE: 2/18/2014 11:56:56 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-302

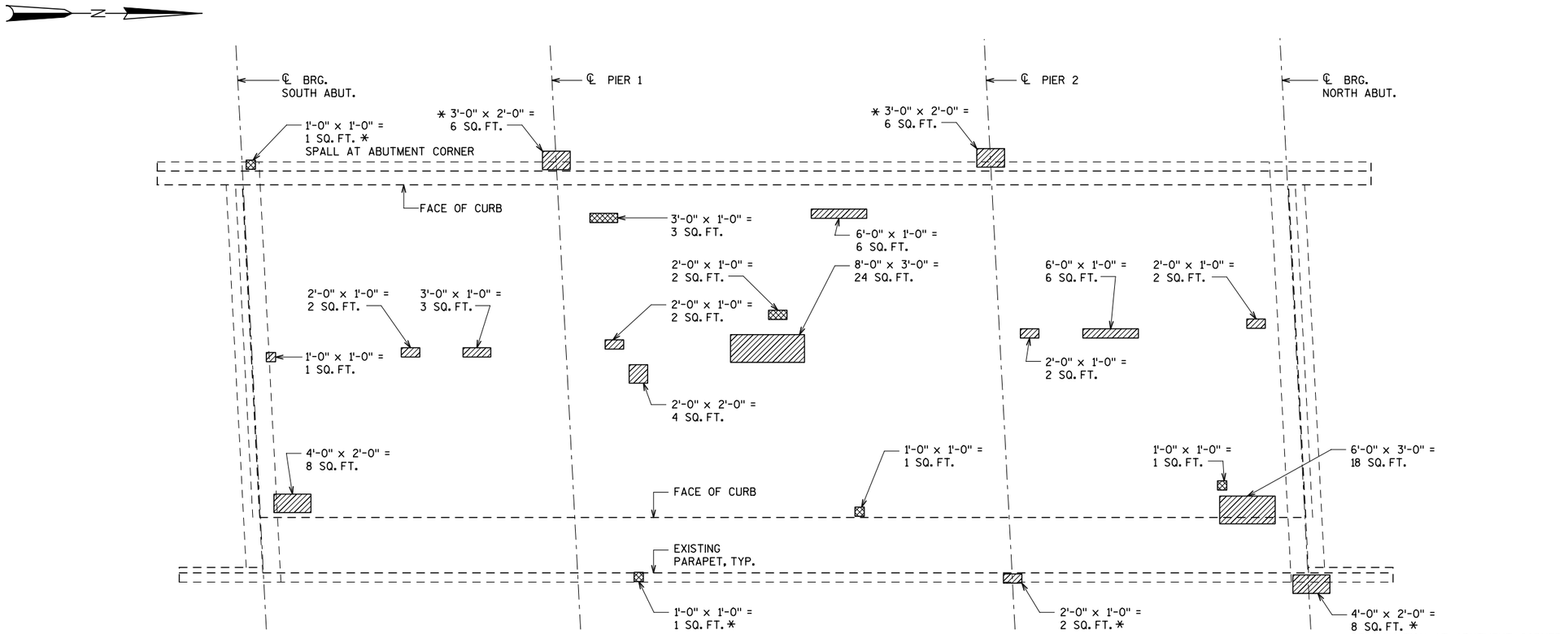
| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

QUANTITIES AND GENERAL NOTES

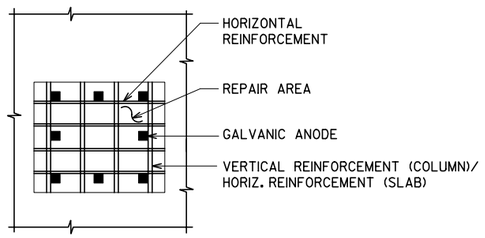


8

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## UNDERSIDE OF SLAB PLAN




## ELEVATION OF EMBEDDED ANODE REPAIR

## EMBEDDED ANODE NOTES

REMOVE UNSOUND CONCRETE PER CONTRACT SPECIFICATION.

REPLACE / CLEAN CORRODED REINFORCING STEEL.

ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.

ATTACH ANODES TO CLEAN REINFORCING STEEL. ANODE QUANTITY ON PLANS IS BASED ON A MAXIMUM SPACING OF 24 INCHES AROUND THE PERIMETER OF THE REPAIR. SEE SPECIAL PROVISIONS.

POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.

## LEGEND

- DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR
- SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR
- * LOCATION IS AT VERTICAL EDGE OF SLAB

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

LOCATIONS SHOWN FOR DELAMINATED AREAS ON THE SLAB INCLUDE EXISTING CONCRETE PATCHES THAT SHALL BE INVESTIGATED TO DETERMINE IF REPAIRS ARE REQUIRED.

EXISTING REINFORCING BARS MAY BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE EXISTING REINFORCEMENT AND SUPPLEMENT AS REQUIRED IN THE SPECIAL PROVISIONS.

THE FINISHED CONCRETE SURFACE SHALL MATCH THE SHAPE AND FINISH OF THE ORIGINAL CONCRETE SURFACE, UNLESS THE ENGINEER DIRECTS TO PROVIDE ADDITIONAL CONCRETE THICKNESS.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-302**

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

**SLAB SURFACE REPAIRS**

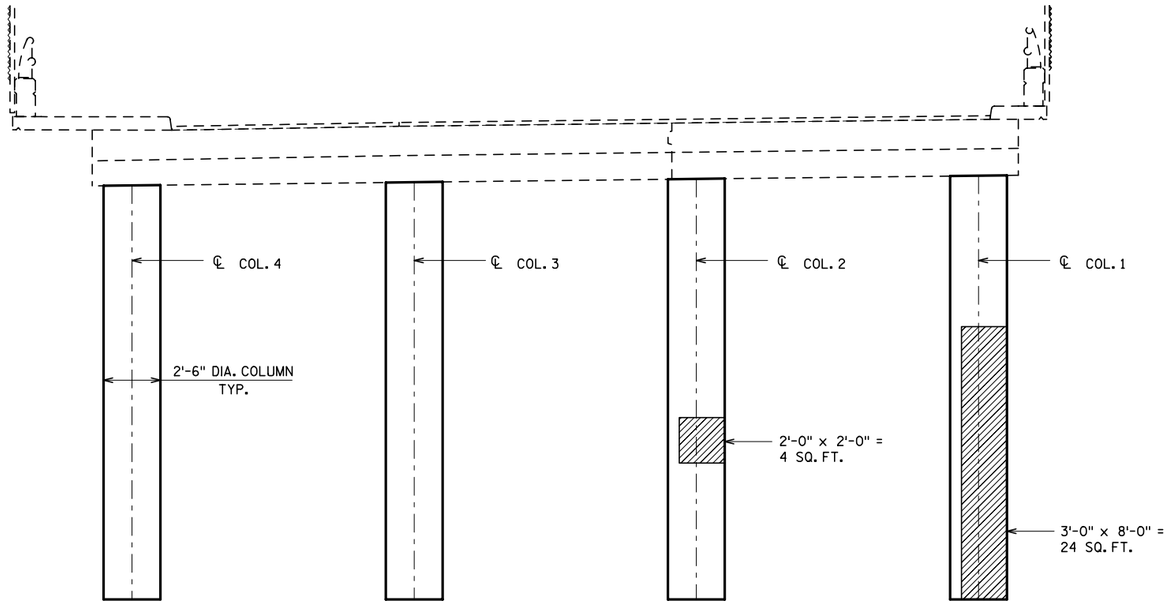
SHEET 3 OF 4
154

8

8

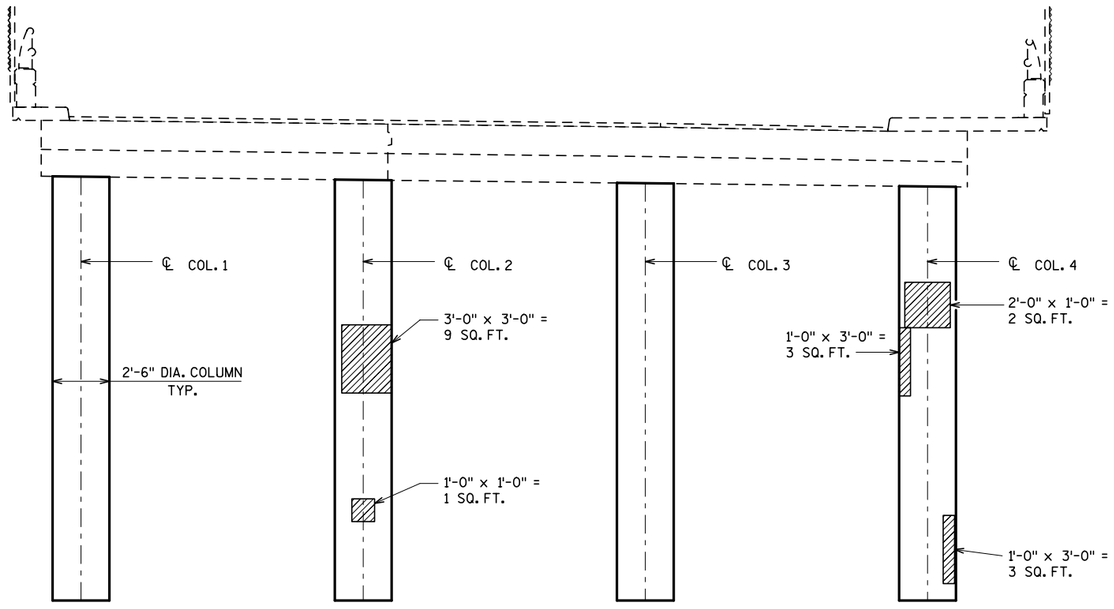
FILE NAME: F:\BMI-3160E Hale Interchange Bridges\structures\sds\Final Plans\B-40-302\03840302_slab repair.dgn
DATE: 2/18/2014 11:17:24 AM Plotted by: tbravermon PEN TABLE: V8_STRUCTURAL_REV.TBL

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## PIER 1 - ELEVATION

(LOOKING SOUTH)




## PIER 2 - ELEVATION

(LOOKING NORTH)

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

SEE SHEET 3 FOR EMBEDDED ANODE DETAILS AND NOTES FOR SURFACE REPAIRS.

REPAIRS APPLY ONLY TO FACE OF CONCRETE SHOWN IN THE DETAILS.

## LEGEND

DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR

SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-302

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

PIER SURFACE REPAIRS

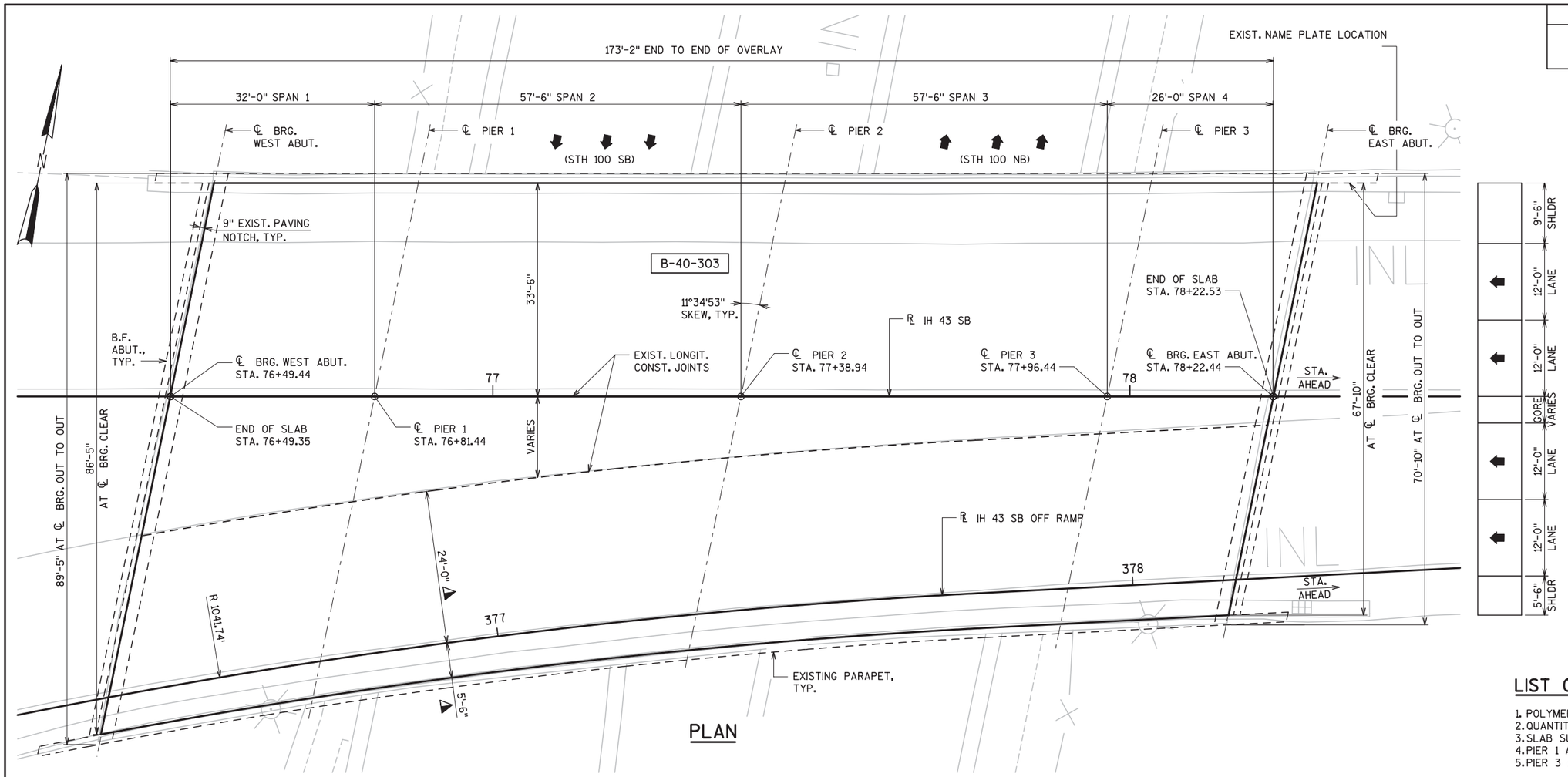
SHEET 4 OF 4

155

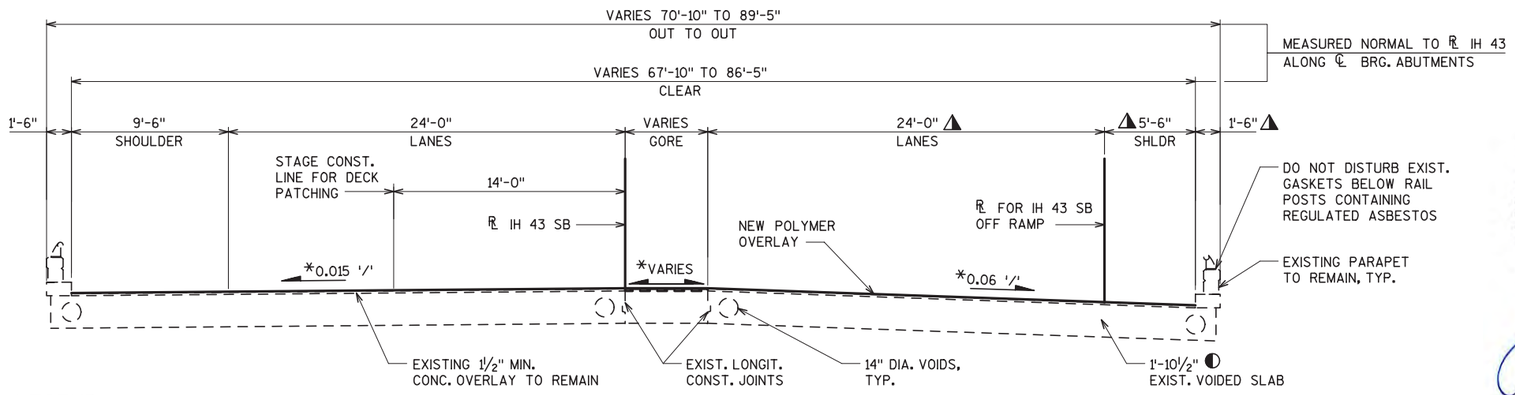
8

8

FILE NAME: F:\BMI-3360E Hide Interchange Bridges\structures\sds\Final Plans\B-40-302\04B40302_pier repair.dgn
DATE: 2/18/2014 11:17:50 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL




## PLAN




## TYPICAL SECTION

(LOOKING EAST)

DIMENSIONS ARE NORMAL TO ℄ IH 43 SB UNLESS NOTED OTHERWISE

### LEGEND

* - MATCH EXISTING CROSS SLOPE

◐ - ORIGINAL SLAB THICKNESS IS ASSUMED TO BE REDUCED BY 1" DURING PLACEMENT OF THE PREVIOUS CONCRETE OVERLAY

△ - DIMENSION IS MEASURED RADIAL TO ℄ IH 43 SB OFF RAMP

STATE PROJECT NUMBER

1090-33-60

## DESIGN DATA

### LIVE LOAD

DESIGN LOAD: HS-20
INVENTORY RATING: HS-20
OPERATIONAL RATING: HS-33
WISCONSIN STANDARD PERMIT VEHICLE LOAD (WIS-SPV): 250 KIPS

### ULTIMATE DESIGN STRESSES

CONCRETE MASONRY DECK PATCHING, f'c = 3,500 psi (AT 3 DAYS)

## TRAFFIC DATA

### IH 43 SB

A.D.T. = 41,200 (2014)
A.D.T. = 45,300 (2034)
R.D.S. = 60 MPH

## LIST OF DRAWINGS

1. POLYMER OVERLAY
2. QUANTITIES AND GENERAL NOTES
3. SLAB SURFACE REPAIRS
4. PIER 1 AND 2 SURFACE REPAIRS
5. PIER 3 AND ABUTMENT SURFACE REPAIRS

WISCONSIN
JASON R. SADOWSKI
E-38660
BROOKFIELD, WI
PROFESSIONAL ENGINEER
2/18/2014

### STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
JASON SADOWSKI
(414) 292-4508

| NO. | DATE | REVISION | BY |
|---|---|---|---|

BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
10501 W. Research Drive • Milwaukee, WI 53226
Phone: (414) 771-3390 Fax: (414) 771-4490

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 02/25/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-40-303

IH 43/USH 45 SB OVER STH 100

| COUNTY | MILWAUKEE | CITY | GREENFIELD |
|---|---|---|---|
| DESIGN SPEC. | REHABILITATION N/A | | |
| DESIGNED BY | JRS | DESIGN CK'D. | BDT |
| DRAWN BY | TB | PLANS CK'D. | JRS |

POLYMER OVERLAY

SHEET 1 OF 5
156

FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dsnFinalPlans\B-40-303\40B40303_qp.dgn
DATE: 2/18/2014 11:18:35 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

8

8

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

## TOTAL ESTIMATED QUANTITIES

| | ITEM NUMBER | BID ITEMS | UNIT | WEST ABUT. | PIER 1 | PIER 2 | PIER 3 | EAST ABUT. | SUPER. | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| ▲ | 502.4200.S | RUPTURED VOID REPAIR | SY | - | - | - | - | - | 19 | 19 |
| ▲ | 509.0301 | PREPARATION DECKS TYPE 1 | SY | - | - | - | - | - | 72 | 72 |
| ▲ | 509.0302 | PREPARATION DECKS TYPE 2 | SY | - | - | - | - | - | 29 | 29 |
| | 509.5100.S | POLYMER OVERLAY | SY | - | - | - | - | - | 1445 | 1445 |
| | SPV.0035.4001 | CONCRETE MASONRY DECK PATCHING | CY | - | - | - | - | - | 6 | 6 |
| | SPV.0060.4001 | EMBEDDED GALVANIC ANODES | EACH | 12 | 16 | 4 | 32 | 12 | 946 | 1022 |
| ▲ | SPV.0090.4001 | SAWING PAVEMENT DECK PREPARATION AREAS | LF | - | - | - | - | - | 720 | 720 |
| ▲ | SPV.0165.4001 | SHOTCRETE SURFACE REPAIR | SF | 12 | 7 | 2 | 22 | 12 | 1434 | 1489 |
| | | | | | | | | | | |
| | | NON-BID ITEMS | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

ALL BID ITEMS ARE CATEGORY 0050

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ROADWAY ALIGNMENTS, STATIONING AND BASE MAPPING ARE BASED ON AERIAL SURVEY AND ARE TO BE USED FOR INFORMATIONAL PURPOSES ONLY.

ALL CONCRETE REMOVAL IN SHOTCRETE REPAIR AREAS SHALL BE DEFINED BY A 1-INCH DEEP SAWCUT.

THE EXISTING STRUCTURE B-40-303 IS A FOUR SPAN VOIDED SLAB BRIDGE WITH AN OVERALL LENGTH OF 174'-8½" AND CLEAR WIDTH VARIES FROM 86'-5" TO 67'-10".

DO NOT EXPOSE MORE THAN 1/3 OF SLAB TOP BAR STEEL OVER THE PIER IF THE ENDS ARE NOT FULLY ANCHORED.

▲ LOCATIONS FOR THE FOLLOWING BID ITEMS WILL BE DETERMINED BY THE FIELD ENGINEER:
- "SHOTCRETE SURFACE REPAIR"
- "PREPARATION DECKS TYPE 1"
- "PREPARATION DECKS TYPE 2"
- "SAWING PAVEMENT DECK PREPARATION AREAS"
- "RUPTURED VOID REPAIR"

QUANTITIES SHOWN ON THE PLANS FOR THE ABOVE ITEMS ARE APPROXIMATE.

DECK PATCHING WORK WILL BE COMPLETED IN STAGES 1 AND 2. POLYMER OVERLAY WILL BE COMPLETED IN A SUBSEQUENT OVERNIGHT FULL CLOSURE. SEE TRAFFIC CONTROL PLANS.

SEE SPECIAL PROVISIONS FOR DECK PATCH CURE TIME REQUIRED PRIOR TO OVERLAY.



8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-303

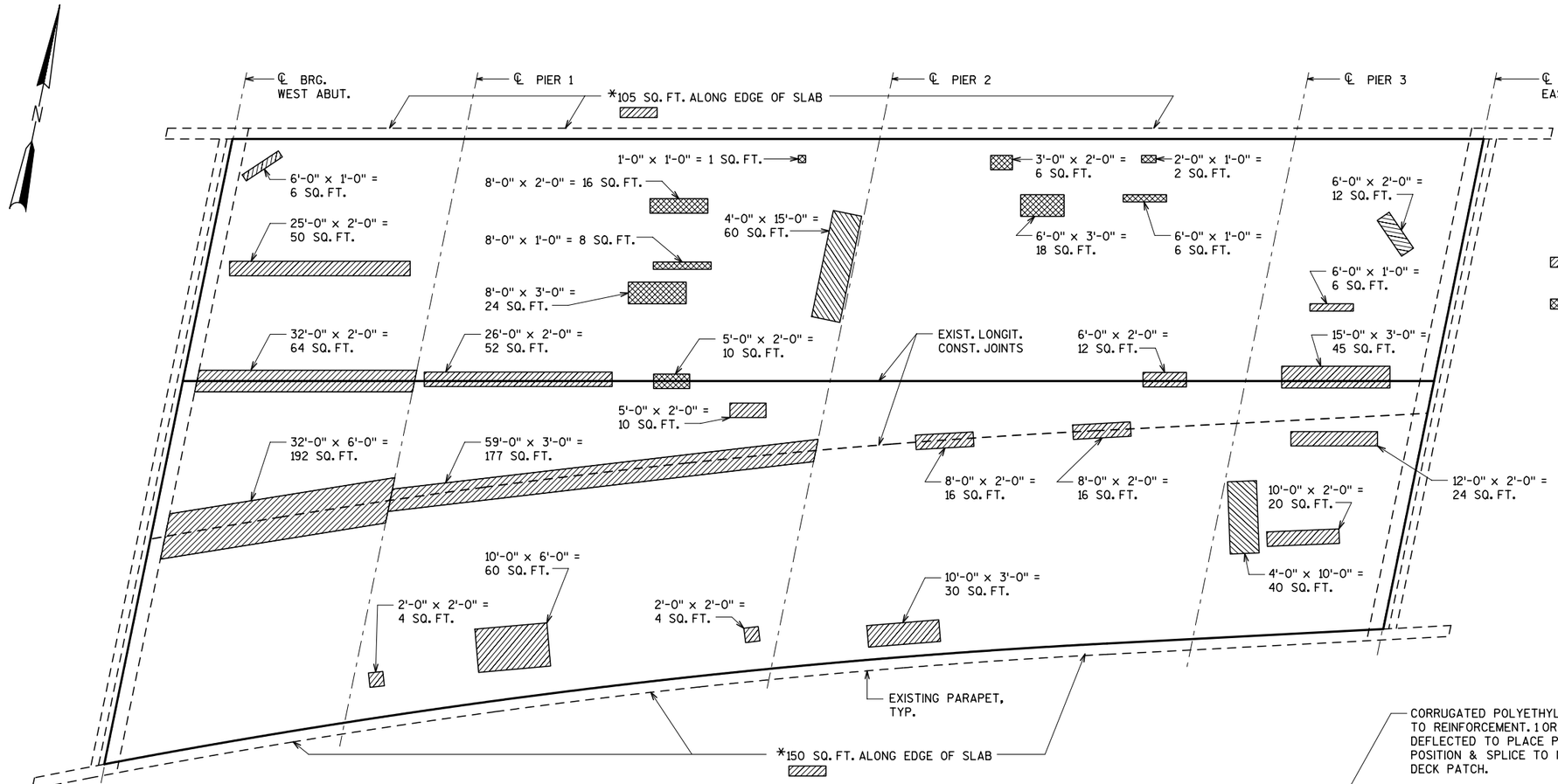
DRAWN BY TB | PLANS CK'D. JRS

QUANTITIES AND GENERAL NOTES



FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dds\Final Plans\B-40-303\02840303_qu.dgn
DATE: 2/18/2014 11:19:05 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

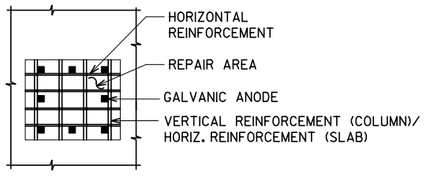
| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## UNDERSIDE OF SLAB PLAN

## LEGEND

- DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR
- SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR
- * LOCATION IS AT VERTICAL EDGE OF SLAB




## ELEVATION OF EMBEDDED ANODE REPAIR

## EMBEDDED ANODE NOTES

REMOVE UNSOUND CONCRETE PER CONTRACT SPECIFICATION.

REPLACE / CLEAN CORRODED REINFORCING STEEL.

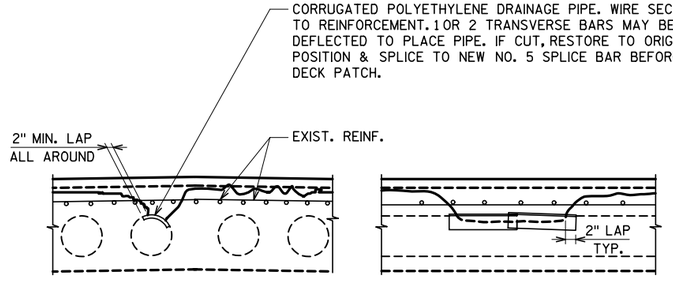
ENSURE ALL EXPOSED REINFORCING STEEL IS SECURELY FASTENED TOGETHER WITH TIE WIRE TO PROVIDE GOOD CONTINUITY.

ATTACH ANODES TO CLEAN REINFORCING STEEL. ANODE QUANTITY ON PLANS IS BASED ON A MAXIMUM SPACING OF 24 INCHES AROUND THE PERIMETER OF THE REPAIR. SEE SPECIAL PROVISIONS.

POUR BACK REPAIR AREA WITH MATERIAL PER CONTRACT SPECIFICATION.

## SURFACE REPAIR-PARAPETS

PERFORM SHOTCRETE SURFACE REPAIRS AT INSIDE FACE OF VERTICAL PARAPETS.
ESTIMATED QUANTITY:
NORTH PARAPET .....94 SF
SOUTH PARAPET .....94 SF




## RUPTURED VOID REPAIR

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

LOCATIONS SHOWN FOR DELAMINATED AREAS ON THE SLAB INCLUDE EXISTING CONCRETE PATCHES THAT SHALL BE INVESTIGATED TO DETERMINE IF REPAIRS ARE REQUIRED.

EXISTING REINFORCING BARS MAY BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE EXISTING REINFORCEMENT AND SUPPLEMENT AS REQUIRED IN THE SPECIAL PROVISIONS.

THE FINISHED CONCRETE SURFACE SHALL MATCH THE SHAPE AND FINISH OF THE ORIGINAL CONCRETE SURFACE, UNLESS THE ENGINEER DIRECTS TO PROVIDE ADDITIONAL CONCRETE THICKNESS.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-303

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

SLAB SURFACE REPAIRS

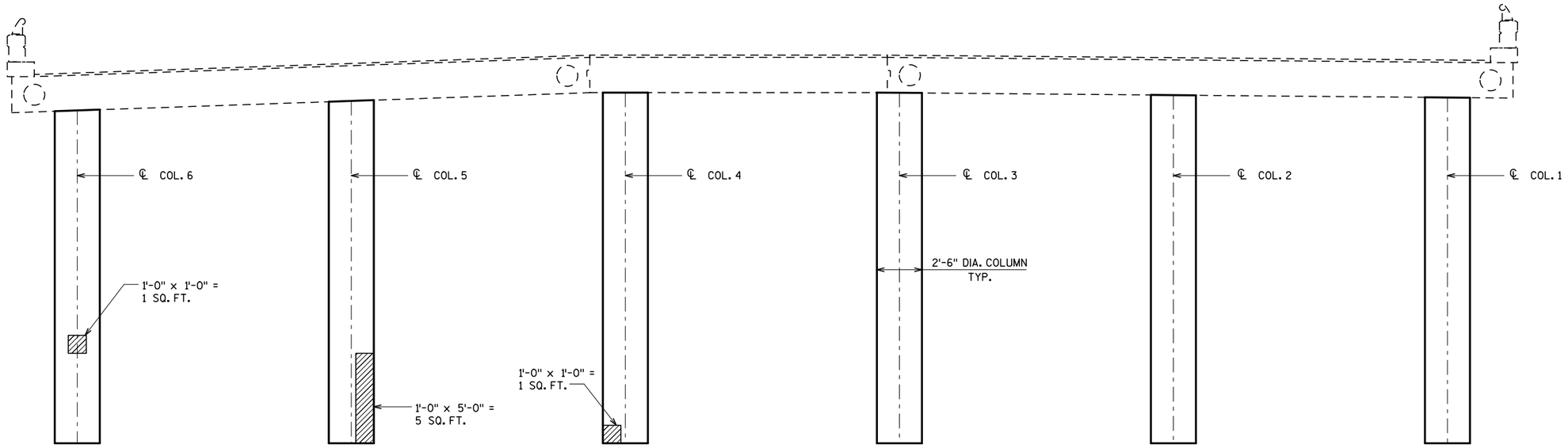
SHEET 3 OF 5
158

FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dsf\Final Plans\B-40-303+03B40303_slab repair.dgn
DATE: 2/18/2014 11:19:51 AM Plotted by: tbravermon PEN TABLE: V8_STRUCTURAL_REV.TBL

8

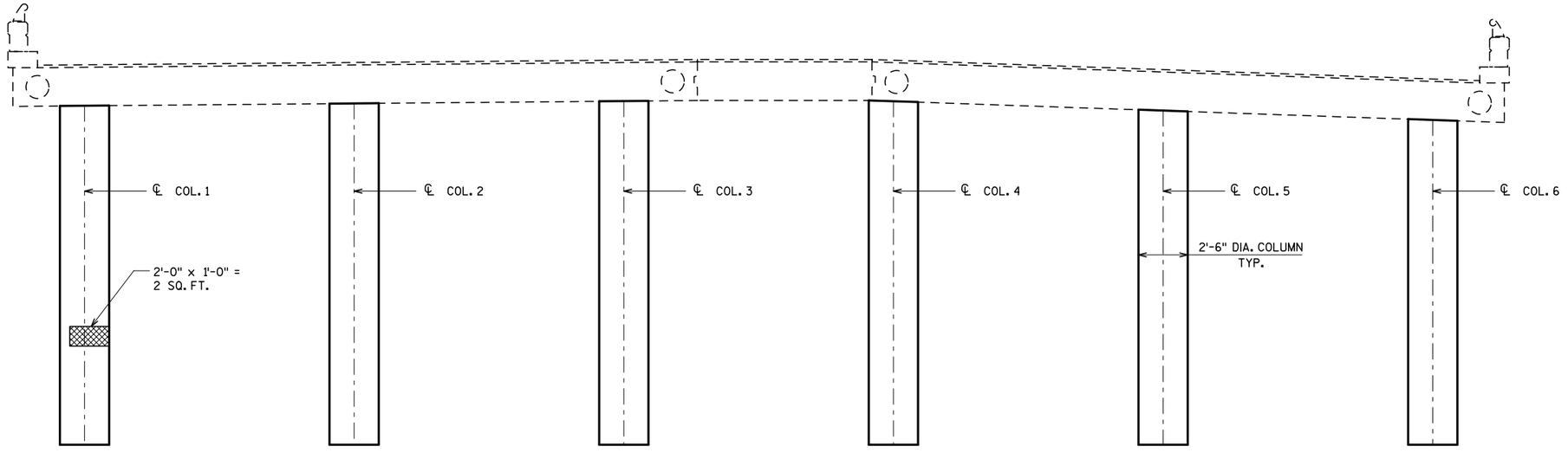
8

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## PIER 1 - ELEVATION

(LOOKING WEST)




## PIER 2 - ELEVATION

(LOOKING EAST)

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

SEE SHEET 3 FOR EMBEDDED ANODE DETAILS AND NOTES FOR SURFACE REPAIRS.

REPAIRS APPLY ONLY TO FACE OF CONCRETE SHOWN IN THE DETAILS.

## LEGEND

DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR

SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-303

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

PIER 1 AND 2 SURFACE REPAIRS

SHEET 4 OF 5

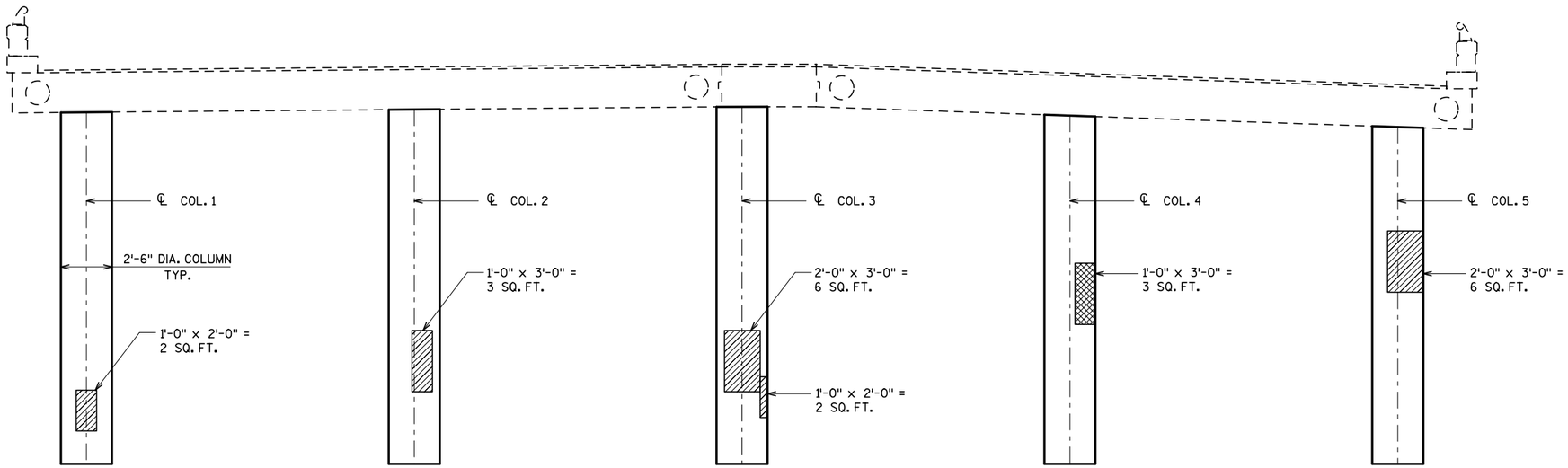
159

8

8

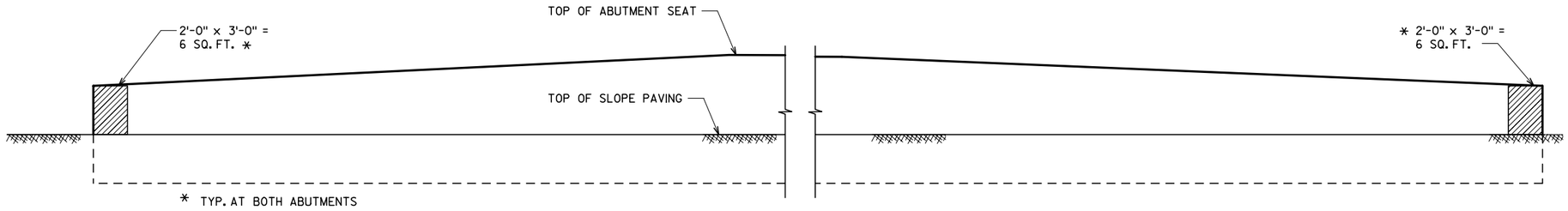
FILE NAME: F:\BMI-3360E Hale Interchange Bridges\structures\cds\Final Plans\B-40-303\04B40303_pier repair.dgn
DATE: 2/18/2014 11:20:24 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## PIER 3 - ELEVATION

(LOOKING EAST)




## ABUTMENT - ELEVATION

(LOOKING AT FRONT FACE)
TYPICAL FOR BOTH ABUTMENTS

## SURFACE REPAIR NOTES

AREAS AND LOCATIONS FOR SHOTCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

PROVIDE EMBEDDED GALVANIC ANODES AT ALL SHOTCRETE SURFACE REPAIRS.

SEE SHEET 3 FOR EMBEDDED ANODE DETAILS AND NOTES FOR SURFACE REPAIRS.

## LEGEND

DELAMINATED AREA, PERFORM SHOTCRETE SURFACE REPAIR

SPALL AREA, PERFORM SHOTCRETE SURFACE REPAIR

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-303**

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

**PIER 3 AND ABUTMENT SURFACE REPAIRS**

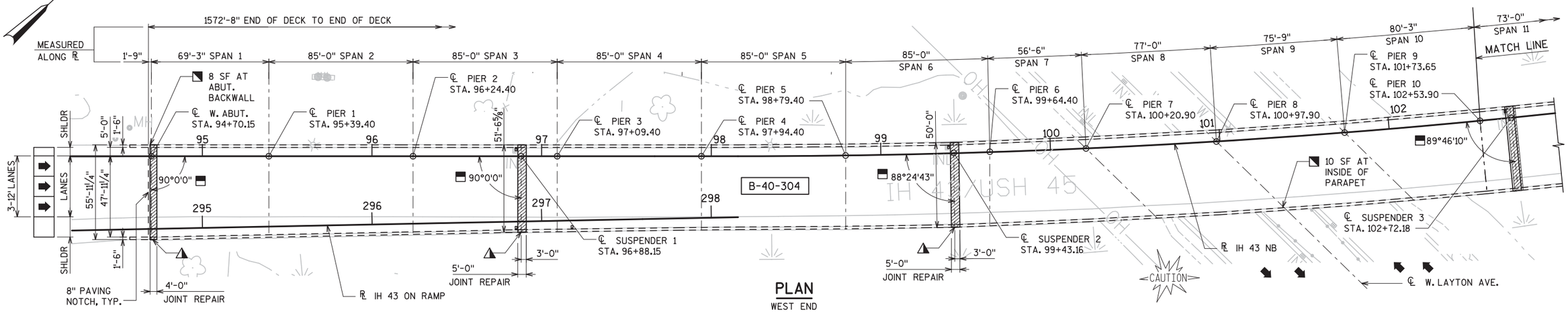
SHEET 5 OF 5
160

8

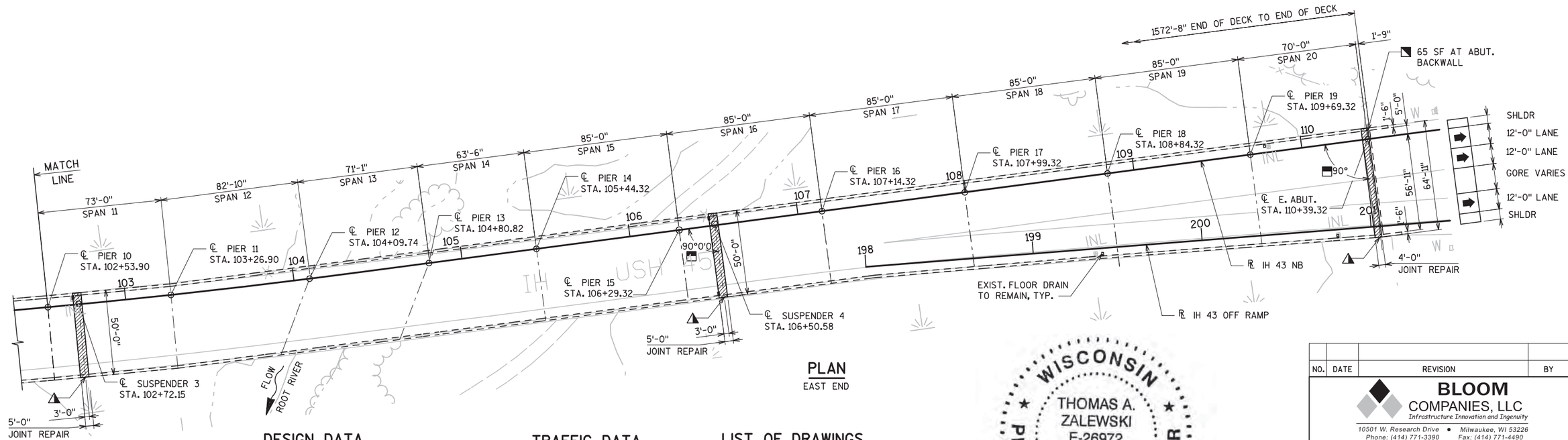
8

FILE NAME: F:\BMI-3360E Hide Interchange Bridges\structures\sds\Final Plans\B-40-303\05B40303_ab repair.dgn
DATE: 2/18/2014 11:20:59 AM Plotted by: tbraverman PEN TABLE: V8_STRUCTURAL_REV.TBL

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## PLAN
WEST END




## PLAN
EAST END

## LEGEND

- ⏃ STRIP SEAL EXPANSION JOINT
- ⬒ ANGLES MEASURED FROM TANGENT TO ℄ AT LOCATION OF INTERSECTION, TYP.
- ◹ LOCATION FOR CONCRETE SURFACE REPAIR.

## DESIGN DATA

### ULTIMATE DESIGN STRESSES

CONCRETE MASONRY
f'c = 4,000 psi

BAR STEEL REINFORCEMENT, GRADE 60
fy = 60,000 psi

STRUCTURAL STEEL CARBON A709, GRADE 36
fy = 36,000 psi

### LIVE LOAD

DESIGN LOAD: HS-20*
INVENTORY RATING: HS-17*
OPERATIONAL RATING: HS-26*
WISCONSIN STANDARD PERMIT VEHICLE LOAD (WIS-SPV): 190 KIPS*

* TAKEN FROM HSI 11/13/2013

## TRAFFIC DATA

### IH 43 NB

A.D.T. = 39,600 (2014)
A.D.T. = 43,500 (2034)
R.D.S. = 60 MPH

## CURVE DATA

### IH 43 NB

P.C 98+15.79
P.T 104+35.79
R = 4583.66'
D = 1°15'00"
Δ = 7°45'00"
T = 310.47'
SE = 0.022'/'

## LIST OF DRAWINGS


1. GENERAL PLAN
2. TYPICAL SECTION
3. CONSTRUCTION STAGING
4. EXISTING FRAMING PLAN 1
5. EXISTING FRAMING PLAN 2
6. PIN AND HANGER CLEANING
7. DIAPHRAGM CONNECTION REPAIR
8. EXPANSION JOINT REINFORCING 1
9. EXPANSION JOINT REINFORCING 2
10. EXPANSION JOINT REINFORCING 3
11. EXPANSION JOINT DETAILS (1 OF 2)
12. EXPANSION JOINT DETAILS (2 OF 2)
13. BILL OF BARS
14. BAR COUPLERS


WISCONSIN
THOMAS A. ZALEWSKI
E-26972
MADISON
WI
PROFESSIONAL ENGINEER
4/16/14

## STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
JASON SADOWSKI
(414) 292-4508

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |


BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
10501 W. Research Drive • Milwaukee, WI 53226
Phone: (414) 771-3390 Fax: (414) 771-4490


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/16/14
CHIEF STRUCTURES DESIGN ENGINEER — DATE

# STRUCTURE B-40-304

IH 43/USH 45 NB OVER W. LAYTON AVE

| COUNTY | MILWAUKEE | CITY | GREENFIELD |
|---|---|---|---|
| DESIGN SPEC. | REHABILITATION N/A | | |

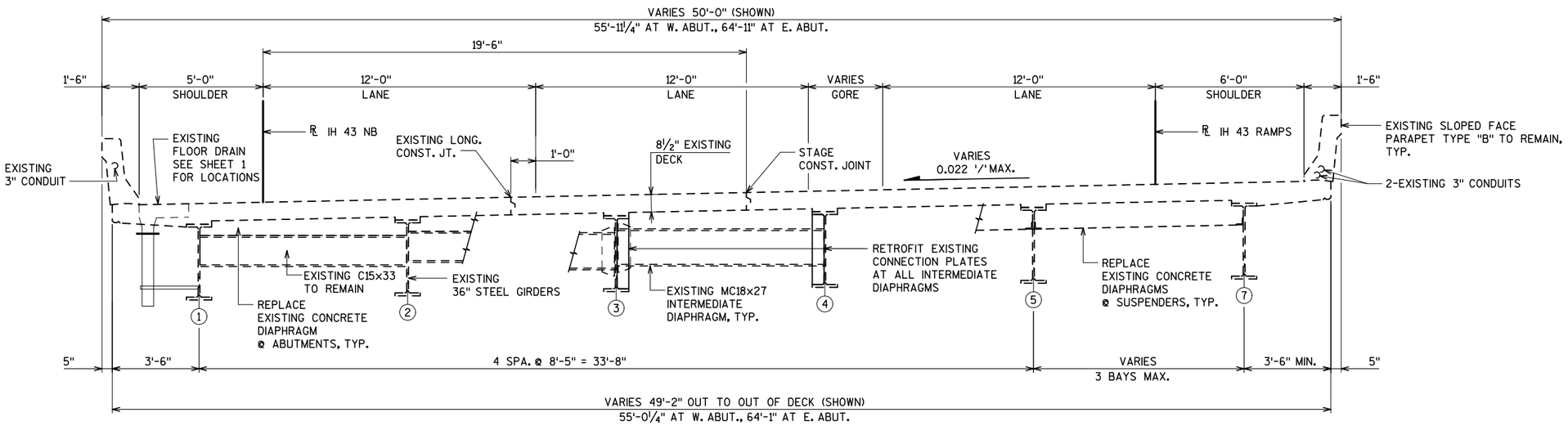
| DESIGNED BY | JRS | DESIGN CK'D. | BDT | DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|---|---|---|---|

GENERAL PLAN

SHEET 1 OF 14
161


FILE NAME: F:\BMI-3605E Hole Interchange Bridges\structures\cadd\Final Plans\B-40-304\01B40304_gp.dgn
DATE: 4/15/2014 11:17:10 AM Plotted by: tlegaar PEN TABLE: v8_Structural_rev.tbl

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## TYPICAL SECTION

(LOOKING EAST)

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ROADWAY ALIGNMENTS, STATIONING AND BASE MAPPING ARE BASED ON AERIAL SURVEY AND ARE TO BE USED FOR INFORMATIONAL PURPOSES ONLY. STATIONING SHOWN DOES NOT CORRELATE WITH PRIOR PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAWCUT.

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

SALVAGE, CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW WORK, WHERE APPLICABLE.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF NEW CONCRETE AT JOINT REPAIR LOCATIONS, INCLUDING THE TOP AND INSIDE FACE OF PARAPETS.

THE EXISTING STRUCTURE B-40-304 IS A 20 SPAN STEEL GIRDER BRIDGE WITH AN OVERALL LENGTH OF 1572'-8", AND TYPICAL WIDTH OF 50'-0".

▲ LOCATIONS FOR THE FOLLOWING BID ITEMS WILL BE DETERMINED BY THE FIELD ENGINEER:
"CONCRETE SURFACE REPAIR"
"GIRDER CRACK REPAIR"
QUANTITY SHOWN ON THE PLANS FOR THE ABOVE ITEM ARE APPROXIMATE.

CLEAN PIN AND HANGER ASSEMBLIES AT LOCATIONS SHOWN ON THE FRAMING PLAN SHEETS ACCORDING TO THE SPECIAL PROVISIONS.

ANY EXCAVATION REQUIRED TO COMPLETE PAVING BLOCK CONSTRUCTION IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

EXISTING CONDUIT IN PARAPET TO REMAIN IN PLACE. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION DURING CONSTRUCTION.

STEEL GIRDER PAINTING REQUIRED FOR RETROFIT STIFFENER PLATES SHALL MATCH EXISTING PAINT COLOR. USE FEDERAL COLOR #25240. PAINTING OF STIFFENER PLATES IS PAID FOR WITH BID ITEM "PAINTING EPOXY SYSTEM B-40-304".

◐ ITEM IS FOR JOINT REPAIR.

"CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-304" BID ITEM IS USED WITH "CLEANING PIN AND HANGER ASSEMBLIES B-40-304" BID ITEM.

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.

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-40-304".

## TOTAL ESTIMATED QUANTITIES

| | ITEM NUMBER | BID ITEMS | UNIT | WEST ABUT. | EAST ABUT. | SUPER | TOTAL |
|---|---|---|---|---|---|---|---|
| | 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | - | - | 180 | 180 |
| | 502.5005 | MASONRY ANCHORS TYPE L NO.5 BARS | EACH | 56 | 65 | - | 121 |
| | 505.0605 | BAR STEEL REINFORCEMENT HS COATED BRIDGES | LB | 470 | 550 | 12,960 | 13,980 |
| | 505.0906 | BAR COUPLERS NO.6 | EACH | - | - | 10 | 10 |
| | 505.0907 | BAR COUPLERS NO.7 | EACH | - | - | 24 | 24 |
| | 506.0105 | STRUCTURAL STEEL CARBON | LB | - | - | 52,404 | 52,404 |
| | 509.1000 | JOINT REPAIR | SY | - | - | 163 | 163 |
| ▲ | 509.1500 | CONCRETE SURFACE REPAIR | SF | 8 | 65 | 10 | 83 |
| ◐ | 509.2500 | CONCRETE MASONRY OVERLAY DECKS | CY | 2 | 3 | 62 | 67 |
| | 517.0600 | PAINTING EPOXY SYSTEM B-40-304 | LS | - | - | - | 1 |
| | 517.4000.S | CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-304 | LS | - | - | - | 1 |
| | 652.0135 | CONDUIT RIGID METALLIC 3-INCH | LF | - | - | 84 | 84 |
| ▲ | SPV.0060.4002 | GIRDER CRACK REPAIR | EACH | - | - | 30 | 30 |
| | SPV.0105.4001 | CLEANING PIN AND HANGER ASSEMBLIES B-40-304 | LS | - | - | - | 1 |
| | SPV.0105.4003 | INSTALL EXPANSION DEVICE B-40-304 | LS | - | - | - | 1 |
| | | | | | | | |
| | | NON-BID ITEMS | | | | | |
| | | | | | | | |

ALL BID ITEMS ARE CATEGORY 0060

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-304**

DRAWN BY TB | PLANS CK'D. JRS

**TYPICAL SECTION**

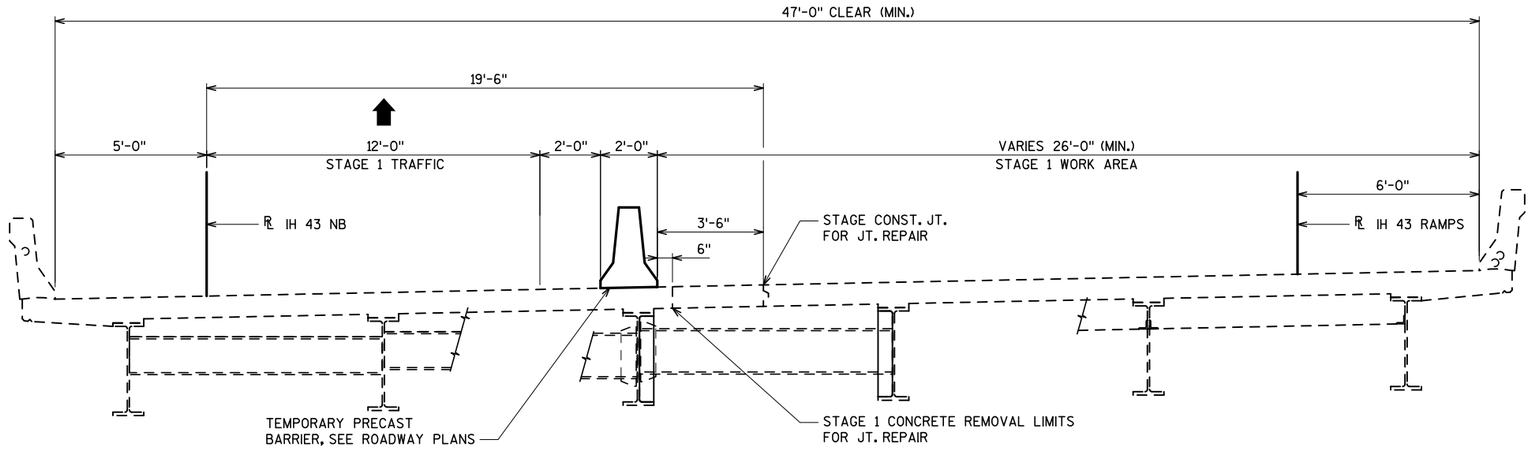
SHEET 2 OF 14
162

8

8

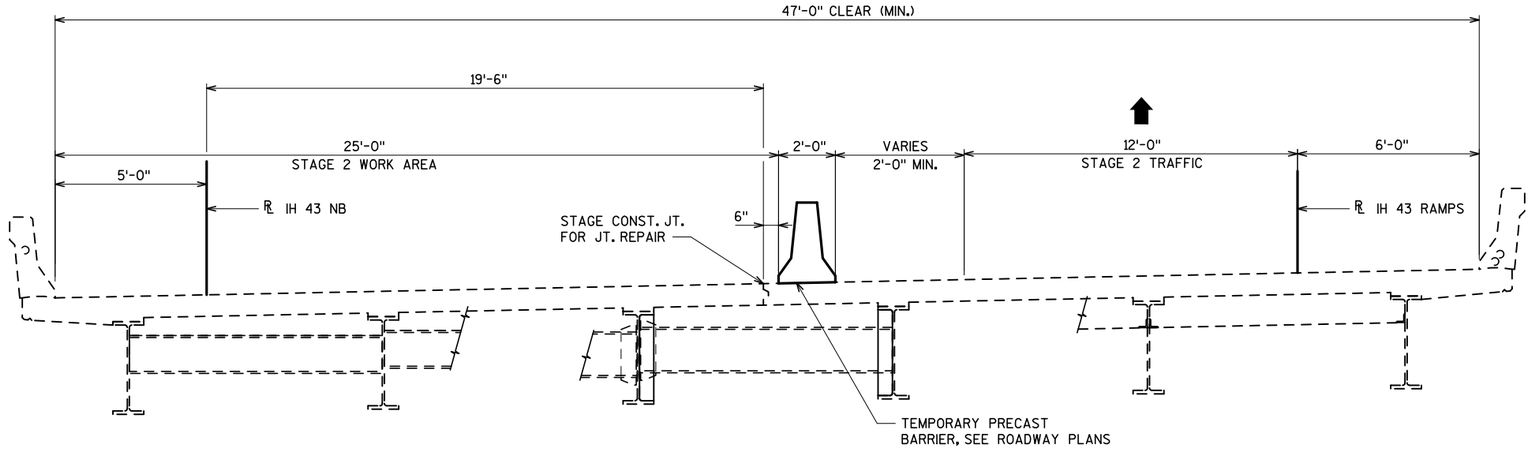
FILE NAME: F:\BMI-3606 Hale Interchange Bridges\structures\cds\Final Plans\B-40-304s02840304_ts.dgn
DATE: 4/15/2014 11:31:02 AM Plotted by: tlegeor PEN TABLE: v8_Structural_rev.tbl

| STATE PROJECT NUMBER |
| --- |
| 1090-33-60 |




## TYPICAL SECTION - STAGE 1

(LOOKING EAST)




## TYPICAL SECTION - STAGE 2

(LOOKING EAST)

## NOTES

SEE TRAFFIC CONTROL PLANS FOR COMPLETE STAGING DETAILS.

TEMPORARY BARRIER SHOULD NOT BE ANCHORED TO THE DECK.

| NO. | DATE | REVISION | BY |
| --- | --- | --- | --- |
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-304**

| DRAWN BY | TB | PLANS CK'D. | JRS |
| --- | --- | --- | --- |

**CONSTRUCTION STAGING**

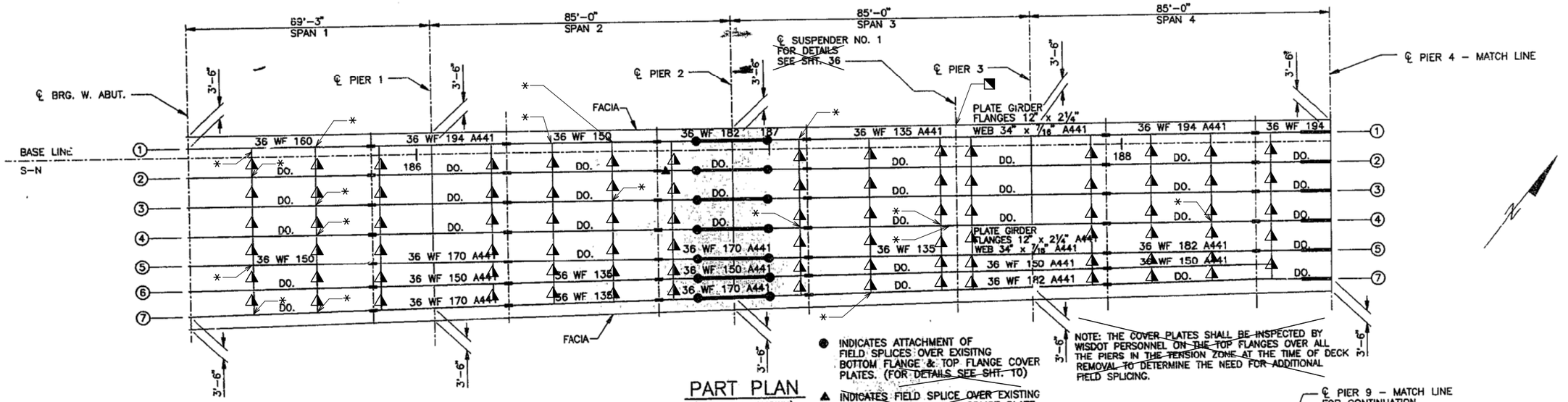
SHEET 3 OF 14
163

8

8

FILE NAME: F:\BMI-3606 Hale Interchange Bridges\structures\cads\Final Plans\B-40-304\03840304_stagingu.dgn
DATE: 4/15/2014 11:31:09 AM Plotted by: tlegear PEN TABLE: v8_Structural_rev.tbl

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

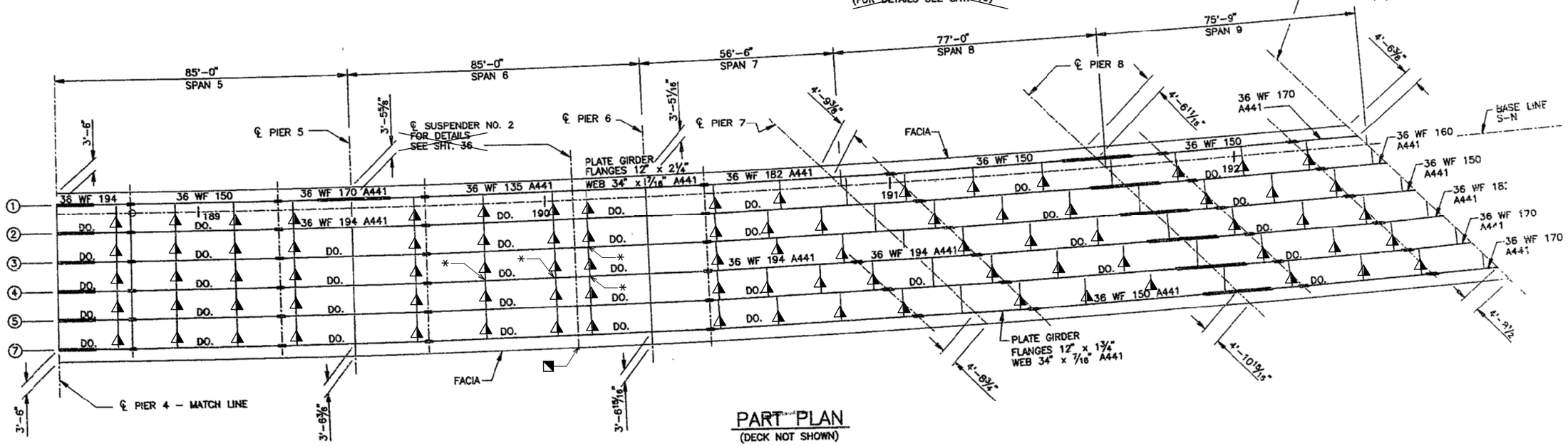



## PART PLAN
(DECK NOT SHOWN)

● INDICATES ATTACHMENT OF FIELD SPLICES OVER EXISITNG BOTTOM FLANGE & TOP FLANGE COVER PLATES. (FOR DETAILS SEE SHT. 10)

▲ INDICATES FIELD SPLICE OVER EXISTING TOP & BOTTOM FLANGE SPLICE PLATE (FOR DETAILS SEE SHT. 10)

NOTE: THE COVER PLATES SHALL BE INSPECTED BY WISDOT PERSONNEL ON THE TOP FLANGES OVER ALL THE PIERS IN THE TENSION ZONE AT THE TIME OF DECK REMOVAL TO DETERMINE THE NEED FOR ADDITIONAL FIELD SPLICING.




## PART PLAN
(DECK NOT SHOWN)

## NOTES

FRAMING PLAN SHOWN IS PER 1991 REHABILITATION PLANS.

▲ INDICATES DIAPHRAGM LOCATION WITHOUT PREVIOUS CONNECTION PLATE RETROFIT REPAIR AT EITHER END. REPAIR PER "EXISTING CONNECTION PLATE RETROFIT DETAIL" ON SHEET 7 AT BOTH ENDS OF THE DIAPHRAGM. (397 LOCATIONS SHOWN)

* INDICATES LOCATION WITH A CRACK OBSERVED AT THE DIAPHRAGM CONNECTION PLATE WELD. REPAIR PER "GIRDER CRACK REPAIR DETAIL" ON SHEET 7. KNOWN CRACK LOCATIONS ARE MARKED IN THE FIELD. PERFORM AT OTHER LOCATIONS IF CRACKS ARE OBSERVED. (22 LOCATIONS SHOWN, 30 ASSUMED TOTAL QTY.)

DO NOT PERFORM RETROFIT REPAIRS AT ABUTMENT AND PIER DIAPHRAGM CONNECTION PLATES.

SEE SHEET 7 FOR CONNECTION PLATE RETROFIT DETAILS.

◥ INDICATES LOCATION TO PERFORM PIN AND HANGER CLEANING. CLEAN PIN AND HANGER ASSEMBLY AT ALL GIRDERS ALONG THIS JOINT. (SUSPENDERS 1 AND 2 ONLY)

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-304**

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

**EXISTING FRAMING PLAN 1**

SHEET 4 OF 14
164

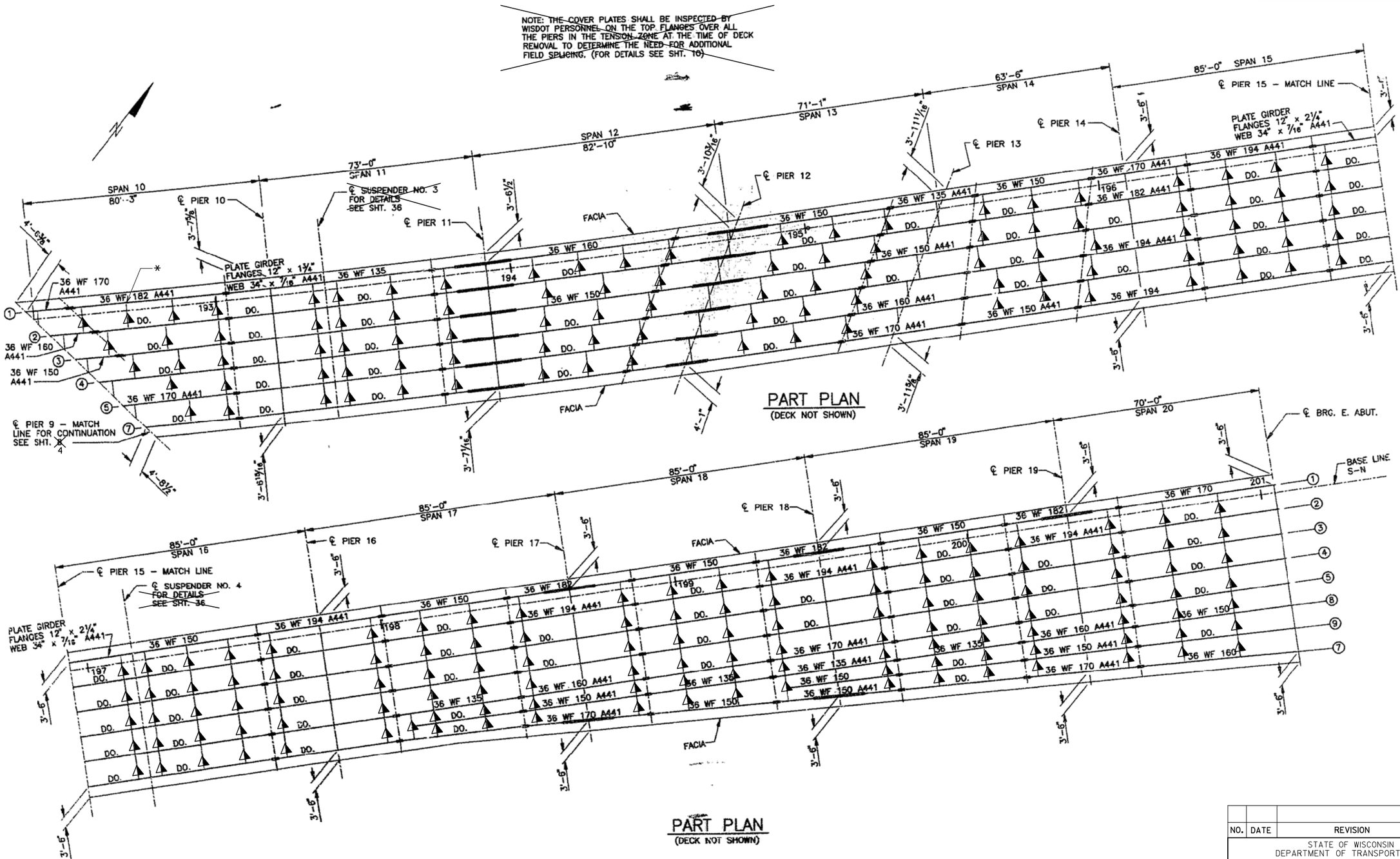
8

8

FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dsnFinalPlans\B-40-304\04B40304_EX FRAMING PLAN1.dgn
DATE: 4/15/2014 11:31:11 AM Plotted by: tiegeer PEN TABLE: v8_Structural_rev.tbl

| STATE PROJECT NUMBER |
| --- |
| 1090-33-60 |

~~NOTE: THE COVER PLATES SHALL BE INSPECTED BY WISDOT PERSONNEL ON THE TOP FLANGES OVER ALL THE PIERS IN THE TENSION ZONE AT THE TIME OF DECK REMOVAL TO DETERMINE THE NEED FOR ADDITIONAL FIELD SPLICING. (FOR DETAILS SEE SHT. 10)~~




PART PLAN
(DECK NOT SHOWN)

PART PLAN
(DECK NOT SHOWN)

## NOTES

SEE SHEET 4 FOR NOTES.

| NO. | DATE | REVISION | BY |
| --- | --- | --- | --- |
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-304

| DRAWN BY | TB | PLANS CK'D. | JRS |
| --- | --- | --- | --- |

EXISTING FRAMING PLAN 2

SHEET 5 OF 14
165

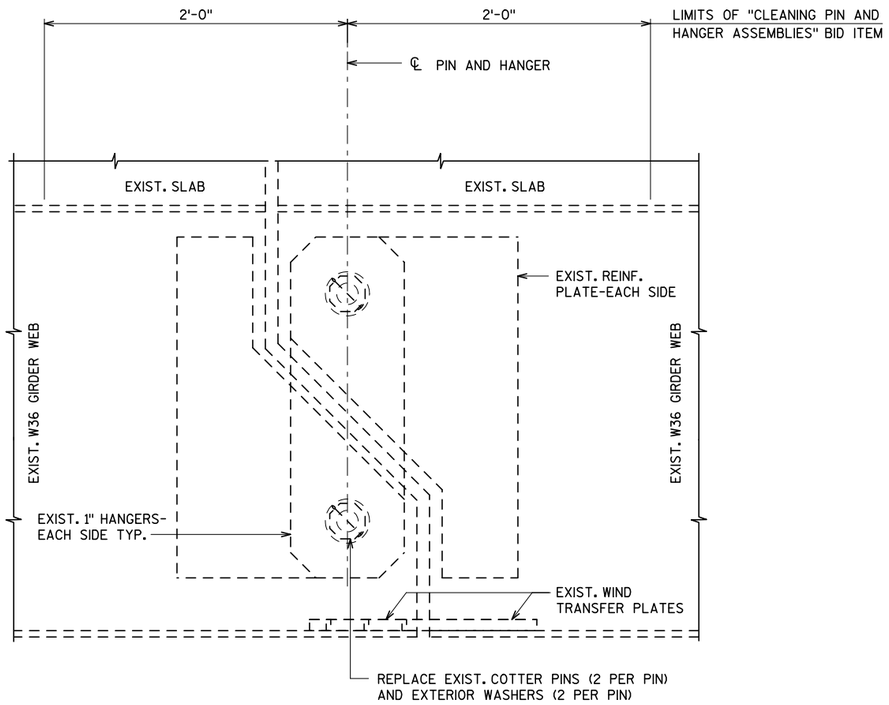
FILE NAME: F:\BMI-360E Hale Interchange Bridges\structures\sds\Final Plans\B-40-304s05B40304_EX FRAMING PLAN2.dgn
DATE: 4/15/2014 11:32:25 AM Plotted by: tiegeor PEN TABLE: v8_Structural_rev.tbl

8

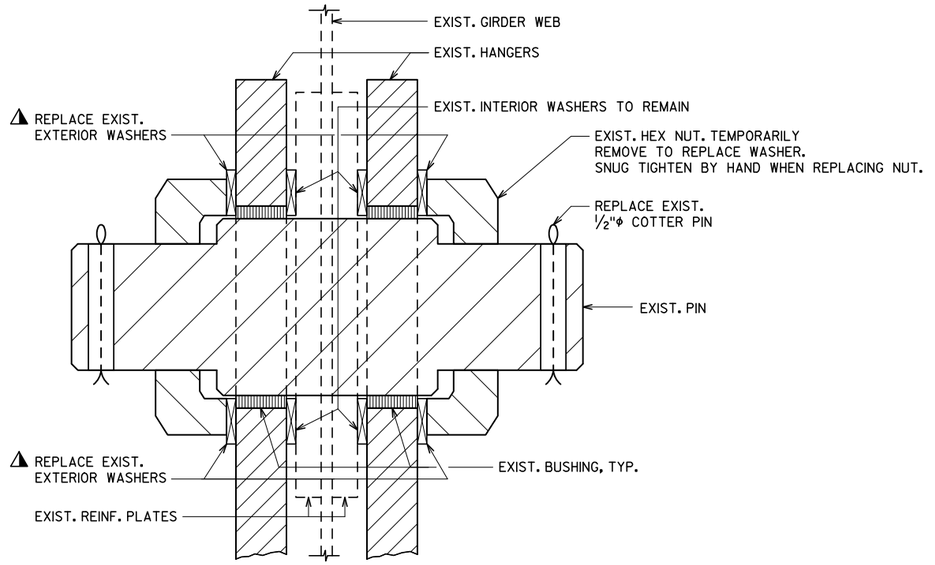
8

FILE NAME: F:\BMI-3960E Hale Interchange Bridges\structures\cds\Final Plans\B-40-304\06B40304_hanger.dgn
DATE: 4/15/2014 11:31:40 AM Plotted by: tiegeor PEN TABLE: v8_Structural_rev.tbl






## PIN AND HANGER ELEVATION




## SECTION THRU EXISTING PIN

## NOTES

CLEAN AND PAINT EXISTING GIRDER AND PIN AND HANGER ASSEMBLIES PER SPECIAL PROVISIONS, 2'-0" TO EACH SIDE OF THE ℄ OF PIN. CLEAN AND PAINT ALL EXPOSED COMPONENTS WITHOUT DISASSEMBLING.

CLEAN PIN AND HANGER ASSEMBLIES AT LOCATIONS SHOWN ON "FRAMING PLAN" SHEETS.

THE BID ITEM "CLEANING PIN AND HANGER ASSEMBLIES B-40-304" INCLUDES ALL WORK SHOWN INCLUDING REPLACEMENT OF NON-METALLIC WASHERS AND COTTER PINS.

NON-METALLIC WASHERS SHALL HAVE AN INSIDE DIAMETER OF BETWEEN 0.005" AND 0.010" LARGER THAN THE PIN DIAMETER.

⚠ NON-METALLIC WASHERS REQUIRED FOR USE AS SPACERS BETWEEN 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

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-304**

DRAWN BY TB | PLANS CK'D. JRS

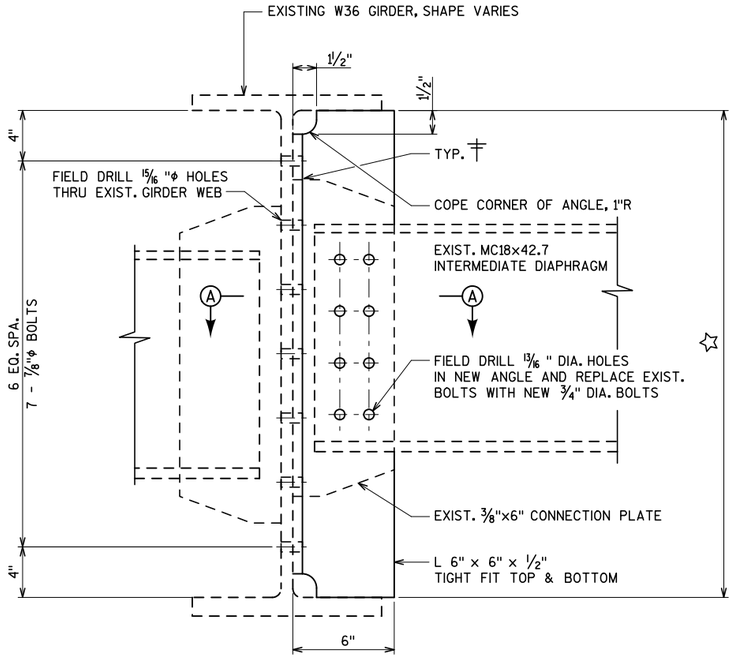
**PIN AND HANGER CLEANING**

SHEET 6 OF 14

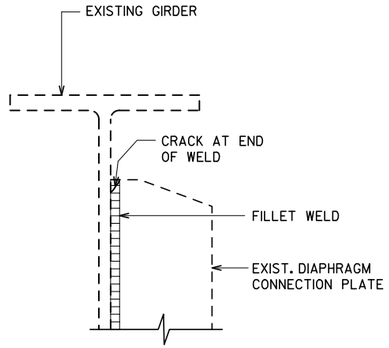


8

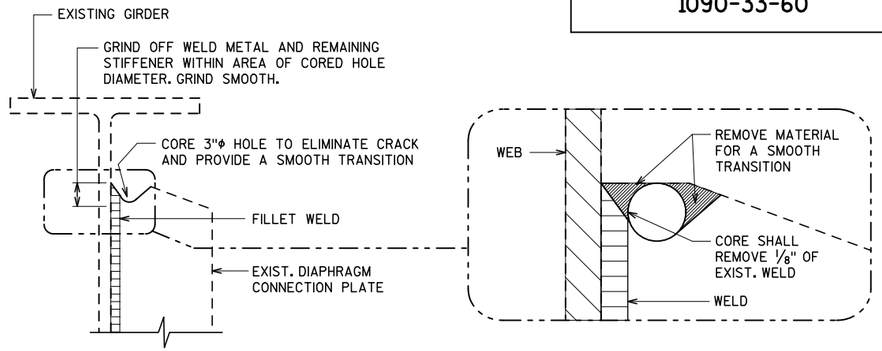
8




## EXISTING CONNECTION PLATE RETROFIT DETAIL




EXISTING CONDITION




REPAIRED CONDITION

## GIRDER CRACK REPAIR DETAIL

## NOTES

ALL NEW STEEL SHALL BE ASTM A709 GRADE 36.

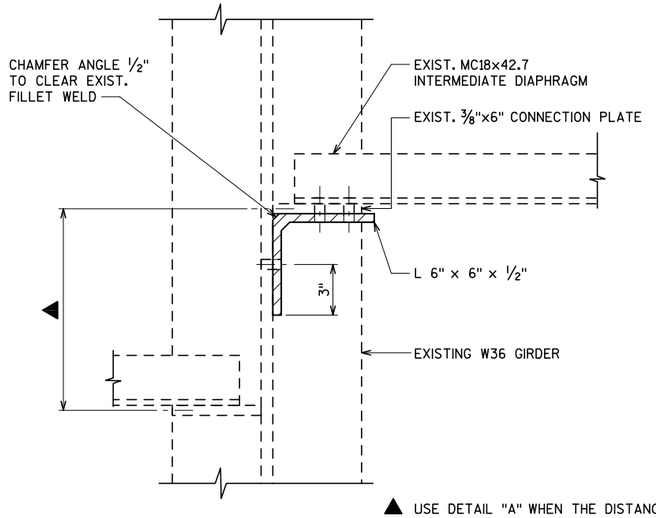
ALL BOLTS TO BE A325 FRICTION TYPE HIGH TENSILE STRENGTH BOLTS.

NEW STEEL SHALL BE SHOP PAINTED TO MATCH THE EXISTING GIRDERS ACCORDING TO THE BID ITEM "PAINTING EPOXY SYSTEM B-40-304".

REPAIR PAINT DAMAGED OR REMOVED BY INSTALLING THE RETROFIT DETAIL. WORK IS INCIDENTAL TO THE BID ITEM "PAINTING EPOXY SYSTEM B-40-304".

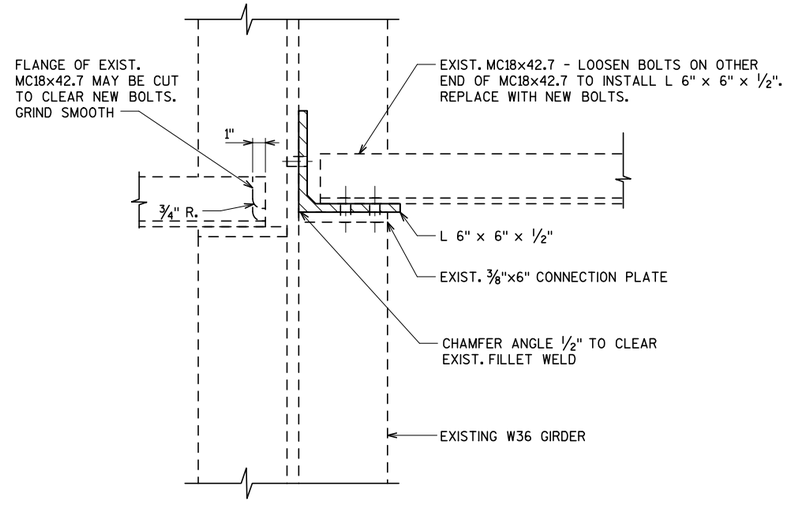
☆ ANGLE LENGTH VARIES, SEE FRAMING PLAN FOR GIRDER SIZES. ANGLE MAY BE FIELD CUT TO FIT, GRIND SMOOTH.

⏤ INSPECT EXISTING FILLET WELDS AT CONNECTION PLATES. IF CRACKS ARE OBSERVED REMOVE PER PLAN AT THE DIRECTION OF THE FIELD ENGINEER. BID ITEM FOR THIS WORK IS "GIRDER CRACK REPAIR".




▲ USE DETAIL "A" WHEN THE DISTANCE BETWEEN EXIST. CONN. PLATES DOES NOT PERMIT HOLES IN EXIST. GIRDER WEB TO BE DRILLED AND BOLTED.

## SECTION A-A




## DETAIL "A"

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-304**

DRAWN BY TB | PLANS CK'D. JRS

**DIAPHRAGM CONNECTION REPAIRS**

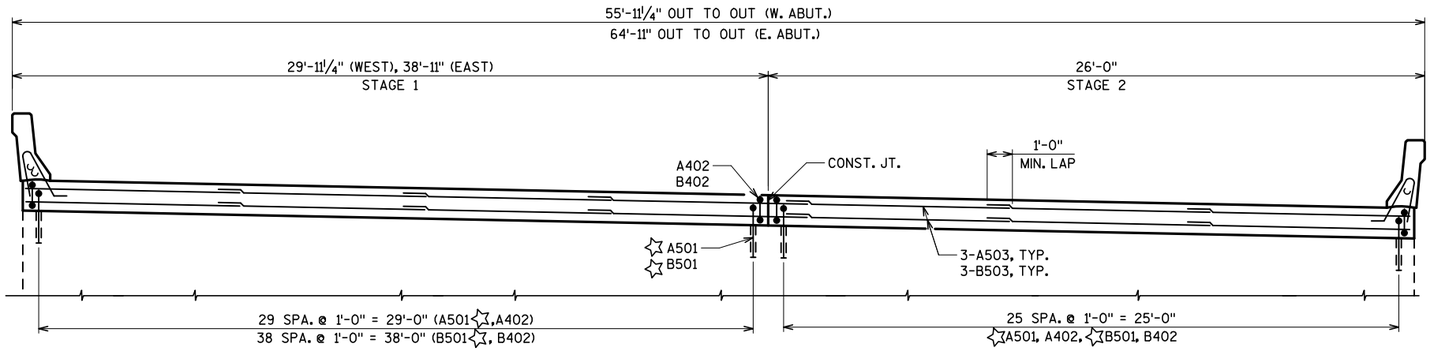
SHEET 7 OF 14
167

8

8

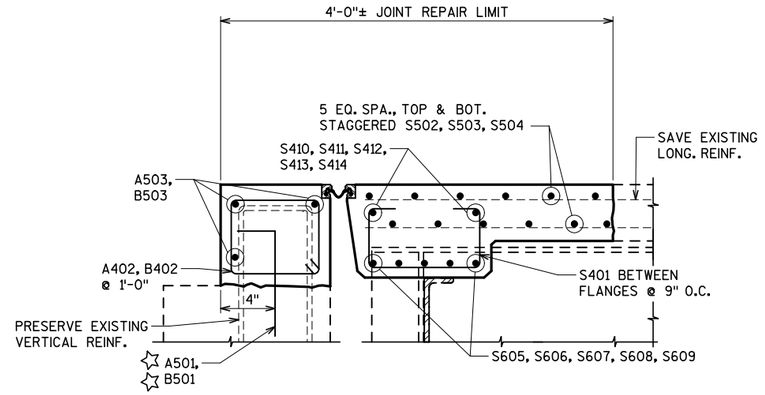
FILE NAME: F:\BMI-3360E Hide Interchange Bridges\structures\b40s\Final Plans\B-40-304s07\B40304_diaph.dgn
DATE: 4/15/2014 11:35:42 AM Plotted by: tlegaar PEN TABLE: v8_Structural_rev.tbl

STATE PROJECT NUMBER
1090-33-60




## PAVING BLOCK ELEVATION AT ABUTMENTS

(LOOKING WEST)

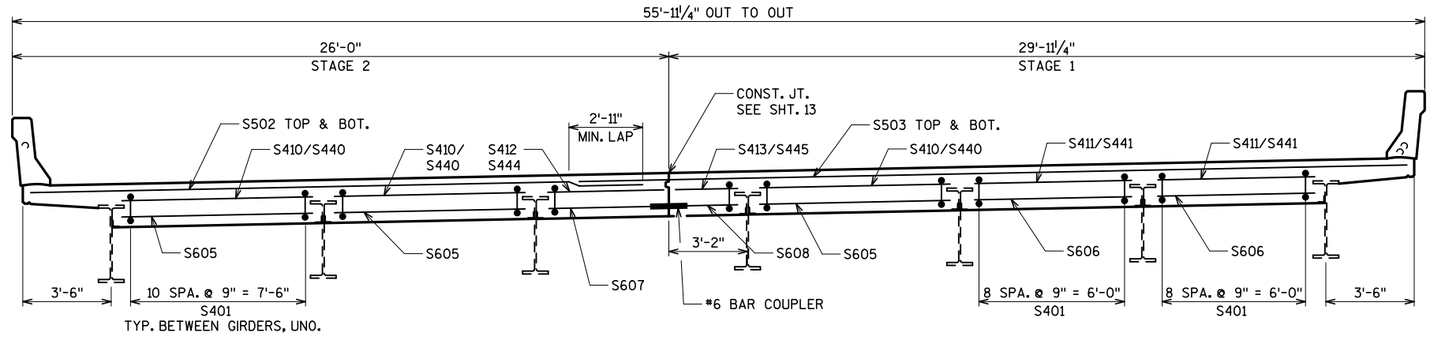



## SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

SEE SHEET 11 FOR S440 THRU S445 BARS, WHICH ARE NOT SHOWN FOR CLARITY.

SEE SHEET 11 FOR DIMENSIONS



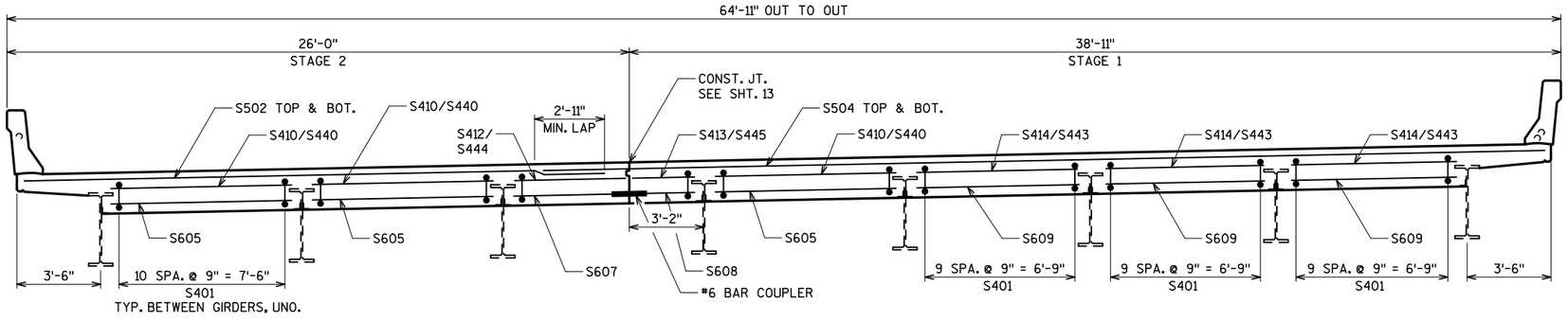

## DECK ELEVATION AT WEST ABUTMENT

(LOOKING EAST)

TRANSVERSE BOTTOM SLAB BARS NOT SHOWN FOR CLARITY

## LEGEND

☆ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE MASONRY ANCHORS TYPE L NO. 5 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.




## DECK ELEVATION AT EAST ABUTMENT

(LOOKING EAST)

TRANSVERSE BOTTOM SLAB BARS NOT SHOWN FOR CLARITY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-304

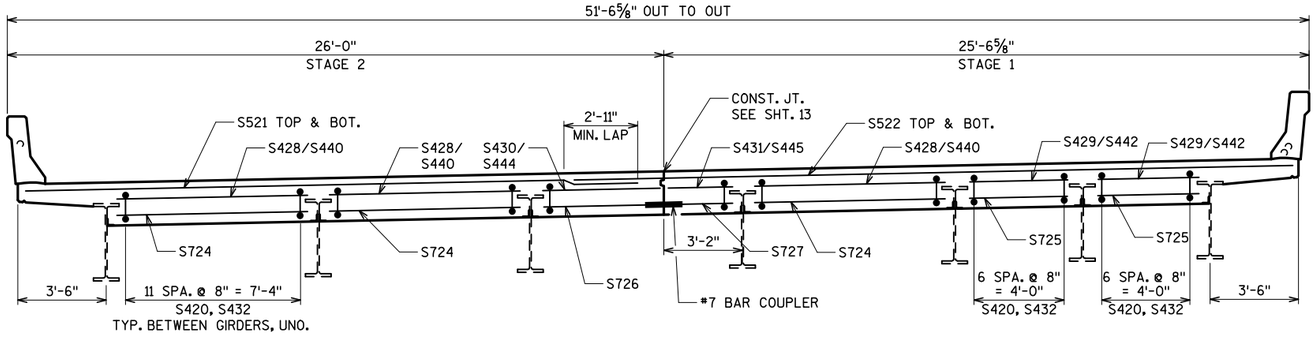
DRAWN BY TB | PLANS CK'D. JRS

EXPANSION JOINT REINFORCING 1

SHEET 8 OF 14
168

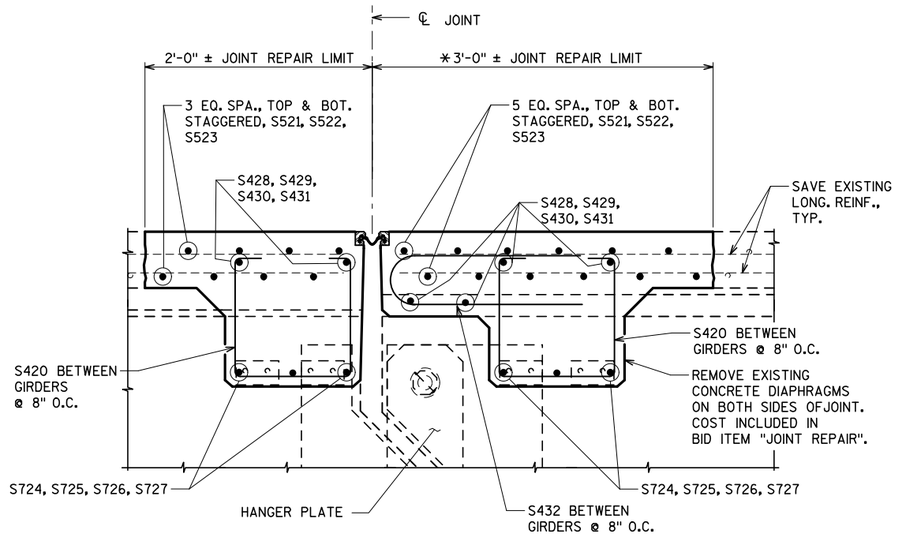
FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dsnFinal Plans\B-40-304\s08840304_joint reinf 1.dgn
DATE: 4/15/2014 11:33:44 AM Plotted by: tiegeor PEN TABLE: v8_Structural_rev.tbl


8




## DECK ELEVATION AT SUSPENDER 1

(LOOKING EAST)
TRANSVERSE BOTTOM SLAB BARS NOT SHOWN FOR CLARITY



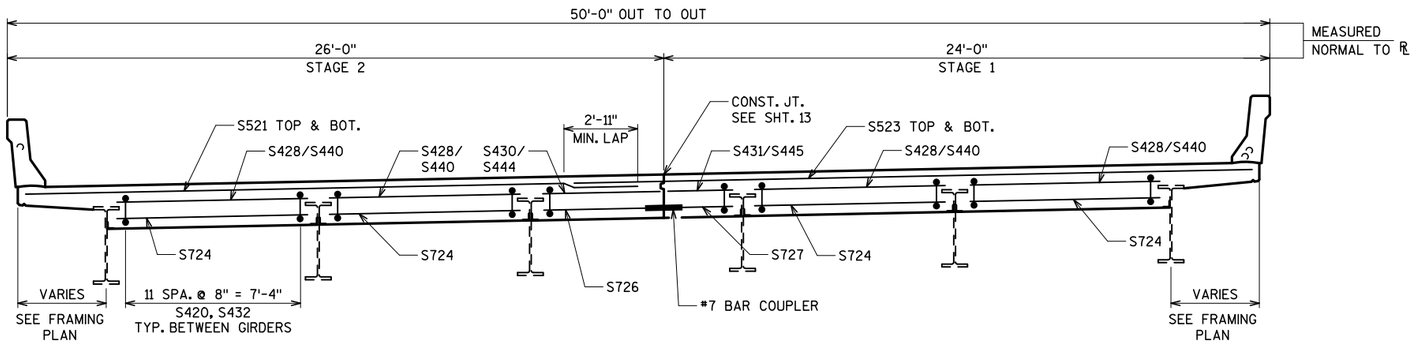

## SECTION THRU JOINT AT SUSPENDER

NORMAL TO ℄ SUBSTRUCTURE

SEE SHEET 11 FOR S440 THRU S445 BARS, WHICH ARE NOT SHOWN FOR CLARITY.

SEE SHEET 11 FOR DIMENSIONS

* 3'-0" DIMENSION IS LOCATED TO THE SIDE OF EXPANSION JOINT WITH HANGER PLATE.




## DECK ELEVATION AT SUSPENDERS 2, 3 AND 4

(LOOKING EAST)
TRANSVERSE BOTTOM SLAB BARS NOT SHOWN FOR CLARITY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-304

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

EXPANSION JOINT REINFORCING 2

SHEET 9 OF 14
169

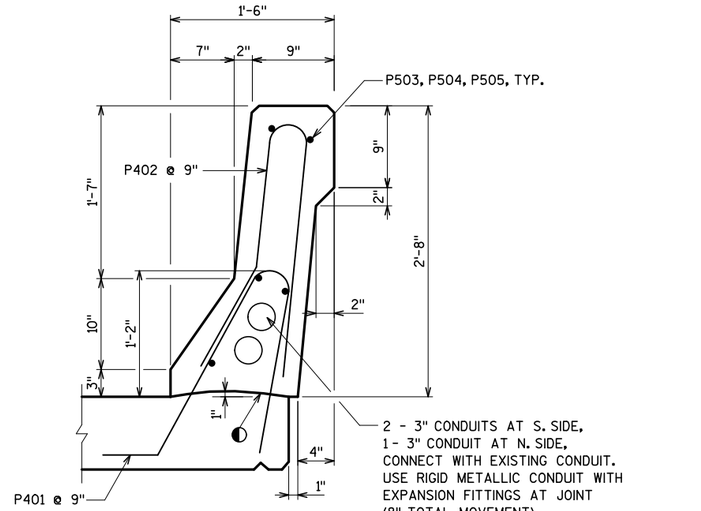
8

8

FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dgs\Final Plans\B-40-304s09B40304_joint reinf 2.dgn
DATE: 4/15/2014 11:32:45 AM Plotted by: tiegaar PEN TABLE: v8_Structural_rev.tbl

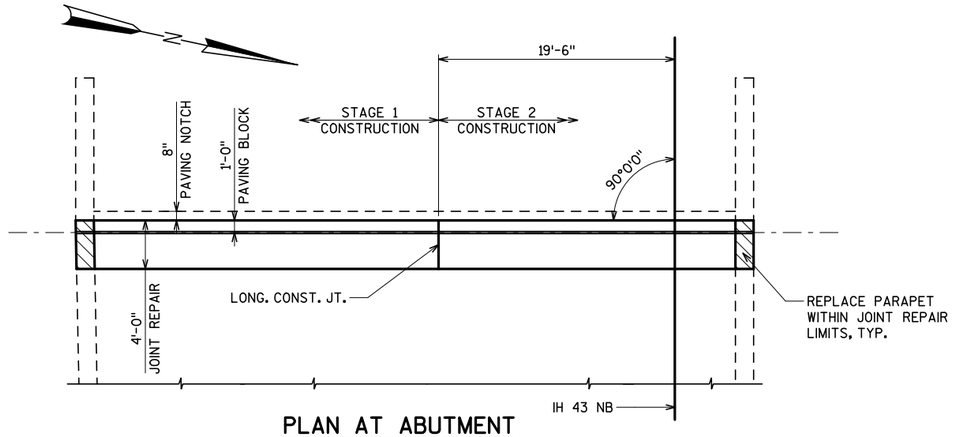
FILE NAME: F:\BMI-3860E Hale Interchange Bridges\structures\dgns\Final Plans\B-40-304\0840304_joint reinf 3.dgn
DATE: 4/15/2014 11:31:47 AM Plotted by: tiegeor PEN TABLE: v8_Structural_rev.tbl





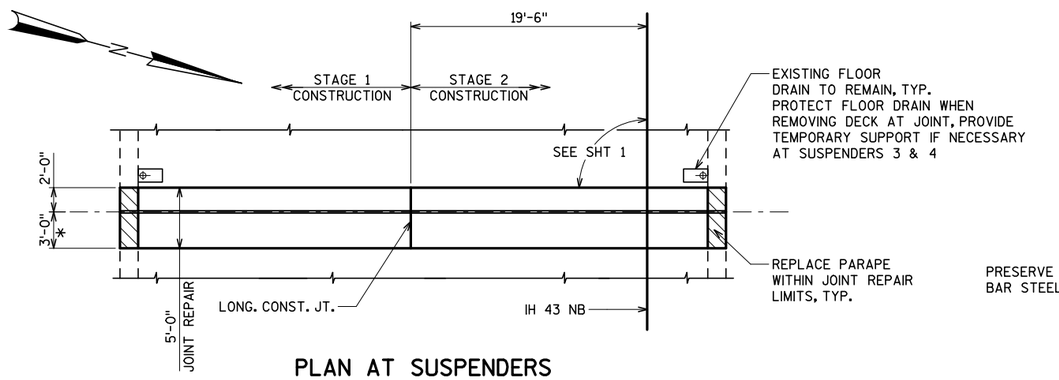

## SECTION A-A

◐ CONSTRUCTION JOINT STRIKE OFF AS SHOWN



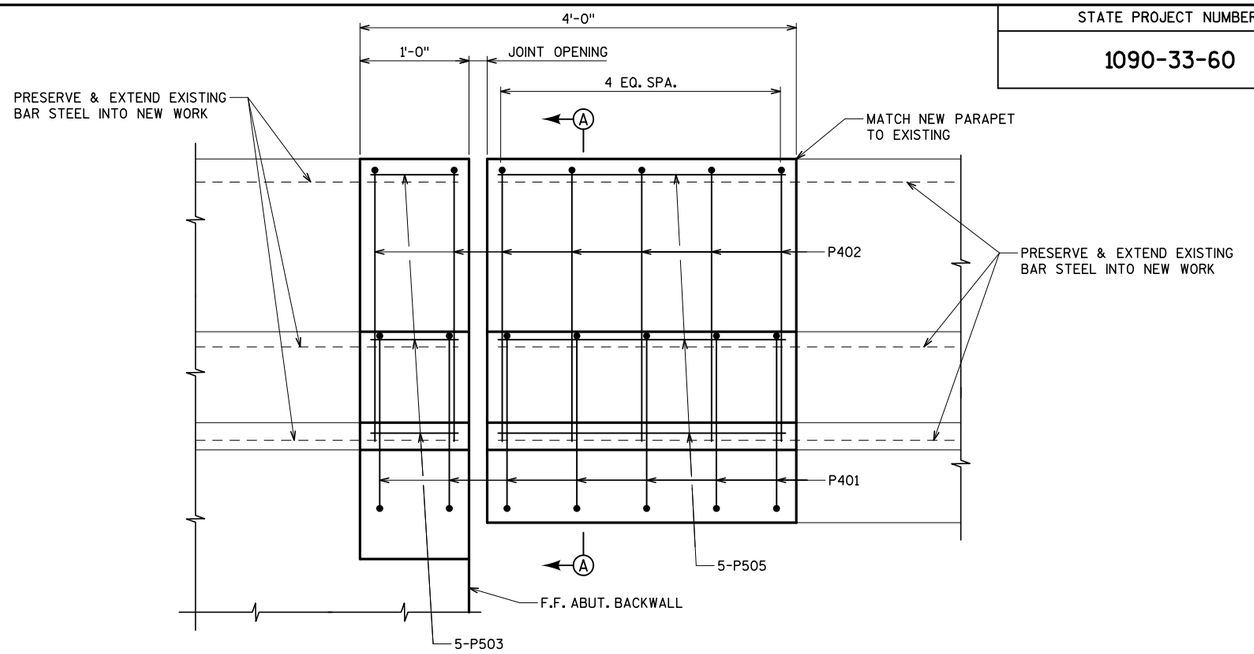

## PLAN AT ABUTMENT

W. ABUT. SHOWN, E. ABUT. SIMILAR

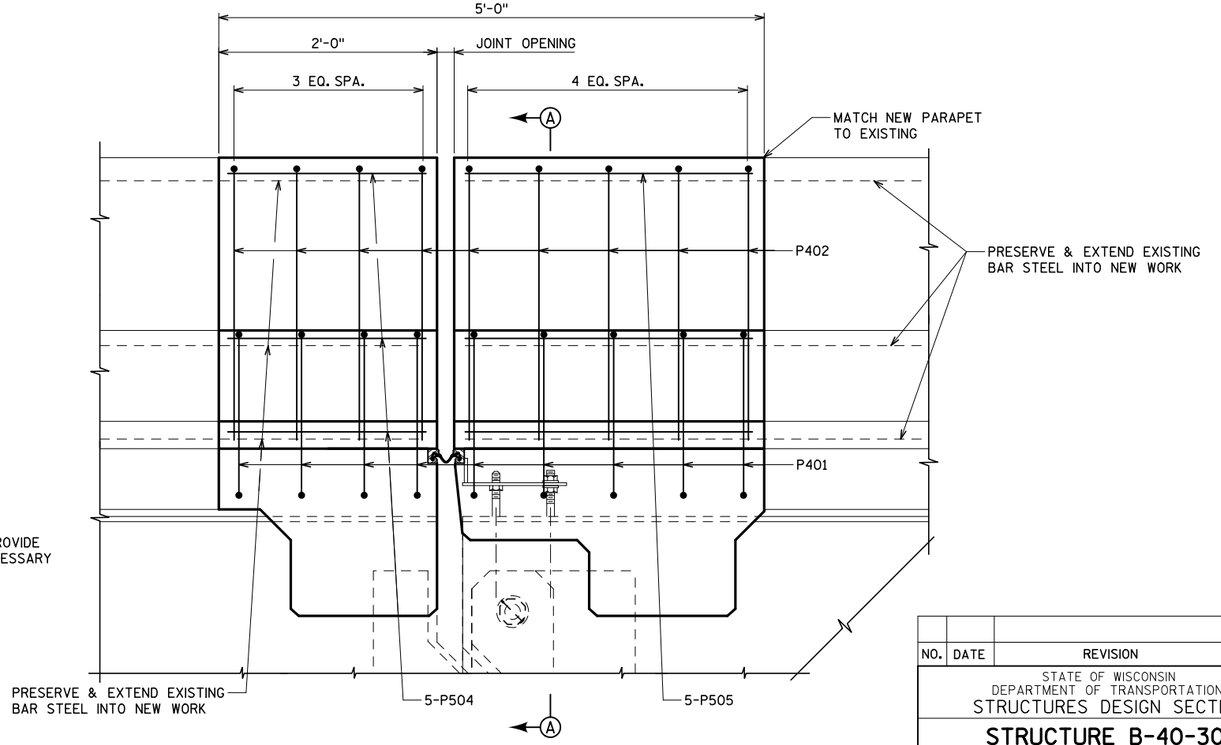



## PLAN AT SUSPENDERS

* 3'-0" DIMENSION LOCATED TO THE SIDE OF EXPANSION JOINT WITH HANGER PLATE.




## PARAPET ELEVATION AT ABUTMENT




## PARAPET ELEVATION AT SUSPENDERS

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-304**

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

**EXPANSION JOINT REINFORCING 3**

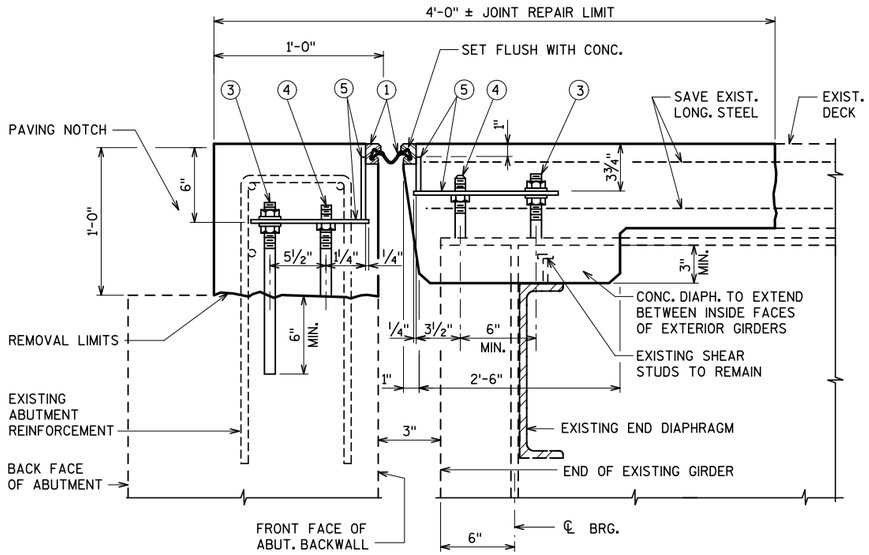
SHEET 10 OF 14
170

8

8

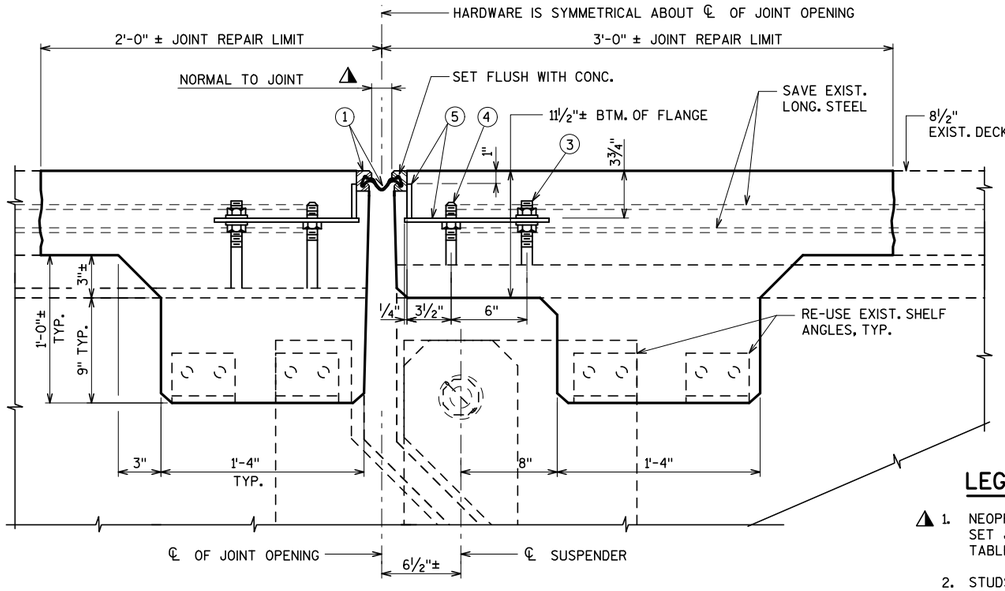
STATE PROJECT NUMBER

1090-33-60

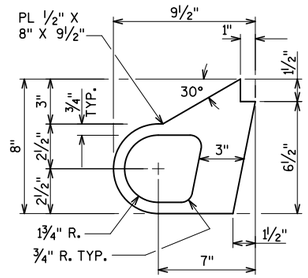



## SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE




## TYPICAL SECTION THRU JOINT AT SUSPENDERS




## ALTERNATE STRIP SEAL ANCHOR




## SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB AND AT PARAPETS

## GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

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

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-40-304".

## TEMPERATURE TABLE

| SHADED UNDERSIDE OF DECK TEMP. (DEG. F) | JOINT OPENING WIDTH (IN.) ◨ | | |
|---|---|---|---|
| | E. ABUT. & W. ABUT. | SUSPENDERS 1, 2 & 4 | SUSPENDER 3 |
| 5 | 1¾" | 3⅜" | 3¾" |
| 15 | 1¾" | 3" | 3½" |
| 25 | 1¾" | 2¾" | 3⅛" |
| 35 | 1¾" | 2½" | 2¾" |
| 45 | 1¾" | 2¼" | 2½" |
| 55 | 1¾" | 2" | 2⅛" |
| 65 | 1¾" | 1¾" | 1⅞" |
| 75 | 1¾" | 1⅜" | 1½" |
| 85 | 1¾" | 1⅛" | 1⅛" |
| STRIP SEAL SIZE | 4.0" | 5.0" | 5.0" |




## PART PLAN




SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED

## SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

## LEGEND

⚠ 1. NEOPRENE STRIP SEAL AND STEEL EXTRUSIONS. SET JOINT OPENING AND SIZE PER TEMPERATURE TABLE.

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" × 14¾" × 2'-2" WITH HOLES FOR NO. 7. BEND AS SHOWN.

7. ¾" ϕ × 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.

8. ¾" ϕ × 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

9. ¾" ϕ × 2 ¼" GALVANIZED THREADED COUPLING.

10. NOT USED

11. 1" × 5" SLOTTED CSK. HOLE FOR NO. 7 SLOT PARALLEL TO DIRECTION OF MOVEMENT.

◨ 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.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-304

DRAWN BY TB | PLANS CK'D. JRS

EXPANSION JOINT DETAILS (1 OF 2)

SHEET 11 OF 14

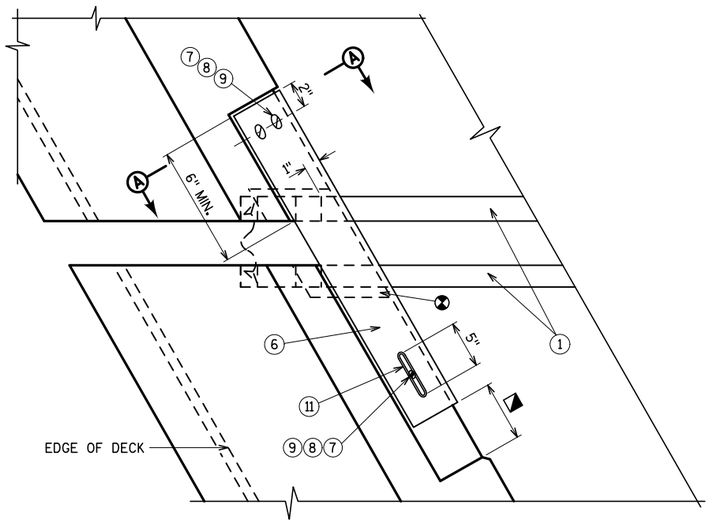
171

FILE NAME: F:\BMI-3860\Hide Interchange Bridges\structures\dsa\Final Plans\B-40-304sB40304.dgn
DATE: 4/15/2014 11:39:49 AM Plotted by: tlegaar PEN TABLE: v8_Structural_rev.tbl

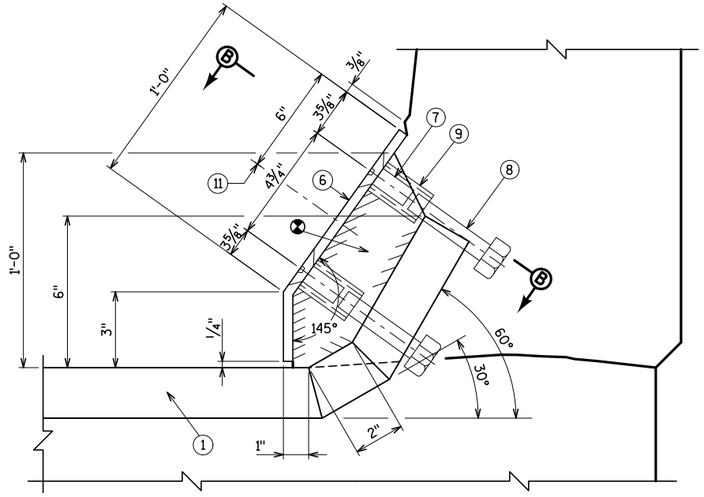


8

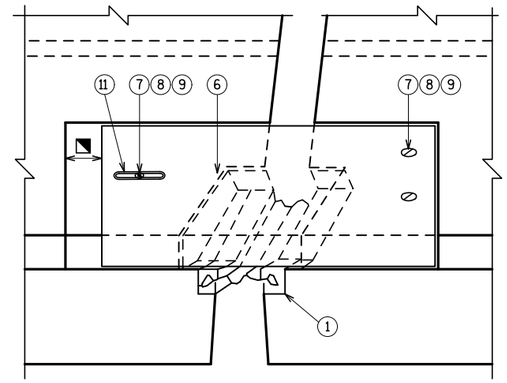
| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |



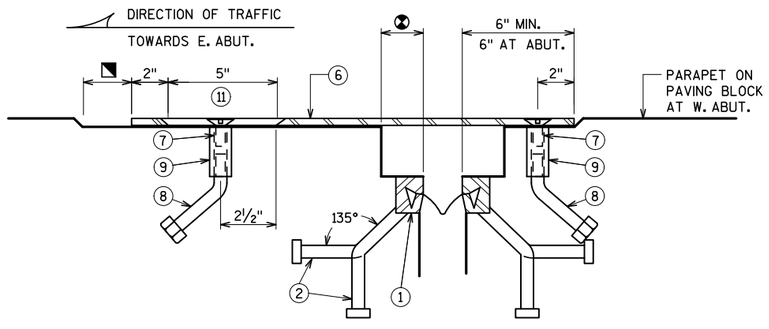

PLAN AT PARAPET




SECTION A-A

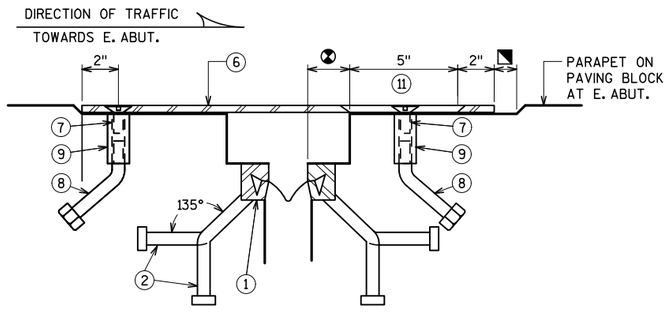



VIEW OF PARAPET PLATE FROM ROADWAY




SECTION B-B

APPLIES AT WEST ABUT. AND SUSPENDERS




SECTION B-B

APPLIES AT EAST ABUTMENT

## NOTES

- BLOCKOUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIM. ALONG SKEW PLUS ½".

SEE SHEET 11 FOR ADDITIONAL NOTES AND LEGEND.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-304

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

EXPANSION JOINT DETAILS (2 OF 2)

SHEET 12 OF 14
172

8

8

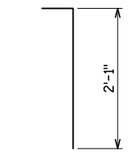
FILE NAME: F:\BMI-3360E Hide Interchange Bridges\structures\dgs\final Plans\B-40-304\t2840304_exp jt_2.dgn
DATE: 4/15/2014 11:32:14 AM Plotted by: tlegaar PEN TABLE: v8_Structural_rev.tbl

## BILL OF BARS - WEST AND EAST ABUT.

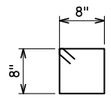
| BAR MARK | COAT | NO. STAGE 1 | NO. STAGE 2 | NO. TOTAL | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|---|
| ☆ A501 | X | 30 | 26 | 56 | 2'-9" | X | - | W. ABUT. - PAVING BLOCK VERTICAL |
| A402 | X | 30 | 26 | 56 | 3'-2" | X | - | W. ABUT. - PAVING BLOCK VERTICAL |
| A503 | X | 12 | 9 | 21 | 8'-7" | - | - | W. ABUT. - PAVING BLOCK HORIZONTAL |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ☆ B501 | X | 39 | 26 | 65 | 2'-9" | X | - | E. ABUT. - PAVING BLOCK VERTICAL |
| B402 | X | 39 | 26 | 65 | 3'-2" | X | - | E. ABUT. - PAVING BLOCK VERTICAL |
| B503 | X | 15 | 9 | 24 | 8'-10" | - | - | E. ABUT. - PAVING BLOCK HORIZONTAL |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## BILL OF BARS - PARAPET

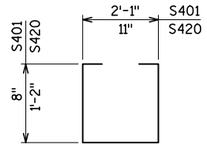
| BAR MARK | COAT | NO. STAGE 1 | NO. STAGE 2 | NO. TOTAL | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|---|
| P401 | X | 50 | 50 | 100 | 4'-3" | X | - | PARAPETS VERTICAL |
| P402 | X | 50 | 50 | 100 | 4'-4" | X | - | PARAPETS VERTICAL |
| P503 | X | 10 | 10 | 20 | 8" | - | - | PARAPETS HORIZONTAL |
| P504 | X | 20 | 20 | 40 | 1'-8" | - | - | PARAPETS HORIZONTAL |
| P505 | X | 30 | 30 | 60 | 2'-6" | - | - | PARAPETS HORIZONTAL |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |



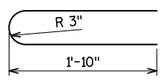

☆ A501, B501



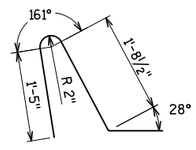

A402, B402



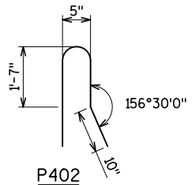

S401, S420




S432

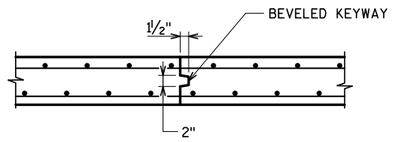



P401




P402

## BENDING DIAGRAMS




## CONSTRUCTION JOINT DETAIL

## BILL OF BARS - SUPERSTRUCTURE

| BAR MARK | COAT | NO. STAGE 1 | NO. STAGE 2 | NO. TOTAL | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|---|
| S401 | X | 80 | 56 | 136 | 3'-11" | X | - | DECK JOINT VERT. - ABUTMENTS |
| S502 | X | - | 24 | 24 | 25'-4" | - | - | DECK JOINT HORIZ. - W. ABUTMENT |
| S503 | X | 12 | - | 12 | 32'-3" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S504 | X | 12 | - | 12 | 41'-3" | - | - | DECK JOINT HORIZ. - E. ABUTMENT |
| S605 | X | 10 | 20 | 30 | 8'-1" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S606 | X | 10 | - | 10 | 6'-11" | - | - | DECK JOINT HORIZ. - W. ABUTMENT |
| S607 | X | - | 10 | 10 | 5'-1" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S608 | X | ◐ 10 | - | 10 | 3'-0" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S609 | X | 15 | - | 15 | 7'-6" | - | - | DECK JOINT HORIZ. - E. ABUTMENT |
| S410 | X | 4 | 8 | 12 | 8'-1" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S411 | X | 4 | - | 4 | 6'-11" | - | - | DECK JOINT HORIZ. - W. ABUTMENT |
| S412 | X | - | 4 | 4 | 5'-0" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S413 | X | 4 | - | 4 | 2'-11" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S414 | X | 6 | - | 6 | 7'-6" | - | - | DECK JOINT HORIZ. - E. ABUTMENT |
| | | | | | | | | |
| | | | | | | - | | |
| S420 | X | 236 | 248 | 484 | 3'-8" | X | - | DECK JOINT VERT. - SUSPENDERS |
| S521 | X | - | 80 | 80 | 25'-4" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S522 | X | 20 | - | 20 | 27'-11" | - | - | DECK JOINT HORIZ. - SUSPENDER 1 |
| S523 | X | 60 | - | 60 | 26'-5" | - | - | DECK JOINT HORIZ. - SUSPENDERS 2, 3, 4 |
| S724 | X | 42 | 48 | 90 | 8'-1" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S725 | X | 12 | - | 12 | 4'-8" | - | - | DECK JOINT HORIZ. - SUSPENDER 1 |
| S726 | X | - | 24 | 24 | 5'-1" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S727 | X | ◐ 24 | - | 24 | 3'-0" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S428 | X | 42 | 48 | 90 | 8'-1" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S429 | X | 12 | - | 12 | 4'-8" | - | - | DECK JOINT HORIZ. - SUSPENDER 1 |
| S430 | X | - | 24 | 24 | 5'-0" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S431 | X | 24 | - | 24 | 2'-11" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S432 | X | 118 | 124 | 242 | 3'-11" | X | - | DECK JOINT VERT. - SUSPENDERS |
| | | | | | | | | |
| | | | | | | | | |
| S440 | X | 32 | 40 | 72 | 8'-1" | - | - | DECK JOINT HORIZ. |
| S441 | X | 4 | - | 4 | 6'-11" | - | - | DECK JOINT HORIZ. - W. ABUT. STAGE 1 |
| S442 | X | 8 | - | 8 | 4'-8" | - | - | DECK JOINT HORIZ. - SUSPENDER 1 STAGE 1 |
| S443 | X | 6 | - | 6 | 7'-6." | - | - | DECK JOINT HORIZ. - E. ABUT. STAGE 1 |
| S444 | X | 20 | - | 20 | 5'-0" | - | - | DECK JOINT HORIZ. - SUSPENDERS & ABUTS STAGE 1 |
| S445 | X | - | 20 | 20 | 2'-11" | - | - | DECK JOINT HORIZ. - SUSPENDERS & ABUTS STAGE 2 |
| | | | | | | | | |
| | | | | | | | | |

## LEGEND

☆ CONCRETE MASONRY ANCHOR TYPE L NO. 5 WITH MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED 1'-6" MIN. INTO CONCRETE

◐ BAR COUPLERS REQUIRED

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-304

DRAWN BY TB | PLANS CK'D. JRS

BILL OF BARS

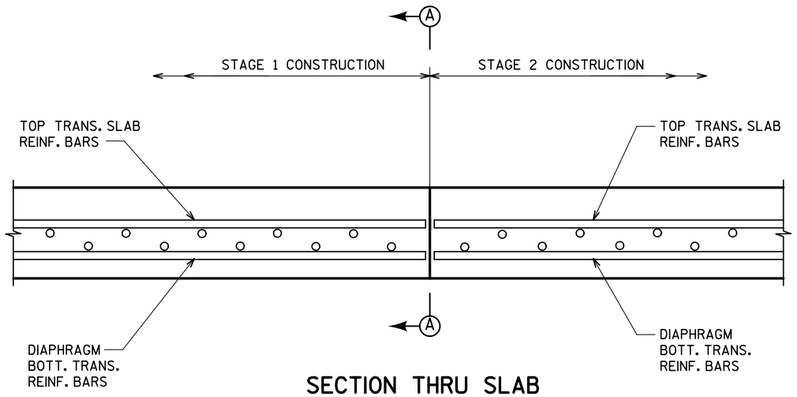
SHEET 13 OF 14
173



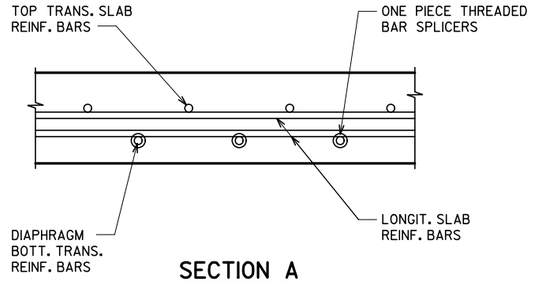
8

FILE NAME: F:\BMI-3160E Hale Interchange Bridges\structures\esdss\Final Plans\B-40-304\3840304_Bill of Bars.dgn
DATE: 4/15/2014 11:32:16 AM Plotted by: tiegear PEN TABLE: v8_Structural_rev.tbl

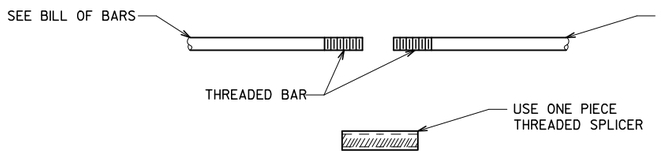
| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |



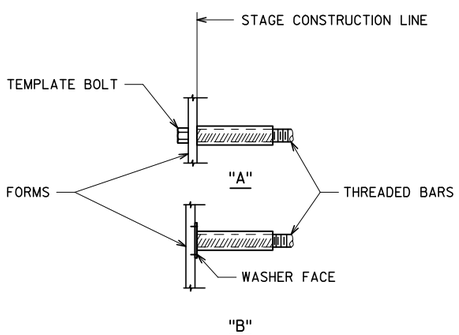

## SECTION THRU SLAB




## SECTION A




## ONE PIECE THREADED SPLICER




## 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.

## 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.

ONE PIECE THREADED COUPLERS SHALL BE USED AS THE LAP LENGTHS REQUIRED FOR BAR SPLICERS ARE NOT AVAILABLE IN SOME LOCATIONS.

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

BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-304

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

BAR COUPLERS

SHEET 14 OF 14
174

8

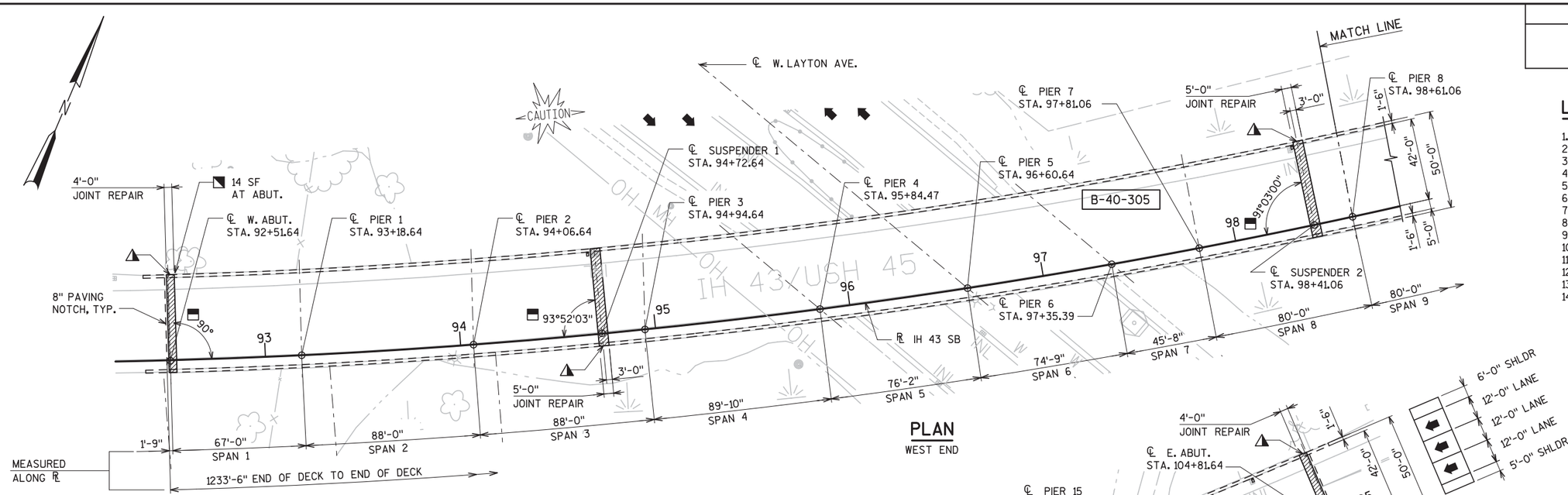
8

FILE NAME: F:\BMI-3960 Hale Interchange Bridges\structures\cds\Final Plans\B-40-304\sht\B40304_couplers.dgn
DATE: 4/15/2014 11:32:18 AM Plotted by: tlegeor PEN TABLE: v8_Structural_rev.tbl

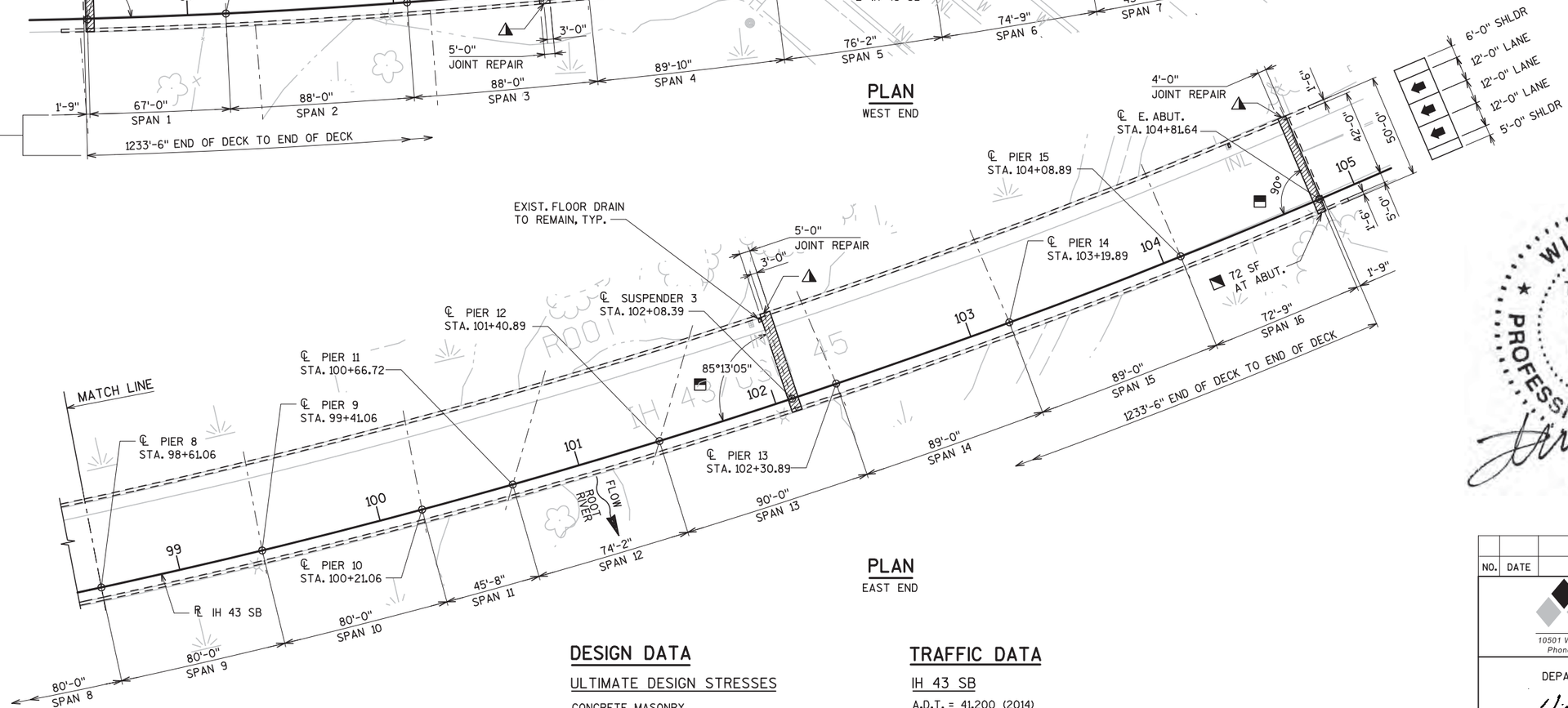
| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

## LIST OF DRAWINGS


1. GENERAL PLAN
2. TYPICAL SECTION
3. CONSTRUCTION STAGING
4. SLOPE PAVING REPAIR
5. EXISTING FRAMING PLAN 1
6. EXISTING FRAMING PLAN 2
7. PIN AND HANGER CLEANING
8. DIAPHRAGM CONNECTION REPAIR
9. EXPANSION JOINT REINFORCING 1
10. EXPANSION JOINT REINFORCING 2
11. EXPANSION JOINT DETAILS (1 OF 2)
12. EXPANSION JOINT DETAILS (2 OF 2)
13. BILL OF BARS
14. BAR COUPLERS


## PLAN
WEST END




## PLAN
EAST END

## LEGEND

- ⚠ STRIP SEAL EXPANSION JOINT
- ⬒ ANGLES MEASURED FROM TANGENT TO ℞ AT LOCATION OF INTERSECTION, TYP.
- ◥ LOCATION FOR CONCRETE SURFACE REPAIR.

## DESIGN DATA

### ULTIMATE DESIGN STRESSES

CONCRETE MASONRY,
f'c = 4,000 psi

BAR STEEL REINFORCEMENT, GRADE 60
fy = 60,000 psi

STRUCTURAL STEEL CARBON, A709, GRADE 36
fy = 36,000 psi

### LIVE LOAD

DESIGN LOAD: HS-20*
INVENTORY RATING: HS-16*
OPERATIONAL RATING: HS-27*
WISCONSIN STANDARD PERMIT VEHICLE LOAD (WIS-SPV): 200 KIPS*

* TAKEN FROM HSI 11/13/2013

## TRAFFIC DATA

### IH 43 SB

A.D.T. = 41,200 (2014)
A.D.T. = 45,300 (2034)
R.D.S. = 60 MPH

## CURVE DATA

### IH 43 SB

P.C 91+60.96
P.T 105+55.72
R = 3274.04'
D = 1°45'00"
Δ = 24°24'24"
T = 708.12'
SE = 0.028'/'

## STRUCTURE DESIGN CONTACTS

BUREAU OF STRUCTURES CONTACT:
WILLIAM DREHER
(608) 266-8489

CONSULTANT CONTACT:
JASON SADOWSKI
(414) 292-4508

WISCONSIN
THOMAS A. ZALEWSKI
E-26972
MADISON
WI
PROFESSIONAL ENGINEER
4/16/14

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |


BLOOM COMPANIES, LLC
Infrastructure Innovation and Ingenuity
10501 W. Research Drive • Milwaukee, WI 53226
Phone: (414) 771-3390 Fax: (414) 771-4490


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 04/16/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-40-305

IH 43/USH 45 SB OVER W. LAYTON AVE

| COUNTY | CITY |
|---|---|
| MILWAUKEE | GREENFIELD |

DESIGN SPEC.
REHABILITATION N/A

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JRS | BDT | TB | JRS |

GENERAL PLAN

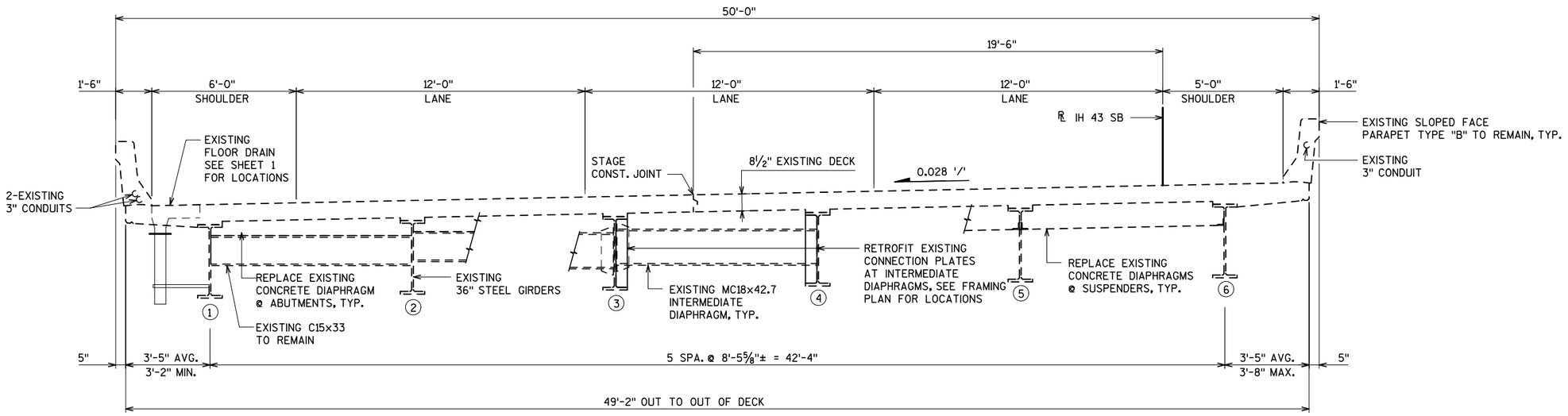
SHEET 1 OF 14
175


FILE NAME: F:\BMI-3860E Hole Interchange Bridges\structures\esds\Final Plans\B-40-305s01B40305_gp.dgn
DATE: 4/15/2014 11:17:15 AM Plotted by: tlegaar PEN TABLE: v8_Structural_rev.tbl



8

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## TYPICAL SECTION

(LOOKING EAST)

## TOTAL ESTIMATED QUANTITIES

| | ITEM NUMBER | BID ITEMS | UNIT | WEST ABUT. | EAST ABUT. | SUPER | TOTAL |
|---|---|---|---|---|---|---|---|
| ▲ | 204.0175 | REMOVING CONCRETE SLOPE PAVING | SY | - | 26 | - | 26 |
| | 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | - | - | 139 | 139 |
| | 502.5005 | CONCRETE MASONRY ANCHORS TYPE L NO. 5 BARS | EACH | 50 | 50 | - | 100 |
| | 505.0605 | BAR STEEL REINFORCEMENT HS COATED BRIDGES | LB | 430 | 430 | 9,700 | 10,560 |
| | 505.0906 | BAR COUPLERS NO.6 | EACH | - | - | 10 | 10 |
| | 505.0907 | BAR COUPLERS NO.7 | EACH | - | - | 18 | 18 |
| | 506.0105 | STRUCTURAL STEEL CARBON | LB | - | - | 30,426 | 30,426 |
| | 509.1000 | JOINT REPAIR | SY | - | - | 126 | 126 |
| ▲ | 509.1500 | CONCRETE SURFACE REPAIR | SF | 14 | 72 | - | 86 |
| ◐ | 509.2500 | CONCRETE MASONRY OVERLAY DECKS | CY | 2 | 2 | 47 | 51 |
| | 517.0600 | PAINTING EPOXY SYSTEM B-40-305 | LS | - | - | - | 1 |
| | 517.4000.S | CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-305 | LS | - | - | - | 1 |
| | 604.0400 | SLOPE PAVING CONCRETE | SY | - | 26 | - | 26 |
| | 652.0135 | CONDUIT RIGID METALLIC 3-INCH | LF | - | - | 69 | 69 |
| ▲ | SPV.0060.4002 | GIRDER CRACK REPAIR | EACH | - | - | 5 | 5 |
| | SPV.0060.4003 | JUNCTION BOX COVER PLATE REPAIR | EACH | - | - | 5 | 5 |
| | SPV.0105.4002 | CLEANING PIN AND HANGER ASSEMBLIES B-40-305 | LS | - | - | - | 1 |
| | SPV.0105.4004 | INSTALL EXPANSION DEVICE B-40-305 | LS | - | - | - | 1 |
| | | | | | | | |
| | | NON-BID ITEMS | | | | | |
| | | | | | | | |

ALL BID ITEMS ARE CATEGORY 0070

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

ROADWAY ALIGNMENTS, STATIONING AND BASE MAPPING ARE BASED ON AERIAL SURVEY AND ARE TO BE USED FOR INFORMATIONAL PURPOSES ONLY. STATIONING SHOWN DOES NOT CORRELATE WITH PRIOR PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAWCUT.

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

SALVAGE, CLEAN, STRAIGHTEN AND EXTEND EXISTING BAR STEEL REINFORCEMENT 24 BAR DIAMETERS INTO NEW WORK, WHERE APPLICABLE.

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP OF NEW CONCRETE AT JOINT REPAIR LOCATIONS, INCLUDING THE TOP AND INSIDE FACE OF PARAPETS.

THE EXISTING STRUCTURE B-40-305 IS A 16 SPAN STEEL GIRDER BRIDGE WITH AN OVERALL LENGTH OF 1234'-10", AND TYPICAL WIDTH OF 50'-0".

▲ LOCATIONS FOR THE FOLLOWING BID ITEMS WILL BE DETERMINED BY THE FIELD ENGINEER:
- "CONCRETE SURFACE REPAIR"
- "GIRDER CRACK REPAIR"
- "REMOVING CONCRETE SLOPE PAVING"

QUANTITIES SHOWN ON THE PLANS FOR THE ABOVE ITEMS ARE APPROXIMATE.

CLEAN PIN AND HANGER ASSEMBLIES AT LOCATIONS SHOWN ON THE FRAMING PLAN SHEETS ACCORDING TO THE SPECIAL PROVISIONS.

ANY EXCAVATION REQUIRED TO COMPLETE PAVING BLOCK CONSTRUCTION IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

EXISTING CONDUIT IN PARAPET TO REMAIN IN PLACE. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION DURING CONSTRUCTION.

STEEL GIRDER PAINTING REQUIRED FOR RETROFIT STIFFENER PLATES SHALL MATCH EXISTING PAINT COLOR. USE FEDERAL COLOR #25240. PAINTING OF STIFFENER PLATES IS PAID FOR WITH BID ITEM "PAINTING EPOXY SYSTEM B-40-305".

◐ ITEM IS FOR JOINT REPAIR.

"CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-305" BID ITEM IS USED WITH "CLEANING PIN AND HANGER ASSEMBLIES B-40-305" BID ITEM.

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.

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-40-305".

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-305**

DRAWN BY TB | PLANS CK'D. JRS

**TYPICAL SECTION**

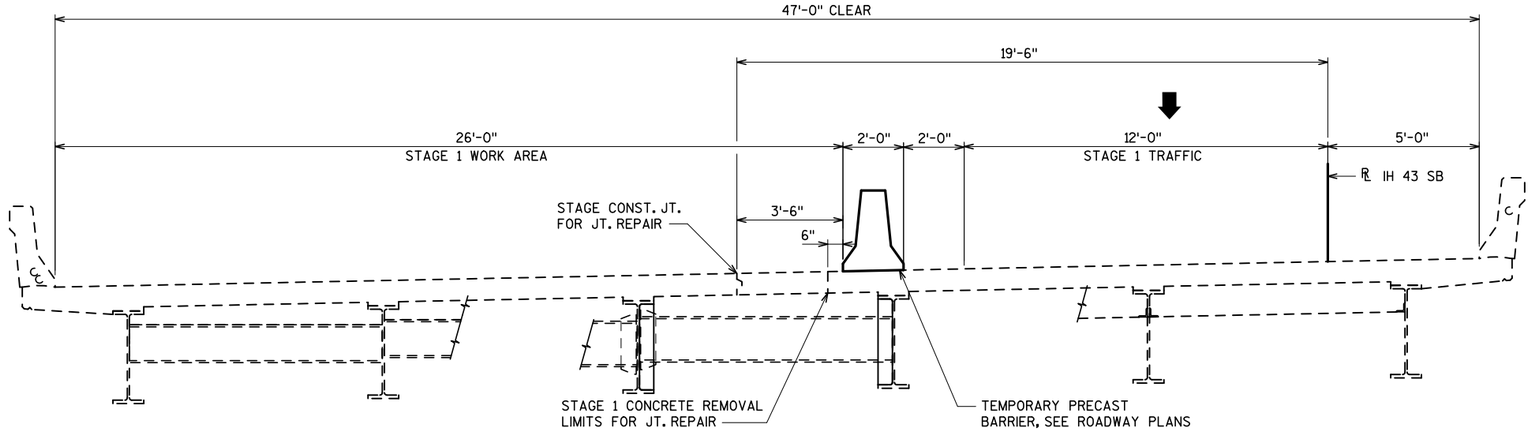
SHEET 2 OF 14
176

8

8

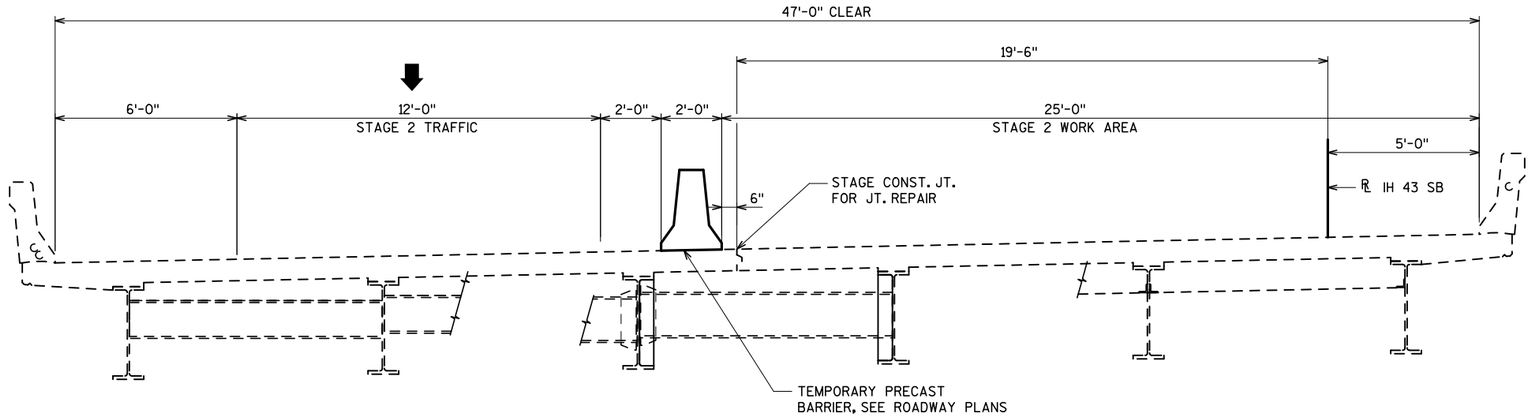
FILE NAME: F:\BMI-3160E Hale Interchange Bridges\structuresdsFinalPlans\B-40-305s02840305_ts.dgn
DATE: 4/16/2014 9:32:08 AM Plotted by: tiegeor PEN TABLE: v8_Structural_rev.tbl

| STATE PROJECT NUMBER |
| --- |
| 1090-33-60 |




## TYPICAL SECTION - STAGE 1

(LOOKING EAST)




## TYPICAL SECTION - STAGE 2

(LOOKING EAST)

## NOTES

SEE TRAFFIC CONTROL PLANS FOR COMPLETE STAGING DETAILS.

TEMPORARY BARRIER SHOULD NOT BE ANCHORED TO THE DECK.

| NO. | DATE | REVISION | BY |
| --- | --- | --- | --- |
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-305**

| DRAWN BY | TB | PLANS CK'D. | JRS |
| --- | --- | --- | --- |

**CONSTRUCTION STAGING**

SHEET 3 OF 14



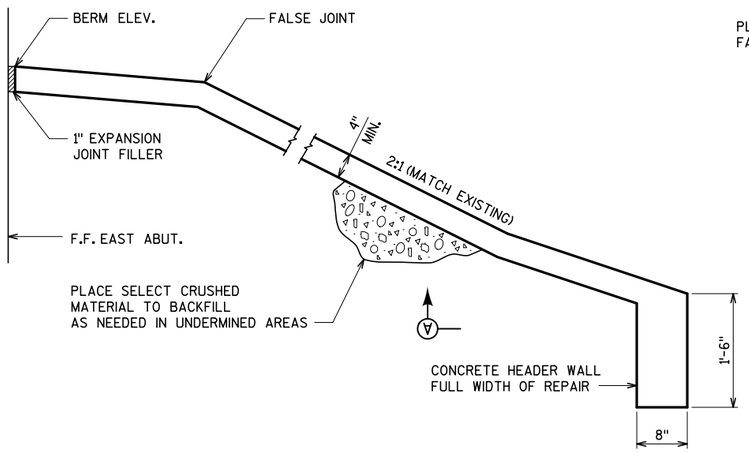
8

8

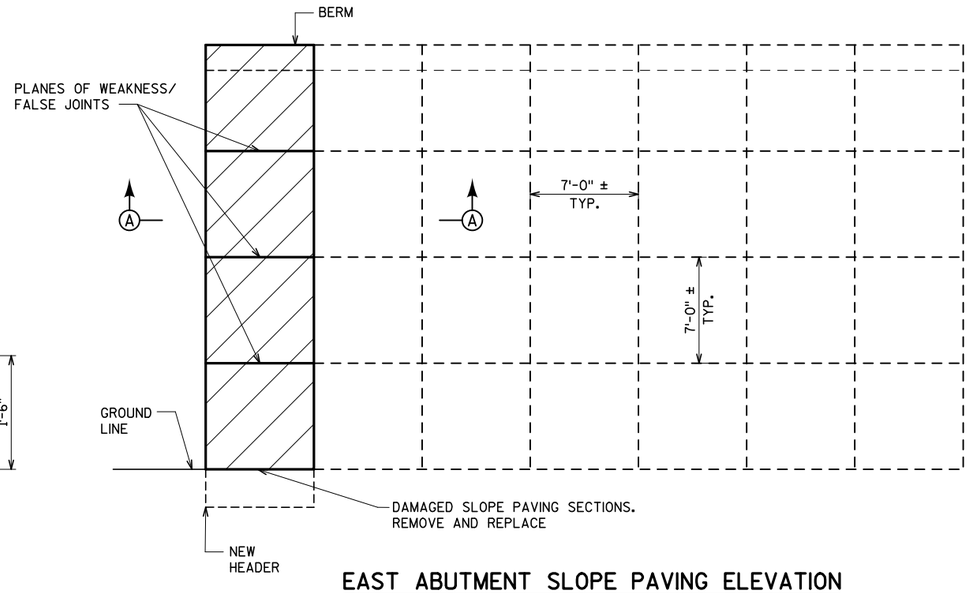
FILE NAME: F:\BM\3160E Hale Interchange Bridges\structures\dgs\Final Plans\B-40-305\03840305_staging.dgn
DATE: 4/15/2014 11:32:21 AM Plotted by: tiegear PEN TABLE: v8_Structural_rev.tbl

FILE NAME: F:\BM\3160E Hale Interchange Bridges\structures\osds\Final Plans\B-40-305\040305_slope pav.dgn
DATE: 4/15/2014 11:32:22 AM Plotted by: tiegear PEN TABLE: v8_Structural_rev.tbl



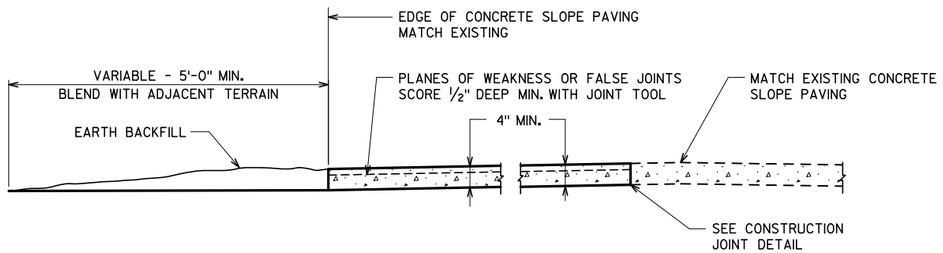



## TYPICAL SECTION THRU SLOPE PAVING

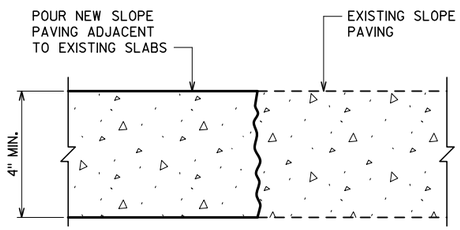



## EAST ABUTMENT SLOPE PAVING ELEVATION

(LOOKING EAST)




## SECTION A-A




## CONSTRUCTION JOINT DETAIL

## NOTES

DETAILS OF CONSTRUCTION NOT SHOWN HEREON SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

REMOVE DAMAGED SLOPE PAVING SECTIONS AT EAST ABUTMENT AS DIRECTED BY THE FIELD ENGINEER.

EXCAVATE AS REQUIRED. PLACE SELECT CRUSHED MATERIAL TO MATCH EXISTING SLOPE AND TO SPECIFIED SLOPE PAVING THICKNESS.

PLACE CONCRETE SLOPE PAVING TO MATCH EXISTING SLOPE AND PROVIDE BROOM FINISH.

BACKFILL WITH EXCAVATED MATERIAL.

BID ITEMS ARE "REMOVING CONCRETE SLOPE PAVING" AND "SLOPE PAVING CONCRETE", AND INCLUDE ALL ITEMS SHOWN INCLUDING REMOVAL, EXCAVATION, BACKFILL, SELECT CRUSHED MATERIAL AND NEW SLOPE PAVING.

8

8

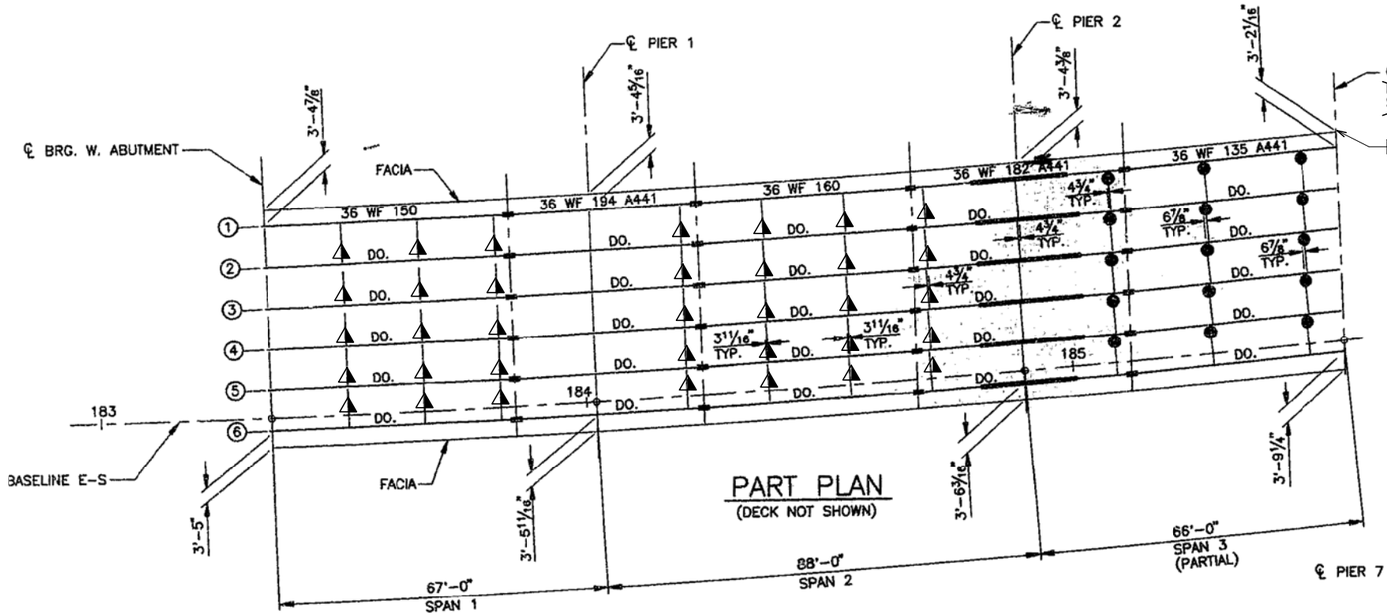
| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-305

DRAWN BY TB | PLANS CK'D. JRS

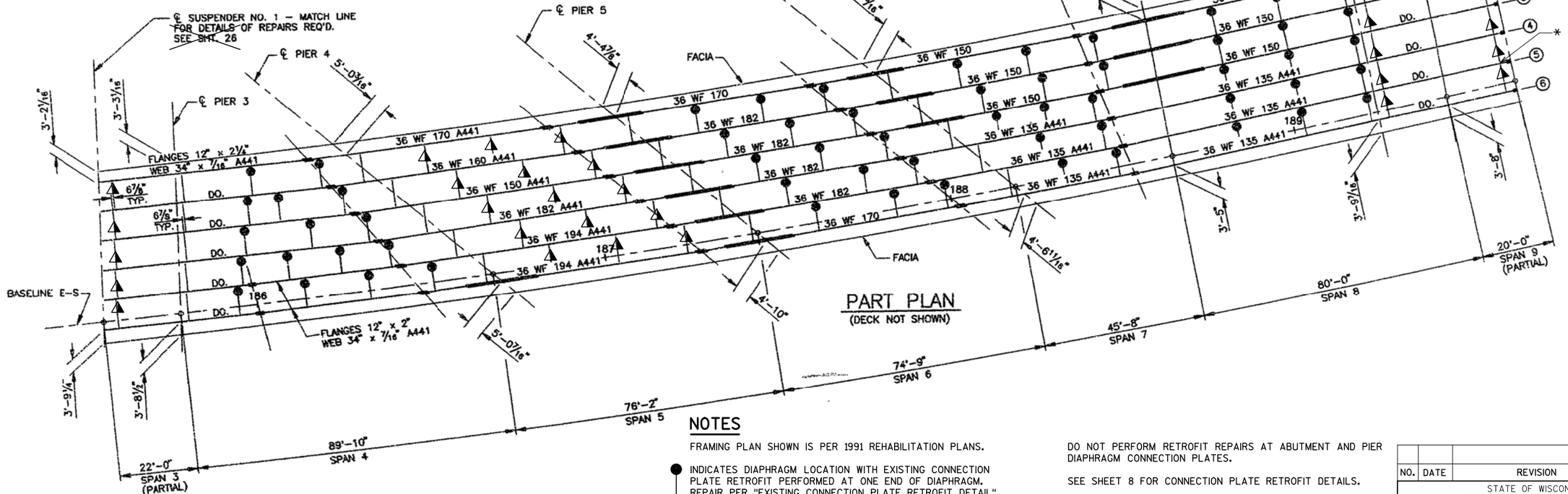
SLOPE PAVING REPAIR




NOTE: THE ABBREVIATION DO. INDICATES DITTO

NOTE: THE COVER PLATES SHALL BE INSPECTED ON THE TOP FLANGES OVER THE PIERS IN THE TENSION ZONE AT THE TIME OF DECK REMOVAL TO DETERMINE THE NEED FOR BOLT SPLICING. INSPECTION TO BE PERFORMED BY WISDOT PERSONNEL.

● INDICATES DIAPHRAGM CONN. PLATE RETRO-FIT. FOR DETAILS SEE SHT. 10




## NOTES

FRAMING PLAN SHOWN IS PER 1991 REHABILITATION PLANS.

● INDICATES DIAPHRAGM LOCATION WITH EXISTING CONNECTION PLATE RETROFIT PERFORMED AT ONE END OF DIAPHRAGM. REPAIR PER "EXISTING CONNECTION PLATE RETROFIT DETAIL" ON SHEET 8 AT THE REMAINING END. (89 LOCATIONS SHOWN)

△ INDICATES DIAPHRAGM LOCATION WITHOUT PREVIOUS CONNECTION PLATE RETROFIT REPAIR AT EITHER END. REPAIR PER "EXISTING CONNECTION PLATE RETROFIT DETAIL" ON SHEET 8 AT BOTH ENDS OF THE DIAPHRAGM. (186 LOCATIONS SHOWN)

* INDICATES LOCATION WITH A CRACK OBSERVED AT THE DIAPHRAGM CONNECTION PLATE WELD. REPAIR PER "GIRDER CRACK REPAIR DETAIL" ON SHEET 8. KNOWN CRACK LOCATIONS ARE MARKED IN THE FIELD. PERFORM AT OTHER LOCATIONS IF CRACKS ARE OBSERVED. (5 LOCATIONS SHOWN)

DO NOT PERFORM RETROFIT REPAIRS AT ABUTMENT AND PIER DIAPHRAGM CONNECTION PLATES.

SEE SHEET 8 FOR CONNECTION PLATE RETROFIT DETAILS.

◥ INDICATES LOCATION TO PERFORM PIN AND HANGER CLEANING. CLEAN PIN AND HANGER ASSEMBLY AT ALL GIRDERS ALONG THIS JOINT. (SUSPENDERS 1, 2 AND 3)

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-305**

DRAWN BY TB | PLANS CK'D. JRS

**EXISTING FRAMING PLAN 1**

SHEET 5 OF 14
179

FILE NAME: F:\BMI-3606 Hale Interchange Bridges\structures\dsnFinalPlans\B-40-305\05B40305_EX FRAMING PLAN1.dgn
DATE: 4/15/2014 11:32:23 AM Plotted by: tiegeor PEN TABLE: v8_Structural_rev.tbl

FILE NAME: F:\BM\3606E Hale Interchange Bridges\structures\dgs\Final Plans\B-40-305\06B40305_EX FRAMING PLAN2.dgn
DATE: 4/15/2014 11:32:42 AM Plotted by: tiegaer PEN TABLE: v8_Structural_rev.tbl

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

℄ PIER 12
℄ PIER 11
℄ PIER 10
℄ PIER 9
℄ PIER 15
℄ PIER 14
℄ PIER 13
℄ BRG. E. ABUTMENT
℄ SPLICE & MATCH LINE, FOR CONTINUATION SEE SHT. 5
℄ SUSPENDER NO. 3 – MATCH LINE FOR DETAILS OF REPAIRS REQ'D. SEE SHT. 26
FACIA
BASELINE E–S
36 WF 104 A441
36 WF 150 A441
36 WF 150
36 WF 160 A441
36 WF 160 A441
36 WF 150
36 WF 182 A441
36 WF 150
36 WF 194 A441
36 WF 150
36 WF 170
36 WF 150
36 WF 170
36 WF 194
36 WF 194 A441
FLANGES 12" x 1 7/8" A441 WEB 34" x 7/16" A441
FLANGES 12" x 2" x 7/16" A441 WEB 34" x 7/16" A441
FLANGES 12" x 2" x 7/16" A441 WEB 34" x 7/16" A441
FLANGES 12" x 2" x 7/16" A441 WEB 34" x 7/16" A441
FLANGES 12½" x 2¼" x 7/16" A441 WEB 34" x 7/16" A441
FLANGES 12½" x 2¼" x 7/16" A441 WEB 34" x 7/16" A441
DO.
190
191
192
194
195
3'-3⅛"
3'-5⅝"
4'-9⅛"
4'-9¼"
3'-5¾"
3'-6"
4'-2"
3'-10⅛"
3'-5⅞"
3'-7⅛"
3'-4¾"
3'-5¾"
3'-4⅛"
3'-5"
3'-6¼"
3'-6¾"
60'-0" SPAN 9 (PARTIAL)
80'-0" SPAN 10
45'-8" SPAN 11
74'-2" SPAN 12
67'-6" SPAN 13 (PARTIAL)
22'-6" SPAN 13 (PARTIAL)
89'-0" SPAN 14
89'-0" SPAN 15
72'-9" SPAN 16
PART PLAN (DECK NOT SHOWN)
PART PLAN (DECK NOT SHOWN)

NOTE: THE ABBREVIATION DO. INDICATES DITTO

NOTE: THE COVER PLATES SHALL BE INSPECTED ON THE TOP FLANGES OVER THE PIERS IN THE TENSION ZONE AT THE TIME OF DECK REMOVAL TO DETERMINE THE NEED FOR BOLT SPLICING. INSPECTION TO BE PERFORMED BY WISDOT PERSONNEL.

INDICATES DIAPHRAGM CONN. PLATE RETRO-FIT. FOR DETAILS SEE SHT. 10

## NOTES

☆ INDICATES A SINGLE LOCATION WITH 3 UNTIGHTENED BOLTS AT THE BOTTOM FLANGE FIELD SPLICE. REPLACE THE LOOSE BOLTS WITH NEW ¾" DIAMETER HIGH STRENGTH BOLTS. WORK IS INCIDENTAL TO THE BID ITEM "STRUCTURAL STEEL CARBON".

SEE SHEET 5 FOR NOTES.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

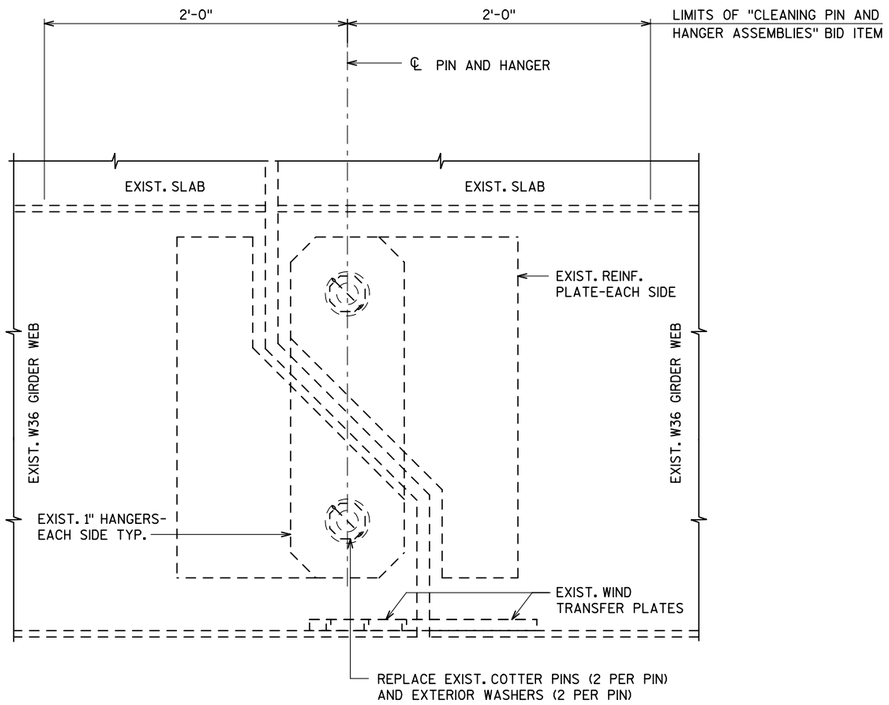
STRUCTURE B-40-305

DRAWN BY TB | PLANS CK'D. JRS

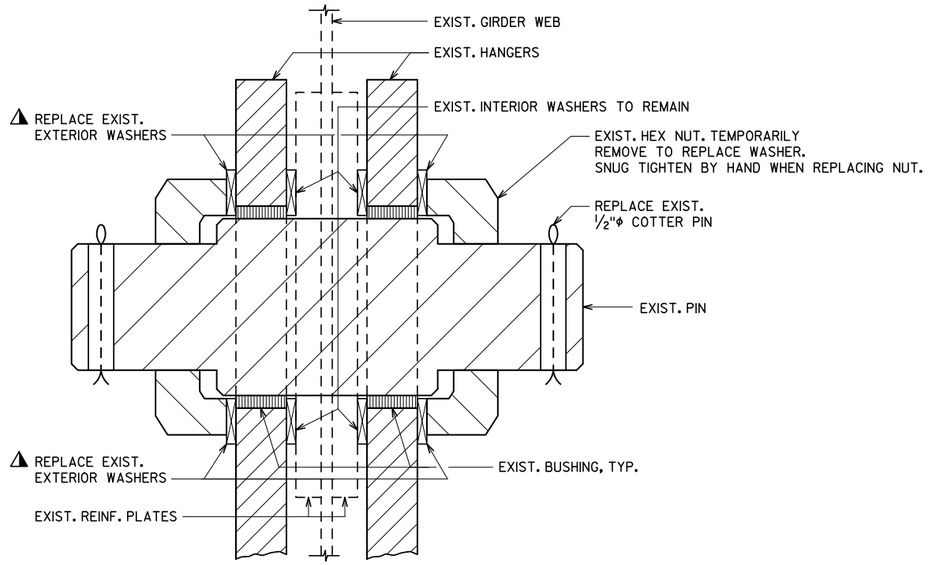
EXISTING FRAMING PLAN 2

FILE NAME: F:\BMI-3960E Hale Interchange Bridges\structures\cds\Final Plans\B-40-305s07B40305_hanger.dgn
DATE: 4/15/2014 11:33:07 AM Plotted by: tiegeor PEN TABLE: v8_Structural_rev.tbl






## PIN AND HANGER ELEVATION




## SECTION THRU EXISTING PIN

## NOTES

CLEAN AND PAINT EXISTING GIRDER AND PIN AND HANGER ASSEMBLIES PER SPECIAL PROVISIONS, 2'-0" TO EACH SIDE OF THE ℄ OF PIN. CLEAN AND PAINT ALL EXPOSED COMPONENTS WITHOUT DISASSEMBLING.

CLEAN PIN AND HANGER ASSEMBLIES AT LOCATIONS SHOWN ON "FRAMING PLAN" SHEETS.

THE BID ITEM "CLEANING PIN AND HANGER ASSEMBLIES B-40-305" INCLUDES ALL WORK SHOWN INCLUDING REPLACEMENT OF NON-METALLIC WASHERS AND COTTER PINS.

NON-METALLIC WASHERS SHALL HAVE AN INSIDE DIAMETER OF BETWEEN 0.005" AND 0.010" LARGER THAN THE PIN DIAMETER.

⚠ NON-METALLIC WASHERS REQUIRED FOR USE AS SPACERS BETWEEN 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

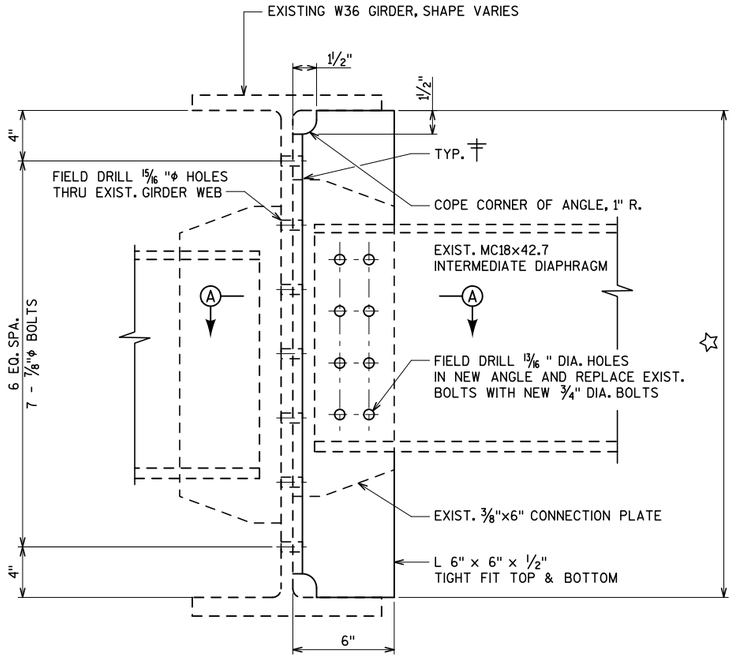
| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

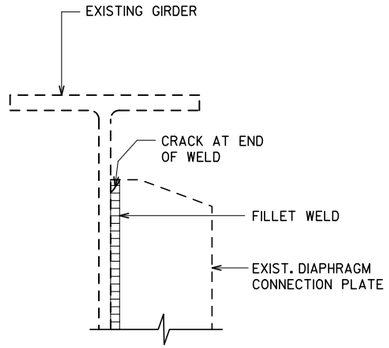
**STRUCTURE B-40-305**

DRAWN BY TB | PLANS CK'D. JRS

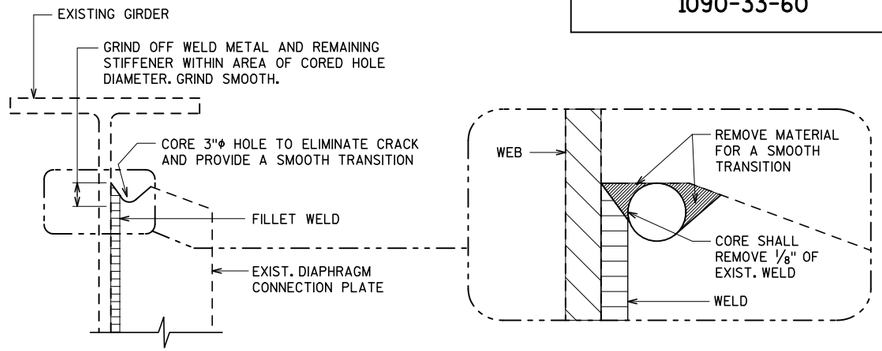
**PIN AND HANGER CLEANING**




## EXISTING CONNECTION PLATE RETROFIT DETAIL




EXISTING CONDITION




REPAIRED CONDITION

## GIRDER CRACK REPAIR DETAIL

## NOTES

ALL NEW STEEL SHALL BE ASTM A709 GRADE 36.

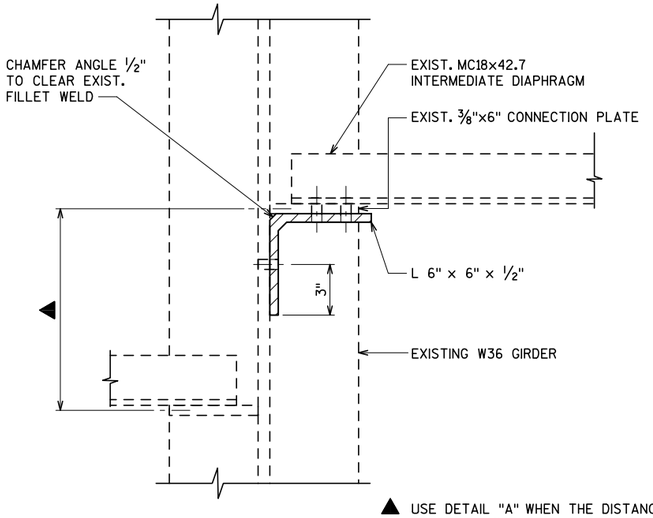
ALL BOLTS TO BE A325 FRICTION TYPE HIGH TENSILE STRENGTH BOLTS.

NEW STEEL SHALL BE SHOP PAINTED TO MATCH THE EXISTING GIRDERS ACCORDING TO THE BID ITEM "PAINTING EPOXY SYSTEM B-40-305".

REPAIR PAINT DAMAGED OR REMOVED BY INSTALLING THE RETROFIT DETAIL. WORK IS INCIDENTAL TO THE BID ITEM "PAINTING EPOXY SYSTEM B-40-305".

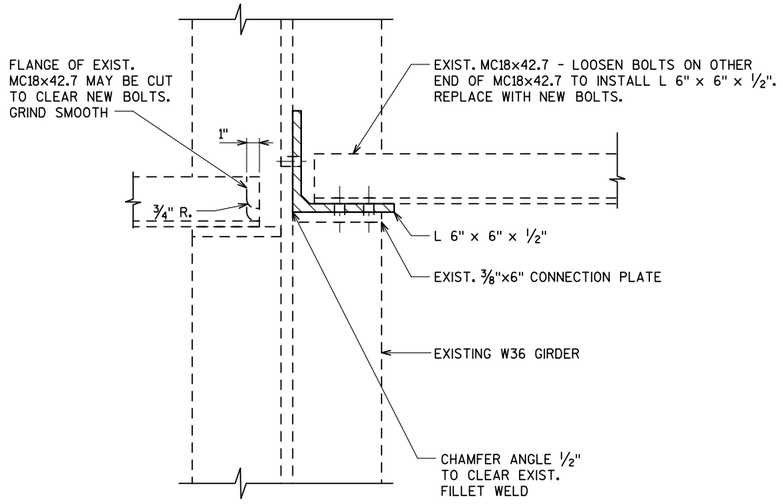
☆ ANGLE LENGTH VARIES, SEE FRAMING PLAN FOR GIRDER SIZES. ANGLE MAY BE FIELD CUT TO FIT, GRIND SMOOTH.

⧺ INSPECT EXISTING FILLET WELDS AT CONNECTION PLATES. IF CRACKS ARE OBSERVED REMOVE PER PLAN AT THE DIRECTION OF THE FIELD ENGINEER. BID ITEM FOR THIS WORK IS "GIRDER CRACK REPAIR".




▲ USE DETAIL "A" WHEN THE DISTANCE BETWEEN EXIST. CONN. PLATES DOES NOT PERMIT HOLES IN EXIST. GIRDER WEB TO BE DRILLED AND BOLTED.

## SECTION A-A




## DETAIL "A"

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-305**

DRAWN BY TB | PLANS CK'D. JRS

**DIAPHRAGM CONNECTION REPAIRS**

SHEET 8 OF 14
182

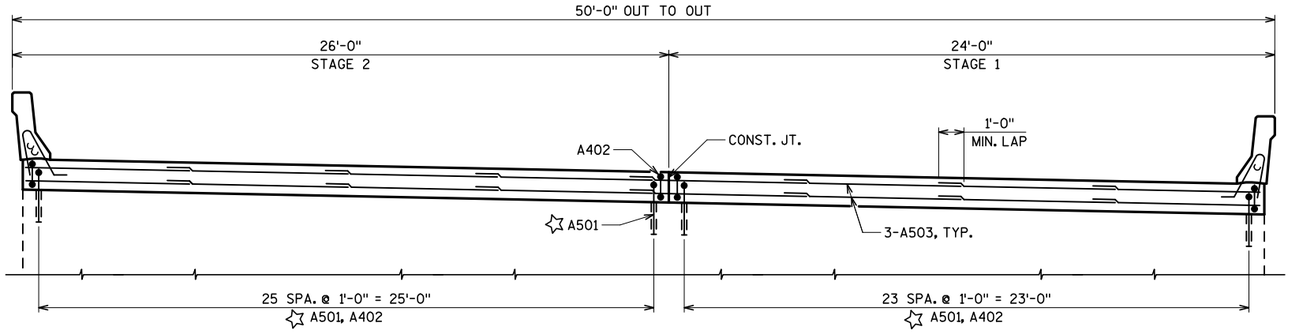
8

8

FILE NAME: F:\BMI-3860E Hide Interchange Bridges\structures\sds\Final Plans\B-40-305\08840305_diaph.dgn
DATE: 4/15/2014 11:33:09 AM Plotted by: tlegaar PEN TABLE: v8_Structural_rev.tbl

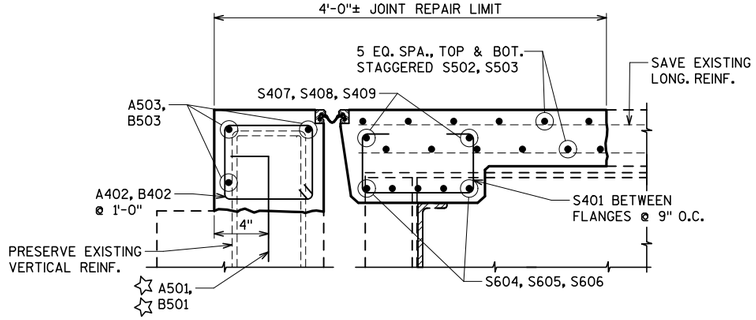
FILE NAME: F:\BMI-3606 Hale Interchange Bridges\structures\dsnFinalPlans\B-40-305s09B40305_joint reinf 1.dgn
DATE: 4/15/2014 11:33:11 AM Plotted by: tlegeor
PEN TABLE: v8_Structural_rev.tbl






## PAVING BLOCK ELEVATION AT WEST ABUTMENT

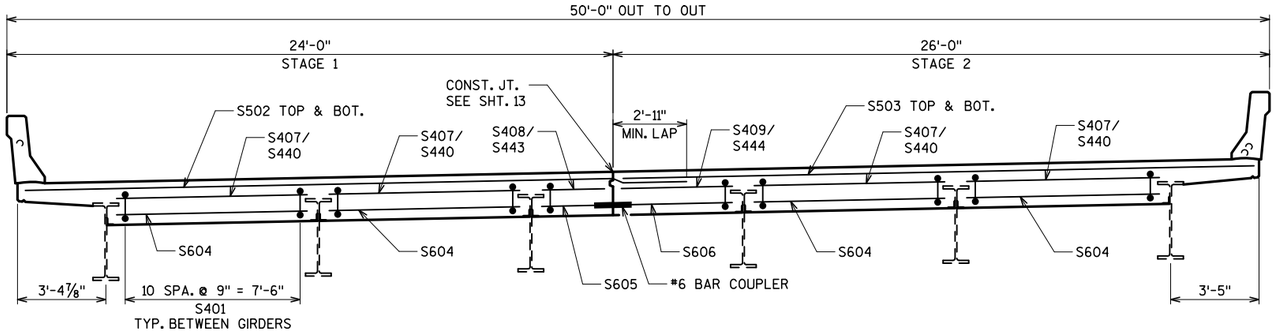
(LOOKING WEST)
(EAST ABUTMENT LOOKING WEST SIMILAR)




## SECTION THRU JOINT AT ABUTMENT

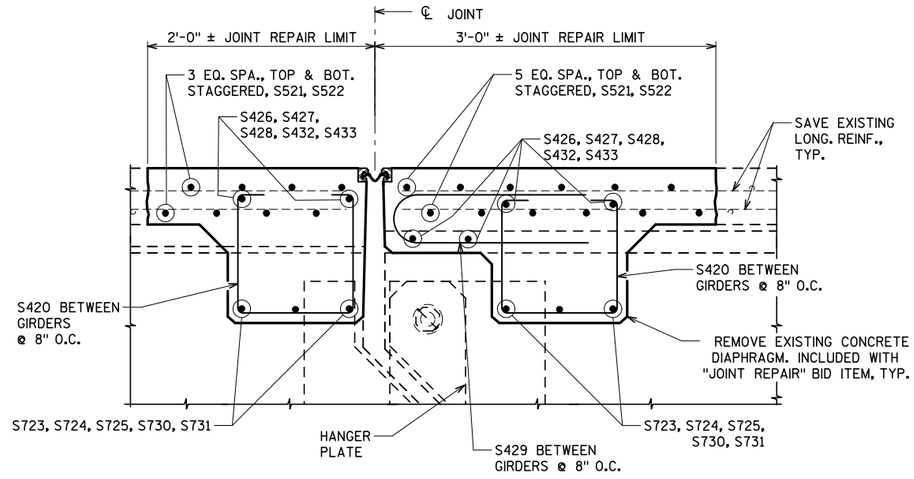
NORMAL TO ℄ SUBSTRUCTURE

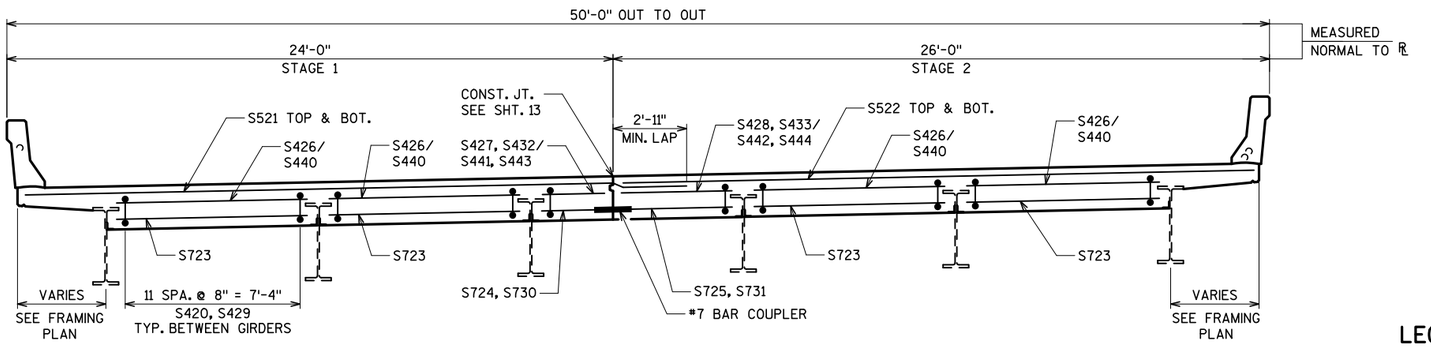
SEE SHEET 11 FOR S440 THRU S444 BARS WHICH ARE NOT SHOWN FOR CLARITY. SEE SHEET 11 FOR DIMENSIONS.




## DECK ELEVATION AT EAST ABUTMENT

(LOOKING EAST)
WEST ABUTMENT SIMILAR
BOTTOM TRANSVERSE DECK BARS NOT SHOWN FOR CLARITY




## DECK ELEVATION AT SUSPENDERS 1, 2 & 3

(LOOKING EAST)
BOTTOM TRANSVERSE DECK BARS NOT SHOWN FOR CLARITY

## SECTION THRU JOINT AT SUSPENDER

NORMAL TO ℄ SUBSTRUCTURE

SEE SHEET 11 FOR S440 THRU S444 BARS WHICH ARE NOT SHOWN FOR CLARITY. SEE SHEET 11 FOR DIMENSIONS.

3'-0" DIMENSION IS LOCATED TO THE SIDE OF THE EXPANSION JOINT WITH THE HANGER PLATE.

## LEGEND

☆ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE MASONRY ANCHORS TYPE L NO. 5 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.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-305**

DRAWN BY TB | PLANS CK'D. JRS

**EXPANSION JOINT REINFORCING 1**

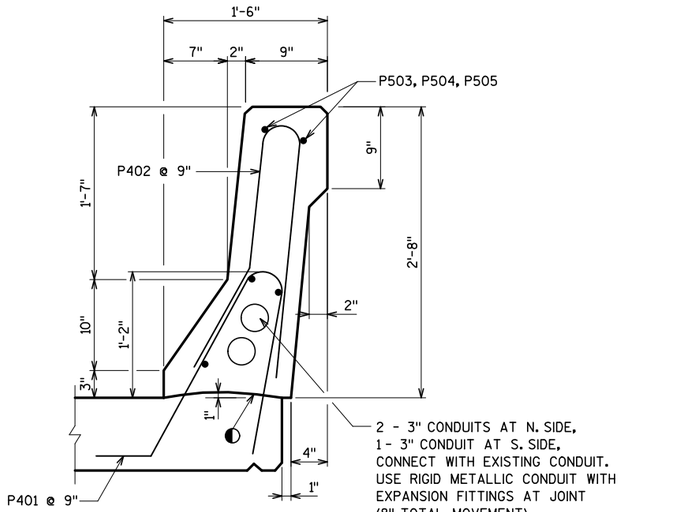
SHEET 9 OF 14
183

8

8

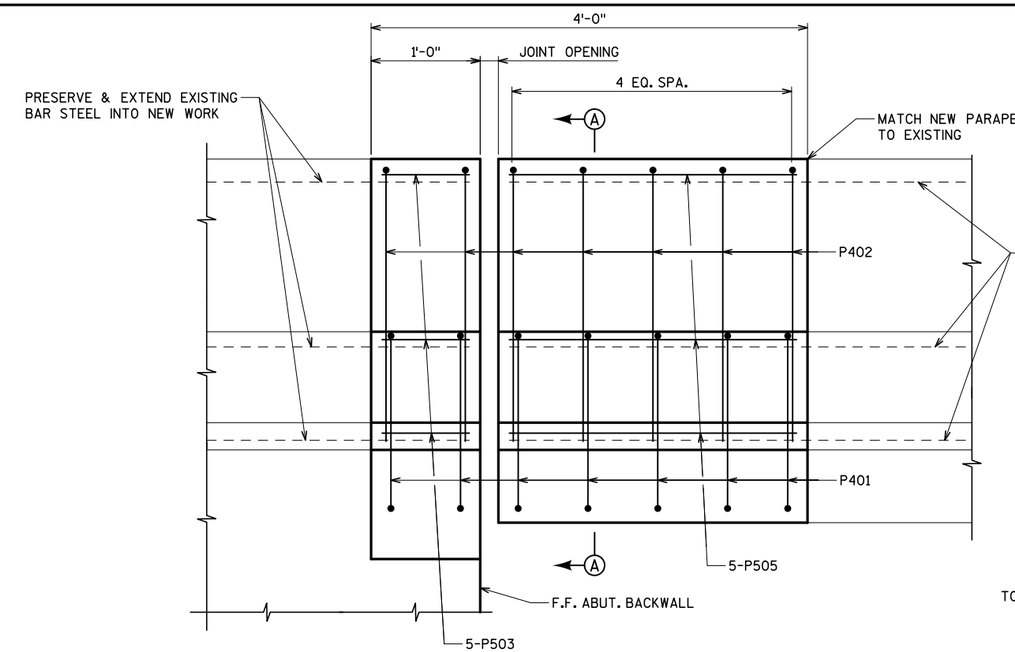
FILE NAME: F:\BMI-3605\B-40-305\0840305_Joint reinf 2.dgn
DATE: 4/15/2014 11:33:13 AM Plotted by: tlegear PEN TABLE: v8_Structural_rev.tbl

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |

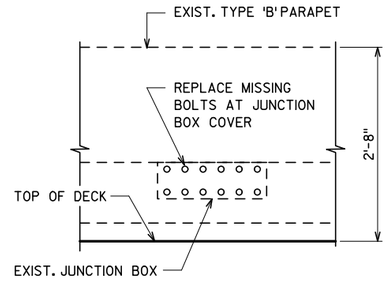



## SECTION A-A

◐ CONSTRUCTION JOINT STRIKE OFF AS SHOWN

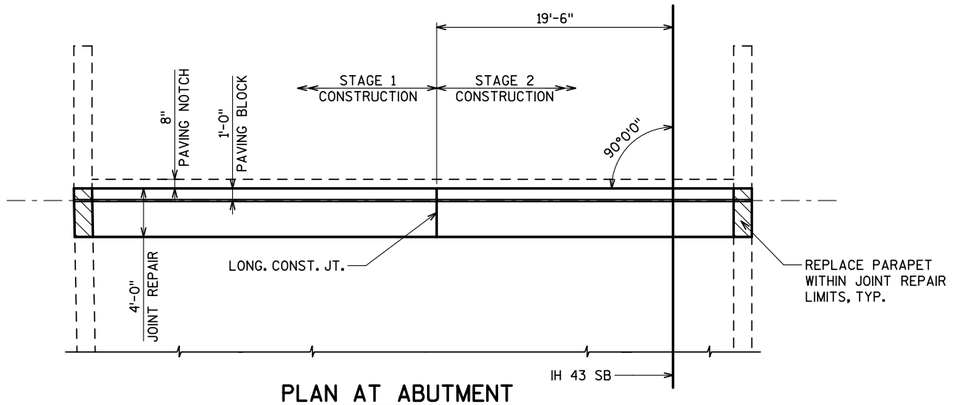



## PARAPET ELEVATION AT ABUTMENT



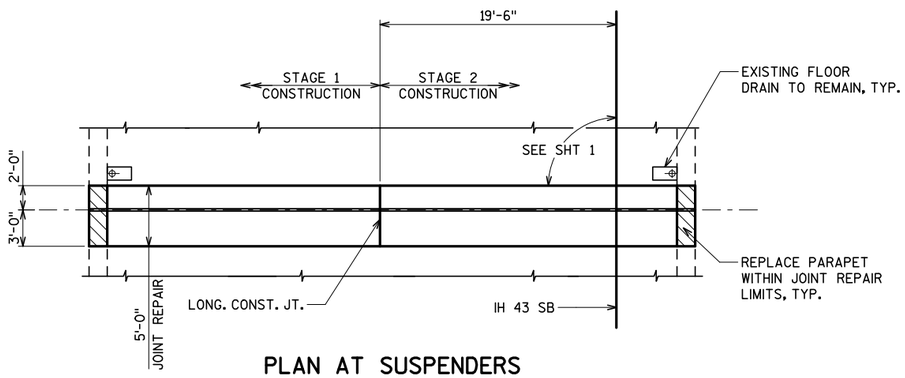

## JUNCTION BOX COVER PLATE REPAIR

(5 LOCATIONS ALONG NORTH PARAPET)



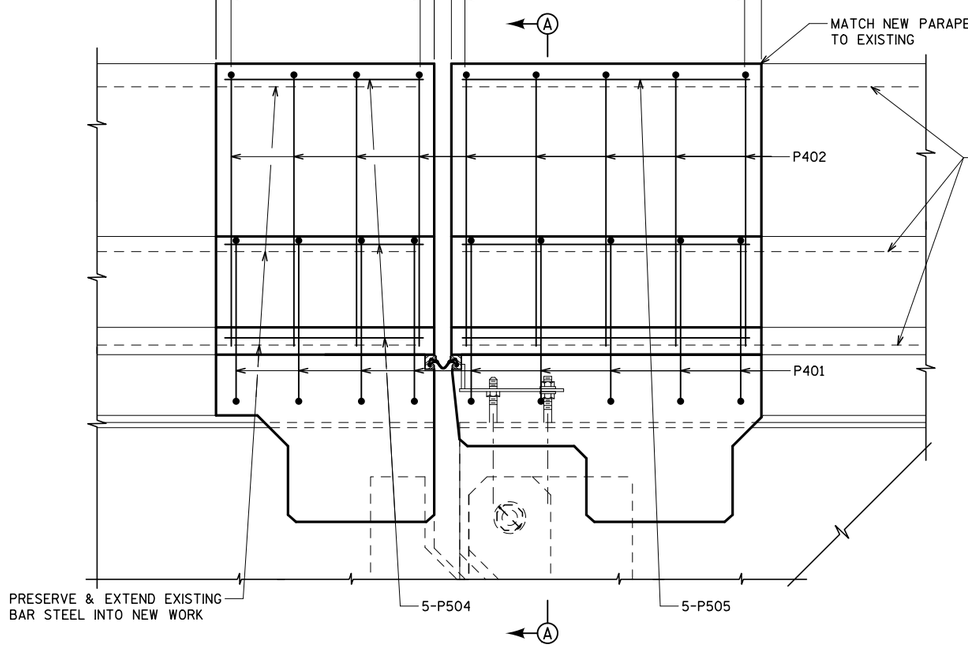

## PLAN AT ABUTMENT

W. ABUT. SHOWN, E. ABUT. SIMILAR




## PLAN AT SUSPENDERS

3'-0" DIMENSION IS LOCATED TO SIDE OF JOINT WITH HANGER PLATE




## PARAPET ELEVATION AT SUSPENDERS

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

**STRUCTURE B-40-305**

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

**EXPANSION JOINT REINFORCING 2**

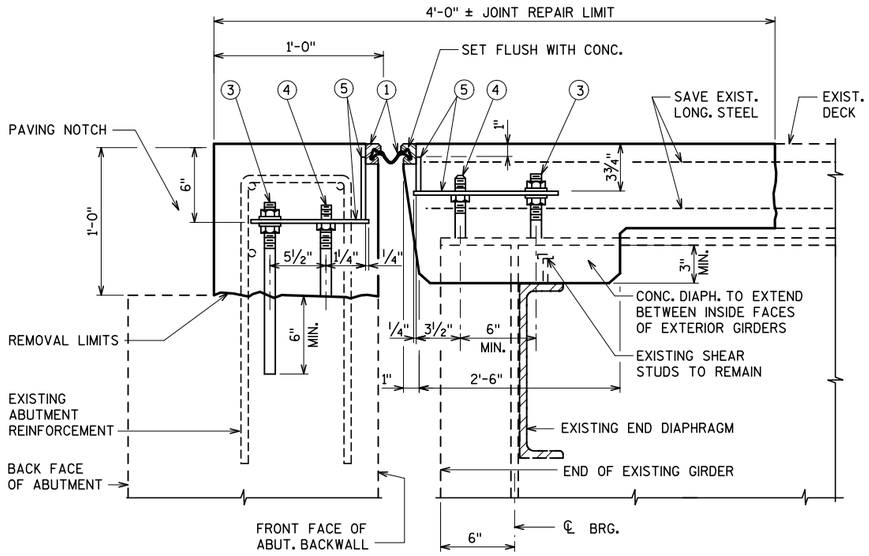
SHEET 10 OF 14
184

8

8

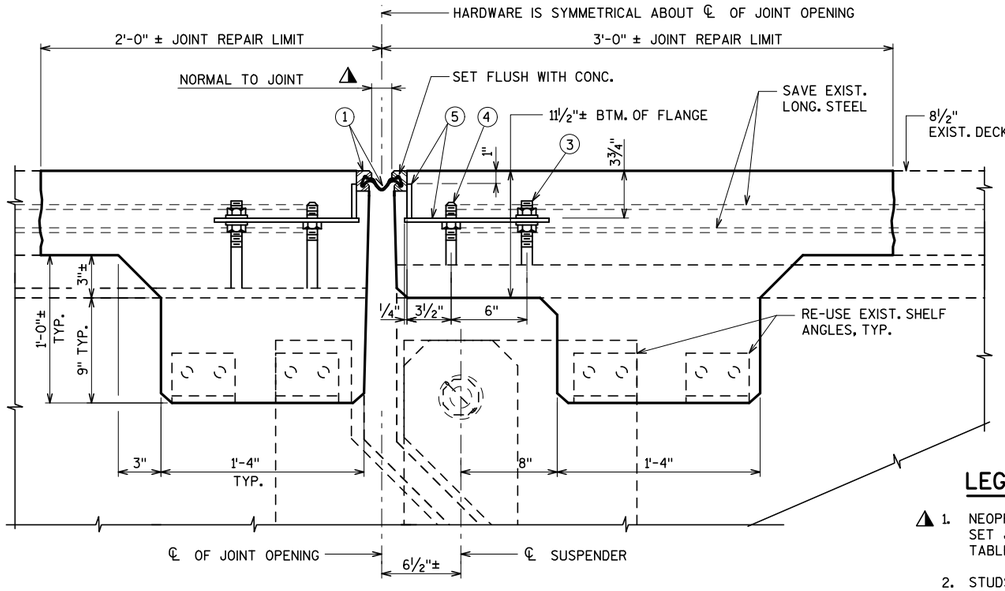
STATE PROJECT NUMBER

1090-33-60

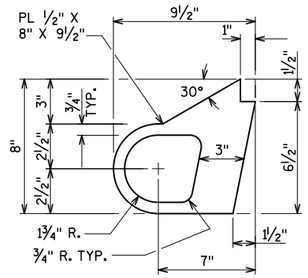



## SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE




## TYPICAL SECTION THRU JOINT AT SUSPENDERS




## ALTERNATE STRIP SEAL ANCHOR




## SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB AND AT PARAPETS

## GENERAL NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. IF USED, DETAILS SHALL BE SUBMITTED FOR APROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

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

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-40-305".

## TEMPERATURE TABLE

| SHADED UNDERSIDE OF DECK TEMP. (DEG. F) | JOINT OPENING WIDTH (IN.) ◨ | | |
|---|---|---|---|
| | E. ABUT. & W. ABUT. | SUSPENDER 1 | SUSPENDERS 2 & 3 |
| 5 | 1¾" | 3⅝" | 3¼" |
| 15 | 1¾" | 3¼" | 3" |
| 25 | 1¾" | 3" | 2¾" |
| 35 | 1¾" | 2¾" | 2⅜" |
| 45 | 1¾" | 2⅜" | 2⅛" |
| 55 | 1¾" | 2⅛" | 1⅞" |
| 65 | 1¾" | 1¾" | 1⅝" |
| 75 | 1¾" | 1½" | 1¼" |
| 85 | 1¾" | 1⅛" | 1" |
| STRIP SEAL SIZE | 4.0" | 5.0" | 5.0" |

## LEGEND

⚠ 1. NEOPRENE STRIP SEAL AND STEEL EXTRUSIONS. SET JOINT OPENING AND SIZE PER TEMPERATURE TABLE.

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 1 ½" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.

6. GALVANIZED PLATE ⅜" x 14¾" x 2'-2" WITH HOLES FOR NO. 7. BEND AS SHOWN.

7. ¾" ϕ x 1 ½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.

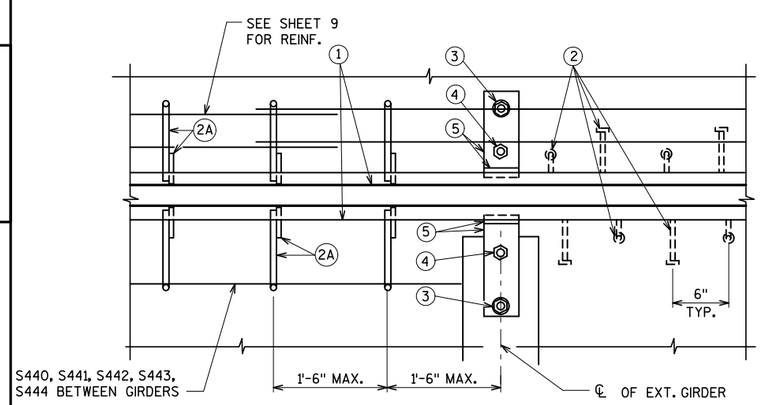
8. ¾" ϕ x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

9. ¾" ϕ x 2 ¼" GALVANIZED THREADED COUPLING.

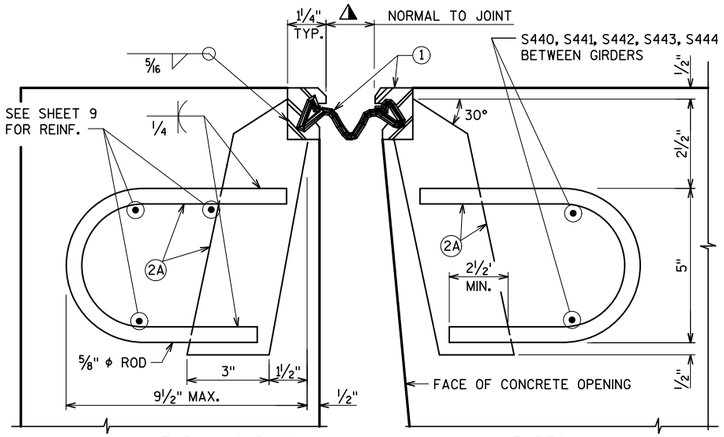
10. NOT USED

11. 1" x 5" SLOTTED CSK. HOLE FOR NO. 7 SLOT PARALLEL TO DIRECTION OF MOVEMENT.

◨ 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.




## PART PLAN




AT PAVING BLOCK AT DECK

SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED

## SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-305

DRAWN BY TB | PLANS CK'D. JRS

EXPANSION JOINT DETAILS (1 OF 2)

SHEET 11 OF 14

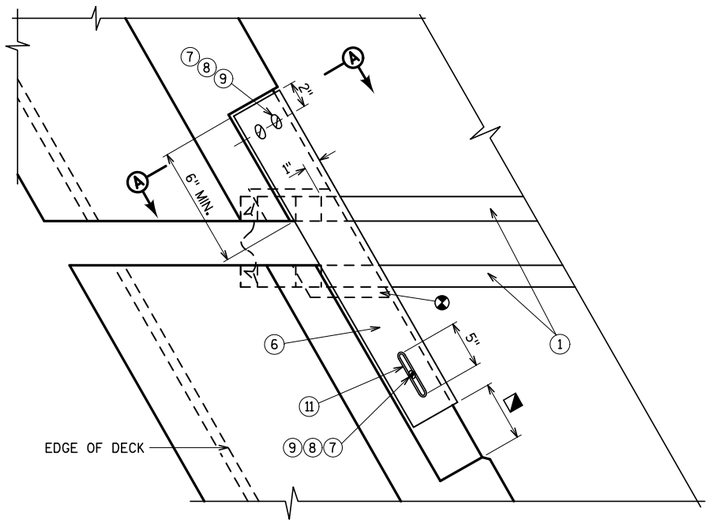
185

8

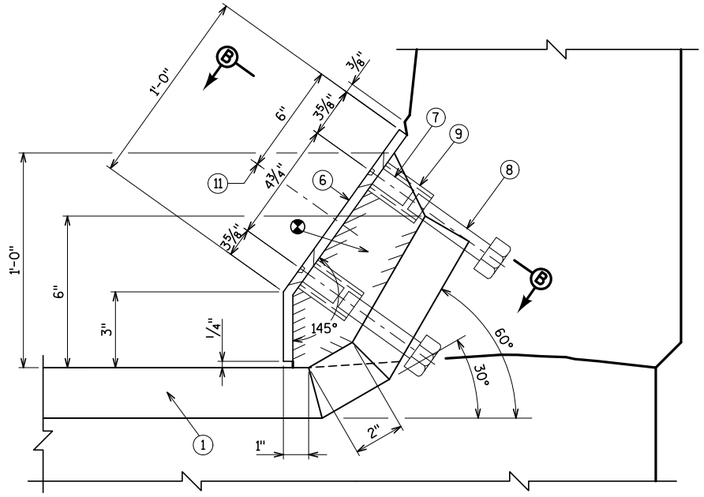
8

FILE NAME: F:\BMI-3860\E Ride Interchange Bridges\structures\dsa\Final Plans\B-40-305s1IB40305.exp jt.tdgn
DATE: 4/15/2014 11:33:15 AM Plotted by: tlegaar PEN TABLE: v8_Structural_rev.tbl

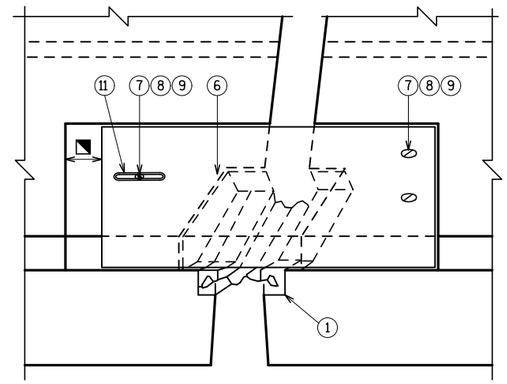
| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |



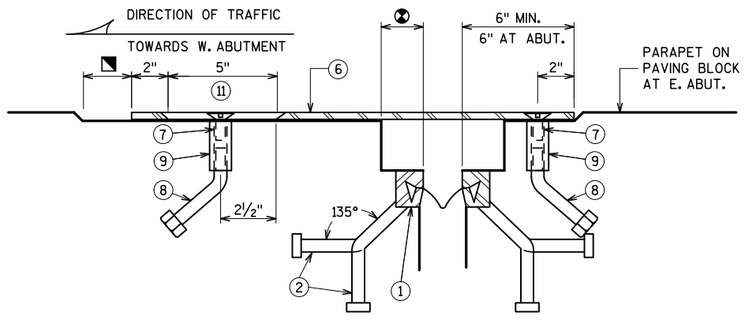

PLAN AT PARAPET




SECTION A-A

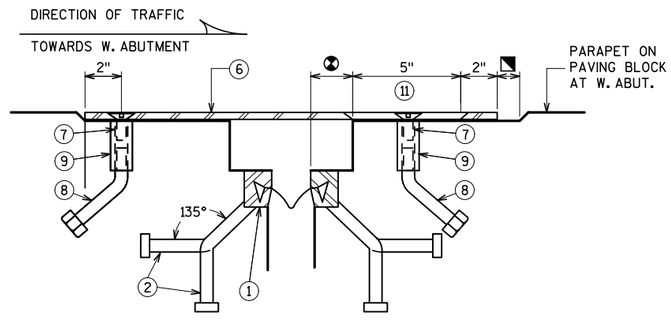



VIEW OF PARAPET PLATE FROM ROADWAY




SECTION B-B

APPLIES AT EAST ABUTMENT AND SUSPENDERS




SECTION B-B

APPLIES AT WEST ABUT. AND PIERS

## NOTES

- BLOCKOUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIM. ALONG SKEW PLUS ½".

SEE SHEET 11 FOR ADDITIONAL NOTES AND LEGEND.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-305

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

EXPANSION JOINT DETAILS (2 OF 2)



8

8

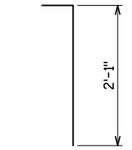
FILE NAME: F:\BMI-3360E Hide Interchange Bridges\structures\dgs\Final Plans\B-40-305s12B40305_exp jt_2.dgn
DATE: 4/15/2014 11:33:27 AM Plotted by: tlegaar PEN TABLE: v8_Structural_rev.tbl

## BILL OF BARS - WEST AND EAST ABUT.

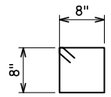
| BAR MARK | COAT | NO. STAGE 1 | NO. STAGE 2 | NO. TOTAL | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|---|
| ☆ A501 | X | 24 | 26 | 50 | 2'-9" | X | - | W. ABUT. - PAVING BLOCK VERTICAL |
| A402 | X | 24 | 26 | 50 | 3'-2" | X | - | W. ABUT. - PAVING BLOCK VERTICAL |
| A503 | X | 12 | 12 | 24 | 7'-0" | - | - | W. ABUT. - PAVING BLOCK HORIZONTAL |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ☆ B501 | X | 24 | 26 | 50 | 2'-9" | X | - | E. ABUT. - PAVING BLOCK VERTICAL |
| B402 | X | 24 | 26 | 50 | 3'-2" | X | - | E. ABUT. - PAVING BLOCK VERTICAL |
| B503 | X | 12 | 12 | 24 | 7'-0" | - | - | E. ABUT. - PAVING BLOCK HORIZONTAL |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## BILL OF BARS - PARAPET

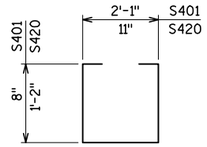
| BAR MARK | COAT | NO. STAGE 1 | NO. STAGE 2 | NO. TOTAL | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|---|
| P401 | X | 41 | 41 | 82 | 4'-3" | X | - | PARAPETS VERTICAL |
| P402 | X | 41 | 41 | 82 | 4'-4" | X | - | PARAPETS VERTICAL |
| P503 | X | 10 | 10 | 20 | 0'-8" | - | - | PARAPETS HORIZONTAL |
| P504 | X | 15 | 15 | 30 | 1'-8" | - | - | PARAPETS HORIZONTAL |
| P505 | X | 25 | 25 | 50 | 2'-6" | - | - | PARAPETS HORIZONTAL |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |



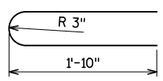

☆ A501, B501



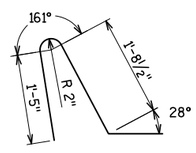

A402, B402



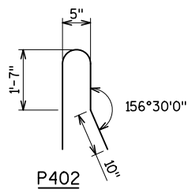

S401, S420




S429

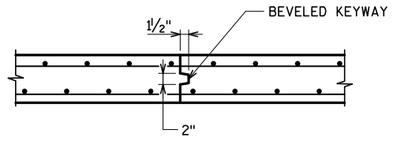



P401




P402

## BENDING DIAGRAMS




## CONSTRUCTION JOINT DETAIL

## BILL OF BARS - SUPERSTRUCTURE

| BAR MARK | COAT | NO. STAGE 1 | NO. STAGE 2 | NO. TOTAL | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|---|
| S401 | X | 52 | 58 | 110 | 3'-10" | X | - | DECK JOINT VERT. - ABUTMENTS |
| S502 | X | 24 | - | 24 | 26'-4" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S503 | X | - | 24 | 24 | 25'-4" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S604 | X | 20 | 20 | 40 | 8'-1" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S605 | X | ◐ 10 | - | 10 | 3'-0" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S606 | X | - | 10 | 10 | 5'-0" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S407 | X | 8 | 8 | 16 | 8'-1" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S408 | X | 4 | - | 4 | 3'-0" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| S409 | X | - | 4 | 4 | 5'-0" | - | - | DECK JOINT HORIZ. - ABUTMENTS |
| | | | | | | - | | |
| | | | | | | - | | |
| S420 | X | 174 | 186 | 360 | 3'-8" | X | - | DECK JOINT VERT. - SUSPENDERS |
| S521 | X | 60 | - | 60 | 26'-4" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S522 | X | - | 60 | 60 | 25'-4" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S723 | X | 36 | 36 | 72 | 8'-1" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S724 | X | ◐ 12 | - | 12 | 3'-4" | - | - | DECK JOINT HORIZ. - SUSPENDERS 1 & 2 |
| S725 | X | - | 12 | 12 | 4'-8" | - | - | DECK JOINT HORIZ. - SUSPENDERS 1 & 2 |
| S426 | X | 24 | 24 | 48 | 8'-1" | - | - | DECK JOINT HORIZ. - SUSPENDERS |
| S427 | X | 12 | - | 12 | 3'-3" | - | - | DECK JOINT HORIZ. - SUSPENDERS 1 & 2 |
| S428 | X | - | 12 | 12 | 4'-7" | - | - | DECK JOINT HORIZ. - SUSPENDERS 1 & 2 |
| S429 | X | 87 | 93 | 180 | 3'-4" | X | - | DECK JOINT VERT. - SUSPENDERS |
| S730 | X | ◐ 6 | - | 6 | 3'-1" | - | - | DECK JOINT HORIZ. - SUSPENDER 3 |
| S731 | X | - | 6 | 6 | 5'-1" | - | - | DECK JOINT HORIZ. - SUSPENDER 3 |
| S432 | X | 6 | - | 6 | 3'-0" | - | - | DECK JOINT HORIZ. - SUSPENDER 3 |
| S433 | X | - | 6 | 6 | 5'-0" | - | - | DECK JOINT HORIZ. - SUSPENDER 3 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| S440 | X | 32 | 32 | 64 | 8'-1" | - | - | DECK JOINT HORIZ. |
| S441 | X | 8 | - | 8 | 3'-3" | - | - | DECK JOINT HORIZ. - SUSPENDERS 1&2 STAGE 1 |
| S442 | X | - | 8 | 8 | 4'-7" | - | - | DECK JOINT HORIZ. - SUSPENDERS 1&2 STAGE 2 |
| S443 | X | 6 | - | 6 | 3'-0" | - | - | DECK JOINT HORIZ. - SUSPENDER 3 & ABUTS STAGE 1 |
| S444 | X | - | 6 | 6 | 5'-0" | - | - | DECK JOINT HORIZ. - SUSPENDER 3 & ABUTS STAGE 2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## LEGEND

☆ CONCRETE MASONRY ANCHOR TYPE L NO. 5 WITH MIN. PULLOUT CAPACITY OF 19 KIPS. EMBED 1'-6" MIN. INTO CONCRETE

◐ BAR COUPLERS REQUIRED

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-305

DRAWN BY TB | PLANS CK'D. JRS

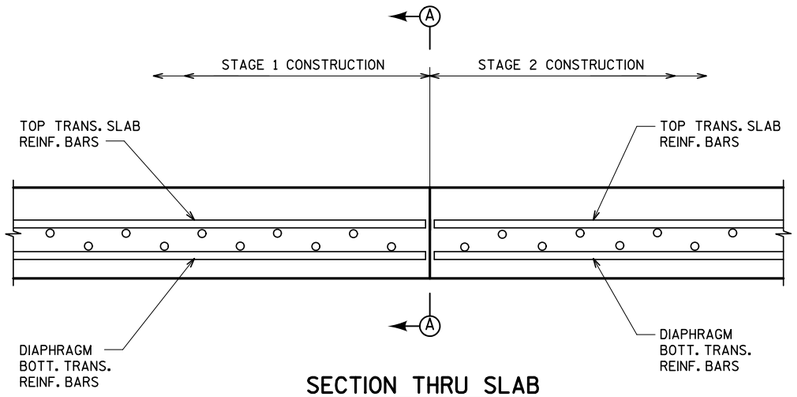
BILL OF BARS

SHEET 13 OF 14
187

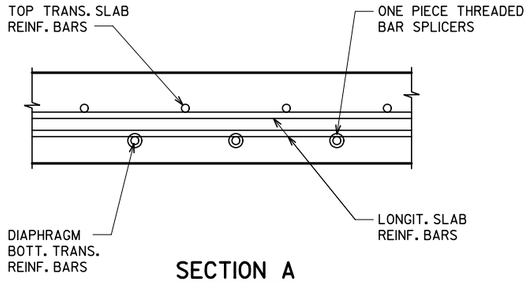
FILE NAME: F:\BMI-3160E Hale Interchange Bridges\structures\sds\Final Plans\B-40-305\13B40305_Bill of Bars.dgn
DATE: 4/15/2014 11:33:31 AM Plotted by: tiegear PEN TABLE: v8_Structural_rev.tbl


8

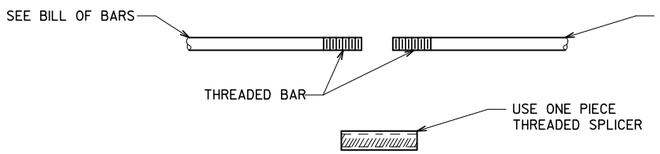
| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |



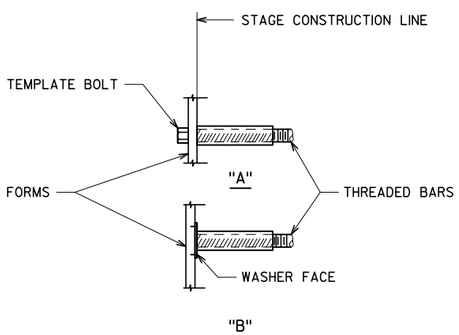

## SECTION THRU SLAB




## SECTION A




## ONE PIECE THREADED SPLICER




## 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.

## 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.

ONE PIECE THREADED COUPLERS SHALL BE USED AS THE LAP LENGTHS REQUIRED FOR BAR SPLICERS ARE NOT AVAILABLE IN SOME LOCATIONS.

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

BAR LENGTH COMPUTED TO ℄ LONGIT. JOINT AND SHALL BE MODIFIED IF REQ'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-305

| DRAWN BY | TB | PLANS CK'D. | JRS |
|---|---|---|---|

BAR COUPLERS

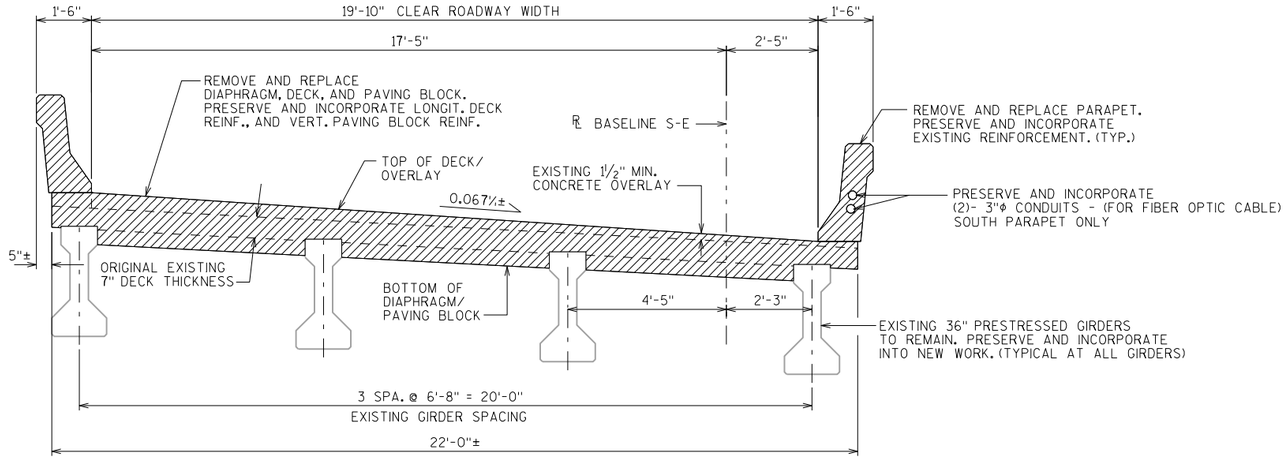
SHEET 14 OF 14



FILE NAME: F:\BMI-3960 Hale Interchange Bridges\structures\cds\Final Plans\B-40-305\4B40305_coupliers.dgn
DATE: 4/15/2014 11:33:34 AM Plotted by: tlegeor PEN TABLE: v8_Structural_rev.tbl



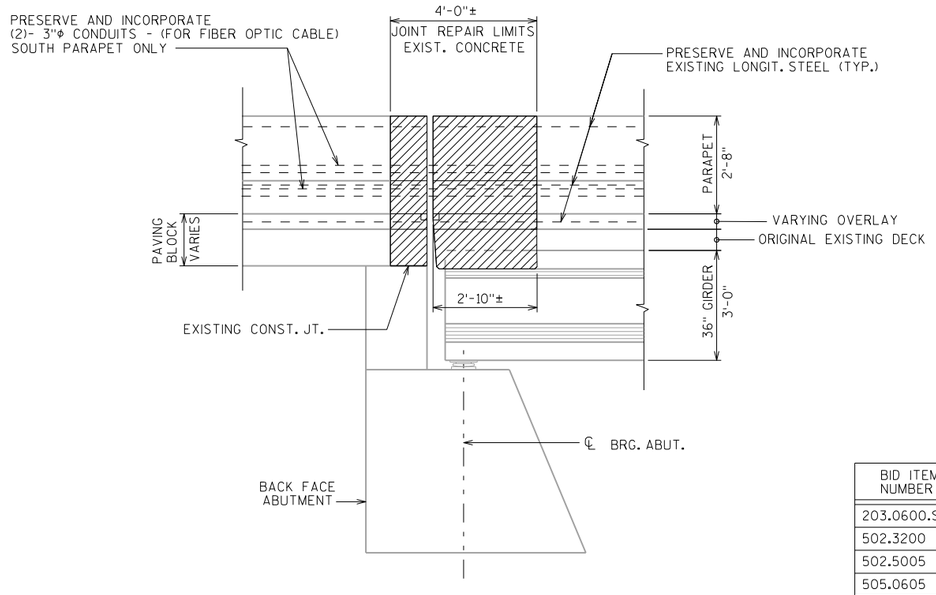
8




## CROSS SECTION THRU ROADWAY AT JOINT

(LOOKING EAST)

(SHOWING CONCRETE AND JOINT REMOVAL AND REPLACEMENT AREAS)




## SECTION THRU ABUTMENT/JOINT

(SHOWING CONCRETE AND JOINT REMOVAL AND REPLACEMENT AREAS)

## TOTAL ESTIMATED QUANTITIES

| | BID ITEM NUMBER | BID ITEMS | UNIT | TOTALS |
|---|---|---|---|---|
| | 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 207+00 | LS | 1 |
| | 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 24 |
| | 502.5005 | MASONRY ANCHORS TYPE L NO. 5 BARS | EACH | 46 |
| | 505.0605 | BAR STEEL REINFORCEMENT HS COATED BRIDGES | LB | 1210 |
| | 509.1000 | JOINT REPAIR | SY | 20 |
| ◐ | 509.2500 | CONCRETE MASONRY OVERLAY DECKS | CY | 9 |
| | SPV.0105 | INSTALL EXPANSION DEVICE B-40-322 | LS | 1 |

STATE PROJECT NUMBER

1090-33-60

## DESIGN DATA

LIVE LOAD:

DESIGN RATING; HS-20
INVENTORY RATING; HS-22
OPERATIONAL RATING; HS-44
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY ——— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING OVERLAY STRUCTURE PLANS.

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

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

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAWCUT.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE JOINT REPAIR SURFACES WHICH INCLUDE TOP & FACE OF PARAPET, DECK, AND PAVING BLOCK.

ANY EXCAVATION NECESSARY TO COMPLETE THE JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "JOINT REPAIR".

EXISTING CONDUIT IN PARAPET TO REMAIN IN PLACE. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION DURING CONSTRUCTION.

◐ ITEM IS FOR JOINT REPAIR

HARDWARE FOR EXPANSION DEVICES TO BE SUPPLIED BY THE DEPARTMENT INCLUDES FABRICATED STEEL EXTRUSIONS, NEOPRENE AND STRIP SEALS. 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.

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-40-322".

REMOVAL OF EXISTING EXPANSION JOINTS IS INCLUDED WITH THE BID ITEM "JOINT REPAIR". PROVIDE DEBRIS CONTAINMENT OVER WETLANDS FOR JOINT REMOVAL OPERATIONS AS SPECIFIED WITH THE BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS".

## LIST OF DRAWINGS

1. STRIP SEAL JOINT REPAIR
2. WEST ABUTMENT JOINT REPAIR
3. EAST ABUTMENT JOINT REPAIR
4. EXPANSION DEVICE
5. PARAPET BLOCKOUT DETAILS


STRUCTURE DESIGN CONTACTS:

CHRISTOPHER DOLL (608) 266-3229
LAURA SHADEWALD (608) 267-9592


| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 7/30/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-322

HALE INT.- IH 43 NB OVER ROOT RIVER MASH

COUNTY MILWAUKEE | ~~TOWN~~/CITY/~~VILLAGE~~ GREENFIELD

DESIGN SPEC. REHABILITATION N/A

| DESIGNED BY | CAD | DESIGN CK'D. | BLB | DRAWN BY | WWR | PLANS CK'D. | BLB |
|---|---|---|---|---|---|---|---|

STRIP SEAL JOINT REPAIR

SHEET 1 OF 5

189

8

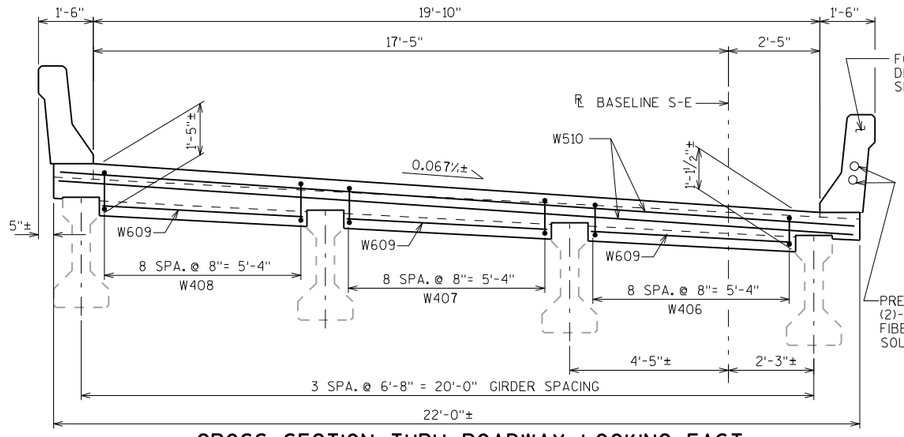
8

SCALE =

I.D. 1090-33-30

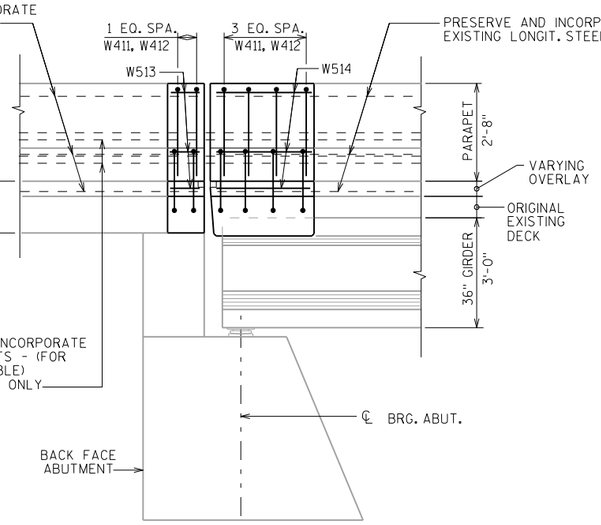
DATE: JULY 2014

| STATE PROJECT NUMBER |
|---|
| 1090-33-60 |




## CROSS SECTION THRU ROADWAY LOOKING EAST

SHOWING DECK/DIAPHRAGM BARS



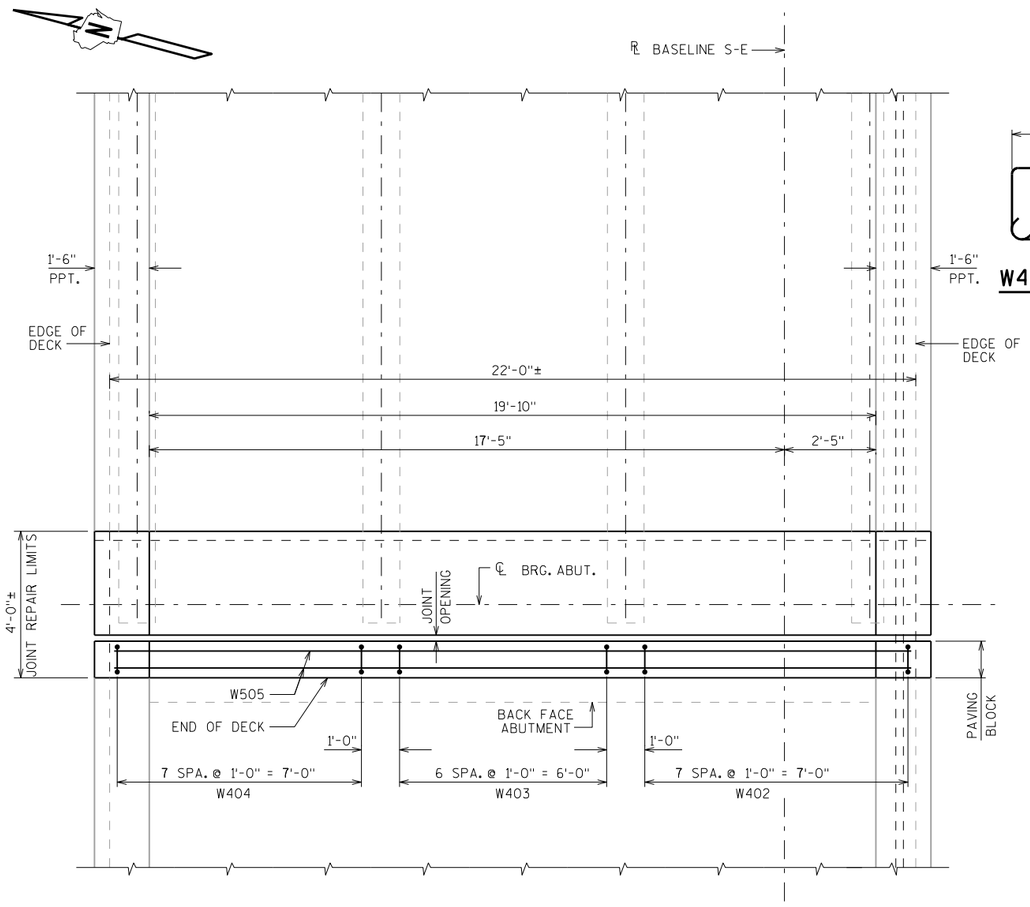

## SECTION THRU ABUTMENT

SHOWING PARAPET BARS

## BILL OF BARS

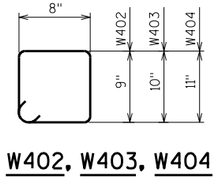
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| W501 | X | 23 | 3'-5" | X | | PAVING BLOCK-VERT. ANCHORS |
| W402 | X | 8 | 3'-4" | X | | PAVING BLOCK-VERT. |
| W403 | X | 7 | 3'-6" | X | | PAVING BLOCK-VERT. |
| W404 | X | 8 | 3'-8" | X | | PAVING BLOCK-VERT. |
| W505 | X | 3 | 21'-8" | | | PAVING BLOCK-HORIZ. |
| W406 | X | 9 | 5'-0" | X | | DECK JOINT-VERT. |
| W407 | X | 9 | 5'-2" | X | | DECK JOINT-VERT. |
| W408 | X | 9 | 5'-4" | X | | DECK JOINT-VERT. |
| W609 | X | 18 | 5'-4" | | | DECK JOINT-HORIZ. BTWN. GIRD. |
| W510 | X | 5 | 21'-8" | | | DECK JOINT-HORIZ. |
| W411 | X | 6 | 4'-3" | X | | DECK/PARAPET-VERT. |
| W412 | X | 6 | 4'-4" | X | | PARAPET-VERT. |
| W513 | X | 5 | 0'-9" | | | PARAPET-HORIZ. |
| W514 | X | 5 | 2'-6" | | | PARAPET-HORIZ. |

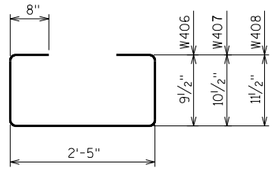



## PLAN AT WEST ABUTMENT

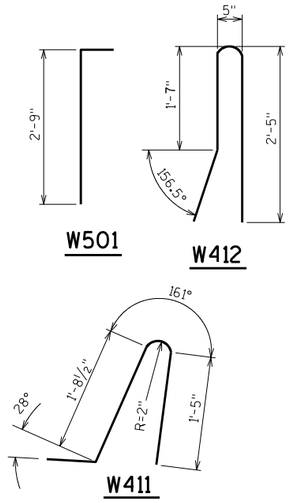
SHOWING PAVING BLOCK BARS




## W402, W403, W404



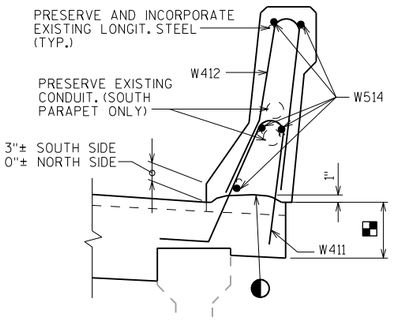

## W406, W407, W408



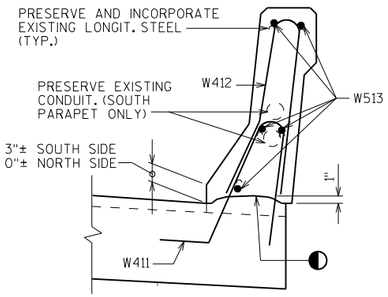

## W501

## W412

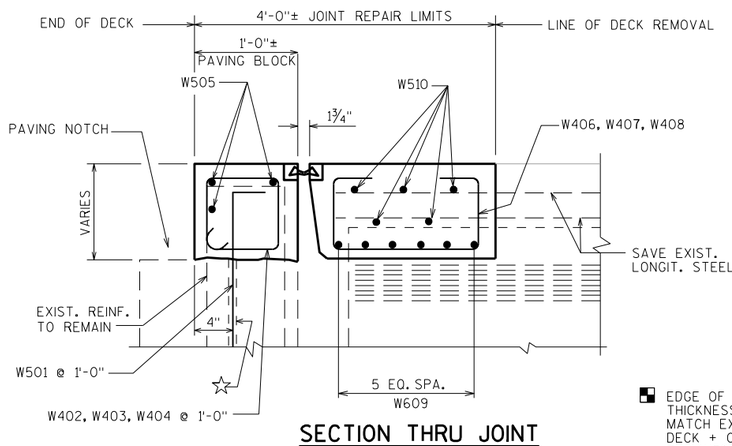
## W411




## SECTION THRU PARAPET AT DECK




## SECTION THRU PARAPET AT PAVING BLOCK




## SECTION THRU JOINT

☆ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0".

■ EDGE OF DECK THICKNESS TO MATCH EXISTING DECK + OVERLAY THICKNESS

◐ STRIKE OFF AND LEAVE ROUGH.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-322

DRAWN BY WWR | PLANS CK'D. BLB

WEST ABUTMENT JOINT REPAIR

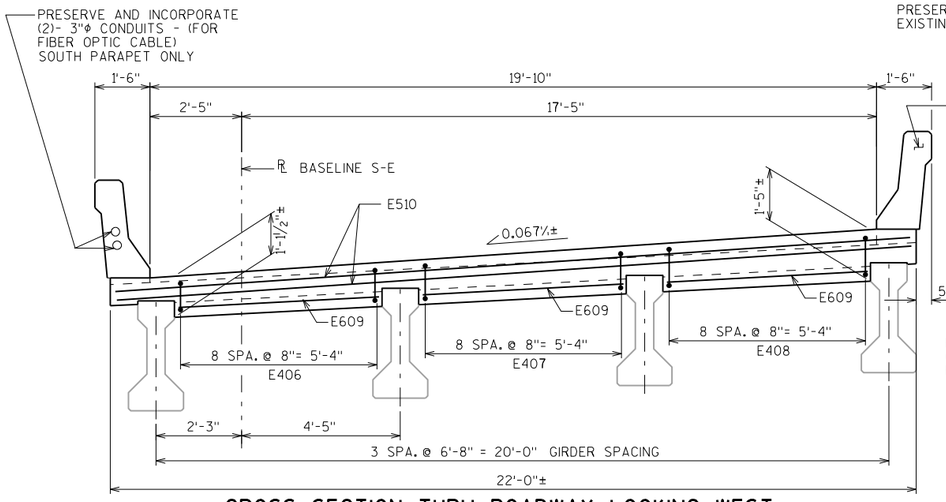
SHEET 2

190

SCALE =

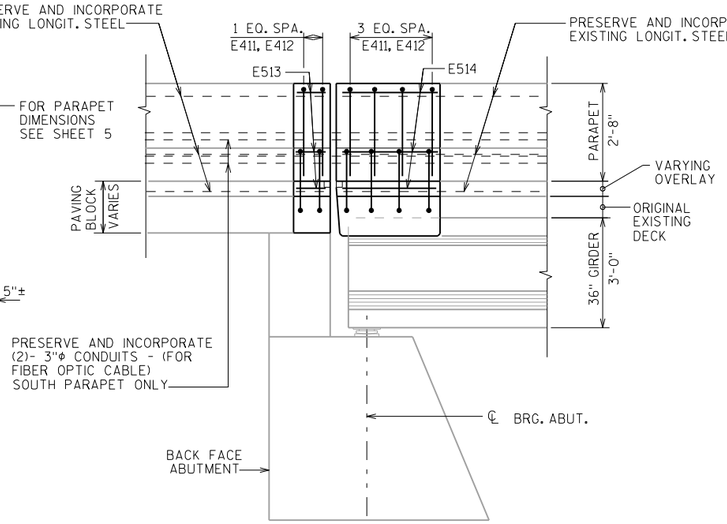
STATE PROJECT NUMBER

1090-33-60




## CROSS SECTION THRU ROADWAY LOOKING WEST

SHOWING DECK/DIAPHRAGM BARS



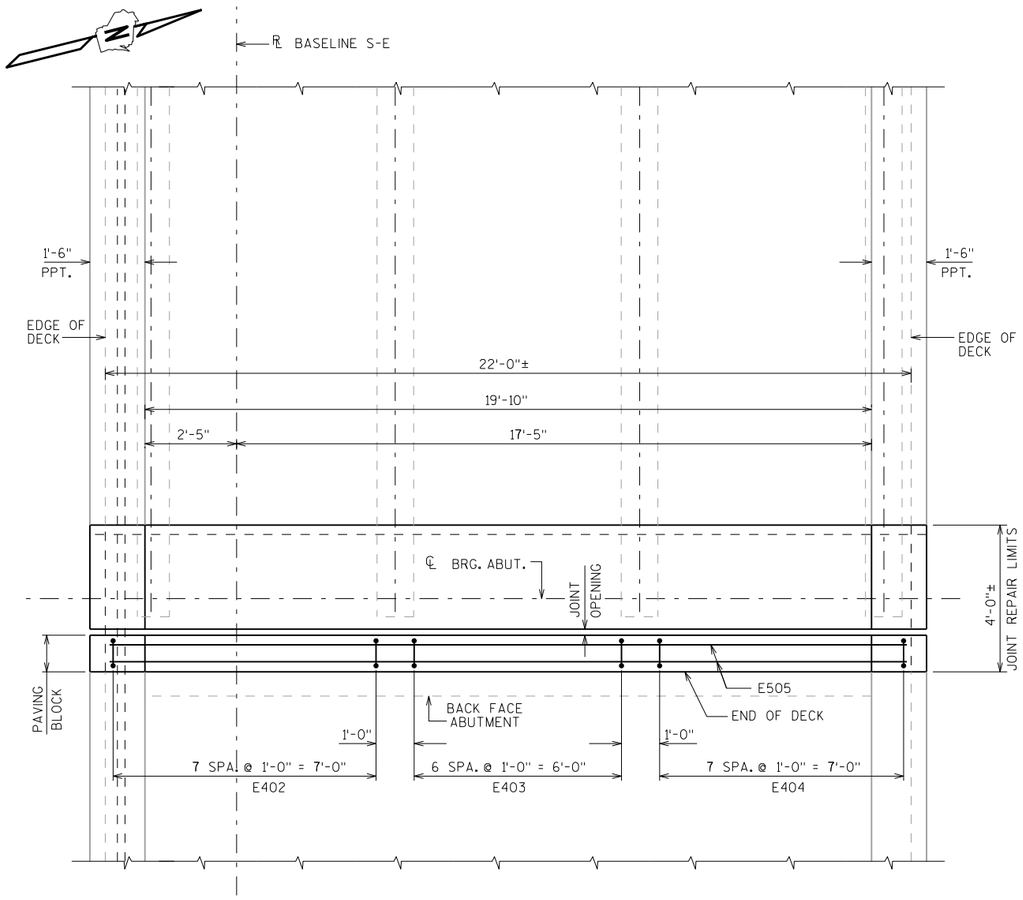

## SECTION THRU ABUTMENT

SHOWING PARAPET BARS

## BILL OF BARS

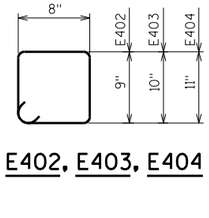
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| E501 | X | 23 | 3'-5" | X | | PAVING BLOCK-VERT. ANCHORS |
| E402 | X | 8 | 3'-4" | X | | PAVING BLOCK-VERT. |
| E403 | X | 7 | 3'-6" | X | | PAVING BLOCK-VERT. |
| E404 | X | 8 | 3'-8" | X | | PAVING BLOCK-VERT. |
| E505 | X | 3 | 21'-8" | | | PAVING BLOCK-HORIZ. |
| E406 | X | 9 | 5'-0" | X | | DECK JOINT-VERT. |
| E407 | X | 9 | 5'-2" | X | | DECK JOINT-VERT. |
| E408 | X | 9 | 5'-4" | X | | DECK JOINT-VERT. |
| E609 | X | 18 | 5'-4" | | | DECK JOINT-HORIZ. BTWN. GIRD. |
| E510 | X | 5 | 21'-8" | | | DECK JOINT-HORIZ. |
| E411 | X | 6 | 4'-3" | X | | DECK/PARAPET-VERT. |
| E412 | X | 6 | 4'-4" | X | | PARAPET-VERT. |
| E513 | X | 5 | 0'-9" | | | PARAPET-HORIZ. |
| E514 | X | 5 | 2'-6" | | | PARAPET-HORIZ. |

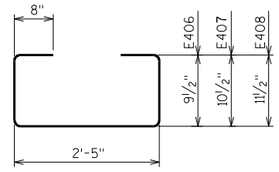



## PLAN AT EAST ABUTMENT

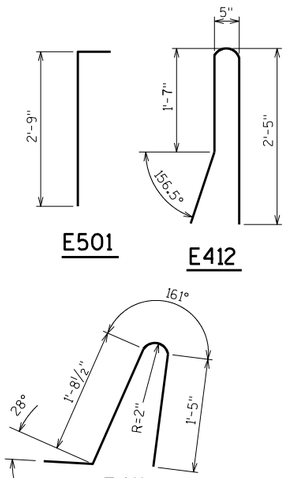
SHOWING PAVING BLOCK BARS



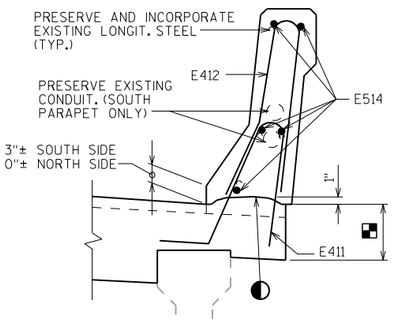

E402, E403, E404



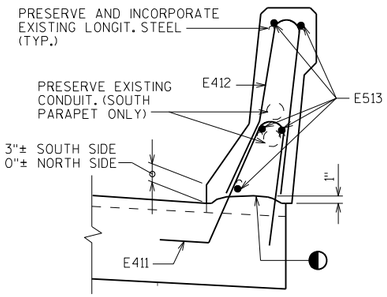

E406, E407, E408



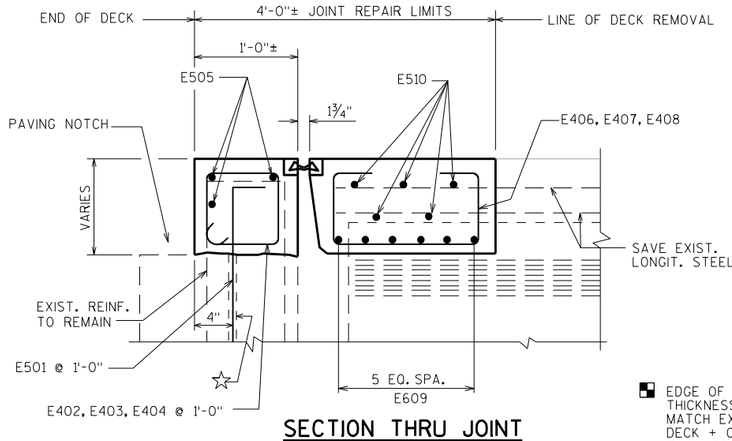

E501 E412 E411




## SECTION THRU PARAPET AT DECK




## SECTION THRU PARAPET AT PAVING BLOCK




## SECTION THRU JOINT

EDGE OF DECK THICKNESS TO MATCH EXISTING DECK + OVERLAY THICKNESS

STRIKE OFF AND LEAVE ROUGH.

☆ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED A MINIMUM OF 1'-6" INTO CONCRETE. SPACE AT 1'-0".

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-322

DRAWN BY WWR | PLANS CK'D. BLB

EAST ABUTMENT JOINT REPAIR

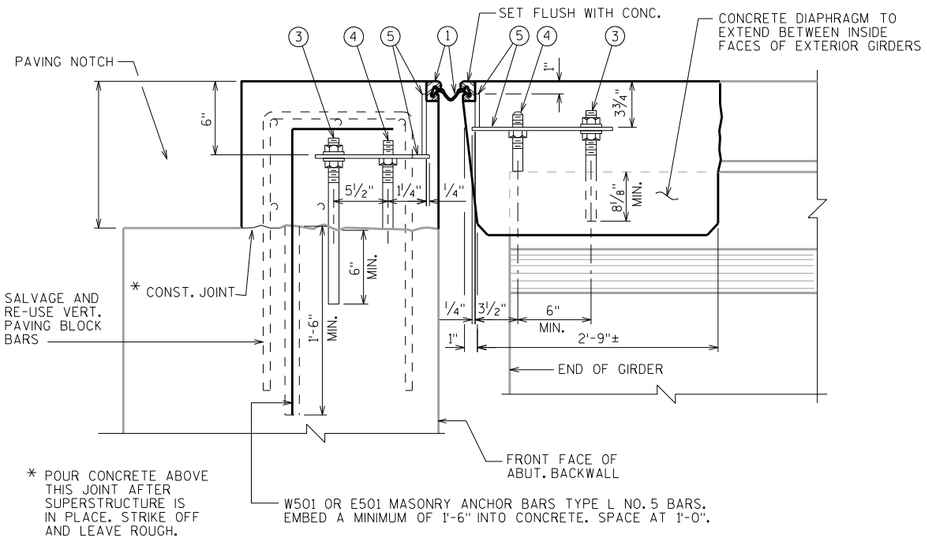
SHEET 3

191

SCALE =

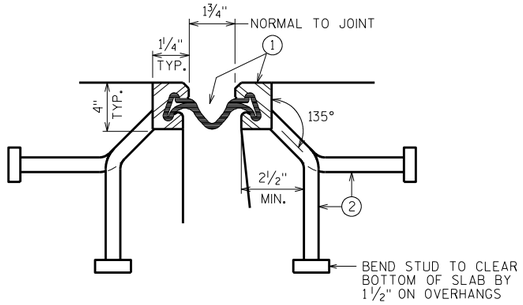
8

8



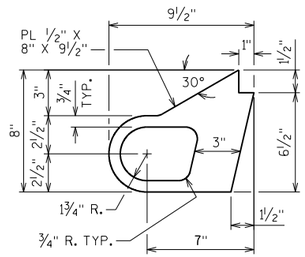

## SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

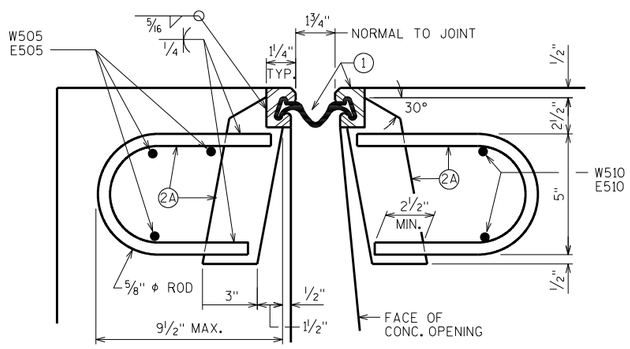



## SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS

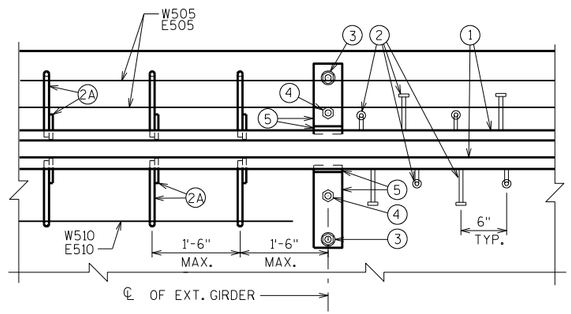



## ALTERNATE STRIP SEAL ANCHOR




## SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.




## PART PLAN

STATE PROJECT NUMBER

1090-33-60

## 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. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. 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.

## NOTES

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

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

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

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

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PROVIDED BY THE DEPARTMENT. INSTALLATION OF JOINT ASSEMBLY AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "INSTALL EXPANSION DEVICE B-40-322".

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-322

DRAWN BY WWR | PLANS CK'D. BLB

EXPANSION DEVICE

SHEET 4

192

JTSS_SLPFAC
1-14

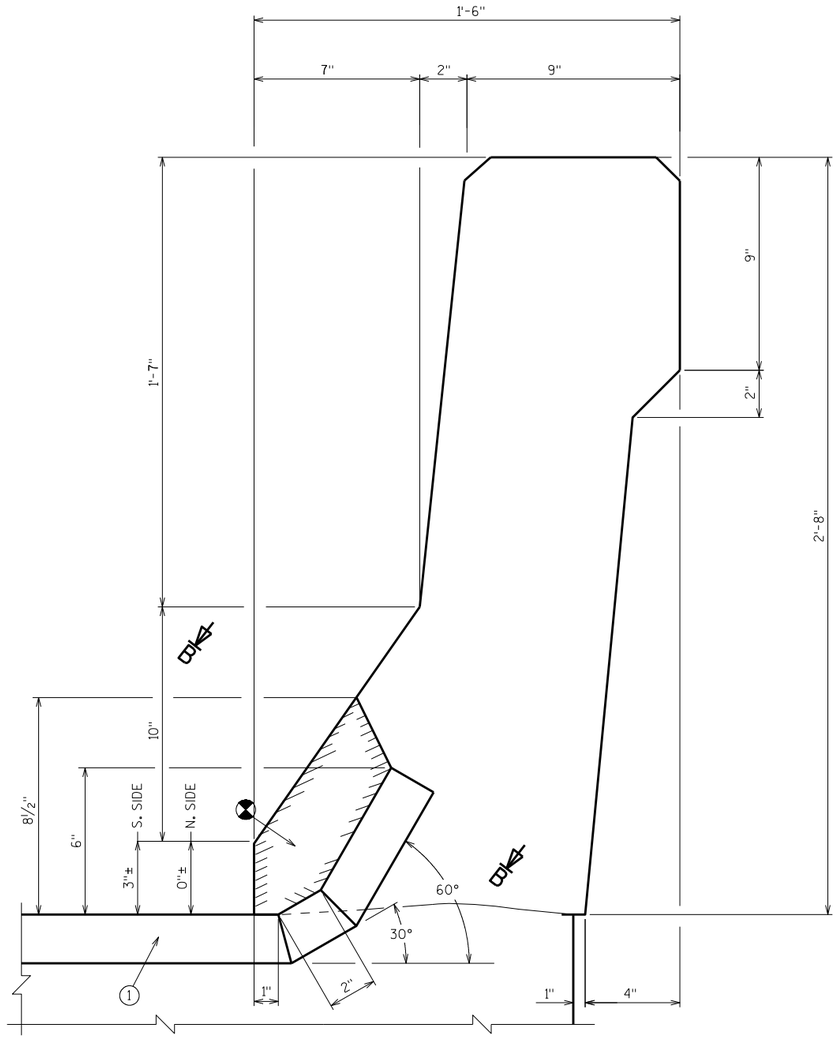
8

8

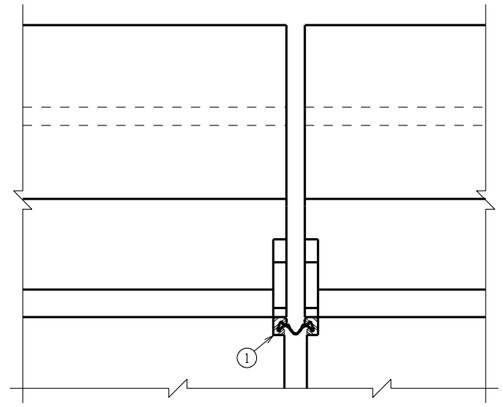
SCALE =

STATE PROJECT NUMBER

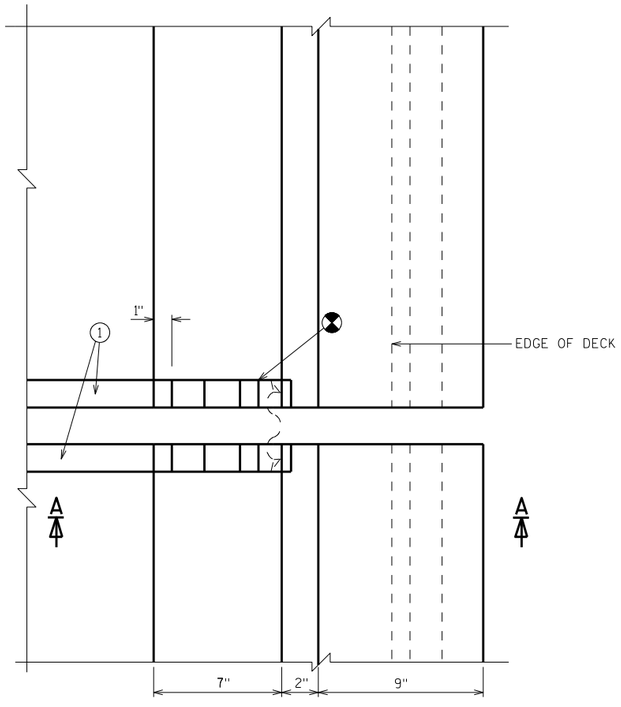
1090-33-60



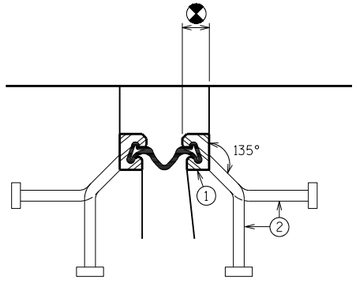

SECTION A-A




VIEW OF PARAPET FROM ROADWAY




PLAN




SECTION B-B

BLOCK OUT CONCRETE EACH SIDE OF JOINT OPENING AS SHOWN.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-40-322

DRAWN BY WWR | PLANS CK'D. BLB

PARAPET BLOCKOUT DETAILS

SHEET 5

193

JTSS_SLPFAC
1-14

8

8

SCALE =

**Wisconsin Department of Transportation**

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov